Important Notice:

Not Yet Approved by FEMA

Subject to Change per FEMA Review

CHANDLER / GILBERT
FLOODPLAIN DELINEATION STUDY

PHASE 3

UPRR/ Arizona Avenue Watershed

CONTRACT FCD 2008C042

TECHNICAL DATA NOTEBOOK

Volume 2
(Sections 4S & 4N,
Appendix D)

June 2010

Prepared for:

Federal Emergency Management Agency
Risk Studies Division
Federal Insurance Administration
500 C Street, SW Room 422
Washington, DC 20472

Submitted by:

David Evans and Associates, Inc.
2141 E. Highland Avenue, Suite 200
Phoenix, Arizona 85016
(602) 678-5151

on behalf of:

Flood Control District of Maricopa County
2801 West Durango Street
Phoenix, Arizona 85009
(602) 506-1501

CHANDLER / GILBERT
FLOODPLAIN DELINEATION STUDY
PHASE 3

UPRR/ Arizona Avenue Watershed

CONTRACT FCD 2008C042

TECHNICAL DATA NOTEBOOK

Volume 2
(Sections 4S & 4N,
Appendix D)

June 2010

Prepared for:

Federal Emergency Management Agency
Risk Studies Division
Federal Insurance Administration
500 C Street, SW Room 422
Washington, DC 20472

Submitted by:

David Evans and Associates, Inc.
2141 E. Highland Avenue, Suite 200
Phoenix, Arizona 85016
(602) 678-5151

Registered Professional Engineer (Civil) CERTIFICATE NO. 43817 JOEL R. HORNBURG Date Signed 6/24/10 ARIZONA, U.S.A.
Expires 3/31/2012

Registered Professional Engineer (Civil) CERTIFICATE NO. 45616 JASON COLEMAN DATE SIGNED 3/31/09 ARIZONA, U.S.A.
EXPIRES 12/31/09

on behalf of:

Flood Control District of Maricopa County
2801 West Durango Street
Phoenix, Arizona 85009
(602) 506-1501

Expires 3-31-10

Registered Professional Engineer (Civil) CERTIFICATE NO. 25972 MICHAEL D. HEATON Date Signed 3-31-09 ARIZONA, U.S.A.

TABLE OF CONTENTS

TECHNICAL DATA NOTEBOOK

Volume 1 of 4

SECTION 1: INTRODUCTION 1-1

1.1 PURPOSE OF STUDY 1-1
1.2 AUTHORITY FOR STUDY 1-1
1.3 LOCATION OF STUDY REACH 1-1
1.4 METHODOLOGY 1-4
1.4.1 Hydrology 1-4
1.4.2 Hydraulics 1-4
1.5 STUDY RESULTS 1-4
1.5.1 Final Hydrologic Results 1-4
1.5.2 Verification of Results 1-5

SECTION 2: ADWR/FEMA FORMS AND LOCAL GOVERNMENT/ADWR ABSTRACTS 2-1

2.1 STUDY DOCUMENTATION ABSTRACT FOR FEMA SUBMITTALS 2-1
2.2 FEMA FORMS 2-2

SECTION 3: SURVEY AND MAPPING INFORMATION 3-1

3.1 FIELD SURVEY INFORMATION 3-1

Volume 2 of 4

SECTION 4S: PHASE 3 – SOUTH, HYDROLOGIC ANALYSIS 4-1

4S.1 METHOD DESCRIPTION 4S-1
4S.2 PARAMETER ESTIMATION 4S-1
4S.2.1 Drainage Area Boundaries 4S-1
4S.2.2 Watershed Workmaps 4S-1
4S.2.3 Gage Data 4S-2
4S.2.4 Statistical Parameters 4S-2
4S.2.5 Precipitation 4S-2
4S.2.6 Physical Parameters 4S-3
4S.3 HYDROGRAPH ROUTING 4S-3
4S.3.1 Normal Depth Routing 4S-3
4S.3.2 Storage Routing 4S-3
4S.4 DIVERSION HYDROGRAPHS 4S-3
4S.4.1 Intersection Diversions 4S-3
4S.4.2 Retention Diversion 4S-4
4S.4.3 Ponding Diversions 4S-5
4S.4.4 DSS File Diversions 4S-5
4S.5 SPECIAL PROBLEMS 4S-5
4S.5.1 Santan Freeway 4S-5
4S.5.2 Non-Contributing Areas 4S-5
4S.5.3 Bear Creek Golf Course 4S-5
4S.5.4 Sub-Basin 618 ..... 4S-6
4S.5.5 Pond 606-3 ..... 4S-6
4S.5.6 Pond 601 Outfall 4S-7
4S.6 HYDROLOGIC RESULTS 4S-7

Registered Professional Engineer (Civil) CERTIFICATE NO. 43817 JOEL R. HORNBURG Date Signed 6/24/10 ARIZONA, U.S.A.

Registered Professional Engineer (Civil) CERTIFICATE NO. 45616 JASON D. COLEMAN DATE SIGNED 3/31/09 ARIZONA, U.S.A.

EXPIRES 12/31/09

Expires 3/31/2012

Expires 3·31·10

Registered Professional Engineer (Civil) CERTIFICATE NO. 25972 MICHAEL D. HEATON Date Signed 3·31·09 ARIZONA, U.S.A.

Volume 2 of 4 cont.

SECTION 4N: PHASE 3 – NORTH, HYDROLOGIC ANALYSIS 4N-1

4N.1 METHOD DESCRIPTION 4N-1
4N.2 PARAMETER ESTIMATION 4N-1
4N.2.1 Drainage Area Boundaries 4N-1
4N.2.2 Watershed Workmaps 4N-1
4N.2.3 Gage Data 4N-1
4N.2.4 Statistical Parameters 4N-2
4N.2.5 Precipitation 4N-2
4N.2.6 Physical Parameters 4N-2
4N.3 HYDROGRAPH ROUTING 4N-3
4N.3.1 Normal Depth Routing 4N-3
4N.3.2 Storage Routing 4N-3
4N.4 DIVERSION HYDROGRAPHS 4N-3
4N.4.1 Intersection Diversions 4N-3
4N.4.2 Retention Diversions 4N-4
4N.4.3 Ponding Diversions 4N-4
4N.4.4 DSS File Diversions 4N-5
4N.5 SPECIAL PROBLEMS 4N-5
4N.5.1 Culvert/Ditch/Weir analyses 4N-5
4N.5.2 Non-contributing area south of Guadalupe. 4N-5
4N.5.3 Water loss to the Western Canal 4N-5
4N.5.4 Inter-Basin Ponding for P519 ..... 4N-5
4N.6 HYDROLOGIC RESULTS 4N-5

Volume 3 of 4

SECTION 5S: PHASE 3 – SOUTH, HYDRAULIC ANALYSIS 5S-1

5S.1 METHOD DESCRIPTION 5S-1
5S.2 WORK STUDY MAPS 5S-1
5S.3 PARAMETER ESTIMATION 5S-7
5S.3.1 Roughness Coefficients 5S-7
5S.3.2 Cross-section descriptions 5S-7
5S.4 MODELING CONSIDERATIONS 5S-7
5S.4.1 Hydraulic Jump and drop analysis 5S-7
5S.4.2 Bridge or Culverts 5S-7
5S.4.3 Levees and Dikes 5S-7
5S.4.4 Islands and Flow Splits 5S-7
5S.4.5 Ineffective Flow Areas 5S-7
5S.4.6 Supercritical Flow 5S-7
5S.4.7 Floodway modeling 5S-7
5S.4.8 Special problems encountered during the study 5S-7
5S.4.9 Calibration 5S-7
5S.5 HYDRAULIC ANALYSIS RESULTS 5S-7

SECTION 5N: PHASE 3 – NORTH, HYDRAULIC ANALYSIS 5N-1

5N.1 METHOD DESCRIPTION 5N-1
5N.2 WORK STUDY MAPS 5N-1
5N.3 PARAMETER ESTIMATION 5N-5
5N.3.1 Roughness Coefficients 5N-5

Registered Professional Engineer (Civil) CERTIFICATE NO. 43817 JOEL R. HORNBURG Date Signed 6/24/12 ARIZONA, U.S.A.

Expires: 3/31/2012

Registered Professional Engineer (Civil) CERTIFICATE NO. 45616 JASON D. COLEMAN DATE SIGNED 3/31/09 ARIZONA, U.S.A.

EXPIRES 12/31/09

Expires 3.31.10

Registered Professional Engineer (Civil) CERTIFICATE NO. 25972 MICHAEL D. HEATON Date Signed 3/31/09 ARIZONA, U.S.A.

Volume 3 of 4 cont.

5N.3.2 Cross-section descriptions *5N-5*
5N.4 MODELING CONSIDERATIONS 5N-5
5N.4.1 Hydraulic Jump and drop analysis *5N-5*
5N.4.2 Bridge or Culverts *5N-5*
5N.4.3 Levees and Dikes *5N-5*
5N.4.4 Islands and Flow Splits *5N-5*
5N.4.5 Ineffective Flow Areas *5N-6*
5N.4.6 Supercritical Flow *5N-6*
5N.4.7 Floodway modeling *5N-6*
5N.4.8 Special problems encountered during the study *5N-6*
5N.4.9 Calibration *5N-6*
5N.5 HYDRAULIC ANALYSIS RESULTS 5N-6
5N.6 REFERENCES 5N-6

Volume 4 of 4

SECTION 6: EROSION AND SEDIMENT TRANSPORT 6-1

SECTION 7: DRAFT FIS REPORT DATA 7-1

7.1 Summary of Discharges *7-1*
7.2 Floodway Data *7-2*
7.3 Annotated Flood Insurance Rate Maps *7-3*
7.4 Flood Profiles *7-4*

LIST OF APPENDICES

APPENDIX A: REFERENCES	VOL 1
APPENDIX B: GENERAL DOCUMENTATION AND CORRESPONDENCE	VOL 1
APPENDIX C: SURVEY FIELD NOTES	VOL 1
APPENDIX D: HYDROLOGIC ANALYSES SUPPORTING DOCUMENTATION	VOL 2
APPENDIX E: HYDRAULIC ANALYSIS SUPPORTING DOCUMENTATION	VOL 3
APPENDIX F: TDN DATA CD	VOL 4

LIST OF FIGURES

Figure 1.3.1 Location Map 1-2
Figure 1.3.2 Vicinity Map 1-3
Figure 1.5.2 Verification of Results 1-6, 1-7

Registered Professional Engineer (Civil) CERTIFICATE NO. 43817 JOEL R. HORNBURG Date Signed 6-24-14 ARIZONA, U.S.A.
Expires 3/31/2012

Registered Professional Engineer (Civil) CERTIFICATE NO. 45616 JASON COLEMAN DATE SIGNED 3/31/09 ARIZONA, U.S.A.
EXPIRES 12/31/09

Expires 3-31-10
Registered Professional Engineer (Civil) CERTIFICATE NO. 25972 MICHAEL D. HEATON Date Signed 3-31-09 ARIZONA, U.S.A.

LIST OF TABLES

TABLE 4S2.5 DEPTH-AREA REDUCTION FACTORS	4S-2
TABLE 4S.6 SUMMARY OF DISCHARGE RATES	4S-7
TABLE 4N.2.5 DEPTH-AREA REDUCTION FACTORS	4N-2
TABLE 4N.6 SUMMARY OF DISCHARGE RATES	4N-6
TABLE 7.1 FLOODPLAIN DISCHARGE RATES	7-1

EXHIBITS

(Volume 4)

EXHIBIT A DRAINAGE AREA BOUNDARY MAP
EXHIBIT B DRAINAGE FLOW PATH MAP
EXHIBIT C SOILS MAP
EXHIBIT D LAND USE MAP
EXHIBIT E HEC-1 SCHEMATIC
EXHIBIT F FLOOPLAIN DELINEATION WORK MAP ANNOTATED WORKMAPS

Preface

This floodplain delineation study was conducted for the Flood Control District of Maricopa County (FCDMC) by David Evans and Associates, Inc. (DEA). The study area is divided into three (3) Phases. Phase 1 consists of the area between the East Maricopa Floodway and Eastern Canal, which results in floodplain delineation along the Eastern Canal. Phase 2 consists of the area between the Eastern Canal and the Consolidated Canal, which results in floodplain delineation along the Consolidated Canal. Phase 3 consists of the area between the Consolidated Canal and Union Pacific Railroad, which results in floodplain delineation along the Union Pacific Railroad. Each Phase is further subdivided into north and south regions. This report addresses Phase 3 – South and North, UPRR/ Arizona Avenue Watershed.

David Evans and Associates prepared the hydrologic and hydraulic analyses for Phase 3 - South, and Project Engineering Consultants (PEC) prepared the hydrologic and hydraulic analyses for Phase 3 - North.

Registered Professional Engineer (Civil) CERTIFICATE NO. 43817 JOEL R. HORNBURG Date Signed 6/24/10 ARIZONA, U.S.A.
Expires: 3/31/2012

Registered Professional Engineer (Civil) CERTIFICATE NO. 45616 JASON COLEMAN DATE SIGNED 3/31/09 ARIZONA, U.S.A.
EXPIRES 12/31/09

Expires 3-31-10
Registered Professional Engineer (Civil) CERTIFICATE NO. 25972 MICHAEL D. HEATON Date Signed 3-31-09 ARIZONA, U.S.A.

Section 4S: PHASE 3 – SOUTH, HYDROLOGIC ANALYSIS

4S.1 Method Description

David Evans and Associates prepared the hydrologic analysis for Phase 3 - South. The U.S. Army Corp of Engineers computer program HEC-1, version 4.1, was used to determine the peak flows at structures, major road crossings, confluences and control features along the canals and railroads within the study area. Phase 3 was divided into two (2) sections, Phase 3- North and South with the boundary between the two generally being Cooper Road and Elliot Road. Separate HEC-1 models were prepared for each section. This section addresses Phase 3 – South. Refer to Section 4N, in Volume 2, for information on Phase 3 – North.

The preparation of the input data necessary for the analysis included sub-basin delineation, determination of drainage path lengths, precipitation calculations, soil texture classification for the calculation of rainfall losses, and overland and channel flow lengths and slopes to generate the hydrographs. The District DDMSW software was used to develop sub-basin and routing parameters. The sub-basin delineation was based on 10-foot contour mapping provided by the district. Rainfall depths for the 100-year, 6 and 24-hour storm were determined from NOAA Atlas 2. The Clark Unit Hydrograph Method was utilized to develop the unit hydrographs. Soil classifications were utilized to determine rainfall losses using the Green and Ampt Loss procedures. Normal-Depth routing was applied for routing of flow and storage routing was applied for areas of ponding.

4S.2 Parameter Estimation

4S.2.1 Drainage Area Boundaries

The southern watershed encompasses approximately 25 square miles bounded by the Consolidated Canal to the east, the Arizona Avenue to the west, Elliot Road to the north, and Hunt Highway to the south. The watershed consists of urban and agricultural areas with no natural washes in the study area.

Sub-basin boundaries were drawn along mile streets where possible. This was done to facilitate locating concentration points at mile-street intersections per the project scope. This holds true even when there is a lower point near the mile-street intersection.

4S.2.2 Watershed Workmaps

Several workmap exhibits, located in Volume 4, were created to depict various watershed properties. Exhibits A through E were created for each section of the watershed. Exhibit A is a 1"= 1000' scale map that depicts the sub-basins boundaries; Exhibit B is a 1" = 1000' scale map that depicts the drainage flow paths; Exhibit C is a 1" = 2000' scale map that depicts the soil types; and Exhibit D is a 1" = 2000' scale map that depicts the land uses in the watershed. Exhibit E is a 1" = 2000' scale map that depicts the HEC-1 schematic.

4S.2.3 Gage Data

Three gages operated by the FCDMC exist within or adjacent to the Chandler/Gilbert watershed; EMF @ Queencreek Rd, Crossroads Park, and Freestone Basin. The EMF @ Queencreek gage, installed in 1989, is a precipitation/water level gage. The Crossroads Park and Freestone Basin gages, both installed in 1995, are also precipitation/water level gages. Data from these gages were not used in developing the statistical parameters, historic precipitation or watershed runoff because of the short time period the gages have been operational.

4S.2.4 Statistical Parameters

No precipitation data for the Chandler/Gilbert watershed area was available; therefore, Bulletin 17B was not utilized for estimating peak discharge rates for this study, e.g. log-Pearson Type III analyses.

4S.2.5 Precipitation

Rainfall depth for the 100-year, 6-hour storm of 3.0 inches was determined from Figure A.7, Drainage Design Manual for Maricopa County, Volume I, Hydrology. Rainfall depth for the 100-year, 24-hour storm of 3.45 inches was determined from Figure A.13, Drainage Design Manual for Maricopa County, Volume I, Hydrology. Copies of the 100-year, 6-hour and 24-hour isopluvials are included in Appendix DS.1.

The PREFRE program incorporated into DDMSW was used to calculate the D-D-F statistics. The rainfall data printout is located in Appendix DS.1.

The rainfall distribution patterns were determined for the 6-hour storm from Figure 2.5 in the Drainage Design Manual for Maricopa County, Volume I, Hydrology. A copy is included in Appendix DS.1 for reference. PC records were provided by the County for the 6-hour storm. The 24-hour storm used a 24-hour SCS Type II rainfall pattern.

Depth-area reduction factors, using the Basin Average Precipitation (PB) record, were used in the HEC-1 models to define the rainfall duration and the temporal distribution of the 6- and 24-hour storms. Each section was divided into regions based on connectivity of runoff and the County provided PB records for use in the HEC-1 model. Phase 3 – South was divided into three (3) regions; north of Santan Freeway, Santan Freeway to Ocotillo Road, and Ocotillo Road to Hunt Highway. Table 4S.2.5 lists the drainage areas and associated depth-area reduction factors calculated by the DDMSW program for the 100-year, 6- and 24-hour storms.

Table 4S.2.5 Depth-area Reduction Factors

PHASE 3 – SOUTH			
Region	**Area (mi^2)**	**$PB_{6\text{-hour}}$**	**$PB_{24\text{-hour}}$**
1 – North of Santan Freeway	8.69	2.835	3.298
2 – Santan Freeway to Ocotillo Road	2.90	2.923	3.402
3 – Ocotillo Road to Hunt Highway	1.64	2.948	3.422

4S.2.6 Physical Parameters

The Clark Method was used to generate the unit hydrographs. The percentages of ultimate discharge versus time in percentage of lag are encoded in DDMSW. The watercourse length and slope of each sub-basin were incorporated into the hydrograph generation. These values are listed in several tables (DDMSW prints) located in Appendix DS.2.1. The Kb values were interpolated within the DDMSW computer program based on watershed classification and size.

The rainfall losses, using soil and land use data, were calculated based on the Green and Ampt Loss procedure and within the DDMSW program. The surface retention loss values (IA) used in the hydrologic analyses were also determined using DDMSW based off land use data. DDMSW data tables are located in Appendix DS.2.2 and DS.2.3.

4S.3 Hydrograph Routing

4S.3.1 Normal Depth Routing

Normal depth routing was used to route flow along street and through agricultural fields. Eight point cross-sections were derived from typical street sections and DTM surface data. N-steps were calculated using an average velocity of 3 ft/sec for all routing reaches, as per agreement with FCDMC. Routing data sheets are located in Appendix DS.3.

4S.3.2 Storage Routing

Reservoir routing was utilized in HEC-1 for this study. A storage-discharge relationship was developed for each sub-basin and the data was input directly into the SV, SE, and SQ records for each sub-basin along the Eastern Canal.

The storage volumes input into the HEC-1 models were calculated using Autodesk Land Development Desktop. An existing surface is created for the study area based on contour and breakline data. Then, a surface area is created for the top of the ponding area for each sub-basin. After these two surfaces are created, volumes for the ponding area were then calculated using a composite of the pond surface and the existing ground surface. Additional pond surfaces were created for a range of elevations in order to determine total volumes for each storage pond. Using the composite volume method creates a new surface, which is re-triangulated based on points from both the existing surface and for the surface created at each elevation for the pond. The resulting volume is determined using points from both surfaces, as well as any location where the triangle edges between the two surfaces cross. The new composite volume is created based on the difference between the elevations of the two surfaces, thus providing the most accurate and exact volumes between the two surface definitions possible.

Data tables for each ponding area are located in Appendix DS.4.

4S.4 Diversion Hydrographs

4S.4.1 Intersection Diversions

Sub-basin boundaries generally follow major and minor arterial streets. Flow concentrating at street intersection can split in up to three directions. Slope/area methods using the Manning's equation were used to calculate street capacity in each split direction to determine the percentage of flow diverted in each direction.

The street cross-section geometry is based on Town of Gilbert and City of Chandler Standard details for major and minor arterial roads. A table showing the summary of the intersection diversion results is located in Appendix DS.5.2. Street capacity calculation sheets and Standard Details are also located in Appendix DS.5.2.

4S.4.2 Retention Diversion

Much of the watershed consists of residential development. The storm water storage facilities within these residential developments are taken into consideration in the hydrologic modeling. Aerial photography and field verification were used by the Flood Control District of Maricopa County to identify the numerous retention facilities throughout the watershed. There are many established subdivisions that use flood irrigation for each lot. The sum of the applicable irrigated lot and subdivision retention facility volume is removed via the HEC-1 model from the sub-basin hydrograph volume.

The retention basin storage volume available in each subdivision is determined using the top area, a depth of three feet (or less, if the top area cannot support three feet), a side slope of 4:1 and the assumption that only 80% of the total volume in each basin would be available during a 100-year storm. The FCDMC located the basins on an aerial photograph, reviewed many of them in the field and digitized the top area, which generally includes freeboard above the depth computed in the residential development drainage report. DEA reviewed and utilized the given top area shape. DEA then computed the volume based upon an average side slope of 4:1 and the field-observed typical depth of 3 feet. In some locations, where the top area was too small to support the typical depth or field verification proved otherwise, the depth was reduced to 2 feet to use a minimal pond bottom area. The total effective retention volume is then summed on a per sub-basin basis.

Another retention diversion occurs with flood-irrigated lots in certain residential subdivisions. The FCD verified the subdivisions with irrigated lots and provided their boundaries. It was assumed that 1 inch (0.08333 feet) of the area would be effective during a 1% annual chance flood. Typical water depths in irrigated subdivisions are 4 to 6 inches. The total effective irrigated volume is then summed on a per sub-basin basis.

The total effective storage volume available from residential retention facilities plus irrigated subdivisions in any given sub-basin is diverted from the sub-basin hydrographs, with the exception of retention basins located adjacent to the Union Pacific Railroad. Any storage areas along the canal or railroad that are designed to retain floodplain waters and /or fall within the existing FEMA floodplain limits were not included in the retention diversion calculations. These areas are accounted for in the storage routing computations.

Appendix DS.5 contains the spreadsheets for retention diversions. Exhibit DS.5, Retention Basin and Flood Irrigated Lot Map, portrays the physical location and facility number on a sub-basin map with an aerial photograph background. Comment records are included in the hydrologic model.

4S.4.3 Ponding Diversions

Rating tables were developed to determine how much flow is weiring over roadways, canals or other structures, from ponded areas. Flow splits were modeled using diversion records located after the storage routing records in the HEC-1 model. Data tables for each ponding area are located in Appendix DS.4.

4S.4.4 DSS File Diversions

Common DSS files (file names CGFDS6.dss and CGFDS24.dss) for the entire Chandler/Gilbert FDS were created to model hydrographs impacting separate HEC-1 models. Flow overtops the Consolidated Canal at various locations and is routed through the Phase 3 –South watershed. Flow enters Phase 3 –South from Phase 3 – north at two locations, one at Cooper and Warner Road and one at Cooper and Knox Road.

Additionally, flow that overtops the Arizona Avenue to the west is written to the DSS file for use in future studies. Flow overtopping Arizona Avenue was taken from the HEC-1 output, maximum average flow, and is listed on the Exhibit F.

4S.5 Special Problems

4S.5.1 Santan Freeway

The Santan Freeway alignment transects the watershed east-west between Pecos and Germann Roads. As per direction from the FCDMC, this model incorporates the proposed Santan Freeway drainage structures outlined in *Santan Freeway Williams Field Road to Higley Road Initial Drainage Report (Stage II Design)*. Reference to this report is found in Appendix A-1 located in Volume 1 of the Chandler/Gilbert FDS TDN, Drainage Reports and Horizontal Alignment Data for the Proposed Santan Freeway, Reference #3.

According to the Initial Drainage Report, Santan Freeway acts as a barrier to flow from the north. Runoff generated from the north of the Santan is intercepted by a channel paralleling north side of the Santan Freeway and conveyed west. The drainage facilities have been designed to take off-site floodplain flows. No flow from south of the Santan Freeway right-of-way is intercepted by the freeway drainage facilities. Appendix DS.7 includes pertinent excerpts from the drainage report and the preliminary plan and profile sheet for the drainage structures from the Arizona Avenue to the Consolidated Canal.

4S.5.2 Non-Contributing Areas

Sub-basins 600, 612, 617 and 627 contain non-contributing areas. The non-contributing areas are sub-divisions that provide storage volume that exceeds the entire sub-basin hydrograph volumes. These sub-divisions are located in the upper regions of the sub-basins and it is unrealistic to assume that runoff from areas downstream of the sub-divisions is intercepted in the storm drain facilities. Therefore, the sub-divisions were removed from the sub-basin total area. The BA record for these sub-divisions represents only the contributing area.

4S.5.3 Bear Creek Golf Course

Bear Creek Golf course is located within Sub-basins 632N and 632S. When the original Gilbert/Chandler FIS was done, this area was agricultural and had railroad spur-line traversing diagonal through field, which crossed to the east side of the Consolidated Canal. Floodwaters

overtopped the Consolidated Canal and ponded against the northeast side of the railroad spur until it overtopped the spur and flowed southwest, inundating the agricultural field.

When the Bear Creek Golf Course was constructed, the railroad spur was removed. According to the *Drainage Report for the Bear Creek Golf Course* (CMX Group, 7/2000), the golf course was designed to mimic the existing conditions created by the spur line, with a ridge line traversing through the site along the alignment of the spur-line. Floodwaters that overtop the Consolidated Canal pond within the golf course.

To model the golf course conditions, Sub-basin 632 was split into 632N and 632S. Flow overtopping the Consolidated Canal from the east is intercepted by the storage depressions within 632N. The HEC-1 results show no overtopping from 632N to 632S as there is adequate storage volume provided within 632N. The HEC-1 results also show that no flow leaves 632S.

4S.5.4 Sub-Basin 618

The sub-division Arizona Reflections Unit 4 has been graded since the beginning of this study. A large retention basin is adjacent to the Santan Freeway, Basin K. This retention basin shows up on the mapping, as well as the grading of the subdivision. P618 reflects the retention basin as graded at the time of the mapping. This basin overtops into Basin K of the Santan Freeway drainage system.

The Santan Basin K contours and grading were obtained from J2 Engineering, contractor for ADOT, to ensure that P618 overtopping was modeled correctly. The Basin K information is included in Appendix DS.7.

4S.5.5 Pond 606-3

The ponding areas in Sub Basins 603 and 606 are modeled as one ponding area due to the sub basin boundary (Knox Road) low point being lower than the water surface elevations of each pond when modeled separately. The two ponding areas interact independently of each other until the low point in Knox Road is overtopped, at which time the ponding water surfaces are equalized. Pond 606-3, or combined Ponds 606 and 603, is modeled and mapped herein as one ponding area.

The aerial photography and topographic data provided by the County do not reflect recent grading within this ponding area. Vagabond Park (also known as Espee Park) has been constructed in the area of Sub Basin 603 west of the railroad. The park includes a bike park, ball fields, parking and retention areas. Festiva Court, a residential subdivision, was also recently constructed in Sub Basin 606 east of the UPRR railroad just south of Knox Road. This subdivision provides retention and compensatory storage volume onsite. The volumes of the Festiva Court basins and the Vagabond Park retention areas were summed at corresponding elevations and a composite volume was determined for Pond 606-3. Although each of the individual basins may fill at different times, and independently of each other in more frequent storm events, during the 100-year storm event the individual ponding areas will equalize to one ponding water surface as they are all hydraulically connected beneath the 100-year WSEL.

As-built plans were received from the City for Festiva Court and Vagabond Park. Both sets of plans appeared to be missing important information and/or were reporting conflicting information regarding pond bottom elevations, water surface elevations and pond volumes. DEA provided field survey data for Vagabond Park and for the eastern portion of Festiva Court. The data was used to determine as-built volumes within the ponding areas. Please see Exhibit FD-5.1 in Appendix DS & DN4.

4S.5.6 Pond 601 Outfall

The outfall of Sub Basin 601 is through a 2'x2' railroad trestle box culvert located under the UPRR approximately ½ mile north of Warner Road. The culvert rating curve is generated by the CulvertMaster program and the culvert is modeled as a 2'x1' box to account for the sediment which has partially clogged the culvert. Additionally, a tailwater elevation of 1215.3 was used to account for the fact that the culvert is located in a local depression with no positive outfall for the first two to three feet. The bottom of Pond 601 is at an elevation of approximately 1204 and the invert of the culvert is at elevation 1213.15 but the ponding area and the local depressional area at the culvert invert is not hydraulically connected until a point in the natural ground is overtopped at an elevation of approximately 1215.3 between the pond and culvert. The tailwater elevation of 1215.3, as used in the CulvertMaster analysis, ensures no flows are leaving the Pond before the natural ground is overtopped prior to entering the culvert depression.

4S.6 Hydrologic Results

Table 4S.6 below gives the summary of discharges at the various concentration points. Appendix DS.7.1 and 7.2 contain the HEC-1, 100-yr, 6-hr and 24-hr models.

Table 4S.6 Summary of Discharge Rates

COMBINED					
HEC-1 ID	$Q_{100\text{-yr, 6-hr}}$	$Q_{100\text{-yr, 24-hr}}$	HEC1-ID	$Q_{100\text{-yr, 6-hr}}$	$Q_{100\text{-yr, 24-hr}}$
CP600	124	45	CP618	169	212
CP601	256	232	CP619	129	187
CP602	283	264	CP621	454	400
CP603	234	219	CP622	95	46
CP604	176	214	CP623	605	620
CP605	130	111	CP624	207	162
CP606	234	219	CP625	172	193
CP607	212	279	CP626	59	71
CP609	564	591	CP627	72	91
CP610	335	381	CP630	141	126
CP611	163	175	CP631	148	145
CP614	191	205	CP632N	400	455
CP615	337	418	CP632S	425	471
CP616	172	251	CP633	86	90
CP617	71	58	CP636	114	113

Table 4S.6 Continued..

*SUB-BASIN HYDROGRAPHS**					
HEC-1 ID	$Q_{100\text{-yr, 6-hr}}$	$Q_{100\text{-yr, 24-hr}}$	HEC1-ID	$Q_{100\text{-yr, 6-hr}}$	$Q_{100\text{-yr, 24-hr}}$
600	Non Contributing	Non Contributing	619	129	187
601	256	232	620	49	55
602	283	264	621	302	296
603	161	202	622	95	46
604	176	214	623	451	437
605	354	429	624	140	150
606	234	219	625	172	193
607	157	224	626	59	71
608	847	883	627	72	91
609	231	221	628	82	93
610	335	381	629	59	58
611	163	175	630	141	126
612	96	102	631	148	145
613	122	144	632N	231	251
614	227	269	632S	425	471
615	220	291	633	86	90
616	172	251	634	25	20
617	80	95	635	108	111
618	225	311	636	114	113
** For sub-basins with retention diversion, Q recorded equals hydrograph before retention diversion.*					
DIVERSION HYDROGRAPHS					
AZ602	283	264	D612	58	61
AZ604	105	128	D616	0	0
AZ607	212	279	D617	57	46
AZ611	163	175	D619	0	0
AZ616	172	251	D620	0	0
AZ619	129	187	D622	76	36
AZ620	49	55	D624	0	0
AZ622	19	9	D625	0	0
AZ624	44	25	D626	0	0
AZ626	36	35	D627	0	0
AZ629	0	0	D629	0	0
AZ631	0	0	D631	0	0
AZ633	0	0	D633	0	0
AZ635	108	111	D635	0	0
AZ636	114	113	D636	0	0
D602	0	0	TO615	38	41
D604	70	86	TO618	14	12
D607	0	0	TO623	172	193
D611	0	0	TO625	0	0

Table 4S.6 Continued..

RETENTION DIVERSIONS					
HEC-1 ID	$Q_{100\text{-yr, 6-hr}}$	$Q_{100\text{-yr, 24-hr}}$	HEC1-ID	$Q_{100\text{-yr, 6-hr}}$	$Q_{100\text{-yr, 24-hr}}$
601RET	10	4	614RET	227	269
603RET	161	202	615RET	219	272
605RET	354	429	617RET	80	95
606RET	220	213	618RET	225	311
608RET	847	883	621RET	80	9
609RET	122	34	623RET	76	40
612RET	93	95	631RET	96	45
613RET	65	19			
NORMAL DEPTH ROUTED					
406617	69	41	609611	43	42
524600	124	45	612614	47	48
525605	61	56	612615	20	19
600601	119	45	614615	79	79
604607	68	79	617614	56	34
605606	112	86	617618	12	8
608609	181	94	622624	69	33
STORAGE ROUTING					
P601	2	1	P627	0	0
P606-3	0	0	P628	0	0
P610-9	43	42	P629	0	0
P613-5	95	95	P630	0	0
P618	8	9	P631	0	0
P621	0	0	P632N	0	0
P623-5	74	55	P632S	0	0
P624	44	25	P633	0	0
P626	36	35	P634	0	0

Section 4N: PHASE 3 – NORTH, HYDROLOGIC ANALYSIS

4N.1 Method Description

Project Engineering Consultants prepared the hydrologic analysis for Phase 3 - North. The U.S. Army Corp of Engineers computer program HEC-1, version 4.1, was used to determine the peak flows at structures, major road crossings, confluences and control features along the canals and railroads within the study area. Phase 3 was divided into two (2) sections, Phase 3- North and South, with the boundary between the two being Cooper Road, north of Warner Road and Elliot Road. Separate HEC-1 models were prepared for each section. This section addresses Phase 3 – North. Refer to Section 4S, in Volume 2, for information on Phase 3 – South.

The preparation of the input data necessary for the analysis included sub-basin delineation, determination of drainage path lengths, precipitation calculations, soil texture classification for the calculation of rainfall losses, and overland and channel flow lengths and slopes to generate the hydrographs. The District DDMSW software was used to develop sub-basin and routing parameters. The sub-basin delineation was based on 10 foot contour mapping provided by the district. Rainfall depths for the 100-year, 6 and 24-hour storm were determined from NOAA Atlas 2. The Clark Unit Hydrograph Method was utilized to develop the unit hydrographs. Soil classifications were utilized to determine rainfall losses using the Green and Ampt Loss procedures. Normal-Depth routing was applied for routing of flow and storage routing was applied for areas of ponding.

4N.2 Parameter Estimation

4N.2.1 Drainage Area Boundaries

The northern watershed encompasses approximately 11.81 square miles bounded by the US 60 Highway to the north, Elliot Road to the South, Consolidated Canal to the east and the Arizona Avenue to the west. The northern watershed is completely developed and consists of urban areas.

Sub-basin boundaries were drawn along mile streets where possible. This was done to facilitate locating concentration points at mile-street intersections per the project scope. This holds true even when there is a lower point near the mile-street intersection.

4N.2.2 Watershed Workmaps

Several workmap exhibits, located in Volume 4, were created to depict various watershed properties. Exhibits A through D were created for each section of the watershed. Exhibit A is a 1"= 1000' scale map that depicts the sub-basins boundaries; Exhibit B is a 1" = 1000' scale map that depicts the drainage flow paths; Exhibit C is a 1" = 2000' scale map that depicts the soil types; and Exhibit D is a 1" = 2000' scale map that depicts the land uses in the watershed. Exhibit E is a 1" = 2000' scale map that depicts the HEC-1 schematic.

4N.2.3 Gage Data

Three gages operated by the FCDMC exist within or adjacent to the Chandler/Gilbert watershed; EMF @ Queencreek Rd, Crossroads Park, and Freestone Basin. The EMF @ Queencreek gage,

installed in 1989, is a precipitation/water level gage. The Crossroads Park and Freestone Basin gages, both installed in 1995, are water level gages. Data from these gages were not used in developing the statistical parameters, historic precipitation or watershed runoff because of the short time period the gages have been operational.

4N.2.4 Statistical Parameters

No precipitation data for the Chandler / Gilbert watershed area was available; therefore, Bulletin 17B was not utilized for estimating peak discharge rates for this study, e.g. log-Pearson Type III analyses.

4N.2.5 Precipitation

Rainfall depth for the 100-year, 6-hour storm of 3.0 inches was determined from Figure A.7, Drainage Design Manual for Maricopa County, Volume I, Hydrology. Rainfall depth for the 100-year, 24-hour storm of 3.45 inches was determined from Figure A.13, Drainage Design Manual for Maricopa County, Volume I, Hydrology. Copies of the 100-yr, 6 and 24 hour isopluvials is included in Appendix DN.1.

The PREFRE program incorporated into DDMSW was used to calculate the D-D-F statistics. The rainfall data printout is located in Appendix DN.1.

The rainfall pattern number was determined for the 6-hour storm by DDMSW (in consistency with Figure 2.5 in the Drainage Design Manual for Maricopa County, Volume I, Hydrology). A copy is included in Appendix DN.1 for reference. The 24-hour storm used a 24-hour SCS Type II rainfall pattern.

Depth-area reduction factors, using the Basin Average Precipitation (PB) record, were used in the HEC-1 models to define the rainfall duration and the temporal distribution of the general storm. Each section was divided into regions based on connectivity of runoff. Phase 3 – North was divided into two (2) regions; north of the Union Pacific Railroad and south of Union Pacific Railroad and east of the railroad spur line. Table 4N2.5 lists the drainage areas and associated depth-area reduction factors calculated by the DDMSW program for the 100-year, 6- and 24-hour storms.

Table 4N.2.5 Depth-area Reduction Factors

PHASE 3 – NORTH			
Region	**Area (mi^2)**	**PB_6**	**PB_{24}**
North of Union Pacific Railroad	6.10	2.867	3.345
South of Union Pacific Railroad	4.98	2.880	3.364

4N.2.6 Physical Parameters

The Clark Method was used to generate the unit hydrographs. The percentages of ultimate discharge versus time in percentage of lag are encoded in DDMSW. The watercourse length and slope of each sub-basin were incorporated into the hydrograph generation. These values are listed in several tables (DDMSW prints) in Appendix DN.2.1. Kb values were interpolated within the DDMSW computer program based on watershed classification and size.

The rainfall losses, using soil and land use data, were calculated based on the Green and Ampt Loss procedure within the DDMSW program. The surface retention loss values (IA) used in the hydrologic analyses were also determined within DDMSW based off land use. DDMSW data tables are located in Appendix DN.2.2 and DN.2.3.

4N.3 Hydrograph Routing

4N.3.1 Normal Depth Routing

Normal depth routing was used to route flow along street and through agricultural fields. Eight point cross-sections were derived from typical street sections and DTM surface data. N-steps were calculated using an average velocity of 3 ft/sec for all routing reaches, as per agreement with FCDMC. Routing data sheets are located in Appendix DN.3.

4N.3.2 Storage Routing

Reservoir routing was utilized in HEC-1 for this study. A storage-discharge relationship was developed for each sub-basin and the data was input directly into the SV, SE, and SQ records for each sub-basin along the UPRR.

The storage volumes input into the HEC-1 models were calculated using Autodesk Land Development Desktop. An existing surface is created for the study area based on contour and breakline data. Then, a surface area is created for the top of the ponding area for each sub-basin. After these two surfaces are created, volumes for the ponding area were then calculated using a composite of the pond surface and the existing ground surface. Additional pond surfaces were created for a range of elevations in order to determine total volumes for each storage pond. Using the composite volume method creates a new surface, which is re-triangulated based on points from both the existing surface and for the surface created at each elevation for the pond. The resulting volume is determined using points from both surfaces, as well as any location where the triangle edges between the two surfaces cross. The new composite volume is created based on the difference between the elevations of the two surfaces, thus providing the most accurate and exact volumes between the two surface definitions possible.

Data tables for each ponding area are located in Appendix DN.4.

4N.4 Diversion Hydrographs

4N.4.1 Intersection Diversions

Sub-basin boundaries generally follow major and minor arterial streets. Flow concentrating at street intersection can split in up to three directions. Manning's equation was used to calculate street capacity in each split direction to determine the percentage of flow diverted in each direction.

The street cross-section geometry is based on Town of Gilbert and City of Chandler Standard details for major and minor arterial roads. A table showing the summary of the intersection diversion results is located in Appendix DN.5.2. Street capacity calculation sheets and Standard Details are also located in Appendix DN.5.2.

4N.4.2 Retention Diversions

Much of the watershed consists of residential development. The storm water storage facilities within these residential developments are taken into consideration in the hydrologic modeling. Aerial photography and field verification were used by the Flood Control District of Maricopa County to identify the numerous retention facilities throughout the watershed. There are many established subdivisions that use flood irrigation for each lot. The sum of the applicable irrigated lot and subdivision retention facility volume is removed via the HEC-1 model from the sub-basin hydrograph volume.

The retention basin storage volume available in each subdivision is determined using the top area, a depth of three feet (or less, if the top area cannot support three feet), a side slope of 4:1 and the assumption that only 80% of the total volume in each basin would be available during a 100-year storm. The FCDMC located the basins on an aerial photograph, reviewed many of them in the field and digitized the top area, which generally includes freeboard above the depth computed in the residential development drainage report. DEA reviewed and utilized the given top area shape. DEA then computed the volume based upon an average side slope of 4:1 and the field-observed typical depth of 3 feet. In some locations, where the top area was too small to support the typical depth or field verification proved otherwise, the depth was reduced to 2 feet to use a minimal pond bottom area. The total effective retention volume is then summed on a per sub-basin basis.

Another retention diversion occurs with flood-irrigated lots in certain residential subdivisions. The FCD verified the subdivisions with irrigated lots and provided their boundaries. It was assumed that 1 inch (0.08333 feet) of the area would be effective during a 1% annual chance flood. Typical water depths in irrigated subdivisions are 4 to 6 inches. The total effective irrigated volume is then summed on a per sub-basin basis.

The total effective storage volume available from residential retention facilities plus irrigated subdivisions in any given sub-basin is diverted from the sub-basin hydrographs, with the exception of retention basins located adjacent to the Union Pacific Railroad. Any storage areas along the canal or railroad that are designed to retain floodplain waters and /or fall within the existing FEMA floodplain limits were not included in the retention diversion calculations. These areas are accounted for in the storage routing computations.

Appendix DN.5 contains the spreadsheets for retention diversions. Exhibit DN.5, Retention Basin and Flood Irrigated Lot Map, portrays the physical location and facility number on a sub-basin map with an aerial photograph background. Comment records are included in the hydrologic model.

4N.4.3 Ponding Diversions

Rating tables were developed to determine how much flow is weiring over roadways, canals or other structures, from ponded areas. Flow splits were modeled using diversion records located after the storage routing records in the HEC-1 model. Data tables for each ponding area are located in Appendix DN.5.

4N.4.4 DSS File Diversions

There are two DSS files created for the entire Chandler/Gilbert FDS to model hydrographs impacting separate HEC-1 models. A DSS file (CFGDS6.DSS) was created for the 6-hour model and another DSS file (CGFDS24.DSS) was created for the 24-hour model. There are four locations in Phase 3 North modeling area with inflow hydrographs from the area east of the Consolidated Canal. The 6-hr and 24-hr HEC-1 models retrieve these hydrographs from their respective DSS file and incorporate them into the model. The HEC-1 output hydrographs discharging to the Phase 3 South are written to their respective DSS files.

4N.5 Special Problems

4N.5.1 Culvert/Ditch/Weir analyses

Culvert analysis was conducted using CulvertMaster. Tail water elevations were generally dictated by the configuration of the downstream conditions. Spreadsheets were used to conduct weir analysis per HDS-5.

4N.5.2 Non-contributing area south of Guadalupe.

The retention area of Playa Del Rey (east of McQueen Rd. and north of the Western Canal), the retention basin of Summer Meadows (north of Elliot Rd. and north of Cooper Rd.), the Neely Ranch Preserve south of the Western Canal, the Stone Bridge Lakes south of the Western Canal and Lago Estancia (north of Warner Rd. and west of Gilbert Rd.) are considered as non-contributing areas based on existing drainage reports and field visits.

4N.5.3 Water loss to the Western Canal

Storm water in P516 and P519 will pond high enough to overtop the Western Canal banks, loss water to the canal, and spill water to the north (Sub-Basins 513 and 509 respectively). Box culverts were installed in the Western Canal at railroad crossings, and the capacity of the culverts is the limiting factor of the canal capacity. Assuming that the canal will flow bank-full at the culvert locations at the peak of the 100-year flood, the flow rates in the canal were calculated using CulvertMaster. Weir analysis spreadsheets and CulvertMaster headwater-flow rating tables were used together to calculate the distribution of the pond outflows.

4N.5.4 Inter-Basin Ponding for P519

Sub-basin 519 doesn't have the capacity to fully contain the 100-year storm water. Storm water will spill into Sub-basin 513, and ponding areas in the two sub-basins will merge. The storage capacities of both basins were modeled together as one pond P519 in the HEC-1 models.

4N.6 Hydrologic Results

Table 4N.6 gives the summary of discharges at the various concentration points. Appendix DN.7.1 and 7.2 contain the HEC-1, 100-yr, 6-hr and 24-hr models.

Table 4N.6 Summary of Discharge Rates

COMBINED					
HEC-1 ID	$Q_{100\text{-yr, 6-hr}}$	$Q_{100\text{-yr, 24-hr}}$	HEC1-ID	$Q_{100\text{-yr, 6-hr}}$	$Q_{100\text{-yr, 24-hr}}$
CP501	429	356	CP512	558	424
CP502	859	700	CP516	749	567
CP503	1377	1506	CP517	562	524
CP506	487	455	CP519	1177	968
CP508	424	326	CP522	882	524
CP509	1008	786	CP523	935	680
CP511	407	180	CP524	162	116
***SUB-BASIN** HYDROGRAPHS**					
HEC-1 ID	$Q_{100\text{-yr, 6-hr}}$	$Q_{100\text{-yr, 24-hr}}$	HEC1-ID	$Q_{100\text{-yr, 6-hr}}$	$Q_{100\text{-yr, 24-hr}}$
500	561	508	512	124	112
501	716	606	513	30	25
502	589	517	516	196	172
503	1377	1504	517	302	303
504	319	349	518	301	268
505	29	26	519	171	155
506	197	171	521	285	274
508	308	283	522	428	309
509	319	170	523	217	214
510	142	160	524	236	252
511	325	201	525	132	150
** For sub-basins with retention diversion, Q recorded equals hydrograph before retention diversion.*					
DIVERSION HYDROGRAPHS					
HEC-1 ID	$Q_{100\text{-yr, 6-hr}}$	$Q_{100\text{-yr, 24-hr}}$	HEC1-ID	$Q_{100\text{-yr, 6-hr}}$	$Q_{100\text{-yr, 24-hr}}$
516NOR	351	253	OUT524	129	93
BASFL	-111	-111	TO508	286	237
BASOUT	111	111	WES516	17	14
D501	429	356	WES519	49	45
D524	32	23			
RETENTION DIVERSIONS					
HEC-1 ID	$Q_{100\text{-yr, 6-hr}}$	$Q_{100\text{-yr, 24-hr}}$	HEC1-ID	$Q_{100\text{-yr, 6-hr}}$	$Q_{100\text{-yr, 24-hr}}$
500RET	534	502	517RET	55	8
501RET	707	606	518RET	238	218
502RET	589	517	521RET	0	0
503RET	0	0	522RET	428	309
508RET	275	277	523RET	195	182
509RET	13	5	524RET	236	252
511RET	325	201	525RET	132	150
516RET	71	9			

Table 4N.6 Continued..

NORMAL DEPTH ROUTED					
HEC-1 ID	$Q_{100\text{-yr, 6-hr}}$	$Q_{100\text{-yr, 24-hr}}$	HEC1-ID	$Q_{100\text{-yr, 6-hr}}$	$Q_{100\text{-yr, 24-hr}}$
500503	524	456	516519	126	124
501502	397	332	519512	432	310
501508	237	190	518519	292	257
502503	764	577	521517	282	268
504506	291	286	522523	808	510
508516	418	323	523519	853	617
509503	750	609	524522	30	11
510511	130	126	CON501	50	21
511512	318	153	CON516	587	434
516509	632	473	CON524	161	54
STORAGE ROUTING					
HEC-1 ID	$Q_{100\text{-yr, 6-hr}}$	$Q_{100\text{-yr, 24-hr}}$	HEC1-ID	$Q_{100\text{-yr, 6-hr}}$	$Q_{100\text{-yr, 24-hr}}$
P503	0	0	P512	293	151
P505	0	0	P516	613	447
P506	0	0	P519	481	355

APPENDIX D: HYDROLOGIC ANALYSES SUPPORTING DOCUMENTATION

Appendix D: Table of Contents

DS & DN.1 PRECIPITATION
DS & DN.2 PARAMETERS
DS & DN.2.1 Sub-basin/Hydrograph Parameters
DS & DN.2.2 Soils Data
DS & DN.2.3 Landuse Data
DS & DN.3 ROUTING DATA
DS & DN.4 STORAGE ROUTING DATA
DS & DN.5 DIVERSION DATA
DS & DN.5.1 Retention
DS & DN.5.2 Intersections
DS & DN.6 HARD COPY MODELS
DS & DN.6.1 100-yr, 6-hr Model
DS & DN.6.2 100-yr, 24-hr Model
DS & DN.7 PERTINENT EXCERPTS

DS & DN.1 Precipitation

Rainfall Data

Primary Zone Number: **7** Latitude: **0.0** Elevation: **0**

Short Duration Zone Number: **8** Longitude: **0.0**

	Point Values (in)					
Duration	2-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr
5 MIN	0.29	0.40	0.48	0.58	0.66	0.74
10 MIN	0.44	0.61	0.73	0.89	1.01	1.13
15 MIN	0.54	0.77	0.92	1.13	1.29	1.45
30 MIN	0.71	1.03	1.24	1.53	1.75	1.97
1 HOUR	0.87	1.27	1.54	1.90	2.18	2.46
2 HOUR	0.95	1.37	1.66	2.05	2.35	2.65
3 HOUR	1.00	1.44	1.74	2.14	2.46	2.77
6 HOUR	1.10	1.58	1.89	2.33	2.67	3.00
12 HOUR	1.20	1.71	2.04	2.51	2.87	3.22
24 HOUR	1.30	1.84	2.20	2.69	3.07	3.45

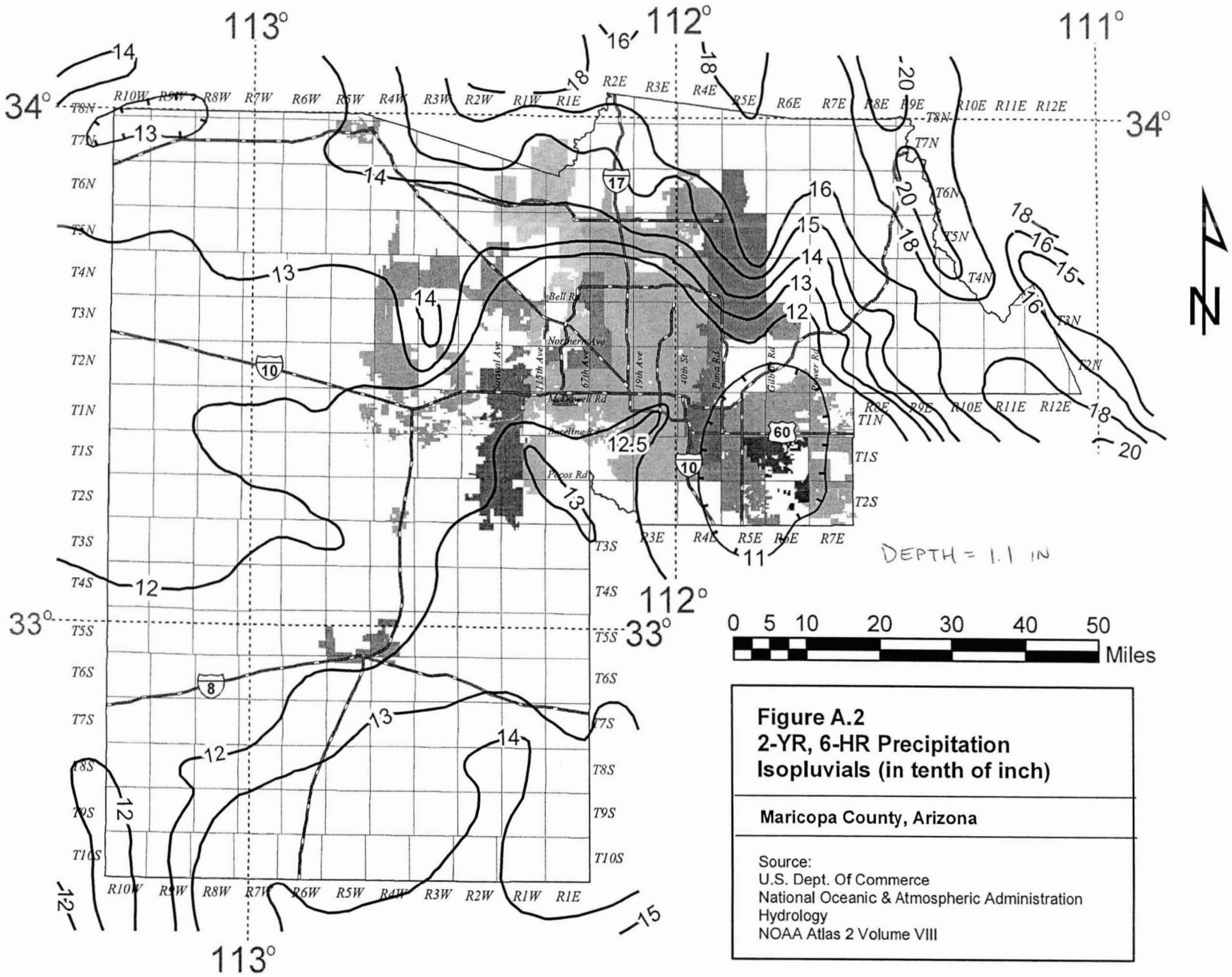


Figure A.2
2-YR, 6-HR Precipitation Isopluvials (in tenth of inch)

Maricopa County, Arizona

Source:
U.S. Dept. Of Commerce
National Oceanic & Atmospheric Administration
Hydrology
NOAA Atlas 2 Volume VIII

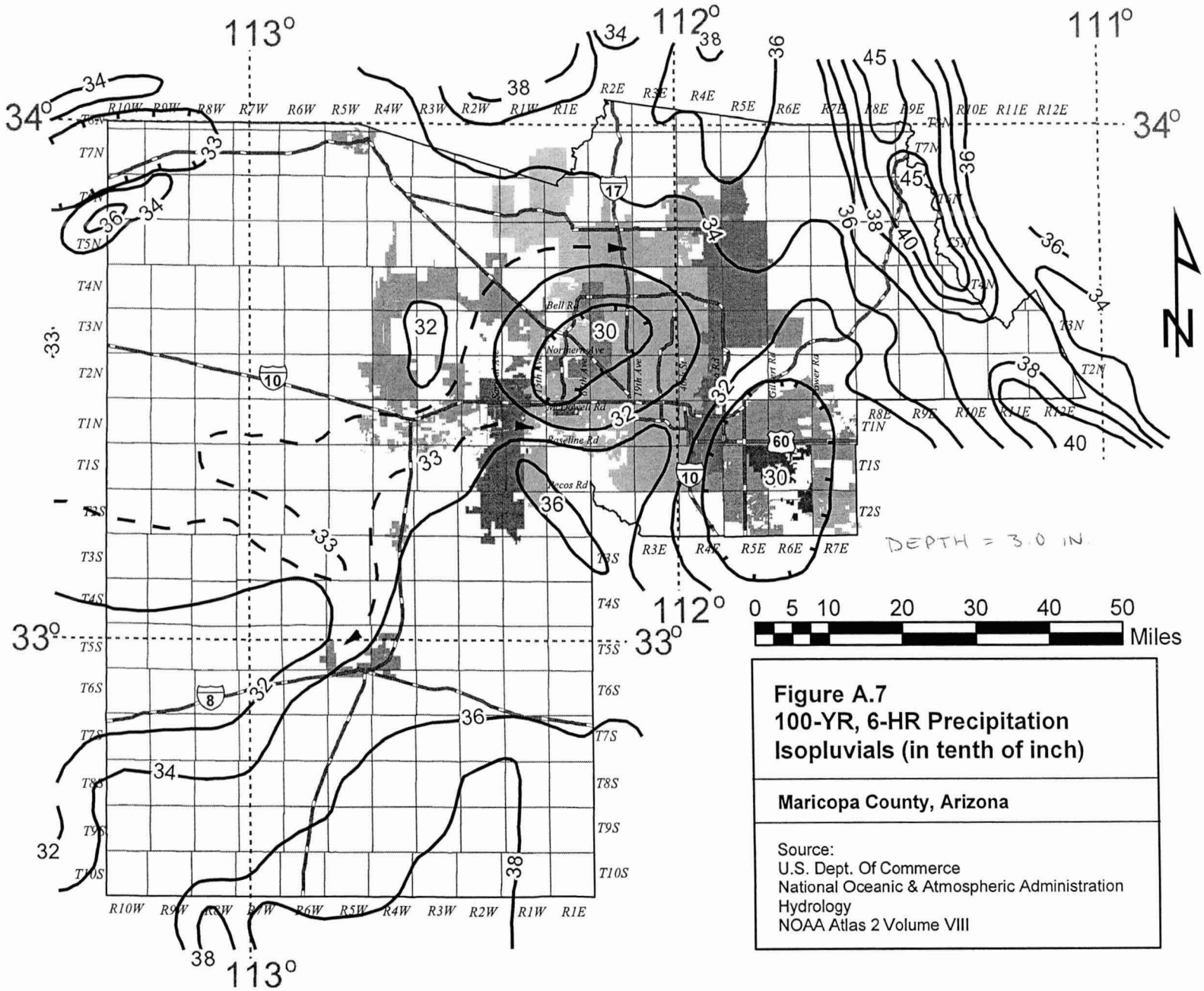


Figure A.7
100-YR, 6-HR Precipitation Isopluvials (in tenth of inch)

Maricopa County, Arizona

Source:
U.S. Dept. Of Commerce
National Oceanic & Atmospheric Administration
Hydrology
NOAA Atlas 2 Volume VIII

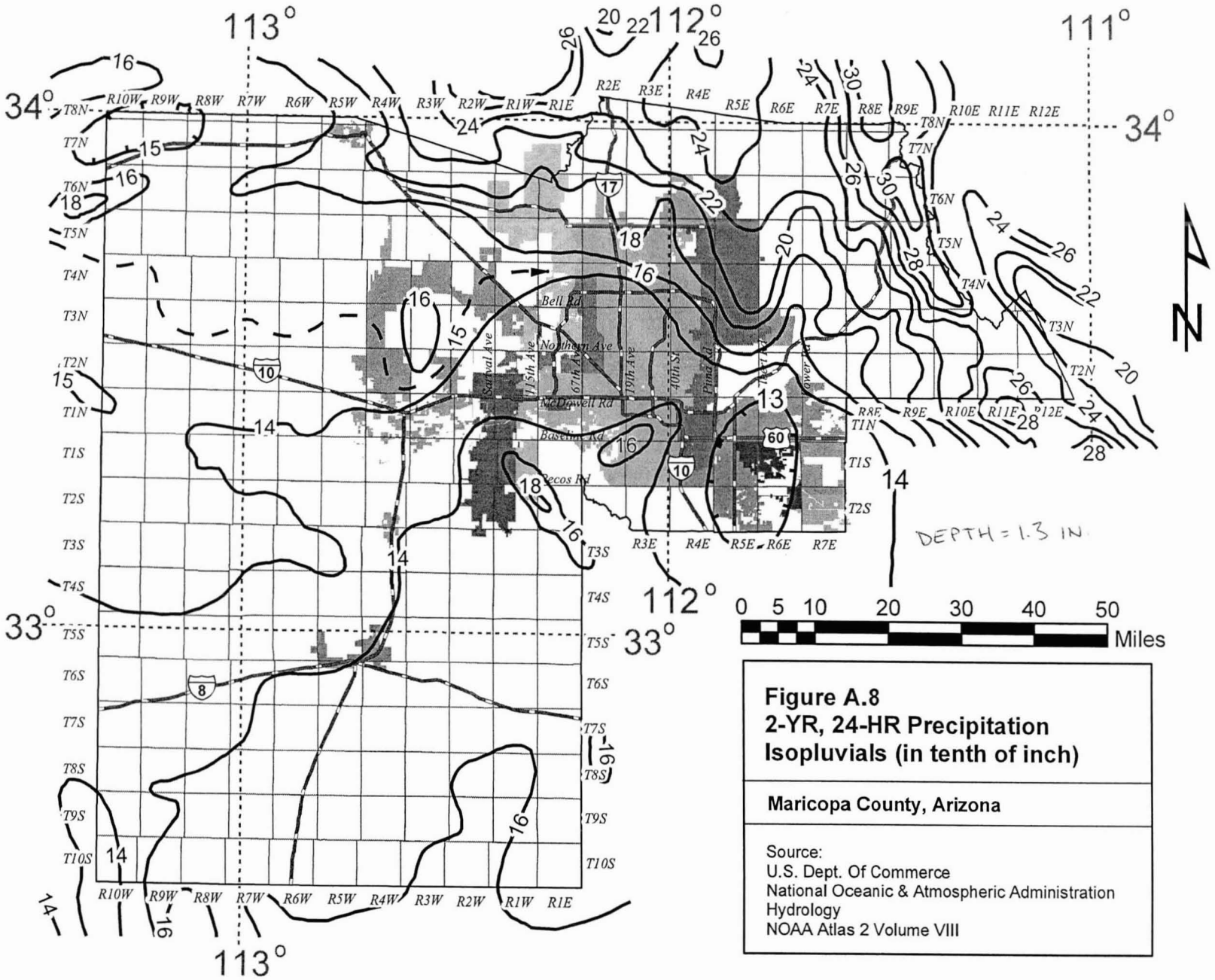


Figure A.8
2-YR, 24-HR Precipitation Isopluvials (in tenth of inch)

Maricopa County, Arizona

Source:
U.S. Dept. Of Commerce
National Oceanic & Atmospheric Administration
Hydrology
NOAA Atlas 2 Volume VIII

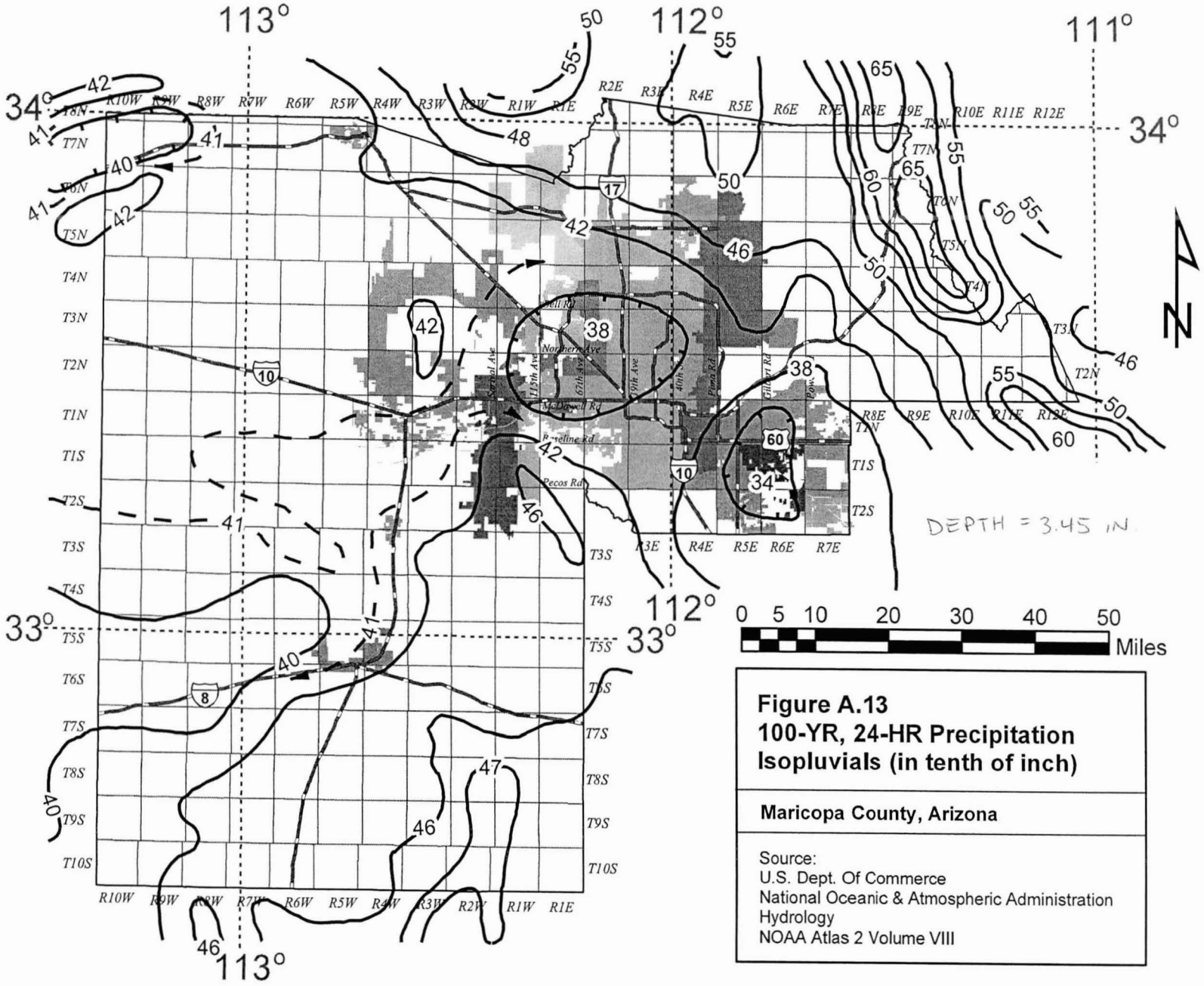
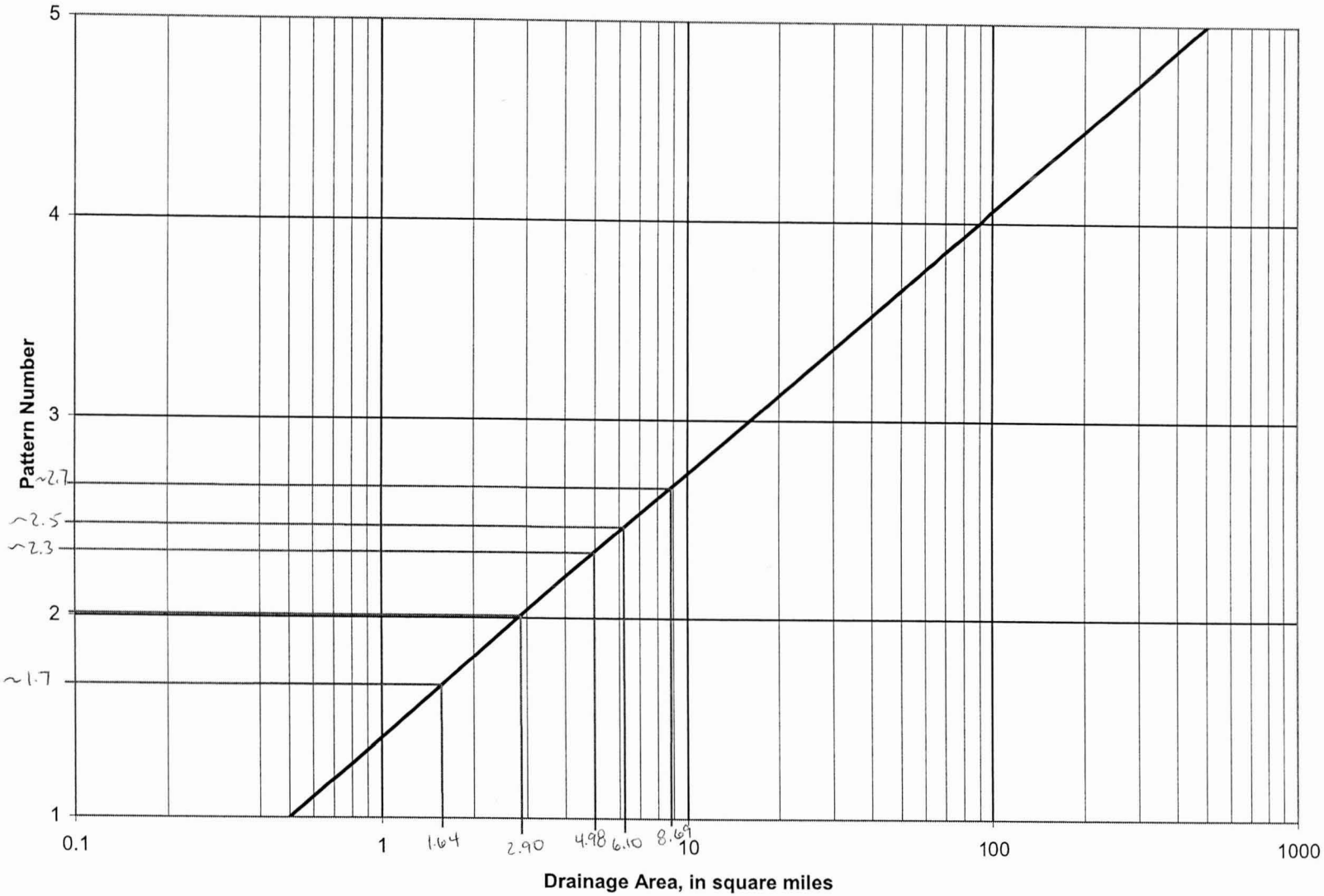


Figure A.13
100-YR, 24-HR Precipitation Isopluvials (in tenth of inch)

Maricopa County, Arizona

Source:
U.S. Dept. Of Commerce
National Oceanic & Atmospheric Administration
Hydrology
NOAA Atlas 2 Volume VIII

Figure 2.5
AREA VERSUS PATTERN NUMBER FOR MARICOPA COUNTY



Flood Control District
of Maricopa County

INTEROFFICE MEMORANDUM

Date: June 4, 2008

To: Kathryn Gross, Project Manager
PPM Division

From: Julie Cox, Senior Hydrologist
Engineering Division

Subject: Chandler/Gilbert FDS Phase 3 – PC records for 100-yr 6-hr HEC-1 models

The HEC-1 models submitted by the consultant have one set of PC records per model. Since we are using PB/PC records to define the rainfall distribution by region, there should be a different set of PC records for each PB region. There are 2 PB regions in the Phase 3 North model and 3 PB regions in the Phase 3 South model.

I developed the PC records using DDMSW Version 2.1.0, which is the same version used to develop data for all of the HEC-1 models.

For each PB region, the consultant needs to paste the appropriate PC records in the rows immediately following the PB records specified in the table below. The "dat" files are electronic attachments to this memo.

HEC-1 MODEL	PB REGION	AREA	DDMSW DAT FILE	PB record
Phase 3 North	1	6.1 sq mi	PB4.dat	2.867 inch
	2	4.98 sq mi	PB5.dat	2.88 inch
Phase 3 South	1	8.69 sq mi	PB16.dat	2.835 inch
	2	2.90 sq mi	PB2.dat	2.922 inch
	3	1.64 sq mi	PB3.dat	2.949 inch

Please stop by, email, or call me at 602-506-8401 with any questions. Thank you.

Flood Control District
of Maricopa County

INTEROFFICE MEMORANDUM

Date: October 3, 2008

To: Kathryn Gross, Project Manager
PPM Division

From: Julie Cox, Senior Hydrologist
Engineering Division

Subject: Chandler/Gilbert FDS Phase 3 – PC records for 100-yr 6-hr HEC-1 models

The HEC-1 models submitted by the consultant have one set of PC records per model. Since we are using PB/PC records to define the rainfall distribution by region, there should be a different set of PC records for each PB region. There are 2 PB regions in the Phase 3 North model and 3 PB regions in the Phase 3 South model.

I developed the PC records using DDMSW Version 2.1.0, which is the same version used to develop data for all of the HEC-1 models.

For each PB region, the consultant needs to paste the appropriate PC records in the rows immediately following the PB records specified in the table below. The "dat" files are electronic attachments to this memo.

HEC-1 MODEL	PB REGION	AREA	DDMSW DAT FILE	PB record
Phase 3 North	1	6.10 sq mi	PB4.dat	2.867 inch
	2	4.98 sq mi	PB5.dat	2.88 inch
Phase 3 South	1	8.69 sq mi	PB1.dat	~~2.429~~ inch 2.835
	2	2.90 sq mi	PB2.dat	2.923 inch
	3	1.64 sq mi	PB3.dat	2.948 inch

Please stop by, email, or call me at 602-506-8401 with any questions. Thank you.

DS & DN.2 Parameters

DS & DN.2.1 Sub-basin/Hydrograph Parameters

DS & DN.2.2 Soils Data

DS & DN.2.3 Landuse Data

Sub Basin Data

3/9/2009

Basin: 01 | Storms: Single | Duration: 6 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
601	0.51	1.08	0.9	0.9	Urban	0.034	0.27	0.22	6.40	0.21	34	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.50	1.50
												Vel (f/s)	1.06	1.06	1.06	1.06	1.06	1.06
												R (hrs)	0.91	0.91	0.91	0.91	0.91	0.91
602	0.51	1.40	3.4	3.4	Urban	0.027	0.15	0.23	6.40	0.20	51	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.47	1.35
												Vel (f/s)	1.37	1.37	1.37	1.37	1.40	1.52
												R (hrs)	1.12	1.12	1.12	1.12	1.09	0.99
603	0.30	1.00	11.2	11.2	Urban	0.029	0.22	0.26	4.55	0.43	24	**Tc (hrs)**	1.50	1.50	1.46	1.13	0.95	0.84
												Vel (f/s)	0.98	0.98	1.00	1.30	1.54	1.74
												R (hrs)	1.14	1.14	1.11	0.83	0.69	0.60
604	0.20	0.74	11.7	11.7	Urban	0.030	0.14	0.26	5.30	0.31	57	**Tc (hrs)**	1.14	0.93	0.82	0.71	0.65	0.61
												Vel (f/s)	0.95	1.16	1.32	1.53	1.66	1.79
												R (hrs)	0.84	0.67	0.58	0.50	0.45	0.42
605	0.50	1.16	12.3	12.3	Urban	0.027	0.23	0.26	5.30	0.28	31	**Tc (hrs)**	1.50	1.50	1.20	1.50	0.85	0.77
												Vel (f/s)	1.13	1.13	1.41	1.10	2.00	2.22
												R (hrs)	0.98	0.98	0.76	1.01	0.52	0.46
606	0.38	1.23	4.3	4.3	Urban	0.030	0.23	0.15	8.00	0.10	35	**Tc (hrs)**	1.50	1.50	1.50	1.39	1.26	1.18
												Vel (f/s)	1.20	1.20	1.20	1.30	1.43	1.54
												R (hrs)	1.19	1.19	1.19	1.10	0.99	0.91
607	0.13	0.32	28.4	28.4	Natural	0.049	0.38	0.16	9.70	0.07	21	**Tc (hrs)**	0.88	0.55	0.49	0.43	0.40	0.37
												Vel (f/s)	0.53	0.85	0.96	1.10	1.19	1.27
												R (hrs)	0.42	0.25	0.22	0.19	0.17	0.16
608	1.15	1.69	9.0	9.0	Urban	0.027	0.25	0.16	7.00	0.15	28	**Tc (hrs)**	1.50	1.50	1.50	1.25	1.13	1.04
												Vel (f/s)	1.65	1.65	1.65	1.98	2.20	2.38
												R (hrs)	0.82	0.82	0.82	0.67	0.59	0.54
609	0.38	1.40	6.3	6.3	Urban	0.029	0.24	0.16	7.60	0.11	33	**Tc (hrs)**	1.50	1.50	1.50	1.28	1.17	1.08
												Vel (f/s)	1.37	1.37	1.37	1.60	1.76	1.90

* Non default value

Sub Basin Data

Basin: 01 | Storms: Single | Duration: 6 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

	Sub Basin Parameters						Rainfall Losses						Return Period (Years)					
Sub Basin ID	Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		2	5	10	25	50	100
												R (hrs)	1.32	1.32	1.32	1.11	1.00	0.92
610	0.54	1.11	6.6	6.6	Urban	0.028	0.23	0.26	5.20	0.29	31	**Tc (hrs)**	1.50	1.50	1.50	1.26	1.11	1.00
												Vel (f/s)	1.09	1.09	1.09	1.29	1.47	1.63
												R (hrs)	0.90	0.90	0.90	0.74	0.64	0.57
611	0.29	0.96	4.7	4.7	Urban	0.030	0.21	0.26	5.00	0.33	41	**Tc (hrs)**	1.50	1.50	1.50	1.33	1.18	1.08
												Vel (f/s)	0.94	0.94	0.94	1.06	1.19	1.31
												R (hrs)	1.13	1.13	1.13	0.99	0.87	0.78
612	0.26	1.46	10.9	10.9	Urban	0.033	0.28	0.25	5.10	0.32	25	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.29	1.15
												Vel (f/s)	1.43	1.43	1.43	1.43	1.66	1.87
												R (hrs)	1.70	1.70	1.70	1.70	1.44	1.26
613	0.21	0.87	11.4	11.4	Urban	0.035	0.22	0.27	4.60	0.40	36	**Tc (hrs)**	1.50	1.47	1.27	1.03	0.90	0.81
												Vel (f/s)	0.85	0.87	1.01	1.24	1.41	1.57
												R (hrs)	1.27	1.24	1.05	0.84	0.72	0.64
614	0.42	1.31	12.4	12.4	Urban	0.028	0.24	0.25	4.60	0.41	32	**Tc (hrs)**	1.50	1.50	1.44	1.15	1.00	0.90
												Vel (f/s)	1.28	1.28	1.33	1.66	1.91	2.13
												R (hrs)	1.19	1.19	1.14	0.89	0.76	0.67
615	0.37	0.85	10.3	10.3	Urban	0.030	0.20	0.27	4.45	0.44	24	**Tc (hrs)**	1.50	1.50	1.40	1.08	0.91	0.80
												Vel (f/s)	0.83	0.83	0.89	1.16	1.37	1.56
												R (hrs)	0.90	0.90	0.83	0.62	0.52	0.45
616	0.17	0.43	12.9	12.9	Urban	0.031	0.17	0.25	4.55	0.45	51	**Tc (hrs)**	0.85	0.71	0.64	0.55	0.50	0.46
												Vel (f/s)	0.75	0.88	0.99	1.16	1.27	1.36
												R (hrs)	0.43	0.35	0.31	0.26	0.24	0.22
617	0.22	0.91	7.5	7.5	Urban	0.038	0.31	0.25	4.40	0.48	24	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.35	1.19
												Vel (f/s)	0.89	0.89	0.89	0.89	0.99	1.12
												R (hrs)	1.28	1.28	1.28	1.28	1.14	0.98

* Non default value

Sub Basin Data

3/9/2009

Basin: 01 | Storms: Single | Duration: 6 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
618	0.32	0.70	10.9	10.9	Urban	0.029	0.26	0.25	4.60	0.38	20	**Tc (hrs)**	1.50	1.49	1.19	0.88	0.74	0.67
												Vel (f/s)	0.68	0.69	0.86	1.17	1.38	1.54
												R (hrs)	0.83	0.83	0.64	0.46	0.38	0.34
619	0.12	0.34	12.9	12.9	Natural	0.030	0.16	0.25	4.70	0.41	61	**Tc (hrs)**	0.67	0.57	0.51	0.45	0.41	0.39
												Vel (f/s)	0.75	0.88	0.98	1.12	1.21	1.29
												R (hrs)	0.34	0.29	0.25	0.22	0.20	0.19
620	0.07	0.36	3.3	3.3	Natural	0.039	0.24	0.25	4.00	0.64	46	**Tc (hrs)**	1.50	1.31	1.20	1.04	0.93	0.84
												Vel (f/s)	0.35	0.40	0.44	0.51	0.57	0.63
												R (hrs)	1.17	1.00	0.91	0.78	0.69	0.61
621	0.51	1.27	10.0	10.0	Natural	0.040	0.30	0.25	6.20	0.23	22	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.35	1.20
												Vel (f/s)	1.24	1.24	1.24	1.24	1.38	1.55
												R (hrs)	1.04	1.04	1.04	1.04	0.93	0.81
622	0.10	0.42	8.6	8.6	Natural	0.047	0.32	0.21	6.40	0.23	35	**Tc (hrs)**	1.50	1.18	0.98	0.80	0.71	0.66
												Vel (f/s)	0.41	0.52	0.63	0.77	0.86	0.93
												R (hrs)	1.07	0.82	0.67	0.53	0.47	0.43
623	0.60	1.26	12.7	12.7	Natural	0.041	0.39	0.15	7.60	0.14	7	**Tc (hrs)**	0.08	1.50	1.50	1.33	1.14	1.03
												Vel (f/s)	22.27	1.23	1.23	1.39	1.62	1.79
												R (hrs)	0.04	0.93	0.93	0.81	0.69	0.62
624	0.13	0.50	8.5	8.5	Natural	0.045	0.34	0.15	9.70	0.07	24	**Tc (hrs)**	1.50	1.08	0.91	1.50	0.72	0.68
												Vel (f/s)	0.49	0.68	0.81	0.47	1.02	1.09
												R (hrs)	1.05	0.73	0.60	1.10	0.46	0.43
625	0.42	1.11	12.8	12.8	Natural	0.044	0.43	0.25	5.00	0.40	11	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.50	1.33
												Vel (f/s)	1.09	1.09	1.09	1.09	1.09	1.22
												R (hrs)	1.04	1.04	1.04	1.04	1.04	0.91
626	0.13	0.55	12.8	12.8	Natural	0.054	0.50	0.25	5.40	0.34		**Tc (hrs)**	1.00	1.00	0.08	1.50	1.25	0.98
												Vel (f/s)	0.81	0.81	9.72	0.54	0.65	0.83

* Non default value

Flood Control District of Maricopa County
MARI40_SW_6HR - CHANDLER/GILBERT FDS PHASE 3 SOUTH

Sub Basin Data

3/9/2009

Basin: 01 | Storms: Single | Duration: 6 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
												R (hrs)	0.73	0.73	0.05	1.14	0.93	0.71
627	0.21	0.82	16.8	16.8	Natural	0.050	0.47	0.25	4.80	0.44	2	**Tc (hrs)**	1.00	1.00	0.08	1.50	1.50	1.20
												Vel (f/s)	1.20	1.20	14.49	0.80	0.80	1.01
												R (hrs)	0.77	0.77	0.05	1.20	1.20	0.94
628	0.27	0.75	7.5	7.5	Natural	0.049	0.49	0.25	4.70	0.46	2	**Tc (hrs)**	1.00	1.00	0.08	1.50	1.50	1.50
												Vel (f/s)	1.10	1.10	13.25	0.73	0.73	0.73
												R (hrs)	0.62	0.62	0.04	0.98	0.98	0.98
629	0.26	1.09	5.2	5.2	Natural	0.049	0.50	0.25	4.65	0.49		**Tc (hrs)**	1.00	1.00	1.00	0.17	1.50	1.50
												Vel (f/s)	1.60	1.60	1.60	9.57	1.07	1.07
												R (hrs)	0.86	0.86	0.86	0.12	1.34	1.34
630	0.32	1.24	4.7	4.7	Urban	0.033	0.25	0.22	4.15	0.53	36	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.50	1.49
												Vel (f/s)	1.21	1.21	1.21	1.21	1.21	1.22
												R (hrs)	1.31	1.31	1.31	1.31	1.31	1.31
631	0.30	0.92	8.5	8.5	Urban	0.042	0.33	0.25	4.45	0.51	24	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.44	1.25
												Vel (f/s)	0.90	0.90	0.90	0.90	0.94	1.08
												R (hrs)	1.07	1.07	1.07	1.07	1.03	0.88
633	0.23	0.92	11.9	11.9	Natural	0.047	0.41	0.26	4.60	0.47	10	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.50	1.35
												Vel (f/s)	0.90	0.90	0.90	0.90	0.90	1.00
												R (hrs)	1.26	1.26	1.26	1.26	1.26	1.12
634	0.07	0.40	0.3	0.3	Natural	0.051	0.36	0.25	4.25	0.57	14	**Tc (hrs)**	1.00	1.00	1.00	0.25	1.50	1.50
												Vel (f/s)	0.59	0.59	0.59	2.35	0.39	0.39
												R (hrs)	0.80	0.80	0.80	0.17	1.26	1.26
635	0.15	0.85	13.7	13.7	Urban	0.030	0.12	0.30	4.15	0.48	28	**Tc (hrs)**	1.50	1.38	1.18	0.94	0.80	0.71
												Vel (f/s)	0.83	0.91	1.05	1.32	1.56	1.75
												R (hrs)	1.49	1.35	1.14	0.89	0.74	0.65

* Non default value

Sub Basin Data

Basin: 01 Storms: Single Duration: 6 Hour Loss Method: Green-Ampt Unit Hydrograph: Clark

	Sub Basin Parameters						Rainfall Losses						Return Period (Years)					
Sub Basin ID	Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		2	5	10	25	50	100
636	0.15	0.57	4.4	4.4	Urban	0.028	0.25	0.25	4.35	0.46	31	**Tc (hrs)**	1.50	1.50	1.31	1.05	1.50	0.81
												Vel (f/s)	0.56	0.56	0.64	0.79	0.54	1.03
												R (hrs)	1.10	1.10	0.95	0.75	1.15	0.56
632N	0.15	0.27	56.2	56.2	Natural	0.029	0.19	0.24	4.50	0.55	6	**Tc (hrs)**	0.94	0.80	0.58	0.34	0.28	0.25
												Vel (f/s)	0.42	0.50	0.68	1.17	1.44	1.61
												R (hrs)	0.36	0.30	0.21	0.11	0.09	0.08
632S	0.26	0.21	64.6	64.6	Natural	0.027	0.20	0.25	4.55	0.54	4	**Tc (hrs)**	0.88	0.75	0.51	0.27	0.23	0.20
												Vel (f/s)	0.35	0.41	0.60	1.15	1.37	1.51
												R (hrs)	0.20	0.16	0.11	0.05	0.04	0.04
600	1.25	2.23	7.2	7.2	Urban	0.027	0.21	0.23	5.80	0.22	37	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.50	1.43
												Vel (f/s)	2.18	2.18	2.18	2.18	2.18	2.30
												R (hrs)	0.97	0.97	0.97	0.97	0.97	0.92

Flood Control District of Maricopa County
MARI40_SW - CHANDLER/GILBERT FDS PHASE 3 SOUTH

Sub Basin Data

3/9/2009

Basin: 01 | Storms: Single | Duration: 24 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
601	0.51	1.08	0.9	0.9	Urban	0.034	0.27	0.22	6.40	0.21	34	**Tc (hrs)**	0.08	1.50	1.50	1.50	1.50	1.50
												Vel (f/s)	19.08	1.06	1.06	1.06	1.06	1.06
												R (hrs)	0.04	0.91	0.91	0.91	0.91	0.91
602	0.51	1.40	3.4	3.4	Urban	0.027	0.15	0.23	6.40	0.20	51	**Tc (hrs)**	1.50	1.50	1.50	1.44	1.35	1.27
												Vel (f/s)	1.37	1.37	1.37	1.43	1.53	1.62
												R (hrs)	1.12	1.12	1.12	1.07	0.99	0.93
603	0.30	1.00	11.2	11.2	Urban	0.029	0.22	0.26	4.55	0.43	24	**Tc (hrs)**	1.19	1.00	0.90	0.80	0.74	0.68
												Vel (f/s)	1.23	1.47	1.63	1.82	1.98	2.15
												R (hrs)	0.89	0.73	0.65	0.57	0.52	0.48
604	0.20	0.74	11.7	11.7	Urban	0.030	0.14	0.26	5.30	0.31	57	**Tc (hrs)**	0.75	0.65	0.60	0.55	0.53	0.50
												Vel (f/s)	1.45	1.67	1.80	1.96	2.07	2.17
												R (hrs)	0.53	0.45	0.42	0.38	0.36	0.34
605	0.50	1.16	12.3	12.3	Urban	0.027	0.23	0.26	5.30	0.28	31	**Tc (hrs)**	1.09	0.92	0.84	0.75	0.69	0.65
												Vel (f/s)	1.56	1.86	2.03	2.27	2.46	2.63
												R (hrs)	0.69	0.56	0.51	0.45	0.41	0.38
606	0.38	1.23	4.3	4.3	Urban	0.030	0.23	0.15	8.00	0.10	35	**Tc (hrs)**	1.50	1.50	1.40	1.26	1.17	1.10
												Vel (f/s)	1.20	1.20	1.29	1.43	1.54	1.64
												R (hrs)	1.19	1.19	1.11	0.98	0.91	0.85
607	0.13	0.32	28.4	28.4	Natural	0.049	0.38	0.16	9.70	0.07	21	**Tc (hrs)**	0.44	0.38	0.35	0.33	0.31	0.30
												Vel (f/s)	1.06	1.25	1.36	1.44	1.52	1.59
												R (hrs)	0.19	0.16	0.15	0.14	0.13	0.12
608	1.15	1.69	9.0	9.0	Urban	0.027	0.25	0.16	7.00	0.15	28	**Tc (hrs)**	1.50	1.36	1.23	1.10	1.01	0.95
												Vel (f/s)	1.65	1.83	2.02	2.26	2.45	2.62
												R (hrs)	0.82	0.73	0.65	0.58	0.53	0.49
609	0.38	1.40	6.3	6.3	Urban	0.029	0.24	0.16	7.60	0.11	33	**Tc (hrs)**	1.50	1.40	1.28	1.15	1.06	1.00
												Vel (f/s)	1.37	1.47	1.61	1.79	1.93	2.05

* Non default value

Sub Basin Data

3/9/2009

Basin: 01 | Storms: Single | Duration: 24 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
												R (hrs)	1.32	1.23	1.10	0.98	0.90	0.84
610	0.54	1.11	6.6	6.6	Urban	0.028	0.23	0.26	5.20	0.29	31	**Tc (hrs)**	1.47	1.23	1.12	1.01	0.93	0.87
												Vel (f/s)	1.11	1.32	1.45	1.62	1.75	1.88
												R (hrs)	0.87	0.72	0.65	0.58	0.53	0.49
611	0.29	0.96	4.7	4.7	Urban	0.030	0.21	0.26	5.00	0.33	41	**Tc (hrs)**	1.50	1.30	1.19	1.08	1.00	0.94
												Vel (f/s)	0.94	1.09	1.18	1.30	1.40	1.50
												R (hrs)	1.13	0.96	0.88	0.79	0.73	0.67
612	0.26	1.46	10.9	10.9	Urban	0.033	0.28	0.25	5.10	0.32	25	**Tc (hrs)**	1.50	1.45	1.31	1.18	1.08	1.00
												Vel (f/s)	1.43	1.48	1.63	1.82	1.98	2.14
												R (hrs)	1.70	1.64	1.47	1.30	1.18	1.09
613	0.21	0.87	11.4	11.4	Urban	0.035	0.22	0.27	4.60	0.40	36	**Tc (hrs)**	1.09	0.93	0.85	0.77	0.72	0.67
												Vel (f/s)	1.17	1.37	1.49	1.65	1.77	1.90
												R (hrs)	0.89	0.75	0.68	0.61	0.56	0.52
614	0.42	1.31	12.4	12.4	Urban	0.028	0.24	0.25	4.60	0.41	32	**Tc (hrs)**	1.25	1.06	0.96	0.87	0.80	0.75
												Vel (f/s)	1.54	1.82	2.00	2.22	2.39	2.56
												R (hrs)	0.97	0.81	0.73	0.65	0.59	0.55
615	0.37	0.85	10.3	10.3	Urban	0.030	0.20	0.27	4.45	0.44	24	**Tc (hrs)**	1.13	0.95	0.85	0.76	0.70	0.65
												Vel (f/s)	1.11	1.32	1.47	1.64	1.77	1.92
												R (hrs)	0.66	0.54	0.48	0.42	0.39	0.36
616	0.17	0.43	12.9	12.9	Urban	0.031	0.17	0.25	4.55	0.45	51	**Tc (hrs)**	0.51	0.45	0.42	0.39	0.37	0.35
												Vel (f/s)	1.24	1.40	1.50	1.63	1.72	1.80
												R (hrs)	0.24	0.21	0.20	0.18	0.17	0.16
617	0.22	0.91	7.5	7.5	Urban	0.038	0.31	0.25	4.40	0.48	24	**Tc (hrs)**	1.50	1.45	1.29	1.14	1.06	0.98
												Vel (f/s)	0.89	0.92	1.04	1.17	1.26	1.36
												R (hrs)	1.28	1.23	1.08	0.94	0.87	0.80

* Non default value

Sub Basin Data

3/9/2009

Basin: 01 | Storms: Single | Duration: 24 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
618	0.32	0.70	10.9	10.9	Urban	0.029	0.26	0.25	4.60	0.38	20	**Tc (hrs)**	0.96	0.79	0.70	0.63	0.58	0.53
												Vel (f/s)	1.07	1.30	1.46	1.64	1.79	1.93
												R (hrs)	0.51	0.41	0.36	0.32	0.29	0.27
619	0.12	0.34	12.9	12.9	Natural	0.030	0.16	0.25	4.70	0.41	61	**Tc (hrs)**	0.42	0.37	0.35	0.33	0.31	0.30
												Vel (f/s)	1.20	1.34	1.44	1.53	1.59	1.66
												R (hrs)	0.20	0.18	0.17	0.15	0.15	0.14
620	0.07	0.36	3.3	3.3	Natural	0.039	0.24	0.25	4.00	0.64	46	**Tc (hrs)**	1.02	0.92	0.84	0.76	0.71	0.68
												Vel (f/s)	0.52	0.57	0.63	0.69	0.74	0.78
												R (hrs)	0.76	0.68	0.61	0.55	0.51	0.48
621	0.51	1.27	10.0	10.0	Natural	0.040	0.30	0.25	6.20	0.23	22	**Tc (hrs)**	1.50	1.50	1.44	1.28	1.17	1.08
												Vel (f/s)	1.24	1.24	1.29	1.46	1.59	1.72
												R (hrs)	1.04	1.04	0.99	0.87	0.79	0.72
622	0.10	0.42	8.6	8.6	Natural	0.047	0.32	0.21	6.40	0.23	35	**Tc (hrs)**	0.89	0.75	0.69	0.62	0.57	1.50
												Vel (f/s)	0.69	0.82	0.90	1.00	1.08	0.39
												R (hrs)	0.60	0.50	0.45	0.40	0.37	1.13
623	0.60	1.26	12.7	12.7	Natural	0.041	0.39	0.15	7.60	0.14	7	**Tc (hrs)**	1.50	1.50	1.40	1.18	1.07	0.98
												Vel (f/s)	1.23	1.23	1.32	1.56	1.73	1.89
												R (hrs)	0.93	0.93	0.86	0.72	0.64	0.58
624	0.13	0.50	8.5	8.5	Natural	0.045	0.34	0.15	9.70	0.07	24	**Tc (hrs)**	0.98	0.81	0.73	0.65	0.61	0.58
												Vel (f/s)	0.75	0.90	1.01	1.12	1.21	1.27
												R (hrs)	0.65	0.53	0.47	0.42	0.39	0.37
625	0.42	1.11	12.8	12.8	Natural	0.044	0.43	0.25	5.00	0.40	11	**Tc (hrs)**	1.50	1.50	1.50	1.32	1.20	1.09
												Vel (f/s)	1.09	1.09	1.09	1.24	1.36	1.49
												R (hrs)	1.04	1.04	1.04	0.90	0.81	0.73
626	0.13	0.55	12.8	12.8	Natural	0.054	0.50	0.25	5.40	0.34		**Tc (hrs)**	1.50	1.50	1.31	1.04	0.92	0.82
												Vel (f/s)	0.54	0.54	0.62	0.78	0.88	0.99

* Non default value

Sub Basin Data

Basin: 01 Storms: Single Duration: 24 Hour Loss Method: Green-Ampt Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
												R (hrs)	1.14	1.14	0.98	0.76	0.66	0.58
627	0.21	0.82	16.8	16.8	Natural	0.050	0.47	0.25	4.80	0.44	2	**Tc (hrs)**	1.50	1.50	1.48	1.18	1.04	0.94
												Vel (f/s)	0.80	0.80	0.81	1.02	1.15	1.28
												R (hrs)	1.20	1.20	1.18	0.92	0.80	0.71
628	0.27	0.75	7.5	7.5	Natural	0.049	0.49	0.25	4.70	0.46	2	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.44	1.30
												Vel (f/s)	0.73	0.73	0.73	0.73	0.76	0.85
												R (hrs)	0.98	0.98	0.98	0.98	0.93	0.83
629	0.26	1.09	5.2	5.2	Natural	0.049	0.50	0.25	4.65	0.49		**Tc (hrs)**	0.50	0.50	1.50	1.50	1.50	1.50
												Vel (f/s)	3.20	3.20	1.07	1.07	1.07	1.07
												R (hrs)	0.40	0.40	1.34	1.34	1.34	1.34
630	0.32	1.24	4.7	4.7	Urban	0.033	0.25	0.22	4.15	0.53	36	**Tc (hrs)**	1.50	1.50	1.50	1.48	1.38	1.29
												Vel (f/s)	1.21	1.21	1.21	1.23	1.32	1.41
												R (hrs)	1.31	1.31	1.31	1.30	1.20	1.11
631	0.30	0.92	8.5	8.5	Urban	0.042	0.33	0.25	4.45	0.51	24	**Tc (hrs)**	1.50	1.50	1.35	1.19	1.50	1.02
												Vel (f/s)	0.90	0.90	1.00	1.14	0.88	1.32
												R (hrs)	1.07	1.07	0.95	0.83	1.10	0.70
633	0.23	0.92	11.9	11.9	Natural	0.047	0.41	0.26	4.60	0.47	10	**Tc (hrs)**	1.50	1.50	1.50	1.28	1.16	1.07
												Vel (f/s)	0.90	0.90	0.90	1.05	1.16	1.26
												R (hrs)	1.26	1.26	1.26	1.06	0.95	0.87
634	0.07	0.40	0.3	0.3	Natural	0.051	0.36	0.25	4.25	0.57	14	**Tc (hrs)**	0.08	0.08	0.33	1.50	1.50	1.50
												Vel (f/s)	7.07	7.07	1.76	0.39	0.39	0.39
												R (hrs)	0.05	0.05	0.24	1.26	1.26	1.26
635	0.15	0.85	13.7	13.7	Urban	0.030	0.12	0.30	4.15	0.48	28	**Tc (hrs)**	0.94	0.80	0.73	0.65	0.60	0.56
												Vel (f/s)	1.33	1.56	1.72	1.92	2.06	2.21
												R (hrs)	0.88	0.74	0.66	0.59	0.54	0.50

* Non default value

Sub Basin Data

Basin: 01 | Storms: Single | Duration: 24 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

	Sub Basin Parameters						Rainfall Losses						Return Period (Years)					
Sub Basin ID	Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		2	5	10	25	50	100
636	0.15	0.57	4.4	4.4	Urban	0.028	0.25	0.25	4.35	0.46	31	**Tc (hrs)**	1.09	0.93	0.85	0.76	0.71	0.66
												Vel (f/s)	0.77	0.90	0.99	1.10	1.18	1.27
												R (hrs)	0.77	0.65	0.59	0.52	0.48	0.44
632N	0.15	0.27	56.2	56.2	Natural	0.029	0.19	0.24	4.50	0.55	6	**Tc (hrs)**	0.33	0.28	0.24	0.21	0.19	0.18
												Vel (f/s)	1.20	1.44	1.66	1.90	2.06	2.21
												R (hrs)	0.11	0.09	0.08	0.07	0.06	0.06
632S	0.26	0.21	64.6	64.6	Natural	0.027	0.20	0.25	4.55	0.54	4	**Tc (hrs)**	0.28	0.23	0.20	0.17	0.15	0.15
												Vel (f/s)	1.10	1.34	1.57	1.84	2.00	2.11
												R (hrs)	0.06	0.04	0.04	0.03	0.03	0.03
600	1.25	2.23	7.2	7.2	Urban	0.027	0.21	0.23	5.80	0.22	37	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.41	1.32
												Vel (f/s)	2.18	2.18	2.18	2.18	2.32	2.48
												R (hrs)	0.97	0.97	0.97	0.97	0.91	0.84

Sub Basin Data

3/13/2009

Basin: 01 | Storms: Single | Duration: 6 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

	Sub Basin Parameters						Rainfall Losses						Return Period (Years)					
Sub Basin ID	Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		2	5	10	25	50	100
500	1.06	2.77	10.3	10.3	Urban	0.027	0.20	0.17	8.80	0.07	36	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.38	1.28
												Vel (f/s)	2.71	2.71	2.71	2.71	2.95	3.18
												R (hrs)	1.27	1.27	1.27	1.27	1.15	1.06
501	1.23	2.40	5.8	5.8	Urban	0.027	0.25	0.16	9.70	0.06	25	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.50	1.49
												Vel (f/s)	2.35	2.35	2.35	2.35	2.35	2.36
												R (hrs)	1.04	1.04	1.04	1.04	1.04	1.03
502	1.02	2.10	7.2	7.2	Urban	0.032	0.26	0.16	8.00	0.10	29	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.50	1.43
												Vel (f/s)	2.05	2.05	2.05	2.05	2.05	2.15
												R (hrs)	1.04	1.04	1.04	1.04	1.04	0.99
503	1.43	1.17	8.5	8.5	Urban	0.033	0.18	0.21	6.60	0.18	45	**Tc (hrs)**	1.50	1.50	1.32	1.12	1.02	0.95
												Vel (f/s)	1.14	1.14	1.30	1.53	1.68	1.81
												R (hrs)	0.54	0.54	0.47	0.39	0.35	0.32
504	0.32	0.95	10.7	10.7	Urban	0.029	0.12	0.21	8.80	0.06	27	**Tc (hrs)**	1.43	1.01	0.89	0.78	1.50	0.68
												Vel (f/s)	0.97	1.38	1.57	1.80	0.89	2.04
												R (hrs)	1.01	0.68	0.59	0.51	1.12	0.44
505	0.04	0.45	2.2	2.2	Urban	0.033	0.10	0.15	9.70	0.07	80	**Tc (hrs)**	1.38	1.13	1.03	0.93	0.87	0.82
												Vel (f/s)	0.48	0.58	0.64	0.71	0.76	0.81
												R (hrs)	1.81	1.44	1.30	1.16	1.08	1.01
506	0.35	1.50	5.4	5.4	Urban	0.029	0.21	0.15	9.70	0.07	16	**Tc (hrs)**	1.50	1.50	1.50	1.43	1.28	1.19
												Vel (f/s)	1.47	1.47	1.47	1.54	1.71	1.85
												R (hrs)	1.47	1.47	1.47	1.39	1.23	1.14
507	0.79	1.50	3.1	3.1	Urban	0.030	0.13	0.18	8.40	0.09	55	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.50	1.48
												Vel (f/s)	1.47	1.47	1.47	1.47	1.47	1.48
												R (hrs)	0.92	0.92	0.92	0.92	0.92	0.91
508	0.49	1.60	7.3	7.3	Urban	0.030	0.26	0.15	8.40	0.09	28	**Tc (hrs)**	1.50	1.50	1.50	1.34	1.21	1.13
												Vel (f/s)	1.56	1.56	1.56	1.75	1.93	2.08

* Non default value

Sub Basin Data

3/13/2009

Basin: 01 | Storms: Single | Duration: 6 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

	Sub Basin Parameters						Rainfall Losses						Return Period (Years)					
Sub Basin ID	Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		2	5	10	25	50	100
												R (hrs)	1.27	1.27	1.27	1.13	1.01	0.93
509	0.37	1.20	10.2	10.2	Urban	0.031	0.17	0.17	9.70	0.06	39	**Tc (hrs)**	1.50	1.23	1.08	0.95	0.88	0.82
												Vel (f/s)	1.17	1.44	1.63	1.85	2.01	2.14
												R (hrs)	1.18	0.95	0.82	0.71	0.65	0.61
510	0.13	0.60	10.0	10.0	Urban	0.031	0.15	0.16	9.70	0.06	50	**Tc (hrs)**	0.98	0.76	0.69	0.62	0.58	0.55
												Vel (f/s)	0.90	1.16	1.27	1.42	1.51	1.60
												R (hrs)	0.77	0.58	0.52	0.46	0.43	0.41
511	0.47	1.50	7.7	7.7	Urban	0.030	0.22	0.17	8.80	0.07	21	**Tc (hrs)**	1.50	1.50	1.48	1.25	1.14	1.06
												Vel (f/s)	1.47	1.47	1.48	1.77	1.93	2.08
												R (hrs)	1.23	1.23	1.22	1.00	0.91	0.84
512	0.21	1.20	5.6	5.6	Urban	0.029	0.21	0.16	9.70	0.06	15	**Tc (hrs)**	1.50	1.50	1.41	1.19	1.09	1.02
												Vel (f/s)	1.17	1.17	1.25	1.48	1.61	1.73
												R (hrs)	1.66	1.66	1.55	1.28	1.16	1.08
513	0.06	0.50	0.6	0.6	Urban	0.032	0.15	0.15	9.70	0.06	55	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.50	1.45
												Vel (f/s)	0.49	0.49	0.49	0.49	0.49	0.51
												R (hrs)	1.67	1.67	1.67	1.67	1.67	1.61
514	0.26	1.00	5.0	5.0	Urban	0.031	0.21	0.18	9.70	0.05	22	**Tc (hrs)**	1.50	1.50	1.33	1.14	1.05	0.98
												Vel (f/s)	0.98	0.98	1.10	1.29	1.40	1.50
												R (hrs)	1.25	1.25	1.10	0.92	0.84	0.78
516	0.36	1.80	7.8	7.8	Urban	0.033	0.22	0.15	9.70	0.06	35	**Tc (hrs)**	1.50	1.50	1.50	1.45	1.32	1.23
												Vel (f/s)	1.76	1.76	1.76	1.83	2.00	2.15
												R (hrs)	1.66	1.66	1.66	1.59	1.44	1.33
517	0.36	1.20	10.5	10.5	Urban	0.031	0.20	0.16	8.00	0.10	41	**Tc (hrs)**	1.50	1.26	1.10	0.96	0.88	0.82
												Vel (f/s)	1.17	1.40	1.60	1.84	2.00	2.14
												R (hrs)	1.21	1.00	0.86	0.74	0.67	0.62

* Non default value

Sub Basin Data

Basin: 01 | Storms: Single | Duration: 6 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
518	0.47	1.50	5.8	5.8	Urban	0.031	0.25	0.15	8.80	0.07	27	**Tc (hrs)**	1.50	1.50	1.50	1.42	1.29	1.20
												Vel (f/s)	1.47	1.47	1.47	1.55	1.71	1.84
												R (hrs)	1.24	1.24	1.24	1.16	1.04	0.96
519	0.25	1.00	3.7	3.7	Urban	0.031	0.14	0.19	8.80	0.07	39	**Tc (hrs)**	1.50	1.50	1.48	1.50	1.17	1.10
												Vel (f/s)	0.98	0.98	0.99	0.96	1.25	1.34
												R (hrs)	1.29	1.29	1.27	1.31	0.98	0.91
520	0.25	0.80	10.5	10.5	Urban	0.032	0.14	0.30	6.20	0.18	27	**Tc (hrs)**	1.50	1.28	1.05	0.85	0.75	0.70
												Vel (f/s)	0.78	0.91	1.12	1.39	1.56	1.67
												R (hrs)	1.07	0.90	0.72	0.57	0.50	0.46
521	0.35	1.00	4.9	4.9	Urban	0.030	0.23	0.15	9.70	0.06	32	**Tc (hrs)**	1.50	1.50	1.29	1.11	1.03	0.96
												Vel (f/s)	0.98	0.98	1.14	1.32	1.43	1.53
												R (hrs)	1.06	1.06	0.90	0.76	0.70	0.65
522	0.71	2.00	7.5	7.5	Urban	0.029	0.25	0.15	8.40	0.09	28	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.36	1.25
												Vel (f/s)	1.96	1.96	1.96	1.96	2.15	2.34
												R (hrs)	1.23	1.23	1.23	1.23	1.11	1.01
523	0.25	1.00	6.4	6.4	Urban	0.028	0.25	0.13	10.10	0.04	30	**Tc (hrs)**	1.50	1.21	1.07	0.94	0.87	0.82
												Vel (f/s)	0.98	1.21	1.37	1.56	1.68	1.80
												R (hrs)	1.28	1.00	0.87	0.76	0.70	0.65
524	0.36	1.10	8.7	8.7	Urban	0.029	0.26	0.26	5.70	0.24	24	**Tc (hrs)**	1.50	1.50	1.48	1.15	1.00	0.90
												Vel (f/s)	1.08	1.08	1.09	1.40	1.61	1.79
												R (hrs)	1.11	1.11	1.09	0.83	0.71	0.63
525	0.22	0.95	9.7	9.7	Urban	0.028	0.25	0.25	4.60	0.40	30	**Tc (hrs)**	1.50	1.50	1.30	1.03	0.89	0.80
												Vel (f/s)	0.93	0.93	1.07	1.35	1.56	1.74
												R (hrs)	1.33	1.33	1.14	0.88	0.75	0.66

* Non default value

Flood Control District of Maricopa County
CGFDSP3N_24HR - Chandler-Gilbert Drainage Study

Sub Basin Data

3/13/2009

Basin: 01 | Storms: Single | Duration: 24 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
500	1.06	2.77	10.3	10.3	Urban	0.027	0.20	0.17	8.80	0.07	36	**Tc (hrs)**	1.50	1.50	1.50	1.40	1.30	1.23
												Vel (f/s)	2.71	2.71	2.71	2.91	3.13	3.32
												R (hrs)	1.27	1.27	1.27	1.17	1.08	1.01
501	1.23	2.40	5.8	5.8	Urban	0.027	0.25	0.16	9.70	0.06	25	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.50	1.50
												Vel (f/s)	2.35	2.35	2.35	2.35	2.35	2.34
												R (hrs)	1.04	1.04	1.04	1.04	1.04	1.04
502	1.02	2.10	7.2	7.2	Urban	0.032	0.26	0.16	8.00	0.10	29	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.48	1.39
												Vel (f/s)	2.05	2.05	2.05	2.05	2.08	2.22
												R (hrs)	1.04	1.04	1.04	1.04	1.03	0.96
503	1.43	1.17	8.5	8.5	Urban	0.033	0.18	0.21	6.60	0.18	45	**Tc (hrs)**	1.33	1.16	1.06	0.96	0.90	0.84
												Vel (f/s)	1.29	1.48	1.61	1.78	1.92	2.04
												R (hrs)	0.47	0.40	0.37	0.33	0.30	0.28
504	0.32	0.95	10.7	10.7	Urban	0.029	0.12	0.21	8.80	0.06	27	**Tc (hrs)**	0.94	0.79	0.73	0.66	0.62	0.59
												Vel (f/s)	1.48	1.76	1.92	2.12	2.26	2.37
												R (hrs)	0.63	0.52	0.47	0.43	0.40	0.38
505	0.04	0.45	2.2	2.2	Urban	0.033	0.10	0.15	9.70	0.07	80	**Tc (hrs)**	1.14	1.00	0.92	0.84	0.80	0.76
												Vel (f/s)	0.58	0.66	0.72	0.78	0.83	0.87
												R (hrs)	1.46	1.25	1.15	1.04	0.98	0.93
506	0.35	1.50	5.4	5.4	Urban	0.029	0.21	0.15	9.70	0.07	16	**Tc (hrs)**	1.50	1.50	1.50	1.34	1.24	1.16
												Vel (f/s)	1.47	1.47	1.47	1.64	1.78	1.90
												R (hrs)	1.47	1.47	1.47	1.30	1.19	1.10
507	0.79	1.50	3.1	3.1	Urban	0.030	0.13	0.18	8.40	0.09	55	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.50	1.45
												Vel (f/s)	1.47	1.47	1.47	1.47	1.47	1.52
												R (hrs)	0.92	0.92	0.92	0.92	0.92	0.88
508	0.49	1.60	7.3	7.3	Urban	0.030	0.26	0.15	8.40	0.09	28	**Tc (hrs)**	1.50	1.50	1.36	1.22	1.13	1.06
												Vel (f/s)	1.56	1.56	1.72	1.93	2.08	2.22

* Non default value

Flood Control District of Maricopa County
CGFDSP3N_24HR - Chandler-Gilbert Drainage Study

Sub Basin Data

3/13/2009

Basin: 01 | Storms: Single | Duration: 24 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
												R (hrs)	1.27	1.27	1.15	1.01	0.93	0.87
509	0.37	1.20	10.2	10.2	Urban	0.031	0.17	0.17	9.70	0.06	39	**Tc (hrs)**	1.15	0.98	0.90	0.82	0.77	1.50
												Vel (f/s)	1.53	1.79	1.96	2.15	2.28	1.13
												R (hrs)	0.88	0.74	0.67	0.60	0.57	1.24
510	0.13	0.60	10.0	10.0	Urban	0.031	0.15	0.16	9.70	0.06	50	**Tc (hrs)**	0.66	0.58	0.54	0.50	0.48	0.46
												Vel (f/s)	1.34	1.53	1.64	1.76	1.84	1.92
												R (hrs)	0.50	0.43	0.40	0.36	0.35	0.33
511	0.47	1.50	7.7	7.7	Urban	0.030	0.22	0.17	8.80	0.07	21	**Tc (hrs)**	1.50	1.43	1.29	1.14	1.06	1.50
												Vel (f/s)	1.47	1.54	1.71	1.93	2.08	1.42
												R (hrs)	1.23	1.17	1.04	0.91	0.84	1.28
512	0.21	1.20	5.6	5.6	Urban	0.029	0.21	0.16	9.70	0.06	15	**Tc (hrs)**	1.50	1.40	1.25	1.10	1.03	0.96
												Vel (f/s)	1.17	1.26	1.41	1.59	1.72	1.84
												R (hrs)	1.66	1.53	1.35	1.18	1.09	1.01
513	0.06	0.50	0.6	0.6	Urban	0.032	0.15	0.15	9.70	0.06	55	**Tc (hrs)**	1.50	1.50	1.50	1.50	1.49	1.41
												Vel (f/s)	0.49	0.49	0.49	0.49	0.49	0.52
												R (hrs)	1.67	1.67	1.67	1.67	1.66	1.57
514	0.26	1.00	5.0	5.0	Urban	0.031	0.21	0.18	9.70	0.05	22	**Tc (hrs)**	1.50	1.28	1.16	1.03	0.96	0.91
												Vel (f/s)	0.98	1.15	1.27	1.42	1.52	1.62
												R (hrs)	1.25	1.05	0.94	0.83	0.77	0.72
516	0.36	1.80	7.8	7.8	Urban	0.033	0.22	0.15	9.70	0.06	35	**Tc (hrs)**	1.50	1.50	1.48	1.33	1.25	1.18
												Vel (f/s)	1.76	1.76	1.78	1.98	2.12	2.25
												R (hrs)	1.66	1.66	1.64	1.46	1.35	1.27
517	0.36	1.20	10.5	10.5	Urban	0.031	0.20	0.16	8.00	0.10	41	**Tc (hrs)**	1.15	0.99	0.90	0.82	0.77	0.73
												Vel (f/s)	1.54	1.78	1.95	2.15	2.29	2.41
												R (hrs)	0.90	0.76	0.69	0.62	0.57	0.54

* Non default value

Flood Control District of Maricopa County
CGFDSP3N_24HR - Chandler-Gilbert Drainage Study

Sub Basin Data

3/13/2009

Basin: 01 | Storms: Single | Duration: 24 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
518	0.47	1.50	5.8	5.8	Urban	0.031	0.25	0.15	8.80	0.07	27	**Tc (hrs)**	1.50	1.50	1.47	1.31	1.22	1.14
												Vel (f/s)	1.47	1.47	1.50	1.68	1.81	1.93
												R (hrs)	1.24	1.24	1.21	1.06	0.98	0.91
519	0.25	1.00	3.7	3.7	Urban	0.031	0.14	0.19	8.80	0.07	39	**Tc (hrs)**	1.50	1.40	1.28	1.15	1.08	1.02
												Vel (f/s)	0.98	1.05	1.15	1.27	1.36	1.44
												R (hrs)	1.29	1.19	1.08	0.96	0.89	0.84
520	0.25	0.80	10.5	10.5	Urban	0.032	0.14	0.30	6.20	0.18	27	**Tc (hrs)**	1.00	0.84	0.77	0.68	0.63	0.59
												Vel (f/s)	1.17	1.39	1.53	1.72	1.87	1.98
												R (hrs)	0.68	0.56	0.51	0.45	0.41	0.38
521	0.35	1.00	4.9	4.9	Urban	0.030	0.23	0.15	9.70	0.06	32	**Tc (hrs)**	1.44	1.21	1.10	0.99	0.93	0.88
												Vel (f/s)	1.02	1.21	1.33	1.48	1.58	1.67
												R (hrs)	1.01	0.84	0.76	0.67	0.62	0.59
522	0.71	2.00	7.5	7.5	Urban	0.029	0.25	0.15	8.40	0.09	28	**Tc (hrs)**	1.50	1.50	1.50	1.39	1.29	1.50
												Vel (f/s)	1.96	1.96	1.96	2.11	2.28	1.92
												R (hrs)	1.23	1.23	1.23	1.13	1.04	1.26
523	0.25	1.00	6.4	6.4	Urban	0.028	0.25	0.13	10.10	0.04	30	**Tc (hrs)**	1.18	0.98	0.90	0.82	0.78	0.74
												Vel (f/s)	1.24	1.49	1.63	1.79	1.89	1.99
												R (hrs)	0.98	0.80	0.72	0.65	0.61	0.58
524	0.36	1.10	8.7	8.7	Urban	0.029	0.26	0.26	5.70	0.24	24	**Tc (hrs)**	1.40	1.50	1.04	0.93	0.85	0.79
												Vel (f/s)	1.15	1.05	1.55	1.74	1.91	2.05
												R (hrs)	1.03	1.14	0.74	0.65	0.59	0.55
525	0.22	0.95	9.7	9.7	Urban	0.028	0.25	0.25	4.60	0.40	30	**Tc (hrs)**	1.11	0.94	0.85	0.77	0.71	0.66
												Vel (f/s)	1.25	1.48	1.64	1.82	1.97	2.12
												R (hrs)	0.95	0.79	0.71	0.63	0.58	0.53

* Non default value

Soil Data

	Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
Major Basin 01								
	601	Eastern County	MV	0.017	3.4	0.25 *		
		Eastern County	CO	0.193	38.1	0.04 *	*	
		Eastern County	MV	0.296	58.5	0.25 *		
	602	Eastern County	MO	0.020	3.9	0.40 *		
		Eastern County	MO	0.042	8.3	0.40 *		
		Eastern County	CO	0.189	37.3	0.04 *	*	
		Eastern County	MV	0.256	50.5	0.25 *		
	603	Eastern County	MO	0.092	30.4	0.40 *		
		Eastern County	CO	0.002	0.7	0.04 *	*	
		Eastern County	MV	0.209	69.0	0.25 *		
	604	Eastern County	CO	0.026	13.0	0.04 *	*	
		Eastern County	MV	0.174	87.0	0.25 *		
	605	Eastern County	CO	0.032	6.4	0.04 *	*	
		Eastern County	MO	0.011	2.3	0.40 *		
		Eastern County	MO	0.058	11.7	0.40 *		
		Eastern County	CO	0.046	9.3	0.04 *	*	
		Eastern County	MV	0.349	70.3	0.25 *		
	606	Eastern County	CO	0.261	69.4	0.04 *	*	
		Eastern County	MV	0.113	30.1	0.25 *		
		Eastern County	CO	0.002	0.5	0.04 *	*	
	607	Eastern County	CO	0.122	95.3	0.04 *	*	
		Eastern County	MV	0.004	3.1	0.25 *		
		Eastern County	CO	0.002	1.6	0.04 *	*	
	608	Eastern County	MO	0.021	1.8	0.40 *		
		Eastern County	MV	0.020	1.7	0.25 *		
		Eastern County	MO	0.009	0.8	0.40 *		
		Eastern County	MO	0.010	0.8	0.40 *		
		Eastern County	TX	0.122	10.5	0.04		
		Eastern County	MO	0.056	4.8	0.40 *		
		Eastern County	MO	0.008	0.7	0.40 *		
		Eastern County	CO	0.486	41.9	0.04 *	*	
		Eastern County	MV	0.383	33.1	0.25 *		
		Eastern County	MV	0.044	3.8	0.25 *		
	609	Eastern County	GM	0.006	1.7	0.25 *		
		Eastern County	CO	0.028	7.5	0.04 *	*	
		Eastern County	MV	0.007	1.9	0.25 *		
		Eastern County	GM	0.013	3.4	0.25 *		
		Eastern County	CO	0.198	52.4	0.04 *	*	
		Eastern County	MV	0.125	33.1	0.25 *		
	610	Eastern County	GM	0.039	7.2	0.25 *		
		Eastern County	CO	0.037	6.9	0.04 *	*	
		Eastern County	MO	0.031	5.8	0.40 *		

* Custom Value (not default value)

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
610	Eastern County	MO	0.001	0.2	0.40 *		
	Eastern County	CO	0.018	3.3	0.04 *	*	
	Eastern County	MV	0.413	76.6	0.25 *		
611	Eastern County	CO	0.017	5.8	0.04 *	*	
	Eastern County	MV	0.274	94.2	0.25 *		
612	Eastern County	TX	0.026	10.2	0.04		
	Eastern County	MO	0.019	7.5	0.40 *		
	Eastern County	MV	0.209	82.3	0.25 *		
613	Eastern County	MO	0.001	0.5	0.40 *		
	Eastern County	ANA	0.032	15.3	0.40		
	Eastern County	MO	0.011	5.2	0.40 *		
	Eastern County	MV	0.165	79.1	0.25 *		
614	Eastern County	MO	0.019	4.6	0.40 *		
	Eastern County	ANA	0.093	22.3	0.40		
	Eastern County	GM	0.003	0.7	0.25 *		
	Eastern County	MV	0.302	72.4	0.25 *		
615	Eastern County	ANA	0.155	42.1	0.40		
	Eastern County	MO	0.015	4.1	0.40 *		
	Eastern County	MV	0.198	53.8	0.25 *		
616	Eastern County	ANA	0.052	29.9	0.40		
	Eastern County	MV	0.122	70.1	0.25 *		
617	Eastern County	ANA	0.086	39.1	0.40		
	Eastern County	GM	0.090	40.9	0.25 *		
	Eastern County	MO	0.023	10.5	0.40 *		
	Eastern County	MV	0.021	9.5	0.25 *		
618	Eastern County	ANA	0.087	27.1	0.40		
	Eastern County	GM	0.096	29.9	0.25 *		
	Eastern County	MV	0.138	43.0	0.25 *		
619	Eastern County	ANA	0.010	8.7	0.40		
	Eastern County	MV	0.105	91.3	0.25 *		
620	Eastern County	ANA	0.066	94.3	0.40		
	Eastern County	MV	0.004	5.7	0.25 *		
621	Eastern County	ANA	0.203	40.2	0.40		
	Eastern County	GM	0.002	0.4	0.25 *		
	Eastern County	TX	0.210	41.6	0.04		
	Eastern County	GM	0.005	1.0	0.25 *		
	Eastern County	MV	0.023	4.6	0.25 *		
	Eastern County	GM	0.011	2.2	0.25 *		
	Eastern County	MV	0.022	4.4	0.25 *		
	Eastern County	MV	0.029	5.7	0.25 *		
622	Eastern County	ANA	0.029	28.1	0.40		
	Eastern County	TX	0.047	45.5	0.04		

* Custom Value (not default value)

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
622	Eastern County	MO	0.012	11.9	0.40 *		
	Eastern County	MV	0.015	14.5	0.25 *		
623	Eastern County	TX	0.399	66.5	0.04		
	Eastern County	MV	0.006	1.0	0.25 *		
	Eastern County	MV	0.054	9.0	0.25 *		
	Eastern County	MV	0.084	14.0	0.25 *		
	Eastern County	MO	0.057	9.5	0.40 *		
624	Eastern County	TX	0.133	100.0	0.04		
625	Eastern County	TX	0.011	2.6	0.04		
	Eastern County	MV	0.109	26.0	0.25 *		
	Eastern County	MO	0.047	11.2	0.40 *		
	Eastern County	TX	0.017	4.0	0.04		
	Eastern County	ES	0.133	31.8	0.25		
	Eastern County	GM	0.102	24.4	0.25 *		
626	Eastern County	TX	0.019	14.4	0.04		
	Eastern County	MV	0.082	62.1	0.25 *		
	Eastern County	ES	0.031	23.5	0.25		
627	Eastern County	GF	0.013	6.2	0.25 *		
	Eastern County	GM	0.196	93.8	0.25 *		
628	Eastern County	GF	0.012	4.5	0.25 *		
	Eastern County	GM	0.252	94.0	0.25 *		
	Eastern County	VF	0.004	1.5	1.20 *		
629	Eastern County	MV	0.006	2.3	0.25 *		
	Eastern County	ES	0.005	1.9	0.25		
	Eastern County	GM	0.218	84.2	0.25 *		
	Eastern County	GF	0.015	5.8	0.25 *		
	Eastern County	VF	0.015	5.8	1.20 *		
630	Eastern County	GM	0.072	22.2	0.25 *		
	Eastern County	VF	0.050	15.4	1.20 *		
	Eastern County	GF	0.046	14.2	0.25 *		
	Eastern County	MV	0.048	14.8	0.25 *		
	Eastern County	ES	0.003	0.9	0.25		
	Eastern County	MO	0.105	32.4	0.40 *		
631	Eastern County	GM	0.065	21.6	0.25 *		
	Eastern County	VF	0.024	8.0	1.20 *		
	Eastern County	GF	0.036	12.0	0.25 *		
	Eastern County	MV	0.055	18.3	0.25 *		
	Eastern County	GF	0.008	2.7	0.25 *		
	Eastern County	ES	0.014	4.6	0.25		
	Eastern County	MO	0.091	30.2	0.40 *		
	Eastern County	TX	0.008	2.7	0.04		
632S	Eastern County	MV	0.185	70.1	0.25 *		
	Eastern County	MO	0.049	18.6	0.40 *		

* Custom Value (not default value)

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
632S	Eastern County	MO	0.030	11.4	0.40 *		
633	Eastern County	MV	0.176	77.2	0.25 *		
	Eastern County	MO	0.052	22.8	0.40 *		
634	Eastern County	MV	0.022	31.0	0.25 *		
	Eastern County	MO	0.048	67.6	0.40 *		
	Eastern County	ANA	0.001	1.4	0.40		
635	Eastern County	MV	0.027	17.6	0.25 *		
	Eastern County	MO	0.117	76.5	0.40 *		
	Eastern County	ANA	0.009	5.9	0.40		
636	Eastern County	MV	0.063	42.9	0.25 *		
	Eastern County	MO	0.036	24.5	0.40 *		
	Eastern County	MO	0.020	13.6	0.40 *		
	Eastern County	ANA	0.028	19.0	0.40		
632N	Eastern County	MO	0.003	2.0	0.40 *		
	Eastern County	MO	0.050	33.1	0.40 *		
	Eastern County	MV	0.098	64.9	0.25 *		
600	Central County	CO	0.352	28.2	0.04 *	*	
	Eastern County	MO	0.146	11.7	0.40 *		
	Eastern County	MV	0.752	60.2	0.25 *		

* Custom Value (not default value)

Soil Data

	Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
Major Basin 01								
	601	Eastern County	MV	0.017	3.4	0.25 *		
		Eastern County	CO	0.193	38.1	0.04 *	*	
		Eastern County	MV	0.296	58.5	0.25 *		
	602	Eastern County	MO	0.020	3.9	0.40 *		
		Eastern County	MO	0.042	8.3	0.40 *		
		Eastern County	CO	0.189	37.3	0.04 *	*	
		Eastern County	MV	0.256	50.5	0.25 *		
	603	Eastern County	MO	0.092	30.4	0.40 *		
		Eastern County	CO	0.002	0.7	0.04 *	*	
		Eastern County	MV	0.209	69.0	0.25 *		
	604	Eastern County	CO	0.026	13.0	0.04 *	*	
		Eastern County	MV	0.174	87.0	0.25 *		
	605	Eastern County	CO	0.032	6.4	0.04 *	*	
		Eastern County	MO	0.011	2.3	0.40 *		
		Eastern County	MO	0.058	11.7	0.40 *		
		Eastern County	CO	0.046	9.3	0.04 *	*	
		Eastern County	MV	0.349	70.3	0.25 *		
	606	Eastern County	CO	0.261	69.4	0.04 *	*	
		Eastern County	MV	0.113	30.1	0.25 *		
		Eastern County	CO	0.002	0.5	0.04 *	*	
	607	Eastern County	CO	0.122	95.3	0.04 *	*	
		Eastern County	MV	0.004	3.1	0.25 *		
		Eastern County	CO	0.002	1.6	0.04 *	*	
	608	Eastern County	MO	0.021	1.8	0.40 *		
		Eastern County	MV	0.020	1.7	0.25 *		
		Eastern County	MO	0.009	0.8	0.40 *		
		Eastern County	MO	0.010	0.8	0.40 *		
		Eastern County	TX	0.122	10.5	0.04		
		Eastern County	MO	0.056	4.8	0.40 *		
		Eastern County	MO	0.008	0.7	0.40 *		
		Eastern County	CO	0.486	41.9	0.04 *	*	
		Eastern County	MV	0.383	33.1	0.25 *		
		Eastern County	MV	0.044	3.8	0.25 *		
	609	Eastern County	GM	0.006	1.7	0.25 *		
		Eastern County	CO	0.028	7.5	0.04 *	*	
		Eastern County	MV	0.007	1.9	0.25 *		
		Eastern County	GM	0.013	3.4	0.25 *		
		Eastern County	CO	0.198	52.4	0.04 *	*	
		Eastern County	MV	0.125	33.1	0.25 *		
	610	Eastern County	GM	0.039	7.2	0.25 *		
		Eastern County	CO	0.037	6.9	0.04 *	*	
		Eastern County	MO	0.031	5.8	0.40 *		

* Custom Value (not default value)

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
610	Eastern County	MO	0.001	0.2	0.40 *		
	Eastern County	CO	0.018	3.3	0.04 *	*	
	Eastern County	MV	0.413	76.6	0.25 *		
611	Eastern County	CO	0.017	5.8	0.04 *	*	
	Eastern County	MV	0.274	94.2	0.25 *		
612	Eastern County	TX	0.026	10.2	0.04		
	Eastern County	MO	0.019	7.5	0.40 *		
	Eastern County	MV	0.209	82.3	0.25 *		
613	Eastern County	MO	0.001	0.5	0.40 *		
	Eastern County	ANA	0.032	15.3	0.40		
	Eastern County	MO	0.011	5.2	0.40 *		
	Eastern County	MV	0.165	79.1	0.25 *		
614	Eastern County	MO	0.019	4.6	0.40 *		
	Eastern County	ANA	0.093	22.3	0.40		
	Eastern County	GM	0.003	0.7	0.25 *		
	Eastern County	MV	0.302	72.4	0.25 *		
615	Eastern County	ANA	0.155	42.1	0.40		
	Eastern County	MO	0.015	4.1	0.40 *		
	Eastern County	MV	0.198	53.8	0.25 *		
616	Eastern County	ANA	0.052	29.9	0.40		
	Eastern County	MV	0.122	70.1	0.25 *		
617	Eastern County	ANA	0.086	39.1	0.40		
	Eastern County	GM	0.090	40.9	0.25 *		
	Eastern County	MO	0.023	10.5	0.40 *		
	Eastern County	MV	0.021	9.5	0.25 *		
618	Eastern County	ANA	0.087	27.1	0.40		
	Eastern County	GM	0.096	29.9	0.25 *		
	Eastern County	MV	0.138	43.0	0.25 *		
619	Eastern County	ANA	0.010	8.7	0.40		
	Eastern County	MV	0.105	91.3	0.25 *		
620	Eastern County	ANA	0.066	94.3	0.40		
	Eastern County	MV	0.004	5.7	0.25 *		
621	Eastern County	ANA	0.203	40.2	0.40		
	Eastern County	GM	0.002	0.4	0.25 *		
	Eastern County	TX	0.210	41.6	0.04		
	Eastern County	GM	0.005	1.0	0.25 *		
	Eastern County	MV	0.023	4.6	0.25 *		
	Eastern County	GM	0.011	2.2	0.25 *		
	Eastern County	MV	0.022	4.4	0.25 *		
	Eastern County	MV	0.029	5.7	0.25 *		
622	Eastern County	ANA	0.029	28.1	0.40		
	Eastern County	TX	0.047	45.5	0.04		

* Custom Value (not default value)

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
622	Eastern County	MO	0.012	11.9	0.40 *		
	Eastern County	MV	0.015	14.5	0.25 *		
623	Eastern County	TX	0.399	66.5	0.04		
	Eastern County	MV	0.006	1.0	0.25 *		
	Eastern County	MV	0.054	9.0	0.25 *		
	Eastern County	MV	0.084	14.0	0.25 *		
	Eastern County	MO	0.057	9.5	0.40 *		
624	Eastern County	TX	0.133	100.0	0.04		
625	Eastern County	TX	0.011	2.6	0.04		
	Eastern County	MV	0.109	26.0	0.25 *		
	Eastern County	MO	0.047	11.2	0.40 *		
	Eastern County	TX	0.017	4.0	0.04		
	Eastern County	ES	0.133	31.8	0.25		
	Eastern County	GM	0.102	24.4	0.25 *		
626	Eastern County	TX	0.019	14.4	0.04		
	Eastern County	MV	0.082	62.1	0.25 *		
	Eastern County	ES	0.031	23.5	0.25		
627	Eastern County	GF	0.013	6.2	0.25 *		
	Eastern County	GM	0.196	93.8	0.25 *		
628	Eastern County	GF	0.012	4.5	0.25 *		
	Eastern County	GM	0.252	94.0	0.25 *		
	Eastern County	VF	0.004	1.5	1.20 *		
629	Eastern County	MV	0.006	2.3	0.25 *		
	Eastern County	ES	0.005	1.9	0.25		
	Eastern County	GM	0.218	84.2	0.25 *		
	Eastern County	GF	0.015	5.8	0.25 *		
	Eastern County	VF	0.015	5.8	1.20 *		
630	Eastern County	GM	0.072	22.2	0.25 *		
	Eastern County	VF	0.050	15.4	1.20 *		
	Eastern County	GF	0.046	14.2	0.25 *		
	Eastern County	MV	0.048	14.8	0.25 *		
	Eastern County	ES	0.003	0.9	0.25		
	Eastern County	MO	0.105	32.4	0.40 *		
631	Eastern County	GM	0.065	21.6	0.25 *		
	Eastern County	VF	0.024	8.0	1.20 *		
	Eastern County	GF	0.036	12.0	0.25 *		
	Eastern County	MV	0.055	18.3	0.25 *		
	Eastern County	GF	0.008	2.7	0.25 *		
	Eastern County	ES	0.014	4.6	0.25		
	Eastern County	MO	0.091	30.2	0.40 *		
	Eastern County	TX	0.008	2.7	0.04		
632S	Eastern County	MV	0.185	70.1	0.25 *		
	Eastern County	MO	0.049	18.6	0.40 *		

* Custom Value (not default value)

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
632S	Eastern County	MO	0.030	11.4	0.40 *		
633	Eastern County	MV	0.176	77.2	0.25 *		
	Eastern County	MO	0.052	22.8	0.40 *		
634	Eastern County	MV	0.022	31.0	0.25 *		
	Eastern County	MO	0.048	67.6	0.40 *		
	Eastern County	ANA	0.001	1.4	0.40		
635	Eastern County	MV	0.027	17.6	0.25 *		
	Eastern County	MO	0.117	76.5	0.40 *		
	Eastern County	ANA	0.009	5.9	0.40		
636	Eastern County	MV	0.063	42.9	0.25 *		
	Eastern County	MO	0.036	24.5	0.40 *		
	Eastern County	MO	0.020	13.6	0.40 *		
	Eastern County	ANA	0.028	19.0	0.40		
632N	Eastern County	MO	0.003	2.0	0.40 *		
	Eastern County	MO	0.050	33.1	0.40 *		
	Eastern County	MV	0.098	64.9	0.25 *		
600	Eastern County	CO	0.352	28.2	0.04 *	*	
	Eastern County	MV	0.752	60.2	0.25 *		
	Eastern County	MO	0.146	11.7	0.40 *		

* Custom Value (not default value)

Soil Data

	Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
Major Basin 01								
	500	Eastern County	MV	0.000		0.25 *		
		Eastern County	MV	0.083	7.8	0.25 *		
		Eastern County	MV	0.064	6.1	0.25 *		
		Eastern County	MV	0.025	2.4	0.25 *		
		Eastern County	CO	0.886	83.7	0.04 *	*	
	501	Eastern County	MV	0.012	0.9	0.25 *		
		Eastern County	MV	0.000		0.25 *		
		Eastern County	MO	0.007	0.6	0.40 *		
		Eastern County	MO	0.005	0.4	0.40 *		
		Eastern County	CO	1.200	97.4	0.04 *	*	
		Eastern County	MV	0.008	0.7	0.25 *		
	502	Eastern County	MV	0.283	27.8	0.25 *		
		Eastern County	MO	0.012	1.2	0.40 *		
		Eastern County	MV	0.016	1.6	0.25 *		
		Eastern County	MO	0.003	0.3	0.40 *		
		Eastern County	MV	0.014	1.4	0.25 *		
		Eastern County	CO	0.688	67.7	0.04 *	*	
	503	Eastern County	MV	0.694	48.5	0.25 *		
		Eastern County	MO	0.011	0.7	0.40 *		
		Eastern County	CO	0.465	32.5	0.04 *	*	
		Eastern County	CO	0.001	0.1	0.04 *	*	
		Eastern County	MV	0.074	5.2	0.25 *		
		Eastern County	MV	0.045	3.1	0.25 *		
		Eastern County	CO	0.141	9.8	0.04 *	*	
	504	Eastern County	MV	0.015	4.7	0.25 *		
		Eastern County	MV	0.012	3.6	0.25 *		
		Eastern County	CO	0.296	91.8	0.04 *	*	
	505	Eastern County	CO	0.038	100.0	0.04 *	*	
	506	Eastern County	CO	0.347	100.0	0.04 *	*	
	507	Eastern County	MV	0.114	14.4	0.25 *		
		Eastern County	LAA	0.052	6.6	0.25		
		Eastern County	CO	0.621	78.9	0.04 *	*	
	508	Eastern County	MV	0.010	2.1	0.25 *		
		Eastern County	MO	0.004	0.7	0.40 *		
		Eastern County	CO	0.378	77.5	0.04 *	*	
		Eastern County	MV	0.064	13.1	0.25 *		
		Eastern County	MV	0.032	6.5	0.25 *		
	509	Eastern County	MV	0.001	0.2	0.25 *		
		Eastern County	MV	0.009	2.4	0.25 *		
		Eastern County	CO	0.360	97.4	0.04 *	*	
	510	Eastern County	MV	0.002	1.4	0.25 *		
		Eastern County	CO	0.128	98.6	0.04 *	*	

* Custom Value (not default value)

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
511	Eastern County	MV	0.003	0.6	0.25 *		
	Eastern County	MV	0.019	4.0	0.25 *		
	Eastern County	MO	0.006	1.2	0.40 *		
	Eastern County	CO	0.444	94.2	0.04 *	*	
512	Eastern County	CO	0.205	100.0	0.04 *	*	
513	Eastern County	CO	0.059	100.0	0.04 *	*	
514	Eastern County	CO	0.259	100.0	0.04 *	*	
516	Eastern County	CO	0.345	95.5	0.04 *	*	
	Eastern County	MV	0.001	0.2	0.25 *		
	Eastern County	MV	0.015	4.2	0.25 *		
517	Eastern County	MV	0.009	2.5	0.25 *		
	Eastern County	MV	0.072	20.1	0.25 *		
	Eastern County	MV	0.008	2.2	0.25 *		
	Eastern County	MO	0.003	1.0	0.40 *		
	Eastern County	CO	0.264	74.2	0.04 *	*	
518	Eastern County	MV	0.039	8.4	0.25 *		
	Eastern County	MO	0.004	0.9	0.40 *		
	Eastern County	CO	0.426	90.8	0.04 *	*	
519	Eastern County	MO	0.013	5.3	0.40 *		
	Eastern County	CO	0.212	86.0	0.04 *	*	
	Eastern County	MV	0.022	8.8	0.25 *		
520	Eastern County	MO	0.082	32.9	0.40 *		
	Eastern County	CO	0.100	39.9	0.04 *	*	
	Eastern County	MV	0.063	25.0	0.25 *		
	Eastern County	MV	0.005	2.1	0.25 *		
521	Eastern County	MV	0.010	2.9	0.25 *		
	Eastern County	CO	0.335	97.1	0.04 *	*	
	Eastern County	MV	0.000		0.25 *		
522	Eastern County	MV	0.059	8.4	0.25 *		
	Eastern County	MO	0.038	5.3	0.40 *		
	Eastern County	CO	0.583	82.6	0.04 *	*	
	Eastern County	MV	0.026	3.7	0.25 *		
523	Eastern County	VE	0.036	14.2	0.01 *		
	Eastern County	CO	0.215	85.8	0.04 *	*	
524	Eastern County	MO	0.089	24.3	0.40 *		
	Eastern County	CO	0.096	26.2	0.04 *	*	
	Eastern County	MV	0.180	49.4	0.25 *		
525	Eastern County	MO	0.040	18.2	0.40 *		
	Eastern County	MO	0.007	3.2	0.40 *		
	Eastern County	MV	0.172	78.6	0.25 *		

* Custom Value (not default value)

Soil Data

	Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
Major Basin 01								
	500	Eastern County	MV	0.000		0.25 *		
		Eastern County	MV	0.083	7.8	0.25 *		
		Eastern County	MV	0.064	6.1	0.25 *		
		Eastern County	MV	0.025	2.4	0.25 *		
		Eastern County	CO	0.886	83.7	0.04 *	*	
	501	Eastern County	MV	0.012	0.9	0.25 *		
		Eastern County	MV	0.000		0.25 *		
		Eastern County	MO	0.007	0.6	0.40 *		
		Eastern County	MO	0.005	0.4	0.40 *		
		Eastern County	CO	1.200	97.4	0.04 *	*	
		Eastern County	MV	0.008	0.7	0.25 *		
	502	Eastern County	MV	0.283	27.8	0.25 *		
		Eastern County	MO	0.012	1.2	0.40 *		
		Eastern County	MV	0.016	1.6	0.25 *		
		Eastern County	MO	0.003	0.3	0.40 *		
		Eastern County	MV	0.014	1.4	0.25 *		
		Eastern County	CO	0.688	67.7	0.04 *	*	
	503	Eastern County	MV	0.694	48.5	0.25 *		
		Eastern County	MO	0.011	0.7	0.40 *		
		Eastern County	CO	0.465	32.5	0.04 *	*	
		Eastern County	CO	0.001	0.1	0.04 *	*	
		Eastern County	MV	0.074	5.2	0.25 *		
		Eastern County	MV	0.045	3.1	0.25 *		
		Eastern County	CO	0.141	9.8	0.04 *	*	
	504	Eastern County	MV	0.015	4.7	0.25 *		
		Eastern County	MV	0.012	3.6	0.25 *		
		Eastern County	CO	0.296	91.8	0.04 *	*	
	505	Eastern County	CO	0.038	100.0	0.04 *	*	
	506	Eastern County	CO	0.347	100.0	0.04 *	*	
	507	Eastern County	MV	0.114	14.4	0.25 *		
		Eastern County	LAA	0.052	6.6	0.25		
		Eastern County	CO	0.621	78.9	0.04 *	*	
	508	Eastern County	MV	0.010	2.1	0.25 *		
		Eastern County	MO	0.004	0.7	0.40 *		
		Eastern County	CO	0.378	77.5	0.04 *	*	
		Eastern County	MV	0.064	13.1	0.25 *		
		Eastern County	MV	0.032	6.5	0.25 *		
	509	Eastern County	MV	0.001	0.2	0.25 *		
		Eastern County	MV	0.009	2.4	0.25 *		
		Eastern County	CO	0.360	97.4	0.04 *	*	
	510	Eastern County	MV	0.002	1.4	0.25 *		
		Eastern County	CO	0.128	98.6	0.04 *	*	

* Custom Value (not default value)

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
511	Eastern County	MV	0.003	0.6	0.25 *		
	Eastern County	MV	0.019	4.0	0.25 *		
	Eastern County	MO	0.006	1.2	0.40 *		
	Eastern County	CO	0.444	94.2	0.04 *	*	
512	Eastern County	CO	0.205	100.0	0.04 *	*	
513	Eastern County	CO	0.059	100.0	0.04 *	*	
514	Eastern County	CO	0.259	100.0	0.04 *	*	
516	Eastern County	CO	0.345	95.5	0.04 *	*	
	Eastern County	MV	0.001	0.2	0.25 *		
	Eastern County	MV	0.015	4.2	0.25 *		
517	Eastern County	MV	0.009	2.5	0.25 *		
	Eastern County	MV	0.072	20.1	0.25 *		
	Eastern County	MV	0.008	2.2	0.25 *		
	Eastern County	MO	0.003	1.0	0.40 *		
	Eastern County	CO	0.264	74.2	0.04 *	*	
518	Eastern County	MV	0.039	8.4	0.25 *		
	Eastern County	MO	0.004	0.9	0.40 *		
	Eastern County	CO	0.426	90.8	0.04 *	*	
519	Eastern County	MO	0.013	5.3	0.40 *		
	Eastern County	CO	0.212	86.0	0.04 *	*	
	Eastern County	MV	0.022	8.8	0.25 *		
520	Eastern County	MO	0.082	32.9	0.40 *		
	Eastern County	CO	0.100	39.9	0.04 *	*	
	Eastern County	MV	0.063	25.0	0.25 *		
	Eastern County	MV	0.005	2.1	0.25 *		
521	Eastern County	MV	0.010	2.9	0.25 *		
	Eastern County	CO	0.335	97.1	0.04 *	*	
	Eastern County	MV	0.000		0.25 *		
522	Eastern County	MV	0.059	8.4	0.25 *		
	Eastern County	MO	0.038	5.3	0.40 *		
	Eastern County	CO	0.583	82.6	0.04 *	*	
	Eastern County	MV	0.026	3.7	0.25 *		
523	Eastern County	VE	0.036	14.2	0.01 *		
	Eastern County	CO	0.215	85.8	0.04 *	*	
524	Eastern County	MO	0.089	24.3	0.40 *		
	Eastern County	CO	0.096	26.2	0.04 *	*	
	Eastern County	MV	0.180	49.4	0.25 *		
525	Eastern County	MO	0.040	18.2	0.40 *		
	Eastern County	MO	0.007	3.2	0.40 *		
	Eastern County	MV	0.172	78.6	0.25 *		

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
601	IND	0.155	30.6	Normal	60.0	55	0.15	0.030	Min	0.028
	M.D.R.	0.067	13.3	Normal	50.0	30	0.25	0.050	Min*	0.030
	M.F.R.	0.029	5.7	Normal	50.0	45	0.25	0.050	Min*	0.032
	OPEN	0.027	5.3	Dry	10.0		0.10	0.020	Min	0.032
	ROWCROP	0.098	19.3	Normal	85.0		0.50	0.100	Low*	0.055
	SCHOOL	0.125	24.8	Normal	85.0*	40 *	0.30		Min	0.028
	COMM	0.005	1.0	Normal	75.0	80	0.10	0.020	Min	0.037
602	COMM	0.068	13.6	Normal	75.0	80	0.10	0.020	Min	0.030
	IND	0.334	66.7	Normal	60.0	55	0.15	0.030	Min	0.025
	M.D.R.	0.052	10.4	Normal	50.0	30	0.25	0.050	Min*	0.030
	OPEN	0.033	6.5	Dry	10.0		0.10	0.020	Min	0.032
	OPEN	0.003	0.6	Dry	10.0		0.10	0.020	Min	0.038
	OPEN	0.003	0.6	Dry	10.0		0.10	0.020	Min	0.038
	OPEN	0.008	1.6	Dry	10.0		0.10	0.020	Min	0.036
603	IND	0.007	2.3	Normal	60.0	55	0.15	0.030	Min	0.036
	IND	0.005	1.6	Normal	60.0	55	0.15	0.030	Min	0.037
	M.D.R.	0.164	53.9	Normal	50.0	30	0.25	0.050	Min*	0.027
	M.F.R.	0.038	12.5	Normal	50.0	45	0.25	0.050	Min*	0.031
	OPEN	0.002	0.7	Dry	10.0		0.10	0.020	Min	0.039
	PARK	0.014	4.6	Normal	90.0		0.20	0.100	Min*	0.034
	OPEN	0.023	7.6	Dry	10.0		0.10	0.020	Min	0.033
	PARK	0.051	16.8	Normal	90.0		0.20	0.100	Min*	0.031
604	COMM	0.084	40.2	Normal	75.0	80	0.10	0.020	Min	0.029
	IND	0.068	32.9	Normal	60.0	55	0.15	0.030	Min	0.030
	IND	0.008	3.7	Normal	60.0	55	0.15	0.030	Min	0.036
	M.D.R.	0.032	15.4	Normal	50.0	30	0.25	0.050	Min*	0.032
	OPEN	0.016	7.8	Dry	10.0		0.10	0.020	Min	0.034
605	COMM	0.030	6.0	Normal	75.0	80	0.10	0.020	Min	0.032

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
605	M.D.R.	0.388	78.1	Normal	50.0	30	0.25	0.050	Min*	0.025
	OPEN	0.020	4.0	Dry	10.0		0.10	0.020	Min	0.033
	PARK	0.011	2.2	Normal	90.0		0.20	0.100	Min*	0.035
	OPEN	0.028	5.6	Dry	10.0		0.10	0.020	Min	0.032
	SCHOOL	0.020	4.0	Normal	90.0*	65 *	0.30		Min	0.033
606	IND	0.063	16.7	Normal	60.0	55	0.15	0.030	Min	0.030
	M.D.R.	0.261	69.3	Normal	50.0	30	0.25	0.050	Min*	0.026
	M.F.R.	0.044	11.6	Normal	50.0	45	0.25	0.050	Min*	0.031
	PARK	0.009	2.4	Normal	90.0		0.20	0.100	Hi	0.131
607	COMM	0.013	10.5	Normal	75.0	80	0.10	0.020	Min	0.034
	COMM	0.020	15.5	Normal	75.0	80	0.10	0.020	Min	0.033
	OPEN	0.007	5.3	Dry	10.0		0.10	0.020	Min	0.036
	ROWCROP	0.088	68.8	Normal	85.0		0.50	0.100	Low*	0.056
608	COMM	0.040	3.5	Normal	75.0	80	0.10	0.020	Min	0.031
	COMM	0.004	0.4	Normal	75.0	80	0.10	0.020	Min	0.037
	IND	0.009	0.8	Normal	60.0	55	0.15	0.030	Min	0.035
	SCHOOL	0.017	1.5	Normal	80.0*	40 *	0.30		Min	0.033
	M.D.R.	0.903	78.7	Normal	50.0	30	0.25	0.050	Min*	0.023
	OPEN	0.014	1.2	Dry	10.0		0.10	0.020	Min	0.034
	OPEN	0.012	1.0	Dry	10.0		0.10	0.020	Min	0.034
	OPEN	0.008	0.7	Dry	10.0		0.10	0.020	Min	0.036
	OPEN	0.002	0.2	Normal *	30.0*		0.20*	0.020	Min	0.039
	PARK	0.062	5.4	Normal	90.0		0.20	0.100	Min*	0.030
	OPEN	0.002	0.2	Normal *	30.0*		0.20*	0.020	Min	0.039
	ROWCROP	0.032	2.8	Normal	85.0		0.50	0.100	Low*	0.062
	ROWCROP	0.029	2.6	Normal	85.0		0.50	0.100	Low*	0.062
	OPEN	0.002	0.2	Normal *	30.0*		0.20*	0.020	Min	0.039
	WATER	0.002	0.1	Wet		100			Min	0.040
	OPEN	0.003	0.2	Normal *	30.0*		0.20*	0.020	Min	0.038

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
608	OPEN	0.005	0.4	Normal *	30.0*		0.20*	0.020	Min	0.037
	WATER	0.002	0.2	Wet		100			Min	0.039
609	COMM	0.010	2.6	Normal	75.0	80	0.10	0.020	Min	0.035
	IND	0.020	5.3	Normal	60.0	55	0.15	0.030	Min	0.033
	L.D.R.	0.030	8.0	Normal	50.0	15	0.30	0.050	Min*	0.032
	M.D.R.	0.234	61.9	Normal	50.0	30	0.25	0.050	Min*	0.026
	M.F.R.	0.016	4.1	Normal	50.0	45	0.25	0.050	Min*	0.034
	M.F.R.	0.041	10.9	Normal	50.0	45	0.25	0.050	Min*	0.031
	M.F.R.	0.010	2.6	Normal	50.0	45	0.25	0.050	Min*	0.035
	OPEN	0.014	3.7	Dry	10.0		0.10	0.020	Min	0.034
	OPEN	0.003	0.8	Normal *	30.0*		0.20*	0.020	Min	0.038
610	COMM	0.016	3.0	Normal	75.0	80	0.10	0.020	Min	0.034
	COMM	0.006	1.1	Normal	75.0	80	0.10	0.020	Min	0.036
	COMM	0.005	0.9	Normal	75.0	80	0.10	0.020	Min	0.037
	COMM	0.004	0.7	Normal	75.0	80	0.10	0.020	Min	0.037
	IND	0.007	1.3	Normal	60.0	55	0.15	0.030	Min	0.036
	M.D.R.	0.371	68.7	Normal	50.0	30	0.25	0.050	Min*	0.025
	M.F.R.	0.015	2.8	Normal	50.0	45	0.25	0.050	Min*	0.034
	M.F.R.	0.008	1.5	Normal	50.0	45	0.25	0.050	Min*	0.036
	M.F.R.	0.010	1.9	Normal	50.0	45	0.25	0.050	Min*	0.035
	M.F.R.	0.007	1.3	Normal	50.0	45	0.25	0.050	Min*	0.036
	OPEN	0.016	3.0	Dry	10.0		0.10	0.020	Min	0.034
	OPEN	0.002	0.4	Normal *	30.0*		0.20*	0.020	Min	0.039
	OPEN	0.004	0.7	Dry	10.0		0.10	0.020	Min	0.037
	OPEN	0.005	0.9	Dry	10.0		0.10	0.020	Min	0.037
	OPEN	0.002	0.4	Dry	10.0		0.10	0.020	Min	0.039
	OPEN	0.002	0.4	Dry	10.0		0.10	0.020	Min	0.039
	OPEN	0.009	1.7	Dry	10.0		0.10	0.020	Min	0.035
	OPEN	0.016	2.9	Dry	10.0		0.10	0.020	Min	0.034

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
610	SCHOOL	0.024	4.4	Normal	80.0*	35 *	0.30		Min	0.033
	SCHOOL	0.010	1.9	Normal	85.0*	20 *	0.30		Min	0.035
611	COMM	0.033	11.4	Normal	75.0	80	0.10	0.020	Min	0.032
	COMM	0.001	0.5	Normal	75.0	80	0.10	0.020	Min	0.040
	COMM	0.019	6.6	Normal	75.0	80	0.10	0.020	Min	0.033
	IND	0.002	0.6	Normal	60.0	55	0.15	0.030	Min	0.040
	IND	0.017	5.9	Normal	60.0	55	0.15	0.030	Min	0.034
	M.D.R.	0.173	59.5	Normal	50.0	30	0.25	0.050	Min*	0.027
	M.D.R.	0.006	2.0	Normal	50.0	30	0.25	0.050	Min*	0.036
	OPEN	0.002	0.7	Dry	10.0		0.10	0.020	Min	0.039
	OPEN	0.001	0.4	Dry	10.0		0.10	0.020	Min	0.040
	OPEN	0.003	0.9	Dry	10.0		0.10	0.020	Min	0.039
	OPEN	0.003	0.9	Dry	10.0		0.10	0.020	Min	0.039
	M.F.R.	0.026	8.9	Normal	50.0	45	0.25	0.050	Min*	0.032
	OPEN	0.005	1.7	Dry	10.0		0.10	0.020	Min	0.037
612	COMM	0.022	8.6	Normal	75.0	80	0.10	0.020	Min	0.033
	IND	0.004	1.6	Normal	60.0	55	0.15	0.030	Min	0.037
	L.D.R.	0.140	54.5	Normal	50.0	15	0.30	0.050	Min*	0.028
	L.D.R.	0.001	0.4	Normal	50.0	15	0.30	0.050	Min*	0.041
	L.D.R.	0.007	2.7	Normal	50.0	15	0.30	0.050	Min*	0.036
	M.D.R.	0.040	15.6	Normal	50.0	30	0.25	0.050	Min*	0.031
	M.F.R.	0.006	2.3	Normal	50.0	45	0.25	0.050	Min*	0.036
	M.F.R.	0.008	3.1	Normal	50.0	45	0.25	0.050	Min*	0.036
	OPEN	0.001	0.4	Dry	10.0		0.10	0.020	Min	0.041
	ROWCROP	0.024	9.3	Normal	85.0		0.50	0.100	Low*	0.064
	WATER	0.004	1.6	Wet		100			Min	0.037
613	COMM	0.036	17.6	Normal	75.0	80	0.10	0.020	Min	0.031
	IND	0.006	3.1	Normal	60.0	55	0.15	0.030	Min	0.036
	IND	0.009	4.2	Normal	60.0	55	0.15	0.030	Min	0.035

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
613	M.D.R.	0.002	0.8	Normal	50.0	30	0.25	0.050	Min*	0.040
	M.D.R.	0.002	0.8	Normal	50.0	30	0.25	0.050	Min*	0.040
	M.D.R.	0.050	24.6	Normal	50.0	30	0.25	0.050	Min*	0.031
	M.F.R.	0.045	21.9	Normal	50.0	45	0.25	0.050	Min*	0.031
	OPEN	0.027	13.3	Dry	10.0		0.10	0.020	Min	0.032
	OPEN	0.007	3.5	Dry	10.0		0.10	0.020	Min	0.036
	ROWCROP	0.021	10.2	Normal	85.0		0.50	0.100	Low*	0.065
614	COMM	0.021	5.1	Normal	75.0	80	0.10	0.020	Min	0.033
	M.D.R.	0.270	64.8	Normal	50.0	30	0.25	0.050	Min*	0.026
	OPEN	0.023	5.5	Dry	10.0		0.10	0.020	Min	0.033
	SCHOOL	0.027	6.5	Normal	80.0*	40 *	0.30		Min	0.032
	SCHOOL	0.062	14.9	Normal	80.0*	35 *	0.30		Min	0.030
	WATER	0.004	0.9	Wet		100			Min	0.038
	OPEN	0.006	1.4	Normal *	30.0*		0.20*	0.020	Min	0.036
	OPEN	0.004	1.0	Normal *	30.0*		0.20*	0.020	Min	0.037
615	IND	0.042	11.3	Normal	60.0	55	0.15	0.030	Min	0.031
	IND	0.009	2.4	Normal	60.0	55	0.15	0.030	Min	0.035
	IND	0.009	2.5	Normal	60.0	55	0.15	0.030	Min	0.035
	M.D.R.	0.158	43.1	Normal	50.0	30	0.25	0.050	Min*	0.027
	M.D.R.	0.006	1.7	Normal	50.0	30	0.25	0.050	Min*	0.036
	OPEN	0.025	6.7	Dry	10.0		0.10	0.020	Min	0.033
	OPEN	0.058	15.8	Dry	10.0		0.10	0.020	Min	0.030
	SCHOOL	0.023	6.4	Normal	80.0*	30 *	0.30		Min	0.033
	PARK	0.037	10.1	Normal	90.0		0.20	0.100	Min*	0.031
616	COMM	0.015	8.6	Normal	75.0	80	0.10	0.020	Min	0.034
	COMM	0.013	7.4	Normal	75.0	80	0.10	0.020	Min	0.034
	IND	0.097	55.5	Normal	60.0	55	0.15	0.030	Min	0.029
	M.D.R.	0.044	25.4	Normal	50.0	30	0.25	0.050	Min*	0.031
	OPEN	0.004	2.1	Dry	10.0		0.10	0.020	Min	0.038

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
616	OPEN	0.002	0.9	Dry	10.0		0.10	0.020	Min	0.040
617	IND	0.009	4.1	Normal	60.0	55	0.15	0.030	Min	0.035
	M.D.R.	0.099	45.0	Normal	50.0	30	0.25	0.050	Min*	0.029
	M.D.R.	0.050	22.7	Normal	50.0	30	0.25	0.050	Min*	0.031
	ROWCROP	0.059	26.8	Normal	85.0		0.50	0.100	Low*	0.058
	WATER	0.003	1.4	Wet		100			Min	0.038
618	L.D.R.	0.134	41.7	Normal	50.0	15	0.30	0.050	Min*	0.028
	M.D.R.	0.150	46.7	Normal	50.0	30	0.25	0.050	Min*	0.028
	OPEN	0.008	2.5	Dry	10.0		0.10	0.020	Min	0.036
	OPEN	0.029	9.0	Normal *	30.0*		0.20*	0.020	Min	0.032
619	COMM	0.072	62.6	Normal	75.0	80	0.10	0.020	Min	0.030
	M.D.R.	0.043	37.4	Normal	50.0	30	0.25	0.050	Min*	0.031
620	L.D.R.	0.018	25.7	Normal	50.0	15	0.30	0.050	Min*	0.033
	ROWCROP	0.015	21.4	Normal	85.0		0.50	0.100	Low*	0.066
	COMM	0.037	52.9	Normal	75.0	80	0.10	0.020	Min	0.031
621	IND	0.065	12.9	Normal	60.0	55	0.15	0.030	Min	0.030
	IND	0.029	5.7	Normal	60.0	55	0.15	0.030	Min	0.032
	IND	0.100	19.8	Normal	60.0	45 *	0.15	0.030	Min	0.029
	OPEN	0.019	3.8	Dry	10.0		0.10	0.020	Min	0.033
	OPEN	0.037	7.3	Dry	10.0		0.10	0.020	Min	0.031
	ROWCROP	0.205	40.6	Normal	85.0		0.50	0.100	Low*	0.051
	ROWCROP	0.017	3.4	Normal	85.0		0.50	0.100	Low*	0.066
	WATER	0.002	0.4	Wet		100			Min	0.039
	IND	0.031	6.1	Normal	60.0	45 *	0.15	0.030	Min	0.032
622	COMM	0.035	34.6	Normal	75.0	80	0.10	0.020	Min	0.032
	COMM	0.003	2.5	Normal	75.0	80	0.10	0.020	Min	0.039
	IND	0.010	9.5	Normal	60.0	55	0.15	0.030	Min	0.035
	ROWCROP	0.054	53.4	Normal	85.0		0.50	0.100	Low*	0.059

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
623	IND	0.018	3.0	Normal	60.0	55	0.15	0.030	Min	0.033
	IND	0.010	1.7	Normal	60.0	45 *	0.15	0.030	Min	0.035
	L.D.R.	0.012	1.9	Normal	50.0	15	0.30	0.050	Min*	0.035
	L.D.R.	0.085	14.1	Normal	50.0	15	0.30	0.050	Min*	0.029
	PARK	0.096	16.0	Normal	90.0		0.20	0.100	Min*	0.029
	ROWCROP	0.356	59.4	Normal	85.0		0.50	0.100	Low*	0.048
	WATER	0.006	1.1	Wet		100			Min	0.036
	IND	0.017	2.8	Normal	60.0	45 *	0.15	0.030	Min	0.034
624	IND	0.059	44.4	Normal	60.0	55	0.15	0.030	Min	0.030
	ROWCROP	0.074	55.6	Normal	85.0		0.50	0.100	Low*	0.057
625	IND	0.077	18.4	Normal	60.0	55	0.15	0.030	Min	0.029
	ROWCROP	0.330	78.9	Normal	85.0		0.50	0.100	Low*	0.048
	V.L.D.R.	0.009	2.2	Normal	20.0	5	0.30	0.050	Min*	0.035
	WATER	0.002	0.5	Wet		100			Min	0.039
626	ROWCROP	0.132	100.0	Normal	85.0		0.50	0.100	Low*	0.054
627	OPEN	0.010	4.7	Dry	10.0		0.10	0.020	Min	0.035
	ROWCROP	0.197	93.5	Normal	85.0		0.50	0.100	Low*	0.051
	WATER	0.004	1.8	Wet		100			Min	0.038
628	ROWCROP	0.263	98.2	Normal	85.0		0.50	0.100	Low*	0.049
	WATER	0.005	1.8	Wet		100			Min	0.037
629	ROWCROP	0.259	100.0	Normal	85.0		0.50	0.100	Low*	0.049
630	IND	0.026	8.0	Normal	60.0	55	0.15	0.030	Min	0.032
	M.D.R.	0.216	66.9	Normal	50.0	30	0.25	0.050	Min*	0.027
	ROWCROP	0.044	13.5	Normal	85.0		0.50	0.100	Low*	0.060
	WATER	0.007	2.3	Wet		100			Min	0.036
	WATER	0.013	4.0	Wet		100			Min	0.034
	WATER	0.006	1.9	Wet		100			Min	0.036

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
630	WATER	0.011	3.4	Wet		100			Min	0.035
631	IND	0.018	6.0	Normal	60.0	55	0.15	0.030	Min	0.033
	IND	0.007	2.2	Normal	60.0	55	0.15	0.030	Min	0.036
	IND	0.003	1.1	Normal	60.0	55	0.15	0.030	Min	0.038
	OPEN	0.011	3.7	Dry	10.0		0.10	0.020	Min	0.035
	ROWCROP	0.148	49.2	Normal	85.0		0.50	0.100	Low*	0.053
	COMM	0.048	15.9	Normal	75.0	80	0.10	0.020	Min	0.031
	M.D.R.	0.066	21.9	Normal	50.0	30	0.25	0.050	Min*	0.030
632N	PARK	0.112	94.1	Normal	90.0		0.20	0.100	Min*	0.028
	WATER	0.003	2.5	Wet		100			Min	0.038
	WATER	0.004	3.4	Wet		100			Min	0.037
633	COMM	0.003	1.2	Normal	75.0	80	0.10	0.020	Min	0.039
	IND	0.035	15.6	Normal	60.0	55	0.15	0.030	Min	0.032
	OPEN	0.020	8.9	Dry	10.0		0.10	0.020	Min	0.033
	ROWCROP	0.167	74.3	Normal	85.0		0.50	0.100	Low*	0.052
634	IND	0.002	3.4	Normal	60.0	55	0.15	0.030	Min	0.039
	IND	0.010	14.2	Normal	60.0	55	0.15	0.030	Min	0.035
	OPEN	0.010	13.5	Dry	10.0		0.10	0.020	Min	0.035
	ROWCROP	0.046	64.7	Normal	85.0		0.50	0.100	Low*	0.060
	WATER	0.003	4.2	Wet		100			Min	0.038
635	IND	0.016	10.5	Normal	60.0	55	0.15	0.030	Min	0.034
	IND	0.004	2.6	Normal	60.0	55	0.15	0.030	Min	0.037
	IND	0.055	35.9	Normal	60.0	55	0.15	0.030	Min	0.030
	OPEN	0.076	49.7	Dry	10.0		0.10	0.020	Min	0.029
	WATER	0.002	1.3	Wet		100			Min	0.039
636	M.D.R.	0.145	98.5	Normal	50.0	30	0.25	0.050	Min*	0.028
	WATER	0.002	1.5	Wet		100			Min	0.039
632S	IND	0.012	4.5	Normal	60.0	55	0.15	0.030	Min	0.034

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
	PARK	0.246	92.8	Normal	90.0		0.20	0.100	Min*	0.026
	WATER	0.003	1.1	Wet		100			Min	0.038
	WATER	0.002	0.8	Wet		100			Min	0.039
	ROWCROP	0.002	0.8	Normal	85.0		0.50	0.100	Low*	0.079
600	COMM	0.022	1.8	Normal	75.0	80	0.10	0.020	Min	0.033
	IND	0.048	3.8	Normal	60.0	55	0.15	0.030	Min	0.031
	M.D.R.	0.933	74.6	Normal	50.0	30	0.25	0.050	Min*	0.023
	M.F.R.	0.022	1.8	Normal	50.0	45	0.25	0.050	Min*	0.033
	OPEN	0.068	5.4	Dry	10.0		0.10	0.020	Min	0.030
	SCHOOL	0.011	0.9	Normal	75.0	150	0.30		Min	0.035
	WATER	0.114	9.1	Wet		100			Min	0.028
	PARK	0.032	2.6	Normal	90.0		0.20	0.100	Hi	0.117

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
601	IND	0.155	30.6	Normal	60.0	55	0.15	0.030	Min	0.028
	M.D.R.	0.067	13.3	Normal	50.0	30	0.25	0.050	Min*	0.030
	M.F.R.	0.029	5.7	Normal	50.0	45	0.25	0.050	Min*	0.032
	OPEN	0.027	5.3	Dry	10.0		0.10	0.020	Min	0.032
	ROWCROP	0.098	19.3	Normal	85.0		0.50	0.100	Low*	0.055
	SCHOOL	0.125	24.8	Normal	85.0*	40 *	0.30		Min	0.028
	COMM	0.005	1.0	Normal	75.0	80	0.10	0.020	Min	0.037
602	COMM	0.068	13.6	Normal	75.0	80	0.10	0.020	Min	0.030
	IND	0.334	66.7	Normal	60.0	55	0.15	0.030	Min	0.025
	M.D.R.	0.052	10.4	Normal	50.0	30	0.25	0.050	Min*	0.030
	OPEN	0.033	6.5	Dry	10.0		0.10	0.020	Min	0.032
	OPEN	0.003	0.6	Dry	10.0		0.10	0.020	Min	0.038
	OPEN	0.003	0.6	Dry	10.0		0.10	0.020	Min	0.038
	OPEN	0.008	1.6	Dry	10.0		0.10	0.020	Min	0.036
603	IND	0.007	2.3	Normal	60.0	55	0.15	0.030	Min	0.036
	IND	0.005	1.6	Normal	60.0	55	0.15	0.030	Min	0.037
	M.D.R.	0.164	53.9	Normal	50.0	30	0.25	0.050	Min*	0.027
	M.F.R.	0.038	12.5	Normal	50.0	45	0.25	0.050	Min*	0.031
	OPEN	0.002	0.7	Dry	10.0		0.10	0.020	Min	0.039
	PARK	0.014	4.6	Normal	90.0		0.20	0.100	Min*	0.034
	OPEN	0.023	7.6	Dry	10.0		0.10	0.020	Min	0.033
	PARK	0.051	16.8	Normal	90.0		0.20	0.100	Min*	0.031
604	COMM	0.084	40.2	Normal	75.0	80	0.10	0.020	Min	0.029
	IND	0.068	32.9	Normal	60.0	55	0.15	0.030	Min	0.030
	IND	0.008	3.7	Normal	60.0	55	0.15	0.030	Min	0.036
	M.D.R.	0.032	15.4	Normal	50.0	30	0.25	0.050	Min*	0.032
	OPEN	0.016	7.8	Dry	10.0		0.10	0.020	Min	0.034
605	COMM	0.030	6.0	Normal	75.0	80	0.10	0.020	Min	0.032

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
605	M.D.R.	0.388	77.2	Normal	50.0	30	0.25	0.050	Min *	0.025
	OPEN	0.020	4.0	Dry	10.0		0.10	0.020	Min	0.033
	PARK	0.011	2.2	Normal	90.0		0.20	0.100	Min *	0.035
	OPEN	0.028	5.6	Dry	10.0		0.10	0.020	Min	0.032
	SCHOOL	0.020	4.0	Normal	90.0*	65 *	0.30		Min	0.033
	M.F.R.	0.006	1.1	Normal	50.0	45	0.25	0.050	Min *	0.037
606	IND	0.063	16.7	Normal	60.0	55	0.15	0.030	Min	0.030
	M.D.R.	0.261	69.3	Normal	50.0	30	0.25	0.050	Min *	0.026
	M.F.R.	0.044	11.6	Normal	50.0	45	0.25	0.050	Min *	0.031
	PARK	0.009	2.4	Normal	90.0		0.20	0.100	Hi	0.131
607	COMM	0.013	10.5	Normal	75.0	80	0.10	0.020	Min	0.034
	COMM	0.020	15.5	Normal	75.0	80	0.10	0.020	Min	0.033
	OPEN	0.007	5.3	Dry	10.0		0.10	0.020	Min	0.036
	ROWCROP	0.088	68.8	Normal	85.0		0.50	0.100	Low *	0.056
608	COMM	0.040	3.5	Normal	75.0	80	0.10	0.020	Min	0.031
	COMM	0.004	0.4	Normal	75.0	80	0.10	0.020	Min	0.037
	IND	0.009	0.8	Normal	60.0	55	0.15	0.030	Min	0.035
	SCHOOL	0.017	1.5	Normal	80.0*	40 *	0.30		Min	0.033
	M.D.R.	0.903	78.7	Normal	50.0	30	0.25	0.050	Min *	0.023
	OPEN	0.014	1.2	Dry	10.0		0.10	0.020	Min	0.034
	OPEN	0.012	1.0	Dry	10.0		0.10	0.020	Min	0.034
	OPEN	0.008	0.7	Dry	10.0		0.10	0.020	Min	0.036
	OPEN	0.002	0.2	Normal *	30.0*		0.20*	0.020	Min	0.039
	PARK	0.062	5.4	Normal	90.0		0.20	0.100	Min *	0.030
	OPEN	0.002	0.2	Normal *	30.0*		0.20*	0.020	Min	0.039
	ROWCROP	0.032	2.8	Normal	85.0		0.50	0.100	Low *	0.062
	ROWCROP	0.029	2.6	Normal	85.0		0.50	0.100	Low *	0.062
	OPEN	0.002	0.2	Normal *	30.0*		0.20*	0.020	Min	0.039
	WATER	0.002	0.1	Wet		100			Min	0.040

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
608	OPEN	0.003	0.2	Normal *	30.0*		0.20*	0.020	Min	0.038
	OPEN	0.005	0.4	Normal *	30.0*		0.20*	0.020	Min	0.037
	WATER	0.002	0.2	Wet		100			Min	0.039
609	COMM	0.010	2.6	Normal	75.0	80	0.10	0.020	Min	0.035
	IND	0.020	5.3	Normal	60.0	55	0.15	0.030	Min	0.033
	L.D.R.	0.030	8.0	Normal	50.0	15	0.30	0.050	Min*	0.032
	M.D.R.	0.234	61.9	Normal	50.0	30	0.25	0.050	Min*	0.026
	M.F.R.	0.016	4.1	Normal	50.0	45	0.25	0.050	Min*	0.034
	M.F.R.	0.041	10.9	Normal	50.0	45	0.25	0.050	Min*	0.031
	M.F.R.	0.010	2.6	Normal	50.0	45	0.25	0.050	Min*	0.035
	OPEN	0.014	3.7	Dry	10.0		0.10	0.020	Min	0.034
	OPEN	0.003	0.8	Normal *	30.0*		0.20*	0.020	Min	0.038
610	COMM	0.016	3.0	Normal	75.0	80	0.10	0.020	Min	0.034
	COMM	0.006	1.1	Normal	75.0	80	0.10	0.020	Min	0.036
	COMM	0.005	0.9	Normal	75.0	80	0.10	0.020	Min	0.037
	COMM	0.004	0.7	Normal	75.0	80	0.10	0.020	Min	0.037
	IND	0.007	1.3	Normal	60.0	55	0.15	0.030	Min	0.036
	M.D.R.	0.371	68.7	Normal	50.0	30	0.25	0.050	Min*	0.025
	M.F.R.	0.015	2.8	Normal	50.0	45	0.25	0.050	Min*	0.034
	M.F.R.	0.008	1.5	Normal	50.0	45	0.25	0.050	Min*	0.036
	M.F.R.	0.010	1.9	Normal	50.0	45	0.25	0.050	Min*	0.035
	M.F.R.	0.007	1.3	Normal	50.0	45	0.25	0.050	Min*	0.036
	OPEN	0.016	3.0	Dry	10.0		0.10	0.020	Min	0.034
	OPEN	0.002	0.4	Normal *	30.0*		0.20*	0.020	Min	0.039
	OPEN	0.004	0.7	Dry	10.0		0.10	0.020	Min	0.037
	OPEN	0.005	0.9	Dry	10.0		0.10	0.020	Min	0.037
	OPEN	0.002	0.4	Dry	10.0		0.10	0.020	Min	0.039
	OPEN	0.002	0.4	Dry	10.0		0.10	0.020	Min	0.039
	OPEN	0.009	1.7	Dry	10.0		0.10	0.020	Min	0.035

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
610	OPEN	0.016	2.9	Dry	10.0		0.10	0.020	Min	0.034
	SCHOOL	0.024	4.4	Normal	80.0*	35 *	0.30		Min	0.033
	SCHOOL	0.010	1.9	Normal	85.0*	20 *	0.30		Min	0.035
611	COMM	0.033	11.4	Normal	75.0	80	0.10	0.020	Min	0.032
	COMM	0.001	0.5	Normal	75.0	80	0.10	0.020	Min	0.040
	COMM	0.019	6.6	Normal	75.0	80	0.10	0.020	Min	0.033
	IND	0.002	0.6	Normal	60.0	55	0.15	0.030	Min	0.040
	IND	0.017	5.9	Normal	60.0	55	0.15	0.030	Min	0.034
	M.D.R.	0.173	59.5	Normal	50.0	30	0.25	0.050	Min*	0.027
	M.D.R.	0.006	2.0	Normal	50.0	30	0.25	0.050	Min*	0.036
	OPEN	0.002	0.7	Dry	10.0		0.10	0.020	Min	0.039
	OPEN	0.001	0.4	Dry	10.0		0.10	0.020	Min	0.040
	OPEN	0.003	0.9	Dry	10.0		0.10	0.020	Min	0.039
	OPEN	0.003	0.9	Dry	10.0		0.10	0.020	Min	0.039
	M.F.R.	0.026	8.9	Normal	50.0	45	0.25	0.050	Min*	0.032
	OPEN	0.005	1.7	Dry	10.0		0.10	0.020	Min	0.037
612	COMM	0.022	8.6	Normal	75.0	80	0.10	0.020	Min	0.033
	IND	0.004	1.6	Normal	60.0	55	0.15	0.030	Min	0.037
	L.D.R.	0.140	54.5	Normal	50.0	15	0.30	0.050	Min*	0.028
	L.D.R.	0.001	0.4	Normal	50.0	15	0.30	0.050	Min*	0.041
	L.D.R.	0.007	2.7	Normal	50.0	15	0.30	0.050	Min*	0.036
	M.D.R.	0.040	15.6	Normal	50.0	30	0.25	0.050	Min*	0.031
	M.F.R.	0.008	3.1	Normal	50.0	45	0.25	0.050	Min*	0.036
	OPEN	0.001	0.4	Dry	10.0		0.10	0.020	Min	0.041
	ROWCROP	0.024	9.3	Normal	85.0		0.50	0.100	Low*	0.064
	WATER	0.004	1.6	Wet		100			Min	0.037
	M.F.R.	0.006	2.3	Normal	50.0	45	0.25	0.050	Min*	0.036
613	COMM	0.036	17.6	Normal	75.0	80	0.10	0.020	Min	0.031
	IND	0.006	3.1	Normal	60.0	55	0.15	0.030	Min	0.036

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
613	IND	0.009	4.2	Normal	60.0	55	0.15	0.030	Min	0.035
	M.D.R.	0.002	0.8	Normal	50.0	30	0.25	0.050	Min *	0.040
	M.D.R.	0.002	0.8	Normal	50.0	30	0.25	0.050	Min *	0.040
	M.D.R.	0.050	24.6	Normal	50.0	30	0.25	0.050	Min *	0.031
	M.F.R.	0.045	21.9	Normal	50.0	45	0.25	0.050	Min *	0.031
	OPEN	0.027	13.3	Dry	10.0		0.10	0.020	Min	0.032
	OPEN	0.007	3.5	Dry	10.0		0.10	0.020	Min	0.036
	ROWCROP	0.021	10.2	Normal	85.0		0.50	0.100	Low *	0.065
614	COMM	0.021	5.1	Normal	75.0	80	0.10	0.020	Min	0.033
	M.D.R.	0.270	64.8	Normal	50.0	30	0.25	0.050	Min *	0.026
	OPEN	0.023	5.5	Dry	10.0		0.10	0.020	Min	0.033
	SCHOOL	0.027	6.5	Normal	80.0*	40 *	0.30		Min	0.032
	SCHOOL	0.062	14.9	Normal	80.0*	35 *	0.30		Min	0.030
	WATER	0.004	0.9	Wet		100			Min	0.038
	OPEN	0.006	1.4	Normal *	30.0*		0.20*	0.020	Min	0.036
	OPEN	0.004	1.0	Normal *	30.0*		0.20*	0.020	Min	0.037
615	IND	0.042	11.3	Normal	60.0	55	0.15	0.030	Min	0.031
	IND	0.009	2.4	Normal	60.0	55	0.15	0.030	Min	0.035
	IND	0.009	2.5	Normal	60.0	55	0.15	0.030	Min	0.035
	M.D.R.	0.158	43.1	Normal	50.0	30	0.25	0.050	Min *	0.027
	M.D.R.	0.006	1.7	Normal	50.0	30	0.25	0.050	Min *	0.036
	OPEN	0.025	6.7	Dry	10.0		0.10	0.020	Min	0.033
	OPEN	0.058	15.8	Dry	10.0		0.10	0.020	Min	0.030
	SCHOOL	0.023	6.4	Normal	80.0*	30 *	0.30		Min	0.033
	PARK	0.037	10.1	Normal	90.0		0.20	0.100	Min *	0.031
616	COMM	0.015	8.6	Normal	75.0	80	0.10	0.020	Min	0.034
	COMM	0.013	7.4	Normal	75.0	80	0.10	0.020	Min	0.034
	IND	0.097	55.5	Normal	60.0	55	0.15	0.030	Min	0.029
	M.D.R.	0.044	25.4	Normal	50.0	30	0.25	0.050	Min *	0.031

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
616	OPEN	0.004	2.1	Dry	10.0		0.10	0.020	Min	0.038
	OPEN	0.002	0.9	Dry	10.0		0.10	0.020	Min	0.040
617	IND	0.009	4.1	Normal	60.0	55	0.15	0.030	Min	0.035
	M.D.R.	0.099	45.0	Normal	50.0	30	0.25	0.050	Min*	0.029
	M.D.R.	0.050	22.7	Normal	50.0	30	0.25	0.050	Min*	0.031
	ROWCROP	0.059	26.8	Normal	85.0		0.50	0.100	Low*	0.058
	WATER	0.003	1.4	Wet		100			Min	0.038
618	L.D.R.	0.134	41.7	Normal	50.0	15	0.30	0.050	Min*	0.028
	M.D.R.	0.150	46.7	Normal	50.0	30	0.25	0.050	Min*	0.028
	OPEN	0.008	2.5	Dry	10.0		0.10	0.020	Min	0.036
	OPEN	0.029	9.0	Normal *	30.0*		0.20*	0.020	Min	0.032
619	COMM	0.072	62.6	Normal	75.0	80	0.10	0.020	Min	0.030
	M.D.R.	0.043	37.4	Normal	50.0	30	0.25	0.050	Min*	0.031
620	L.D.R.	0.018	25.7	Normal	50.0	15	0.30	0.050	Min*	0.033
	ROWCROP	0.015	21.4	Normal	85.0		0.50	0.100	Low*	0.066
	COMM	0.037	52.9	Normal	75.0	80	0.10	0.020	Min	0.031
621	IND	0.065	12.9	Normal	60.0	55	0.15	0.030	Min	0.030
	IND	0.029	5.7	Normal	60.0	55	0.15	0.030	Min	0.032
	IND	0.100	19.8	Normal	60.0	45 *	0.15	0.030	Min	0.029
	OPEN	0.019	3.8	Dry	10.0		0.10	0.020	Min	0.033
	OPEN	0.037	7.3	Dry	10.0		0.10	0.020	Min	0.031
	ROWCROP	0.205	40.6	Normal	85.0		0.50	0.100	Low*	0.051
	ROWCROP	0.017	3.4	Normal	85.0		0.50	0.100	Low*	0.066
	WATER	0.002	0.4	Wet		100			Min	0.039
	IND	0.031	6.1	Normal	60.0	45 *	0.15	0.030	Min	0.032
622	COMM	0.035	34.6	Normal	75.0	80	0.10	0.020	Min	0.032
	COMM	0.003	2.5	Normal	75.0	80	0.10	0.020	Min	0.039
	IND	0.010	9.5	Normal	60.0	55	0.15	0.030	Min	0.035

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
622	ROWCROP	0.054	53.4	Normal	85.0		0.50	0.100	Low*	0.059
623	IND	0.018	3.0	Normal	60.0	55	0.15	0.030	Min	0.033
	IND	0.010	1.7	Normal	60.0	45 *	0.15	0.030	Min	0.035
	L.D.R.	0.012	1.9	Normal	50.0	15	0.30	0.050	Min*	0.035
	L.D.R.	0.085	14.1	Normal	50.0	15	0.30	0.050	Min*	0.029
	PARK	0.096	16.0	Normal	90.0		0.20	0.100	Min*	0.029
	ROWCROP	0.356	59.4	Normal	85.0		0.50	0.100	Low*	0.048
	WATER	0.006	1.1	Wet		100			Min	0.036
	IND	0.017	2.8	Normal	60.0	45 *	0.15	0.030	Min	0.034
624	IND	0.059	44.4	Normal	60.0	55	0.15	0.030	Min	0.030
	ROWCROP	0.074	55.6	Normal	85.0		0.50	0.100	Low*	0.057
625	IND	0.077	18.4	Normal	60.0	55	0.15	0.030	Min	0.029
	ROWCROP	0.330	78.9	Normal	85.0		0.50	0.100	Low*	0.048
	V.L.D.R.	0.009	2.2	Normal	20.0	5	0.30	0.050	Min*	0.035
	WATER	0.002	0.5	Wet		100			Min	0.039
626	ROWCROP	0.132	100.0	Normal	85.0		0.50	0.100	Low*	0.054
627	OPEN	0.010	4.7	Dry	10.0		0.10	0.020	Min	0.035
	ROWCROP	0.197	93.5	Normal	85.0		0.50	0.100	Low*	0.051
	WATER	0.004	1.8	Wet		100			Min	0.038
628	ROWCROP	0.263	98.2	Normal	85.0		0.50	0.100	Low*	0.049
	WATER	0.005	1.8	Wet		100			Min	0.037
629	ROWCROP	0.259	100.0	Normal	85.0		0.50	0.100	Low*	0.049
630	IND	0.026	8.0	Normal	60.0	55	0.15	0.030	Min	0.032
	M.D.R.	0.216	66.9	Normal	50.0	30	0.25	0.050	Min*	0.027
	ROWCROP	0.044	13.5	Normal	85.0		0.50	0.100	Low*	0.060
	WATER	0.007	2.3	Wet		100			Min	0.036
	WATER	0.013	4.0	Wet		100			Min	0.034

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
630	WATER	0.006	1.9	Wet		100			Min	0.036
	WATER	0.011	3.4	Wet		100			Min	0.035
631	IND	0.018	6.0	Normal	60.0	55	0.15	0.030	Min	0.033
	IND	0.007	2.2	Normal	60.0	55	0.15	0.030	Min	0.036
	IND	0.003	1.1	Normal	60.0	55	0.15	0.030	Min	0.038
	OPEN	0.011	3.7	Dry	10.0		0.10	0.020	Min	0.035
	ROWCROP	0.148	49.2	Normal	85.0		0.50	0.100	Low*	0.053
	COMM	0.048	15.9	Normal	75.0	80	0.10	0.020	Min	0.031
	M.D.R.	0.066	21.9	Normal	50.0	30	0.25	0.050	Min*	0.030
632N	PARK	0.112	94.1	Normal	90.0		0.20	0.100	Min*	0.028
	WATER	0.003	2.5	Wet		100			Min	0.038
	WATER	0.004	3.4	Wet		100			Min	0.037
633	COMM	0.003	1.2	Normal	75.0	80	0.10	0.020	Min	0.039
	IND	0.035	15.6	Normal	60.0	55	0.15	0.030	Min	0.032
	OPEN	0.020	8.9	Dry	10.0		0.10	0.020	Min	0.033
	ROWCROP	0.167	74.3	Normal	85.0		0.50	0.100	Low*	0.052
634	IND	0.002	3.4	Normal	60.0	55	0.15	0.030	Min	0.039
	IND	0.010	14.2	Normal	60.0	55	0.15	0.030	Min	0.035
	OPEN	0.010	13.5	Dry	10.0		0.10	0.020	Min	0.035
	ROWCROP	0.046	64.7	Normal	85.0		0.50	0.100	Low*	0.060
	WATER	0.003	4.2	Wet		100			Min	0.038
635	IND	0.016	10.5	Normal	60.0	55	0.15	0.030	Min	0.034
	IND	0.004	2.6	Normal	60.0	55	0.15	0.030	Min	0.037
	IND	0.055	35.9	Normal	60.0	55	0.15	0.030	Min	0.030
	OPEN	0.076	49.7	Dry	10.0		0.10	0.020	Min	0.029
	WATER	0.002	1.3	Wet		100			Min	0.039
636	M.D.R.	0.145	98.5	Normal	50.0	30	0.25	0.050	Min*	0.028
	WATER	0.002	1.5	Wet		100			Min	0.039

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
632S	IND	0.012	4.5	Normal	60.0	55	0.15	0.030	Min	0.034
	PARK	0.246	92.8	Normal	90.0		0.20	0.100	Min*	0.026
	WATER	0.003	1.1	Wet		100			Min	0.038
	WATER	0.002	0.8	Wet		100			Min	0.039
	ROWCROP	0.002	0.8	Normal	85.0		0.50	0.100	Low*	0.079
600	COMM	0.022	1.8	Normal	75.0	80	0.10	0.020	Min	0.033
	IND	0.048	3.8	Normal	60.0	55	0.15	0.030	Min	0.031
	M.D.R.	0.933	74.6	Normal	50.0	30	0.25	0.050	Min*	0.023
	M.F.R.	0.022	1.8	Normal	50.0	45	0.25	0.050	Min*	0.033
	OPEN	0.068	5.4	Dry	10.0		0.10	0.020	Min	0.030
	SCHOOL	0.011	0.9	Normal	75.0	150	0.30		Min	0.035
	WATER	0.114	9.1	Wet		100			Min	0.028
	PARK	0.032	2.6	Normal	90.0		0.20	0.100	Hi	0.117

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
500	OPEN	0.033	3.1	Dry	10.0		0.10	0.020	Min	0.032
	M.D.R.	0.579	54.7	Normal	50.0	30	0.25	0.050	Min	0.024
	M.F.R.	0.052	4.9	Normal	50.0	45	0.25	0.050	Min	0.030
	M.F.R.	0.017	1.6	Normal	50.0	45	0.25	0.050	Min	0.033
	COMM	0.121	11.5	Normal	75.0	80	0.10	0.020	Min	0.028
	SCHOOL	0.017	1.6	Normal	30.0	5	0.30		Min	0.034
	OPEN	0.008	0.7	Dry	10.0		0.10	0.020	Min	0.036
	OPEN	0.005	0.5	Dry	10.0		0.10	0.020	Min	0.037
	COMM	0.062	5.9	Normal	75.0	80	0.10	0.020	Min	0.030
	OPEN	0.013	1.2	Dry	10.0		0.10	0.020	Min	0.034
	OPEN	0.016	1.5	Dry	10.0		0.10	0.020	Min	0.034
	COMM	0.017	1.6	Normal	75.0	80	0.10	0.020	Min	0.034
	L.D.R.	0.006	0.6	Normal	50.0	15	0.30	0.050	Min	0.036
	OPEN	0.004	0.4	Dry	10.0		0.10	0.020	Min	0.037
	COMM	0.003	0.3	Normal	75.0	80	0.10	0.020	Min	0.038
	M.D.R.	0.005	0.5	Normal	50.0	30	0.25	0.050	Min	0.037
	COMM	0.007	0.6	Normal	75.0	80	0.10	0.020	Min	0.036
	COMM	0.003	0.2	Normal	75.0	80	0.10	0.020	Min	0.039
	COMM	0.001	0.1	Normal	75.0	80	0.10	0.020	Min	0.040
	OPEN	0.001	0.1	Dry	10.0		0.10	0.020	Min	0.041
	OPEN	0.087	8.3	Dry	10.0		0.10	0.020	Min	0.029
501	OPEN	0.000		Dry	10.0		0.10	0.020	Min	0.046
	M.D.R.	0.000		Normal	50.0	30	0.25	0.050	Min	0.046
	L.D.R.	0.001	0.1	Normal	50.0	15	0.30	0.050	Min	0.041
	PARK	0.002	0.2	Normal	90.0		0.20	0.100	Min	0.039
	COMM	0.002	0.2	Normal	75.0	80	0.10	0.020	Min	0.039
	COMM	0.002	0.2	Normal	75.0	80	0.10	0.020	Min	0.039
	COMM	0.003	0.3	Normal	75.0	80	0.10	0.020	Min	0.038
	OPEN	0.003	0.3	Dry	10.0		0.10	0.020	Min	0.038
	COMM	0.003	0.3	Normal	75.0	80	0.10	0.020	Min	0.038

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
	PARK	0.004	0.3	Normal	90.0		0.20	0.100	Min	0.038
	COMM	0.004	0.3	Normal	75.0	80	0.10	0.020	Min	0.038
	COMM	0.004	0.3	Normal	75.0	80	0.10	0.020	Min	0.038
	PARK	0.005	0.4	Normal	90.0		0.20	0.100	Min	0.037
	COMM	0.007	0.5	Normal	75.0	80	0.10	0.020	Min	0.036
	PARK	0.007	0.6	Normal	90.0		0.20	0.100	Min	0.036
	COMM	0.007	0.6	Normal	75.0	80	0.10	0.020	Min	0.036
	PARK	0.008	0.6	Normal	90.0		0.20	0.100	Min	0.036
	OPEN	0.009	0.7	Dry	10.0		0.10	0.020	Min	0.035
	COMM	0.011	0.9	Normal	75.0	80	0.10	0.020	Min	0.035
	COMM	0.015	1.2	Normal	75.0	80	0.10	0.020	Min	0.034
	IND	0.015	1.2	Normal	60.0	55	0.15	0.030	Min	0.034
	OPEN	0.017	1.4	Dry	10.0		0.10	0.020	Min	0.034
	SCHOOL	0.018	1.5	Normal	30.0	5	0.30		Min	0.033
	M.D.R.	0.019	1.6	Normal	50.0	30	0.25	0.050	Min	0.033
	M.F.R.	0.022	1.8	Normal	50.0	45	0.25	0.050	Min	0.033
	OPEN	0.024	1.9	Dry	10.0		0.10	0.020	Min	0.033
	OPEN	0.025	2.0	Dry	10.0		0.10	0.020	Min	0.033
	COMM	0.026	2.1	Normal	75.0	80	0.10	0.020	Min	0.032
	COMM	0.026	2.1	Normal	75.0	80	0.10	0.020	Min	0.032
	SCHOOL	0.031	2.5	Normal	30.0	5	0.30		Min	0.032
	M.D.R.	0.063	5.1	Normal	50.0	30	0.25	0.050	Min	0.030
	M.D.R.	0.291	23.6	Normal	50.0	30	0.25	0.050	Min	0.026
	L.D.R.	0.560	45.4	Normal	50.0	15	0.30	0.050	Min	0.024
502	PARK	0.001	0.1	Normal	90.0		0.20	0.100	Min	0.042
	PARK	0.002	0.1	Normal	90.0		0.20	0.100	Min	0.040
	PARK	0.002	0.1	Normal	90.0		0.20	0.100	Min	0.040
	PARK	0.002	0.2	Normal	90.0		0.20	0.100	Min	0.040
	PARK	0.002	0.2	Normal	90.0		0.20	0.100	Min	0.039
	PARK	0.002	0.2	Normal	90.0		0.20	0.100	Min	0.039

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
	PARK	0.003	0.3	Normal	90.0		0.20	0.100	Min	0.039
	PARK	0.003	0.3	Normal	90.0		0.20	0.100	Min	0.039
	OPEN	0.004	0.4	Dry	10.0		0.10	0.020	Min	0.038
	IND	0.005	0.5	Normal	60.0	55	0.15	0.030	Min	0.037
	COMM	0.006	0.6	Normal	75.0	80	0.10	0.020	Min	0.036
	PARK	0.006	0.6	Normal	90.0		0.20	0.100	Min	0.036
	COMM	0.007	0.6	Normal	75.0	80	0.10	0.020	Min	0.036
	COMM	0.008	0.8	Normal	75.0	80	0.10	0.020	Min	0.035
	COMM	0.009	0.8	Normal	75.0	80	0.10	0.020	Min	0.035
	OPEN	0.010	1.0	Dry	10.0		0.10	0.020	Min	0.035
	OPEN	0.010	1.0	Dry	10.0		0.10	0.020	Min	0.035
	M.F.R.	0.011	1.1	Normal	50.0	45	0.25	0.050	Min	0.035
	IND	0.014	1.3	Normal	60.0	55	0.15	0.030	Min	0.034
	IND	0.015	1.4	Normal	60.0	55	0.15	0.030	Min	0.034
	M.D.R.	0.015	1.5	Normal	50.0	30	0.25	0.050	Min	0.034
	PARK	0.016	1.6	Normal	90.0		0.20	0.100	Min	0.034
	M.F.R.	0.016	1.6	Normal	50.0	45	0.25	0.050	Min	0.034
	OPEN	0.017	1.6	Dry	10.0		0.10	0.020	Min	0.034
	IND	0.018	1.8	Normal	60.0	55	0.15	0.030	Min	0.033
	COMM	0.044	4.3	Normal	75.0	80	0.10	0.020	Min	0.031
	M.D.R.	0.068	6.7	Normal	50.0	30	0.25	0.050	Min	0.030
	M.D.R.	0.086	8.4	Normal	50.0	30	0.25	0.050	Min	0.029
	ROWCROP	0.136	13.4	Normal	85.0		0.50	0.100	Low	0.053
	M.D.R.	0.209	20.6	Normal	50.0	30	0.25	0.050	Min	0.027
	M.D.R.	0.272	26.8	Normal	50.0	30	0.25	0.050	Min	0.026
503	OPEN	0.002	0.1	Dry	10.0		0.10	0.020	Min	0.039
	OPEN	0.003	0.2	Dry	10.0		0.10	0.020	Min	0.039
	COMM	0.062	4.3	Normal	75.0	80	0.10	0.020	Min	0.030
	OPEN	0.003	0.2	Dry	10.0		0.10	0.020	Min	0.038
	PARK	0.003	0.2	Normal	90.0		0.20	0.100	Min	0.038

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
	COMM	0.006	0.4	Normal	75.0	80	0.10	0.020	Min	0.037
	OPEN	0.007	0.5	Dry	10.0		0.10	0.020	Min	0.036
	IND	0.007	0.5	Normal	60.0	55	0.15	0.030	Min	0.036
	COMM	0.007	0.5	Normal	75.0	80	0.10	0.020	Min	0.036
	IND	0.008	0.5	Normal	60.0	55	0.15	0.030	Min	0.036
	M.D.R.	0.009	0.6	Normal	50.0	30	0.25	0.050	Min	0.035
	IND	0.010	0.7	Normal	60.0	55	0.15	0.030	Min	0.035
	OPEN	0.012	0.8	Dry	10.0		0.10	0.020	Min	0.035
	L.D.R.	0.026	1.8	Normal	50.0	15	0.30	0.050	Min	0.032
	OPEN	0.035	2.4	Dry	10.0		0.10	0.020	Min	0.032
	M.D.R.	0.056	3.9	Normal	50.0	30	0.25	0.050	Min	0.030
	M.D.R.	0.067	4.7	Normal	50.0	30	0.25	0.050	Min	0.030
	IND	0.080	5.6	Normal	60.0	55	0.15	0.030	Min	0.029
	L.D.R.	0.093	6.5	Normal	50.0	15	0.30	0.050	Min	0.029
	IND	0.119	8.3	Normal	60.0	55	0.15	0.030	Min	0.028
	IND	0.129	9.0	Normal	60.0	55	0.15	0.030	Min	0.028
	COMM	0.073	5.1	Normal	75.0	80	0.10	0.020	Min	0.030
	OPEN	0.021	1.5	Dry	10.0		0.10	0.020	Min	0.033
	COMM	0.050	3.5	Normal	75.0	80	0.10	0.020	Min	0.031
	COMM	0.019	1.3	Normal	75.0	80	0.10	0.020	Min	0.033
	OPEN	0.010	0.7	Dry	10.0		0.10	0.020	Min	0.035
	COMM	0.003	0.2	Normal	75.0	80	0.10	0.020	Min	0.039
	COMM	0.082	5.8	Normal	75.0	80	0.10	0.020	Min	0.029
	COMM	0.007	0.5	Normal	75.0	80	0.10	0.020	Min	0.036
	COMM	0.005	0.3	Normal	75.0	80	0.10	0.020	Min	0.037
	COMM	0.001	0.1	Normal	75.0	80	0.10	0.020	Min	0.041
	OPEN	0.003	0.2	Dry	10.0		0.10	0.020	Min	0.038
	OPEN	0.033	2.3	Dry	10.0		0.10	0.020	Min	0.032
	COMM	0.027	1.9	Normal	75.0	80	0.10	0.020	Min	0.032
	ROWCROP	0.083	5.8	Normal	85.0		0.50	0.100	Low	0.056

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
503	COMM	0.012	0.8	Normal	75.0	80	0.10	0.020	Min	0.035
	OPEN	0.053	3.7	Dry	10.0		0.10	0.020	Min	0.030
	M.D.R.	0.024	1.7	Normal	50.0	30	0.25	0.050	Min	0.033
	COMM	0.059	4.1	Normal	75.0	80	0.10	0.020	Min	0.030
	COMM	0.011	0.7	Normal	75.0	80	0.10	0.020	Min	0.035
	ROWCROP	0.053	3.7	Normal	85.0		0.50	0.100	Low	0.059
	COMM	0.060	4.2	Normal	75.0	80	0.10	0.020	Min	0.030
	OPEN	0.001	0.1	Dry	10.0		0.10	0.020	Min	0.040
504	IND	0.003	0.8	Normal	60.0	55	0.15	0.030	Min	0.039
	IND	0.003	0.9	Normal	60.0	55	0.15	0.030	Min	0.038
	IND	0.004	1.3	Normal	60.0	55	0.15	0.030	Min	0.037
	IND	0.009	2.7	Normal	60.0	55	0.15	0.030	Min	0.035
	COMM	0.018	5.7	Normal	75.0	80	0.10	0.020	Min	0.033
	IND	0.019	5.8	Normal	60.0	55	0.15	0.030	Min	0.033
	IND	0.023	7.0	Normal	60.0	55	0.15	0.030	Min	0.033
	IND	0.072	22.4	Normal	60.0	55	0.15	0.030	Min	0.030
	OPEN	0.172	53.5	Dry	10.0		0.10	0.020	Min	0.027
505	COMM	0.015	39.7	Normal	75.0	80	0.10	0.020	Min	0.034
	COMM	0.023	60.3	Normal	75.0	80	0.10	0.020	Min	0.033
506	COMM	0.004	1.2	Normal	75.0	80	0.10	0.020	Min	0.037
	M.D.R.	0.004	1.2	Normal	50.0	30	0.25	0.050	Min	0.037
	COMM	0.005	1.4	Normal	75.0	80	0.10	0.020	Min	0.037
	IND	0.005	1.5	Normal	60.0	55	0.15	0.030	Min	0.037
	OPEN	0.011	3.2	Dry	10.0		0.10	0.020	Min	0.035
	M.D.R.	0.022	6.3	Normal	50.0	30	0.25	0.050	Min	0.033
	M.D.R.	0.120	34.5	Normal	50.0	30	0.25	0.050	Min	0.028
	PARK	0.176	50.8	Normal	90.0		0.20	0.100	Min	0.027
507	IND	0.003	0.3	Normal	60.0	55	0.15	0.030	Min	0.039
	COMM	0.003	0.3	Normal	75.0	80	0.10	0.020	Min	0.039

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
	OPEN	0.003	0.4	Dry	10.0		0.10	0.020	Min	0.038
	OPEN	0.005	0.6	Dry	10.0		0.10	0.020	Min	0.037
	OPEN	0.006	0.7	Dry	10.0		0.10	0.020	Min	0.037
	M.D.R.	0.007	0.9	Normal	50.0	30	0.25	0.050	Min	0.036
	IND	0.008	1.0	Normal	60.0	55	0.15	0.030	Min	0.036
	OPEN	0.013	1.7	Dry	10.0		0.10	0.020	Min	0.034
	COMM	0.014	1.8	Normal	75.0	80	0.10	0.020	Min	0.034
	COMM	0.018	2.3	Normal	75.0	80	0.10	0.020	Min	0.033
	COMM	0.018	2.3	Normal	75.0	80	0.10	0.020	Min	0.033
	OPEN	0.019	2.4	Dry	10.0		0.10	0.020	Min	0.033
	COMM	0.021	2.6	Normal	75.0	80	0.10	0.020	Min	0.033
	COMM	0.034	4.4	Normal	75.0	80	0.10	0.020	Min	0.032
	OPEN	0.056	7.1	Dry	10.0		0.10	0.020	Min	0.030
	M.F.R.	0.068	8.6	Normal	50.0	45	0.25	0.050	Min	0.030
	IND	0.070	8.9	Normal	60.0	55	0.15	0.030	Min	0.030
	COMM	0.096	12.2	Normal	75.0	80	0.10	0.020	Min	0.029
	IND	0.098	12.5	Normal	60.0	55	0.15	0.030	Min	0.029
	COMM	0.169	21.4	Normal	75.0	80	0.10	0.020	Min	0.027
	COMM	0.005	0.6	Normal	75.0	80	0.10	0.020	Min	0.037
	OPEN	0.056	7.1	Dry	10.0		0.10	0.020	Min	0.030
508	L.D.R.	0.000		Normal	50.0	15	0.30	0.050	Min	0.047
	WATER	0.001	0.2	Wet		100			Min	0.041
	M.D.R.	0.004	0.9	Normal	50.0	30	0.25	0.050	Min	0.037
	IND	0.008	1.6	Normal	60.0	55	0.15	0.030	Min	0.036
	OPEN	0.009	1.7	Dry	10.0		0.10	0.020	Min	0.035
	IND	0.010	2.0	Normal	60.0	55	0.15	0.030	Min	0.035
	ROWCROP	0.016	3.2	Normal	85.0		0.50	0.100	Low	0.066
	SCHOOL	0.016	3.2	Normal	30.0	5	0.30		Min	0.034
	COMM	0.017	3.5	Normal	75.0	80	0.10	0.020	Min	0.034
	M.F.R.	0.026	5.4	Normal	50.0	45	0.25	0.050	Min	0.032

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
	COMM	0.037	7.5	Normal	75.0	80	0.10	0.020	Min	0.031
	M.D.R.	0.125	25.6	Normal	50.0	30	0.25	0.050	Min	0.028
	L.D.R.	0.220	45.1	Normal	50.0	15	0.30	0.050	Min	0.027
509	IND	0.001	0.4	Normal	60.0	55	0.15	0.030	Min	0.040
	COMM	0.002	0.5	Normal	75.0	80	0.10	0.020	Min	0.039
	COMM	0.005	1.4	Normal	75.0	80	0.10	0.020	Min	0.037
	OPEN	0.008	2.2	Dry	10.0		0.10	0.020	Min	0.036
	COMM	0.018	4.8	Normal	75.0	80	0.10	0.020	Min	0.033
	IND	0.019	5.1	Normal	60.0	55	0.15	0.030	Min	0.033
	IND	0.020	5.3	Normal	60.0	55	0.15	0.030	Min	0.033
	M.D.R.	0.025	6.6	Normal	50.0	30	0.25	0.050	Min	0.033
	IND	0.028	7.5	Normal	60.0	55	0.15	0.030	Min	0.032
	M.F.R.	0.035	9.4	Normal	50.0	45	0.25	0.050	Min	0.032
	M.D.R.	0.052	14.1	Normal	50.0	30	0.25	0.050	Min	0.030
	OPEN	0.071	19.2	Dry	10.0		0.10	0.020	Min	0.030
	IND	0.087	23.6	Normal	60.0	55	0.15	0.030	Min	0.029
510	PARK	0.003	2.5	Normal	90.0		0.20	0.100	Min	0.038
	IND	0.006	4.8	Normal	60.0	55	0.15	0.030	Min	0.036
	OPEN	0.009	7.2	Dry	10.0		0.10	0.020	Min	0.035
	IND	0.019	14.8	Normal	60.0	55	0.15	0.030	Min	0.033
	IND	0.092	70.8	Normal	60.0	55	0.15	0.030	Min	0.029
511	WATER	0.001	0.1	Wet		100			Min	0.043
	PARK	0.003	0.6	Normal	90.0		0.20	0.100	Min	0.038
	SCHOOL	0.007	1.5	Normal	30.0	5	0.30		Min	0.036
	OPEN	0.010	2.0	Dry	10.0		0.10	0.020	Min	0.035
	M.D.R.	0.013	2.7	Normal	50.0	30	0.25	0.050	Min	0.034
	IND	0.018	3.7	Normal	60.0	55	0.15	0.030	Min	0.033
	M.F.R.	0.029	6.1	Normal	50.0	45	0.25	0.050	Min	0.032
	OPEN	0.029	6.2	Dry	10.0		0.10	0.020	Min	0.032

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
511	OPEN	0.033	7.1	Dry	10.0		0.10	0.020	Min	0.032
	M.D.R.	0.039	8.2	Normal	50.0	30	0.25	0.050	Min	0.031
	L.D.R.	0.042	8.9	Normal	50.0	15	0.30	0.050	Min	0.031
	PARK	0.071	15.0	Normal	90.0		0.20	0.100	Min	0.030
	M.D.R.	0.178	37.8	Normal	50.0	30	0.25	0.050	Min	0.027
512	COMM	0.003	1.2	Normal	75.0	80	0.10	0.020	Min	0.039
	OPEN	0.017	8.4	Dry	10.0		0.10	0.020	Min	0.033
	PARK	0.090	44.1	Normal	90.0		0.20	0.100	Min	0.029
	M.D.R.	0.095	46.3	Normal	50.0	30	0.25	0.050	Min	0.029
513	PARK	0.000	0.2	Normal	90.0		0.20	0.100	Min	0.047
	IND	0.008	13.8	Normal	60.0	55	0.15	0.030	Min	0.036
	IND	0.050	86.0	Normal	60.0	55	0.15	0.030	Min	0.031
514	OPEN	0.002	0.8	Dry	10.0		0.10	0.020	Min	0.039
	OPEN	0.002	0.8	Dry	10.0		0.10	0.020	Min	0.039
	COMM	0.003	1.2	Normal	75.0	80	0.10	0.020	Min	0.038
	COMM	0.004	1.5	Normal	75.0	80	0.10	0.020	Min	0.038
	IND	0.004	1.5	Normal	60.0	55	0.15	0.030	Min	0.038
	OPEN	0.004	1.6	Dry	10.0		0.10	0.020	Min	0.037
	OPEN	0.005	1.9	Dry	10.0		0.10	0.020	Min	0.037
	PARK	0.006	2.4	Normal	90.0		0.20	0.100	Min	0.036
	OPEN	0.007	2.8	Dry	10.0		0.10	0.020	Min	0.036
	OPEN	0.007	2.8	Dry	10.0		0.10	0.020	Min	0.036
	COMM	0.021	8.1	Normal	75.0	80	0.10	0.020	Min	0.033
	IND	0.022	8.3	Normal	60.0	55	0.15	0.030	Min	0.033
	OPEN	0.042	16.1	Dry	10.0		0.10	0.020	Min	0.031
	L.D.R.	0.131	50.4	Normal	50.0	15	0.30	0.050	Min	0.028
516	M.D.R.	0.001	0.2	Normal	50.0	30	0.25	0.050	Min	0.042
	M.D.R.	0.002	0.5	Normal	50.0	30	0.25	0.050	Min	0.039
	PARK	0.005	1.2	Normal	90.0		0.20	0.100	Min	0.037

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
	COMM	0.005	1.3	Normal	75.0	80	0.10	0.020	Min	0.037
	OPEN	0.006	1.6	Dry	10.0		0.10	0.020	Min	0.036
	V.L.D.R.	0.006	1.6	Normal	30.0	5	0.30	0.050	Min	0.036
	PARK	0.006	1.6	Normal	90.0		0.20	0.100	Min	0.036
	M.D.R.	0.006	1.8	Normal	50.0	30	0.25	0.050	Min	0.036
	M.D.R.	0.007	2.0	Normal	50.0	30	0.25	0.050	Min	0.036
	M.D.R.	0.007	2.0	Normal	50.0	30	0.25	0.050	Min	0.036
	COMM	0.010	2.8	Normal	75.0	80	0.10	0.020	Min	0.035
	M.D.R.	0.016	4.4	Normal	50.0	30	0.25	0.050	Min	0.034
	IND	0.016	4.5	Normal	60.0	55	0.15	0.030	Min	0.034
	COMM	0.021	5.7	Normal	75.0	80	0.10	0.020	Min	0.033
	M.D.R.	0.026	7.2	Normal	50.0	30	0.25	0.050	Min	0.032
	M.D.R.	0.040	11.1	Normal	50.0	30	0.25	0.050	Min	0.031
	M.D.R.	0.058	15.9	Normal	50.0	30	0.25	0.050	Min	0.030
	M.D.R.	0.064	17.8	Normal	50.0	30	0.25	0.050	Min	0.030
	OPEN	0.002	0.6	Dry	10.0		0.10	0.020	Min	0.039
	OPEN	0.003	0.8	Dry	10.0		0.10	0.020	Min	0.038
	M.D.R.	0.004	1.1	Normal	50.0	30	0.25	0.050	Min	0.037
	PARK	0.006	1.7	Normal	90.0		0.20	0.100	Min	0.036
	M.D.R.	0.007	1.9	Normal	50.0	30	0.25	0.050	Min	0.036
	IND	0.011	3.0	Normal	60.0	55	0.15	0.030	Min	0.035
	L.D.R.	0.013	3.6	Normal	50.0	15	0.30	0.050	Min	0.034
	COMM	0.014	3.8	Normal	75.0	80	0.10	0.020	Min	0.034
517	PARK	0.002	0.6	Normal	90.0		0.20	0.100	Min	0.039
	IND	0.004	1.1	Normal	60.0	55	0.15	0.030	Min	0.037
	OPEN	0.006	1.5	Dry	10.0		0.10	0.020	Min	0.037
	OPEN	0.008	2.4	Dry	10.0		0.10	0.020	Min	0.035
	IND	0.010	2.7	Normal	60.0	55	0.15	0.030	Min	0.035
	IND	0.025	6.9	Normal	60.0	55	0.15	0.030	Min	0.033
	COMM	0.028	7.9	Normal	75.0	80	0.10	0.020	Min	0.032

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
	M.D.R.	0.033	9.2	Normal	50.0	30	0.25	0.050	Min	0.032
	M.D.R.	0.059	16.7	Normal	50.0	30	0.25	0.050	Min	0.030
	IND	0.082	22.9	Normal	60.0	55	0.15	0.030	Min	0.029
	M.D.R.	0.100	28.1	Normal	50.0	30	0.25	0.050	Min	0.029
518	WATER	0.001	0.3	Wet		100			Min	0.041
	PARK	0.001	0.3	Normal	90.0		0.20	0.100	Min	0.040
	PARK	0.005	1.0	Normal	90.0		0.20	0.100	Min	0.037
	COMM	0.006	1.3	Normal	75.0	80	0.10	0.020	Min	0.036
	L.D.R.	0.006	1.4	Normal	50.0	15	0.30	0.050	Min	0.036
	ROWCROP	0.010	2.1	Normal	85.0		0.50	0.100	Low	0.069
	ROWCROP	0.011	2.3	Normal	85.0		0.50	0.100	Low	0.069
	COMM	0.015	3.1	Normal	75.0	80	0.10	0.020	Min	0.034
	PARK	0.018	3.8	Normal	90.0		0.20	0.100	Min	0.033
	OPEN	0.020	4.2	Dry	10.0		0.10	0.020	Min	0.033
	L.D.R.	0.029	6.2	Normal	50.0	15	0.30	0.050	Min	0.032
	M.D.R.	0.051	10.8	Normal	50.0	30	0.25	0.050	Min	0.031
	M.D.R.	0.054	11.6	Normal	50.0	30	0.25	0.050	Min	0.030
	M.D.R.	0.242	51.6	Normal	50.0	30	0.25	0.050	Min	0.026
519	IND	0.003	1.4	Normal	60.0	55	0.15	0.030	Min	0.038
	IND	0.009	3.5	Normal	60.0	55	0.15	0.030	Min	0.035
	M.D.R.	0.012	5.0	Normal	50.0	30	0.25	0.050	Min	0.034
	COMM	0.021	8.5	Normal	75.0	80	0.10	0.020	Min	0.033
	OPEN	0.038	15.5	Dry	10.0		0.10	0.020	Min	0.031
	OPEN	0.038	15.5	Dry	10.0		0.10	0.020	Min	0.031
	IND	0.054	21.8	Normal	60.0	55	0.15	0.030	Min	0.030
	IND	0.071	28.8	Normal	60.0	55	0.15	0.030	Min	0.030
520	IND	0.004	1.5	Normal	60.0	55	0.15	0.030	Min	0.038
	IND	0.004	1.6	Normal	60.0	55	0.15	0.030	Min	0.037
	IND	0.005	1.9	Normal	60.0	55	0.15	0.030	Min	0.037

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
520	IND	0.006	2.2	Normal	60.0	55	0.15	0.030	Min	0.037
	OPEN	0.007	2.8	Dry	10.0		0.10	0.020	Min	0.036
	PARK	0.009	3.4	Normal	90.0		0.20	0.100	Min	0.035
	OPEN	0.009	3.5	Dry	10.0		0.10	0.020	Min	0.035
	IND	0.013	5.4	Normal	60.0	55	0.15	0.030	Min	0.034
	M.F.R.	0.027	11.0	Normal	50.0	45	0.25	0.050	Min	0.032
	OPEN	0.046	18.6	Dry	10.0		0.10	0.020	Min	0.031
	OPEN	0.051	20.5	Dry	10.0		0.10	0.020	Min	0.031
	IND	0.069	27.7	Normal	60.0	55	0.15	0.030	Min	0.030
521	PARK	0.001	0.3	Normal	90.0		0.20	0.100	Min	0.041
	PARK	0.002	0.5	Normal	90.0		0.20	0.100	Min	0.040
	OPEN	0.004	1.0	Dry	10.0		0.10	0.020	Min	0.038
	M.D.R.	0.004	1.2	Normal	50.0	30	0.25	0.050	Min	0.037
	IND	0.004	1.2	Normal	60.0	55	0.15	0.030	Min	0.037
	COMM	0.005	1.5	Normal	75.0	80	0.10	0.020	Min	0.037
	IND	0.005	1.5	Normal	60.0	55	0.15	0.030	Min	0.037
	PARK	0.009	2.5	Normal	90.0		0.20	0.100	Min	0.035
	OPEN	0.013	3.8	Dry	10.0		0.10	0.020	Min	0.034
	COMM	0.032	9.2	Normal	75.0	80	0.10	0.020	Min	0.032
	L.D.R.	0.042	12.2	Normal	50.0	15	0.30	0.050	Min	0.031
	M.D.R.	0.082	23.6	Normal	50.0	30	0.25	0.050	Min	0.029
	M.D.R.	0.143	41.4	Normal	50.0	30	0.25	0.050	Min	0.028
522	PARK	0.001	0.1	Normal	90.0		0.20	0.100	Min	0.043
	M.D.R.	0.001	0.2	Normal	50.0	30	0.25	0.050	Min	0.040
	M.D.R.	0.002	0.2	Normal	50.0	30	0.25	0.050	Min	0.040
	IND	0.005	0.7	Normal	60.0	55	0.15	0.030	Min	0.037
	IND	0.005	0.7	Normal	60.0	55	0.15	0.030	Min	0.037
	COMM	0.006	0.9	Normal	75.0	80	0.10	0.020	Min	0.036
	IND	0.008	1.2	Normal	60.0	55	0.15	0.030	Min	0.035

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
522	PARK	0.011	1.5	Normal	90.0		0.20	0.100	Min	0.035
	L.D.R.	0.014	2.0	Normal	50.0	15	0.30	0.050	Min	0.034
	PARK	0.016	2.3	Normal	90.0		0.20	0.100	Min	0.034
	ROWCROP	0.018	2.6	Normal	85.0		0.50	0.100	Low	0.065
	M.D.R.	0.053	7.5	Normal	50.0	30	0.25	0.050	Min	0.030
	OPEN	0.013	1.8	Dry	10.0		0.10	0.020	Min	0.034
	COMM	0.048	6.8	Normal	75.0	80	0.10	0.020	Min	0.031
	SCHOOL	0.116	16.5	Normal	30.0	5	0.30		Min	0.028
	M.D.R.	0.389	55.1	Normal	50.0	30	0.25	0.050	Min	0.025
523	M.D.R.	0.013	5.3	Normal	50.0	30	0.25	0.050	Min	0.034
	M.D.R.	0.113	45.1	Normal	50.0	30	0.25	0.050	Min	0.028
	M.D.R.	0.124	49.6	Normal	50.0	30	0.25	0.050	Min	0.028
524	L.D.R.	0.016	4.3	Normal	50.0	15	0.30	0.050	Min	0.034
	OPEN	0.018	4.9	Dry	10.0		0.10	0.020	Min	0.033
	IND	0.020	5.5	Normal	60.0	55	0.15	0.030	Min	0.033
	M.D.R.	0.088	24.1	Normal	50.0	30	0.25	0.050	Min	0.029
	M.D.R.	0.103	28.2	Normal	50.0	30	0.25	0.050	Min	0.029
	L.D.R.	0.120	33.0	Normal	50.0	15	0.30	0.050	Min	0.028
525	V.L.D.R.	0.002	0.8	Normal	30.0	5	0.30	0.050	Min	0.040
	PARK	0.002	1.0	Normal	90.0		0.20	0.100	Min	0.039
	COMM	0.011	4.9	Normal	75.0	80	0.10	0.020	Min	0.035
	M.D.R.	0.181	82.7	Normal	50.0	30	0.25	0.050	Min	0.027
	L.D.R.	0.023	10.5	Normal	50.0	15	0.30	0.050	Min	0.033

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
500	OPEN	0.033	3.1	Dry	10.0		0.10	0.020	Min	0.032
	M.D.R.	0.579	54.7	Normal	50.0	30	0.25	0.050	Min	0.024
	M.F.R.	0.052	4.9	Normal	50.0	45	0.25	0.050	Min	0.030
	M.F.R.	0.017	1.6	Normal	50.0	45	0.25	0.050	Min	0.033
	COMM	0.121	11.5	Normal	75.0	80	0.10	0.020	Min	0.028
	SCHOOL	0.017	1.6	Normal	30.0	5	0.30		Min	0.034
	OPEN	0.008	0.7	Dry	10.0		0.10	0.020	Min	0.036
	OPEN	0.005	0.5	Dry	10.0		0.10	0.020	Min	0.037
	COMM	0.062	5.9	Normal	75.0	80	0.10	0.020	Min	0.030
	OPEN	0.013	1.2	Dry	10.0		0.10	0.020	Min	0.034
	OPEN	0.016	1.5	Dry	10.0		0.10	0.020	Min	0.034
	COMM	0.017	1.6	Normal	75.0	80	0.10	0.020	Min	0.034
	L.D.R.	0.006	0.6	Normal	50.0	15	0.30	0.050	Min	0.036
	OPEN	0.004	0.4	Dry	10.0		0.10	0.020	Min	0.037
	COMM	0.003	0.3	Normal	75.0	80	0.10	0.020	Min	0.038
	M.D.R.	0.005	0.5	Normal	50.0	30	0.25	0.050	Min	0.037
	COMM	0.007	0.6	Normal	75.0	80	0.10	0.020	Min	0.036
	COMM	0.003	0.2	Normal	75.0	80	0.10	0.020	Min	0.039
	COMM	0.001	0.1	Normal	75.0	80	0.10	0.020	Min	0.040
	OPEN	0.001	0.1	Dry	10.0		0.10	0.020	Min	0.041
	OPEN	0.087	8.3	Dry	10.0		0.10	0.020	Min	0.029
501	OPEN	0.000		Dry	10.0		0.10	0.020	Min	0.046
	M.D.R.	0.000		Normal	50.0	30	0.25	0.050	Min	0.046
	L.D.R.	0.001	0.1	Normal	50.0	15	0.30	0.050	Min	0.041
	PARK	0.002	0.2	Normal	90.0		0.20	0.100	Min	0.039
	COMM	0.002	0.2	Normal	75.0	80	0.10	0.020	Min	0.039
	COMM	0.002	0.2	Normal	75.0	80	0.10	0.020	Min	0.039
	COMM	0.003	0.3	Normal	75.0	80	0.10	0.020	Min	0.038
	OPEN	0.003	0.3	Dry	10.0		0.10	0.020	Min	0.038
	COMM	0.003	0.3	Normal	75.0	80	0.10	0.020	Min	0.038

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
	PARK	0.004	0.3	Normal	90.0		0.20	0.100	Min	0.038
	COMM	0.004	0.3	Normal	75.0	80	0.10	0.020	Min	0.038
	COMM	0.004	0.3	Normal	75.0	80	0.10	0.020	Min	0.038
	PARK	0.005	0.4	Normal	90.0		0.20	0.100	Min	0.037
	COMM	0.007	0.5	Normal	75.0	80	0.10	0.020	Min	0.036
	PARK	0.007	0.6	Normal	90.0		0.20	0.100	Min	0.036
	COMM	0.007	0.6	Normal	75.0	80	0.10	0.020	Min	0.036
	PARK	0.008	0.6	Normal	90.0		0.20	0.100	Min	0.036
	OPEN	0.009	0.7	Dry	10.0		0.10	0.020	Min	0.035
	COMM	0.011	0.9	Normal	75.0	80	0.10	0.020	Min	0.035
	COMM	0.015	1.2	Normal	75.0	80	0.10	0.020	Min	0.034
	IND	0.015	1.2	Normal	60.0	55	0.15	0.030	Min	0.034
	OPEN	0.017	1.4	Dry	10.0		0.10	0.020	Min	0.034
	SCHOOL	0.018	1.5	Normal	30.0	5	0.30		Min	0.033
	M.D.R.	0.019	1.6	Normal	50.0	30	0.25	0.050	Min	0.033
	M.F.R.	0.022	1.8	Normal	50.0	45	0.25	0.050	Min	0.033
	OPEN	0.024	1.9	Dry	10.0		0.10	0.020	Min	0.033
	OPEN	0.025	2.0	Dry	10.0		0.10	0.020	Min	0.033
	COMM	0.026	2.1	Normal	75.0	80	0.10	0.020	Min	0.032
	COMM	0.026	2.1	Normal	75.0	80	0.10	0.020	Min	0.032
	SCHOOL	0.031	2.5	Normal	30.0	5	0.30		Min	0.032
	M.D.R.	0.063	5.1	Normal	50.0	30	0.25	0.050	Min	0.030
	M.D.R.	0.291	23.6	Normal	50.0	30	0.25	0.050	Min	0.026
	L.D.R.	0.560	45.4	Normal	50.0	15	0.30	0.050	Min	0.024
502	PARK	0.001	0.1	Normal	90.0		0.20	0.100	Min	0.042
	PARK	0.002	0.1	Normal	90.0		0.20	0.100	Min	0.040
	PARK	0.002	0.1	Normal	90.0		0.20	0.100	Min	0.040
	PARK	0.002	0.2	Normal	90.0		0.20	0.100	Min	0.040
	PARK	0.002	0.2	Normal	90.0		0.20	0.100	Min	0.039
	PARK	0.002	0.2	Normal	90.0		0.20	0.100	Min	0.039

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
	PARK	0.003	0.3	Normal	90.0		0.20	0.100	Min	0.039
	PARK	0.003	0.3	Normal	90.0		0.20	0.100	Min	0.039
	OPEN	0.004	0.4	Dry	10.0		0.10	0.020	Min	0.038
	IND	0.005	0.5	Normal	60.0	55	0.15	0.030	Min	0.037
	COMM	0.006	0.6	Normal	75.0	80	0.10	0.020	Min	0.036
	PARK	0.006	0.6	Normal	90.0		0.20	0.100	Min	0.036
	COMM	0.007	0.6	Normal	75.0	80	0.10	0.020	Min	0.036
	COMM	0.008	0.8	Normal	75.0	80	0.10	0.020	Min	0.035
	COMM	0.009	0.8	Normal	75.0	80	0.10	0.020	Min	0.035
	OPEN	0.010	1.0	Dry	10.0		0.10	0.020	Min	0.035
	OPEN	0.010	1.0	Dry	10.0		0.10	0.020	Min	0.035
	M.F.R.	0.011	1.1	Normal	50.0	45	0.25	0.050	Min	0.035
	IND	0.014	1.3	Normal	60.0	55	0.15	0.030	Min	0.034
	IND	0.015	1.4	Normal	60.0	55	0.15	0.030	Min	0.034
	M.D.R.	0.015	1.5	Normal	50.0	30	0.25	0.050	Min	0.034
	PARK	0.016	1.6	Normal	90.0		0.20	0.100	Min	0.034
	M.F.R.	0.016	1.6	Normal	50.0	45	0.25	0.050	Min	0.034
	OPEN	0.017	1.6	Dry	10.0		0.10	0.020	Min	0.034
	IND	0.018	1.8	Normal	60.0	55	0.15	0.030	Min	0.033
	COMM	0.044	4.3	Normal	75.0	80	0.10	0.020	Min	0.031
	M.D.R.	0.068	6.7	Normal	50.0	30	0.25	0.050	Min	0.030
	M.D.R.	0.086	8.4	Normal	50.0	30	0.25	0.050	Min	0.029
	ROWCROP	0.136	13.4	Normal	85.0		0.50	0.100	Low	0.053
	M.D.R.	0.209	20.6	Normal	50.0	30	0.25	0.050	Min	0.027
	M.D.R.	0.272	26.8	Normal	50.0	30	0.25	0.050	Min	0.026
503	OPEN	0.002	0.1	Dry	10.0		0.10	0.020	Min	0.039
	OPEN	0.003	0.2	Dry	10.0		0.10	0.020	Min	0.039
	COMM	0.062	4.3	Normal	75.0	80	0.10	0.020	Min	0.030
	OPEN	0.003	0.2	Dry	10.0		0.10	0.020	Min	0.038
	PARK	0.003	0.2	Normal	90.0		0.20	0.100	Min	0.038

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
	COMM	0.006	0.4	Normal	75.0	80	0.10	0.020	Min	0.037
	OPEN	0.007	0.5	Dry	10.0		0.10	0.020	Min	0.036
	IND	0.007	0.5	Normal	60.0	55	0.15	0.030	Min	0.036
	COMM	0.007	0.5	Normal	75.0	80	0.10	0.020	Min	0.036
	IND	0.008	0.5	Normal	60.0	55	0.15	0.030	Min	0.036
	M.D.R.	0.009	0.6	Normal	50.0	30	0.25	0.050	Min	0.035
	IND	0.010	0.7	Normal	60.0	55	0.15	0.030	Min	0.035
	OPEN	0.012	0.8	Dry	10.0		0.10	0.020	Min	0.035
	L.D.R.	0.026	1.8	Normal	50.0	15	0.30	0.050	Min	0.032
	OPEN	0.035	2.4	Dry	10.0		0.10	0.020	Min	0.032
	M.D.R.	0.056	3.9	Normal	50.0	30	0.25	0.050	Min	0.030
	M.D.R.	0.067	4.7	Normal	50.0	30	0.25	0.050	Min	0.030
	IND	0.080	5.6	Normal	60.0	55	0.15	0.030	Min	0.029
	L.D.R.	0.093	6.5	Normal	50.0	15	0.30	0.050	Min	0.029
	IND	0.119	8.3	Normal	60.0	55	0.15	0.030	Min	0.028
	IND	0.129	9.0	Normal	60.0	55	0.15	0.030	Min	0.028
	COMM	0.073	5.1	Normal	75.0	80	0.10	0.020	Min	0.030
	OPEN	0.021	1.5	Dry	10.0		0.10	0.020	Min	0.033
	COMM	0.050	3.5	Normal	75.0	80	0.10	0.020	Min	0.031
	COMM	0.019	1.3	Normal	75.0	80	0.10	0.020	Min	0.033
	OPEN	0.010	0.7	Dry	10.0		0.10	0.020	Min	0.035
	COMM	0.003	0.2	Normal	75.0	80	0.10	0.020	Min	0.039
	COMM	0.082	5.8	Normal	75.0	80	0.10	0.020	Min	0.029
	COMM	0.007	0.5	Normal	75.0	80	0.10	0.020	Min	0.036
	COMM	0.005	0.3	Normal	75.0	80	0.10	0.020	Min	0.037
	COMM	0.001	0.1	Normal	75.0	80	0.10	0.020	Min	0.041
	OPEN	0.003	0.2	Dry	10.0		0.10	0.020	Min	0.038
	OPEN	0.033	2.3	Dry	10.0		0.10	0.020	Min	0.032
	COMM	0.027	1.9	Normal	75.0	80	0.10	0.020	Min	0.032
	ROWCROP	0.083	5.8	Normal	85.0		0.50	0.100	Low	0.056

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
503	COMM	0.012	0.8	Normal	75.0	80	0.10	0.020	Min	0.035
	OPEN	0.053	3.7	Dry	10.0		0.10	0.020	Min	0.030
	M.D.R.	0.024	1.7	Normal	50.0	30	0.25	0.050	Min	0.033
	COMM	0.059	4.1	Normal	75.0	80	0.10	0.020	Min	0.030
	COMM	0.011	0.7	Normal	75.0	80	0.10	0.020	Min	0.035
	ROWCROP	0.053	3.7	Normal	85.0		0.50	0.100	Low	0.059
	COMM	0.060	4.2	Normal	75.0	80	0.10	0.020	Min	0.030
	OPEN	0.001	0.1	Dry	10.0		0.10	0.020	Min	0.040
504	IND	0.003	0.8	Normal	60.0	55	0.15	0.030	Min	0.039
	IND	0.003	0.9	Normal	60.0	55	0.15	0.030	Min	0.038
	IND	0.004	1.3	Normal	60.0	55	0.15	0.030	Min	0.037
	IND	0.009	2.7	Normal	60.0	55	0.15	0.030	Min	0.035
	COMM	0.018	5.7	Normal	75.0	80	0.10	0.020	Min	0.033
	IND	0.019	5.8	Normal	60.0	55	0.15	0.030	Min	0.033
	IND	0.023	7.0	Normal	60.0	55	0.15	0.030	Min	0.033
	IND	0.072	22.4	Normal	60.0	55	0.15	0.030	Min	0.030
	OPEN	0.172	53.5	Dry	10.0		0.10	0.020	Min	0.027
505	COMM	0.015	39.7	Normal	75.0	80	0.10	0.020	Min	0.034
	COMM	0.023	60.3	Normal	75.0	80	0.10	0.020	Min	0.033
506	COMM	0.004	1.2	Normal	75.0	80	0.10	0.020	Min	0.037
	M.D.R.	0.004	1.2	Normal	50.0	30	0.25	0.050	Min	0.037
	COMM	0.005	1.4	Normal	75.0	80	0.10	0.020	Min	0.037
	IND	0.005	1.5	Normal	60.0	55	0.15	0.030	Min	0.037
	OPEN	0.011	3.2	Dry	10.0		0.10	0.020	Min	0.035
	M.D.R.	0.022	6.3	Normal	50.0	30	0.25	0.050	Min	0.033
	M.D.R.	0.120	34.5	Normal	50.0	30	0.25	0.050	Min	0.028
	PARK	0.176	50.8	Normal	90.0		0.20	0.100	Min	0.027
507	IND	0.003	0.3	Normal	60.0	55	0.15	0.030	Min	0.039
	COMM	0.003	0.3	Normal	75.0	80	0.10	0.020	Min	0.039

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
	OPEN	0.003	0.4	Dry	10.0		0.10	0.020	Min	0.038
	OPEN	0.005	0.6	Dry	10.0		0.10	0.020	Min	0.037
	OPEN	0.006	0.7	Dry	10.0		0.10	0.020	Min	0.037
	M.D.R.	0.007	0.9	Normal	50.0	30	0.25	0.050	Min	0.036
	IND	0.008	1.0	Normal	60.0	55	0.15	0.030	Min	0.036
	OPEN	0.013	1.7	Dry	10.0		0.10	0.020	Min	0.034
	COMM	0.014	1.8	Normal	75.0	80	0.10	0.020	Min	0.034
	COMM	0.018	2.3	Normal	75.0	80	0.10	0.020	Min	0.033
	COMM	0.018	2.3	Normal	75.0	80	0.10	0.020	Min	0.033
	OPEN	0.019	2.4	Dry	10.0		0.10	0.020	Min	0.033
	COMM	0.021	2.6	Normal	75.0	80	0.10	0.020	Min	0.033
	COMM	0.034	4.4	Normal	75.0	80	0.10	0.020	Min	0.032
	OPEN	0.056	7.1	Dry	10.0		0.10	0.020	Min	0.030
	M.F.R.	0.068	8.6	Normal	50.0	45	0.25	0.050	Min	0.030
	IND	0.070	8.9	Normal	60.0	55	0.15	0.030	Min	0.030
	COMM	0.096	12.2	Normal	75.0	80	0.10	0.020	Min	0.029
	IND	0.098	12.5	Normal	60.0	55	0.15	0.030	Min	0.029
	COMM	0.169	21.4	Normal	75.0	80	0.10	0.020	Min	0.027
	COMM	0.005	0.6	Normal	75.0	80	0.10	0.020	Min	0.037
	OPEN	0.056	7.1	Dry	10.0		0.10	0.020	Min	0.030
508	L.D.R.	0.000		Normal	50.0	15	0.30	0.050	Min	0.047
	WATER	0.001	0.2	Wet		100			Min	0.041
	M.D.R.	0.004	0.9	Normal	50.0	30	0.25	0.050	Min	0.037
	IND	0.008	1.6	Normal	60.0	55	0.15	0.030	Min	0.036
	OPEN	0.009	1.7	Dry	10.0		0.10	0.020	Min	0.035
	IND	0.010	2.0	Normal	60.0	55	0.15	0.030	Min	0.035
	ROWCROP	0.016	3.2	Normal	85.0		0.50	0.100	Low	0.066
	SCHOOL	0.016	3.2	Normal	30.0	5	0.30		Min	0.034
	COMM	0.017	3.5	Normal	75.0	80	0.10	0.020	Min	0.034
	M.F.R.	0.026	5.4	Normal	50.0	45	0.25	0.050	Min	0.032

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
	COMM	0.037	7.5	Normal	75.0	80	0.10	0.020	Min	0.031
	M.D.R.	0.125	25.6	Normal	50.0	30	0.25	0.050	Min	0.028
	L.D.R.	0.220	45.1	Normal	50.0	15	0.30	0.050	Min	0.027
509	IND	0.001	0.4	Normal	60.0	55	0.15	0.030	Min	0.040
	COMM	0.002	0.5	Normal	75.0	80	0.10	0.020	Min	0.039
	COMM	0.005	1.4	Normal	75.0	80	0.10	0.020	Min	0.037
	OPEN	0.008	2.2	Dry	10.0		0.10	0.020	Min	0.036
	COMM	0.018	4.8	Normal	75.0	80	0.10	0.020	Min	0.033
	IND	0.019	5.1	Normal	60.0	55	0.15	0.030	Min	0.033
	IND	0.020	5.3	Normal	60.0	55	0.15	0.030	Min	0.033
	M.D.R.	0.025	6.6	Normal	50.0	30	0.25	0.050	Min	0.033
	IND	0.028	7.5	Normal	60.0	55	0.15	0.030	Min	0.032
	M.F.R.	0.035	9.4	Normal	50.0	45	0.25	0.050	Min	0.032
	M.D.R.	0.052	14.1	Normal	50.0	30	0.25	0.050	Min	0.030
	OPEN	0.071	19.2	Dry	10.0		0.10	0.020	Min	0.030
	IND	0.087	23.6	Normal	60.0	55	0.15	0.030	Min	0.029
510	PARK	0.003	2.5	Normal	90.0		0.20	0.100	Min	0.038
	IND	0.006	4.8	Normal	60.0	55	0.15	0.030	Min	0.036
	OPEN	0.009	7.2	Dry	10.0		0.10	0.020	Min	0.035
	IND	0.019	14.8	Normal	60.0	55	0.15	0.030	Min	0.033
	IND	0.092	70.8	Normal	60.0	55	0.15	0.030	Min	0.029
511	WATER	0.001	0.1	Wet		100			Min	0.043
	PARK	0.003	0.6	Normal	90.0		0.20	0.100	Min	0.038
	SCHOOL	0.007	1.5	Normal	30.0	5	0.30		Min	0.036
	OPEN	0.010	2.0	Dry	10.0		0.10	0.020	Min	0.035
	M.D.R.	0.013	2.7	Normal	50.0	30	0.25	0.050	Min	0.034
	IND	0.018	3.7	Normal	60.0	55	0.15	0.030	Min	0.033
	M.F.R.	0.029	6.1	Normal	50.0	45	0.25	0.050	Min	0.032
	OPEN	0.029	6.2	Dry	10.0		0.10	0.020	Min	0.032

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
511	OPEN	0.033	7.1	Dry	10.0		0.10	0.020	Min	0.032
	M.D.R.	0.039	8.2	Normal	50.0	30	0.25	0.050	Min	0.031
	L.D.R.	0.042	8.9	Normal	50.0	15	0.30	0.050	Min	0.031
	PARK	0.071	15.0	Normal	90.0		0.20	0.100	Min	0.030
	M.D.R.	0.178	37.8	Normal	50.0	30	0.25	0.050	Min	0.027
512	COMM	0.003	1.2	Normal	75.0	80	0.10	0.020	Min	0.039
	OPEN	0.017	8.4	Dry	10.0		0.10	0.020	Min	0.033
	PARK	0.090	44.1	Normal	90.0		0.20	0.100	Min	0.029
	M.D.R.	0.095	46.3	Normal	50.0	30	0.25	0.050	Min	0.029
513	PARK	0.000	0.2	Normal	90.0		0.20	0.100	Min	0.047
	IND	0.008	13.8	Normal	60.0	55	0.15	0.030	Min	0.036
	IND	0.050	86.0	Normal	60.0	55	0.15	0.030	Min	0.031
514	OPEN	0.002	0.8	Dry	10.0		0.10	0.020	Min	0.039
	OPEN	0.002	0.8	Dry	10.0		0.10	0.020	Min	0.039
	COMM	0.003	1.2	Normal	75.0	80	0.10	0.020	Min	0.038
	COMM	0.004	1.5	Normal	75.0	80	0.10	0.020	Min	0.038
	IND	0.004	1.5	Normal	60.0	55	0.15	0.030	Min	0.038
	OPEN	0.004	1.6	Dry	10.0		0.10	0.020	Min	0.037
	OPEN	0.005	1.9	Dry	10.0		0.10	0.020	Min	0.037
	PARK	0.006	2.4	Normal	90.0		0.20	0.100	Min	0.036
	OPEN	0.007	2.8	Dry	10.0		0.10	0.020	Min	0.036
	OPEN	0.007	2.8	Dry	10.0		0.10	0.020	Min	0.036
	COMM	0.021	8.1	Normal	75.0	80	0.10	0.020	Min	0.033
	IND	0.022	8.3	Normal	60.0	55	0.15	0.030	Min	0.033
	OPEN	0.042	16.1	Dry	10.0		0.10	0.020	Min	0.031
	L.D.R.	0.131	50.4	Normal	50.0	15	0.30	0.050	Min	0.028
516	M.D.R.	0.001	0.2	Normal	50.0	30	0.25	0.050	Min	0.042
	M.D.R.	0.002	0.5	Normal	50.0	30	0.25	0.050	Min	0.039
	PARK	0.005	1.2	Normal	90.0		0.20	0.100	Min	0.037

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
	COMM	0.005	1.3	Normal	75.0	80	0.10	0.020	Min	0.037
	OPEN	0.006	1.6	Dry	10.0		0.10	0.020	Min	0.036
	V.L.D.R.	0.006	1.6	Normal	30.0	5	0.30	0.050	Min	0.036
	PARK	0.006	1.6	Normal	90.0		0.20	0.100	Min	0.036
	M.D.R.	0.006	1.8	Normal	50.0	30	0.25	0.050	Min	0.036
	M.D.R.	0.007	2.0	Normal	50.0	30	0.25	0.050	Min	0.036
	M.D.R.	0.007	2.0	Normal	50.0	30	0.25	0.050	Min	0.036
	COMM	0.010	2.8	Normal	75.0	80	0.10	0.020	Min	0.035
	M.D.R.	0.016	4.4	Normal	50.0	30	0.25	0.050	Min	0.034
	IND	0.016	4.5	Normal	60.0	55	0.15	0.030	Min	0.034
	COMM	0.021	5.7	Normal	75.0	80	0.10	0.020	Min	0.033
	M.D.R.	0.026	7.2	Normal	50.0	30	0.25	0.050	Min	0.032
	M.D.R.	0.040	11.1	Normal	50.0	30	0.25	0.050	Min	0.031
	M.D.R.	0.058	15.9	Normal	50.0	30	0.25	0.050	Min	0.030
	M.D.R.	0.064	17.8	Normal	50.0	30	0.25	0.050	Min	0.030
	OPEN	0.002	0.6	Dry	10.0		0.10	0.020	Min	0.039
	OPEN	0.003	0.8	Dry	10.0		0.10	0.020	Min	0.038
	M.D.R.	0.004	1.1	Normal	50.0	30	0.25	0.050	Min	0.037
	PARK	0.006	1.7	Normal	90.0		0.20	0.100	Min	0.036
	M.D.R.	0.007	1.9	Normal	50.0	30	0.25	0.050	Min	0.036
	IND	0.011	3.0	Normal	60.0	55	0.15	0.030	Min	0.035
	L.D.R.	0.013	3.6	Normal	50.0	15	0.30	0.050	Min	0.034
	COMM	0.014	3.8	Normal	75.0	80	0.10	0.020	Min	0.034
517	PARK	0.002	0.6	Normal	90.0		0.20	0.100	Min	0.039
	IND	0.004	1.1	Normal	60.0	55	0.15	0.030	Min	0.037
	OPEN	0.006	1.5	Dry	10.0		0.10	0.020	Min	0.037
	OPEN	0.008	2.4	Dry	10.0		0.10	0.020	Min	0.035
	IND	0.010	2.7	Normal	60.0	55	0.15	0.030	Min	0.035
	IND	0.025	6.9	Normal	60.0	55	0.15	0.030	Min	0.033
	COMM	0.028	7.9	Normal	75.0	80	0.10	0.020	Min	0.032

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
	M.D.R.	0.033	9.2	Normal	50.0	30	0.25	0.050	Min	0.032
	M.D.R.	0.059	16.7	Normal	50.0	30	0.25	0.050	Min	0.030
	IND	0.082	22.9	Normal	60.0	55	0.15	0.030	Min	0.029
	M.D.R.	0.100	28.1	Normal	50.0	30	0.25	0.050	Min	0.029
518	WATER	0.001	0.3	Wet		100			Min	0.041
	PARK	0.001	0.3	Normal	90.0		0.20	0.100	Min	0.040
	PARK	0.005	1.0	Normal	90.0		0.20	0.100	Min	0.037
	COMM	0.006	1.3	Normal	75.0	80	0.10	0.020	Min	0.036
	L.D.R.	0.006	1.4	Normal	50.0	15	0.30	0.050	Min	0.036
	ROWCROP	0.010	2.1	Normal	85.0		0.50	0.100	Low	0.069
	ROWCROP	0.011	2.3	Normal	85.0		0.50	0.100	Low	0.069
	COMM	0.015	3.1	Normal	75.0	80	0.10	0.020	Min	0.034
	PARK	0.018	3.8	Normal	90.0		0.20	0.100	Min	0.033
	OPEN	0.020	4.2	Dry	10.0		0.10	0.020	Min	0.033
	L.D.R.	0.029	6.2	Normal	50.0	15	0.30	0.050	Min	0.032
	M.D.R.	0.051	10.8	Normal	50.0	30	0.25	0.050	Min	0.031
	M.D.R.	0.054	11.6	Normal	50.0	30	0.25	0.050	Min	0.030
	M.D.R.	0.242	51.6	Normal	50.0	30	0.25	0.050	Min	0.026
519	IND	0.003	1.4	Normal	60.0	55	0.15	0.030	Min	0.038
	IND	0.009	3.5	Normal	60.0	55	0.15	0.030	Min	0.035
	M.D.R.	0.012	5.0	Normal	50.0	30	0.25	0.050	Min	0.034
	COMM	0.021	8.5	Normal	75.0	80	0.10	0.020	Min	0.033
	OPEN	0.038	15.5	Dry	10.0		0.10	0.020	Min	0.031
	OPEN	0.038	15.5	Dry	10.0		0.10	0.020	Min	0.031
	IND	0.054	21.8	Normal	60.0	55	0.15	0.030	Min	0.030
	IND	0.071	28.8	Normal	60.0	55	0.15	0.030	Min	0.030
520	IND	0.004	1.5	Normal	60.0	55	0.15	0.030	Min	0.038
	IND	0.004	1.6	Normal	60.0	55	0.15	0.030	Min	0.037
	IND	0.005	1.9	Normal	60.0	55	0.15	0.030	Min	0.037

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
520	IND	0.006	2.2	Normal	60.0	55	0.15	0.030	Min	0.037
	OPEN	0.007	2.8	Dry	10.0		0.10	0.020	Min	0.036
	PARK	0.009	3.4	Normal	90.0		0.20	0.100	Min	0.035
	OPEN	0.009	3.5	Dry	10.0		0.10	0.020	Min	0.035
	IND	0.013	5.4	Normal	60.0	55	0.15	0.030	Min	0.034
	M.F.R.	0.027	11.0	Normal	50.0	45	0.25	0.050	Min	0.032
	OPEN	0.046	18.6	Dry	10.0		0.10	0.020	Min	0.031
	OPEN	0.051	20.5	Dry	10.0		0.10	0.020	Min	0.031
	IND	0.069	27.7	Normal	60.0	55	0.15	0.030	Min	0.030
521	PARK	0.001	0.3	Normal	90.0		0.20	0.100	Min	0.041
	PARK	0.002	0.5	Normal	90.0		0.20	0.100	Min	0.040
	OPEN	0.004	1.0	Dry	10.0		0.10	0.020	Min	0.038
	M.D.R.	0.004	1.2	Normal	50.0	30	0.25	0.050	Min	0.037
	IND	0.004	1.2	Normal	60.0	55	0.15	0.030	Min	0.037
	COMM	0.005	1.5	Normal	75.0	80	0.10	0.020	Min	0.037
	IND	0.005	1.5	Normal	60.0	55	0.15	0.030	Min	0.037
	PARK	0.009	2.5	Normal	90.0		0.20	0.100	Min	0.035
	OPEN	0.013	3.8	Dry	10.0		0.10	0.020	Min	0.034
	COMM	0.032	9.2	Normal	75.0	80	0.10	0.020	Min	0.032
	L.D.R.	0.042	12.2	Normal	50.0	15	0.30	0.050	Min	0.031
	M.D.R.	0.082	23.6	Normal	50.0	30	0.25	0.050	Min	0.029
	M.D.R.	0.143	41.4	Normal	50.0	30	0.25	0.050	Min	0.028
522	PARK	0.001	0.1	Normal	90.0		0.20	0.100	Min	0.043
	M.D.R.	0.001	0.2	Normal	50.0	30	0.25	0.050	Min	0.040
	M.D.R.	0.002	0.2	Normal	50.0	30	0.25	0.050	Min	0.040
	IND	0.005	0.7	Normal	60.0	55	0.15	0.030	Min	0.037
	IND	0.005	0.7	Normal	60.0	55	0.15	0.030	Min	0.037
	COMM	0.006	0.9	Normal	75.0	80	0.10	0.020	Min	0.036
	IND	0.008	1.2	Normal	60.0	55	0.15	0.030	Min	0.035

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
522	PARK	0.011	1.5	Normal	90.0		0.20	0.100	Min	0.035
	L.D.R.	0.014	2.0	Normal	50.0	15	0.30	0.050	Min	0.034
	PARK	0.016	2.3	Normal	90.0		0.20	0.100	Min	0.034
	ROWCROP	0.018	2.6	Normal	85.0		0.50	0.100	Low	0.065
	M.D.R.	0.053	7.5	Normal	50.0	30	0.25	0.050	Min	0.030
	OPEN	0.013	1.8	Dry	10.0		0.10	0.020	Min	0.034
	COMM	0.048	6.8	Normal	75.0	80	0.10	0.020	Min	0.031
	SCHOOL	0.116	16.5	Normal	30.0	5	0.30		Min	0.028
	M.D.R.	0.389	55.1	Normal	50.0	30	0.25	0.050	Min	0.025
523	M.D.R.	0.013	5.3	Normal	50.0	30	0.25	0.050	Min	0.034
	M.D.R.	0.113	45.1	Normal	50.0	30	0.25	0.050	Min	0.028
	M.D.R.	0.124	49.6	Normal	50.0	30	0.25	0.050	Min	0.028
524	L.D.R.	0.016	4.3	Normal	50.0	15	0.30	0.050	Min	0.034
	OPEN	0.018	4.9	Dry	10.0		0.10	0.020	Min	0.033
	IND	0.020	5.5	Normal	60.0	55	0.15	0.030	Min	0.033
	M.D.R.	0.088	24.1	Normal	50.0	30	0.25	0.050	Min	0.029
	M.D.R.	0.103	28.2	Normal	50.0	30	0.25	0.050	Min	0.029
	L.D.R.	0.120	33.0	Normal	50.0	15	0.30	0.050	Min	0.028
525	V.L.D.R.	0.002	0.8	Normal	30.0	5	0.30	0.050	Min	0.040
	PARK	0.002	1.0	Normal	90.0		0.20	0.100	Min	0.039
	COMM	0.011	4.9	Normal	75.0	80	0.10	0.020	Min	0.035
	M.D.R.	0.181	82.7	Normal	50.0	30	0.25	0.050	Min	0.027
	L.D.R.	0.023	10.5	Normal	50.0	15	0.30	0.050	Min	0.033

* Custom Value (not default value)

DS & DN.3 Routing Data

CHANDLER/GILBERT
PHASE 3 - SOUTH, UPRR/ARIZONA AVE. WATERSHED
ROUTE DATA

CP FROM	CP TO	Route Length (ft)	Upstream Elevation (ft)	Downstream Elevation (ft)	SLOPE (ft/ft)	Velocity fps	NSTPS time step (5min)	n_1	n_2	n_3
605	606	4,033	1220.42	1216.67	0.0009	3.50	4	0.03	0.015	0.03
604	607	1,732	1212.52	1210.04	0.0014	3.50	2	0.035	0.015	0.03
608	609	6,425	1222.76	1213.86	0.0014	3.50	7	0.03	0.015	0.03
609	611	2,613	1220.60	1211.90	0.0033	3.50	3	0.03	0.015	0.03
612	614	1,352	1221.86	1217.00	0.0036	3.50	2	0.03	0.015	0.03
406	617	3,807	1235.32	1223.24	0.0032	3.50	4	0.03	0.015	0.03
617	614	1,379	1223.24	1217.00	0.0045	3.50	2	0.03	0.015	0.03
614	615	5,124	1217.00	1211.06	0.0001	3.50	5	0.03	0.015	0.03
612	615	3,867	1221.86	1215.49	0.0016	3.50	4	0.03	0.015	0.03
617	618	2,733	1223.24	1215.68	0.0028	3.50	3	0.03	0.015	0.03
622	624	2,357	1216.29	1215.42	0.0004	3.50	3	0.035	0.015	0.035
525	605	5,588	1230.00	1220.40	0.0017	3.50	6	0.03	0.015	0.03
600	601	5,693	1220.00	1215.14	0.0009	3.50	6	0.03	0.015	0.03
524	600	9,178	1234.00	1220.00	0.0015	3.50	9	0.03	0.015	0.03

Flood Control District of Maricopa County
MARI40_SW_6HR - CHANDLER/GILBERT FDS PHASE 3 SOUTH

Routing Data - Normal Depth

3/9/2009

Basin	Reach ID	RS Card NSTPS	RC Card ANL	ANCH	ANR	RLNTH (ft)	SEL (ft/ft)	ELMAX	RX and RY Cards	1	2	LB	4	5	RB	7	8
01	605606	4	0.030	0.015	0.030	4033	0.0009	2.00	Sta	0.0	0.0	60.0	60.0	140.0	140.0	200.0	200.0
									Elev	2.0	1.0	0.5	0.0	0.0	0.5	1.0	2.0
01	604607	2	0.035	0.015	0.030	1732	0.0014		Sta	0.0	0.0	23.5	23.5	106.5	106.5	130.0	130.0
									Elev	1.9	0.9	0.5	0.0	0.0	0.5	0.9	1.9
01	612614	2	0.030	0.015	0.030	1352	0.0036		Sta	0.0	300.0	307.5	329.9	330.0	352.5	360.0	660.0
									Elev	0.6	0.0	1.3	1.7	1.7	1.3	0.0	0.6
01	617614	2	0.030	0.015	0.030	1379	0.0045		Sta	0.0	300.0	307.5	329.9	330.0	352.5	360.0	660.0
									Elev	0.6	0.0	1.3	1.7	1.7	1.3	0.0	0.6
01	614615	5	0.030	0.015	0.030	5124	0.0001	3.00	Sta	0.0	170.0	190.0	250.0	290.0	310.0	660.0	1060.0
									Elev	1.0	0.8	0.5	0.0	0.0	0.5	1.0	3.0
01	612615	4	0.030	0.015	0.030	3867	0.0016	2.11	Sta	0.0	300.0	311.0	324.9	325.0	339.0	350.0	650.0
									Elev	0.6	0.0	1.8	2.1	2.1	1.8	0.0	0.6
01	617618	3	0.030	0.015	0.030	2733	0.0028	1.25	Sta	0.0	300.0	307.5	329.9	330.0	352.5	360.0	660.0
									Elev	0.6	0.0	1.3	1.7	1.7	1.3	0.0	0.6
01	622624	3	0.035	0.015	0.035	2357	0.0004	1.85	Sta	0.0	0.0	23.5	23.5	106.5	106.5	130.0	130.0
									Elev	1.9	0.9	0.5	0.0	0.0	0.5	0.9	1.9
01	608609	7	0.030	0.015	0.030	6425	0.0014		Sta	0.0	300.0	311.0	324.9	325.0	339.0	350.0	650.0
									Elev	0.6	0.0	1.8	2.1	2.1	1.8	0.0	0.6
01	609611	3	0.030	0.015	0.030	2613	0.0033		Sta	0.0	300.0	307.5	329.9	330.0	352.5	360.0	660.0
									Elev	0.6	0.0	1.3	1.7	1.7	1.3	0.0	0.6
01	525605	6	0.030	0.015	0.030	5588	0.0014	2.00	Sta	0.0	0.0	60.0	60.0	140.0	140.0	200.0	200.0
									Elev	2.0	1.0	0.5	0.0	0.0	0.5	1.0	2.0
01	524600	9	0.030	0.015	0.030	9178	0.0015	2.00	Sta	0.0	0.0	60.0	60.0	140.0	140.0	200.0	200.0
									Elev	2.0	1.0	0.5	0.0	0.0	0.5	1.0	2.0
01	600601	6	0.030	0.015	0.030	5694	0.0009	2.00	Sta	0.0	0.0	60.0	60.0	140.0	140.0	200.0	200.0
									Elev	2.0	1.0	0.5	0.0	0.0	0.5	1.0	2.0

Routing Data - Normal Depth

		RS Card	RC Card						RX and RY Cards								
Basin	Reach ID	NSTPS	ANL	ANCH	ANR	RLNTH (ft)	SEL (ft/ft)	ELMAX		1	2	LB	4	5	RB	7	8
01	406617	4	0.030	0.015	0.030	3807	0.0032		**Sta**	0.0	300.0	311.0	324.9	325.0	339.0	350.0	650.0
									Elev	0.6	0.0	1.8	2.1	2.1	1.8	0.0	0.6

Flood Control District of Maricopa County
MARI40_SW - CHANDLER/GILBERT FDS PHASE 3 SOUTH

Routing Data - Normal Depth

3/9/2009

Basin	Reach ID	RS Card NSTPS	RC Card ANL	ANCH	ANR	RLNTH (ft)	SEL (ft/ft)	ELMAX	RX and RY Cards	1	2	LB	4	5	RB	7	8
01	605606	4	0.030	0.015	0.030	4033	0.0009	2.00	**Sta**	0.0	0.0	60.0	60.0	140.0	140.0	200.0	200.0
									Elev	2.0	1.0	0.5	0.0	0.0	0.5	1.0	2.0
01	604607	2	0.035	0.015	0.030	1732	0.0014		**Sta**	0.0	0.0	23.5	23.5	106.5	106.5	130.0	130.0
									Elev	1.9	0.9	0.5	0.0	0.0	0.5	0.9	1.9
01	612614	2	0.030	0.015	0.030	1352	0.0036		**Sta**	0.0	300.0	307.5	329.9	330.0	352.5	360.0	660.0
									Elev	0.6	0.0	1.3	1.7	1.7	1.3	0.0	0.6
01	617614	2	0.030	0.015	0.030	1379	0.0045		**Sta**	0.0	300.0	307.5	329.9	330.0	352.5	360.0	660.0
									Elev	0.6	0.0	1.3	1.7	1.7	1.3	0.0	0.6
01	614615	5	0.030	0.015	0.030	5124	0.0001	3.00	**Sta**	0.0	170.0	190.0	250.0	290.0	310.0	660.0	1060.0
									Elev	1.0	0.8	0.5	0.0	0.0	0.5	1.0	3.0
01	612615	4	0.030	0.015	0.030	3867	0.0016	2.11	**Sta**	0.0	300.0	311.0	324.9	325.0	339.0	350.0	650.0
									Elev	0.6	0.0	1.8	2.1	2.1	1.8	0.0	0.6
01	617618	3	0.030	0.015	0.030	2733	0.0028	1.25	**Sta**	0.0	300.0	307.5	329.9	330.0	352.5	360.0	660.0
									Elev	0.6	0.0	1.3	1.7	1.7	1.3	0.0	0.6
01	622624	3	0.035	0.015	0.035	2357	0.0004	1.85	**Sta**	0.0	0.0	23.5	23.5	106.5	106.5	130.0	130.0
									Elev	1.9	0.9	0.5	0.0	0.0	0.5	0.9	1.9
01	608609	7	0.030	0.015	0.030	6425	0.0014		**Sta**	0.0	300.0	311.0	324.9	325.0	339.0	350.0	650.0
									Elev	0.6	0.0	1.8	2.1	2.1	1.8	0.0	0.6
01	609611	3	0.030	0.015	0.030	2613	0.0033		**Sta**	0.0	300.0	307.5	329.9	330.0	352.5	360.0	660.0
									Elev	0.6	0.0	1.3	1.7	1.7	1.3	0.0	0.6
01	525605	6	0.030	0.015	0.030	5588	0.0014	2.00	**Sta**	0.0	0.0	60.0	60.0	140.0	140.0	200.0	200.0
									Elev	2.0	1.0	0.5	0.0	0.0	0.5	1.0	2.0
01	524600	9	0.030	0.015	0.030	9178	0.0015	2.00	**Sta**	0.0	0.0	60.0	60.0	140.0	140.0	200.0	200.0
									Elev	2.0	1.0	0.5	0.0	0.0	0.5	1.0	2.0
01	600601	6	0.030	0.015	0.030	5694	0.0009	2.00	**Sta**	0.0	0.0	60.0	60.0	140.0	140.0	200.0	200.0
									Elev	2.0	1.0	0.5	0.0	0.0	0.5	1.0	2.0

Flood Control District of Maricopa County
MARI40_SW - CHANDLER/GILBERT FDS PHASE 3 SOUTH

Routing Data - Normal Depth

3/9/2009

Basin	Reach ID	RS Card NSTPS	RC Card ANL	ANCH	ANR	RLNTH (ft)	SEL (ft/ft)	ELMAX
01	406617	4	0.030	0.015	0.030	3807	0.0032	

RX and RY Cards

	1	2	LB	4	5	RB	7	8
Sta	0.0	300.0	311.0	324.9	325.0	339.0	350.0	650.0
Elev	0.6	0.0	1.8	2.1	2.1	1.8	0.0	0.6

Chandler/Gilbert FDS Phase 3 North
HEC-1 Routing Table

REACHID	LENGTH	HIGH	LOW	SLOPE	VELOCITY	NSTEP	MANL	MAN	MANR	ELMAX
	ft	ft	ft	ft/ft	ft/s					ft
500503	5500	1226.60	1215.49	0.0020	3.5	6	0.035	0.015	0.035	2.00
501502	6550	1239.26	1225.42	0.0021	3.5	7	0.035	0.015	0.035	2.00
509503	6500	1225.50	1215.49	0.0015	3.5	7	0.050	0.035	0.050	20.70
508516	2400	1238.38	1234.00	0.0018	3.5	3	0.035	0.015	0.035	2.00
501508	2640	1239.26	1238.38	0.0003	3.5	3	0.035	0.015	0.035	2.00
521517	5280	1240.52	1227.22	0.0025	3.5	6	0.035	0.015	0.035	2.00
524522	5280	1233.52	1228.01	0.0010	3.5	6	0.035	0.015	0.035	2.00
522523	2640	1228.01	1222.72	0.0020	3.5	3	0.035	0.015	0.035	2.00
523519	7920	1222.72	1215.46	0.0009	3.5	8	0.035	0.015	0.035	2.00
510511	7920	1227.38	1215.50	0.0015	3.5	8	0.035	0.015	0.035	2.00
518519	2640	1218.20	1215.46	0.0010	3.5	3	0.035	0.015	0.035	2.00
504506	4500	1214.13	1210.93	0.0007	3.5	5	0.035	0.015	0.035	2.00
511512	4000	1215.50	1212.00	0.0009	3.5	4	0.035	0.015	0.035	2.00
CON501	5500	1249.34	1239.26	0.0018	3.5	6	0.035	0.015	0.035	2.00
CON516	6500	1248.84	1234.09	0.0023	3.5	7	0.035	0.015	0.035	2.00
CON524	5300	1245.23	1233.52	0.0022	3.5	6	0.035	0.015	0.035	2.00
516509	3860	1234.10	1225.80	0.0022	3.5	4	0.050	0.035	0.050	28.20
502503	5500	1224.42	1215.49	0.0016	3.5	6	0.035	0.015	0.035	2.00
516519	11050	1218.50	1206.30	0.0011	3.5	11	0.050	0.035	0.050	16.00

Routing Data - Normal Depth

		RS Card	RC Card						RX and RY Cards								
Basin	Reach ID	NSTPS	ANL	ANCH	ANR	RLNTH (ft)	SEL (ft/ft)	ELMAX		1	2	LB	4	5	RB	7	8
01	500503	6	0.035	0.015	0.035	5500	0.0020	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	CON501	6	0.035	0.015	0.035	5500	0.0018	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	501502	7	0.035	0.015	0.035	6550	0.0021	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	502503	6	0.035	0.015	0.035	5500	0.0016	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	509503	7	0.050	0.035	0.050	6500	0.0015	20.70	**Sta**	0.0	28.0	270.0	319.0	553.0	740.0	817.0	954.0
									Elev	20.7	17.7	18.5	17.3	17.4	18.9	17.7	20.8
01	508516	3	0.035	0.015	0.035	2400	0.0018	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	CON516	7	0.035	0.015	0.035	6500	0.0023	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	501508	3	0.035	0.015	0.035	2640	0.0003	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	516509	4	0.050	0.035	0.050	3860	0.0022	28.20	**Sta**	0.0	52.0	74.0	199.0	267.0	309.0	320.0	344.0
									Elev	30.3	22.3	27.3	28.0	24.5	25.5	23.8	28.2
01	516519	12	0.050	0.035	0.050	11050	0.0011	16.00	**Sta**	0.0	8.0	12.0	15.0	25.0	28.0	32.0	40.0
									Elev	16.0	14.0	12.0	10.0	10.0	12.0	14.0	16.0
01	521517	6	0.035	0.015	0.035	5280	0.0025	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	CON524	6	0.035	0.015	0.035	5300	0.0022	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	524522	6	0.035	0.015	0.035	5280	0.0010	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0

Flood Control District of Maricopa County
CGFDSP3N_6HR - Chandler-Gilbert Drainage Study

Routing Data - Normal Depth

3/13/2009

Basin	Reach ID	RS Card NSTPS	RC Card ANL	ANCH	ANR	RLNTH (ft)	SEL (ft/ft)	ELMAX	RX and RY Cards	1	2	LB	4	5	RB	7	8
01	522523	3	0.035	0.015	0.035	2640	0.0020	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	523519	8	0.035	0.015	0.035	7920	0.0009	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	510511	8	0.035	0.015	0.035	7920	0.0015	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	518519	3	0.035	0.015	0.035	2640	0.0010	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	504506	5	0.035	0.015	0.035	4500	0.0007	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	511512	4	0.035	0.015	0.035	4000	0.0009	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0

Routing Data - Normal Depth

		RS Card	RC Card						RX and RY Cards								
Basin	Reach ID	NSTPS	ANL	ANCH	ANR	RLNTH (ft)	SEL (ft/ft)	ELMAX		1	2	LB	4	5	RB	7	8
01	500503	6	0.035	0.015	0.035	5500	0.0020	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	CON501	6	0.035	0.015	0.035	5500	0.0018	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	501502	7	0.035	0.015	0.035	6550	0.0021	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	502503	6	0.035	0.015	0.035	5500	0.0016	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	509503	7	0.050	0.035	0.050	6500	0.0015	20.70	**Sta**	0.0	28.0	270.0	319.0	553.0	740.0	817.0	954.0
									Elev	20.7	17.7	18.5	17.3	17.4	18.9	17.7	20.8
01	508516	3	0.035	0.015	0.035	2400	0.0018	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	CON516	7	0.035	0.015	0.035	6500	0.0023	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	501508	3	0.035	0.015	0.035	2640	0.0003	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	516509	4	0.050	0.035	0.050	3860	0.0022	28.20	**Sta**	0.0	52.0	74.0	199.0	267.0	309.0	320.0	344.0
									Elev	30.3	22.3	27.3	28.0	24.5	25.5	23.8	28.2
01	516519	12	0.050	0.035	0.050	11050	0.0011	16.00	**Sta**	0.0	8.0	12.0	15.0	25.0	28.0	32.0	40.0
									Elev	16.0	14.0	12.0	10.0	10.0	12.0	14.0	16.0
01	521517	6	0.035	0.015	0.035	5280	0.0025	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	CON524	6	0.035	0.015	0.035	5300	0.0022	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	524522	6	0.035	0.015	0.035	5280	0.0010	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0

Routing Data - Normal Depth

		RS Card	RC Card						RX and RY Cards								
Basin	Reach ID	NSTPS	ANL	ANCH	ANR	RLNTH (ft)	SEL (ft/ft)	ELMAX		1	2	LB	4	5	RB	7	8
01	522523	3	0.035	0.015	0.035	2640	0.0020	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	523519	8	0.035	0.015	0.035	7920	0.0009	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	510511	8	0.035	0.015	0.035	7920	0.0015	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	518519	3	0.035	0.015	0.035	2640	0.0010	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	504506	5	0.035	0.015	0.035	4500	0.0007	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0
01	511512	4	0.035	0.015	0.035	4000	0.0009	2.00	**Sta**	0.0	1.0	45.0	46.0	125.0	126.0	170.0	171.0
									Elev	2.0	1.0	1.0	0.0	0.0	1.0	1.0	2.0

DS & DN.4 Storage Routing Data

Chandler/Gilbert FDS Phase 3 - South

Summary of HEC-1 Ponding Results

** Ponding Area	Peak Inflow (cfs)		Time to Peak Inflow (hrs)		Maximum Stage (ft)		Time of Maximum Stage (hrs)		Minimum Storage Elevation (ft)	Maximum Innundation Depth* (ft)		Peak Storage Volume (ac-ft)		Peak Outflow (cfs)		Time to Peak Outflow (hrs)	
	6-hr	*24-hr*	*6-hr*	*24-hr*	*6-hr*	*24-hr*	*6-hr*	*24-hr*		*6-hr*	*24-hr*	*6-hr*	*24-hr*	*6-hr*	*24-hr*	*6-hr*	*24-hr*
P606-3	234	219	4.75	12.58	1215.42	1215.51	14.67	30.92	1210	5.42	5.51	41	44	0	0	n/a	n/a
P601	256	232	4.83	12.67	1215.11	1215.06	42.25	79.50	1204	11.11	11.06	91	91	2	1	42.17	79.67
P613-5	337	418	4.50	12.33	1217.54	1217.55	5.50	13.17	1210	7.54	7.55	18	18	95	95	5.50	13.17
P610-9	564	591	4.58	12.42	1217.11	1217.09	13.83	24.83	1208	9.11	9.09	139	137	43	42	13.92	24.92
P618	169	212	4.58	12.42	1218.00	1218.00	12.42	20.67	1215	3.00	3.00	11	11	8	9	12.42	20.67
P628	82	93	5.17	12.92	1220.63	1220.57	10.33	26.25	1217	3.63	3.57	11	11	0	0	n/a	n/a
P627	72	91	5.00	12.67	1219.17	1219.13	9.83	25.25	1214	5.17	5.13	9	9	0	0	n/a	n/a
P629	59	58	5.25	13.17	1215.76	1215.73	12.08	20.00	1212	3.76	3.73	10	9	0	0	n/a	n/a
P623-5	605	620	4.92	12.75	1217.51	1217.39	6.67	14.50	1213	4.51	4.39	60	52	74	55	6.67	14.50
P621	454	400	5.42	13.33	1219.27	1219.25	28.00	44.33	1211	8.27	8.25	98	96	0	0	n/a	n/a
P624	207	162	4.67	12.42	1215.32	1215.27	10.00	19.92	1211	4.32	4.27	41	39	44	25	10.08	20.00
P626	59	71	4.75	12.58	1214.51	1214.50	5.33	13.08	1211	3.51	3.50	3	3	36	35	5.33	13.08
P630	141	126	4.83	12.67	1219.53	1220.08	56.33	69.00	1213	6.53	7.08	65	89	0	0	n/a	n/a
P631	148	145	4.67	12.42	1214.23	1214.21	10.58	27.42	1212	2.23	2.21	19	18	0	0	n/a	n/a
P632N	400	455	5.92	13.50	1219.44	1219.81	43.58	55.58	1208	11.44	11.81	69	80	0	0	n/a	n/a
P632S	425	471	4.00	12.00	1209.75	1209.40	6.25	24.17	1203	6.75	6.40	14	12	0	0	n/a	n/a
P634	25	20	5.17	13.17	1215.56	1215.51	13.00	29.25	1213	2.56	2.51	4	4	0	0	n/a	n/a
P633	86	90	5.08	12.75	1212.07	1212.04	11.42	26.58	1208	4.07	4.04	13	12	0	0	n/a	n/a

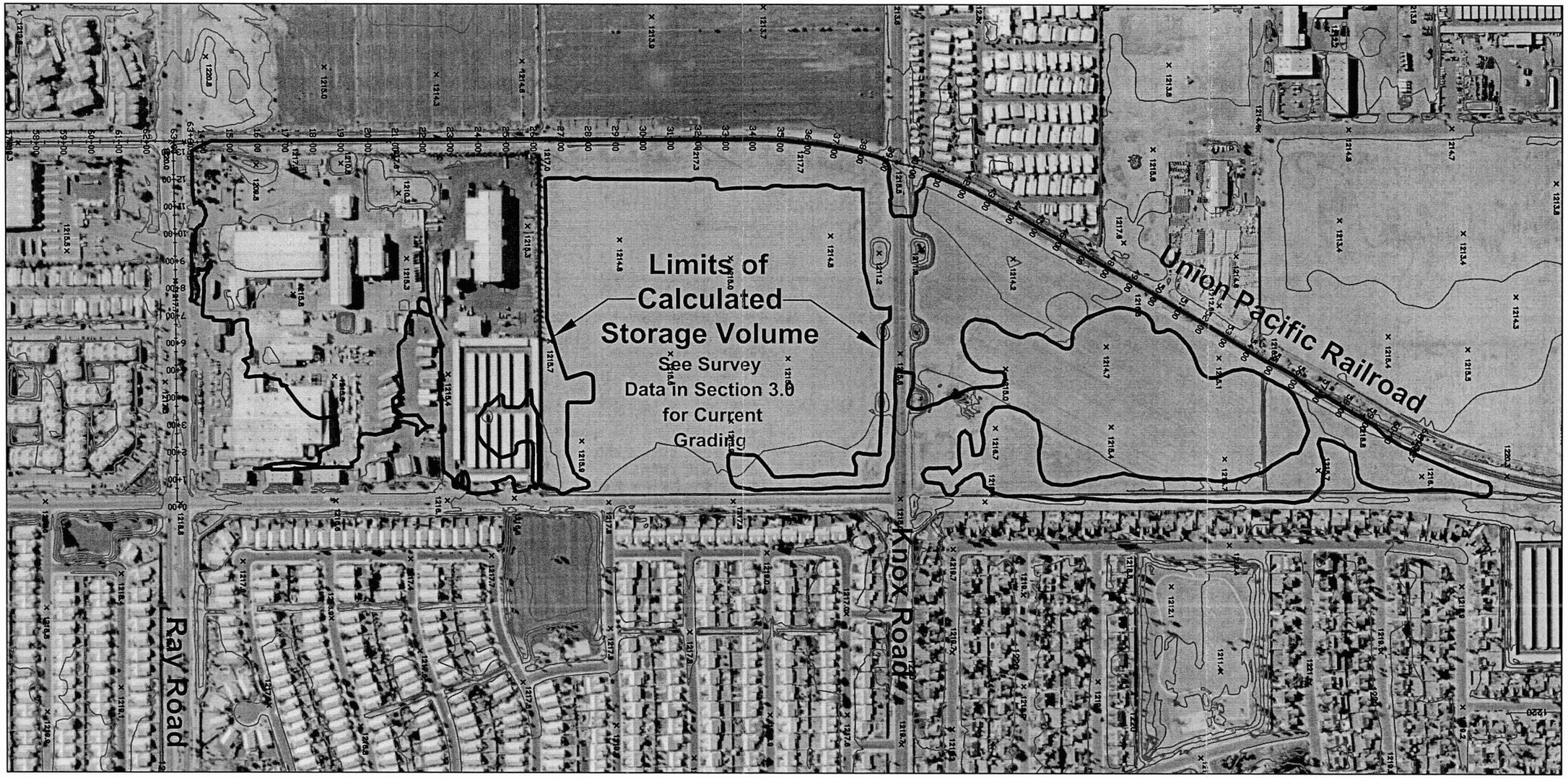
** Shaded Ponding areas indicate the 6-hour storm results were used to map floodplain.

Notes:

* Maximum Innundation Depth was calculated as the difference between the Maximum Stage Elevation and the Lowest storage elevation of the basin.

Updated 03/05/09

Chandler/Gilbert FDS Phase 3 - South
Ponding Area 606-3



0 200' 400' 800'

SCALE: 1" = 400'

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\Mari0040-HyPa603606.dwg nbl Mar 26, 2009 10:34:39am

Chandler/Gilbert FDS Phase 3- South

P606-3 Data Table

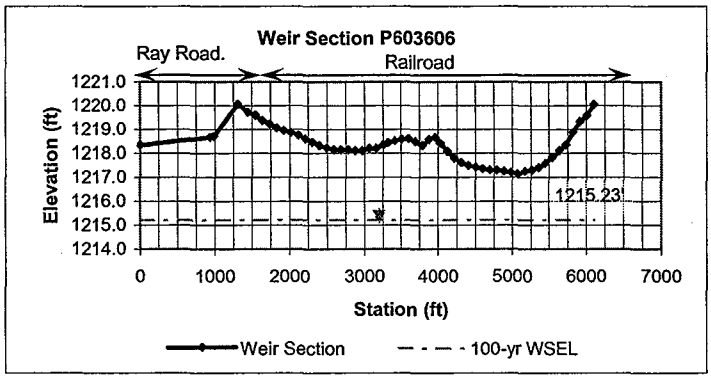
Ponding Area	SE Record Contour Elevation	SV Record Storage Volume	SQ Record Total Q	$Q_{railroad}$	$Q_{roadway}$	
P606-3	1210.00	0.00	0	0	0	
	1210.30	0.01	0	0	0	
	1210.80	0.09	0	0	0	
	1211.50	1.13	0	0	0	
	1212.00	2.92	0	0	0	
	1213.00	8.40	0	0	0	
	1214.00	17.12	0	0	0	
	1215.00	28.57	0	0	0	
	1216.00	58.59	0	0	0	
	1217.00	n/a	0	0	0	
	1218.00	n/a	1673.26	1673.26	0	
	1219.00	n/a	12347.8	11414.7	933.1	

Hydraulic Component(s): Roadway			
Discharge	0.00 cfs	Allowable HW Elevation	1,217.13 ft
Roadway Width	40.00 ft	Overtopping Coefficient	2.50 US
Low Point	1,217.13 ft	Headwater Elevation	N/A ft
Discharge Coefficient	0.00	Submergence Factor (Kt)	0.00
Tailwater Elevation	0.00 ft		

	Sta (ft)	Elev. (ft)
Road	0.00	1218.32
	934.41	1218.66
	988.67	1218.70
	1310.01	1220.06
Railroad	1450.24	1219.71
	1546.58	1219.60
	1641.78	1219.36
	1734.88	1219.21
	1829.60	1219.05
	1924.13	1218.94
	2020.11	1218.86
	2115.20	1218.74
	2209.64	1218.59
	2305.58	1218.45
	2400.67	1218.31
	2495.37	1218.20
	2591.19	1218.14
	2686.19	1218.14
	2782.66	1218.14
	2877.88	1218.10
	2971.70	1218.10
	3065.79	1218.19
	3160.99	1218.19
	3256.27	1218.34
	3320.37	1218.42
	3414.88	1218.50
	3509.28	1218.57
	3603.85	1218.59
	3695.18	1218.47
	3787.13	1218.31
	3879.20	1218.57
	3962.16	1218.65
	4026.78	1218.40

	Sta (ft)	Elev. (ft)
Railroad	4121.40	1218.07
	4218.00	1217.79
	4311.77	1217.61
	4405.48	1217.49
	4502.62	1217.42
	4598.75	1217.35
	4694.76	1217.30
	4789.77	1217.30
	4884.89	1217.25
	4979.08	1217.20
	5073.59	1217.13
	5167.82	1217.24
	5262.16	1217.30
	5355.82	1217.40
	5449.28	1217.58
	5542.57	1217.83
	5639.96	1218.10
	5730.53	1218.34
	5825.05	1218.86
	5917.68	1219.32
	6010.93	1219.58
	6105.27	1220.04

Notes:



Culvert Designer/Analyzer Report
P606-3

Analysis Component			
Storm Event	Design	Discharge	0.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	0.00 cfs	Check Discharge	0.00 cfs

Tailwater Conditions: Constant Tailwater	
Tailwater Elevation	N/A ft

Name	Description	Discharge	HW Elev.	Velocity
Weir	Roadway	0.00 cfs	1,217.13 ft	N/A

Culvert Designer/Analyzer Report
P606-3

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	0.00	cfs	Allowable HW Elevation	1,217.13	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.50	US
Low Point	1,217.13	ft	Headwater Elevation	N/A	ft
Discharge Coefficient (Cr)	0.00		Submergence Factor (Kt)	0.00	
Tailwater Elevation	-9,999.00	ft			

Sta (ft)	Elev. (ft)
0.00	1,218.32
934.41	1,218.66
988.67	1,218.70
1,310.01	1,220.06
1,450.24	1,219.71
1,546.58	1,219.60
1,641.78	1,219.36
1,734.88	1,219.21
1,829.60	1,219.05
1,924.13	1,218.94
2,020.11	1,218.86
2,115.20	1,218.74
2,209.64	1,218.59
2,305.58	1,218.45
2,400.67	1,218.31
2,495.37	1,218.20
2,591.19	1,218.14
2,686.19	1,218.14
2,782.66	1,218.14
2,877.88	1,218.10
2,971.70	1,218.10
3,065.79	1,218.19
3,160.99	1,218.19
3,256.27	1,218.34
3,320.37	1,218.42
3,414.88	1,218.50
3,509.28	1,218.57
3,603.85	1,218.59
3,695.18	1,218.47
3,787.13	1,218.31
3,879.20	1,218.57
3,962.16	1,218.65
4,026.78	1,218.40
4,218.00	1,217.79
4,311.77	1,217.61
4,405.48	1,217.49
4,502.62	1,217.42
4,598.75	1,217.35
4,694.76	1,217.30
4,789.77	1,217.30
4,884.89	1,217.25
4,979.08	1,217.30
5,073.59	1,217.13
5,167.82	1,217.24

Culvert Designer/Analyzer Report
P606-3

Sta (ft)	Elev. (ft)
5,262.16	1,217.30
5,355.82	1,217.40
5,449.28	1,217.58
5,542.57	1,217.83
5,639.96	1,218.10
5,730.53	1,218.34
5,825.05	1,218.86
5,917.68	1,219.32
6,010.93	1,219.58
6,105.27	1,220.04

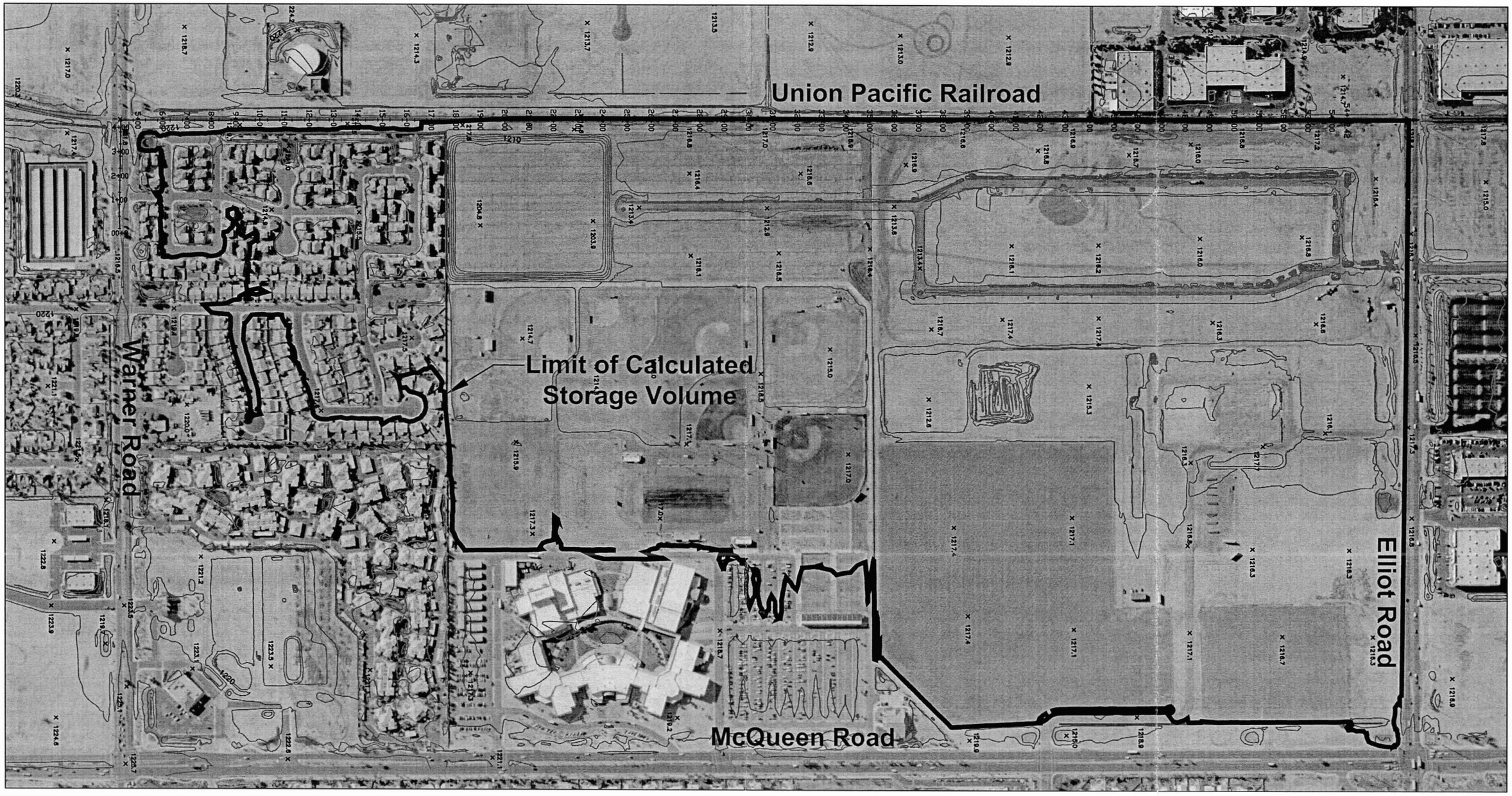
Rating Table Report
P606-3

Range Data:

	Minimum	Maximum	Increment	
Allowable HW E	1,209.00	1,219.00	0.50	ft

HW Elev. (ft)	Discharge (cfs)
1,209.00	0.00
1,209.50	0.00
1,210.00	0.00
1,210.50	0.00
1,211.00	0.00
1,211.50	0.00
1,212.00	0.00
1,212.50	0.00
1,213.00	0.00
1,213.50	0.00
1,214.00	0.00
1,214.50	0.00
1,215.00	0.00
1,215.50	0.00
1,216.00	0.00
1,216.50	0.00
1,217.00	0.00
1,217.50	221.34
1,218.00	1,673.26
1,218.50	4,916.63
1,219.00	12,347.80

Chandler/Gilbert FDS Phase 3 - South
Ponding Area 601



0 200' 400' 800'

SCALE: 1" = 400'

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\Mari0040-HyPa601.dwg nbl Mar 26, 2009 10:30:25am

P601 Data Table

Ponding Area	SE Record Contour Elevation	SV Record Storage Volume	SQ Record Total Q	$Q_{railroad}$	$Q_{roadway}$	
P601	1204.0	0.00	0	0	0	
	1205.0	1.92	0	0	0	
	1206.0	9.04	0	0	0	
	1210.0	40.55	0	0	0	
	1211.0	48.98	0	0	0	
	1212.0	57.96	0	0	0	
	1213.0	67.66	0	0	0	
	1214.0	77.88	0	0	0	
	1215.0	89.56	0	0	0	
	1216.0	104.92	18.11	0	0	
	1217.0	124.22	28.23	0	0	
	1217.2	128.39	29.84	0	0	
	1217.4	132.58	31.37	0	0	
	1217.45	133.63	32.01	32.01	0	
	1217.5	134.68	37.20	37.20	0	
	1218.0	145.25	1689.32	1689.32	0	
	1218.5	155.96	6415.97	6415.97	0	

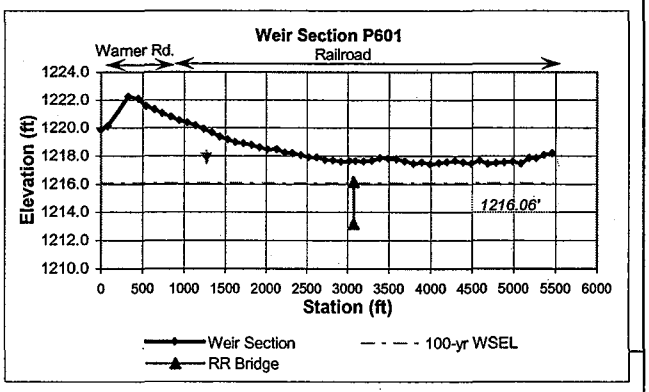
Hydraulic Component(s): Roadway

Discharge	0.00 cfs	Allowable HW Elevation	1217.42 ft
Roadway Width	40 ft	Overtopping Coefficient	2.52 US
Low Point	1217.42 ft	Headwater Elevation	N/A ft
Discharge Coefficient	0.00	Submergence Factor (Kt)	0.00
Tailwater Elevation	0.00 ft		

	Sta (ft)	Elev. (ft)
Road	0.00	1219.86
	76.10	1220.12
	323.05	1222.25
	447.66	1222.09
Railroad	541.78	1221.56
	641.60	1221.32
	742.26	1221.06
	842.15	1220.81
	942.65	1220.52
	1040.75	1220.36
	1140.93	1220.16
	1239.49	1219.91
	1337.20	1219.67
	1434.52	1219.36
	1530.88	1219.16
	1626.65	1218.99
	1723.64	1218.89
	1821.09	1218.77
	1918.70	1218.6
	2019.70	1218.47
	2126.41	1218.49
	2230.55	1218.24
	2322.47	1218.22
	2425.61	1218.06
	2525.28	1217.92
	2622.67	1217.89
	2723.20	1217.73
	2823.64	1217.7
	2924.14	1217.59
	3024.54	1217.64
	3096.80	1217.64
	3194.35	1217.62
	3293.85	1217.68
	3391.72	1217.85
	3492.25	1217.82
	3590.94	1217.78
	3690.24	1217.62
	3792.45	1217.47
	3893.09	1217.55
	3995.39	1217.42
	4095.89	1217.51
	4194.74	1217.58
	4293.29	1217.67
	4392.55	1217.55

	Sta (ft)	Elev. (ft)
Railroad	4392.55	1217.55
	4493.63	1217.46
	4593.27	1217.66
	4688.77	1217.45
	4787.20	1217.5
	4888.09	1217.55
	4984.16	1217.6
	5084.81	1217.472
	5185.03	1217.85
	5266.42	1217.86
	5364.28	1218.07
	5462.42	1218.20

Notes:



3071.5	1216.15
3071.5	1213.15
3078.5	1213.15
3078.5	1216.15

Culvert Designer/Analyzer Report
P601 - w/trestle under RR

Analysis Component			
Storm Event	Design	Discharge	15.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	15.00 cfs	Check Discharge	0.00 cfs

Tailwater Conditions: Constant Tailwater	
Tailwater Elevation	1,215.30 ft

Name	Description	Discharge	HW Elev.	Velocity
Culvert-1	1-2 x 2 ft Box	14.99 cfs	1,215.78 ft	3.75 ft/s
Weir	Roadway	0.00 cfs	1,215.78 ft	N/A
Total	----------	14.99 cfs	1,215.78 ft	N/A

Culvert Designer/Analyzer Report
P601 - w/trestle under RR

Component:Culvert-1

Culvert Summary					
Computed Headwater Elev	1,215.78	ft	Discharge	14.99	cfs
Inlet Control HW Elev.	1,215.30	ft	Tailwater Elevation	1,215.30	ft
Outlet Control HW Elev.	1,215.78	ft	Control Type	Outlet Control	
Headwater Depth/Height	1.31				

Grades					
Upstream Invert	1,213.15	ft	Downstream Invert	1,212.58	ft
Length	40.00	ft	Constructed Slope	0.014250	ft/ft

Hydraulic Profile					
Profile	PressureProfile		Depth, Downstream	2.72	ft
Slope Type	N/A		Normal Depth	0.90	ft
Flow Regime	N/A		Critical Depth	1.20	ft
Velocity Downstream	3.75	ft/s	Critical Slope	0.006640	ft/ft

Section					
Section Shape	Box		Mannings Coefficient	0.013	
Section Material	Concrete		Span	2.00	ft
Section Size	2 x 2 ft		Rise	2.00	ft
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	1,215.78	ft	Upstream Velocity Head	0.22	ft
Ke	0.70		Entrance Loss	0.15	ft

Inlet Control Properties					
Inlet Control HW Elev.	1,215.30	ft	Flow Control	N/A	
Inlet Type	0° wingwall flares		Area Full	4.0	ft²
K	0.06100		HDS 5 Chart	8	
M	0.75000		HDS 5 Scale	3	
C	0.04230		Equation Form	1	
Y	0.82000				

Culvert Designer/Analyzer Report
P601 - w/trestle under RR

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	0.00	cfs	Allowable HW Elevation	1,215.78	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.50	US
Low Point	1,217.42	ft	Headwater Elevation	N/A	ft
Discharge Coefficient (Cr)	2.50		Submergence Factor (Kt)	1.00	
Tailwater Elevation	1,215.30	ft			

Sta (ft)	Elev. (ft)
0.00	1,219.86
76.10	1,220.12
323.05	1,222.25
447.66	1,222.09
541.78	1,221.56
641.60	1,221.32
742.26	1,221.06
842.15	1,220.81
942.65	1,220.52
1,040.75	1,220.36
1,140.93	1,220.16
1,239.49	1,219.91
1,337.20	1,219.67
1,434.52	1,219.36
1,530.88	1,219.16
1,626.65	1,218.99
1,723.64	1,218.89
1,821.09	1,218.77
1,918.70	1,218.60
2,019.70	1,218.47
2,126.41	1,218.49
2,230.55	1,218.24
2,322.47	1,218.22
2,425.61	1,218.06
2,525.28	1,217.92
2,622.67	1,217.89
2,723.20	1,217.73
2,823.64	1,217.70
2,924.14	1,217.59
3,024.54	1,217.64
3,096.80	1,217.64
3,194.35	1,217.62
3,293.85	1,217.68
3,391.72	1,217.85
3,492.25	1,217.82
3,590.94	1,217.78
3,690.24	1,217.62
3,792.45	1,217.47
3,893.09	1,217.55
3,995.39	1,217.42
4,095.89	1,217.51
4,194.74	1,217.58
4,293.29	1,217.67
4,392.55	1,217.55

Culvert Designer/Analyzer Report
P601 - w/trestle under RR

Sta (ft)	Elev. (ft)
4,493.63	1,217.46
4,593.27	1,217.66
4,688.77	1,217.45
4,787.20	1,217.50
4,888.09	1,217.55
4,984.16	1,217.60
5,084.81	1,217.47
5,185.03	1,217.85
5,266.42	1,217.86
5,364.28	1,218.07
5,462.42	1,218.20

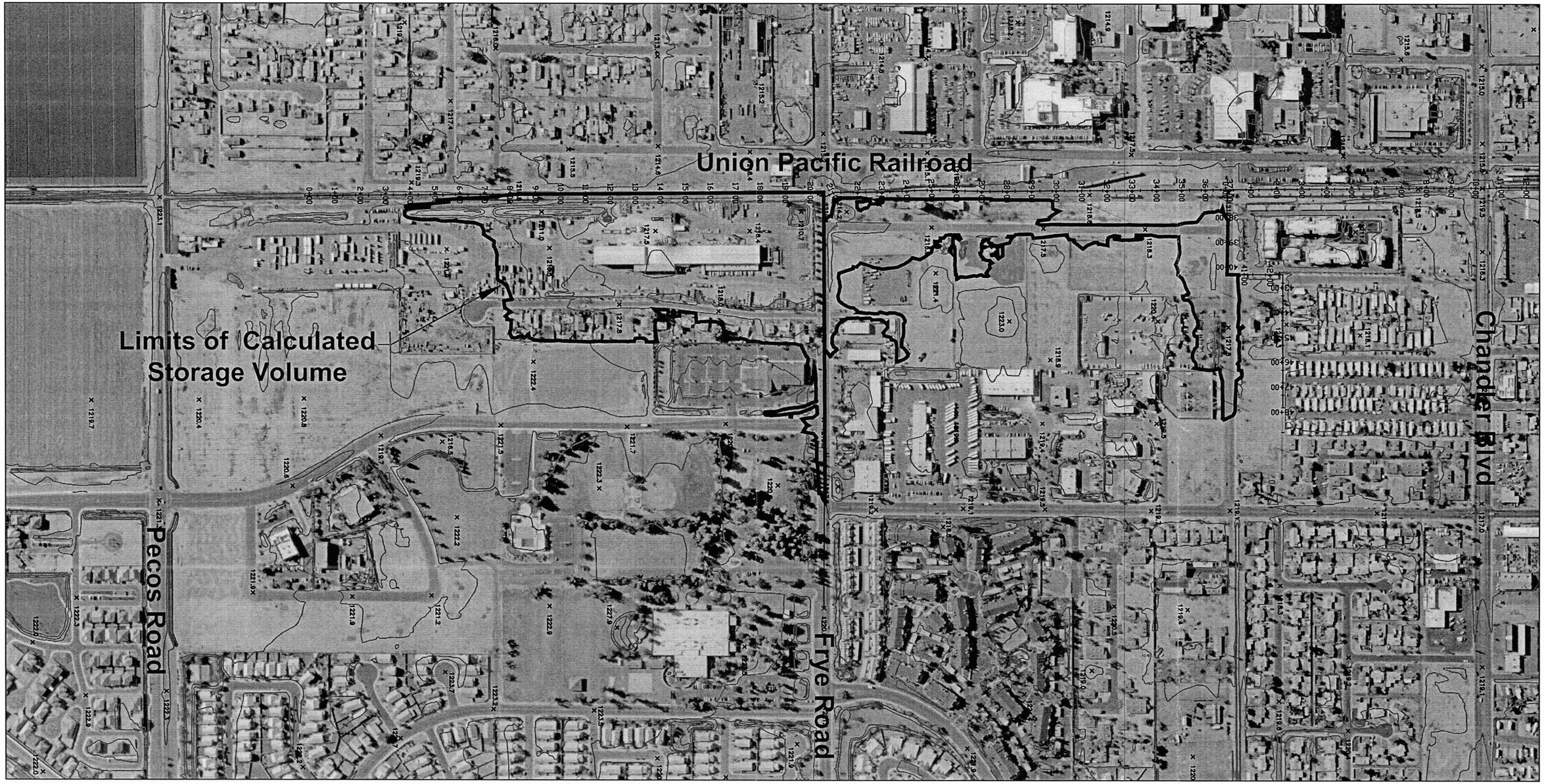
Rating Table Report
P601 - w/trestle under RR

Range Data:

	Minimum	Maximum	Increment
Allowable HW E	1,204.00	1,218.50	0.50 ft

HW Elev. (ft)	Discharge (cfs)
1,204.00	0.00
1,204.50	0.00
1,205.00	0.00
1,205.50	0.00
1,206.00	0.00
1,206.50	0.00
1,207.00	0.00
1,207.50	0.00
1,208.00	0.00
1,208.50	0.00
1,209.00	0.00
1,209.50	0.00
1,210.00	0.00
1,210.50	0.00
1,211.00	0.00
1,211.50	0.00
1,212.00	0.00
1,212.50	0.00
1,213.00	0.00
1,213.50	0.00
1,214.00	0.00
1,214.50	0.00
1,215.00	0.00
1,215.50	9.68
1,216.00	18.11
1,216.50	23.72
1,217.00	28.23
1,217.50	37.20
1,218.00	1,689.32
1,218.50	6,415.97

Chandler/Gilbert FDS Phase 3 - South
Ponding Area 613-5



0 200' 400' 800'

SCALE: 1" = 400'

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\Mari0040-HyPa613615.dwg nbl Mar 26, 2009 1:08:58pm

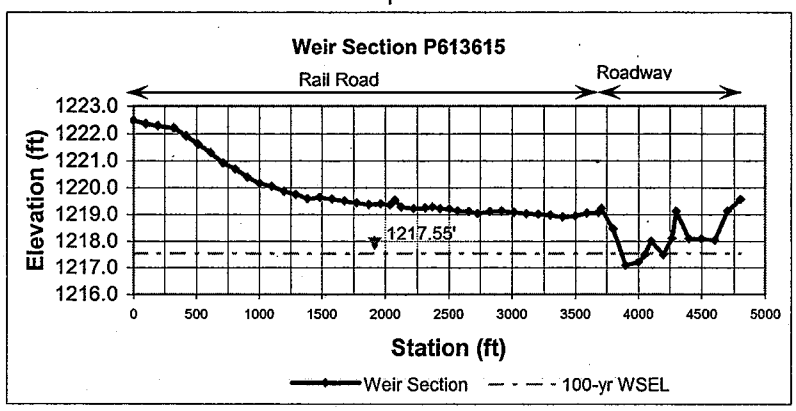
Chandler/Gilbert FDS Phase 3- South
P613-5 Data Table

Ponding Area	SE Record Contour Elevation	SV Record Storage Volume	SQ Record Total Q	$Q_{railroad}$	$Q_{roadway}$	
P613-5	1210.0	0.00	0.00	0	0	
	1211.0	0.004	0.00	0	0	
	1212.0	0.11	0.00	0	0	
	1213.0	0.35	0.00	0	0	
	1214.0	0.71	0.00	0	0	
	1215.0	1.40	0.00	0	0	
	1216.0	2.89	0.00	0	0	
	1217.0	9.62	0.00	0	0	
	1217.6	18.41	104.65	0	104.65	
	1218.0	21.71	379.92	0	379.92	
	1219.0	62.85	2707.10	8.73	2698.37	
	1220.0	112.35	12574.38	4503.36	8071.02	
	1221.0	164.18	33569.70	17598.05	15971.65	

Hydraulic Component(s): Roadway			
Discharge	301 cfs	Allowable HW Elevation	1,217.91 ft
Roadway Width	40.00 ft	Overtopping Coefficient	2.52 US
Low Point	1,217.09 ft	Headwater Elevation	1,217.91 ft
Discharge Coefficient	2.52	Submergence Factor (Kt)	1.00
Tailwater Elevation	0.00 ft		

	Sta (ft)	Elev. (ft)
Rail Road	0.00	1222.48
	99.39	1222.35
	196.80	1222.28
	321.53	1222.20
	420.68	1221.91
	517.08	1221.61
	613.92	1221.30
	711.84	1220.92
	809.92	1220.69
	906.74	1220.39
	1003.12	1220.16
	1101.43	1220.04
	1197.66	1219.87
	1292.12	1219.74
	1388.27	1219.59
	1485.06	1219.64
	1582.23	1219.58
	1678.68	1219.50
	1775.47	1219.43
	1871.41	1219.38
	1964.44	1219.40
	2035.63	1219.37
	2075.71	1219.54
	2124.77	1219.28
	2222.19	1219.21
	2313.65	1219.24
	2370.05	1219.28
	2430.41	1219.22
	2501.29	1219.21
	2572.85	1219.14
	2662.05	1219.11
	2729.03	1219.05
	2827.38	1219.11
	2920.66	1219.14
	3017.92	1219.08

	Sta (ft)	Elev. (ft)
Rail Road	3017.92	1219.08
	3114.08	1219.03
	3208.20	1219.02
	3302.71	1218.97
	3399.45	1218.91
	3496.18	1218.95
	3591.36	1219.06
	3681.81	1219.08
	3706.05	1219.23
Roadway	3800.00	1218.47
	3900.00	1217.09
	4000.00	1217.21
	4050.00	1217.49
	4100.00	1218.00
	4200.00	1217.50
	4266.41	1218.11
	4300.00	1219.12
	4400.00	1218.09
	4500.00	1218.09
	4600.00	1218.04
	4700.00	1219.14
	4800.00	1219.57



Culvert Designer/Analyzer Report
P613-5

Analysis Component			
Storm Event	Design	Discharge	301.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	301.00 cfs	Check Discharge	0.00 cfs

Tailwater Conditions: Constant Tailwater	
Tailwater Elevation	N/A ft

Name	Description	Discharge	HW Elev.	Velocity
Weir	Roadway	301.00 cfs	1,217.91 ft	N/A

Culvert Designer/Analyzer Report
P613-5

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	301.00	cfs	Allowable HW Elevation	1,217.91	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.52	US
Low Point	1,217.09	ft	Headwater Elevation	1,217.91	ft
Discharge Coefficient (Cr)	2.52		Submergence Factor (Kt)	1.00	
Tailwater Elevation	-9,999.00	ft			

Sta (ft)	Elev. (ft)
0.00	1,222.48
99.39	1,222.35
196.80	1,222.28
321.53	1,222.20
420.68	1,221.91
517.08	1,221.61
613.92	1,221.30
711.84	1,220.92
809.92	1,220.69
906.74	1,220.39
1,003.12	1,220.16
1,101.43	1,220.04
1,197.66	1,219.87
1,292.12	1,219.74
1,388.27	1,219.59
1,485.06	1,219.64
1,582.23	1,219.58
1,678.68	1,219.50
1,775.47	1,219.43
1,871.41	1,219.38
1,964.44	1,219.40
2,035.63	1,219.37
2,075.71	1,219.54
2,124.77	1,219.28
2,222.19	1,219.21
2,313.65	1,219.24
2,370.05	1,219.28
2,430.41	1,219.22
2,501.29	1,219.21
2,572.85	1,219.14
2,662.05	1,219.11
2,729.03	1,219.05
2,827.38	1,219.11
2,920.66	1,219.14
3,017.92	1,219.08
3,114.08	1,219.03
3,208.20	1,219.02
3,302.71	1,218.97
3,399.45	1,218.91
3,496.18	1,218.95
3,591.36	1,219.06
3,681.81	1,219.08
3,706.05	1,219.23
3,800.00	1,218.47

Culvert Designer/Analyzer Report
P613-5

Sta (ft)	Elev. (ft)
3,900.00	1,217.09
4,000.00	1,217.21
4,050.00	1,217.49
4,100.00	1,218.00
4,200.00	1,217.50
4,266.41	1,218.11
4,300.00	1,219.12
4,400.00	1,218.09
4,500.00	1,218.09
4,600.00	1,218.04
4,700.00	1,219.14
4,800.00	1,219.57

Rating Table Report
P613-5

Range Data:

	Minimum	Maximum	Increment
Allowable HW E	1,210.00	1,221.00	0.50 ft

HW Elev. (ft)	Discharge (cfs)
1,210.00	0.00
1,210.50	0.00
1,211.00	0.00
1,211.50	0.00
1,212.00	0.00
1,212.50	0.00
1,213.00	0.00
1,213.50	0.00
1,214.00	0.00
1,214.50	0.00
1,215.00	0.00
1,215.50	0.00
1,216.00	0.00
1,216.50	0.00
1,217.00	0.00
1,217.50	66.12
1,218.00	379.92
1,218.50	1,227.41
1,219.00	2,707.10
1,219.50	6,055.97
1,220.00	12,574.38
1,220.50	21,878.24
1,221.00	33,569.70

Chandler/Gilbert FDS Phase 3 - South
Ponding Area 610-9

0 200' 400' 800'

SCALE: 1" = 400'

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\Mari0040-HyPa610609.dwg nbl Mar 26, 2009 10:36:46am

Chandler/Gilbert FDS Phase 3- South

P610-9 Data Table

Ponding Area	SE Record	SV Record	SQ Record	$Q_{railroad}$	$Q_{culvert}$
	Contour Elevation	Storage Volume	Total Q		
P610609	1208.0	0.00	0	0	0
	1209.0	0.20	0	0	0
	1210.0	0.53	0	0	0
	1211.0	1.18	0	0	0
	1212.0	2.40	0	0	0
	1213.0	3.98	0	0	0
	1214.0	7.85	0	0	0
	1215.0	16.63	0	0	0
	1216.0	49.52	10.23	0	10
	1217.0	128.54	39.1	0	39.10
	1218.0	224.08	77.57	0	77.57
	1219.0	325.31	130.82	7.57	123.25
	1220.0	427.72	3860.84	3383.99	152.06

Hydraulic Component(s): Roadway

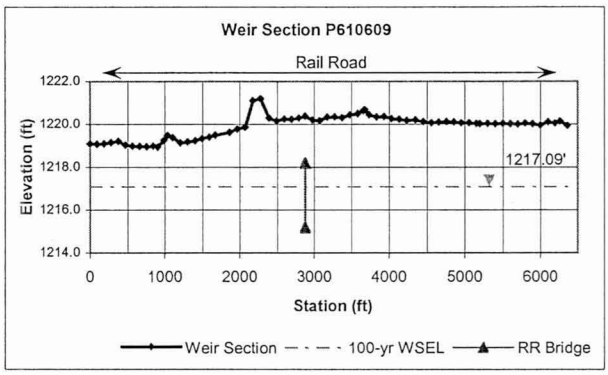
Discharge	0.00 cfs	Allowable HW Elevation	1,217.49 ft
Roadway Width	40.00 ft	Overtopping Coefficient	2.50 US
Low Point	1,218.93 ft	Headwater Elevation	N/A ft
Discharge Coefficient	2.50	Submergence Factor (Kt)	1.00
Tailwater Elevation	0.00 ft		

Railroad

Sta (ft)	Elev. (ft)
0.00	1219.08
92.21	1219.06
187.91	1219.08
282.09	1219.14
376.36	1219.20
471.23	1219.03
566.41	1218.98
661.60	1218.95
756.51	1218.95
849.36	1218.98
909.40	1218.93
993.64	1219.25
1041.23	1219.47
1108.15	1219.37
1208.21	1219.13
1306.82	1219.17
1408.16	1219.23
1496.61	1219.32
1595.19	1219.39
1677.99	1219.49
1866.73	1219.62
1969.03	1219.76
2072.22	1219.86
2173.98	1221.10
2275.07	1221.18
2387.11	1220.29
2489.86	1220.16
2591.13	1220.25
2690.39	1220.23
2793.60	1220.29
2880.27	1220.38
2976.54	1220.19
3076.79	1220.17
3173.64	1220.33
3273.85	1220.35
3375.89	1220.31
3479.23	1220.44
3585.77	1220.49
3660.77	1220.63
3680.64	1220.68
3739.43	1220.43
3837.07	1220.33
3937.63	1220.36
4034.85	1220.26
4135.33	1220.22
4235.04	1220.19

Sta (ft)	Elev. (ft)
4349.65	1220.20
4453.17	1220.13
4556.40	1220.07
4656.05	1220.09
4756.07	1220.12
4856.76	1220.10
4956.76	1220.06
5055.77	1220.07
5156.77	1220.03
5199.14	1220.03
5300.70	1220.04
5400.25	1220.02
5498.54	1220.04
5599.31	1220.02
5698.08	1220.00
5798.11	1220.05
5898.01	1220.02
5999.62	1219.94
6099.10	1220.10
6199.85	1220.04
6263.00	1220.14
6360.58	1219.92

Sta (ft)	Elev. (ft)
2878.7	1218.18
2878.7	1215.18
2885.7	1215.18
2885.7	1218.18



Culvert Designer/Analyzer Report
P610-9

Comments: RR Bridge, modeled as 7 x 3 box culvert

Analysis Component			
Storm Event	Design	Discharge	57.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	57.00 cfs	Check Discharge	57.00 cfs

Tailwater Conditions: Constant Tailwater	
Tailwater Elevation	N/A ft

Name	Description	Discharge	HW Elev.	Velocity
Culvert-1	1-7 x 3 ft Box	56.98 cfs	1,217.49 ft	6.40 ft/s
Weir	Roadway	0.00 cfs	1,217.49 ft	N/A
Total	----------	56.98 cfs	1,217.49 ft	N/A

Culvert Designer/Analyzer Report
P610-9

Component:Culvert-1

Culvert Summary					
Computed Headwater Elev	1,217.49	ft	Discharge	56.98	cfs
Inlet Control HW Elev.	1,217.49	ft	Tailwater Elevation	N/A	ft
Outlet Control HW Elev.	1,217.49	ft	Control Type	Outlet Control	
Headwater Depth/Height	0.77				

Grades					
Upstream Invert	1,215.18	ft	Downstream Invert	1,215.31	ft
Length	16.00	ft	Constructed Slope	-0.008125	ft/ft

Hydraulic Profile					
Profile	A2		Depth, Downstream	1.27	ft
Slope Type	Adverse		Normal Depth	0.00	ft
Flow Regime	Subcritical		Critical Depth	1.27	ft
Velocity Downstream	6.40	ft/s	Critical Slope	0.002460	ft/ft

Section					
Section Shape	Box		Mannings Coefficient	0.011	
Section Material	Concrete		Span	7.00	ft
Section Size	7 x 3 ft		Rise	3.00	ft
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	1,217.49	ft	Upstream Velocity Head	0.35	ft
Ke	0.70		Entrance Loss	0.25	ft

Inlet Control Properties					
Inlet Control HW Elev.	1,217.49	ft	Flow Control	N/A	
Inlet Type	0° wingwall flares		Area Full	21.0	ft^2
K	0.06100		HDS 5 Chart	8	
M	0.75000		HDS 5 Scale	3	
C	0.04230		Equation Form	1	
Y	0.82000				

Culvert Designer/Analyzer Report
P610-9

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	0.00	cfs	Allowable HW Elevation	1,217.49	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.50	US
Low Point	1,218.93	ft	Headwater Elevation	N/A	ft
Discharge Coefficient (Cr)	2.50		Submergence Factor (Kt)	1.00	
Tailwater Elevation	-9,999.00	ft			

Sta (ft)	Elev. (ft)
0.00	1,219.08
92.21	1,219.06
187.91	1,219.08
282.09	1,219.14
376.36	1,219.20
471.23	1,219.03
566.41	1,218.98
661.60	1,218.95
756.51	1,218.95
849.36	1,218.98
909.40	1,218.93
993.64	1,219.25
1,041.23	1,219.47
1,108.15	1,219.37
1,208.21	1,219.13
1,306.82	1,219.17
1,408.16	1,219.23
1,496.61	1,219.32
1,595.19	1,219.39
1,677.99	1,219.49
1,866.73	1,219.62
1,969.03	1,219.76
2,072.22	1,219.86
2,173.98	1,221.10
2,275.07	1,221.18
2,387.11	1,220.29
2,489.86	1,220.16
2,591.13	1,220.25
2,690.39	1,220.23
2,793.60	1,220.29
2,880.27	1,220.38
2,976.54	1,220.19
3,076.79	1,220.17
3,173.64	1,220.33
3,273.85	1,220.35
3,375.89	1,220.31
3,479.23	1,220.44
3,585.77	1,220.49
3,660.77	1,220.63
3,680.64	1,220.68
3,739.43	1,220.43
3,837.07	1,220.33
3,937.63	1,220.36
4,034.85	1,220.26

Culvert Designer/Analyzer Report
P610-9

Sta (ft)	Elev. (ft)
4,135.33	1,220.22
4,235.04	1,220.19
4,349.65	1,220.20
4,453.17	1,220.13
4,556.40	1,220.07
4,656.05	1,220.09
4,756.07	1,220.12
4,856.76	1,220.10
4,956.76	1,220.06
5,055.77	1,220.07
5,156.77	1,220.03
5,199.14	1,220.03
5,300.70	1,220.04
5,400.25	1,220.02
5,498.54	1,220.04
5,599.31	1,220.02
5,698.08	1,220.00
5,798.11	1,220.05
5,898.01	1,220.02
5,999.62	1,219.94
6,099.10	1,220.10
6,199.85	1,220.04
6,263.00	1,220.14
6,360.58	1,219.92

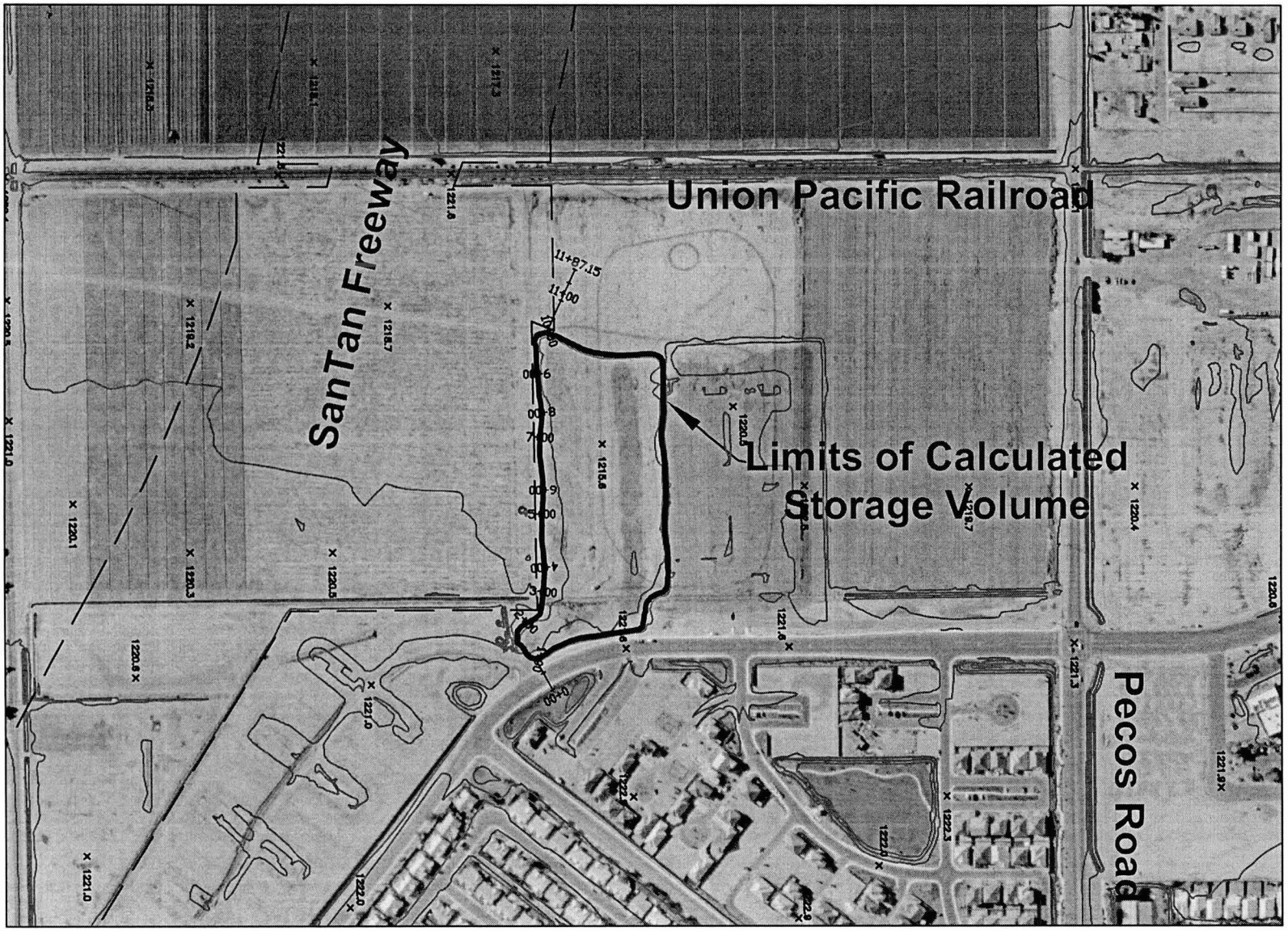
Rating Table Report
P610-9

Range Data:

	Minimum	Maximum	Increment	
Allowable HW E	1,208.00	1,220.00	0.50	ft

HW Elev. (ft)	Discharge (cfs)
1,208.00	0.00
1,208.50	0.00
1,209.00	0.00
1,209.50	0.00
1,210.00	0.00
1,210.50	0.00
1,211.00	0.00
1,211.50	0.00
1,212.00	0.00
1,212.50	0.00
1,213.00	0.00
1,213.50	0.00
1,214.00	0.00
1,214.50	0.00
1,215.00	0.00
1,215.50	1.41
1,216.00	10.23
1,216.50	23.17
1,217.00	39.10
1,217.50	57.39
1,218.00	77.57
1,218.50	99.57
1,219.00	130.82
1,219.50	1,099.52
1,220.00	3,860.84

Chandler/Gilbert FDS Phase 3 - South
Ponding Area 618



0 200' 400' 800'

SCALE: 1" = 400'

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\Mari0040-HyPa618.dwg nbl Mar 26, 2009 1:12:58pm

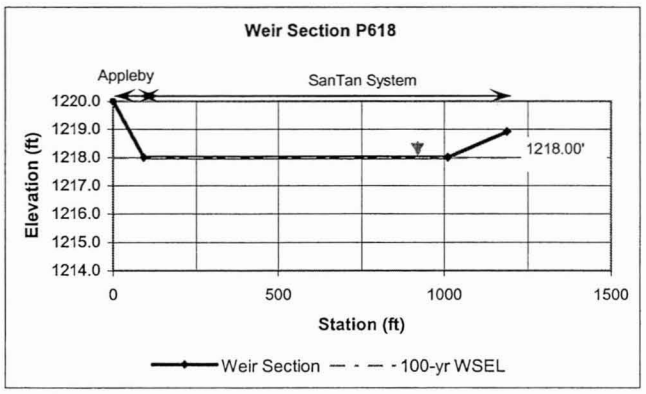
Chandler/Gilbert FDS Phase 3- South
P618 Data Table

Ponding Area	SE Record Contour Elevation	SV Record Storage Volume	SQ Record Total Q	Q_{weir}	
P618	1215.0	0.00	0	0	
	1216.0	1.104	0	0	
	1217.0	6.05	0	0	
	1218.0	11.38	0	0	
	1218.50	14.10	895.81	895.81	

Hydraulic Component(s): Roadway			
Discharge	171.0 cfs	Allowable HW Elevation	1,218.17 ft
Roadway Width	40.00 ft	Overtopping Coefficient	2.55 US
Low Point	1,218.00 ft	Headwater Elevation	1,218.17 ft
Discharge Coefficient	2.55	Submergence Factor (Kt)	1.00
Tailwater Elevation	0 ft		

Sta (ft)	Elev. (ft)
0.00	1220
91.97	1218
1,010.64	1218
1,187.15	1218.91

Notes: overflow from retention basin to Santan Freeway storm drain system



Culvert Designer/Analyzer Report
P618

Analysis Component			
Storm Event	Design	Discharge	171.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	171.00 cfs	Check Discharge	0.00 cfs

Tailwater Conditions: Constant Tailwater	
Tailwater Elevation	N/A ft

Name	Description	Discharge	HW Elev.	Velocity
Weir	Roadway	171.00 cfs	1,218.17 ft	N/A

Culvert Designer/Analyzer Report
P618

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	171.00	cfs	Allowable HW Elevation	1,218.17	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.55	US
Low Point	1,218.00	ft	Headwater Elevation	1,218.17	ft
Discharge Coefficient (Cr)	2.55		Submergence Factor (Kt)	1.00	
Tailwater Elevation	-9,999.00	ft			

Sta (ft)	Elev. (ft)
0.00	1,220.00
91.97	1,218.00
1,010.64	1,218.00
1,187.15	1,218.91

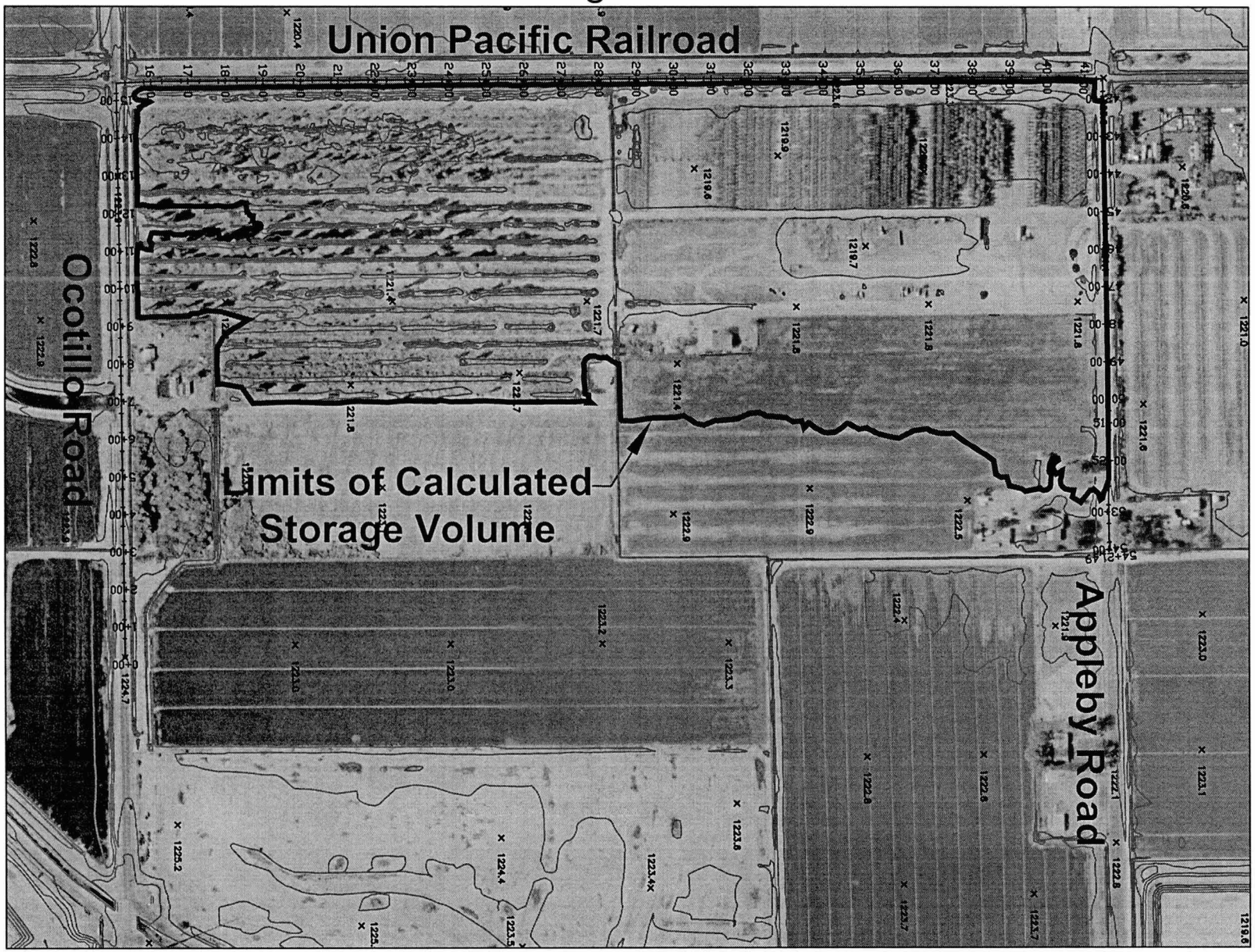
Rating Table Report
P618

Range Data:

	Minimum	Maximum	Increment	
Allowable HW E	1,215.00	1,219.00	0.50	ft

HW Elev. (ft)	Discharge (cfs)
1,215.00	0.00
1,215.50	0.00
1,216.00	0.00
1,216.50	0.00
1,217.00	0.00
1,217.50	0.00
1,218.00	0.00
1,218.50	895.81
1,219.00	2,764.31

Chandler/Gilbert FDS Phase 3 - South
Ponding Area 628



0 200' 400' 800'

SCALE: 1" = 400'

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\Mari0040-HyPa628.dwg nbl Mar 26, 2009 1:30:38pm

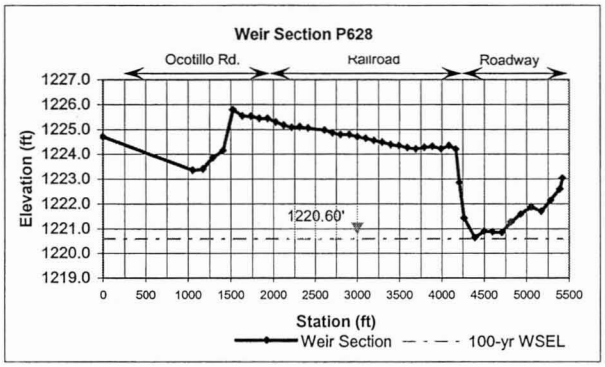
Chandler/Gilbert FDS Phase 3- South
P628 Data Table

Ponding Area	SE Record	SV Record	SQ Record	$Q_{Ocotillo\ Rd.}$	$Q_{railroad}$	$Q_{roadway}$
	Contour Elevation	Storage Volume	Total Q			
	1217.00	0.00	0	0	0	0
	1218.00	0.02	0	0	0	0
	1219.00	0.15	0	0	0	0
	1220.00	3.51	0	0	0	0
	1220.63	11.55	0	0	0	0
	1220.90	14.99	22.64	0	0	22.64
	1221.00	16.89	70.29	0	0	70.29
	1222.00	48.20	1807.12	0	0	1807.12

Hydraulic Component(s): Roadway			
Discharge	37.00 cfs	Allowable HW Elevation	1,220.94 ft
Roadway Width	40.00 ft	Overtopping Coefficient	2.51 US
Low Point	1,220.63 ft	Headwater Elevation	1,220.94 ft
Discharge Coefficient	2.51	Submergence Factor (Kt)	1.00
Tailwater Elevation	0.00 ft		

	Sta (ft)	Elev. (ft)
Road	0.00	1224.70
	1057.59	1223.35
	1175.13	1223.40
	1290.91	1223.85
	1408.93	1224.14
	1526.65	1225.78
Railroad	1636.78	1225.54
	1738.59	1225.52
	1834.16	1225.43
	1932.32	1225.43
	2030.67	1225.29
	2123.91	1225.16
	2221.14	1225.08
	2320.22	1225.10
	2417.74	1225.05
	2612.90	1224.97
	2708.57	1224.86
	2806.15	1224.78
	2904.39	1224.79
	3002.05	1224.70
	3101.57	1224.64
	3199.75	1224.55
	3297.85	1224.48
	3397.77	1224.37
	3495.64	1224.34
	3594.49	1224.27
	3694.21	1224.21
	3792.51	1224.28
	3890.94	1224.32
	3990.82	1224.21
	4090.45	1224.34
	4167.81	1224.19
Roadway	4210.22	1222.85
	4266.97	1221.42
	4395.09	1220.63
	4499.81	1220.89
	4598.61	1220.87
	4705.47	1220.84
	4813.94	1221.27
	4932.25	1221.59
	5052.83	1221.87
	5171.68	1221.70
	5286.85	1222.14
	5390.21	1222.59
	5421.49	1223.02

Notes:



Culvert Designer/Analyzer Report
P628

Analysis Component			
Storm Event	Design	Discharge	37.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	37.00 cfs	Check Discharge	0.00 cfs

Tailwater Conditions: Constant Tailwater	
Tailwater Elevation	N/A ft

Name	Description	Discharge	HW Elev.	Velocity
Weir	Roadway	37.00 cfs	1,220.94 ft	N/A

Culvert Designer/Analyzer Report
P628

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	37.00	cfs	Allowable HW Elevation	1,220.94	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.51	US
Low Point	1,220.63	ft	Headwater Elevation	1,220.94	ft
Discharge Coefficient (Cr)	2.51		Submergence Factor (Kt)	1.00	
Tailwater Elevation	-9,999.00	ft			

Sta (ft)	Elev. (ft)
0.00	1,224.70
1,057.59	1,223.35
1,175.13	1,223.40
1,290.91	1,223.85
1,408.93	1,224.14
1,526.65	1,225.78
1,636.78	1,225.54
1,738.59	1,225.52
1,834.16	1,225.43
1,932.32	1,225.43
2,030.67	1,225.29
2,123.91	1,225.16
2,221.14	1,225.08
2,320.22	1,225.10
2,417.74	1,225.05
2,612.90	1,224.97
2,708.57	1,224.86
2,806.15	1,224.78
2,904.39	1,224.79
3,002.05	1,224.70
3,101.57	1,224.64
3,199.75	1,224.55
3,297.85	1,224.48
3,397.77	1,224.37
3,495.64	1,224.34
3,594.49	1,224.27
3,694.21	1,224.21
3,792.51	1,224.28
3,890.94	1,224.32
3,990.82	1,224.21
4,090.45	1,224.34
4,167.81	1,224.19
4,210.22	1,222.85
4,266.97	1,221.42
4,395.09	1,220.63
4,499.81	1,220.89
4,598.61	1,220.87
4,705.47	1,220.84
4,813.94	1,221.27
4,932.25	1,221.59
5,052.83	1,221.87
5,171.68	1,221.70
5,286.85	1,222.14
5,390.21	1,222.59

Culvert Designer/Analyzer Report
P628

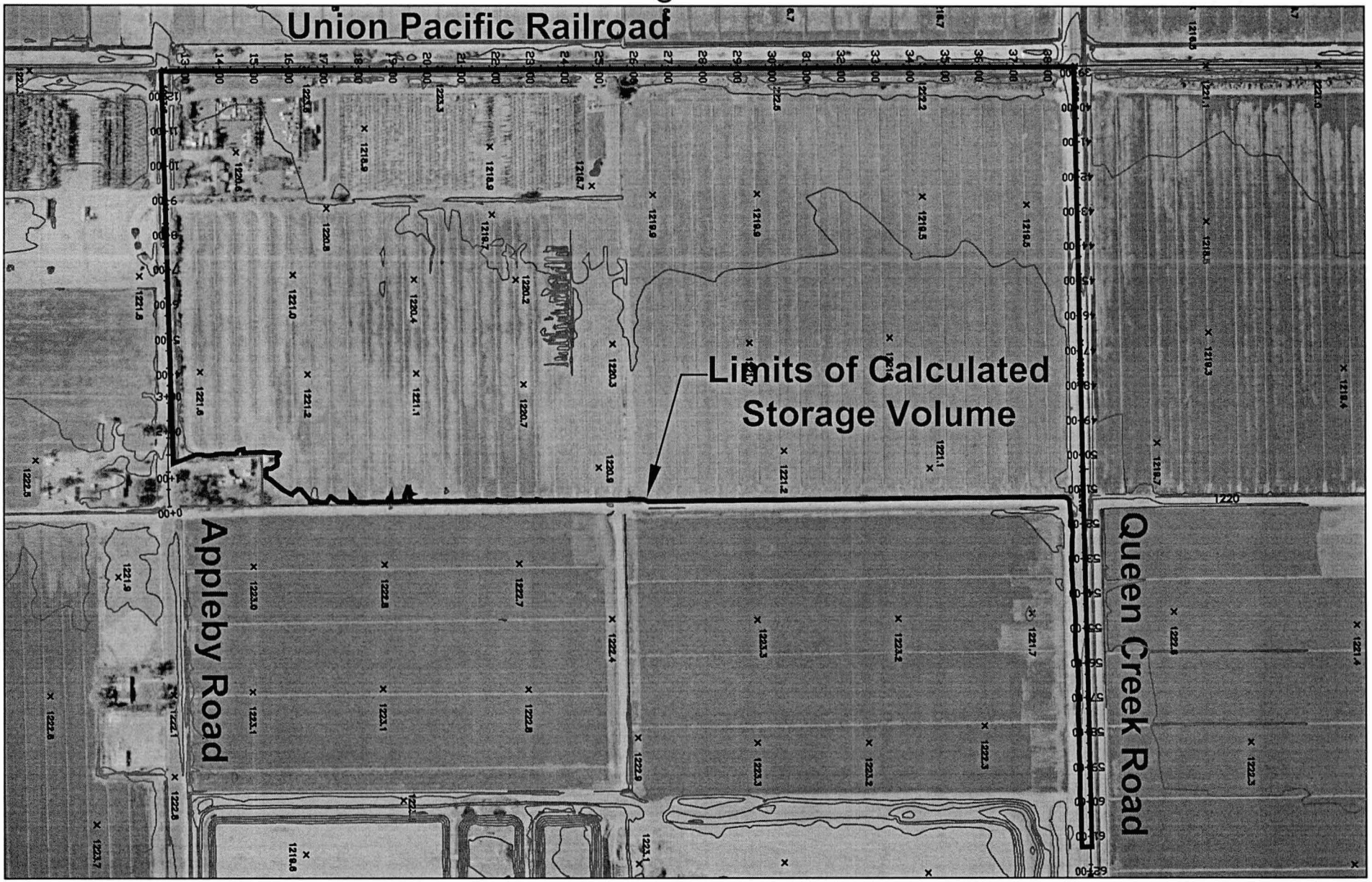
Sta (ft)	Elev. (ft)
5,421.49	1,223.02

Rating Table Report
P628

Range Data:			
	Minimum	Maximum	Increment
Allowable HW E	1,217.00	1,222.00	0.50 ft

HW Elev. (ft)	Discharge (cfs)
1,217.00	0.00
1,217.50	0.00
1,218.00	0.00
1,218.50	0.00
1,219.00	0.00
1,219.50	0.00
1,220.00	0.00
1,220.50	0.00
1,221.00	70.29
1,221.50	627.39
1,222.00	1,807.12

Chandler/Gilbert FCS Phase 3 - South
Ponding Area 627



0 200' 400' 800'

SCALE: 1" = 400'

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\Mari0040-HyPa627.dwg nbl Mar 26, 2009 1:29:37pm

Chandler/Gilbert FDS Phase 3- South

P627 Data Table

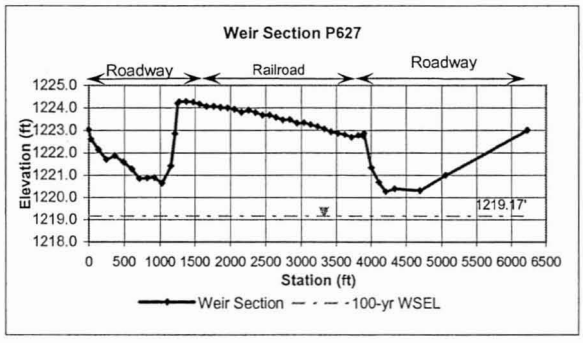
Ponding Area	SE Record Contour Elevation	SV Record Storage Volume	SQ Record Total Q	$Q_{roadway}$	$Q_{railroad}$	$Q_{roadway}$
P627	1214.00	0.00	0.00	0	0	0
	1215.00	0.02	0.00	0	0	0
	1216.00	0.20	0.00	0	0	0
	1217.00	0.70	0.00	0	0	0
	1218.00	1.73	0.00	0	0	0
	1219.00	6.28	0.00	0	0	0
	1220.00	24.89	0.00	0	0	0
	1220.20	30.96	0.00	0	0	0
	1220.40	39.23	22.16	0	0	22.16
	1221.00	72.39	1034.77	35.23	0	999.54
	1222.00	142.37	7435.20	1414.68	0	6020.52

Hydraulic Component(s): Roadway

Discharge	32.0 cfs	Allowable HW Elevation	1,220.42 ft
Roadway Width	40.00 ft	Overtopping Coefficient	2.50 US
Low Point	1,220.25 ft	Headwater Elevation	1,220.42 ft
Discharge Coefficient	2.50	Submergence Factor (Kt)	1.00
Tailwater Elevation	0.00 ft		

	Sta (ft)	Elev. (ft)
Roadway	0.00	1223.02
	31.29	1222.59
	134.64	1222.14
	249.81	1221.70
	368.66	1221.87
	489.24	1221.59
	607.55	1221.27
	716.02	1220.84
	822.88	1220.87
	921.68	1220.89
	1026.41	1220.63
	1154.52	1221.42
	1211.27	1222.85
	1253.69	1224.19
Railroad	1275.78	1224.25
	1373.87	1224.27
	1472.46	1224.25
	1572.45	1224.15
	1669.56	1224.05
	1767.83	1224.06
	1865.22	1224.01
	1962.65	1223.98
	2061.65	1223.93
	2159.54	1223.79
	2259.17	1223.89
	2359.07	1223.78
	2457.09	1223.67
	2553.27	1223.68
	2647.32	1223.57
	2744.59	1223.46
	2842.25	1223.47
	2941.24	1223.32
	3039.68	1223.33
	3138.19	1223.24
	3234.86	1223.16
	3332.61	1223.05
	3428.32	1222.93
	3526.20	1222.85
	3623.70	1222.80
	3723.84	1222.68
	3819.30	1222.77
	3887.01	1222.72
Roadway	3899.89	1222.85
	4004.65	1221.33
	4108.06	1220.67
	4209.79	1220.25
	4338.33	1220.39
	4695.72	1220.30
	5060.84	1221.00
	6233.74	1223.00

Notes:



Culvert Designer/Analyzer Report
P627

Analysis Component			
Storm Event	Design	Discharge	32.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	32.00 cfs	Check Discharge	0.00 cfs

Tailwater Conditions: Constant Tailwater	
Tailwater Elevation	N/A ft

Name	Description	Discharge	HW Elev.	Velocity
Weir	Roadway	32.00 cfs	1,220.42 ft	N/A

Culvert Designer/Analyzer Report
P627

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	32.00	cfs	Allowable HW Elevation	1,220.42	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.50	US
Low Point	1,220.25	ft	Headwater Elevation	1,220.42	ft
Discharge Coefficient (Cr)	2.50		Submergence Factor (Kt)	1.00	
Tailwater Elevation	-9,999.00	ft			

Sta (ft)	Elev. (ft)
0.00	1,223.02
31.29	1,222.59
134.64	1,222.14
249.81	1,221.70
368.66	1,221.87
489.24	1,221.59
607.55	1,221.27
716.02	1,220.84
822.88	1,220.87
921.68	1,220.89
1,026.41	1,220.63
1,154.52	1,221.42
1,211.27	1,222.85
1,253.69	1,224.19
1,275.78	1,224.25
1,373.87	1,224.27
1,472.46	1,224.25
1,572.45	1,224.15
1,669.56	1,224.05
1,767.83	1,224.06
1,865.22	1,224.01
1,962.65	1,223.98
2,061.65	1,223.93
2,159.54	1,223.79
2,259.17	1,223.89
2,359.07	1,223.78
2,457.09	1,223.67
2,553.27	1,223.68
2,647.32	1,223.57
2,744.59	1,223.46
2,842.25	1,223.47
2,941.24	1,223.32
3,039.68	1,223.33
3,138.19	1,223.24
3,234.86	1,223.16
3,332.61	1,223.05
3,428.32	1,222.93
3,526.20	1,222.85
3,623.70	1,222.80
3,723.84	1,222.68
3,819.30	1,222.77
3,887.01	1,222.72
3,899.89	1,222.85
4,004.65	1,221.33

Culvert Designer/Analyzer Report
P627

Sta (ft)	Elev. (ft)
4,108.06	1,220.67
4,209.79	1,220.25
4,338.33	1,220.39
4,695.72	1,220.30
5,060.84	1,221.00
6,233.74	1,223.00

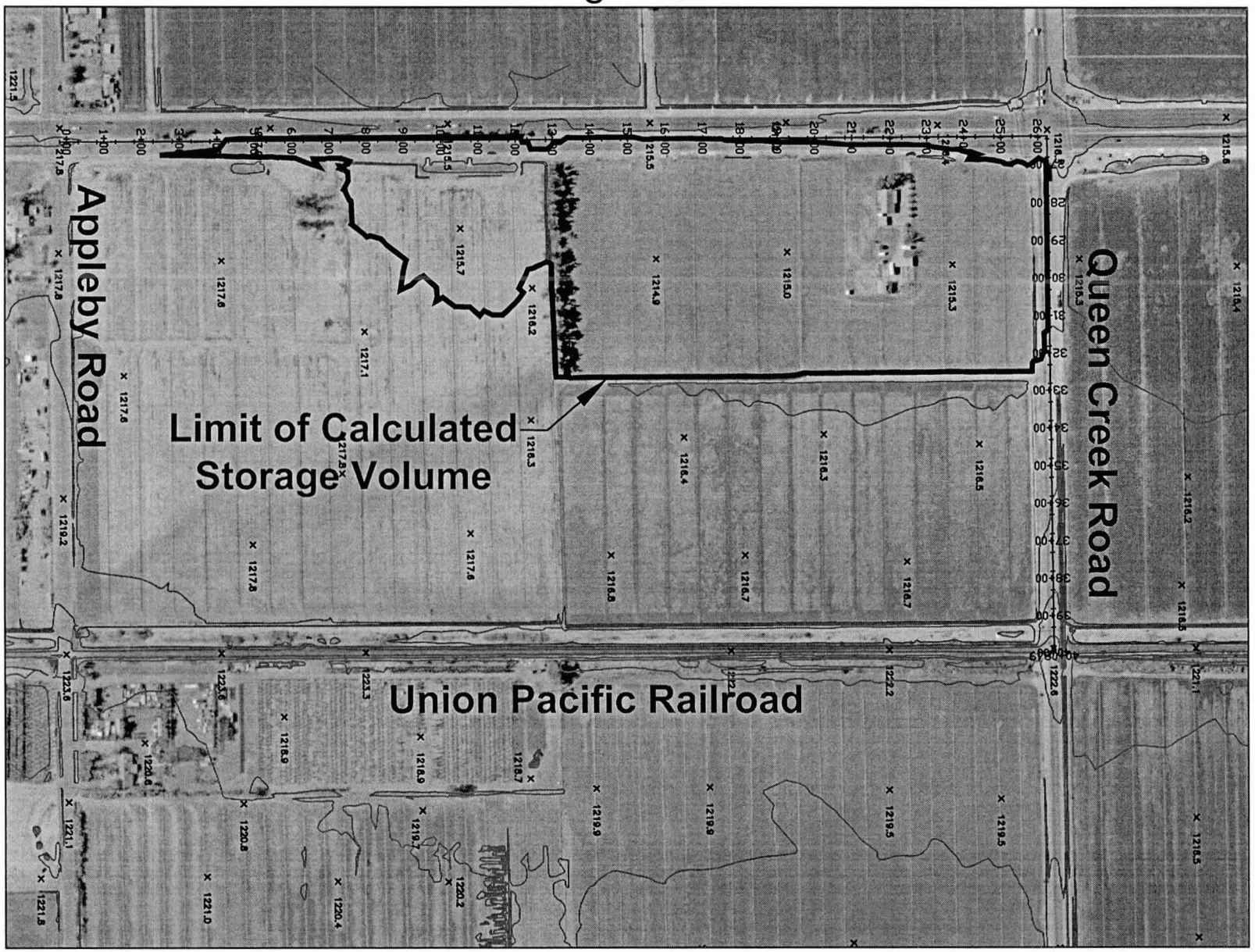
Rating Table Report
P627

Range Data:

	Minimum	Maximum	Increment
Allowable HW E	1,214.00	1,222.00	0.50 ft

HW Elev. (ft)	Discharge (cfs)
1,214.00	0.00
1,214.50	0.00
1,215.00	0.00
1,215.50	0.00
1,216.00	0.00
1,216.50	0.00
1,217.00	0.00
1,217.50	0.00
1,218.00	0.00
1,218.50	0.00
1,219.00	0.00
1,219.50	0.00
1,220.00	0.00
1,220.50	94.26
1,221.00	1,034.77
1,221.50	3,405.08
1,222.00	7,435.20

Chandler/Gilbert FCS Phase 3 - South
Ponding Area 629



0 200' 400' 800'

SCALE: 1" = 400'

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\Mari0040-HyPa629.dwg nbl Mar 26, 2009 1:32:36pm

Chandler/Gilbert FDS Phase 3- South

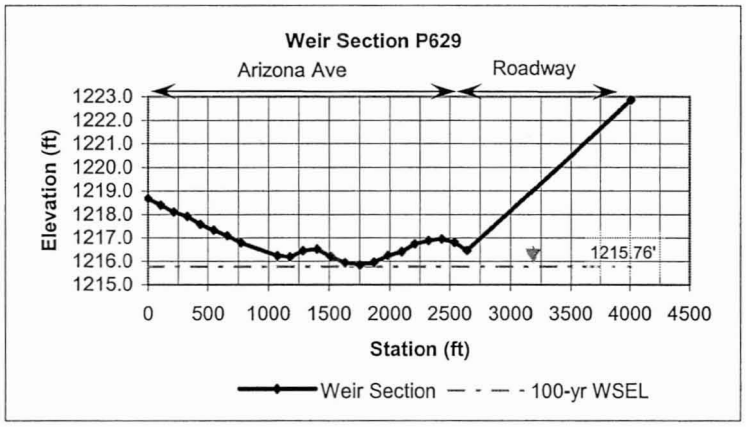
P629 Data Table

Ponding Area	SE Record Contour Elevation	SV Record Storage Volume	SQ Record Total Q	$Q_{Arizona\ Ave}$	$Q_{Roadway}$	
P629	1212.00	0.00	0	0	0	
	1213.00	0.03	0	0	0	
	1214.00	0.14	0	0	0	
	1215.00	0.78	0	0	0	
	1215.70	8.70	0	0	0	
	1215.80	10.78	0	0	0	
	1215.90	12.99	2.64	2.64	0	
	1216.00	15.30	24.85	24.85	0	

Hydraulic Component(s): Roadway			
Discharge	15.0 cfs	Allowable HW Elevation	1,215.97 ft
Roadway Width	40.00 ft	Overtopping Coefficient	2.51 US
Low Point	1,215.83 ft	Headwater Elevation	1,215.97 ft
Discharge Coefficient	2.51	Submergence Factor (Kt)	1.00
Tailwater Elevation	0.00 ft		

	Sta (ft)	Elev. (ft)
Arizona Ave	0.00	1218.67
	107.10	1218.39
	216.03	1218.10
	325.75	1217.91
	436.17	1217.57
	547.52	1217.33
	660.86	1217.09
	775.31	1216.79
	1077.30	1216.22
	1180.07	1216.18
	1287.71	1216.44
	1399.98	1216.51
	1511.40	1216.20
	1632.83	1215.92
	1752.55	1215.83
	1869.44	1215.95
	1984.33	1216.24
	2098.58	1216.40
	2211.24	1216.74
	2324.22	1216.87
	2436.05	1216.95
	2538.39	1216.80
	2643.36	1216.46
Roadway	4008.19	1222.85

Notes:



Culvert Designer/Analyzer Report
P629

Analysis Component			
Storm Event	Design	Discharge	15.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	15.00 cfs	Check Discharge	0.00 cfs

Tailwater Conditions: Constant Tailwater	
Tailwater Elevation	N/A ft

Name	Description	Discharge	HW Elev.	Velocity
Weir	Roadway	15.00 cfs	1,215.97 ft	N/A

Culvert Designer/Analyzer Report
P629

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	15.00	cfs	Allowable HW Elevation	1,215.97	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.51	US
Low Point	1,215.83	ft	Headwater Elevation	1,215.97	ft
Discharge Coefficient (Cr)	2.51		Submergence Factor (Kt)	1.00	
Tailwater Elevation	-9,999.00	ft			

Sta (ft)	Elev. (ft)
0.00	1,218.67
107.10	1,218.39
216.03	1,218.10
325.75	1,217.91
436.17	1,217.57
547.52	1,217.33
660.86	1,217.09
775.31	1,216.79
1,077.30	1,216.22
1,180.07	1,216.18
1,287.71	1,216.44
1,399.98	1,216.51
1,511.40	1,216.20
1,632.83	1,215.92
1,752.55	1,215.83
1,869.44	1,215.95
1,984.33	1,216.24
2,098.58	1,216.40
2,211.24	1,216.74
2,324.22	1,216.87
2,436.05	1,216.95
2,538.39	1,216.80
2,643.36	1,216.46
4,008.19	1,222.85

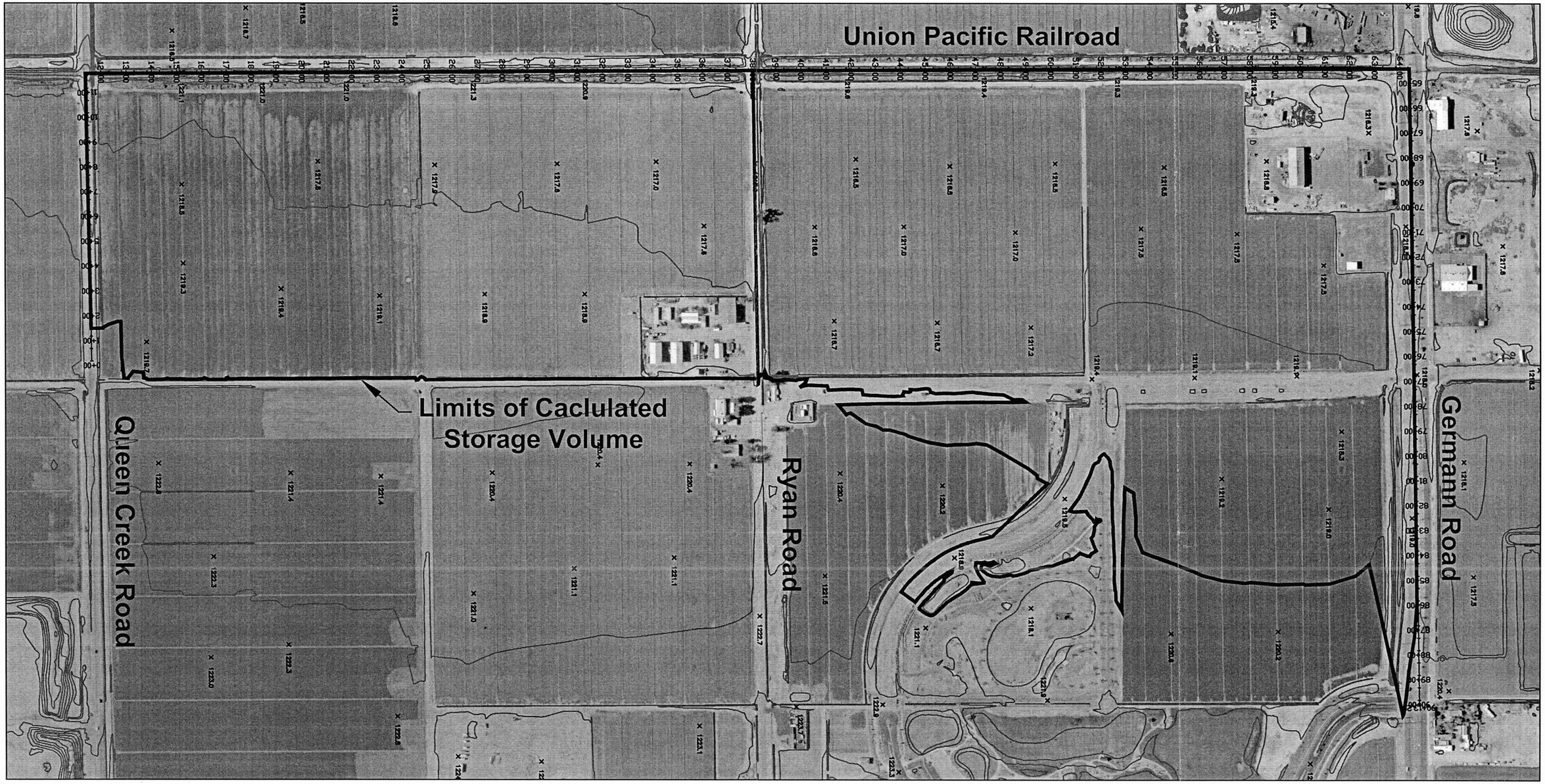
Rating Table Report
P629

Range Data:

	Minimum	Maximum	Increment	
Allowable HW E	1,212.00	1,216.00	0.50	ft

HW Elev. (ft)	Discharge (cfs)
1,212.00	0.00
1,212.50	0.00
1,213.00	0.00
1,213.50	0.00
1,214.00	0.00
1,214.50	0.00
1,215.00	0.00
1,215.50	0.00
1,216.00	24.85

Chandler/Gilbert FDS Phase 3 - South
Ponding Area 623-5



0 200' 400' 800'

SCALE: 1" = 400'

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\Mari0040-HyPa623625.dwg nbl Mar 26, 2009 1:20:58pm

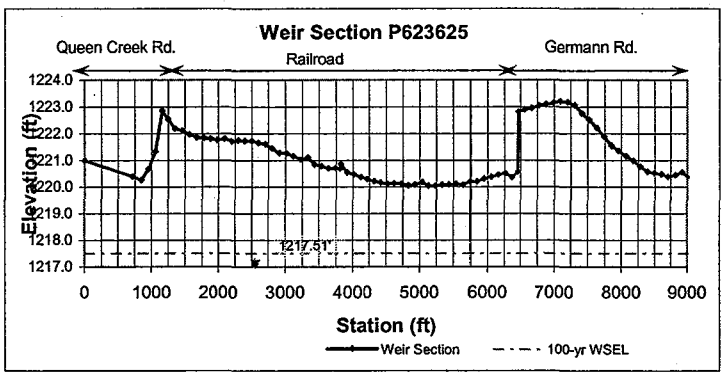
P623-5 Data Table

Ponding Area	SE Record Contour Elevation	SV Record Storage Volume	SQ Record Total Q	$Q_{Queen\ Creek}$	$Q_{railroad}$	$Q_{Germann\ Rd.}$	$Q_{culvert\ 1}$	$Q_{culvert\ 2}$
P623-5	1213.0	0.00	0	0	0	0	0	0
	1214.0	0.09	0	0	0	0	0	0
	1215.0	0.95	1.18	0	0	0	0	1.18
	1216.0	3.69	8.25	0	0	0	0	8.25
	1217.0	27.28	19.46	0	0	0	0	19.46
	1217.2	38.60	21.94	0	0	0	0	21.94
	1217.5	58.83	73.89	0	0	0	73.89	n/a
	1218.0	101.80	91.17	0	0	0	91.17	n/a
	1219.0	216.51	128.05	0	0	0	128.05	n/a
	1220.0	373.53	166.01	0	0	0	166.01	n/a
	1221.0	578.58	6339.37	0	0	6142.15	197.22	n/a

Hydraulic Component(s): Roadway					
Discharge	0.0	cfs	Allowable HW Elevation	1,220.04	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.50	US
Low Point	1,220.04	ft	Headwater Elevation	N/A	ft
Discharge Coefficient (	0.00		Submergence Factor (Kt)	0.00	
Tailwater Elevation	0.00	ft			

	Sta (ft)	Elev. (ft)		Sta (ft)	Elev. (ft)
Roadway	0.00	1221.00		4620.21	1220.13
	722.51	1220.39		4725.52	1220.13
	851.04	1220.25		4830.36	1220.05
	952.78	1220.67		4933.27	1220.09
	1056.18	1221.33		5034.46	1220.17
	1160.95	1222.85		5132.21	1220.04
Railroad	1248.08	1222.53		5233.80	1220.04
	1354.40	1222.19		5331.35	1220.08
	1461.24	1222.10	Railroad	5435.61	1220.09
	1568.81	1221.96		5539.07	1220.11
	1675.50	1221.85		5643.58	1220.08
	1778.21	1221.83		5744.42	1220.20
	1880.72	1221.81		5842.02	1220.19
	1983.35	1221.76		5946.94	1220.30
	2091.10	1221.80		6054.62	1220.37
	2195.89	1221.71		6160.61	1220.46
	2297.09	1221.75		6261.54	1220.51
	2397.54	1221.72		6364.11	1220.36
	2503.09	1221.73		6456.33	1220.56
	2601.29	1221.65		6470.89	1222.81
	2703.46	1221.60		6560.89	1222.89
	2806.73	1221.45		6670.23	1222.95
	2909.66	1221.27		6776.34	1223.05
	3013.52	1221.27		6885.17	1223.10
	3119.29	1221.15		6993.09	1223.14
	3225.72	1221.03		7098.61	1223.20
	3330.56	1221.10		7205.45	1223.16
	3431.50	1220.84		7311.85	1223.06
	3534.14	1220.78		7418.82	1222.75
	3637.45	1220.70		7524.14	1222.51
	3739.54	1220.71	Roadway	7631.95	1222.22
	3811.55	1220.69		7740.64	1221.88
	3818.89	1220.85		7851.31	1221.54
	3915.93	1220.54		7958.08	1221.35
	4016.73	1220.48		8067.59	1221.15
	4118.32	1220.36		8174.20	1220.98
	4219.59	1220.29		8279.66	1220.77
	4322.95	1220.21		8389.45	1220.58
	4418.62	1220.16		8496.95	1220.52
	4519.84	1220.12		8608.09	1220.48
				8712.46	1220.39
				8821.02	1220.45
				8920.97	1220.56
				9013.19	1220.36

Notes:



Culvert Designer/Analyzer Report
P623-5 (Culvert)

Analysis Component			
Storm Event	Design	Discharge	67.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	67.00 cfs	Check Discharge	0.00 cfs

Tailwater Conditions: Constant Tailwater	
Tailwater Elevation	N/A ft

Name	Description	Discharge	HW Elev.	Velocity
Culvert-1	1-60 inch Circular	50.48 cfs	1,216.76 ft	7.82 ft/s
Culvert-2	1-30 inch Circular	16.52 cfs	1,216.76 ft	6.47 ft/s
Weir	Roadway	0.00 cfs	1,216.76 ft	N/A
Total	----------	67.00 cfs	1,216.76 ft	N/A

Culvert Designer/Analyzer Report
P623-5 (Culvert)

Component:Culvert-1

Culvert Summary					
Computed Headwater Elev:	1,216.76	ft	Discharge	50.48	cfs
Inlet Control HW Elev.	1,216.44	ft	Tailwater Elevation	N/A	ft
Outlet Control HW Elev.	1,216.76	ft	Control Type	Entrance Control	
Headwater Depth/Height	0.62				

Grades					
Upstream Invert	1,213.65	ft	Downstream Invert	1,213.54	ft
Length	18.00	ft	Constructed Slope	0.006111	ft/ft

Hydraulic Profile					
Profile	S2		Depth, Downstream	1.82	ft
Slope Type	Steep		Normal Depth	1.70	ft
Flow Regime	Supercritical		Critical Depth	1.99	ft
Velocity Downstream	7.82	ft/s	Critical Slope	0.003361	ft/ft

Section					
Section Shape	Circular		Mannings Coefficient	0.013	
Section Material	Concrete		Span	5.00	ft
Section Size	60 inch		Rise	5.00	ft
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	1,216.76	ft	Upstream Velocity Head	0.74	ft
Ke	0.50		Entrance Loss	0.37	ft

Inlet Control Properties					
Inlet Control HW Elev.	1,216.44	ft	Flow Control	N/A	
Inlet Type	Square edge w/headwall		Area Full	19.6	ft^2
K	0.00980		HDS 5 Chart	1	
M	2.00000		HDS 5 Scale	1	
C	0.03980		Equation Form	1	
Y	0.67000				

Culvert Designer/Analyzer Report
P623-5 (Culvert)

Component:Culvert-2

Culvert Summary					
Computed Headwater Elev:	1,216.76	ft	Discharge	16.52	cfs
Inlet Control HW Elev.	1,216.55	ft	Tailwater Elevation	N/A	ft
Outlet Control HW Elev.	1,216.76	ft	Control Type	Entrance Control	
Headwater Depth/Height	0.93				

Grades					
Upstream Invert	1,214.44	ft	Downstream Invert	1,214.03	ft
Length	20.62	ft	Constructed Slope	0.019884	ft/ft

Hydraulic Profile					
Profile	S2		Depth, Downstream	1.29	ft
Slope Type	Steep		Normal Depth	1.29	ft
Flow Regime	Supercritical		Critical Depth	1.37	ft
Velocity Downstream	6.47	ft/s	Critical Slope	0.016169	ft/ft

Section					
Section Shape	Circular		Mannings Coefficient	0.024	
Section Material	CMP		Span	2.50	ft
Section Size	30 inch		Rise	2.50	ft
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	1,216.76	ft	Upstream Velocity Head	0.56	ft
Ke	0.70		Entrance Loss	0.39	ft

Inlet Control Properties					
Inlet Control HW Elev.	1,216.55	ft	Flow Control	N/A	
Inlet Type	Mitered to slope		Area Full	4.9	ft^2
K	0.02100		HDS 5 Chart	2	
M	1.33000		HDS 5 Scale	2	
C	0.04630		Equation Form	1	
Y	0.75000				

Culvert Designer/Analyzer Report
P623-5 (Culvert)

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	0.00	cfs	Allowable HW Elevation	1,216.76	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.50	US
Low Point	1,220.04	ft	Headwater Elevation	N/A	ft
Discharge Coefficient (Cr)	2.50		Submergence Factor (Kt)	1.00	
Tailwater Elevation	-9,999.00	ft			

Sta (ft)	Elev. (ft)
0.00	1,221.00
722.51	1,220.39
851.04	1,220.25
952.78	1,220.67
1,056.18	1,221.33
1,160.95	1,222.85
1,248.08	1,222.53
1,354.40	1,222.19
1,461.24	1,222.10
1,568.81	1,221.96
1,675.50	1,221.85
1,778.21	1,221.83
1,880.72	1,221.81
1,983.35	1,221.76
2,091.10	1,221.80
2,195.89	1,221.71
2,297.09	1,221.75
2,397.54	1,221.72
2,503.09	1,221.73
2,601.29	1,221.65
2,703.46	1,221.60
2,806.73	1,221.45
2,909.66	1,221.27
3,013.52	1,221.27
3,119.29	1,221.15
3,225.72	1,221.03
3,330.56	1,221.10
3,431.50	1,220.84
3,534.14	1,220.78
3,637.45	1,220.70
3,739.54	1,220.71
3,811.55	1,220.69
3,818.89	1,220.85
3,915.93	1,220.54
4,016.73	1,220.48
4,118.32	1,220.36
4,219.59	1,220.29
4,322.95	1,220.21
4,418.62	1,220.16
4,519.84	1,220.12
4,620.21	1,220.13
4,725.52	1,220.13
4,830.36	1,220.05
4,933.27	1,220.09

Culvert Designer/Analyzer Report
P623-5 (Culvert)

Sta (ft)	Elev. (ft)
5,034.46	1,220.17
5,132.21	1,220.04
5,233.80	1,220.04
5,331.35	1,220.08
5,435.61	1,220.09
5,539.07	1,220.11
5,643.58	1,220.08
5,744.42	1,220.20
5,842.02	1,220.19
5,946.94	1,220.30
6,054.62	1,220.37
6,160.61	1,220.46
6,261.54	1,220.51
6,364.11	1,220.36
6,456.33	1,220.56
6,470.89	1,222.81
6,560.89	1,222.89
6,670.23	1,222.95
6,776.34	1,223.05
6,885.17	1,223.10
6,993.09	1,223.14
7,098.61	1,223.20
7,205.45	1,223.16
7,311.85	1,223.06
7,418.82	1,222.75
7,524.14	1,222.51
7,631.95	1,222.22
7,740.64	1,221.88
7,851.31	1,221.54
7,958.08	1,221.35
8,067.59	1,221.15
8,174.20	1,220.98
8,279.66	1,220.77
8,389.45	1,220.58
8,496.95	1,220.52
8,608.09	1,220.48
8,712.46	1,220.39
8,821.02	1,220.45
8,920.97	1,220.56
9,013.19	1,220.36

Rating Table Report
P623-5 (Culvert)

Range Data:

	Minimum	Maximum	Increment
Allowable HW E	1,217.30	1,221.00	0.10 ft

HW Elev. (ft)	Discharge (cfs)
1,217.30	67.29
1,217.40	70.56
1,217.50	73.89
1,217.60	77.26
1,217.70	80.68
1,217.80	84.14
1,217.90	87.64
1,218.00	91.17
1,218.10	94.75
1,218.20	98.35
1,218.30	101.99
1,218.40	105.65
1,218.50	109.33
1,218.60	113.04
1,218.70	116.77
1,218.80	120.52
1,218.90	124.28
1,219.00	128.05
1,219.10	131.84
1,219.20	135.63
1,219.30	139.43
1,219.40	143.24
1,219.50	147.04
1,219.60	150.84
1,219.70	154.65
1,219.80	158.44
1,219.90	162.23
1,220.00	166.01
1,220.10	169.78
1,220.20	173.54
1,220.30	177.28
1,220.40	181.00
1,220.50	184.53
1,220.60	187.14
1,220.70	189.71
1,220.80	192.24
1,220.90	194.75
1,221.00	197.22

Rating Table Report
P623-5 (Culvert)

Range Data:			
	Minimum	Maximum	Increment
Allowable HW E	1,213.00	1,217.20	0.10 ft

HW Elev. (ft)	(2) Discharge
1,213.00	0.00
1,213.10	0.00
1,213.20	0.00
1,213.30	0.00
1,213.40	0.00
1,213.50	0.00
1,213.60	0.00
1,213.70	0.00
1,213.80	0.00
1,213.90	0.00
1,214.00	0.00
1,214.10	0.00
1,214.20	0.00
1,214.30	0.00
1,214.40	0.00
1,214.50	0.01
1,214.60	0.09
1,214.70	0.26
1,214.80	0.50
1,214.90	0.81
1,215.00	1.18
1,215.10	1.63
1,215.20	2.14
1,215.30	2.71
1,215.40	3.34
1,215.50	4.03
1,215.60	4.78
1,215.70	5.57
1,215.80	6.42
1,215.90	7.32
1,216.00	8.25
1,216.10	9.23
1,216.20	10.25
1,216.30	11.31
1,216.40	12.40
1,216.50	13.51
1,216.60	14.66
1,216.70	15.83
1,216.80	17.02
1,216.90	18.23
1,217.00	19.46
1,217.10	20.69
1,217.20	21.94

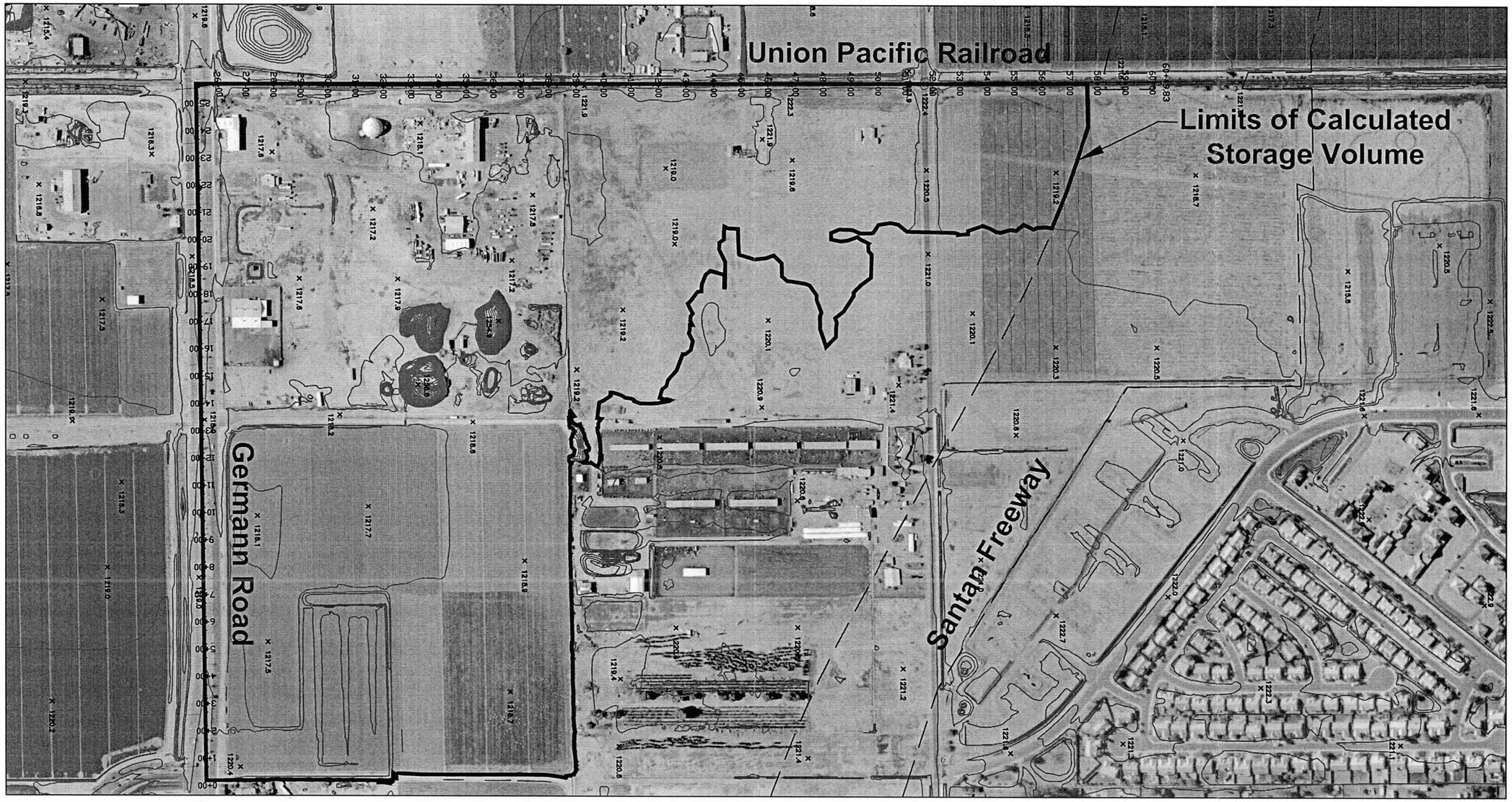
Rating Table Report
P623-5 (Culvert)

Range Data:

	Minimum	Maximum	Increment
Allowable HW E	1,217.20	1,221.00	0.10 ft

HW Elev. (ft)	W) Discharge
1,217.20	0.00
1,217.30	0.00
1,217.40	0.00
1,217.50	0.00
1,217.60	0.00
1,217.70	0.00
1,217.80	0.00
1,217.90	0.00
1,218.00	0.00
1,218.10	0.00
1,218.20	0.00
1,218.30	0.00
1,218.40	0.00
1,218.50	0.00
1,218.60	0.00
1,218.70	0.00
1,218.80	0.00
1,218.90	0.00
1,219.00	0.00
1,219.10	0.00
1,219.20	0.00
1,219.30	0.00
1,219.40	0.00
1,219.50	0.00
1,219.60	0.00
1,219.70	0.00
1,219.80	0.00
1,219.90	0.00
1,220.00	0.00
1,220.10	9.02
1,220.20	108.20
1,220.30	324.01
1,220.40	649.05
1,220.50	1,111.96
1,220.60	1,759.77
1,220.70	2,583.52
1,220.80	3,585.61
1,220.90	4,774.71
1,221.00	6,142.15

Chandler/Gilbert FDS Phase 3 - South
Ponding Area 621



0 200' 400' 800'

SCALE: 1" = 400'

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\Mari0040-HyPa621.dwg nbl Mar 26, 2009 1:16:03pm

Chandler/Gilbert FDS Phase 3- South

P621 Data Table

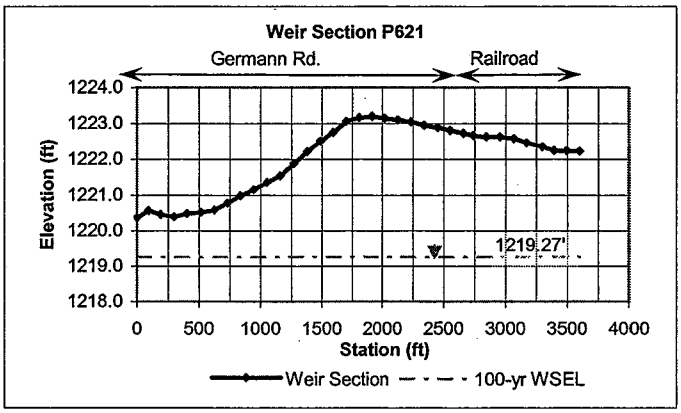
Ponding Area	SE Record	SV Record	SQ Record	$Q_{roadway}$	$Q_{railroad}$	
	Contour Elevation	Storage Volume	Total Q			
P621	1211.0	0.00	0	0	0	
	1217.0	1.93	0	0	0	
	1218.0	21.10	0	0	0	
	1219.0	73.52	0	0	0	
	1220.0	162.84	0	0	0	
	1220.2	183.54	0	0	0	
	1220.3	194.01	0	0	0	
	1220.40	204.54	0.16	0.16	0	
	1220.50	215.16	14.07	14.07	0	
	1221.0	269.05	663.5	663.05	0	
	1222.0	379.15	4514.3	4514.3	0	

Hydraulic Component(s): Roadway

Discharge	0.0 cfs	Allowable HW Elevation	1,220.36 ft
Roadway Width	40.00 ft	Overtopping Coefficient	2.53 US
Low Point	1,220.36 ft	Headwater Elevation	N/A ft
Discharge Coefficient	0.00	Submergence Factor (Kt)	0
Tailwater Elevation	0.00 ft		

	Sta (ft)	Elev. (ft)
Railroad	0.00	1220.36
	92.22	1220.56
	192.17	1220.45
	300.73	1220.39
	405.10	1220.48
	516.24	1220.52
	623.74	1220.58
	733.53	1220.77
	838.99	1220.98
	945.60	1221.15
	1055.11	1221.35
	1161.88	1221.54
	1272.55	1221.88
	1381.24	1222.22
	1489.05	1222.51
	1594.37	1222.75
	1701.34	1223.06
	1807.74	1223.16
	1914.58	1223.20
	2020.10	1223.14
	2128.02	1223.10
	2236.85	1223.05
	2342.96	1222.95
	2452.30	1222.89
	2555.60	1222.81
Roadway	2661.27	1222.73
	2740.77	1222.66
	2844.90	1222.63
	2955.23	1222.63
	3066.68	1222.57
	3169.76	1222.46
	3301.66	1222.35
	3394.25	1222.25
	3495.87	1222.24
	3601.65	1222.23

Notes:



Culvert Designer/Analyzer Report
P621

Analysis Component			
Storm Event	Design	Discharge	0.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	0.00 cfs	Check Discharge	0.00 cfs

Tailwater Conditions: Constant Tailwater	
Tailwater Elevation	N/A ft

Name	Description	Discharge	HW Elev.	Velocity
Weir	Roadway	0.00 cfs	1,220.36 ft	N/A

Culvert Designer/Analyzer Report
P621

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	0.00	cfs	Allowable HW Elevation	1,220.36	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.50	US
Low Point	1,220.36	ft	Headwater Elevation	N/A	ft
Discharge Coefficient (Cr)	0.00		Submergence Factor (Kt)	0.00	
Tailwater Elevation	-9,999.00	ft			

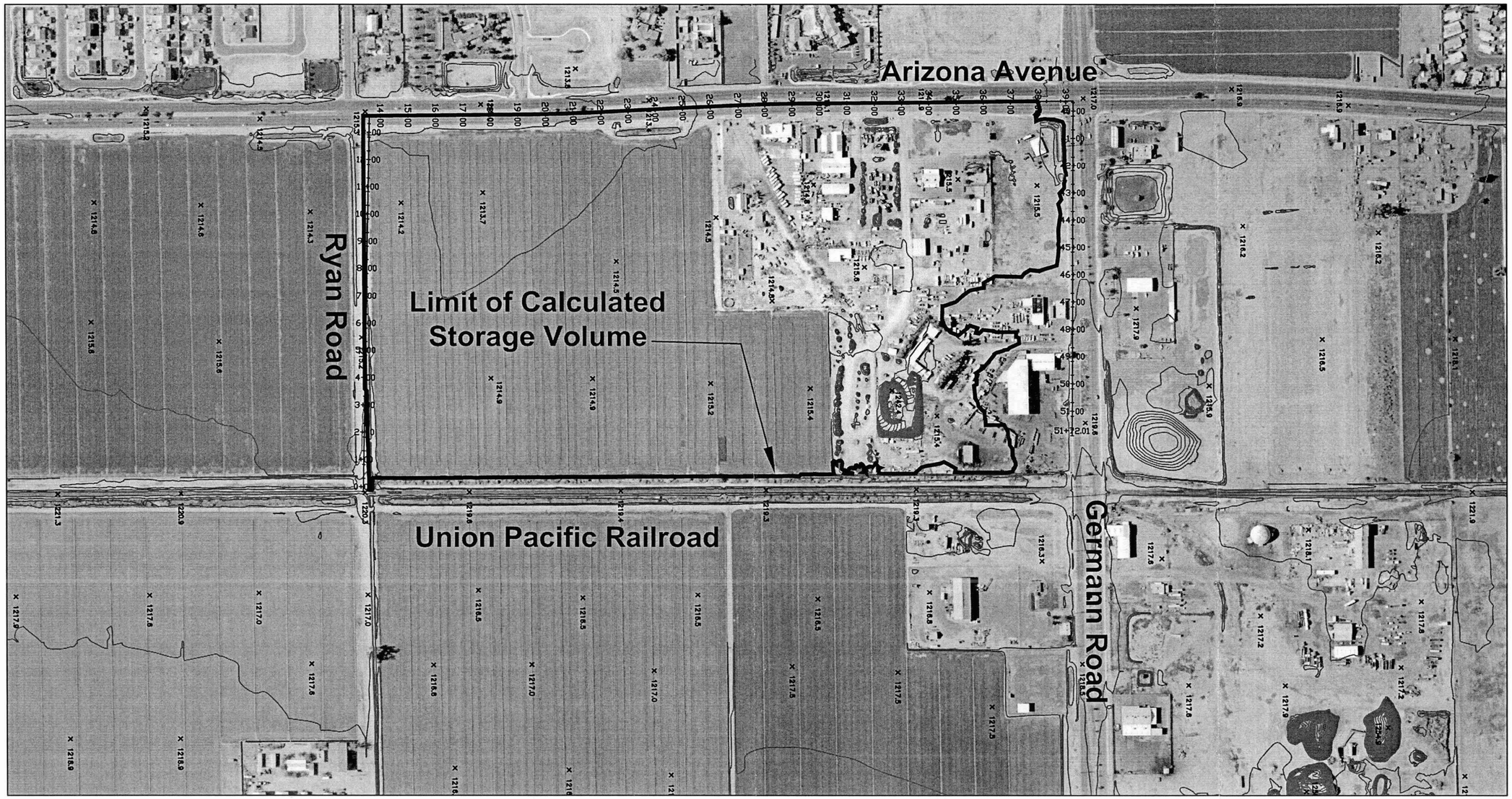
Sta (ft)	Elev. (ft)
0.00	1,220.36
92.22	1,220.56
192.17	1,220.45
300.73	1,220.39
405.10	1,220.48
516.24	1,220.52
623.74	1,220.58
733.53	1,220.77
838.99	1,220.98
945.60	1,221.15
1,055.11	1,221.35
1,161.88	1,221.54
1,272.55	1,221.88
1,381.24	1,222.22
1,489.05	1,222.51
1,594.37	1,222.75
1,701.34	1,223.06
1,807.74	1,223.16
1,914.58	1,223.20
2,020.10	1,223.14
2,128.02	1,223.10
2,236.85	1,223.05
2,342.96	1,222.95
2,452.30	1,222.89
2,555.60	1,222.81
2,661.27	1,222.73
2,740.77	1,222.66
2,844.90	1,222.63
2,955.23	1,222.63
3,066.68	1,222.57
3,169.76	1,222.46
3,301.66	1,222.35
3,394.25	1,222.25
3,495.87	1,222.24
3,601.65	1,222.23

Rating Table Report
P621

Range Data:			
	Minimum	Maximum	Increment
Allowable HW E	1,211.00	1,222.00	0.50 ft

HW Elev. (ft)	Discharge (cfs)
1,211.00	0.00
1,211.50	0.00
1,212.00	0.00
1,212.50	0.00
1,213.00	0.00
1,213.50	0.00
1,214.00	0.00
1,214.50	0.00
1,215.00	0.00
1,215.50	0.00
1,216.00	0.00
1,216.50	0.00
1,217.00	0.00
1,217.50	0.00
1,218.00	0.00
1,218.50	0.00
1,219.00	0.00
1,219.50	0.00
1,220.00	0.00
1,220.50	14.07
1,221.00	663.50
1,221.50	2,146.99
1,222.00	4,514.30

Chandler/Gilbert FDS Phase 3 - South
Ponding Area 624



0 200' 400' 800'

SCALE: 1" = 400'

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\Mari0040-HyPa624.dwg nbl Mar 26, 2009 1:23:20pm

Chandler/Gilbert FDS Phase 3- South

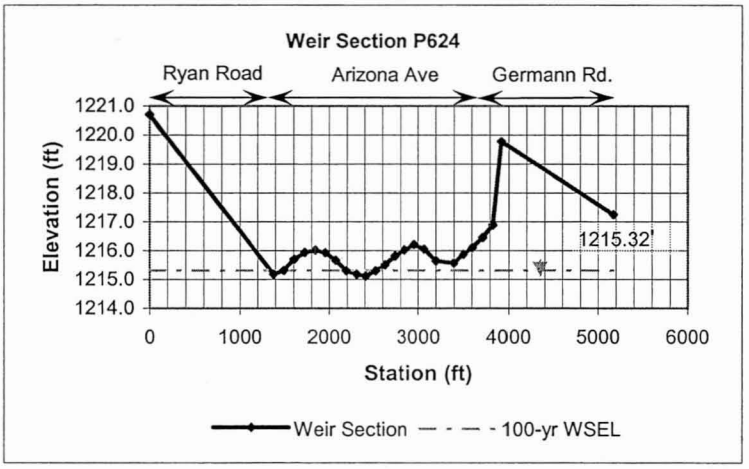
P624 Data Table

Ponding Area	SE Record Contour Elevation	SV Record Storage Volume	SQ Record Total Q	$Q_{roadway}$	$Q_{Arizona\ Ave}$	$Q_{Germann\ Rd.}$
P624	1211.00	0.00	0	0	0	0
	1212.00	0.05	0	0	0	0
	1213.00	0.29	0	0	0	0
	1214.00	2.78	0	0	0	0
	1215.00	26.51	0	0	0	0
	1215.20	35.30	4.6	0.05	4.55	0
	1215.30	40.42	32.79	4.95	27.84	0
	1215.35	43.14	62.36	12.31	50.05	0
	1216.00	85.38	1613.56	336.78	1276.78	0

Hydraulic Component(s): Roadway

Discharge	0 cfs	Allowable HW Elevation	1,215.11 ft
Roadway Width	40.00 ft	Overtopping Coefficient	2.51 US
Low Point	1,215.11 ft	Headwater Elevation	1,215.11 ft
Discharge Coefficient	0.00	Submergence Factor (Kt)	0.00
Tailwater Elevation	0.00 ft		

	Sta (ft)	Elev. (ft)
Road	0.00	1220.69
	1378.49	1215.18
Arizona Ave	1490.81	1215.31
	1606.86	1215.71
	1723.89	1215.94
	1841.74	1216.01
	1957.10	1215.92
	2073.04	1215.66
	2190.88	1215.30
	2310.46	1215.18
	2412.23	1215.11
	2519.22	1215.30
	2628.44	1215.51
	2737.63	1215.81
	2847.40	1216.03
	2957.28	1216.22
	3065.97	1216.05
	3202.14	1215.65
	3398.52	1215.57
	3507.48	1215.88
	3608.79	1216.11
	3719.30	1216.45
	3832.48	1216.88
	3926.42	1219.76
Germann Rd.	5172.01	1217.25



Culvert Designer/Analyzer Report
P624

Analysis Component			
Storm Event	Design	Discharge	0.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	0.00 cfs	Check Discharge	0.00 cfs

Tailwater Conditions: Constant Tailwater	
Tailwater Elevation	N/A ft

Name	Description	Discharge	HW Elev.	Velocity
Weir	Roadway	0.00 cfs	1,215.11 ft	N/A

Culvert Designer/Analyzer Report
P624

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	0.00	cfs	Allowable HW Elevation	1,215.11	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.51	US
Low Point	1,215.11	ft	Headwater Elevation	N/A	ft
Discharge Coefficient (Cr)	0.00		Submergence Factor (Kt)	0.00	
Tailwater Elevation	-9,999.00	ft			

Sta (ft)	Elev. (ft)
0.00	1,220.69
1,378.49	1,215.18
1,490.81	1,215.31
1,606.86	1,215.71
1,723.89	1,215.94
1,841.74	1,216.01
1,957.10	1,215.92
2,073.04	1,215.66
2,190.88	1,215.30
2,310.46	1,215.18
2,412.23	1,215.11
2,519.22	1,215.30
2,628.44	1,215.51
2,737.63	1,215.81
2,847.40	1,216.03
2,957.28	1,216.22
3,065.97	1,216.05
3,202.14	1,215.65
3,398.52	1,215.57
3,507.48	1,215.88
3,608.79	1,216.11
3,719.30	1,216.45
3,832.48	1,216.88
3,926.42	1,219.76
5,172.01	1,217.25

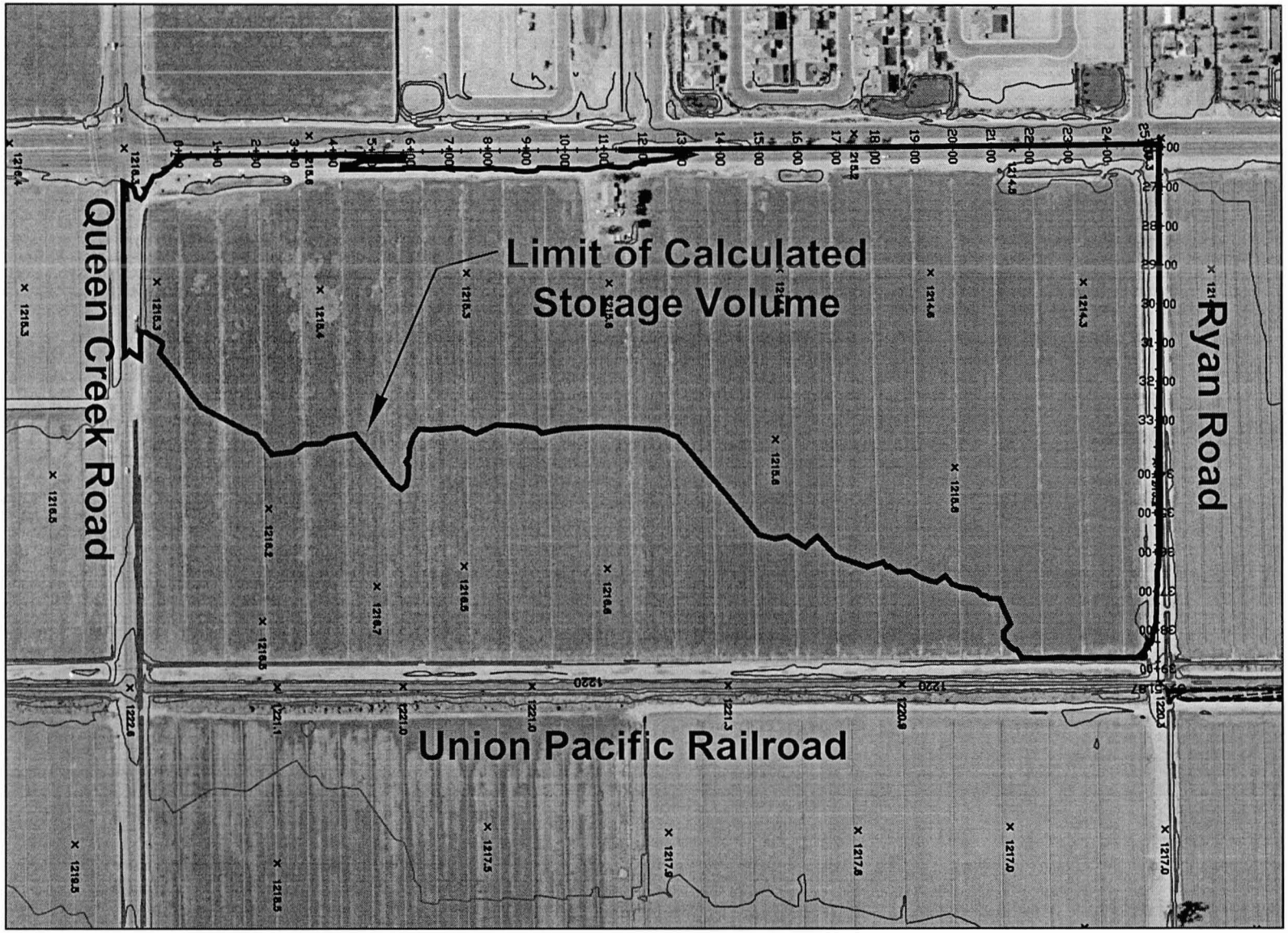
Rating Table Report
P624

Range Data:

	Minimum	Maximum	Increment
Allowable HW E	1,214.00	1,216.00	0.05 ft

HW Elev. (ft)	Discharge (cfs)
1,214.00	0.00
1,214.05	0.00
1,214.10	0.00
1,214.15	0.00
1,214.20	0.00
1,214.25	0.00
1,214.30	0.00
1,214.35	0.00
1,214.40	0.00
1,214.45	0.00
1,214.50	0.00
1,214.55	0.00
1,214.60	0.00
1,214.65	0.00
1,214.70	0.00
1,214.75	0.00
1,214.80	0.00
1,214.85	0.00
1,214.90	0.00
1,214.95	0.00
1,215.00	0.00
1,215.05	0.00
1,215.10	0.00
1,215.15	0.57
1,215.20	4.60
1,215.25	14.77
1,215.30	32.79
1,215.35	62.36
1,215.40	100.90
1,215.45	148.44
1,215.50	205.26
1,215.55	272.57
1,215.60	350.38
1,215.65	442.14
1,215.70	552.81
1,215.75	681.39
1,215.80	827.13
1,215.85	991.75
1,215.90	1,175.95
1,215.95	1,382.29
1,216.00	1,613.56

Chandler/Gilbert ROS Phase 3 - South
Ponding Area 626



0 200' 400' 800'

SCALE: 1" = 400'

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\Mari0040-HyPa626.dwg nbl Mar 26, 2009 1:27:03pm

Chandler/Gilbert FDS Phase 3- South

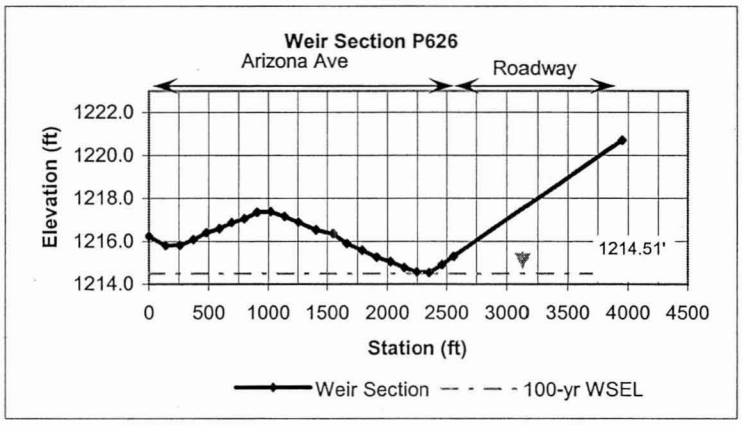
P626 Data Table

Ponding Area	SE Record Contour Elevation	SV Record Storage Volume	SQ Record Total Q	$Q_{Arizona\ Ave}$	$Q_{roadway}$	
P626	1211.00	0	0	0	0	
	1212.00	0.05	0	0	0	
	1213.00	0.25	0	0	0	
	1214.00	0.75	0	0	0	
	1214.80	3.69	56.17	56.17	0	
	1215.00	5.74	184.11	184.11	0	
	1216.00	38.47	2470.37	2371.4	98.97	

Hydraulic Component(s): Roadway			
Discharge	59.0 cfs	Allowable HW Elevation	1,214.81 ft
Roadway Width	40.00 ft	Overtopping Coefficient	2.51 US
Low Point	1,214.54 ft	Headwater Elevation	1,214.81 ft
Discharge Coefficient	2.51	Submergence Factor (Kt)	1.00
Tailwater Elevation	0.00 ft		

	Sta (ft)	Elev. (ft)
Arizona Ave	0.00	1216.22
	141.08	1215.81
	258.52	1215.82
	371.16	1216.09
	480.06	1216.40
	587.82	1216.58
	693.17	1216.86
	799.20	1217.06
	908.51	1217.35
	1021.41	1217.37
	1137.21	1217.15
	1254.51	1216.89
	1402.46	1216.53
	1546.15	1216.35
	1664.39	1215.89
	1789.26	1215.58
	1911.51	1215.25
	2028.39	1215.05
	2140.33	1214.77
	2247.48	1214.56
	2354.44	1214.54
	2462.33	1214.90
	2558.63	1215.30
Roadway	3951.80	1220.69

Notes:



Culvert Designer/Analyzer Report
P626

Analysis Component			
Storm Event	Design	Discharge	59.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	59.00 cfs	Check Discharge	0.00 cfs

Tailwater Conditions: Constant Tailwater	
Tailwater Elevation	N/A ft

Name	Description	Discharge	HW Elev.	Velocity
Weir	Roadway	59.00 cfs	1,214.81 ft	N/A

Culvert Designer/Analyzer Report
P626

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	59.00	cfs	Allowable HW Elevation	1,214.81	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.51	US
Low Point	1,214.54	ft	Headwater Elevation	1,214.81	ft
Discharge Coefficient (Cr)	2.51		Submergence Factor (Kt)	1.00	
Tailwater Elevation	-9,999.00	ft			

Sta (ft)	Elev. (ft)
0.00	1,216.22
141.08	1,215.81
258.52	1,215.82
371.16	1,216.09
480.06	1,216.40
587.82	1,216.58
693.17	1,216.86
799.20	1,217.06
908.51	1,217.35
1,021.41	1,217.37
1,137.21	1,217.15
1,254.51	1,216.89
1,402.46	1,216.53
1,546.15	1,216.35
1,664.39	1,215.89
1,789.26	1,215.58
1,911.51	1,215.25
2,028.39	1,215.05
2,140.33	1,214.77
2,247.48	1,214.56
2,354.44	1,214.54
2,462.33	1,214.90
2,558.63	1,215.30
3,951.80	1,220.69

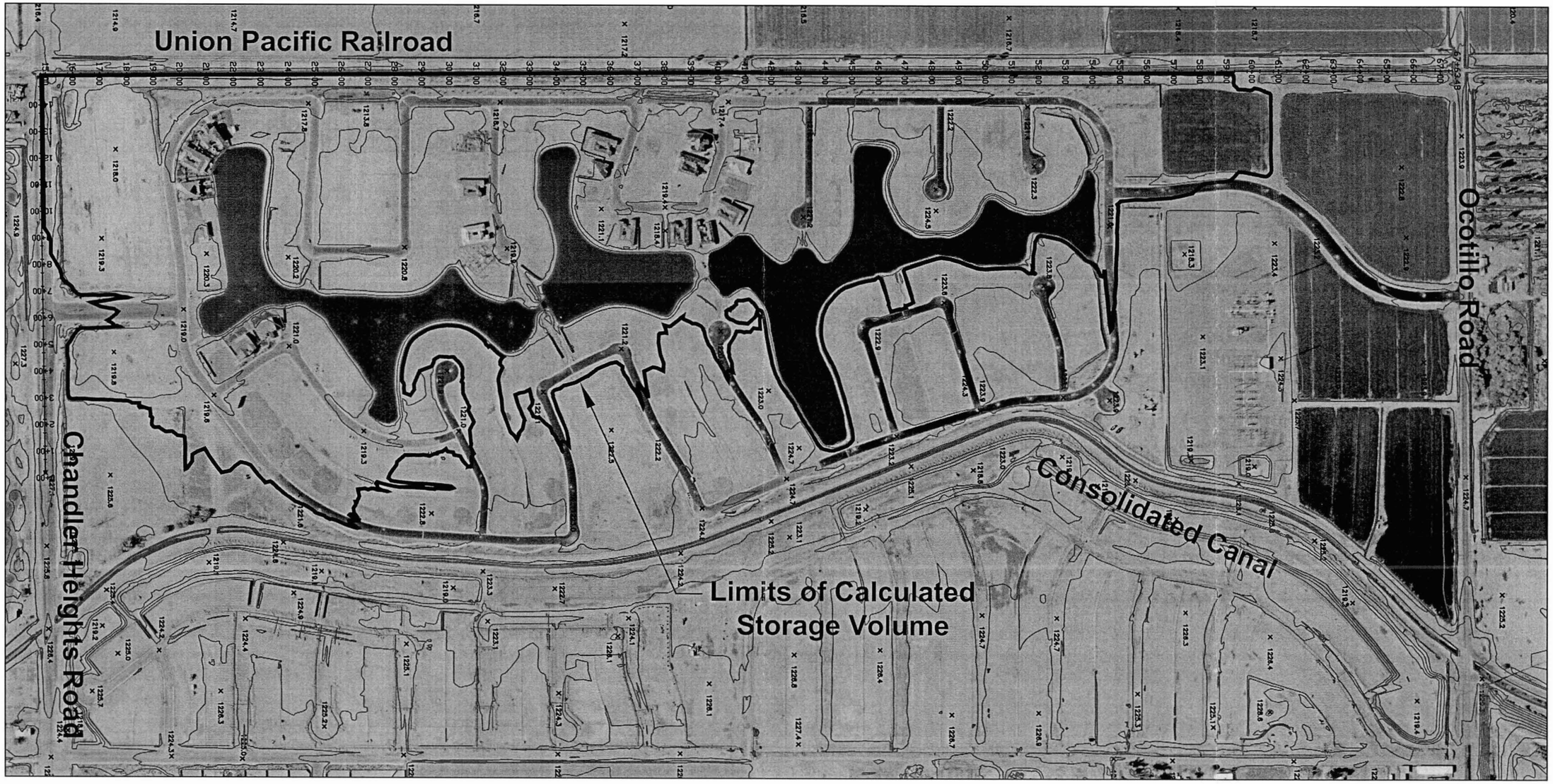
Rating Table Report
P626

Range Data:

	Minimum	Maximum	Increment	
Allowable HW E	1,211.00	1,216.00	0.50	ft

HW Elev. (ft)	Discharge (cfs)
1,211.00	0.00
1,211.50	0.00
1,212.00	0.00
1,212.50	0.00
1,213.00	0.00
1,213.50	0.00
1,214.00	0.00
1,214.50	0.00
1,215.00	184.11
1,215.50	928.40
1,216.00	2,470.37

Chandler/Gilbert FDS Phase 3 - South
Ponding Area 630



0 200' 400' 800'

SCALE: 1" = 400'

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\Mari0040-HyPa630.dwg nbl Mar 26, 2009 1:36:26pm

Chandler/Gilbert FDS Phase 3- South

P630 Data Table

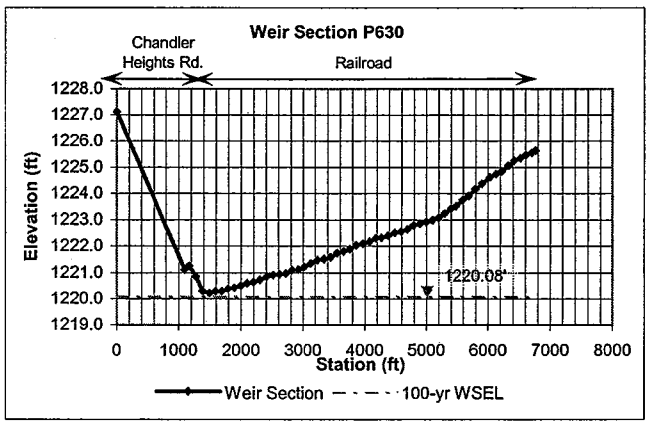
Ponding Area	SE Record Contour Elevation	SV Record Storage Volume	SQ Record Total Q	$Q_{Chandler\ Heights}$	$Q_{railroad}$	
P630	1213.0	0.00	0	0	0	
	1218.0	19.47	0	0	0	
	1219.0	42.46	0	0	0	
	1220.0	84.89	0	0	0	
	1220.1	90.09	0	0	0	
	1220.3	101.24	4.83	2.18	2.65	
	1220.4	107.19	41.41	14.91	26.50	
	1221.0	147.62	1164.73	259.68	905.05	
	1222.0	236.65	8549.33	1771.52	6777.81	

Hydraulic Component(s): Roadway					
Discharge	0.00	cfs	Allowable HW Elevation	1,220.22	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.50	US
Low Point	1,220.22	ft	Headwater Elevation	1,220.22	ft
Discharge Coefficient	0.00		Submergence Factor (Kt)	0.00	
Tailwater Elevation	0.00	ft			

	Sta (ft)	Elev. (ft)
Chandler Heights	0.00	1227.10
	1097.32	1221.11
	1167.48	1221.25
	1276.51	1220.85
	1387.63	1220.30
	1496.78	1220.22
Railroad	1597.10	1220.29
	1694.44	1220.29
	1795.01	1220.39
	1897.61	1220.42
	2002.18	1220.49
	2101.01	1220.59
	2202.84	1220.65
	2303.66	1220.72
	2411.12	1220.85
	2517.60	1220.92
	2620.65	1220.94
	2725.20	1220.98
	2823.79	1221.10
	2931.06	1221.12
	3028.72	1221.22
	3134.29	1221.35
	3242.44	1221.47
	3347.35	1221.51
	3453.65	1221.59
	3556.98	1221.73
	3658.63	1221.79
	3761.21	1221.89
	3865.40	1222.03
	3970.47	1222.09
	4078.30	1222.16
	4180.54	1222.30
	4274.79	1222.32
	4380.67	1222.39
	4488.34	1222.51
	4594.12	1222.55
	4692.95	1222.65
	4792.61	1222.79
	4897.35	1222.86
	4999.22	1222.92
	5098.63	1222.99
	5195.83	1223.07
	5297.73	1223.23
	5398.48	1223.42
	5483.37	1223.52

	Sta (ft)	Elev. (ft)
Railroad	5595.14	1223.76
	5692.08	1223.90
	5797.96	1224.17
	5907.62	1224.37
	6030.24	1224.62
	6130.09	1224.75
	6224.95	1224.85
	6325.15	1225.06
	6421.45	1225.24
	6521.28	1225.34
	6610.05	1225.47
	6700.13	1225.55
	6763.48	1225.64

Notes:



Culvert Designer/Analyzer Report
P630

Analysis Component			
Storm Event	Design	Discharge	0.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	0.00 cfs	Check Discharge	0.00 cfs

Tailwater Conditions: Constant Tailwater	
Tailwater Elevation	N/A ft

Name	Description	Discharge	HW Elev.	Velocity
Weir	Roadway	0.00 cfs	1,220.22 ft	N/A

Culvert Designer/Analyzer Report
P630

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	0.00	cfs	Allowable HW Elevation	1,220.22	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.50	US
Low Point	1,220.22	ft	Headwater Elevation	N/A	ft
Discharge Coefficient (Cr)	0.00		Submergence Factor (Kt)	0.00	
Tailwater Elevation	-9,999.00	ft			

Sta (ft)	Elev. (ft)
0.00	1,227.10
1,097.32	1,221.11
1,167.48	1,221.25
1,276.51	1,220.85
1,387.63	1,220.30
1,496.78	1,220.22
1,597.10	1,220.29
1,694.44	1,220.29
1,795.01	1,220.39
1,897.61	1,220.42
2,002.18	1,220.49
2,101.01	1,220.59
2,202.84	1,220.65
2,303.66	1,220.72
2,411.12	1,220.85
2,517.60	1,220.92
2,620.65	1,220.94
2,725.20	1,220.98
2,823.79	1,221.10
2,931.06	1,221.12
3,028.72	1,221.22
3,134.29	1,221.35
3,242.44	1,221.47
3,347.35	1,221.51
3,453.65	1,221.59
3,556.98	1,221.73
3,658.63	1,221.79
3,761.21	1,221.89
3,865.40	1,222.03
3,970.47	1,222.09
4,078.30	1,222.16
4,180.54	1,222.30
4,274.79	1,222.32
4,380.67	1,222.39
4,488.34	1,222.51
4,594.12	1,222.55
4,692.95	1,222.65
4,792.61	1,222.79
4,897.35	1,222.86
4,999.22	1,222.92
5,098.63	1,222.99
5,195.83	1,223.07
5,297.73	1,223.23
5,398.48	1,223.42

Culvert Designer/Analyzer Report
P630

Sta (ft)	Elev. (ft)
5,483.37	1,223.52
5,595.14	1,223.76
5,692.08	1,223.90
5,797.96	1,224.17
5,907.62	1,224.37
6,030.24	1,224.62
6,130.09	1,224.75
6,224.95	1,224.85
6,325.15	1,225.06
6,421.45	1,225.24
6,521.28	1,225.34
6,610.05	1,225.47
6,700.13	1,225.55
6,763.48	1,225.64

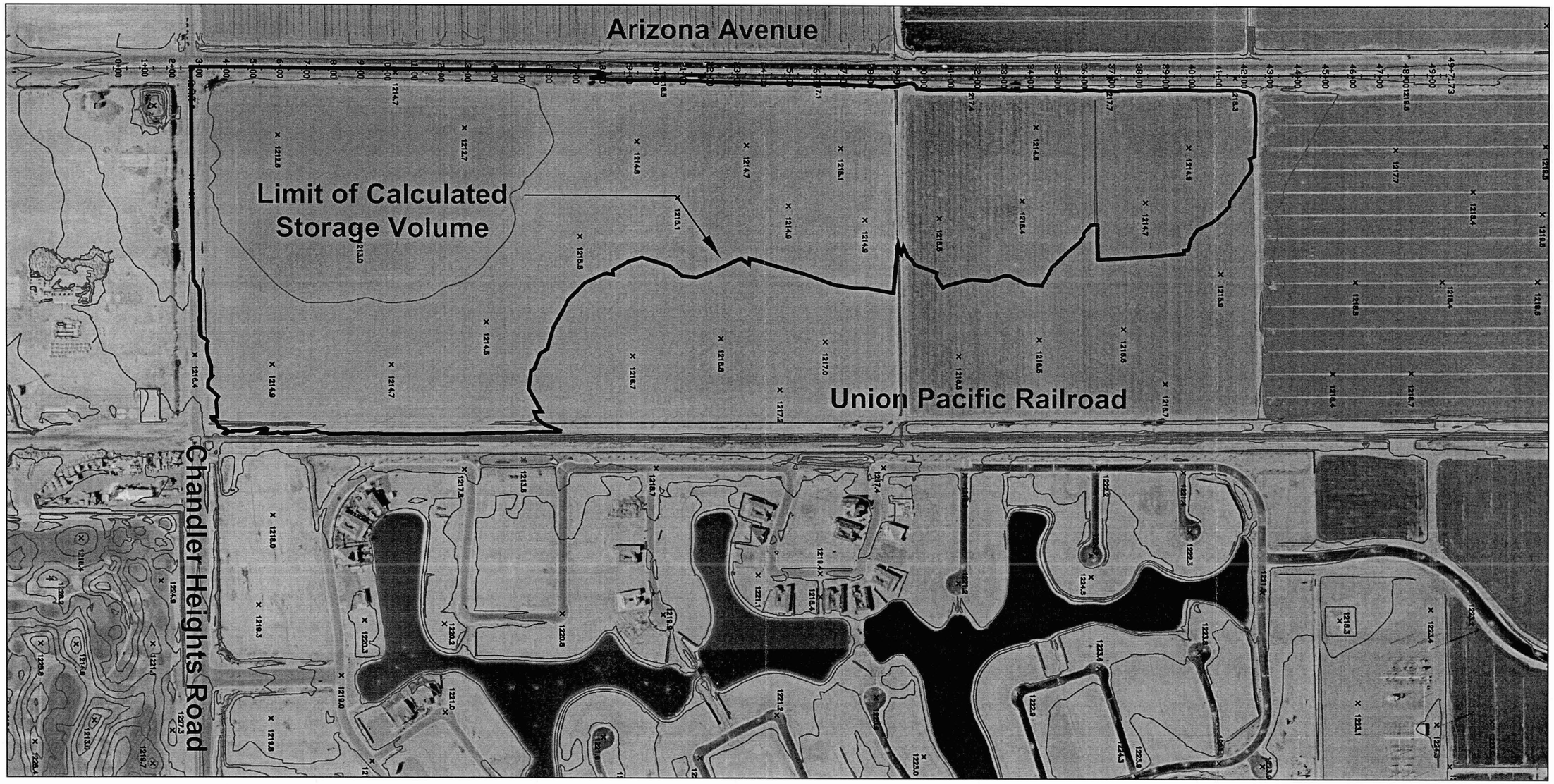
Rating Table Report
P630

Range Data:

	Minimum	Maximum	Increment	
Allowable HW E	1,213.00	1,222.00	0.50	ft

HW Elev. (ft)	Discharge (cfs)
1,213.00	0.00
1,213.50	0.00
1,214.00	0.00
1,214.50	0.00
1,215.00	0.00
1,215.50	0.00
1,216.00	0.00
1,216.50	0.00
1,217.00	0.00
1,217.50	0.00
1,218.00	0.00
1,218.50	0.00
1,219.00	0.00
1,219.50	0.00
1,220.00	0.00
1,220.50	115.70
1,221.00	1,164.73
1,221.50	3,835.45
1,222.00	8,549.33

Chandler/Gilbert FDS Phase 3 - South
Ponding Area 631



0 200' 400' 800'

SCALE: 1" = 400'

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\Mari0040-HyPa631.dwg nbl Mar 26, 2009 1:36:19pm

Chandler/Gilbert FDS Phase 3- South

P631 Data Table

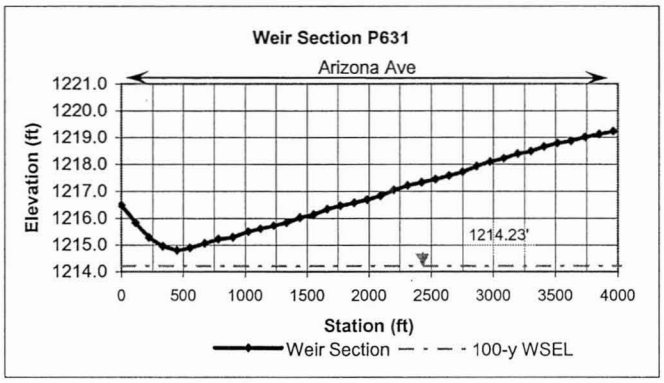
Ponding Area	SE Record	SV Record	SQ Record	$Q_{roadway}$		
	Contour Elevation	Storage Volume	Total Q			
P631	1212.00	0.00	0	0		
	1213.00	0.47	0	0		
	1214.00	12.81	0	0		
	1214.80	33.43	0	0		
	1214.85	35.22	0.97	0.97		
	1215.00	40.98	31.86	31.86		
	1216.00	104.91	2086.71	2086.71		

Hydraulic Component(s): Roadway			
Discharge	0.00 cfs	Allowable HW Elevation	1,214.80 ft
Roadway Width	40.00 ft	Overtopping Coefficient	2.50 US
Low Point	1,214.80 ft	Headwater Elevation	N/A ft
Discharge Coefficient	0.00	Submergence Factor (Kt)	0.00
Tailwater Elevation	0.00 ft		

Sta (ft)	Elev. (ft)
0.00	1216.49
112.11	1215.83
218.91	1215.27
333.29	1214.95
447.57	1214.80
555.79	1214.89
674.44	1215.06
785.92	1215.21
903.66	1215.29
1025.56	1215.50
1126.98	1215.61
1230.71	1215.72
1336.25	1215.84
1443.55	1216.02
1553.05	1216.13
1663.32	1216.33
1773.09	1216.46
1883.10	1216.57
1989.42	1216.69
2094.87	1216.83
2203.42	1217.04
2313.94	1217.21
2424.40	1217.33
2534.04	1217.45
2643.09	1217.58
2752.26	1217.72
2863.92	1217.94
2975.48	1218.11
3085.60	1218.22
3195.88	1218.40
3303.53	1218.49
3410.39	1218.66
3519.54	1218.78
3630.11	1218.87
3740.93	1219.01
3851.43	1219.12
3962.18	1219.23

Arizona Ave

Notes:



Culvert Designer/Analyzer Report
P631

Analysis Component			
Storm Event	Design	Discharge	0.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	0.00 cfs	Check Discharge	0.00 cfs

Tailwater Conditions: Constant Tailwater	
Tailwater Elevation	N/A ft

Name	Description	Discharge	HW Elev.	Velocity
Weir	Roadway	0.00 cfs	1,214.80 ft	N/A

Culvert Designer/Analyzer Report
P631

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	0.00	cfs	Allowable HW Elevation	1,214.80	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.50	US
Low Point	1,214.80	ft	Headwater Elevation	N/A	ft
Discharge Coefficient (Cr)	0.00		Submergence Factor (Kt)	0.00	
Tailwater Elevation	-9,999.00	ft			

Sta (ft)	Elev. (ft)
0.00	1,216.49
112.11	1,215.83
218.91	1,215.27
333.29	1,214.95
447.57	1,214.80
555.79	1,214.89
674.44	1,215.06
785.92	1,215.21
903.66	1,215.29
1,025.56	1,215.50
1,126.98	1,215.61
1,230.71	1,215.72
1,336.25	1,215.84
1,443.55	1,216.02
1,553.05	1,216.13
1,663.32	1,216.33
1,773.09	1,216.46
1,883.10	1,216.57
1,989.42	1,216.69
2,094.87	1,216.83
2,203.42	1,217.04
2,313.94	1,217.21
2,424.40	1,217.33
2,534.04	1,217.45
2,643.09	1,217.58
2,752.26	1,217.72
2,863.92	1,217.94
2,975.48	1,218.11
3,085.60	1,218.22
3,195.88	1,218.40
3,303.53	1,218.49
3,410.39	1,218.66
3,519.54	1,218.78
3,630.11	1,218.87
3,740.93	1,219.01
3,851.43	1,219.12
3,962.18	1,219.23
4,073.81	1,219.42
4,189.35	1,219.57
4,305.48	1,219.68
4,420.36	1,219.86
4,534.11	1,219.98
4,646.07	1,220.21
4,756.48	1,220.21

Culvert Designer/Analyzer Report
P631

Sta (ft)	Elev. (ft)
4,865.06	1,220.40
4,971.73	1,220.56

Rating Table Report
P631

Range Data:

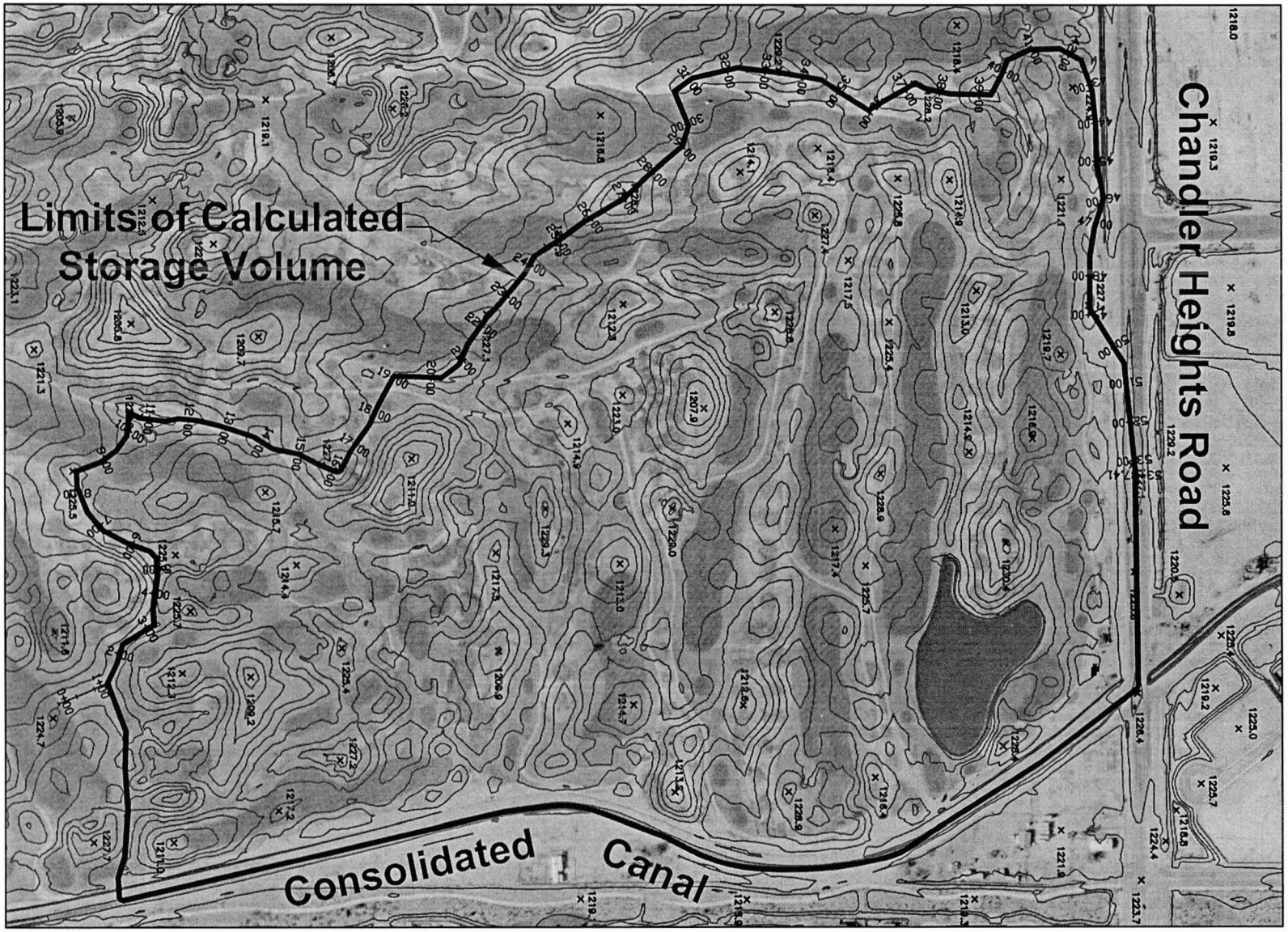
	Minimum	Maximum	Increment
Allowable HW E	1,212.00	1,216.00	0.05 ft

HW Elev. (ft)	Discharge (cfs)
1,212.00	0.00
1,212.05	0.00
1,212.10	0.00
1,212.15	0.00
1,212.20	0.00
1,212.25	0.00
1,212.30	0.00
1,212.35	0.00
1,212.40	0.00
1,212.45	0.00
1,212.50	0.00
1,212.55	0.00
1,212.60	0.00
1,212.65	0.00
1,212.70	0.00
1,212.75	0.00
1,212.80	0.00
1,212.85	0.00
1,212.90	0.00
1,212.95	0.00
1,213.00	0.00
1,213.05	0.00
1,213.10	0.00
1,213.15	0.00
1,213.20	0.00
1,213.25	0.00
1,213.30	0.00
1,213.35	0.00
1,213.40	0.00
1,213.45	0.00
1,213.50	0.00
1,213.55	0.00
1,213.60	0.00
1,213.65	0.00
1,213.70	0.00
1,213.75	0.00
1,213.80	0.00
1,213.85	0.00
1,213.90	0.00
1,213.95	0.00
1,214.00	0.00
1,214.05	0.00
1,214.10	0.00
1,214.15	0.00
1,214.20	0.00
1,214.25	0.00
1,214.30	0.00
1,214.35	0.00

Rating Table Report
P631

HW Elev. (ft)	Discharge (cfs)
1,214.40	0.00
1,214.45	0.00
1,214.50	0.00
1,214.55	0.00
1,214.60	0.00
1,214.65	0.00
1,214.70	0.00
1,214.75	0.00
1,214.80	0.00
1,214.85	0.97
1,214.90	5.63
1,214.95	15.64
1,215.00	31.86
1,215.05	53.49
1,215.10	81.69
1,215.15	116.23
1,215.20	157.30
1,215.25	206.21
1,215.30	264.72
1,215.35	333.02
1,215.40	409.59
1,215.45	494.33
1,215.50	587.24
1,215.55	689.88
1,215.60	801.53
1,215.65	923.36
1,215.70	1,055.29
1,215.75	1,198.09
1,215.80	1,351.88
1,215.85	1,517.59
1,215.90	1,696.33
1,215.95	1,886.02
1,216.00	2,086.71

Chandler/Gilbert FCS Phase 3 - South
Ponding Area 632N



0 200' 400' 800'

SCALE: 1" = 400'

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\Mari0040-HyPa632N.dwg nbl Mar 26, 2009 1:40:11pm

P632N Data Table

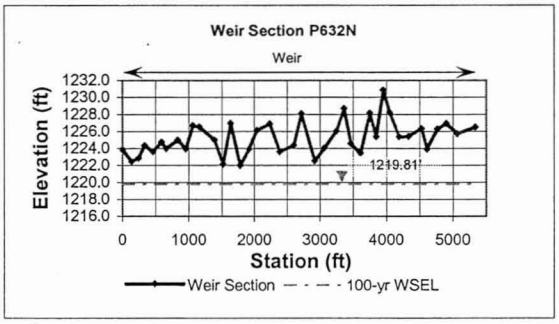
Ponding Area	SE Record Contour Elevation	SV Record Storage Volume	SQ Record Total Q	Q_{Weir}	
P632N	1208.0	0.00	0	0	
	1209.0	0.03	0	0	
	1210.0	0.16	0	0	
	1211.0	0.46	0	0	
	1212.0	1.03	0	0	
	1213.0	2.15	0	0	
	1214.0	4.15	0	0	
	1215.0	7.46	0	0	
	1216.0	12.83	0	0	
	1217.0	21.24	0	0	
	1218.0	34.59	0	0	
	1219.0	55.53	0	0	
	1220.0	86.08	0	0	
	1221.0	127.64	0	0	
	1222.0	181.03	0	0	
	1223.0	246.25	249.64	249.64	
	1224.0	320.69	2141.79	2141.79	
	1225.0	402.11	8964.84	8964.84	
	1226.0	489.09	22868.67	22868.67	

Hydraulic Component(s): Roadway					
Discharge	0.00	cfs	Allowable HW Elevation	1,221.99	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.53	US
Low Point	1,221.99	ft	Headwater Elevation	N/A	ft
Discharge Coefficient	0.00		Submergence Factor (Kt)	0.00	
Tailwater Elevation	0.00	ft			

Weir

Sta (ft)	Elev. (ft)
0.00	1223.84
137.26	1222.42
243.15	1222.82
336.79	1224.29
461.97	1223.59
591.23	1224.71
665.67	1223.98
838.87	1224.94
956.99	1223.93
1063.53	1226.66
1158.27	1226.51
1391.63	1224.97
1519.28	1222.11
1635.54	1226.92
1782.52	1221.99
1922.67	1223.89
2044.79	1226.09
2241.69	1226.87
2389.61	1223.59
2601.11	1224.32
2719.49	1228.06
2919.24	1222.49
3070.43	1224.04
3246.15	1226.04
3362.30	1228.65
3465.91	1224.54
3610.61	1223.42
3747.83	1228.15
3845.50	1225.37
3949.82	1230.82
4048.26	1228.17
4189.52	1225.35
4334.97	1225.39
4526.44	1226.30
4614.86	1223.89
4770.47	1226.26
4903.73	1226.88
5067.56	1225.70
5337.41	1226.49

Notes:



Culvert Designer/Analyzer Report
P632N

Analysis Component			
Storm Event	Design	Discharge	0.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	0.00 cfs	Check Discharge	0.00 cfs

Tailwater Conditions: Constant Tailwater	
Tailwater Elevation	N/A ft

Name	Description	Discharge	HW Elev.	Velocity
Weir	Roadway	0.00 cfs	1,221.99 ft	N/A

Culvert Designer/Analyzer Report
P632N

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	0.00	cfs	Allowable HW Elevation	1,221.99	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.53	US
Low Point	1,221.99	ft	Headwater Elevation	N/A	ft
Discharge Coefficient (Cr)	0.00		Submergence Factor (Kt)	0.00	
Tailwater Elevation	-9,999.00	ft			

Sta (ft)	Elev. (ft)
0.00	1,223.84
137.26	1,222.42
243.15	1,222.82
336.79	1,224.29
461.97	1,223.59
591.23	1,224.71
665.67	1,223.98
838.87	1,224.94
956.99	1,223.93
1,063.53	1,226.66
1,158.27	1,226.51
1,391.63	1,224.97
1,519.28	1,222.11
1,635.54	1,226.92
1,782.52	1,221.99
1,922.67	1,223.89
2,044.79	1,226.09
2,241.69	1,226.87
2,389.61	1,223.59
2,601.11	1,224.32
2,719.49	1,228.06
2,919.24	1,222.49
3,070.43	1,224.04
3,246.15	1,226.04
3,362.30	1,228.65
3,465.91	1,224.54
3,610.61	1,223.42
3,747.83	1,228.15
3,845.50	1,225.37
3,949.82	1,230.82
4,048.26	1,228.17
4,189.52	1,225.35
4,334.97	4,334.97
4,526.44	1,226.30
4,614.86	1,223.89
4,770.47	1,226.26
4,903.73	1,226.88
5,067.56	1,225.70
5,337.41	1,226.49

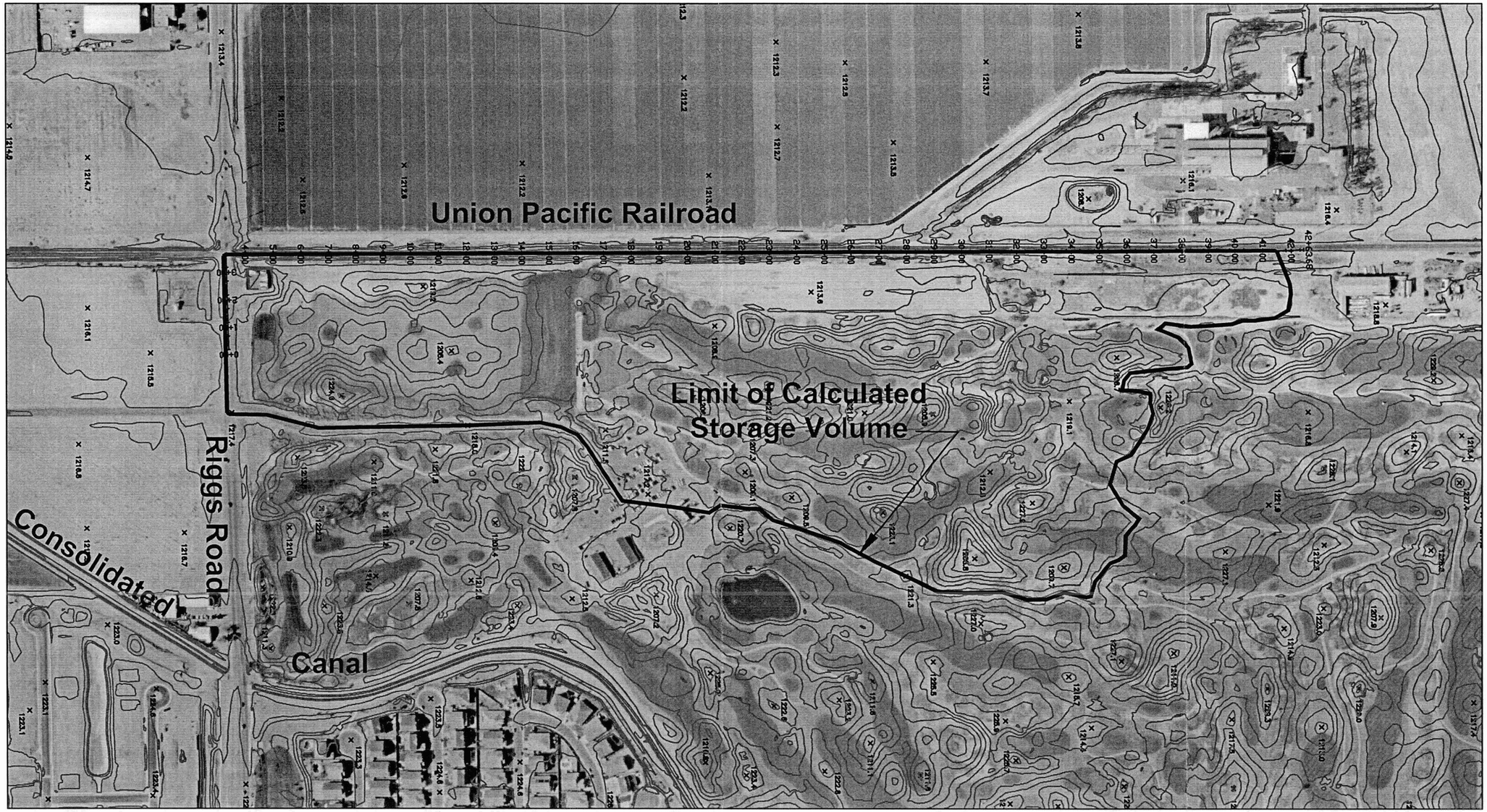
Rating Table Report
P632N

Range Data:

	Minimum	Maximum	Increment
Allowable HW E	1,208.00	1,226.00	0.50 ft

HW Elev. (ft)	Discharge (cfs)
1,208.00	0.00
1,208.50	0.00
1,209.00	0.00
1,209.50	0.00
1,210.00	0.00
1,210.50	0.00
1,211.00	0.00
1,211.50	0.00
1,212.00	0.00
1,212.50	0.00
1,213.00	0.00
1,213.50	0.00
1,214.00	0.00
1,214.50	0.00
1,215.00	0.00
1,215.50	0.00
1,216.00	0.00
1,216.50	0.00
1,217.00	0.00
1,217.50	0.00
1,218.00	0.00
1,218.50	0.00
1,219.00	0.00
1,219.50	0.00
1,220.00	0.00
1,220.50	0.00
1,221.00	0.00
1,221.50	0.00
1,222.00	0.00
1,222.50	23.49
1,223.00	249.64
1,223.50	882.61
1,224.00	2,141.79
1,224.50	4,700.62
1,225.00	8,964.84
1,225.50	15,032.84
1,226.00	22,868.67

Chandler/Gilbert FDS Phase 3 - South
Ponding Area 632S



0 200' 400' 800'

SCALE: 1" = 400'

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\Mari0040-HyPa632S.dwg nbl Mar 26, 2009 1:40:27pm

Chandler/Gilbert FDS Phase 3- South

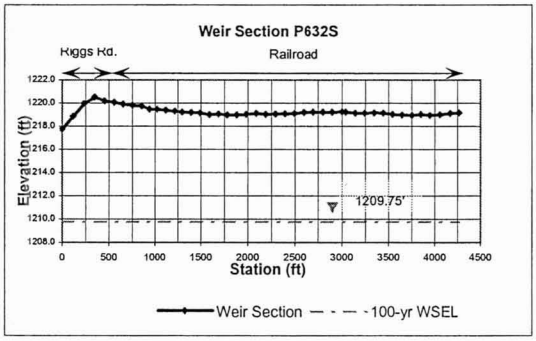
P632S Data Table

Ponding Area	SE Record Contour Elevation	SV Record Storage Volume	SQ Record Total Q	$Q_{Riggs\ Rd.}$	$Q_{railroad}$	$Q_{culvert\ 1}$	$Q_{culvert\ 2}$
P632S	1203.0	0	0	0	0	0	0
	1204.0	0.31	0	0	0	0	0
	1205.0	0.65	0	0	0	0	0
	1206.0	1.23	0	0	0	0	0
	1207.0	2.48	0	0	0	0	0
	1208.0	4.99	0	0	0	0	0
	1209.0	9.24	0	0	0	0	0
	1210.0	15.84	0	0	0	0	0
	1211.0	25.44	0	0	0	0	0
	1212.0	38.62	0	0	0	0	0
	1213.0	56.36	0	0	0	0	0
	1214.0	82.55	0	0	0	0	0
	1215.0	121.05	18.29	0	0	13.79	4.5
	1216.0	169.66	74.00	0	0	59.75	14.25
	1217.0	225.97	146.47	0	0	121.45	25.02
	1218.0	287.99	234.48	0	3.52	197.26	33.7
	1219.0	354.01	513.71	0	189.29	283.86	40.56
	1220.0	422.10	9191.05	0	8793.82	350.81	46.42

Hydraulic Component(s): Roadway			
Discharge	0.00 cfs	Allowable HW Elevation	1,214.14 ft
Roadway Width	40.00 ft	Overtopping Coefficient	2.50 US
Low Point	1,217.73 ft	Headwater Elevation	N/A ft
Discharge Coefficient	0.00	Submergence Factor (Kt)	0.00
Tailwater Elevation	0.00 ft		

	Sta (ft)	Elev. (ft)
Riggs Rd.	0	1217.73
	118.74	1218.86
	235.13	1219.94
	349.43	1220.5
	453.09	1220.16
	555.47	1220.05
	655.17	1219.89
	753.64	1219.78
	857.84	1219.73
	942.64	1219.46
	1029.07	1219.45
	1122.31	1219.38
	1218.59	1219.3
	1301.94	1219.21
	1395.34	1219.19
	1491.28	1219.13
	1590.59	1218.99
	1689.06	1219.05
	1782.7	1218.96
	1884.03	1218.95
	1984.78	1219.02
	2090.03	1219.1
	2192.31	1219.02
Railroad	2293.02	1219.03
	2392.98	1219.06
	2496.43	1219.1
	2595.78	1219.18
	2698.04	1219.21
	2798.67	1219.2
	2899.9	1219.21
	3002.77	1219.23
	3041.35	1219.2
	3144.12	1219.13
	3244.27	1219.13
	3344.89	1219.15
	3440.19	1219.12
	3544.16	1219.02
	3646.63	1218.96
	3751.98	1218.94
	3852.90	1219.01
	3949.44	1218.92
	4059.30	1219.00
	4167.99	1219.09
	4266.35	1219.14

Notes: Culvert 1 located 1/2 mile North of Riggs Rd. under RR. Culvert 2 located at Riggs Rd under RR.



Culvert Designer/Analyzer Report
P632S

Analysis Component			
Storm Event	Design	Discharge	0.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	0.00 cfs	Check Discharge	0.00 cfs

Tailwater Conditions: Constant Tailwater	
Tailwater Elevation	N/A ft

Name	Description	Discharge	HW Elev.	Velocity
Culvert-1	1-10 x 4 ft Box	0.00 cfs	1,214.14 ft	0.00 ft/s
Culvert-2	1-2 x 2 ft Box	0.00 cfs	1,214.14 ft	0.00 ft/s
Weir	Roadway	0.00 cfs	1,214.14 ft	N/A
Total	----------	0.00 cfs	1,214.14 ft	N/A

Culvert Designer/Analyzer Report
P632S

Component:Culvert-1

Culvert Summary					
Computed Headwater Elev	N/A	ft	Discharge	0.00	cfs
Inlet Control HW Elev.	N/A	ft	Tailwater Elevation	N/A	ft
Outlet Control HW Elev.	N/A	ft	Control Type	Inlet Control	
Headwater Depth/Height	0.02				

Grades					
Upstream Invert	1,214.23	ft	Downstream Invert	1,214.30	ft
Length	29.40	ft	Constructed Slope	-0.002381	ft/ft

Hydraulic Profile					
Profile	Dry		Depth, Downstream	0.00	ft
Slope Type	Dry		Normal Depth	0.00	ft
Flow Regime	Subcritical		Critical Depth	0.00	ft
Velocity Downstream	0.00	ft/s	Critical Slope	0.000000	ft/ft

Section					
Section Shape	Box		Mannings Coefficient	0.018	
Section Material	Concrete		Span	10.00	ft
Section Size	10 x 4 ft		Rise	4.00	ft
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	N/A	ft	Upstream Velocity Head	0.00	ft
Ke	0.20		Entrance Loss	0.00	ft

Inlet Control Properties					
Inlet Control HW Elev.	N/A	ft	Flow Control	N/A	
Inlet Type	90° headwall w 45° bevels		Area Full	40.0	ft²
K	0.49500		HDS 5 Chart	10	
M	0.66700		HDS 5 Scale	2	
C	0.03140		Equation Form	2	
Y	0.82000				

Culvert Designer/Analyzer Report
P632S

Component:Culvert-2

Culvert Summary					
Computed Headwater Elev	N/A	ft	Discharge	0.00	cfs
Inlet Control HW Elev.	N/A	ft	Tailwater Elevation	N/A	ft
Outlet Control HW Elev.	N/A	ft	Control Type	Inlet Control	
Headwater Depth/Height	0.00				

Grades					
Upstream Invert	1,214.14	ft	Downstream Invert	1,213.99	ft
Length	16.80	ft	Constructed Slope	0.008929	ft/ft

Hydraulic Profile					
Profile	Dry		Depth, Downstream	0.00	ft
Slope Type	Dry		Normal Depth	0.00	ft
Flow Regime	Subcritical		Critical Depth	0.00	ft
Velocity Downstream	0.00	ft/s	Critical Slope	0.000000	ft/ft

Section					
Section Shape	Box		Mannings Coefficient	0.018	
Section Material	Concrete		Span	2.00	ft
Section Size	2 x 2 ft		Rise	2.00	ft
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	N/A	ft	Upstream Velocity Head	0.00	ft
Ke	0.20		Entrance Loss	0.00	ft

Inlet Control Properties					
Inlet Control HW Elev.	N/A	ft	Flow Control	N/A	
Inlet Type	90° headwall w 45° bevels		Area Full	4.0	ft²
K	0.49500		HDS 5 Chart	10	
M	0.66700		HDS 5 Scale	2	
C	0.03140		Equation Form	2	
Y	0.82000				

Culvert Designer/Analyzer Report
P632S

Component:Weir

Hydraulic Component(s): Roadway

Discharge	0.00	cfs	Allowable HW Elevation	1,214.14	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.50	US
Low Point	1,217.73	ft	Headwater Elevation	N/A	ft
Discharge Coefficient (Cr)	0.00		Submergence Factor (Kt)	0.00	
Tailwater Elevation	-9,999.00	ft			

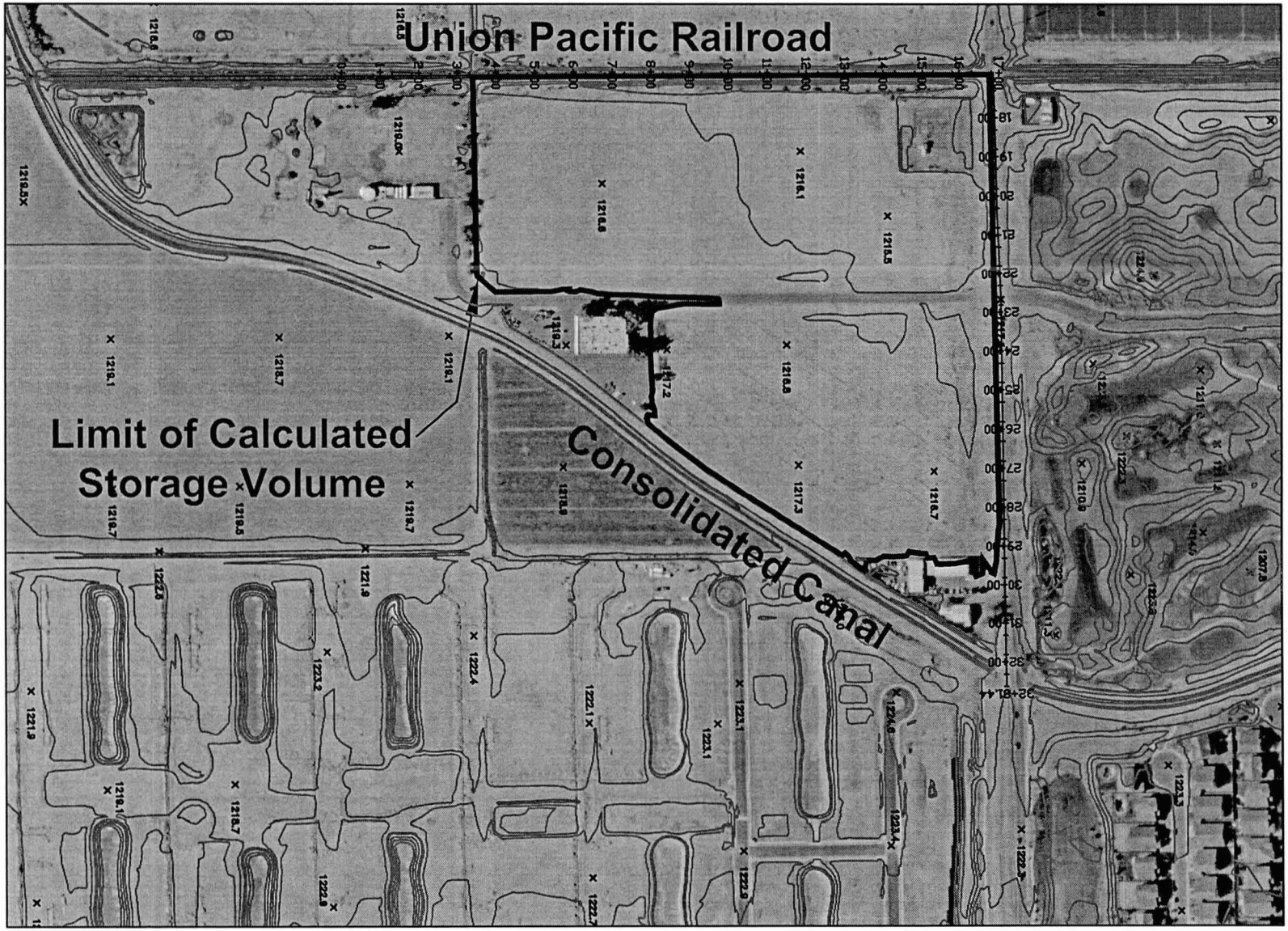
Sta (ft)	Elev. (ft)
0.00	1,217.73
118.74	1,218.86
235.13	1,219.94
349.43	1,220.50
453.09	1,220.16
555.47	1,220.05
655.17	1,219.89
753.64	1,219.78
857.84	1,219.73
942.64	1,219.46
1,029.07	1,219.45
1,122.31	1,219.38
1,218.59	1,219.30
1,301.94	1,219.21
1,395.34	1,219.19
1,491.28	1,219.13
1,590.59	1,218.99
1,689.06	1,219.05
1,782.70	1,218.96
1,884.03	1,218.95
1,984.78	1,219.02
2,090.03	1,219.10
2,192.31	1,219.02
2,293.02	1,219.03
2,392.98	1,219.06
2,496.43	1,219.10
2,595.78	1,219.18
2,698.04	1,219.21
2,798.67	1,219.20
2,899.90	1,219.21
3,002.77	1,219.23
3,041.35	1,219.20
3,144.12	1,219.13
3,244.27	1,219.13
3,344.89	1,219.15
3,440.19	1,219.12
3,544.16	1,219.02
3,646.63	1,218.96
3,751.98	1,218.94
3,852.90	1,219.01
3,949.44	1,218.92
4,059.30	1,219.00
4,167.99	1,219.09
4,266.35	1,219.14

Rating Table Report
P632S

Range Data:			
	Minimum	Maximum	Increment
Allowable HW E	1,203.00	1,220.00	0.50 ft

HW Elev. (ft)	Discharge (cfs)
1,203.00	0.00
1,203.50	0.00
1,204.00	0.00
1,204.50	0.00
1,205.00	0.00
1,205.50	0.00
1,206.00	0.00
1,206.50	0.00
1,207.00	0.00
1,207.50	0.00
1,208.00	0.00
1,208.50	0.00
1,209.00	0.00
1,209.50	0.00
1,210.00	0.00
1,210.50	0.00
1,211.00	0.00
1,211.50	0.00
1,212.00	0.00
1,212.50	0.00
1,213.00	0.00
1,213.50	0.00
1,214.00	0.00
1,214.50	2.69
1,215.00	18.29
1,215.50	43.41
1,216.00	74.00
1,216.50	109.43
1,217.00	146.47
1,217.50	187.67
1,218.00	234.48
1,218.50	325.02
1,219.00	513.71
1,219.50	3,027.76
1,220.00	9,191.05

Chandler/Gilbert PDS Phase 3 - South
Ponding Area 634



0 200' 400' 800'

SCALE: 1" = 400'

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\Mari0040-HyPa634.dwg nbl Mar 26, 2009 1:43:48pm

Chandler/Gilbert FDS Phase 3- South

P634 Data Table

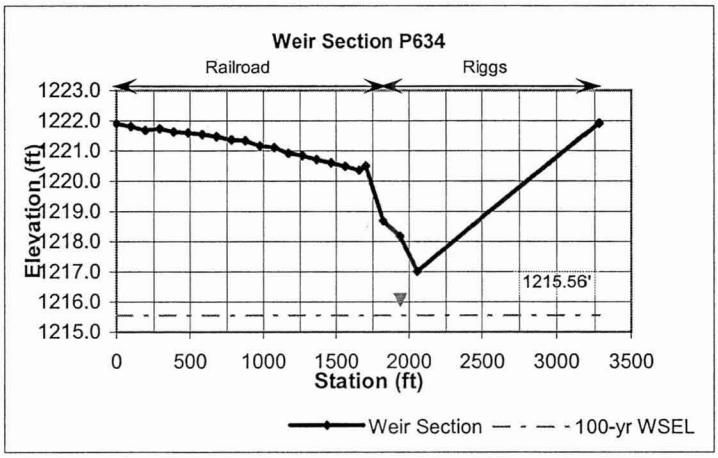
Ponding Area	SE Record Contour Elevation	SV Record Storage Volume	SQ Record Total Q	$Q_{railroad}$	$Q_{Riggs\ rd.}$	
P634	1213.0	0.00	0	0	0	
	1214.0	0.38	0	0	0	
	1215.0	1.42	0	0	0	
	1216.0	6.47	0	0	0	
	1217.0	20.05	0	0	0	
	1218.0	45.01	306.23	0	306.23	

Hydraulic Component(s): Roadway

Discharge	0.00 cfs	Allowable HW Elevation	1,217.01 ft
Roadway Width	40.00 ft	Overtopping Coefficient	2.51 US
Low Point	1,217.01 ft	Headwater Elevation	N/A ft
Discharge Coefficient	0.00	Submergence Factor (Kt)	0.00
Tailwater Elevation	0.00 ft		

	Sta (ft)	Elev. (ft)
Railroad	0.00	1221.91
	96.45	1221.81
	193.91	1221.68
	291.40	1221.73
	388.32	1221.63
	487.37	1221.59
	584.61	1221.54
	682.51	1221.47
	782.30	1221.36
	875.57	1221.33
	975.34	1221.16
	1073.17	1221.11
	1171.09	1220.92
	1269.23	1220.84
	1365.83	1220.70
	1465.07	1220.60
	1562.84	1220.49
	1658.47	1220.36
	1704.52	1220.49
Riggs Rd.	1822.13	1218.68
	1938.42	1218.17
	2057.16	1217.01
	3281.44	1221.91

Notes:



Culvert Designer/Analyzer Report
P634

Analysis Component			
Storm Event	Design	Discharge	0.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	0.00 cfs	Check Discharge	0.00 cfs

Tailwater Conditions: Constant Tailwater	
Tailwater Elevation	N/A ft

Name	Description	Discharge	HW Elev.	Velocity
Weir	Roadway	0.00 cfs	1,217.01 ft	N/A

Culvert Designer/Analyzer Report
P634

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	0.00	cfs	Allowable HW Elevation	1,217.01	ft
Roadway Width	40.00	ft	Overtopping Coefficient	2.51	US
Low Point	1,217.01	ft	Headwater Elevation	N/A	ft
Discharge Coefficient (Cr)	0.00		Submergence Factor (Kt)	0.00	
Tailwater Elevation	-9,999.00	ft			

Sta (ft)	Elev. (ft)
0.00	1,221.91
96.45	1,221.81
193.91	1,221.68
291.40	1,221.73
388.32	1,221.63
487.37	1,221.59
584.61	1,221.54
682.51	1,221.47
782.30	1,221.36
875.57	1,221.33
975.34	1,221.16
1,073.17	1,221.11
1,171.09	1,220.92
1,269.23	1,220.84
1,365.83	1,220.70
1,465.07	1,220.60
1,562.84	1,220.49
1,658.47	1,220.36
1,704.52	1,220.49
1,822.13	1,218.68
1,938.42	1,218.17
2,057.16	1,217.01
3,281.44	1,221.91

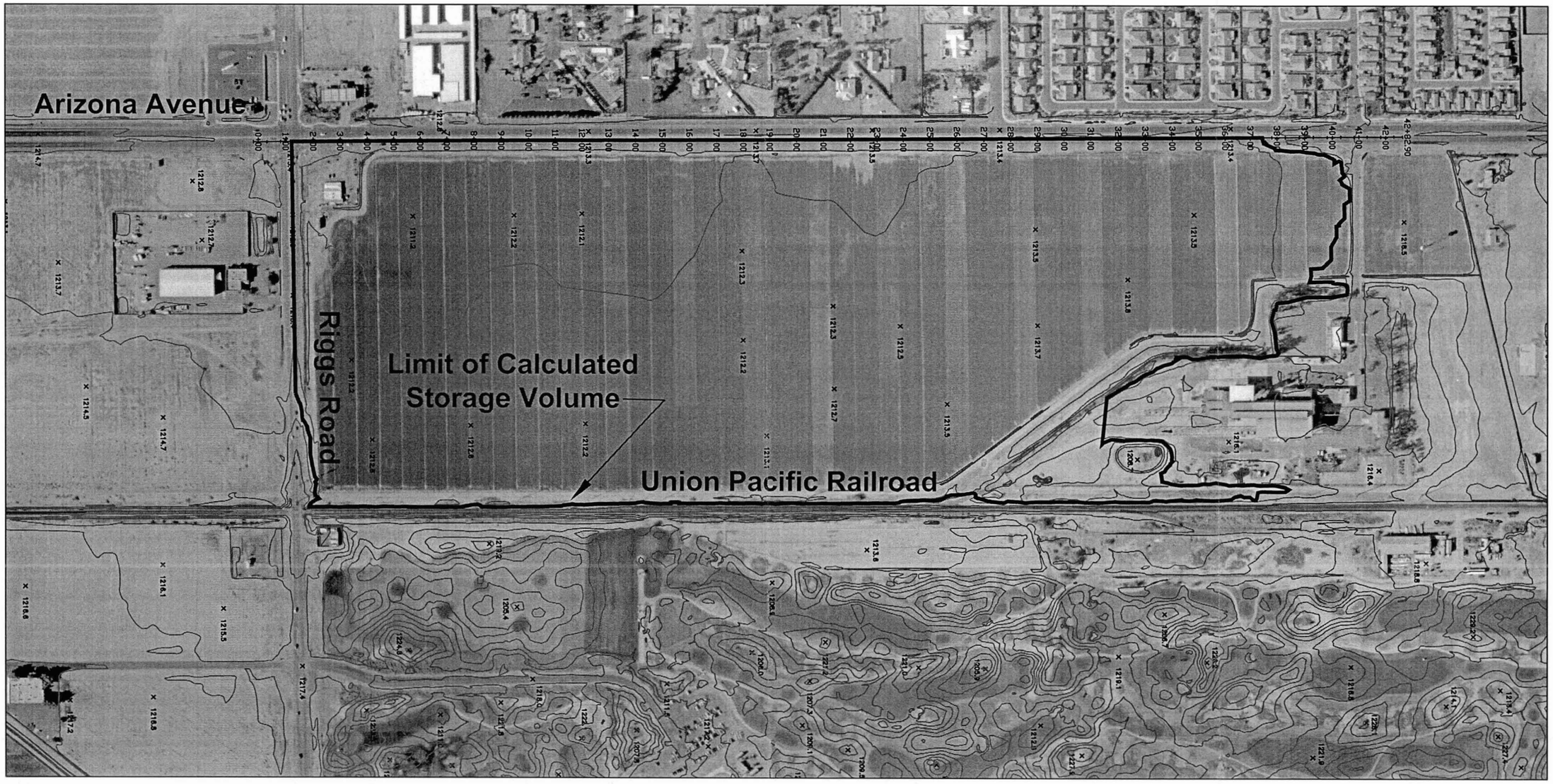
Rating Table Report
P634

Range Data:

	Minimum	Maximum	Increment	
Allowable HW E	1,213.00	1,218.00	0.50	ft

HW Elev. (ft)	Discharge (cfs)
1,213.00	0.00
1,213.50	0.00
1,214.00	0.00
1,214.50	0.00
1,215.00	0.00
1,215.50	0.00
1,216.00	0.00
1,216.50	0.00
1,217.00	0.00
1,217.50	52.57
1,218.00	306.23

Chandler/Gilbert FDS Phase 3 - South
Ponding Area 633



0 200' 400' 800'

SCALE: 1" = 400'

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\Mari0040-HyPa633.dwg nbl Mar 26, 2009 1:44:55pm

Chandler/Gilbert FDS Phase 3- South
P633 Data Table

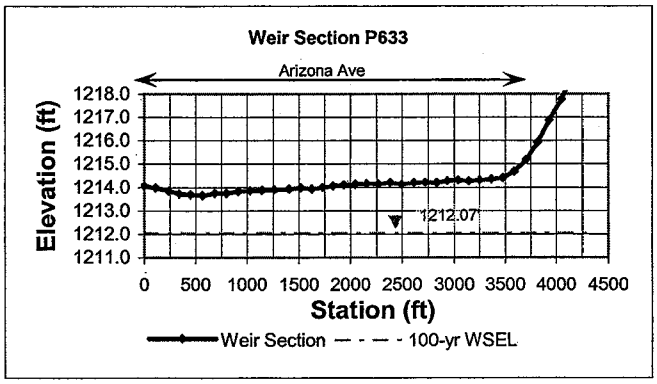
Ponding Area	SE Record	SV Record	SQ Record	$Q_{Arizona\ Ave.}$	
	Contour Elevation	Storage Volume	Total Q		
P633	1208.0	0.00	0	0	
	1212.0	10.25	0	0	
	1213.0	54.23	0	0	
	1214.0	148.72	309.96	309.96	
	1215.0	256.14	9558.67	9558.67	

Hydraulic Component(s): Roadway			
Discharge	0.00 cfs	Allowable HW Elevation	1,213.65 ft
Roadway Width	40.00 ft	Overtopping Coefficient	0.00 US
Low Point	1,213.65 ft	Headwater Elevation	N/A ft
Discharge Coefficient	0.00	Submergence Factor (Kt)	0.00
Tailwater Elevation	0.00 ft		

Sta (ft)	Elev. (ft)
0.00	1214.06
110.59	1213.98
235.73	1213.84
341.45	1213.72
452.45	1213.70
568.87	1213.65
686.26	1213.75
800.58	1213.75
914.64	1213.83
1030.29	1213.85
1146.24	1213.87
1261.81	1213.90
1405.32	1213.92
1517.34	1213.99
1625.51	1213.92
1730.37	1214.00
1834.38	1214.06
1940.54	1214.10
2048.01	1214.13
2157.24	1214.15
2269.66	1214.14
2383.57	1214.20
2497.43	1214.14
2611.25	1214.19
2723.03	1214.21
2831.06	1214.21
2935.49	1214.28
3037.39	1214.31
3141.06	1214.27
3250.76	1214.31
3364.94	1214.35
3477.98	1214.41
3590.61	1214.68
3703.97	1215.19
3817.83	1215.92
3932.32	1216.86
4049.92	1217.77
4168.54	1218.89
4282.90	1219.62

Arizona Ave

Notes:



Culvert Designer/Analyzer Report
P633

Analysis Component			
Storm Event	Design	Discharge	0.00 cfs

Peak Discharge Method: User-Specified			
Design Discharge	0.00 cfs	Check Discharge	0.00 cfs

Tailwater Conditions: Constant Tailwater	
Tailwater Elevation	N/A ft

Name	Description	Discharge	HW Elev.	Velocity
Weir	Roadway	0.00 cfs	1,213.65 ft	N/A

Culvert Designer/Analyzer Report
P633

Component:Weir

Hydraulic Component(s): Roadway					
Discharge	0.00	cfs	Allowable HW Elevation	1,213.65	ft
Roadway Width	40.00	ft	Overtopping Coefficient	0.00	US
Low Point	1,213.65	ft	Headwater Elevation	N/A	ft
Discharge Coefficient (Cr)	0.00		Submergence Factor (Kt)	0.00	
Tailwater Elevation	-9,999.00	ft			

Sta (ft)	Elev. (ft)
0.00	1,214.06
110.59	1,213.98
235.73	1,213.84
341.45	1,213.72
452.45	1,213.70
568.87	1,213.65
686.26	1,213.75
800.58	1,213.75
914.64	1,213.83
1,030.29	1,213.85
1,146.24	1,213.87
1,261.81	1,213.90
1,405.32	1,213.92
1,517.34	1,213.99
1,625.51	1,213.92
1,730.37	1,214.00
1,834.38	1,214.06
1,940.54	1,214.10
2,048.01	1,214.13
2,157.24	1,214.15
2,269.66	1,214.14
2,383.57	1,214.20
2,497.43	1,214.14
2,611.25	1,214.19
2,723.03	1,214.21
2,831.06	1,214.21
2,935.49	1,214.28
3,037.39	1,214.31
3,141.06	1,214.27
3,250.76	1,214.31
3,364.94	1,214.35
3,477.98	1,214.41
3,590.61	1,214.68
3,703.97	1,215.19
3,817.83	1,215.92
3,932.32	1,216.86
4,049.92	1,217.77
4,168.54	1,218.89
4,282.90	1,219.62

Rating Table Report
P633

Range Data:

	Minimum	Maximum	Increment	
Allowable HW E	1,208.00	1,215.00	0.50	ft

HW Elev. (ft)	Discharge (cfs)
1,208.00	0.00
1,208.50	0.00
1,209.00	0.00
1,209.50	0.00
1,210.00	0.00
1,210.50	0.00
1,211.00	0.00
1,211.50	0.00
1,212.00	0.00
1,212.50	0.00
1,213.00	0.00
1,213.50	0.00
1,214.00	309.96
1,214.50	3,223.70
1,215.00	9,558.67

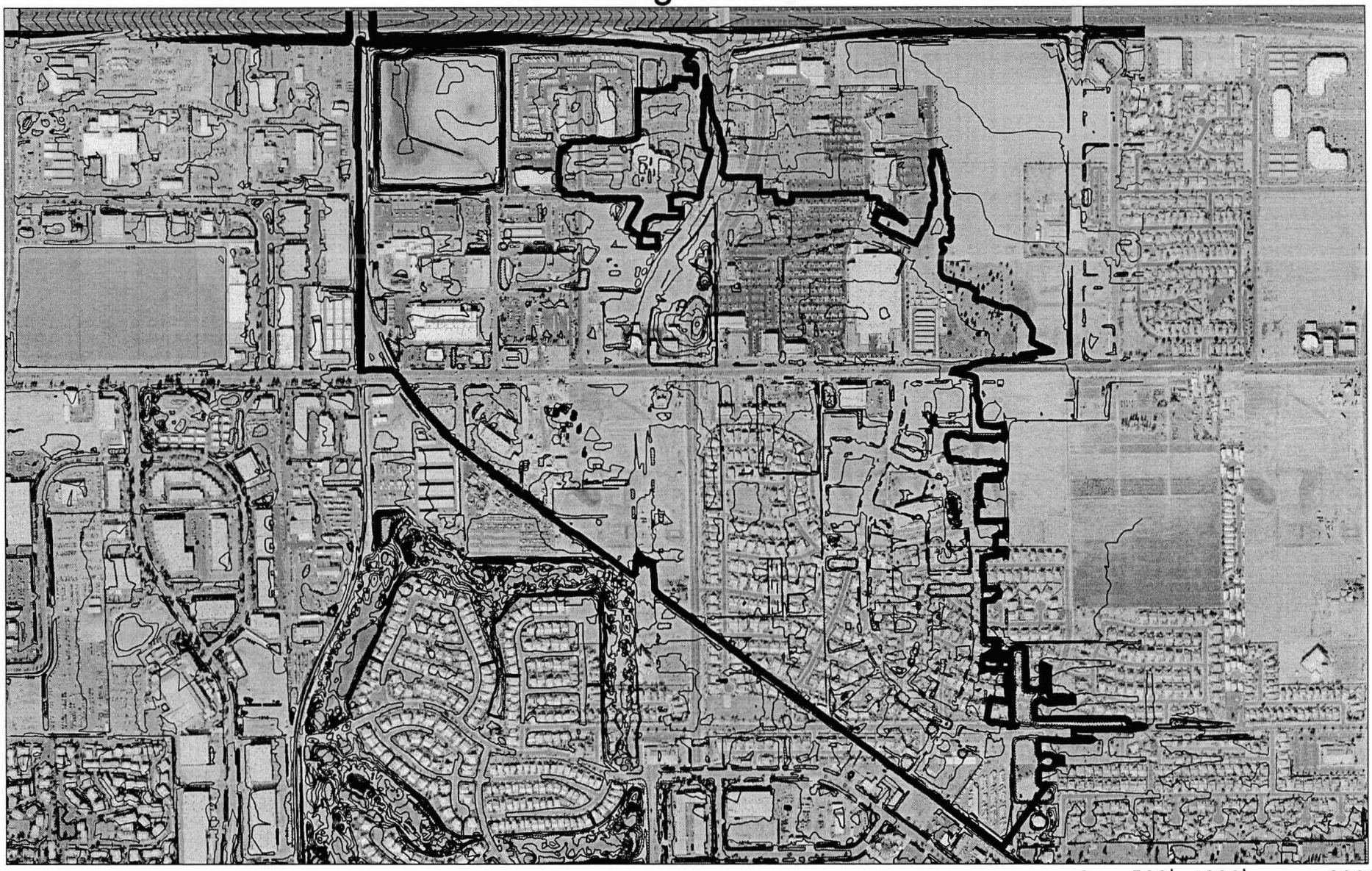
Ponding Area	Peak Inflow (cfs)		Time to Peak Inflow (hrs)		Maximum Stage (ft)		Time of Maximum Stage (hrs)		Minimum Storage Elevation (ft)	Maximum Inundation Depth* (ft)		Peak Storage Volume (ac-ft)		Peak Outflow (cfs)		Time to Peak Outflow (hrs)	
	6-hr	*24-hr*	*6-hr*	*24-hr*	*6-hr*	*24-hr*	*6-hr*	*24-hr*		*6-hr*	*24-hr*	*6-hr*	*24-hr*	*6-hr*	*24-hr*	*6-hr*	*24-hr*
P503	1377	1506	4.42	12.33	1213.51	1213.20	140.25	163.25	1197.00	16.51	16.20	590	518	0	0	-	-
P505	29	26	4.58	12.42	1211.55	1211.65	11.25	27.83	1209.00	2.55	2.65	5	6	0	0	-	-
P506	487	455	4.83	12.75	1207.63	1206.92	166.58	166.58	1195.10	12.53	11.82	195	168	0	0	-	-
P512	558	424	6.42	14.67	1209.78	1209.62	8.42	18.00	1202.20	7.58	7.42	127	122	293	151	8.42	18.00
P516	749	567	5.42	13.33	1233.95	1233.65	5.75	13.67	1221.00	12.95	12.65	30	27	613	447	5.75	13.67
P519	1177	968	5.58	13.17	1214.71	1214.50	6.92	15.08	1210.00	4.71	4.50	137	121	481	355	6.92	15.08

Notes:

Shaded Ponding areas indicate the 6-hour storm results were used to map floodplain.

* Maximum Inundation Depth was calculated as the difference between the Maximum Stage Elevation and the Lowest storage elevation of the basin.

Chandler/Gilbert PDS Phase 3- North
Ponding Area 503



Limit of Calculated
Volume at 1215.0 ft

0 500' 1000' 2000'

SCALE: 1" = 1000'

Ponding Area	SE Record	SV Record	SQ Record	Q_{ditch}	$Q_{roadway}$	Q_{canal_bank}
	Contour Elevation	Storage Volume	Total Q			
P503	1210.00	267.81	0.00	N/A	0.00	N/A
	1211.00	299.29	0.00	N/A	0.00	N/A
	1212.00	358.90	0.00	N/A	0.00	N/A
	1212.50	411.00	0.00	N/A	0.00	N/A
	1213.00	482.89	0.00	N/A	0.00	N/A
	1213.20	518.56	0.00	N/A	0.00	N/A
	1214.00	702.56	0.00	N/A	0.00	N/A
	1214.50	847.55	0.00	N/A	0.00	N/A

Hydraulic Component(s): Roadway

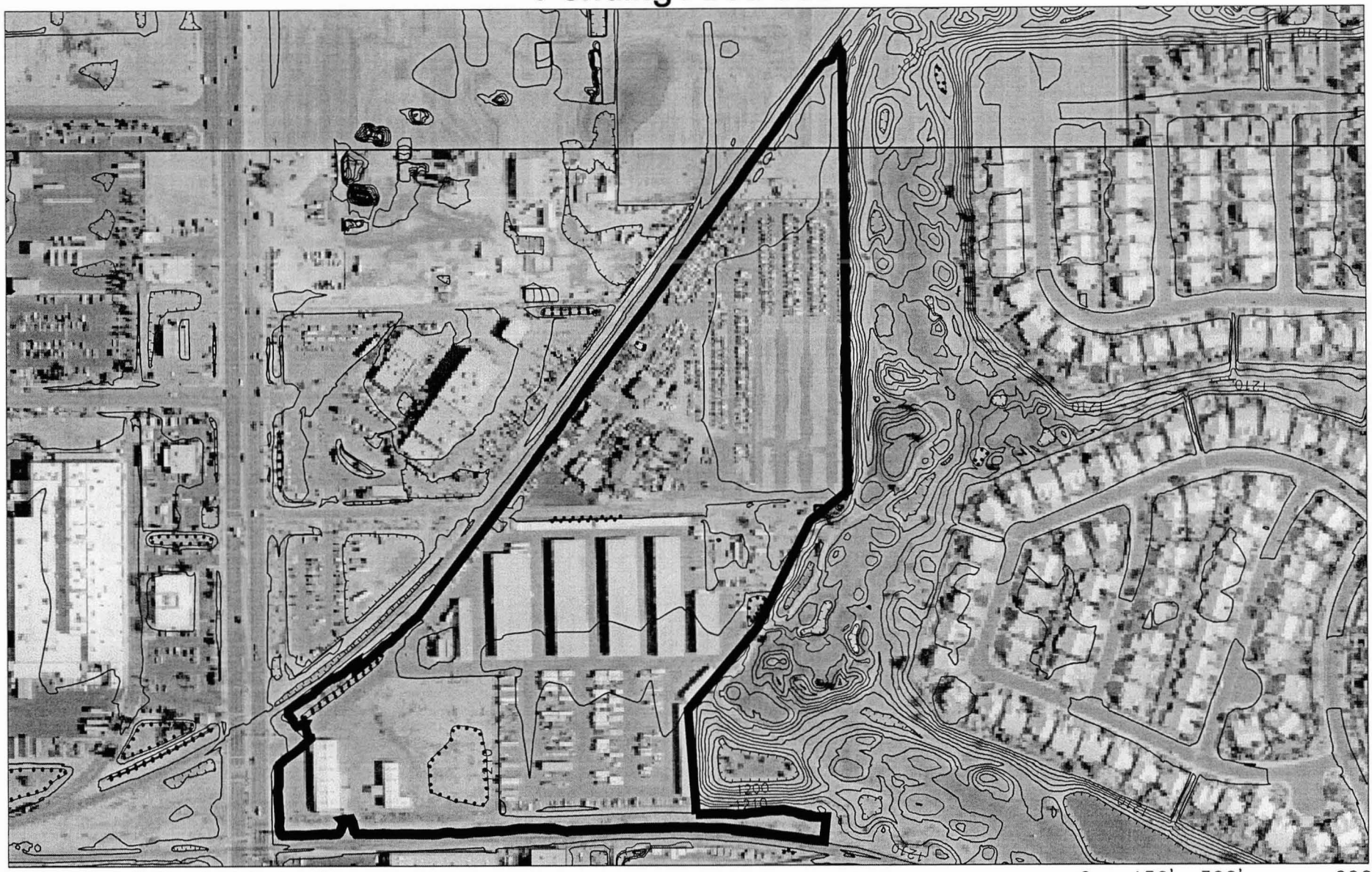
Discharge	0 cfs	Allowable HW Elevation	1,215.00 ft
Roadway Width	40.00 ft	Overtopping Coefficient	N/A US
Low Point	1,213.10 ft	Headwater Elevation	1,213.51 ft
Discharge Coefficient	N/A	Submergence Factor (Kt)	N/A
Tailwater Elevation	N/A ft		

Sta (ft)	Elev. (ft)

Road

Notes: Storm water is contained in the sub-basin. No weir flow.

Chandler/Gilbert PDS Phase 3- North
Ponding Area 505



Limit of Calculated
Volume at 1212.0 ft

0 150' 300' 600'

SCALE: 1" = 300'

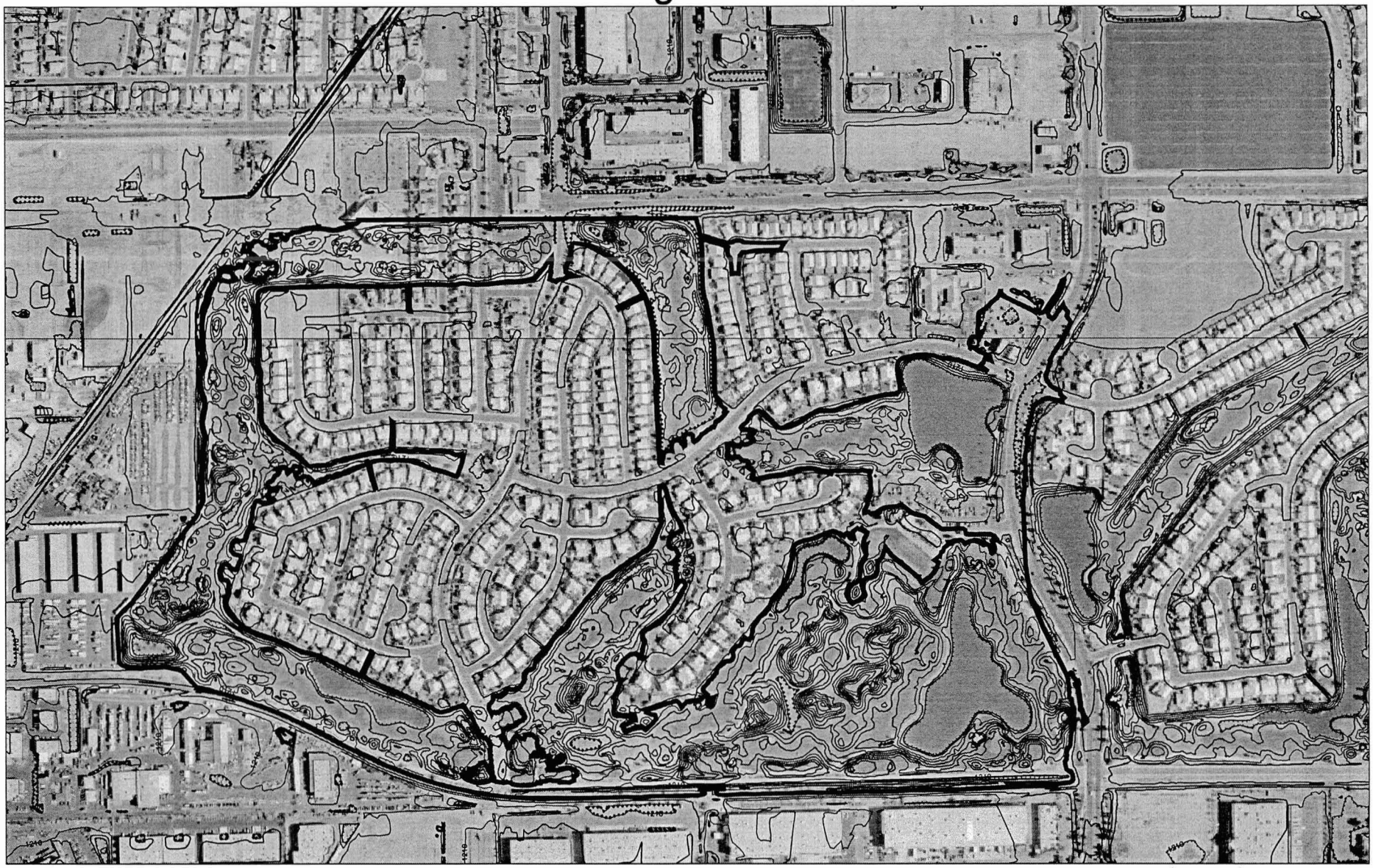
Ponding Area	SE Record	SV Record	SQ Record	Q_{ditch}	$Q_{roadway}$	Q_{canal_bank}
	Contour Elevation	Storage Volume	Total Q			
P505	1209.00	0.00	0.00	N/A	0.00	N/A
	1210.00	0.11	0.00	N/A	0.00	N/A
	1210.70	1.01	0.00	N/A	0.00	N/A
	1211.00	1.86	0.00	N/A	0.00	N/A
	1212.00	8.22	0.00	N/A	0.00	N/A

Hydraulic Component(s): Roadway			
Discharge	0 cfs	Allowable HW Elevation	N/A ft
Roadway Width	N/A ft	Overtopping Coefficient	N/A US
Low Point	N/A ft	Headwater Elevation	1,211.55 ft
Discharge Coefficient	N/A	Submergence Factor (Kt)	1
Tailwater Elevation	N/A ft		

Sta (ft)	Elev. (ft)

Notes: Sub-basin 505 has the capacity to fully contain 100-year storm water. No weir flow.

Chandler/Gilbert PDS Phase 3- North
Ponding Area 506



Limit of Calculated Volume of 1212.0 ft

0 300' 600' 1200'

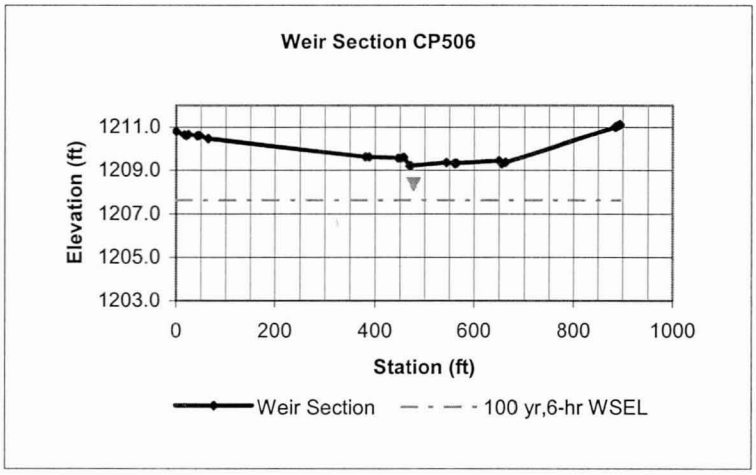
SCALE: 1" = 600'

Ponding Area	SE Record	SV Record	SQ Record	Q_{ditch}	$Q_{roadway}$	Q_{canal_bank}
	Contour Elevation	Storage Volume	Total Q			
P506	1195.10	0.01	0.00	N/A	0.00	N/A
	1202.20	39.03	0.00	N/A	0.00	N/A
	1204.70	85.90	0.00	N/A	0.00	N/A
	1208.00	208.47	0.00	N/A	0.00	N/A
	1210.00	335.94	486.43	N/A	486.43	N/A
	1212.00	515.57	7953.00	N/A	7953.00	N/A

Hydraulic Component(s): Roadway			
Discharge	0 cfs	Allowable HW Elevation	1,212.00 ft
Roadway Width	40.00 ft	Overtopping Coefficient	N/A US
Low Point	1,209.19 ft	Headwater Elevation	1,207.63 ft
Discharge Coefficient	N/A	Submergence Factor (Kt)	1
Tailwater Elevation	N/A ft		

	Sta (ft)	Elev. (ft)
Road	0.00	1210.80
	15.87	1210.63
	20.60	1210.60
	24.38	1210.65
	42.91	1210.59
	46.86	1210.60
	64.59	1210.46
	380.83	1209.62
	388.44	1209.62
	446.16	1209.57
	452.10	1209.57
	457.22	1209.60
	469.83	1209.19
	472.51	1209.21
	544.28	1209.36
	560.57	1209.33
	561.38	1209.30
	562.29	1209.33
	563.33	1209.33
	564.52	1209.33
	650.30	1209.45
	656.06	1209.30
	663.25	1,209.37
	884.37	1,211.00
	886.27	1,211.01
	888.49	1,211.05
	891.17	1,211.07
	894.16	1,211.10

Notes: Ponding volumes include retention basins in the north portion of the El Dorado Lakes.



Chandler/Gilbert PDS Phase 3- North
Ponding Area 512

Limit of Calculated Volume at 1212.0 ft

0 250' 500' 1000'

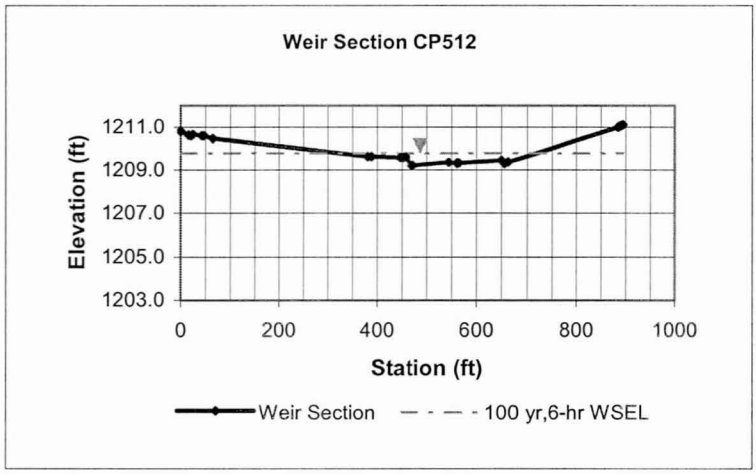
SCALE: 1" = 500'

Ponding Area	SE Record	SV Record	SQ Record	Q_{ditch}	$Q_{roadway}$	Q_{canal_bank}
	Contour Elevation	Storage Volume	Total Q			
P512	1202.20	1.83	0.00	N/A	0.00	N/A
	1207.00	48.38	0.00	N/A	0.00	N/A
	1209.19	119.00	0.00	N/A	0.00	N/A
	1209.50	133.15	41.86	N/A	41.86	N/A
	1210.00	133.15	486.43	N/A	486.43	N/A
	1212.00	213.69	7953.00	N/A	7953.00	N/A

Hydraulic Component(s): Roadway			
Discharge	293 cfs	Allowable HW Elevation	1,210.80 ft
Roadway Width	40.00 ft	Overtopping Coefficient	N/A US
Low Point	1,209.19 ft	Headwater Elevation	1,209.78 ft
Discharge Coefficient	N/A	Submergence Factor (Kt)	1
Tailwater Elevation	N/A ft		

	Sta (ft)	Elev. (ft)
Road	0.00	1210.80
	15.87	1210.63
	20.60	1210.60
	24.38	1210.65
	42.91	1210.59
	46.86	1210.60
	64.59	1210.46
	380.83	1209.62
	388.44	1209.62
	446.16	1209.57
	452.10	1209.57
	457.22	1209.60
	469.83	1209.19
	472.51	1209.21
	544.28	1209.36
	560.57	1209.33
	561.38	1209.30
	562.29	1209.33
	563.33	1209.33
	564.52	1209.33
	650.30	1209.45
	656.06	1209.30
	663.25	1,209.37
	884.37	1,211.00
	886.27	1,211.01
	888.49	1,211.05
	891.17	1,211.07
	894.16	1,211.10

Notes: Ponding volumes include retention basins in the south portion of the El Dorado Lakes.



Basin	512	PEC Weir Flow Calculation Sheet	Design: YX Check: MDH Date: 3/18/2004	Project Engineering Consultants, Ltd. 2310 W. Mission Lane Suite 4 Phoenix, AZ 85021
No. of barrals	N/A			
size (ft)	N/A			
ditch side slope	N/A			
culvert invert (ft)	N/A			
S (ft/ft)	N/A			
n	N/A			

x (ft)	0	15.87	20.6	24.38	42.91	46.86	64.59	72.36	81.89	96.67	108.78	121.34	134.63	161.26	168.54	176.64	185.4	228.44	238.28	256.89	284.69	292.97	310.66	327.52	358.98
y (ft)	1210.8	1210.63	1210.6	1210.65	1210.59	1210.6	1210.46	1210.44	1210.53	1210.5	1210.5	1210.39	1210.37	1210.03	1210.04	1210	1209.99	1209.88	1209.89	1209.9	1209.9	1209.82	1209.82	1209.82	1209.76
surface (gravel or paved)	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
location (bank or street)	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
stage ft	1212																								
segment	1	2	3	4	5	6	7	8	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
L (ft)	15.87	4.73	3.78	18.53	3.95	17.73	7.77	9.53	14.78	12.11	12.56	13.29	26.63	7.28	8.1	8.76	43.04	9.84	18.61	27.8	8.28	17.69	16.86	31.46	11.63
HW (ft)	1.285	1.385	1.375	1.38	1.405	1.47	1.55	1.515	1.485	1.5	1.555	1.62	1.8	1.965	1.98	2.005	2.065	2.115	2.105	2.1	2.14	2.18	2.18	2.21	2.22
Cr	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03
kt=	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
C=	3.031733	3.031396	3.031427	3.031412	3.031338	3.031183	3.031076	3.031111	3.031155	3.031131	3.031073	3.031069	3.031401	3.032041	3.032109	3.032223	3.032503	3.032737	3.032691	3.032667	3.032853	3.033033	3.033033	3.0331635	3.0332059
Weir flow Qw (cfs) =	70.0846	23.37107	18.47536	91.06237	19.94096	95.78486	45.44807	53.86586	81.07227	67.43506	73.82129	83.06025	194.95	60.80094	68.42701	75.41137	387.3055	91.79002	172.3664	256.5657	78.61444	172.69896	164.59606	313.5039	116.68393
Flow over bank Qb (cfs) =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flow over street Qs (cfs) =	70.0846	23.37107	18.47536	91.06237	19.94096	95.78486	45.44807	53.86586	81.07227	67.43506	73.82129	83.06025	194.95	60.80094	68.42701	75.41137	387.3055	91.79002	172.3664	256.5657	78.61444	172.69896	164.59606	313.5039	116.68393

Total weir flow Qw_total=	7952.665
Total over bank Qb_total=	0
Total over street Qs_total=	7952.665
Ditch flow Qd=	0.00
Qtotal	7952.67

Stage ft	Qtotal cfs	Qb cfs	Qs cfs	Qd cfs
1212.00	7952.67	0.00	7952.67	0.00
1210	486.4366	0	486.4366	0
1212	7952.665	0	7952.665	0

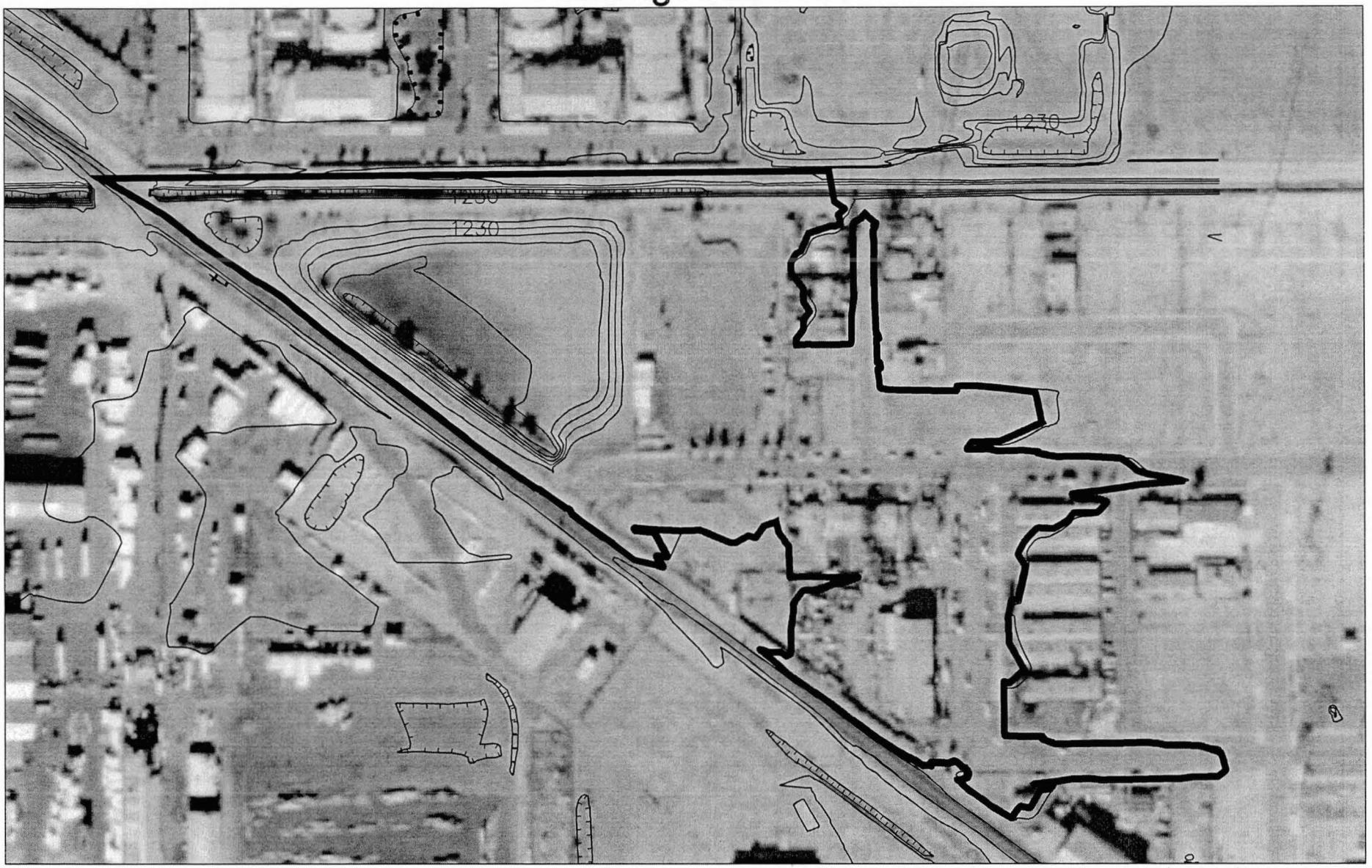
Storage rating

Elev ft	Volume AF
1202.2	1.8
1207	48.38
1209.19	105.86
1209.5	119.0
1210	133.2
1212	213.7

PEC Culvert Flow Calculation for Chandler/Gilbert FDS Phase I:
Inlet control is assumed for the estimation of culvert flow.
For the submerged inlets, the method presented in Appendix A of HDS-5 is used (Equation 28).
For un-submerged inlets the weir equation is used.
In both cases, PEC's calculation is quite close to the published nomograph.

PEC Weir Flow Calculation for Chandler/Gilbert FDS Phase I:
Equation 8 in HDS-5 is used to calculate weir flow. Discharge coefficient is determined using Figure III-11 in HDS-5.

Chandler/Gilbert PDS Phase 3- North
Ponding Area 516



Limit of Calculated
Volume at 1234.20 ft

0 100' 200' 400'

SCALE: 1" = 200'

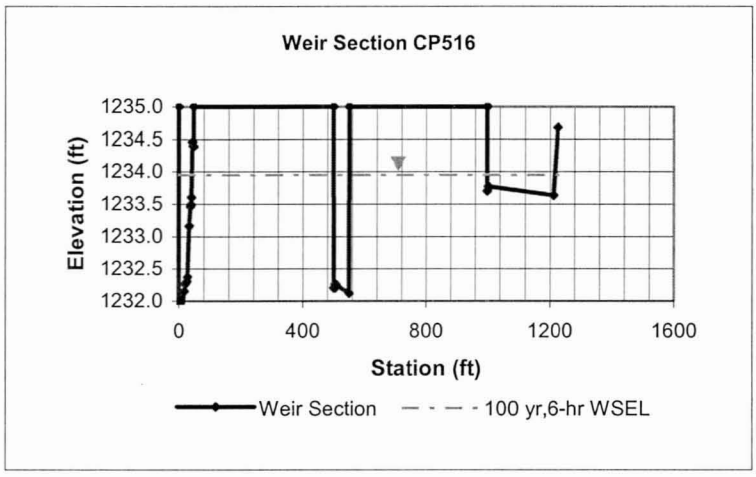
Ponding Area	SE Record	SV Record	SQ Record	Q_{canal}	Q_{to503}	Q_{to509}
	Contour Elevation	Storage Volume	Total Q			
P516	1221.00	0.00	0.00	0.00	0.00	0.00
	1232.00	17.40	0.00	0.00	0.00	0.00
	1233.00	21.90	184.50	8.50	76.00	100.00
	1233.20	23.26	254.70	10.00	103.00	141.00
	1233.50	25.62	378.30	12.80	153.00	213.00
	1233.70	27.54	472.50	14.50	191.00	267.00
	1233.90	29.77	581.00	16.30	234.00	331.00
	1234.00	31.00	643.30	17.00	257.00	370.00
	1234.10	32.30	712.00	18.00	281.00	413.00
	1234.20	33.70	788.50	18.80	305.00	464.00

Hydraulic Component(s): Canal Bank			
Discharge	613 cfs	Allowable HW Elevation	1,234.20 ft
Width	30.00 ft	Overtopping Coefficient	2.50-2.84 US
Low Point	1,232.10 ft	Headwater Elevation	1,233.95 ft
Discharge Coefficient	2.50-2.84	Submergence Factor (Kt)	1
Tailwater Elevation	N/A ft		

Canal Bank

Sta (ft)	Elev. (ft)
0.00	1235.00
0.10	1231.90
5.49	1231.81
10.50	1231.85
17.72	1232.15
20.47	1232.26
26.39	1,232.30
27.69	1,232.37
32.72	1,233.16
37.59	1,233.46
39.52	1,233.49
40.28	1,233.60
43.21	1234.46
45.21	1234.40
47.85	1234.39
47.90	1235.00
499.90	1235.00
500.00	1232.20
504.37	1232.26
505.05	1232.20
507.89	1232.25
549.73	1232.12
549.80	1235.00
999.90	1235.00
1000.00	1233.70
1003.01	1233.77
1212.04	1233.63
1226.25	1234.68

Notes: Ponding volumes include retention basins south of the Western Canal bank.



Basin	516	PEC Weir Flow Calculation Sheet	
No. of barrals	N/A		
size (ft)	N/A		
ditch side slope	N/A		
culvert invert (ft)	N/A		
S (ft/ft)	N/A		
n	N/A		

Design: YX
Check: MDH
Date: 3/18/2004

Project Engineering Consultants, Ltd.
2310 W. Mission Lane Suite 4
Phoenix, AZ 85021

x (ft)	0	5.49	10.5	17.72	20.47	26.39	27.69	32.72	37.59	39.52	40.28	43.21	45.21	47.85	47.9	499.9	500	504.37	504.46	504.64	504.84	505.05	505.24	505.39
y (ft)	1231.9	1231.81	1231.85	1232.15	1232.26	1232.3	1232.37	1233.16	1233.46	1233.49	1233.6	1234.46	1234.4	1234.39	1240	1240	1232.2	1232.26	1232.26	1232.26	1232.26	1232.2	1232.25	1232.25
surface (gravel or paved)	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g
location (bank or street)	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	s	s	s	s	s	s	s	s	s
stage ft	1234.2																							
segment	1	2	3	4	5	6	7	8	9	10	11	12	13	13	13	13	13	13	13	13	13	13	13	13
L (ft)	5.49	5.01	7.22	2.75	5.92	1.3	5.03	4.87	1.93	0.76	2.044186	0	0	0	0	0.025641	4.37	0.09	0.18	0.2	0.21	0.19	0.15	0.15
HW (ft)	2.345	2.37	2.2	1.995	1.92	1.865	1.435	0.89	0.725	0.655	0.3	0	0	0	0	1	1.97	1.94	1.94	1.94	1.97	1.975	1.95	1.95
Cr	3.00	3.00	2.99	2.97	2.96	2.95	2.89	2.78	2.74	2.72	2.62	N/A	N/A	N/A	N/A	2.81	2.96	2.96	2.96	2.96	2.96	2.96	2.96	2.96
kt=	1	1	1	1	1	1	1	1	1	1	1	N/A	N/A	N/A	N/A	1	1	1	1	1	1	1	1	1
C=	2.999486	3.001504	2.986656	2.965232	2.956437	2.949663	2.887141	2.780942	2.741309	2.723177	2.616253	N/A	N/A	N/A	N/A	2.8052	2.962357	2.958832	2.958832	2.958832	2.962357	2.9629366	2.9600163	2.9600163
Weir flow Qw (cfs) =	59.13349	54.86547	70.36495	22.97765	46.56313	9.766388	24.96398	11.37119	3.266046	1.097113	0.878784	0	0	0	0	0.071928	35.79465	0.719557	1.439115	1.599016	1.720109	1.5625237	1.2090306	1.2090306
Flow over bank Qb (cfs) =	59.13349	54.86547	70.36495	22.97765	46.56313	9.766388	24.96398	11.37119	3.266046	1.097113	0.878784	0	0	0	0	0	0	0	0	0	0	0	0	0
Flow over street Qs (cfs) =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.071928	35.79465	0.719557	1.439115	1.599016	1.720109	1.5625237	1.2090306	1.2090306

Total weir flow Qw_total=	769.6975
Total over bank Qb_total=	305.2482
Total over street Qs_total=	464.4493
Ditch flow Qd=	0.00
Qtotal	769.70

Stage ft	Qtotal cfs	Qb cfs	Qs cfs	Qd cfs
1234.20	769.70	305.25	464.45	0.00
1233.00	175.95	76.39	99.56	0.00
1233.20	244.71	103.67	141.04	0.00
1233.50	365.50	152.59	212.91	0.00
1233.70	457.96	191.11	266.85	0.00
1233.90	564.68	233.88	330.80	0.00
1234.00	626.33	256.74	369.59	0.00
1234.10	694.04	280.54	413.50	0.00
1234.20	769.70	305.25	464.45	0.00

Storage rating

Elev ft	Volume AF
1221.00	0.00
1232.00	17.40
1233.00	21.90
1233.20	23.26
1233.50	25.62
1233.70	27.54
1233.90	29.77
1234.00	31.00
1234.10	32.30
1234.20	33.70

PEC Culvert Flow Calculation for Chandler/Gilbert FDS Phase I:
Inlet control is assumed for the estimation of culvert flow.
For the submerged inlets, the method presented in Appendix A of HDS-5 is used (Equation 28).
For un-submerged inlets the weir equation is used.
In both cases, PEC's calculation is quite close to the published nomograph.

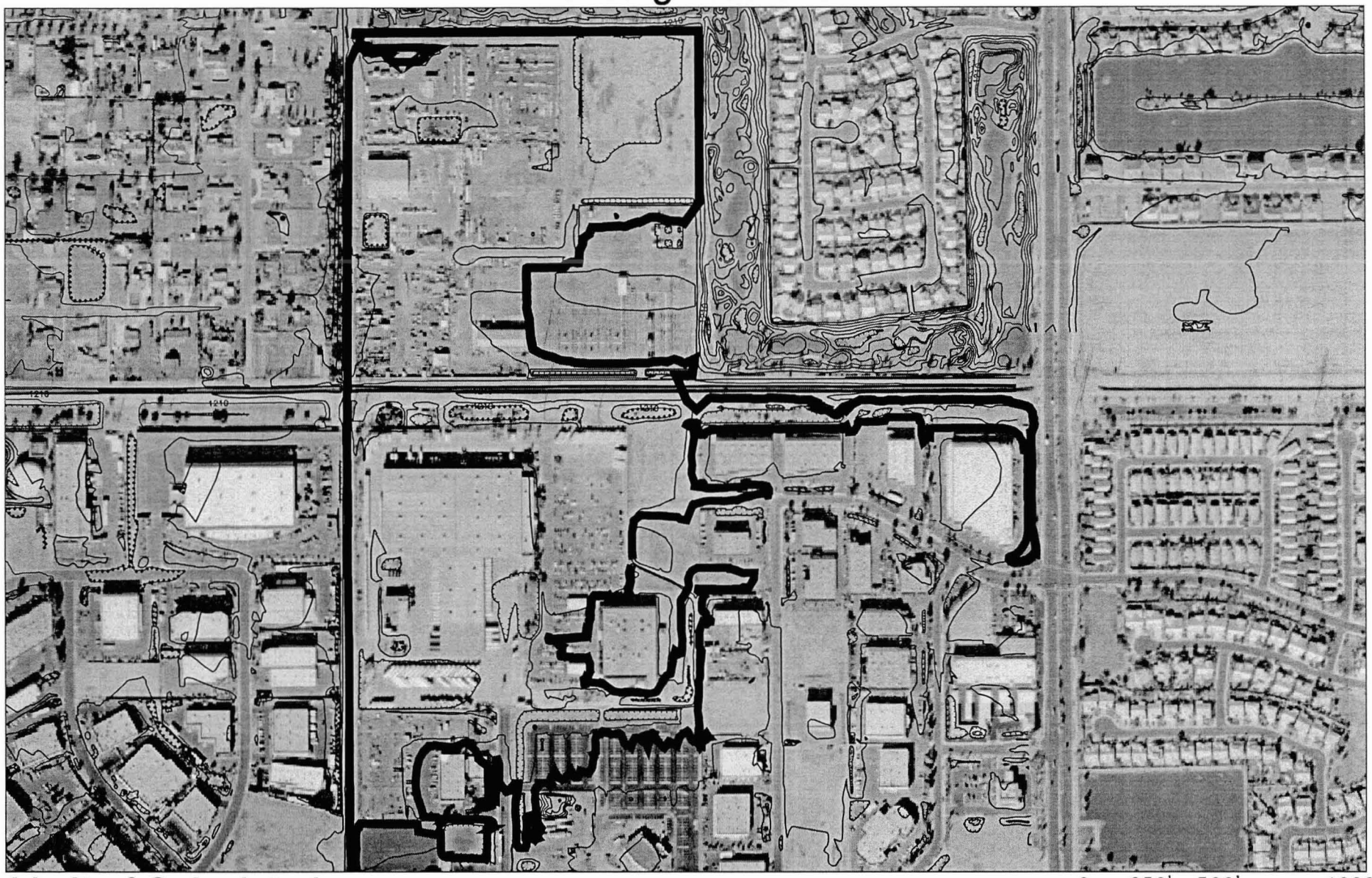
PEC Weir Flow Calculation for Chandler/Gilbert FDS Phase I:
Equation 8 in HDS-5 is used to calculate weir flow. Discharge coefficient is determined using Figure III-11 in HDS-5.

CulvertMaster Analysis

3x3 Box Culvert @ P516

Discharge (cfs)	HW Elev. (ft)	TW Elev. (ft)	
110	1,232.00	1,227.09	
110.5	1,232.05	1,227.10	
111	1,232.10	1,227.10	Western Canal Base Flow
111.5	1,232.15	1,227.11	
112	1,232.21	1,227.12	
112.5	1,232.26	1,227.13	
113	1,232.31	1,227.13	
113.5	1,232.37	1,227.14	
114	1,232.42	1,227.15	
114.5	1,232.47	1,227.15	
115	1,232.53	1,227.16	
115.5	1,232.58	1,227.17	
116	1,232.63	1,227.18	
116.5	1,232.69	1,227.18	
117	1,232.74	1,227.19	
117.5	1,232.80	1,227.20	
118	1,232.85	1,227.20	
118.5	1,232.91	1,227.21	
119	1,232.96	1,227.22	
119.5	1,233.02	1,227.23	
120	1,233.07	1,227.23	
120.5	1,233.13	1,227.24	
121	1,233.19	1,227.25	
121.5	1,233.24	1,227.25	
122	1,233.30	1,227.26	
122.5	1,233.35	1,227.27	
123	1,233.41	1,227.27	
123.5	1,233.47	1,227.28	
124	1,233.53	1,227.29	
124.5	1,233.58	1,227.29	
125	1,233.64	1,227.30	
125.5	1,233.70	1,227.31	
126	1,233.76	1,227.32	
126.5	1,233.81	1,227.32	
127	1,233.87	1,227.33	
127.5	1,233.93	1,227.34	
128	1,233.99	1,227.34	
128.5	1,234.05	1,227.35	
129	1,234.11	1,227.36	
129.5	1,234.17	1,227.36	
130	1,234.22	1,227.37	

Chandler/Gilbert PDS Phase 3- North
Ponding Area 519



Limit of Calculated Volume at 1214.8 ft

0 250' 500' 1000'

SCALE: 1" = 500'

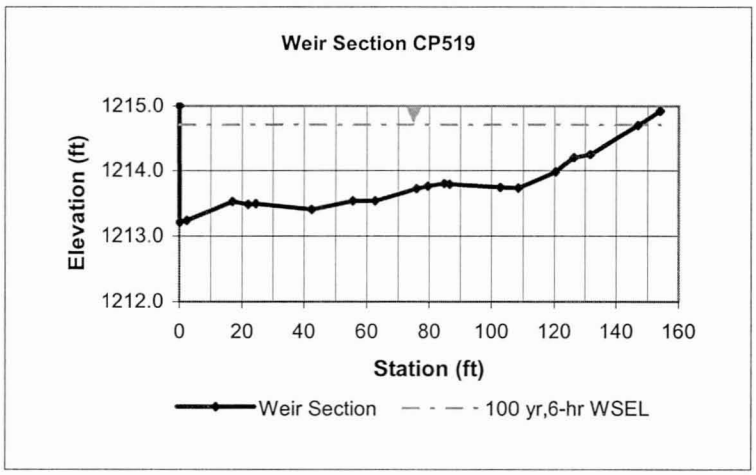
Ponding Area	SE Record	SV Record	SQ Record	Q_{canal}	$Q_{roadway}$	Q_{canal_bank}
	Contour Elevation	Storage Volume	Total Q			
P519	1210.00	0.97	0.00	0.00	0.00	N/A
	1212.00	9.96	0.00	0.00	0.00	N/A
	1212.50	18.92	0.00	0.00	0.00	N/A
	1213.00	34.75	0.00	0.00	0.00	N/A
	1213.50	57.90	3.60	0.00	3.60	N/A
	1214.00	87.27	125.50	34.50	91.00	N/A
	1214.40	113.83	295.40	43.00	252.40	N/A
	1214.80	144.00	536.60	51.30	485.30	N/A

Hydraulic Component(s): Roadway			
Discharge	481 cfs	Allowable HW Elevation	1,214.80 ft
Roadway Width	40.00 ft	Overtopping Coefficient	2.53-2.67 US
Low Point	1,213.50 ft	Headwater Elevation	1,214.71 ft
Discharge Coefficient	2.53-2.67	Submergence Factor (Kt)	1
Tailwater Elevation	N/A ft		

Road

Sta (ft)	Elev. (ft)
0.00	1215.00
0.10	1213.20
2.38	1213.23
16.94	1213.52
21.98	1213.48
24.44	1213.49
42.49	1213.40
55.56	1213.53
62.73	1213.53
76.00	1213.72
79.63	1213.76
84.87	1213.80
86.64	1213.79
102.82	1213.74
108.41	1213.73
120.44	1213.98
126.54	1214.20
131.67	1214.25
146.92	1214.70
154.08	1214.92

Notes: Ponding volumes include retention volumes in Sub-basins 519 and 513.



CulvertMaster Analysis

4x4 Box Culvert @ P519 Base flow 111 cfs

Discharge (cfs)	HW Elev. (ft)	TW Elev. (ft)	toCanal	Weir	Total
134.5	1,213.50	1,211.43	0.0	3.6	3.6
135	1,213.53	1,211.44			
135.5	1,213.55	1,211.44			
136	1,213.57	1,211.45			
136.5	1,213.59	1,211.46			
137	1,213.61	1,211.46			
137.5	1,213.64	1,211.47			
138	1,213.66	1,211.47			
138.5	1,213.68	1,211.48			
139	1,213.70	1,211.49			
139.5	1,213.73	1,211.49			
140	1,213.75	1,211.50			
140.5	1,213.77	1,211.51			
141	1,213.79	1,211.51			
141.5	1,213.82	1,211.52			
142	1,213.84	1,211.53			
142.5	1,213.86	1,211.53			
143	1,213.88	1,211.54			
143.5	1,213.91	1,211.55			
144	1,213.93	1,211.55			
144.5	1,213.95	1,211.56			
145	1,213.98	1,211.56			
145.5	1,214.00	1,211.57	34.5	91.0	125.5
146	1,214.02	1,211.58			
146.5	1,214.05	1,211.58			
147	1,214.07	1,211.59			
147.5	1,214.09	1,211.60			
148	1,214.11	1,211.60			
148.5	1,214.14	1,211.61			
149	1,214.16	1,211.61			
149.5	1,214.18	1,211.62			
150	1,214.21	1,211.63			
150.5	1,214.23	1,211.63			
151	1,214.25	1,211.64			
151.5	1,214.28	1,211.64			
152	1,214.30	1,211.65			
152.5	1,214.33	1,211.66			
153	1,214.35	1,211.66			
153.5	1,214.37	1,211.67			
154	1,214.40	1,211.68	43.0	252.4	295.4
162.3	1,214.80	1,211.78	51.3	485.3	536.6

Storm water ponds across the Western Canal. The canal full flow capacity is 111 cfs. Additional head will force the canal convey more water away. For example, if water ponding at 1214.8 ft, the flow rate in the canal will be 162.3 cfs. This means that P519 losses water to the canal at a 51.3 cfs rate.

Basin	519	PEC Weir Flow Calculation Sheet	
No. of barrals	N/A		
size (ft)	N/A		
ditch side slope	N/A		
culvert invert (ft)	N/A		
S (ft/ft)	N/A		
n	N/A		

Design: YX
Check: MDH
Date: 3/18/2004

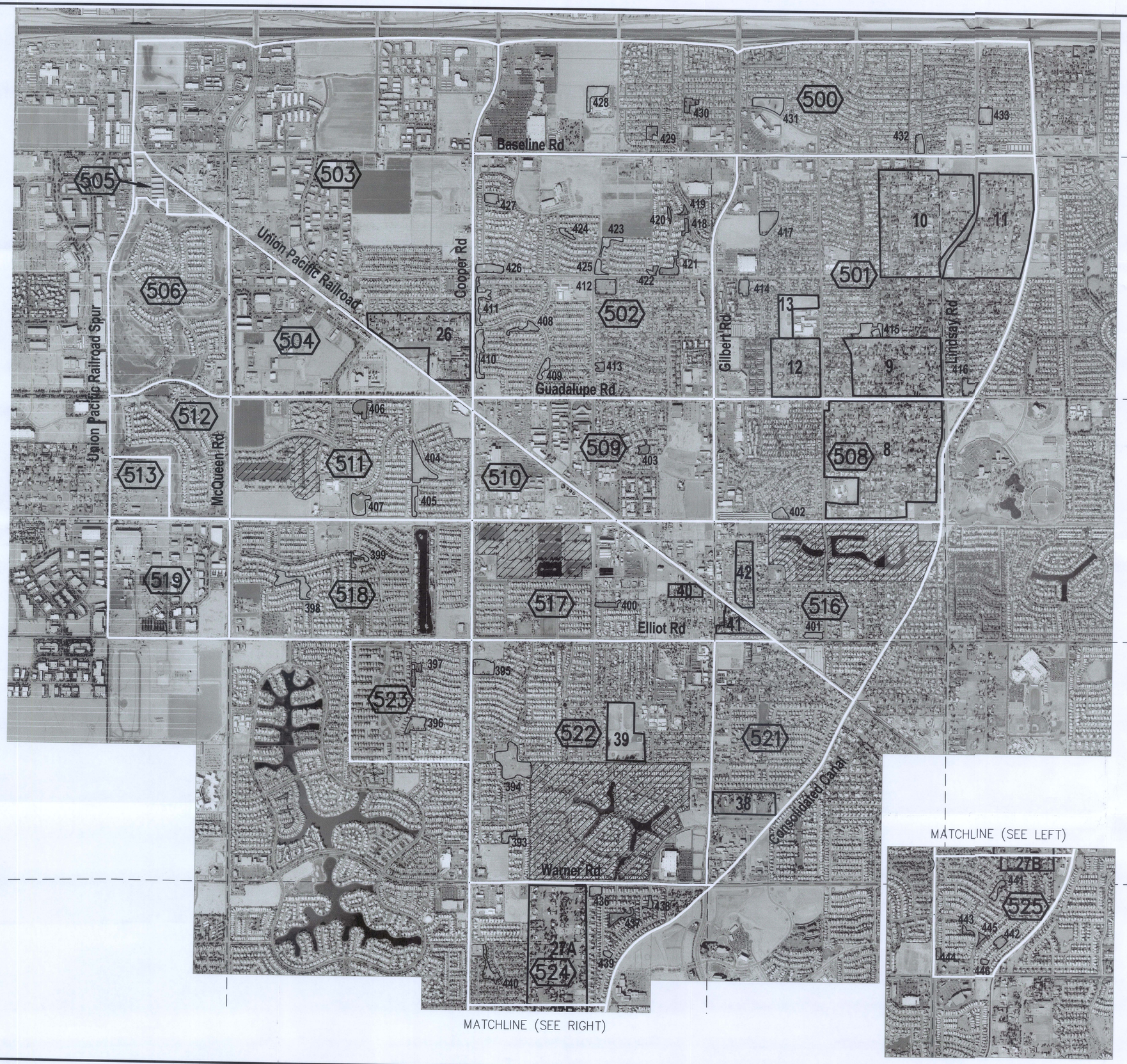
Project Engineering Consultants, Ltd.
2310 W. Mission Lane Suite 4
Phoenix, AZ 85021

x (ft)	0	2.38	16.94	21.98	24.44	42.49	55.56	62.73	76	79.63	84.87	86.64	102.82	108.41	120.44	126.54	131.67	146.92	154.08
y (ft)	1213.2	1213.23	1213.52	1213.48	1213.49	1213.4	1213.53	1213.53	1213.72	1213.76	1213.8	1213.79	1213.74	1213.73	1213.98	1214.2	1214.25	1214.7	1214.92
surface (gravel or paved)	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	
location (bank or street)	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
stage ft	1214.8																		
segment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	16	16	
L (ft)	2.38	14.56	5.04	2.46	18.05	13.07	7.17	13.27	3.63	5.24	1.77	16.18	5.59	12.03	6.1	5.13	15.25	3.254545	
HW (ft)	1.585	1.425	1.3	1.315	1.355	1.335	1.27	1.175	1.06	1.02	1.005	1.035	1.065	0.945	0.71	0.575	0.325	0.05	
Cr	2.91	2.89	2.86	2.87	2.87	2.87	2.86	2.84	2.82	2.81	2.81	2.81	2.82	2.79	2.74	2.70	2.62	2.52	
kt=	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
C=	2.910901	2.88548	2.863884	2.866559	2.87358	2.870089	2.858463	2.840668	2.817773	2.809441	2.806265	2.812588	2.818801	2.793273	2.737494	2.701383	2.62473	2.521576	
Weir flow Qw (cfs) =	13.82446	71.46638	21.39444	10.6337	81.81056	57.86193	29.33306	48.01182	11.16276	15.16531	5.004389	47.91762	17.31811	30.8693	9.990114	6.042342	7.416168	0.091752	
Flow over bank Qb (cfs) =	13.82446	71.46638	21.39444	10.6337	81.81056	57.86193	29.33306	48.01182	11.16276	15.16531	5.004389	47.91762	17.31811	30.8693	9.990114	6.042342	7.416168	0.091752	
Flow over street Qs (cfs) =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total weir flow Qw_total=	485.3142																		
Total over bank Qb_total=	485.3142																		
Total over street Qs_total=	0																		
Ditch flow Qd=	0.00																		
Qtotal	485.31																		

Basin	124				Storage rating	
Stage ft	Qtotal cfs	Qb cfs	Qs cfs	Qd cfs	Elev ft	Volume AF
1214.80	485.31	485.31	0.00	0.00	1245.00	0.16
1247.60	0.32	0.00	0.32	0.00	1247.30	12.05
1247.70	3.10	0.00	3.10	0.00	1247.53	15.80
1247.80	10.04	0.00	10.04	0.00	1247.70	18.90
1247.90	25.69	0.99	24.70	0.00	1247.80	20.82
1248.00	60.65	11.30	49.35	0.00	1247.90	22.82
					1248.00	24.90

PEC Culvert Flow Calculation for Chandler/Gilbert FDS Phase I:
Inlet control is assumed for the estimation of culvert flow.
For the submerged inlets, the method presented in Appendix A of HDS-5 is used (Equation 28).
For un-submerged inlets the weir equation is used.
In both cases, PEC's calculation is quite close to the published nomograph.

PEC Weir Flow Calculation for Chandler/Gilbert FDS Phase I:
Equation 8 in HDS-5 is used to calculate weir flow. Discharge coefficient is determined using Figure III-11 in HDS-5.



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CHANDLER/GILBERT FLOODPLAIN DELINEATION STUDY

PHASE 3 – NORTH
UPRR/ARIZONA AVE. WATERSHED
CONTRACT FCD 2008C042

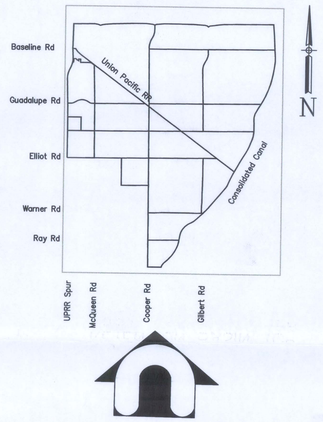
LEGEND

- 400 — SUB-BASIN DESIGNATION
- 14 — FLOOD IRRIGATED LOT AREA AND ID NUMBER
- 1 — RETENTION BASIN TOP AREA AND ID NUMBER
- SUB-BASIN BOUNDARY
- NON-CONTRIBUTING AREA
- SECTION LINES

NOTE: AERIAL PHOTOGRAPH CIRCA 2005, MAY NOT REPRESENT CURRENT CONDITIONS.

DAVID EVANS AND ASSOCIATES INC.
2141 East Highland Avenue, Suite 200
Phoenix, Arizona 85016
Phone: 602.678.5151

INDEX MAP



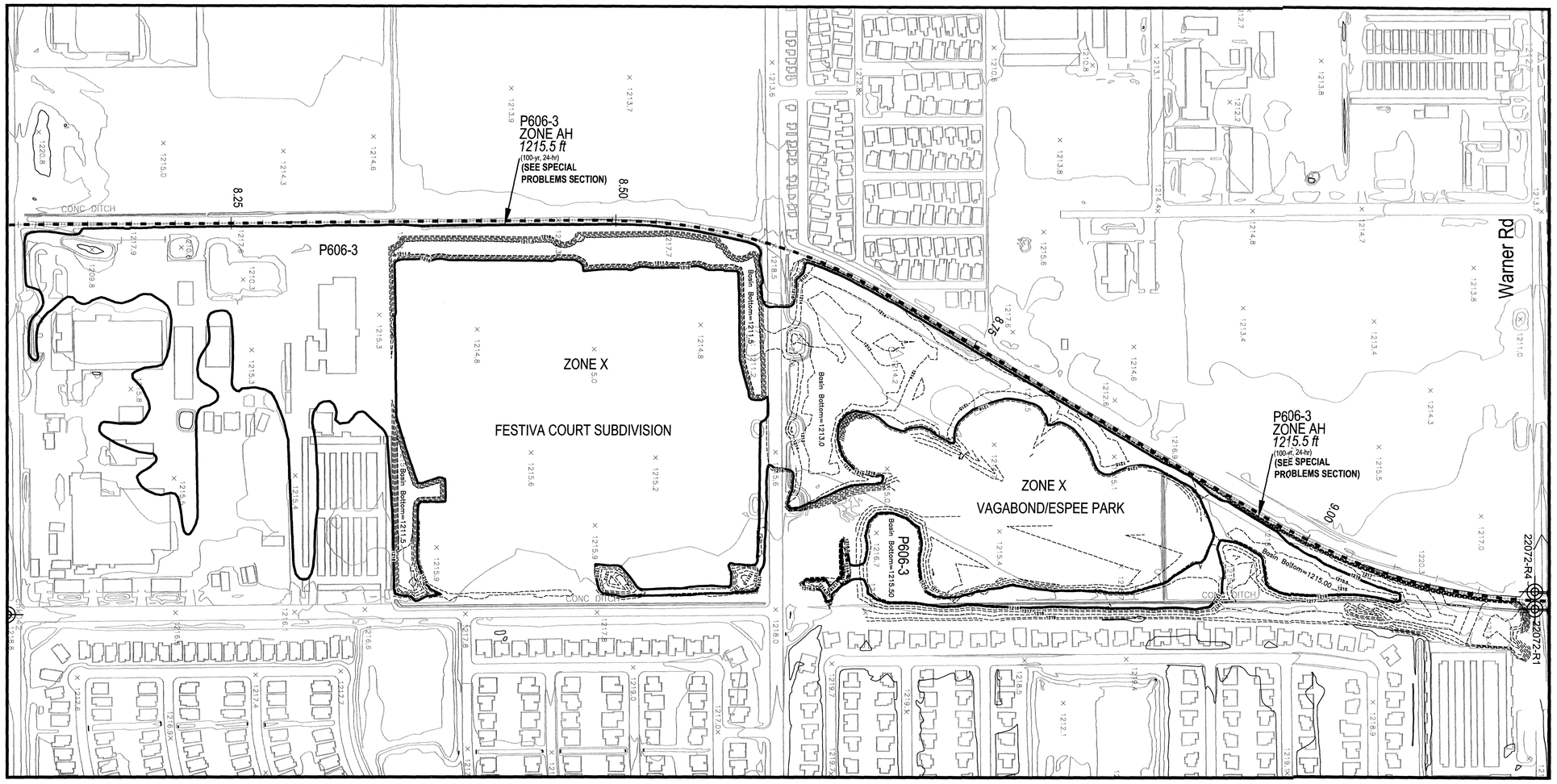
0 500' 1000' 2000'

SCALE: 1"=1000'

EXHIBIT DN.5
RETENTION BASIN AND FLOOD IRRIGATED LOT MAP

	BY	DATE	
DESIGN	JLAK	1/08	FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
DESIGN CHK.	MAAM	1/08	
PLANS	JLAK	1/08	RECOMMENDED BY: DATE
PLANS CHK.	FEB	1/08	APPROVED BY: DATE
SUBMITTED BY: DATE:			CHIEF ENGINEER AND GENERAL MANAGER
			SHEET 1 OF 1

P:\Mari0000-0040\MARI0040-NW\dwg\Sheets\MARI0040-NWhyR101.dwg nbl Mar 26, 2009 2:10:07pm



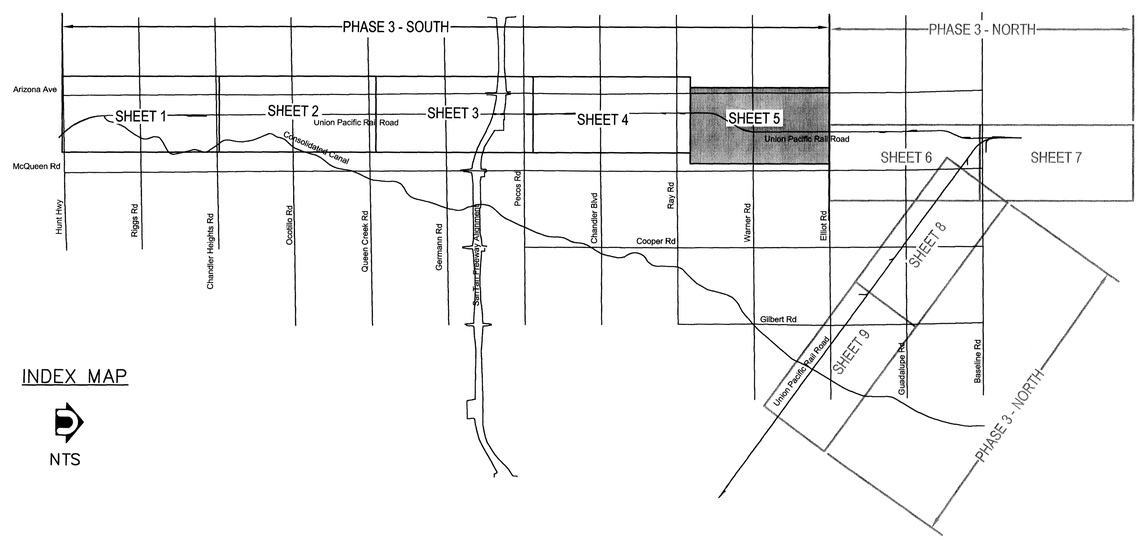
Topographic Mapping Data:
Stewart Geo Technologies, Inc.
Flight Date: 4/12/03
Flown for 2-ft contour interval
at Scale 1" = 200'

Contour Legend:

2003 Contours

2009 Contours
Surveyed and/or from
As-Built Plans

UPRR/ARIZONA AVE. WATERSHED



INDEX MAP

NTS

Control Datums: GPS - NGS
Horizontal - Maricopa County GDACS (NAD 83)
Vertical - Maricopa County GDACS (NAVD 88)
Conversion Factor: NGVD29 = NAVD88 - 1.8'

Note: The Hydraulic Baseline is measured along the Centerline of the UPRR Line.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CHANDLER/GILBERT FLOODPLAIN DELINEATION STUDY PHASE 3 – SOUTH UPPR/ARIZONA AVE. WATERSHED

CONTRACT FCD 2008C042

LEGEND

	100-YR FLOODPLAIN BOUNDARY
2.00	HYDRAULIC BASE LINE WITH RIVER MILE
x 1252.7	SPOT ELEVATION
1260	BASE FLOOD ELEVATIONS
ZONE AE	ZONE DESIGNATIONS
20562-1M	ERM LOCATION
26 25 / 35 36	SECTION LINES AND SECTION LABELS
CITY OF CHANDLER / MARICOPA COUNTY	JURISDICTIONAL BOUNDARY

0 100' 200' 400'
SCALE: 1"=200'
2 ft contour interval

ELEVATION REFERENCE MARKS

LABEL	NORTHING	EASTING	ELEV.	DESCRIPTION
22053-1	854777.57	722863.65	1210.64	FD 3" AZ HIGHWAY DPT BC IN HH 0.7' DN STAMPED "STA/ ELEV"
22054-1	854788.90	725523.43	1218.48	FD CPS EPOXIED FL IN PVMT NOTE- CL OF ELLIOT ROAD AND 15FT +/- WEST OF RR TRACKS
22062-1	852124.33	722877.93	1211.31	FD 3" MCHD AL CAP FL NO STAMPING
22071-1	849470.59	722883.22	1212.00	FD BRASS CAP STEM IN CONC IN HH 0.3' DN
22072-R1	849456.87	725576.88	1222.75	FD 2 1/2 " BC FL STAMPED "W.C. 43.13 TO 1/4 COR"
22072-R2	849525.56	725524.03	1222.51	FD 2 1/2" BC FL STAMPED "W.C. 46.98 TO 1/4 COR"
22072-R3	849525.17	725524.03	1221.94	FD 2 1/2" BC FL STAMPED "W.C. 43.25 TO 1/4 COR"
22072-R4	849456.36	725518.85	1222.11	FD 2 1/2" BC FL STAMPED "W.C. 46.90 TO 1/4 COR"
22080-1	846840.53	722905.34	1211.73	FD 3" ADOT BC IN HH 0.5' DN NO STAMPING

DATE	REVISION	BY

DAVID EVANS AND ASSOCIATES INC.
2141 E. Highland Ave., Suite 200
Phoenix Arizona 85016
Phone: 602.678.5151

EXHIBIT FD-5.1
FLOODPLAIN DELINEATION DETAIL MAP

	BY	DATE
DESIGN	NBL	02/09
DESIGN CHK.	JAJC	02/09
PLANS	NBL	02/09
PLANS CHK.	JAJC	02/09

SUBMITTED BY: DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 1 OF 1

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\MARI0040-SwhyWm-FD5.1.dwg nbl Mar 31, 2009 7:57:39am

DS & DN.5 Diversion Data

DS & DN.5.1 Retention

DS & DN.5.2 Intersections

DS & DN.5 Diversion Data

DS & DN.5.1 Retention

DS & DN.5.2 Intersections

Chandler/Gilbert FDS Phase 3 South

Total Retained Volumes (Retention Basins + Flood Irrigated Lots) per Sub-Basin

SUB-BASIN	TOTAL SUB-BASIN RETAINED VOLUMES - RETENTION BASINS + FLOOD IRRIGATED LOTS [AC-FT]
601	0.61
603	30.19
605	34.44
606	12.94
608	78.13
609	5.28
612	5.37
613	3.32
614	19.04
615	10.54
617	9.34
618	13.39
621	3.46
623	2.33
631	3.85

Chandler/Gilbert FDS Phase 3 South

Retention Basin Volumes per Sub-Basin

SUB-BASIN	RETENTION BASIN ID	TOP AREA [AC]	DEPTH [FT]	VOLUME [AC-FT]	80% OF VOLUME [AC-FT]	TOTAL SUB-BASIN RETENTION BASIN VOLUME [AC-FT]
601	467	0.21	3.00	0.47	0.38	0.61
	468	0.09	3.00	0.17	0.14	
	469	0.07	3.00	0.12	0.10	
603	390*	1.78	2.20	2.88	2.30	30.19
	391*	7.38	6.60	34.86	27.89	
605	386	6.72	3.00	17.14	13.71	34.44
	387	1.79	3.00	4.80	3.84	
	463	0.27	3.00	0.50	0.40	
	470	0.54	3.00	1.27	1.02	
	471	6.87	3.00	19.34	15.47	
606	392*	3.61	4.00	12.07	9.66	12.94
	461*	0.81	2.00	1.41	1.13	
	462*	1.13	4.00	2.69	2.15	
608	79	1.55	3.00	4.21	3.37	78.13
	80	2.03	3.00	5.58	4.47	
	381	2.62	3.00	7.20	5.76	
	382	1.34	3.00	3.55	2.84	
	383	4.62	3.00	12.55	10.04	
	384	2.25	3.00	6.11	4.88	
	385	1.33	3.00	3.44	2.75	
	464	1.58	3.00	4.15	3.32	
	465	1.62	3.00	4.37	3.50	
	466	1.09	3.00	2.94	2.35	
	608-1	0.50	3.00	1.28	1.02	
	608-2	0.94	3.00	2.47	1.98	
	608-3	1.43	3.00	3.9	3.12	
	608-4	8.84	2.00	17.11	13.69	
	608-5	3.20	2.00	6.14	4.91	
	608-6	0.71	3.00	1.82	1.46	
	608-7	5.59	2.00	10.84	8.67	
609	609-1*	1.03	4.00	3.33	2.66	5.28
	609-2*	0.34	4.00	0.7	0.56	
	609-3*	0.88	4.00	2.57	2.06	
612	380	0.48	3.00	1.17	0.94	0.94
613	371	1.56	2.00	2.66	2.13	3.32
	372	0.67	3.00	1.49	1.19	
614	373	0.69	3.00	1.68	1.34	19.04
	374	1.62	3.00	4.40	3.52	
	375	1.60	3.00	4.28	3.42	
	376	1.39	3.00	2.88	2.30	
	377	0.96	3.00	2.48	1.98	
	378	2.34	3.00	6.45	5.16	
	379	0.66	3.00	1.64	1.31	
615	367	1.68	3.00	4.30	3.44	10.54
	368	1.31	3.00	3.00	2.40	
	369	1.92	3.00	5.19	4.15	
	370	0.31	3.00	0.68	0.55	
617	360	1.01	3.00	2.67	2.13	7.60
	361	1.46	3.00	3.81	3.05	
	362	1.03	3.00	2.54	2.03	
	363	0.23	3.00	0.49	0.39	
618	364	1.78	3.00	4.86	3.89	7.41
	365	1.12	3.00	2.16	1.73	
	366	0.91	3.00	2.24	1.79	
621	357	1.49	3.00	2.67	2.14	3.46
	358	0.73	2.00	1.05	0.84	
	359	0.27	3.00	0.60	0.48	
631	447	1.77	3.00	4.82	3.85	3.85

Note: It was assumed that the side-slope of each retention basin is 4:1 (Horizontal:Vertical).
It is assumed that 80% of retention basin volume is available during the 1% chance flood.

*The volume provided by these retention basins was calculated using 2-foot contour interval data.

Chandler/Gilbert FDS Phase 3 South

Flood Irrigated Lot Volumes per Sub-Basin

SUB-BASIN	FLOOD IRRIGATED LOT ID	AREA [AC]	DEPTH [FT]	VOLUME [AC-FT]	TOTAL SUB-BASIN FLOOD IRRIGATED LOTS VOLUME [AC-FT]
612	28	53.13	0.083	4.43	4.43
617	29	20.90	0.083	1.74	1.74
618	30	71.75	0.083	5.98	5.98
623	31	27.98	0.083	2.33	2.33

Note: 0.08333... used for depth in the calculation of volume, i.e. 1 inch divided by 12 inches per foot.

Chandler/Gilbert FDS Phase 3 North

Total Retained Volumes (Retention Basins + Flood Irrigated Lots) per Sub-Basin

SUB-BASIN	TOTAL SUB-BASIN RETAINED VOLUMES - RETENTION BASINS + FLOOD IRRIGATED LOTS [AC-FT]
500	29.06
501	44.29
502	53.60
508	14.02
509	1.95
511	25.83
516	3.49
517	3.41
518	10.75
522	32.62
523	8.66
524	20.08
525	10.06

Chandler/Gilbert FDS Phase 3 North

Retention Basin Volumes per Sub-Basin

SUB-BASIN	RETENTION BASIN ID	TOP AREA [AC]	DEPTH [FT]	VOLUME [AC-FT]	80% OF VOLUME [AC-FT]	TOTAL SUB-BASIN RETENTION BASIN VOLUME [AC-FT]
500	428	2.75	3.00	7.46	5.97	29.06
	429	1.32	3.00	3.52	2.82	
	430	1.30	3.00	3.39	2.71	
	431	3.87	3.00	10.82	8.66	
	432	1.66	3.00	4.53	3.62	
	433	2.37	3.00	6.60	5.28	
501	414	1.61	3.00	4.40	3.52	22.31
	415	2.92	3.00	7.76	6.21	
	416	1.86	3.00	5.02	4.02	
	417	3.79	3.00	10.71	8.56	
502	408	1.58	3.00	3.98	3.18	49.41
	409	1.27	3.00	3.29	2.63	
	410	3.07	3.00	8.13	6.51	
	411	2.68	3.00	6.74	5.39	
	412	3.27	3.00	9.19	7.35	
	413	0.74	3.00	1.86	1.48	
	418	0.70	3.00	1.68	1.35	
	419	0.42	3.00	0.96	0.77	
	420	0.39	3.00	0.81	0.65	
	421	1.88	3.00	4.86	3.89	
	422	0.66	3.00	1.63	1.30	
	423	1.47	3.00	3.53	2.83	
	424	0.81	3.00	2.03	1.62	
	425	1.08	3.00	2.76	2.21	
	426	2.40	3.00	6.60	5.28	
	427	1.37	3.00	3.71	2.97	
508	402	1.49	3.00	4.04	3.23	3.23
509	403	1.01	3.00	2.44	1.95	1.95
511	404	4.87	3.00	13.53	10.83	25.83
	405	1.38	3.00	3.48	2.79	
	406	2.24	3.00	6.10	4.88	
	407	3.28	3.00	9.16	7.33	
516	401	1.17	3.00	3.07	2.45	2.45
517	400	1.20	3.00	3.04	2.43	2.43
518	398	4.08	3.00	11.02	8.82	10.75
	399	1.03	3.00	2.42	1.93	
522	393	1.35	3.00	3.58	2.87	29.66
	394	8.46	3.00	24.17	19.34	
	395	3.31	3.00	9.31	7.45	
523	396	2.67	3.00	7.39	5.91	8.66
	397	1.36	3.00	3.44	2.75	
524	436	1.20	3.00	3.24	2.59	13.76
	437	1.94	3.00	5.03	4.03	
	438	0.62	3.00	1.46	1.17	
	439	0.50	3.00	1.27	1.02	
	440	2.37	3.00	6.19	4.96	
525	441	1.37	3.00	3.55	2.84	9.33
	442	1.11	3.00	2.99	2.39	
	443	0.66	3.00	1.62	1.29	
	444	0.55	3.00	1.37	1.10	
	445	0.50	3.00	1.16	0.93	
	446	0.40	3.00	0.98	0.78	

Note: It was assumed that the side-slope of each retention basin is 4:1 (Horizontal:Vertical).
It is assumed that 80% of retention basin volume is available during the 1% chance flood.

Chandler/Gilbert FDS Phase 3 North

Flood Irrigated Lot Volumes per Sub-Basin

SUB-BASIN	FLOOD IRRIGATED LOT ID	AREA [AC]	DEPTH [FT]	VOLUME [AC-FT]	TOTAL SUB-BASIN FLOOD IRRIGATED LOTS VOLUME [AC-FT]
501	9	57.13	0.083	4.76	21.98
	10	93.48	0.083	7.79	
	11	72.00	0.083	6.00	
	12	30.96	0.083	2.58	
	13	10.23	0.083	0.85	
502	26	50.30	0.083	4.19	4.19
508	8	129.46	0.083	10.79	10.79
516	42	12.48	0.083	1.04	1.04
517	40	4.69	0.083	0.39	0.98
	41	7.11	0.083	0.59	
522	38	15.34	0.083	1.28	2.96
	39	20.15	0.083	1.68	
524	27A	75.79	0.083	6.32	6.32
525	27B	8.75	0.083	0.73	0.73

Note: 0.08333... used for depth in the calculation of volume, i.e. 1 inch divided by 12 inches per foot.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CHANDLER/GILBERT FLOODPLAIN DELINEATION STUDY

PHASE 3 – SOUTH
UPPR/ARIZONA AVE. WATERSHED
CONTRACT FCD 2008C042

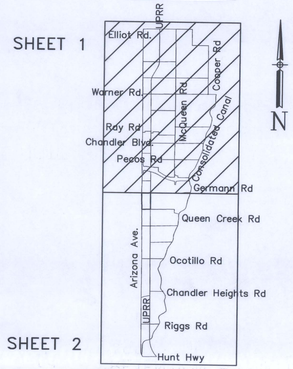
LEGEND

- 600 — SUB-BASIN DESIGNATION
- 14 — FLOOD IRRIGATED LOT AREA AND ID NUMBER
- 1 — RETENTION BASIN TOP AREA AND ID NUMBER
- SUB-BASIN BOUNDARY
- NON-CONTRIBUTING AREA
- SECTION LINES
- MATCHLINE

NOTE: AERIAL PHOTOGRAPH CIRCA 2005, MAY NOT REPRESENT CURRENT CONDITIONS.

DAVID EVANS AND ASSOCIATES INC.
2141 East Highland Avenue, Suite 200
Phoenix, Arizona 85016
Phone: 602.678.5151

INDEX MAP



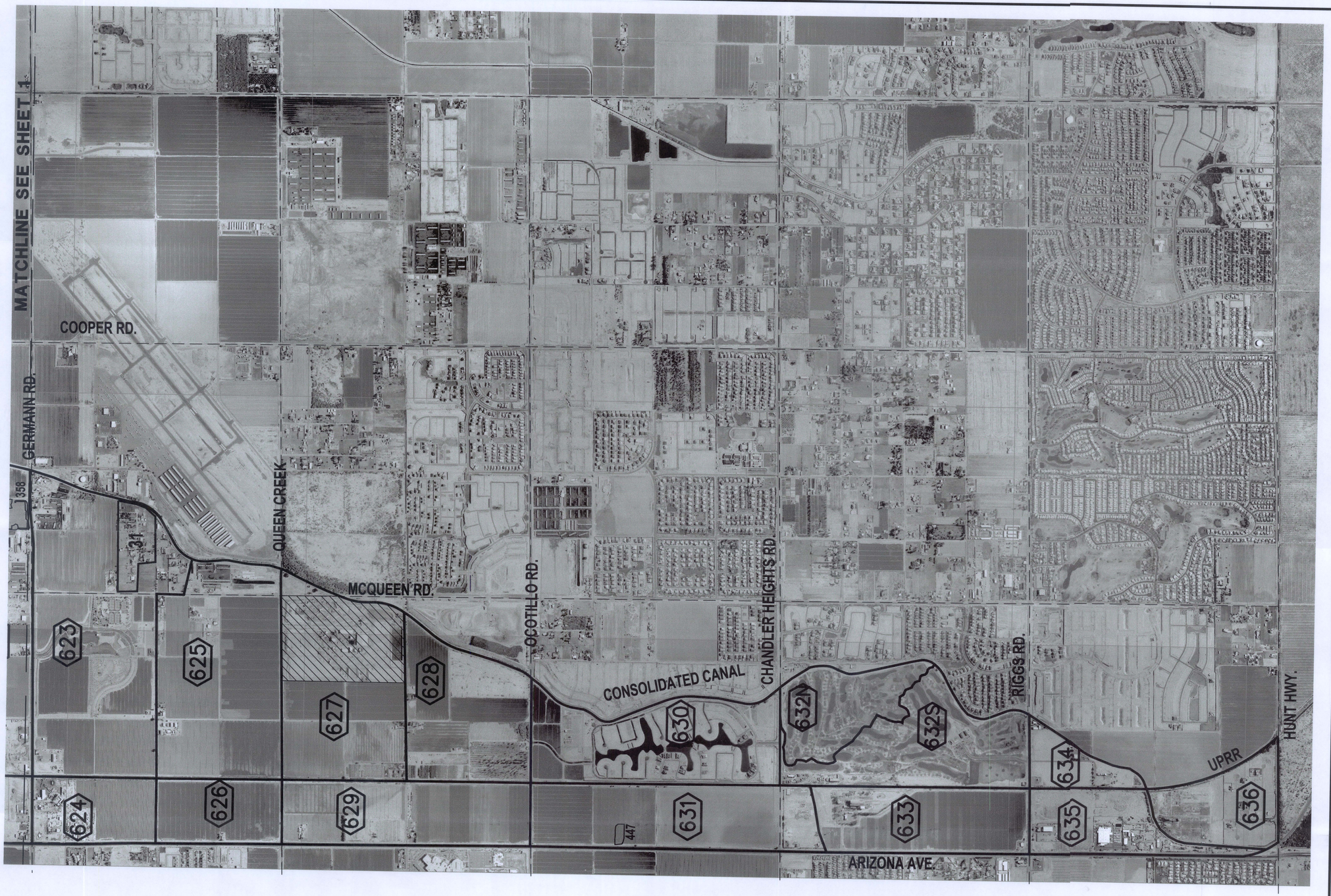
0 500' 1000' 2000'

SCALE: 1"=1000'

EXHIBIT DS.5
RETENTION BASIN AND FLOOD IRRIGATED LOT MAP

	BY	DATE	
DESIGN	JLAK	1/08	FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
DESIGN CHK.	MAAM	1/08	
PLANS	JLAK	1/08	RECOMMENDED BY: DATE
PLANS CHK.	JAJC	1/09	APPROVED BY: DATE
SUBMITTED BY: DATE:			CHIEF ENGINEER AND GENERAL MANAGER
			SHEET 1 OF 2

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\MARI0040-SwhyRt01.dwg nbl Mar 26, 2009 1:19:36pm



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CHANDLER/GILBERT FLOODPLAIN DELINEATION STUDY

PHASE 3 – SOUTH
UPPR/ARIZONA AVE. WATERSHED
CONTRACT FCD 2008C042

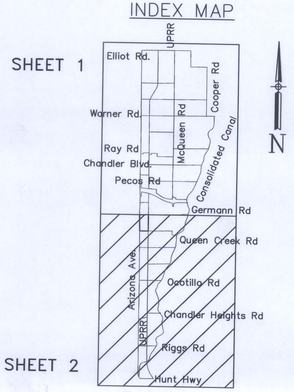
LEGEND

- 600 — SUB-BASIN DESIGNATION
- 14 — FLOOD IRRIGATED LOT AREA AND ID NUMBER
- 1 — RETENTION BASIN TOP AREA AND ID NUMBER
- SUB-BASIN BOUNDARY
- NON-CONTRIBUTING AREA
- SECTION LINES
- MATCHLINE

NOTE: AERIAL PHOTOGRAPH CIRCA 2005, MAY NOT REPRESENT CURRENT CONDITIONS.

DAVID EVANS AND ASSOCIATES INC.
2141 East Highland Avenue, Suite 200
Phoenix, Arizona 85016
Phone: 602.678.5151

INDEX MAP



0 500' 1000' 2000'

SCALE: 1"=1000'

EXHIBIT DS.5
RETENTION BASIN AND FLOOD IRRIGATED LOT MAP

	BY	DATE	
DESIGN	JLAK	1/08	FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
DESIGN CHK.	MAAM	1/08	
PLANS	JLAK	1/08	RECOMMENDED BY: DATE
PLANS CHK.	FEB	1/08	APPROVED BY: DATE
SUBMITTED BY: DATE:			CHIEF ENGINEER AND GENERAL MANAGER
			SHEET 2 OF 2

P:\Mari0000-0040\MARI0040-SW\dwg\Sheets\MARI0040-SwhyRt02.dwg nbl Mar 26, 2009 1:24:49pm

CHANDLER/GILBERT
PHASE 3 - SOUTH
INTERSECTION ANALYSIS

CP	Intersection Designation (north/south & east/west)	Typical Cross Section		Downstream Slope (ft/ft)			Cross Section Capacity (cfs)			Flow Split (%)			Notes
		N/S	E/W	N	S	W	N	S	W	N	S	W	
602	Arizona Ave & Warner	20/20	22/22		-	0.0017		-	152	0	-	100	No Split. All flow goes West over Arizona Ave
604	Arizona Ave & Knox	20/20	22/22	-	0.0004	0.0048		174	255	0	40	60	
608	McQueen & Ray	28/28	28/28			0.0006			71	-	0	100	No Split. All flow goes West along Ray Rd.
612	McQueen & Frye	28/28	22/22		0.0009	0.0002		86	52	-	60	40	
617	McQueen & Pecos	28/28	28/28	0.004	0.0008	0.0018	182	81	122	50	20	30	
622	Arizona Ave. & Germann Rd.	20/20	28/28		0.0050	0.0024		615	141	0	80	20	
626	Arizona Ave. & Ryan Rd.	20/20	28/28									100	No Split. All flow goes West over Arizona Ave
629	Arizona Ave & Queen Creek	20/20	28/28		0.0005	0.0026		194	147	0	60	40	

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP602 - Arizona Ave (Ch 20)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0009 ft/ft
Water Surface Elevation	1.56 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.016
Elevation Range	0.00 to 1.56
Discharge	261.15 cfs
Flow Area	106.4 ft²
Wetted Perimeter	131.84 ft
Top Width	130.00 ft
Actual Depth	1.56 ft
Critical Elevation	1.15 ft
Critical Slope	0.0044 ft/ft
Velocity	2.45 ft/s
Velocity Head	0.09 ft
Specific Energy	1.65 ft
Froude Number	0.48
Flow Type	Subcritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+09.00	0.030
0+09.00	0+17.00	0.013
0+17.00	0+56.92	0.015
0+56.92	0+57.50	0.013
0+57.50	0+72.50	0.030
0+72.50	0+73.08	0.013
0+73.08	1+13.00	0.015
1+13.00	1+21.00	0.013
1+21.00	1+30.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	1.56
0+09.00	0.59
0+15.00	0.50
0+15.50	0.50
0+15.58	0.00

Natural Channel Points	
Station (ft)	Elevation (ft)
0+17.00	0.06
0+56.92	1.06
0+57.00	1.56
0+57.50	1.56
0+72.50	1.56
0+73.00	1.56
0+73.08	1.06
1+13.00	0.06
1+14.42	0.00
1+14.50	0.50
1+15.00	0.50
1+21.00	0.59
1+30.00	1.56

Notes: No Split, all flow goes west.

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP602 - Warner (Gil 22)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0017 ft/ft
Water Surface Elevation	1.06 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.014
Elevation Range	0.00 to 1.06
Discharge	152.30 cfs
Flow Area	60.2 ft²
Wetted Perimeter	130.40 ft
Top Width	129.75 ft
Actual Depth	1.06 ft
Critical Elevation	0.93 ft
Critical Slope	0.0043 ft/ft
Velocity	2.53 ft/s
Velocity Head	0.10 ft
Specific Energy	1.16 ft
Froude Number	0.65
Flow Type	Subcritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+20.50	0.030
0+20.50	0+26.50	0.013
0+26.50	0+30.50	0.030
0+30.50	0+32.50	0.013
0+32.50	0+97.50	0.015
0+97.50	0+99.50	0.013
0+99.50	1+03.50	0.030
1+03.50	1+09.50	0.013
1+09.50	1+30.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	1.06
0+20.50	0.65
0+26.50	0.56
0+30.50	0.50
0+31.00	0.50

Natural Channel Points	
Station (ft)	Elevation (ft)
0+31.08	0.00
0+32.50	0.06
0+65.00	0.87
0+97.50	0.06
0+98.42	0.00
0+99.00	0.50
0+99.50	0.50
1+03.50	0.56
1+09.50	0.65
1+30.00	1.06

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP604 - Arizona Ave (Ch 20)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0004 ft/ft
Water Surface Elevation	1.56 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.016
Elevation Range	0.00 to 1.56
Discharge	174.10 cfs
Flow Area	106.4 ft²
Wetted Perimeter	131.84 ft
Top Width	130.00 ft
Actual Depth	1.56 ft
Critical Elevation	1.00 ft
Critical Slope	0.0047 ft/ft
Velocity	1.64 ft/s
Velocity Head	0.04 ft
Specific Energy	1.60 ft
Froude Number	0.32
Flow Type	Subcritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+09.00	0.030
0+09.00	0+17.00	0.013
0+17.00	0+56.92	0.015
0+56.92	0+57.50	0.013
0+57.50	0+72.50	0.030
0+72.50	0+73.08	0.013
0+73.08	1+13.00	0.015
1+13.00	1+21.00	0.013
1+21.00	1+30.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	1.56
0+09.00	0.59
0+15.00	0.50
0+15.50	0.50
0+15.58	0.00

Natural Channel Points	
Station (ft)	Elevation (ft)
0+17.00	0.06
0+56.92	1.06
0+57.00	1.56
0+57.50	1.56
0+72.50	1.56
0+73.00	1.56
0+73.08	1.06
1+13.00	0.06
1+14.42	0.00
1+14.50	0.50
1+15.00	0.50
1+21.00	0.59
1+30.00	1.56

Notes: No Split, all flow goes west.

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP604 - Knox (Gil 22)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0048 ft/ft
Water Surface Elevation	1.06 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.014
Elevation Range	0.00 to 1.06
Discharge	255.91 cfs
Flow Area	60.2 ft²
Wetted Perimeter	130.40 ft
Top Width	129.75 ft
Actual Depth	1.06 ft
Critical Elevation	1.09 ft
Critical Slope	0.0039 ft/ft
Velocity	4.25 ft/s
Velocity Head	0.28 ft
Specific Energy	1.34 ft
Froude Number	1.10
Flow Type	Supercritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+20.50	0.030
0+20.50	0+26.50	0.013
0+26.50	0+30.50	0.030
0+30.50	0+32.50	0.013
0+32.50	0+97.50	0.015
0+97.50	0+99.50	0.013
0+99.50	1+03.50	0.030
1+03.50	1+09.50	0.013
1+09.50	1+30.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	1.06
0+20.50	0.65
0+26.50	0.56
0+30.50	0.50
0+31.00	0.50

Natural Channel Points	
Station (ft)	Elevation (ft)
0+31.08	0.00
0+32.50	0.06
0+65.00	0.87
0+97.50	0.06
0+98.42	0.00
0+99.00	0.50
0+99.50	0.50
1+03.50	0.56
1+09.50	0.65
1+30.00	1.06

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP608 - Ray Rd. (Ch 28)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0006 ft/ft
Water Surface Elevation	2.00 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.020
Elevation Range	0.00 to 2.00
Discharge	70.67 cfs
Flow Area	48.2 ft²
Wetted Perimeter	65.87 ft
Top Width	64.00 ft
Actual Depth	2.00 ft
Critical Elevation	1.51 ft
Critical Slope	0.0082 ft/ft
Velocity	1.46 ft/s
Velocity Head	0.03 ft
Specific Energy	2.03 ft
Froude Number	0.30
Flow Type	Subcritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+09.50	0.030
0+09.50	0+54.50	0.015
0+54.50	0+64.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	2.00
0+02.00	0.00
0+09.50	1.25
0+32.00	1.70
0+54.50	1.25
0+62.00	0.00
0+64.00	2.00

Notes: No split, all flow goes west

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP612 - Frye & McQueen - Frye, west(Gil 22)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0002 ft/ft
Water Surface Elevation	1.06 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.014
Elevation Range	0.00 to 1.06
Discharge	52.24 cfs
Flow Area	60.2 ft²
Wetted Perimeter	130.40 ft
Top Width	129.75 ft
Actual Depth	1.06 ft
Critical Elevation	0.67 ft
Critical Slope	0.0049 ft/ft
Velocity	0.87 ft/s
Velocity Head	0.01 ft
Specific Energy	1.07 ft
Froude Number	0.22
Flow Type	Subcritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+20.50	0.030
0+20.50	0+26.50	0.013
0+26.50	0+30.50	0.030
0+30.50	0+32.50	0.013
0+32.50	0+97.50	0.015
0+97.50	0+99.50	0.013
0+99.50	1+03.50	0.030
1+03.50	1+09.50	0.013
1+09.50	1+30.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	1.06
0+20.50	0.65
0+26.50	0.56
0+30.50	0.50
0+31.00	0.50

Natural Channel Points	
Station (ft)	Elevation (ft)
0+31.08	0.00
0+32.50	0.06
0+65.00	0.87
0+97.50	0.06
0+98.42	0.00
0+99.00	0.50
0+99.50	0.50
1+03.50	0.56
1+09.50	0.65
1+30.00	1.06

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP612 - Frye & McQueen, McQueen, south (Ch 28)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0009 ft/ft
Water Surface Elevation	2.00 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.020
Elevation Range	0.00 to 2.00
Discharge	86.55 cfs
Flow Area	48.2 ft²
Wetted Perimeter	65.87 ft
Top Width	64.00 ft
Actual Depth	2.00 ft
Critical Elevation	1.60 ft
Critical Slope	0.0081 ft/ft
Velocity	1.79 ft/s
Velocity Head	0.05 ft
Specific Energy	2.05 ft
Froude Number	0.36
Flow Type	Subcritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+09.50	0.030
0+09.50	0+54.50	0.015
0+54.50	0+64.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	2.00
0+02.00	0.00
0+09.50	1.25
0+32.00	1.70
0+54.50	1.25
0+62.00	0.00
0+64.00	2.00

Notes: No split, all flow goes west

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP617- Pecos & McQueen - McQueen, north (Ch 28)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0040 ft/ft
Water Surface Elevation	2.00 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.020
Elevation Range	0.00 to 2.00
Discharge	182.47 cfs
Flow Area	48.2 ft²
Wetted Perimeter	65.87 ft
Top Width	64.00 ft
Actual Depth	2.00 ft
Critical Elevation	1.88 ft
Critical Slope	0.0072 ft/ft
Velocity	3.78 ft/s
Velocity Head	0.22 ft
Specific Energy	2.22 ft
Froude Number	0.77
Flow Type	Subcritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+09.50	0.030
0+09.50	0+54.50	0.015
0+54.50	0+64.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	2.00
0+02.00	0.00
0+09.50	1.25
0+32.00	1.70
0+54.50	1.25
0+62.00	0.00
0+64.00	2.00

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP617- Pecos & McQueen - McQueen, south (Ch 28)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0008 ft/ft
Water Surface Elevation	2.00 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.020
Elevation Range	0.00 to 2.00
Discharge	81.60 cfs
Flow Area	48.2 ft²
Wetted Perimeter	65.87 ft
Top Width	64.00 ft
Actual Depth	2.00 ft
Critical Elevation	1.57 ft
Critical Slope	0.0082 ft/ft
Velocity	1.69 ft/s
Velocity Head	0.04 ft
Specific Energy	2.04 ft
Froude Number	0.34
Flow Type	Subcritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+09.50	0.030
0+09.50	0+54.50	0.015
0+54.50	0+64.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	2.00
0+02.00	0.00
0+09.50	1.25
0+32.00	1.70
0+54.50	1.25
0+62.00	0.00
0+64.00	2.00

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP617- Pecos & McQueen - Pecos, west (Ch 28)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0018 ft/ft
Water Surface Elevation	2.00 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.020
Elevation Range	0.00 to 2.00
Discharge	122.40 cfs
Flow Area	48.2 ft²
Wetted Perimeter	65.87 ft
Top Width	64.00 ft
Actual Depth	2.00 ft
Critical Elevation	1.73 ft
Critical Slope	0.0078 ft/ft
Velocity	2.54 ft/s
Velocity Head	0.10 ft
Specific Energy	2.10 ft
Froude Number	0.52
Flow Type	Subcritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+09.50	0.030
0+09.50	0+54.50	0.015
0+54.50	0+64.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	2.00
0+02.00	0.00
0+09.50	1.25
0+32.00	1.70
0+54.50	1.25
0+62.00	0.00
0+64.00	2.00

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP622- Germann Rd. - west (Ch 28)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0024 ft/ft
Water Surface Elevation	2.00 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.020
Elevation Range	0.00 to 2.00
Discharge	141.34 cfs
Flow Area	48.2 ft²
Wetted Perimeter	65.87 ft
Top Width	64.00 ft
Actual Depth	2.00 ft
Critical Elevation	1.78 ft
Critical Slope	0.0076 ft/ft
Velocity	2.93 ft/s
Velocity Head	0.13 ft
Specific Energy	2.13 ft
Froude Number	0.59
Flow Type	Subcritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+09.50	0.030
0+09.50	0+54.50	0.015
0+54.50	0+64.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	2.00
0+02.00	0.00
0+09.50	1.25
0+32.00	1.70
0+54.50	1.25
0+62.00	0.00
0+64.00	2.00

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP622 - Arizona Ave (Ch 20)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0050 ft/ft
Water Surface Elevation	1.56 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.016
Elevation Range	0.00 to 1.56
Discharge	615.55 cfs
Flow Area	106.4 ft²
Wetted Perimeter	131.84 ft
Top Width	130.00 ft
Actual Depth	1.56 ft
Critical Elevation	1.63 ft
Critical Slope	0.0038 ft/ft
Velocity	5.78 ft/s
Velocity Head	0.52 ft
Specific Energy	2.08 ft
Froude Number	1.13
Flow Type	Supercritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+09.00	0.030
0+09.00	0+17.00	0.013
0+17.00	0+56.92	0.015
0+56.92	0+57.50	0.013
0+57.50	0+72.50	0.030
0+72.50	0+73.08	0.013
0+73.08	1+13.00	0.015
1+13.00	1+21.00	0.013
1+21.00	1+30.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	1.56
0+09.00	0.59
0+15.00	0.50
0+15.50	0.50
0+15.58	0.00

Natural Channel Points	
Station (ft)	Elevation (ft)
0+17.00	0.06
0+56.92	1.06
0+57.00	1.56
0+57.50	1.56
0+72.50	1.56
0+73.00	1.56
0+73.08	1.06
1+13.00	0.06
1+14.42	0.00
1+14.50	0.50
1+15.00	0.50
1+21.00	0.59
1+30.00	1.56

Notes: No Split, all flow goes west.

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP629- Queen Creek - west (Ch 28)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0026 ft/ft
Water Surface Elevation	2.00 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.020
Elevation Range	0.00 to 2.00
Discharge	147.11 cfs
Flow Area	48.2 ft²
Wetted Perimeter	65.87 ft
Top Width	64.00 ft
Actual Depth	2.00 ft
Critical Elevation	1.79 ft
Critical Slope	0.0075 ft/ft
Velocity	3.05 ft/s
Velocity Head	0.14 ft
Specific Energy	2.14 ft
Froude Number	0.62
Flow Type	Subcritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+09.50	0.030
0+09.50	0+54.50	0.015
0+54.50	0+64.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	2.00
0+02.00	0.00
0+09.50	1.25
0+32.00	1.70
0+54.50	1.25
0+62.00	0.00
0+64.00	2.00

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP629 - Arizona Ave (Ch 20)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0005 ft/ft
Water Surface Elevation	1.56 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.016
Elevation Range	0.00 to 1.56
Discharge	194.65 cfs
Flow Area	106.4 ft²
Wetted Perimeter	131.84 ft
Top Width	130.00 ft
Actual Depth	1.56 ft
Critical Elevation	1.04 ft
Critical Slope	0.0047 ft/ft
Velocity	1.83 ft/s
Velocity Head	0.05 ft
Specific Energy	1.61 ft
Froude Number	0.36
Flow Type	Subcritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+09.00	0.030
0+09.00	0+17.00	0.013
0+17.00	0+56.92	0.015
0+56.92	0+57.50	0.013
0+57.50	0+72.50	0.030
0+72.50	0+73.08	0.013
0+73.08	1+13.00	0.015
1+13.00	1+21.00	0.013
1+21.00	1+30.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	1.56
0+09.00	0.59
0+15.00	0.50
0+15.50	0.50
0+15.58	0.00

Natural Channel Points	
Station (ft)	Elevation (ft)
0+17.00	0.06
0+56.92	1.06
0+57.00	1.56
0+57.50	1.56
0+72.50	1.56
0+73.00	1.56
0+73.08	1.06
1+13.00	0.06
1+14.42	0.00
1+14.50	0.50
1+15.00	0.50
1+21.00	0.59
1+30.00	1.56

Notes: No Split, all flow goes west.

CHANDLER/GILBERT
PHASE 3 - NORTH
INTERSECTION ANALYSIS

CP	Intersection Designation (north/south & east/west)	Typical Cross Section		Downstream Slope (ft/ft)			Cross Section Capacity (cfs)			Flow Split (%)			Notes
		N/S	E/W	N	S	W	N	S	W	N	S	W	
501	Gilbert/Guadalupe	22/22	22/22	-	0.0019	0.0039	-	161	231	-	40	60	
502	Cooper/Houston	22/22	28/28	-	0.0031	0.0029	-	206	76	-	70	30	
521	Gilbert / Elliot	21/21	22/22	0.003	-	0.0086	442	-	228	70	-	30	
524	Cooper/Warner	22/22	21/21	0.0027	-	0.0059	191	-	620	20	-	80	

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP501 - Gilbert (Gil 22)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0019 ft/ft
Water Surface Elevation	1.06 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.014
Elevation Range	0.00 to 1.06
Discharge	161.01 cfs
Flow Area	60.2 ft²
Wetted Perimeter	130.40 ft
Top Width	129.75 ft
Actual Depth	1.06 ft
Critical Elevation	0.94 ft
Critical Slope	0.0042 ft/ft
Velocity	2.67 ft/s
Velocity Head	0.11 ft
Specific Energy	1.17 ft
Froude Number	0.69
Flow Type	Subcritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+20.50	0.030
0+20.50	0+26.50	0.013
0+26.50	0+30.50	0.030
0+30.50	0+32.50	0.013
0+32.50	0+97.50	0.015
0+97.50	0+99.50	0.013
0+99.50	1+03.50	0.030
1+03.50	1+09.50	0.013
1+09.50	1+30.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	1.06
0+20.50	0.65
0+26.50	0.56
0+30.50	0.50
0+31.00	0.50

Chandler/Gilbert FIS
Project Summary Report

Natural Channel Points	
Station (ft)	Elevation (ft)
0+31.08	0.00
0+32.50	0.06
0+65.00	0.87
0+97.50	0.06
0+98.42	0.00
0+99.00	0.50
0+99.50	0.50
1+03.50	0.56
1+09.50	0.65
1+30.00	1.06

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP501 - Guadalupe (Gil 22)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0039 ft/ft
Water Surface Elevation	1.06 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.014
Elevation Range	0.00 to 1.06
Discharge	230.68 cfs
Flow Area	60.2 ft²
Wetted Perimeter	130.40 ft
Top Width	129.75 ft
Actual Depth	1.06 ft
Critical Elevation	1.06 ft
Critical Slope	0.0040 ft/ft
Velocity	3.83 ft/s
Velocity Head	0.23 ft
Specific Energy	1.29 ft
Froude Number	0.99
Flow Type	Subcritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+20.50	0.030
0+20.50	0+26.50	0.013
0+26.50	0+30.50	0.030
0+30.50	0+32.50	0.013
0+32.50	0+97.50	0.015
0+97.50	0+99.50	0.013
0+99.50	1+03.50	0.030
1+03.50	1+09.50	0.013
1+09.50	1+30.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	1.06
0+20.50	0.65
0+26.50	0.56
0+30.50	0.50
0+31.00	0.50

Chandler/Gilbert FIS
Project Summary Report

Natural Channel Points	
Station (ft)	Elevation (ft)
0+31.08	0.00
0+32.50	0.06
0+65.00	0.87
0+97.50	0.06
0+98.42	0.00
0+99.00	0.50
0+99.50	0.50
1+03.50	0.56
1+09.50	0.65
1+30.00	1.06

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP502 - Gilbert (Gil 22)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0031 ft/ft
Water Surface Elevation	1.06 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.014
Elevation Range	0.00 to 1.06
Discharge	205.66 cfs
Flow Area	60.2 ft²
Wetted Perimeter	130.40 ft
Top Width	129.75 ft
Actual Depth	1.06 ft
Critical Elevation	1.02 ft
Critical Slope	0.0040 ft/ft
Velocity	3.41 ft/s
Velocity Head	0.18 ft
Specific Energy	1.24 ft
Froude Number	0.88
Flow Type	Subcritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+20.50	0.030
0+20.50	0+26.50	0.013
0+26.50	0+30.50	0.030
0+30.50	0+32.50	0.013
0+32.50	0+97.50	0.015
0+97.50	0+99.50	0.013
0+99.50	1+03.50	0.030
1+03.50	1+09.50	0.013
1+09.50	1+30.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	1.06
0+20.50	0.65
0+26.50	0.56
0+30.50	0.50
0+31.00	0.50

Natural Channel Points	
Station (ft)	Elevation (ft)
0+31.08	0.00
0+32.50	0.06
0+65.00	0.87
0+97.50	0.06
0+98.42	0.00
0+99.00	0.50
0+99.50	0.50
1+03.50	0.56
1+09.50	0.65
1+30.00	1.06

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP502 - Houston (Gil 28)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0029 ft/ft
Water Surface Elevation	2.00 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results		
Mannings Coefficient	0.023	
Elevation Range	0.00 to 2.11	
Discharge	75.67	cfs
Flow Area	29.3	ft²
Wetted Perimeter	44.96	ft
Top Width	43.00	ft
Actual Depth	2.00	ft
Critical Elevation	1.49	ft
Critical Slope	0.0096	ft/ft
Velocity	2.58	ft/s
Velocity Head	0.10	ft
Specific Energy	2.10	ft
Froude Number	0.55	
Flow Type	Subcritical	

Calculation Messages:
Flow is divided.

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+13.00	0.030
0+13.00	0+41.00	0.015
0+41.00	0+54.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	2.00
0+02.00	0.00
0+13.00	1.83
0+27.00	2.11
0+41.00	1.83
0+52.00	0.00
0+54.00	2.00

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP521- Elliot (Gil 22)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0038 ft/ft
Water Surface Elevation	1.06 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.014
Elevation Range	0.00 to 1.06
Discharge	227.70 cfs
Flow Area	60.2 ft²
Wetted Perimeter	130.40 ft
Top Width	129.75 ft
Actual Depth	1.06 ft
Critical Elevation	1.05 ft
Critical Slope	0.0040 ft/ft
Velocity	3.78 ft/s
Velocity Head	0.22 ft
Specific Energy	1.28 ft
Froude Number	0.98
Flow Type	Subcritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+20.50	0.030
0+20.50	0+26.50	0.013
0+26.50	0+30.50	0.030
0+30.50	0+32.50	0.013
0+32.50	0+97.50	0.015
0+97.50	0+99.50	0.013
0+99.50	1+03.50	0.030
1+03.50	1+09.50	0.013
1+09.50	1+30.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	1.06
0+20.50	0.65
0+26.50	0.56
0+30.50	0.50
0+31.00	0.50

Natural Channel Points	
Station (ft)	Elevation (ft)
0+31.08	0.00
0+32.50	0.06
0+65.00	0.87
0+97.50	0.06
0+98.42	0.00
0+99.00	0.50
0+99.50	0.50
1+03.50	0.56
1+09.50	0.65
1+30.00	1.06

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP521- Gilbert (Gil 21)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0030 ft/ft
Water Surface Elevation	1.41 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.014
Elevation Range	0.00 to 1.41
Discharge	441.84 cfs
Flow Area	94.5 ft²
Wetted Perimeter	131.81 ft
Top Width	130.00 ft
Actual Depth	1.41 ft
Critical Elevation	1.36 ft
Critical Slope	0.0032 ft/ft
Velocity	4.68 ft/s
Velocity Head	0.34 ft
Specific Energy	1.75 ft
Froude Number	0.97
Flow Type	Subcritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+08.00	0.030
0+08.00	0+14.00	0.013
0+14.00	0+18.00	0.030
0+18.00	0+20.00	0.013
0+20.00	0+56.50	0.015
0+56.50	0+58.50	0.013
0+58.50	0+71.50	0.030
0+71.50	0+73.50	0.013
0+73.50	1+10.00	0.015
1+10.00	1+12.00	0.013
1+12.00	1+16.00	0.030
1+16.00	1+22.00	0.013
1+22.00	1+30.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	1.41

Natural Channel Points	
Station (ft)	Elevation (ft)
0+08.00	0.65
0+14.00	0.56
0+18.00	0.50
0+18.50	0.50
0+18.58	0.00
0+20.00	0.06
0+56.50	0.97
0+57.92	0.91
0+58.00	1.41
0+58.50	1.41
0+71.50	1.41
0+72.00	1.41
0+72.08	0.91
0+73.50	0.97
1+10.00	0.06
1+11.42	0.00
1+11.50	0.50
1+12.00	0.50
1+16.00	0.56
1+22.00	0.65
1+30.00	1.41

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP524 - Gilbert (Gil 22)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0027 ft/ft
Water Surface Elevation	1.06 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.014
Elevation Range	0.00 to 1.06
Discharge	191.93 cfs
Flow Area	60.2 ft²
Wetted Perimeter	130.40 ft
Top Width	129.75 ft
Actual Depth	1.06 ft
Critical Elevation	1.00 ft
Critical Slope	0.0041 ft/ft
Velocity	3.19 ft/s
Velocity Head	0.16 ft
Specific Energy	1.22 ft
Froude Number	0.82
Flow Type	Subcritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+20.50	0.030
0+20.50	0+26.50	0.013
0+26.50	0+30.50	0.030
0+30.50	0+32.50	0.013
0+32.50	0+97.50	0.015
0+97.50	0+99.50	0.013
0+99.50	1+03.50	0.030
1+03.50	1+09.50	0.013
1+09.50	1+30.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	1.06
0+20.50	0.65
0+26.50	0.56
0+30.50	0.50
0+31.00	0.50

Natural Channel Points	
Station (ft)	Elevation (ft)
0+31.08	0.00
0+32.50	0.06
0+65.00	0.87
0+97.50	0.06
0+98.42	0.00
0+99.00	0.50
0+99.50	0.50
1+03.50	0.56
1+09.50	0.65
1+30.00	1.06

Chandler/Gilbert FIS
Project Summary Report

Project Description	
Worksheet	CP524 Warner (Gil 21)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	0.0059 ft/ft
Water Surface Elevation	1.41 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.014
Elevation Range	0.00 to 1.41
Discharge	619.63 cfs
Flow Area	94.5 ft²
Wetted Perimeter	131.81 ft
Top Width	130.00 ft
Actual Depth	1.41 ft
Critical Elevation	1.57 ft
Critical Slope	0.0030 ft/ft
Velocity	6.56 ft/s
Velocity Head	0.67 ft
Specific Energy	2.08 ft
Froude Number	1.36
Flow Type	Supercritical

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+08.00	0.030
0+08.00	0+14.00	0.013
0+14.00	0+18.00	0.030
0+18.00	0+20.00	0.013
0+20.00	0+56.50	0.015
0+56.50	0+58.50	0.013
0+58.50	0+71.50	0.030
0+71.50	0+73.50	0.013
0+73.50	1+10.00	0.015
1+10.00	1+12.00	0.013
1+12.00	1+16.00	0.030
1+16.00	1+22.00	0.013
1+22.00	1+30.00	0.030

Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	1.41

Natural Channel Points	
Station (ft)	Elevation (ft)
0+08.00	0.65
0+14.00	0.56
0+18.00	0.50
0+18.50	0.50
0+18.58	0.00
0+20.00	0.06
0+56.50	0.97
0+57.92	0.91
0+58.00	1.41
0+58.50	1.41
0+71.50	1.41
0+72.00	1.41
0+72.08	0.91
0+73.50	0.97
1+10.00	0.06
1+11.42	0.00
1+11.50	0.50
1+12.00	0.50
1+16.00	0.56
1+22.00	0.65
1+30.00	1.41

DS & DN.6 Hard Copy Models

DS & DN.6.1 100-yr, 6-hr Model

DS & DN.6.2 100-yr, 24-hr Model

```
1****************************************                    ****************************************
 *                                      *                    *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                    *   U.S. ARMY CORPS OF ENGINEERS       *
 *             JUN  1998                *                    *   HYDROLOGIC ENGINEERING CENTER      *
 *           VERSION 4.1                *                    *         609 SECOND STREET            *
 *                                      *                    *      DAVIS, CALIFORNIA 95616         *
 *  RUN DATE   07JUN10  TIME  11:47:56  *                    *          (916) 756-1104              *
 *                                      *                    *                                      *
 ****************************************                    ****************************************

X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX         XXX

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL   LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1                                                HEC-1 INPUT                                                PAGE  1

      LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

                    *Diagram
         1          ID   Project ID: MARI40_SW_6HR - Major Basin: 01 - Return Period: 100 Years
         2          ID
         3          ID   Chandler/Gilbert Floodplain Delineation Study
         4          ID   Phase 3 - South, UPRR/Arizona Ave Watershed
         5          ID   FCD# 2008C042
         6          ID
         7          ID   Watershed boundaries:
         8          ID   Elliot Road on the north, Hunt Hwy on the south,
         9          ID   Cooper Rd./Consolidated Canal to the east, & Arizona Ave to the west.
        10          ID
        11          ID   Prepared by David Evans and Associates, Inc.
        12          ID   Modelers:    Tami Norton, E.I.T., CFM
        13          ID                     Nathan A. Beutler, E.I.T., CFM
        14          ID
        15          ID   Updated:     Nathan Logan, E.I.T., CFM
        16          ID                and
        17          ID                Jason Coleman P.E.
        18          ID                March 2009
        19          ID
        20          ID   File:  P:\Mari0000-0040\Engineering\Phase_3\south\HEC-1\6-HR\
        21          ID   March 2009\CGFDSP3S-6.DAT
        22          ID
        23          ID   5-minute time interval - 100-year, 6-hour storm event
        24          ID
        25          ID   Total watershed Area = 13.23 sq. mi, Total Point Rainfall = 3.00
        26          ID
        27          ID   Aerial reduction was applied using PB records.
        28          ID   The Phase III - South watershed was broken into 3 PB regions:
        29          ID
        30          ID       First PB region includes sub-basins 600 - 619.
        31          ID       Portions of Sub-basins 612 and 617 were determined to be
        32          ID       non-contributing. Areas listed on the BA Records for these Sub-basins
        33          ID       only reflect the contributing area of the sub-basins.
        34          ID       Region bounded by Elliot Rd. on the north and includes the Santan Freeway
        35          ID       on the south.
        36          ID
        37          ID       Area = 8.69 sq. mi, Reduction Factor = 0.945, PB record = 2.835
        38          ID
        39          ID       Second PB region includes sub-basins 620 - 629.
        40          ID       A portion of Sub-basin 627 was determined to be
        41          ID       non-contributing. The area listed on the BA Record for this Sub-basin
        42          ID       only reflects the contributing area of the sub-basin.
        43          ID       Region bounded by the Santan Freeway on the north and Ocotillo Rd.
        44          ID       on the south.
        45          ID
        46          ID       Area = 2.90 sq. mi, Reduction Factor = 0.974, PB record = 2.923
        47          ID
        48          ID       Third PB region includes sub-basins 630 - 636.
        49          ID       Region bounded by Ocotillo Rd. on the north and Hunt Hwy. on the south.
        50          ID
        51          ID       Area = 1.64 sq. mi, Reduction Factor = 0.983, PB record = 2.948
        52          ID
        53          ID   Green and Ampt infiltration method used to determine rainfall losses.
        54          ID
1                                                HEC-1 INPUT                                                PAGE  2

      LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

        55          ID   Clark Method used to create unit Hydrographs.
        56          ID
```

```
 57          ID   Normal Depth Method used for channel routing.
 58          ID
 59          ID   Eastern Maricopa and Northern Pinal Counties Area, Arizona Soil Survey
 60          ID   used for soils data.
 61          ID
 62          ID   Flood Control District of Maricopa County's (FCDMC) GIS data,
 63          ID   aerial photos dated Dec. 2002, and developments as directed
 64          ID   by Chandler and Gilbert by date of April 2003 used for Land Use Data.
 65          ID   Land Use Data Updated per FCDMC request to June 7, 2006.
 66          ID
 67          ID   FCDMC DDMSW Version 2.1.0 Program used to calculate rainfall, rainfall losses
 68          ID   and Unit Hydrographs.
 69          ID
 70          ID   Model includes the Santan Freeway and associated
 71          ID   drainage facilities.
 72          ID
 73          ID   DSS FILE: CGFDS6.dss
 74          ID
 75          IT       5 03MAR03    1200    2000
 76          IO       3
             *
             * ******************************************************************************
             *                                FIRST PB REGION                                *
             *                                UPDATED PB & PC'S PER 06-04-2008 FCDMC MEMO    *
             * ******************************************************************************
             *

 77          KK  COO525
 78          KM   Retrieve hydrograph for overflow from sub-basin 525 from Phase 3 North.
 79          BA   0.001
 80          ZR   =QI  A=COO  B=KNO6  C=FLOW  E=5MIN
             *

 81          KK  525605   ROUTE   REACH
 82          KM   Flow from Phase 3 North Routed through Basin 605.
 83          RS       6
 84          RC   0.030   0.015   0.030    5588  0.0014    2.00
 85          RX     0.0     0.0    60.0    60.0   140.0   140.0   200.0   200.0
 86          RY     2.0     1.0     0.5     0.0     0.0     0.5     1.0     2.0
             *

 87          KK     605   BASIN
 88          BA   0.496
 89          IN      15
 90          PB   2.836
 91          PC   0.000   0.013   0.019   0.028   0.043   0.056   0.067   0.079   0.092   0.104
 92          PC   0.118   0.134   0.156   0.202   0.286   0.465   0.678   0.810   0.879   0.921
 93          PC   0.947   0.961   0.974   0.987   1.000
             *
 94          KM   The following parameters were determined for this sub basin
 95          KM   L= 1.161 mi S= 12.3 ft/mi Kb= 0.027 Urban
 96          LG    0.23    0.26    5.30    0.28      31
 97          UC   0.767   0.463
1                                        HEC-1 INPUT                                          PAGE  3

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 98          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 99          UA     100
             *

100          KK     605
101          KM       RETENTION DIVERSION
102          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
103          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 34.44 AC-FT
104          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
105          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 605 = 34.44 AC-FT
106          DT  605RET   34.44
107          DI       0   10000
108          DQ       0   10000
             *

109          KK   CP605
110          KM   Combine 525605 & sub 605
111          KO       3
112          HC       2
             *

113          KK  605606   ROUTE   REACH
114          KM   Routed west along Knox Rd.
115          RS       4
116          RC   0.030   0.015   0.030    4033  0.0009    2.00
117          RX     0.0     0.0    60.0    60.0   140.0   140.0   200.0   200.0
118          RY     2.0     1.0     0.5     0.0     0.0     0.5     1.0     2.0
             *

119          KK     606   BASIN
120          KM   The following parameters were determined for this sub basin.
121          KM   L= 1.225 mi S= 4.3 ft/mi Kb= 0.030 Urban
122          BA   0.377
123          LG    0.23    0.15    8.00    0.10      35
124          UC   1.175   0.911
125          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
126          UA     100
             *

127          KK     606
128          KM       RETENTION DIVERSION
129          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
```

```
130          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 12.94 AC-FT
131          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
132          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 606 = 12.94 AC-FT
133          DT  606RET   12.94
134          DI       0   10000
135          DQ       0   10000
             *
1                                          HEC-1 INPUT                                                    PAGE  4

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


136          KK   CP606
137          KM   Combine sub 606 & 605606
138          KO       3
139          HC       2
             *

140          KK     603   BASIN
141          KM   The following parameters were determined for this sub basin.
142          KM   L= 1.004 mi S= 11.2 ft/mi Kb= 0.029 Urban
143          BA   0.304
144          LG    0.22    0.26    4.55    0.43      24
145          UC   0.842   0.602
146          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
147          UA     100
             *

148          KK     603
149          KM       RETENTION DIVERSION
150          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
151          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 30.19 AC-FT
152          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
153          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 603 = 30.19 AC-FT
154          DT  603RET   30.19
155          DI       0   10000
156          DQ       0   10000
             *

157          KK   CP603
158          KM    COmbine 603 & CP606
159          KO       3
160          HC       2
             *

161          KK  P606-3
162          KM    Combined retention from Vagabond (Espee) Park north of Knox Rd and south of
163          KM    Warner Rd. and Festiva Court Subdivision south of Knox Rd.
164          KO       3
165          RS       1    STOR       0       0
166          SV       0    0.01    0.09    1.13    2.92    8.40   17.12   28.57   58.59
167          SE  1210.0  1210.3  1210.8  1211.5  1212.0  1213.0  1214.0  1215.0  1216.0
168          SQ       0       0       0       0       0       0       0 1673.26 12347.8
169          SE    1213    1214    1215  1215.1 1215.18    1216    1217    1218    1219
             *

170          KK  COO524
171          KM   Retrieve hydrograph for overflow from sub-basin 524 from Phase 3 North.
172          BA   0.001
173          ZR   =QI A=COO B=WAR6  C=FLOW  E=5MIN
             *
1                                          HEC-1 INPUT                                                    PAGE  5

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


174          KK  524600   ROUTE   REACH
175          KM   Routed west along Warner Rd. and through the lake at The Islands subdivision.
176          RS       9
177          RC   0.030   0.015   0.030    9178  0.0015    2.00
178          RX     0.0     0.0    60.0    60.0   140.0   140.0   200.0   200.0
179          RY     2.0     1.0     0.5     0.0     0.0     0.5     1.0     2.0
             *

180          KK     600   BASIN
181          KM   The basin area was set to 0.0001 square miles since the entire drainage area
182          KM   is non-contributing. The lake/water features located within this subdivision
183          KM   retain all 100-year, 24-hour on-site runoff per the Master Storm Drainage
184          KM   Report for The Islands dated October, 1984.  Hydrograph COO524
185          KM   is still routed through Basin 600 assuming the lakes are full as the
186          KM   hyrdrograph arrives.
187          KM   The following parameters were determined for this sub basin.
188          KM   L= 2.23 mi S= 7.2 ft/mi Kb= 0.027 Urban
189          BA  0.0001
190          LG    0.21    0.23    5.80    0.22      37
191          UC   1.425   0.917
192          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
193          UA     100
             *

194          KK   CP600
195          KM   Combine 524600 & sub 600
196          KO       3
197          HC       2
             *

198          KK  600601   ROUTE   REACH
199          KM   Routed west along Elliot Rd and through sub 601.
200          RS       6
```

```
 201          RC   0.030   0.015   0.030    5694  0.0009    2.00
 202          RX     0.0     0.0    60.0    60.0   140.0   140.0   200.0   200.0
 203          RY     2.0     1.0     0.5     0.0     0.0     0.5     1.0     2.0
              *

 204          KK     601   BASIN
 205          BA   0.507
 206          KM   The following parameters were determined for this basin.
 207          KM   L= 1.078 mi S= 0.9 ft/mi Kb= 0.034 Urban
 208          LG    0.27    0.22    6.40    0.21      34
 209          UC   1.500   0.909
 210          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 211          UA     100
              *

 212          KK     601
 213          KM       RETENTION DIVERSION
 214          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
 215          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.61 AC-FT
 216          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
 217          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 601 = 0.61 AC-FT
1                                        HEC-1 INPUT                                          PAGE  6

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 218          KO       3
 219          DT  601RET    0.61
 220          DI       0   10000
 221          DQ       0   10000
              *

 222          KK   CP601
 223          KM   Combine 600601 & sub 601
 224          KO       3
 225          HC       2
              *

 226          KK    P601
 227          KM    Ponding in large Retenion Basin located west of school playing fields.
 228          KM    Ponding also includes compensatory storage within retention basin in
 229          KM    Subdivision south of large retention Basin. Flow is released through a
 230          KM    2x2 box culvert under the RR between Warner & Elliot.
 231          KM    Any excess flow weirs over RR tracks.
 232          KO       3
 233          RS       1    STOR       0       0
 234          SV       0    1.92    9.04   40.55   48.98   57.96   67.66   77.88   89.56  104.92
 235          SV  124.22  128.39  132.58  133.63  134.68  145.25  155.96
 236          SE    1204    1205    1206    1210    1211    1212    1213    1214    1215    1216
 237          SE    1217  1217.2  1217.4 1217.45  1217.5    1218  1218.5
 238          SQ       0       0       0       0       0       0       0       0       0   18.11
 239          SQ   28.23   29.84   31.37   32.01   37.20 1689.32 6415.97
              *

 240          KK     602   BASIN
 241          KM   The following parameters were determined for this sub basin.
 242          KM    L= 1.397 mi S= 3.4 ft/mi Kb= 0.027 Urban
 243          BA   0.508
 244          LG    0.15    0.23    6.40    0.20      51
 245          UC   1.350   0.994
 246          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 247          UA     100
              *

 248          KK   CP602
 249          KM   DEVELOPED AREA - NO PONDING AREA.
 250          KM   Combine sub 602, and outfall from P601
 251          KO       3
 252          HC       2
              *

 253          KK    D602
 254          KM   Divert 100% of flow west over Arizona Ave
 255          KO       3
 256          DT   Az602
 257          DI       0     100
 258          DQ       0     100
              *
1                                        HEC-1 INPUT                                          PAGE  7

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 259          KK     604   BASIN
 260          KM   The following parameters were determined for this sub basin.
 261          KM   L= 0.741 mi S= 11.7 ft/mi Kb= 0.030 Urban
 262          BA   0.201
 263          LG    0.14    0.26    5.30    0.31      57
 264          UC   0.608   0.418
 265          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 266          UA     100
              *

 267          KK   CP604
 268          KM   DEVELOPED AREA - NO PONDING AREA.
 269          KM   Combine sub 602, 604, & overflow from P606-3
 270          KO       3
 271          HC       3
              *
```

```
 272          KK    D604  Intersection Diversion
 273          KM   Flow split at Arizona Ave & Knox with 40% diverted south along Arizona Ave,
 274          KM   remaining flow west over Arizona Ave
 275          KO       3
 276          DT   Az604
 277          DI       0     100     500    1000    2000
 278          DQ       0      60     300     600    1200
              *

 279          KK  604607   ROUTE   REACH
 280          KM   Routed south along Arizona Ave
 281          RS       2
 282          RC   0.035   0.015   0.030    1732  0.0014    0.00
 283          RX     0.0     0.0    23.5    23.5   106.5   106.5   130.0   130.0
 284          RY     1.9     0.9     0.5     0.0     0.0     0.5     0.9     1.9
              *

 285          KK     607   BASIN
 286          KM   The following parameters were determined for this sub basin.
 287          KM   L= 0.324 mi S= 28.4 ft/mi Kb= 0.049 Natural.
 288          BA   0.128
 289          LG    0.38    0.16    9.70    0.07      21
 290          UC   0.371   0.160
 291          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 292          UA     100
              *

 293          KK   CP607
 294          KM   DEVELOPED AREA - NO PONDING AREA.
 295          KM   Combine sub 607 & 604607
 296          KO       3
 297          HC       2
              *
1                                          HEC-1 INPUT                                          PAGE  8

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 298          KK    D607
 299          KM   Divert 100% of flow west over Arizona Ave
 300          KO       3
 301          DT   Az607
 302          DI       0     100
 303          DQ       0     100
              *
              *

 304          KK     608   BASIN
 305          KM   The following parameters were determined for this sub basin
 306          KM   L= 1.685 mi S= 9.0 ft/mi Kb= 0.027 Urban
 307          BA   1.149
 308          LG    0.25    0.16    7.00    0.15      28
 309          UC   1.042   0.544
 310          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 311          UA     100
              *

 312          KK     608
 313          KM       RETENTION DIVERSION
 314          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
 315          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 78.13 AC-FT
 316          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
 317          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 608 = 78.13 AC-FT
 318          DT  608RET   78.13
 319          DI       0   10000
 320          DQ       0   10000
              *

 321          KK  608609   ROUTE   REACH
 322          KM   Routed west along Ray Rd.
 323          RS       7
 324          RC   0.030   0.015   0.030    6425  0.0014    0.00
 325          RX     0.0   300.0   311.0   324.9   325.0   339.0   350.0   650.0
 326          RY     0.6     0.0     1.8     2.1     2.1     1.8     0.0     0.6
              *

 327          KK     609   BASIN
 328          KM   The following parameters were determined for this sub basin.
 329          KM   L= 1.397 mi S= 6.3 ft/mi Kb= 0.029 Urban
 330          BA   0.378
 331          LG    0.24    0.16    7.60    0.11      33
 332          UC   1.083   0.922
 333          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 334          UA     100
              *

 335          KK     609
 336          KM       RETENTION DIVERSION
 337          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
 338          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 5.28 AC-FT
 339          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
 340          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 615 = 5.28 AC-FT
1                                          HEC-1 INPUT                                          PAGE  9

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 341          DT  609RET    5.28
 342          DI       0   10000
 343          DQ       0   10000
```

```
                *

344             KK     612   BASIN
345             KM   The following parameters were determined for this sub basin.
346             KM   L= 1.458 mi S= 10.9 ft/mi Kb= 0.033 Urban
347             BA   0.257
348             LG    0.28    0.25    5.10    0.32      25
349             UC   1.146   1.264
350             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
351             UA     100
                *

352             KK     612
353             KM       RETENTION DIVERSION
354             KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
355             KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.94 AC-FT
356             KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 4.43 AC-FT
357             KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 612 = 5.37 AC-FT
358             DT  612RET    5.37
359             DI       0   10000
360             DQ       0   10000
                *

361             KK    D612  Intersection Diversion
362             KM   Flow split at McQueen & Frye Rd. with 40% diverted west to CP615
363             DT   To615
364             DI       0     100     500    1000    2000
365             DQ       0      40     200     400     800
                *

366             KK  612614   ROUTE   REACH
367             KM   Routed south along McQueen Rd.
368             RS       2
369             RC   0.030   0.015   0.030    1352  0.0036    0.00
370             RX     0.0   300.0   307.5   329.9   330.0   352.5   360.0   660.0
371             RY     0.6     0.0     1.3     1.7     1.7     1.3     0.0     0.6
                *

372             KK  CON406
373             KM        Retrieve data from DSS file
374             KM        Overflow from Consolidated Canal at Pecos Rd.
375             BA   0.001
376             ZR   =QI A=CONS B=CP406 C=FLOW E=5MIN F=6HR
                *

377             KK  406617   ROUTE   REACH
378             KM   Route CON406 west along Pecos to CP617.
379             RS       4
380             RC   0.030   0.015   0.030    3807  0.0032    0.00
381             RX     0.0   300.0   311.0   324.9   325.0   339.0   350.0   650.0
382             RY     0.6     0.0     1.8     2.1     2.1     1.8     0.0     0.6
                *
1                                          HEC-1 INPUT                                          PAGE 10

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

383             KK     617   BASIN
384             KM   The following parameters were determined for this sub basin.
385             KM   L= 0.905 mi S= 7.5 ft/mi Kb= 0.038 Urban
386             BA   0.220
387             LG    0.31    0.25    4.40    0.48      24
388             UC   1.188   0.984
389             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
390             UA     100
                *

391             KK     617
392             KM       RETENTION DIVERSION
393             KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
394             KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 7.60 AC-FT
395             KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 1.74 AC-FT
396             KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 617 = 9.34 AC-FT
397             DT  617RET    9.34
398             DI       0   10000
399             DQ       0   10000
                *

400             KK   CP617
401             KM   Combine 617 & CON406
402             HC       2
                *

403             KK    D617  Intersection Diversion
404             KM   Flow split at McQueen & Pecos with 20% diverted south and routed to CP618
405             DT   To618
406             DI       0     100     500    1000    2000
407             DQ       0      20     100     200     400
                *

408             KK  617614   ROUTE   REACH
409             KM   Route 80% of flow north along McQueen to CP614 and route to CP615 since
410             KM   split to west would end up at CP615.
411             RS       2
412             RC   0.030   0.015   0.030    1379  0.0045    0.00
413             RX     0.0   300.0   307.5   329.9   330.0   352.5   360.0   660.0
414             RY     0.6     0.0     1.3     1.7     1.7     1.3     0.0     0.6
                *
```

```
415          KK     614   BASIN
416          KM   The following parameters were determined for this sub basin.
417          KM   L= 1.313 mi S= 12.4 ft/mi Kb= 0.028 Urban
418          BA   0.416
419          LG    0.24    0.25    4.60    0.41      32
420          UC   0.900   0.674
421          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
422          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 11

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

423          KK     614
424          KM       RETENTION DIVERSION
425          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
426          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 19.04 AC-FT
427          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
428          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 614 = 19.04 AC-FT
429          DT  614RET   19.04
430          DI       0   10000
431          DQ       0   10000
             *

432          KK   CP614
433          KM   Combine 612614, 617614, & 614
434          KO       3
435          HC       3
             *

436          KK  614615   ROUTE   REACH
437          KM   Routed west along Saragosa Court.
438          RS       5
439          RC   0.030   0.015   0.030    5124  0.0001    3.00
440          RX     0.0   170.0   190.0   250.0   290.0   310.0   660.0  1060.0
441          RY     1.0     0.8     0.5     0.0     0.0     0.5     1.0     3.0
             *

442          KK     613   BASIN
443          KM   The following parameters were determined for this sub basin.
444          KM   L= 0.870 mi S= 11.4 ft/mi Kb= 0.035 Urban
445          BA   0.208
446          LG    0.22    0.27    4.60    0.40      36
447          UC   0.813   0.643
448          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
449          UA     100
             *

450          KK     613
451          KM       RETENTION DIVERSION
452          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
453          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 3.32 AC-FT
454          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
455          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 613 = 3.32 AC-FT
456          DT  613RET    3.32
457          DI       0   10000
458          DQ       0   10000
             *

459          KK     615   BASIN
460          KM   The following parameters were determined for this sub basin.
461          KM   L= 0.845 mi S= 10.3 ft/mi Kb= 0.030 Urban
462          BA   0.368
463          LG    0.20    0.27    4.45    0.44      24
464          UC   0.800   0.448
465          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
466          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 12

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

467          KK     615
468          KM       RETENTION DIVERSION
469          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
470          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 10.54 AC-FT
471          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
472          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 615 = 10.54 AC-FT
473          DT  615RET   10.54
474          DI       0   10000
475          DQ       0   10000
             *

476          KK  FRM612
477          KM   Retrieve hydrograph from flow split at McQueen & Frye directed west.
478          DR   To615
             *

479          KK  612615   ROUTE   REACH
480          KM   Routed west along Frye Rd.
481          RS       4
482          RC   0.030   0.015   0.030    3867  0.0016    2.11
483          RX     0.0   300.0   311.0   324.9   325.0   339.0   350.0   650.0
484          RY     0.6     0.0     1.8     2.1     2.1     1.8     0.0     0.6
             *

485          KK   CP615
```

```
486          KM   Combine sub 615, 613, 612615, & 614615
487          KO       3
488          HC       4
             *

489          KK  P613-5
490          KM    Ponding east of the RR Tracks.
491          KM
492          KO       3
493          RS       1    STOR       0       0
494          SV       0   0.004    0.11    0.35    0.71    1.40    2.89    9.62   18.41   21.71
495          SV   62.85  112.35  164.18
496          SE    1210    1211    1212    1213    1214    1215    1216    1217  1217.6    1218
497          SE    1219    1220    1221
498          SQ       0       0       0       0       0       0       0       0  104.65  379.92
499          SQ  2707.1   12574 33569.7
             *

500          KK     610   BASIN
501          KM   The following parameters were determined for this sub basin.
502          KM   L= 1.112 mi S= 6.6 ft/mi Kb= 0.028 Urban
503          BA   0.540
504          LG    0.23    0.26    5.20    0.29      31
505          UC   1.000   0.571
506          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
507          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 13

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

508          KK   CP610
509          KM   Combine sub 610, & overflow from P613-5
510          KO       3
511          HC       2
             *

512          KK   CP609
513          KM   Combine sub 608609, 609, CP610
514          KO       3
515          HC       3
             *

516          KK  P610-9
517          KM    Ponding in retention basin east of RR track and within commercial disctrict.
518          KM    Excess flow escapes through a 7'x 3' RR bridge located in sub 610.
519          KO       3
520          RS       1    STOR       0       0
521          SV       0   0.20     .53    1.18     2.4    3.98    7.85   16.63   49.52  128.54
522          SV  224.08  325.31  427.72
523          SE    1208    1209    1210    1211    1212    1213    1214    1215    1216    1217
524          SE    1218    1219    1220
525          SQ       0       0       0       0       0       0       0       0   10.23    39.1
526          SQ   77.57  130.82 3860.84
             *

527          KK  609611   ROUTE   REACH
528          KM   Routed west along Roadway
529          RS       3
530          RC   0.030   0.015   0.030    2613  0.0033    0.00
531          RX     0.0   300.0   307.5   329.9   330.0   352.5   360.0   660.0
532          RY     0.6     0.0     1.3     1.7     1.7     1.3     0.0     0.6
             *

533          KK     611   BASIN
534          KM   The following parameters were determined for this sub basin.
535          KM   L= 0.958 mi S= 4.7 ft/mi Kb= 0.030 Urban
536          BA   0.292
537          LG    0.21    0.26    5.00    0.33      41
538          UC   1.075   0.783
539          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
540          UA     100
             *

541          KK   CP611
542          KM   Combine  sub 611 & 609611
543          KO       3
544          HC       2
             *
1                                          HEC-1 INPUT                                          PAGE 14

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

545          KK    D611
546          KM   Divert 100% of flow west over Arizona Ave
547          DT   Az611
548          DI       0     100
549          DQ       0     100
             *

550          KK     616   BASIN
551          KM   The following parameters were determined for this sub basin.
552          KM   L= 0.433 mi S= 12.9 ft/mi Kb= 0.031 Urban
553          BA   0.173
554          LG    0.17    0.25    4.55    0.45      51
555          UC   0.463   0.218
556          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```

```
557          UA     100
             *

558          KK   CP616
559          KM   Combine 616 & D611
560          KO       3
561          HC       2
             *

562          KK    D616
563          KM   Divert 100% flow west over Arizona Ave to be retrieved later
564          KO       3
565          DT   Az616
566          DI       0     100
567          DQ       0     100
             *

568          KK     619   BASIN
569          KM   The following parameters were determined for this sub basin.
570          KM   L= 0.341 mi S= 12.9 ft/mi Kb= 0.030 Natural
571          BA   0.115
572          LG    0.16    0.25    4.70    0.41      61
573          UC   0.388   0.187
574          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
575          UA     100
             *

576          KK   CP619
577          KM   Combine  D616 and 619
578          KO       3
579          HC       2
             *

580          KK    D619
581          KM   Divert 100% flow west over Arizona Ave.
582          KO       3
583          DT   Az619
584          DI       0     100
585          DQ       0     100
             *
1                                        HEC-1 INPUT                                          PAGE 15

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

586          KK   dummy
587          KM   combine
588          HC       2
             *

589          KK     618   BASIN
590          KM   The following parameters were determined for this sub basin.
591          KM   L= 0.696 mi S= 10.9 ft/mi Kb= 0.029 Urban
592          BA   0.321
593          LG    0.26    0.25    4.60    0.38      20
594          UC   0.667   0.339
595          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
596          UA     100
             *

597          KK     618
598          KM       RETENTION DIVERSION
599          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
600          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 7.41 AC-FT
601          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 5.98 AC-FT
602          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 618 = 13.39 AC-FT
603          DT  618RET   13.39
604          DI       0   10000
605          DQ       0   10000
             *

606          KK  FRM617
607          KM   Retrieve hydrograph from flow split at McQueen & Pecos directed south
608          DR   To618
             *

609          KK  617618   ROUTE   REACH
610          KM   Routed south along McQueen
611          RS       3
612          RC   0.030   0.015   0.030    2733  0.0028    1.25
613          RX     0.0   300.0   307.5   329.9   330.0   352.5   360.0   660.0
614          RY     0.6     0.0     1.3     1.7     1.7     1.3     0.0     0.6
             *

615          KK   CP618
616          KM   Combine sub 618 & 617618
617          KM   Flow enters Santan Storm Drain System
618          KO       3
619          HC       2
             *

620          KK    P618
621          KM    Ponding in Retention basin. Excess flow is conveyed into the Santan
622          KM    Hwy storm drain system
623          KO       3
624          RS       1    STOR       0       0
625          SV       0     1.1    6.05   11.38   14.10
626          SE    1215    1216    1217    1218  1218.5
627          SQ       0       0       0       0  895.81
```

```
                    *
                    * ***********************************************************************
                    *                              SECOND PB REGION                         *
                    *                              UPDATED PB & PC'S PER 06-04-2008 FCDMC MEMO  *
                    * ***********************************************************************
                    *
1                                                HEC-1 INPUT                                                    PAGE 16

          LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

           628      KK     620   BASIN
           629      BA   0.070
           630      KM   The following parameters were determined for this sub basin.
           631      KM   L= 0.363 mi S= 3.3 ft/mi Kb= 0.039 Natural
           632      PB   2.923
           633      PC   0.000   0.009   0.016   0.025   0.034   0.042   0.051   0.059   0.068   0.077
           634      PC   0.088   0.101   0.121   0.164   0.253   0.451   0.694   0.836   0.899   0.938
           635      PC   0.950   0.963   0.975   0.988   1.000
                    *
           636      LG    0.24    0.25    4.00    0.64      46
           637      UC   0.838   0.611
           638      UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
           639      UA     100
                    *

           640      KK    D620
           641      KM   Divert 100% of flow west over Arizona Ave
           642      KO       3
           643      DT   Az620
           644      DI       0     100
           645      DQ       0     100
                    *

           646      KK   DUMMY
           647      KM   Combine sub 620 & CP618,
           648      HC       2
                    *

           649      KK     628   BASIN
           650      KM   The following parameters were determined for this sub basin.
           651      KM   L= 0.746 mi S= 7.5 ft/mi Kb= 0.049 Natural
           652      BA   0.268
           653      LG    0.49    0.25    4.70    0.46       2
           654      UC   1.500   0.977
           655      UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
           656      UA     100
                    *

           657      KK    P628
           658      KM    Ponding in Agricultural Field east of RR Track
           659      KM    Excess flow weirs over Appleby Road and RR Track
           660      KO       3
           661      RS       1    STOR       0       0
           662      SV       0    0.02    0.15    3.51   11.55   14.99   16.89   48.20
           663      SE    1217    1218    1219    1220 1220.63  1220.9    1221    1222
           664      SQ       0       0       0       0       0   22.64   70.29 1807.12
                    *

           665      KK     627   BASIN
           666      KM   The following parameters were determined for this sub basin.
           667      KM   L= 0.820 mi S= 16.8 ft/mi Kb= 0.050 Natural
           668      BA   0.211
           669      LG    0.47    0.25    4.80    0.44       2
           670      UC   1.196   0.935
1                                                HEC-1 INPUT                                                    PAGE 17

          LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

           671      UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
           672      UA     100
                    *

           673      KK   CP627
           674      KM   Combine sub 627, & 628
           675      KO       3
           676      HC       2
                    *

           677      KK    P627
           678      KM    Ponding in Agricultural Field east of RR Track
           679      KM    Excess flow weirs over Queen Creek Road and RR Track
           680      KO       3
           681      RS       1    STOR       0       0
           682      SV       0    0.02    0.20    0.70    1.73    6.28   24.89   30.96   39.23   72.39
           683      SV  142.37
           684      SE    1214    1215    1216    1217    1218    1219    1220  1220.2  1220.4    1221
           685      SE    1222
           686      SQ       0       0       0       0       0       0       0       0   22.16 1034.77
           687      SQ  7435.2
                    *

           688      KK    D627
           689      KM   Divert flow to 625
           690      KO       3
           691      DT   To625
           692      DI       0     100
           693      DQ       0     100
                    *
```

```
 694          KK     629   BASIN
 695          KM   The following parameters were determined for this sub basin.
 696          KM   L= 1.088 mi S= 5.2 ft/mi Kb= 0.049 Natural
 697          BA   0.259
 698          LG    0.50    0.25    4.65    0.49       0
 699          UC   1.500   1.343
 700          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 701          UA     100
              *

 702          KK    P629
 703          KM    Ponding in Agricultural Field east of Arizona Avenue
 704          KM    Excess flow weirs west over Arizona Ave and north over QUeen Creek Road.
 705          KO       3
 706          RS       1    STOR       0       0
 707          SV       0    0.03    0.14    0.78    8.70   10.78   12.99   15.30
 708          SE    1212    1213    1214    1215  1215.7  1215.8  1215.9    1216
 709          SQ       0       0       0       0       0       0    2.64   24.85
              *
1                                          HEC-1 INPUT                                          PAGE 18

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 710          KK    D629
 711          KM   Divert 40% of flow west over Arizona Ave
 712          KO       3
 713          DT   Az629
 714          DI       0     100
 715          DQ       0      40
              *

 716          KK  Frm627
 717          KM   Retrieve flow from 627
 718          DR   To625
              *

 719          KK     625   BASIN
 720          KM   The following parameters were determined for this sub basin.
 721          KM   L= 1.105 mi S= 12.8 ft/mi Kb= 0.044 Natural
 722          BA   0.418
 723          LG    0.43    0.25    5.00    0.40      11
 724          UC   1.329   0.907
 725          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 726          UA     100
              *

 727          KK   CP625
 728          KM   Combine sub 625 & CP627
 729          KO       3
 730          HC       2
              *

 731          KK    D625
 732          KM   Divert flow to 623
 733          DT   To623
 734          DI       0     100
 735          DQ       0     100
              *

 736          KK  Frm625
 737          KM   Retrieve flow from 625
 738          DR   To623
              *

 739          KK     623   BASIN
 740          KM   The following parameters were determined for this sub basin.
 741          KM   L= 1.258 mi S= 12.7 ft/mi Kb= 0.041 Natural
 742          BA   0.600
 743          LG    0.39    0.15    7.60    0.14       7
 744          UC   1.033   0.618
 745          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 746          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 19

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 747          KK     623
 748          KM       RETENTION DIVERSION
 749          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
 750          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.00 AC-FT
 751          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 2.33 AC-FT
 752          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 623 = 2.33 AC-FT
 753          DT  623RET    2.33
 754          DI       0   10000
 755          DQ       0   10000
              *

 756          KK   CP623
 757          KM   Combine sub 623, FRM625
 758          KO       3
 759          HC       2
              *

 760          KK  P623-5
 761          KM    Ponding in Agricultural Field east of RR Track. Flow released thru 8x2 box
```

```
KM    culvert between Germann & Ryan Rd.
KO       3
RS       1    STOR       0       0
SV       0    0.09    0.95    3.69   27.28   38.60   58.83  101.80  216.51  373.53
SV  578.58
SE    1213    1214    1215    1216    1217  1217.2  1217.5    1218    1219    1220
SE    1221
SQ       0       0    1.18    8.25   19.46   21.94   73.89   91.17  128.05  166.01
SQ  6339.4
*

KK  CON412
KM        Retrieve data from DSS file
KM        Overflow from Consolidated Canal at Santan Fwy
BA   0.001
ZR     =QI  A=CONS B=CP412  C=FLOW  E=5MIN  F=6HR
*

KK     621   BASIN
KM   The following parameters were determined for this sub basin.
KM   L= 1.273 mi S= 10.0 ft/mi Kb= 0.040 Natural
BA   0.505
LG    0.30    0.25    6.20    0.23      22
UC   1.204   0.813
UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
UA     100
*

KK     621
KM       RETENTION DIVERSION
KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 3.46 AC-FT
KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 621 = 3.46 AC-FT
DT  621RET    3.46
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

DI       0   10000
DQ       0   10000
*

KK   CP621
KM   Combine 621 & CON412
KO       3
HC       2
*

KK    P621
KM    Ponding east of RR Track
KM
KO       3
RS       1    STOR       0       0
SV       0    1.93   21.10   73.52  162.84  183.54  194.01  204.54  215.16  269.05
SV  379.15
SE    1211    1217    1218    1219    1220  1220.2  1220.3  1220.4  1220.5    1221
SE    1222
SQ       0       0       0       0       0       0       0    0.16   14.07   663.5
SQ  4514.3
*

KK     622   BASIN
KM   The following parameters were determined for this sub basin.
KM   L= 0.417 mi S= 8.6 ft/mi Kb= 0.047 Natural
BA   0.101
LG    0.32    0.21    6.40    0.23      35
UC   0.663   0.432
UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
UA     100
*

KK   CP622
KM   DEVELOPED AREA - NO PONDING NECESSARY.
KM   Combine 621 & 622
KO       3
HC       2
*

KK    D622 Intersection Diversion
KM   Flow split at Arizona Ave & Germann Rd. with 20% diverted west of Arizona Ave
DT   Az622
DI       0     100     500    1000    2000
DQ       0      20     100     200     400
*

KK  622624   ROUTE   REACH
KM   Routed south along Arizona Ave to CP624
RS       3
RC   0.035   0.015   0.035    2357  0.0004    1.85
RX     0.0     0.0    23.5    23.5   106.5   106.5   130.0   130.0
RY     1.9     0.9     0.5     0.0     0.0     0.5     0.9     1.9
*
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK     624   BASIN
```

```
833          KM   The following parameters were determined for this sub basin.
834          KM   L= 0.496 mi S= 8.5 ft/mi Kb= 0.045 Natural
835          BA   0.133
836          LG    0.34    0.15    9.70    0.07      24
837          UC   0.675   0.434
838          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
839          UA     100
             *

840          KK   CP624
841          KM   Combine P623-5, sub 624 & 622624
842          KO       3
843          HC       3
             *

844          KK    P624
845          KM    Ponding in Agricultural Field east of Arizona Ave
846          KM
847          KO       3
848          RS       1    STOR       0       0
849          SV       0    0.05    0.29    2.78   26.51    35.3   40.42   43.14   85.38
850          SE    1211    1212    1213    1214    1215  1215.2  1215.3 1215.35    1216
851          SQ       0       0       0       0       0     4.6   32.79   62.36 1613.56
             *

852          KK    D624
853          KM   Divert 100% of flow over Arizona Ave
854          KO       3
855          DT   Az624
856          DI       0     100
857          DQ       0     100
             *

858          KK     626   BASIN
859          KM   The following parameters were determined for this sub basin.
860          KM   L= 0.554 mi S= 12.8 ft/mi Kb= 0.054 Natural
861          BA   0.132
862          LG    0.50    0.25    5.40    0.34       0
863          UC   0.975   0.707
864          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
865          UA     100
             *

866          KK   CP626
867          KM   Combine Flow from CP629, P625,P624 and 626
868          KO       3
869          HC       4
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

870          KK    P626
871          KM    Ponding in Agricultural Field east of Arizona Ave
872          KM
873          KO       3
874          RS       1    STOR       0       0
875          SV       0    0.05    0.25    0.75    3.69    5.74   38.47
876          SE    1211    1212    1213    1214  1214.8    1215    1216
877          SQ       0       0       0       0   56.17  184.11 2470.37
             *

878          KK    D626
879          KM   Divert 100% of flow over Arizona Ave
880          KO       3
881          DT   Az626
882          DI       0     100
883          DQ       0     100
             *
             * ******************************************************************************
             *                              THIRD PB REGION                                 *
             *                              UPDATED PB & PC'S PER 06-04-2008 FCDMC MEMO     *
             * ******************************************************************************
             *

884          KK     630   BASIN
885          BA   0.323
886          KM   The following parameters were determined for this sub basin.
887          KM   L= 1.238 mi S= 4.7 ft/mi Kb= 0.033 Urban
888          PB   2.948
889          PC   0.000   0.009   0.016   0.025   0.034   0.042   0.051   0.059   0.067   0.075
890          PC   0.087   0.100   0.119   0.155   0.240   0.427   0.740   0.861   0.910   0.942
891          PC   0.954   0.966   0.978   0.989   1.000
892          LG    0.25    0.22    4.15    0.53      36
893          UC   1.492   1.305
894          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
895          UA     100
             *

896          KK  CON424
897          KM        Retrieve data from DSS file
898          KM        Overflow from Consolidated Canal at Chandler Heights Rd.
899          BA   0.001
900          ZR     =QI  A=CONS B=CP424  C=FLOW  E=5MIN F=6HR
             *

901          KK   CP630
902          KM   Combine 630 & CON424
```

```
903          KO       3
904          HC       2
             *
1                                          HEC-1 INPUT                                                    PAGE 23

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


905          KK    P630
906          KM    Ponding in lakes within the Pinelake Community and in basins
907          KM    east of RR Track.
908          KO       3
909          RS       1    STOR       0       0
910          SV       0   19.47   42.46   84.89   90.09  101.24  107.19  147.62  236.65
911          SE    1213    1218    1219    1220  1220.1  1220.3  1220.4    1221    1222
912          SQ       0       0       0       0       0    4.83   41.41 1164.73 8549.33
             *

913          KK     631   BASIN
914          KM   The following parameters were determined for this sub basin.
915          KM   L= 0.919 mi S= 8.5 ft/mi Kb= 0.042 Urban
916          BA   0.302
917          LG    0.33    0.25    4.45    0.51      24
918          UC   1.250   0.877
919          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
920          UA     100
             *

921          KK     631
922          KM       RETENTION DIVERSION
923          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
924          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 3.85 AC-FT
925          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
926          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 631 = 3.85 AC-FT
927          DT  631RET   3.85
928          DI       0   10000
929          DQ       0   10000
             *

930          KK   CP631
931          KM   Combine sub 630 & 631
932          KO       3
933          HC       2
             *

934          KK    P631
935          KM    Ponding in Agricultural Field east of Arizona Ave
936          KM
937          KO       3
938          RS       1    STOR       0       0
939          SV       0    0.47   12.81   33.43   35.22   40.98  104.91
940          SE    1212    1213    1214  1214.8 1214.85    1215    1216
941          SQ       0       0       0       0    0.97   31.86 2086.71
             *

942          KK    D631
943          KM   Divert 100% of flow over Arizona Ave
944          KO       3
945          DT   Az631
946          DI       0     100
947          DQ       0     100
             *
1                                          HEC-1 INPUT                                                    PAGE 24

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


948          KK  CON427
949          KM        Retrieve data from DSS file
950          KM        Overflow from Consolidated Canal from Paseo Crossings Subdivision.
951          BA   0.001
952          ZR     =QI  A=CONS B=CP427  C=FLOW  E=5MIN  F=6HR
             *

953          KK    632N   BASIN
954          KM   The following parameters were determined for this sub basin.
955          KM   L= 0.27 mi S= 56.2 ft/mi Kb= 0.029 Natural
956          BA   0.151
957          LG    0.19    0.24    4.50    0.55       6
958          UC   0.246   0.080
959          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
960          UA     100
             *

961          KK  CP632N
962          KM   Combine 632N & CON427
963          KO       3
964          HC       2
             *

965          KK   P632N
966          KM    Ponding in golf course North of the ridge
967          KM
968          KO       3
969          RS       1    STOR       0       0
970          SV       0    0.03    0.16    0.46    1.03    2.15    4.15    7.46   12.83   21.24
971          SV   34.59   55.53   86.08  127.64  181.03  246.25  320.69  402.11  489.09
972          SE    1208    1209    1210    1211    1212    1213    1214    1215    1216    1217
973          SE    1218    1219    1220    1221    1222    1223    1224    1225    1226
```

```
 974          SQ       0       0       0       0       0       0       0       0       0       0
 975          SQ       0       0       0       0       0  249.64 2141.79 8964.8422868.67
              *

 976          KK    632S   BASIN
 977          KM   The following parameters were determined for this sub basin.
 978          KM   L= 0.21 mi S= 64.6 ft/mi Kb= 0.027 Natural
 979          BA   0.264
 980          LG    0.20    0.25    4.55    0.54       4
 981          UC   0.204   0.039
 982          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 983          UA     100
              *

 984          KK  CP632S
 985          KM   Combine 632S & overflow from 632N
 986          KO       3
 987          HC       2
              *
1                                          HEC-1 INPUT                                          PAGE 25

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 988          KK   P632S
 989          KM    Ponding in golf course along UPRR
 990          KM
 991          KO       3
 992          RS       1    STOR       0       0
 993          SV       0    0.31    0.65    1.23    2.48    4.99    9.24   15.84   25.44   38.62
 994          SV   56.36   82.55  121.05  169.66  225.97  287.99  354.01  422.10
 995          SE    1203    1204    1205    1206    1207    1208    1209    1210    1211    1212
 996          SE    1213    1214    1215    1216    1217    1218    1219    1220
 997          SQ       0       0       0       0       0       0       0       0       0       0
 998          SQ       0       0   18.29   74.00  146.47  234.48  513.71 9191.05
              *

 999          KK     634   BASIN
1000          KM   The following parameters were determined for this sub basin.
1001          KM   L= 0.398 mi S= 0.3 ft/mi Kb= 0.051 Natural
1002          KO       3
1003          BA   0.071
1004          LG    0.36    0.25    4.25    0.57      14
1005          UC   1.500   1.259
1006          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1007          UA     100
              *

1008          KK    P634
1009          KM    Ponding in open space east of UPRR Track
1010          KM
1011          KO       3
1012          RS       1    STOR       0       0
1013          SV       0    0.38    1.42    6.47   20.05   45.01
1014          SE    1213    1214    1215    1216    1217    1218
1015          SQ       0       0       0       0       0  306.23
              *

1016          KK     633   BASIN
1017          KM   The following parameters were determined for this sub basin.
1018          KM   L= 0.923 mi S= 11.9 ft/mi Kb= 0.047 Natural
1019          BA   0.227
1020          LG    0.41    0.26    4.60    0.47      10
1021          UC   1.346   1.121
1022          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1023          UA     100
              *

1024          KK   CP633
1025          KM   Combine sub 634, 633, CP632
1026          KO       3
1027          HC       3
              *
1                                          HEC-1 INPUT                                          PAGE 26

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1028          KK    P633
1029          KM    Ponding east of Arizona Ave
1030          KM
1031          KO       3
1032          RS       1    STOR       0       0
1033          SV       0   10.25   54.23  148.72  256.14
1034          SE    1208    1212    1213    1214    1215
1035          SQ       0       0       0  309.96 9558.67
              *

1036          KK    D633
1037          KM   Divert 100% of flow over Arizona Ave
1038          KO       3
1039          DT   Az633
1040          DI       0     100
1041          DQ       0     100
              *

1042          KK     635   BASIN
1043          KM   The following parameters were determined for this sub basin.
1044          KM   L= 0.845 mi S= 13.7 ft/mi Kb= 0.030 Urban
```

```
1045          BA   0.153
1046          LG    0.12    0.30    4.15    0.48      28
1047          UC   0.713   0.650
1048          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1049          UA    100
              *

1050          KK    D635
1051          KM   Divert 100% of flow over Arizona Ave
1052          KO       3
1053          DT   Az635
1054          DI       0     100
1055          DQ       0     100
              *

1056          KK   RR432
1057          KM        Retrieve data from DSS file
1058          KM        Overflow from RR Track Bridge
1059          BA   0.001
1060          ZR     =QI  A=RR   B=CP432  C=FLOW  E=5MIN F=6HR
              *

1061          KK     636   BASIN
1062          KM   The following parameters were determined for this sub basin.
1063          KM   L= 0.570 mi S= 4.4 ft/mi Kb= 0.028 Urban
1064          BA   0.147
1065          LG    0.25    0.25    4.35    0.46      31
1066          UC   0.808   0.556
1067          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1068          UA    100
              *
1                                          HEC-1 INPUT                                          PAGE 27

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1069          KK   CP636
1070          KM   Combine sub 636, & RR432
1071          KO       3
1072          HC       2
              *

1073          KK    D636
1074          KM   Divert 100% of flow over Arizona Ave
1075          KO       3
1076          DT   Az636
1077          DI       0     100
1078          DQ       0     100
              *

1079          KK   dummy
1080          KM   Combine all hydrographs for modeling purposes
1081          HC       6
              *

1082          KK  DSS602
1083          KM   Write hydrograph for overflow from sub-basin 602
1084          DR   Az602
1085          ZW    A=Az B=602_6 C=FLOW   D=03Mar1903  E=5MIN
              *

1086          KK  DSS604
1087          KM   Write hydrograph for overflow from sub-basin 604
1088          DR   Az604
1089          ZW    A=Az B=604_6  C=FLOW  E=5MIN
              *

1090          KK  DSS607
1091          KM   Write hydrograph for overflow from sub-basin 607
1092          DR   Az607
1093          ZW    A=Az B=607_6  C=FLOW  E=5MIN
              *

1094          KK  DSS611
1095          KM   Write hydrograph for overflow from sub-basin 611
1096          DR   Az611
1097          ZW    A=Az B=611_6  C=FLOW  E=5MIN
              *

1098          KK  DSS616
1099          KM   Write hydrograph for overflow from sub-basin 616
1100          DR   Az616
1101          ZW    A=Az B=616_6  C=FLOW  E=5MIN
              *
1                                          HEC-1 INPUT                                          PAGE 28

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1102          KK  DSS619
1103          KM   Write hydrograph for overflow from sub-basin 619
1104          DR   Az619
1105          ZW    A=Az B=619_6  C=FLOW  E=5MIN
              *

1106          KK     DSS
1107          KM   Combine DSS FILES FOR MODELING PURPOSES
1108          HC       6
              *
```

```
1109          KK  DSS620
1110          KM   Write hydrograph for overflow from sub-basin 620
1111          DR   Az620
1112          ZW    A=Az B=620_6  C=FLOW  E=5MIN
              *

1113          KK  DSS629
1114          KM   Write hydrograph for overflow from sub-basin 629
1115          DR   Az629
1116          ZW    A=Az B=629_6  C=FLOW  E=5MIN
              *

1117          KK  DSS622
1118          KM   Write hydrograph for overflow from sub-basin 622
1119          DR   Az622
1120          ZW    A=Az B=622_6  C=FLOW  E=5MIN
              *

1121          KK  DSS624
1122          KM   Write hydrograph for overflow from sub-basin 624
1123          DR   Az624
1124          ZW    A=Az B=624_6  C=FLOW  E=5MIN
              *

1125          KK  DSS626
1126          KM   Write hydrograph for overflow from sub-basin 626
1127          DR   Az626
1128          ZW   A=Az B=626_6 C=FLOW    E=5MIN
              *

1129          KK   DSS2
1130          KM   Combine DSS FILES FOR MODELING PURPOSES
1131          HC       5
              *

1132          KK  DSS631
1133          KM   Write hydrograph for overflow from sub-basin 631
1134          DR   Az631
1135          ZW   A=Az  B=631_6 C=FLOW   E=5MIN
              *
1                                        HEC-1 INPUT                                        PAGE 29

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1136          KK  DSS633
1137          KM   Write hydrograph for overflow from sub-basin 633
1138          DR   Az633
1139          ZW   A=Az  B=633_6  C=FLOW E=5MIN
              *

1140          KK  DSS635
1141          KM   Write hydrograph for overflow from sub-basin 635
1142          DR   Az635
1143          ZW   A=Az B=635_6   C=FLOW  E=5MIN
              *

1144          KK  DSS636
1145          KM   Write hydrograph for overflow from sub-basin 636
1146          DR   Az636
1147          ZW   A=Az B=636_6   C=FLOW  E=5MIN
              *

1148          KK     OUT
1149          KM   Combine all Flow Leaving Watershed
1150          HC       6
              *
              *
1151          ZZ
1
              SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

   NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    77      COO525
                 V
                 V
    81      525605
                 .
                 .
    87           .         605
                 .           .
                 .           .
   106           .           .-------->  605RET
   100           .         605
                 .           .
                 .           .
   109       CP605............
                 V
                 V
   113      605606
                 .
                 .
   119           .         606
                 .           .
                 .           .
```

```
133          .          .-------> 606RET
127          .        606
             .          .
             .          .
136      CP606............
             .
             .
140          .        603
             .          .
             .          .
154          .          .-------> 603RET
148          .        603
             .          .
             .          .
157      CP603............
             V
             V
161     P606-3
             .
             .
170          .     COO524
             .          V
             .          V
174          .     524600
             .          .
             .          .
180          .          .         600
             .          .           .
             .          .           .
194          .      CP600............
             .          V
             .          V
198          .     600601
             .          .
             .          .
204          .          .         601
             .          .           .
             .          .           .
219          .          .           .-------> 601RET
212          .          .         601
             .          .           .
             .          .           .
222          .      CP601............
             .          V
             .          V
226          .       P601
             .          .
             .          .
240          .          .         602
             .          .           .
             .          .           .
248          .      CP602............
             .          .
             .          .
256          .          .-------> Az602
253          .       D602
             .          .
             .          .
259          .          .         604
             .          .           .
             .          .           .
267      CP604........................
             .
             .
276          .-------> Az604
272       D604
             V
             V
279     604607
             .
             .
285          .        607
             .          .
             .          .
293      CP607............
             .
             .
301          .-------> Az607
298       D607
             .
             .
304          .        608
             .          .
             .          .
318          .          .-------> 608RET
312          .        608
             .          V
             .          V
321          .     608609
             .          .
             .          .
327          .          .         609
             .          .           .
             .          .           .
341          .          .           .-------> 609RET
335          .          .         609
             .          .           .
             .          .           .
344          .          .           .        612
```

```
                .         .         .         .
                .         .         .         .
358             .         .         .         .-------> 612RET
352             .         .         .       612
                .         .         .         .
                .         .         .         .
363             .         .         .         .------->  To615
361             .         .         .      D612
                .         .         .         V
                .         .         .         V
366             .         .         .    612614
                .         .         .         .
                .         .         .         .
372             .         .         .         .     CON406
                .         .         .         .         V
                .         .         .         .         V
377             .         .         .         .     406617
                .         .         .         .         .
                .         .         .         .         .
383             .         .         .         .         .         617
                .         .         .         .         .           .
                .         .         .         .         .           .
397             .         .         .         .         .           .-------> 617RET
391             .         .         .         .         .         617
                .         .         .         .         .           .
                .         .         .         .         .           .
400             .         .         .         .      CP617............
                .         .         .         .         .
                .         .         .         .         .
405             .         .         .         .         .------->  To618
403             .         .         .         .       D617
                .         .         .         .         V
                .         .         .         .         V
408             .         .         .         .     617614
                .         .         .         .         .
                .         .         .         .         .
415             .         .         .         .         .         614
                .         .         .         .         .           .
                .         .         .         .         .           .
429             .         .         .         .         .           .-------> 614RET
423             .         .         .         .         .         614
                .         .         .         .         .           .
                .         .         .         .         .           .
432             .         .         .      CP614........................
                .         .         .         V
                .         .         .         V
436             .         .         .    614615
                .         .         .         .
                .         .         .         .
442             .         .         .         .        613
                .         .         .         .          .
                .         .         .         .          .
456             .         .         .         .          .-------> 613RET
450             .         .         .         .        613
                .         .         .         .          .
                .         .         .         .          .
459             .         .         .         .          .         615
                .         .         .         .          .           .
                .         .         .         .          .           .
473             .         .         .         .          .           .-------> 615RET
467             .         .         .         .          .         615
                .         .         .         .          .           .
                .         .         .         .          .           .
478             .         .         .         .          .           .          .<-------   To615
476             .         .         .         .          .           .     FRM612
                .         .         .         .          .           .          V
                .         .         .         .          .           .          V
479             .         .         .         .          .           .     612615
                .         .         .         .          .           .          .
                .         .         .         .          .           .          .
485             .         .         .      CP615....................................
                .         .         .         V
                .         .         .         V
489             .         .         .    P613-5
                .         .         .         .
                .         .         .         .
500             .         .         .         .        610
                .         .         .         .          .
                .         .         .         .          .
508             .         .         .      CP610............
                .         .         .         .
                .         .         .         .
512             .      CP609........................
                .         V
                .         V
516             .     P610-9
                .         V
                .         V
527             .     609611
                .         .
                .         .
533             .         .        611
                .         .          .
                .         .          .
541             .      CP611............
                .         .
                .         .
547             .         .------->  Az611
545             .       D611
```

```
                .          .
                .          .
550             .          .         616
                .          .          .
                .          .          .
558             .      CP616............
                .          .
                .          .
565             .          .-------->   Az616
562             .       D616
                .          .
                .          .
568             .          .         619
                .          .          .
                .          .          .
576             .      CP619............
                .          .
                .          .
583             .          .-------->   Az619
580             .       D619
                .          .
                .          .
586         dummy............
                .
                .
589             .        618
                .          .
                .          .
603             .          .-------->  618RET
597             .        618
                .          .
                .          .
608             .          .           .<-------   To618
606             .          .      FRM617
                .          .           V
                .          .           V
609             .          .      617618
                .          .           .
                .          .           .
615             .      CP618............
                .         V
                .         V
620             .       P618
                .          .
                .          .
628             .          .         620
                .          .          .
                .          .          .
643             .          .          .-------->   Az620
640             .          .       D620
                .          .          .
                .          .          .
646             .      DUMMY............
                .          .
                .          .
649             .          .         628
                .          .           V
                .          .           V
657             .          .       P628
                .          .          .
                .          .          .
665             .          .          .         627
                .          .          .          .
                .          .          .          .
673             .          .      CP627............
                .          .           V
                .          .           V
677             .          .       P627
                .          .          .
                .          .          .
691             .          .          .-------->   To625
688             .          .       D627
                .          .          .
                .          .          .
694             .          .          .         629
                .          .          .           V
                .          .          .           V
702             .          .          .       P629
                .          .          .          .
                .          .          .          .
713             .          .          .          .-------->   Az629
710             .          .          .       D629
                .          .          .          .
                .          .          .          .
718             .          .          .          .           .<-------   To625
716             .          .          .          .      Frm627
                .          .          .          .          .
                .          .          .          .          .
719             .          .          .          .          .         625
                .          .          .          .          .          .
                .          .          .          .          .          .
727             .          .          .          .       CP625............
                .          .          .          .          .
                .          .          .          .          .
733             .          .          .          .          .-------->   To623
731             .          .          .          .        D625
                .          .          .          .          .
                .          .          .          .          .
738             .          .          .          .          .           .<-------   To623
```

```
736                                                  Frm625
                                                        .
                                                        .
739                                                     .        623
                                                        .          .
                                                        .          .
753                                                     .          .-------> 623RET
747                                                     .        623
                                                        .          .
                                                        .          .
756                                                  CP623............
                                                        V
                                                        V
760                                                  P623-5
                                                        .
                                                        .
771                                                     .     CON412
                                                        .          .
                                                        .          .
776                                                     .          .        621
                                                        .          .          .
                                                        .          .          .
790                                                     .          .          .-------> 621RET
784                                                     .          .        621
                                                        .          .          .
                                                        .          .          .
793                                                     .     CP621............
                                                        .          V
                                                        .          V
797                                                     .       P621
                                                        .          .
                                                        .          .
808                                                     .          .        622
                                                        .          .          .
                                                        .          .          .
816                                                     .     CP622............
                                                        .          .
                                                        .          .
823                                                     .          .-------> Az622
821                                                     .       D622
                                                        .          V
                                                        .          V
826                                                     .     622624
                                                        .          .
                                                        .          .
832                                                     .          .        624
                                                        .          .          .
                                                        .          .          .
840                                                  CP624......................
                                                        V
                                                        V
844                                                  P624
                                                        .
                                                        .
855                                                     .-------> Az624
852                                                  D624
                                                        .
                                                        .
858                                                     .        626
                                                        .          .
                                                        .          .
866                                        CP626.................................
                                                V
                                                V
870                                         P626
                                                .
                                                .
881                                             .-------> Az626
878                                         D626
                                                .
                                                .
884                                                 630
                                                      .
                                                      .
896                                                   .     CON424
                                                      .          .
                                                      .          .
901                                                   .   CP630............
                                                          V
                                                          V
905                                                   .  P630
                                                          .
                                                          .
913                                                   .        631
                                                          .          .
                                                          .          .
927                                                   .          .-------> 631RET
921                                                   .        631
                                                          .          .
                                                          .          .
930                                                   .   CP631............
                                                          V
                                                          V
934                                                   .  P631
                                                          .
                                                          .
945                                                   .-------> Az631
942                                                   .  D631
                                                          .
```

```
948                                  CON427
                                        .
953                                     .        632N
                                        .          .
961                                  CP632N............
                                        V
                                        V
965                                   P632N
                                        .
                                        .
976                                     .        632S
                                        .          .
984                                  CP632S............
                                        V
                                        V
988                                   P632S
                                        .
                                        .
999                                     .         634
                                        .           V
                                        .           V
1008                                    .        P634
                                        .          .
                                        .          .
1016                                    .          .          633
                                        .          .            .
                                        .          .            .
1024                                  CP633........................
                                        V
                                        V
1028                                   P633
                                        .
                                        .
1039                                    .-------->   Az633
1036                                   D633
                                        .
                                        .
1042                                    .         635
                                        .          .
                                        .          .
1053                                    .          .-------->   Az635
1050                                    .        D635
                                        .          .
                                        .          .
1056                                    .          .       RR432
                                        .          .         .
                                        .          .         .
1061                                    .          .         .          636
                                        .          .         .            .
                                        .          .         .            .
1069                                    .          .       CP636............
                                        .          .         .
                                        .          .         .
1076                                    .          .         .-------->   Az636
1073                                    .          .        D636
                                        .          .         .
                                        .          .         .
1079                 dummy..............................................................
                                        .
                                        .
1084                          .<-------   Az602
1082                     DSS602
                                        .
                                        .
1088                                    .<-------   Az604
1086                               DSS604
                                        .
                                        .
1092                                    .          .<-------   Az607
1090                                   DSS607
                                        .
                                        .
1096                                    .          .          .<-------   Az611
1094                                    .          .       DSS611
                                        .          .          .
                                        .          .          .
1100                                    .          .          .          .<-------   Az616
1098                                    .          .          .       DSS616
                                        .          .          .          .
                                        .          .          .          .
1104                                    .          .          .          .          .<-------   Az619
1102                                    .          .          .          .       DSS619
                                        .          .          .          .          .
                                        .          .          .          .          .
1106                             DSS.......................................................
                                        .
                                        .
1111                                    .<-------   Az620
1109                               DSS620
                                        .
                                        .
1115                                    .          .<-------   Az629
1113                                   DSS629
                                        .
                                        .
```

```
 1119          .          .          .          .          .          .          .<-------   Az622
 1117          .          .          .          .          .          .     DSS622
               .          .          .          .          .          .          .
               .          .          .          .          .          .          .
 1123          .          .          .          .          .          .          .          .<-------   Az624
 1121          .          .          .          .          .          .          .     DSS624
               .          .          .          .          .          .          .          .
               .          .          .          .          .          .          .          .
 1127          .          .          .          .          .          .          .          .          .<-------   Az626
 1125          .          .          .          .          .          .          .          .     DSS626
               .          .          .          .          .          .          .          .          .
               .          .          .          .          .          .          .          .          .
 1129          .          .          .          .       DSS2.......................................................
               .          .          .          .          .
               .          .          .          .          .
 1134          .          .          .          .          .          .<-------   Az631
 1132          .          .          .          .          .     DSS631
               .          .          .          .          .          .
               .          .          .          .          .          .
 1138          .          .          .          .          .          .          .<-------   Az633
 1136          .          .          .          .          .          .     DSS633
               .          .          .          .          .          .          .
               .          .          .          .          .          .          .
 1142          .          .          .          .          .          .          .          .<-------   Az635
 1140          .          .          .          .          .          .          .     DSS635
               .          .          .          .          .          .          .          .
               .          .          .          .          .          .          .          .
 1146          .          .          .          .          .          .          .          .          .<-------   Az636
 1144          .          .          .          .          .          .          .          .     DSS636
               .          .          .          .          .          .          .          .          .
               .          .          .          .          .          .          .          .          .
 1148          .          .          .       OUT...........................................................

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1****************************************                                                  ****************************************
 *                                      *                                                  *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                                                  *   U.S. ARMY CORPS OF ENGINEERS       *
 *              JUN   1998              *                                                  *   HYDROLOGIC ENGINEERING CENTER      *
 *           VERSION 4.1                *                                                  *         609 SECOND STREET            *
 *                                      *                                                  *      DAVIS, CALIFORNIA 95616         *
 *  RUN DATE   07JUN10  TIME  11:47:56  *                                                  *          (916) 756-1104              *
 *                                      *                                                  *                                      *
 ****************************************                                                  ****************************************
```

Project ID: MARI40_SW_6HR - Major Basin: 01 - Return Period: 100 Years

Chandler/Gilbert Floodplain Delineation Study
Phase 3 - South, UPRR/Arizona Ave Watershed
FCD# 2008C042

Watershed boundaries:
Elliot Road on the north, Hunt Hwy on the south,
Cooper Rd./Consolidated Canal to the east, & Arizona Ave to the west.

Prepared by David Evans and Associates, Inc.
Modelers: Tami Norton, E.I.T., CFM
Nathan A. Beutler, E.I.T., CFM

Updated: Nathan Logan, E.I.T., CFM
and
Jason Coleman P.E.
March 2009

File: P:\Mari0000-0040\Engineering\Phase_3\south\HEC-1\6-HR\
March 2009\CGFDSP3S-6.DAT

5-minute time interval - 100-year, 6-hour storm event

Total watershed Area = 13.23 sq. mi, Total Point Rainfall = 3.00

Aerial reduction was applied using PB records.
The Phase III - South watershed was broken into 3 PB regions:

First PB region includes sub-basins 600 - 619.
Portions of Sub-basins 612 and 617 were determined to be
non-contributing. Areas listed on the BA Records for these Sub-basins
only reflect the contributing area of the sub-basins.
Region bounded by Elliot Rd. on the north and includes the Santan Freeway
on the south.

Area = 8.69 sq. mi, Reduction Factor = 0.945, PB record = 2.835

Second PB region includes sub-basins 620 - 629.
A portion of Sub-basin 627 was determined to be
non-contributing. The area listed on the BA Record for this Sub-basin
only reflects the contributing area of the sub-basin.
Region bounded by the Santan Freeway on the north and Ocotillo Rd.
on the south.

Area = 2.90 sq. mi, Reduction Factor = 0.974, PB record = 2.923

Third PB region includes sub-basins 630 - 636.
Region bounded by Ocotillo Rd. on the north and Hunt Hwy. on the south.

Area = 1.64 sq. mi, Reduction Factor = 0.983, PB record = 2.948

```
                    Green and Ampt infiltration method used to determine rainfall losses.

                    Clark Method used to create unit Hydrographs.

                    Normal Depth Method used for channel routing.

                    Eastern Maricopa and Northern Pinal Counties Area, Arizona Soil Survey
                    used for soils data.

                    Flood Control District of Maricopa County's (FCDMC) GIS data,
                    aerial photos dated Dec. 2002, and developments as directed
                    by Chandler and Gilbert by date of April 2003 used for Land Use Data.
                    Land Use Data Updated per FCDMC request to June 7, 2006.

                    FCDMC DDMSW Version 2.1.0 Program used to calculate rainfall, rainfall losses
                    and Unit Hydrographs.

                    Model includes the Santan Freeway and associated
                    drainage facilities.

                    DSS FILE: CGFDS6.dss

 76 IO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                       NMIN           5  MINUTES IN COMPUTATION INTERVAL
                      IDATE      3MAR 3  STARTING DATE
                      ITIME        1200  STARTING TIME
                         NQ        2000  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE     10MAR 3  ENDING DATE
                     NDTIME        1035  ENDING TIME
                      ICENT          19  CENTURY MARK

                  COMPUTATION INTERVAL     .08 HOURS
                      TOTAL TIME BASE  166.58 HOURS

          ENGLISH UNITS
               DRAINAGE AREA          SQUARE MILES
               PRECIPITATION DEPTH    INCHES
               LENGTH, ELEVATION      FEET
               FLOW                   CUBIC FEET PER SECOND
               STORAGE VOLUME         ACRE-FEET
               SURFACE AREA           ACRES
               TEMPERATURE            DEGREES FAHRENHEIT


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 77 KK      *    COO525  *
            *            *
            **************
                         Retrieve hydrograph for overflow from sub-basin 525 from Phase 3 North.
   -----DSS---ZOPEN:  Existing File Opened,  File: 6T.DSS
                      Unit:  71;  DSS Version: 6-JG
-----DSS--- ZREAD Unit  71; Vers.    6:  /COO/KNO6/FLOW/03MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    6:  /COO/KNO6/FLOW/03MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    6:  /COO/KNO6/FLOW/04MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    6:  /COO/KNO6/FLOW/05MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    6:  /COO/KNO6/FLOW/06MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    6:  /COO/KNO6/FLOW/06MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    6:  /COO/KNO6/FLOW/06MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    6:  /COO/KNO6/FLOW/07MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    6:  /COO/KNO6/FLOW/08MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    6:  /COO/KNO6/FLOW/08MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    6:  /COO/KNO6/FLOW/08MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    6:  /COO/KNO6/FLOW/09MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    6:  /COO/KNO6/FLOW/10MAR1903/5MIN//
-----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
Pathname: /COO/KNO6/FLOW/11MAR1903/5MIN//

              SUBBASIN RUNOFF DATA

 79 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .00  SUBBASIN AREA

                                                                  ***

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   COO525

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)      (HR)
                          (CFS)
+     96.      4.92                14.          4.           1.           1.
                        (INCHES)   134.733     134.733      134.733      134.733
                         (AC-FT)     7.           7.           7.           7.

                        CUMULATIVE AREA =     .00 SQ MI
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
  81 KK     *   525605   *        ROUTE   REACH
            *            *
            **************
                           Flow from Phase 3 North Routed through Basin 605.

               HYDROGRAPH ROUTING DATA

  83 RS          STORAGE ROUTING
                      NSTPS           6  NUMBER OF SUBREACHES
                       ITYP              TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

  84 RC          NORMAL DEPTH CHANNEL
                        ANL        .030  LEFT OVERBANK N-VALUE
                       ANCH        .015  MAIN CHANNEL N-VALUE
                        ANR        .030  RIGHT OVERBANK N-VALUE
                      RLNTH       5588.  REACH LENGTH
                        SEL      .0014  ENERGY SLOPE
                      ELMAX        2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
                           --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  86 RY        ELEVATION      2.00      1.00       .50       .00       .00       .50      1.00      2.00
  85 RX        DISTANCE        .00       .00     60.00     60.00    140.00    140.00    200.00    200.00

                                                                  ***

                                                COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00      1.08      2.16      3.24      4.32      5.41      6.75      8.43     10.44     12.80
            OUTFLOW        .00      6.97     22.08     43.31     69.84    101.18    137.73    180.28    229.49    285.92
          ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

            STORAGE      15.46     18.16     20.86     23.56     26.26     28.96     31.67     34.37     37.07     39.77
            OUTFLOW     351.61    426.44    508.39    597.07    692.17    793.42    900.63   1013.58   1132.13   1256.11
          ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   525605

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      61.      5.67                  14.          4.          1.          1.
                        (INCHES)   134.466     134.733     134.733     134.733
                         (AC-FT)        7.          7.          7.          7.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.       5.67                   0.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .39       5.67                  .13         .03         .01         .00

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
  87 KK     *       605  *        BASIN
            *            *
            **************

  89 IN          TIME DATA FOR INPUT TIME SERIES
                      JXMIN          15  TIME INTERVAL IN MINUTES
                     JXDATE      3MAR 3  STARTING DATE
                     JXTIME        1200  STARTING TIME
                          The following parameters were determined for this sub basin
                          L= 1.161 mi S= 12.3 ft/mi Kb= 0.027 Urban

               SUBBASIN RUNOFF DATA

  88 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .50  SUBBASIN AREA

                 PRECIPITATION DATA

  90 PB               STORM        2.84  BASIN TOTAL PRECIPITATION
```

```
 91 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                     .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                     .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

 96 LG          GREEN AND AMPT LOSS RATE
                     STRTL        .23  STARTING LOSS
                       DTH        .26  MOISTURE DEFICIT
                      PSIF       5.30  WETTING FRONT SUCTION
                     XKSAT        .28  HYDRAULIC CONDUCTIVITY
                     RTIMP      31.00  PERCENT IMPERVIOUS AREA

 97 UC          CLARK UNITGRAPH
                        TC        .77  TIME OF CONCENTRATION
                         R        .46  STORAGE COEFFICIENT

 98 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                             CLARK   TC=   .77 HR,       R=   .46 HR
                                            SNYDER   TP=   .41 HR,      CP=   .49

                                                      UNIT HYDROGRAPH
                                                 34 END-OF-PERIOD ORDINATES
                 19.       74.      167.      300.      381.      375.      352.      322.      291.      255.
                215.      180.      150.      125.      105.       87.       73.       61.       51.       42.
                 35.       30.       25.       21.       17.       14.       12.       10.        8.        7.
                  6.        5.        4.        3.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      605

    TOTAL RAINFALL =    2.84, TOTAL LOSS =    1.28, TOTAL EXCESS =    1.56

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     354.      4.42        82.         21.          7.           3.
                       (INCHES)     1.532       1.548       1.548        1.548
                        (AC-FT)       41.         41.         41.          41.

                       CUMULATIVE AREA =     .50 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 100 KK     *       605  *
            *            *
            **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 34.44 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 605 = 34.44 AC-FT

     DT          DIVERSION
                      ISTAD      605RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       34.44  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00  10000.00

     DQ      DIVERTED FLOW        .00  10000.00

                                                          ***

     ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   605RET

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     354.      4.42        69.         17.          6.           3.
                       (INCHES)     1.302       1.302       1.302        1.302
                        (AC-FT)       34.         34.         34.          34.

                       CUMULATIVE AREA =     .50 SQ MI

     ***            ***            ***            ***            ***
```

```
                    HYDROGRAPH AT STATION      605

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     117.      5.25                13.          3.          1.          0.
                      (INCHES)     .246        .246        .246        .246
                       (AC-FT)       7.          7.          7.          7.

                      CUMULATIVE AREA =     .50 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 109 KK     *     CP605  *
            *            *
            **************
                      Combine 525605 & sub 605

 111 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

 112 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

     ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION    CP605

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     130.      5.58                28.          7.          2.          1.
                      (INCHES)     .516        .517        .517        .517
                       (AC-FT)      14.         14.         14.         14.

                      CUMULATIVE AREA =     .50 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 113 KK     *    605606  *        ROUTE   REACH
            *            *
            **************
                      Routed west along Knox Rd.

               HYDROGRAPH ROUTING DATA

 115 RS          STORAGE ROUTING
                      NSTPS           4  NUMBER OF SUBREACHES
                       ITYP              TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 116 RC          NORMAL DEPTH CHANNEL
                        ANL       .030  LEFT OVERBANK N-VALUE
                       ANCH       .015  MAIN CHANNEL N-VALUE
                        ANR       .030  RIGHT OVERBANK N-VALUE
                      RLNTH      4033.  REACH LENGTH
                        SEL      .0009  ENERGY SLOPE
                      ELMAX        2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                        --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 118 RY        ELEVATION      2.00      1.00       .50       .00       .00       .50      1.00      2.00
 117 RX        DISTANCE        .00       .00     60.00     60.00    140.00    140.00    200.00    200.00

                                                          ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .78      1.56      2.34      3.12      3.91      4.87      6.08      7.54      9.24
          OUTFLOW        .00      5.58     17.70     34.73     56.00     81.13    110.43    144.54    184.00    229.25
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE      11.16     13.11     15.06     17.01     18.96     20.90     22.85     24.80     26.75     28.70
          OUTFLOW     281.91    341.91    407.62    478.72    554.97    636.15    722.11    812.68    907.72   1007.13
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

     ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION   605606
```

```
  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     112.      6.00                 27.          7.          2.          1.
                        (INCHES)    .509        .517        .517        .517
                         (AC-FT)     14.         14.         14.         14.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.       6.00                  0.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .64       6.00                 .23         .06         .02         .01

                        CUMULATIVE AREA =     .50 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  119 KK    *       606  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 1.225 mi S= 4.3 ft/mi Kb= 0.030 Urban

              SUBBASIN RUNOFF DATA

  122 BA        SUBBASIN CHARACTERISTICS
                     TAREA         .38  SUBBASIN AREA

                PRECIPITATION DATA

   90 PB             STORM        2.84  BASIN TOTAL PRECIPITATION

   91 PI          INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                     .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                     .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

  123 LG        GREEN AND AMPT LOSS RATE
                     STRTL         .23  STARTING LOSS
                       DTH         .15  MOISTURE DEFICIT
                      PSIF        8.00  WETTING FRONT SUCTION
                     XKSAT         .10  HYDRAULIC CONDUCTIVITY
                     RTIMP       35.00  PERCENT IMPERVIOUS AREA

  124 UC        CLARK UNITGRAPH
                        TC        1.17  TIME OF CONCENTRATION
                         R         .91  STORAGE COEFFICIENT

  125 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                   ***

                                              UNIT HYDROGRAPH PARAMETERS
                                       CLARK   TC=  1.17 HR,       R=   .91 HR
                                      SNYDER   TP=   .66 HR,      CP=   .43

                                                UNIT HYDROGRAPH
                                           64 END-OF-PERIOD ORDINATES
                 5.       16.       33.       53.       89.      132.      156.      160.      158.      155.
               151.      144.      137.      131.      122.      112.      102.       93.       85.       77.
                71.       65.       59.       54.       49.       45.       41.       37.       34.       31.
                28.       26.       24.       22.       20.       18.       16.       15.       14.       12.
                11.       10.        9.        9.        8.        7.        7.        6.        5.        5.
                 5.        4.        4.        3.        3.        3.        3.        2.        2.        2.
                 2.        2.        2.        1.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      606

    TOTAL RAINFALL =    2.84, TOTAL LOSS =     .81, TOTAL EXCESS =    2.02

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     234.      4.75                 79.         20.          7.          3.
                        (INCHES)   1.946       2.014       2.014       2.014
                         (AC-FT)     39.         40.         40.         40.
```

```
                    CUMULATIVE AREA =     .38 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
 127 KK   *      606   *
          *            *
          **************
                         RETENTION DIVERSION
                         DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                         DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 12.94 AC-FT
                         DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                         TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 606 = 12.94 AC-FT

     DT          DIVERSION
                      ISTAD      606RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       12.94  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH   606RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     220.      4.50                26.          7.          2.           1.
                        (INCHES)   .644        .644        .644         .644
                         (AC-FT)    13.         13.         13.          13.

                       CUMULATIVE AREA =     .38 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION      606

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     234.      4.75                56.         14.          5.           2.
                        (INCHES)  1.370       1.370       1.370        1.370
                         (AC-FT)    28.         28.         28.          28.

                       CUMULATIVE AREA =     .38 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
 136 KK   *     CP606  *
          *            *
          **************
                         Combine sub 606 & 605606

 138 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

 139 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION    CP606

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     234.      4.75                82.         21.          7.           3.
                        (INCHES)   .875        .885        .885         .885
                         (AC-FT)    41.         41.         41.          41.

                       CUMULATIVE AREA =     .87 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
              **************
              *            *
  140 KK      *       603  *        BASIN
              *            *
              **************
                             The following parameters were determined for this sub basin.
                             L= 1.004 mi S= 11.2 ft/mi Kb= 0.029 Urban

                SUBBASIN RUNOFF DATA

  143 BA          SUBBASIN CHARACTERISTICS
                       TAREA          .30  SUBBASIN AREA

                  PRECIPITATION DATA

   90 PB                STORM        2.84  BASIN TOTAL PRECIPITATION

   91 PI             INCREMENTAL PRECIPITATION PATTERN
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                        .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                        .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00

  144 LG          GREEN AND AMPT LOSS RATE
                       STRTL          .22  STARTING LOSS
                         DTH          .26  MOISTURE DEFICIT
                        PSIF         4.55  WETTING FRONT SUCTION
                       XKSAT          .43  HYDRAULIC CONDUCTIVITY
                       RTIMP        24.00  PERCENT IMPERVIOUS AREA

  145 UC          CLARK UNITGRAPH
                          TC          .84  TIME OF CONCENTRATION
                           R          .60  STORAGE COEFFICIENT

  146 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=   .84 HR,       R=   .60 HR
                                           SNYDER   TP=   .47 HR,      CP=   .46

                                                     UNIT HYDROGRAPH
                                                 43 END-OF-PERIOD ORDINATES
                 8.       31.       64.      129.      183.      190.      186.      177.      165.      153.
               138.      121.      105.       91.       80.       69.       60.       52.       46.       40.
                35.       30.       26.       23.       20.       17.       15.       13.       11.       10.
                 9.        8.        7.        6.        5.        4.        4.        3.        3.        2.
                 2.        2.        2.

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      603

    TOTAL RAINFALL =    2.84, TOTAL LOSS =    1.58, TOTAL EXCESS =    1.26

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                       6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    161.       4.50                   40.         10.          3.          1.
                         (INCHES)    1.230       1.250       1.250       1.250
                          (AC-FT)      20.         20.         20.         20.

                         CUMULATIVE AREA =     .30 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
  148 KK      *       603  *
              *            *
              **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 30.19 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 603 = 30.19 AC-FT

      DT          DIVERSION
                       ISTAD      603RET  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX       30.19  MAXIMUM VOLUME TO BE DIVERTED

      DI            INFLOW          .00  10000.00

      DQ      DIVERTED FLOW         .00  10000.00
```

```
                                                                                ***
      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   603RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     161.      4.50                  40.         10.          3.           1.
                       (INCHES)     1.230       1.250       1.250        1.250
                        (AC-FT)      20.         20.         20.          20.

                       CUMULATIVE AREA =     .30 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      603

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                   0.          0.          0.           0.
                       (INCHES)      .000        .000        .000         .000
                        (AC-FT)       0.          0.          0.           0.

                       CUMULATIVE AREA =     .30 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  157 KK    *     CP603  *
            *            *
            **************
                        COmbine 603 & CP606

  159 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

  160 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                                ***
      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    CP603

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     234.      4.75                  82.         21.          7.           3.
                       (INCHES)      .649        .657        .657         .657
                        (AC-FT)      41.         41.         41.          41.

                       CUMULATIVE AREA =    1.18 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  161 KK    *    P606-3  *
            *            *
            **************
                        Combined retention from Vagabond (Espee) Park north of Knox Rd and south of
                        Warner Rd. and Festiva Court Subdivision south of Knox Rd.

  164 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

  165 RS          STORAGE ROUTING
                       NSTPS           1  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

  166 SV            STORAGE          .0         .0         .1        1.1        2.9        8.4       17.1       28.6       58.6

  167 SE          ELEVATION     1210.00    1210.30    1210.80    1211.50    1212.00    1213.00    1214.00    1215.00    1216.00
```

```
 168 SQ          DISCHARGE          0.        0.        0.        0.        0.        0.        0.     1673.    12348.

 169 SE          ELEVATION     1213.00   1214.00   1215.00   1215.10   1215.18   1216.00   1217.00   1218.00   1219.00

                                                                  ***

                                                COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00       .01       .09      1.13      2.92      8.40     17.12     28.57     31.57     33.98
            OUTFLOW        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
          ELEVATION    1210.00   1210.30   1210.80   1211.50   1212.00   1213.00   1214.00   1215.00   1215.10   1215.18

            STORAGE      58.59     88.61    118.63    148.65
            OUTFLOW        .00       .00   1673.26  12347.80
          ELEVATION    1216.00   1217.00   1218.00   1219.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN     1673. TO    12348.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   P606-3

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                   0.          0.          0.           0.
                         (INCHES)    .000        .000        .000         .000
                          (AC-FT)       0.          0.          0.           0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       41.     15.67                  41.         41.         41.          40.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1215.42     14.67              1215.42     1215.44     1215.43      1215.25

                         CUMULATIVE AREA =    1.18 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 170 KK     *    COO524  *
            *            *
            **************
                          Retrieve hydrograph for overflow from sub-basin 524 from Phase 3 North.
 -----DSS--- ZREAD Unit  71; Vers.    6:  /COO/WAR6/FLOW/03MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    6:  /COO/WAR6/FLOW/03MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    6:  /COO/WAR6/FLOW/04MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    6:  /COO/WAR6/FLOW/05MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    6:  /COO/WAR6/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    6:  /COO/WAR6/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    6:  /COO/WAR6/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    6:  /COO/WAR6/FLOW/07MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    6:  /COO/WAR6/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    6:  /COO/WAR6/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    6:  /COO/WAR6/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    6:  /COO/WAR6/FLOW/09MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    6:  /COO/WAR6/FLOW/10MAR1903/5MIN//
 -----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
 Pathname: /COO/WAR6/FLOW/11MAR1903/5MIN//

               SUBBASIN RUNOFF DATA

 172 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .00  SUBBASIN AREA

                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   COO524

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     129.      7.92                 70.         23.          9.           4.
                         (INCHES)  648.252     870.693     975.231     1013.957
                          (AC-FT)      35.         46.         52.          54.

                         CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
              **************
              *            *
  174 KK      *    524600  *        ROUTE   REACH
              *            *
              **************
                                Routed west along Warner Rd. and through the lake at The Islands subdivision.

                HYDROGRAPH ROUTING DATA

  176 RS          STORAGE ROUTING
                       NSTPS           9  NUMBER OF SUBREACHES
                        ITYP              TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

  177 RC          NORMAL DEPTH CHANNEL
                         ANL        .030  LEFT OVERBANK N-VALUE
                        ANCH        .015  MAIN CHANNEL N-VALUE
                         ANR        .030  RIGHT OVERBANK N-VALUE
                       RLNTH       9178.  REACH LENGTH
                         SEL       .0015  ENERGY SLOPE
                       ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
                                 --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  179 RY        ELEVATION      2.00      1.00       .50       .00       .00       .50      1.00      2.00
  178 RX        DISTANCE        .00       .00     60.00     60.00    140.00    140.00    200.00    200.00

                                                                  ***

                                                COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00      1.77      3.55      5.32      7.10      8.89     11.08     13.84     17.15     21.03
            OUTFLOW        .00      7.21     22.85     44.83     72.29    104.73    142.56    186.60    237.54    295.96
          ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

            STORAGE      25.39     29.83     34.27     38.70     43.14     47.57     52.01     56.44     60.88     65.32
            OUTFLOW     363.95    441.41    526.24    618.03    716.46    821.27    932.24   1049.16   1171.87   1300.20
          ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   524600

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    124.       8.75                 66.         23.          9.           4.
                        (INCHES)  616.360     861.778     972.635     1013.616
                         (AC-FT)     33.         46.         52.          54.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.       8.75                  1.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .58       8.75                 .39         .17         .07          .03

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
  180 KK      *       600  *        BASIN
              *            *
              **************
                                The basin area was set to 0.0001 square miles since the entire drainage area
                                is non-contributing. The lake/water features located within this subdivision
                                retain all 100-year, 24-hour on-site runoff per the Master Storm Drainage
                                Report for The Islands dated October, 1984.  Hydrograph COO524
                                is still routed through Basin 600 assuming the lakes are full as the
                                hyrdrograph arrives.
                                The following parameters were determined for this sub basin.
                                L= 2.23 mi S= 7.2 ft/mi Kb= 0.027 Urban

                SUBBASIN RUNOFF DATA

  189 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .00  SUBBASIN AREA

                  PRECIPITATION DATA

   90 PB                STORM        2.84  BASIN TOTAL PRECIPITATION

   91 PI             INCREMENTAL PRECIPITATION PATTERN
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
```

```
                    .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                    .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00

190 LG          GREEN AND AMPT LOSS RATE
                     STRTL        .21  STARTING LOSS
                       DTH        .23  MOISTURE DEFICIT
                      PSIF       5.80  WETTING FRONT SUCTION
                     XKSAT        .22  HYDRAULIC CONDUCTIVITY
                     RTIMP      37.00  PERCENT IMPERVIOUS AREA

191 UC          CLARK UNITGRAPH
                        TC       1.42  TIME OF CONCENTRATION
                         R        .92  STORAGE COEFFICIENT

192 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                   ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=  1.42 HR,       R=   .92 HR
                                         SNYDER   TP=   .76 HR,      CP=   .46

                                                  UNIT HYDROGRAPH
                                             66 END-OF-PERIOD ORDINATES
                    0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                    0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                    0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                    0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                    0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                    0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                    0.        0.        0.        0.        0.        0.

     ***            ***            ***            ***            ***

                         HYDROGRAPH AT STATION      600

    TOTAL RAINFALL =    2.84, TOTAL LOSS =    1.07, TOTAL EXCESS =    1.77

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.      4.75                     0.          0.          0.          0.
                         (INCHES)     1.694       1.762       1.762       1.762
                          (AC-FT)        0.          0.          0.          0.

                         CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
194 KK      *     CP600  *
            *            *
            **************
                          Combine 524600 & sub 600

196 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           3  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

197 HC          HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                   ***

     ***            ***            ***            ***            ***

                         HYDROGRAPH AT STATION    CP600

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     124.      8.75                    66.         23.          9.          4.
                         (INCHES)   560.358     783.473     884.261     921.629
                          (AC-FT)       33.         46.         52.         54.

                         CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
198 KK      *    600601  *        ROUTE   REACH
            *            *
```

```
              **************
                             Routed west along Elliot Rd and through sub 601.

                HYDROGRAPH ROUTING DATA

 200 RS           STORAGE ROUTING
                        NSTPS           6  NUMBER OF SUBREACHES
                         ITYP              TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

 201 RC           NORMAL DEPTH CHANNEL
                          ANL        .030  LEFT OVERBANK N-VALUE
                         ANCH        .015  MAIN CHANNEL N-VALUE
                          ANR        .030  RIGHT OVERBANK N-VALUE
                        RLNTH       5694.  REACH LENGTH
                          SEL       .0009  ENERGY SLOPE
                        ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
                            --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 203 RY        ELEVATION      2.00      1.00       .50       .00       .00       .50      1.00      2.00
 202 RX        DISTANCE        .00       .00     60.00     60.00    140.00    140.00    200.00    200.00

                                                                  ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00      1.10      2.20      3.30      4.40      5.51      6.88      8.59     10.64     13.05
            OUTFLOW        .00      5.58     17.70     34.73     56.00     81.13    110.43    144.54    184.00    229.25
          ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

            STORAGE      15.75     18.51     21.26     24.01     26.76     29.51     32.27     35.02     37.77     40.52
            OUTFLOW     281.91    341.91    407.62    478.72    554.97    636.15    722.11    812.68    907.72   1007.13
          ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   600601

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     119.      9.33                 65.         23.          9.           4.
                        (INCHES)  549.280     777.408     882.622      921.362
                         (AC-FT)     32.         46.         52.          54.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.       9.33                  1.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .66       9.33                 .45         .20         .09          .04

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
 204 KK       *      601   *        BASIN
              *            *
              **************
                             The following parameters were determined for this basin.
                             L= 1.078 mi S= 0.9 ft/mi Kb= 0.034 Urban

                SUBBASIN RUNOFF DATA

 205 BA           SUBBASIN CHARACTERISTICS
                        TAREA         .51  SUBBASIN AREA

                  PRECIPITATION DATA

  90 PB                 STORM        2.84  BASIN TOTAL PRECIPITATION

  91 PI             INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                       .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                       .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00

 208 LG           GREEN AND AMPT LOSS RATE
                        STRTL         .27  STARTING LOSS
                          DTH         .22  MOISTURE DEFICIT
                         PSIF        6.40  WETTING FRONT SUCTION
                        XKSAT         .21  HYDRAULIC CONDUCTIVITY
```

```
                    RTIMP       34.00  PERCENT IMPERVIOUS AREA

 209 UC          CLARK UNITGRAPH
                      TC        1.50  TIME OF CONCENTRATION
                       R         .91  STORAGE COEFFICIENT

 210 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                  100.0
                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                             CLARK   TC=  1.50 HR,       R=   .91 HR
                                            SNYDER   TP=   .77 HR,      CP=   .46

                                                      UNIT HYDROGRAPH
                                                 66 END-OF-PERIOD ORDINATES
                 5.       15.       30.       50.       70.      103.      153.      189.      200.      200.
               196.      191.      185.      178.      169.      160.      152.      144.      135.      123.
               112.      102.       93.       85.       78.       71.       65.       59.       54.       49.
                45.       41.       37.       34.       31.       28.       26.       24.       21.       20.
                18.       16.       15.       14.       12.       11.       10.        9.        9.        8.
                 7.        7.        6.        5.        5.        5.        4.        4.        3.        3.
                 3.        3.        2.        2.        2.        2.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      601

    TOTAL RAINFALL =    2.84, TOTAL LOSS =    1.13, TOTAL EXCESS =    1.70

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                     (CFS)
+     256.      4.83                   89.         23.          8.           3.
                              (INCHES)     1.633       1.696       1.696        1.696
                               (AC-FT)       44.         46.         46.          46.

                            CUMULATIVE AREA =     .51 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 212 KK     *       601  *
            *            *
            **************
                                  RETENTION DIVERSION
                                  DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.61 AC-FT
                                  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                                  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 601 = 0.61 AC-FT

 218 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

     DT          DIVERSION
                       ISTAD      601RET  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX         .61  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                          ***

     ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   601RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                     (CFS)
+      10.      1.75                    1.          0.          0.           0.
                              (INCHES)      .023        .023        .023         .023
                               (AC-FT)        1.          1.          1.           1.

                            CUMULATIVE AREA =     .51 SQ MI

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      601

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                     (CFS)
+     256.      4.83                   89.         23.          8.           3.
                              (INCHES)     1.633       1.674       1.674        1.674
```

```
                    (AC-FT)        44.         45.         45.         45.

                    CUMULATIVE AREA =     .51 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
 222 KK   *     CP601  *
          *            *
          **************
                    Combine 600601 & sub 601

 224 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

 225 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

     ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION    CP601

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+     256.      4.83                 122.         45.         16.          7.
                      (INCHES)     2.230       3.305       3.569       3.665
                       (AC-FT)      60.         90.         97.         99.

                    CUMULATIVE AREA =     .51 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
 226 KK   *      P601  *
          *            *
          **************
                    Ponding in large Retenion Basin located west of school playing fields.
                    Ponding also includes compensatory storage within retention basin in
                    Subdivision south of large retention Basin. Flow is released through a
                    2x2 box culvert under the RR between Warner & Elliot.
                    Any excess flow weirs over RR tracks.

 232 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

              HYDROGRAPH ROUTING DATA

 233 RS          STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 234 SV            STORAGE          .0        1.9        9.0       40.5       49.0       58.0       67.7       77.9       89.6      104.9
                                 124.2      128.4      132.6      133.6      134.7      145.3      156.0

 236 SE          ELEVATION     1204.00    1205.00    1206.00    1210.00    1211.00    1212.00    1213.00    1214.00    1215.00    1216.00
                               1217.00    1217.20    1217.40    1217.45    1217.50    1218.00    1218.50

 238 SQ          DISCHARGE         0.         0.         0.         0.         0.         0.         0.         0.         0.        18.
                                  28.        30.        31.        32.        37.      1689.      6416.

                                                                  ***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN     1689. TO     6416.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     P601

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+       2.     42.17                   2.          2.          1.          1.
                      (INCHES)      .036        .135        .294        .356
                       (AC-FT)        1.          4.          8.         10.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
```

```
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      91.     42.42                      91.         91.         91.          86.

  PEAK STAGE    TIME                           MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
  1215.11     42.25                  1215.11     1215.09     1215.06      1214.53

                        CUMULATIVE AREA =     .51 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  240 KK    *      602   *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                           L= 1.397 mi S= 3.4 ft/mi Kb= 0.027 Urban

              SUBBASIN RUNOFF DATA

  243 BA        SUBBASIN CHARACTERISTICS
                     TAREA         .51  SUBBASIN AREA

                PRECIPITATION DATA

   90 PB             STORM        2.84  BASIN TOTAL PRECIPITATION

   91 PI          INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                     .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                     .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

  244 LG        GREEN AND AMPT LOSS RATE
                     STRTL         .15  STARTING LOSS
                       DTH         .23  MOISTURE DEFICIT
                      PSIF        6.40  WETTING FRONT SUCTION
                     XKSAT         .20  HYDRAULIC CONDUCTIVITY
                     RTIMP       51.00  PERCENT IMPERVIOUS AREA

  245 UC        CLARK UNITGRAPH
                        TC        1.35  TIME OF CONCENTRATION
                         R         .99  STORAGE COEFFICIENT

  246 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                   ***

                                          UNIT HYDROGRAPH PARAMETERS
                                     CLARK   TC=  1.35 HR,       R=   .99 HR
                                    SNYDER   TP=   .74 HR,      CP=   .43

                                            UNIT HYDROGRAPH
                                        71 END-OF-PERIOD ORDINATES
                 5.       16.       33.       54.       79.      124.      170.      191.      195.      193.
               190.      185.      178.      171.      163.      156.      147.      136.      125.      115.
               105.       97.       89.       82.       75.       69.       64.       59.       54.       50.
                46.       42.       39.       35.       33.       30.       28.       25.       23.       21.
                20.       18.       17.       15.       14.       13.       12.       11.       10.        9.
                 9.        8.        7.        7.        6.        6.        5.        5.        4.        4.
                 4.        3.        3.        3.        3.        2.        2.        2.        2.        2.
                 2.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      602

    TOTAL RAINFALL =    2.84, TOTAL LOSS =     .80, TOTAL EXCESS =    2.03

  PEAK FLOW     TIME                           MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                     (CFS)
+     283.      4.83                   105.         28.          9.           4.
                                  (INCHES)       1.925       2.024       2.024       2.024
                                   (AC-FT)        52.         55.         55.         55.

                        CUMULATIVE AREA =     .51 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
```

```
                *            *
  248 KK        *     CP602  *
                *            *
                **************
                              DEVELOPED AREA - NO PONDING AREA.
                              Combine sub 602, and outfall from P601

  251 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

  252 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    CP602

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     283.      4.83                105.         28.         10.           5.
                        (INCHES)    .963       1.012       1.123        1.190
                         (AC-FT)     52.         55.         61.          65.

                        CUMULATIVE AREA =    1.02 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                *************
                *           *
  253 KK        *      D602 *
                *           *
                *************
                              Divert 100% of flow west over Arizona Ave

  255 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

      DT          DIVERSION
                        ISTAD       Az602  DIVERSION HYDROGRAPH IDENTIFICATION

      DI             INFLOW         .00    100.00

      DQ      DIVERTED FLOW         .00    100.00

                                                                  ***

      ***             ***             ***             ***             ***

                         DIVERSION HYDROGRAPH    Az602

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     283.      4.83                105.         28.         10.           5.
                        (INCHES)    .963       1.012       1.123        1.190
                         (AC-FT)     52.         55.         61.          65.

                        CUMULATIVE AREA =    1.02 SQ MI

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     D602

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+       0.       .00                  0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                        CUMULATIVE AREA =    1.02 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                *************
                *           *
  259 KK        *       604 *        BASIN
                *           *
                *************
                              The following parameters were determined for this sub basin.
```

```
                    L= 0.741 mi S= 11.7 ft/mi Kb= 0.030 Urban

            SUBBASIN RUNOFF DATA

 262 BA       SUBBASIN CHARACTERISTICS
                  TAREA          .20  SUBBASIN AREA

              PRECIPITATION DATA

  90 PB           STORM        2.84  BASIN TOTAL PRECIPITATION

  91 PI         INCREMENTAL PRECIPITATION PATTERN
                  .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                  .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                  .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                  .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                  .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                  .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                  .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                  .00       .00

 263 LG       GREEN AND AMPT LOSS RATE
                  STRTL          .14  STARTING LOSS
                    DTH          .26  MOISTURE DEFICIT
                   PSIF         5.30  WETTING FRONT SUCTION
                  XKSAT          .31  HYDRAULIC CONDUCTIVITY
                  RTIMP        57.00  PERCENT IMPERVIOUS AREA

 264 UC       CLARK UNITGRAPH
                     TC          .61  TIME OF CONCENTRATION
                      R          .42  STORAGE COEFFICIENT

 265 UA       ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                    .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                 100.0

                                                   ***

                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=   .61 HR,       R=   .42 HR
                                       SNYDER   TP=   .33 HR,      CP=   .45

                                                UNIT HYDROGRAPH
                                          30 END-OF-PERIOD ORDINATES
              13.       48.      120.      174.      175.      163.      147.      128.      107.       87.
              71.       59.       48.       39.       32.       26.       22.       18.       14.       12.
              10.        8.        6.        5.        4.        4.        3.        2.        2.        2.

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION      604

   TOTAL RAINFALL =    2.84, TOTAL LOSS =     .81, TOTAL EXCESS =    2.03

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     176.      4.33                43.         11.          4.           2.
                        (INCHES)   1.991       2.016       2.016        2.016
                         (AC-FT)     21.         22.         22.          22.

                        CUMULATIVE AREA =     .20 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 267 KK     *     CP604  *
            *            *
            **************
                        DEVELOPED AREA - NO PONDING AREA.
                        Combine sub 602, 604, & overflow from P606-3

 270 KO       OUTPUT CONTROL VARIABLES
                  IPRNT           3  PRINT CONTROL
                  IPLOT           0  PLOT CONTROL
                  QSCAL          0.  HYDROGRAPH PLOT SCALE

 271 HC       HYDROGRAPH COMBINATION
                  ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                   ***

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CP604

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     176.      4.33                43.         11.          4.           2.
                        (INCHES)    .167        .169        .169         .169
                         (AC-FT)     21.         22.         22.          22.
```

```
                    CUMULATIVE AREA =    2.40 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 272 KK     *      D604  *       Intersection Diversion
            *            *
            **************
                           Flow split at Arizona Ave & Knox with 40% diverted south along Arizona Ave,
                           remaining flow west over Arizona Ave

 275 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          3  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

     DT          DIVERSION
                       ISTAD      Az604  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW        .00    100.00    500.00   1000.00   2000.00

     DQ      DIVERTED FLOW        .00     60.00    300.00    600.00   1200.00

                                                                ***

      ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH    Az604

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     105.      4.33                     26.          7.          2.           1.
                        (INCHES)      .100        .102        .102         .102
                         (AC-FT)       13.         13.         13.          13.

                        CUMULATIVE AREA =    2.40 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     D604

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      70.      4.33                     17.          4.          1.           1.
                        (INCHES)      .067        .068        .068         .068
                         (AC-FT)        9.          9.          9.           9.

                        CUMULATIVE AREA =    2.40 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 279 KK     *    604607  *        ROUTE   REACH
            *            *
            **************
                           Routed south along Arizona Ave

               HYDROGRAPH ROUTING DATA

 281 RS          STORAGE ROUTING
                       NSTPS          2  NUMBER OF SUBREACHES
                        ITYP             TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

 282 RC          NORMAL DEPTH CHANNEL
                         ANL        .035  LEFT OVERBANK N-VALUE
                        ANCH        .015  MAIN CHANNEL N-VALUE
                         ANR        .030  RIGHT OVERBANK N-VALUE
                       RLNTH       1732.  REACH LENGTH
                         SEL       .0014  ENERGY SLOPE
                       ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                      CROSS-SECTION DATA
                           --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 284 RY        ELEVATION      1.90       .90       .50       .00       .00       .50       .90      1.90
 283 RX        DISTANCE        .00       .00     23.50     23.50    106.50    106.50    130.00    130.00

                                                                ***

                                      COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00       .33       .66       .99      1.32      1.65      2.00      2.40      2.85      3.34
```

```
          OUTFLOW        .00      6.64     21.03     41.28     66.56     96.39    130.76    169.76    213.56    262.30
        ELEVATION        .00       .10       .20       .30       .40       .50       .60       .70       .80       .90

          STORAGE       3.86      4.38      4.89      5.41      5.93      6.45      6.96      7.48      8.00      8.51
          OUTFLOW     316.91    376.23    440.03    508.11    580.32    656.50    736.56    820.36    907.83    998.87
        ELEVATION       1.00      1.10      1.20      1.30      1.40      1.50      1.60      1.70      1.80      1.90


*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      580. TO      999.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   604607

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      68.      4.50                 17.          4.          1.          1.
                         (INCHES)   .066        .068        .068        .068
                          (AC-FT)     8.          9.          9.          9.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.      4.50                  0.          0.          0.          0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .41      4.50                 .15         .04         .01         .01

                      CUMULATIVE AREA =    2.40 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  285 KK    *       607  *        BASIN
            *            *
            **************
                      The following parameters were determined for this sub basin.
                      L= 0.324 mi S= 28.4 ft/mi Kb= 0.049 Natural

              SUBBASIN RUNOFF DATA

  288 BA        SUBBASIN CHARACTERISTICS
                     TAREA         .13  SUBBASIN AREA

                PRECIPITATION DATA

   90 PB             STORM        2.84  BASIN TOTAL PRECIPITATION

   91 PI          INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                     .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                     .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

  289 LG        GREEN AND AMPT LOSS RATE
                     STRTL         .38  STARTING LOSS
                       DTH         .16  MOISTURE DEFICIT
                      PSIF        9.70  WETTING FRONT SUCTION
                     XKSAT         .07  HYDRAULIC CONDUCTIVITY
                     RTIMP       21.00  PERCENT IMPERVIOUS AREA

  290 UC        CLARK UNITGRAPH
                        TC         .37  TIME OF CONCENTRATION
                         R         .16  STORAGE COEFFICIENT

  291 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0

                                                   ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=   .37 HR,       R=   .16 HR
                                   SNYDER   TP=   .31 HR,      CP=   .97

                                          UNIT HYDROGRAPH
                                   13 END-OF-PERIOD ORDINATES
                12.       40.      148.      251.      215.      135.       79.       46.       27.       16.
                 9.        6.        3.

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION      607
```

```
    TOTAL RAINFALL =    2.84, TOTAL LOSS =    1.00, TOTAL EXCESS =    1.84

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+     157.      4.17                  25.          6.          2.          1.
                              (INCHES)     1.823       1.827       1.827       1.827
                               (AC-FT)      12.         12.         12.         12.

                              CUMULATIVE AREA =     .13 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  293 KK    *     CP607  *
            *            *
            **************
                              DEVELOPED AREA - NO PONDING AREA.
                              Combine sub 607 & 604607

  296 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

  297 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                            HYDROGRAPH AT STATION    CP607

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+     212.      4.25                  42.         11.          4.          2.
                              (INCHES)      .155        .157        .157        .157
                               (AC-FT)      21.         21.         21.         21.

                              CUMULATIVE AREA =    2.52 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
  298 KK    *      D607  *
            *            *
            **************
                              Divert 100% of flow west over Arizona Ave

  300 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

      DT          DIVERSION
                        ISTAD       Az607  DIVERSION HYDROGRAPH IDENTIFICATION

      DI             INFLOW         .00    100.00

      DQ      DIVERTED FLOW         .00    100.00

                                                                  ***

      ***             ***             ***             ***             ***

                            DIVERSION HYDROGRAPH    Az607

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+     212.      4.25                  42.         11.          4.          2.
                              (INCHES)      .155        .157        .157        .157
                               (AC-FT)      21.         21.         21.         21.

                              CUMULATIVE AREA =    2.52 SQ MI

      ***             ***             ***             ***             ***

                            HYDROGRAPH AT STATION     D607

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

```
                        (CFS)
+       0.       .00                 0.          0.          0.          0.
                      (INCHES)      .000        .000        .000        .000
                       (AC-FT)        0.          0.          0.          0.

                      CUMULATIVE AREA =    2.52 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 304 KK     *       608  *        BASIN
            *            *
            **************
                         The following parameters were determined for this sub basin
                         L= 1.685 mi S= 9.0 ft/mi Kb= 0.027 Urban

              SUBBASIN RUNOFF DATA

 307 BA         SUBBASIN CHARACTERISTICS
                     TAREA        1.15  SUBBASIN AREA

                PRECIPITATION DATA

  90 PB              STORM        2.84  BASIN TOTAL PRECIPITATION

  91 PI           INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                     .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                     .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

 308 LG         GREEN AND AMPT LOSS RATE
                     STRTL         .25  STARTING LOSS
                       DTH         .16  MOISTURE DEFICIT
                      PSIF        7.00  WETTING FRONT SUCTION
                     XKSAT         .15  HYDRAULIC CONDUCTIVITY
                     RTIMP       28.00  PERCENT IMPERVIOUS AREA

 309 UC         CLARK UNITGRAPH
                        TC        1.04  TIME OF CONCENTRATION
                         R         .54  STORAGE COEFFICIENT

 310 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0
                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=  1.04 HR,       R=   .54 HR
                                           SNYDER   TP=   .50 HR,      CP=   .48

                                                      UNIT HYDROGRAPH
                                                 41 END-OF-PERIOD ORDINATES
                25.       95.      193.      326.      554.      713.      715.      688.      651.      606.
               555.      507.      458.      400.      343.      294.      252.      217.      186.      159.
               137.      117.      101.       86.       74.       63.       54.       47.       40.       34.
                29.       25.       22.       19.       16.       14.       12.       10.        9.        7.
                 6.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      608

    TOTAL RAINFALL =    2.84, TOTAL LOSS =    1.03, TOTAL EXCESS =   1.81

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     847.      4.58                  220.         56.         19.          8.
                       (INCHES)     1.778       1.800       1.800       1.800
                        (AC-FT)      109.        110.        110.        110.

                       CUMULATIVE AREA =    1.15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 312 KK     *       608  *
            *            *
            **************
                                 RETENTION DIVERSION
                                 DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                 DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 78.13 AC-FT
```

```
                    DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                    TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 608 = 78.13 AC-FT

     DT          DIVERSION
                     ISTAD      608RET  DIVERSION HYDROGRAPH IDENTIFICATION
                    DSTRMX       78.13  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00  10000.00

     DQ      DIVERTED FLOW        .00  10000.00

                                                                  ***

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH   608RET

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     847.      4.58                158.         39.         13.           6.
                        (INCHES)    1.275       1.275       1.275        1.275
                         (AC-FT)     78.         78.         78.          78.

                        CUMULATIVE AREA =    1.15 SQ MI


      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION      608

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     525.      5.17                 65.         16.          5.           2.
                        (INCHES)     .525        .525        .525         .525
                         (AC-FT)     32.         32.         32.          32.

                        CUMULATIVE AREA =    1.15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  321 KK    *    608609  *        ROUTE   REACH
            *            *
            **************
                          Routed west along Ray Rd.

               HYDROGRAPH ROUTING DATA

  323 RS          STORAGE ROUTING
                     NSTPS           7  NUMBER OF SUBREACHES
                      ITYP              TYPE OF INITIAL CONDITION
                    RSVRIC         .00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

  324 RC          NORMAL DEPTH CHANNEL
                       ANL       .030  LEFT OVERBANK N-VALUE
                      ANCH       .015  MAIN CHANNEL N-VALUE
                       ANR       .030  RIGHT OVERBANK N-VALUE
                     RLNTH      6425.  REACH LENGTH
                       SEL      .0014  ENERGY SLOPE
                     ELMAX         .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  326 RY        ELEVATION      .60       .00      1.80      2.10      2.10      1.80       .00       .60
  325 RX        DISTANCE       .00    300.00    311.00    324.90    325.00    339.00    350.00    650.00

                                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

           STORAGE        .00       .91      3.65      8.21     14.59     22.80     32.54     42.46     52.41     62.38
           OUTFLOW        .00      1.67     10.58     31.20     67.20    121.84    208.47    324.41    460.04    614.03
         ELEVATION        .00       .11       .22       .33       .44       .55       .66       .77       .88       .99

           STORAGE      72.37     82.38     92.41    102.47    112.55    122.65    132.77    142.95    153.30    163.81
           OUTFLOW     785.37    973.27   1177.03   1396.10   1629.98   1878.24   2140.51   2418.93   2712.85   3021.93
         ELEVATION       1.11      1.22      1.33      1.44      1.55      1.66      1.77      1.88      1.99      2.10


      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   608609

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     181.      6.92                 63.         16.          5.           2.
                        (INCHES)     .509        .525        .525         .525
```

```
                    (AC-FT)        31.         32.         32.         32.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      4.        6.92                  2.          0.          0.          0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     .63        6.92                 .38         .12         .04         .02

                    CUMULATIVE AREA =    1.15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
 327 KK   *      609   *        BASIN
          *            *
          **************
                    The following parameters were determined for this sub basin.
                    L= 1.397 mi S= 6.3 ft/mi Kb= 0.029 Urban

             SUBBASIN RUNOFF DATA

 330 BA        SUBBASIN CHARACTERISTICS
                    TAREA         .38  SUBBASIN AREA

               PRECIPITATION DATA

  90 PB             STORM        2.84  BASIN TOTAL PRECIPITATION

  91 PI          INCREMENTAL PRECIPITATION PATTERN
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                    .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                    .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00

 331 LG        GREEN AND AMPT LOSS RATE
                    STRTL         .24  STARTING LOSS
                      DTH         .16  MOISTURE DEFICIT
                     PSIF        7.60  WETTING FRONT SUCTION
                    XKSAT         .11  HYDRAULIC CONDUCTIVITY
                    RTIMP       33.00  PERCENT IMPERVIOUS AREA

 332 UC         CLARK UNITGRAPH
                       TC        1.08  TIME OF CONCENTRATION
                        R         .92  STORAGE COEFFICIENT

 333 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                   ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.08 HR,       R=   .92 HR
                                  SNYDER   TP=   .64 HR,      CP=   .42

                                            UNIT HYDROGRAPH
                                        65 END-OF-PERIOD ORDINATES
                 5.       18.       38.       62.      106.      147.      160.      162.      160.      157.
               150.      144.      137.      128.      117.      107.       98.       89.       81.       74.
                68.       62.       57.       52.       47.       43.       40.       36.       33.       30.
                28.       25.       23.       21.       19.       18.       16.       15.       13.       12.
                11.       10.        9.        8.        8.        7.        6.        6.        5.        5.
                 5.        4.        4.        3.        3.        3.        3.        2.        2.        2.
                 2.        2.        2.        1.        1.

     ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION      609

    TOTAL RAINFALL =    2.84, TOTAL LOSS =     .87, TOTAL EXCESS =    1.96

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     231.      4.67                 77.         20.          7.          3.
                     (INCHES)      1.889      1.955       1.955       1.955
                      (AC-FT)        38.         39.         39.         39.

                    CUMULATIVE AREA =     .38 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
                **************
                *            *
  335 KK        *      609   *
                *            *
                **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 5.28 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 615 = 5.28 AC-FT

      DT          DIVERSION
                       ISTAD      609RET  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX        5.28  MAXIMUM VOLUME TO BE DIVERTED

      DI             INFLOW         .00  10000.00

      DQ       DIVERTED FLOW        .00  10000.00

                                                                  ***

       ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH   609RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     122.      4.08                   11.          3.          1.           0.
                        (INCHES)      .262        .262        .262         .262
                         (AC-FT)        5.          5.          5.           5.

                        CUMULATIVE AREA =     .38 SQ MI

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION      609

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     231.      4.67                   69.         17.          6.           2.
                        (INCHES)     1.693       1.693       1.693        1.693
                         (AC-FT)       34.         34.         34.          34.

                        CUMULATIVE AREA =     .38 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                **************
                *            *
  344 KK        *      612   *        BASIN
                *            *
                **************
                                The following parameters were determined for this sub basin.
                                L= 1.458 mi S= 10.9 ft/mi Kb= 0.033 Urban

                SUBBASIN RUNOFF DATA

  347 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .26  SUBBASIN AREA

                  PRECIPITATION DATA

   90 PB               STORM        2.84  BASIN TOTAL PRECIPITATION

   91 PI            INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                       .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                       .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00

  348 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .28  STARTING LOSS
                         DTH         .25  MOISTURE DEFICIT
                        PSIF        5.10  WETTING FRONT SUCTION
                       XKSAT         .32  HYDRAULIC CONDUCTIVITY
                       RTIMP       25.00  PERCENT IMPERVIOUS AREA

  349 UC          CLARK UNITGRAPH
                          TC        1.15  TIME OF CONCENTRATION
                           R        1.26  STORAGE COEFFICIENT

  350 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0
```

```
                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.15 HR,       R=  1.26 HR
                                  SNYDER   TP=   .75 HR,      CP=   .38

                                            UNIT HYDROGRAPH
                                       87 END-OF-PERIOD ORDINATES
                2.       9.      17.      28.      48.      71.      82.      85.      86.      86.
               85.      83.      80.      77.      73.      69.      64.      60.      56.      53.
               49.      46.      43.      41.      38.      36.      33.      31.      29.      27.
               26.      24.      22.      21.      20.      18.      17.      16.      15.      14.
               13.      12.      12.      11.      10.      10.       9.       8.       8.       7.
                7.       6.       6.       6.       5.       5.       5.       4.       4.       4.
                4.       3.       3.       3.       3.       3.       2.       2.       2.       2.
                2.       2.       2.       2.       1.       1.       1.       1.       1.       1.
                1.       1.       1.       1.       1.       1.       1.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      612

    TOTAL RAINFALL =    2.84, TOTAL LOSS =    1.45, TOTAL EXCESS =    1.39

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      96.      4.75                 36.         10.          3.           1.
                         (INCHES)   1.305       1.382       1.382        1.382
                          (AC-FT)    18.         19.         19.          19.

                        CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  352 KK    *       612  *
            *            *
            **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.94 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 4.43 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 612 = 5.37 AC-FT

      DT          DIVERSION
                       ISTAD      612RET  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX        5.37  MAXIMUM VOLUME TO BE DIVERTED

      DI             INFLOW         .00  10000.00

      DQ      DIVERTED FLOW         .00  10000.00

                                                          ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   612RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      93.      4.58                 11.          3.          1.           0.
                         (INCHES)    .392        .392        .392         .392
                          (AC-FT)     5.          5.          5.           5.

                        CUMULATIVE AREA =     .26 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      612

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      96.      4.75                 27.          7.          2.           1.
                         (INCHES)    .986        .990        .990         .990
                          (AC-FT)    14.         14.         14.          14.

                        CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  361 KK    *      D612  *      Intersection Diversion
```

```
            *            *
            **************
                          Flow split at McQueen & Frye Rd. with 40% diverted west to CP615

      DT          DIVERSION
                       ISTAD       To615  DIVERSION HYDROGRAPH IDENTIFICATION

      DI             INFLOW         .00    100.00    500.00   1000.00   2000.00

      DQ       DIVERTED FLOW        .00     40.00    200.00    400.00    800.00

                                                                  ***

       ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH    To615

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      38.      4.75                  11.          3.          1.           0.
                         (INCHES)    .394        .396        .396         .396
                          (AC-FT)      5.          5.          5.           5.

                         CUMULATIVE AREA =     .26 SQ MI

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     D612

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      58.      4.75                  16.          4.          1.           1.
                         (INCHES)    .592        .594        .594         .594
                          (AC-FT)      8.          8.          8.           8.

                         CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  366 KK    *    612614  *        ROUTE   REACH
            *            *
            **************
                          Routed south along McQueen Rd.

                HYDROGRAPH ROUTING DATA

  368 RS          STORAGE ROUTING
                       NSTPS           2  NUMBER OF SUBREACHES
                        ITYP              TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

  369 RC          NORMAL DEPTH CHANNEL
                         ANL        .030  LEFT OVERBANK N-VALUE
                        ANCH        .015  MAIN CHANNEL N-VALUE
                         ANR        .030  RIGHT OVERBANK N-VALUE
                       RLNTH       1352.  REACH LENGTH
                         SEL      .0036  ENERGY SLOPE
                       ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  371 RY        ELEVATION       .60       .00      1.30      1.70      1.70      1.30       .00       .60
  370 RX        DISTANCE        .00    300.00    307.50    329.90    330.00    352.50    360.00    660.00

                                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00       .13       .50      1.13      2.01      3.14      4.52      6.15      7.83      9.53
            OUTFLOW        .00      1.52      9.65     28.46     61.30    111.14    180.73    279.62    418.47    578.88
          ELEVATION        .00       .09       .18       .27       .36       .45       .54       .63       .72       .81

            STORAGE      11.22     12.92     14.61     16.32     18.02     19.73     21.47     23.23     25.02     26.84
            OUTFLOW     759.52    959.31   1177.42   1413.12   1665.80   1935.95   2224.15   2529.95   2853.77   3195.92
          ELEVATION        .89       .98      1.07      1.16      1.25      1.34      1.43      1.52      1.61      1.70


*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN     1413. TO     3196.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   612614

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
```

```
+   (CFS)        (HR)
                          (CFS)
+      47.       5.42                  16.          4.          1.          1.
                         (INCHES)     .585        .594        .594        .594
                          (AC-FT)      8.          8.          8.          8.

 PEAK STORAGE    TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)       (HR)
        1.       5.42                   0.          0.          0.          0.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)       (HR)
       .32       5.42                  .19         .05         .02         .01

                         CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 372 KK     *    CON406  *
            *            *
            **************
                                  Retrieve data from DSS file
                                  Overflow from Consolidated Canal at Pecos Rd.
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP406/FLOW/03MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP406/FLOW/03MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP406/FLOW/04MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP406/FLOW/05MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP406/FLOW/06MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP406/FLOW/06MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP406/FLOW/06MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP406/FLOW/07MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP406/FLOW/08MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP406/FLOW/08MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP406/FLOW/08MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP406/FLOW/09MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP406/FLOW/10MAR1903/5MIN/6HR/
 -----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
 Pathname: /CONS/CP406/FLOW/11MAR1903/5MIN/6HR/

              SUBBASIN RUNOFF DATA

 375 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .00  SUBBASIN AREA

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   CON406

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+      79.       7.83                  44.         20.          8.          4.
                         (INCHES)   406.991     744.560     858.926     920.831
                          (AC-FT)      22.         40.         46.         49.

                         CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 377 KK     *   406617   *        ROUTE   REACH
            *            *
            **************
                                Route CON406 west along Pecos to CP617.

              HYDROGRAPH ROUTING DATA

 379 RS          STORAGE ROUTING
                      NSTPS           4  NUMBER OF SUBREACHES
                       ITYP              TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 380 RC          NORMAL DEPTH CHANNEL
                        ANL        .030  LEFT OVERBANK N-VALUE
                       ANCH        .015  MAIN CHANNEL N-VALUE
                        ANR        .030  RIGHT OVERBANK N-VALUE
                      RLNTH       3807.  REACH LENGTH
                        SEL      .0032  ENERGY SLOPE
                      ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
```

```
382 RY        ELEVATION       .60       .00      1.80      2.10      2.10      1.80       .00       .60
381 RX        DISTANCE        .00    300.00    311.00    324.90    325.00    339.00    350.00    650.00

                                                  ***

                                        COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .54      2.16      4.86      8.65     13.51     19.28     25.16     31.05     36.96
          OUTFLOW        .00      2.52     16.00     47.18    101.60    184.21    315.18    490.47    695.51    928.32
        ELEVATION        .00       .11       .22       .33       .44       .55       .66       .77       .88       .99

          STORAGE      42.88     48.81     54.76     60.72     66.69     72.67     78.67     84.70     90.83     97.06
          OUTFLOW    1187.37   1471.44   1779.51   2110.71   2464.30   2839.64   3236.14   3657.08   4101.44   4568.72
        ELEVATION       1.11      1.22      1.33      1.44      1.55      1.66      1.77      1.88      1.99      2.10


*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN     4101. TO     4569.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   406617

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)      (HR)
                          (CFS)
+      69.     8.92                42.         20.          8.           4.
                        (INCHES)  390.408    735.143     857.625      919.238
                         (AC-FT)     21.         39.         46.          49.

 PEAK STORAGE  TIME                        MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)     (HR)
       2.      8.92                 1.          1.          0.           0.

 PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)     (HR)
      .38      8.92                .31         .22         .11          .06

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
383 KK      *       617  *        BASIN
            *            *
            **************
                         The following parameters were determined for this sub basin.
                         L= 0.905 mi S= 7.5 ft/mi Kb= 0.038 Urban

            SUBBASIN RUNOFF DATA

386 BA        SUBBASIN CHARACTERISTICS
                    TAREA         .22  SUBBASIN AREA

              PRECIPITATION DATA

 90 PB              STORM        2.84  BASIN TOTAL PRECIPITATION

 91 PI          INCREMENTAL PRECIPITATION PATTERN
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                    .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                    .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00

387 LG        GREEN AND AMPT LOSS RATE
                   STRTL        .31  STARTING LOSS
                     DTH        .25  MOISTURE DEFICIT
                    PSIF       4.40  WETTING FRONT SUCTION
                   XKSAT        .48  HYDRAULIC CONDUCTIVITY
                   RTIMP      24.00  PERCENT IMPERVIOUS AREA

388 UC        CLARK UNITGRAPH
                      TC       1.19  TIME OF CONCENTRATION
                       R        .98  STORAGE COEFFICIENT

389 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                  100.0

                                                  ***

                                        UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.19 HR,       R=   .98 HR
                                  SNYDER   TP=   .67 HR,      CP=   .41

                                        UNIT HYDROGRAPH
```

```
                                                    69 END-OF-PERIOD ORDINATES
                2.        9.       18.       29.       47.       71.       85.       88.       87.       86.
               84.       81.       77.       74.       70.       65.       59.       55.       50.       46.
               42.       39.       36.       33.       30.       28.       25.       23.       21.       20.
               18.       17.       15.       14.       13.       12.       11.       10.        9.        8.
                8.        7.        7.        6.        6.        5.        5.        4.        4.        4.
                3.        3.        3.        3.        2.        2.        2.        2.        2.        2.
                1.        1.        1.        1.        1.        1.        1.        1.        1.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      617

    TOTAL RAINFALL =    2.84, TOTAL LOSS =    1.64, TOTAL EXCESS =    1.19

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      80.      4.67                  27.          7.          2.          1.
                       (INCHES)     1.139       1.188       1.188       1.188
                        (AC-FT)       13.         14.         14.         14.

                       CUMULATIVE AREA =     .22 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  391 KK    *       617  *
            *            *
            **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 7.60 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 1.74 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 617 = 9.34 AC-FT

      DT          DIVERSION
                       ISTAD      617RET  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX        9.34  MAXIMUM VOLUME TO BE DIVERTED

      DI             INFLOW         .00  10000.00

      DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   617RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      80.      4.67                  19.          5.          2.          1.
                       (INCHES)      .796        .796        .796        .796
                        (AC-FT)       9.          9.          9.          9.

                       CUMULATIVE AREA =     .22 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      617

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      48.      5.58                   9.          2.          1.          0.
                       (INCHES)      .392        .392        .392        .392
                        (AC-FT)       5.          5.          5.          5.

                       CUMULATIVE AREA =     .22 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  400 KK    *     CP617  *
            *            *
            **************
                          Combine 617 & CON406

  402 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***
```

```
     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    CP617

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+      71.      8.83                 43.         22.          8.           4.
                        (INCHES)    1.800       3.628       4.265        4.550
                         (AC-FT)     21.         43.         50.          54.

                        CUMULATIVE AREA =     .22 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  403 KK    *     D617   *       Intersection Diversion
            *            *
            **************
                           Flow split at McQueen & Pecos with 20% diverted south and routed to CP618

     DT          DIVERSION
                      ISTAD       To618  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00    100.00    500.00   1000.00   2000.00

     DQ      DIVERTED FLOW         .00     20.00    100.00    200.00    400.00

                                                                 ***

     ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH    To618

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+      14.      8.83                  9.          4.          2.           1.
                        (INCHES)     .360        .726        .853         .910
                         (AC-FT)      4.          9.         10.          11.

                        CUMULATIVE AREA =     .22 SQ MI

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     D617

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+      57.      8.83                 34.         17.          7.           3.
                        (INCHES)    1.440       2.902       3.412        3.640
                         (AC-FT)     17.         34.         40.          43.

                        CUMULATIVE AREA =     .22 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  408 KK    *   617614   *        ROUTE   REACH
            *            *
            **************
                           Route 80% of flow north along McQueen to CP614 and route to CP615 since
                           split to west would end up at CP615.

               HYDROGRAPH ROUTING DATA

  411 RS          STORAGE ROUTING
                       NSTPS           2  NUMBER OF SUBREACHES
                        ITYP              TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

  412 RC          NORMAL DEPTH CHANNEL
                         ANL       .030  LEFT OVERBANK N-VALUE
                        ANCH       .015  MAIN CHANNEL N-VALUE
                         ANR       .030  RIGHT OVERBANK N-VALUE
                       RLNTH      1379.  REACH LENGTH
                         SEL      .0045  ENERGY SLOPE
                       ELMAX         .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                           --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  414 RY        ELEVATION      .60       .00      1.30      1.70      1.70      1.30       .00       .60
  413 RX        DISTANCE       .00    300.00    307.50    329.90    330.00    352.50    360.00    660.00
```

```
                                        ***

                                COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .13       .51      1.15      2.05      3.20      4.61      6.27      7.99      9.72
          OUTFLOW        .00      1.70     10.79     31.82     68.53    124.26    202.06    312.62    467.86    647.21
        ELEVATION        .00       .09       .18       .27       .36       .45       .54       .63       .72       .81

          STORAGE      11.44     13.17     14.91     16.64     18.38     20.13     21.90     23.69     25.52     27.38
          OUTFLOW     849.17   1072.55   1316.40   1579.92   1862.42   2164.46   2486.67   2828.57   3190.61   3573.15
        ELEVATION        .89       .98      1.07      1.16      1.25      1.34      1.43      1.52      1.61      1.70

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN     1316. TO     3573.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   617614

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)      (HR)
                          (CFS)
+     56.      9.25                34.         17.          7.          3.
                        (INCHES)  1.432       2.885       3.410       3.638
                         (AC-FT)    17.         34.         40.         43.

 PEAK STORAGE  TIME                        MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)     (HR)
       1.      9.17                 1.          0.          0.          0.

 PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)     (HR)
      .33      9.25                .27         .20         .11         .06

                      CUMULATIVE AREA =     .22 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 415 KK     *      614   *        BASIN
            *            *
            **************
                      The following parameters were determined for this sub basin.
                      L= 1.313 mi S= 12.4 ft/mi Kb= 0.028 Urban

              SUBBASIN RUNOFF DATA

 418 BA         SUBBASIN CHARACTERISTICS
                      TAREA         .42  SUBBASIN AREA

                PRECIPITATION DATA

 90 PB                STORM        2.84  BASIN TOTAL PRECIPITATION

 91 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                     .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                     .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

 419 LG         GREEN AND AMPT LOSS RATE
                      STRTL         .24  STARTING LOSS
                        DTH         .25  MOISTURE DEFICIT
                       PSIF        4.60  WETTING FRONT SUCTION
                      XKSAT         .41  HYDRAULIC CONDUCTIVITY
                      RTIMP       32.00  PERCENT IMPERVIOUS AREA

 420 UC         CLARK UNITGRAPH
                         TC         .90  TIME OF CONCENTRATION
                          R         .67  STORAGE COEFFICIENT

 421 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                        ***

                                   UNIT HYDROGRAPH PARAMETERS
                            CLARK   TC=   .90 HR,       R=   .67 HR
                           SNYDER   TP=   .50 HR,      CP=   .43

                                    UNIT HYDROGRAPH
                                 48 END-OF-PERIOD ORDINATES
                9.       35.       72.      139.      209.      234.      233.      226.      215.      202.
```

```
          188.      170.      150.      133.      117.      104.       92.       81.       71.       63.
           56.       49.       44.       38.       34.       30.       27.       23.       21.       18.
           16.       14.       13.       11.       10.        9.        8.        7.        6.        5.
            5.        4.        4.        3.        3.        3.        2.        2.

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      614

   TOTAL RAINFALL =    2.84, TOTAL LOSS =    1.39, TOTAL EXCESS =    1.45

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     227.      4.50                63.         16.          5.          2.
                       (INCHES)    1.408       1.440       1.440       1.440
                        (AC-FT)     31.         32.         32.         32.

                       CUMULATIVE AREA =     .42 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  423 KK    *       614  *
            *            *
            **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 19.04 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 614 = 19.04 AC-FT

     DT          DIVERSION
                      ISTAD      614RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       19.04  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00  10000.00

     DQ      DIVERTED FLOW        .00  10000.00

                                                                  ***

     ***            ***            ***            ***            ***

                    DIVERSION HYDROGRAPH   614RET

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     227.      4.50                38.         10.          3.          1.
                       (INCHES)     .858        .858        .858        .858
                        (AC-FT)     19.         19.         19.         19.

                       CUMULATIVE AREA =     .42 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      614

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     166.      4.92                26.          7.          2.          1.
                       (INCHES)     .582        .582        .582        .582
                        (AC-FT)     13.         13.         13.         13.

                       CUMULATIVE AREA =     .42 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  432 KK    *     CP614  *
            *            *
            **************
                                Combine 612614, 617614, & 614

  434 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

  435 HC          HYDROGRAPH COMBINATION
                       ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***
```

```
     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    CP614

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     191.      5.00                69.         28.         10.           5.
                        (INCHES)    .722       1.146       1.284        1.341
                         (AC-FT)     34.         55.         61.          64.

                       CUMULATIVE AREA =     .89 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  436 KK    *    614615  *        ROUTE   REACH
            *            *
            **************
                      Routed west along Saragosa Court.

              HYDROGRAPH ROUTING DATA

  438 RS        STORAGE ROUTING
                      NSTPS           5  NUMBER OF SUBREACHES
                       ITYP              TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

  439 RC        NORMAL DEPTH CHANNEL
                        ANL        .030  LEFT OVERBANK N-VALUE
                       ANCH        .015  MAIN CHANNEL N-VALUE
                        ANR        .030  RIGHT OVERBANK N-VALUE
                      RLNTH       5124.  REACH LENGTH
                        SEL      .0001  ENERGY SLOPE
                      ELMAX         3.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                        --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  441 RY        ELEVATION      1.00       .80       .50       .00       .00       .50      1.00      3.00
  440 RX        DISTANCE        .00    170.00    190.00    250.00    290.00    310.00    660.00   1060.00

                                                          ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00       .98      2.42      4.34      7.34     12.57     21.05     33.18     46.12     59.65
            OUTFLOW        .00      2.09      7.63     17.10     33.79     58.54     93.39    145.73    214.04    295.89
          ELEVATION        .00       .16       .32       .47       .63       .79       .95      1.11      1.26      1.42

            STORAGE      73.77     88.47    103.76    119.64    136.10    153.15    170.78    189.00    207.81    227.20
            OUTFLOW     390.73    498.26    618.32    750.85    895.82   1053.26   1223.24   1405.82   1601.11   1809.21
          ELEVATION       1.58      1.74      1.89      2.05      2.21      2.37      2.53      2.68      2.84      3.00


     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   614615

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      79.      8.25                60.         27.         10.           5.
                        (INCHES)    .625       1.112       1.280        1.338
                         (AC-FT)     30.         53.         61.          64.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        4.      8.25                 3.          1.          1.           0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
       .88      8.25                .79         .52         .25          .12

                       CUMULATIVE AREA =     .89 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  442 KK    *        613 *        BASIN
            *            *
            **************
                      The following parameters were determined for this sub basin.
                      L= 0.870 mi S= 11.4 ft/mi Kb= 0.035 Urban
```

```
                SUBBASIN RUNOFF DATA

445 BA            SUBBASIN CHARACTERISTICS
                       TAREA          .21  SUBBASIN AREA

                  PRECIPITATION DATA

 90 PB                 STORM         2.84  BASIN TOTAL PRECIPITATION

 91 PI              INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                       .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                       .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00

446 LG            GREEN AND AMPT LOSS RATE
                       STRTL         .22  STARTING LOSS
                         DTH         .27  MOISTURE DEFICIT
                        PSIF        4.60  WETTING FRONT SUCTION
                       XKSAT         .40  HYDRAULIC CONDUCTIVITY
                       RTIMP       36.00  PERCENT IMPERVIOUS AREA

447 UC            CLARK UNITGRAPH
                          TC         .81  TIME OF CONCENTRATION
                           R         .64  STORAGE COEFFICIENT

448 UA            ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .81 HR,       R=   .64 HR
                                         SNYDER   TP=   .47 HR,      CP=   .44

                                                     UNIT HYDROGRAPH
                                              45 END-OF-PERIOD ORDINATES
                  5.       21.       45.       88.      122.      125.      123.      117.      110.      102.
                 92.       80.       71.       62.       55.       48.       42.       37.       32.       28.
                 25.       22.       19.       17.       15.       13.       11.       10.        9.        8.
                  7.        6.        5.        5.        4.        4.        3.        3.        2.        2.
                  2.        2.        1.        1.        1.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      613

   TOTAL RAINFALL =    2.84, TOTAL LOSS =    1.31, TOTAL EXCESS =    1.53

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     122.      4.50                     33.          8.          3.          1.
                        (INCHES)      1.486       1.518       1.518       1.518
                         (AC-FT)        16.         17.         17.         17.

                        CUMULATIVE AREA =     .21 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 450 KK     *       613  *
            *            *
            **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 3.32 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 613 = 3.32 AC-FT

     DT           DIVERSION
                       ISTAD      613RET  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX        3.32  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ       DIVERTED FLOW        .00  10000.00

                                                          ***

     ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   613RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

```
                          (CFS)
+      65.      4.00                  7.          2.          1.          0.
                        (INCHES)     .299        .299        .299        .299
                         (AC-FT)       3.          3.          3.          3.

                        CUMULATIVE AREA =     .21 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      613

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     122.      4.50                 27.          7.          2.          1.
                        (INCHES)    1.219       1.219       1.219       1.219
                         (AC-FT)      14.         14.         14.         14.

                        CUMULATIVE AREA =     .21 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  459 KK    *       615  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 0.845 mi S= 10.3 ft/mi Kb= 0.030 Urban

              SUBBASIN RUNOFF DATA

  462 BA        SUBBASIN CHARACTERISTICS
                      TAREA         .37  SUBBASIN AREA

                PRECIPITATION DATA

   90 PB              STORM        2.84  BASIN TOTAL PRECIPITATION

   91 PI          INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                      .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                      .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00

  463 LG        GREEN AND AMPT LOSS RATE
                      STRTL         .20  STARTING LOSS
                        DTH         .27  MOISTURE DEFICIT
                       PSIF        4.45  WETTING FRONT SUCTION
                      XKSAT         .44  HYDRAULIC CONDUCTIVITY
                      RTIMP       24.00  PERCENT IMPERVIOUS AREA

  464 UC        CLARK UNITGRAPH
                         TC         .80  TIME OF CONCENTRATION
                          R         .45  STORAGE COEFFICIENT

  465 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                   ***

                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=   .80 HR,       R=   .45 HR
                                       SNYDER   TP=   .41 HR,      CP=   .50

                                                UNIT HYDROGRAPH
                                          33 END-OF-PERIOD ORDINATES
                 13.       53.      114.      215.      286.      282.      265.      243.      218.      193.
                165.      137.      114.       94.       78.       65.       54.       45.       37.       31.
                 26.       21.       18.       15.       12.       10.        8.        7.        6.        5.
                  4.        3.        3.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      615

    TOTAL RAINFALL =    2.84, TOTAL LOSS =    1.59, TOTAL EXCESS =    1.25

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     220.      4.42                 49.         12.          4.          2.
                        (INCHES)    1.228       1.240       1.240       1.240
                         (AC-FT)      24.         24.         24.         24.

                        CUMULATIVE AREA =     .37 SQ MI
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 467 KK     *       615  *
            *            *
            **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 10.54 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 615 = 10.54 AC-FT

     DT          DIVERSION
                      ISTAD      615RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       10.54  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00  10000.00

     DQ      DIVERTED FLOW        .00  10000.00

                                                                  ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   615RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     219.      4.33                21.          5.          2.           1.
                        (INCHES)    .537        .537        .537         .537
                         (AC-FT)    11.         11.         11.          11.

                        CUMULATIVE AREA =     .37 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      615

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     216.      4.50                28.          7.          2.           1.
                        (INCHES)    .703        .703        .703         .703
                         (AC-FT)    14.         14.         14.          14.

                        CUMULATIVE AREA =     .37 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 476 KK     *    FRM612  *
            *            *
            **************
                          Retrieve hydrograph from flow split at McQueen & Frye directed west.

 478 DR          RETRIEVE DIVERSION HYDROGRAPH
                      ISTAD       To615  DIVERSION HYDROGRAPH IDENTIFICATION

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   FRM612

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      38.      4.75                11.          3.          1.           0.
                        (INCHES)    .275        .277        .277         .277
                         (AC-FT)     5.          5.          5.           5.

                        CUMULATIVE AREA =     .00 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 479 KK     *    612615  *        ROUTE   REACH
            *            *
            **************
```

```
                    Routed west along Frye Rd.

              HYDROGRAPH ROUTING DATA

481 RS          STORAGE ROUTING
                     NSTPS           4  NUMBER OF SUBREACHES
                      ITYP              TYPE OF INITIAL CONDITION
                    RSVRIC         .00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

482 RC          NORMAL DEPTH CHANNEL
                       ANL        .030  LEFT OVERBANK N-VALUE
                      ANCH        .015  MAIN CHANNEL N-VALUE
                       ANR        .030  RIGHT OVERBANK N-VALUE
                     RLNTH       3867.  REACH LENGTH
                       SEL       .0016  ENERGY SLOPE
                     ELMAX         2.1  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                        --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
484 RY        ELEVATION      .60       .00      1.80      2.10      2.10      1.80       .00       .60
483 RX        DISTANCE       .00    300.00    311.00    324.90    325.00    339.00    350.00    650.00

                                                   ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .55      2.22      4.99      8.87     13.85     19.75     25.75     31.77     37.80
          OUTFLOW        .00      1.80     11.46     33.78     72.76    131.92    226.10    351.31    497.72    663.90
        ELEVATION        .00       .11       .22       .33       .44       .56       .67       .78       .89      1.00

          STORAGE      43.84     49.90     55.97     62.05     68.14     74.25     80.38     86.54     92.80     99.17
          OUTFLOW     848.77   1051.46   1271.25   1507.52   1759.74   2027.46   2310.26   2610.79   2927.83   3261.38
        ELEVATION       1.11      1.22      1.33      1.44      1.55      1.67      1.78      1.89      2.00      2.11

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   612615

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      20.      6.92                10.          3.          1.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      5.          5.          5.           5.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.       6.92                 0.          0.          0.           0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .26       6.92                .19         .06         .02          .01

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
485 KK      *     CP615  *
            *            *
            **************
                       Combine sub 615, 613, 612615, & 614615

487 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           3  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

488 HC          HYDROGRAPH COMBINATION
                     ICOMP           4  NUMBER OF HYDROGRAPHS TO COMBINE

                                                   ***

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    CP615

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     337.      4.50               106.         43.         16.           7.
                        (INCHES)    .668       1.079       1.196        1.231
                         (AC-FT)     52.         85.         94.          97.

                       CUMULATIVE AREA =    1.47 SQ MI
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
 489 KK       *    P613-5  *
              *            *
              **************
                              Ponding east of the RR Tracks.

 492 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

                 HYDROGRAPH ROUTING DATA

 493 RS          STORAGE ROUTING
                       NSTPS           1  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

 494 SV            STORAGE          .0        .0        .1        .3        .7       1.4       2.9       9.6      18.4      21.7
                                  62.8     112.3     164.2

 496 SE          ELEVATION     1210.00   1211.00   1212.00   1213.00   1214.00   1215.00   1216.00   1217.00   1217.60   1218.00
                               1219.00   1220.00   1221.00

 498 SQ          DISCHARGE          0.        0.        0.        0.        0.        0.        0.        0.      105.      380.
                                 2707.    12574.    33570.

                                                                  ***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN    12574. TO    33570.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   P613-5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      95.      5.50                 82.         38.         14.           6.
                         (INCHES)   .519        .953       1.073        1.108
                          (AC-FT)    41.         75.         84.          87.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      18.       5.50                 17.         13.         11.          10.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1217.54      5.50             1217.47     1217.22     1217.08      1216.86

                         CUMULATIVE AREA =    1.47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
 500 KK       *       610  *        BASIN
              *            *
              **************
                              The following parameters were determined for this sub basin.
                              L= 1.112 mi S= 6.6 ft/mi Kb= 0.028 Urban

                 SUBBASIN RUNOFF DATA

 503 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .54  SUBBASIN AREA

                 PRECIPITATION DATA

  90 PB                STORM        2.84  BASIN TOTAL PRECIPITATION

  91 PI             INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                       .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                       .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00

 504 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .23  STARTING LOSS
```

```
                    DTH        .26  MOISTURE DEFICIT
                   PSIF       5.20  WETTING FRONT SUCTION
                  XKSAT        .29  HYDRAULIC CONDUCTIVITY
                  RTIMP      31.00  PERCENT IMPERVIOUS AREA

505 UC          CLARK UNITGRAPH
                     TC       1.00  TIME OF CONCENTRATION
                      R        .57  STORAGE COEFFICIENT

506 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
                  100.0

                                                    ***

                                              UNIT HYDROGRAPH PARAMETERS
                                       CLARK   TC=  1.00 HR,       R=   .57 HR
                                      SNYDER   TP=   .50 HR,      CP=   .47

                                                UNIT HYDROGRAPH
                                           42 END-OF-PERIOD ORDINATES
              12.      45.      93.     164.     266.     331.     331.     317.     300.     279.
             257.     236.     211.     182.     158.     136.     118.     102.      88.      76.
              66.      57.      49.      42.      37.      32.      27.      24.      20.      18.
              15.      13.      11.      10.       8.       7.       6.       5.       5.       4.
               4.       3.

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION      610

   TOTAL RAINFALL =    2.84, TOTAL LOSS =    1.29, TOTAL EXCESS =    1.55

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    335.       4.58                 88.         22.          7.          3.
                        (INCHES)   1.515       1.538       1.538       1.538
                         (AC-FT)     44.         44.         44.         44.

                        CUMULATIVE AREA =     .54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 508 KK     *     CP610  *
            *            *
            **************
                      Combine sub 610, & overflow from P613-5

 510 KO         OUTPUT CONTROL VARIABLES
                      IPRNT          3  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL         0.  HYDROGRAPH PLOT SCALE

 511 HC         HYDROGRAPH COMBINATION
                      ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                    ***

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    CP610

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    335.       4.58                151.         58.         22.         10.
                        (INCHES)    .697       1.082       1.196       1.224
                         (AC-FT)     75.        116.        128.        131.

                        CUMULATIVE AREA =    2.01 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 512 KK     *     CP609  *
            *            *
            **************
                      Combine sub 608609, 609, CP610

 514 KO         OUTPUT CONTROL VARIABLES
                      IPRNT          3  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL         0.  HYDROGRAPH PLOT SCALE

 515 HC         HYDROGRAPH COMBINATION
```

```
                    ICOMP          3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CP609

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     564.      4.58                278.         92.         33.          14.
                        (INCHES)    .730        .966       1.031        1.047
                         (AC-FT)    138.        182.        195.         197.

                       CUMULATIVE AREA =    3.54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  516 KK    *    P610-9  *
            *            *
            **************
                           Ponding in retention basin east of RR track and within commercial disctrict.
                           Excess flow escapes through a 7'x 3' RR bridge located in sub 610.

  519 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

               HYDROGRAPH ROUTING DATA

  520 RS          STORAGE ROUTING
                        NSTPS          1  NUMBER OF SUBREACHES
                         ITYP       STOR  TYPE OF INITIAL CONDITION
                       RSVRIC        .00  INITIAL CONDITION
                            X        .00 WORKING R AND D COEFFICIENT

  521 SV            STORAGE          .0        .2        .5       1.2       2.4       4.0       7.8      16.6      49.5     128.5
                                  224.1     325.3     427.7

  523 SE          ELEVATION     1208.00   1209.00   1210.00   1211.00   1212.00   1213.00   1214.00   1215.00   1216.00   1217.00
                                1218.00   1219.00   1220.00

  525 SQ          DISCHARGE         0.        0.        0.        0.        0.        0.        0.        0.       10.       39.
                                   78.      131.     3861.

                                                                  ***

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   P610-9

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      43.     13.92                 43.         38.         25.          13.
                        (INCHES)    .113        .403        .787         .938
                         (AC-FT)     21.         76.        148.         177.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      139.     14.00                138.        126.         90.          54.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1217.11     13.83               1217.10     1216.96     1216.50      1215.76

                       CUMULATIVE AREA =    3.54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  527 KK    *    609611  *        ROUTE   REACH
            *            *
            **************
                           Routed west along Roadway

               HYDROGRAPH ROUTING DATA

  529 RS          STORAGE ROUTING
                        NSTPS          3  NUMBER OF SUBREACHES
                         ITYP             TYPE OF INITIAL CONDITION
                       RSVRIC        .00  INITIAL CONDITION
```

```
                    X         .00 WORKING R AND D COEFFICIENT

530 RC          NORMAL DEPTH CHANNEL
                     ANL        .030  LEFT OVERBANK N-VALUE
                    ANCH        .015  MAIN CHANNEL N-VALUE
                     ANR        .030  RIGHT OVERBANK N-VALUE
                   RLNTH       2613.  REACH LENGTH
                     SEL       .0033  ENERGY SLOPE
                   ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                  CROSS-SECTION DATA
                        --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
532 RY        ELEVATION       .60       .00      1.30      1.70      1.70      1.30       .00       .60
531 RX        DISTANCE        .00    300.00    307.50    329.90    330.00    352.50    360.00    660.00

                                                          ***

                                  COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .24       .97      2.19      3.89      6.07      8.74     11.88     15.14     18.41
          OUTFLOW        .00      1.46      9.24     27.25     58.69    106.41    173.03    267.71    400.66    554.24
        ELEVATION        .00       .09       .18       .27       .36       .45       .54       .63       .72       .81

          STORAGE      21.68     24.96     28.25     31.53     34.83     38.14     41.49     44.90     48.36     51.87
          OUTFLOW     727.18    918.47   1127.29   1352.96   1594.88   1853.53   2129.46   2422.24   2732.27   3059.86
        ELEVATION        .89       .98      1.07      1.16      1.25      1.34      1.43      1.52      1.61      1.70


     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   609611

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      43.     14.58                43.         38.         25.          13.
                        (INCHES)   .113        .403        .786         .937
                         (AC-FT)    21.         76.        148.         177.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.      14.25                  1.          1.          1.           0.

 PEAK STAGE     TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .31      14.67                 .31         .30         .25          .17

                        CUMULATIVE AREA =    3.54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
533 KK      *      611   *        BASIN
            *            *
            **************
                        The following parameters were determined for this sub basin.
                        L= 0.958 mi S= 4.7 ft/mi Kb= 0.030 Urban

            SUBBASIN RUNOFF DATA

536 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .29  SUBBASIN AREA

                PRECIPITATION DATA

 90 PB                STORM        2.84  BASIN TOTAL PRECIPITATION

 91 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                     .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                     .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

537 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .21  STARTING LOSS
                       DTH         .26  MOISTURE DEFICIT
                      PSIF        5.00  WETTING FRONT SUCTION
                     XKSAT         .33  HYDRAULIC CONDUCTIVITY
                     RTIMP       41.00  PERCENT IMPERVIOUS AREA

538 UC          CLARK UNITGRAPH
                        TC        1.08  TIME OF CONCENTRATION
                         R         .78  STORAGE COEFFICIENT

539 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0
```

```
                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.08 HR,       R=   .78 HR
                                 SNYDER   TP=   .59 HR,      CP=   .43

                                          UNIT HYDROGRAPH
                                   56 END-OF-PERIOD ORDINATES
              4.      17.      34.      56.      96.     132.     140.     140.     137.     132.
            126.     118.     112.     103.      92.      83.      75.      67.      60.      54.
             49.      44.      39.      35.      32.      29.      26.      23.      21.      19.
             17.      15.      14.      12.      11.      10.       9.       8.       7.       6.
              6.       5.       5.       4.       4.       3.       3.       3.       2.       2.
              2.       2.       2.       1.       1.       1.

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION      611

    TOTAL RAINFALL =    2.84, TOTAL LOSS =    1.14, TOTAL EXCESS =    1.70

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     163.      4.67                51.         13.          4.           2.
                       (INCHES)    1.636       1.690       1.690        1.690
                        (AC-FT)     25.         26.         26.          26.

                       CUMULATIVE AREA =     .29 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  541 KK    *     CP611  *
            *            *
            **************
                          Combine  sub 611 & 609611

  543 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

  544 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    CP611

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     163.      4.67                65.         46.         29.          15.
                       (INCHES)     .158        .449        .837         .994
                        (AC-FT)     32.         92.        171.         203.

                       CUMULATIVE AREA =    3.83 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  545 KK    *      D611  *
            *            *
            **************
                          Divert 100% of flow west over Arizona Ave

     DT          DIVERSION
                       ISTAD       Az611  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00    100.00

     DQ      DIVERTED FLOW         .00    100.00
                                                                  ***

     ***            ***            ***            ***            ***

                     DIVERSION HYDROGRAPH    Az611

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
```

```
+     163.      4.67                    65.         46.         29.         15.
                          (INCHES)     .158        .449        .837        .994
                           (AC-FT)      32.         92.        171.        203.

                          CUMULATIVE AREA =    3.83 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     D611

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                  0.          0.          0.          0.
                          (INCHES)    .000        .000        .000        .000
                           (AC-FT)      0.          0.          0.          0.

                          CUMULATIVE AREA =    3.83 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
  550 KK      *       616  *        BASIN
              *            *
              **************
                             The following parameters were determined for this sub basin.
                             L= 0.433 mi S= 12.9 ft/mi Kb= 0.031 Urban

                SUBBASIN RUNOFF DATA

  553 BA          SUBBASIN CHARACTERISTICS
                        TAREA         .17  SUBBASIN AREA

                  PRECIPITATION DATA

   90 PB                STORM        2.84  BASIN TOTAL PRECIPITATION

   91 PI            INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                       .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                       .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00

  554 LG          GREEN AND AMPT LOSS RATE
                        STRTL         .17  STARTING LOSS
                          DTH         .25  MOISTURE DEFICIT
                         PSIF        4.55  WETTING FRONT SUCTION
                        XKSAT         .45  HYDRAULIC CONDUCTIVITY
                        RTIMP       51.00  PERCENT IMPERVIOUS AREA

  555 UC          CLARK UNITGRAPH
                           TC         .46  TIME OF CONCENTRATION
                            R         .22  STORAGE COEFFICIENT

  556 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                         .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                       100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=   .46 HR,       R=   .22 HR
                                           SNYDER   TP=   .25 HR,      CP=   .57

                                                       UNIT HYDROGRAPH
                                                 17 END-OF-PERIOD ORDINATES
                30.      130.      230.      242.      201.      156.      113.       76.       52.       35.
                24.       16.       11.        8.        5.        3.        2.

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION      616

    TOTAL RAINFALL =    2.84, TOTAL LOSS =    1.02, TOTAL EXCESS =    1.82

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     172.      4.17                   33.          8.          3.          1.
                          (INCHES)   1.798       1.811       1.811       1.811
                           (AC-FT)      17.         17.         17.         17.

                          CUMULATIVE AREA =     .17 SQ MI
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 558 KK     *     CP616  *
            *            *
            **************
                          Combine 616 & D611

 560 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

 561 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    CP616

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     172.      4.17                 33.          8.          3.           1.
                        (INCHES)    .078        .078        .078         .078
                         (AC-FT)     17.         17.         17.          17.

                        CUMULATIVE AREA =    4.00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 562 KK     *      D616  *
            *            *
            **************
                          Divert 100% flow west over Arizona Ave to be retrieved later

 564 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

     DT          DIVERSION
                      ISTAD       Az616  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00    100.00

     DQ      DIVERTED FLOW         .00    100.00

                                                                  ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    Az616

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     172.      4.17                 33.          8.          3.           1.
                        (INCHES)    .078        .078        .078         .078
                         (AC-FT)     17.         17.         17.          17.

                        CUMULATIVE AREA =    4.00 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     D616

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                        CUMULATIVE AREA =    4.00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 568 KK     *       619  *        BASIN
```

```
*            *
**************
                The following parameters were determined for this sub basin.
                L= 0.341 mi S= 12.9 ft/mi Kb= 0.030 Natural

            SUBBASIN RUNOFF DATA

571 BA        SUBBASIN CHARACTERISTICS
                    TAREA          .12  SUBBASIN AREA

              PRECIPITATION DATA

 90 PB              STORM         2.84  BASIN TOTAL PRECIPITATION

 91 PI          INCREMENTAL PRECIPITATION PATTERN
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .01       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                   .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                   .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00

572 LG        GREEN AND AMPT LOSS RATE
                    STRTL          .16  STARTING LOSS
                      DTH          .25  MOISTURE DEFICIT
                     PSIF         4.70  WETTING FRONT SUCTION
                    XKSAT          .41  HYDRAULIC CONDUCTIVITY
                    RTIMP        61.00  PERCENT IMPERVIOUS AREA

573 UC        CLARK UNITGRAPH
                       TC          .39  TIME OF CONCENTRATION
                        R          .19  STORAGE COEFFICIENT

574 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                   100.0

                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .39 HR,       R=   .19 HR
                                         SNYDER   TP=   .33 HR,      CP=   .87

                                                   UNIT HYDROGRAPH
                                             15 END-OF-PERIOD ORDINATES
                 9.       29.      102.      194.      192.      133.       84.       54.       34.       22.
                14.        9.        6.        4.        2.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      619

    TOTAL RAINFALL =    2.84, TOTAL LOSS =     .79, TOTAL EXCESS =    2.05

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                       6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                             (CFS)
+     129.      4.25                    25.         6.          2.          1.
                          (INCHES)    2.026       2.039       2.039       2.039
                           (AC-FT)       12.         13.         13.         13.

                          CUMULATIVE AREA =     .12 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
576 KK      *     CP619  *
            *            *
            **************
                        Combine  D616 and 619

578 KO        OUTPUT CONTROL VARIABLES
                    IPRNT           3  PRINT CONTROL
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE

579 HC        HYDROGRAPH COMBINATION
                    ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    CP619

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                       6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                             (CFS)
+     129.      4.25                    25.         6.          2.          1.
                          (INCHES)     .057        .057        .057        .057
```

```
                    (AC-FT)       12.         13.         13.         13.

                    CUMULATIVE AREA =    4.12 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  580 KK    *      D619  *
            *            *
            **************
                      Divert 100% flow west over Arizona Ave.

  582 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

      DT          DIVERSION
                        ISTAD       Az619  DIVERSION HYDROGRAPH IDENTIFICATION

      DI             INFLOW         .00    100.00

      DQ      DIVERTED FLOW         .00    100.00

                                                                  ***

       ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    Az619

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     129.      4.25                25.          6.          2.           1.
                       (INCHES)     .057        .057        .057         .057
                        (AC-FT)      12.         13.         13.          13.

                       CUMULATIVE AREA =    4.12 SQ MI

       ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     D619

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+       0.       .00                 0.          0.          0.           0.
                       (INCHES)     .000        .000        .000         .000
                        (AC-FT)      0.          0.          0.           0.

                       CUMULATIVE AREA =    4.12 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  586 KK    *     dummy  *
            *            *
            **************
                      combine

  588 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

       ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    dummy

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+       0.       .00                 0.          0.          0.           0.
                       (INCHES)     .000        .000        .000         .000
                        (AC-FT)      0.          0.          0.           0.

                       CUMULATIVE AREA =    6.64 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
```

```
          *            *
589 KK    *       618  *        BASIN
          *            *
          **************
                         The following parameters were determined for this sub basin.
                         L= 0.696 mi S= 10.9 ft/mi Kb= 0.029 Urban

            SUBBASIN RUNOFF DATA

592 BA        SUBBASIN CHARACTERISTICS
                   TAREA          .32  SUBBASIN AREA

              PRECIPITATION DATA

 90 PB             STORM         2.84  BASIN TOTAL PRECIPITATION

 91 PI          INCREMENTAL PRECIPITATION PATTERN
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .01      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .01      .01      .01      .01      .01      .01      .02      .02      .02      .03
                  .03      .03      .06      .06      .06      .07      .07      .07      .04      .04
                  .04      .02      .02      .02      .01      .01      .01      .01      .01      .01
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00

593 LG        GREEN AND AMPT LOSS RATE
                   STRTL          .26  STARTING LOSS
                     DTH          .25  MOISTURE DEFICIT
                    PSIF         4.60  WETTING FRONT SUCTION
                   XKSAT          .38  HYDRAULIC CONDUCTIVITY
                   RTIMP        20.00  PERCENT IMPERVIOUS AREA

594 UC        CLARK UNITGRAPH
                      TC          .67  TIME OF CONCENTRATION
                       R          .34  STORAGE COEFFICIENT

595 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                  100.0
                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=   .67 HR,       R=   .34 HR
                                           SNYDER   TP=   .35 HR,      CP=   .54

                                                     UNIT HYDROGRAPH
                                                 25 END-OF-PERIOD ORDINATES
                 21.       79.      194.      298.      313.      285.      252.      218.      181.      141.
                110.       86.       67.       53.       41.       32.       25.       20.       15.       12.
                  9.        7.        6.        4.        3.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      618

   TOTAL RAINFALL =    2.84, TOTAL LOSS =    1.60, TOTAL EXCESS =    1.24

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    225.       4.33                  42.         11.          4.           2.
                        (INCHES)    1.225       1.232       1.232        1.232
                         (AC-FT)      21.         21.         21.          21.

                        CUMULATIVE AREA =     .32 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
597 KK    *       618  *
          *            *
          **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 7.41 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 5.98 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 618 = 13.39 AC-FT

     DT         DIVERSION
                     ISTAD      618RET  DIVERSION HYDROGRAPH IDENTIFICATION
                    DSTRMX       13.39  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00  10000.00

     DQ      DIVERTED FLOW        .00  10000.00

                                                          ***

     ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   618RET
```

```
  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     225.      4.33                27.          7.          2.           1.
                        (INCHES)   .782        .782        .782         .782
                         (AC-FT)    13.         13.         13.          13.

                       CUMULATIVE AREA =     .32 SQ MI


      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION      618

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     169.      4.58                16.          4.          1.           1.
                        (INCHES)   .450        .450        .450         .450
                         (AC-FT)     8.          8.          8.           8.

                       CUMULATIVE AREA =     .32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  606 KK    *    FRM617  *
            *            *
            **************
                         Retrieve hydrograph from flow split at McQueen & Pecos directed south

  608 DR          RETRIEVE DIVERSION HYDROGRAPH
                        ISTAD       To618  DIVERSION HYDROGRAPH IDENTIFICATION

                                                                  ***

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   FRM617

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      14.      8.83                 9.          4.          2.           1.
                        (INCHES)   .248        .500        .587         .626
                         (AC-FT)     4.          9.         10.          11.

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  609 KK    *   617618   *        ROUTE   REACH
            *            *
            **************
                         Routed south along McQueen

              HYDROGRAPH ROUTING DATA

  611 RS          STORAGE ROUTING
                        NSTPS           3  NUMBER OF SUBREACHES
                         ITYP              TYPE OF INITIAL CONDITION
                        RSVRIC         .00  INITIAL CONDITION
                             X         .00 WORKING R AND D COEFFICIENT

  612 RC          NORMAL DEPTH CHANNEL
                          ANL        .030  LEFT OVERBANK N-VALUE
                         ANCH        .015  MAIN CHANNEL N-VALUE
                          ANR        .030  RIGHT OVERBANK N-VALUE
                        RLNTH       2733.  REACH LENGTH
                          SEL       .0028  ENERGY SLOPE
                        ELMAX         1.3  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  614 RY        ELEVATION       .60       .00      1.30      1.70      1.70      1.30       .00       .60
  613 RX        DISTANCE        .00    300.00    307.50    329.90    330.00    352.50    360.00    660.00

                                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .14       .55      1.24      2.20      3.43      4.94      6.73      8.79     11.13
          OUTFLOW        .00       .59      3.75     11.06     23.81     43.17     70.20    105.89    151.19    206.98
        ELEVATION        .00       .07       .13       .20       .26       .33       .39       .46       .53       .59
```

```
          STORAGE      13.63     16.14     18.65     21.17     23.69     26.21     28.73     31.26     33.79     36.33
          OUTFLOW     287.56    380.79    484.24    597.42    719.94    851.47    991.71   1140.42   1297.36   1462.33
        ELEVATION        .66       .72       .79       .86       .92       .99      1.05      1.12      1.18      1.25

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   617618

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     12.      10.00                 8.          4.          2.           1.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      4.          8.         10.          11.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.      10.00                 0.          0.          0.           0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .20      10.08                .17         .13         .07          .03

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  615 KK    *     CP618  *
            *            *
            **************
                          Combine sub 618 & 617618
                          Flow enters Santan Storm Drain System

  618 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

  619 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CP618

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    169.       4.58                 20.          8.          3.           1.
                        (INCHES)    .580        .927       1.036        1.076
                         (AC-FT)     10.         16.         18.          18.

                       CUMULATIVE AREA =     .32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  620 KK    *      P618  *
            *            *
            **************
                          Ponding in Retention basin. Excess flow is conveyed into the Santan
                          Hwy storm drain system

  623 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

               HYDROGRAPH ROUTING DATA

  624 RS          STORAGE ROUTING
                        NSTPS           1  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  625 SV            STORAGE          .0       1.1       6.1      11.4      14.1

  626 SE          ELEVATION     1215.00   1216.00   1217.00   1218.00   1218.50
```

```
 627 SQ          DISCHARGE          0.        0.        0.        0.      896.
                                                          ***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN        0. TO      896.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     P618

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+       8.     12.42                  5.          3.          1.          1.
                       (INCHES)     .137        .309        .375        .411
                        (AC-FT)       2.          5.          6.          7.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      11.     12.42                 11.         11.         11.         11.

 PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
  1218.00     12.42              1218.00     1218.00     1218.00     1217.89

                       CUMULATIVE AREA =     .32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 628 KK     *      620   *        BASIN
            *            *
            **************
                         The following parameters were determined for this sub basin.
                         L= 0.363 mi S= 3.3 ft/mi Kb= 0.039 Natural

  89 IN          TIME DATA FOR INPUT TIME SERIES
                      JXMIN          15  TIME INTERVAL IN MINUTES
                     JXDATE      3MAR 3  STARTING DATE
                     JXTIME        1200  STARTING TIME

               SUBBASIN RUNOFF DATA

 629 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .07  SUBBASIN AREA

                 PRECIPITATION DATA

 632 PB               STORM        2.92  BASIN TOTAL PRECIPITATION

 633 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                     .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

 636 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .24  STARTING LOSS
                       DTH         .25  MOISTURE DEFICIT
                      PSIF        4.00  WETTING FRONT SUCTION
                     XKSAT         .64  HYDRAULIC CONDUCTIVITY
                     RTIMP       46.00  PERCENT IMPERVIOUS AREA

 637 UC          CLARK UNITGRAPH
                        TC         .84  TIME OF CONCENTRATION
                         R         .61  STORAGE COEFFICIENT

 638 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0
                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .84 HR,       R=    .61 HR
                                         SNYDER   TP=    .70 HR,      CP=    .74

                                                   UNIT HYDROGRAPH
                                              46 END-OF-PERIOD ORDINATES
                  1.        3.        4.        6.        9.       19.       35.       47.       48.       46.
                 41.       36.       32.       28.       24.       21.       18.       16.       14.       12.
                 11.        9.        8.        7.        6.        5.        5.        4.        4.        3.
                  3.        2.        2.        2.        2.        1.        1.        1.        1.        1.
                  1.        1.        1.        0.        0.        0.
```

```
      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      620

    TOTAL RAINFALL =    2.92, TOTAL LOSS =    1.19, TOTAL EXCESS =    1.73

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      49.      4.67                 13.          3.          1.          0.
                       (INCHES)    1.692       1.725       1.725       1.725
                        (AC-FT)       6.          6.          6.          6.

                       CUMULATIVE AREA =     .07 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  640 KK    *      D620  *
            *            *
            **************
                         Divert 100% of flow west over Arizona Ave

  642 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

     DT           DIVERSION
                       ISTAD       Az620  DIVERSION HYDROGRAPH IDENTIFICATION

     DI              INFLOW         .00    100.00

     DQ       DIVERTED FLOW         .00    100.00

                                                                  ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    Az620

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      49.      4.67                 13.          3.          1.          0.
                       (INCHES)    1.692       1.725       1.725       1.725
                        (AC-FT)       6.          6.          6.          6.

                       CUMULATIVE AREA =     .07 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     D620

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.          0.
                       (INCHES)     .000        .000        .000        .000
                        (AC-FT)       0.          0.          0.          0.

                       CUMULATIVE AREA =     .07 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  646 KK    *     DUMMY  *
            *            *
            **************
                         Combine sub 620 & CP618,

  648 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    DUMMY

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       8.     12.42                  5.          3.          1.          1.
```

```
                    (INCHES)      .113        .254        .308        .337
                     (AC-FT)       2.          5.          6.          7.

                    CUMULATIVE AREA =     .39 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 649 KK     *       628  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 0.746 mi S= 7.5 ft/mi Kb= 0.049 Natural

              SUBBASIN RUNOFF DATA

 652 BA         SUBBASIN CHARACTERISTICS
                     TAREA         .27  SUBBASIN AREA

                PRECIPITATION DATA

 632 PB              STORM        2.92  BASIN TOTAL PRECIPITATION

 633 PI           INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                     .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

 653 LG         GREEN AND AMPT LOSS RATE
                     STRTL         .49  STARTING LOSS
                       DTH         .25  MOISTURE DEFICIT
                      PSIF        4.70  WETTING FRONT SUCTION
                     XKSAT         .46  HYDRAULIC CONDUCTIVITY
                     RTIMP        2.00  PERCENT IMPERVIOUS AREA

 654 UC         CLARK UNITGRAPH
                        TC        1.50  TIME OF CONCENTRATION
                         R         .98  STORAGE COEFFICIENT

 655 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0

                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=  1.50 HR,       R=   .98 HR
                                       SNYDER   TP=  1.26 HR,      CP=   .79

                                                   UNIT HYDROGRAPH
                                              74 END-OF-PERIOD ORDINATES
                 1.        4.        6.        8.        9.       12.       14.       19.       24.       37.
                56.       79.       99.      110.      113.      111.      107.      102.       95.       88.
                80.       74.       68.       62.       57.       52.       48.       44.       41.       37.
                34.       31.       29.       27.       24.       22.       21.       19.       17.       16.
                15.       13.       12.       11.       10.       10.        9.        8.        7.        7.
                 6.        6.        5.        5.        4.        4.        4.        3.        3.        3.
                 3.        2.        2.        2.        2.        2.        2.        1.        1.        1.
                 1.        1.        1.        1.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      628

    TOTAL RAINFALL =     2.92, TOTAL LOSS =     2.12, TOTAL EXCESS =      .81

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                 (CFS)
+      82.      5.17                   23.          6.          2.          1.
                         (INCHES)     .798        .804        .804        .804
                          (AC-FT)     11.         11.         11.         11.

                         CUMULATIVE AREA =     .27 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 657 KK     *      P628  *
            *            *
            **************
                          Ponding in Agricultural Field east of RR Track
                          Excess flow weirs over Appleby Road and RR Track
```

```
660 KO          OUTPUT CONTROL VARIABLES
                      IPRNT          3  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL         0.  HYDROGRAPH PLOT SCALE

              HYDROGRAPH ROUTING DATA

661 RS          STORAGE ROUTING
                      NSTPS          1  NUMBER OF SUBREACHES
                       ITYP       STOR  TYPE OF INITIAL CONDITION
                     RSVRIC        .00  INITIAL CONDITION
                          X        .00  WORKING R AND D COEFFICIENT

662 SV            STORAGE         .0        .0        .2       3.5      11.6      15.0      16.9      48.2

663 SE          ELEVATION    1217.00   1218.00   1219.00   1220.00   1220.63   1220.90   1221.00   1222.00

664 SQ          DISCHARGE         0.        0.        0.        0.        0.       23.       70.     1807.

                                                                  ***

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     P628

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      11.     10.42                 11.         11.         11.          11.

 PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1220.63     10.33              1220.62     1220.62     1220.62      1220.52

                        CUMULATIVE AREA =     .27 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
665 KK        *       627  *        BASIN
              *            *
              **************
                          The following parameters were determined for this sub basin.
                          L= 0.820 mi S= 16.8 ft/mi Kb= 0.050 Natural

              SUBBASIN RUNOFF DATA

668 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .21  SUBBASIN AREA

                PRECIPITATION DATA

632 PB                STORM        2.92  BASIN TOTAL PRECIPITATION

633 PI            INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                      .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                      .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00

669 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .47  STARTING LOSS
                        DTH         .25  MOISTURE DEFICIT
                       PSIF        4.80  WETTING FRONT SUCTION
                      XKSAT         .44  HYDRAULIC CONDUCTIVITY
                      RTIMP        2.00  PERCENT IMPERVIOUS AREA

670 UC          CLARK UNITGRAPH
                         TC        1.20  TIME OF CONCENTRATION
                          R         .93  STORAGE COEFFICIENT

671 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                     100.0

                                                                  ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                             CLARK   TC=  1.20 HR,       R=   .93 HR
                                            SNYDER   TP=  1.02 HR,      CP=   .71
```

```
                                                    UNIT HYDROGRAPH
                                                 69 END-OF-PERIOD ORDINATES
                1.       4.       6.       8.      10.      14.      19.      31.      51.      75.
               92.      97.      96.      93.      88.      81.      74.      68.      62.      57.
               52.      47.      43.      40.      36.      33.      30.      28.      25.      23.
               21.      19.      18.      16.      15.      14.      12.      11.      10.      10.
                9.       8.       7.       7.       6.       6.       5.       5.       4.       4.
                4.       3.       3.       3.       2.       2.       2.       2.       2.       2.
                1.       1.       1.       1.       1.       1.       1.       1.       1.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      627

    TOTAL RAINFALL =    2.92, TOTAL LOSS =    2.08, TOTAL EXCESS =     .84

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      72.      5.00                     19.          5.          2.           1.
                        (INCHES)      .831        .836        .836         .836
                         (AC-FT)        9.          9.          9.           9.

                        CUMULATIVE AREA =     .21 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  673 KK    *     CP627  *
            *            *
            **************
                        Combine sub 627, & 628

  675 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

  676 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                ***

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    CP627

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      72.      5.00                     19.          5.          2.           1.
                        (INCHES)      .366        .368        .368         .368
                         (AC-FT)        9.          9.          9.           9.

                        CUMULATIVE AREA =     .48 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  677 KK    *      P627  *
            *            *
            **************
                        Ponding in Agricultural Field east of RR Track
                        Excess flow weirs over Queen Creek Road and RR Track

  680 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

              HYDROGRAPH ROUTING DATA

  681 RS          STORAGE ROUTING
                        NSTPS           1  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  682 SV            STORAGE          .0        .0        .2        .7       1.7       6.3      24.9      31.0      39.2      72.4
                                  142.4

  684 SE          ELEVATION     1214.00   1215.00   1216.00   1217.00   1218.00   1219.00   1220.00   1220.20   1220.40   1221.00
                                1222.00

  686 SQ          DISCHARGE          0.        0.        0.        0.        0.        0.        0.        0.       22.     1035.
                                  7435.
```

```
                                                                                ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     P627

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.           0.
                       (INCHES)     .000        .000        .000         .000
                        (AC-FT)      0.          0.          0.           0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        9.      9.92                 9.          9.          9.           9.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1219.17      9.83            1219.17     1219.16     1219.17      1219.04

                       CUMULATIVE AREA =     .48 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  688 KK    *      D627  *
            *            *
            **************
                          Divert flow to 625

  690 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          3  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

     DT           DIVERSION
                       ISTAD      To625  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW        .00    100.00

     DQ      DIVERTED FLOW        .00    100.00
                                                                                ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    To625

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.           0.
                       (INCHES)     .000        .000        .000         .000
                        (AC-FT)      0.          0.          0.           0.

                       CUMULATIVE AREA =     .48 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     D627

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.           0.
                       (INCHES)     .000        .000        .000         .000
                        (AC-FT)      0.          0.          0.           0.

                       CUMULATIVE AREA =     .48 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  694 KK    *       629  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 1.088 mi S= 5.2 ft/mi Kb= 0.049 Natural

               SUBBASIN RUNOFF DATA
```

```
697 BA          SUBBASIN CHARACTERISTICS
                      TAREA          .26  SUBBASIN AREA

                PRECIPITATION DATA

632 PB                STORM        2.92  BASIN TOTAL PRECIPITATION

633 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                     .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

698 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .50  STARTING LOSS
                       DTH          .25  MOISTURE DEFICIT
                       PSIF        4.65  WETTING FRONT SUCTION
                      XKSAT         .49  HYDRAULIC CONDUCTIVITY
                      RTIMP         .00  PERCENT IMPERVIOUS AREA

699 UC          CLARK UNITGRAPH
                         TC        1.50  TIME OF CONCENTRATION
                          R        1.34  STORAGE COEFFICIENT

700 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=  1.50 HR,       R=  1.34 HR
                                         SNYDER   TP=  1.29 HR,      CP=   .65

                                                  UNIT HYDROGRAPH
                                              97 END-OF-PERIOD ORDINATES
                 1.        3.        4.        6.        7.        9.       11.       14.       18.       27.
                42.       58.       74.       83.       86.       86.       85.       82.       79.       74.
                70.       65.       61.       58.       54.       51.       48.       45.       42.       40.
                37.       35.       33.       31.       29.       27.       26.       24.       23.       21.
                20.       19.       18.       17.       16.       15.       14.       13.       12.       11.
                11.       10.       10.        9.        8.        8.        7.        7.        7.        6.
                 6.        5.        5.        5.        5.        4.        4.        4.        4.        3.
                 3.        3.        3.        3.        2.        2.        2.        2.        2.        2.
                 2.        2.        1.        1.        1.        1.        1.        1.        1.        1.
                 1.        1.        1.        1.        1.        1.        1.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      629

    TOTAL RAINFALL =    2.92, TOTAL LOSS =    2.20, TOTAL EXCESS =     .72

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                     (CFS)
+      59.      5.25                   20.          5.          2.          1.
                                  (INCHES)      .703        .716        .716        .716
                                   (AC-FT)       10.         10.         10.         10.

                                 CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                **************
                *            *
702 KK          *      P629  *
                *            *
                **************
                                Ponding in Agricultural Field east of Arizona Avenue
                                Excess flow weirs west over Arizona Ave and north over QUeen Creek Road.

705 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

706 RS          STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

707 SV            STORAGE          .0        .0        .1        .8       8.7      10.8      13.0      15.3

708 SE          ELEVATION     1212.00   1213.00   1214.00   1215.00   1215.70   1215.80   1215.90   1216.00

709 SQ          DISCHARGE          0.        0.        0.        0.        0.        0.        3.       25.
```

```
                                                                                ***
      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     P629

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      10.     12.33                 10.         10.         10.          10.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1215.76     12.08              1215.76     1215.75     1215.75      1215.65

                        CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  710 KK    *      D629  *
            *            *
            **************
                          Divert 40% of flow west over Arizona Ave

  712 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

      DT          DIVERSION
                        ISTAD      Az629  DIVERSION HYDROGRAPH IDENTIFICATION

      DI             INFLOW        .00    100.00

      DQ       DIVERTED FLOW       .00     40.00
                                                                                ***
      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    Az629

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                        CUMULATIVE AREA =     .26 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     D629

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                        CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  716 KK    *    Frm627  *
            *            *
            **************
                          Retrieve flow from 627

  718 DR          RETRIEVE DIVERSION HYDROGRAPH
                        ISTAD      To625  DIVERSION HYDROGRAPH IDENTIFICATION
```

```
                                                                    ***

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   Frm627

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.          0.
                       (INCHES)     .000        .000        .000        .000
                        (AC-FT)      0.          0.          0.          0.

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  719 KK    *       625  *        BASIN
            *            *
            **************
                        The following parameters were determined for this sub basin.
                        L= 1.105 mi S= 12.8 ft/mi Kb= 0.044 Natural

              SUBBASIN RUNOFF DATA

  722 BA        SUBBASIN CHARACTERISTICS
                     TAREA         .42  SUBBASIN AREA

                PRECIPITATION DATA

  632 PB             STORM        2.92  BASIN TOTAL PRECIPITATION

  633 PI          INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                     .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00                                                 .

  723 LG        GREEN AND AMPT LOSS RATE
                     STRTL         .43  STARTING LOSS
                       DTH         .25  MOISTURE DEFICIT
                      PSIF        5.00  WETTING FRONT SUCTION
                     XKSAT         .40  HYDRAULIC CONDUCTIVITY
                     RTIMP       11.00  PERCENT IMPERVIOUS AREA

  724 UC        CLARK UNITGRAPH
                        TC        1.33  TIME OF CONCENTRATION
                         R         .91  STORAGE COEFFICIENT

  725 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0
                                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=  1.33 HR,       R=   .91 HR
                                        SNYDER   TP=  1.11 HR,      CP=   .77

                                                   UNIT HYDROGRAPH
                                              68 END-OF-PERIOD ORDINATES
                 3.        7.       11.       14.       18.       23.       30.       41.       65.      104.
               147.      179.      190.      191.      183.      175.      163.      149.      135.      124.
               113.      103.       94.       86.       78.       71.       65.       59.       54.       49.
                45.       41.       37.       34.       31.       28.       26.       24.       22.       20.
                18.       16.       15.       14.       12.       11.       10.        9.        9.        8.
                 7.        7.        6.        5.        5.        5.        4.        4.        3.        3.
                 3.        3.        2.        2.        2.        2.        2.        1.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      625

    TOTAL RAINFALL =     2.92, TOTAL LOSS =     1.83, TOTAL EXCESS =     1.09

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     172.      5.08                48.         12.          4.          2.
                       (INCHES)    1.068       1.088       1.088       1.088
                        (AC-FT)     24.         24.         24.         24.

                       CUMULATIVE AREA =     .42 SQ MI
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
  727 KK      *     CP625  *
              *            *
              **************
                             Combine sub 625 & CP627

  729 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

  730 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    CP625

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     172.      5.08                   48.         12.          4.           2.
                         (INCHES)    1.068       1.088       1.088        1.088
                          (AC-FT)      24.         24.         24.          24.

                         CUMULATIVE AREA =     .42 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
  731 KK      *      D625  *
              *            *
              **************
                             Divert flow to 623

     DT          DIVERSION
                       ISTAD       To623  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00    100.00

     DQ      DIVERTED FLOW         .00    100.00

                                                                  ***

       ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH    To623

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     172.      5.08                   48.         12.          4.           2.
                         (INCHES)    1.068       1.088       1.088        1.088
                          (AC-FT)      24.         24.         24.          24.

                         CUMULATIVE AREA =     .42 SQ MI

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     D625

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.        .00                   0.          0.          0.           0.
                         (INCHES)     .000        .000        .000         .000
                          (AC-FT)       0.          0.          0.           0.

                         CUMULATIVE AREA =     .42 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
  736 KK      *    Frm625  *
              *            *
              **************
                             Retrieve flow from 625

  738 DR          RETRIEVE DIVERSION HYDROGRAPH
```

```
                    ISTAD       To623  DIVERSION HYDROGRAPH IDENTIFICATION

                                                                  ***

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   Frm625

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     172.      5.08                48.         12.          4.           2.
                         (INCHES)   1.068       1.088       1.088        1.088
                          (AC-FT)     24.         24.         24.          24.

                         CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  739 KK    *       623  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 1.258 mi S= 12.7 ft/mi Kb= 0.041 Natural

              SUBBASIN RUNOFF DATA

  742 BA        SUBBASIN CHARACTERISTICS
                     TAREA         .60  SUBBASIN AREA

                PRECIPITATION DATA

  632 PB             STORM        2.92  BASIN TOTAL PRECIPITATION

  633 PI          INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                     .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

  743 LG        GREEN AND AMPT LOSS RATE
                     STRTL        .39  STARTING LOSS
                       DTH        .15  MOISTURE DEFICIT
                      PSIF       7.60  WETTING FRONT SUCTION
                     XKSAT        .14  HYDRAULIC CONDUCTIVITY
                     RTIMP       7.00  PERCENT IMPERVIOUS AREA

  744 UC        CLARK UNITGRAPH
                        TC       1.03  TIME OF CONCENTRATION
                         R        .62  STORAGE COEFFICIENT

  745 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0

                                                                  ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=  1.03 HR,       R=   .62 HR
                                         SNYDER   TP=   .85 HR,      CP=   .82

                                                     UNIT HYDROGRAPH
                                              48 END-OF-PERIOD ORDINATES
                 7.       19.       28.       38.       51.       73.      130.      228.      328.      383.
               383.      359.      327.      290.      253.      221.      193.      169.      148.      129.
               113.       98.       86.       75.       66.       57.       50.       44.       38.       33.
                29.       25.       22.       19.       17.       15.       13.       11.       10.        9.
                 8.        7.        6.        5.        4.        4.        3.        3.

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION      623

    TOTAL RAINFALL =    2.92, TOTAL LOSS =    1.31, TOTAL EXCESS =    1.61

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     451.      4.83                103.         26.          9.           4.
                         (INCHES)   1.596       1.603       1.603        1.603
                          (AC-FT)     51.         51.         51.          51.

                         CUMULATIVE AREA =     .60 SQ MI
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
  747 KK    *       623  *
            *            *
            **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.00 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 2.33 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 623 = 2.33 AC-FT

     DT          DIVERSION
                      ISTAD      623RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX        2.33  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   623RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      76.      4.08                 5.          1.          0.           0.
                       (INCHES)     .073        .073        .073         .073
                        (AC-FT)       2.          2.          2.           2.

                       CUMULATIVE AREA =     .60 SQ MI


      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      623

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     451.      4.83                99.         25.          8.           4.
                       (INCHES)    1.531       1.531       1.531        1.531
                        (AC-FT)      49.         49.         49.          49.

                       CUMULATIVE AREA =     .60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
  756 KK    *     CP623  *
            *            *
            **************
                             Combine sub 623, FRM625

  758 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

  759 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    CP623

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     605.      4.92               147.         37.         12.           5.
                       (INCHES)    2.274       2.289       2.289        2.289
                        (AC-FT)      73.         73.         73.          73.

                       CUMULATIVE AREA =     .60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
  760 KK    *    P623-5  *
```

```
                *            *
                **************
                          Ponding in Agricultural Field east of RR Track. Flow released thru 8x2 box
                          culvert between Germann & Ryan Rd.

  763 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

  764 RS          STORAGE ROUTING
                        NSTPS          1  NUMBER OF SUBREACHES
                         ITYP       STOR  TYPE OF INITIAL CONDITION
                       RSVRIC        .00  INITIAL CONDITION
                            X        .00  WORKING R AND D COEFFICIENT

  765 SV            STORAGE          .0        .1        .9       3.7      27.3      38.6      58.8     101.8     216.5     373.5
                                  578.6

  767 SE          ELEVATION     1213.00   1214.00   1215.00   1216.00   1217.00   1217.20   1217.50   1218.00   1219.00   1220.00
                                1221.00

  769 SQ          DISCHARGE          0.        0.        1.        8.       19.       22.       74.       91.      128.      166.
                                  6339.

                                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   P623-5

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+      74.      6.67                 57.         29.         12.           5.
                            (INCHES)      .890       1.793       2.284       2.286
                             (AC-FT)       28.         57.         73.         73.

 PEAK STORAGE   TIME                               MAXIMUM AVERAGE STORAGE
                                          6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       60.      6.67                 53.         34.         13.           6.

  PEAK STAGE    TIME                                MAXIMUM AVERAGE STAGE
                                          6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1217.51      6.67              1217.41     1217.05     1215.73     1214.74

                            CUMULATIVE AREA =    .60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                **************
                *            *
  771 KK        *    CON412  *
                *            *
                **************
                                  Retrieve data from DSS file
                                  Overflow from Consolidated Canal at Santan Fwy
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP412/FLOW/03MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP412/FLOW/03MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP412/FLOW/04MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP412/FLOW/05MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP412/FLOW/06MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP412/FLOW/06MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP412/FLOW/06MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP412/FLOW/07MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP412/FLOW/08MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP412/FLOW/08MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP412/FLOW/08MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP412/FLOW/09MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP412/FLOW/10MAR1903/5MIN/6HR/
 -----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
 Pathname: /CONS/CP412/FLOW/11MAR1903/5MIN/6HR/

                SUBBASIN RUNOFF DATA

  774 BA          SUBBASIN CHARACTERISTICS
                        TAREA         .00  SUBBASIN AREA

                                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   CON412

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     242.      5.50                106.         30.         10.           4.
                            (INCHES)   981.810    1110.149    1110.205    1110.205
```

```
                    (AC-FT)        52.          59.          59.          59.

                    CUMULATIVE AREA =      .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 776 KK     *       621  *        BASIN
            *            *
            **************
                           The following parameters were determined for this sub basin.
                           L= 1.273 mi S= 10.0 ft/mi Kb= 0.040 Natural

              SUBBASIN RUNOFF DATA

 779 BA         SUBBASIN CHARACTERISTICS
                      TAREA         .50  SUBBASIN AREA

                PRECIPITATION DATA

 632 PB               STORM        2.92  BASIN TOTAL PRECIPITATION

 633 PI           INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                      .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                      .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00

 780 LG         GREEN AND AMPT LOSS RATE
                      STRTL         .30  STARTING LOSS
                        DTH         .25  MOISTURE DEFICIT
                       PSIF        6.20  WETTING FRONT SUCTION
                      XKSAT         .23  HYDRAULIC CONDUCTIVITY
                      RTIMP       22.00  PERCENT IMPERVIOUS AREA

 781 UC         CLARK UNITGRAPH
                         TC        1.20  TIME OF CONCENTRATION
                          R         .81  STORAGE COEFFICIENT

 782 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0

                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=  1.20 HR,       R=   .81 HR
                                        SNYDER   TP=  1.02 HR,      CP=   .78

                                                   UNIT HYDROGRAPH
                                              61 END-OF-PERIOD ORDINATES
                 4.       11.       16.       21.       28.       36.       50.       81.      134.      197.
               242.      256.      253.      242.      226.      206.      186.      168.      152.      137.
               123.      111.      101.       91.       82.       74.       67.       60.       54.       49.
                44.       40.       36.       33.       29.       26.       24.       22.       19.       18.
                16.       14.       13.       12.       11.        9.        9.        8.        7.        6.
                 6.        5.        5.        4.        4.        3.        3.        3.        3.        2.
                 2.

     ***            ***            ***            ***            ***

                         HYDROGRAPH AT STATION      621

    TOTAL RAINFALL =    2.92, TOTAL LOSS =    1.35, TOTAL EXCESS =    1.57

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+     302.      4.92                   83.         21.          7.          3.
                                 (INCHES)      1.536       1.567       1.567       1.567
                                  (AC-FT)         41.         42.         42.         42.

                         CUMULATIVE AREA =      .50 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 784 KK     *       621  *
            *            *
            **************
                                     RETENTION DIVERSION
                                     DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                     DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 3.46 AC-FT
                                     DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
```

```
                    TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 621 = 3.46 AC-FT

     DT          DIVERSION
                      ISTAD      621RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX        3.46  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH   621RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     80.       4.25                  7.          2.          1.           0.
                       (INCHES)     .128        .128        .128         .128
                        (AC-FT)       3.          3.          3.           3.

                       CUMULATIVE AREA =     .50 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION      621

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    302.       4.92                 78.         20.          7.           3.
                       (INCHES)    1.439       1.439       1.439        1.439
                        (AC-FT)      39.         39.         39.          39.

                       CUMULATIVE AREA =     .50 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  793 KK    *     CP621  *
            *            *
            **************
                       Combine 621 & CON412

  795 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          3  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

  796 HC          HYDROGRAPH COMBINATION
                       ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION    CP621

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    454.       5.42                180.         49.         16.           7.
                       (INCHES)    3.311       3.630       3.630        3.630
                        (AC-FT)      89.         98.         98.          98.

                       CUMULATIVE AREA =     .51 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  797 KK    *      P621  *
            *            *
            **************
                       Ponding east of RR Track


  800 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          3  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA
```

```
801 RS          STORAGE ROUTING
                     NSTPS           1  NUMBER OF SUBREACHES
                      ITYP        STOR  TYPE OF INITIAL CONDITION
                    RSVRIC         .00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

802 SV            STORAGE          .0       1.9      21.1      73.5     162.8     183.5     194.0     204.5     215.2     269.0
                                 379.1

804 SE          ELEVATION     1211.00   1217.00   1218.00   1219.00   1220.00   1220.20   1220.30   1220.40   1220.50   1221.00
                              1222.00

806 SQ          DISCHARGE          0.        0.        0.        0.        0.        0.        0.        0.       14.      664.
                                 4514.

                                                                  ***

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     P621

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                 0.          0.          0.          0.
                         (INCHES)    .000        .000        .000        .000
                          (AC-FT)      0.          0.          0.          0.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      98.     33.25                 98.         98.         98.         94.

 PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1219.27     28.00              1219.27     1219.28     1219.26     1219.01

                        CUMULATIVE AREA =     .51 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
808 KK      *       622  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 0.417 mi S= 8.6 ft/mi Kb= 0.047 Natural

              SUBBASIN RUNOFF DATA

811 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .10  SUBBASIN AREA

                PRECIPITATION DATA

632 PB               STORM        2.92  BASIN TOTAL PRECIPITATION

633 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                     .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

812 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .32  STARTING LOSS
                       DTH         .21  MOISTURE DEFICIT
                      PSIF        6.40  WETTING FRONT SUCTION
                     XKSAT         .23  HYDRAULIC CONDUCTIVITY
                     RTIMP       35.00  PERCENT IMPERVIOUS AREA

813 UC          CLARK UNITGRAPH
                        TC         .66  TIME OF CONCENTRATION
                         R         .43  STORAGE COEFFICIENT

814 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0

                                                                  ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=   .66 HR,       R=   .43 HR
                                           SNYDER   TP=   .58 HR,      CP=   .82

                                                       UNIT HYDROGRAPH
                                                  33 END-OF-PERIOD ORDINATES
                 2.        6.       11.       18.       43.       79.       94.       89.       77.       64.
                52.       43.       36.       29.       24.       20.       16.       14.       11.        9.
```

```
                8.        6.        5.        4.        3.        3.        2.        2.        2.        1.
                1.        1.        1.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      622

   TOTAL RAINFALL =    2.92, TOTAL LOSS =    1.10, TOTAL EXCESS =    1.83

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      95.      4.50                     20.          5.          2.           1.
                       (INCHES)      1.803       1.818       1.818        1.818
                        (AC-FT)       10.         10.         10.          10.

                       CUMULATIVE AREA =     .10 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  816 KK    *     CP622  *
            *            *
            **************
                         DEVELOPED AREA - NO PONDING NECESSARY.
                         Combine 621 & 622

  819 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

  820 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    CP622

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      95.      4.50                     20.          5.          2.           1.
                       (INCHES)       .300        .302        .302         .302
                        (AC-FT)       10.         10.         10.          10.

                       CUMULATIVE AREA =     .61 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  821 KK    *      D622  *      Intersection Diversion
            *            *
            **************
                         Flow split at Arizona Ave & Germann Rd. with 20% diverted west of Arizona Ave

     DT          DIVERSION
                      ISTAD       Az622  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00    100.00    500.00   1000.00   2000.00

     DQ      DIVERTED FLOW         .00     20.00    100.00    200.00    400.00

                                                                  ***

     ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH    Az622

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      19.      4.50                      4.          1.          0.           0.
                       (INCHES)       .060        .060        .060         .060
                        (AC-FT)        2.          2.          2.           2.

                       CUMULATIVE AREA =     .61 SQ MI


     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     D622

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
```

```
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      76.      4.50                     16.          4.          1.           1.
                        (INCHES)      .240        .242        .242         .242
                         (AC-FT)        8.          8.          8.           8.

                        CUMULATIVE AREA =     .61 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 826 KK     *    622624  *        ROUTE   REACH
            *            *
            **************
                          Routed south along Arizona Ave to CP624

               HYDROGRAPH ROUTING DATA

 828 RS          STORAGE ROUTING
                       NSTPS           3  NUMBER OF SUBREACHES
                        ITYP              TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

 829 RC          NORMAL DEPTH CHANNEL
                         ANL       .035  LEFT OVERBANK N-VALUE
                        ANCH       .015  MAIN CHANNEL N-VALUE
                         ANR       .035  RIGHT OVERBANK N-VALUE
                       RLNTH      2357.  REACH LENGTH
                         SEL      .0004  ENERGY SLOPE
                       ELMAX        1.9  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                         CROSS-SECTION DATA
                            --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 831 RY        ELEVATION      1.90       .90       .50       .00       .00       .50       .90      1.90
 830 RX        DISTANCE        .00       .00     23.50     23.50    106.50    106.50    130.00    130.00

                                                                  ***

                                         COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

           STORAGE        .00       .44       .87      1.31      1.75      2.19      2.65      3.17      3.75      4.39
           OUTFLOW        .00      3.39     10.75     21.11     34.04     49.30     66.83     86.68    108.92    133.60
         ELEVATION        .00       .10       .19       .29       .39       .49       .58       .68       .78       .88

           STORAGE       5.07      5.75      6.44      7.12      7.81      8.49      9.18      9.86     10.55     11.23
           OUTFLOW     161.08    191.04    223.25    257.62    294.06    332.51    372.91    415.19    459.32    505.25
         ELEVATION        .97      1.07      1.17      1.27      1.36      1.46      1.56      1.66      1.75      1.85


     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   622624

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      69.      4.83                     15.          4.          1.           1.
                        (INCHES)      .237        .242        .242         .242
                         (AC-FT)        8.          8.          8.           8.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.       4.83                      0.          0.          0.           0.

 PEAK STAGE     TIME                         MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .59       4.83                    .19         .05         .02          .01

                        CUMULATIVE AREA =     .61 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 832 KK     *       624  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 0.496 mi S= 8.5 ft/mi Kb= 0.045 Natural

               SUBBASIN RUNOFF DATA

 835 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .13  SUBBASIN AREA
```

```
                PRECIPITATION DATA

632 PB                STORM        2.92  BASIN TOTAL PRECIPITATION

633 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                     .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

836 LG          GREEN AND AMPT LOSS RATE
                      STRTL        .34  STARTING LOSS
                        DTH        .15  MOISTURE DEFICIT
                       PSIF       9.70  WETTING FRONT SUCTION
                      XKSAT        .07  HYDRAULIC CONDUCTIVITY
                      RTIMP      24.00  PERCENT IMPERVIOUS AREA

837 UC          CLARK UNITGRAPH
                         TC        .67  TIME OF CONCENTRATION
                          R        .43  STORAGE COEFFICIENT

838 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                     100.0

                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .67 HR,       R=   .43 HR
                                         SNYDER   TP=   .58 HR,      CP=   .82

                                                     UNIT HYDROGRAPH
                                                33 END-OF-PERIOD ORDINATES
                 3.        8.       14.       23.       53.       99.      123.      118.      103.       85.
                70.       58.       48.       39.       33.       27.       22.       18.       15.       12.
                10.        8.        7.        6.        5.        4.        3.        3.        2.        2.
                 1.        1.        1.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      624

   TOTAL RAINFALL =    2.92, TOTAL LOSS =     .89, TOTAL EXCESS =    2.04

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     140.      4.50                     29.         7.          2.          1.
                        (INCHES)      2.016       2.027       2.027       2.027
                         (AC-FT)        14.         14.         14.         14.

                        CUMULATIVE AREA =     .13 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 840 KK     *     CP624  *
            *            *
            **************
                        Combine P623-5, sub 624 & 622624

 842 KO          OUTPUT CONTROL VARIABLES
                      IPRNT          3  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL         0.  HYDROGRAPH PLOT SCALE

 843 HC          HYDROGRAPH COMBINATION
                      ICOMP          3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    CP624

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     207.      4.67                     93.        39.         16.          7.
                        (INCHES)       .647       1.091       1.333       1.334
                         (AC-FT)        46.         78.         95.         95.

                        CUMULATIVE AREA =    1.34 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
                 **************
                 *            *
  844 KK         *      P624  *
                 *            *
                 **************
                          Ponding in Agricultural Field east of Arizona Ave

  847 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

                 HYDROGRAPH ROUTING DATA

  848 RS           STORAGE ROUTING
                        NSTPS           1  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  849 SV             STORAGE          .0        .1        .3       2.8      26.5      35.3      40.4      43.1      85.4

  850 SE           ELEVATION     1211.00   1212.00   1213.00   1214.00   1215.00   1215.20   1215.30   1215.35   1216.00

  851 SQ           DISCHARGE          0.        0.        0.        0.        0.        5.       33.       62.     1614.
                                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     P624

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      44.     10.08                       36.         23.         11.           5.
                          (INCHES)       .250        .643        .924         .962
                           (AC-FT)        18.         46.         66.          69.

 PEAK STORAGE   TIME                               MAXIMUM AVERAGE STORAGE
                                          6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       41.     10.08                       41.         39.         35.          30.

  PEAK STAGE    TIME                               MAXIMUM AVERAGE STAGE
                                          6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1215.32     10.00                  1215.30     1215.26     1215.19      1215.02

                          CUMULATIVE AREA =    1.34 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                 **************
                 *            *
  852 KK         *      D624  *
                 *            *
                 **************
                           Divert 100% of flow over Arizona Ave

  854 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

      DT           DIVERSION
                        ISTAD       Az624  DIVERSION HYDROGRAPH IDENTIFICATION

      DI              INFLOW         .00    100.00

      DQ       DIVERTED FLOW         .00    100.00
                                                                                  ***

      ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH    Az624

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      44.     10.08                       36.         23.         11.           5.
                          (INCHES)       .250        .643        .924         .962
                           (AC-FT)        18.         46.         66.          69.

                          CUMULATIVE AREA =    1.34 SQ MI

      ***             ***             ***             ***             ***
```

```
                    HYDROGRAPH AT STATION     D624

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      0.       .00                 0.          0.          0.           0.
                       (INCHES)    .000        .000        .000         .000
                        (AC-FT)      0.          0.          0.           0.

                      CUMULATIVE AREA =    1.34 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 858 KK     *      626   *        BASIN
            *            *
            **************
                      The following parameters were determined for this sub basin.
                      L= 0.554 mi S= 12.8 ft/mi Kb= 0.054 Natural

              SUBBASIN RUNOFF DATA

 861 BA         SUBBASIN CHARACTERISTICS
                     TAREA         .13  SUBBASIN AREA

                PRECIPITATION DATA

 632 PB              STORM        2.92  BASIN TOTAL PRECIPITATION

 633 PI           INCREMENTAL PRECIPITATION PATTERN
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                    .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                    .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00

 862 LG         GREEN AND AMPT LOSS RATE
                     STRTL         .50  STARTING LOSS
                       DTH         .25  MOISTURE DEFICIT
                      PSIF        5.40  WETTING FRONT SUCTION
                     XKSAT         .34  HYDRAULIC CONDUCTIVITY
                     RTIMP         .00  PERCENT IMPERVIOUS AREA

 863 UC         CLARK UNITGRAPH
                        TC         .98  TIME OF CONCENTRATION
                         R         .71  STORAGE COEFFICIENT

 864 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                   100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=   .98 HR,       R=   .71 HR
                                  SNYDER   TP=   .84 HR,      CP=   .75

                                            UNIT HYDROGRAPH
                                      53 END-OF-PERIOD ORDINATES
                 1.        4.        6.        8.       11.       18.       32.       55.       73.       78.
                77.       72.       65.       58.       52.       46.       41.       36.       32.       29.
                25.       23.       20.       18.       16.       14.       13.       11.       10.        9.
                 8.        7.        6.        5.        5.        4.        4.        3.        3.        3.
                 2.        2.        2.        2.        1.        1.        1.        1.        1.        1.
                 1.        1.        1.

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      626

   TOTAL RAINFALL =    2.92, TOTAL LOSS =    2.03, TOTAL EXCESS =     .89

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     59.      4.75                13.          3.          1.           0.
                       (INCHES)    .889        .889        .889         .889
                        (AC-FT)      6.          6.          6.           6.

                      CUMULATIVE AREA =     .13 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
```

```
866 KK      *     CP626  *
            *            *
            **************
                    Combine Flow from CP629, P625,P624 and 626

868 KO          OUTPUT CONTROL VARIABLES
                     IPRNT          3  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL         0.  HYDROGRAPH PLOT SCALE

869 HC          HYDROGRAPH COMBINATION
                     ICOMP          4  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    CP626

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      59.      4.75                13.          3.          1.           0.
                        (INCHES)    .055        .055        .055         .055
                         (AC-FT)      6.          6.          6.           6.

                        CUMULATIVE AREA =    2.15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
870 KK      *      P626  *
            *            *
            **************
                    Ponding in Agricultural Field east of Arizona Ave


873 KO          OUTPUT CONTROL VARIABLES
                     IPRNT          3  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL         0.  HYDROGRAPH PLOT SCALE

              HYDROGRAPH ROUTING DATA

874 RS          STORAGE ROUTING
                     NSTPS          1  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                    RSVRIC        .00  INITIAL CONDITION
                         X        .00 WORKING R AND D COEFFICIENT

875 SV            STORAGE         .0        .1        .3        .8       3.7       5.7      38.5

876 SE          ELEVATION    1211.00   1212.00   1213.00   1214.00   1214.80   1215.00   1216.00

877 SQ          DISCHARGE         0.        0.        0.        0.       56.      184.     2470.

                                                          ***

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     P626

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      36.      5.33                11.          3.          1.           0.
                        (INCHES)    .048        .048        .048         .048
                         (AC-FT)      6.          6.          6.           6.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        3.      5.25                 1.          1.          1.           1.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1214.51      5.33             1214.16     1214.04     1214.01      1213.93

                        CUMULATIVE AREA =    2.15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
878 KK      *      D626  *
            *            *
            **************
```

```
                    Divert 100% of flow over Arizona Ave

880 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

    DT          DIVERSION
                      ISTAD       Az626  DIVERSION HYDROGRAPH IDENTIFICATION

    DI             INFLOW         .00    100.00

    DQ      DIVERTED FLOW         .00    100.00

                                                                  ***

     ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH    Az626

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      36.      5.33                  11.          3.          1.           0.
                       (INCHES)      .048        .048        .048         .048
                        (AC-FT)        6.          6.          6.           6.

                       CUMULATIVE AREA =    2.15 SQ MI

     ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION     D626

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+       0.       .00                   0.          0.          0.           0.
                       (INCHES)      .000        .000        .000         .000
                        (AC-FT)        0.          0.          0.           0.

                       CUMULATIVE AREA =    2.15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
884 KK      *       630  *        BASIN
            *            *
            **************
                       The following parameters were determined for this sub basin.
                       L= 1.238 mi S= 4.7 ft/mi Kb= 0.033 Urban

 89 IN          TIME DATA FOR INPUT TIME SERIES
                      JXMIN          15  TIME INTERVAL IN MINUTES
                     JXDATE      3MAR 3  STARTING DATE
                     JXTIME        1200  STARTING TIME

               SUBBASIN RUNOFF DATA

885 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .32  SUBBASIN AREA

                PRECIPITATION DATA

888 PB                STORM        2.95  BASIN TOTAL PRECIPITATION

889 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .06       .06       .06       .10       .10       .10       .04       .04
                     .04       .02       .02       .02       .01       .01       .01       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

892 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .25  STARTING LOSS
                        DTH         .22  MOISTURE DEFICIT
                       PSIF        4.15  WETTING FRONT SUCTION
                      XKSAT         .53  HYDRAULIC CONDUCTIVITY
                      RTIMP       36.00  PERCENT IMPERVIOUS AREA

893 UC          CLARK UNITGRAPH
                         TC        1.49  TIME OF CONCENTRATION
                          R        1.30  STORAGE COEFFICIENT

894 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                                  ***
```

```
                                    UNIT HYDROGRAPH PARAMETERS
                              CLARK   TC=  1.49 HR,       R=  1.30 HR
                             SNYDER   TP=   .85 HR,      CP=   .39

                                         UNIT HYDROGRAPH
                                    91 END-OF-PERIOD ORDINATES
              2.       7.      14.      23.      33.      49.      73.      90.      96.      99.
             98.      98.      97.      94.      92.      89.      86.      83.      79.      74.
             70.      65.      61.      57.      54.      51.      47.      45.      42.      39.
             37.      34.      32.      30.      28.      27.      25.      24.      22.      21.
             19.      18.      17.      16.      15.      14.      13.      12.      12.      11.
             10.      10.       9.       8.       8.       7.       7.       7.       6.       6.
              5.       5.       5.       4.       4.       4.       4.       3.       3.       3.
              3.       3.       3.       2.       2.       2.       2.       2.       2.       2.
              2.       1.       1.       1.       1.       1.       1.       1.       1.       1.
              1.

     ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION      630

    TOTAL RAINFALL =    2.95, TOTAL LOSS =    1.25, TOTAL EXCESS =    1.70

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     141.      4.83                  56.         15.          5.          2.
                        (INCHES)    1.600      1.694       1.694       1.694
                         (AC-FT)      28.         29.         29.         29.

                       CUMULATIVE AREA =     .32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  896 KK    *    CON424  *
            *            *
            **************
                                Retrieve data from DSS file
                                Overflow from Consolidated Canal at Chandler Heights Rd.
 -----DSS--- ZREAD Unit  71; Vers.   22:  /CONS/CP424/FLOW/03MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   22:  /CONS/CP424/FLOW/03MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   22:  /CONS/CP424/FLOW/04MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   22:  /CONS/CP424/FLOW/05MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   22:  /CONS/CP424/FLOW/06MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   22:  /CONS/CP424/FLOW/06MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   22:  /CONS/CP424/FLOW/06MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   22:  /CONS/CP424/FLOW/07MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   22:  /CONS/CP424/FLOW/08MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   22:  /CONS/CP424/FLOW/08MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   22:  /CONS/CP424/FLOW/08MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   22:  /CONS/CP424/FLOW/09MAR1903/5MIN/6HR/
 -----DSS--- ZREAD Unit  71; Vers.   22:  /CONS/CP424/FLOW/10MAR1903/5MIN/6HR/
 -----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
 Pathname: /CONS/CP424/FLOW/11MAR1903/5MIN/6HR/

              SUBBASIN RUNOFF DATA

  899 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .00  SUBBASIN AREA

                                                                  ***

     ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION   CON424

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      40.     15.42                  37.         18.          6.          3.
                        (INCHES)  344.063     658.048     668.028     668.091
                         (AC-FT)      18.         35.         36.         36.

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  901 KK    *     CP630  *
            *            *
            **************
                              Combine 630 & CON424

  903 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
```

```
                    IPLOT          0  PLOT CONTROL
                    QSCAL         0.  HYDROGRAPH PLOT SCALE

  904 HC        HYDROGRAPH COMBINATION
                    ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION    CP630

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     141.      4.83                56.         31.         11.           5.
                       (INCHES)    1.595       3.510       3.750        3.750
                        (AC-FT)     28.         61.         65.          65.

                      CUMULATIVE AREA =     .32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  905 KK    *      P630  *
            *            *
            **************
                            Ponding in lakes within the Pinelake Community and in basins
                            east of RR Track.

  908 KO        OUTPUT CONTROL VARIABLES
                    IPRNT          3  PRINT CONTROL
                    IPLOT          0  PLOT CONTROL
                    QSCAL         0.  HYDROGRAPH PLOT SCALE

              HYDROGRAPH ROUTING DATA

  909 RS        STORAGE ROUTING
                    NSTPS          1  NUMBER OF SUBREACHES
                     ITYP       STOR  TYPE OF INITIAL CONDITION
                   RSVRIC        .00  INITIAL CONDITION
                        X        .00 WORKING R AND D COEFFICIENT

  910 SV          STORAGE         .0      19.5      42.5      84.9      90.1     101.2     107.2     147.6     236.6

  911 SE        ELEVATION     1213.00   1218.00   1219.00   1220.00   1220.10   1220.30   1220.40   1221.00   1222.00

  912 SQ        DISCHARGE          0.        0.        0.        0.        0.        5.       41.     1165.     8549.

                                                          ***

      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION     P630

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+       0.        .00                 0.          0.          0.           0.
                       (INCHES)     .000        .000        .000         .000
                        (AC-FT)       0.          0.          0.           0.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       65.     65.42                 65.         65.         65.          60.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1219.53     56.33              1219.52     1219.53     1219.50      1219.22

                      CUMULATIVE AREA =     .32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  913 KK    *       631  *        BASIN
            *            *
            **************
                            The following parameters were determined for this sub basin.
                            L= 0.919 mi S= 8.5 ft/mi Kb= 0.042 Urban

              SUBBASIN RUNOFF DATA

  916 BA        SUBBASIN CHARACTERISTICS
                    TAREA         .30  SUBBASIN AREA
```

```
                PRECIPITATION DATA

888 PB                STORM        2.95  BASIN TOTAL PRECIPITATION

889 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .06       .06       .06       .10       .10       .10       .04       .04
                     .04       .02       .02       .02       .01       .01       .01       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

917 LG          GREEN AND AMPT LOSS RATE
                     STRTL        .33  STARTING LOSS
                       DTH        .25  MOISTURE DEFICIT
                      PSIF       4.45  WETTING FRONT SUCTION
                     XKSAT        .51  HYDRAULIC CONDUCTIVITY
                     RTIMP      24.00  PERCENT IMPERVIOUS AREA

918 UC          CLARK UNITGRAPH
                        TC       1.25  TIME OF CONCENTRATION
                         R        .88  STORAGE COEFFICIENT

919 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=  1.25 HR,       R=   .88 HR
                                           SNYDER   TP=   .68 HR,      CP=   .44

                                                      UNIT HYDROGRAPH
                                                 63 END-OF-PERIOD ORDINATES
                 4.       12.       25.       40.       64.      100.      124.      128.      128.      126.
               122.      117.      112.      106.      100.       93.       85.       77.       70.       64.
                58.       53.       48.       44.       40.       36.       33.       30.       27.       25.
                22.       20.       19.       17.       15.       14.       13.       12.       10.       10.
                 9.        8.        7.        7.        6.        5.        5.        4.        4.        4.
                 3.        3.        3.        3.        2.        2.        2.        2.        2.        1.
                 1.        1.        1.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      631

    TOTAL RAINFALL =    2.95, TOTAL LOSS =    1.54, TOTAL EXCESS =    1.40

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                     (CFS)
+     148.      4.67                    44.         11.          4.          2.
                                  (INCHES)      1.360       1.397       1.397       1.397
                                   (AC-FT)        22.         22.         22.         22.

                                 CUMULATIVE AREA =     .30 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
921 KK      *       631  *
            *            *
            **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 3.85 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 631 = 3.85 AC-FT

    DT          DIVERSION
                      ISTAD      631RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX        3.85  MAXIMUM VOLUME TO BE DIVERTED

    DI             INFLOW         .00  10000.00

    DQ      DIVERTED FLOW         .00  10000.00

                                                          ***

     ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   631RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                     (CFS)
+      96.      4.25                     8.          2.          1.          0.
                                  (INCHES)       .239        .239        .239        .239
```

```
                    (AC-FT)        4.          4.          4.          4.

                    CUMULATIVE AREA =     .30 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION      631

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                       (CFS)
+     148.      4.67                38.          9.          3.          1.
                    (INCHES)     1.158       1.158       1.158       1.158
                    (AC-FT)       19.         19.         19.         19.

                    CUMULATIVE AREA =     .30 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  930 KK    *     CP631  *
            *            *
            **************
                     Combine sub 630 & 631

  932 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

  933 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    CP631

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                       (CFS)
+     148.      4.67                38.          9.          3.          1.
                    (INCHES)      .559        .559        .559        .559
                    (AC-FT)       19.         19.         19.         19.

                    CUMULATIVE AREA =     .63 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  934 KK    *      P631  *
            *            *
            **************
                     Ponding in Agricultural Field east of Arizona Ave


  937 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

               HYDROGRAPH ROUTING DATA

  938 RS          STORAGE ROUTING
                       NSTPS           1  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

  939 SV            STORAGE          .0         .5       12.8       33.4       35.2       41.0      104.9

  940 SE          ELEVATION     1212.00    1213.00    1214.00    1214.80    1214.85    1215.00    1216.00

  941 SQ          DISCHARGE          0.         0.         0.         0.         1.        32.      2087.

                                                                  ***

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     P631

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                       (CFS)
```

```
+       0.       .00                    0.          0.          0.          0.
                         (INCHES)     .000        .000        .000        .000
                          (AC-FT)       0.          0.          0.          0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      19.      10.67                    19.         19.         19.         18.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1214.23     10.58                1214.23     1214.22     1214.24     1214.18

                         CUMULATIVE AREA =     .63 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 942 KK     *      D631  *
            *            *
            **************
                         Divert 100% of flow over Arizona Ave

 944 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          3  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

     DT          DIVERSION
                       ISTAD      Az631  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW        .00    100.00

     DQ      DIVERTED FLOW        .00    100.00

                                                                  ***

      ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH    Az631

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                    0.          0.          0.          0.
                         (INCHES)     .000        .000        .000        .000
                          (AC-FT)       0.          0.          0.          0.

                         CUMULATIVE AREA =     .63 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     D631

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     * 0.       .00                    0.          0.          0.          0.
                         (INCHES)     .000        .000        .000        .000
                          (AC-FT)       0.          0.          0.          0.

                         CUMULATIVE AREA =     .63 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 948 KK     *    CON427  *
            *            *
            **************
                         Retrieve data from DSS file
                         Overflow from Consolidated Canal from Paseo Crossings Subdivision.
-----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP427/FLOW/03MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP427/FLOW/03MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP427/FLOW/04MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP427/FLOW/05MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP427/FLOW/06MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP427/FLOW/06MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP427/FLOW/06MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP427/FLOW/07MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP427/FLOW/08MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP427/FLOW/08MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP427/FLOW/08MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP427/FLOW/09MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /CONS/CP427/FLOW/10MAR1903/5MIN/6HR/
-----DSS*** ZRRTS:  CAUTION - Data block not found in file. Unit:  71
```

```
Pathname: /CONS/CP427/FLOW/11MAR1903/5MIN/6HR/

              SUBBASIN RUNOFF DATA

 951 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .00  SUBBASIN AREA

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   CON427

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     400.      5.92                106.         30.         10.           4.
                         (INCHES)  987.829    1130.592    1132.303     1132.303
                          (AC-FT)     53.         60.         60.          60.

                         CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


             **************
             *            *
 953 KK      *      632N  *        BASIN
             *            *
             **************
                          The following parameters were determined for this sub basin.
                          L= 0.27 mi S= 56.2 ft/mi Kb= 0.029 Natural

              SUBBASIN RUNOFF DATA

 956 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .15  SUBBASIN AREA

                 PRECIPITATION DATA

 888 PB               STORM        2.95  BASIN TOTAL PRECIPITATION

 889 PI            INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                      .03       .03       .06       .06       .06       .10       .10       .10       .04       .04
                      .04       .02       .02       .02       .01       .01       .01       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00

 957 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .19  STARTING LOSS
                        DTH         .24  MOISTURE DEFICIT
                       PSIF        4.50  WETTING FRONT SUCTION
                      XKSAT         .55  HYDRAULIC CONDUCTIVITY
                      RTIMP        6.00  PERCENT IMPERVIOUS AREA

 958 UC          CLARK UNITGRAPH
                         TC         .25  TIME OF CONCENTRATION
                          R         .08  STORAGE COEFFICIENT

 959 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                     100.0

                                                                  ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                             CLARK   TC=   .25 HR,       R=   .08 HR
                                            SNYDER   TP=   .19 HR,      CP=   .95

                                                      UNIT HYDROGRAPH
                                                 7 END-OF-PERIOD ORDINATES
                 38.      284.      452.      271.       85.       27.        8.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     632N

    TOTAL RAINFALL =    2.95, TOTAL LOSS =    1.89, TOTAL EXCESS =    1.06

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     231.      4.08                 17.          4.          1.           1.
                         (INCHES)    1.056       1.056       1.056        1.056
                          (AC-FT)     9.          9.          9.           9.

                         CUMULATIVE AREA =     .15 SQ MI
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
  961 KK      *   CP632N   *
              *            *
              **************
                             Combine 632N & CON427

  963 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

  964 HC          HYDROGRAPH COMBINATION
                        ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   CP632N

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     400.      5.92                116.         35.         12.           5.
                        (INCHES)    7.068       8.463       8.499       8.499
                         (AC-FT)     57.         69.         69.         69.

                        CUMULATIVE AREA =     .15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
  965 KK      *    P632N   *
              *            *
              **************
                             Ponding in golf course North of the ridge

  968 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

  969 RS          STORAGE ROUTING
                        NSTPS          1  NUMBER OF SUBREACHES
                         ITYP       STOR  TYPE OF INITIAL CONDITION
                       RSVRIC        .00  INITIAL CONDITION
                            X        .00 WORKING R AND D COEFFICIENT

  970 SV           STORAGE          .0        .0        .2        .5       1.0       2.2       4.2       7.5      12.8      21.2
                                  34.6      55.5      86.1     127.6     181.0     246.3     320.7     402.1     489.1

  972 SE          ELEVATION     1208.00   1209.00   1210.00   1211.00   1212.00   1213.00   1214.00   1215.00   1216.00   1217.00
                                1218.00   1219.00   1220.00   1221.00   1222.00   1223.00   1224.00   1225.00   1226.00

  974 SQ          DISCHARGE         0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                                    0.        0.        0.        0.        0.      250.     2142.     8965.    22869.

                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    P632N

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                  0.          0.          0.          0.
                        (INCHES)     .000        .000        .000        .000
                         (AC-FT)       0.          0.          0.          0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      69.      53.83                   69.         69.         69.         66.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1219.44     43.58                1219.44     1219.44     1219.43     1219.16

                        CUMULATIVE AREA =     .15 SQ MI
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 976 KK     *      632S  *        BASIN
            *            *
            **************
                           The following parameters were determined for this sub basin..
                           L= 0.21 mi S= 64.6 ft/mi Kb= 0.027 Natural

              SUBBASIN RUNOFF DATA

 979 BA         SUBBASIN CHARACTERISTICS
                      TAREA         .26  SUBBASIN AREA

                PRECIPITATION DATA

 888 PB               STORM        2.95  BASIN TOTAL PRECIPITATION

 889 PI           INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                      .03       .03       .06       .06       .06       .10       .10       .10       .04       .04
                      .04       .02       .02       .02       .01       .01       .01       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00

 980 LG         GREEN AND AMPT LOSS RATE
                      STRTL         .20  STARTING LOSS
                        DTH         .25  MOISTURE DEFICIT
                       PSIF        4.55  WETTING FRONT SUCTION
                      XKSAT         .54  HYDRAULIC CONDUCTIVITY
                      RTIMP        4.00  PERCENT IMPERVIOUS AREA

 981 UC         CLARK UNITGRAPH
                         TC         .20  TIME OF CONCENTRATION
                          R         .04  STORAGE COEFFICIENT

 982 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                     100.0

                                                                  ***
R INCREASED TO MINIMUM OF 0.5

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=   .20 HR,       R=   .04 HR
                                        SNYDER   TP=   .15 HR,      CP=   .90

                                                    UNIT HYDROGRAPH
                                                 4 END-OF-PERIOD ORDINATES
              130.      930.      893.       92.

     ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION     632S

    TOTAL RAINFALL =    2.95, TOTAL LOSS =    1.94, TOTAL EXCESS =    1.01

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     425.      4.00                29.          7.          2.          1.
                        (INCHES)    1.009       1.009       1.009       1.009
                         (AC-FT)     14.         14.         14.         14.

                        CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 984 KK     *    CP632S  *
            *            *
            **************
                           Combine 632S & overflow from 632N

 986 KO         OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

 987 HC         HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

     ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   CP632S
```

```
  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     425.      4.00                29.          7.          2.          1.
                        (INCHES)    .640        .640        .640        .640
                         (AC-FT)     14.         14.         14.         14.

                       CUMULATIVE AREA =     .42 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  988 KK    *     P632S  *
            *            *
            **************
                          Ponding in golf course along UPRR


  991 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

  992 RS          STORAGE ROUTING
                        NSTPS          1  NUMBER OF SUBREACHES
                         ITYP       STOR  TYPE OF INITIAL CONDITION
                       RSVRIC        .00  INITIAL CONDITION
                            X        .00 WORKING R AND D COEFFICIENT

  993 SV            STORAGE          .0        .3        .6       1.2       2.5       5.0       9.2      15.8      25.4      38.6
                                    56.4      82.6     121.1     169.7     226.0     288.0     354.0     422.1

  995 SE          ELEVATION     1203.00   1204.00   1205.00   1206.00   1207.00   1208.00   1209.00   1210.00   1211.00   1212.00
                                1213.00   1214.00   1215.00   1216.00   1217.00   1218.00   1219.00   1220.00

  997 SQ          DISCHARGE         0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                                    0.        0.       18.       74.      146.      234.      514.     9191.

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    P632S

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.          0.
                        (INCHES)    .000        .000        .000        .000
                         (AC-FT)     0.          0.          0.          0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      14.       6.25                14.         14.         14.         14.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1209.75      6.25             1209.75     1209.75     1209.75     1209.60

                       CUMULATIVE AREA =     .42 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  999 KK    *       634  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 0.398 mi S= 0.3 ft/mi Kb= 0.051 Natural

 1002 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

                SUBBASIN RUNOFF DATA

 1003 BA          SUBBASIN CHARACTERISTICS
                        TAREA        .07  SUBBASIN AREA

                  PRECIPITATION DATA
```

```
 888 PB              STORM        2.95  BASIN TOTAL PRECIPITATION

 889 PI           INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .06       .06       .06       .10       .10       .10       .04       .04
                     .04       .02       .02       .02       .01       .01       .01       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

1004 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .36  STARTING LOSS
                       DTH         .25  MOISTURE DEFICIT
                      PSIF        4.25  WETTING FRONT SUCTION
                     XKSAT         .57  HYDRAULIC CONDUCTIVITY
                     RTIMP       14.00  PERCENT IMPERVIOUS AREA

1005 UC          CLARK UNITGRAPH
                        TC        1.50  TIME OF CONCENTRATION
                         R        1.26  STORAGE COEFFICIENT

1006 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                     100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=  1.50 HR,       R=  1.26 HR
                                           SNYDER   TP=  1.28 HR,      CP=   .68

                                                     UNIT HYDROGRAPH
                                              92 END-OF-PERIOD ORDINATES
                 0.        1.        1.        2.        2.        3.        3.        4.        5.        8.
                12.       17.       21.       24.       25.       25.       24.       23.       22.       21.
                20.       18.       17.       16.       15.       14.       13.       12.       12.       11.
                10.        9.        9.        8.        8.        7.        7.        6.        6.        6.
                 5.        5.        5.        4.        4.        4.        4.        3.        3.        3.
                 3.        3.        2.        2.        2.        2.        2.        2.        2.        1.
                 1.        1.        1.        1.        1.        1.        1.        1.        1.        1.
                 1.        1.        1.        1.        1.        1.        0.        0.        0.        0.
                 0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                 0.        0.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      634

    TOTAL RAINFALL =    2.95, TOTAL LOSS =    1.82, TOTAL EXCESS =    1.13

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+      25.      5.17                    8.          2.          1.          0.
                         (INCHES)    1.084       1.127       1.127       1.127
                          (AC-FT)        4.          4.          4.          4.

                        CUMULATIVE AREA =     .07 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


             **************
             *            *
1008 KK      *      P634  *
             *            *
             **************
                        Ponding in open space east of UPRR Track


1011 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           3  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

1012 RS          STORAGE ROUTING
                     NSTPS           1  NUMBER OF SUBREACHES
                      ITYP        STOR  TYPE OF INITIAL CONDITION
                    RSVRIC         .00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

1013 SV            STORAGE          .0        .4       1.4       6.5      20.0      45.0

1014 SE          ELEVATION     1213.00   1214.00   1215.00   1216.00   1217.00   1218.00

1015 SQ          DISCHARGE          0.        0.        0.        0.        0.      306.

                                                          ***

     ***             ***             ***             ***             ***
```

```
                    HYDROGRAPH AT STATION     P634

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      0.        .00                 0.          0.          0.          0.
                       (INCHES)    .000        .000        .000        .000
                        (AC-FT)      0.          0.          0.          0.

 PEAK STORAGE  TIME                        MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       4.     12.25                 4.          4.          4.          4.

 PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
  1215.56     13.00             1215.56     1215.56     1215.57     1215.51

                       CUMULATIVE AREA =     .07 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1016 KK     *       633  *        BASIN
            *            *
            **************
                         The following parameters were determined for this sub basin.
                         L= 0.923 mi S= 11.9 ft/mi Kb= 0.047 Natural

              SUBBASIN RUNOFF DATA

1019 BA         SUBBASIN CHARACTERISTICS
                      TAREA          .23  SUBBASIN AREA

                PRECIPITATION DATA

 888 PB               STORM        2.95  BASIN TOTAL PRECIPITATION

 889 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .06       .06       .06       .10       .10       .10       .04       .04
                     .04       .02       .02       .02       .01       .01       .01       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

1020 LG         GREEN AND AMPT LOSS RATE
                      STRTL         .41  STARTING LOSS
                        DTH         .26  MOISTURE DEFICIT
                       PSIF        4.60  WETTING FRONT SUCTION
                      XKSAT         .47  HYDRAULIC CONDUCTIVITY
                      RTIMP       10.00  PERCENT IMPERVIOUS AREA

1021 UC         CLARK UNITGRAPH
                         TC        1.35  TIME OF CONCENTRATION
                          R        1.12  STORAGE COEFFICIENT

1022 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                     100.0

                                                   ***

                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=  1.35 HR,       R=  1.12 HR
                                       SNYDER   TP=  1.15 HR,      CP=   .68

                                                UNIT HYDROGRAPH
                                           82 END-OF-PERIOD ORDINATES
                 1.        3.        5.        6.        8.       10.       14.       18.       29.       45.
                64.       80.       88.       89.       87.       85.       80.       75.       69.       64.
                60.       56.       52.       48.       44.       41.       38.       36.       33.       31.
                28.       26.       25.       23.       21.       20.       18.       17.       16.       15.
                14.       13.       12.       11.       10.        9.        9.        8.        7.        7.
                 6.        6.        6.        5.        5.        4.        4.        4.        4.        3.
                 3.        3.        3.        2.        2.        2.        2.        2.        2.        2.
                 1.        1.        1.        1.        1.        1.        1.        1.        1.        1.
                 1.        1.

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      633

   TOTAL RAINFALL =    2.95, TOTAL LOSS =    1.84, TOTAL EXCESS =    1.10

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     86.      5.08                26.          7.          2.          1.
```

```
                    (INCHES)     1.070       1.098       1.098       1.098
                     (AC-FT)      13.         13.         13.         13.

                    CUMULATIVE AREA =     .23 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1024 KK     *     CP633  *
            *            *
            **************
                    Combine sub 634, 633, CP632

1026 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

1027 HC          HYDROGRAPH COMBINATION
                      ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    CP633

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      86.      5.08                 26.          7.          2.           1.
                    (INCHES)      .340        .349        .349         .349
                     (AC-FT)       13.         13.         13.         13.

                    CUMULATIVE AREA =     .71 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1028 KK     *      P633  *
            *            *
            **************
                    Ponding east of Arizona Ave

1031 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

1032 RS          STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

1033 SV            STORAGE          .0      10.3      54.2     148.7     256.1

1034 SE          ELEVATION     1208.00   1212.00   1213.00   1214.00   1215.00

1035 SQ          DISCHARGE          0.        0.        0.      310.     9559.

                                                          ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     P633

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.           0.
                    (INCHES)      .000        .000        .000         .000
                     (AC-FT)        0.          0.          0.           0.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       13.     11.83                 13.         13.         13.          13.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1212.07     11.42              1212.07     1212.06     1212.06      1211.95
```

```
                    CUMULATIVE AREA =     .71 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1036 KK     *      D633  *
            *            *
            **************
                      Divert 100% of flow over Arizona Ave

1038 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

     DT          DIVERSION
                      ISTAD       Az633  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00    100.00

     DQ      DIVERTED FLOW         .00    100.00

                                                                  ***

      ***             ***             ***             ***             ***

                       DIVERSION HYDROGRAPH    Az633

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.           0.
                       (INCHES)     .000        .000        .000         .000
                        (AC-FT)      0.          0.          0.           0.

                       CUMULATIVE AREA =     .71 SQ MI

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     D633

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.           0.
                       (INCHES)     .000        .000        .000         .000
                        (AC-FT)      0.          0.          0.           0.

                       CUMULATIVE AREA =     .71 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1042 KK     *      635   *        BASIN
            *            *
            **************
                      The following parameters were determined for this sub basin.
                      L= 0.845 mi S= 13.7 ft/mi Kb= 0.030 Urban

               SUBBASIN RUNOFF DATA

1045 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .15  SUBBASIN AREA

                 PRECIPITATION DATA

 888 PB                STORM        2.95  BASIN TOTAL PRECIPITATION

 889 PI            INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                      .03       .03       .06       .06       .06       .10       .10       .10       .04       .04
                      .04       .02       .02       .02       .01       .01       .01       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00

1046 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .12  STARTING LOSS
                        DTH         .30  MOISTURE DEFICIT
                       PSIF        4.15  WETTING FRONT SUCTION
                      XKSAT         .48  HYDRAULIC CONDUCTIVITY
                      RTIMP       28.00  PERCENT IMPERVIOUS AREA

1047 UC          CLARK UNITGRAPH
```

```
                    TC          .71  TIME OF CONCENTRATION
                     R          .65  STORAGE COEFFICIENT

1048 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                                  ***

                                                        UNIT HYDROGRAPH PARAMETERS
                                                  CLARK   TC=   .71 HR,       R=   .65 HR
                                                 SNYDER   TP=   .43 HR,      CP=   .41

                                                          UNIT HYDROGRAPH
                                                     45 END-OF-PERIOD ORDINATES
                 5.       19.       46.       78.       94.       94.       91.       86.       80.       71.
                63.       55.       49.       43.       38.       33.       29.       26.       22.       20.
                17.       15.       13.       12.       10.        9.        8.        7.        6.        5.
                 5.        4.        4.        3.        3.        3.        2.        2.        2.        2.
                 1.        1.        1.        1.        1.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      635

    TOTAL RAINFALL =    2.95, TOTAL LOSS =    1.40, TOTAL EXCESS =    1.55

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                     (CFS)
+     108.      4.33                   25.          6.          2.           1.
                                  (INCHES)     1.522       1.545       1.545        1.545
                                   (AC-FT)       12.         13.         13.          13.

                                 CUMULATIVE AREA =     .15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1050 KK     *      D635  *
            *            *
            **************
                          Divert 100% of flow over Arizona Ave

1052 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

     DT          DIVERSION
                      ISTAD       Az635  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00    100.00

     DQ      DIVERTED FLOW         .00    100.00

                                                                  ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    Az635

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                     (CFS)
+     108.      4.33                   25.          6.          2.           1.
                                  (INCHES)     1.522       1.545       1.545        1.545
                                   (AC-FT)       12.         13.         13.          13.

                                 CUMULATIVE AREA =     .15 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     D635

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                     (CFS)
+       0.       .00                    0.          0.          0.           0.
                                  (INCHES)      .000        .000        .000         .000
                                   (AC-FT)        0.          0.          0.           0.

                                 CUMULATIVE AREA =     .15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
              **************
              *            *
1056 KK       *     RR432  *
              *            *
              **************
                                  Retrieve data from DSS file
                                  Overflow from RR Track Bridge
-----DSS--- ZREAD Unit  71; Vers.   70:  /RR/CP432/FLOW/03MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /RR/CP432/FLOW/03MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /RR/CP432/FLOW/04MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /RR/CP432/FLOW/05MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /RR/CP432/FLOW/06MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /RR/CP432/FLOW/06MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /RR/CP432/FLOW/06MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /RR/CP432/FLOW/07MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /RR/CP432/FLOW/08MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /RR/CP432/FLOW/08MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /RR/CP432/FLOW/08MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /RR/CP432/FLOW/09MAR1903/5MIN/6HR/
-----DSS--- ZREAD Unit  71; Vers.   70:  /RR/CP432/FLOW/10MAR1903/5MIN/6HR/
-----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
Pathname: /RR/CP432/FLOW/11MAR1903/5MIN/6HR/

              SUBBASIN RUNOFF DATA

1059 BA         SUBBASIN CHARACTERISTICS
                     TAREA         .00  SUBBASIN AREA

                                                          ***

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION    RR432

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+       0.       .00                 0.          0.          0.           0.
                       (INCHES)     .000        .000        .000         .000
                        (AC-FT)       0.          0.          0.           0.

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
1061 KK       *       636  *        BASIN
              *            *
              **************
                         The following parameters were determined for this sub basin.
                         L= 0.570 mi S= 4.4 ft/mi Kb= 0.028 Urban

              SUBBASIN RUNOFF DATA

1064 BA         SUBBASIN CHARACTERISTICS
                     TAREA         .15  SUBBASIN AREA

                PRECIPITATION DATA

 888 PB              STORM        2.95  BASIN TOTAL PRECIPITATION

 889 PI           INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .06       .06       .06       .10       .10       .10       .04       .04
                     .04       .02       .02       .02       .01       .01       .01       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

1065 LG         GREEN AND AMPT LOSS RATE
                     STRTL         .25  STARTING LOSS
                       DTH         .25  MOISTURE DEFICIT
                      PSIF        4.35  WETTING FRONT SUCTION
                     XKSAT         .46  HYDRAULIC CONDUCTIVITY
                     RTIMP       31.00  PERCENT IMPERVIOUS AREA

1066 UC         CLARK UNITGRAPH
                        TC         .81  TIME OF CONCENTRATION
                         R         .56  STORAGE COEFFICIENT

1067 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .81 HR,       R=   .56 HR
                                         SNYDER   TP=   .43 HR,      CP=   .45

                                                UNIT HYDROGRAPH
```

```
                                                  40 END-OF-PERIOD ORDINATES
              4.       17.       37.       71.       97.       98.       95.       89.       82.       75.
             66.       57.       49.       42.       36.       31.       27.       23.       20.       17.
             15.       13.       11.        9.        8.        7.        6.        5.        4.        4.
              3.        3.        2.        2.        2.        2.        1.        1.        1.        1.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      636

    TOTAL RAINFALL =    2.95, TOTAL LOSS =    1.32, TOTAL EXCESS =    1.63

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     114.      4.42                  25.          6.          2.           1.
                             (INCHES)     1.600       1.619       1.619        1.619
                              (AC-FT)       13.         13.         13.          13.

                        CUMULATIVE AREA =     .15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1069 KK     *     CP636  *
            *            *
            **************
                        Combine sub 636, & RR432

1071 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

1072 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    CP636

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     114.      4.42                  25.          6.          2.           1.
                             (INCHES)     1.589       1.608       1.608        1.608
                              (AC-FT)       13.         13.         13.          13.

                        CUMULATIVE AREA =     .15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1073 KK     *      D636  *
            *            *
            **************
                        Divert 100% of flow over Arizona Ave

1075 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

     DT          DIVERSION
                       ISTAD       Az636  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00    100.00

     DQ      DIVERTED FLOW         .00    100.00
                                                                  ***

     ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH    Az636

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     114.      4.42                  25.          6.          2.           1.
                             (INCHES)     1.589       1.608       1.608        1.608
                              (AC-FT)       13.         13.         13.          13.

                        CUMULATIVE AREA =     .15 SQ MI
```

```
      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     D636

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.          0.
                       (INCHES)      .000        .000        .000        .000
                        (AC-FT)        0.          0.          0.          0.

                       CUMULATIVE AREA =     .15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1079 KK     *     dummy  *
            *            *
            **************
                           Combine all hydrographs for modeling purposes

1081 HC          HYDROGRAPH COMBINATION
                       ICOMP           6  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    dummy

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.          0.
                       (INCHES)      .000        .000        .000        .000
                        (AC-FT)        0.          0.          0.          0.

                       CUMULATIVE AREA =    4.27 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1082 KK     *    DSS602  *
            *            *
            **************
                           Write hydrograph for overflow from sub-basin 602

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS602

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     283.      4.83                105.         28.         10.          5.
                       (INCHES)      .229        .241        .267        .283
                        (AC-FT)       52.         55.         61.         65.

                       CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/602_6/FLOW/03MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/602_6/FLOW/04MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/602_6/FLOW/05MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/602_6/FLOW/06MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/602_6/FLOW/07MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/602_6/FLOW/08MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/602_6/FLOW/09MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/602_6/FLOW/10MAR1903/5MIN/6HR/


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1086 KK     *    DSS604  *
            *            *
            **************
                           Write hydrograph for overflow from sub-basin 604

                                                                  ***
```

```
      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS604

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     105.      4.33                26.          7.          2.           1.
                         (INCHES)   .000        .000        .000         .000
                          (AC-FT)    13.         13.         13.          13.

                        CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/604_6/FLOW/03MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/604_6/FLOW/04MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/604_6/FLOW/05MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/604_6/FLOW/06MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/604_6/FLOW/07MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/604_6/FLOW/08MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/604_6/FLOW/09MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/604_6/FLOW/10MAR1903/5MIN/6HR/


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 1090 KK    *    DSS607  *
            *            *
            **************
                          Write hydrograph for overflow from sub-basin 607

                                                                   ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS607

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     212.      4.25                42.         11.          4.           2.
                         (INCHES)   .000        .000        .000         .000
                          (AC-FT)    21.         21.         21.          21.

                        CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/607_6/FLOW/03MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/607_6/FLOW/04MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/607_6/FLOW/05MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/607_6/FLOW/06MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/607_6/FLOW/07MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/607_6/FLOW/08MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/607_6/FLOW/09MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/607_6/FLOW/10MAR1903/5MIN/6HR/


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 1094 KK    *    DSS611  *
            *            *
            **************
                          Write hydrograph for overflow from sub-basin 611

                                                                   ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS611

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     163.      4.67                65.         46.         29.          15.
                         (INCHES)   .000        .000        .000         .000
                          (AC-FT)    32.         92.        171.         203.

                        CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/611_6/FLOW/03MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/611_6/FLOW/04MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/611_6/FLOW/05MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/611_6/FLOW/06MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/611_6/FLOW/07MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/611_6/FLOW/08MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/611_6/FLOW/09MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/611_6/FLOW/10MAR1903/5MIN/6HR/
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
1098 KK     *    DSS616  *
            *            *
            **************
                          Write hydrograph for overflow from sub-basin 616

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS616

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     172.      4.17                33.          8.          3.          1.
                         (INCHES)  .000        .000        .000        .000
                          (AC-FT)   17.         17.         17.         17.

                         CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/616_6/FLOW/03MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/616_6/FLOW/04MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/616_6/FLOW/05MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/616_6/FLOW/06MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/616_6/FLOW/07MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/616_6/FLOW/08MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/616_6/FLOW/09MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/616_6/FLOW/10MAR1903/5MIN/6HR/


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
1102 KK     *    DSS619  *
            *            *
            **************
                          Write hydrograph for overflow from sub-basin 619

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS619

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     129.      4.25                25.          6.          2.          1.
                         (INCHES)  .000        .000        .000        .000
                          (AC-FT)   12.         13.         13.         13.

                         CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/619_6/FLOW/03MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/619_6/FLOW/04MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/619_6/FLOW/05MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/619_6/FLOW/06MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/619_6/FLOW/07MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/619_6/FLOW/08MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/619_6/FLOW/09MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/619_6/FLOW/10MAR1903/5MIN/6HR/


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
1106 KK     *       DSS  *
            *            *
            **************
                          Combine DSS FILES FOR MODELING PURPOSES

1108 HC          HYDROGRAPH COMBINATION
                       ICOMP           6  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      DSS

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     935.      4.33                285.       102.         49.         24.
```

```
                    (INCHES)      .000        .000        .000        .000
                     (AC-FT)      142.        203.        294.        331.

                    CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1109 KK     *    DSS620  *
            *            *
            **************
                            Write hydrograph for overflow from sub-basin 620

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS620

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      49.      4.67                 13.          3.          1.           0.
                    (INCHES)      .000        .000        .000        .000
                     (AC-FT)        6.          6.          6.           6.

                    CUMULATIVE AREA =     .00 SQ MI

-----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/620_6/FLOW/03MAR1903/5MIN/6HR/
-----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/620_6/FLOW/04MAR1903/5MIN/6HR/
-----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/620_6/FLOW/05MAR1903/5MIN/6HR/
-----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/620_6/FLOW/06MAR1903/5MIN/6HR/
-----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/620_6/FLOW/07MAR1903/5MIN/6HR/
-----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/620_6/FLOW/08MAR1903/5MIN/6HR/
-----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/620_6/FLOW/09MAR1903/5MIN/6HR/
-----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/620_6/FLOW/10MAR1903/5MIN/6HR/


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1113 KK     *    DSS629  *
            *            *
            **************
                            Write hydrograph for overflow from sub-basin 629

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS629

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.           0.
                    (INCHES)      .000        .000        .000        .000
                     (AC-FT)        0.          0.          0.           0.

                    CUMULATIVE AREA =     .00 SQ MI

-----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/629_6/FLOW/03MAR1903/5MIN/6HR/
-----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/629_6/FLOW/04MAR1903/5MIN/6HR/
-----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/629_6/FLOW/05MAR1903/5MIN/6HR/
-----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/629_6/FLOW/06MAR1903/5MIN/6HR/
-----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/629_6/FLOW/07MAR1903/5MIN/6HR/
-----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/629_6/FLOW/08MAR1903/5MIN/6HR/
-----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/629_6/FLOW/09MAR1903/5MIN/6HR/
-----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/629_6/FLOW/10MAR1903/5MIN/6HR/


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1117 KK     *    DSS622  *
            *            *
            **************
                            Write hydrograph for overflow from sub-basin 622

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS622

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
```

```
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+      19.       4.50                    4.          1.          0.           0.
                        (INCHES)      .000        .000        .000         .000
                         (AC-FT)        2.          2.          2.           2.

                        CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/622_6/FLOW/03MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/622_6/FLOW/04MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/622_6/FLOW/05MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/622_6/FLOW/06MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/622_6/FLOW/07MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/622_6/FLOW/08MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/622_6/FLOW/09MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/622_6/FLOW/10MAR1903/5MIN/6HR/


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 1121 KK    *    DSS624  *
            *            *
            **************
                          Write hydrograph for overflow from sub-basin 624

                                                                   ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS624

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+      44.      10.08                   36.         23.         11.           5.
                        (INCHES)      .000        .000        .000         .000
                         (AC-FT)       18.         46.         66.          69.

                        CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/624_6/FLOW/03MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/624_6/FLOW/04MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/624_6/FLOW/05MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/624_6/FLOW/06MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/624_6/FLOW/07MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/624_6/FLOW/08MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/624_6/FLOW/09MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/624_6/FLOW/10MAR1903/5MIN/6HR/


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 1125 KK    *    DSS626  *
            *            *
            **************
                          Write hydrograph for overflow from sub-basin 626

                                                                   ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS626

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+      36.       5.33                   11.          3.          1.           0.
                        (INCHES)      .000        .000        .000         .000
                         (AC-FT)        6.          6.          6.           6.

                        CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/626_6/FLOW/03MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/626_6/FLOW/04MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/626_6/FLOW/05MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/626_6/FLOW/06MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/626_6/FLOW/07MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/626_6/FLOW/08MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/626_6/FLOW/09MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/626_6/FLOW/10MAR1903/5MIN/6HR/


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
```

```
1129 KK      *      DSS2  *
             *            *
             **************
                          Combine DSS FILES FOR MODELING PURPOSES

1131 HC          HYDROGRAPH COMBINATION
                      ICOMP           5  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     DSS2

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      84.      4.83                 40.         28.         13.           6.
                         (INCHES)   .000        .000        .000         .000
                          (AC-FT)    20.         55.         79.          83.

                         CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


             **************
             *            *
1132 KK      *    DSS631  *
             *            *
             **************
                          Write hydrograph for overflow from sub-basin 631

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS631

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.        .00                  0.          0.          0.           0.
                         (INCHES)   .000        .000        .000         .000
                          (AC-FT)     0.          0.          0.           0.

                         CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/631_6/FLOW/03MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/631_6/FLOW/04MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/631_6/FLOW/05MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/631_6/FLOW/06MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/631_6/FLOW/07MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/631_6/FLOW/08MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/631_6/FLOW/09MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/631_6/FLOW/10MAR1903/5MIN/6HR/


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


             **************
             *            *
1136 KK      *    DSS633  *
             *            *
             **************
                          Write hydrograph for overflow from sub-basin 633

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS633

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.        .00                  0.          0.          0.           0.
                         (INCHES)   .000        .000        .000         .000
                          (AC-FT)     0.          0.          0.           0.

                         CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/633_6/FLOW/03MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/633_6/FLOW/04MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/633_6/FLOW/05MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/633_6/FLOW/06MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/633_6/FLOW/07MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/633_6/FLOW/08MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/633_6/FLOW/09MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/633_6/FLOW/10MAR1903/5MIN/6HR/
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
1140 KK       *    DSS635  *
              *            *
              **************
                              Write hydrograph for overflow from sub-basin 635

                                                                          ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   DSS635

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     108.      4.33                25.          6.          2.           1.
                         (INCHES)  .000        .000        .000         .000
                          (AC-FT)   12.         13.         13.          13.

                         CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/635_6/FLOW/03MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/635_6/FLOW/04MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/635_6/FLOW/05MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/635_6/FLOW/06MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/635_6/FLOW/07MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/635_6/FLOW/08MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/635_6/FLOW/09MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/635_6/FLOW/10MAR1903/5MIN/6HR/


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
1144 KK       *    DSS636  *
              *            *
              **************
                              Write hydrograph for overflow from sub-basin 636

                                                                          ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   DSS636

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     114.      4.42                25.          6.          2.           1.
                         (INCHES)  .000        .000        .000         .000
                          (AC-FT)   13.         13.         13.          13.

                         CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/636_6/FLOW/03MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/636_6/FLOW/04MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/636_6/FLOW/05MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/636_6/FLOW/06MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/636_6/FLOW/07MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/636_6/FLOW/08MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/636_6/FLOW/09MAR1903/5MIN/6HR/
 -----DSS---ZWRITE Unit  71; Vers.   19:  /AZ/636_6/FLOW/10MAR1903/5MIN/6HR/


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
1148 KK       *       OUT  *
              *            *
              **************
                              Combine all Flow Leaving Watershed

1150 HC          HYDROGRAPH COMBINATION
                       ICOMP           6  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                          ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION      OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
```

```
+    1211.      4.33                366.        141.         67.          32.
                          (INCHES)  .000        .000        .000         .000
                           (AC-FT)  182.        280.        399.         439.

                          CUMULATIVE AREA =     .00 SQ MI

1
                                                RUNOFF SUMMARY
                                          FLOW IN CUBIC FEET PER SECOND
                                       TIME IN HOURS,  AREA IN SQUARE MILES

                                          PEAK   TIME OF    AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN    MAXIMUM    TIME OF
          OPERATION        STATION       FLOW    PEAK                                          AREA     STAGE     MAX STAGE
+                                                          6-HOUR     24-HOUR     72-HOUR

          HYDROGRAPH AT
+                          COO525         96.    4.92        14.         4.          1.        .00
          ROUTED TO
+                          525605         61.    5.67        14.         4.          1.        .00
+                                                                                                          .39        5.67
          HYDROGRAPH AT
+                             605        354.    4.42        82.        21.          7.        .50
          DIVERSION TO
+                          605RET        354.    5.25        69.        17.          6.        .50
          HYDROGRAPH AT
+                             605        117.    5.25        13.         3.          1.        .50
          2 COMBINED AT
+                           CP605        130.    5.58        28.         7.          2.        .50
          ROUTED TO
+                          605606        112.    6.00        27.         7.          2.        .50
+                                                                                                          .64        6.00
          HYDROGRAPH AT
+                             606        234.    4.75        79.        20.          7.        .38
          DIVERSION TO
+                          606RET        220.    4.75        26.         7.          2.        .38
          HYDROGRAPH AT
+                             606        234.    4.75        56.        14.          5.        .38
          2 COMBINED AT
+                           CP606        234.    4.75        82.        21.          7.        .87
          HYDROGRAPH AT
+                             603        161.    4.50        40.        10.          3.        .30
          DIVERSION TO
+                          603RET        161.     .00        40.        10.          3.        .30
          HYDROGRAPH AT
+                             603         0.     .00         0.         0.          0.        .30
          2 COMBINED AT
+                           CP603        234.    4.75        82.        21.          7.       1.18
          ROUTED TO
+                           P606-3        0.     .00         0.         0.          0.       1.18
+                                                                                                     1215.42       14.67
          HYDROGRAPH AT
+                          COO524        129.    7.92        70.        23.          9.        .00
          ROUTED TO
+                          524600        124.    8.75        66.        23.          9.        .00
+                                                                                                          .58        8.75
          HYDROGRAPH AT
+                             600         0.    4.75         0.         0.          0.        .00
          2 COMBINED AT
+                           CP600        124.    8.75        66.        23.          9.        .00
          ROUTED TO
+                          600601        119.    9.33        65.        23.          9.        .00
+                                                                                                          .66        9.33
          HYDROGRAPH AT
+                             601        256.    4.83        89.        23.          8.        .51
          DIVERSION TO
+                          601RET         10.    4.83         1.         0.          0.        .51
          HYDROGRAPH AT
+                             601        256.    4.83        89.        23.          8.        .51
          2 COMBINED AT
+                           CP601        256.    4.83       122.        45.         16.        .51
          ROUTED TO
+                            P601          2.   42.17         2.         2.          1.        .51
+                                                                                                     1215.11       42.25
```

+	HYDROGRAPH AT	602	283.	4.83	105.	28.	9.	.51	
+	2 COMBINED AT	CP602	283.	4.83	105.	28.	10.	1.02	
+	DIVERSION TO	Az602	283.	.00	105.	28.	10.	1.02	
+	HYDROGRAPH AT	D602	0.	.00	0.	0.	0.	1.02	
+	HYDROGRAPH AT	604	176.	4.33	43.	11.	4.	.20	
+	3 COMBINED AT	CP604	176.	4.33	43.	11.	4.	2.40	
+	DIVERSION TO	Az604	105.	4.33	26.	7.	2.	2.40	
+	HYDROGRAPH AT	D604	70.	4.33	17.	4.	1.	2.40	
+	ROUTED TO	604607	68.	4.50	17.	4.	1.	2.40	
+									.41 4.50
+	HYDROGRAPH AT	607	157.	4.17	25.	6.	2.	.13	
+	2 COMBINED AT	CP607	212.	4.25	42.	11.	4.	2.52	
+	DIVERSION TO	Az607	212.	.00	42.	11.	4.	2.52	
+	HYDROGRAPH AT	D607	0.	.00	0.	0.	0.	2.52	
+	HYDROGRAPH AT	608	847.	4.58	220.	56.	19.	1.15	
+	DIVERSION TO	608RET	847.	5.17	158.	39.	13.	1.15	
+	HYDROGRAPH AT	608	525.	5.17	65.	16.	5.	1.15	
+	ROUTED TO	608609	181.	6.92	63.	16.	5.	1.15	
+									.63 6.92
+	HYDROGRAPH AT	609	231.	4.67	77.	20.	7.	.38	
+	DIVERSION TO	609RET	122.	4.67	11.	3.	1.	.38	
+	HYDROGRAPH AT	609	231.	4.67	69.	17.	6.	.38	
+	HYDROGRAPH AT	612	96.	4.75	36.	10.	3.	.26	
+	DIVERSION TO	612RET	93.	4.75	11.	3.	1.	.26	
+	HYDROGRAPH AT	612	96.	4.75	27.	7.	2.	.26	
+	DIVERSION TO	To615	38.	4.75	11.	3.	1.	.26	
+	HYDROGRAPH AT	D612	58.	4.75	16.	4.	1.	.26	
+	ROUTED TO	612614	47.	5.42	16.	4.	1.	.26	
+									.32 5.42
+	HYDROGRAPH AT	CON406	79.	7.83	44.	20.	8.	.00	
+	ROUTED TO	406617	69.	8.92	42.	20.	8.	.00	
+									.38 8.92
+	HYDROGRAPH AT	617	80.	4.67	27.	7.	2.	.22	
+	DIVERSION TO	617RET	80.	5.58	19.	5.	2.	.22	
+	HYDROGRAPH AT	617	48.	5.58	9.	2.	1.	.22	
+	2 COMBINED AT	CP617	71.	8.83	43.	22.	8.	.22	

	DIVERSION TO								
+		To618	14.	8.83	9.	4.	2.	.22	
	HYDROGRAPH AT								
+		D617	57.	8.83	34.	17.	7.	.22	
	ROUTED TO								
+		617614	56.	9.25	34.	17.	7.	.22	
+									.33 9.25
	HYDROGRAPH AT								
+		614	227.	4.50	63.	16.	5.	.42	
	DIVERSION TO								
+		614RET	227.	4.92	38.	10.	3.	.42	
	HYDROGRAPH AT								
+		614	166.	4.92	26.	7.	2.	.42	
	3 COMBINED AT								
+		CP614	191.	5.00	69.	28.	10.	.89	
	ROUTED TO								
+		614615	79.	8.25	60.	27.	10.	.89	
+									.88 8.25
	HYDROGRAPH AT								
+		613	122.	4.50	33.	8.	3.	.21	
	DIVERSION TO								
+		613RET	65.	4.50	7.	2.	1.	.21	
	HYDROGRAPH AT								
+		613	122.	4.50	27.	7.	2.	.21	
	HYDROGRAPH AT								
+		615	220.	4.42	49.	12.	4.	.37	
	DIVERSION TO								
+		615RET	219.	4.50	21.	5.	2.	.37	
	HYDROGRAPH AT								
+		615	216.	4.50	28.	7.	2.	.37	
	HYDROGRAPH AT								
+		FRM612	38.	4.75	11.	3.	1.	.00	
	ROUTED TO								
+		612615	20.	6.92	10.	3.	1.	.00	
+									.26 6.92
	4 COMBINED AT								
+		CP615	337.	4.50	106.	43.	16.	1.47	
	ROUTED TO								
+		P613-5	95.	5.50	82.	38.	14.	1.47	
+									1217.54 5.50
	HYDROGRAPH AT								
+		610	335.	4.58	88.	22.	7.	.54	
	2 COMBINED AT								
+		CP610	335.	4.58	151.	58.	22.	2.01	
	3 COMBINED AT								
+		CP609	564.	4.58	278.	92.	33.	3.54	
	ROUTED TO								
+		P610-9	43.	13.92	43.	38.	25.	3.54	
+									1217.11 13.83
	ROUTED TO								
+		609611	43.	14.58	43.	38.	25.	3.54	
+									.31 14.67
	HYDROGRAPH AT								
+		611	163.	4.67	51.	13.	4.	.29	
	2 COMBINED AT								
+		CP611	163.	4.67	65.	46.	29.	3.83	
	DIVERSION TO								
+		Az611	163.	.00	65.	46.	29.	3.83	
	HYDROGRAPH AT								
+		D611	0.	.00	0.	0.	0.	3.83	
	HYDROGRAPH AT								
+		616	172.	4.17	33.	8.	3.	.17	
	2 COMBINED AT								
+		CP616	172.	4.17	33.	8.	3.	4.00	
	DIVERSION TO								
+		Az616	172.	.00	33.	8.	3.	4.00	
	HYDROGRAPH AT								
+		D616	0.	.00	0.	0.	0.	4.00	

	HYDROGRAPH AT								
+		619	129.	4.25	25.	6.	2.	.12	
	2 COMBINED AT								
+		CP619	129.	4.25	25.	6.	2.	4.12	
	DIVERSION TO								
+		Az619	129.	.00	25.	6.	2.	4.12	
	HYDROGRAPH AT								
+		D619	0.	.00	0.	0.	0.	4.12	
	2 COMBINED AT								
+		dummy	0.	.00	0.	0.	0.	6.64	
	HYDROGRAPH AT								
+		618	225.	4.33	42.	11.	4.	.32	
	DIVERSION TO								
+		618RET	225.	4.58	27.	7.	2.	.32	
	HYDROGRAPH AT								
+		618	169.	4.58	16.	4.	1.	.32	
	HYDROGRAPH AT								
+		FRM617	14.	8.83	9.	4.	2.	.00	
	ROUTED TO								
+		617618	12.	10.00	8.	4.	2.	.00	
+									.20 10.08
	2 COMBINED AT								
+		CP618	169.	4.58	20.	8.	3.	.32	
	ROUTED TO								
+		P618	8.	12.42	5.	3.	1.	.32	
+									1218.00 12.42
	HYDROGRAPH AT								
+		620	49.	4.67	13.	3.	1.	.07	
	DIVERSION TO								
+		Az620	49.	.00	13.	3.	1.	.07	
	HYDROGRAPH AT								
+		D620	0.	.00	0.	0.	0.	.07	
	2 COMBINED AT								
+		DUMMY	8.	12.42	5.	3.	1.	.39	
	HYDROGRAPH AT								
+		628	82.	5.17	23.	6.	2.	.27	
	ROUTED TO								
+		P628	0.	.00	0.	0.	0.	.27	
+									1220.63 10.33
	HYDROGRAPH AT								
+		627	72.	5.00	19.	5.	2.	.21	
	2 COMBINED AT								
+		CP627	72.	5.00	19.	5.	2.	.48	
	ROUTED TO								
+		P627	0.	.00	0.	0.	0.	.48	
+									1219.17 9.83
	DIVERSION TO								
+		To625	0.	.00	0.	0.	0.	.48	
	HYDROGRAPH AT								
+		D627	0.	.00	0.	0.	0.	.48	
	HYDROGRAPH AT								
+		629	59.	5.25	20.	5.	2.	.26	
	ROUTED TO								
+		P629	0.	.00	0.	0.	0.	.26	
+									1215.76 12.08
	DIVERSION TO								
+		Az629	0.	.00	0.	0.	0.	.26	
	HYDROGRAPH AT								
+		D629	0.	.00	0.	0.	0.	.26	
	HYDROGRAPH AT								
+		Frm627	0.	.00	0.	0.	0.	.00	
	HYDROGRAPH AT								
+		625	172.	5.08	48.	12.	4.	.42	
	2 COMBINED AT								
+		CP625	172.	5.08	48.	12.	4.	.42	
	DIVERSION TO								
+		To623	172.	.00	48.	12.	4.	.42	

```
          HYDROGRAPH AT
+                    D625      0.    .00       0.       0.       0.      .42
          HYDROGRAPH AT
+                  Frm625    172.   5.08      48.      12.       4.      .00
          HYDROGRAPH AT
+                     623    451.   4.83     103.      26.       9.      .60
          DIVERSION TO
+                  623RET     76.   4.83       5.       1.       0.      .60
          HYDROGRAPH AT
+                     623    451.   4.83      99.      25.       8.      .60
          2 COMBINED AT
+                   CP623    605.   4.92     147.      37.      12.      .60
          ROUTED TO
+                  P623-5     74.   6.67      57.      29.      12.      .60
+                                                                     1217.51       6.67
          HYDROGRAPH AT
+                  CON412    242.   5.50     106.      30.      10.      .00
          HYDROGRAPH AT
+                     621    302.   4.92      83.      21.       7.      .50
          DIVERSION TO
+                  621RET     80.   4.92       7.       2.       1.      .50
          HYDROGRAPH AT
+                     621    302.   4.92      78.      20.       7.      .50
          2 COMBINED AT
+                   CP621    454.   5.42     180.      49.      16.      .51
          ROUTED TO
+                    P621      0.    .00       0.       0.       0.      .51
+                                                                     1219.27      28.00
          HYDROGRAPH AT
+                     622     95.   4.50      20.       5.       2.      .10
          2 COMBINED AT
+                   CP622     95.   4.50      20.       5.       2.      .61
          DIVERSION TO
+                   Az622     19.   4.50       4.       1.       0.      .61
          HYDROGRAPH AT
+                    D622     76.   4.50      16.       4.       1.      .61
          ROUTED TO
+                  622624     69.   4.83      15.       4.       1.      .61
+                                                                        .59       4.83
          HYDROGRAPH AT
+                     624    140.   4.50      29.       7.       2.      .13
          3 COMBINED AT
+                   CP624    207.   4.67      93.      39.      16.     1.34
          ROUTED TO
+                    P624     44.  10.08      36.      23.      11.     1.34
+                                                                     1215.32      10.00
          DIVERSION TO
+                   Az624     44.    .00      36.      23.      11.     1.34
          HYDROGRAPH AT
+                    D624      0.    .00       0.       0.       0.     1.34
          HYDROGRAPH AT
+                     626     59.   4.75      13.       3.       1.      .13
          4 COMBINED AT
+                   CP626     59.   4.75      13.       3.       1.     2.15
          ROUTED TO
+                    P626     36.   5.33      11.       3.       1.     2.15
+                                                                     1214.51       5.33
          DIVERSION TO
+                   Az626     36.    .00      11.       3.       1.     2.15
          HYDROGRAPH AT
+                    D626      0.    .00       0.       0.       0.     2.15
          HYDROGRAPH AT
+                     630    141.   4.83      56.      15.       5.      .32
          HYDROGRAPH AT
+                  CON424     40.  15.42      37.      18.       6.      .00
          2 COMBINED AT
+                   CP630    141.   4.83      56.      31.      11.      .32
          ROUTED TO
```

+		P630	0.	.00	0.	0.	0.	.32		
+									1219.53	56.33
+	HYDROGRAPH AT	631	148.	4.67	44.	11.	4.	.30		
+	DIVERSION TO	631RET	96.	4.67	8.	2.	1.	.30		
+	HYDROGRAPH AT	631	148.	4.67	38.	9.	3.	.30		
+	2 COMBINED AT	CP631	148.	4.67	38.	9.	3.	.63		
+	ROUTED TO	P631	0.	.00	0.	0.	0.	.63		
+									1214.23	10.58
+	DIVERSION TO	Az631	0.	.00	0.	0.	0.	.63		
+	HYDROGRAPH AT	D631	0.	.00	0.	0.	0.	.63		
+	HYDROGRAPH AT	CON427	400.	5.92	106.	30.	10.	.00		
+	HYDROGRAPH AT	632N	231.	4.08	17.	4.	1.	.15		
+	2 COMBINED AT	CP632N	400.	5.92	116.	35.	12.	.15		
+	ROUTED TO	P632N	0.	.00	0.	0.	0.	.15		
+									1219.44	43.58
+	HYDROGRAPH AT	632S	425.	4.00	29.	7.	2.	.26		
+	2 COMBINED AT	CP632S	425.	4.00	29.	7.	2.	.42		
+	ROUTED TO	P632S	0.	.00	0.	0.	0.	.42		
+									1209.75	6.25
+	HYDROGRAPH AT	634	25.	5.17	8.	2.	1.	.07		
+	ROUTED TO	P634	0.	.00	0.	0.	0.	.07		
+									1215.56	13.00
+	HYDROGRAPH AT	633	86.	5.08	26.	7.	2.	.23		
+	3 COMBINED AT	CP633	86.	5.08	26.	7.	2.	.71		
+	ROUTED TO	P633	0.	.00	0.	0.	0.	.71		
+									1212.07	11.42
+	DIVERSION TO	Az633	0.	.00	0.	0.	0.	.71		
+	HYDROGRAPH AT	D633	0.	.00	0.	0.	0.	.71		
+	HYDROGRAPH AT	635	108.	4.33	25.	6.	2.	.15		
+	DIVERSION TO	Az635	108.	.00	25.	6.	2.	.15		
+	HYDROGRAPH AT	D635	0.	.00	0.	0.	0.	.15		
+	HYDROGRAPH AT	RR432	0.	.00	0.	0.	0.	.00		
+	HYDROGRAPH AT	636	114.	4.42	25.	6.	2.	.15		
+	2 COMBINED AT	CP636	114.	4.42	25.	6.	2.	.15		
+	DIVERSION TO	Az636	114.	.00	25.	6.	2.	.15		
+	HYDROGRAPH AT	D636	0.	.00	0.	0.	0.	.15		
+	6 COMBINED AT	dummy	0.	.00	0.	0.	0.	4.27		
	HYDROGRAPH AT									

```
+                        DSS602      283.    4.83        105.        28.        10.       .00
          HYDROGRAPH AT
+                        DSS604      105.    4.33         26.         7.         2.       .00
          HYDROGRAPH AT
+                        DSS607      212.    4.25         42.        11.         4.       .00
          HYDROGRAPH AT
+                        DSS611      163.    4.67         65.        46.        29.       .00
          HYDROGRAPH AT
+                        DSS616      172.    4.17         33.         8.         3.       .00
          HYDROGRAPH AT
+                        DSS619      129.    4.25         25.         6.         2.       .00
          6 COMBINED AT
+                           DSS      935.    4.33        285.       102.        49.       .00
          HYDROGRAPH AT
+                        DSS620       49.    4.67         13.         3.         1.       .00
          HYDROGRAPH AT
+                        DSS629        0.     .00          0.         0.         0.       .00
          HYDROGRAPH AT
+                        DSS622       19.    4.50          4.         1.         0.       .00
          HYDROGRAPH AT
+                        DSS624       44.   10.08         36.        23.        11.       .00
          HYDROGRAPH AT
+                        DSS626       36.    5.33         11.         3.         1.       .00
          5 COMBINED AT
+                          DSS2       84.    4.83         40.        28.        13.       .00
          HYDROGRAPH AT
+                        DSS631        0.     .00          0.         0.         0.       .00
          HYDROGRAPH AT
+                        DSS633        0.     .00          0.         0.         0.       .00
          HYDROGRAPH AT
+                        DSS635      108.    4.33         25.         6.         2.       .00
          HYDROGRAPH AT
+                        DSS636      114.    4.42         25.         6.         2.       .00
          6 COMBINED AT
+                           OUT     1211.    4.33        366.       141.        67.       .00


 *** NORMAL END OF HEC-1 ***


    -----DSS---ZCLOSE Unit:  71,   File: 6T.DSS
              Pointer Utilization:   .65
              Number of Records:    954
              File Size:   1566.4  Kbytes
              Percent Inactive:    .0
```

```
1****************************************                    ****************************************
*                                      *                    *                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                    *   U.S. ARMY CORPS OF ENGINEERS       *
*             JUN.  1998               *                    *   HYDROLOGIC ENGINEERING CENTER      *
*           VERSION 4.1                *                    *         609 SECOND STREET            *
*                                      *                    *      DAVIS, CALIFORNIA 95616         *
*  RUN DATE   18MAY10  TIME  10:03:38  *                    *          (916) 756-1104              *
*                                      *                    *                                      *
****************************************                    ****************************************

X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX         XXX

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL   LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1                                          HEC-1 INPUT                                          PAGE  1

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

   1          ID   Project ID: CGFDSP3N_6HR - Major Basin: 01 - Return Period: 100 Years
   2          ID  PHASE III - UPRR/ARIZONA AVE WATERSHED NORTH
              *
   3          ID  NORTH OF RAY ROAD, EAST OF ARIZONA AVENUE
   4          ID  SOUTH OF BASELINE, WEST OF CONSOLIDATED CANAL
   5          ID  (THE AREA WEST OF THE UPRR SPUR IS NOT INCLUDED IN THIS MODEL)
              *
   6          ID  PREPARED BY MDH AND YX, PROJECT ENGINEERING CONSULTANTS
              *
   7          ID  PRELIMINARY HYDROLOGIC MODEL FOR
   8          ID  5-MINUTE TIME INTERVAL - 100-YEAR, 6-HOUR STORM EVENT
              *
   9          ID  TOTAL WATERSHED AREA = 11.08 SQ.MI
  10          ID  AERIAL REDUCTION WAS APPLIED USING PB RECORDS
  11          ID  THIS STUDY AREA WAS BROKEN INTO TWO REGIONS:
  12          ID  THE FIRST PB CARD REGION (NORTH OF UNION PACIFIC RAILROAD) INCLUDES
  13          ID  SUB-BASINS 501, 502, 503, 508, 509, 516 AND NON-CONTRIBUTING AREA.
  14          ID  NORTH REGION AREA = 6.10 SQ.MI
  15          ID  THE SECOND PB CARD REGION (SOUTH OF UNION PACIFIC RAILROAD AND
  16          ID  EAST OF THE RAILROAD SPUR LINE).  INCLUDES SUB-BASINS 504, 505, 506
  17          ID  510, 511, 512, 513, 517, 519, 521, 522, 523, 524, 525
  18          ID  AND NON-CONTRIBUTING AREA.  AREA = 4.98 SQ.MI
              *
  19          ID  GREEN AND AMPT INFILTRATION METHOD USED TO DETERMINE RAINFALL LOSSES
  20          ID  CLARK METHOD USED TO CREATE UNIT HYDROGRAPHS
  21          ID  NORMAL DEPTH METHOD USED FOR CHANNEL ROUTING
  22          ID  EASTERN MARICOPA COUNTY SOIL SURVEY USED FOR SOILS DATA
  23          ID  FLOOD CONTROL DISTRICT OF MARICOPA COUNTY'S GIS DATA, AERIAL PHOTOS DATED
  24          ID  DEC. 2002, AND DEVELOPMENTS AS DIRECTED BY CHANDLER AND GILBERT BY DATE OF
  25          ID  APRIL 2003 USED FOR LANDUSE DATA
  26          ID  DDMSW VERSION 2.1.0 PROGRAM USED TO CALCULATE RAINFALL, RAINFALL LOSSES
  27          ID  AND UNIT HYDROGRAPHS
              *DIAGRAM
              * NORTH OF UNION PACIFIC RAILROAD
              *
  28          IT       5 03MAR03    1200    2000
  29          IO       3
              *
              * ************************************************
              *   FIRST PB REGION                              *
              *   UPDATED PB & PC'S PER 06-04-2008 FCDMC MEMO  *
              * ************************************************
              *

  30          KK  CON303
  31          KM  THE BA AND PB PRESENTED IN THIS KK ARE NOT USED FOR CALCULATION
  32          KM  RETRIEVE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&GUADALUPE
  33          BA   0.001
  34          IN      15
  35          PB   2.867
  36          PC   0.000   0.012   0.018   0.027    0.04   0.051   0.062   0.073   0.084   0.095
  37          PC   0.109   0.123   0.145   0.189   0.275    0.46   0.683   0.819   0.886   0.926
  38          PC   0.948   0.962   0.974   0.988   1.000
  39          LG    .250    .180   9.700    .050  11.000
  40          UC    .521    .619
1                                          HEC-1 INPUT                                          PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  41          UA       0       5      16      30      65      77      84      90      94      97
  42          UA     100
```

```
 43          ZR     =QI  A=CONS  B=GUA6  C=FLOW  E=5MIN
             *

 44          KK  CON501ROUTE   REACH
 45          KM  ROUTE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&GUADALUPE TO 501
 46          RS       6    STOR       0
 47          RC   0.035   0.015   0.035    5500  0.0018    2.00
 48          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
 49          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

 50          KK     501   BASIN
 51          KM  RUNOFF CALCULATION FOR SUB-BASIN 501
 52          KM  AERIAL REDUCTION FACTOR 0.956 FOR 6.10 SQM (NORTH OF THE RR) IS USED TO
 53          KM  GENERATE THE FOLLOWING PB VALUE
 54          BA   1.232
 55          PB   2.867
 56          PC   0.000   0.012   0.018   0.027    0.04   0.051   0.062   0.073   0.084   0.095
 57          PC   0.109   0.123   0.145   0.189   0.275    0.46   0.683   0.819   0.886   0.926
 58          PC   0.948   0.962   0.974   0.988   1.000
 59          LG    0.25    0.16    9.70    0.06      25
 60          UC   1.492   1.032
 61          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 62          UA     100
             *

 63          KK  501OUT
 64          KM  RETENTION DIVERSION
 65          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
 66          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 22.31 AC-FT
 67          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 21.98 AC-FT
 68          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 501 = 44.29
 69          DT  501RET   44.29
 70          DI       0     100
 71          DQ       0     100
             *

 72          KK    D501
 73          KM  DIVERT 40% FLOW TO SOUTH
 74          DT   TO508
 75          DI       0     100
 76          DQ       0      40
             *

 77          KK   CP501
 78          KM  COMBINE RUNOFF FROM SUB-BASIN 501 AND NORTH OF BASELINE
 79          HC       2
             *
1                                        HEC-1 INPUT                                          PAGE  3

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 80          KK  501502ROUTE   REACH
 81          KM  ROUTE THE RUNOFF FROM P501 TO P502
 82          RS       7    STOR       0
 83          RC   0.035   0.015   0.035    6550  0.0021    2.00
 84          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
 85          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

 86          KK     502   BASIN
 87          KM  RUNOFF CALCULATION FOR SUB-BASIN 502
 88          BA   1.016
 89          LG    0.26    0.16    8.00    0.10      29
 90          UC   1.433   0.990
 91          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 92          UA     100
             *

 93          KK  502OUT
 94          KM  RETENTION DIVERSION
 95          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
 96          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 49.41 AC-FT
 97          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 4.19 AC-FT
 98          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 502 = 53.6 AC-FT
 99          DT  502RET    53.6
100          DI       0     100
101          DQ       0     100
             *

102          KK   CP502
103          KM  COMBINE RUNOFF FROM SUB-BASIN 502 AND THE EAST
104          KO       1
105          HC       2
             *

106          KK  502503ROUTE   REACH
107          KM  ROUTE RUNOFF FROM 502 TO UPRR&BASELINE
108          RS       9    STOR       0
109          RC   0.035   0.015   0.035    9000  0.0016    2.00
110          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
111          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

112          KK  FRM501
113          KM  RETRIEVE SOUTHBOUND RUNOFF FROM GUADALUPE&GILBERT
114          DR   TO508
             *
```

```
115          KK  501508ROUTE   REACH
116          KM  ROUTE RUNOFF FROM 501 TO GILBERT&WESTERN CANAL
117          RS       3    STOR       0
118          RC   0.035   0.015   0.035    2640  0.0003    2.00
119          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
120          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0       2
             *
1                                    HEC-1 INPUT                                                    PAGE  4

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


121          KK     508   BASIN
122          KM  RUNOFF CALCULATION FOR SUB-BASIN 508
123          BA   0.487
124          LG    0.26    0.15    8.40    0.09      28
125          UC   1.129   0.929
126          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
127          UA     100
             *

128          KK  508OUT
129          KM  RETENTION DIVERSION
130          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
131          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 3.23 AC-FT
132          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 10.79 AC-FT
133          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 508 = 14.02 AC-FT
134          DT  508RET   14.02
135          DI       0     100
136          DQ       0     100
             *

137          KK   CP508
138          KM  COMBINE RUNOFF FROM 508 AND THE NORTH
139          HC       2
             *

140          KK  508516ROUTE   REACH
141          KM  ROUTE RUNOFF FROM 508 TO RR AND WESTERN CANAL
142          RS       3    STOR       0
143          RC   0.035   0.015   0.035    2400  0.0018    2.00
144          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
145          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

146          KK  CON308
147          KM  RETRIEVE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&ELLIOT
148          BA   0.001
149          ZR     =QI  A=CONS  B=ELL6  C=FLOW  E=5MIN
             *

150          KK  CON310
151          KM  RETRIEVE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&UPRR
152          BA   0.001
153          ZR     =QI  A=CONS   B=RR6  C=FLOW  E=5MIN
             *

154          KK  308310
155          KM  COMBINE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL
156          HC       2
             *
1                                    HEC-1 INPUT                                                    PAGE  5

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


157          KK  CON516ROUTE   REACH
158          KM  ROUTE RUNOFF FROM THE CONSOLIDATED CANAL TO UPRR&WESTERN CANAL
159          RS       7    STOR       0
160          RC   0.035   0.015   0.035    6500  0.0023    2.00
161          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
162          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

163          KK     516   BASIN
164          KM  RUNOFF CALCULATION FOR SUB-BASIN 516
165          BA   0.361
166          LG    0.22    0.15    9.70    0.06      35
167          UC   1.229   1.331
168          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
169          UA     100
             *

170          KK  516OUT
171          KM  RETENTION DIVERSION
172          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
173          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 2.45 AC-FT
174          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 1.04 AC-FT
175          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 516 = 3.49 AC-FT
176          DT  516RET    3.49
177          DI       0     100
178          DQ       0     100
             *

179          KK   CP516
180          KM  COMBINE RUNOFF FROM SUB-BASIN 516, AND THE EAST
181          HC       2
             *
```

```
 182          KK    P516
 183          KM  STORAGE ROUTING AT CP516
 184          KM  RUNOFF MAY FLOW INTO THE WESTERN CANAL, FLOW NW ALONG THE RR
 185          KM  OR FLOW INTO SUB-BASIN 509.
 186          KO       3
 187          RS       1    STOR       0
 188          SV       0    17.4    21.9   23.26   25.62   27.54   29.77      31    32.3    33.7
 189          SE    1221    1232    1233  1233.2  1233.5  1233.7  1233.9    1234  1234.1  1234.2
 190          SQ       0       0   184.5   254.7   378.3   472.5     581   643.3     712   788.5
              *

 191          KK  516WES
 192          KM  DIVERT FLOW TO WESTERN CANAL
 193          KO       3
 194          DT  WES516
 195          DI       0   184.5   254.7   378.3   472.5     581   643.3     712   788.5
 196          DQ       0     8.5      10    12.8    14.5    16.3      17      18    18.8
              *
1                                          HEC-1 INPUT                                          PAGE  6

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 197          KK   516NW
 198          KM  DIVERT FLOW NORTH TO SUB-BASIN 509
 199          KO       3
 200          DT  516NOR
 201          DI     5.7      47     176     366     565     626     694     770
 202          DQ       0      22     100     213     331     370     413     464
              *

 203          KK   516RR
 204          KM  COMBINE FLOW FROM 516 AND 508
 205          HC       2
              *

 206          KK  516509ROUTE   REACH
 207          KM  ROUTE RUNOFF FROM 516 TO GUADALUPE&COOPER
 208          RS       4    STOR       0
 209          RC   0.050   0.035   0.050    3860  0.0022   28.20
 210          RX     0.0    52.0    74.0   199.0   267.0   309.0   320.0   344.0
 211          RY    30.3    22.3    27.3    28.0    24.5    25.5    23.8    28.2
              *

 212          KK  516NOR
 213          KM  RETRIEVE 516NOR
 214          DR  516NOR
              *

 215          KK     509   BASIN
 216          KM  RUNOFF CALCULATION FOR SUB-BASIN 509
 217          BA   0.370
 218          LG    0.17    0.17    9.70    0.06      39
 219          UC   0.821   0.606
 220          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 221          UA     100
              *

 222          KK  509BAS
 223          KM  COMBINE RUNOFF FROM SUB-BASIN 509 AND RUNOFF FROM SUB-BASIN 516 (516NOR)
 224          HC       2
              *

 225          KK  509OUT
 226          KM  RETENTION DIVERSION
 227          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
 228          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 1.95 AC-FT
 229          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
 230          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 509 = 1.95 AC-FT
 231          DT  509RET    1.95
 232          DI       0     100
 233          DQ       0     100
              *
1                                          HEC-1 INPUT                                          PAGE  7

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 234          KK   CP509
 235          KM  COMBINE RUNOFF FROM SUB-BASIN 509 AND THE EAST
 236          KO       1
 237          HC       2
              *

 238          KK  509503ROUTE   REACH
 239          KM  ROUTE RUNOFF FROM CP509 TO GUADALUPE AND COOPER
 240          RS       9    STOR       0
 241          RC   0.050   0.035   0.050    9300  0.0015   20.70
 242          RX     0.0    28.0   270.0   319.0   553.0   740.0   817.0   954.0
 243          RY    20.7    17.7    18.5    17.3    17.4    18.9    17.7    20.8
              *

 244          KK     500
 245          KM  RUNOFF CALCULATION FOR SUB-BASIN 500
 246          BA     1.1
 247          LG    0.28    0.19    6.80    0.17      26
 248          UC   1.279   1.064
 249          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```

```
250          UA     100
             *

251          KK  500OUT
252          KM  RETENTION DIVERSION
253          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
254          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 29.06 AC-FT
255          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
256          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 509 = 29.06
257          DT  500RET   29.06
258          DI       0     100
259          DQ       0     100
             *

260          KK  500503ROUTE   REACH
261          KM  ROUTE RUNOFF FROM 500 TO RR and McQueen
262          RS       6    STOR       0
263          RC   0.035   0.015   0.035    5500  0.0020    2.00
264          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
265          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

266          KK     503   BASIN
267          KM  RUNOFF CALCULATION FOR SUB-BASIN 503
268          BA   1.428
269          LG    0.18    0.21    6.60    0.18      45
270          UC   0.946   0.322
271          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
272          UA     100
             *
1                                        HEC-1 INPUT                                          PAGE  8

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

273          KK  503OUT
274          KM  RETENTION DIVERSION
275          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
276          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.00 AC-FT
277          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
278          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 503 = 0.00
279          DT  503RET   0.001
280          DI       0     100
281          DQ       0     100
             *

282          KK   CP503
283          KM  COMBINE RUNOFF FROM 503 AND THE EAST
284          HC       4
             *

285          KK    P503
286          KM  STORAGE ROUTING AT CP503
287          KO       3
288          RS       1    STOR       0
289          SV  267.81  299.29   358.9     411  482.89  518.56  702.56  847.55
290          SE    1210    1211    1212  1212.5    1213  1213.2    1214  1214.5
291          SQ       0       0       0       0       0       0       0   0.001
             *
             * SOUTH OF UNION PACIFIC RR
             *
             * ************************************************
             *   SECOND PB REGION                               *
             *   UPDATED PB & PC'S PER 06-04-2008 FCDMC MEMO    *
             * ************************************************
             *

292          KK     510   BASIN
293          KM  RUNOFF CALCULATION FOR SUB-BASIN 510
294          KM  AERIAL REDUCTION FACTOR 0.960 FOR 4.98 SQM (SOUTH OF THE RR AND
295          KM  EAST OF THE RR SPUR LINE) IS USED TO GENERATE THE FOLLOWING PB VALUE
296          BA   0.130
297          PB    2.88
298          PC       0   0.011   0.017   0.027   0.039   0.049   0.059   0.069    0.08   0.091
299          PC   0.103   0.118   0.139   0.183    0.27   0.458   0.686   0.823   0.889   0.929
300          PC   0.949   0.962   0.974   0.988       1
301          LG    0.15    0.16    9.70    0.06      50
302          UC   0.550   0.405
303          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
304          UA     100
             *

305          KK  510511ROUTE   REACH
306          KM  ROUTE RUNOFF FROM 510 TO GUADALUPE&MCQUEEN
307          RS       8    STOR       0
308          RC   0.035   0.015   0.035    7920  0.0015    2.00
309          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
310          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *
1                                        HEC-1 INPUT                                          PAGE  9

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

311          KK     511   BASIN
312          KM  RUNOFF CALCULATION FOR SUB-BASIN 516
313          BA   0.471
314          LG    0.22    0.17    8.80    0.07      21
315          UC   1.058   0.837
```

```
316          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
317          UA     100
             *

318          KK  511OUT
319          KM  RETENTION DIVERSION
320          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
321          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 25.83 AC-FT
322          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
323          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 511 = 25.83 AC-FT
324          DT  511RET   25.83
325          DI       0     100
326          DQ       0     100
             *

327          KK   CP511
328          KM  COMBINE RUNOFF FROM SUB-BASIN 509, THE NORTH AND THE EAST
329          HC       2
             *

330          KK  511512ROUTE   REACH
331          KM  ROUTE RUNOFF FROM 511 TO EL DORADO LAKES
332          RS       4    STOR       0
333          RC   0.035   0.015   0.035    4000  0.0009    2.00
334          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
335          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

336          KK     521   BASIN
337          KM  RUNOFF CALCULATION FOR SUB-BASIN 521
338          BA   0.346
339          LG    0.23    0.15    9.70    0.06      32
340          UC   0.958   0.646
341          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
342          UA     100
             *

343          KK  521OUT
344          KM  RETENTION DIVERSION
345          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
346          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.00 AC-FT
347          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
348          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 521 = 0.00 AC-FT
349          DT  521RET   0.001
350          DI       0     100
351          DQ       0     100
             *
1                                        HEC-1 INPUT                                          PAGE 10

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

352          KK  521517ROUTE   REACH
353          KM  ROUTE RUNOFF FROM 521 TO ELLIOT AND COOPER
354          RS       6    STOR       0
355          RC   0.035   0.015   0.035    5280  0.0025    2.00
356          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
357          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

358          KK     517   BASIN
359          KM  RUNOFF CALCULATION FOR SUB-BASIN 517
360          BA   0.356
361          LG    0.20    0.16    8.00    0.10      41
362          UC   0.821   0.620
363          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
364          UA     100
             *

365          KK  517OUT
366          KM  RETENTION VOLUME FOR SUB-BASIN 517
367          KM  RETENTION DIVERSION
368          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
369          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 2.43 AC-FT
370          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.98 AC-FT
371          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 517 = 3.41 AC-FT
372          DT  517RET    3.41
373          DI       0     100
374          DQ       0     100

375          KK   CP517
376          KM  COMBINE RUNOFF AT CP517
377          HC       2
             *

378          KK  CON314
379          KM  RETRIEVE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&WARNER
380          BA   0.001
381          ZR     =QI  A=CONS B=314_6  C=FLOW  E=5MIN
             *

382          KK  CON524ROUTE   REACH
383          KM  ROUTE RUNOFF FROM THE CONSOLIDATED CANAL TO COOPER
384          RS       6    STOR       0
385          RC   0.035   0.015   0.035    5300  0.0022    2.00
386          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
387          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *
```

```
388          KK     524   BASIN
389          KM  RUNOFF CALCULATION FOR SUB-BASIN 524
390          BA   0.364
391          LG    0.26    0.26    5.70    0.24      24
392          UC   0.900   0.632
393          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
394          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 11

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


395          KK  524OUT
396          KM  RETENTION DIVERSION
397          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
398          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 13.76 AC-FT
399          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 6.32 AC-FT
400          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 524 = 20.08 AC-FT
401          DT  524RET   20.08
402          DI       0     100
403          DQ       0     100
             *

404          KK   CP524
405          KM  COMBINE RUNOFF FROM 524 AND THE EAST
406          HC       2
             *

407          KK    D524
408          KM  DIVERT 80% FLOW TO WEST
409          DT  OUT524
410          DI       0     100
411          DQ       0      80
             *

412          KK  524522ROUTE   REACH
413          KM  ROUTE RUNOFF FROM 524 TO ELLIOT&COOPER
414          RS       6    STOR       0
415          RC   0.035   0.015   0.035    5280  0.0010    2.00
416          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
417          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

418          KK     522   BASIN
419          KM  RUNOFF CALCULATION FOR SUB-BASIN 522
420          BA   0.706
421          LG    0.25    0.15    8.40    0.09      28
422          UC   1.254    1.01
423          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
424          UA     100
             *

425          KK  522OUT
426          KM  RETENTION DIVERSION
427          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
428          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 29.66 AC-FT
429          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 2.96 AC-FT
430          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 522 = 32.62 AC-FT
431          DT  522RET   32.62
432          DI       0     100
433          DQ       0     100
             *
1                                          HEC-1 INPUT                                          PAGE 12

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


434          KK   CP522
435          KM  COMBINE RUNOFF FROM SUB-BASIN 522, THE SOUTH AND THE EAST
436          HC       3
             *

437          KK  522523ROUTE   REACH
438          KM  ROUTE RUNOFF FROM 522 TO CP523
439          RS       3    STOR       0
440          RC   0.035   0.015   0.035    2640  0.0020    2.00
441          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
442          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

443          KK     523   BASIN
444          KM  RUNOFF CALCULATION FOR SUB-BASIN 523
445          BA   0.251
446          LG    0.25    0.13    10.1    0.04      30
447          UC   0.817    0.65
448          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
449          UA     100
             *

450          KK  523OUT
451          KM  RETENTION DIVERSION
452          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
453          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 8.66 AC-FT
454          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
455          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 523 = 8.66 AC-FT
456          DT  523RET    8.66
457          DI       0     100
458          DQ       0     100
```

```
                *
 459            KK   CP523
 460            KM  COMBINE RUNOFF FROM SUB-BASIN 523 AND THE EAST
 461            HC        2
                *

 462            KK  523519ROUTE   REACH
 463            KM  ROUTE RUNOFF FROM 523 TO CP519
 464            RS        8    STOR        0
 465            RC   0.035   0.015   0.035    7920  0.0009    2.00
 466            RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
 467            RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
                *

 468            KK     518   BASIN
 469            KM  RUNOFF CALCULATION FOR SUB-BASIN 518
 470            BA   0.469
 471            LG    0.25    0.15    8.80    0.07      27
 472            UC   1.196   0.961
 473            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 474            UA     100
                *
1                                          HEC-1 INPUT                                          PAGE 13

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 475            KK  518OUT
 476            KM  RETENTION DIVERSION
 477            KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
 478            KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 10.75 AC-FT
 479            KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
 480            KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 518 = 10.75 AC-FT
 481            DT  518RET   10.75
 482            DI       0     100
 483            DQ       0     100
                *

 484            KK  518519ROUTE   REACH
 485            KM  ROUTE RUNOFF FROM 518 TO UPRR&WESTERN CANAL
 486            RS        3    STOR        0
 487            RC   0.035   0.015   0.035    2640  0.0010    2.00
 488            RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
 489            RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
                *

 490            KK  WES516
 491            KM  RETRIEVE THE FLOW FROM SUB-BASIN 516 ALONG WESTERN CANAL
 492            DR  WES516
                *

 493            KK  WESFUL
 494            KM  ADD WESTERN CANAL BASEFLOW 111 CFS TO THE FLOW CONTRIBUTERD BY 516
 495            KM  (DIVERTING -111 CFS OUT MEANS ADDING 111 CFS.)
 496            DT  -BASFL
 497            DI       0    1000
 498            DQ    -111    -111
                *

 499            KK  516519   REACH
 500            KM  ROUTE THE RUNOFF WES516 VIA THE WESTERN CANAL TO CP519
 501            RS       12    STOR        0
 502            RC     0.05   0.035    0.05   11050  0.0011      16
 503            RX        0       8      12      15      25      28      32      40
 504            RY       16      14      12      10      10      12      14      16
                *

 505            KK  WES519
 506            KM  DIVERT WESTERN CANAL BASEFLOW OUT OF CALCULATION
 507            KM  THE REST IS THE FLOW CONTRIBUTED BY SUB 516.
 508            KO        3
 509            DT  BASOUT
 510            DI       0     111    1000
 511            DQ       0     111     111
                *
1                                          HEC-1 INPUT                                          PAGE 14

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 512            KK     513   BASIN
 513            KM  RUNOFF CALCULATION FOR SUB-BASIN 513
 514            BA   0.059
 515            LG    0.15    0.15    9.70    0.06      55
 516            UC   1.450   1.611
 517            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 518            UA     100
                *

 519            KK     519   BASIN
 520            KM  RUNOFF CALCULATION FOR SUB-BASIN 519
 521            BA   0.247
 522            LG    0.14    0.19    8.80    0.07      39
 523            UC   1.096   0.909
 524            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 525            UA     100
                *
```

```
526          KK   CP519
527          KM  COMBINE RUNOFF FROM SUB-BASINS 519, 513 AND THE EAST
528          HC       5
             *

529          KK    P519
530          KM  STORAGE ROUTING AT CP519
531          KM  RUNOFF MAY FLOW BETWEEN THE RR AND THE BLOCKWALL NORTH TO P519.
532          KM  THE BOTTLE NECK OF THIS SHORT CONVEYANCE IS THE CROSS SECTION IMMEDIATELY
533          KM  NORTH OF P519.
534          KM  THIS CORRIDOR IS LESS THAN 1/4 MILE LONG, NARROW AND ALMOST NO SLOPE.
535          KM  NO HYDRAULIC ANALYSIS IS PERFORMED FOR THIS SHORT CORRIDOR.
536          KO       3
537          RS       1    STOR       0
538          SV    0.97    9.96   18.92   34.75    57.9   87.27  113.83     144
539          SE    1210    1212  1212.5    1213  1213.5    1214  1214.4  1214.8
540          SQ       0       0       0       0     3.6   125.5   295.4   536.6
             *

541          KK  519512   SPLIT
542          KM  DIVERT RUNOFF TO THE WEST ALONG WESTERN CANAL
543          DT  WES519
544          DI     3.6   125.5   295.4   536.6
545          DQ       0    34.5      43    51.3
             *

546          KK     512   BASIN
547          KM  RUNOFF CALCULATION FOR SUB-BASIN 512
548          BA   0.205
549          LG    0.21    0.16    9.70    0.06      15
550          UC   1.017   1.076
551          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
552          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 15

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

553          KK   CP512
554          KM  COMBINE RUNOFF FROM SUB-BASIN 512, AND THE EAST
555          HC       3
             *

556          KK    P512
557          KM  STORAGE ROUTING AT CP512
558          KO       3
559          RS       1    STOR       0
560          SV    1.83   48.38  105.86     119  133.15  213.69
561          SE  1202.2    1207 1209.19  1209.5    1210    1212
562          SQ       0       0       0   41.86  486.43    7953
             *

563          KK     505   BASIN
564          KM  RUNOFF CALCULATION FOR SUB-BASIN 505
565          BA   0.038
566          LG    0.10    0.15    9.70    0.07      80
567          UC   0.817   1.006
568          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
569          UA     100
             *

570          KK    P505
571          KM  STORAGE ROUTING AT 505
572          KO       3
573          RS       1    STOR       0
574          SV       0    0.11    1.01    1.86    8.22
575          SE    1209    1210  1210.7    1211    1212
576          SQ       0       0       0       0   0.001
             *

577          KK     504   BASIN
578          KM  RUNOFF CALCULATION FOR SUB-BASIN 504
579          BA   0.322
580          LG    0.12    0.21    8.80    0.06      27
581          UC   0.683   0.444
582          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
583          UA     100
             *

584          KK  504506ROUTE   REACH
585          KM  ROUTE RUNOFF FROM 504 TO EL DORADO LAKES
586          RS       5    STOR       0
587          RC   0.035   0.015   0.035    4500  0.0007    2.00
588          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
589          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *
1                                          HEC-1 INPUT                                          PAGE 16

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

590          KK     506   BASIN
591          KM  RUNOFF CALCULATION FOR SUB-BASIN 506
592          BA   0.347
593          LG    0.21    0.15    9.70    0.07      16
594          UC   1.192   1.137
595          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
596          UA     100
```

```
                    *
597                 KK   CP506
598                 KM  COMBINE RUNOFF FROM SUB-BASIN 516, AND THE EAST
599                 HC       4
                    *
600                 KK    P506
601                 KM  STORAGE ROUTING AT CP506.  P506 AND P512 SHARE THE SAME WEIR.
602                 KO       3
603                 RS       1    STOR       0
604                 SV    0.01   39.03    85.9  208.47  335.94  515.57
605                 SE  1195.1  1202.2  1204.7    1208    1210    1212
606                 SQ       0       0       0       0  486.43    7953
                    *
607                 KK     525   BASIN
608                 KM  RUNOFF CALCULATION FOR SUB-BASIN 525
609                 BA   0.218
610                 LG    0.25    0.25    4.60    0.40      30
611                 UC   0.800   0.661
612                 UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
613                 UA     100
                    *
614                 KK  COO525
615                 KM  RETENTION DIVERSION
616                 KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
617                 KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 9.33 AC-FT
618                 KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.73 AC-FT
619                 KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 525 = 10.06 AC-FT
620                 DT  525RET   10.06
621                 DI       0     100
622                 DQ       0     100
623                 ZW   A=COO  B=KNO6  C=FLOW  E=5MIN
                    *
624                 KK  COO524
625                 KM  RETRIEVE RUNOFF HYDROGRAPH@COOPER AND WARNER AND WRITE TO DSS FILE
626                 DR  OUT524
627                 ZW   A=COO  B=WAR6  C=FLOW  E=5MIN
                    *
628                 ZZ
1
                SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

   NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    30      CON303
                 V
                 V
    44      CON501
                 .
                 .
    50           .         501
                 .           .
                 .           .
    69           .           .-------> 501RET
    63           .      501OUT
                 .           .
                 .           .
    74           .           .------->   TO508
    72           .        D501
                 .           .
                 .           .
    77       CP501............
                 V
                 V
    80      501502
                 .
                 .
    86           .         502
                 .           .
                 .           .
    99           .           .-------> 502RET
    93           .      502OUT
                 .           .
                 .           .
   102       CP502............
                 V
                 V
   106      502503
                 .
                 .
   114           .           .<-------   TO508
   112           .      FRM501
                 .          V
                 .          V
   115           .      501508
                 .           .
                 .           .
   121           .           .         508
                 .           .           .
                 .           .           .
   134           .           .           .-------> 508RET
   128           .           .      508OUT
                 .           .           .
```

```
                .          .          .
137             .      CP508...........
                .          V
                .          V
140             .     508516
                .          .
                .          .
146             .          .     CON308
                .          .          .
                .          .          .
150             .          .          .     CON310
                .          .          .          .
                .          .          .          .
154             .          .     308310...........
                .          .          V
                .          .          V
157             .          .     CON516
                .          .          .
                .          .          .
163             .          .          .         516
                .          .          .          .
                .          .          .          .
176             .          .          .          .-------> 516RET
170             .          .          .     516OUT
                .          .          .          .
                .          .          .          .
179             .          .      CP516...........
                .          .          V
                .          .          V
182             .          .       P516
                .          .          .
                .          .          .
194             .          .          .-------> WES516
191             .          .     516WES
                .          .          .
                .          .          .
200             .          .          .-------> 516NOR
197             .          .      516NW
                .          .          .
                .          .          .
203             .      516RR...........
                .          V
                .          V
206             .     516509
                .          .
                .          .
214             .          .          .<------- 516NOR
212             .          .     516NOR
                .          .          .
                .          .          .
215             .          .          .         509
                .          .          .          .
                .          .          .          .
222             .          .     509BAS...........
                .          .          .
                .          .          .
231             .          .          .-------> 509RET
225             .          .     509OUT
                .          .          .
                .          .          .
234             .      CP509...........
                .          V
                .          V
238             .     509503
                .          .
                .          .
244             .          .         500
                .          .          .
                .          .          .
257             .          .          .-------> 500RET
251             .          .     500OUT
                .          .          V
                .          .          V
260             .          .     500503
                .          .          .
                .          .          .
266             .          .          .         503
                .          .          .          .
                .          .          .          .
279             .          .          .          .-------> 503RET
273             .          .          .     503OUT
                .          .          .          .
                .          .          .          .
282         CP503.................................
                V
                V
285          P503
                .
                .
292             .         510
                .          V
                .          V
305             .     510511
                .          .
                .          .
311             .          .         511
                .          .          .
                .          .          .
324             .          .          .-------> 511RET
```

```
318          .           .      511OUT
             .           .           .
             .           .           .
327          .       CP511............
             .           V
             .           V
330          .      511512
             .           .
             .           .
336          .           .         521
             .           .           .
             .           .           .
349          .           .           .-------> 521RET
343          .           .      521OUT
             .           .           V
             .           .           V
352          .           .      521517
             .           .           .
             .           .           .
358          .           .           .        517
             .           .           .          .
             .           .           .          .
372          .           .           .          .-------> 517RET
365          .           .           .     517OUT
             .           .           .          .
             .           .           .          .
375          .           .       CP517............
             .           .           .
             .           .           .
378          .           .           .     CON314
             .           .           .          V
             .           .           .          V
382          .           .           .     CON524
             .           .           .          .
             .           .           .          .
388          .           .           .          .         524
             .           .           .          .           .
             .           .           .          .           .
401          .           .           .          .           .-------> 524RET
395          .           .           .          .     524OUT
             .           .           .          .           .
             .           .           .          .           .
404          .           .           .      CP524............
             .           .           .          .
             .           .           .          .
409          .           .           .          .-------> OUT524
407          .           .           .       D524
             .           .           .          V
             .           .           .          V
412          .           .           .     524522
             .           .           .          .
             .           .           .          .
418          .           .           .          .         522
             .           .           .          .           .
             .           .           .          .           .
431          .           .           .          .           .-------> 522RET
425          .           .           .          .     522OUT
             .           .           .          .           .
             .           .           .          .           .
434          .           .       CP522........................
             .           .           V
             .           .           V
437          .           .      522523
             .           .           .
             .           .           .
443          .           .           .        523
             .           .           .          .
             .           .           .          .
456          .           .           .          .-------> 523RET
450          .           .           .     523OUT
             .           .           .          .
             .           .           .          .
459          .           .       CP523............
             .           .           V
             .           .           V
462          .           .      523519
             .           .           .
             .           .           .
468          .           .           .        518
             .           .           .          .
             .           .           .          .
481          .           .           .          .-------> 518RET
475          .           .           .     518OUT
             .           .           .          V
             .           .           .          V
484          .           .           .     518519
             .           .           .          .
             .           .           .          .
492          .           .           .          .           .<-------  WES516
490          .           .           .          .     WES516
             .           .           .          .           .
             .           .           .          .           .
496          .           .           .          .           .-------> -BASFL
493          .           .           .          .     WESFUL
             .           .           .          .          V
             .           .           .          .          V
499          .           .           .          .     516519
             .           .           .          .           .
             .           .           .          .           .
```

```
509                                                  .-------> BASOUT
505                                          WES519
                                                       .
                                                       .
512                                                          513
                                                               .
                                                               .
519                                                                      519
                                                                          .
                                                                          .
526                                  CP519.............................................
                                         V
                                         V
529                                   P519
                                         .
                                         .
543                                      .-------> WES519
541                                519512
                                         .
                                         .
546                                      .         512
                                         .           .
                                         .           .
553                            CP512.......................
                                   V
                                   V
556                             P512
                                   .
                                   .
563                                .         505
                                   .           V
                                   .           V
570                                .        P505
                                   .           .
                                   .           .
577                                .           .         504
                                   .           .           V
                                   .           .           V
584                                .           .      504506
                                   .           .           .
                                   .           .           .
590                                .           .           .         506
                                   .           .           .           .
                                   .           .           .           .
597                            CP506.....................................
                                   V
                                   V
600                             P506
                                   .
                                   .
607                                .         525
                                   .           .
                                   .           .
620                                .           .-------> 525RET
614                                .      COO525
                                   .           .
                                   .           .
626                                .           .           .<-------  OUT524
624                                .           .      COO524
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN  1998               *
*           VERSION 4.1                *
*                                      *
*  RUN DATE   18MAY10  TIME  10:03:38  *
*                                      *
****************************************
```

```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
```

Project ID: CGFDSP3N_6HR - Major Basin: 01 - Return Period: 100 Years
PHASE III - UPRR/ARIZONA AVE WATERSHED NORTH
NORTH OF RAY ROAD, EAST OF ARIZONA AVENUE
SOUTH OF BASELINE, WEST OF CONSOLIDATED CANAL
(THE AREA WEST OF THE UPRR SPUR IS NOT INCLUDED IN THIS MODEL)
PREPARED BY MDH AND YX, PROJECT ENGINEERING CONSULTANTS
PRELIMINARY HYDROLOGIC MODEL FOR
5-MINUTE TIME INTERVAL - 100-YEAR, 6-HOUR STORM EVENT
TOTAL WATERSHED AREA = 11.08 SQ.MI
AERIAL REDUCTION WAS APPLIED USING PB RECORDS
THIS STUDY AREA WAS BROKEN INTO TWO REGIONS:
THE FIRST PB CARD REGION (NORTH OF UNION PACIFIC RAILROAD) INCLUDES
SUB-BASINS 501, 502, 503, 508, 509, 516 AND NON-CONTRIBUTING AREA.
NORTH REGION AREA = 6.10 SQ.MI
THE SECOND PB CARD REGION (SOUTH OF UNION PACIFIC RAILROAD AND
EAST OF THE RAILROAD SPUR LINE). INCLUDES SUB-BASINS 504, 505, 506
510, 511, 512, 513, 517, 519, 521, 522, 523, 524, 525
AND NON-CONTRIBUTING AREA. AREA = 4.98 SQ.MI
GREEN AND AMPT INFILTRATION METHOD USED TO DETERMINE RAINFALL LOSSES
CLARK METHOD USED TO CREATE UNIT HYDROGRAPHS
NORMAL DEPTH METHOD USED FOR CHANNEL ROUTING
EASTERN MARICOPA COUNTY SOIL SURVEY USED FOR SOILS DATA
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY'S GIS DATA, AERIAL PHOTOS DATED
DEC. 2002, AND DEVELOPMENTS AS DIRECTED BY CHANDLER AND GILBERT BY DATE OF

```
                    APRIL 2003 USED FOR LANDUSE DATA
                    DDMSW VERSION 2.1.0 PROGRAM USED TO CALCULATE RAINFALL, RAINFALL LOSSES
                    AND UNIT HYDROGRAPHS

  29 IO          OUTPUT CONTROL VARIABLES
                       IPRNT          3  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

     IT          HYDROGRAPH TIME DATA
                        NMIN          5  MINUTES IN COMPUTATION INTERVAL
                       IDATE     3MAR 3  STARTING DATE
                       ITIME       1200  STARTING TIME
                          NQ       2000  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE    10MAR 3  ENDING DATE
                      NDTIME       1035  ENDING TIME
                       ICENT         19  CENTURY MARK

                 COMPUTATION INTERVAL     .08 HOURS
                      TOTAL TIME BASE  166.58 HOURS

          ENGLISH UNITS
               DRAINAGE AREA          SQUARE MILES
               PRECIPITATION DEPTH    INCHES
               LENGTH, ELEVATION      FEET
               FLOW                   CUBIC FEET PER SECOND
               STORAGE VOLUME         ACRE-FEET
               SURFACE AREA           ACRES
               TEMPERATURE            DEGREES FAHRENHEIT


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  30 KK     *    CON303  *
            *            *
            **************
                    THE BA AND PB PRESENTED IN THIS KK ARE NOT USED FOR CALCULATION
                    RETRIEVE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&GUADALUPE

  34 IN          TIME DATA FOR INPUT TIME SERIES
                       JXMIN         15  TIME INTERVAL IN MINUTES
                      JXDATE     3MAR 3  STARTING DATE
                      JXTIME       1200  STARTING TIME
   -----DSS---ZOPEN:  Existing File Opened,  File: CGFDSP3N-6.DSS
                      Unit:  71;  DSS Version: 6-JG
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/GUA6/FLOW/03MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/GUA6/FLOW/03MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/GUA6/FLOW/04MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/GUA6/FLOW/05MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/GUA6/FLOW/06MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/GUA6/FLOW/06MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/GUA6/FLOW/06MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/GUA6/FLOW/07MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/GUA6/FLOW/08MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/GUA6/FLOW/08MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/GUA6/FLOW/08MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/GUA6/FLOW/09MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/GUA6/FLOW/10MAR1903/5MIN//
-----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
Pathname: /CONS/GUA6/FLOW/11MAR1903/5MIN//

              SUBBASIN RUNOFF DATA

  33 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .00  SUBBASIN AREA

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   CON303

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      53.      6.25                 21.          6.          2.           1.
                        (INCHES)   196.259     229.418     247.403     251.797
                         (AC-FT)      10.         12.         13.          13.

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  44 KK     *    CON501  *     ROUTE   REACH
            *            *
            **************
                    ROUTE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&GUADALUPE TO 501
```

```
                HYDROGRAPH ROUTING DATA

 46 RS          STORAGE ROUTING
                     NSTPS          6  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                    RSVRIC        .00  INITIAL CONDITION
                         X        .00 WORKING R AND D COEFFICIENT

 47 RC          NORMAL DEPTH CHANNEL
                       ANL       .035  LEFT OVERBANK N-VALUE
                      ANCH       .015  MAIN CHANNEL N-VALUE
                       ANR       .035  RIGHT OVERBANK N-VALUE
                     RLNTH      5500.  REACH LENGTH
                       SEL      .0018  ENERGY SLOPE
                      ELMAX        2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 49 RY        ELEVATION     2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
 48 RX        DISTANCE       .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                   ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      1.05      2.11      3.16      4.22      5.28      6.35      7.42      8.49      9.56
          OUTFLOW        .00      7.81     24.79     48.71     78.66    114.07    154.54    199.75    249.48    303.52
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE      11.22     13.47     15.73     17.98     20.24     22.50     24.76     27.03     29.29     31.57
          OUTFLOW     363.30    432.56    509.50    593.37    683.75    780.31    882.80    991.02   1104.79   1223.96
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00


*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      249. TO     1224.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   CON501

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     50.       6.83                20.          6.          2.          1.
                        (INCHES)  188.533     228.685     247.236     251.784
                         (AC-FT)     10.         12.         13.         13.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.       6.83                 0.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .32       6.83                .17         .06         .02         .01

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 50 KK      *     501    *        BASIN
            *            *
            **************
                        RUNOFF CALCULATION FOR SUB-BASIN 501
                        AERIAL REDUCTION FACTOR 0.956 FOR 6.10 SQM (NORTH OF THE RR) IS USED TO
                        GENERATE THE FOLLOWING PB VALUE

 34 IN          TIME DATA FOR INPUT TIME SERIES
                      JXMIN         15  TIME INTERVAL IN MINUTES
                     JXDATE      3MAR 3  STARTING DATE
                     JXTIME       1200  STARTING TIME

              SUBBASIN RUNOFF DATA

 54 BA          SUBBASIN CHARACTERISTICS
                      TAREA       1.23  SUBBASIN AREA

                PRECIPITATION DATA

 55 PB                STORM       2.87  BASIN TOTAL PRECIPITATION

 56 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .06       .06       .06       .07       .07       .07       .05       .05
                     .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

```
                    .00       .00

 59 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .25  STARTING LOSS
                       DTH         .16  MOISTURE DEFICIT
                      PSIF        9.70  WETTING FRONT SUCTION
                     XKSAT         .06  HYDRAULIC CONDUCTIVITY
                     RTIMP       25.00  PERCENT IMPERVIOUS AREA

 60 UC          CLARK UNITGRAPH
                        TC        1.49  TIME OF CONCENTRATION
                         R        1.03  STORAGE COEFFICIENT

 61 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
                   100.0

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=  1.49 HR,       R=  1.03 HR
                                         SNYDER   TP=   .80 HR,      CP=   .44

                                                  UNIT HYDROGRAPH
                                             74 END-OF-PERIOD ORDINATES
              10.      33.      66.     109.     155.     228.     339.     417.     442.     446.
             440.     432.     422.     408.     391.     374.     357.     341.     320.     296.
             273.     252.     232.     214.     197.     182.     168.     155.     143.     132.
             122.     112.     103.      95.      88.      81.      75.      69.      64.      59.
              54.      50.      46.      43.      39.      36.      33.      31.      28.      26.
              24.      22.      21.      19.      17.      16.      15.      14.      13.      12.
              11.      10.       9.       8.       8.       7.       7.       6.       6.       5.
               5.       4.       4.       4.

    ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION      501

   TOTAL RAINFALL =    2.87, TOTAL LOSS =     .84, TOTAL EXCESS =    2.03

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     716.      4.83                    259.         67.         22.          10.
                        (INCHES)      1.956      2.020       2.020        2.020
                         (AC-FT)        129.        133.        133.         133.

                       CUMULATIVE AREA =    1.23 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 63 KK      *    501OUT  *
            *            *
            **************
                       RETENTION DIVERSION
                       DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 22.31 AC-FT
                       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 21.98 AC-FT
                       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 501 = 44.29

    DT          DIVERSION
                     ISTAD      501RET  DIVERSION HYDROGRAPH IDENTIFICATION
                    DSTRMX       44.29  MAXIMUM VOLUME TO BE DIVERTED

    DI             INFLOW         .00    100.00

    DQ      DIVERTED FLOW         .00    100.00

                                                    ***

    ***            ***            ***            ***            ***

                     DIVERSION HYDROGRAPH   501RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     707.      4.75                     89.         22.          7.           3.
                        (INCHES)       .674       .674        .674         .674
                         (AC-FT)         44.         44.         44.          44.

                       CUMULATIVE AREA =    1.23 SQ MI

    ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   501OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

```
                          (CFS)
+     715.      4.92                178.         45.         15.          6.
                        (INCHES)    1.346       1.346       1.346       1.346
                         (AC-FT)     88.         88.         88.         88.

                       CUMULATIVE AREA =    1.23 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  72 KK     *      D501  *
            *            *
            **************
                       DIVERT 40% FLOW TO SOUTH

     DT          DIVERSION
                      ISTAD       TO508  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00    100.00

     DQ      DIVERTED FLOW         .00     40.00

                                                                  ***

      ***             ***             ***             ***             ***

                       DIVERSION HYDROGRAPH    TO508

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     286.      4.92                 71.         18.          6.           3.
                        (INCHES)    .538        .538        .538        .538
                         (AC-FT)     35.         35.         35.         35.

                       CUMULATIVE AREA =    1.23 SQ MI

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     D501

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     429.      4.92                107.         27.          9.           4.
                        (INCHES)    .807        .808        .808        .808
                         (AC-FT)     53.         53.         53.         53.

                       CUMULATIVE AREA =    1.23 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  77 KK     *     CP501  *
            *            *
            **************
                       COMBINE RUNOFF FROM SUB-BASIN 501 AND NORTH OF BASELINE

  79 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION    CP501

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     429.      4.92                126.         33.         11.           5.
                        (INCHES)    .947        .992       1.007       1.011
                         (AC-FT)     62.         65.         66.         66.

                       CUMULATIVE AREA =    1.23 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  80 KK     *   501502   *     ROUTE   REACH
```

```
*            *
**************
              ROUTE THE RUNOFF FROM P501 TO P502

   HYDROGRAPH ROUTING DATA

82 RS        STORAGE ROUTING
                NSTPS          7  NUMBER OF SUBREACHES
                 ITYP       STOR  TYPE OF INITIAL CONDITION
               RSVRIC        .00  INITIAL CONDITION
                    X        .00 WORKING R AND D COEFFICIENT

83 RC        NORMAL DEPTH CHANNEL
                  ANL       .035  LEFT OVERBANK N-VALUE
                 ANCH       .015  MAIN CHANNEL N-VALUE
                  ANR       .035  RIGHT OVERBANK N-VALUE
                RLNTH      6550.  REACH LENGTH
                  SEL      .0021  ENERGY SLOPE
                ELMAX        2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                  CROSS-SECTION DATA
                        --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
85 RY      ELEVATION     2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
84 RX      DISTANCE       .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                        ***

                                  COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

        STORAGE       .00      1.25      2.51      3.77      5.03      6.29      7.56      8.83     10.11     11.39
        OUTFLOW       .00      8.44     26.78     52.62     84.97    123.21    166.92    215.76    269.47    327.84
      ELEVATION       .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

        STORAGE     13.37     16.05     18.73     21.41     24.10     26.79     29.49     32.19     34.89     37.59
        OUTFLOW    392.41    467.22    550.32    640.91    738.53    842.83    953.53   1070.43   1193.31   1322.03
      ELEVATION      1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      216. TO     1322.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   501502

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     397.      5.50       123.        33.         11.          5.
                       (INCHES)      .930       .991       1.007       1.011
                        (AC-FT)       61.        65.         66.         66.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       2.       5.50         1.          0.          0.          0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     1.06       5.50        .47         .14         .05         .02

                       CUMULATIVE AREA =    1.23 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
86 KK       *       502  *        BASIN
            *            *
            **************
              RUNOFF CALCULATION FOR SUB-BASIN 502

   SUBBASIN RUNOFF DATA

88 BA        SUBBASIN CHARACTERISTICS
                TAREA        1.02  SUBBASIN AREA

             PRECIPITATION DATA

55 PB           STORM        2.87  BASIN TOTAL PRECIPITATION

56 PI          INCREMENTAL PRECIPITATION PATTERN
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                 .03       .03       .06       .06       .06       .07       .07       .07       .05       .05
                 .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00

89 LG        GREEN AND AMPT LOSS RATE
```

```
                    STRTL        .26  STARTING LOSS
                      DTH        .16  MOISTURE DEFICIT
                     PSIF       8.00  WETTING FRONT SUCTION
                    XKSAT        .10  HYDRAULIC CONDUCTIVITY
                    RTIMP      29.00  PERCENT IMPERVIOUS AREA

 90 UC          CLARK UNITGRAPH
                       TC       1.43  TIME OF CONCENTRATION
                        R        .99  STORAGE COEFFICIENT

 91 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=  1.43 HR,       R=   .99 HR
                                           SNYDER   TP=   .77 HR,      CP=   .44

                                                      UNIT HYDROGRAPH
                                                 71 END-OF-PERIOD ORDINATES
                 9.       30.       60.       99.      141.      214.      314.      371.      381.      382.
               376.      368.      357.      343.      327.      312.      298.      281.      259.      238.
               219.      201.      185.      170.      156.      144.      132.      121.      112.      103.
                94.       87.       80.       73.       67.       62.       57.       52.       48.       44.
                41.       37.       34.       32.       29.       27.       24.       23.       21.       19.
                17.       16.       15.       14.       12.       11.       11.       10.        9.        8.
                 8.        7.        6.        6.        5.        5.        5.        4.        4.        4.
                 3.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      502

    TOTAL RAINFALL =    2.87, TOTAL LOSS =     .90, TOTAL EXCESS =    1.97

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     589.      4.83                    207.         53.         18.          8.
                        (INCHES)      1.892       1.957       1.957       1.957
                         (AC-FT)        103.        106.        106.        106.

                        CUMULATIVE AREA =    1.02 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 93 KK      *    502OUT  *
            *            *
            **************
                        RETENTION DIVERSION
                        DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                        DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 49.41 AC-FT
                        DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 4.19 AC-FT
                        TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 502 = 53.6 AC-FT

    DT          DIVERSION
                     ISTAD      502RET  DIVERSION HYDROGRAPH IDENTIFICATION
                    DSTRMX       53.60  MAXIMUM VOLUME TO BE DIVERTED

    DI            INFLOW         .00    100.00

    DQ      DIVERTED FLOW        .00    100.00

                                                          ***

     ***            ***            ***            ***            ***

                      DIVERSION HYDROGRAPH   502RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     589.      4.83                    108.         27.          9.          4.
                        (INCHES)       .989        .989        .989        .989
                         (AC-FT)         54.         54.         54.         54.

                        CUMULATIVE AREA =    1.02 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   502OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     518.      5.25                    106.         26.          9.          4.
                        (INCHES)       .968        .968        .968        .968
```

```
                    (AC-FT)        52.          52.          52.          52.

                    CUMULATIVE AREA =    1.02 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
102 KK    *     CP502  *
          *            *
          **************
                    COMBINE RUNOFF FROM SUB-BASIN 502 AND THE EAST

104 KO          OUTPUT CONTROL VARIABLES
                     IPRNT          1  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL         0.  HYDROGRAPH PLOT SCALE

105 HC          HYDROGRAPH COMBINATION
                     ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***
```

HYDROGRAPH AT STATION CP502
SUM OF 2 HYDROGRAPHS

DA MON HRMN	ORD	FLOW	DA MON HRMN	ORD	FLOW	DA MON HRMN	ORD	FLOW	DA MON HRMN	ORD	FLOW
3 MAR 1200	1	0.	5 MAR 0540	501	0.	6 MAR 2320	1001	0.	8 MAR 1700	1501	0.
3 MAR 1205	2	0.	5 MAR 0545	502	0.	6 MAR 2325	1002	0.	8 MAR 1705	1502	0.
3 MAR 1210	3	0.	5 MAR 0550	503	0.	6 MAR 2330	1003	0.	8 MAR 1710	1503	0.
3 MAR 1215	4	0.	5 MAR 0555	504	0.	6 MAR 2335	1004	0.	8 MAR 1715	1504	0.
3 MAR 1220	5	0.	5 MAR 0600	505	0.	6 MAR 2340	1005	0.	8 MAR 1720	1505	0.
3 MAR 1225	6	0.	5 MAR 0605	506	0.	6 MAR 2345	1006	0.	8 MAR 1725	1506	0.
3 MAR 1230	7	0.	5 MAR 0610	507	0.	6 MAR 2350	1007	0.	8 MAR 1730	1507	0.
3 MAR 1235	8	0.	5 MAR 0615	508	0.	6 MAR 2355	1008	0.	8 MAR 1735	1508	0.
3 MAR 1240	9	0.	5 MAR 0620	509	0.	7 MAR 0000	1009	0.	8 MAR 1740	1509	0.
3 MAR 1245	10	0.	5 MAR 0625	510	0.	7 MAR 0005	1010	0.	8 MAR 1745	1510	0.
3 MAR 1250	11	0.	5 MAR 0630	511	0.	7 MAR 0010	1011	0.	8 MAR 1750	1511	0.
3 MAR 1255	12	0.	5 MAR 0635	512	0.	7 MAR 0015	1012	0.	8 MAR 1755	1512	0.
3 MAR 1300	13	0.	5 MAR 0640	513	0.	7 MAR 0020	1013	0.	8 MAR 1800	1513	0.
3 MAR 1305	14	0.	5 MAR 0645	514	0.	7 MAR 0025	1014	0.	8 MAR 1805	1514	0.
3 MAR 1310	15	0.	5 MAR 0650	515	0.	7 MAR 0030	1015	0.	8 MAR 1810	1515	0.
3 MAR 1315	16	0.	5 MAR 0655	516	0.	7 MAR 0035	1016	0.	8 MAR 1815	1516	0.
3 MAR 1320	17	0.	5 MAR 0700	517	0.	7 MAR 0040	1017	0.	8 MAR 1820	1517	0.
3 MAR 1325	18	0.	5 MAR 0705	518	0.	7 MAR 0045	1018	0.	8 MAR 1825	1518	0.
3 MAR 1330	19	0.	5 MAR 0710	519	0.	7 MAR 0050	1019	0.	8 MAR 1830	1519	0.
3 MAR 1335	20	0.	5 MAR 0715	520	0.	7 MAR 0055	1020	0.	8 MAR 1835	1520	0.
3 MAR 1340	21	0.	5 MAR 0720	521	0.	7 MAR 0100	1021	0.	8 MAR 1840	1521	0.
3 MAR 1345	22	0.	5 MAR 0725	522	0.	7 MAR 0105	1022	0.	8 MAR 1845	1522	0.
3 MAR 1350	23	0.	5 MAR 0730	523	0.	7 MAR 0110	1023	0.	8 MAR 1850	1523	0.
3 MAR 1355	24	0.	5 MAR 0735	524	0.	7 MAR 0115	1024	0.	8 MAR 1855	1524	0.
3 MAR 1400	25	0.	5 MAR 0740	525	0.	7 MAR 0120	1025	0.	8 MAR 1900	1525	0.
3 MAR 1405	26	0.	5 MAR 0745	526	0.	7 MAR 0125	1026	0.	8 MAR 1905	1526	0.
3 MAR 1410	27	0.	5 MAR 0750	527	0.	7 MAR 0130	1027	0.	8 MAR 1910	1527	0.
3 MAR 1415	28	0.	5 MAR 0755	528	0.	7 MAR 0135	1028	0.	8 MAR 1915	1528	0.
3 MAR 1420	29	0.	5 MAR 0800	529	0.	7 MAR 0140	1029	0.	8 MAR 1920	1529	0.
3 MAR 1425	30	0.	5 MAR 0805	530	0.	7 MAR 0145	1030	0.	8 MAR 1925	1530	0.
3 MAR 1430	31	0.	5 MAR 0810	531	0.	7 MAR 0150	1031	0.	8 MAR 1930	1531	0.
3 MAR 1435	32	0.	5 MAR 0815	532	0.	7 MAR 0155	1032	0.	8 MAR 1935	1532	0.
3 MAR 1440	33	0.	5 MAR 0820	533	0.	7 MAR 0200	1033	0.	8 MAR 1940	1533	0.
3 MAR 1445	34	0.	5 MAR 0825	534	0.	7 MAR 0205	1034	0.	8 MAR 1945	1534	0.
3 MAR 1450	35	0.	5 MAR 0830	535	0.	7 MAR 0210	1035	0.	8 MAR 1950	1535	0.
3 MAR 1455	36	0.	5 MAR 0835	536	0.	7 MAR 0215	1036	0.	8 MAR 1955	1536	0.
3 MAR 1500	37	0.	5 MAR 0840	537	0.	7 MAR 0220	1037	0.	8 MAR 2000	1537	0.
3 MAR 1505	38	0.	5 MAR 0845	538	0.	7 MAR 0225	1038	0.	8 MAR 2005	1538	0.
3 MAR 1510	39	0.	5 MAR 0850	539	0.	7 MAR 0230	1039	0.	8 MAR 2010	1539	0.
3 MAR 1515	40	0.	5 MAR 0855	540	0.	7 MAR 0235	1040	0.	8 MAR 2015	1540	0.
3 MAR 1520	41	0.	5 MAR 0900	541	0.	7 MAR 0240	1041	0.	8 MAR 2020	1541	0.
3 MAR 1525	42	0.	5 MAR 0905	542	0.	7 MAR 0245	1042	0.	8 MAR 2025	1542	0.
3 MAR 1530	43	0.	5 MAR 0910	543	0.	7 MAR 0250	1043	0.	8 MAR 2030	1543	0.
3 MAR 1535	44	0.	5 MAR 0915	544	0.	7 MAR 0255	1044	0.	8 MAR 2035	1544	0.
3 MAR 1540	45	0.	5 MAR 0920	545	0.	7 MAR 0300	1045	0.	8 MAR 2040	1545	0.
3 MAR 1545	46	0.	5 MAR 0925	546	0.	7 MAR 0305	1046	0.	8 MAR 2045	1546	0.
3 MAR 1550	47	0.	5 MAR 0930	547	0.	7 MAR 0310	1047	0.	8 MAR 2050	1547	0.
3 MAR 1555	48	0.	5 MAR 0935	548	0.	7 MAR 0315	1048	0.	8 MAR 2055	1548	0.
3 MAR 1600	49	0.	5 MAR 0940	549	0.	7 MAR 0320	1049	0.	8 MAR 2100	1549	0.
3 MAR 1605	50	0.	5 MAR 0945	550	0.	7 MAR 0325	1050	0.	8 MAR 2105	1550	0.
3 MAR 1610	51	0.	5 MAR 0950	551	0.	7 MAR 0330	1051	0.	8 MAR 2110	1551	0.
3 MAR 1615	52	0.	5 MAR 0955	552	0.	7 MAR 0335	1052	0.	8 MAR 2115	1552	0.
3 MAR 1620	53	0.	5 MAR 1000	553	0.	7 MAR 0340	1053	0.	8 MAR 2120	1553	0.
3 MAR 1625	54	0.	5 MAR 1005	554	0.	7 MAR 0345	1054	0.	8 MAR 2125	1554	0.
3 MAR 1630	55	0.	5 MAR 1010	555	0.	7 MAR 0350	1055	0.	8 MAR 2130	1555	0.
3 MAR 1635	56	0.	5 MAR 1015	556	0.	7 MAR 0355	1056	0.	8 MAR 2135	1556	0.
3 MAR 1640	57	0.	5 MAR 1020	557	0.	7 MAR 0400	1057	0.	8 MAR 2140	1557	0.
3 MAR 1645	58	0.	5 MAR 1025	558	0.	7 MAR 0405	1058	0.	8 MAR 2145	1558	0.
3 MAR 1650	59	0.	5 MAR 1030	559	0.	7 MAR 0410	1059	0.	8 MAR 2150	1559	0.
3 MAR 1655	60	0.	5 MAR 1035	560	0.	7 MAR 0415	1060	0.	8 MAR 2155	1560	0.
3 MAR 1700	61	0.	5 MAR 1040	561	0.	7 MAR 0420	1061	0.	8 MAR 2200	1561	0.
3 MAR 1705	62	4.	5 MAR 1045	562	0.	7 MAR 0425	1062	0.	8 MAR 2205	1562	0.
3 MAR 1710	63	298.	5 MAR 1050	563	0.	7 MAR 0430	1063	0.	8 MAR 2210	1563	0.

3 MAR 1715	64	761.	*	5 MAR 1055	564	0.	*	7 MAR 0435	1064	0.	*	8 MAR 2215	1564	0.
3 MAR 1720	65	859.	*	5 MAR 1100	565	0.	*	7 MAR 0440	1065	0.	*	8 MAR 2220	1565	0.
3 MAR 1725	66	856.	*	5 MAR 1105	566	0.	*	7 MAR 0445	1066	0.	*	8 MAR 2225	1566	0.
3 MAR 1730	67	835.	*	5 MAR 1110	567	0.	*	7 MAR 0450	1067	0.	*	8 MAR 2230	1567	0.
3 MAR 1735	68	804.	*	5 MAR 1115	568	0.	*	7 MAR 0455	1068	0.	*	8 MAR 2235	1568	0.
3 MAR 1740	69	763.	*	5 MAR 1120	569	0.	*	7 MAR 0500	1069	0.	*	8 MAR 2240	1569	0.
3 MAR 1745	70	719.	*	5 MAR 1125	570	0.	*	7 MAR 0505	1070	0.	*	8 MAR 2245	1570	0.
3 MAR 1750	71	673.	*	5 MAR 1130	571	0.	*	7 MAR 0510	1071	0.	*	8 MAR 2250	1571	0.
3 MAR 1755	72	620.	*	5 MAR 1135	572	0.	*	7 MAR 0515	1072	0.	*	8 MAR 2255	1572	0.
3 MAR 1800	73	570.	*	5 MAR 1140	573	0.	*	7 MAR 0520	1073	0.	*	8 MAR 2300	1573	0.
3 MAR 1805	74	532.	*	5 MAR 1145	574	0.	*	7 MAR 0525	1074	0.	*	8 MAR 2305	1574	0.
3 MAR 1810	75	497.	*	5 MAR 1150	575	0.	*	7 MAR 0530	1075	0.	*	8 MAR 2310	1575	0.
3 MAR 1815	76	464.	*	5 MAR 1155	576	0.	*	7 MAR 0535	1076	0.	*	8 MAR 2315	1576	0.
3 MAR 1820	77	433.	*	5 MAR 1200	577	0.	*	7 MAR 0540	1077	0.	*	8 MAR 2320	1577	0.
3 MAR 1825	78	405.	*	5 MAR 1205	578	0.	*	7 MAR 0545	1078	0.	*	8 MAR 2325	1578	0.
3 MAR 1830	79	380.	*	5 MAR 1210	579	0.	*	7 MAR 0550	1079	0.	*	8 MAR 2330	1579	0.
3 MAR 1835	80	358.	*	5 MAR 1215	580	0.	*	7 MAR 0555	1080	0.	*	8 MAR 2335	1580	0.
3 MAR 1840	81	339.	*	5 MAR 1220	581	0.	*	7 MAR 0600	1081	0.	*	8 MAR 2340	1581	0.
3 MAR 1845	82	324.	*	5 MAR 1225	582	0.	*	7 MAR 0605	1082	0.	*	8 MAR 2345	1582	0.
3 MAR 1850	83	310.	*	5 MAR 1230	583	0.	*	7 MAR 0610	1083	0.	*	8 MAR 2350	1583	0.
3 MAR 1855	84	296.	*	5 MAR 1235	584	0.	*	7 MAR 0615	1084	0.	*	8 MAR 2355	1584	0.
3 MAR 1900	85	282.	*	5 MAR 1240	585	0.	*	7 MAR 0620	1085	0.	*	9 MAR 0000	1585	0.
3 MAR 1905	86	268.	*	5 MAR 1245	586	0.	*	7 MAR 0625	1086	0.	*	9 MAR 0005	1586	0.
3 MAR 1910	87	253.	*	5 MAR 1250	587	0.	*	7 MAR 0630	1087	0.	*	9 MAR 0010	1587	0.
3 MAR 1915	88	238.	*	5 MAR 1255	588	0.	*	7 MAR 0635	1088	0.	*	9 MAR 0015	1588	0.
3 MAR 1920	89	223.	*	5 MAR 1300	589	0.	*	7 MAR 0640	1089	0.	*	9 MAR 0020	1589	0.
3 MAR 1925	90	209.	*	5 MAR 1305	590	0.	*	7 MAR 0645	1090	0.	*	9 MAR 0025	1590	0.
3 MAR 1930	91	195.	*	5 MAR 1310	591	0.	*	7 MAR 0650	1091	0.	*	9 MAR 0030	1591	0.
3 MAR 1935	92	183.	*	5 MAR 1315	592	0.	*	7 MAR 0655	1092	0.	*	9 MAR 0035	1592	0.
3 MAR 1940	93	172.	*	5 MAR 1320	593	0.	*	7 MAR 0700	1093	0.	*	9 MAR 0040	1593	0.
3 MAR 1945	94	161.	*	5 MAR 1325	594	0.	*	7 MAR 0705	1094	0.	*	9 MAR 0045	1594	0.
3 MAR 1950	95	150.	*	5 MAR 1330	595	0.	*	7 MAR 0710	1095	0.	*	9 MAR 0050	1595	0.
3 MAR 1955	96	139.	*	5 MAR 1335	596	0.	*	7 MAR 0715	1096	0.	*	9 MAR 0055	1596	0.
3 MAR 2000	97	130.	*	5 MAR 1340	597	0.	*	7 MAR 0720	1097	0.	*	9 MAR 0100	1597	0.
3 MAR 2005	98	122.	*	5 MAR 1345	598	0.	*	7 MAR 0725	1098	0.	*	9 MAR 0105	1598	0.
3 MAR 2010	99	114.	*	5 MAR 1350	599	0.	*	7 MAR 0730	1099	0.	*	9 MAR 0110	1599	0.
3 MAR 2015	100	107.	*	5 MAR 1355	600	0.	*	7 MAR 0735	1100	0.	*	9 MAR 0115	1600	0.
3 MAR 2020	101	100.	*	5 MAR 1400	601	0.	*	7 MAR 0740	1101	0.	*	9 MAR 0120	1601	0.
3 MAR 2025	102	93.	*	5 MAR 1405	602	0.	*	7 MAR 0745	1102	0.	*	9 MAR 0125	1602	0.
3 MAR 2030	103	87.	*	5 MAR 1410	603	0.	*	7 MAR 0750	1103	0.	*	9 MAR 0130	1603	0.
3 MAR 2035	104	81.	*	5 MAR 1415	604	0.	*	7 MAR 0755	1104	0.	*	9 MAR 0135	1604	0.
3 MAR 2040	105	76.	*	5 MAR 1420	605	0.	*	7 MAR 0800	1105	0.	*	9 MAR 0140	1605	0.
3 MAR 2045	106	72.	*	5 MAR 1425	606	0.	*	7 MAR 0805	1106	0.	*	9 MAR 0145	1606	0.
3 MAR 2050	107	69.	*	5 MAR 1430	607	0.	*	7 MAR 0810	1107	0.	*	9 MAR 0150	1607	0.
3 MAR 2055	108	65.	*	5 MAR 1435	608	0.	*	7 MAR 0815	1108	0.	*	9 MAR 0155	1608	0.
3 MAR 2100	109	62.	*	5 MAR 1440	609	0.	*	7 MAR 0820	1109	0.	*	9 MAR 0200	1609	0.
3 MAR 2105	110	58.	*	5 MAR 1445	610	0.	*	7 MAR 0825	1110	0.	*	9 MAR 0205	1610	0.
3 MAR 2110	111	55.	*	5 MAR 1450	611	0.	*	7 MAR 0830	1111	0.	*	9 MAR 0210	1611	0.
3 MAR 2115	112	52.	*	5 MAR 1455	612	0.	*	7 MAR 0835	1112	0.	*	9 MAR 0215	1612	0.
3 MAR 2120	113	48.	*	5 MAR 1500	613	0.	*	7 MAR 0840	1113	0.	*	9 MAR 0220	1613	0.
3 MAR 2125	114	45.	*	5 MAR 1505	614	0.	*	7 MAR 0845	1114	0.	*	9 MAR 0225	1614	0.
3 MAR 2130	115	42.	*	5 MAR 1510	615	0.	*	7 MAR 0850	1115	0.	*	9 MAR 0230	1615	0.
3 MAR 2135	116	39.	*	5 MAR 1515	616	0.	*	7 MAR 0855	1116	0.	*	9 MAR 0235	1616	0.
3 MAR 2140	117	37.	*	5 MAR 1520	617	0.	*	7 MAR 0900	1117	0.	*	9 MAR 0240	1617	0.
3 MAR 2145	118	34.	*	5 MAR 1525	618	0.	*	7 MAR 0905	1118	0.	*	9 MAR 0245	1618	0.
3 MAR 2150	119	32.	*	5 MAR 1530	619	0.	*	7 MAR 0910	1119	0.	*	9 MAR 0250	1619	0.
3 MAR 2155	120	30.	*	5 MAR 1535	620	0.	*	7 MAR 0915	1120	0.	*	9 MAR 0255	1620	0.
3 MAR 2200	121	29.	*	5 MAR 1540	621	0.	*	7 MAR 0920	1121	0.	*	9 MAR 0300	1621	0.
3 MAR 2205	122	27.	*	5 MAR 1545	622	0.	*	7 MAR 0925	1122	0.	*	9 MAR 0305	1622	0.
3 MAR 2210	123	26.	*	5 MAR 1550	623	0.	*	7 MAR 0930	1123	0.	*	9 MAR 0310	1623	0.
3 MAR 2215	124	24.	*	5 MAR 1555	624	0.	*	7 MAR 0935	1124	0.	*	9 MAR 0315	1624	0.
3 MAR 2220	125	23.	*	5 MAR 1600	625	0.	*	7 MAR 0940	1125	0.	*	9 MAR 0320	1625	0.
3 MAR 2225	126	22.	*	5 MAR 1605	626	0.	*	7 MAR 0945	1126	0.	*	9 MAR 0325	1626	0.
3 MAR 2230	127	20.	*	5 MAR 1610	627	0.	*	7 MAR 0950	1127	0.	*	9 MAR 0330	1627	0.
3 MAR 2235	128	19.	*	5 MAR 1615	628	0.	*	7 MAR 0955	1128	0.	*	9 MAR 0335	1628	0.
3 MAR 2240	129	17.	*	5 MAR 1620	629	0.	*	7 MAR 1000	1129	0.	*	9 MAR 0340	1629	0.
3 MAR 2245	130	16.	*	5 MAR 1625	630	0.	*	7 MAR 1005	1130	0.	*	9 MAR 0345	1630	0.
3 MAR 2250	131	15.	*	5 MAR 1630	631	0.	*	7 MAR 1010	1131	0.	*	9 MAR 0350	1631	0.
3 MAR 2255	132	14.	*	5 MAR 1635	632	0.	*	7 MAR 1015	1132	0.	*	9 MAR 0355	1632	0.
3 MAR 2300	133	13.	*	5 MAR 1640	633	0.	*	7 MAR 1020	1133	0.	*	9 MAR 0400	1633	0.
3 MAR 2305	134	12.	*	5 MAR 1645	634	0.	*	7 MAR 1025	1134	0.	*	9 MAR 0405	1634	0.
3 MAR 2310	135	11.	*	5 MAR 1650	635	0.	*	7 MAR 1030	1135	0.	*	9 MAR 0410	1635	0.
3 MAR 2315	136	11.	*	5 MAR 1655	636	0.	*	7 MAR 1035	1136	0.	*	9 MAR 0415	1636	0.
3 MAR 2320	137	10.	*	5 MAR 1700	637	0.	*	7 MAR 1040	1137	0.	*	9 MAR 0420	1637	0.
3 MAR 2325	138	10.	*	5 MAR 1705	638	0.	*	7 MAR 1045	1138	0.	*	9 MAR 0425	1638	0.
3 MAR 2330	139	9.	*	5 MAR 1710	639	0.	*	7 MAR 1050	1139	0.	*	9 MAR 0430	1639	0.
3 MAR 2335	140	9.	*	5 MAR 1715	640	0.	*	7 MAR 1055	1140	0.	*	9 MAR 0435	1640	0.
3 MAR 2340	141	9.	*	5 MAR 1720	641	0.	*	7 MAR 1100	1141	0.	*	9 MAR 0440	1641	0.
3 MAR 2345	142	9.	*	5 MAR 1725	642	0.	*	7 MAR 1105	1142	0.	*	9 MAR 0445	1642	0.
3 MAR 2350	143	9.	*	5 MAR 1730	643	0.	*	7 MAR 1110	1143	0.	*	9 MAR 0450	1643	0.
3 MAR 2355	144	8.	*	5 MAR 1735	644	0.	*	7 MAR 1115	1144	0.	*	9 MAR 0455	1644	0.
4 MAR 0000	145	8.	*	5 MAR 1740	645	0.	*	7 MAR 1120	1145	0.	*	9 MAR 0500	1645	0.
4 MAR 0005	146	8.	*	5 MAR 1745	646	0.	*	7 MAR 1125	1146	0.	*	9 MAR 0505	1646	0.
4 MAR 0010	147	8.	*	5 MAR 1750	647	0.	*	7 MAR 1130	1147	0.	*	9 MAR 0510	1647	0.
4 MAR 0015	148	8.	*	5 MAR 1755	648	0.	*	7 MAR 1135	1148	0.	*	9 MAR 0515	1648	0.
4 MAR 0020	149	8.	*	5 MAR 1800	649	0.	*	7 MAR 1140	1149	0.	*	9 MAR 0520	1649	0.
4 MAR 0025	150	8.	*	5 MAR 1805	650	0.	*	7 MAR 1145	1150	0.	*	9 MAR 0525	1650	0.
4 MAR 0030	151	8.	*	5 MAR 1810	651	0.	*	7 MAR 1150	1151	0.	*	9 MAR 0530	1651	0.
4 MAR 0035	152	8.	*	5 MAR 1815	652	0.	*	7 MAR 1155	1152	0.	*	9 MAR 0535	1652	0.
4 MAR 0040	153	8.	*	5 MAR 1820	653	0.	*	7 MAR 1200	1153	0.	*	9 MAR 0540	1653	0.
4 MAR 0045	154	8.	*	5 MAR 1825	654	0.	*	7 MAR 1205	1154	0.	*	9 MAR 0545	1654	0.
4 MAR 0050	155	8.	*	5 MAR 1830	655	0.	*	7 MAR 1210	1155	0.	*	9 MAR 0550	1655	0.
4 MAR 0055	156	8.	*	5 MAR 1835	656	0.	*	7 MAR 1215	1156	0.	*	9 MAR 0555	1656	0.
4 MAR 0100	157	8.	*	5 MAR 1840	657	0.	*	7 MAR 1220	1157	0.	*	9 MAR 0600	1657	0.
4 MAR 0105	158	8.	*	5 MAR 1845	658	0.	*	7 MAR 1225	1158	0.	*	9 MAR 0605	1658	0.
4 MAR 0110	159	7.	*	5 MAR 1850	659	0.	*	7 MAR 1230	1159	0.	*	9 MAR 0610	1659	0.
4 MAR 0115	160	7.	*	5 MAR 1855	660	0.	*	7 MAR 1235	1160	0.	*	9 MAR 0615	1660	0.
4 MAR 0120	161	7.	*	5 MAR 1900	661	0.	*	7 MAR 1240	1161	0.	*	9 MAR 0620	1661	0.
4 MAR 0125	162	7.	*	5 MAR 1905	662	0.	*	7 MAR 1245	1162	0.	*	9 MAR 0625	1662	0.

4 MAR	0130	163	7.	*	5 MAR	1910	663	0.	*	7 MAR	1250	1163	0.	*	9 MAR	0630	1663	0.
4 MAR	0135	164	7.	*	5 MAR	1915	664	0.	*	7 MAR	1255	1164	0.	*	9 MAR	0635	1664	0.
4 MAR	0140	165	7.	*	5 MAR	1920	665	0.	*	7 MAR	1300	1165	0.	*	9 MAR	0640	1665	0.
4 MAR	0145	166	7.	*	5 MAR	1925	666	0.	*	7 MAR	1305	1166	0.	*	9 MAR	0645	1666	0.
4 MAR	0150	167	7.	*	5 MAR	1930	667	0.	*	7 MAR	1310	1167	0.	*	9 MAR	0650	1667	0.
4 MAR	0155	168	6.	*	5 MAR	1935	668	0.	*	7 MAR	1315	1168	0.	*	9 MAR	0655	1668	0.
4 MAR	0200	169	6.	*	5 MAR	1940	669	0.	*	7 MAR	1320	1169	0.	*	9 MAR	0700	1669	0.
4 MAR	0205	170	6.	*	5 MAR	1945	670	0.	*	7 MAR	1325	1170	0.	*	9 MAR	0705	1670	0.
4 MAR	0210	171	6.	*	5 MAR	1950	671	0.	*	7 MAR	1330	1171	0.	*	9 MAR	0710	1671	0.
4 MAR	0215	172	6.	*	5 MAR	1955	672	0.	*	7 MAR	1335	1172	0.	*	9 MAR	0715	1672	0.
4 MAR	0220	173	6.	*	5 MAR	2000	673	0.	*	7 MAR	1340	1173	0.	*	9 MAR	0720	1673	0.
4 MAR	0225	174	6.	*	5 MAR	2005	674	0.	*	7 MAR	1345	1174	0.	*	9 MAR	0725	1674	0.
4 MAR	0230	175	6.	*	5 MAR	2010	675	0.	*	7 MAR	1350	1175	0.	*	9 MAR	0730	1675	0.
4 MAR	0235	176	5.	*	5 MAR	2015	676	0.	*	7 MAR	1355	1176	0.	*	9 MAR	0735	1676	0.
4 MAR	0240	177	5.	*	5 MAR	2020	677	0.	*	7 MAR	1400	1177	0.	*	9 MAR	0740	1677	0.
4 MAR	0245	178	5.	*	5 MAR	2025	678	0.	*	7 MAR	1405	1178	0.	*	9 MAR	0745	1678	0.
4 MAR	0250	179	5.	*	5 MAR	2030	679	0.	*	7 MAR	1410	1179	0.	*	9 MAR	0750	1679	0.
4 MAR	0255	180	5.	*	5 MAR	2035	680	0.	*	7 MAR	1415	1180	0.	*	9 MAR	0755	1680	0.
4 MAR	0300	181	5.	*	5 MAR	2040	681	0.	*	7 MAR	1420	1181	0.	*	9 MAR	0800	1681	0.
4 MAR	0305	182	5.	*	5 MAR	2045	682	0.	*	7 MAR	1425	1182	0.	*	9 MAR	0805	1682	0.
4 MAR	0310	183	5.	*	5 MAR	2050	683	0.	*	7 MAR	1430	1183	0.	*	9 MAR	0810	1683	0.
4 MAR	0315	184	5.	*	5 MAR	2055	684	0.	*	7 MAR	1435	1184	0.	*	9 MAR	0815	1684	0.
4 MAR	0320	185	4.	*	5 MAR	2100	685	0.	*	7 MAR	1440	1185	0.	*	9 MAR	0820	1685	0.
4 MAR	0325	186	4.	*	5 MAR	2105	686	0.	*	7 MAR	1445	1186	0.	*	9 MAR	0825	1686	0.
4 MAR	0330	187	4.	*	5 MAR	2110	687	0.	*	7 MAR	1450	1187	0.	*	9 MAR	0830	1687	0.
4 MAR	0335	188	4.	*	5 MAR	2115	688	0.	*	7 MAR	1455	1188	0.	*	9 MAR	0835	1688	0.
4 MAR	0340	189	4.	*	5 MAR	2120	689	0.	*	7 MAR	1500	1189	0.	*	9 MAR	0840	1689	0.
4 MAR	0345	190	4.	*	5 MAR	2125	690	0.	*	7 MAR	1505	1190	0.	*	9 MAR	0845	1690	0.
4 MAR	0350	191	4.	*	5 MAR	2130	691	0.	*	7 MAR	1510	1191	0.	*	9 MAR	0850	1691	0.
4 MAR	0355	192	4.	*	5 MAR	2135	692	0.	*	7 MAR	1515	1192	0.	*	9 MAR	0855	1692	0.
4 MAR	0400	193	4.	*	5 MAR	2140	693	0.	*	7 MAR	1520	1193	0.	*	9 MAR	0900	1693	0.
4 MAR	0405	194	4.	*	5 MAR	2145	694	0.	*	7 MAR	1525	1194	0.	*	9 MAR	0905	1694	0.
4 MAR	0410	195	4.	*	5 MAR	2150	695	0.	*	7 MAR	1530	1195	0.	*	9 MAR	0910	1695	0.
4 MAR	0415	196	3.	*	5 MAR	2155	696	0.	*	7 MAR	1535	1196	0.	*	9 MAR	0915	1696	0.
4 MAR	0420	197	3.	*	5 MAR	2200	697	0.	*	7 MAR	1540	1197	0.	*	9 MAR	0920	1697	0.
4 MAR	0425	198	3.	*	5 MAR	2205	698	0.	*	7 MAR	1545	1198	0.	*	9 MAR	0925	1698	0.
4 MAR	0430	199	3.	*	5 MAR	2210	699	0.	*	7 MAR	1550	1199	0.	*	9 MAR	0930	1699	0.
4 MAR	0435	200	3.	*	5 MAR	2215	700	0.	*	7 MAR	1555	1200	0.	*	9 MAR	0935	1700	0.
4 MAR	0440	201	3.	*	5 MAR	2220	701	0.	*	7 MAR	1600	1201	0.	*	9 MAR	0940	1701	0.
4 MAR	0445	202	3.	*	5 MAR	2225	702	0.	*	7 MAR	1605	1202	0.	*	9 MAR	0945	1702	0.
4 MAR	0450	203	3.	*	5 MAR	2230	703	0.	*	7 MAR	1610	1203	0.	*	9 MAR	0950	1703	0.
4 MAR	0455	204	3.	*	5 MAR	2235	704	0.	*	7 MAR	1615	1204	0.	*	9 MAR	0955	1704	0.
4 MAR	0500	205	3.	*	5 MAR	2240	705	0.	*	7 MAR	1620	1205	0.	*	9 MAR	1000	1705	0.
4 MAR	0505	206	3.	*	5 MAR	2245	706	0.	*	7 MAR	1625	1206	0.	*	9 MAR	1005	1706	0.
4 MAR	0510	207	3.	*	5 MAR	2250	707	0.	*	7 MAR	1630	1207	0.	*	9 MAR	1010	1707	0.
4 MAR	0515	208	3.	*	5 MAR	2255	708	0.	*	7 MAR	1635	1208	0.	*	9 MAR	1015	1708	0.
4 MAR	0520	209	2.	*	5 MAR	2300	709	0.	*	7 MAR	1640	1209	0.	*	9 MAR	1020	1709	0.
4 MAR	0525	210	2.	*	5 MAR	2305	710	0.	*	7 MAR	1645	1210	0.	*	9 MAR	1025	1710	0.
4 MAR	0530	211	2.	*	5 MAR	2310	711	0.	*	7 MAR	1650	1211	0.	*	9 MAR	1030	1711	0.
4 MAR	0535	212	2.	*	5 MAR	2315	712	0.	*	7 MAR	1655	1212	0.	*	9 MAR	1035	1712	0.
4 MAR	0540	213	2.	*	5 MAR	2320	713	0.	*	7 MAR	1700	1213	0.	*	9 MAR	1040	1713	0.
4 MAR	0545	214	2.	*	5 MAR	2325	714	0.	*	7 MAR	1705	1214	0.	*	9 MAR	1045	1714	0.
4 MAR	0550	215	2.	*	5 MAR	2330	715	0.	*	7 MAR	1710	1215	0.	*	9 MAR	1050	1715	0.
4 MAR	0555	216	2.	*	5 MAR	2335	716	0.	*	7 MAR	1715	1216	0.	*	9 MAR	1055	1716	0.
4 MAR	0600	217	2.	*	5 MAR	2340	717	0.	*	7 MAR	1720	1217	0.	*	9 MAR	1100	1717	0.
4 MAR	0605	218	2.	*	5 MAR	2345	718	0.	*	7 MAR	1725	1218	0.	*	9 MAR	1105	1718	0.
4 MAR	0610	219	2.	*	5 MAR	2350	719	0.	*	7 MAR	1730	1219	0.	*	9 MAR	1110	1719	0.
4 MAR	0615	220	2.	*	5 MAR	2355	720	0.	*	7 MAR	1735	1220	0.	*	9 MAR	1115	1720	0.
4 MAR	0620	221	2.	*	6 MAR	0000	721	0.	*	7 MAR	1740	1221	0.	*	9 MAR	1120	1721	0.
4 MAR	0625	222	2.	*	6 MAR	0005	722	0.	*	7 MAR	1745	1222	0.	*	9 MAR	1125	1722	0.
4 MAR	0630	223	2.	*	6 MAR	0010	723	0.	*	7 MAR	1750	1223	0.	*	9 MAR	1130	1723	0.
4 MAR	0635	224	2.	*	6 MAR	0015	724	0.	*	7 MAR	1755	1224	0.	*	9 MAR	1135	1724	0.
4 MAR	0640	225	2.	*	6 MAR	0020	725	0.	*	7 MAR	1800	1225	0.	*	9 MAR	1140	1725	0.
4 MAR	0645	226	2.	*	6 MAR	0025	726	0.	*	7 MAR	1805	1226	0.	*	9 MAR	1145	1726	0.
4 MAR	0650	227	2.	*	6 MAR	0030	727	0.	*	7 MAR	1810	1227	0.	*	9 MAR	1150	1727	0.
4 MAR	0655	228	2.	*	6 MAR	0035	728	0.	*	7 MAR	1815	1228	0.	*	9 MAR	1155	1728	0.
4 MAR	0700	229	2.	*	6 MAR	0040	729	0.	*	7 MAR	1820	1229	0.	*	9 MAR	1200	1729	0.
4 MAR	0705	230	1.	*	6 MAR	0045	730	0.	*	7 MAR	1825	1230	0.	*	9 MAR	1205	1730	0.
4 MAR	0710	231	1.	*	6 MAR	0050	731	0.	*	7 MAR	1830	1231	0.	*	9 MAR	1210	1731	0.
4 MAR	0715	232	1.	*	6 MAR	0055	732	0.	*	7 MAR	1835	1232	0.	*	9 MAR	1215	1732	0.
4 MAR	0720	233	1.	*	6 MAR	0100	733	0.	*	7 MAR	1840	1233	0.	*	9 MAR	1220	1733	0.
4 MAR	0725	234	1.	*	6 MAR	0105	734	0.	*	7 MAR	1845	1234	0.	*	9 MAR	1225	1734	0.
4 MAR	0730	235	1.	*	6 MAR	0110	735	0.	*	7 MAR	1850	1235	0.	*	9 MAR	1230	1735	0.
4 MAR	0735	236	1.	*	6 MAR	0115	736	0.	*	7 MAR	1855	1236	0.	*	9 MAR	1235	1736	0.
4 MAR	0740	237	1.	*	6 MAR	0120	737	0.	*	7 MAR	1900	1237	0.	*	9 MAR	1240	1737	0.
4 MAR	0745	238	1.	*	6 MAR	0125	738	0.	*	7 MAR	1905	1238	0.	*	9 MAR	1245	1738	0.
4 MAR	0750	239	1.	*	6 MAR	0130	739	0.	*	7 MAR	1910	1239	0.	*	9 MAR	1250	1739	0.
4 MAR	0755	240	1.	*	6 MAR	0135	740	0.	*	7 MAR	1915	1240	0.	*	9 MAR	1255	1740	0.
4 MAR	0800	241	1.	*	6 MAR	0140	741	0.	*	7 MAR	1920	1241	0.	*	9 MAR	1300	1741	0.
4 MAR	0805	242	1.	*	6 MAR	0145	742	0.	*	7 MAR	1925	1242	0.	*	9 MAR	1305	1742	0.
4 MAR	0810	243	1.	*	6 MAR	0150	743	0.	*	7 MAR	1930	1243	0.	*	9 MAR	1310	1743	0.
4 MAR	0815	244	1.	*	6 MAR	0155	744	0.	*	7 MAR	1935	1244	0.	*	9 MAR	1315	1744	0.
4 MAR	0820	245	1.	*	6 MAR	0200	745	0.	*	7 MAR	1940	1245	0.	*	9 MAR	1320	1745	0.
4 MAR	0825	246	1.	*	6 MAR	0205	746	0.	*	7 MAR	1945	1246	0.	*	9 MAR	1325	1746	0.
4 MAR	0830	247	1.	*	6 MAR	0210	747	0.	*	7 MAR	1950	1247	0.	*	9 MAR	1330	1747	0.
4 MAR	0835	248	1.	*	6 MAR	0215	748	0.	*	7 MAR	1955	1248	0.	*	9 MAR	1335	1748	0.
4 MAR	0840	249	1.	*	6 MAR	0220	749	0.	*	7 MAR	2000	1249	0.	*	9 MAR	1340	1749	0.
4 MAR	0845	250	1.	*	6 MAR	0225	750	0.	*	7 MAR	2005	1250	0.	*	9 MAR	1345	1750	0.
4 MAR	0850	251	1.	*	6 MAR	0230	751	0.	*	7 MAR	2010	1251	0.	*	9 MAR	1350	1751	0.
4 MAR	0855	252	1.	*	6 MAR	0235	752	0.	*	7 MAR	2015	1252	0.	*	9 MAR	1355	1752	0.
4 MAR	0900	253	1.	*	6 MAR	0240	753	0.	*	7 MAR	2020	1253	0.	*	9 MAR	1400	1753	0.
4 MAR	0905	254	1.	*	6 MAR	0245	754	0.	*	7 MAR	2025	1254	0.	*	9 MAR	1405	1754	0.
4 MAR	0910	255	1.	*	6 MAR	0250	755	0.	*	7 MAR	2030	1255	0.	*	9 MAR	1410	1755	0.
4 MAR	0915	256	1.	*	6 MAR	0255	756	0.	*	7 MAR	2035	1256	0.	*	9 MAR	1415	1756	0.
4 MAR	0920	257	1.	*	6 MAR	0300	757	0.	*	7 MAR	2040	1257	0.	*	9 MAR	1420	1757	0.
4 MAR	0925	258	1.	*	6 MAR	0305	758	0.	*	7 MAR	2045	1258	0.	*	9 MAR	1425	1758	0.
4 MAR	0930	259	1.	*	6 MAR	0310	759	0.	*	7 MAR	2050	1259	0.	*	9 MAR	1430	1759	0.
4 MAR	0935	260	1.	*	6 MAR	0315	760	0.	*	7 MAR	2055	1260	0.	*	9 MAR	1435	1760	0.
4 MAR	0940	261	1.	*	6 MAR	0320	761	0.	*	7 MAR	2100	1261	0.	*	9 MAR	1440	1761	0.

4 MAR	0945	262	1.	*	6 MAR	0325	762	0.	*	7 MAR	2105	1262	0.	*	9 MAR	1445	1762	0.
4 MAR	0950	263	1.	*	6 MAR	0330	763	0.	*	7 MAR	2110	1263	0.	*	9 MAR	1450	1763	0.
4 MAR	0955	264	1.	*	6 MAR	0335	764	0.	*	7 MAR	2115	1264	0.	*	9 MAR	1455	1764	0.
4 MAR	1000	265	1.	*	6 MAR	0340	765	0.	*	7 MAR	2120	1265	0.	*	9 MAR	1500	1765	0.
4 MAR	1005	266	1.	*	6 MAR	0345	766	0.	*	7 MAR	2125	1266	0.	*	9 MAR	1505	1766	0.
4 MAR	1010	267	1.	*	6 MAR	0350	767	0.	*	7 MAR	2130	1267	0.	*	9 MAR	1510	1767	0.
4 MAR	1015	268	1.	*	6 MAR	0355	768	0.	*	7 MAR	2135	1268	0.	*	9 MAR	1515	1768	0.
4 MAR	1020	269	1.	*	6 MAR	0400	769	0.	*	7 MAR	2140	1269	0.	*	9 MAR	1520	1769	0.
4 MAR	1025	270	1.	*	6 MAR	0405	770	0.	*	7 MAR	2145	1270	0.	*	9 MAR	1525	1770	0.
4 MAR	1030	271	1.	*	6 MAR	0410	771	0.	*	7 MAR	2150	1271	0.	*	9 MAR	1530	1771	0.
4 MAR	1035	272	1.	*	6 MAR	0415	772	0.	*	7 MAR	2155	1272	0.	*	9 MAR	1535	1772	0.
4 MAR	1040	273	1.	*	6 MAR	0420	773	0.	*	7 MAR	2200	1273	0.	*	9 MAR	1540	1773	0.
4 MAR	1045	274	1.	*	6 MAR	0425	774	0.	*	7 MAR	2205	1274	0.	*	9 MAR	1545	1774	0.
4 MAR	1050	275	1.	*	6 MAR	0430	775	0.	*	7 MAR	2210	1275	0.	*	9 MAR	1550	1775	0.
4 MAR	1055	276	1.	*	6 MAR	0435	776	0.	*	7 MAR	2215	1276	0.	*	9 MAR	1555	1776	0.
4 MAR	1100	277	1.	*	6 MAR	0440	777	0.	*	7 MAR	2220	1277	0.	*	9 MAR	1600	1777	0.
4 MAR	1105	278	1.	*	6 MAR	0445	778	0.	*	7 MAR	2225	1278	0.	*	9 MAR	1605	1778	0.
4 MAR	1110	279	1.	*	6 MAR	0450	779	0.	*	7 MAR	2230	1279	0.	*	9 MAR	1610	1779	0.
4 MAR	1115	280	1.	*	6 MAR	0455	780	0.	*	7 MAR	2235	1280	0.	*	9 MAR	1615	1780	0.
4 MAR	1120	281	1.	*	6 MAR	0500	781	0.	*	7 MAR	2240	1281	0.	*	9 MAR	1620	1781	0.
4 MAR	1125	282	1.	*	6 MAR	0505	782	0.	*	7 MAR	2245	1282	0.	*	9 MAR	1625	1782	0.
4 MAR	1130	283	1.	*	6 MAR	0510	783	0.	*	7 MAR	2250	1283	0.	*	9 MAR	1630	1783	0.
4 MAR	1135	284	1.	*	6 MAR	0515	784	0.	*	7 MAR	2255	1284	0.	*	9 MAR	1635	1784	0.
4 MAR	1140	285	1.	*	6 MAR	0520	785	0.	*	7 MAR	2300	1285	0.	*	9 MAR	1640	1785	0.
4 MAR	1145	286	1.	*	6 MAR	0525	786	0.	*	7 MAR	2305	1286	0.	*	9 MAR	1645	1786	0.
4 MAR	1150	287	1.	*	6 MAR	0530	787	0.	*	7 MAR	2310	1287	0.	*	9 MAR	1650	1787	0.
4 MAR	1155	288	1.	*	6 MAR	0535	788	0.	*	7 MAR	2315	1288	0.	*	9 MAR	1655	1788	0.
4 MAR	1200	289	1.	*	6 MAR	0540	789	0.	*	7 MAR	2320	1289	0.	*	9 MAR	1700	1789	0.
4 MAR	1205	290	1.	*	6 MAR	0545	790	0.	*	7 MAR	2325	1290	0.	*	9 MAR	1705	1790	0.
4 MAR	1210	291	1.	*	6 MAR	0550	791	0.	*	7 MAR	2330	1291	0.	*	9 MAR	1710	1791	0.
4 MAR	1215	292	1.	*	6 MAR	0555	792	0.	*	7 MAR	2335	1292	0.	*	9 MAR	1715	1792	0.
4 MAR	1220	293	1.	*	6 MAR	0600	793	0.	*	7 MAR	2340	1293	0.	*	9 MAR	1720	1793	0.
4 MAR	1225	294	1.	*	6 MAR	0605	794	0.	*	7 MAR	2345	1294	0.	*	9 MAR	1725	1794	0.
4 MAR	1230	295	1.	*	6 MAR	0610	795	0.	*	7 MAR	2350	1295	0.	*	9 MAR	1730	1795	0.
4 MAR	1235	296	1.	*	6 MAR	0615	796	0.	*	7 MAR	2355	1296	0.	*	9 MAR	1735	1796	0.
4 MAR	1240	297	1.	*	6 MAR	0620	797	0.	*	8 MAR	0000	1297	0.	*	9 MAR	1740	1797	0.
4 MAR	1245	298	1.	*	6 MAR	0625	798	0.	*	8 MAR	0005	1298	0.	*	9 MAR	1745	1798	0.
4 MAR	1250	299	1.	*	6 MAR	0630	799	0.	*	8 MAR	0010	1299	0.	*	9 MAR	1750	1799	0.
4 MAR	1255	300	1.	*	6 MAR	0635	800	0.	*	8 MAR	0015	1300	0.	*	9 MAR	1755	1800	0.
4 MAR	1300	301	1.	*	6 MAR	0640	801	0.	*	8 MAR	0020	1301	0.	*	9 MAR	1800	1801	0.
4 MAR	1305	302	1.	*	6 MAR	0645	802	0.	*	8 MAR	0025	1302	0.	*	9 MAR	1805	1802	0.
4 MAR	1310	303	1.	*	6 MAR	0650	803	0.	*	8 MAR	0030	1303	0.	*	9 MAR	1810	1803	0.
4 MAR	1315	304	1.	*	6 MAR	0655	804	0.	*	8 MAR	0035	1304	0.	*	9 MAR	1815	1804	0.
4 MAR	1320	305	1.	*	6 MAR	0700	805	0.	*	8 MAR	0040	1305	0.	*	9 MAR	1820	1805	0.
4 MAR	1325	306	1.	*	6 MAR	0705	806	0.	*	8 MAR	0045	1306	0.	*	9 MAR	1825	1806	0.
4 MAR	1330	307	1.	*	6 MAR	0710	807	0.	*	8 MAR	0050	1307	0.	*	9 MAR	1830	1807	0.
4 MAR	1335	308	1.	*	6 MAR	0715	808	0.	*	8 MAR	0055	1308	0.	*	9 MAR	1835	1808	0.
4 MAR	1340	309	1.	*	6 MAR	0720	809	0.	*	8 MAR	0100	1309	0.	*	9 MAR	1840	1809	0.
4 MAR	1345	310	1.	*	6 MAR	0725	810	0.	*	8 MAR	0105	1310	0.	*	9 MAR	1845	1810	0.
4 MAR	1350	311	1.	*	6 MAR	0730	811	0.	*	8 MAR	0110	1311	0.	*	9 MAR	1850	1811	0.
4 MAR	1355	312	1.	*	6 MAR	0735	812	0.	*	8 MAR	0115	1312	0.	*	9 MAR	1855	1812	0.
4 MAR	1400	313	1.	*	6 MAR	0740	813	0.	*	8 MAR	0120	1313	0.	*	9 MAR	1900	1813	0.
4 MAR	1405	314	1.	*	6 MAR	0745	814	0.	*	8 MAR	0125	1314	0.	*	9 MAR	1905	1814	0.
4 MAR	1410	315	1.	*	6 MAR	0750	815	0.	*	8 MAR	0130	1315	0.	*	9 MAR	1910	1815	0.
4 MAR	1415	316	1.	*	6 MAR	0755	816	0.	*	8 MAR	0135	1316	0.	*	9 MAR	1915	1816	0.
4 MAR	1420	317	1.	*	6 MAR	0800	817	0.	*	8 MAR	0140	1317	0.	*	9 MAR	1920	1817	0.
4 MAR	1425	318	1.	*	6 MAR	0805	818	0.	*	8 MAR	0145	1318	0.	*	9 MAR	1925	1818	0.
4 MAR	1430	319	1.	*	6 MAR	0810	819	0.	*	8 MAR	0150	1319	0.	*	9 MAR	1930	1819	0.
4 MAR	1435	320	1.	*	6 MAR	0815	820	0.	*	8 MAR	0155	1320	0.	*	9 MAR	1935	1820	0.
4 MAR	1440	321	1.	*	6 MAR	0820	821	0.	*	8 MAR	0200	1321	0.	*	9 MAR	1940	1821	0.
4 MAR	1445	322	1.	*	6 MAR	0825	822	0.	*	8 MAR	0205	1322	0.	*	9 MAR	1945	1822	0.
4 MAR	1450	323	1.	*	6 MAR	0830	823	0.	*	8 MAR	0210	1323	0.	*	9 MAR	1950	1823	0.
4 MAR	1455	324	1.	*	6 MAR	0835	824	0.	*	8 MAR	0215	1324	0.	*	9 MAR	1955	1824	0.
4 MAR	1500	325	1.	*	6 MAR	0840	825	0.	*	8 MAR	0220	1325	0.	*	9 MAR	2000	1825	0.
4 MAR	1505	326	1.	*	6 MAR	0845	826	0.	*	8 MAR	0225	1326	0.	*	9 MAR	2005	1826	0.
4 MAR	1510	327	1.	*	6 MAR	0850	827	0.	*	8 MAR	0230	1327	0.	*	9 MAR	2010	1827	0.
4 MAR	1515	328	1.	*	6 MAR	0855	828	0.	*	8 MAR	0235	1328	0.	*	9 MAR	2015	1828	0.
4 MAR	1520	329	1.	*	6 MAR	0900	829	0.	*	8 MAR	0240	1329	0.	*	9 MAR	2020	1829	0.
4 MAR	1525	330	1.	*	6 MAR	0905	830	0.	*	8 MAR	0245	1330	0.	*	9 MAR	2025	1830	0.
4 MAR	1530	331	1.	*	6 MAR	0910	831	0.	*	8 MAR	0250	1331	0.	*	9 MAR	2030	1831	0.
4 MAR	1535	332	1.	*	6 MAR	0915	832	0.	*	8 MAR	0255	1332	0.	*	9 MAR	2035	1832	0.
4 MAR	1540	333	1.	*	6 MAR	0920	833	0.	*	8 MAR	0300	1333	0.	*	9 MAR	2040	1833	0.
4 MAR	1545	334	1.	*	6 MAR	0925	834	0.	*	8 MAR	0305	1334	0.	*	9 MAR	2045	1834	0.
4 MAR	1550	335	1.	*	6 MAR	0930	835	0.	*	8 MAR	0310	1335	0.	*	9 MAR	2050	1835	0.
4 MAR	1555	336	1.	*	6 MAR	0935	836	0.	*	8 MAR	0315	1336	0.	*	9 MAR	2055	1836	0.
4 MAR	1600	337	1.	*	6 MAR	0940	837	0.	*	8 MAR	0320	1337	0.	*	9 MAR	2100	1837	0.
4 MAR	1605	338	1.	*	6 MAR	0945	838	0.	*	8 MAR	0325	1338	0.	*	9 MAR	2105	1838	0.
4 MAR	1610	339	1.	*	6 MAR	0950	839	0.	*	8 MAR	0330	1339	0.	*	9 MAR	2110	1839	0.
4 MAR	1615	340	1.	*	6 MAR	0955	840	0.	*	8 MAR	0335	1340	0.	*	9 MAR	2115	1840	0.
4 MAR	1620	341	1.	*	6 MAR	1000	841	0.	*	8 MAR	0340	1341	0.	*	9 MAR	2120	1841	0.
4 MAR	1625	342	1.	*	6 MAR	1005	842	0.	*	8 MAR	0345	1342	0.	*	9 MAR	2125	1842	0.
4 MAR	1630	343	1.	*	6 MAR	1010	843	0.	*	8 MAR	0350	1343	0.	*	9 MAR	2130	1843	0.
4 MAR	1635	344	1.	*	6 MAR	1015	844	0.	*	8 MAR	0355	1344	0.	*	9 MAR	2135	1844	0.
4 MAR	1640	345	1.	*	6 MAR	1020	845	0.	*	8 MAR	0400	1345	0.	*	9 MAR	2140	1845	0.
4 MAR	1645	346	1.	*	6 MAR	1025	846	0.	*	8 MAR	0405	1346	0.	*	9 MAR	2145	1846	0.
4 MAR	1650	347	1.	*	6 MAR	1030	847	0.	*	8 MAR	0410	1347	0.	*	9 MAR	2150	1847	0.
4 MAR	1655	348	1.	*	6 MAR	1035	848	0.	*	8 MAR	0415	1348	0.	*	9 MAR	2155	1848	0.
4 MAR	1700	349	1.	*	6 MAR	1040	849	0.	*	8 MAR	0420	1349	0.	*	9 MAR	2200	1849	0.
4 MAR	1705	350	1.	*	6 MAR	1045	850	0.	*	8 MAR	0425	1350	0.	*	9 MAR	2205	1850	0.
4 MAR	1710	351	1.	*	6 MAR	1050	851	0.	*	8 MAR	0430	1351	0.	*	9 MAR	2210	1851	0.
4 MAR	1715	352	1.	*	6 MAR	1055	852	0.	*	8 MAR	0435	1352	0.	*	9 MAR	2215	1852	0.
4 MAR	1720	353	1.	*	6 MAR	1100	853	0.	*	8 MAR	0440	1353	0.	*	9 MAR	2220	1853	0.
4 MAR	1725	354	1.	*	6 MAR	1105	854	0.	*	8 MAR	0445	1354	0.	*	9 MAR	2225	1854	0.
4 MAR	1730	355	1.	*	6 MAR	1110	855	0.	*	8 MAR	0450	1355	0.	*	9 MAR	2230	1855	0.
4 MAR	1735	356	1.	*	6 MAR	1115	856	0.	*	8 MAR	0455	1356	0.	*	9 MAR	2235	1856	0.
4 MAR	1740	357	1.	*	6 MAR	1120	857	0.	*	8 MAR	0500	1357	0.	*	9 MAR	2240	1857	0.
4 MAR	1745	358	1.	*	6 MAR	1125	858	0.	*	8 MAR	0505	1358	0.	*	9 MAR	2245	1858	0.
4 MAR	1750	359	1.	*	6 MAR	1130	859	0.	*	8 MAR	0510	1359	0.	*	9 MAR	2250	1859	0.
4 MAR	1755	360	1.	*	6 MAR	1135	860	0.	*	8 MAR	0515	1360	0.	*	9 MAR	2255	1860	0.

4 MAR 1800	361	1.	*	6 MAR 1140	861	0.	*	8 MAR 0520	1361	0.	*	9 MAR 2300	1861	0.
4 MAR 1805	362	1.	*	6 MAR 1145	862	0.	*	8 MAR 0525	1362	0.	*	9 MAR 2305	1862	0.
4 MAR 1810	363	1.	*	6 MAR 1150	863	0.	*	8 MAR 0530	1363	0.	*	9 MAR 2310	1863	0.
4 MAR 1815	364	1.	*	6 MAR 1155	864	0.	*	8 MAR 0535	1364	0.	*	9 MAR 2315	1864	0.
4 MAR 1820	365	1.	*	6 MAR 1200	865	0.	*	8 MAR 0540	1365	0.	*	9 MAR 2320	1865	0.
4 MAR 1825	366	1.	*	6 MAR 1205	866	0.	*	8 MAR 0545	1366	0.	*	9 MAR 2325	1866	0.
4 MAR 1830	367	1.	*	6 MAR 1210	867	0.	*	8 MAR 0550	1367	0.	*	9 MAR 2330	1867	0.
4 MAR 1835	368	1.	*	6 MAR 1215	868	0.	*	8 MAR 0555	1368	0.	*	9 MAR 2335	1868	0.
4 MAR 1840	369	1.	*	6 MAR 1220	869	0.	*	8 MAR 0600	1369	0.	*	9 MAR 2340	1869	0.
4 MAR 1845	370	1.	*	6 MAR 1225	870	0.	*	8 MAR 0605	1370	0.	*	9 MAR 2345	1870	0.
4 MAR 1850	371	1.	*	6 MAR 1230	871	0.	*	8 MAR 0610	1371	0.	*	9 MAR 2350	1871	0.
4 MAR 1855	372	1.	*	6 MAR 1235	872	0.	*	8 MAR 0615	1372	0.	*	9 MAR 2355	1872	0.
4 MAR 1900	373	1.	*	6 MAR 1240	873	0.	*	8 MAR 0620	1373	0.	*	10 MAR 0000	1873	0.
4 MAR 1905	374	1.	*	6 MAR 1245	874	0.	*	8 MAR 0625	1374	0.	*	10 MAR 0005	1874	0.
4 MAR 1910	375	1.	*	6 MAR 1250	875	0.	*	8 MAR 0630	1375	0.	*	10 MAR 0010	1875	0.
4 MAR 1915	376	1.	*	6 MAR 1255	876	0.	*	8 MAR 0635	1376	0.	*	10 MAR 0015	1876	0.
4 MAR 1920	377	1.	*	6 MAR 1300	877	0.	*	8 MAR 0640	1377	0.	*	10 MAR 0020	1877	0.
4 MAR 1925	378	1.	*	6 MAR 1305	878	0.	*	8 MAR 0645	1378	0.	*	10 MAR 0025	1878	0.
4 MAR 1930	379	1.	*	6 MAR 1310	879	0.	*	8 MAR 0650	1379	0.	*	10 MAR 0030	1879	0.
4 MAR 1935	380	0.	*	6 MAR 1315	880	0.	*	8 MAR 0655	1380	0.	*	10 MAR 0035	1880	0.
4 MAR 1940	381	0.	*	6 MAR 1320	881	0.	*	8 MAR 0700	1381	0.	*	10 MAR 0040	1881	0.
4 MAR 1945	382	0.	*	6 MAR 1325	882	0.	*	8 MAR 0705	1382	0.	*	10 MAR 0045	1882	0.
4 MAR 1950	383	0.	*	6 MAR 1330	883	0.	*	8 MAR 0710	1383	0.	*	10 MAR 0050	1883	0.
4 MAR 1955	384	0.	*	6 MAR 1335	884	0.	*	8 MAR 0715	1384	0.	*	10 MAR 0055	1884	0.
4 MAR 2000	385	0.	*	6 MAR 1340	885	0.	*	8 MAR 0720	1385	0.	*	10 MAR 0100	1885	0.
4 MAR 2005	386	0.	*	6 MAR 1345	886	0.	*	8 MAR 0725	1386	0.	*	10 MAR 0105	1886	0.
4 MAR 2010	387	0.	*	6 MAR 1350	887	0.	*	8 MAR 0730	1387	0.	*	10 MAR 0110	1887	0.
4 MAR 2015	388	0.	*	6 MAR 1355	888	0.	*	8 MAR 0735	1388	0.	*	10 MAR 0115	1888	0.
4 MAR 2020	389	0.	*	6 MAR 1400	889	0.	*	8 MAR 0740	1389	0.	*	10 MAR 0120	1889	0.
4 MAR 2025	390	0.	*	6 MAR 1405	890	0.	*	8 MAR 0745	1390	0.	*	10 MAR 0125	1890	0.
4 MAR 2030	391	0.	*	6 MAR 1410	891	0.	*	8 MAR 0750	1391	0.	*	10 MAR 0130	1891	0.
4 MAR 2035	392	0.	*	6 MAR 1415	892	0.	*	8 MAR 0755	1392	0.	*	10 MAR 0135	1892	0.
4 MAR 2040	393	0.	*	6 MAR 1420	893	0.	*	8 MAR 0800	1393	0.	*	10 MAR 0140	1893	0.
4 MAR 2045	394	0.	*	6 MAR 1425	894	0.	*	8 MAR 0805	1394	0.	*	10 MAR 0145	1894	0.
4 MAR 2050	395	0.	*	6 MAR 1430	895	0.	*	8 MAR 0810	1395	0.	*	10 MAR 0150	1895	0.
4 MAR 2055	396	0.	*	6 MAR 1435	896	0.	*	8 MAR 0815	1396	0.	*	10 MAR 0155	1896	0.
4 MAR 2100	397	0.	*	6 MAR 1440	897	0.	*	8 MAR 0820	1397	0.	*	10 MAR 0200	1897	0.
4 MAR 2105	398	0.	*	6 MAR 1445	898	0.	*	8 MAR 0825	1398	0.	*	10 MAR 0205	1898	0.
4 MAR 2110	399	0.	*	6 MAR 1450	899	0.	*	8 MAR 0830	1399	0.	*	10 MAR 0210	1899	0.
4 MAR 2115	400	0.	*	6 MAR 1455	900	0.	*	8 MAR 0835	1400	0.	*	10 MAR 0215	1900	0.
4 MAR 2120	401	0.	*	6 MAR 1500	901	0.	*	8 MAR 0840	1401	0.	*	10 MAR 0220	1901	0.
4 MAR 2125	402	0.	*	6 MAR 1505	902	0.	*	8 MAR 0845	1402	0.	*	10 MAR 0225	1902	0.
4 MAR 2130	403	0.	*	6 MAR 1510	903	0.	*	8 MAR 0850	1403	0.	*	10 MAR 0230	1903	0.
4 MAR 2135	404	0.	*	6 MAR 1515	904	0.	*	8 MAR 0855	1404	0.	*	10 MAR 0235	1904	0.
4 MAR 2140	405	0.	*	6 MAR 1520	905	0.	*	8 MAR 0900	1405	0.	*	10 MAR 0240	1905	0.
4 MAR 2145	406	0.	*	6 MAR 1525	906	0.	*	8 MAR 0905	1406	0.	*	10 MAR 0245	1906	0.
4 MAR 2150	407	0.	*	6 MAR 1530	907	0.	*	8 MAR 0910	1407	0.	*	10 MAR 0250	1907	0.
4 MAR 2155	408	0.	*	6 MAR 1535	908	0.	*	8 MAR 0915	1408	0.	*	10 MAR 0255	1908	0.
4 MAR 2200	409	0.	*	6 MAR 1540	909	0.	*	8 MAR 0920	1409	0.	*	10 MAR 0300	1909	0.
4 MAR 2205	410	0.	*	6 MAR 1545	910	0.	*	8 MAR 0925	1410	0.	*	10 MAR 0305	1910	0.
4 MAR 2210	411	0.	*	6 MAR 1550	911	0.	*	8 MAR 0930	1411	0.	*	10 MAR 0310	1911	0.
4 MAR 2215	412	0.	*	6 MAR 1555	912	0.	*	8 MAR 0935	1412	0.	*	10 MAR 0315	1912	0.
4 MAR 2220	413	0.	*	6 MAR 1600	913	0.	*	8 MAR 0940	1413	0.	*	10 MAR 0320	1913	0.
4 MAR 2225	414	0.	*	6 MAR 1605	914	0.	*	8 MAR 0945	1414	0.	*	10 MAR 0325	1914	0.
4 MAR 2230	415	0.	*	6 MAR 1610	915	0.	*	8 MAR 0950	1415	0.	*	10 MAR 0330	1915	0.
4 MAR 2235	416	0.	*	6 MAR 1615	916	0.	*	8 MAR 0955	1416	0.	*	10 MAR 0335	1916	0.
4 MAR 2240	417	0.	*	6 MAR 1620	917	0.	*	8 MAR 1000	1417	0.	*	10 MAR 0340	1917	0.
4 MAR 2245	418	0.	*	6 MAR 1625	918	0.	*	8 MAR 1005	1418	0.	*	10 MAR 0345	1918	0.
4 MAR 2250	419	0.	*	6 MAR 1630	919	0.	*	8 MAR 1010	1419	0.	*	10 MAR 0350	1919	0.
4 MAR 2255	420	0.	*	6 MAR 1635	920	0.	*	8 MAR 1015	1420	0.	*	10 MAR 0355	1920	0.
4 MAR 2300	421	0.	*	6 MAR 1640	921	0.	*	8 MAR 1020	1421	0.	*	10 MAR 0400	1921	0.
4 MAR 2305	422	0.	*	6 MAR 1645	922	0.	*	8 MAR 1025	1422	0.	*	10 MAR 0405	1922	0.
4 MAR 2310	423	0.	*	6 MAR 1650	923	0.	*	8 MAR 1030	1423	0.	*	10 MAR 0410	1923	0.
4 MAR 2315	424	0.	*	6 MAR 1655	924	0.	*	8 MAR 1035	1424	0.	*	10 MAR 0415	1924	0.
4 MAR 2320	425	0.	*	6 MAR 1700	925	0.	*	8 MAR 1040	1425	0.	*	10 MAR 0420	1925	0.
4 MAR 2325	426	0.	*	6 MAR 1705	926	0.	*	8 MAR 1045	1426	0.	*	10 MAR 0425	1926	0.
4 MAR 2330	427	0.	*	6 MAR 1710	927	0.	*	8 MAR 1050	1427	0.	*	10 MAR 0430	1927	0.
4 MAR 2335	428	0.	*	6 MAR 1715	928	0.	*	8 MAR 1055	1428	0.	*	10 MAR 0435	1928	0.
4 MAR 2340	429	0.	*	6 MAR 1720	929	0.	*	8 MAR 1100	1429	0.	*	10 MAR 0440	1929	0.
4 MAR 2345	430	0.	*	6 MAR 1725	930	0.	*	8 MAR 1105	1430	0.	*	10 MAR 0445	1930	0.
4 MAR 2350	431	0.	*	6 MAR 1730	931	0.	*	8 MAR 1110	1431	0.	*	10 MAR 0450	1931	0.
4 MAR 2355	432	0.	*	6 MAR 1735	932	0.	*	8 MAR 1115	1432	0.	*	10 MAR 0455	1932	0.
5 MAR 0000	433	0.	*	6 MAR 1740	933	0.	*	8 MAR 1120	1433	0.	*	10 MAR 0500	1933	0.
5 MAR 0005	434	0.	*	6 MAR 1745	934	0.	*	8 MAR 1125	1434	0.	*	10 MAR 0505	1934	0.
5 MAR 0010	435	0.	*	6 MAR 1750	935	0.	*	8 MAR 1130	1435	0.	*	10 MAR 0510	1935	0.
5 MAR 0015	436	0.	*	6 MAR 1755	936	0.	*	8 MAR 1135	1436	0.	*	10 MAR 0515	1936	0.
5 MAR 0020	437	0.	*	6 MAR 1800	937	0.	*	8 MAR 1140	1437	0.	*	10 MAR 0520	1937	0.
5 MAR 0025	438	0.	*	6 MAR 1805	938	0.	*	8 MAR 1145	1438	0.	*	10 MAR 0525	1938	0.
5 MAR 0030	439	0.	*	6 MAR 1810	939	0.	*	8 MAR 1150	1439	0.	*	10 MAR 0530	1939	0.
5 MAR 0035	440	0.	*	6 MAR 1815	940	0.	*	8 MAR 1155	1440	0.	*	10 MAR 0535	1940	0.
5 MAR 0040	441	0.	*	6 MAR 1820	941	0.	*	8 MAR 1200	1441	0.	*	10 MAR 0540	1941	0.
5 MAR 0045	442	0.	*	6 MAR 1825	942	0.	*	8 MAR 1205	1442	0.	*	10 MAR 0545	1942	0.
5 MAR 0050	443	0.	*	6 MAR 1830	943	0.	*	8 MAR 1210	1443	0.	*	10 MAR 0550	1943	0.
5 MAR 0055	444	0.	*	6 MAR 1835	944	0.	*	8 MAR 1215	1444	0.	*	10 MAR 0555	1944	0.
5 MAR 0100	445	0.	*	6 MAR 1840	945	0.	*	8 MAR 1220	1445	0.	*	10 MAR 0600	1945	0.
5 MAR 0105	446	0.	*	6 MAR 1845	946	0.	*	8 MAR 1225	1446	0.	*	10 MAR 0605	1946	0.
5 MAR 0110	447	0.	*	6 MAR 1850	947	0.	*	8 MAR 1230	1447	0.	*	10 MAR 0610	1947	0.
5 MAR 0115	448	0.	*	6 MAR 1855	948	0.	*	8 MAR 1235	1448	0.	*	10 MAR 0615	1948	0.
5 MAR 0120	449	0.	*	6 MAR 1900	949	0.	*	8 MAR 1240	1449	0.	*	10 MAR 0620	1949	0.
5 MAR 0125	450	0.	*	6 MAR 1905	950	0.	*	8 MAR 1245	1450	0.	*	10 MAR 0625	1950	0.
5 MAR 0130	451	0.	*	6 MAR 1910	951	0.	*	8 MAR 1250	1451	0.	*	10 MAR 0630	1951	0.
5 MAR 0135	452	0.	*	6 MAR 1915	952	0.	*	8 MAR 1255	1452	0.	*	10 MAR 0635	1952	0.
5 MAR 0140	453	0.	*	6 MAR 1920	953	0.	*	8 MAR 1300	1453	0.	*	10 MAR 0640	1953	0.
5 MAR 0145	454	0.	*	6 MAR 1925	954	0.	*	8 MAR 1305	1454	0.	*	10 MAR 0645	1954	0.
5 MAR 0150	455	0.	*	6 MAR 1930	955	0.	*	8 MAR 1310	1455	0.	*	10 MAR 0650	1955	0.
5 MAR 0155	456	0.	*	6 MAR 1935	956	0.	*	8 MAR 1315	1456	0.	*	10 MAR 0655	1956	0.
5 MAR 0200	457	0.	*	6 MAR 1940	957	0.	*	8 MAR 1320	1457	0.	*	10 MAR 0700	1957	0.
5 MAR 0205	458	0.	*	6 MAR 1945	958	0.	*	8 MAR 1325	1458	0.	*	10 MAR 0705	1958	0.
5 MAR 0210	459	0.	*	6 MAR 1950	959	0.	*	8 MAR 1330	1459	0.	*	10 MAR 0710	1959	0.

```
  5 MAR 0215  460        0.   *    6 MAR 1955  960        0.   *    8 MAR 1335 1460        0.   *   10 MAR 0715 1960        0.
  5 MAR 0220  461        0.   *    6 MAR 2000  961        0.   *    8 MAR 1340 1461        0.   *   10 MAR 0720 1961        0.
  5 MAR 0225  462        0.   *    6 MAR 2005  962        0.   *    8 MAR 1345 1462        0.   *   10 MAR 0725 1962        0.
  5 MAR 0230  463        0.   *    6 MAR 2010  963        0.   *    8 MAR 1350 1463        0.   *   10 MAR 0730 1963        0.
  5 MAR 0235  464        0.   *    6 MAR 2015  964        0.   *    8 MAR 1355 1464        0.   *   10 MAR 0735 1964        0.
  5 MAR 0240  465        0.   *    6 MAR 2020  965        0.   *    8 MAR 1400 1465        0.   *   10 MAR 0740 1965        0.
  5 MAR 0245  466        0.   *    6 MAR 2025  966        0.   *    8 MAR 1405 1466        0.   *   10 MAR 0745 1966        0.
  5 MAR 0250  467        0.   *    6 MAR 2030  967        0.   *    8 MAR 1410 1467        0.   *   10 MAR 0750 1967        0.
  5 MAR 0255  468        0.   *    6 MAR 2035  968        0.   *    8 MAR 1415 1468        0.   *   10 MAR 0755 1968        0.
  5 MAR 0300  469        0.   *    6 MAR 2040  969        0.   *    8 MAR 1420 1469        0.   *   10 MAR 0800 1969        0.
  5 MAR 0305  470        0.   *    6 MAR 2045  970        0.   *    8 MAR 1425 1470        0.   *   10 MAR 0805 1970        0.
  5 MAR 0310  471        0.   *    6 MAR 2050  971        0.   *    8 MAR 1430 1471        0.   *   10 MAR 0810 1971        0.
  5 MAR 0315  472        0.   *    6 MAR 2055  972        0.   *    8 MAR 1435 1472        0.   *   10 MAR 0815 1972        0.
  5 MAR 0320  473        0.   *    6 MAR 2100  973        0.   *    8 MAR 1440 1473        0.   *   10 MAR 0820 1973        0.
  5 MAR 0325  474        0.   *    6 MAR 2105  974        0.   *    8 MAR 1445 1474        0.   *   10 MAR 0825 1974        0.
  5 MAR 0330  475        0.   *    6 MAR 2110  975        0.   *    8 MAR 1450 1475        0.   *   10 MAR 0830 1975        0.
  5 MAR 0335  476        0.   *    6 MAR 2115  976        0.   *    8 MAR 1455 1476        0.   *   10 MAR 0835 1976        0.
  5 MAR 0340  477        0.   *    6 MAR 2120  977        0.   *    8 MAR 1500 1477        0.   *   10 MAR 0840 1977        0.
  5 MAR 0345  478        0.   *    6 MAR 2125  978        0.   *    8 MAR 1505 1478        0.   *   10 MAR 0845 1978        0.
  5 MAR 0350  479        0.   *    6 MAR 2130  979        0.   *    8 MAR 1510 1479        0.   *   10 MAR 0850 1979        0.
  5 MAR 0355  480        0.   *    6 MAR 2135  980        0.   *    8 MAR 1515 1480        0.   *   10 MAR 0855 1980        0.
  5 MAR 0400  481        0.   *    6 MAR 2140  981        0.   *    8 MAR 1520 1481        0.   *   10 MAR 0900 1981        0.
  5 MAR 0405  482        0.   *    6 MAR 2145  982        0.   *    8 MAR 1525 1482        0.   *   10 MAR 0905 1982        0.
  5 MAR 0410  483        0.   *    6 MAR 2150  983        0.   *    8 MAR 1530 1483        0.   *   10 MAR 0910 1983        0.
  5 MAR 0415  484        0.   *    6 MAR 2155  984        0.   *    8 MAR 1535 1484        0.   *   10 MAR 0915 1984        0.
  5 MAR 0420  485        0.   *    6 MAR 2200  985        0.   *    8 MAR 1540 1485        0.   *   10 MAR 0920 1985        0.
  5 MAR 0425  486        0.   *    6 MAR 2205  986        0.   *    8 MAR 1545 1486        0.   *   10 MAR 0925 1986        0.
  5 MAR 0430  487        0.   *    6 MAR 2210  987        0.   *    8 MAR 1550 1487        0.   *   10 MAR 0930 1987        0.
  5 MAR 0435  488        0.   *    6 MAR 2215  988        0.   *    8 MAR 1555 1488        0.   *   10 MAR 0935 1988        0.
  5 MAR 0440  489        0.   *    6 MAR 2220  989        0.   *    8 MAR 1600 1489        0.   *   10 MAR 0940 1989        0.
  5 MAR 0445  490        0.   *    6 MAR 2225  990        0.   *    8 MAR 1605 1490        0.   *   10 MAR 0945 1990        0.
  5 MAR 0450  491        0.   *    6 MAR 2230  991        0.   *    8 MAR 1610 1491        0.   *   10 MAR 0950 1991        0.
  5 MAR 0455  492        0.   *    6 MAR 2235  992        0.   *    8 MAR 1615 1492        0.   *   10 MAR 0955 1992        0.
  5 MAR 0500  493        0.   *    6 MAR 2240  993        0.   *    8 MAR 1620 1493        0.   *   10 MAR 1000 1993        0.
  5 MAR 0505  494        0.   *    6 MAR 2245  994        0.   *    8 MAR 1625 1494        0.   *   10 MAR 1005 1994        0.
  5 MAR 0510  495        0.   *    6 MAR 2250  995        0.   *    8 MAR 1630 1495        0.   *   10 MAR 1010 1995        0.
  5 MAR 0515  496        0.   *    6 MAR 2255  996        0.   *    8 MAR 1635 1496        0.   *   10 MAR 1015 1996        0.
  5 MAR 0520  497        0.   *    6 MAR 2300  997        0.   *    8 MAR 1640 1497        0.   *   10 MAR 1020 1997        0.
  5 MAR 0525  498        0.   *    6 MAR 2305  998        0.   *    8 MAR 1645 1498        0.   *   10 MAR 1025 1998        0.
  5 MAR 0530  499        0.   *    6 MAR 2310  999        0.   *    8 MAR 1650 1499        0.   *   10 MAR 1030 1999        0.
  5 MAR 0535  500        0.   *    6 MAR 2315 1000        0.   *    8 MAR 1655 1500        0.   *   10 MAR 1035 2000        0.
                                  *                              *                                   *
*****************************************************************************************************************************

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     859.      5.33                229.          59.          20.           9.
                        (INCHES)    .947         .980         .989         .992
                         (AC-FT)    114.         118.         119.         119.

                        CUMULATIVE AREA =    2.25 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 106 KK     *   502503   *     ROUTE   REACH
            *            *
            **************
                        ROUTE RUNOFF FROM 502 TO UPRR&BASELINE

              HYDROGRAPH ROUTING DATA

 108 RS          STORAGE ROUTING
                      NSTPS           9  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 109 RC          NORMAL DEPTH CHANNEL
                        ANL        .035  LEFT OVERBANK N-VALUE
                       ANCH        .015  MAIN CHANNEL N-VALUE
                        ANR        .035  RIGHT OVERBANK N-VALUE
                      RLNTH       9000.  REACH LENGTH
                        SEL      .0016  ENERGY SLOPE
                      ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 111 RY        ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
 110 RX        DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                   ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      1.72      3.45      5.18      6.91      8.65     10.39     12.14     13.89     15.65
          OUTFLOW        .00      7.36     23.37     45.93     74.16    107.55    145.70    188.33    235.22    286.17
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE      18.37     22.05     25.73     29.42     33.12     36.81     40.52     44.22     47.94     51.65
          OUTFLOW     342.52    407.82    480.36    559.44    644.64    735.68    832.31    934.34   1041.61   1153.96
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00
```

```
     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   502503

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     764.      6.00                224.         59.         20.          9.
                        (INCHES)    .928        .979        .989         .992
                         (AC-FT)    111.        117.        119.         119.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       4.      6.00                  1.          0.          0.           0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     1.61      6.00                 .71         .22         .08          .03

                        CUMULATIVE AREA =    2.25 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  112 KK    *    FRM501  *
            *            *
            **************
                    RETRIEVE SOUTHBOUND RUNOFF FROM GUADALUPE&GILBERT

  114 DR          RETRIEVE DIVERSION HYDROGRAPH
                       ISTAD       TO508  DIVERSION HYDROGRAPH IDENTIFICATION

                                                          ***

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   FRM501

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     286.      4.92                 71.         18.          6.           3.
                        (INCHES)    .295        .295        .295         .295
                         (AC-FT)    35.         35.         35.          35.

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  115 KK    *    501508  *     ROUTE   REACH
            *            *
            **************
                    ROUTE RUNOFF FROM 501 TO GILBERT&WESTERN CANAL

               HYDROGRAPH ROUTING DATA

  117 RS          STORAGE ROUTING
                       NSTPS           3  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  118 RC          NORMAL DEPTH CHANNEL
                         ANL        .035  LEFT OVERBANK N-VALUE
                        ANCH        .015  MAIN CHANNEL N-VALUE
                         ANR        .035  RIGHT OVERBANK N-VALUE
                       RLNTH       2640.  REACH LENGTH
                         SEL      .0003  ENERGY SLOPE
                       ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  120 RY        ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
  119 RX        DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                          ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

           STORAGE        .00       .50      1.01      1.52      2.03      2.54      3.05      3.56      4.07      4.59
           OUTFLOW        .00      3.19     10.12     19.89     32.11     46.57     63.09     81.55    101.85    123.91
         ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95
```

```
          STORAGE      5.39      6.47      7.55      8.63      9.71     10.80     11.88     12.97     14.06     15.15
          OUTFLOW    148.32    176.59    208.00    242.24    279.14    318.56    360.40    404.58    451.03    499.68
        ELEVATION      1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

    ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   501508

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    237.       5.58                71.         18.          6.          3.
                         (INCHES)  .000        .000        .000        .000
                          (AC-FT)   35.         35.         35.         35.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      3.        5.58                 1.          0.          0.          0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     1.35       5.58                .57         .15         .05         .02

                    CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  121 KK    *       508  *        BASIN
            *            *
            **************
                    RUNOFF CALCULATION FOR SUB-BASIN 508

              SUBBASIN RUNOFF DATA

  123 BA        SUBBASIN CHARACTERISTICS
                      TAREA          .49  SUBBASIN AREA

                PRECIPITATION DATA

   55 PB              STORM        2.87  BASIN TOTAL PRECIPITATION

   56 PI          INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .06       .06       .06       .07       .07       .07       .05       .05
                     .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

  124 LG        GREEN AND AMPT LOSS RATE
                      STRTL        .26  STARTING LOSS
                        DTH        .15  MOISTURE DEFICIT
                       PSIF       8.40  WETTING FRONT SUCTION
                      XKSAT        .09  HYDRAULIC CONDUCTIVITY
                      RTIMP      28.00  PERCENT IMPERVIOUS AREA

  125 UC        CLARK UNITGRAPH
                         TC       1.13  TIME OF CONCENTRATION
                          R        .93  STORAGE COEFFICIENT

  126 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.13 HR,       R=   .93 HR
                                  SNYDER   TP=   .66 HR,      CP=   .42

                                            UNIT HYDROGRAPH
                                      65 END-OF-PERIOD ORDINATES
                 6.       22.       45.       72.      123.      178.      202.      206.      204.      200.
               193.      185.      176.      166.      154.      141.      129.      118.      108.       98.
                90.       82.       75.       69.       63.       57.       52.       48.       44.       40.
                37.       33.       31.       28.       26.       23.       21.       20.       18.       16.
                15.       14.       12.       11.       10.       10.        9.        8.        7.        7.
                 6.        6.        5.        5.        4.        4.        4.        3.        3.        3.
                 2.        2.        2.        2.        2.

    ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      508

   TOTAL RAINFALL =    2.87, TOTAL LOSS =     .88, TOTAL EXCESS =    1.99
```

```
  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     308.      4.67                101.         26.          9.           4.
                        (INCHES)   1.922      1.979       1.979        1.979
                         (AC-FT)     50.         51.         51.          51.

                       CUMULATIVE AREA =     .49 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  128 KK    *    508OUT  *
            *            *
            **************
                         RETENTION DIVERSION
                         DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                         DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 3.23 AC-FT
                         DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 10.79 AC-FT
                         TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 508 = 14.02 AC-FT

     DT          DIVERSION
                      ISTAD      508RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       14.02  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00    100.00

     DQ      DIVERTED FLOW         .00    100.00

                                                                  ***

      ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   508RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     275.      4.42                 28.          7.          2.           1.
                        (INCHES)    .540       .540        .540         .540
                         (AC-FT)     14.         14.         14.          14.

                       CUMULATIVE AREA =     .49 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   508OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     308.      4.67                 75.         19.          6.           3.
                        (INCHES)   1.439      1.439       1.439        1.439
                         (AC-FT)     37.         37.         37.          37.

                       CUMULATIVE AREA =     .49 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  137 KK    *     CP508  *
            *            *
            **************
                         COMBINE RUNOFF FROM 508 AND THE NORTH

  139 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    CP508

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     424.      5.42                146.         37.         12.           5.
                        (INCHES)   2.779      2.801       2.801        2.801
                         (AC-FT)     72.         73.         73.          73.

                       CUMULATIVE AREA =     .49 SQ MI
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 140 KK     *    508516  *     ROUTE   REACH
            *            *
            **************
                         ROUTE RUNOFF FROM 508 TO RR AND WESTERN CANAL

               HYDROGRAPH ROUTING DATA

 142 RS          STORAGE ROUTING
                      NSTPS           3  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 143 RC          NORMAL DEPTH CHANNEL
                        ANL        .035  LEFT OVERBANK N-VALUE
                       ANCH        .015  MAIN CHANNEL N-VALUE
                        ANR        .035  RIGHT OVERBANK N-VALUE
                      RLNTH       2400.  REACH LENGTH
                        SEL      .0018  ENERGY SLOPE
                      ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                       CROSS-SECTION DATA
                            --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 145 RY        ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
 144 RX        DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                                  ***

                                                COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

           STORAGE        .00       .46       .92      1.38      1.84      2.31      2.77      3.24      3.70      4.17
           OUTFLOW        .00      7.81     24.79     48.71     78.66    114.07    154.54    199.75    249.48    303.52
         ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

           STORAGE       4.90      5.88      6.86      7.85      8.83      9.82     10.80     11.79     12.78     13.77
           OUTFLOW     363.30    432.56    509.50    593.37    683.75    780.31    882.80    991.02   1104.79   1223.96
         ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      155. TO     1224.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                         HYDROGRAPH AT STATION   508516

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     418.      5.67                145.         37.         12.          5.
                         (INCHES)  2.766       2.801       2.801       2.801
                          (AC-FT)    72.         73.         73.         73.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       2.       5.67                  1.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      1.14      5.67                 .53         .14         .05         .02

                        CUMULATIVE AREA =     .49 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 146 KK     *    CON308  *
            *            *
            **************
                         RETRIEVE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&ELLIOT
 -----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/ELL6/FLOW/03MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/ELL6/FLOW/03MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/ELL6/FLOW/04MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/ELL6/FLOW/05MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/ELL6/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/ELL6/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/ELL6/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/ELL6/FLOW/07MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/ELL6/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/ELL6/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/ELL6/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/ELL6/FLOW/09MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/ELL6/FLOW/10MAR1903/5MIN//
```

```
-----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
Pathname: /CONS/ELL6/FLOW/11MAR1903/5MIN//

              SUBBASIN RUNOFF DATA

 148 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .00  SUBBASIN AREA

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   CON308

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     113.     11.67                    78.         30.         10.           4.
                        (INCHES)   728.258    1116.645    1127.438     1127.696
                         (AC-FT)       39.         60.         60.           60.

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 150 KK     *    CON310  *
            *            *
            **************
                        RETRIEVE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&UPRR
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/RR6/FLOW/03MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/RR6/FLOW/03MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/RR6/FLOW/04MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/RR6/FLOW/05MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/RR6/FLOW/06MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/RR6/FLOW/06MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/RR6/FLOW/06MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/RR6/FLOW/07MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/RR6/FLOW/08MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/RR6/FLOW/08MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/RR6/FLOW/08MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/RR6/FLOW/09MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   35:  /CONS/RR6/FLOW/10MAR1903/5MIN//
-----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
Pathname: /CONS/RR6/FLOW/11MAR1903/5MIN//

              SUBBASIN RUNOFF DATA

 152 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .00  SUBBASIN AREA

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   CON310

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     643.      5.00                    109.         28.          9.           4.
                        (INCHES)  1012.125    1045.067    1050.552     1050.576
                         (AC-FT)       54.         56.         56.           56.

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 154 KK     *    308310  *
            *            *
            **************
                        COMBINE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL

 156 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   308310

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
```

```
+     643.      5.00                  116.         58.         20.          8.
                          (INCHES)   541.541    1071.349    1088.986    1089.131
                           (AC-FT)      58.        114.        116.        116.

                          CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
 157 KK       *   CON516   *     ROUTE   REACH
              *            *
              **************
                          ROUTE RUNOFF FROM THE CONSOLIDATED CANAL TO UPRR&WESTERN CANAL

                 HYDROGRAPH ROUTING DATA

 159 RS            STORAGE ROUTING
                        NSTPS           7  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                        RSVRIC         .00  INITIAL CONDITION
                             X         .00 WORKING R AND D COEFFICIENT

 160 RC            NORMAL DEPTH CHANNEL
                          ANL        .035  LEFT OVERBANK N-VALUE
                         ANCH        .015  MAIN CHANNEL N-VALUE
                          ANR        .035  RIGHT OVERBANK N-VALUE
                        RLNTH       6500.  REACH LENGTH
                          SEL      .0023  ENERGY SLOPE
                        ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
                              --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 162 RY        ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
 161 RX        DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                                  ***

                                                COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00      1.24      2.49      3.74      4.99      6.25      7.50      8.77     10.03     11.30
            OUTFLOW        .00      8.83     28.02     55.07     88.92    128.94    174.68    225.80    282.01    343.10
          ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

            STORAGE      13.27     15.92     18.58     21.25     23.92     26.59     29.26     31.94     34.62     37.30
            OUTFLOW     410.67    488.96    575.93    670.74    772.90    882.05    997.91   1120.24   1248.85   1383.55
          ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

 *** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      226. TO     1384.
                 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   CON516

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                            (CFS)
+     587.       5.42                 112.         57.         20.          8.
                          (INCHES)   519.529    1065.839    1088.981    1089.128
                           (AC-FT)      55.        114.        116.        116.

 PEAK STORAGE    TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR       72-HR    166.58-HR
+  (AC-FT)       (HR)
       3.       5.42                   1.          0.          0.          0.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR       72-HR    166.58-HR
+   (FEET)       (HR)
      1.28      5.42                 .39         .27         .10         .04

                          CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
 163 KK       *       516  *        BASIN
              *            *
              **************
                          RUNOFF CALCULATION FOR SUB-BASIN 516

                 SUBBASIN RUNOFF DATA

 165 BA            SUBBASIN CHARACTERISTICS
                        TAREA         .36  SUBBASIN AREA
```

```
                PRECIPITATION DATA

  55 PB                STORM        2.87  BASIN TOTAL PRECIPITATION

  56 PI            INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                      .03       .03       .06       .06       .06       .07       .07       .07       .05       .05
                      .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00

 166 LG          GREEN AND AMPT LOSS RATE
                      STRTL        .22  STARTING LOSS
                        DTH        .15  MOISTURE DEFICIT
                       PSIF       9.70  WETTING FRONT SUCTION
                      XKSAT        .06  HYDRAULIC CONDUCTIVITY
                      RTIMP      35.00  PERCENT IMPERVIOUS AREA

 167 UC           CLARK UNITGRAPH
                         TC       1.23  TIME OF CONCENTRATION
                          R       1.33  STORAGE COEFFICIENT

 168 UA           ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=  1.23 HR,       R=  1.33 HR
                                           SNYDER   TP=   .79 HR,      CP=   .38

                                                      UNIT HYDROGRAPH
                                                 91 END-OF-PERIOD ORDINATES
                 3.       10.       21.       34.       55.       85.      106.      112.      114.      114.
               113.      111.      109.      105.      102.       97.       91.       86.       81.       76.
                71.       67.       63.       59.       55.       52.       49.       46.       43.       40.
                38.       36.       34.       31.       30.       28.       26.       24.       23.       22.
                20.       19.       18.       17.       16.       15.       14.       13.       12.       12.
                11.       10.       10.        9.        8.        8.        7.        7.        7.        6.
                 6.        5.        5.        5.        5.        4.        4.        4.        4.        3.
                 3.        3.        3.        3.        2.        2.        2.        2.        2.        2.
                 2.        2.        1.        1.        1.        1.        1.        1.        1.        1.
                 1.

     ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION      516

    TOTAL RAINFALL =     2.87, TOTAL LOSS =      .70, TOTAL EXCESS =     2.16

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+     196.      4.83                   79.         21.          7.           3.
                                  (INCHES)      2.037       2.154       2.154        2.154
                                   (AC-FT)        39.         41.         41.          41.

                                  CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
 170 KK       *    516OUT  *
              *            *
              **************
                            RETENTION DIVERSION
                            DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                            DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 2.45 AC-FT
                            DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 1.04 AC-FT
                            TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 516 = 3.49 AC-FT

     DT           DIVERSION
                       ISTAD      516RET  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX        3.49  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00    100.00

     DQ       DIVERTED FLOW        .00    100.00

                                                          ***

     ***             ***             ***             ***             ***

                         DIVERSION HYDROGRAPH   516RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
```

```
+      71.      4.00                    7.          2.          1.          0.
                          (INCHES)    .181        .181        .181        .181
                           (AC-FT)       3.          3.          3.          3.

                          CUMULATIVE AREA =     .36 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   516OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     196.      4.83                   76.         19.          6.          3.
                          (INCHES)   1.950       1.973       1.973       1.973
                           (AC-FT)      38.         38.         38.         38.

                          CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  179 KK    *     CP516  *
            *            *
            **************
                          COMBINE RUNOFF FROM SUB-BASIN 516, AND THE EAST

  181 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    CP516

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     749.      5.42                  183.         76.         26.         11.
                          (INCHES)   4.689       7.810       7.962       7.963
                           (AC-FT)      91.        151.        154.        154.

                          CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  182 KK    *      P516  *
            *            *
            **************
                          STORAGE ROUTING AT CP516
                          RUNOFF MAY FLOW INTO THE WESTERN CANAL, FLOW NW ALONG THE RR
                          OR FLOW INTO SUB-BASIN 509.

  186 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

  187 RS          STORAGE ROUTING
                       NSTPS           1  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

  188 SV            STORAGE          .0      17.4      21.9      23.3      25.6      27.5      29.8      31.0      32.3      33.7

  189 SE          ELEVATION     1221.00   1232.00   1233.00   1233.20   1233.50   1233.70   1233.90   1234.00   1234.10   1234.20

  190 SQ          DISCHARGE          0.        0.       185.      255.      378.      473.      581.      643.      712.      789.

                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     P516

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

```
                                (CFS)
+     613.      5.75                152.         68.         23.         10.
                          (INCHES)     3.897       6.933       7.063       7.064
                           (AC-FT)      75.        134.        137.        137.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       30.      5.75                   21.         19.         18.         17.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1233.95      5.75               1232.64     1232.32     1232.11     1231.74

                          CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 191 KK     *    516WES  *
            *            *
            **************
                          DIVERT FLOW TO WESTERN CANAL

 193 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

     DT          DIVERSION
                       ISTAD      WES516  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00    184.50    254.70    378.30    472.50    581.00    643.30    712.00    788.50

     DQ      DIVERTED FLOW         .00      8.50     10.00     12.80     14.50     16.30     17.00     18.00     18.80

                                                                                ***

      ***            ***            ***            ***            ***

                          DIVERSION HYDROGRAPH   WES516

 PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                (CFS)
+      17.      5.75                    5.          3.          1.          0.
                          (INCHES)     .138        .278        .284        .284
                           (AC-FT)      3.          5.          6.          6.

                          CUMULATIVE AREA =     .36 SQ MI

      ***            ***            ***            ***            ***

                          HYDROGRAPH AT STATION   516WES

 PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                (CFS)
+     596.      5.75                  147.         65.         22.         10.
                          (INCHES)     3.759       6.654       6.779       6.780
                           (AC-FT)      73.        129.        131.        131.

                          CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 197 KK     *     516NW  *
            *            *
            **************
                          DIVERT FLOW NORTH TO SUB-BASIN 509

 199 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

     DT          DIVERSION
                       ISTAD      516NOR  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW        5.70     47.00    176.00    366.00    565.00    626.00    694.00    770.00

     DQ      DIVERTED FLOW         .00     22.00    100.00    213.00    331.00    370.00    413.00    464.00

                                                                                ***
```

```
      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   516NOR

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     351.      5.75                 82.         34.         11.           5.
                        (INCHES)    2.112       3.475       3.475        3.475
                         (AC-FT)     41.         67.         67.          67.

                        CUMULATIVE AREA =     .36 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    516NW

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+ . (CFS)       (HR)
                          (CFS)
+     245.      5.75                 64.         31.         11.           5.
                        (INCHES)    1.647       3.180       3.304        3.305
                         (AC-FT)     32.         62.         64.          64.

                        CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  203 KK    *     516RR  *
            *            *
            **************
                        COMBINE FLOW FROM 516 AND 508

  205 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    516RR

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     663.      5.67                207.         68.         23.          10.
                        (INCHES)    2.268       2.957       3.016        3.016
                         (AC-FT)    103.        134.        137.         137.

                        CUMULATIVE AREA =     .85 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  206 KK    *    516509  *     ROUTE   REACH
            *            *
            **************
                        ROUTE RUNOFF FROM 516 TO GUADALUPE&COOPER

               HYDROGRAPH ROUTING DATA

  208 RS          STORAGE ROUTING
                        NSTPS           4  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                        RSVRIC        .00  INITIAL CONDITION
                             X        .00 WORKING R AND D COEFFICIENT

  209 RC          NORMAL DEPTH CHANNEL
                          ANL        .050  LEFT OVERBANK N-VALUE
                         ANCH        .035  MAIN CHANNEL N-VALUE
                          ANR        .050  RIGHT OVERBANK N-VALUE
                        RLNTH       3860.  REACH LENGTH
                          SEL       .0022  ENERGY SLOPE
                        ELMAX        28.2  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  211 RY        ELEVATION    30.30    22.30    27.30    28.00    24.50    25.50    23.80    28.20
  210 RX        DISTANCE       .00    52.00    74.00   199.00   267.00   309.00   320.00   344.00

                                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA
```

```
          STORAGE      .00      .05      .19      .42      .75     1.17     1.75     2.52     3.71     5.62
          OUTFLOW      .00      .21     1.33     3.93     8.46    15.34    25.29    39.43    60.04    93.54
        ELEVATION    22.30    22.61    22.92    23.23    23.54    23.85    24.16    24.47    24.78    25.09

          STORAGE     8.25    11.50    15.07    18.95    23.13    27.62    32.42    38.12    45.61    54.54
          OUTFLOW   145.36   224.26   327.96   454.35   603.87   777.17   974.98  1084.98  1288.60  1645.98
        ELEVATION    25.41    25.72    26.03    26.34    26.65    26.96    27.27    27.58    27.89    28.20

    ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   516509

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     632.      6.00          206.         67.         23.          10.
                        (INCHES)      2.249       2.947       3.016       3.016
                         (AC-FT)        102.        134.        137.        137.

 PEAK STORAGE   TIME                      MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       6.       6.00            2.          1.          0.           0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
    26.70       6.00           25.32       24.29       23.16        22.67

                        CUMULATIVE AREA =     .85 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  212 KK    *    516NOR  *
            *            *
            **************
                        RETRIEVE 516NOR

  214 DR          RETRIEVE DIVERSION HYDROGRAPH
                       ISTAD      516NOR  DIVERSION HYDROGRAPH IDENTIFICATION

                                                                  ***

    ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   516NOR

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     351.      5.75           82.         34.         11.           5.
                        (INCHES)       .902       1.484       1.484       1.484
                         (AC-FT)         41.         67.         67.         67.

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  215 KK    *       509  *        BASIN
            *            *
            **************
                        RUNOFF CALCULATION FOR SUB-BASIN 509

              SUBBASIN RUNOFF DATA

  217 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .37  SUBBASIN AREA

                  PRECIPITATION DATA

   55 PB                STORM        2.87  BASIN TOTAL PRECIPITATION

   56 PI            INCREMENTAL PRECIPITATION PATTERN
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                        .03       .03       .06       .06       .06       .07       .07       .07       .05       .05
                        .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00

  218 LG          GREEN AND AMPT LOSS RATE
```

```
                    STRTL        .17  STARTING LOSS
                      DTH        .17  MOISTURE DEFICIT
                     PSIF       9.70  WETTING FRONT SUCTION
                    XKSAT        .06  HYDRAULIC CONDUCTIVITY
                    RTIMP      39.00  PERCENT IMPERVIOUS AREA

219 UC          CLARK UNITGRAPH
                       TC        .82  TIME OF CONCENTRATION
                        R        .61  STORAGE COEFFICIENT

220 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
                  100.0

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .82 HR,       R=   .61 HR
                                         SNYDER   TP=   .45 HR,      CP=   .44

                                                  UNIT HYDROGRAPH
                                              43 END-OF-PERIOD ORDINATES
              10.      39.      82.     163.     226.     232.     226.     215.     200.     185.
             166.     144.     126.     110.      96.      83.      73.      63.      55.      48.
              42.      36.      32.      28.      24.      21.      18.      16.      14.      12.
              11.       9.       8.       7.       6.       5.       5.       4.       4.       3.
               3.       2.       2.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      509

    TOTAL RAINFALL =    2.87, TOTAL LOSS =     .66, TOTAL EXCESS =    2.21

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                       6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     319.      4.50                    86.         22.          7.           3.
                        (INCHES)     2.162       2.195       2.195        2.195
                         (AC-FT)       43.         43.         43.          43.

                        CUMULATIVE AREA =     .37 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  222 KK    *    509BAS  *
            *            *
            **************
                        COMBINE RUNOFF FROM SUB-BASIN 509 AND RUNOFF FROM SUB-BASIN 516 (516NOR)

  224 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                    ***

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   509BAS

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                       6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     443.      5.67                   163.         55.         19.           8.
                        (INCHES)     4.086       5.576       5.604        5.604
                         (AC-FT)       81.        110.        111.         111.

                        CUMULATIVE AREA =     .37 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  225 KK    *    509OUT  *
            *            *
            **************
                        RETENTION DIVERSION
                        DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                        DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 1.95 AC-FT
                        DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                        TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 509 = 1.95 AC-FT

     DT          DIVERSION
                      ISTAD      509RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX        1.95  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00    100.00
```

```
     DQ      DIVERTED FLOW         .00    100.00

                                                                    ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   509RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      13.      2.92                  4.          1.          0.          0.
                         (INCHES)   .099        .099        .099        .099
                          (AC-FT)     2.          2.          2.          2.

                         CUMULATIVE AREA =     .37 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   509OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     443.      5.67                163.         55.         18.          8.
                         (INCHES)  4.085      5.499       5.505       5.505
                          (AC-FT)   81.        109.        109.        109.

                         CUMULATIVE AREA =     .37 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 234 KK     *    CP509   *
            *            *
            **************
                        COMBINE RUNOFF FROM SUB-BASIN 509 AND THE EAST

 236 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          1  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

 237 HC          HYDROGRAPH COMBINATION
                       ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                    ***

*****************************************************************************************************************************

                                          HYDROGRAPH AT STATION    CP509
                                              SUM OF  2 HYDROGRAPHS

*****************************************************************************************************************************
                                 *                                 *                                 *
   DA MON HRMN  ORD      FLOW    *  DA MON HRMN  ORD      FLOW    *  DA MON HRMN  ORD      FLOW    *  DA MON HRMN  ORD      FLOW
                                 *                                 *                                 *
    3 MAR 1200    1        0.    *   5 MAR 0540  501        1.    *   6 MAR 2320 1001        0.    *   8 MAR 1700 1501        0.
    3 MAR 1205    2        0.    *   5 MAR 0545  502        1.    *   6 MAR 2325 1002        0.    *   8 MAR 1705 1502        0.
    3 MAR 1210    3        0.    *   5 MAR 0550  503        1.    *   6 MAR 2330 1003        0.    *   8 MAR 1710 1503        0.
    3 MAR 1215    4        0.    *   5 MAR 0555  504        1.    *   6 MAR 2335 1004        0.    *   8 MAR 1715 1504        0.
    3 MAR 1220    5        0.    *   5 MAR 0600  505        1.    *   6 MAR 2340 1005        0.    *   8 MAR 1720 1505        0.
    3 MAR 1225    6        0.    *   5 MAR 0605  506        1.    *   6 MAR 2345 1006        0.    *   8 MAR 1725 1506        0.
    3 MAR 1230    7        0.    *   5 MAR 0610  507        1.    *   6 MAR 2350 1007        0.    *   8 MAR 1730 1507        0.
    3 MAR 1235    8        0.    *   5 MAR 0615  508        1.    *   6 MAR 2355 1008        0.    *   8 MAR 1735 1508        0.
    3 MAR 1240    9        0.    *   5 MAR 0620  509        1.    *   7 MAR 0000 1009        0.    *   8 MAR 1740 1509        0.
    3 MAR 1245   10        0.    *   5 MAR 0625  510        1.    *   7 MAR 0005 1010        0.    *   8 MAR 1745 1510        0.
    3 MAR 1250   11        0.    *   5 MAR 0630  511        1.    *   7 MAR 0010 1011        0.    *   8 MAR 1750 1511        0.
    3 MAR 1255   12        0.    *   5 MAR 0635  512        1.    *   7 MAR 0015 1012        0.    *   8 MAR 1755 1512        0.
    3 MAR 1300   13        0.    *   5 MAR 0640  513        1.    *   7 MAR 0020 1013        0.    *   8 MAR 1800 1513        0.
    3 MAR 1305   14        0.    *   5 MAR 0645  514        1.    *   7 MAR 0025 1014        0.    *   8 MAR 1805 1514        0.
    3 MAR 1310   15        0.    *   5 MAR 0650  515        1.    *   7 MAR 0030 1015        0.    *   8 MAR 1810 1515        0.
    3 MAR 1315   16        0.    *   5 MAR 0655  516        1.    *   7 MAR 0035 1016        0.    *   8 MAR 1815 1516        0.
    3 MAR 1320   17        0.    *   5 MAR 0700  517        1.    *   7 MAR 0040 1017        0.    *   8 MAR 1820 1517        0.
    3 MAR 1325   18        0.    *   5 MAR 0705  518        1.    *   7 MAR 0045 1018        0.    *   8 MAR 1825 1518        0.
    3 MAR 1330   19        0.    *   5 MAR 0710  519        1.    *   7 MAR 0050 1019        0.    *   8 MAR 1830 1519        0.
    3 MAR 1335   20        0.    *   5 MAR 0715  520        0.    *   7 MAR 0055 1020        0.    *   8 MAR 1835 1520        0.
    3 MAR 1340   21        0.    *   5 MAR 0720  521        0.    *   7 MAR 0100 1021        0.    *   8 MAR 1840 1521        0.
    3 MAR 1345   22        0.    *   5 MAR 0725  522        0.    *   7 MAR 0105 1022        0.    *   8 MAR 1845 1522        0.
    3 MAR 1350   23        0.    *   5 MAR 0730  523        0.    *   7 MAR 0110 1023        0.    *   8 MAR 1850 1523        0.
    3 MAR 1355   24        0.    *   5 MAR 0735  524        0.    *   7 MAR 0115 1024        0.    *   8 MAR 1855 1524        0.
    3 MAR 1400   25        0.    *   5 MAR 0740  525        0.    *   7 MAR 0120 1025        0.    *   8 MAR 1900 1525        0.
    3 MAR 1405   26        0.    *   5 MAR 0745  526        0.    *   7 MAR 0125 1026        0.    *   8 MAR 1905 1526        0.
    3 MAR 1410   27        0.    *   5 MAR 0750  527        0.    *   7 MAR 0130 1027        0.    *   8 MAR 1910 1527        0.
    3 MAR 1415   28        0.    *   5 MAR 0755  528        0.    *   7 MAR 0135 1028        0.    *   8 MAR 1915 1528        0.
    3 MAR 1420   29        0.    *   5 MAR 0800  529        0.    *   7 MAR 0140 1029        0.    *   8 MAR 1920 1529        0.
    3 MAR 1425   30        0.    *   5 MAR 0805  530        0.    *   7 MAR 0145 1030        0.    *   8 MAR 1925 1530        0.
    3 MAR 1430   31        0.    *   5 MAR 0810  531        0.    *   7 MAR 0150 1031        0.    *   8 MAR 1930 1531        0.
    3 MAR 1435   32        0.    *   5 MAR 0815  532        0.    *   7 MAR 0155 1032        0.    *   8 MAR 1935 1532        0.
    3 MAR 1440   33        0.    *   5 MAR 0820  533        0.    *   7 MAR 0200 1033        0.    *   8 MAR 1940 1533        0.
    3 MAR 1445   34        0.    *   5 MAR 0825  534        0.    *   7 MAR 0205 1034        0.    *   8 MAR 1945 1534        0.
```

3 MAR	1450	35	0.	*	5 MAR	0830	535	0.	*	7 MAR	0210	1035	0.	*	8 MAR	1950	1535	0.
3 MAR	1455	36	0.	*	5 MAR	0835	536	0.	*	7 MAR	0215	1036	0.	*	8 MAR	1955	1536	0.
3 MAR	1500	37	10.	*	5 MAR	0840	537	0.	*	7 MAR	0220	1037	0.	*	8 MAR	2000	1537	0.
3 MAR	1505	38	14.	*	5 MAR	0845	538	0.	*	7 MAR	0225	1038	0.	*	8 MAR	2005	1538	0.
3 MAR	1510	39	16.	*	5 MAR	0850	539	0.	*	7 MAR	0230	1039	0.	*	8 MAR	2010	1539	0.
3 MAR	1515	40	18.	*	5 MAR	0855	540	0.	*	7 MAR	0235	1040	0.	*	8 MAR	2015	1540	0.
3 MAR	1520	41	21.	*	5 MAR	0900	541	0.	*	7 MAR	0240	1041	0.	*	8 MAR	2020	1541	0.
3 MAR	1525	42	27.	*	5 MAR	0905	542	0.	*	7 MAR	0245	1042	0.	*	8 MAR	2025	1542	0.
3 MAR	1530	43	34.	*	5 MAR	0910	543	0.	*	7 MAR	0250	1043	0.	*	8 MAR	2030	1543	0.
3 MAR	1535	44	46.	*	5 MAR	0915	544	0.	*	7 MAR	0255	1044	0.	*	8 MAR	2035	1544	0.
3 MAR	1540	45	63.	*	5 MAR	0920	545	0.	*	7 MAR	0300	1045	0.	*	8 MAR	2040	1545	0.
3 MAR	1545	46	85.	*	5 MAR	0925	546	0.	*	7 MAR	0305	1046	0.	*	8 MAR	2045	1546	0.
3 MAR	1550	47	114.	*	5 MAR	0930	547	0.	*	7 MAR	0310	1047	0.	*	8 MAR	2050	1547	0.
3 MAR	1555	48	149.	*	5 MAR	0935	548	0.	*	7 MAR	0315	1048	0.	*	8 MAR	2055	1548	0.
3 MAR	1600	49	186.	*	5 MAR	0940	549	0.	*	7 MAR	0320	1049	0.	*	8 MAR	2100	1549	0.
3 MAR	1605	50	224.	*	5 MAR	0945	550	0.	*	7 MAR	0325	1050	0.	*	8 MAR	2105	1550	0.
3 MAR	1610	51	259.	*	5 MAR	0950	551	0.	*	7 MAR	0330	1051	0.	*	8 MAR	2110	1551	0.
3 MAR	1615	52	288.	*	5 MAR	0955	552	0.	*	7 MAR	0335	1052	0.	*	8 MAR	2115	1552	0.
3 MAR	1620	53	307.	*	5 MAR	1000	553	0.	*	7 MAR	0340	1053	0.	*	8 MAR	2120	1553	0.
3 MAR	1625	54	316.	*	5 MAR	1005	554	0.	*	7 MAR	0345	1054	0.	*	8 MAR	2125	1554	0.
3 MAR	1630	55	319.	*	5 MAR	1010	555	0.	*	7 MAR	0350	1055	0.	*	8 MAR	2130	1555	0.
3 MAR	1635	56	313.	*	5 MAR	1015	556	0.	*	7 MAR	0355	1056	0.	*	8 MAR	2135	1556	0.
3 MAR	1640	57	300.	*	5 MAR	1020	557	0.	*	7 MAR	0400	1057	0.	*	8 MAR	2140	1557	0.
3 MAR	1645	58	285.	*	5 MAR	1025	558	0.	*	7 MAR	0405	1058	0.	*	8 MAR	2145	1558	0.
3 MAR	1650	59	268.	*	5 MAR	1030	559	0.	*	7 MAR	0410	1059	0.	*	8 MAR	2150	1559	0.
3 MAR	1655	60	256.	*	5 MAR	1035	560	0.	*	7 MAR	0415	1060	0.	*	8 MAR	2155	1560	0.
3 MAR	1700	61	256.	*	5 MAR	1040	561	0.	*	7 MAR	0420	1061	0.	*	8 MAR	2200	1561	0.
3 MAR	1705	62	266.	*	5 MAR	1045	562	0.	*	7 MAR	0425	1062	0.	*	8 MAR	2205	1562	0.
3 MAR	1710	63	299.	*	5 MAR	1050	563	0.	*	7 MAR	0430	1063	0.	*	8 MAR	2210	1563	0.
3 MAR	1715	64	415.	*	5 MAR	1055	564	0.	*	7 MAR	0435	1064	0.	*	8 MAR	2215	1564	0.
3 MAR	1720	65	546.	*	5 MAR	1100	565	0.	*	7 MAR	0440	1065	0.	*	8 MAR	2220	1565	0.
3 MAR	1725	66	658.	*	5 MAR	1105	566	0.	*	7 MAR	0445	1066	0.	*	8 MAR	2225	1566	0.
3 MAR	1730	67	753.	*	5 MAR	1110	567	0.	*	7 MAR	0450	1067	0.	*	8 MAR	2230	1567	0.
3 MAR	1735	68	841.	*	5 MAR	1115	568	0.	*	7 MAR	0455	1068	0.	*	8 MAR	2235	1568	0.
3 MAR	1740	69	915.	*	5 MAR	1120	569	0.	*	7 MAR	0500	1069	0.	*	8 MAR	2240	1569	0.
3 MAR	1745	70	971.	*	5 MAR	1125	570	0.	*	7 MAR	0505	1070	0.	*	8 MAR	2245	1570	0.
3 MAR	1750	71	1002.	*	5 MAR	1130	571	0.	*	7 MAR	0510	1071	0.	*	8 MAR	2250	1571	0.
3 MAR	1755	72	1008.	*	5 MAR	1135	572	0.	*	7 MAR	0515	1072	0.	*	8 MAR	2255	1572	0.
3 MAR	1800	73	990.	*	5 MAR	1140	573	0.	*	7 MAR	0520	1073	0.	*	8 MAR	2300	1573	0.
3 MAR	1805	74	953.	*	5 MAR	1145	574	0.	*	7 MAR	0525	1074	0.	*	8 MAR	2305	1574	0.
3 MAR	1810	75	906.	*	5 MAR	1150	575	0.	*	7 MAR	0530	1075	0.	*	8 MAR	2310	1575	0.
3 MAR	1815	76	855.	*	5 MAR	1155	576	0.	*	7 MAR	0535	1076	0.	*	8 MAR	2315	1576	0.
3 MAR	1820	77	799.	*	5 MAR	1200	577	0.	*	7 MAR	0540	1077	0.	*	8 MAR	2320	1577	0.
3 MAR	1825	78	742.	*	5 MAR	1205	578	0.	*	7 MAR	0545	1078	0.	*	8 MAR	2325	1578	0.
3 MAR	1830	79	685.	*	5 MAR	1210	579	0.	*	7 MAR	0550	1079	0.	*	8 MAR	2330	1579	0.
3 MAR	1835	80	632.	*	5 MAR	1215	580	0.	*	7 MAR	0555	1080	0.	*	8 MAR	2335	1580	0.
3 MAR	1840	81	585.	*	5 MAR	1220	581	0.	*	7 MAR	0600	1081	0.	*	8 MAR	2340	1581	0.
3 MAR	1845	82	541.	*	5 MAR	1225	582	0.	*	7 MAR	0605	1082	0.	*	8 MAR	2345	1582	0.
3 MAR	1850	83	498.	*	5 MAR	1230	583	0.	*	7 MAR	0610	1083	0.	*	8 MAR	2350	1583	0.
3 MAR	1855	84	460.	*	5 MAR	1235	584	0.	*	7 MAR	0615	1084	0.	*	8 MAR	2355	1584	0.
3 MAR	1900	85	427.	*	5 MAR	1240	585	0.	*	7 MAR	0620	1085	0.	*	9 MAR	0000	1585	0.
3 MAR	1905	86	396.	*	5 MAR	1245	586	0.	*	7 MAR	0625	1086	0.	*	9 MAR	0005	1586	0.
3 MAR	1910	87	367.	*	5 MAR	1250	587	0.	*	7 MAR	0630	1087	0.	*	9 MAR	0010	1587	0.
3 MAR	1915	88	339.	*	5 MAR	1255	588	0.	*	7 MAR	0635	1088	0.	*	9 MAR	0015	1588	0.
3 MAR	1920	89	313.	*	5 MAR	1300	589	0.	*	7 MAR	0640	1089	0.	*	9 MAR	0020	1589	0.
3 MAR	1925	90	291.	*	5 MAR	1305	590	0.	*	7 MAR	0645	1090	0.	*	9 MAR	0025	1590	0.
3 MAR	1930	91	272.	*	5 MAR	1310	591	0.	*	7 MAR	0650	1091	0.	*	9 MAR	0030	1591	0.
3 MAR	1935	92	254.	*	5 MAR	1315	592	0.	*	7 MAR	0655	1092	0.	*	9 MAR	0035	1592	0.
3 MAR	1940	93	236.	*	5 MAR	1320	593	0.	*	7 MAR	0700	1093	0.	*	9 MAR	0040	1593	0.
3 MAR	1945	94	220.	*	5 MAR	1325	594	0.	*	7 MAR	0705	1094	0.	*	9 MAR	0045	1594	0.
3 MAR	1950	95	204.	*	5 MAR	1330	595	0.	*	7 MAR	0710	1095	0.	*	9 MAR	0050	1595	0.
3 MAR	1955	96	191.	*	5 MAR	1335	596	0.	*	7 MAR	0715	1096	0.	*	9 MAR	0055	1596	0.
3 MAR	2000	97	179.	*	5 MAR	1340	597	0.	*	7 MAR	0720	1097	0.	*	9 MAR	0100	1597	0.
3 MAR	2005	98	169.	*	5 MAR	1345	598	0.	*	7 MAR	0725	1098	0.	*	9 MAR	0105	1598	0.
3 MAR	2010	99	159.	*	5 MAR	1350	599	0.	*	7 MAR	0730	1099	0.	*	9 MAR	0110	1599	0.
3 MAR	2015	100	149.	*	5 MAR	1355	600	0.	*	7 MAR	0735	1100	0.	*	9 MAR	0115	1600	0.
3 MAR	2020	101	140.	*	5 MAR	1400	601	0.	*	7 MAR	0740	1101	0.	*	9 MAR	0120	1601	0.
3 MAR	2025	102	131.	*	5 MAR	1405	602	0.	*	7 MAR	0745	1102	0.	*	9 MAR	0125	1602	0.
3 MAR	2030	103	123.	*	5 MAR	1410	603	0.	*	7 MAR	0750	1103	0.	*	9 MAR	0130	1603	0.
3 MAR	2035	104	116.	*	5 MAR	1415	604	0.	*	7 MAR	0755	1104	0.	*	9 MAR	0135	1604	0.
3 MAR	2040	105	109.	*	5 MAR	1420	605	0.	*	7 MAR	0800	1105	0.	*	9 MAR	0140	1605	0.
3 MAR	2045	106	103.	*	5 MAR	1425	606	0.	*	7 MAR	0805	1106	0.	*	9 MAR	0145	1606	0.
3 MAR	2050	107	97.	*	5 MAR	1430	607	0.	*	7 MAR	0810	1107	0.	*	9 MAR	0150	1607	0.
3 MAR	2055	108	91.	*	5 MAR	1435	608	0.	*	7 MAR	0815	1108	0.	*	9 MAR	0155	1608	0.
3 MAR	2100	109	86.	*	5 MAR	1440	609	0.	*	7 MAR	0820	1109	0.	*	9 MAR	0200	1609	0.
3 MAR	2105	110	80.	*	5 MAR	1445	610	0.	*	7 MAR	0825	1110	0.	*	9 MAR	0205	1610	0.
3 MAR	2110	111	75.	*	5 MAR	1450	611	0.	*	7 MAR	0830	1111	0.	*	9 MAR	0210	1611	0.
3 MAR	2115	112	71.	*	5 MAR	1455	612	0.	*	7 MAR	0835	1112	0.	*	9 MAR	0215	1612	0.
3 MAR	2120	113	66.	*	5 MAR	1500	613	0.	*	7 MAR	0840	1113	0.	*	9 MAR	0220	1613	0.
3 MAR	2125	114	62.	*	5 MAR	1505	614	0.	*	7 MAR	0845	1114	0.	*	9 MAR	0225	1614	0.
3 MAR	2130	115	58.	*	5 MAR	1510	615	0.	*	7 MAR	0850	1115	0.	*	9 MAR	0230	1615	0.
3 MAR	2135	116	55.	*	5 MAR	1515	616	0.	*	7 MAR	0855	1116	0.	*	9 MAR	0235	1616	0.
3 MAR	2140	117	51.	*	5 MAR	1520	617	0.	*	7 MAR	0900	1117	0.	*	9 MAR	0240	1617	0.
3 MAR	2145	118	48.	*	5 MAR	1525	618	0.	*	7 MAR	0905	1118	0.	*	9 MAR	0245	1618	0.
3 MAR	2150	119	45.	*	5 MAR	1530	619	0.	*	7 MAR	0910	1119	0.	*	9 MAR	0250	1619	0.
3 MAR	2155	120	42.	*	5 MAR	1535	620	0.	*	7 MAR	0915	1120	0.	*	9 MAR	0255	1620	0.
3 MAR	2200	121	40.	*	5 MAR	1540	621	0.	*	7 MAR	0920	1121	0.	*	9 MAR	0300	1621	0.
3 MAR	2205	122	37.	*	5 MAR	1545	622	0.	*	7 MAR	0925	1122	0.	*	9 MAR	0305	1622	0.
3 MAR	2210	123	35.	*	5 MAR	1550	623	0.	*	7 MAR	0930	1123	0.	*	9 MAR	0310	1623	0.
3 MAR	2215	124	33.	*	5 MAR	1555	624	0.	*	7 MAR	0935	1124	0.	*	9 MAR	0315	1624	0.
3 MAR	2220	125	31.	*	5 MAR	1600	625	0.	*	7 MAR	0940	1125	0.	*	9 MAR	0320	1625	0.
3 MAR	2225	126	29.	*	5 MAR	1605	626	0.	*	7 MAR	0945	1126	0.	*	9 MAR	0325	1626	0.
3 MAR	2230	127	29.	*	5 MAR	1610	627	0.	*	7 MAR	0950	1127	0.	*	9 MAR	0330	1627	0.
3 MAR	2235	128	29.	*	5 MAR	1615	628	0.	*	7 MAR	0955	1128	0.	*	9 MAR	0335	1628	0.
3 MAR	2240	129	31.	*	5 MAR	1620	629	0.	*	7 MAR	1000	1129	0.	*	9 MAR	0340	1629	0.
3 MAR	2245	130	33.	*	5 MAR	1625	630	0.	*	7 MAR	1005	1130	0.	*	9 MAR	0345	1630	0.
3 MAR	2250	131	35.	*	5 MAR	1630	631	0.	*	7 MAR	1010	1131	0.	*	9 MAR	0350	1631	0.
3 MAR	2255	132	38.	*	5 MAR	1635	632	0.	*	7 MAR	1015	1132	0.	*	9 MAR	0355	1632	0.
3 MAR	2300	133	42.	*	5 MAR	1640	633	0.	*	7 MAR	1020	1133	0.	*	9 MAR	0400	1633	0.

3 MAR	2305	134	46.	*	5 MAR	1645	634	0.	*	7 MAR	1025	1134	0.	*	9 MAR	0405	1634	0.
3 MAR	2310	135	50.	*	5 MAR	1650	635	0.	*	7 MAR	1030	1135	0.	*	9 MAR	0410	1635	0.
3 MAR	2315	136	55.	*	5 MAR	1655	636	0.	*	7 MAR	1035	1136	0.	*	9 MAR	0415	1636	0.
3 MAR	2320	137	60.	*	5 MAR	1700	637	0.	*	7 MAR	1040	1137	0.	*	9 MAR	0420	1637	0.
3 MAR	2325	138	65.	*	5 MAR	1705	638	0.	*	7 MAR	1045	1138	0.	*	9 MAR	0425	1638	0.
3 MAR	2330	139	70.	*	5 MAR	1710	639	0.	*	7 MAR	1050	1139	0.	*	9 MAR	0430	1639	0.
3 MAR	2335	140	75.	*	5 MAR	1715	640	0.	*	7 MAR	1055	1140	0.	*	9 MAR	0435	1640	0.
3 MAR	2340	141	80.	*	5 MAR	1720	641	0.	*	7 MAR	1100	1141	0.	*	9 MAR	0440	1641	0.
3 MAR	2345	142	84.	*	5 MAR	1725	642	0.	*	7 MAR	1105	1142	0.	*	9 MAR	0445	1642	0.
3 MAR	2350	143	88.	*	5 MAR	1730	643	0.	*	7 MAR	1110	1143	0.	*	9 MAR	0450	1643	0.
3 MAR	2355	144	91.	*	5 MAR	1735	644	0.	*	7 MAR	1115	1144	0.	*	9 MAR	0455	1644	0.
4 MAR	0000	145	94.	*	5 MAR	1740	645	0.	*	7 MAR	1120	1145	0.	*	9 MAR	0500	1645	0.
4 MAR	0005	146	97.	*	5 MAR	1745	646	0.	*	7 MAR	1125	1146	0.	*	9 MAR	0505	1646	0.
4 MAR	0010	147	99.	*	5 MAR	1750	647	0.	*	7 MAR	1130	1147	0.	*	9 MAR	0510	1647	0.
4 MAR	0015	148	101.	*	5 MAR	1755	648	0.	*	7 MAR	1135	1148	0.	*	9 MAR	0515	1648	0.
4 MAR	0020	149	103.	*	5 MAR	1800	649	0.	*	7 MAR	1140	1149	0.	*	9 MAR	0520	1649	0.
4 MAR	0025	150	104.	*	5 MAR	1805	650	0.	*	7 MAR	1145	1150	0.	*	9 MAR	0525	1650	0.
4 MAR	0030	151	105.	*	5 MAR	1810	651	0.	*	7 MAR	1150	1151	0.	*	9 MAR	0530	1651	0.
4 MAR	0035	152	106.	*	5 MAR	1815	652	0.	*	7 MAR	1155	1152	0.	*	9 MAR	0535	1652	0.
4 MAR	0040	153	106.	*	5 MAR	1820	653	0.	*	7 MAR	1200	1153	0.	*	9 MAR	0540	1653	0.
4 MAR	0045	154	106.	*	5 MAR	1825	654	0.	*	7 MAR	1205	1154	0.	*	9 MAR	0545	1654	0.
4 MAR	0050	155	106.	*	5 MAR	1830	655	0.	*	7 MAR	1210	1155	0.	*	9 MAR	0550	1655	0.
4 MAR	0055	156	106.	*	5 MAR	1835	656	0.	*	7 MAR	1215	1156	0.	*	9 MAR	0555	1656	0.
4 MAR	0100	157	105.	*	5 MAR	1840	657	0.	*	7 MAR	1220	1157	0.	*	9 MAR	0600	1657	0.
4 MAR	0105	158	104.	*	5 MAR	1845	658	0.	*	7 MAR	1225	1158	0.	*	9 MAR	0605	1658	0.
4 MAR	0110	159	103.	*	5 MAR	1850	659	0.	*	7 MAR	1230	1159	0.	*	9 MAR	0610	1659	0.
4 MAR	0115	160	102.	*	5 MAR	1855	660	0.	*	7 MAR	1235	1160	0.	*	9 MAR	0615	1660	0.
4 MAR	0120	161	101.	*	5 MAR	1900	661	0.	*	7 MAR	1240	1161	0.	*	9 MAR	0620	1661	0.
4 MAR	0125	162	99.	*	5 MAR	1905	662	0.	*	7 MAR	1245	1162	0.	*	9 MAR	0625	1662	0.
4 MAR	0130	163	98.	*	5 MAR	1910	663	0.	*	7 MAR	1250	1163	0.	*	9 MAR	0630	1663	0.
4 MAR	0135	164	96.	*	5 MAR	1915	664	0.	*	7 MAR	1255	1164	0.	*	9 MAR	0635	1664	0.
4 MAR	0140	165	95.	*	5 MAR	1920	665	0.	*	7 MAR	1300	1165	0.	*	9 MAR	0640	1665	0.
4 MAR	0145	166	93.	*	5 MAR	1925	666	0.	*	7 MAR	1305	1166	0.	*	9 MAR	0645	1666	0.
4 MAR	0150	167	91.	*	5 MAR	1930	667	0.	*	7 MAR	1310	1167	0.	*	9 MAR	0650	1667	0.
4 MAR	0155	168	89.	*	5 MAR	1935	668	0.	*	7 MAR	1315	1168	0.	*	9 MAR	0655	1668	0.
4 MAR	0200	169	87.	*	5 MAR	1940	669	0.	*	7 MAR	1320	1169	0.	*	9 MAR	0700	1669	0.
4 MAR	0205	170	85.	*	5 MAR	1945	670	0.	*	7 MAR	1325	1170	0.	*	9 MAR	0705	1670	0.
4 MAR	0210	171	84.	*	5 MAR	1950	671	0.	*	7 MAR	1330	1171	0.	*	9 MAR	0710	1671	0.
4 MAR	0215	172	82.	*	5 MAR	1955	672	0.	*	7 MAR	1335	1172	0.	*	9 MAR	0715	1672	0.
4 MAR	0220	173	80.	*	5 MAR	2000	673	0.	*	7 MAR	1340	1173	0.	*	9 MAR	0720	1673	0.
4 MAR	0225	174	78.	*	5 MAR	2005	674	0.	*	7 MAR	1345	1174	0.	*	9 MAR	0725	1674	0.
4 MAR	0230	175	76.	*	5 MAR	2010	675	0.	*	7 MAR	1350	1175	0.	*	9 MAR	0730	1675	0.
4 MAR	0235	176	75.	*	5 MAR	2015	676	0.	*	7 MAR	1355	1176	0.	*	9 MAR	0735	1676	0.
4 MAR	0240	177	73.	*	5 MAR	2020	677	0.	*	7 MAR	1400	1177	0.	*	9 MAR	0740	1677	0.
4 MAR	0245	178	71.	*	5 MAR	2025	678	0.	*	7 MAR	1405	1178	0.	*	9 MAR	0745	1678	0.
4 MAR	0250	179	70.	*	5 MAR	2030	679	0.	*	7 MAR	1410	1179	0.	*	9 MAR	0750	1679	0.
4 MAR	0255	180	69.	*	5 MAR	2035	680	0.	*	7 MAR	1415	1180	0.	*	9 MAR	0755	1680	0.
4 MAR	0300	181	68.	*	5 MAR	2040	681	0.	*	7 MAR	1420	1181	0.	*	9 MAR	0800	1681	0.
4 MAR	0305	182	66.	*	5 MAR	2045	682	0.	*	7 MAR	1425	1182	0.	*	9 MAR	0805	1682	0.
4 MAR	0310	183	65.	*	5 MAR	2050	683	0.	*	7 MAR	1430	1183	0.	*	9 MAR	0810	1683	0.
4 MAR	0315	184	64.	*	5 MAR	2055	684	0.	*	7 MAR	1435	1184	0.	*	9 MAR	0815	1684	0.
4 MAR	0320	185	63.	*	5 MAR	2100	685	0.	*	7 MAR	1440	1185	0.	*	9 MAR	0820	1685	0.
4 MAR	0325	186	62.	*	5 MAR	2105	686	0.	*	7 MAR	1445	1186	0.	*	9 MAR	0825	1686	0.
4 MAR	0330	187	61.	*	5 MAR	2110	687	0.	*	7 MAR	1450	1187	0.	*	9 MAR	0830	1687	0.
4 MAR	0335	188	61.	*	5 MAR	2115	688	0.	*	7 MAR	1455	1188	0.	*	9 MAR	0835	1688	0.
4 MAR	0340	189	60.	*	5 MAR	2120	689	0.	*	7 MAR	1500	1189	0.	*	9 MAR	0840	1689	0.
4 MAR	0345	190	59.	*	5 MAR	2125	690	0.	*	7 MAR	1505	1190	0.	*	9 MAR	0845	1690	0.
4 MAR	0350	191	58.	*	5 MAR	2130	691	0.	*	7 MAR	1510	1191	0.	*	9 MAR	0850	1691	0.
4 MAR	0355	192	57.	*	5 MAR	2135	692	0.	*	7 MAR	1515	1192	0.	*	9 MAR	0855	1692	0.
4 MAR	0400	193	57.	*	5 MAR	2140	693	0.	*	7 MAR	1520	1193	0.	*	9 MAR	0900	1693	0.
4 MAR	0405	194	56.	*	5 MAR	2145	694	0.	*	7 MAR	1525	1194	0.	*	9 MAR	0905	1694	0.
4 MAR	0410	195	55.	*	5 MAR	2150	695	0.	*	7 MAR	1530	1195	0.	*	9 MAR	0910	1695	0.
4 MAR	0415	196	55.	*	5 MAR	2155	696	0.	*	7 MAR	1535	1196	0.	*	9 MAR	0915	1696	0.
4 MAR	0420	197	54.	*	5 MAR	2200	697	0.	*	7 MAR	1540	1197	0.	*	9 MAR	0920	1697	0.
4 MAR	0425	198	53.	*	5 MAR	2205	698	0.	*	7 MAR	1545	1198	0.	*	9 MAR	0925	1698	0.
4 MAR	0430	199	52.	*	5 MAR	2210	699	0.	*	7 MAR	1550	1199	0.	*	9 MAR	0930	1699	0.
4 MAR	0435	200	52.	*	5 MAR	2215	700	0.	*	7 MAR	1555	1200	0.	*	9 MAR	0935	1700	0.
4 MAR	0440	201	51.	*	5 MAR	2220	701	0.	*	7 MAR	1600	1201	0.	*	9 MAR	0940	1701	0.
4 MAR	0445	202	50.	*	5 MAR	2225	702	0.	*	7 MAR	1605	1202	0.	*	9 MAR	0945	1702	0.
4 MAR	0450	203	50.	*	5 MAR	2230	703	0.	*	7 MAR	1610	1203	0.	*	9 MAR	0950	1703	0.
4 MAR	0455	204	49.	*	5 MAR	2235	704	0.	*	7 MAR	1615	1204	0.	*	9 MAR	0955	1704	0.
4 MAR	0500	205	49.	*	5 MAR	2240	705	0.	*	7 MAR	1620	1205	0.	*	9 MAR	1000	1705	0.
4 MAR	0505	206	48.	*	5 MAR	2245	706	0.	*	7 MAR	1625	1206	0.	*	9 MAR	1005	1706	0.
4 MAR	0510	207	47.	*	5 MAR	2250	707	0.	*	7 MAR	1630	1207	0.	*	9 MAR	1010	1707	0.
4 MAR	0515	208	47.	*	5 MAR	2255	708	0.	*	7 MAR	1635	1208	0.	*	9 MAR	1015	1708	0.
4 MAR	0520	209	46.	*	5 MAR	2300	709	0.	*	7 MAR	1640	1209	0.	*	9 MAR	1020	1709	0.
4 MAR	0525	210	46.	*	5 MAR	2305	710	0.	*	7 MAR	1645	1210	0.	*	9 MAR	1025	1710	0.
4 MAR	0530	211	45.	*	5 MAR	2310	711	0.	*	7 MAR	1650	1211	0.	*	9 MAR	1030	1711	0.
4 MAR	0535	212	44.	*	5 MAR	2315	712	0.	*	7 MAR	1655	1212	0.	*	9 MAR	1035	1712	0.
4 MAR	0540	213	44.	*	5 MAR	2320	713	0.	*	7 MAR	1700	1213	0.	*	9 MAR	1040	1713	0.
4 MAR	0545	214	43.	*	5 MAR	2325	714	0.	*	7 MAR	1705	1214	0.	*	9 MAR	1045	1714	0.
4 MAR	0550	215	43.	*	5 MAR	2330	715	0.	*	7 MAR	1710	1215	0.	*	9 MAR	1050	1715	0.
4 MAR	0555	216	42.	*	5 MAR	2335	716	0.	*	7 MAR	1715	1216	0.	*	9 MAR	1055	1716	0.
4 MAR	0600	217	41.	*	5 MAR	2340	717	0.	*	7 MAR	1720	1217	0.	*	9 MAR	1100	1717	0.
4 MAR	0605	218	41.	*	5 MAR	2345	718	0.	*	7 MAR	1725	1218	0.	*	9 MAR	1105	1718	0.
4 MAR	0610	219	40.	*	5 MAR	2350	719	0.	*	7 MAR	1730	1219	0.	*	9 MAR	1110	1719	0.
4 MAR	0615	220	40.	*	5 MAR	2355	720	0.	*	7 MAR	1735	1220	0.	*	9 MAR	1115	1720	0.
4 MAR	0620	221	39.	*	6 MAR	0000	721	0.	*	7 MAR	1740	1221	0.	*	9 MAR	1120	1721	0.
4 MAR	0625	222	39.	*	6 MAR	0005	722	0.	*	7 MAR	1745	1222	0.	*	9 MAR	1125	1722	0.
4 MAR	0630	223	38.	*	6 MAR	0010	723	0.	*	7 MAR	1750	1223	0.	*	9 MAR	1130	1723	0.
4 MAR	0635	224	37.	*	6 MAR	0015	724	0.	*	7 MAR	1755	1224	0.	*	9 MAR	1135	1724	0.
4 MAR	0640	225	37.	*	6 MAR	0020	725	0.	*	7 MAR	1800	1225	0.	*	9 MAR	1140	1725	0.
4 MAR	0645	226	36.	*	6 MAR	0025	726	0.	*	7 MAR	1805	1226	0.	*	9 MAR	1145	1726	0.
4 MAR	0650	227	36.	*	6 MAR	0030	727	0.	*	7 MAR	1810	1227	0.	*	9 MAR	1150	1727	0.
4 MAR	0655	228	35.	*	6 MAR	0035	728	0.	*	7 MAR	1815	1228	0.	*	9 MAR	1155	1728	0.
4 MAR	0700	229	35.	*	6 MAR	0040	729	0.	*	7 MAR	1820	1229	0.	*	9 MAR	1200	1729	0.
4 MAR	0705	230	34.	*	6 MAR	0045	730	0.	*	7 MAR	1825	1230	0.	*	9 MAR	1205	1730	0.
4 MAR	0710	231	34.	*	6 MAR	0050	731	0.	*	7 MAR	1830	1231	0.	*	9 MAR	1210	1731	0.
4 MAR	0715	232	33.	*	6 MAR	0055	732	0.	*	7 MAR	1835	1232	0.	*	9 MAR	1215	1732	0.

4 MAR 0720	233	33.	*	6 MAR 0100	733	0.	*	7 MAR 1840	1233	0.	*	9 MAR 1220	1733	0.
4 MAR 0725	234	32.	*	6 MAR 0105	734	0.	*	7 MAR 1845	1234	0.	*	9 MAR 1225	1734	0.
4 MAR 0730	235	32.	*	6 MAR 0110	735	0.	*	7 MAR 1850	1235	0.	*	9 MAR 1230	1735	0.
4 MAR 0735	236	31.	*	6 MAR 0115	736	0.	*	7 MAR 1855	1236	0.	*	9 MAR 1235	1736	0.
4 MAR 0740	237	31.	*	6 MAR 0120	737	0.	*	7 MAR 1900	1237	0.	*	9 MAR 1240	1737	0.
4 MAR 0745	238	30.	*	6 MAR 0125	738	0.	*	7 MAR 1905	1238	0.	*	9 MAR 1245	1738	0.
4 MAR 0750	239	30.	*	6 MAR 0130	739	0.	*	7 MAR 1910	1239	0.	*	9 MAR 1250	1739	0.
4 MAR 0755	240	29.	*	6 MAR 0135	740	0.	*	7 MAR 1915	1240	0.	*	9 MAR 1255	1740	0.
4 MAR 0800	241	29.	*	6 MAR 0140	741	0.	*	7 MAR 1920	1241	0.	*	9 MAR 1300	1741	0.
4 MAR 0805	242	29.	*	6 MAR 0145	742	0.	*	7 MAR 1925	1242	0.	*	9 MAR 1305	1742	0.
4 MAR 0810	243	28.	*	6 MAR 0150	743	0.	*	7 MAR 1930	1243	0.	*	9 MAR 1310	1743	0.
4 MAR 0815	244	28.	*	6 MAR 0155	744	0.	*	7 MAR 1935	1244	0.	*	9 MAR 1315	1744	0.
4 MAR 0820	245	28.	*	6 MAR 0200	745	0.	*	7 MAR 1940	1245	0.	*	9 MAR 1320	1745	0.
4 MAR 0825	246	27.	*	6 MAR 0205	746	0.	*	7 MAR 1945	1246	0.	*	9 MAR 1325	1746	0.
4 MAR 0830	247	27.	*	6 MAR 0210	747	0.	*	7 MAR 1950	1247	0.	*	9 MAR 1330	1747	0.
4 MAR 0835	248	26.	*	6 MAR 0215	748	0.	*	7 MAR 1955	1248	0.	*	9 MAR 1335	1748	0.
4 MAR 0840	249	26.	*	6 MAR 0220	749	0.	*	7 MAR 2000	1249	0.	*	9 MAR 1340	1749	0.
4 MAR 0845	250	26.	*	6 MAR 0225	750	0.	*	7 MAR 2005	1250	0.	*	9 MAR 1345	1750	0.
4 MAR 0850	251	25.	*	6 MAR 0230	751	0.	*	7 MAR 2010	1251	0.	*	9 MAR 1350	1751	0.
4 MAR 0855	252	25.	*	6 MAR 0235	752	0.	*	7 MAR 2015	1252	0.	*	9 MAR 1355	1752	0.
4 MAR 0900	253	25.	*	6 MAR 0240	753	0.	*	7 MAR 2020	1253	0.	*	9 MAR 1400	1753	0.
4 MAR 0905	254	24.	*	6 MAR 0245	754	0.	*	7 MAR 2025	1254	0.	*	9 MAR 1405	1754	0.
4 MAR 0910	255	24.	*	6 MAR 0250	755	0.	*	7 MAR 2030	1255	0.	*	9 MAR 1410	1755	0.
4 MAR 0915	256	24.	*	6 MAR 0255	756	0.	*	7 MAR 2035	1256	0.	*	9 MAR 1415	1756	0.
4 MAR 0920	257	23.	*	6 MAR 0300	757	0.	*	7 MAR 2040	1257	0.	*	9 MAR 1420	1757	0.
4 MAR 0925	258	23.	*	6 MAR 0305	758	0.	*	7 MAR 2045	1258	0.	*	9 MAR 1425	1758	0.
4 MAR 0930	259	23.	*	6 MAR 0310	759	0.	*	7 MAR 2050	1259	0.	*	9 MAR 1430	1759	0.
4 MAR 0935	260	22.	*	6 MAR 0315	760	0.	*	7 MAR 2055	1260	0.	*	9 MAR 1435	1760	0.
4 MAR 0940	261	22.	*	6 MAR 0320	761	0.	*	7 MAR 2100	1261	0.	*	9 MAR 1440	1761	0.
4 MAR 0945	262	21.	*	6 MAR 0325	762	0.	*	7 MAR 2105	1262	0.	*	9 MAR 1445	1762	0.
4 MAR 0950	263	21.	*	6 MAR 0330	763	0.	*	7 MAR 2110	1263	0.	*	9 MAR 1450	1763	0.
4 MAR 0955	264	21.	*	6 MAR 0335	764	0.	*	7 MAR 2115	1264	0.	*	9 MAR 1455	1764	0.
4 MAR 1000	265	20.	*	6 MAR 0340	765	0.	*	7 MAR 2120	1265	0.	*	9 MAR 1500	1765	0.
4 MAR 1005	266	20.	*	6 MAR 0345	766	0.	*	7 MAR 2125	1266	0.	*	9 MAR 1505	1766	0.
4 MAR 1010	267	20.	*	6 MAR 0350	767	0.	*	7 MAR 2130	1267	0.	*	9 MAR 1510	1767	0.
4 MAR 1015	268	19.	*	6 MAR 0355	768	0.	*	7 MAR 2135	1268	0.	*	9 MAR 1515	1768	0.
4 MAR 1020	269	19.	*	6 MAR 0400	769	0.	*	7 MAR 2140	1269	0.	*	9 MAR 1520	1769	0.
4 MAR 1025	270	19.	*	6 MAR 0405	770	0.	*	7 MAR 2145	1270	0.	*	9 MAR 1525	1770	0.
4 MAR 1030	271	19.	*	6 MAR 0410	771	0.	*	7 MAR 2150	1271	0.	*	9 MAR 1530	1771	0.
4 MAR 1035	272	18.	*	6 MAR 0415	772	0.	*	7 MAR 2155	1272	0.	*	9 MAR 1535	1772	0.
4 MAR 1040	273	18.	*	6 MAR 0420	773	0.	*	7 MAR 2200	1273	0.	*	9 MAR 1540	1773	0.
4 MAR 1045	274	18.	*	6 MAR 0425	774	0.	*	7 MAR 2205	1274	0.	*	9 MAR 1545	1774	0.
4 MAR 1050	275	17.	*	6 MAR 0430	775	0.	*	7 MAR 2210	1275	0.	*	9 MAR 1550	1775	0.
4 MAR 1055	276	17.	*	6 MAR 0435	776	0.	*	7 MAR 2215	1276	0.	*	9 MAR 1555	1776	0.
4 MAR 1100	277	17.	*	6 MAR 0440	777	0.	*	7 MAR 2220	1277	0.	*	9 MAR 1600	1777	0.
4 MAR 1105	278	17.	*	6 MAR 0445	778	0.	*	7 MAR 2225	1278	0.	*	9 MAR 1605	1778	0.
4 MAR 1110	279	16.	*	6 MAR 0450	779	0.	*	7 MAR 2230	1279	0.	*	9 MAR 1610	1779	0.
4 MAR 1115	280	16.	*	6 MAR 0455	780	0.	*	7 MAR 2235	1280	0.	*	9 MAR 1615	1780	0.
4 MAR 1120	281	16.	*	6 MAR 0500	781	0.	*	7 MAR 2240	1281	0.	*	9 MAR 1620	1781	0.
4 MAR 1125	282	15.	*	6 MAR 0505	782	0.	*	7 MAR 2245	1282	0.	*	9 MAR 1625	1782	0.
4 MAR 1130	283	15.	*	6 MAR 0510	783	0.	*	7 MAR 2250	1283	0.	*	9 MAR 1630	1783	0.
4 MAR 1135	284	15.	*	6 MAR 0515	784	0.	*	7 MAR 2255	1284	0.	*	9 MAR 1635	1784	0.
4 MAR 1140	285	15.	*	6 MAR 0520	785	0.	*	7 MAR 2300	1285	0.	*	9 MAR 1640	1785	0.
4 MAR 1145	286	14.	*	6 MAR 0525	786	0.	*	7 MAR 2305	1286	0.	*	9 MAR 1645	1786	0.
4 MAR 1150	287	14.	*	6 MAR 0530	787	0.	*	7 MAR 2310	1287	0.	*	9 MAR 1650	1787	0.
4 MAR 1155	288	14.	*	6 MAR 0535	788	0.	*	7 MAR 2315	1288	0.	*	9 MAR 1655	1788	0.
4 MAR 1200	289	14.	*	6 MAR 0540	789	0.	*	7 MAR 2320	1289	0.	*	9 MAR 1700	1789	0.
4 MAR 1205	290	14.	*	6 MAR 0545	790	0.	*	7 MAR 2325	1290	0.	*	9 MAR 1705	1790	0.
4 MAR 1210	291	13.	*	6 MAR 0550	791	0.	*	7 MAR 2330	1291	0.	*	9 MAR 1710	1791	0.
4 MAR 1215	292	13.	*	6 MAR 0555	792	0.	*	7 MAR 2335	1292	0.	*	9 MAR 1715	1792	0.
4 MAR 1220	293	13.	*	6 MAR 0600	793	0.	*	7 MAR 2340	1293	0.	*	9 MAR 1720	1793	0.
4 MAR 1225	294	13.	*	6 MAR 0605	794	0.	*	7 MAR 2345	1294	0.	*	9 MAR 1725	1794	0.
4 MAR 1230	295	12.	*	6 MAR 0610	795	0.	*	7 MAR 2350	1295	0.	*	9 MAR 1730	1795	0.
4 MAR 1235	296	12.	*	6 MAR 0615	796	0.	*	7 MAR 2355	1296	0.	*	9 MAR 1735	1796	0.
4 MAR 1240	297	12.	*	6 MAR 0620	797	0.	*	8 MAR 0000	1297	0.	*	9 MAR 1740	1797	0.
4 MAR 1245	298	12.	*	6 MAR 0625	798	0.	*	8 MAR 0005	1298	0.	*	9 MAR 1745	1798	0.
4 MAR 1250	299	12.	*	6 MAR 0630	799	0.	*	8 MAR 0010	1299	0.	*	9 MAR 1750	1799	0.
4 MAR 1255	300	11.	*	6 MAR 0635	800	0.	*	8 MAR 0015	1300	0.	*	9 MAR 1755	1800	0.
4 MAR 1300	301	11.	*	6 MAR 0640	801	0.	*	8 MAR 0020	1301	0.	*	9 MAR 1800	1801	0.
4 MAR 1305	302	11.	*	6 MAR 0645	802	0.	*	8 MAR 0025	1302	0.	*	9 MAR 1805	1802	0.
4 MAR 1310	303	11.	*	6 MAR 0650	803	0.	*	8 MAR 0030	1303	0.	*	9 MAR 1810	1803	0.
4 MAR 1315	304	11.	*	6 MAR 0655	804	0.	*	8 MAR 0035	1304	0.	*	9 MAR 1815	1804	0.
4 MAR 1320	305	11.	*	6 MAR 0700	805	0.	*	8 MAR 0040	1305	0.	*	9 MAR 1820	1805	0.
4 MAR 1325	306	10.	*	6 MAR 0705	806	0.	*	8 MAR 0045	1306	0.	*	9 MAR 1825	1806	0.
4 MAR 1330	307	10.	*	6 MAR 0710	807	0.	*	8 MAR 0050	1307	0.	*	9 MAR 1830	1807	0.
4 MAR 1335	308	10.	*	6 MAR 0715	808	0.	*	8 MAR 0055	1308	0.	*	9 MAR 1835	1808	0.
4 MAR 1340	309	10.	*	6 MAR 0720	809	0.	*	8 MAR 0100	1309	0.	*	9 MAR 1840	1809	0.
4 MAR 1345	310	10.	*	6 MAR 0725	810	0.	*	8 MAR 0105	1310	0.	*	9 MAR 1845	1810	0.
4 MAR 1350	311	10.	*	6 MAR 0730	811	0.	*	8 MAR 0110	1311	0.	*	9 MAR 1850	1811	0.
4 MAR 1355	312	10.	*	6 MAR 0735	812	0.	*	8 MAR 0115	1312	0.	*	9 MAR 1855	1812	0.
4 MAR 1400	313	9.	*	6 MAR 0740	813	0.	*	8 MAR 0120	1313	0.	*	9 MAR 1900	1813	0.
4 MAR 1405	314	9.	*	6 MAR 0745	814	0.	*	8 MAR 0125	1314	0.	*	9 MAR 1905	1814	0.
4 MAR 1410	315	9.	*	6 MAR 0750	815	0.	*	8 MAR 0130	1315	0.	*	9 MAR 1910	1815	0.
4 MAR 1415	316	9.	*	6 MAR 0755	816	0.	*	8 MAR 0135	1316	0.	*	9 MAR 1915	1816	0.
4 MAR 1420	317	9.	*	6 MAR 0800	817	0.	*	8 MAR 0140	1317	0.	*	9 MAR 1920	1817	0.
4 MAR 1425	318	9.	*	6 MAR 0805	818	0.	*	8 MAR 0145	1318	0.	*	9 MAR 1925	1818	0.
4 MAR 1430	319	9.	*	6 MAR 0810	819	0.	*	8 MAR 0150	1319	0.	*	9 MAR 1930	1819	0.
4 MAR 1435	320	9.	*	6 MAR 0815	820	0.	*	8 MAR 0155	1320	0.	*	9 MAR 1935	1820	0.
4 MAR 1440	321	9.	*	6 MAR 0820	821	0.	*	8 MAR 0200	1321	0.	*	9 MAR 1940	1821	0.
4 MAR 1445	322	9.	*	6 MAR 0825	822	0.	*	8 MAR 0205	1322	0.	*	9 MAR 1945	1822	0.
4 MAR 1450	323	9.	*	6 MAR 0830	823	0.	*	8 MAR 0210	1323	0.	*	9 MAR 1950	1823	0.
4 MAR 1455	324	8.	*	6 MAR 0835	824	0.	*	8 MAR 0215	1324	0.	*	9 MAR 1955	1824	0.
4 MAR 1500	325	8.	*	6 MAR 0840	825	0.	*	8 MAR 0220	1325	0.	*	9 MAR 2000	1825	0.
4 MAR 1505	326	8.	*	6 MAR 0845	826	0.	*	8 MAR 0225	1326	0.	*	9 MAR 2005	1826	0.
4 MAR 1510	327	8.	*	6 MAR 0850	827	0.	*	8 MAR 0230	1327	0.	*	9 MAR 2010	1827	0.
4 MAR 1515	328	8.	*	6 MAR 0855	828	0.	*	8 MAR 0235	1328	0.	*	9 MAR 2015	1828	0.
4 MAR 1520	329	8.	*	6 MAR 0900	829	0.	*	8 MAR 0240	1329	0.	*	9 MAR 2020	1829	0.
4 MAR 1525	330	8.	*	6 MAR 0905	830	0.	*	8 MAR 0245	1330	0.	*	9 MAR 2025	1830	0.
4 MAR 1530	331	8.	*	6 MAR 0910	831	0.	*	8 MAR 0250	1331	0.	*	9 MAR 2030	1831	0.

4	MAR	1535	332	8.	*	6	MAR	0915	832	0.	*	8	MAR	0255	1332	0.	*	9	MAR	2035	1832	0.
4	MAR	1540	333	8.	*	6	MAR	0920	833	0.	*	8	MAR	0300	1333	0.	*	9	MAR	2040	1833	0.
4	MAR	1545	334	8.	*	6	MAR	0925	834	0.	*	8	MAR	0305	1334	0.	*	9	MAR	2045	1834	0.
4	MAR	1550	335	8.	*	6	MAR	0930	835	0.	*	8	MAR	0310	1335	0.	*	9	MAR	2050	1835	0.
4	MAR	1555	336	7.	*	6	MAR	0935	836	0.	*	8	MAR	0315	1336	0.	*	9	MAR	2055	1836	0.
4	MAR	1600	337	7.	*	6	MAR	0940	837	0.	*	8	MAR	0320	1337	0.	*	9	MAR	2100	1837	0.
4	MAR	1605	338	7.	*	6	MAR	0945	838	0.	*	8	MAR	0325	1338	0.	*	9	MAR	2105	1838	0.
4	MAR	1610	339	7.	*	6	MAR	0950	839	0.	*	8	MAR	0330	1339	0.	*	9	MAR	2110	1839	0.
4	MAR	1615	340	7.	*	6	MAR	0955	840	0.	*	8	MAR	0335	1340	0.	*	9	MAR	2115	1840	0.
4	MAR	1620	341	7.	*	6	MAR	1000	841	0.	*	8	MAR	0340	1341	0.	*	9	MAR	2120	1841	0.
4	MAR	1625	342	7.	*	6	MAR	1005	842	0.	*	8	MAR	0345	1342	0.	*	9	MAR	2125	1842	0.
4	MAR	1630	343	7.	*	6	MAR	1010	843	0.	*	8	MAR	0350	1343	0.	*	9	MAR	2130	1843	0.
4	MAR	1635	344	7.	*	6	MAR	1015	844	0.	*	8	MAR	0355	1344	0.	*	9	MAR	2135	1844	0.
4	MAR	1640	345	7.	*	6	MAR	1020	845	0.	*	8	MAR	0400	1345	0.	*	9	MAR	2140	1845	0.
4	MAR	1645	346	6.	*	6	MAR	1025	846	0.	*	8	MAR	0405	1346	0.	*	9	MAR	2145	1846	0.
4	MAR	1650	347	6.	*	6	MAR	1030	847	0.	*	8	MAR	0410	1347	0.	*	9	MAR	2150	1847	0.
4	MAR	1655	348	6.	*	6	MAR	1035	848	0.	*	8	MAR	0415	1348	0.	*	9	MAR	2155	1848	0.
4	MAR	1700	349	6.	*	6	MAR	1040	849	0.	*	8	MAR	0420	1349	0.	*	9	MAR	2200	1849	0.
4	MAR	1705	350	6.	*	6	MAR	1045	850	0.	*	8	MAR	0425	1350	0.	*	9	MAR	2205	1850	0.
4	MAR	1710	351	6.	*	6	MAR	1050	851	0.	*	8	MAR	0430	1351	0.	*	9	MAR	2210	1851	0.
4	MAR	1715	352	6.	*	6	MAR	1055	852	0.	*	8	MAR	0435	1352	0.	*	9	MAR	2215	1852	0.
4	MAR	1720	353	6.	*	6	MAR	1100	853	0.	*	8	MAR	0440	1353	0.	*	9	MAR	2220	1853	0.
4	MAR	1725	354	6.	*	6	MAR	1105	854	0.	*	8	MAR	0445	1354	0.	*	9	MAR	2225	1854	0.
4	MAR	1730	355	6.	*	6	MAR	1110	855	0.	*	8	MAR	0450	1355	0.	*	9	MAR	2230	1855	0.
4	MAR	1735	356	6.	*	6	MAR	1115	856	0.	*	8	MAR	0455	1356	0.	*	9	MAR	2235	1856	0.
4	MAR	1740	357	6.	*	6	MAR	1120	857	0.	*	8	MAR	0500	1357	0.	*	9	MAR	2240	1857	0.
4	MAR	1745	358	6.	*	6	MAR	1125	858	0.	*	8	MAR	0505	1358	0.	*	9	MAR	2245	1858	0.
4	MAR	1750	359	6.	*	6	MAR	1130	859	0.	*	8	MAR	0510	1359	0.	*	9	MAR	2250	1859	0.
4	MAR	1755	360	6.	*	6	MAR	1135	860	0.	*	8	MAR	0515	1360	0.	*	9	MAR	2255	1860	0.
4	MAR	1800	361	6.	*	6	MAR	1140	861	0.	*	8	MAR	0520	1361	0.	*	9	MAR	2300	1861	0.
4	MAR	1805	362	5.	*	6	MAR	1145	862	0.	*	8	MAR	0525	1362	0.	*	9	MAR	2305	1862	0.
4	MAR	1810	363	5.	*	6	MAR	1150	863	0.	*	8	MAR	0530	1363	0.	*	9	MAR	2310	1863	0.
4	MAR	1815	364	5.	*	6	MAR	1155	864	0.	*	8	MAR	0535	1364	0.	*	9	MAR	2315	1864	0.
4	MAR	1820	365	5.	*	6	MAR	1200	865	0.	*	8	MAR	0540	1365	0.	*	9	MAR	2320	1865	0.
4	MAR	1825	366	5.	*	6	MAR	1205	866	0.	*	8	MAR	0545	1366	0.	*	9	MAR	2325	1866	0.
4	MAR	1830	367	5.	*	6	MAR	1210	867	0.	*	8	MAR	0550	1367	0.	*	9	MAR	2330	1867	0.
4	MAR	1835	368	5.	*	6	MAR	1215	868	0.	*	8	MAR	0555	1368	0.	*	9	MAR	2335	1868	0.
4	MAR	1840	369	5.	*	6	MAR	1220	869	0.	*	8	MAR	0600	1369	0.	*	9	MAR	2340	1869	0.
4	MAR	1845	370	5.	*	6	MAR	1225	870	0.	*	8	MAR	0605	1370	0.	*	9	MAR	2345	1870	0.
4	MAR	1850	371	5.	*	6	MAR	1230	871	0.	*	8	MAR	0610	1371	0.	*	9	MAR	2350	1871	0.
4	MAR	1855	372	5.	*	6	MAR	1235	872	0.	*	8	MAR	0615	1372	0.	*	9	MAR	2355	1872	0.
4	MAR	1900	373	5.	*	6	MAR	1240	873	0.	*	8	MAR	0620	1373	0.	*	10	MAR	0000	1873	0.
4	MAR	1905	374	5.	*	6	MAR	1245	874	0.	*	8	MAR	0625	1374	0.	*	10	MAR	0005	1874	0.
4	MAR	1910	375	4.	*	6	MAR	1250	875	0.	*	8	MAR	0630	1375	0.	*	10	MAR	0010	1875	0.
4	MAR	1915	376	4.	*	6	MAR	1255	876	0.	*	8	MAR	0635	1376	0.	*	10	MAR	0015	1876	0.
4	MAR	1920	377	4.	*	6	MAR	1300	877	0.	*	8	MAR	0640	1377	0.	*	10	MAR	0020	1877	0.
4	MAR	1925	378	4.	*	6	MAR	1305	878	0.	*	8	MAR	0645	1378	0.	*	10	MAR	0025	1878	0.
4	MAR	1930	379	4.	*	6	MAR	1310	879	0.	*	8	MAR	0650	1379	0.	*	10	MAR	0030	1879	0.
4	MAR	1935	380	4.	*	6	MAR	1315	880	0.	*	8	MAR	0655	1380	0.	*	10	MAR	0035	1880	0.
4	MAR	1940	381	4.	*	6	MAR	1320	881	0.	*	8	MAR	0700	1381	0.	*	10	MAR	0040	1881	0.
4	MAR	1945	382	4.	*	6	MAR	1325	882	0.	*	8	MAR	0705	1382	0.	*	10	MAR	0045	1882	0.
4	MAR	1950	383	4.	*	6	MAR	1330	883	0.	*	8	MAR	0710	1383	0.	*	10	MAR	0050	1883	0.
4	MAR	1955	384	4.	*	6	MAR	1335	884	0.	*	8	MAR	0715	1384	0.	*	10	MAR	0055	1884	0.
4	MAR	2000	385	4.	*	6	MAR	1340	885	0.	*	8	MAR	0720	1385	0.	*	10	MAR	0100	1885	0.
4	MAR	2005	386	4.	*	6	MAR	1345	886	0.	*	8	MAR	0725	1386	0.	*	10	MAR	0105	1886	0.
4	MAR	2010	387	4.	*	6	MAR	1350	887	0.	*	8	MAR	0730	1387	0.	*	10	MAR	0110	1887	0.
4	MAR	2015	388	4.	*	6	MAR	1355	888	0.	*	8	MAR	0735	1388	0.	*	10	MAR	0115	1888	0.
4	MAR	2020	389	4.	*	6	MAR	1400	889	0.	*	8	MAR	0740	1389	0.	*	10	MAR	0120	1889	0.
4	MAR	2025	390	4.	*	6	MAR	1405	890	0.	*	8	MAR	0745	1390	0.	*	10	MAR	0125	1890	0.
4	MAR	2030	391	4.	*	6	MAR	1410	891	0.	*	8	MAR	0750	1391	0.	*	10	MAR	0130	1891	0.
4	MAR	2035	392	3.	*	6	MAR	1415	892	0.	*	8	MAR	0755	1392	0.	*	10	MAR	0135	1892	0.
4	MAR	2040	393	3.	*	6	MAR	1420	893	0.	*	8	MAR	0800	1393	0.	*	10	MAR	0140	1893	0.
4	MAR	2045	394	3.	*	6	MAR	1425	894	0.	*	8	MAR	0805	1394	0.	*	10	MAR	0145	1894	0.
4	MAR	2050	395	3.	*	6	MAR	1430	895	0.	*	8	MAR	0810	1395	0.	*	10	MAR	0150	1895	0.
4	MAR	2055	396	3.	*	6	MAR	1435	896	0.	*	8	MAR	0815	1396	0.	*	10	MAR	0155	1896	0.
4	MAR	2100	397	3.	*	6	MAR	1440	897	0.	*	8	MAR	0820	1397	0.	*	10	MAR	0200	1897	0.
4	MAR	2105	398	3.	*	6	MAR	1445	898	0.	*	8	MAR	0825	1398	0.	*	10	MAR	0205	1898	0.
4	MAR	2110	399	3.	*	6	MAR	1450	899	0.	*	8	MAR	0830	1399	0.	*	10	MAR	0210	1899	0.
4	MAR	2115	400	3.	*	6	MAR	1455	900	0.	*	8	MAR	0835	1400	0.	*	10	MAR	0215	1900	0.
4	MAR	2120	401	3.	*	6	MAR	1500	901	0.	*	8	MAR	0840	1401	0.	*	10	MAR	0220	1901	0.
4	MAR	2125	402	3.	*	6	MAR	1505	902	0.	*	8	MAR	0845	1402	0.	*	10	MAR	0225	1902	0.
4	MAR	2130	403	3.	*	6	MAR	1510	903	0.	*	8	MAR	0850	1403	0.	*	10	MAR	0230	1903	0.
4	MAR	2135	404	3.	*	6	MAR	1515	904	0.	*	8	MAR	0855	1404	0.	*	10	MAR	0235	1904	0.
4	MAR	2140	405	3.	*	6	MAR	1520	905	0.	*	8	MAR	0900	1405	0.	*	10	MAR	0240	1905	0.
4	MAR	2145	406	3.	*	6	MAR	1525	906	0.	*	8	MAR	0905	1406	0.	*	10	MAR	0245	1906	0.
4	MAR	2150	407	3.	*	6	MAR	1530	907	0.	*	8	MAR	0910	1407	0.	*	10	MAR	0250	1907	0.
4	MAR	2155	408	3.	*	6	MAR	1535	908	0.	*	8	MAR	0915	1408	0.	*	10	MAR	0255	1908	0.
4	MAR	2200	409	3.	*	6	MAR	1540	909	0.	*	8	MAR	0920	1409	0.	*	10	MAR	0300	1909	0.
4	MAR	2205	410	3.	*	6	MAR	1545	910	0.	*	8	MAR	0925	1410	0.	*	10	MAR	0305	1910	0.
4	MAR	2210	411	3.	*	6	MAR	1550	911	0.	*	8	MAR	0930	1411	0.	*	10	MAR	0310	1911	0.
4	MAR	2215	412	3.	*	6	MAR	1555	912	0.	*	8	MAR	0935	1412	0.	*	10	MAR	0315	1912	0.
4	MAR	2220	413	2.	*	6	MAR	1600	913	0.	*	8	MAR	0940	1413	0.	*	10	MAR	0320	1913	0.
4	MAR	2225	414	2.	*	6	MAR	1605	914	0.	*	8	MAR	0945	1414	0.	*	10	MAR	0325	1914	0.
4	MAR	2230	415	2.	*	6	MAR	1610	915	0.	*	8	MAR	0950	1415	0.	*	10	MAR	0330	1915	0.
4	MAR	2235	416	2.	*	6	MAR	1615	916	0.	*	8	MAR	0955	1416	0.	*	10	MAR	0335	1916	0.
4	MAR	2240	417	2.	*	6	MAR	1620	917	0.	*	8	MAR	1000	1417	0.	*	10	MAR	0340	1917	0.
4	MAR	2245	418	2.	*	6	MAR	1625	918	0.	*	8	MAR	1005	1418	0.	*	10	MAR	0345	1918	0.
4	MAR	2250	419	2.	*	6	MAR	1630	919	0.	*	8	MAR	1010	1419	0.	*	10	MAR	0350	1919	0.
4	MAR	2255	420	2.	*	6	MAR	1635	920	0.	*	8	MAR	1015	1420	0.	*	10	MAR	0355	1920	0.
4	MAR	2300	421	2.	*	6	MAR	1640	921	0.	*	8	MAR	1020	1421	0.	*	10	MAR	0400	1921	0.
4	MAR	2305	422	2.	*	6	MAR	1645	922	0.	*	8	MAR	1025	1422	0.	*	10	MAR	0405	1922	0.
4	MAR	2310	423	2.	*	6	MAR	1650	923	0.	*	8	MAR	1030	1423	0.	*	10	MAR	0410	1923	0.
4	MAR	2315	424	2.	*	6	MAR	1655	924	0.	*	8	MAR	1035	1424	0.	*	10	MAR	0415	1924	0.
4	MAR	2320	425	2.	*	6	MAR	1700	925	0.	*	8	MAR	1040	1425	0.	*	10	MAR	0420	1925	0.
4	MAR	2325	426	2.	*	6	MAR	1705	926	0.	*	8	MAR	1045	1426	0.	*	10	MAR	0425	1926	0.
4	MAR	2330	427	2.	*	6	MAR	1710	927	0.	*	8	MAR	1050	1427	0.	*	10	MAR	0430	1927	0.
4	MAR	2335	428	2.	*	6	MAR	1715	928	0.	*	8	MAR	1055	1428	0.	*	10	MAR	0435	1928	0.
4	MAR	2340	429	2.	*	6	MAR	1720	929	0.	*	8	MAR	1100	1429	0.	*	10	MAR	0440	1929	0.
4	MAR	2345	430	2.	*	6	MAR	1725	930	0.	*	8	MAR	1105	1430	0.	*	10	MAR	0445	1930	0.

4 MAR 2350	431	2.	6 MAR 1730	931	0.	8 MAR 1110	1431	0.	10 MAR 0450	1931	0.
4 MAR 2355	432	2.	6 MAR 1735	932	0.	8 MAR 1115	1432	0.	10 MAR 0455	1932	0.
5 MAR 0000	433	2.	6 MAR 1740	933	0.	8 MAR 1120	1433	0.	10 MAR 0500	1933	0.
5 MAR 0005	434	2.	6 MAR 1745	934	0.	8 MAR 1125	1434	0.	10 MAR 0505	1934	0.
5 MAR 0010	435	2.	6 MAR 1750	935	0.	8 MAR 1130	1435	0.	10 MAR 0510	1935	0.
5 MAR 0015	436	2.	6 MAR 1755	936	0.	8 MAR 1135	1436	0.	10 MAR 0515	1936	0.
5 MAR 0020	437	2.	6 MAR 1800	937	0.	8 MAR 1140	1437	0.	10 MAR 0520	1937	0.
5 MAR 0025	438	2.	6 MAR 1805	938	0.	8 MAR 1145	1438	0.	10 MAR 0525	1938	0.
5 MAR 0030	439	2.	6 MAR 1810	939	0.	8 MAR 1150	1439	0.	10 MAR 0530	1939	0.
5 MAR 0035	440	2.	6 MAR 1815	940	0.	8 MAR 1155	1440	0.	10 MAR 0535	1940	0.
5 MAR 0040	441	2.	6 MAR 1820	941	0.	8 MAR 1200	1441	0.	10 MAR 0540	1941	0.
5 MAR 0045	442	2.	6 MAR 1825	942	0.	8 MAR 1205	1442	0.	10 MAR 0545	1942	0.
5 MAR 0050	443	2.	6 MAR 1830	943	0.	8 MAR 1210	1443	0.	10 MAR 0550	1943	0.
5 MAR 0055	444	2.	6 MAR 1835	944	0.	8 MAR 1215	1444	0.	10 MAR 0555	1944	0.
5 MAR 0100	445	1.	6 MAR 1840	945	0.	8 MAR 1220	1445	0.	10 MAR 0600	1945	0.
5 MAR 0105	446	1.	6 MAR 1845	946	0.	8 MAR 1225	1446	0.	10 MAR 0605	1946	0.
5 MAR 0110	447	1.	6 MAR 1850	947	0.	8 MAR 1230	1447	0.	10 MAR 0610	1947	0.
5 MAR 0115	448	1.	6 MAR 1855	948	0.	8 MAR 1235	1448	0.	10 MAR 0615	1948	0.
5 MAR 0120	449	1.	6 MAR 1900	949	0.	8 MAR 1240	1449	0.	10 MAR 0620	1949	0.
5 MAR 0125	450	1.	6 MAR 1905	950	0.	8 MAR 1245	1450	0.	10 MAR 0625	1950	0.
5 MAR 0130	451	1.	6 MAR 1910	951	0.	8 MAR 1250	1451	0.	10 MAR 0630	1951	0.
5 MAR 0135	452	1.	6 MAR 1915	952	0.	8 MAR 1255	1452	0.	10 MAR 0635	1952	0.
5 MAR 0140	453	1.	6 MAR 1920	953	0.	8 MAR 1300	1453	0.	10 MAR 0640	1953	0.
5 MAR 0145	454	1.	6 MAR 1925	954	0.	8 MAR 1305	1454	0.	10 MAR 0645	1954	0.
5 MAR 0150	455	1.	6 MAR 1930	955	0.	8 MAR 1310	1455	0.	10 MAR 0650	1955	0.
5 MAR 0155	456	1.	6 MAR 1935	956	0.	8 MAR 1315	1456	0.	10 MAR 0655	1956	0.
5 MAR 0200	457	1.	6 MAR 1940	957	0.	8 MAR 1320	1457	0.	10 MAR 0700	1957	0.
5 MAR 0205	458	1.	6 MAR 1945	958	0.	8 MAR 1325	1458	0.	10 MAR 0705	1958	0.
5 MAR 0210	459	1.	6 MAR 1950	959	0.	8 MAR 1330	1459	0.	10 MAR 0710	1959	0.
5 MAR 0215	460	1.	6 MAR 1955	960	0.	8 MAR 1335	1460	0.	10 MAR 0715	1960	0.
5 MAR 0220	461	1.	6 MAR 2000	961	0.	8 MAR 1340	1461	0.	10 MAR 0720	1961	0.
5 MAR 0225	462	1.	6 MAR 2005	962	0.	8 MAR 1345	1462	0.	10 MAR 0725	1962	0.
5 MAR 0230	463	1.	6 MAR 2010	963	0.	8 MAR 1350	1463	0.	10 MAR 0730	1963	0.
5 MAR 0235	464	1.	6 MAR 2015	964	0.	8 MAR 1355	1464	0.	10 MAR 0735	1964	0.
5 MAR 0240	465	1.	6 MAR 2020	965	0.	8 MAR 1400	1465	0.	10 MAR 0740	1965	0.
5 MAR 0245	466	1.	6 MAR 2025	966	0.	8 MAR 1405	1466	0.	10 MAR 0745	1966	0.
5 MAR 0250	467	1.	6 MAR 2030	967	0.	8 MAR 1410	1467	0.	10 MAR 0750	1967	0.
5 MAR 0255	468	1.	6 MAR 2035	968	0.	8 MAR 1415	1468	0.	10 MAR 0755	1968	0.
5 MAR 0300	469	1.	6 MAR 2040	969	0.	8 MAR 1420	1469	0.	10 MAR 0800	1969	0.
5 MAR 0305	470	1.	6 MAR 2045	970	0.	8 MAR 1425	1470	0.	10 MAR 0805	1970	0.
5 MAR 0310	471	1.	6 MAR 2050	971	0.	8 MAR 1430	1471	0.	10 MAR 0810	1971	0.
5 MAR 0315	472	1.	6 MAR 2055	972	0.	8 MAR 1435	1472	0.	10 MAR 0815	1972	0.
5 MAR 0320	473	1.	6 MAR 2100	973	0.	8 MAR 1440	1473	0.	10 MAR 0820	1973	0.
5 MAR 0325	474	1.	6 MAR 2105	974	0.	8 MAR 1445	1474	0.	10 MAR 0825	1974	0.
5 MAR 0330	475	1.	6 MAR 2110	975	0.	8 MAR 1450	1475	0.	10 MAR 0830	1975	0.
5 MAR 0335	476	1.	6 MAR 2115	976	0.	8 MAR 1455	1476	0.	10 MAR 0835	1976	0.
5 MAR 0340	477	1.	6 MAR 2120	977	0.	8 MAR 1500	1477	0.	10 MAR 0840	1977	0.
5 MAR 0345	478	1.	6 MAR 2125	978	0.	8 MAR 1505	1478	0.	10 MAR 0845	1978	0.
5 MAR 0350	479	1.	6 MAR 2130	979	0.	8 MAR 1510	1479	0.	10 MAR 0850	1979	0.
5 MAR 0355	480	1.	6 MAR 2135	980	0.	8 MAR 1515	1480	0.	10 MAR 0855	1980	0.
5 MAR 0400	481	1.	6 MAR 2140	981	0.	8 MAR 1520	1481	0.	10 MAR 0900	1981	0.
5 MAR 0405	482	1.	6 MAR 2145	982	0.	8 MAR 1525	1482	0.	10 MAR 0905	1982	0.
5 MAR 0410	483	1.	6 MAR 2150	983	0.	8 MAR 1530	1483	0.	10 MAR 0910	1983	0.
5 MAR 0415	484	1.	6 MAR 2155	984	0.	8 MAR 1535	1484	0.	10 MAR 0915	1984	0.
5 MAR 0420	485	1.	6 MAR 2200	985	0.	8 MAR 1540	1485	0.	10 MAR 0920	1985	0.
5 MAR 0425	486	1.	6 MAR 2205	986	0.	8 MAR 1545	1486	0.	10 MAR 0925	1986	0.
5 MAR 0430	487	1.	6 MAR 2210	987	0.	8 MAR 1550	1487	0.	10 MAR 0930	1987	0.
5 MAR 0435	488	1.	6 MAR 2215	988	0.	8 MAR 1555	1488	0.	10 MAR 0935	1988	0.
5 MAR 0440	489	1.	6 MAR 2220	989	0.	8 MAR 1600	1489	0.	10 MAR 0940	1989	0.
5 MAR 0445	490	1.	6 MAR 2225	990	0.	8 MAR 1605	1490	0.	10 MAR 0945	1990	0.
5 MAR 0450	491	1.	6 MAR 2230	991	0.	8 MAR 1610	1491	0.	10 MAR 0950	1991	0.
5 MAR 0455	492	1.	6 MAR 2235	992	0.	8 MAR 1615	1492	0.	10 MAR 0955	1992	0.
5 MAR 0500	493	1.	6 MAR 2240	993	0.	8 MAR 1620	1493	0.	10 MAR 1000	1993	0.
5 MAR 0505	494	1.	6 MAR 2245	994	0.	8 MAR 1625	1494	0.	10 MAR 1005	1994	0.
5 MAR 0510	495	1.	6 MAR 2250	995	0.	8 MAR 1630	1495	0.	10 MAR 1010	1995	0.
5 MAR 0515	496	1.	6 MAR 2255	996	0.	8 MAR 1635	1496	0.	10 MAR 1015	1996	0.
5 MAR 0520	497	1.	6 MAR 2300	997	0.	8 MAR 1640	1497	0.	10 MAR 1020	1997	0.
5 MAR 0525	498	1.	6 MAR 2305	998	0.	8 MAR 1645	1498	0.	10 MAR 1025	1998	0.
5 MAR 0530	499	1.	6 MAR 2310	999	0.	8 MAR 1650	1499	0.	10 MAR 1030	1999	0.
5 MAR 0535	500	1.	6 MAR 2315	1000	0.	8 MAR 1655	1500	0.	10 MAR 1035	2000	0.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1008.	5.92		360.	122.	41.	18.
		(INCHES)	2.745	3.705	3.771	3.771
		(AC-FT)	179.	241.	245.	245.

CUMULATIVE AREA = 1.22 SQ MI

```
              **************
              *            *
238 KK        *   509503   *     ROUTE   REACH
              *            *
              **************
                    ROUTE RUNOFF FROM CP509 TO GUADALUPE AND COOPER

              HYDROGRAPH ROUTING DATA

240 RS          STORAGE ROUTING
```

```
                    NSTPS          9  NUMBER OF SUBREACHES
                     ITYP       STOR  TYPE OF INITIAL CONDITION
                   RSVRIC        .00  INITIAL CONDITION
                        X        .00 WORKING R AND D COEFFICIENT

 241 RC          NORMAL DEPTH CHANNEL
                      ANL       .050  LEFT OVERBANK N-VALUE
                     ANCH       .035  MAIN CHANNEL N-VALUE
                      ANR       .050  RIGHT OVERBANK N-VALUE
                    RLNTH      9300.  REACH LENGTH
                      SEL      .0015  ENERGY SLOPE
                    ELMAX       20.7  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                      CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 243 RY        ELEVATION     20.70     17.70     18.50     17.30     17.40     18.90     17.70     20.80
 242 RX        DISTANCE        .00     28.00    270.00    319.00    553.00    740.00    817.00    954.00

                                                                  ***

                                      COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00      6.66     16.83     28.96     45.01     65.08     89.14    117.11    147.32    179.18
            OUTFLOW        .00     12.82     55.70    123.37    219.40    348.19    513.69    724.22    988.06   1295.99
          ELEVATION      17.30     17.48     17.66     17.84     18.02     18.19     18.37     18.55     18.73     18.91

            STORAGE     211.99    245.15    278.69    312.59    346.85    381.49    416.48    451.85    487.58    523.67
            OUTFLOW    1679.86   2104.88   2569.53   3072.58   3613.04   4190.04   4802.87   5450.91   6133.62   6850.52
          ELEVATION      19.09     19.27     19.45     19.63     19.81     19.98     20.16     20.34     20.52     20.70

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   509503

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     759.      7.50                345.         120.          41.          18.
                         (INCHES)  2.630        3.650        3.771        3.771
                          (AC-FT)   171.         237.         245.         245.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)      (HR)
      13.       7.50                  7.           3.           1.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+   (FEET)      (HR)
    18.58       7.50                18.13       17.73        17.46        17.37

                         CUMULATIVE AREA =    1.22 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 244 KK     *       500  *
            *            *
            **************
                        RUNOFF CALCULATION FOR SUB-BASIN 500

            SUBBASIN RUNOFF DATA

 246 BA          SUBBASIN CHARACTERISTICS
                      TAREA       1.10  SUBBASIN AREA

                 PRECIPITATION DATA

  55 PB               STORM       2.87  BASIN TOTAL PRECIPITATION

  56 PI            INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                      .03       .03       .06       .06       .06       .07       .07       .07       .05       .05
                      .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00

 247 LG          GREEN AND AMPT LOSS RATE
                      STRTL        .28  STARTING LOSS
                        DTH        .19  MOISTURE DEFICIT
                       PSIF       6.80  WETTING FRONT SUCTION
                      XKSAT        .17  HYDRAULIC CONDUCTIVITY
                      RTIMP      26.00  PERCENT IMPERVIOUS AREA

 248 UC          CLARK UNITGRAPH
                         TC       1.28  TIME OF CONCENTRATION
                          R       1.06  STORAGE COEFFICIENT

 249 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
```

```
                .0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
            100.0

                                                  ***

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=  1.28 HR,       R=  1.06 HR
                                 SNYDER   TP=   .74 HR,      CP=   .42

                                        UNIT HYDROGRAPH
                                 75 END-OF-PERIOD ORDINATES
            10.      36.      73.     119.     186.     292.     375.     400.     406.     403.
           397.     387.     373.     358.     344.     326.     304.     281.     260.     240.
           222.     205.     190.     176.     162.     150.     139.     128.     119.     110.
           101.      94.      87.      80.      74.      69.      63.      59.      54.      50.
            46.      43.      40.      37.      34.      31.      29.      27.      25.      23.
            21.      20.      18.      17.      15.      14.      13.      12.      11.      10.
            10.       9.       8.       8.       7.       7.       6.       6.       5.       5.
             4.       4.       4.       3.       3.

   ***          ***          ***          ***          ***

                HYDROGRAPH AT STATION      500

   TOTAL RAINFALL =    2.87, TOTAL LOSS =    1.14, TOTAL EXCESS =    1.73

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     561.      4.75                196.         51.         17.           7.
                        (INCHES)    1.658       1.723       1.723        1.723
                         (AC-FT)     97.        101.        101.         101.

                        CUMULATIVE AREA =    1.10 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 251 KK     *    500OUT  *
            *            *
            **************
                        RETENTION DIVERSION
                        DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                        DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 29.06 AC-FT
                        DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                        TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 509 = 29.06

     DT          DIVERSION
                      ISTAD      500RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       29.06  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00    100.00

     DQ      DIVERTED FLOW         .00    100.00

                                                  ***

   ***          ***          ***          ***          ***

                DIVERSION HYDROGRAPH   500RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     534.      4.58                 59.         15.          5.           2.
                        (INCHES)     .495        .495        .495         .495
                         (AC-FT)     29.         29.         29.          29.

                        CUMULATIVE AREA =    1.10 SQ MI

   ***          ***          ***          ***          ***

                HYDROGRAPH AT STATION   500OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     561.      4.75                145.         36.         12.           5.
                        (INCHES)    1.227       1.228       1.228        1.228
                         (AC-FT)     72.         72.         72.          72.

                        CUMULATIVE AREA =    1.10 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
```

```
            *            *
 260 KK     *    500503  *     ROUTE   REACH
            *            *
            **************
                         ROUTE RUNOFF FROM 500 TO RR and McQueen

               HYDROGRAPH ROUTING DATA

 262 RS          STORAGE ROUTING
                      NSTPS           6  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 263 RC          NORMAL DEPTH CHANNEL
                        ANL        .035  LEFT OVERBANK N-VALUE
                       ANCH        .015  MAIN CHANNEL N-VALUE
                        ANR        .035  RIGHT OVERBANK N-VALUE
                      RLNTH       5500.  REACH LENGTH
                        SEL       .0020  ENERGY SLOPE
                      ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                      CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 265 RY        ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
 264 RX        DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                                  ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

           STORAGE        .00      1.05      2.11      3.16      4.22      5.28      6.35      7.42      8.49      9.56
           OUTFLOW        .00      8.23     26.13     51.35     82.92    120.24    162.89    210.56    262.98    319.94
         ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

           STORAGE      11.22     13.47     15.73     17.98     20.24     22.50     24.76     27.03     29.29     31.57
           OUTFLOW     382.95    455.96    537.06    625.47    720.73    822.52    930.55   1044.63   1164.55   1290.17
         ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00


 *** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN     211. TO     1290.
                 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   500503

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     524.      5.33                144.         36.         12.          5.
                        (INCHES)    1.217      1.228       1.228        1.228
                        (AC-FT)      71.         72.         72.         72.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       3.       5.33                  1.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     1.25       5.33                 .50         .13         .04         .02

                        CUMULATIVE AREA =    1.10 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 266 KK     *       503  *        BASIN
            *            *
            **************
                         RUNOFF CALCULATION FOR SUB-BASIN 503

               SUBBASIN RUNOFF DATA

 268 BA          SUBBASIN CHARACTERISTICS
                      TAREA        1.43  SUBBASIN AREA

                 PRECIPITATION DATA

  55 PB                STORM        2.87  BASIN TOTAL PRECIPITATION

  56 PI            INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                      .03       .03       .06       .06       .06       .07       .07       .07       .05       .05
                      .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00
```

```
269 LG          GREEN AND AMPT LOSS RATE
                      STRTL        .18  STARTING LOSS
                        DTH        .21  MOISTURE DEFICIT
                       PSIF       6.60  WETTING FRONT SUCTION
                      XKSAT        .18  HYDRAULIC CONDUCTIVITY
                      RTIMP      45.00  PERCENT IMPERVIOUS AREA

270 UC          CLARK UNITGRAPH
                         TC        .95  TIME OF CONCENTRATION
                          R        .32  STORAGE COEFFICIENT

271 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
                   100.0

                                                                  ***

                                                        UNIT HYDROGRAPH PARAMETERS
                                                 CLARK   TC=   .95 HR,       R=   .32 HR
                                                SNYDER   TP=   .47 HR,      CP=   .65

                                                          UNIT HYDROGRAPH
                                                 26 END-OF-PERIOD ORDINATES
                 56.     213.     425.     770.    1162.    1284.    1182.    1053.     922.     790.
                677.     567.     449.     346.     267.     206.     158.     122.      94.      73.
                 56.      43.      33.      26.      20.      15.

      ***            ***            ***            ***            ***

                          HYDROGRAPH AT STATION      503

    TOTAL RAINFALL =    2.87, TOTAL LOSS =     .85, TOTAL EXCESS =    2.02

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1377.      4.42                306.         77.         26.          11.
                        (INCHES)    1.995       2.012       2.012        2.012
                         (AC-FT)    152.        153.        153.         153.

                         CUMULATIVE AREA =    1.43 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
273 KK      *    503OUT  *
            *            *
            **************
                         RETENTION DIVERSION
                         DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                         DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.00 AC-FT
                         DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                         TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 503 = 0.00

     DT          DIVERSION
                      ISTAD      503RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX         .00  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00    100.00

     DQ      DIVERTED FLOW         .00    100.00

                                                                  ***

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH   503RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .08                  0.          0.          0.           0.
                        (INCHES)     .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                         CUMULATIVE AREA =    1.43 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   503OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1377.      4.42                306.         77.         26.          11.
                        (INCHES)    1.995       2.012       2.012        2.012
                         (AC-FT)    152.        153.        153.         153.

                         CUMULATIVE AREA =    1.43 SQ MI
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
  282 KK      *     CP503  *
              *            *
              **************
                             COMBINE RUNOFF FROM 503 AND THE EAST

  284 HC          HYDROGRAPH COMBINATION
                        ICOMP           4  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

       ***             ***             ***             ***             ***

                           HYDROGRAPH AT STATION    CP503

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1377.      4.42                930.        289.         99.          43.
                        (INCHES)    1.442       1.793       1.842        1.843
                         (AC-FT)     461.        574.        589.         590.

                        CUMULATIVE AREA =    6.00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
  285 KK      *      P503  *
              *            *
              **************
                             STORAGE ROUTING AT CP503

  287 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

  288 RS          STORAGE ROUTING
                        NSTPS           1  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  289 SV            STORAGE       267.8     299.3     358.9     411.0     482.9     518.6     702.6     847.5

  290 SE          ELEVATION     1210.00   1211.00   1212.00   1212.50   1213.00   1213.20   1214.00   1214.50

  291 SQ          DISCHARGE          0.        0.        0.        0.        0.        0.        0.        0.

                                                                  ***

       ***             ***             ***             ***             ***

                           HYDROGRAPH AT STATION     P503

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.           0.
                        (INCHES)     .000        .000        .000         .000
                         (AC-FT)       0.          0.          0.           0.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      590.    165.83                 590.        590.        590.         560.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1213.51    140.25              1213.51     1213.50     1213.51      1213.32

                        CUMULATIVE AREA =    6.00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
```

```
292 KK      *       510  *        BASIN
            *            *
            **************
                         RUNOFF CALCULATION FOR SUB-BASIN 510
                         AERIAL REDUCTION FACTOR 0.960 FOR 4.98 SQM (SOUTH OF THE RR AND
                         EAST OF THE RR SPUR LINE) IS USED TO GENERATE THE FOLLOWING PB VALUE

 34 IN          TIME DATA FOR INPUT TIME SERIES
                      JXMIN          15  TIME INTERVAL IN MINUTES
                     JXDATE      3MAR 3  STARTING DATE
                     JXTIME        1200  STARTING TIME

              SUBBASIN RUNOFF DATA

296 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .13  SUBBASIN AREA

                PRECIPITATION DATA

297 PB                STORM        2.88  BASIN TOTAL PRECIPITATION

298 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .00       .01       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .06       .06       .06       .08       .08       .08       .05       .05
                     .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

301 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .15  STARTING LOSS
                       DTH         .16  MOISTURE DEFICIT
                      PSIF        9.70  WETTING FRONT SUCTION
                     XKSAT         .06  HYDRAULIC CONDUCTIVITY
                     RTIMP       50.00  PERCENT IMPERVIOUS AREA

302 UC          CLARK UNITGRAPH
                        TC         .55  TIME OF CONCENTRATION
                         R         .40  STORAGE COEFFICIENT

303 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                        ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .55 HR,       R=   .40 HR
                                         SNYDER   TP=   .32 HR,      CP=   .48

                                                   UNIT HYDROGRAPH
                                              29 END-OF-PERIOD ORDINATES
                 10.       37.       88.      121.      118.      108.       95.       80.       65.       53.
                 43.       35.       29.       23.       19.       15.       12.       10.        8.        7.
                  5.        4.        4.        3.        2.        2.        2.        1.        1.

     ***            ***            ***            ***            ***

                         HYDROGRAPH AT STATION      510

   TOTAL RAINFALL =    2.88, TOTAL LOSS =     .52, TOTAL EXCESS =    2.36

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                             (CFS)
+     142.      4.25                33.          8.          3.          1.
                          (INCHES)  2.325       2.346       2.346       2.346
                           (AC-FT)    16.         16.         16.         16.

                          CUMULATIVE AREA =     .13 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
305 KK      *    510511  *     ROUTE   REACH
            *            *
            **************
                         ROUTE RUNOFF FROM 510 TO GUADALUPE&MCQUEEN

              HYDROGRAPH ROUTING DATA

307 RS          STORAGE ROUTING
                     NSTPS           8  NUMBER OF SUBREACHES
                      ITYP        STOR  TYPE OF INITIAL CONDITION
                    RSVRIC         .00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

308 RC          NORMAL DEPTH CHANNEL
                       ANL        .035  LEFT OVERBANK N-VALUE
                      ANCH        .015  MAIN CHANNEL N-VALUE
                       ANR        .035  RIGHT OVERBANK N-VALUE
```

```
                    RLNTH       7920.  REACH LENGTH
                      SEL      .0015  ENERGY SLOPE
                    ELMAX        2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                  CROSS-SECTION DATA
                        --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
310 RY      ELEVATION     2.00     1.00     1.00      .00      .00     1.00     1.00     2.00
309 RX      DISTANCE       .00     1.00    45.00    46.00   125.00   126.00   170.00   171.00

                                                  ***

                                  COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00     1.51     3.03     4.55     6.08     7.61     9.14    10.68    12.22    13.77
          OUTFLOW        .00     7.13    22.63    44.47    71.81   104.13   141.07   182.35   227.75   277.08
        ELEVATION        .00      .11      .21      .32      .42      .53      .63      .74      .84      .95

          STORAGE      16.16    19.40    22.64    25.89    29.14    32.40    35.65    38.92    42.18    45.45
          OUTFLOW     331.65   394.87   465.10   541.67   624.17   712.32   805.88   904.67  1008.53  1117.32
        ELEVATION       1.05     1.16     1.26     1.37     1.47     1.58     1.68     1.79     1.89     2.00

    ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   510511

 PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)      (HR)
                         (CFS)
+    130.      4.83                32.          8.          3.          1.
                       (INCHES)   2.289       2.346       2.346       2.346
                        (AC-FT)     16.         16.         16.         16.

 PEAK STORAGE  TIME                      MAXIMUM AVERAGE STORAGE
                                  6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)     (HR)
       1.      4.83                 0.          0.          0.          0.

 PEAK STAGE    TIME                      MAXIMUM AVERAGE STAGE
                                  6-HR       24-HR       72-HR    166.58-HR
+   (FEET)     (HR)
      .60      4.83                .21         .06         .02         .01

                       CUMULATIVE AREA =     .13 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
311 KK    *      511   *        BASIN
          *            *
          **************
                    RUNOFF CALCULATION FOR SUB-BASIN 516

            SUBBASIN RUNOFF DATA

313 BA        SUBBASIN CHARACTERISTICS
                  TAREA         .47  SUBBASIN AREA

              PRECIPITATION DATA

297 PB            STORM        2.88  BASIN TOTAL PRECIPITATION

298 PI          INCREMENTAL PRECIPITATION PATTERN
                  .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                  .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                  .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                  .01       .00       .01       .01       .01       .01       .01       .01       .01       .03
                  .03       .03       .06       .06       .06       .08       .08       .08       .05       .05
                  .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                  .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                  .00       .00

314 LG        GREEN AND AMPT LOSS RATE
                  STRTL         .22  STARTING LOSS
                    DTH         .17  MOISTURE DEFICIT
                   PSIF        8.80  WETTING FRONT SUCTION
                  XKSAT         .07  HYDRAULIC CONDUCTIVITY
                  RTIMP       21.00  PERCENT IMPERVIOUS AREA

315 UC        CLARK UNITGRAPH
                     TC        1.06  TIME OF CONCENTRATION
                      R         .84  STORAGE COEFFICIENT

316 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                  100.0

                                                  ***

                                     UNIT HYDROGRAPH PARAMETERS
                              CLARK   TC=  1.06 HR,       R=   .84 HR
                             SNYDER   TP=   .59 HR,      CP=   .42
```

```
                                        UNIT HYDROGRAPH
                                   59 END-OF-PERIOD ORDINATES
      7.      26.      53.      89.     153.     205.     216.     217.     213.     206.
    196.     186.     175.     162.     146.     132.     120.     108.      98.      89.
     80.      73.      66.      60.      54.      49.      44.      40.      36.      33.
     30.      27.      24.      22.      20.      18.      16.      15.      13.      12.
     11.      10.       9.       8.       7.       7.       6.       5.       5.       4.
      4.       4.       3.       3.       3.       2.       2.       2.       2.

  ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION      511

  TOTAL RAINFALL =    2.88, TOTAL LOSS =     .90, TOTAL EXCESS =    1.98

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)      (HR)
                            (CFS)
+    325.      4.67                 98.         25.          8.           4.
                         (INCHES)  1.934       1.972       1.972        1.972
                          (AC-FT)    49.         50.         50.          50.

                    CUMULATIVE AREA =     .47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
 318 KK   *    511OUT  *
          *            *
          **************
                    RETENTION DIVERSION
                    DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                    DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 25.83 AC-FT
                    DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                    TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 511 = 25.83 AC-FT

    DT          DIVERSION
                     ISTAD      511RET  DIVERSION HYDROGRAPH IDENTIFICATION
                    DSTRMX       25.83  MAXIMUM VOLUME TO BE DIVERTED

    DI            INFLOW          .00    100.00

    DQ      DIVERTED FLOW         .00    100.00
                                                          ***

  ***          ***          ***          ***          ***

                    DIVERSION HYDROGRAPH   511RET

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)      (HR)
                            (CFS)
+    325.      4.67                 52.         13.          4.           2.
                         (INCHES)  1.028       1.028       1.028        1.028
                          (AC-FT)    26.         26.         26.          26.

                    CUMULATIVE AREA =     .47 SQ MI

  ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   511OUT

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)      (HR)
                            (CFS)
+    284.      5.00                 48.         12.          4.           2.
                         (INCHES)   .943        .943        .943         .943
                          (AC-FT)    24.         24.         24.          24.

                    CUMULATIVE AREA =     .47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
 327 KK   *     CP511  *
          *            *
          **************
                    COMBINE RUNOFF FROM SUB-BASIN 509, THE NORTH AND THE EAST

 329 HC          HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                          ***
```

```
     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    CP511

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     407.      5.00                80.         20.          7.           3.
                        (INCHES)   1.234       1.247       1.247        1.247
                         (AC-FT)     40.         40.         40.          40.

                       CUMULATIVE AREA =     .60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  330 KK    *    511512  *     ROUTE   REACH
            *            *
            **************
                         ROUTE RUNOFF FROM 511 TO EL DORADO LAKES

              HYDROGRAPH ROUTING DATA

  332 RS        STORAGE ROUTING
                     NSTPS           4  NUMBER OF SUBREACHES
                      ITYP        STOR  TYPE OF INITIAL CONDITION
                    RSVRIC         .00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

  333 RC        NORMAL DEPTH CHANNEL
                       ANL        .035  LEFT OVERBANK N-VALUE
                      ANCH        .015  MAIN CHANNEL N-VALUE
                       ANR        .035  RIGHT OVERBANK N-VALUE
                     RLNTH       4000.  REACH LENGTH
                       SEL       .0009  ENERGY SLOPE
                     ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  335 RY        ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
  334 RX        DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                    ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .76      1.53      2.30      3.07      3.84      4.62      5.40      6.17      6.95
          OUTFLOW        .00      5.52     17.53     34.45     55.62     80.66    109.27    141.25    176.41    214.62
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE       8.16      9.80     11.44     13.08     14.72     16.36     18.01     19.66     21.30     22.96
          OUTFLOW     256.89    305.87    360.27    419.58    483.48    551.76    624.23    700.76    781.21    865.47
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   511512

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     318.      5.50                79.         20.          7.           3.
                        (INCHES)   1.228       1.247       1.247        1.247
                         (AC-FT)     39.         40.         40.          40.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       3.       5.50                 1.          0.          0.           0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     1.18       5.50                .44         .12         .04          .02

                       CUMULATIVE AREA =     .60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  336 KK    *       521  *        BASIN
            *            *
            **************
                         RUNOFF CALCULATION FOR SUB-BASIN 521

              SUBBASIN RUNOFF DATA
```

```
338 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .35  SUBBASIN AREA

                PRECIPITATION DATA

297 PB               STORM         2.88  BASIN TOTAL PRECIPITATION

298 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .00       .01       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .06       .06       .06       .08       .08       .08       .05       .05
                     .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

339 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .23  STARTING LOSS
                       DTH         .15  MOISTURE DEFICIT
                      PSIF        9.70  WETTING FRONT SUCTION
                     XKSAT         .06  HYDRAULIC CONDUCTIVITY
                     RTIMP       32.00  PERCENT IMPERVIOUS AREA

340 UC          CLARK UNITGRAPH
                        TC         .96  TIME OF CONCENTRATION
                         R         .65  STORAGE COEFFICIENT

341 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                         ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=   .96 HR,       R=   .65 HR
                                        SNYDER   TP=   .51 HR,      CP=   .45

                                                    UNIT HYDROGRAPH
                                              46 END-OF-PERIOD ORDINATES
                 7.       28.       57.      105.      165.      196.      197.      192.      183.      171.
               159.      146.      130.      115.      101.       88.       78.       68.       60.       53.
                46.       41.       36.       31.       28.       24.       21.       19.       16.       14.
                13.       11.       10.        9.        8.        7.        6.        5.        5.        4.
                 4.        3.        3.        2.        2.        2.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      521

    TOTAL RAINFALL =    2.88, TOTAL LOSS =     .73, TOTAL EXCESS =    2.15

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     285.      4.58                  78.         20.          7.           3.
                        (INCHES)    2.104       2.136       2.136        2.136
                         (AC-FT)     39.         39.         39.          39.

                        CUMULATIVE AREA =     .35 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 343 KK     *    521OUT  *
            *            *
            **************
                         RETENTION DIVERSION
                         DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                         DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.00 AC-FT
                         DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                         TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 521 = 0.00 AC-FT

     DT          DIVERSION
                    ISTAD      521RET  DIVERSION HYDROGRAPH IDENTIFICATION
                   DSTRMX         .00  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00    100.00

     DQ      DIVERTED FLOW        .00    100.00

                                                         ***

     ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   521RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .17                   0.          0.          0.           0.
```

```
                    (INCHES)      .000        .000        .000        .000
                     (AC-FT)        0.          0.          0.          0.

                    CUMULATIVE AREA =     .35 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   521OUT

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     285.      4.58                  78.         20.          7.          3.
                    (INCHES)     2.104       2.136       2.136       2.136
                     (AC-FT)       39.         39.         39.         39.

                    CUMULATIVE AREA =     .35 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  352 KK    *    521517  *     ROUTE   REACH
            *            *
            **************
                         ROUTE RUNOFF FROM 521 TO ELLIOT AND COOPER

               HYDROGRAPH ROUTING DATA

  354 RS          STORAGE ROUTING
                       NSTPS           6  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

  355 RC          NORMAL DEPTH CHANNEL
                         ANL        .035  LEFT OVERBANK N-VALUE
                        ANCH        .015  MAIN CHANNEL N-VALUE
                         ANR        .035  RIGHT OVERBANK N-VALUE
                       RLNTH       5280.  REACH LENGTH
                         SEL      .0025  ENERGY SLOPE
                       ELMAX        2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  357 RY        ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
  356 RX        DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

           STORAGE        .00      1.01      2.02      3.04      4.05      5.07      6.10      7.12      8.15      9.18
           OUTFLOW        .00      9.21     29.22     57.41     92.70    134.43    182.12    235.41    294.02    357.71
         ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

           STORAGE      10.78     12.93     15.10     17.26     19.43     21.60     23.77     25.94     28.12     30.30
           OUTFLOW     428.15    509.78    600.45    699.30    805.80    919.60   1040.39   1167.93   1302.01   1442.45
         ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00


*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      182. TO     1442.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   521517

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     282.      4.75                  78.         20.          7.          3.
                    (INCHES)     2.097       2.136       2.136       2.136
                     (AC-FT)       39.         39.         39.         39.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.       4.75                   1.          0.          0.          0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .82       4.75                 .32         .08         .03         .01

                    CUMULATIVE AREA =     .35 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
              **************
              *            *
358 KK        *       517  *        BASIN
              *            *
              **************
                        RUNOFF CALCULATION FOR SUB-BASIN 517

                 SUBBASIN RUNOFF DATA

360 BA             SUBBASIN CHARACTERISTICS
                        TAREA         .36  SUBBASIN AREA

                   PRECIPITATION DATA

297 PB                  STORM        2.88  BASIN TOTAL PRECIPITATION

298 PI               INCREMENTAL PRECIPITATION PATTERN
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .01       .00       .01       .01       .01       .01       .01       .01       .01       .03
                        .03       .03       .06       .06       .06       .08       .08       .08       .05       .05
                        .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00

361 LG             GREEN AND AMPT LOSS RATE
                        STRTL         .20  STARTING LOSS
                          DTH         .16  MOISTURE DEFICIT
                         PSIF        8.00  WETTING FRONT SUCTION
                        XKSAT         .10  HYDRAULIC CONDUCTIVITY
                        RTIMP       41.00  PERCENT IMPERVIOUS AREA

362 UC             CLARK UNITGRAPH
                           TC         .82  TIME OF CONCENTRATION
                            R         .62  STORAGE COEFFICIENT

363 UA             ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                          .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                       100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=   .82 HR,       R=   .62 HR
                                           SNYDER   TP=   .46 HR,      CP=   .44

                                                       UNIT HYDROGRAPH
                                                 44 END-OF-PERIOD ORDINATES
                      9.       36.       78.      153.      214.      220.      214.      204.      191.      177.
                    159.      139.      121.      106.       93.       81.       71.       62.       54.       47.
                     41.       36.       32.       28.       24.       21.       18.       16.       14.       12.
                     11.        9.        8.        7.        6.        5.        5.        4.        4.        3.
                      3.        2.        2.        2.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      517

    TOTAL RAINFALL =     2.88, TOTAL LOSS =     .72, TOTAL EXCESS =    2.16

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     302.      4.50                 81.         21.          7.          3.
                         (INCHES)  2.113      2.148       2.148       2.148
                          (AC-FT)    40.         41.         41.         41.

                        CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
365 KK        *    517OUT  *
              *            *
              **************
                        RETENTION VOLUME FOR SUB-BASIN 517
                        RETENTION DIVERSION
                        DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                        DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 2.43 AC-FT
                        DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.98 AC-FT
                        TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 517 = 3.41 AC-FT

     DT            DIVERSION
                       ISTAD      517RET  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX        3.41  MAXIMUM VOLUME TO BE DIVERTED

     DI              INFLOW         .00    100.00

     DQ        DIVERTED FLOW        .00    100.00
```

```
                                                                                ***
      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   517RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     55.       3.67                 7.          2.          1.          0.
                        (INCHES)    .180        .180        .180        .180
                         (AC-FT)     3.          3.          3.          3.

                        CUMULATIVE AREA =     .36 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   517OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    302.       4.50                75.         19.          6.          3.
                        (INCHES)   1.969       1.969       1.969       1.969
                         (AC-FT)    37.         37.         37.         37.

                        CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 375 KK     *     CP517  *
            *            *
            **************
                          COMBINE RUNOFF AT CP517

 377 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                                ***
      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    CP517

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    562.       4.58                153.         39.         13.          6.
                        (INCHES)   2.032       2.051       2.051       2.051
                         (AC-FT)    76.         77.         77.         77.

                        CUMULATIVE AREA =     .70 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 378 KK     *    CON314  *
            *            *
            **************
                          RETRIEVE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&WARNER
 -----DSS--- ZREAD Unit  71; Vers.   26:  /CONS/314_6/FLOW/03MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   26:  /CONS/314_6/FLOW/03MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   26:  /CONS/314_6/FLOW/04MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   26:  /CONS/314_6/FLOW/05MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   26:  /CONS/314_6/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   26:  /CONS/314_6/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   26:  /CONS/314_6/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   26:  /CONS/314_6/FLOW/07MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   26:  /CONS/314_6/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   26:  /CONS/314_6/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   26:  /CONS/314_6/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   26:  /CONS/314_6/FLOW/09MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   26:  /CONS/314_6/FLOW/10MAR1903/5MIN//
 -----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
 Pathname: /CONS/314_6/FLOW/11MAR1903/5MIN//

              SUBBASIN RUNOFF DATA

 380 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .00  SUBBASIN AREA
                                                                                ***
      ***             ***             ***             ***             ***
```

```
                    HYDROGRAPH AT STATION   CON314

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     162.      7.67                 78.         25.          9.           4.
                        (INCHES)   725.844     916.308    1040.151     1086.048
                         (AC-FT)      39.         49.         55.          58.

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  382 KK    *   CON524   *     ROUTE   REACH
            *            *
            **************
                     ROUTE RUNOFF FROM THE CONSOLIDATED CANAL TO COOPER

               HYDROGRAPH ROUTING DATA

  384 RS          STORAGE ROUTING
                       NSTPS           6  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00  WORKING R AND D COEFFICIENT

  385 RC          NORMAL DEPTH CHANNEL
                         ANL        .035  LEFT OVERBANK N-VALUE
                        ANCH        .015  MAIN CHANNEL N-VALUE
                         ANR        .035  RIGHT OVERBANK N-VALUE
                       RLNTH       5300.  REACH LENGTH
                         SEL       .0022  ENERGY SLOPE
                       ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  387 RY        ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
  386 RX        DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                                  ***

                                        COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00      1.01      2.03      3.05      4.07      5.09      6.12      7.15      8.18      9.22
            OUTFLOW        .00      8.64     27.41     53.86     86.96    126.11    170.85    220.84    275.82    335.56
          ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

            STORAGE      10.82     12.98     15.15     17.33     19.50     21.68     23.86     26.04     28.23     30.42
            OUTFLOW     401.64    478.21    563.27    656.00    755.91    862.66    975.97   1095.62   1221.40   1353.14
          ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      171. TO     1353.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   CON524

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     161.      8.00                 78.         25.          9.           4.
                        (INCHES)   720.969     912.776    1038.969     1085.853
                         (AC-FT)      38.         49.         55.          58.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.       7.92                  1.          0.          0.           0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
       .61      8.00                 .38         .15         .06          .03

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  388 KK    *       524  *        BASIN
            *            *
            **************
```

```
                    RUNOFF CALCULATION FOR SUB-BASIN 524

              SUBBASIN RUNOFF DATA

390 BA          SUBBASIN CHARACTERISTICS
                      TAREA          .36  SUBBASIN AREA

                PRECIPITATION DATA

297 PB                STORM        2.88  BASIN TOTAL PRECIPITATION

298 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .00       .01       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .06       .06       .06       .08       .08       .08       .05       .05
                     .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

391 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .26  STARTING LOSS
                        DTH         .26  MOISTURE DEFICIT
                       PSIF        5.70  WETTING FRONT SUCTION
                      XKSAT         .24  HYDRAULIC CONDUCTIVITY
                      RTIMP       24.00  PERCENT IMPERVIOUS AREA

392 UC          CLARK UNITGRAPH
                         TC         .90  TIME OF CONCENTRATION
                          R         .63  STORAGE COEFFICIENT

393 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=   .90 HR,       R=   .63 HR
                                           SNYDER   TP=   .50 HR,      CP=   .45

                                                     UNIT HYDROGRAPH
                                                 45 END-OF-PERIOD ORDINATES
                 8.       32.       67.      129.      193.      215.      213.      205.      194.      181.
               167.      150.      132.      115.      101.       89.       78.       68.       60.       52.
                46.       40.       35.       31.       27.       24.       21.       18.       16.       14.
                12.       11.        9.        8.        7.        6.        6.        5.        4.        4.
                 3.        3.        3.        2.        2.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      524

    TOTAL RAINFALL =    2.88, TOTAL LOSS =    1.34, TOTAL EXCESS =    1.54

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     236.      4.50                     59.         15.          5.          2.
                        (INCHES)      1.511      1.533       1.533       1.533
                        (AC-FT)          29.         30.         30.         30.

                        CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
395 KK        *    524OUT  *
              *            *
              **************
                          RETENTION DIVERSION
                          DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                          DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 13.76 AC-FT
                          DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 6.32 AC-FT
                          TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 524 = 20.08 AC-FT

     DT           DIVERSION
                       ISTAD      524RET  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX       20.08  MAXIMUM VOLUME TO BE DIVERTED

     DI              INFLOW         .00    100.00

     DQ       DIVERTED FLOW         .00    100.00

                                                          ***

     ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   524RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
```

```
+   (CFS)        (HR)
                                (CFS)
+    236.       4.50                   40.          10.          3.          1.
                            (INCHES)  1.034       1.034       1.034       1.034
                             (AC-FT)    20.          20.         20.         20.

                           CUMULATIVE AREA =     .36 SQ MI


      ***             ***             ***             ***             ***

                           HYDROGRAPH AT STATION   524OUT

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+    149.       5.08                   20.           5.          2.          1.
                            (INCHES)  .499        .499        .499        .499
                             (AC-FT)    10.          10.         10.         10.

                           CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  404 KK    *     CP524  *
            *            *
            **************
                           COMBINE RUNOFF FROM 524 AND THE EAST

  406 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                   ***

      ***             ***             ***             ***             ***

                           HYDROGRAPH AT STATION    CP524

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+    162.       7.92                   87.          29.         11.          5.
                            (INCHES)  2.220       2.982       3.340       3.472
                             (AC-FT)    43.          58.         65.         68.

                           CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  407 KK    *      D524  *
            *            *
            **************
                           DIVERT 80% FLOW TO WEST

      DT          DIVERSION
                       ISTAD      OUT524  DIVERSION HYDROGRAPH IDENTIFICATION

      DI             INFLOW         .00    100.00

      DQ      DIVERTED FLOW         .00     80.00
                                                                   ***

      ***             ***             ***             ***             ***

                           DIVERSION HYDROGRAPH   OUT524

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+    129.       7.92                   70.          23.          9.          4.
                            (INCHES)  1.776       2.385       2.672       2.778
                             (AC-FT)    35.          46.         52.         54.

                           CUMULATIVE AREA =     .36 SQ MI


      ***             ***             ***             ***             ***

                           HYDROGRAPH AT STATION     D524

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
```

```
                          (CFS)
+      32.      7.92                  17.          6.          2.          1.
                        (INCHES)     .444        .596        .668        .694
                         (AC-FT)       9.         12.         13.         14.

                       CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 412 KK     *    524522  *     ROUTE   REACH
            *            *
            **************
                        ROUTE RUNOFF FROM 524 TO ELLIOT&COOPER

              HYDROGRAPH ROUTING DATA

 414 RS         STORAGE ROUTING
                     NSTPS           6  NUMBER OF SUBREACHES
                      ITYP        STOR  TYPE OF INITIAL CONDITION
                    RSVRIC         .00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

 415 RC         NORMAL DEPTH CHANNEL
                       ANL        .035  LEFT OVERBANK N-VALUE
                      ANCH        .015  MAIN CHANNEL N-VALUE
                       ANR        .035  RIGHT OVERBANK N-VALUE
                     RLNTH       5280.  REACH LENGTH
                       SEL      .0010  ENERGY SLOPE
                     ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                        --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 417 RY       ELEVATION     2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
 416 RX       DISTANCE       .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                          ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      1.01      2.02      3.04      4.05      5.07      6.10      7.12      8.15      9.18
          OUTFLOW        .00      5.82     18.48     36.31     58.63     85.02    115.18    148.89    185.95    226.23
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE      10.78     12.93     15.10     17.26     19.43     21.60     23.77     25.94     28.12     30.30
          OUTFLOW     270.79    322.41    379.76    442.27    509.64    581.61    658.00    738.66    823.46    912.29
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   524522

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)      (HR)
                          (CFS)
+      30.      8.75                  16.          6.          2.          1.
                        (INCHES)     .418        .592        .667        .694
                         (AC-FT)       8.         12.         13.         14.

 PEAK STORAGE  TIME                       MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)     (HR)
       0.      8.75                   0.          0.          0.          0.

 PEAK STAGE    TIME                       MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)     (HR)
      .28      8.75                  .19         .08         .03         .01

                       CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 418 KK     *       522  *        BASIN
            *            *
            **************
                        RUNOFF CALCULATION FOR SUB-BASIN 522

              SUBBASIN RUNOFF DATA

 420 BA         SUBBASIN CHARACTERISTICS
                     TAREA         .71  SUBBASIN AREA

                PRECIPITATION DATA

 297 PB              STORM        2.88  BASIN TOTAL PRECIPITATION
```

```
298 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .00       .01       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .06       .06       .06       .08       .08       .08       .05       .05
                     .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

421 LG          GREEN AND AMPT LOSS RATE
                     STRTL        .25  STARTING LOSS
                       DTH        .15  MOISTURE DEFICIT
                      PSIF       8.40  WETTING FRONT SUCTION
                     XKSAT        .09  HYDRAULIC CONDUCTIVITY
                     RTIMP      28.00  PERCENT IMPERVIOUS AREA

422 UC          CLARK UNITGRAPH
                        TC       1.25  TIME OF CONCENTRATION
                         R       1.01  STORAGE COEFFICIENT

423 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=  1.25 HR,       R=  1.01 HR
                                        SNYDER   TP=   .72 HR,      CP=   .42

                                                  UNIT HYDROGRAPH
                                              71 END-OF-PERIOD ORDINATES
                 7.       25.       51.       83.      131.      206.      258.      269.      272.      269.
               264.      256.      246.      235.      225.      212.      195.      180.      165.      152.
               140.      129.      119.      109.      101.       93.       85.       79.       72.       67.
                61.       57.       52.       48.       44.       41.       37.       34.       32.       29.
                27.       25.       23.       21.       19.       18.       16.       15.       14.       13.
                12.       11.       10.        9.        8.        8.        7.        7.        6.        6.
                 5.        5.        4.        4.        4.        3.        3.        3.        3.        2.
                 2.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      522

    TOTAL RAINFALL =    2.88, TOTAL LOSS =     .87, TOTAL EXCESS =    2.01

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                     (CFS)
+    428.       4.75                  147.         38.         13.          5.
                                  (INCHES)      1.939       2.003       2.003       2.003
                                   (AC-FT)         73.         75.         75.         75.

                        CUMULATIVE AREA =     .71 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 425 KK     *    522OUT  *
            *            *
            **************
                        RETENTION DIVERSION
                        DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                        DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 29.66 AC-FT
                        DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 2.96 AC-FT
                        TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 522 = 32.62 AC-FT

     DT          DIVERSION
                     ISTAD      522RET  DIVERSION HYDROGRAPH IDENTIFICATION
                    DSTRMX       32.62  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00    100.00

     DQ      DIVERTED FLOW        .00    100.00

                                                    ***

     ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    522RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                     (CFS)
+    428.       4.75                   66.         16.          5.          2.
                                  (INCHES)       .866        .866        .866        .866
                                   (AC-FT)         33.         33.         33.         33.

                        CUMULATIVE AREA =     .71 SQ MI
```

```
     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   522OUT

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     408.      5.00                 86.         22.          7.          3.
                        (INCHES)    1.136       1.137       1.137       1.137
                         (AC-FT)     43.         43.         43.         43.

                        CUMULATIVE AREA =     .71 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 434 KK     *     CP522  *
            *            *
            **************
                      COMBINE RUNOFF FROM SUB-BASIN 522, THE SOUTH AND THE EAST

 436 HC          HYDROGRAPH COMBINATION
                       ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    CP522

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     882.      5.00                250.         66.         22.         10.
                        (INCHES)    1.309       1.384       1.401       1.408
                         (AC-FT)     124.        131.        132.        133.

                        CUMULATIVE AREA =    1.77 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 437 KK     *    522523  *     ROUTE   REACH
            *            *
            **************
                      ROUTE RUNOFF FROM 522 TO CP523

               HYDROGRAPH ROUTING DATA

 439 RS          STORAGE ROUTING
                      NSTPS           3  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 440 RC          NORMAL DEPTH CHANNEL
                        ANL        .035  LEFT OVERBANK N-VALUE
                       ANCH        .015  MAIN CHANNEL N-VALUE
                        ANR        .035  RIGHT OVERBANK N-VALUE
                      RLNTH       2640.  REACH LENGTH
                        SEL       .0020  ENERGY SLOPE
                      ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 442 RY        ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
 441 RX        DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .50      1.01      1.52      2.03      2.54      3.05      3.56      4.07      4.59
          OUTFLOW        .00      8.23     26.13     51.35     82.92    120.24    162.89    210.56    262.98    319.94
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE       5.39      6.47      7.55      8.63      9.71     10.80     11.88     12.97     14.06     15.15
          OUTFLOW     382.95    455.96    537.06    625.47    720.73    822.52    930.55   1044.63   1164.55   1290.17
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      211. TO     1290.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)
```

```
***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   522523

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     808.      5.25                249.         66.         22.         10.
                        (INCHES)    1.305       1.384       1.401       1.408
                         (AC-FT)    123.        131.        132.        133.

 PEAK STORAGE  TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       4.      5.25                  1.          0.          0.          0.

  PEAK STAGE   TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     1.56      5.25                 .72         .22         .08         .03

                    CUMULATIVE AREA =    1.77 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 443 KK     *      523   *        BASIN
            *            *
            **************
                    RUNOFF CALCULATION FOR SUB-BASIN 523

              SUBBASIN RUNOFF DATA

 445 BA         SUBBASIN CHARACTERISTICS
                      TAREA         .25  SUBBASIN AREA

                PRECIPITATION DATA

 297 PB               STORM        2.88  BASIN TOTAL PRECIPITATION

 298 PI           INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .00       .01       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .06       .06       .06       .08       .08       .08       .05       .05
                     .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

 446 LG         GREEN AND AMPT LOSS RATE
                      STRTL         .25  STARTING LOSS
                        DTH         .13  MOISTURE DEFICIT
                       PSIF       10.10  WETTING FRONT SUCTION
                      XKSAT         .04  HYDRAULIC CONDUCTIVITY
                      RTIMP       30.00  PERCENT IMPERVIOUS AREA

 447 UC         CLARK UNITGRAPH
                         TC         .82  TIME OF CONCENTRATION
                          R         .65  STORAGE COEFFICIENT

 448 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                   ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=   .82 HR,       R=   .65 HR
                                  SNYDER   TP=   .47 HR,      CP=   .44

                                          UNIT HYDROGRAPH
                                   46 END-OF-PERIOD ORDINATES
                     6.       25.       53.      105.      145.      150.      147.      141.      132.      122.
                   111.       97.       86.       75.       66.       58.       51.       45.       40.       35.
                    31.       27.       24.       21.       18.       16.       14.       12.       11.       10.
                     8.        7.        7.        6.        5.        4.        4.        3.        3.        3.
                     2.        2.        2.        2.        1.        1.

***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      523

   TOTAL RAINFALL =    2.88, TOTAL LOSS =     .64, TOTAL EXCESS =    2.24

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     217.      4.50                 59.         15.          5.          2.
                        (INCHES)    2.194       2.227       2.227       2.227
                         (AC-FT)    29.         30.         30.         30.
```

```
                    CUMULATIVE AREA =     .25 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 450 KK     *    523OUT  *
            *            *
            **************
                         RETENTION DIVERSION
                         DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                         DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 8.66 AC-FT
                         DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                         TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 523 = 8.66 AC-FT

     DT          DIVERSION
                      ISTAD      523RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX        8.66  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00    100.00

     DQ      DIVERTED FLOW         .00    100.00

                                                                  ***

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH   523RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     195.      4.25                 17.          4.          1.           1.
                        (INCHES)    .647        .647        .647         .647
                         (AC-FT)      9.          9.          9.           9.

                       CUMULATIVE AREA =     .25 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   523OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     217.      4.50                 43.         11.          4.           2.
                        (INCHES)   1.580       1.580       1.580        1.580
                         (AC-FT)     21.         21.         21.          21.

                       CUMULATIVE AREA =     .25 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 459 KK     *     CP523  *
            *            *
            **************
                         COMBINE RUNOFF FROM SUB-BASIN 523 AND THE EAST

 461 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION    CP523

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     935.      5.17                292.         77.         26.          11.
                        (INCHES)   1.339       1.408       1.423        1.429
                         (AC-FT)    145.        152.        154.         154.

                       CUMULATIVE AREA =    2.02 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 462 KK     *    523519  *     ROUTE   REACH
```

```
*            *
**************
                ROUTE RUNOFF FROM 523 TO CP519

            HYDROGRAPH ROUTING DATA

464 RS        STORAGE ROUTING
                NSTPS          8  NUMBER OF SUBREACHES
                 ITYP       STOR  TYPE OF INITIAL CONDITION
               RSVRIC        .00  INITIAL CONDITION
                    X        .00 WORKING R AND D COEFFICIENT

465 RC        NORMAL DEPTH CHANNEL
                  ANL       .035  LEFT OVERBANK N-VALUE
                 ANCH       .015  MAIN CHANNEL N-VALUE
                  ANR       .035  RIGHT OVERBANK N-VALUE
                RLNTH      7920.  REACH LENGTH
                  SEL      .0009  ENERGY SLOPE
                ELMAX        2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                CROSS-SECTION DATA
                     --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
467 RY     ELEVATION     2.00     1.00     1.00      .00      .00     1.00     1.00     2.00
466 RX     DISTANCE       .00     1.00    45.00    46.00   125.00   126.00   170.00   171.00

                                                  ***

                                COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

        STORAGE        .00     1.51     3.03     4.55     6.08     7.61     9.14    10.68    12.22    13.77
        OUTFLOW        .00     5.52    17.53    34.45    55.62    80.66   109.27   141.25   176.41   214.62
      ELEVATION        .00      .11      .21      .32      .42      .53      .63      .74      .84      .95

        STORAGE      16.16    19.40    22.64    25.89    29.14    32.40    35.65    38.92    42.18    45.45
        OUTFLOW     256.89   305.87   360.27   419.58   483.48   551.76   624.23   700.76   781.21   865.47
      ELEVATION       1.05     1.16     1.26     1.37     1.47     1.58     1.68     1.79     1.89     2.00

WARNING --- ROUTED OUTFLOW (    869.) IS GREATER THAN MAXIMUM OUTFLOW (    865.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    920.) IS GREATER THAN MAXIMUM OUTFLOW (    865.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    900.) IS GREATER THAN MAXIMUM OUTFLOW (    865.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    880.) IS GREATER THAN MAXIMUM OUTFLOW (    865.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    905.) IS GREATER THAN MAXIMUM OUTFLOW (    865.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    879.) IS GREATER THAN MAXIMUM OUTFLOW (    865.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    883.) IS GREATER THAN MAXIMUM OUTFLOW (    865.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    890.) IS GREATER THAN MAXIMUM OUTFLOW (    865.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    880.) IS GREATER THAN MAXIMUM OUTFLOW (    865.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    876.) IS GREATER THAN MAXIMUM OUTFLOW (    865.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    874.) IS GREATER THAN MAXIMUM OUTFLOW (    865.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    866.) IS GREATER THAN MAXIMUM OUTFLOW (    865.) IN STORAGE-OUTFLOW TABLE

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   523519

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)      (HR)
                          (CFS)
+     853.     5.67        288.        77.         26.         11.
                      (INCHES)      1.321       1.407       1.423       1.429
                       (AC-FT)        143.        152.        154.        154.

 PEAK STORAGE  TIME                       MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)     (HR)
       6.      5.67                    2.          1.          0.          0.

 PEAK STAGE    TIME                       MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)     (HR)
     1.98      5.67                   .96         .31         .11         .05

                     CUMULATIVE AREA =    2.02 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
468 KK      *       518  *        BASIN
            *            *
            **************
                    RUNOFF CALCULATION FOR SUB-BASIN 518
```

```
                SUBBASIN RUNOFF DATA

470 BA            SUBBASIN CHARACTERISTICS
                       TAREA          .47  SUBBASIN AREA

                  PRECIPITATION DATA

297 PB                 STORM        2.88  BASIN TOTAL PRECIPITATION

298 PI              INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .01       .00       .01       .01       .01       .01       .01       .01       .01       .03
                       .03       .03       .06       .06       .06       .08       .08       .08       .05       .05
                       .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00

471 LG            GREEN AND AMPT LOSS RATE
                       STRTL         .25  STARTING LOSS
                         DTH         .15  MOISTURE DEFICIT
                        PSIF        8.80  WETTING FRONT SUCTION
                       XKSAT         .07  HYDRAULIC CONDUCTIVITY
                       RTIMP       27.00  PERCENT IMPERVIOUS AREA

472 UC            CLARK UNITGRAPH
                          TC        1.20  TIME OF CONCENTRATION
                           R         .96  STORAGE COEFFICIENT

473 UA            ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                         .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                      100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=  1.20 HR,       R=   .96 HR
                                           SNYDER   TP=   .67 HR,      CP=   .42

                                                     UNIT HYDROGRAPH
                                                 68 END-OF-PERIOD ORDINATES
                 5.       19.       38.       62.      101.      153.      184.      190.      189.      187.
               182.      175.      167.      159.      150.      139.      127.      117.      107.       98.
                90.       83.       76.       69.       64.       58.       53.       49.       45.       41.
                38.       35.       32.       29.       27.       24.       22.       21.       19.       17.
                16.       15.       13.       12.       11.       10.        9.        9.        8.        7.
                 7.        6.        6.        5.        5.        4.        4.        4.        3.        3.
                 3.        3.        2.        2.        2.        2.        2.        2.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      518

   TOTAL RAINFALL =    2.88, TOTAL LOSS =     .82, TOTAL EXCESS =    2.06

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     301.      4.75                101.         26.          9.          4.
                        (INCHES)    1.994      2.052       2.052       2.052
                         (AC-FT)     50.         51.         51.         51.

                        CUMULATIVE AREA =     .47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
475 KK      *    518OUT  *
            *            *
            **************
                         RETENTION DIVERSION
                         DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                         DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 10.75 AC-FT
                         DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                         TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 518 = 10.75 AC-FT

    DT          DIVERSION
                      ISTAD      518RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       10.75  MAXIMUM VOLUME TO BE DIVERTED

    DI             INFLOW         .00    100.00

    DQ      DIVERTED FLOW         .00    100.00

                                                          ***

     ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   518RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
```

```
+   (CFS)        (HR)
                          (CFS)
+     238.       4.33                  22.          5.          2.          1.
                        (INCHES)      .430        .430        .430        .430
                         (AC-FT)       11.         11.         11.         11.

                        CUMULATIVE AREA =     .47 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   518OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     301.       4.75                  82.         20.          7.          3.
                        (INCHES)     1.622       1.622       1.622       1.622
                         (AC-FT)       41.         41.         41.         41.

                        CUMULATIVE AREA =     .47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 484 KK     *   518519   *     ROUTE   REACH
            *            *
            **************
                        ROUTE RUNOFF FROM 518 TO UPRR&WESTERN CANAL

              HYDROGRAPH ROUTING DATA

 486 RS         STORAGE ROUTING
                      NSTPS           3  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 487 RC         NORMAL DEPTH CHANNEL
                        ANL        .035  LEFT OVERBANK N-VALUE
                       ANCH        .015  MAIN CHANNEL N-VALUE
                        ANR        .035  RIGHT OVERBANK N-VALUE
                      RLNTH       2640.  REACH LENGTH
                        SEL       .0010  ENERGY SLOPE
                      ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 489 RY       ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
 488 RX       DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                   ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .50      1.01      1.52      2.03      2.54      3.05      3.56      4.07      4.59
          OUTFLOW        .00      5.82     18.48     36.31     58.63     85.02    115.18    148.89    185.95    226.23
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE       5.39      6.47      7.55      8.63      9.71     10.80     11.88     12.97     14.06     15.15
          OUTFLOW     270.79    322.41    379.76    442.27    509.64    581.61    658.00    738.66    823.46    912.29
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   518519

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     292.       5.00                  82.         20.          7.          3.
                        (INCHES)     1.616       1.622       1.622       1.622
                         (AC-FT)       40.         41.         41.         41.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)       (HR)
       2.       5.00                   1.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)       (HR)
      1.09      5.00                 .43         .11         .04         .02

                        CUMULATIVE AREA =     .47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
              **************
              *            *
  490 KK      *    WES516  *
              *            *
              **************
                            RETRIEVE THE FLOW FROM SUB-BASIN 516 ALONG WESTERN CANAL

  492 DR          RETRIEVE DIVERSION HYDROGRAPH
                        ISTAD      WES516  DIVERSION HYDROGRAPH IDENTIFICATION

                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   WES516

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     17.       5.75                 5.          3.          1.          0.
                        (INCHES)    .107        .215        .220        .220
                         (AC-FT)      3.          5.          6.          6.

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
  493 KK      *    WESFUL  *
              *            *
              **************
                            ADD WESTERN CANAL BASEFLOW 111 CFS TO THE FLOW CONTRIBUTERD BY 516
                            (DIVERTING -111 CFS OUT MEANS ADDING 111 CFS.)

      DT          DIVERSION
                        ISTAD      -BASFL  DIVERSION HYDROGRAPH IDENTIFICATION

      DI             INFLOW         .00   1000.00

      DQ      DIVERTED FLOW     -111.00   -111.00

                                                                  ***

      ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH   -BASFL

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    -111.       .00                 0.          0.          0.       -111.
                        (INCHES)    .000        .000        .000        .000
                         (AC-FT)      0.          0.          0.      -1528.

                        CUMULATIVE AREA =     .00 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   WESFUL

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     128.      5.75                116.        114.        112.        111.
                        (INCHES)    .000        .000        .000        .000
                         (AC-FT)     58.        226.        666.       1534.

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
  499 KK      *    516519  *        REACH
              *            *
              **************
                            ROUTE THE RUNOFF WES516 VIA THE WESTERN CANAL TO CP519

                HYDROGRAPH ROUTING DATA

  501 RS          STORAGE ROUTING
                        NSTPS          12  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT
```

```
502 RC          NORMAL DEPTH CHANNEL
                      ANL        .050  LEFT OVERBANK N-VALUE
                     ANCH        .035  MAIN CHANNEL N-VALUE
                      ANR        .050  RIGHT OVERBANK N-VALUE
                    RLNTH      11050.  REACH LENGTH
                      SEL       .0011  ENERGY SLOPE
                    ELMAX        16.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
504 RY        ELEVATION    16.00     14.00     12.00     10.00     10.00     12.00     14.00     16.00
503 RX        DISTANCE       .00      8.00     12.00     15.00     25.00     28.00     32.00     40.00

                                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .84      1.75      2.74      3.81      4.95      6.17      7.47      8.87     10.37
          OUTFLOW        .00      2.08      6.66     13.24     21.67     31.90     43.92     59.23     77.36     97.66
        ELEVATION      10.00     10.32     10.63     10.95     11.26     11.58     11.89     12.21     12.53     12.84

          STORAGE      11.98     13.68     15.48     17.39     19.49     21.78     24.28     26.97     29.87     32.98
          OUTFLOW     120.19    144.97    172.06    201.29    232.79    267.18    304.58    345.14    389.00    436.30
        ELEVATION      13.16     13.47     13.79     14.11     14.42     14.74     15.05     15.37     15.68     16.00

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   516519

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     126.      6.67                116.        114.        112.        111.
                        (INCHES)    .000        .000        .000        .000
                         (AC-FT)     58.        226.        666.       1522.

  PEAK STORAGE  TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.       6.58                  1.          1.          1.          1.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
    13.24       6.67                13.10       13.07       13.04       13.01

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
505 KK      *    WES519  *
            *            *
            **************
                        DIVERT WESTERN CANAL BASEFLOW OUT OF CALCULATION
                        THE REST IS THE FLOW CONTRIBUTED BY SUB 516.

508 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

    DT          DIVERSION
                      ISTAD      BASOUT  DIVERSION HYDROGRAPH IDENTIFICATION

    DI             INFLOW         .00    111.00   1000.00

    DQ      DIVERTED FLOW         .00    111.00    111.00

                                                                  ***

     ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   BASOUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     111.      2.58                111.        111.        111.        110.
                        (INCHES)    .000        .000        .000        .000
                         (AC-FT)     55.        220.        660.       1517.

                        CUMULATIVE AREA =     .00 SQ MI

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   WES519

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
```

```
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+      15.      6.67                     5.           3.           1.           0.
                       (INCHES)       .000         .000         .000         .000
                        (AC-FT)         3.           5.           6.           6.

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 512 KK     *      513   *        BASIN
            *            *
            **************
                     RUNOFF CALCULATION FOR SUB-BASIN 513

              SUBBASIN RUNOFF DATA

 514 BA         SUBBASIN CHARACTERISTICS
                     TAREA         .06  SUBBASIN AREA

                PRECIPITATION DATA

 297 PB              STORM        2.88  BASIN TOTAL PRECIPITATION

 298 PI           INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .00       .01       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .06       .06       .06       .08       .08       .08       .05       .05
                     .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

 515 LG         GREEN AND AMPT LOSS RATE
                     STRTL         .15  STARTING LOSS
                       DTH         .15  MOISTURE DEFICIT
                      PSIF        9.70  WETTING FRONT SUCTION
                     XKSAT         .06  HYDRAULIC CONDUCTIVITY
                     RTIMP       55.00  PERCENT IMPERVIOUS AREA

 516 UC         CLARK UNITGRAPH
                        TC        1.45  TIME OF CONCENTRATION
                         R        1.61  STORAGE COEFFICIENT

 517 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                   ***

                                          UNIT HYDROGRAPH PARAMETERS
                                     CLARK   TC=  1.45 HR,       R=  1.61 HR
                                   SNYDER   TP=   .96 HR,      CP=   .38

                                            UNIT HYDROGRAPH
                                     110 END-OF-PERIOD ORDINATES
                 0.        1.        2.        4.        5.        8.       12.       14.       15.       15.
                16.       16.       15.       15.       15.       15.       14.       14.       13.       12.
                12.       11.       11.       10.       10.        9.        9.        8.        8.        7.
                 7.        7.        6.        6.        6.        5.        5.        5.        5.        4.
                 4.        4.        4.        4.        3.        3.        3.        3.        3.        3.
                 3.        2.        2.        2.        2.        2.        2.        2.        2.        2.
                 1.        1.        1.        1.        1.        1.        1.        1.        1.        1.
                 1.        1.        1.        1.        1.        1.        1.        1.        1.        1.
                 1.        1.        0.        0.        0.        0.        0.        0.        0.        0.
                 0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                 0.        0.        0.        0.        0.        0.        0.        0.        0.        0.

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION      513

   TOTAL RAINFALL =    2.88, TOTAL LOSS =     .46, TOTAL EXCESS =    2.42

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+      30.      5.00                    14.           4.           1.           1.
                       (INCHES)      2.202        2.405        2.405        2.405
                        (AC-FT)         7.           8.           8.           8.

                       CUMULATIVE AREA =     .06 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
```

```
                *            *
519 KK          *     519    *        BASIN
                *            *
                **************
                    RUNOFF CALCULATION FOR SUB-BASIN 519

              SUBBASIN RUNOFF DATA

521 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .25  SUBBASIN AREA

                PRECIPITATION DATA

297 PB               STORM         2.88  BASIN TOTAL PRECIPITATION

298 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .00       .01       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .06       .06       .06       .08       .08       .08       .05       .05
                     .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

522 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .14  STARTING LOSS
                       DTH         .19  MOISTURE DEFICIT
                      PSIF        8.80  WETTING FRONT SUCTION
                     XKSAT         .07  HYDRAULIC CONDUCTIVITY
                     RTIMP       39.00  PERCENT IMPERVIOUS AREA

523 UC          CLARK UNITGRAPH
                        TC        1.10  TIME OF CONCENTRATION
                         R         .91  STORAGE COEFFICIENT

524 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                   ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=  1.10 HR,       R=   .91 HR
                                        SNYDER   TP=   .64 HR,      CP=   .42

                                                  UNIT HYDROGRAPH
                                            64 END-OF-PERIOD ORDINATES
                      3.       12.       24.       40.       68.       96.      105.      107.      106.      103.
                     99.       94.       90.       84.       77.       70.       64.       59.       54.       49.
                     45.       41.       37.       34.       31.       28.       26.       23.       21.       20.
                     18.       16.       15.       14.       12.       11.       10.        9.        9.        8.
                      7.        6.        6.        5.        5.        4.        4.        4.        3.        3.
                      3.        3.        2.        2.        2.        2.        2.        1.        1.        1.
                      1.        1.        1.        1.

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      519

   TOTAL RAINFALL =    2.88, TOTAL LOSS =     .69, TOTAL EXCESS =    2.19

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    171.       4.67                 56.         15.          5.          2.
                        (INCHES)   2.115       2.184       2.184       2.184
                         (AC-FT)     28.         29.         29.         29.

                       CUMULATIVE AREA =     .25 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                *************
                *           *
526 KK          *    CP519  *
                *           *
                *************
                    COMBINE RUNOFF FROM SUB-BASINS 519, 513 AND THE EAST

528 HC          HYDROGRAPH COMBINATION
                     ICOMP           5  NUMBER OF HYDROGRAPHS TO COMBINE

                                                   ***

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    CP519

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   1177.       5.58                436.        118.         40.         17.
```

```
                    (INCHES)      1.449       1.566       1.581       1.585
                    (AC-FT)       216.        234.        236.        237.

                    CUMULATIVE AREA =    2.80 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 529 KK     *      P519  *
            *            *
            **************
                    STORAGE ROUTING AT CP519
                    RUNOFF MAY FLOW BETWEEN THE RR AND THE BLOCKWALL NORTH TO P519.
                    THE BOTTLE NECK OF THIS SHORT CONVEYANCE IS THE CROSS SECTION IMMEDIATELY
                    NORTH OF P519.
                    THIS CORRIDOR IS LESS THAN 1/4 MILE LONG, NARROW AND ALMOST NO SLOPE.
                    NO HYDRAULIC ANALYSIS IS PERFORMED FOR THIS SHORT CORRIDOR.

 536 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

              HYDROGRAPH ROUTING DATA

 537 RS          STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 538 SV            STORAGE         1.0      10.0      18.9      34.8      57.9      87.3     113.8     144.0

 539 SE          ELEVATION     1210.00   1212.00   1212.50   1213.00   1213.50   1214.00   1214.40   1214.80

 540 SQ          DISCHARGE          0.        0.        0.        0.        4.      126.      295.      537.

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     P519

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     481.      6.92                283.         89.         32.          14.
                       (INCHES)     .941       1.185       1.259       1.322
                       (AC-FT)      140.        177.        188.        197.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      137.      6.92                110.         75.         60.          49.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1214.71      6.92              1214.33     1213.77     1213.51      1213.22

                       CUMULATIVE AREA =    2.80 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 541 KK     *    519512  *        SPLIT
            *            *
            **************
                    DIVERT RUNOFF TO THE WEST ALONG WESTERN CANAL

     DT          DIVERSION
                      ISTAD      WES519  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW        3.60    125.50    295.40    536.60

     DQ      DIVERTED FLOW         .00     34.50     43.00     51.30

                                                                  ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   WES519

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      49.      6.92                 41.         15.          5.           2.
```

```
                    (INCHES)      .137        .196        .196        .196
                     (AC-FT)       20.         29.         29.         29.

                    CUMULATIVE AREA =    2.80 SQ MI


     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   519512

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     432.      6.92                242.         74.         27.         12.
                    (INCHES)      .804        .989       1.062       1.126
                     (AC-FT)      120.        148.        159.        168.

                    CUMULATIVE AREA =    2.80 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 546 KK     *      512   *        BASIN
            *            *
            **************
                    RUNOFF CALCULATION FOR SUB-BASIN 512

              SUBBASIN RUNOFF DATA

 548 BA         SUBBASIN CHARACTERISTICS
                      TAREA         .20  SUBBASIN AREA

                PRECIPITATION DATA

 297 PB               STORM        2.88  BASIN TOTAL PRECIPITATION

 298 PI           INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .01       .00       .01       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .06       .06       .06       .08       .08       .08       .05       .05
                     .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

 549 LG         GREEN AND AMPT LOSS RATE
                      STRTL         .21  STARTING LOSS
                        DTH         .16  MOISTURE DEFICIT
                       PSIF        9.70  WETTING FRONT SUCTION
                      XKSAT         .06  HYDRAULIC CONDUCTIVITY
                      RTIMP       15.00  PERCENT IMPERVIOUS AREA

 550 UC         CLARK UNITGRAPH
                         TC        1.02  TIME OF CONCENTRATION
                          R        1.08  STORAGE COEFFICIENT

 551 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.02 HR,       R=  1.08 HR
                                  SNYDER   TP=   .66 HR,      CP=   .39

                                            UNIT HYDROGRAPH
                                        74 END-OF-PERIOD ORDINATES
                      2.        9.       20.       34.       58.       75.       79.       80.       79.       78.
                     75.       72.       69.       64.       59.       55.       51.       47.       43.       40.
                     37.       34.       32.       29.       27.       25.       23.       22.       20.       19.
                     17.       16.       15.       14.       13.       12.       11.       10.        9.        9.
                      8.        7.        7.        6.        6.        5.        5.        5.        4.        4.
                      4.        3.        3.        3.        3.        2.        2.        2.        2.        2.
                      2.        2.        1.        1.        1.        1.        1.        1.        1.        1.
                      1.        1.        1.        1.

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      512

   TOTAL RAINFALL =    2.88, TOTAL LOSS =     .92, TOTAL EXCESS =    1.96

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     124.      4.67                 42.         11.          4.          2.
                    (INCHES)     1.905       1.949       1.949       1.949
                     (AC-FT)      21.         21.         21.         21.

                    CUMULATIVE AREA =     .20 SQ MI
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
  553 KK      *     CP512  *
              *            *
              **************
                          COMBINE RUNOFF FROM SUB-BASIN 512, AND THE EAST

  555 HC          HYDROGRAPH COMBINATION
                        ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    CP512

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     558.      6.42                341.        105.         37.          17.
                         (INCHES)   .878       1.082       1.140        1.193
                          (AC-FT)   169.        208.        219.         229.

                         CUMULATIVE AREA =    3.60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
  556 KK      *      P512  *
              *            *
              **************
                          STORAGE ROUTING AT CP512

  558 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

  559 RS          STORAGE ROUTING
                       NSTPS           1  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

  560 SV            STORAGE         1.8      48.4     105.9     119.0     133.1     213.7

  561 SE          ELEVATION     1202.20   1207.00   1209.19   1209.50   1210.00   1212.00

  562 SQ          DISCHARGE          0.        0.        0.       42.      486.     7953.

                                                                  ***

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     P512

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     293.      8.42                147.         51.         19.           9.
                         (INCHES)   .379        .531        .591         .641
                          (AC-FT)    73.        102.        114.         123.

  PEAK STORAGE  TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     127.       8.42                122.        115.        109.         104.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1209.78      8.42              1209.62     1209.41     1209.26      1209.01

                         CUMULATIVE AREA =    3.60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
```

```
563 KK      *       505  *        BASIN
            *            *
            **************
                      RUNOFF CALCULATION FOR SUB-BASIN 505

               SUBBASIN RUNOFF DATA

565 BA           SUBBASIN CHARACTERISTICS
                      TAREA         .04  SUBBASIN AREA

                 PRECIPITATION DATA

297 PB                STORM        2.88  BASIN TOTAL PRECIPITATION

298 PI             INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .01       .00       .01       .01       .01       .01       .01       .01       .03
                      .03       .03       .06       .06       .06       .08       .08       .08       .05
                      .05       .02       .02       .02       .01       .01       .01       .01       .01
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00

566 LG           GREEN AND AMPT LOSS RATE
                      STRTL         .10  STARTING LOSS
                        DTH         .15  MOISTURE DEFICIT
                       PSIF        9.70  WETTING FRONT SUCTION
                      XKSAT         .07  HYDRAULIC CONDUCTIVITY
                      RTIMP       80.00  PERCENT IMPERVIOUS AREA

567 UC           CLARK UNITGRAPH
                         TC         .82  TIME OF CONCENTRATION
                          R        1.01  STORAGE COEFFICIENT

568 UA           ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0
                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=   .82 HR,       R=  1.01 HR
                                           SNYDER   TP=   .56 HR,      CP=   .37

                                                       UNIT HYDROGRAPH
                                                 68 END-OF-PERIOD ORDINATES
                  1.        3.        5.       11.       15.       16.       16.       16.       16.       15.
                 14.       13.       12.       11.       10.        9.        9.        8.        7.        7.
                  6.        6.        5.        5.        4.        4.        4.        3.        3.        3.
                  3.        3.        2.        2.        2.        2.        2.        2.        1.        1.
                  1.        1.        1.        1.        1.        1.        1.        1.        1.        1.
                  1.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                  0.        0.        0.        0.        0.        0.        0.        0.

     ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION      505

     TOTAL RAINFALL =     2.88, TOTAL LOSS =     .21, TOTAL EXCESS =    2.67

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                   (CFS)
+      29.       4.58                 10.          3.          1.          0.
                              (INCHES)      2.519       2.655       2.655       2.655
                               (AC-FT)        5.          5.          5.          5.

                              CUMULATIVE AREA =     .04 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
570 KK      *      P505  *
            *            *
            **************
                      STORAGE ROUTING AT 505

572 KO           OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

               HYDROGRAPH ROUTING DATA

573 RS           STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

574 SV             STORAGE          .0        .1       1.0       1.9       8.2
```

```
 575 SE          ELEVATION     1209.00   1210.00   1210.70   1211.00   1212.00

 576 SQ          DISCHARGE          0.        0.        0.        0.        0.

                                                                  ***

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     P505

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                 0.          0.          0.          0.
                         (INCHES)   .000        .001        .002        .004
                          (AC-FT)     0.          0.          0.          0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       5.     10.75                  5.          5.          5.          5.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1211.55     11.25              1211.55     1211.56     1211.56     1211.48

                         CUMULATIVE AREA =     .04 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 577 KK     *       504  *        BASIN
            *            *
            **************
                        RUNOFF CALCULATION FOR SUB-BASIN 504

              SUBBASIN RUNOFF DATA

 579 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .32  SUBBASIN AREA

                 PRECIPITATION DATA

 297 PB               STORM        2.88  BASIN TOTAL PRECIPITATION

 298 PI            INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .01       .00       .01       .01       .01       .01       .01       .01       .01       .03
                      .03       .03       .06       .06       .06       .08       .08       .08       .05       .05
                      .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00

 580 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .12  STARTING LOSS
                        DTH         .21  MOISTURE DEFICIT
                       PSIF        8.80  WETTING FRONT SUCTION
                      XKSAT         .06  HYDRAULIC CONDUCTIVITY
                      RTIMP       27.00  PERCENT IMPERVIOUS AREA

 581 UC          CLARK UNITGRAPH
                         TC         .68  TIME OF CONCENTRATION
                          R         .44  STORAGE COEFFICIENT

 582 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                                  ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                             CLARK   TC=   .68 HR,       R=   .44 HR
                                            SNYDER   TP=   .40 HR,      CP=   .51

                                                        UNIT HYDROGRAPH
                                                 32 END-OF-PERIOD ORDINATES
              16.       61.      148.      237.      264.      252.      232.      210.      183.      153.
             127.      105.       87.       72.       60.       49.       41.       34.       28.       23.
              19.       16.       13.       11.        9.        8.        6.        5.        4.        4.
               3.        2.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     504

    TOTAL RAINFALL =    2.88, TOTAL LOSS =     .79, TOTAL EXCESS =    2.09

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

```
                          (CFS)
+     319.      4.33                  72.         18.          6.          3.
                        (INCHES)    2.068       2.082       2.082       2.082
                         (AC-FT)     36.         36.         36.         36.

                       CUMULATIVE AREA =     .32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 584 KK     *    504506  *     ROUTE   REACH
            *            *
            **************
                         ROUTE RUNOFF FROM 504 TO EL DORADO LAKES

              HYDROGRAPH ROUTING DATA

 586 RS         STORAGE ROUTING
                     NSTPS           5  NUMBER OF SUBREACHES
                      ITYP        STOR  TYPE OF INITIAL CONDITION
                    RSVRIC         .00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

 587 RC         NORMAL DEPTH CHANNEL
                       ANL        .035  LEFT OVERBANK N-VALUE
                      ANCH        .015  MAIN CHANNEL N-VALUE
                       ANR        .035  RIGHT OVERBANK N-VALUE
                     RLNTH       4500.  REACH LENGTH
                       SEL       .0007  ENERGY SLOPE
                     ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                        --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 589 RY       ELEVATION     2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
 588 RX       DISTANCE       .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                   ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .86      1.72      2.59      3.45      4.32      5.20      6.07      6.95      7.82
          OUTFLOW        .00      4.87     15.46     30.38     49.05     71.13     96.37    124.57    155.58    189.28
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE       9.18     11.02     12.87     14.71     16.56     18.41     20.26     22.11     23.97     25.83
          OUTFLOW     226.56    269.75    317.73    370.03    426.39    486.61    550.52    618.01    688.96    763.28
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

     ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   504506

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    291.       4.83                 71.         18.          6.          3.
                        (INCHES)    2.053       2.082       2.082       2.082
                         (AC-FT)     35.         36.         36.         36.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      2.        4.83                  1.          0.          0.          0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     1.20       4.83                 .42         .11         .04         .02

                       CUMULATIVE AREA =     .32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 590 KK     *       506  *        BASIN
            *            *
            **************
                         RUNOFF CALCULATION FOR SUB-BASIN 506

              SUBBASIN RUNOFF DATA

 592 BA         SUBBASIN CHARACTERISTICS
                     TAREA         .35  SUBBASIN AREA

                PRECIPITATION DATA

 297 PB              STORM        2.88  BASIN TOTAL PRECIPITATION
```

```
298 PI          INCREMENTAL PRECIPITATION PATTERN
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .01       .00       .01       .01       .01       .01       .01       .01       .01       .03
                   .03       .03       .06       .06       .06       .08       .08       .08       .05       .05
                   .05       .02       .02       .02       .01       .01       .01       .01       .01       .01
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00

593 LG          GREEN AND AMPT LOSS RATE
                  STRTL        .21  STARTING LOSS
                    DTH        .15  MOISTURE DEFICIT
                   PSIF       9.70  WETTING FRONT SUCTION
                  XKSAT        .07  HYDRAULIC CONDUCTIVITY
                  RTIMP      16.00  PERCENT IMPERVIOUS AREA

594 UC          CLARK UNITGRAPH
                     TC       1.19  TIME OF CONCENTRATION
                      R       1.14  STORAGE COEFFICIENT

595 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                   ***

                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=  1.19 HR,       R=  1.14 HR
                                       SNYDER   TP=   .74 HR,      CP=   .40

                                                UNIT HYDROGRAPH
                                          79 END-OF-PERIOD ORDINATES
                 3.       12.       24.       39.       65.       99.      119.      123.      124.      124.
               122.      118.      114.      110.      105.       98.       91.       85.       79.       73.
                68.       63.       59.       54.       51.       47.       44.       41.       38.       35.
                33.       30.       28.       26.       24.       23.       21.       20.       18.       17.
                16.       15.       14.       13.       12.       11.       10.        9.        9.        8.
                 8.        7.        6.        6.        6.        5.        5.        5.        4.        4.
                 4.        3.        3.        3.        3.        3.        2.        2.        2.        2.
                 2.        2.        1.        1.        1.        1.        1.        1.        1.

     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION      506

   TOTAL RAINFALL =    2.88, TOTAL LOSS =     .94, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     197.      4.75                70.         18.          6.          3.
                         (INCHES)   1.875       1.927       1.927       1.927
                          (AC-FT)    35.         36.         36.         36.

                         CUMULATIVE AREA =     .35 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
597 KK      *     CP506  *
            *            *
            **************
                       COMBINE RUNOFF FROM SUB-BASIN 516, AND THE EAST

599 HC          HYDROGRAPH COMBINATION
                     ICOMP           4  NUMBER OF HYDROGRAPHS TO COMBINE

                                                   ***

     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION    CP506

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     487.      4.83               230.         86.         31.         14.
                         (INCHES)   .496        .742        .800        .847
                          (AC-FT)   114.        171.        184.        195.

                         CUMULATIVE AREA =    4.31 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
```

```
600 KK      *      P506  *
            *            *
            **************
                        STORAGE ROUTING AT CP506.  P506 AND P512 SHARE THE SAME WEIR.

602 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

603 RS          STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

604 SV            STORAGE          .0      39.0      85.9     208.5     335.9     515.6

605 SE          ELEVATION     1195.10   1202.20   1204.70   1208.00   1210.00   1212.00

606 SQ          DISCHARGE          0.        0.        0.        0.      486.     7953.

                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     P506

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                 0.          0.          0.           0.
                         (INCHES)   .000        .000        .000         .000
                          (AC-FT)     0.          0.          0.           0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     195.    166.58                 194.        194.        192.         175.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1207.63    166.58              1207.62     1207.61     1207.55      1206.86

                        CUMULATIVE AREA =    4.31 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
607 KK      *       525  *        BASIN
            *            *
            **************
                        RUNOFF CALCULATION FOR SUB-BASIN 525

                SUBBASIN RUNOFF DATA

609 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .22  SUBBASIN AREA

                PRECIPITATION DATA

297 PB                STORM        2.88  BASIN TOTAL PRECIPITATION

298 PI            INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .01       .00       .01       .01       .01       .01       .01       .01       .03
                      .03       .03       .06       .06       .06       .08       .08       .08       .05
                      .05       .02       .02       .02       .01       .01       .01       .01       .01
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00

610 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .25  STARTING LOSS
                        DTH         .25  MOISTURE DEFICIT
                       PSIF        4.60  WETTING FRONT SUCTION
                      XKSAT         .40  HYDRAULIC CONDUCTIVITY
                      RTIMP       30.00  PERCENT IMPERVIOUS AREA

611 UC          CLARK UNITGRAPH
                         TC         .80  TIME OF CONCENTRATION
                          R         .66  STORAGE COEFFICIENT

612 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                                  ***
```

```
                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=   .80 HR,       R=   .66 HR
                                 SNYDER   TP=   .47 HR,      CP=   .43

                                        UNIT HYDROGRAPH
                                 47 END-OF-PERIOD ORDINATES
                5.       22.       48.       92.      126.      129.      127.      121.      114.      105.
               95.       83.       74.       65.       57.       50.       44.       39.       34.       30.
               27.       24.       21.       18.       16.       14.       13.       11.       10.        9.
                8.        7.        6.        5.        5.        4.        4.        3.        3.        2.
                2.        2.        2.        1.        1.        1.        1.

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION      525

    TOTAL RAINFALL =    2.88, TOTAL LOSS =    1.39, TOTAL EXCESS =    1.49

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     132.      4.50                 34.          9.          3.          1.
                             (INCHES)     1.455       1.483       1.483       1.483
                              (AC-FT)      17.         17.         17.         17.

                             CUMULATIVE AREA =     .22 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  614 KK    *    CO0525  *
            *            *
            **************
                           RETENTION DIVERSION
                           DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                           DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 9.33 AC-FT
                           DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.73 AC-FT
                           TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 525 = 10.06 AC-FT

     DT          DIVERSION
                      ISTAD      525RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       10.06  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00    100.00

     DQ      DIVERTED FLOW         .00    100.00
                                                                  ***

     ***            ***            ***            ***            ***

                     DIVERSION HYDROGRAPH   525RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     132.      4.50                 20.          5.          2.          1.
                             (INCHES)      .865        .865        .865        .865
                              (AC-FT)      10.         10.         10.         10.

                             CUMULATIVE AREA =     .22 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   CO0525

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+      96.      4.92                 14.          4.          1.          1.
                             (INCHES)      .618        .618        .618        .618
                              (AC-FT)       7.          7.          7.          7.

                             CUMULATIVE AREA =     .22 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.   11:  /COO/KNO6/FLOW/03MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.   11:  /COO/KNO6/FLOW/04MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.   11:  /COO/KNO6/FLOW/05MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.   11:  /COO/KNO6/FLOW/06MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.   11:  /COO/KNO6/FLOW/07MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.   11:  /COO/KNO6/FLOW/08MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.   11:  /COO/KNO6/FLOW/09MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.   11:  /COO/KNO6/FLOW/10MAR1903/5MIN//


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
```

```
                *              *
  624 KK        *    COO524    *
                *              *
                **************
```

RETRIEVE RUNOFF HYDROGRAPH@COOPER AND WARNER AND WRITE TO DSS FILE

***

*** *** *** *** ***

HYDROGRAPH AT STATION COO524

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	166.58-HR
+		(CFS)				
+ 129.	7.92		70.	23.	9.	4.
		(INCHES)	2.974	3.994	4.474	4.651
		(AC-FT)	35.	46.	52.	54.

CUMULATIVE AREA = .00 SQ MI

```
 -----DSS---ZWRITE Unit  71; Vers.   11:  /COO/WAR6/FLOW/03MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.   11:  /COO/WAR6/FLOW/04MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.   11:  /COO/WAR6/FLOW/05MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.   11:  /COO/WAR6/FLOW/06MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.   11:  /COO/WAR6/FLOW/07MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.   11:  /COO/WAR6/FLOW/08MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.   11:  /COO/WAR6/FLOW/09MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.   11:  /COO/WAR6/FLOW/10MAR1903/5MIN//
1
```

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

+	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	CON303	53.	6.25	21.	6.	2.	.00		
+	ROUTED TO	CON501	50.	6.83	20.	6.	2.	.00		
+									.32	6.83
+	HYDROGRAPH AT	501	716.	4.83	259.	67.	22.	1.23		
+	DIVERSION TO	501RET	707.	4.92	89.	22.	7.	1.23		
+	HYDROGRAPH AT	501OUT	715.	4.92	178.	45.	15.	1.23		
+	DIVERSION TO	TO508	286.	4.92	71.	18.	6.	1.23		
+	HYDROGRAPH AT	D501	429.	4.92	107.	27.	9.	1.23		
+	2 COMBINED AT	CP501	429.	4.92	126.	33.	11.	1.23		
+	ROUTED TO	501502	397.	5.50	123.	33.	11.	1.23		
+									1.06	5.50
+	HYDROGRAPH AT	502	589.	4.83	207.	53.	18.	1.02		
+	DIVERSION TO	502RET	589.	5.25	108.	27.	9.	1.02		
+	HYDROGRAPH AT	502OUT	518.	5.25	106.	26.	9.	1.02		
+	2 COMBINED AT	CP502	859.	5.33	229.	59.	20.	2.25		
+	ROUTED TO	502503	764.	6.00	224.	59.	20.	2.25		
+									1.61	6.00
+	HYDROGRAPH AT	FRM501	286.	4.92	71.	18.	6.	.00		
+	ROUTED TO	501508	237.	5.58	71.	18.	6.	.00		
+									1.35	5.58
+	HYDROGRAPH AT	508	308.	4.67	101.	26.	9.	.49		
+	DIVERSION TO	508RET	275.	4.67	28.	7.	2.	.49		
+	HYDROGRAPH AT	508OUT	308.	4.67	75.	19.	6.	.49		

	2 COMBINED AT								
+		CP508	424.	5.42	146.	37.	12.	.49	
	ROUTED TO								
+		508516	418.	5.67	145.	37.	12.	.49	
+									1.14 5.67
	HYDROGRAPH AT								
+		CON308	113.	11.67	78.	30.	10.	.00	
	HYDROGRAPH AT								
+		CON310	643.	5.00	109.	28.	9.	.00	
	2 COMBINED AT								
+		308310	643.	5.00	116.	58.	20.	.00	
	ROUTED TO								
+		CON516	587.	5.42	112.	57.	20.	.00	
+									1.28 5.42
	HYDROGRAPH AT								
+		516	196.	4.83	79.	21.	7.	.36	
	DIVERSION TO								
+		516RET	71.	4.83	7.	2.	1.	.36	
	HYDROGRAPH AT								
+		516OUT	196.	4.83	76.	19.	6.	.36	
	2 COMBINED AT								
+		CP516	749.	5.42	183.	76.	26.	.36	
	ROUTED TO								
+		P516	613.	5.75	152.	68.	23.	.36	
+									1233.95 5.75
	DIVERSION TO								
+		WES516	17.	5.75	5.	3.	1.	.36	
	HYDROGRAPH AT								
+		516WES	596.	5.75	147.	65.	22.	.36	
	DIVERSION TO								
+		516NOR	351.	5.75	82.	34.	11.	.36	
	HYDROGRAPH AT								
+		516NW	245.	5.75	64.	31.	11.	.36	
	2 COMBINED AT								
+		516RR	663.	5.67	207.	68.	23.	.85	
	ROUTED TO								
+		516509	632.	6.00	206.	67.	23.	.85	
+									26.70 6.00
	HYDROGRAPH AT								
+		516NOR	351.	5.75	82.	34.	11.	.00	
	HYDROGRAPH AT								
+		509	319.	4.50	86.	22.	7.	.37	
	2 COMBINED AT								
+		509BAS	443.	5.67	163.	55.	19.	.37	
	DIVERSION TO								
+		509RET	13.	5.67	4.	1.	0.	.37	
	HYDROGRAPH AT								
+		509OUT	443.	5.67	163.	55.	18.	.37	
	2 COMBINED AT								
+		CP509	1008.	5.92	360.	122.	41.	1.22	
	ROUTED TO								
+		509503	759.	7.50	345.	120.	41.	1.22	
+									18.58 7.50
	HYDROGRAPH AT								
+		500	561.	4.75	196.	51.	17.	1.10	
	DIVERSION TO								
+		500RET	534.	4.75	59.	15.	5.	1.10	
	HYDROGRAPH AT								
+		500OUT	561.	4.75	145.	36.	12.	1.10	
	ROUTED TO								
+		500503	524.	5.33	144.	36.	12.	1.10	
+									1.25 5.33
	HYDROGRAPH AT								
+		503	1377.	4.42	306.	77.	26.	1.43	
	DIVERSION TO								
+		503RET	0.	4.42	0.	0.	0.	1.43	
	HYDROGRAPH AT								
+		503OUT	1377.	4.42	306.	77.	26.	1.43	

+	4 COMBINED AT	CP503	1377.	4.42	930.	289.	99.	6.00	
+	ROUTED TO	P503	0.	.00	0.	0.	0.	6.00	
+									1213.51 140.25
+	HYDROGRAPH AT	510	142.	4.25	33.	8.	3.	.13	
+	ROUTED TO	510511	130.	4.83	32.	8.	3.	.13	
+									.60 4.83
+	HYDROGRAPH AT	511	325.	4.67	98.	25.	8.	.47	
+	DIVERSION TO	511RET	325.	5.00	52.	13.	4.	.47	
+	HYDROGRAPH AT	511OUT	284.	5.00	48.	12.	4.	.47	
+	2 COMBINED AT	CP511	407.	5.00	80.	20.	7.	.60	
+	ROUTED TO	511512	318.	5.50	79.	20.	7.	.60	
+									1.18 5.50
+	HYDROGRAPH AT	521	285.	4.58	78.	20.	7.	.35	
+	DIVERSION TO	521RET	0.	4.58	0.	0.	0.	.35	
+	HYDROGRAPH AT	521OUT	285.	4.58	78.	20.	7.	.35	
+	ROUTED TO	521517	282.	4.75	78.	20.	7.	.35	
+									.82 4.75
+	HYDROGRAPH AT	517	302.	4.50	81.	21.	7.	.36	
+	DIVERSION TO	517RET	55.	4.50	7.	2.	1.	.36	
+	HYDROGRAPH AT	517OUT	302.	4.50	75.	19.	6.	.36	
+	2 COMBINED AT	CP517	562.	4.58	153.	39.	13.	.70	
+	HYDROGRAPH AT	CON314	162.	7.67	78.	25.	9.	.00	
+	ROUTED TO	CON524	161.	8.00	78.	25.	9.	.00	
+									.61 8.00
+	HYDROGRAPH AT	524	236.	4.50	59.	15.	5.	.36	
+	DIVERSION TO	524RET	236.	5.08	40.	10.	3.	.36	
+	HYDROGRAPH AT	524OUT	149.	5.08	20.	5.	2.	.36	
+	2 COMBINED AT	CP524	162.	7.92	87.	29.	11.	.36	
+	DIVERSION TO	OUT524	129.	7.92	70.	23.	9.	.36	
+	HYDROGRAPH AT	D524	32.	7.92	17.	6.	2.	.36	
+	ROUTED TO	524522	30.	8.75	16.	6.	2.	.36	
+									.28 8.75
+	HYDROGRAPH AT	522	428.	4.75	147.	38.	13.	.71	
+	DIVERSION TO	522RET	428.	5.00	66.	16.	5.	.71	
+	HYDROGRAPH AT	522OUT	408.	5.00	86.	22.	7.	.71	
+	3 COMBINED AT	CP522	882.	5.00	250.	66.	22.	1.77	
+	ROUTED TO	522523	808.	5.25	249.	66.	22.	1.77	

```
+                                                                                                  1.56        5.25

          HYDROGRAPH AT
+                     523       217.   4.50        59.        15.        5.       .25

          DIVERSION TO
+                  523RET       195.   4.50        17.         4.        1.       .25

          HYDROGRAPH AT
+                  523OUT       217.   4.50        43.        11.        4.       .25

          2 COMBINED AT
+                   CP523       935.   5.17       292.        77.       26.      2.02

          ROUTED TO
+                  523519       853.   5.67       288.        77.       26.      2.02
+                                                                                                  1.98        5.67

          HYDROGRAPH AT
+                     518       301.   4.75       101.        26.        9.       .47

          DIVERSION TO
+                  518RET       238.   4.75        22.         5.        2.       .47

          HYDROGRAPH AT
+                  518OUT       301.   4.75        82.        20.        7.       .47

          ROUTED TO
+                  518519       292.   5.00        82.        20.        7.       .47
+                                                                                                  1.09        5.00

          HYDROGRAPH AT
+                  WES516        17.   5.75         5.         3.        1.       .00

          DIVERSION TO
+                   -BASFL      -111.   5.75         0.         0.        0.       .00

          HYDROGRAPH AT
+                  WESFUL       128.   5.75       116.       114.      112.       .00

          ROUTED TO
+                  516519       126.   6.67       116.       114.      112.       .00
+                                                                                                 13.24        6.67

          DIVERSION TO
+                  BASOUT       111.   6.67       111.       111.      111.       .00

          HYDROGRAPH AT
+                  WES519        15.   6.67         5.         3.        1.       .00

          HYDROGRAPH AT
+                     513        30.   5.00        14.         4.        1.       .06

          HYDROGRAPH AT
+                     519       171.   4.67        56.        15.        5.       .25

          5 COMBINED AT
+                   CP519      1177.   5.58       436.       118.       40.      2.80

          ROUTED TO
+                   P519       481.   6.92       283.        89.       32.      2.80
+                                                                                               1214.71        6.92

          DIVERSION TO
+                  WES519        49.   6.92        41.        15.        5.      2.80

          HYDROGRAPH AT
+                  519512       432.   6.92       242.        74.       27.      2.80

          HYDROGRAPH AT
+                     512       124.   4.67        42.        11.        4.       .20

          3 COMBINED AT
+                   CP512       558.   6.42       341.       105.       37.      3.60

          ROUTED TO
+                   P512       293.   8.42       147.        51.       19.      3.60
+                                                                                               1209.78        8.42

          HYDROGRAPH AT
+                     505        29.   4.58        10.         3.        1.       .04

          ROUTED TO
+                   P505         0.    .00         0.         0.        0.       .04
+                                                                                               1211.55       11.25

          HYDROGRAPH AT
+                     504       319.   4.33        72.        18.        6.       .32

          ROUTED TO
+                  504506       291.   4.83        71.        18.        6.       .32
+                                                                                                  1.20        4.83

          HYDROGRAPH AT
+                     506       197.   4.75        70.        18.        6.       .35

          4 COMBINED AT
+                   CP506       487.   4.83       230.        86.       31.      4.31
```

```
          ROUTED TO
+                        P506        0.     .00          0.          0.          0.       4.31
+                                                                                                    1207.63      166.58

          HYDROGRAPH AT
+                         525      132.    4.50         34.          9.          3.        .22

          DIVERSION TO
+                      525RET      132.    4.92         20.          5.          2.        .22

          HYDROGRAPH AT
+                      COO525       96.    4.92         14.          4.          1.        .22

          HYDROGRAPH AT
+                      COO524      129.    7.92         70.         23.          9.        .00


 *** NORMAL END OF HEC-1 ***


    -----DSS---ZCLOSE Unit:  71,   File: CGFDSP3N-6.DSS
              Pointer Utilization:   .66
              Number of Records:    954
              File Size:   1560.4  Kbytes
              Percent Inactive:    .0
```

```
1****************************************                    ****************************************
 *                                      *                    *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                    *   U.S. ARMY CORPS OF ENGINEERS       *
 *              JUN  1998               *                    *   HYDROLOGIC ENGINEERING CENTER      *
 *           VERSION 4.1                *                    *         609 SECOND STREET            *
 *                                      *                    *      DAVIS, CALIFORNIA 95616         *
 *  RUN DATE   31MAR09  TIME  14:49:27  *                    *          (916) 756-1104              *
 *                                      *                    *                                      *
 ****************************************                    ****************************************

                                        X     X  XXXXXXX   XXXXX          X
                                        X     X  X        X     X        XX
                                        X     X  X        X              X
                                        XXXXXXX  XXXX     X        XXXXX X
                                        X     X  X        X              X
                                        X     X  X        X     X        X
                                        X     X  XXXXXXX   XXXXX        XXX

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL   LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1                                          HEC-1 INPUT                                          PAGE  1

      LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

                    *Diagram
        1           ID   Project ID: MARI40_SW - Major Basin: 01 - Return Period: 100 Years
        2           ID
        3           ID   Chandler/Gilbert Floodplain Delineation Study
        4           ID   Phase 3 - South, UPRR/Arizona Ave Watershed
        5           ID   FCD# 2008C042
        6           ID
        7           ID   Watershed boundaries:
        8           ID   Elliot Road on the north, Hunt Hwy on the south,
        9           ID   Cooper Rd./Consolidated Canal to the east, & Arizona Ave to the west.
       10           ID
       11           ID   Prepared by David Evans and Associates, Inc.
       12           ID   Modelers:
       13           ID                    Tami Norton, E.I.T., CFM
       14           ID                    Nathan A. Beutler, E.I.T., CFM
       15           ID
       16           ID   Updated:     Nathan Logan, E.I.T., CFM
       17           ID                and
       18           ID                Jason Coleman P.E.
       19           ID                March 2009
       20           ID
       21           ID   File:  P:\Mari0000-0040\Engineering\Phase_3\south\HEC-1\24-HR\March 2009\
       22           ID   CGFDSP3S-24.DAT
       23           ID
       24           ID   5-minute time interval - 100-year, 24-hour storm event
       25           ID
       26           ID   Total watershed Area = 13.23 sq. mi, Total Point Rainfall = 3.45
       27           ID
       28           ID   Aerial reduction was applied using PB records.
       29           ID   The Phase III - South watershed was broken into 3 PB regions:
       30           ID
       31           ID       First PB region includes sub-basins 600 - 619.
       32           ID       Portions of Sub-basins 612 and 617 were determined to be
       33           ID       non-contributing. Areas listed on the BA Records for these Sub-basins
       34           ID       only reflect the contributing area of the sub-basins.
       35           ID       Region bounded by Elliot Rd. on the north and includes the Santan Freeway
       36           ID       on the south.
       37           ID
       38           ID       Area = 8.69 sq. mi, Reduction Factor = 0.956, PB record = 3.298
       39           ID
       40           ID       Second PB region includes sub-basins 620 - 629.
       41           ID       A portion of Sub-basin 627 was determined to be
       42           ID       non-contributing. The area listed on the BA Record for this Sub-basin
       43           ID       only reflects the contributing area of the sub-basin.
       44           ID       Region bounded by the Santan Freeway on the north and Ocotillo Rd.
       45           ID       on the south.
       46           ID
       47           ID       Area = 2.90 sq. mi, Reduction Factor = 0.986, PB record = 3.402
       48           ID
       49           ID       Third PB region includes sub-basins 630 - 636.
       50           ID       Region bounded by Ocotillo Rd. on the north and Hunt Hwy. on the south.
       51           ID
       52           ID       Area = 1.64 sq. mi, Reduction Factor = 0.992, PB record = 3.422
       53           ID
       54           ID   Green and Ampt infiltration method used to determine rainfall losses.
1                                          HEC-1 INPUT                                          PAGE  2

      LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

       55           ID
       56           ID   Clark Method used to create unit Hydrographs.
```

```
 57          ID
 58          ID   Normal Depth Method used for channel routing.
 59          ID
 60          ID   Eastern Maricopa and Northern Pinal Counties Area, Arizona Soil Survey
 61          ID   used for soils data.
 62          ID
 63          ID   Flood Control District of Maricopa County's (FCDMC) GIS data,
 64          ID   aerial photos dated Dec. 2002, and developments as directed
 65          ID   by Chandler and Gilbert by date of April 2003 used for Land Use Data.
 66          ID   Land Use Data Updated per FCDMC request to June 7, 2006
 67          ID
 68          ID   FCDMC DDMSW Version 2.1.0 Program used to calculate rainfall, rainfall losses
 69          ID   and Unit Hydrographs.
 70          ID
 71          ID   Model includes the Santan Freeway and associated
 72          ID   drainage facilities.
 73          ID
 74          ID   DSS FILE: CGFDS24.dss
 75          ID
 76          IT       5 03MAR03    1200    2000
 77          IO       3
             *
             * ******************************************************************************
             *                              FIRST PB REGION                                 *
             *                              UPDATED PB & PC'S PER 06-04-2008 FCDMC MEMO     *
             * ******************************************************************************
             *
             *

 78          KK  COO525
 79          KM   Retrieve hydrograph for overflow from sub-basin 525 from Phase 3 North.
 80          BA   0.001
 81          ZR   =QI  A=COO  B=KNO  C=FLOW  E=5MIN
             *

 82          KK  525605   ROUTE   REACH
 83          KM   Flow from Phase 3 North Routed through Basin 605.
 84          RS       6
 85          RC   0.030   0.015   0.030    5588  0.0014    2.00
 86          RX     0.0     0.0    60.0    60.0   140.0   140.0   200.0   200.0
 87          RY     2.0     1.0     0.5     0.0     0.0     0.5     1.0     2.0
             *

 88          KK     605   BASIN
 89          BA   0.496
 90          IN      15
 91          PB   3.298
 92          KM   Total point rainfall = 3.45, Area = 8.69 sq. mi, reduction factor = 0.956
 93          KM   Region bounded by Elliot Rd. on the north and includes the Santan Freeway
 94          KM   on the south.
 95          PC   0.000   0.002   0.005   0.008   0.011   0.014   0.017   0.020   0.023   0.026
 96          PC   0.029   0.032   0.035   0.038   0.041   0.044   0.048   0.052   0.056   0.060
 97          PC   0.064   0.068   0.072   0.076   0.080   0.085   0.090   0.095   0.100   0.105
1                                          HEC-1 INPUT                                          PAGE  3

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 98          PC   0.110   0.115   0.120   0.126   0.133   0.140   0.147   0.155   0.163   0.172
 99          PC   0.181   0.191   0.203   0.218   0.236   0.257   0.283   0.387   0.663   0.707
100          PC   0.735   0.758   0.776   0.791   0.804   0.815   0.825   0.834   0.842   0.849
101          PC   0.856   0.863   0.869   0.875   0.881   0.887   0.893   0.898   0.903   0.908
102          PC   0.913   0.918   0.922   0.926   0.930   0.934   0.938   0.942   0.946   0.950
103          PC   0.953   0.956   0.959   0.962   0.965   0.968   0.971   0.974   0.977   0.980
104          PC   0.983   0.986   0.989   0.992   0.995   0.998   1.000
             *
105          KM   The following parameters were determined for this sub basin
106          KM   L= 1.161 mi S= 12.3 ft/mi Kb= 0.027 Urban
107          LG    0.23    0.26    5.30    0.28      31
108          UC   0.646   0.382
109          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
110          UA     100
             *

111          KK     605
112          KM       RETENTION DIVERSION
113          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
114          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 34.44 AC-FT
115          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
116          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 605 = 34.44 AC-FT
117          DT  605RET   34.44
118          DI       0   10000
119          DQ       0   10000
             *

120          KK   CP605
121          KM   Combine 525605 & sub 605
122          KO       3
123          HC       2
             *

124          KK  605606   ROUTE   REACH
125          KM   Routed west along Knox Rd.
126          RS       4
127          RC   0.030   0.015   0.030    4033  0.0009    2.00
128          RX     0.0     0.0    60.0    60.0   140.0   140.0   200.0   200.0
129          RY     2.0     1.0     0.5     0.0     0.0     0.5     1.0     2.0
             *

130          KK     606   BASIN
```

```
KM   The following parameters were determined for this sub basin.
KM   L= 1.225 mi S= 4.3 ft/mi Kb= 0.030 Urban
BA   0.377
LG    0.23    0.15    8.00    0.10      35
UC   1.100   0.846
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*
```

1 HEC-1 INPUT PAGE 4

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK     606
KM       RETENTION DIVERSION
KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 12.94 AC-FT
KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 606 = 12.94 AC-FT
DT  606RET   12.94
DI       0   10000
DQ       0   10000
*

KK   CP606
KM   Combine sub 606 & 605606
KO       3
HC       2
*

KK     603   BASIN
KM   The following parameters were determined for this sub basin.
KM   L= 1.004 mi S= 11.2 ft/mi Kb= 0.029 Urban
BA   0.304
LG    0.22    0.26    4.55    0.43      24
UC   0.683   0.478
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK     603
KM       RETENTION DIVERSION
KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 30.19 AC-FT
KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 603 = 30.19 AC-FT
DT  603RET   30.19
DI       0   10000
DQ       0   10000
*

KK   CP603
KM    COmbine 603 & CP606
KO       3
HC       2
*

KK  P606-3
KM    Combined retention from Vagabond (Espee) Park north of Knox Rd and south of
KM    Warner Rd. and Festiva Court Subdivision south of Knox Rd.
KO       3
RS       1    STOR       0       0
SV       0    0.01    0.09    1.13    2.92    8.40   17.12   28.57   58.59
SE  1210.0  1210.3  1210.8  1211.5  1212.0  1213.0  1214.0  1215.0  1216.0
SQ       0       0       0       0       0       0       0 1673.26 12347.8
SE    1213    1214    1215  1215.1 1215.18    1216    1217    1218    1219
*
```

1 HEC-1 INPUT PAGE 5

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  COO524
KM   Retrieve hydrograph for overflow from sub-basin 524 from Phase 3 North.
BA   0.001
ZR   =QI A=COO B=WAR  C=FLOW  E=5MIN
*

KK  524600   ROUTE   REACH
KM   Routed west along Warner Rd. and through the lake at The Islands subdivision.
RS       9
RC   0.030   0.015   0.030    9178  0.0015    2.00
RX     0.0     0.0    60.0    60.0   140.0   140.0   200.0   200.0
RY     2.0     1.0     0.5     0.0     0.0     0.5     1.0     2.0
*

KK     600   BASIN
KM   The basin area was set to 0.0001 square miles since the entire drainage area
KM   is non-contributing. The lake/water features located within this subdivision
KM   retain all 100-year, 24-hour on-site runoff per the Master Storm Drainage
KM   Report for The Islands dated October, 1984.  Hydrograph COO524
KM   is still routed through Basin 600 assuming the lakes are full as the
KM   hyrdrograph arrives.
KM   The following parameters were determined for this sub basin.
KM   L= 2.23 mi S= 7.2 ft/mi Kb= 0.027 Urban
BA  0.0001
LG    0.21    0.23    5.80    0.22      37
UC   1.317   0.840
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```

```
 204          UA     100
              *

 205          KK   CP600
 206          KM   Combine 524600 & sub 600
 207          KO       3
 208          HC       2
              *

 209          KK  600601   ROUTE   REACH
 210          KM   Routed west along Elliot Rd and through sub 601.
 211          RS       6
 212          RC   0.030   0.015   0.030    5694  0.0009    2.00
 213          RX     0.0     0.0    60.0    60.0   140.0   140.0   200.0   200.0
 214          RY     2.0     1.0     0.5     0.0     0.0     0.5     1.0     2.0
              *

 215          KK     601   BASIN
 216          BA   0.507
 217          KM   The following parameters were determined for this basin.
 218          KM   L= 1.078 mi S= 0.9 ft/mi Kb= 0.034 Urban
 219          LG    0.27    0.22    6.40    0.21      34
 220          UC   1.500   0.909
 221          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 222          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE  6

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 223          KK     601
 224          KM       RETENTION DIVERSION
 225          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
 226          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.61 AC-FT
 227          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
 228          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 601 = 0.61 AC-FT
 229          KO       3
 230          DT  601RET    0.61
 231          DI       0   10000
 232          DQ       0   10000
              *

 233          KK   CP601
 234          KM   Combine 600601 & sub 601
 235          KO       3
 236          HC       2
              *

 237          KK    P601
 238          KM    Ponding in large Retenion Basin located west of school playing fields.
 239          KM    Ponding also includes compensatory storage within retention basin in
 240          KM    Subdivision south of large retention Basin. Flow is released through a
 241          KM    2x2 box culvert under the RR between Warner & Elliot.
 242          KM    Any excess flow weirs over RR tracks.
 243          KO       3
 244          RS       1    STOR       0       0
 245          SV       0    1.92    9.04   40.55   48.98   57.96   67.66   77.88   89.56  104.92
 246          SV  124.22  128.39  132.58  133.63  134.68  145.25  155.96
 247          SE    1204    1205    1206    1210    1211    1212    1213    1214    1215    1216
 248          SE    1217  1217.2  1217.4 1217.45  1217.5    1218  1218.5
 249          SQ       0       0       0       0       0       0       0       0       0   18.11
 250          SQ   28.23   29.84   31.37   32.01   37.20 1689.32 6415.97
              *

 251          KK     602   BASIN
 252          KM   The following parameters were determined for this sub basin.
 253          KM    L= 1.397 mi S= 3.4 ft/mi Kb= 0.027 Urban
 254          BA   0.508
 255          LG    0.15    0.23    6.40    0.20      51
 256          UC   1.267   0.926
 257          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 258          UA     100
              *

 259          KK   CP602
 260          KM   DEVELOPED AREA - NO PONDING AREA.
 261          KM   Combine sub 602 and outfall from P601
 262          KO       3
 263          HC       2
              *
1                                          HEC-1 INPUT                                          PAGE  7

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 264          KK    D602
 265          KM   Divert 100% of flow west over Az Ave
 266          KO       3
 267          DT   Az602
 268          DI       0     100
 269          DQ       0     100
              *

 270          KK     604   BASIN
 271          KM   The following parameters were determined for this sub basin.
 272          KM   L= 0.741 mi S= 11.7 ft/mi Kb= 0.030 Urban
 273          BA   0.201
 274          LG    0.14    0.26    5.30    0.31      57
```

```
275          UC   0.500   0.336
276          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
277          UA     100
             *

278          KK   CP604
279          KM   DEVELOPED AREA - NO PONDING AREA.
280          KM   Combine sub 602, 604, & overflow from 603
281          KO       3
282          HC       3
             *

283          KK    D604  Intersection Diversion
284          KM   Flow split at Arizona Ave & Knox with 40% diverted south along Arizona Ave,
285          KM   remaining flow west over Arizona Ave
286          KO       3
287          DT   Az604
288          DI       0     100     500    1000    2000
289          DQ       0      60     300     600    1200
             *

290          KK  604607   ROUTE   REACH
291          KM   Routed south along Arizona Ave
292          RS       2
293          RC   0.035   0.015   0.030    1732  0.0014    0.00
294          RX     0.0     0.0    23.5    23.5   106.5   106.5   130.0   130.0
295          RY     1.9     0.9     0.5     0.0     0.0     0.5     0.9     1.9
             *

296          KK     607   BASIN
297          KM   The following parameters were determined for this sub basin.
298          KM   L= 0.324 mi S= 28.4 ft/mi Kb= 0.049 Natural
299          BA   0.128
300          LG    0.38    0.16    9.70    0.07      21
301          UC   0.296   0.124
302          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
303          UA     100
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

304          KK   CP607
305          KM   DEVELOPED AREA - NO PONDING AREA.
306          KM   Combine sub 607 & 604607
307          KO       3
308          HC       2
             *

309          KK    D607
310          KM   Divert 100% of flow west over Arizona Ave
311          KO       3
312          DT   Az607
313          DI       0     100
314          DQ       0     100
             *
             *

315          KK     608   BASIN
316          KM   The following parameters were determined for this sub basin
317          KM   L= 1.685 mi S= 9.0 ft/mi Kb= 0.027 Urban
318          BA   1.149
319          LG    0.25    0.16    7.00    0.15      28
320          UC   0.946   0.489
321          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
322          UA     100
             *

323          KK     608
324          KM       RETENTION DIVERSION
325          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
326          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 78.13 AC-FT
327          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
328          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 608 = 78.13 AC-FT
329          DT  608RET   78.13
330          DI       0   10000
331          DQ       0   10000
             *

332          KK  608609   ROUTE   REACH
333          KM   Routed west along Ray Rd.
334          RS       7
335          RC   0.030   0.015   0.030    6425  0.0014    0.00
336          RX     0.0   300.0   311.0   324.9   325.0   339.0   350.0   650.0
337          RY     0.6     0.0     1.8     2.1     2.1     1.8     0.0     0.6
             *

338          KK     609   BASIN
339          KM   The following parameters were determined for this sub basin.
340          KM   L= 1.397 mi S= 6.3 ft/mi Kb= 0.029 Urban
341          BA   0.378
342          LG    0.24    0.16    7.60    0.11      33
343          UC   1.000   0.843
344          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
345          UA     100
             *
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 346          KK     609
 347          KM       RETENTION DIVERSION
 348          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
 349          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 5.28 AC-FT
 350          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
 351          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 615 = 5.28 AC-FT
 352          DT  609RET    5.28
 353          DI       0   10000
 354          DQ       0   10000
              *

 355          KK     612   BASIN
 356          KM   The following parameters were determined for this sub basin.
 357          KM   L= 1.458 mi S= 10.9 ft/mi Kb= 0.033 Urban
 358          BA   0.257
 359          LG    0.28    0.25    5.10    0.32      25
 360          UC   1.000   1.086
 361          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 362          UA     100
              *

 363          KK     612
 364          KM       RETENTION DIVERSION
 365          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
 366          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.94 AC-FT
 367          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 4.43 AC-FT
 368          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 612 = 5.37 AC-FT
 369          DT  612RET    5.37
 370          DI       0   10000
 371          DQ       0   10000
              *

 372          KK    D612  Intersection Diversion
 373          KM   Flow split at McQueen & Frye Rd. with 40% diverted west to CP615
 374          DT   To615
 375          DI       0     100     500    1000    2000
 376          DQ       0      40     200     400     800
              *

 377          KK  612614   ROUTE   REACH
 378          KM   Routed south along McQueen Rd.
 379          RS       2
 380          RC   0.030   0.015   0.030    1352  0.0036    0.00
 381          RX     0.0   300.0   307.5   329.9   330.0   352.5   360.0   660.0
 382          RY     0.6     0.0     1.3     1.7     1.7     1.3     0.0     0.6
              *

 383          KK  CON406
 384          KM        Retrieve data from DSS file
 385          KM        Overflow from Consolidated Canal at Pecos Rd.
 386          BA   0.001
 387          ZR     =QI  A=CONS B=CP406  C=FLOW  E=5MIN F=24HR
              *
1                                        HEC-1 INPUT                                          PAGE 10

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 388          KK  406617   ROUTE   REACH
 389          KM   Route CON406 west along Pecos to CP617.
 390          RS       4
 391          RC   0.030   0.015   0.030    3807  0.0032    0.00
 392          RX     0.0   300.0   311.0   324.9   325.0   339.0   350.0   650.0
 393          RY     0.6     0.0     1.8     2.1     2.1     1.8     0.0     0.6
              *

 394          KK     617   BASIN
 395          KM   The following parameters were determined for this sub basin.
 396          KM   L= 0.905 mi S= 7.5 ft/mi Kb= 0.036 Urban
 397          BA   0.220
 398          LG    0.31    0.25    4.40    0.48      24
 399          UC   0.979   0.795
 400          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 401          UA     100
              *

 402          KK     617
 403          KM       RETENTION DIVERSION
 404          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
 405          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 7.60 AC-FT
 406          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 1.74 AC-FT
 407          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 617 = 9.34 AC-FT
 408          DT  617RET    9.34
 409          DI       0   10000
 410          DQ       0   10000
              *

 411          KK   CP617
 412          KM   Combine 617 & CON406
 413          HC       2
              *

 414          KK    D617  Intersection Diversion
 415          KM   Flow split at McQueen & Pecos with 20% diverted south and routed to CP618
 416          DT   To618
 417          DI       0     100     500    1000    2000
```

```
418          DQ       0      20     100     200     400
             *

419          KK  617614   ROUTE   REACH
420          KM   Route 80% of flow north along McQueen to CP 614 and route to CP615 since
421          KM   split to west would end up at CP615.
422          RS       2
423          RC   0.030   0.015   0.030    1379  0.0045    0.00
424          RX     0.0   300.0   307.5   329.9   330.0   352.5   360.0   660.0
425          RY     0.6     0.0     1.3     1.7     1.7     1.3     0.0     0.6
             *
1                                          HEC-1 INPUT                                                    PAGE 11

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


426          KK     614   BASIN
427          KM   The following parameters were determined for this sub basin.
428          KM   L= 1.313 mi S= 12.4 ft/mi Kb= 0.028 Urban
429          BA   0.416
430          LG    0.24    0.25    4.60    0.41      32
431          UC   0.750   0.550
432          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
433          UA     100
             *

434          KK     614
435          KM       RETENTION DIVERSION
436          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
437          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 19.04 AC-FT
438          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
439          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 614 = 19.04 AC-FT
440          DT  614RET   19.04
441          DI       0   10000
442          DQ       0   10000
             *

443          KK   CP614
444          KM   Combine 612614, 617614, & 614
445          KO       3
446          HC       3
             *

447          KK  614615   ROUTE   REACH
448          KM   Routed west along Saragosa Court.
449          RS       5
450          RC   0.030   0.015   0.030    5124  0.0001    3.00
451          RX     0.0   170.0   190.0   250.0   290.0   310.0   660.0  1060.0
452          RY     1.0     0.8     0.5     0.0     0.0     0.5     1.0     3.0
             *

453          KK     613   BASIN
454          KM   The following parameters were determined for this sub basin.
455          KM   L= 0.870 mi S= 11.4 ft/mi Kb= 0.035 Urban
456          BA   0.208
457          LG    0.22    0.27    4.60    0.40      36
458          UC   0.671   0.520
459          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
460          UA     100
             *

461          KK     613
462          KM       RETENTION DIVERSION
463          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
464          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 3.32 AC-FT
465          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
466          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 613 = 3.32 AC-FT
467          DT  613RET    3.32
468          DI       0   10000
469          DQ       0   10000
             *
1                                          HEC-1 INPUT                                                    PAGE 12

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


470          KK     615   BASIN
471          KM   The following parameters were determined for this sub basin.
472          KM   L= 0.845 mi S= 10.3 ft/mi Kb= 0.030 Urban
473          BA   0.368
474          LG    0.20    0.27    4.45    0.44      24
475          UC   0.650   0.356
476          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
477          UA     100
             *

478          KK     615
479          KM       RETENTION DIVERSION
480          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
481          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 10.54 AC-FT
482          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
483          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 615 = 10.54 AC-FT
484          DT  615RET   10.54
485          DI       0   10000
486          DQ       0   10000
             *

487          KK  FRM612
488          KM   Retrieve hydrograph from flow split at McQueen & Frye directed west.
```

```
489          DR   To615
             *

490          KK  612615   ROUTE   REACH
491          KM   Routed west along Frye Rd.
492          RS       4
493          RC   0.030   0.015   0.030    3867  0.0016    2.11
494          RX     0.0   300.0   311.0   324.9   325.0   339.0   350.0   650.0
495          RY     0.6     0.0     1.8     2.1     2.1     1.8     0.0     0.6
             *

496          KK   CP615
497          KM   Combine sub 615, 613, 612615, & 614615
498          KO       3
499          HC       4
             *

500          KK  P613-5
501          KM    Ponding east of the RR Tracks.
502          KM
503          KO       3
504          RS       1    STOR       0       0
505          SV       0   0.004    0.11    0.35    0.71    1.40    2.89    9.62   18.41   21.71
506          SV   62.85  112.35  164.18
507          SE    1210    1211    1212    1213    1214    1215    1216    1217  1217.6    1218
508          SE    1219    1220    1221
509          SQ       0       0       0       0       0       0       0       0  104.65  379.92
510          SQ  2707.1   12574 33569.7
             *
1                                          HEC-1 INPUT                                          PAGE 13

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

511          KK     610   BASIN
512          KM   The following parameters were determined for this sub basin.
513          KM   L= 1.112 mi S= 6.6 ft/mi Kb= 0.028 Urban
514          BA   0.540
515          LG    0.23    0.26    5.20    0.29      31
516          UC   0.867   0.488
517          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
518          UA     100
             *

519          KK   CP610
520          KM   Combine sub 610, & overflow from P613-5
521          KO       3
522          HC       2
             *

523          KK   CP609
524          KM   Combine sub 608609, 609, CP610
525          KO       3
526          HC       3
             *

527          KK  P610-9
528          KM    Ponding in retention basin east of RR track and within commercial disctrict.
529          KM    Excess flow escapes through a 7'x 3' RR bridge located in sub 610.
530          KO       3
531          RS       1    STOR       0       0
532          SV       0    0.20     .53    1.18     2.4    3.98    7.85   16.63   49.52  128.54
533          SV  224.08  325.31  427.72
534          SE    1208    1209    1210    1211    1212    1213    1214    1215    1216    1217
535          SE    1218    1219    1220
536          SQ       0       0       0       0       0       0       0       0   10.23    39.1
537          SQ   77.57  130.82 3860.84
             *

538          KK  609611   ROUTE   REACH
539          KM   Routed west along Roadway
540          RS       3
541          RC   0.030   0.015   0.030    2613  0.0033    0.00
542          RX     0.0   300.0   307.5   329.9   330.0   352.5   360.0   660.0
543          RY     0.6     0.0     1.3     1.7     1.7     1.3     0.0     0.6
             *

544          KK     611   BASIN
545          KM   The following parameters were determined for this sub basin.
546          KM   L= 0.958 mi S= 4.7 ft/mi Kb= 0.030 Urban
547          BA   0.292
548          LG    0.21    0.26    5.00    0.33      41
549          UC   0.938   0.672
550          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
551          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 14

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

552          KK   CP611
553          KM   Combine  sub 611 & 609611
554          KO       3
555          HC       2
             *

556          KK    D611
557          KM   Divert 100% of flow west over Arizona Ave
```

```
558          DT   Az611
559          DI       0     100
560          DQ       0     100
             *

561          KK     616   BASIN
562          KM   The following parameters were determined for this sub basin.
563          KM   L= 0.433 mi S= 12.9 ft/mi Kb= 0.031 Urban
564          BA   0.173
565          LG    0.17    0.25    4.55    0.45      51
566          UC   0.350   0.160
567          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
568          UA     100
             *

569          KK   CP616
570          KM   Combine 616 & D611
571          KO       3
572          HC       2
             *

573          KK    D616
574          KM   Divert 100% flow west over Arizona Ave to be retrieved later
575          KO       3
576          DT   Az616
577          DI       0     100
578          DQ       0     100
             *

579          KK     619   BASIN
580          KM   The following parameters were determined for this sub basin.
581          KM   L= 0.341 mi S= 12.9 ft/mi Kb= 0.030 Natural
582          BA   0.115
583          LG    0.16    0.25    4.70    0.41      61
584          UC   0.300   0.141
585          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
586          UA     100
             *

587          KK   CP619
588          KM   Combine  D616 and 619
589          KO       3
590          HC       2
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

591          KK    D619
592          KM   Divert 100% flow over Arizona Ave.
593          KO       3
594          DT   Az619
595          DI       0     100
596          DQ       0     100
             *

597          KK   dummy
598          KM   Combine
599          HC       2
             *

600          KK     618   BASIN
601          KM   The following parameters were determined for this sub basin.
602          KM   L= 0.696 mi S= 10.9 ft/mi Kb= 0.029 Urban
603          BA   0.321
604          LG    0.26    0.25    4.60    0.38      20
605          UC   0.533   0.265
606          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
607          UA     100
             *

608          KK     618
609          KM       RETENTION DIVERSION
610          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
611          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 7.41 AC-FT
612          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 5.98 AC-FT
613          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 618 = 13.39 AC-FT
614          DT  618RET   13.39
615          DI       0   10000
616          DQ       0   10000
             *

617          KK  FRM617
618          KM   Retrieve hydrograph from flow split at McQueen & Pecos directed south
619          DR   To618
             *

620          KK  617618   ROUTE   REACH
621          KM   Routed south along McQueen
622          RS       3
623          RC   0.030   0.015   0.030    2733  0.0028    1.25
624          RX     0.0   300.0   307.5   329.9   330.0   352.5   360.0   660.0
625          RY     0.6     0.0     1.3     1.7     1.7     1.3     0.0     0.6
             *

626          KK   CP618
627          KM   Combine sub 618 & 617618
628          KM   Flow enters Santan Storm Drain System
```

```
629          KO       3
630          HC       2
             *
1                                    HEC-1 INPUT                                          PAGE 16

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

631          KK    P618
632          KM    Ponding in Retention basin. Excess flow is conveyed into the Santan
633          KM    Freeway storm drain system
634          KO       3
635          RS       1    STOR       0       0
636          SV       0     1.1    6.05   11.38   14.10
637          SE    1215    1216    1217    1218  1218.5
638          SQ       0       0       0       0  895.81
             *
             * ******************************************************************************
             *                                SECOND PB REGION                                *
             *                                UPDATED PB & PC'S PER 06-04-2008 FCDMC MEMO     *
             * ******************************************************************************
             *

639          KK     620   BASIN
640          KM   The following parameters were determined for this sub basin.
641          KM   L= 0.363 mi S= 3.3 ft/mi Kb= 0.039 Natural
642          PB   3.402
643          KM   Total point rainfall = 3.45, Area = 2.90 sq. mi, reduction factor = 0.986
644          KM   Region bounded by the Santan Freeway on the north and Ocotillo Rd.
645          KM   on the south.
646          BA   0.070
647          LG    0.24    0.25    4.00    0.64      46
648          UC   0.675   0.481
649          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
650          UA     100
             *

651          KK    D620
652          KM   Divert 100% of flow west over Arizona Ave
653          KO       3
654          DT   Az620
655          DI       0     100
656          DQ       0     100
             *

657          KK   DUMMY
658          KM   Combine sub 620 & CP618,
659          HC       2
             *

660          KK     628   BASIN
661          KM   The following parameters were determined for this sub basin.
662          KM   L= 0.746 mi S= 7.5 ft/mi Kb= 0.049 Natural
663          BA   0.268
664          LG    0.49    0.25    4.70    0.46       2
665          UC   1.296   0.830
666          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
667          UA     100
             *
1                                    HEC-1 INPUT                                          PAGE 17

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

668          KK    P628
669          KM    Ponding in Agricultural Field east of RR Track
670          KM    Excess flow weirs over Appleby Road and RR Track
671          KO       3
672          RS       1    STOR       0       0
673          SV       0    0.02    0.15    3.51   11.55   14.99   16.89   48.20
674          SE    1217    1218    1219    1220 1220.63  1220.9    1221    1222
675          SQ       0       0       0       0       0   22.64   70.29 1807.12
             *

676          KK     627   BASIN
677          KM   The following parameters were determined for this sub basin.
678          KM   L= 0.820 mi S= 16.8 ft/mi Kb= 0.050 Natural
679          BA   0.211
680          LG    0.47    0.25    4.80    0.44       2
681          UC   0.938   0.713
682          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
683          UA     100
             *

684          KK   CP627
685          KM   Combine sub 627, & 628
686          KO       3
687          HC       2
             *

688          KK    P627
689          KM    Ponding in Agricultural Field east of RR Track
690          KM    Excess flow weirs over Queen Creek Road and RR Track
691          KO       3
692          RS       1    STOR       0       0
693          SV       0    0.02    0.20    0.70    1.73    6.28   24.89   30.96   39.23   72.39
694          SV  142.37
695          SE    1214    1215    1216    1217    1218    1219    1220  1220.2  1220.4    1221
696          SE    1222
```

```
SQ       0       0       0       0       0       0       0       0   22.16 1034.77
SQ  7435.2
*

KK    D627
KM   Divert flow to 625
KO       3
DT   To625
DI       0     100
DQ       0     100
*

KK     629   BASIN
KM   The following parameters were determined for this sub basin.
KM   L= 1.088 mi S= 5.2 ft/mi Kb= 0.049 Natural
BA   0.259
LG    0.50    0.25    4.65    0.49       0
UC   1.500   1.343
UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
```

1 HEC-1 INPUT PAGE 18

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

UA     100
*

KK    P629
KM    Ponding in Agricultural Field east of Arizona Avenue
KM    Excess flow weirs west over Arizona Ave and north over Queen Creek Road.
KO       3
RS       1    STOR       0       0
SV       0    0.03    0.14    0.78    8.70   10.78   12.99   15.30
SE    1212    1213    1214    1215  1215.7  1215.8  1215.9    1216
SQ       0       0       0       0       0       0    2.64   24.85
*

KK    D629
KM   Divert 40% of flow west over Arizona Ave
KO       3
DT   Az629
DI       0     100
DQ       0      40
*

KK  Frm627
KM   Retrieve flow from 627
DR   To625
*

KK     625   BASIN
KM   The following parameters were determined for this sub basin.
KM   L= 1.105 mi S= 12.8 ft/mi Kb= 0.044 Natural
BA   0.418
LG    0.43    0.25    5.00    0.40      11
UC   1.092   0.729
UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
UA     100
*

KK   CP625
KM   Combine sub 625 & CP627
KO       3
HC       2
*

KK    D625
KM   Divert flow to 623
DT   To623
DI       0     100
DQ       0     100
*

KK  Frm625
KM   Retrieve flow from 625
DR   To623
*
```

1 HEC-1 INPUT PAGE 19

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK     623   BASIN
KM   The following parameters were determined for this sub basin.
KM   L= 1.258 mi S= 12.7 ft/mi Kb= 0.041 Natural
BA   0.600
LG    0.39    0.15    7.60    0.14       7
UC   0.979   0.582
UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
UA     100
*

KK     623
KM       RETENTION DIVERSION
KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.00 AC-FT
KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 2.33 AC-FT
KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 623 = 2.33 AC-FT
DT  623RET    2.33
DI       0   10000
```

```
766          DQ       0   10000
             *

767          KK   CP623
768          KM   Combine sub 623, FRM625
769          KO       3
770          HC       2
             *

771          KK  P623-5
772          KM    Ponding in Agricultural Field east of RR Track. Flow released thru 8x2 box
773          KM    culvert between Germann & Ryan Rd.
774          KM
775          KO       3
776          RS       1    STOR       0       0
777          SV       0    0.09    0.95    3.69   27.28   38.60   58.83  101.80  216.51  373.53
778          SV  578.58
779          SE    1213    1214    1215    1216    1217  1217.2  1217.5    1218    1219    1220
780          SE    1221
781          SQ       0       0    1.18    8.25   19.46   21.94   73.89   91.17  128.05  166.01
782          SQ  6339.4
             *

783          KK  CON412
784          KM        Retrieve data from DSS file
785          KM        Overflow from Consolidated Canal at Santan Fwy
786          BA   0.001
787          ZR     =QI  A=CONS B=CP412  C=FLOW  E=5MIN  F=24HR
             *

788          KK     621   BASIN
789          KM   The following parameters were determined for this sub basin.
790          KM   L= 1.273 mi S= 10.0 ft/mi Kb= 0.040 Natural
791          BA   0.505
792          LG    0.30    0.25    6.20    0.23      22
793          UC   1.083   0.723
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

794          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
795          UA     100
             *

796          KK     621
797          KM       RETENTION DIVERSION
798          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
799          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 3.46 AC-FT
800          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
801          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 621 = 3.46 AC-FT
802          DT  621RET    3.46
803          DI       0   10000
804          DQ       0   10000
             *

805          KK   CP621
806          KM   Combine 621 & CON412
807          KO       3
808          HC       2
             *

809          KK    P621
810          KM    Ponding east of RR Track
811          KM
812          KO       3
813          RS       1    STOR       0       0
814          SV       0    1.93   21.10   73.52  162.84  183.54  194.01  204.54  215.16  269.05
815          SV  379.15
816          SE    1211    1217    1218    1219    1220  1220.2  1220.3  1220.4  1220.5    1221
817          SE    1222
818          SQ       0       0       0       0       0       0       0    0.16   14.07   663.5
819          SQ  4514.3
             *

820          KK     622   BASIN
821          KM   The following parameters were determined for this sub basin.
822          KM   L= 0.417 mi S= 8.6 ft/mi Kb= 0.047 Natural
823          BA   0.101
824          LG    0.32    0.21    6.40    0.23      35
825          UC   1.500   1.127
826          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
827          UA     100
             *

828          KK   CP622
829          KM   DEVELOPED AREA - NO PONDING NECESSARY.
830          KM   Combine 621 & 622
831          KO       3
832          HC       2
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

833          KK    D622 Intersection Diversion
834          KM   Flow split at Arizona Ave & Germann Rd. with 20% diverted west of Arizona Ave
835          DT   Az622
836          DI       0     100     500    1000    2000
```

```
837          DQ       0      20     100     200     400
             *

838          KK  622624   ROUTE   REACH
839          KM   Routed south along Arizona Ave to CP624
840          RS       3
841          RC   0.035   0.015   0.035    2357  0.0004    1.85
842          RX     0.0     0.0    23.5    23.5   106.5   106.5   130.0   130.0
843          RY     1.9     0.9     0.5     0.0     0.0     0.5     0.9     1.9
             *

844          KK     624   BASIN
845          KM   The following parameters were determined for this sub basin.
846          KM   L= 0.496 mi S= 8.5 ft/mi Kb= 0.045 Natural
847          BA   0.133
848          LG    0.34    0.15    9.70    0.07      24
849          UC   0.579   0.366
850          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
851          UA     100
             *

852          KK   CP624
853          KM   Combine P623-5, sub 624 & 622624
854          KO       3
855          HC       3
             *

856          KK    P624
857          KM    Ponding in Agricultural Field east of Arizona Ave
858          KM
859          KO       3
860          RS       1    STOR       0       0
861          SV       0    0.05    0.29    2.78   26.51    35.3   40.42   43.14   85.38
862          SE    1211    1212    1213    1214    1215  1215.2  1215.3 1215.35    1216
863          SQ       0       0       0       0       0     4.6   32.79   62.36 1613.56
             *

864          KK    D624
865          KM   Divert 100% of flow over Arizona Ave
866          KO       3
867          DT   Az624
868          DI       0     100
869          DQ       0     100
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

870          KK     626   BASIN
871          KM   The following parameters were determined for this sub basin.
872          KM   L= 0.554 mi S= 12.8 ft/mi Kb= 0.054 Natural
873          BA   0.132
874          LG    0.50    0.25    5.40    0.34       0
875          UC   0.817   0.581
876          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
877          UA     100
             *

878          KK   CP626
879          KM   Combine Flow from CP629, P625,P624 and 626
880          KO       3
881          HC       4
             *

882          KK    P626
883          KM    Ponding in Agricultural Field east of Arizona Ave
884          KM
885          KO       3
886          RS       1    STOR       0       0
887          SV       0    0.05    0.25    0.75    3.69    5.74   38.47
888          SE    1211    1212    1213    1214  1214.8    1215    1216
889          SQ       0       0       0       0   56.17  184.11 2470.37
             *

890          KK    D626
891          KM   Divert 100% of flow over Arizona Ave
892          KO       3
893          DT   Az626
894          DI       0     100
895          DQ       0     100
             *
             * ***************************************************************************
             *                              THIRD PB REGION                              *
             *                              UPDATED PB & PC'S PER 06-04-2008 FCDMC MEMO  *
             * ***************************************************************************
             *

896          KK     630   BASIN
897          KM   The following parameters were determined for this sub basin.
898          KM   L= 1.238 mi S= 4.7 ft/mi Kb= 0.033 Urban
899          PB   3.422
900          KM   Total point rainfall = 3.45, Area = 1.64 sq. mi, reduction factor = 0.992
901          KM   Region bounded by Ocotillo Rd. on the north and Hunt Hwy. on the south.
902          BA   0.323
903          LG    0.25    0.22    4.15    0.53      36
904          UC   1.292   1.112
905          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
906          UA     100
```

```
                    *
1                                   HEC-1 INPUT                                                    PAGE 23

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 907          KK  CON424
 908          KM        Retrieve data from DSS file
 909          KM        Overflow from Consolidated Canal at Chandler Heights Rd.
 910          BA   0.001
 911          ZR     =QI  A=CONS B=CP424  C=FLOW  E=5MIN F=24HR
              *

 912          KK   CP630
 913          KM   Combine 630 & CON424
 914          KO       3
 915          HC       2
              *

 916          KK    P630
 917          KM    Ponding in lakes within the Pinelake Community and in basins
 918          KM    east of RR Track.
 919          KO       3
 920          RS       1    STOR       0       0
 921          SV       0   19.47   42.46   84.89   90.09  101.24  107.19  147.62  236.65
 922          SE    1213    1218    1219    1220  1220.1  1220.3  1220.4    1221    1222
 923          SQ       0       0       0       0       0    4.83   41.41 1164.73 8549.33
              *

 924          KK     631   BASIN
 925          KM   The following parameters were determined for this sub basin.
 926          KM   L= 0.919 mi S= 8.5 ft/mi Kb= 0.042 Urban
 927          BA   0.302
 928          LG    0.33    0.25    4.45    0.51      24
 929          UC   1.021   0.701
 930          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 931          UA     100
              *

 932          KK     631
 933          KM       RETENTION DIVERSION
 934          KM       DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
 935          KM       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 3.85 AC-FT
 936          KM       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
 937          KM       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 631 = 3.85 AC-FT
 938          DT  631RET   3.85
 939          DI       0   10000
 940          DQ       0   10000
              *

 941          KK   CP631
 942          KM   Combine sub 630 & 631
 943          KO       3
 944          HC       2
              *
1                                   HEC-1 INPUT                                                    PAGE 24

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

 945          KK    P631
 946          KM    Ponding in Agricultural Field east of Arizona Ave
 947          KM
 948          KO       3
 949          RS       1    STOR       0       0
 950          SV       0    0.47   12.81   33.43   35.22   40.98  104.91
 951          SE    1212    1213    1214  1214.8 1214.85    1215    1216
 952          SQ       0       0       0       0    0.97   31.86 2086.71
              *

 953          KK    D631
 954          KM   Divert 100% of flow over Arizona Ave
 955          KO       3
 956          DT   Az631
 957          DI       0     100
 958          DQ       0     100
              *

 959          KK  CON427
 960          KM        Retrieve data from DSS file
 961          KM        Overflow from Consolidated Canal from Paseo Crossings Subdivision.
 962          BA   0.001
 963          ZR     =QI  A=CONS B=CP427  C=FLOW  E=5MIN F=24HR
              *

 964          KK    632N   BASIN
 965          KM   The following parameters were determined for this sub basin.
 966          KM   L= 0.27 mi S= 56.2 ft/mi Kb= 0.029 Natural
 967          BA   0.151
 968          LG    0.19    0.24    4.50    0.55       6
 969          UC   0.179   0.057
 970          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 971          UA     100
              *

 972          KK  CP632N
 973          KM   Combine 632N & CON427
 974          KO       3
 975          HC       2
```

```
                 *
 976             KK   P632N
 977             KM    Ponding in golf course North of the ridge
 978             KM
 979             KO       3
 980             RS       1    STOR       0       0
 981             SV       0    0.03    0.16    0.46    1.03    2.15    4.15    7.46   12.83   21.24
 982             SV   34.59   55.53   86.08  127.64  181.03  246.25  320.69  402.11  489.09
 983             SE    1208    1209    1210    1211    1212    1213    1214    1215    1216    1217
 984             SE    1218    1219    1220    1221    1222    1223    1224    1225    1226
 985             SQ       0       0       0       0       0       0       0       0       0       0
 986             SQ       0       0       0       0       0  249.64 2141.79 8964.8422868.67
                 *
1                                                HEC-1 INPUT                                          PAGE 25

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 987             KK    632S   BASIN
 988             KM   The following parameters were determined for this sub basin.
 989             KM   L= 0.21 mi S= 64.6 ft/mi Kb= 0.027 Natural
 990             BA   0.264
 991             LG    0.20    0.25    4.55    0.54       4
 992             UC   0.146   0.027
 993             UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 994             UA     100
                 *

 995             KK  CP632S
 996             KM   Combine 632S & overflow from 632N
 997             KO       3
 998             HC       2
                 *

 999             KK   P632S
1000             KM    Ponding in golf course along UPRR
1001             KM
1002             KO       3
1003             RS       1    STOR       0       0
1004             SV       0    0.31    0.65    1.23    2.48    4.99    9.24   15.84   25.44   38.62
1005             SV   56.36   82.55  121.05  169.66  225.97  287.99  354.01  422.10
1006             SE    1203    1204    1205    1206    1207    1208    1209    1210    1211    1212
1007             SE    1213    1214    1215    1216    1217    1218    1219    1220
1008             SQ       0       0       0       0       0       0       0       0       0       0
1009             SQ       0       0   18.29   74.00  146.47  234.48  513.71 9191.05
                 *

1010             KK     634   BASIN
1011             KM   The following parameters were determined for this sub basin.
1012             KM   L= 0.398 mi S= 0.3 ft/mi Kb= 0.051 Natural
1013             KO       3
1014             BA   0.071
1015             LG    0.36    0.25    4.25    0.57      14
1016             UC   1.500   1.259
1017             UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1018             UA     100
                 *

1019             KK    P634
1020             KM    Ponding in open space east of UPRR Track
1021             KM
1022             KO       3
1023             RS       1    STOR       0       0
1024             SV       0    0.38    1.42    6.47   20.05   45.01
1025             SE    1213    1214    1215    1216    1217    1218
1026             SQ       0       0       0       0       0  306.23
                 *
1                                                HEC-1 INPUT                                          PAGE 26

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1027             KK     633   BASIN
1028             KM   The following parameters were determined for this sub basin.
1029             KM   L= 0.923 mi S= 11.9 ft/mi Kb= 0.047 Natural
1030             BA   0.227
1031             LG    0.41    0.26    4.60    0.47      10
1032             UC   1.067   0.866
1033             UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1034             UA     100
                 *

1035             KK   CP633
1036             KM   Combine sub 634, 633, CP632
1037             KO       3
1038             HC       3
                 *

1039             KK    P633
1040             KM    Ponding east of Arizona Ave
1041             KM
1042             KO       3
1043             RS       1    STOR       0       0
1044             SV       0   10.25   54.23  148.72  256.14
1045             SE    1208    1212    1213    1214    1215
1046             SQ       0       0       0  309.96 9558.67
                 *
```

```
1047          KK    D633
1048          KM   Divert 100% of flow over Arizona Ave
1049          KO       3
1050          DT   Az633
1051          DI       0     100
1052          DQ       0     100
              *

1053          KK     635   BASIN
1054          KM   The following parameters were determined for this sub basin.
1055          KM   L= 0.845 mi S= 13.7 ft/mi Kb= 0.030 Urban
1056          BA   0.153
1057          LG    0.12    0.30    4.15    0.48      28
1058          UC   0.563   0.500
1059          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1060          UA     100
              *

1061          KK    D635
1062          KM   Divert 100% of flow over Arizona Ave
1063          KO       3
1064          DT   Az635
1065          DI       0     100
1066          DQ       0     100
              *
1                                        HEC-1 INPUT                                          PAGE 27

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1067          KK   RR432
1068          KM        Retrieve data from DSS file
1069          KM        Overflow from RR Track Bridge
1070          BA   0.001
1071          ZR     =QI  A=RR   B=CP432  C=FLOW  E=5MIN F=24HR
              *

1072          KK     636   BASIN
1073          KM   The following parameters were determined for this sub basin.
1074          KM   L= 0.570 mi S= 4.4 ft/mi Kb= 0.028 Urban
1075          BA   0.147
1076          LG    0.25    0.25    4.35    0.46      31
1077          UC   0.658   0.443
1078          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1079          UA     100
              *

1080          KK   CP636
1081          KM   Combine sub 636, & RR432
1082          KO       3
1083          HC       2
              *

1084          KK    D636
1085          KM   Divert 100% of flow over Arizona Ave
1086          KO       3
1087          DT   Az636
1088          DI       0     100
1089          DQ       0     100
              *

1090          KK   dummy
1091          KM   Combine all hydrographs for modeling purposes
1092          HC       6
              *

1093          KK  DSS602
1094          KM   Write hydrograph for overflow from sub-basin 602
1095          DR   Az602
1096          ZW    A=Az B=CP602 C=FLOW   D=03Mar1903  E=5MIN
              *

1097          KK  DSS604
1098          KM   Write hydrograph for overflow from sub-basin 604
1099          DR   Az604
1100          ZW    A=Az B=CP604  C=FLOW  E=5MIN
              *

1101          KK  DSS607
1102          KM   Write hydrograph for overflow from sub-basin 607
1103          DR   Az607
1104          ZW    A=Az B=CP607  C=FLOW  E=5MIN
              *
1                                        HEC-1 INPUT                                          PAGE 28

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1105          KK  DSS611
1106          KM   Write hydrograph for overflow from sub-basin 611
1107          DR   Az611
1108          ZW    A=Az B=CP611  C=FLOW  E=5MIN
              *

1109          KK  DSS616
1110          KM   Write hydrograph for overflow from sub-basin 616
1111          DR   Az616
1112          ZW    A=Az B=CP616  C=FLOW  E=5MIN
              *
```

```
1113          KK  DSS619
1114          KM   Write hydrograph for overflow from sub-basin 619
1115          DR   Az619
1116          ZW    A=Az B=CP619  C=FLOW  E=5MIN
              *

1117          KK     DSS
1118          KM   Combine DSS FILES FOR MODELING PURPOSES
1119          HC       6
              *

1120          KK  DSS620
1121          KM   Write hydrograph for overflow from sub-basin 620
1122          DR   Az620
1123          ZW    A=Az B=CP620  C=FLOW  E=5MIN
              *

1124          KK  DSS629
1125          KM   Write hydrograph for overflow from sub-basin 629
1126          DR   Az629
1127          ZW    A=Az B=CP629  C=FLOW  E=5MIN
              *

1128          KK  DSS622
1129          KM   Write hydrograph for overflow from sub-basin 622
1130          DR   Az622
1131          ZW    A=Az B=CP622  C=FLOW  E=5MIN
              *

1132          KK  DSS624
1133          KM   Write hydrograph for overflow from sub-basin 624
1134          DR   Az624
1135          ZW    A=Az B=CP624  C=FLOW  E=5MIN
              *

1136          KK  DSS626
1137          KM   Write hydrograph for overflow from sub-basin 626
1138          DR   Az626
1139          ZW   A=Az   B=CP626  C=FLOW  E=5MIN
              *
1                                    HEC-1 INPUT                                    PAGE 29

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1140          KK    DSS2
1141          KM   Combine DSS FILES FOR MODELING PURPOSES
1142          HC       5
              *

1143          KK  DSS631
1144          KM   Write hydrograph for overflow from sub-basin 631
1145          DR   Az631
1146          ZW   A=Az   B=CP631  C=FLOW  E=5MIN
              *

1147          KK  DSS633
1148          KM   Write hydrograph for overflow from sub-basin 633
1149          DR   Az633
1150          ZW   A=Az   B=CP633  C=FLOW  E=5MIN
              *

1151          KK  DSS635
1152          KM   Write hydrograph for overflow from sub-basin 635
1153          DR   Az635
1154          ZW   A=Az   B=CP635  C=FLOW  E=5MIN
              *

1155          KK  DSS636
1156          KM   Write hydrograph for overflow from sub-basin 636
1157          DR   Az636
1158          ZW   A=Az   B=CP636  C=FLOW  E=5MIN
              *

1159          KK     OUT
1160          KM   Combine all Flow Leaving Watershed
1161          HC       6
              *
              *
1162          ZZ
1
              SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

   NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    78      COO525
                 V
                 V
    82      525605
                 .
                 .
    88           .         605
                 .           .
                 .           .
   117           .           .-------->  605RET
   111           .         605
```

```
                .           .
                .           .
120        CP605............
                V
                V
124       605606
                .
                .
130             .        606
                .           .
                .           .
144             .           .-------> 606RET
138             .        606
                .           .
                .           .
147        CP606............
                .
                .
151             .        603
                .           .
                .           .
165             .           .-------> 603RET
159             .        603
                .           .
                .           .
168        CP603............
                V
                V
172       P606-3
                .
                .
181             .     COO524
                .          V
                .          V
185             .     524600
                .           .
                .           .
191             .           .        600
                .           .          .
                .           .          .
205             .      CP600............
                .          V
                .          V
209             .     600601
                .           .
                .           .
215             .           .        601
                .           .          .
                .           .          .
230             .           .          .-------> 601RET
223             .           .        601
                .           .          .
                .           .          .
233             .      CP601............
                .          V
                .          V
237             .       P601
                .           .
                .           .
251             .           .        602
                .           .          .
                .           .          .
259             .      CP602............
                .           .
                .           .
267             .           .------->  Az602
264             .       D602
                .           .
                .           .
270             .           .        604
                .           .          .
                .           .          .
278        CP604........................
                .
                .
287             .------->  Az604
283         D604
                V
                V
290       604607
                .
                .
296             .        607
                .           .
                .           .
304        CP607............
                .
                .
312             .------->  Az607
309         D607
                .
                .
315             .        608
                .           .
                .           .
329             .           .-------> 608RET
323             .        608
                .          V
                .          V
```

```
332          .     608609
             .         .
             .         .
338          .         .        609
             .         .         .
             .         .         .
352          .         .         .-------> 609RET
346          .         .        609
             .         .         .
             .         .         .
355          .         .         .        612
             .         .         .         .
             .         .         .         .
369          .         .         .         .-------> 612RET
363          .         .         .        612
             .         .         .         .
             .         .         .         .
374          .         .         .         .------->  To615
372          .         .         .       D612
             .         .         .         V
             .         .         .         V
377          .         .         .      612614
             .         .         .         .
             .         .         .         .
383          .         .         .         .     CON406
             .         .         .         .         V
             .         .         .         .         V
388          .         .         .         .     406617
             .         .         .         .         .
             .         .         .         .         .
394          .         .         .         .         .        617
             .         .         .         .         .         .
             .         .         .         .         .         .
408          .         .         .         .         .         .-------> 617RET
402          .         .         .         .         .        617
             .         .         .         .         .         .
             .         .         .         .         .         .
411          .         .         .         .      CP617............
             .         .         .         .         .
             .         .         .         .         .
416          .         .         .         .         .------->  To618
414          .         .         .         .       D617
             .         .         .         .         V
             .         .         .         .         V
419          .         .         .         .     617614
             .         .         .         .         .
             .         .         .         .         .
426          .         .         .         .         .        614
             .         .         .         .         .         .
             .         .         .         .         .         .
440          .         .         .         .         .         .-------> 614RET
434          .         .         .         .         .        614
             .         .         .         .         .         .
             .         .         .         .         .         .
443          .         .         .      CP614......................
             .         .         .         V
             .         .         .         V
447          .         .         .      614615
             .         .         .         .
             .         .         .         .
453          .         .         .         .        613
             .         .         .         .         .
             .         .         .         .         .
467          .         .         .         .         .-------> 613RET
461          .         .         .         .        613
             .         .         .         .         .
             .         .         .         .         .
470          .         .         .         .         .        615
             .         .         .         .         .         .
             .         .         .         .         .         .
484          .         .         .         .         .         .-------> 615RET
478          .         .         .         .         .        615
             .         .         .         .         .         .
             .         .         .         .         .         .
489          .         .         .         .         .         .<-------  To615
487          .         .         .         .         .         .     FRM612
             .         .         .         .         .         .         V
             .         .         .         .         .         .         V
490          .         .         .         .         .         .     612615
             .         .         .         .         .         .         .
             .         .         .         .         .         .         .
496          .         .         .      CP615...................................
             .         .         .         V
             .         .         .         V
500          .         .         .      P613-5
             .         .         .         .
             .         .         .         .
511          .         .         .         .        610
             .         .         .         .         .
             .         .         .         .         .
519          .         .         .      CP610............
             .         .         .         .
             .         .         .         .
523          .      CP609......................
             .         V
             .         V
527          .      P610-9
             .         V
             .         V
```

```
538          .      609611
             .          .
             .          .
544          .          .         611
             .          .           .
             .          .           .
552          .      CP611............
             .          .
             .          .
558          .          .-------->   Az611
556          .       D611
             .          .
             .          .
561          .          .         616
             .          .           .
             .          .           .
569          .      CP616............
             .          .
             .          .
576          .          .-------->   Az616
573          .       D616
             .          .
             .          .
579          .          .         619
             .          .           .
             .          .           .
587          .      CP619............
             .          .
             .          .
594          .          .-------->   Az619
591          .       D619
             .          .
             .          .
597      dummy............
             .
             .
600          .        618
             .          .
             .          .
614          .          .-------->  618RET
608          .        618
             .          .
             .          .
619          .          .           .<-------   To618
617          .          .      FRM617
             .          .          V
             .          .          V
620          .          .      617618
             .          .          .
             .          .          .
626          .      CP618............
             .         V
             .         V
631          .       P618
             .          .
             .          .
639          .          .         620
             .          .           .
             .          .           .
654          .          .           .-------->   Az620
651          .          .       D620
             .          .           .
             .          .           .
657          .      DUMMY............
             .          .
             .          .
660          .          .         628
             .          .           V
             .          .           V
668          .          .       P628
             .          .           .
             .          .           .
676          .          .           .         627
             .          .           .           .
             .          .           .           .
684          .          .      CP627............
             .          .           V
             .          .           V
688          .          .       P627
             .          .           .
             .          .           .
702          .          .           .-------->   To625
699          .          .       D627
             .          .           .
             .          .           .
705          .          .           .         629
             .          .           .           V
             .          .           .           V
713          .          .           .       P629
             .          .           .           .
             .          .           .           .
724          .          .           .           .-------->   Az629
721          .          .           .       D629
             .          .           .           .
             .          .           .           .
729          .          .           .           .           .<-------   To625
727          .          .           .           .      Frm627
             .          .           .           .           .
             .          .           .           .           .
```

```
730                                   625
                                       .
                                       .
738                              CP625............
                                       .
                                       .
744                                    .------->   To623
742                               D625
                                       .
                                       .
749                                    .<-------   To623
747                                Frm625
                                       .
                                       .
750                                    .         623
                                       .          .
                                       .          .
764                                    .          .------->  623RET
758                                    .         623
                                       .          .
                                       .          .
767                                    .     CP623............
                                       .         V
                                       .         V
771                                    .     P623-5
                                       .
                                       .
783                                    .      CON412
                                       .          .
                                       .          .
788                                    .          .         621
                                       .          .          .
                                       .          .          .
802                                    .          .          .------->  621RET
796                                    .          .         621
                                       .          .          .
                                       .          .          .
805                                    .      CP621............
                                       .          V
                                       .          V
809                                    .       P621
                                       .          .
                                       .          .
820                                    .          .         622
                                       .          .          .
                                       .          .          .
828                                    .      CP622............
                                       .          .
                                       .          .
835                                    .          .------->   Az622
833                                    .       D622
                                       .          V
                                       .          V
838                                    .      622624
                                       .          .
                                       .          .
844                                    .          .         624
                                       .          .          .
                                       .          .          .
852                                    .     CP624........................
                                       .         V
                                       .         V
856                                    .       P624
                                       .          .
                                       .          .
867                                    .          .------->   Az624
864                                    .       D624
                                       .          .
                                       .          .
870                                    .          .         626
                                       .          .          .
                                       .          .          .
878                            CP626.................................
                                   V
                                   V
882                             P626
                                   .
                                   .
893                                .------->   Az626
890                             D626
                                   .
                                   .
896                                .         630
                                   .          .
                                   .          .
907                                .     CP424
                                   .          .
                                   .          .
912                               CP630............
                                   .         V
                                   .         V
916                               P630
                                   .          .
                                   .          .
924                                .         631
                                   .          .
                                   .          .
938                                .          .------->  631RET
932                                .         631
```

```
941                 CP631............
                       V
                       V
945                 P631
956                 .------->   Az631
953                 D631
959                 .     CON427
964                 .                 632N
972                 .     CP632N............
                       V
                       V
976                 .      P632N
987                 .                 632S
995                 .     CP632S............
                       V
                       V
999                 .      P632S
1010                .                  634
                    .                   V
                    .                   V
1019                .                 P634
1027                .                 .         633
                    .                 .           .
                    .                 .           .
1035                .     CP633........................
                       V
                       V
1039                .      P633
1050                .                 .------->   Az633
1047                .      D633
1053                .                  635
                    .                  .
                    .                  .------->   Az635
1064                .                 D635
1061                .
1067                .                 .       RR432
                    .                 .          .
                    .                 .          .
1072                .                 .          .         636
                    .                 .          .           .
                    .                 .          .           .
1080                .                 .       CP636............
                    .                 .          .
                    .                 .          .------->   Az636
1087                .                 .        D636
1084                .                 .          .
                    .                 .          .
1090                .  dummy.......................................................
1095                          .<-------   Az602
1093                       DSS602
1099                .                 .<-------   Az604
1097                .            DSS604
1103                .                 .<-------   Az607
1101                .     DSS607
1107                .                 .          .<-------   Az611
1105                .                 .      DSS611
1111                .                 .          .          .<-------   Az616
1109                .                 .          .      DSS616
1115                .                 .          .          .          .<-------   Az619
1113                .                 .          .          .      DSS619
```

```
1117          .         .         .        DSS.......................................................
              .         .         .         .
              .         .         .         .
1122          .         .         .         .          .<-------   Az620
1120          .         .         .         .      DSS620
              .         .         .         .          .
              .         .         .         .
1126          .         .         .         .          .<-------   Az629
1124          .         .         .         .      DSS629
              .         .         .         .          .
              .         .         .         .          .
1130          .         .         .         .          .          .<-------   Az622
1128          .         .         .         .          .      DSS622
              .         .         .         .          .          .
              .         .         .         .          .          .
1134          .         .         .         .          .          .          .<-------   Az624
1132          .         .         .         .          .          .      DSS624
              .         .         .         .          .          .          .
              .         .         .         .          .          .          .
1138          .         .         .         .          .          .          .          .<-------   Az626
1136          .         .         .         .          .          .          .      DSS626
              .         .         .         .          .          .          .          .
              .         .         .         .          .          .          .          .
1140          .         .         .         .       DSS2...........................................
              .         .         .         .          .
              .         .         .         .          .
1145          .         .         .         .          .          .<-------   Az631
1143          .         .         .         .          .      DSS631
              .         .         .         .          .          .
              .         .         .         .          .          .
1149          .         .         .         .          .          .          .<-------   Az633
1147          .         .         .         .          .          .      DSS633
              .         .         .         .          .          .          .
              .         .         .         .          .          .          .
1153          .         .         .         .          .          .          .          .<-------   Az635
1151          .         .         .         .          .          .          .      DSS635
              .         .         .         .          .          .          .          .
              .         .         .         .          .          .          .          .
1157          .         .         .         .          .          .          .          .          .<-------   Az636
1155          .         .         .         .          .          .          .          .      DSS636
              .         .         .         .          .          .          .          .          .
              .         .         .         .          .          .          .          .          .
1159          .         .         .        OUT.......................................................
```

```
(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1****************************************
*                                        *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)    *
*              JUN   1998                *
*            VERSION 4.1                 *
*                                        *
*  RUN DATE   24MAR09  TIME  07:15:06    *
*                                        *
******************************************
```

```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
```

Project ID: MARI40_SW - Major Basin: 01 - Return Period: 100 Years

Chandler/Gilbert Floodplain Delineation Study
Phase 3 - South, UPRR/Arizona Ave Watershed
FCD# 2008C042

Watershed boundaries:
Elliot Road on the north, Hunt Hwy on the south,
Cooper Rd./Consolidated Canal to the east, & Arizona Ave to the west.

Prepared by David Evans and Associates, Inc.
Modelers:
Tami Norton, E.I.T., CFM
Nathan A. Beutler, E.I.T., CFM

Updated: Nathan Logan, E.I.T., CFM
and
Jason Coleman P.E.
March 2009

File: P:\Mari0000-0040\Engineering\Phase_3\south\HEC-1\24-HR\March 2009\
CGFDSP3S-24.DAT

5-minute time interval - 100-year, 24-hour storm event

Total watershed Area = 13.23 sq. mi, Total Point Rainfall = 3.45

Aerial reduction was applied using PB records.
The Phase III - South watershed was broken into 3 PB regions:

First PB region includes sub-basins 600 - 619.
Portions of Sub-basins 612 and 617 were determined to be
non-contributing. Areas listed on the BA Records for these Sub-basins
only reflect the contributing area of the sub-basins.
Region bounded by Elliot Rd. on the north and includes the Santan Freeway
on the south.

Area = 8.69 sq. mi, Reduction Factor = 0.956, PB record = 3.298

Second PB region includes sub-basins 620 - 629.

```
                    A portion of Sub-basin 627 was determined to be
                    non-contributing. The area listed on the BA Record for this Sub-basin
                    only reflects the contributing area of the sub-basin.
                    Region bounded by the Santan Freeway on the north and Ocotillo Rd.
                    on the south.

                    Area = 2.90 sq. mi, Reduction Factor = 0.986, PB record = 3.402

                    Third PB region includes sub-basins 630 - 636.
                    Region bounded by Ocotillo Rd. on the north and Hunt Hwy. on the south.

                    Area = 1.64 sq. mi, Reduction Factor = 0.992, PB record = 3.422

                 Green and Ampt infiltration method used to determine rainfall losses.

                 Clark Method used to create unit Hydrographs.

                 Normal Depth Method used for channel routing.

                 Eastern Maricopa and Northern Pinal Counties Area, Arizona Soil Survey
                 used for soils data.

                 Flood Control District of Maricopa County's (FCDMC) GIS data,
                 aerial photos dated Dec. 2002, and developments as directed
                 by Chandler and Gilbert by date of April 2003 used for Land Use Data.
                 Land Use Data Updated per FCDMC request to June 7, 2006

                 FCDMC DDMSW Version 2.1.0 Program used to calculate rainfall, rainfall losses
                 and Unit Hydrographs.

                 Model includes the Santan Freeway and associated
                 drainage facilities.

                 DSS FILE: CGFDS24.dss

 77 IO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                       NMIN           5  MINUTES IN COMPUTATION INTERVAL
                      IDATE      3MAR 3  STARTING DATE
                      ITIME        1200  STARTING TIME
                         NQ        2000  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE     10MAR 3  ENDING DATE
                     NDTIME        1035  ENDING TIME
                     ICENT          19  CENTURY MARK

                  COMPUTATION INTERVAL     .08 HOURS
                       TOTAL TIME BASE  166.58 HOURS

          ENGLISH UNITS
               DRAINAGE AREA          SQUARE MILES
               PRECIPITATION DEPTH    INCHES
               LENGTH, ELEVATION      FEET
               FLOW                   CUBIC FEET PER SECOND
               STORAGE VOLUME         ACRE-FEET
               SURFACE AREA           ACRES
               TEMPERATURE            DEGREES FAHRENHEIT


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 78 KK      *    COO525  *
            *            *
            **************
                        Retrieve hydrograph for overflow from sub-basin 525 from Phase 3 North.
  -----DSS---ZOPEN:  Existing File Opened,  File: U:\CG\CGFDS24.DSS
                     Unit:  71;  DSS Version: 6-JG
-----DSS--- ZREAD Unit  71; Vers.    5:  /COO/KNO/FLOW/03MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    5:  /COO/KNO/FLOW/03MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    5:  /COO/KNO/FLOW/04MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    5:  /COO/KNO/FLOW/05MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    5:  /COO/KNO/FLOW/06MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    5:  /COO/KNO/FLOW/06MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    5:  /COO/KNO/FLOW/06MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    5:  /COO/KNO/FLOW/07MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    5:  /COO/KNO/FLOW/08MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    5:  /COO/KNO/FLOW/08MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    5:  /COO/KNO/FLOW/08MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    5:  /COO/KNO/FLOW/09MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.    5:  /COO/KNO/FLOW/10MAR1903/5MIN//
-----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
Pathname: /COO/KNO/FLOW/11MAR1903/5MIN//

             SUBBASIN RUNOFF DATA

 80 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .00  SUBBASIN AREA

                                                                  ***

     ***            ***            ***            ***            ***
```

```
                    HYDROGRAPH AT STATION   CO0525

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     104.     12.67                15.          4.          1.          1.
                        (INCHES)  137.993     156.240     156.240     156.240
                         (AC-FT)      7.          8.          8.          8.

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  82 KK     *    525605  *        ROUTE   REACH
            *            *
            **************
                      Flow from Phase 3 North Routed through Basin 605.

              HYDROGRAPH ROUTING DATA

  84 RS         STORAGE ROUTING
                     NSTPS           6  NUMBER OF SUBREACHES
                      ITYP              TYPE OF INITIAL CONDITION
                    RSVRIC         .00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

  85 RC         NORMAL DEPTH CHANNEL
                       ANL        .030  LEFT OVERBANK N-VALUE
                      ANCH        .015  MAIN CHANNEL N-VALUE
                       ANR        .030  RIGHT OVERBANK N-VALUE
                     RLNTH       5588.  REACH LENGTH
                       SEL       .0014  ENERGY SLOPE
                     ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                  CROSS-SECTION DATA
                        --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  87 RY       ELEVATION      2.00      1.00       .50       .00       .00       .50      1.00      2.00
  86 RX       DISTANCE        .00       .00     60.00     60.00    140.00    140.00    200.00    200.00

                                                                  ***

                                  COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      1.08      2.16      3.24      4.32      5.41      6.75      8.43     10.44     12.80
          OUTFLOW        .00      6.97     22.08     43.31     69.84    101.18    137.73    180.28    229.49    285.92
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE      15.46     18.16     20.86     23.56     26.26     28.96     31.67     34.37     37.07     39.77
          OUTFLOW     351.61    426.44    508.39    597.07    692.17    793.42    900.63   1013.58   1132.13   1256.11
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   525605

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      56.     13.50                14.          4.          1.          1.
                        (INCHES)  131.462     156.240     156.240     156.240
                         (AC-FT)      7.          8.          8.          8.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        1.     13.42                 0.          0.          0.          0.

 PEAK STAGE     TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
       .36     13.50                .14         .04         .01         .01

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  88 KK     *        605 *        BASIN
            *            *
            **************
                      Total point rainfall = 3.45, Area = 8.69 sq. mi, reduction factor = 0.956
                      Region bounded by Elliot Rd. on the north and includes the Santan Freeway
                      on the south.
```

```
 90 IN          TIME DATA FOR INPUT TIME SERIES
                      JXMIN          15  TIME INTERVAL IN MINUTES
                     JXDATE      3MAR 3  STARTING DATE
                     JXTIME        1200  STARTING TIME
                          The following parameters were determined for this sub basin
                          L= 1.161 mi S= 12.3 ft/mi Kb= 0.027 Urban

               SUBBASIN RUNOFF DATA

 89 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .50  SUBBASIN AREA

                PRECIPITATION DATA

 92 PB                STORM        3.30  BASIN TOTAL PRECIPITATION

 92 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                     .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                     .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00

107 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .23  STARTING LOSS
                       DTH         .26  MOISTURE DEFICIT
                      PSIF        5.30  WETTING FRONT SUCTION
                     XKSAT         .28  HYDRAULIC CONDUCTIVITY
                     RTIMP       31.00  PERCENT IMPERVIOUS AREA

108 UC          CLARK UNITGRAPH
                        TC         .65  TIME OF CONCENTRATION
                         R         .38  STORAGE COEFFICIENT

109 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                   ***

                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=   .65 HR,       R=   .38 HR
                                       SNYDER   TP=   .35 HR,      CP=   .49

                                              UNIT HYDROGRAPH
                                        28 END-OF-PERIOD ORDINATES
                 31.      116.      291.      437.      451.      418.      375.      328.      274.      220.
                177.      142.      114.       92.       74.       59.       48.       38.       31.       25.
                 20.       16.       13.       10.        8.        7.        5.        4.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      605

    TOTAL RAINFALL =    3.30, TOTAL LOSS =    1.66, TOTAL EXCESS =    1.64

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     429.     12.25                   71.         22.          7.          3.
                        (INCHES)     1.335       1.629       1.632       1.632
                         (AC-FT)      35.         43.         43.         43.

                        CUMULATIVE AREA =     .50 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 111 KK     *       605  *
```

```
*            *
**************
                    RETENTION DIVERSION
                    DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                    DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 34.44 AC-FT
                    DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                    TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 605 = 34.44 AC-FT

   DT          DIVERSION
                  ISTAD      605RET  DIVERSION HYDROGRAPH IDENTIFICATION
                 DSTRMX       34.44  MAXIMUM VOLUME TO BE DIVERTED

   DI            INFLOW         .00  10000.00

   DQ      DIVERTED FLOW        .00  10000.00

                                                          ***

    ***          ***          ***          ***          ***

                  DIVERSION HYDROGRAPH   605RET

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     429.     12.25                64.         17.          6.           3.
                       (INCHES)   1.208       1.302       1.302        1.302
                        (AC-FT)     32.         34.         34.          34.

                       CUMULATIVE AREA =     .50 SQ MI

    ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION      605

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      71.     13.25                14.          4.          1.           1.
                       (INCHES)    .258        .330        .330         .330
                        (AC-FT)      7.          9.          9.           9.

                       CUMULATIVE AREA =     .50 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  120 KK    *     CP605  *
            *            *
            **************
                     Combine 525605 & sub 605

  122 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          3  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

  123 HC          HYDROGRAPH COMBINATION
                       ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

    ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION    CP605

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     111.     13.33                28.          9.          3.           1.
                       (INCHES)    .522        .643        .643         .643
                        (AC-FT)     14.         17.         17.          17.

                       CUMULATIVE AREA =     .50 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  124 KK    *   605606   *        ROUTE   REACH
            *            *
            **************
                     Routed west along Knox Rd.

     HYDROGRAPH ROUTING DATA
```

```
126 RS          STORAGE ROUTING
                     NSTPS          4  NUMBER OF SUBREACHES
                      ITYP             TYPE OF INITIAL CONDITION
                    RSVRIC        .00  INITIAL CONDITION
                         X        .00 WORKING R AND D COEFFICIENT

127 RC          NORMAL DEPTH CHANNEL
                       ANL       .030  LEFT OVERBANK N-VALUE
                      ANCH       .015  MAIN CHANNEL N-VALUE
                       ANR       .030  RIGHT OVERBANK N-VALUE
                     RLNTH      4033.  REACH LENGTH
                       SEL      .0009  ENERGY SLOPE
                     ELMAX        2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
129 RY        ELEVATION     2.00     1.00      .50      .00      .00      .50     1.00     2.00
128 RX        DISTANCE       .00      .00    60.00    60.00   140.00   140.00   200.00   200.00

                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      .78     1.56     2.34     3.12     3.91     4.87     6.08     7.54     9.24
          OUTFLOW        .00     5.58    17.70    34.73    56.00    81.13   110.43   144.54   184.00   229.25
        ELEVATION        .00      .11      .21      .32      .42      .53      .63      .74      .84      .95

          STORAGE      11.16    13.11    15.06    17.01    18.96    20.90    22.85    24.80    26.75    28.70
          OUTFLOW     281.91   341.91   407.62   478.72   554.97   636.15   722.11   812.68   907.72  1007.13
        ELEVATION       1.05     1.16     1.26     1.37     1.47     1.58     1.68     1.79     1.89     2.00

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   605606

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      86.     13.92                26.          9.          3.           1.
                        (INCHES)   .495        .643        .643         .643
                         (AC-FT)    13.         17.         17.          17.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.      13.92                 0.          0.          0.           0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .54      13.92                .25         .10         .03          .01

                        CUMULATIVE AREA =     .50 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
130 KK      *       606  *        BASIN
            *            *
            **************
                        The following parameters were determined for this sub basin.
                        L= 1.225 mi S= 4.3 ft/mi Kb= 0.030 Urban

              SUBBASIN RUNOFF DATA

133 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .38  SUBBASIN AREA

                PRECIPITATION DATA

 92 PB                STORM        3.30  BASIN TOTAL PRECIPITATION

 92 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .01      .00      .01
                     .01      .01      .01      .01      .01      .01      .01      .01      .03      .03
                     .03      .09      .09      .09      .01      .01      .01      .01      .01      .01
                     .01      .01      .01      .01      .01      .01      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
```

```
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00

134 LG        GREEN AND AMPT LOSS RATE
                STRTL        .23  STARTING LOSS
                  DTH        .15  MOISTURE DEFICIT
                 PSIF       8.00  WETTING FRONT SUCTION
                XKSAT        .10  HYDRAULIC CONDUCTIVITY
                RTIMP      35.00  PERCENT IMPERVIOUS AREA

135 UC        CLARK UNITGRAPH
                   TC       1.10  TIME OF CONCENTRATION
                    R        .85  STORAGE COEFFICIENT

136 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                  .0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
               100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.10 HR,       R=   .85 HR
                                  SNYDER   TP=   .62 HR,      CP=   .43

                                          UNIT HYDROGRAPH
                                   60 END-OF-PERIOD ORDINATES
            5.      19.      39.      64.     109.     155.     170.     171.     169.     164.
          157.     149.     141.     132.     120.     109.      98.      89.      81.      73.
           66.      60.      54.      49.      45.      41.      37.      33.      30.      27.
           25.      22.      20.      18.      17.      15.      14.      12.      11.      10.
            9.       8.       8.       7.       6.       6.       5.       5.       4.       4.
            3.       3.       3.       3.       2.       2.       2.       2.       2.       1.

     ***          ***          ***          ***          ***

                   HYDROGRAPH AT STATION      606

   TOTAL RAINFALL =    3.30, TOTAL LOSS =    1.31, TOTAL EXCESS =    1.99

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     219.     12.50                 66.         20.          7.          3.
                        (INCHES)   1.634       1.971       1.978       1.978
                         (AC-FT)     33.         40.         40.         40.

                   CUMULATIVE AREA =     .38 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 138 KK     *       606  *
            *            *
            **************
                          RETENTION DIVERSION
                          DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                          DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 12.94 AC-FT
                          DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                          TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 606 = 12.94 AC-FT

     DT          DIVERSION
                   ISTAD      606RET  DIVERSION HYDROGRAPH IDENTIFICATION
                  DSTRMX       12.94  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00  10000.00

     DQ      DIVERTED FLOW        .00  10000.00

                                                  ***

     ***          ***          ***          ***          ***

                   DIVERSION HYDROGRAPH   606RET

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     213.     12.42                 23.          7.          2.          1.
                        (INCHES)    .564        .644        .644        .644
                         (AC-FT)     11.         13.         13.         13.

                   CUMULATIVE AREA =     .38 SQ MI
```

```
     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      606

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     219.     12.58                 50.         14.          5.           2.
                        (INCHES)    1.226       1.335       1.335        1.335
                         (AC-FT)     25.         27.         27.          27.

                        CUMULATIVE AREA =     .38 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  147 KK    *     CP606  *
            *            *
            **************
                          Combine sub 606 & 605606

  149 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

  150 HC          HYDROGRAPH COMBINATION
                        ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    CP606

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     219.     12.58                 75.         22.          7.           3.
                        (INCHES)    .793        .942        .942         .942
                         (AC-FT)     37.         44.         44.          44.

                        CUMULATIVE AREA =     .87 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  151 KK    *       603  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 1.004 mi S= 11.2 ft/mi Kb= 0.029 Urban

              SUBBASIN RUNOFF DATA

  154 BA          SUBBASIN CHARACTERISTICS
                        TAREA         .30  SUBBASIN AREA

                  PRECIPITATION DATA

   92 PB                STORM        3.30  BASIN TOTAL PRECIPITATION

   92 PI            INCREMENTAL PRECIPITATION PATTERN
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                        .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                        .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                        .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

```
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00

155 LG        GREEN AND AMPT LOSS RATE
                STRTL        .22  STARTING LOSS
                  DTH        .26  MOISTURE DEFICIT
                 PSIF       4.55  WETTING FRONT SUCTION
                XKSAT        .43  HYDRAULIC CONDUCTIVITY
                RTIMP      24.00  PERCENT IMPERVIOUS AREA

156 UC        CLARK UNITGRAPH
                   TC        .68  TIME OF CONCENTRATION
                    R        .48  STORAGE COEFFICIENT

157 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                  .0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
               100.0

                                                  ***

                                              UNIT HYDROGRAPH PARAMETERS
                                       CLARK   TC=   .68 HR,       R=   .48 HR
                                      SNYDER   TP=   .40 HR,      CP=   .49

                                                UNIT HYDROGRAPH
                                           34 END-OF-PERIOD ORDINATES
          14.      54.     131.     211.     237.     228.     213.     194.     171.     145.
         122.     102.      86.      72.      60.      51.      43.      36.      30.      25.
          21.      18.      15.      13.      11.       9.       7.       6.       5.       4.
           4.       3.       3.       2.

   ***          ***          ***          ***          ***

                     HYDROGRAPH AT STATION      603

   TOTAL RAINFALL =    3.30, TOTAL LOSS =    1.92, TOTAL EXCESS =    1.38

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     202.     12.25        37.         11.          4.           2.
                       (INCHES)     1.139       1.367       1.370        1.370
                        (AC-FT)      18.         22.         22.          22.

                     CUMULATIVE AREA =     .30 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 159 KK     *       603  *
            *            *
            **************
                              RETENTION DIVERSION
                              DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                              DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 30.19 AC-FT
                              DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                              TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 603 = 30.19 AC-FT

     DT          DIVERSION
                   ISTAD      603RET  DIVERSION HYDROGRAPH IDENTIFICATION
                  DSTRMX       30.19  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW        .00  10000.00

     DQ      DIVERTED FLOW       .00  10000.00

                                                  ***

   ***          ***          ***          ***          ***

                     DIVERSION HYDROGRAPH   603RET

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     202.     12.25        37.         11.          4.           2.
                       (INCHES)     1.139       1.367       1.370        1.370
                        (AC-FT)      18.         22.         22.          22.

                     CUMULATIVE AREA =     .30 SQ MI

   ***          ***          ***          ***          ***

                     HYDROGRAPH AT STATION      603

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

```
                        (CFS)
+       0.       .00                  0.          0.          0.          0.
                      (INCHES)      .000        .000        .000        .000
                       (AC-FT)        0.          0.          0.          0.

                      CUMULATIVE AREA =     .30 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  168 KK    *     CP603  *
            *            *
            **************
                             COmbine 603 & CP606

  170 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

  171 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    CP603

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+     219.     12.58                  75.         22.          7.           3.
                      (INCHES)      .589        .699        .699        .699
                       (AC-FT)       37.         44.         44.         44.

                      CUMULATIVE AREA =    1.18 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  172 KK    *    P606-3  *
            *            *
            **************
                             Combined retention from Vagabond (Espee) Park north of Knox Rd and south of
                             Warner Rd. and Festiva Court Subdivision south of Knox Rd.

  175 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

  176 RS          STORAGE ROUTING
                        NSTPS           1  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  177 SV            STORAGE          .0        .0        .1       1.1       2.9       8.4      17.1      28.6      58.6

  178 SE          ELEVATION     1210.00   1210.30   1210.80   1211.50   1212.00   1213.00   1214.00   1215.00   1216.00

  179 SQ          DISCHARGE          0.        0.        0.        0.        0.        0.        0.     1673.    12348.

  180 SE          ELEVATION     1213.00   1214.00   1215.00   1215.10   1215.18   1216.00   1217.00   1218.00   1219.00

                                                                  ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00       .01       .09      1.13      2.92      8.40     17.12     28.57     31.57     33.98
            OUTFLOW        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
          ELEVATION    1210.00   1210.30   1210.80   1211.50   1212.00   1213.00   1214.00   1215.00   1215.10   1215.18

            STORAGE      58.59     88.61    118.63    148.65
            OUTFLOW        .00       .00   1673.26  12347.80
          ELEVATION    1216.00   1217.00   1218.00   1219.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN     1673. TO    12348.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   P606-3
```

```
 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                  0.          0.          0.          0.
                         (INCHES)   .000        .000        .000        .000
                          (AC-FT)     0.          0.          0.          0.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      44.     32.58                  44.         44.         44.         40.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1215.51     30.92             1215.51     1215.50     1215.50     1215.05

                         CUMULATIVE AREA =    1.18 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 181 KK     *    COO524  *
            *            *
            **************
                          Retrieve hydrograph for overflow from sub-basin 524 from Phase 3 North.
 -----DSS--- ZREAD Unit  71; Vers.    5:  /COO/WAR/FLOW/03MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    5:  /COO/WAR/FLOW/03MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    5:  /COO/WAR/FLOW/04MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    5:  /COO/WAR/FLOW/05MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    5:  /COO/WAR/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    5:  /COO/WAR/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    5:  /COO/WAR/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    5:  /COO/WAR/FLOW/07MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    5:  /COO/WAR/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    5:  /COO/WAR/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    5:  /COO/WAR/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    5:  /COO/WAR/FLOW/09MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.    5:  /COO/WAR/FLOW/10MAR1903/5MIN//
 -----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
 Pathname: /COO/WAR/FLOW/11MAR1903/5MIN//

              SUBBASIN RUNOFF DATA

 183 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .00  SUBBASIN AREA

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   COO524

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      93.     13.00                 38.         19.          8.           3.
                         (INCHES)  350.346     725.133     854.233     900.438
                          (AC-FT)     19.         39.         46.         48.

                         CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 185 KK     *    524600  *        ROUTE   REACH
            *            *
            **************
                          Routed west along Warner Rd. and through the lake at The Islands subdivision.

              HYDROGRAPH ROUTING DATA

 187 RS          STORAGE ROUTING
                      NSTPS           9  NUMBER OF SUBREACHES
                       ITYP              TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 188 RC          NORMAL DEPTH CHANNEL
                        ANL        .030  LEFT OVERBANK N-VALUE
                       ANCH        .015  MAIN CHANNEL N-VALUE
                        ANR        .030  RIGHT OVERBANK N-VALUE
                      RLNTH       9178.  REACH LENGTH
                        SEL      .0015  ENERGY SLOPE
                      ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
```

```
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
190 RY        ELEVATION      2.00      1.00       .50       .00       .00       .50      1.00      2.00
189 RX        DISTANCE        .00       .00     60.00     60.00    140.00    140.00    200.00    200.00

                                                          ***

                                        COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      1.77      3.55      5.32      7.10      8.89     11.08     13.84     17.15     21.03
          OUTFLOW        .00      7.21     22.85     44.83     72.29    104.73    142.56    186.60    237.54    295.96
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE      25.39     29.83     34.27     38.70     43.14     47.57     52.01     56.44     60.88     65.32
          OUTFLOW     363.95    441.41    526.24    618.03    716.46    821.27    932.24   1049.16   1171.87   1300.20
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   524600

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      45.     19.83                 37.         19.          8.           3.
                        (INCHES)  347.881     714.107     851.231      899.926
                         (AC-FT)     19.         38.         45.          48.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        1.     19.75                  1.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
       .32     19.83                 .28         .17         .08          .04

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
191 KK      *       600  *        BASIN
            *            *
            **************
                          The basin area was set to 0.0001 square miles since the entire drainage area
                          is non-contributing. The lake/water features located within this subdivision
                          retain all 100-year, 24-hour on-site runoff per the Master Storm Drainage
                          Report for The Islands dated October, 1984.  Hydrograph C00524
                          is still routed through Basin 600 assuming the lakes are full as the
                          hyrdrograph arrives.
                          The following parameters were determined for this sub basin.
                          L= 2.23 mi S= 7.2 ft/mi Kb= 0.027 Urban

              SUBBASIN RUNOFF DATA

200 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .00  SUBBASIN AREA

                PRECIPITATION DATA

 92 PB                STORM        3.30  BASIN TOTAL PRECIPITATION

 92 PI            INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                      .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                      .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                      .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

```
                    .00       .00       .00       .00       .00       .00       .00       .00

201 LG          GREEN AND AMPT LOSS RATE
                      STRTL        .21  STARTING LOSS
                        DTH        .23  MOISTURE DEFICIT
                       PSIF       5.80  WETTING FRONT SUCTION
                      XKSAT        .22  HYDRAULIC CONDUCTIVITY
                      RTIMP      37.00  PERCENT IMPERVIOUS AREA

202 UC          CLARK UNITGRAPH
                         TC       1.32  TIME OF CONCENTRATION
                          R        .84  STORAGE COEFFICIENT

203 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=  1.32 HR,       R=   .84 HR
                                         SNYDER   TP=   .69 HR,      CP=   .45

                                                     UNIT HYDROGRAPH
                                              61 END-OF-PERIOD ORDINATES
                 0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                 0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                 0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                 0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                 0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                 0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                 0.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      600

    TOTAL RAINFALL =    3.30, TOTAL LOSS =    1.45, TOTAL EXCESS =    1.85

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.     12.50                   0.          0.          0.          0.
                        (INCHES)     1.474       1.830       1.838       1.838
                         (AC-FT)        0.          0.          0.          0.

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
205 KK      *     CP600  *
            *            *
            **************
                        Combine 524600 & sub 600

207 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

208 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    CP600

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      45.     19.83                  37.         19.          8.          3.
                        (INCHES)   316.265     649.233     773.896     818.282
                         (AC-FT)       19.         38.         45.         48.

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
209 KK      *   600601   *        ROUTE   REACH
            *            *
            **************
                        Routed west along Elliot Rd and through sub 601.
```

```
                HYDROGRAPH ROUTING DATA

 211 RS           STORAGE ROUTING
                       NSTPS           6  NUMBER OF SUBREACHES
                        ITYP              TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

 212 RC           NORMAL DEPTH CHANNEL
                         ANL        .030  LEFT OVERBANK N-VALUE
                        ANCH        .015  MAIN CHANNEL N-VALUE
                         ANR        .030  RIGHT OVERBANK N-VALUE
                       RLNTH       5694.  REACH LENGTH
                         SEL       .0009  ENERGY SLOPE
                       ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 214 RY        ELEVATION      2.00      1.00       .50       .00       .00       .50      1.00      2.00
 213 RX        DISTANCE        .00       .00     60.00     60.00    140.00    140.00    200.00    200.00

                                                                  ***

                                        COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00      1.10      2.20      3.30      4.40      5.51      6.88      8.59     10.64     13.05
            OUTFLOW        .00      5.58     17.70     34.73     56.00     81.13    110.43    144.54    184.00    229.25
          ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

            STORAGE      15.75     18.51     21.26     24.01     26.76     29.51     32.27     35.02     37.77     40.52
            OUTFLOW     281.91    341.91    407.62    478.72    554.97    636.15    722.11    812.68    907.72   1007.13
          ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   600601

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      45.     20.58                 37.         19.          8.           3.
                        (INCHES)  314.604     641.505     772.042      817.879
                         (AC-FT)     18.         38.         45.          48.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.      20.42                  1.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .37      20.58                 .33         .20         .09          .04

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 215 KK     *       601  *        BASIN
            *            *
            **************
                          The following parameters were determined for this basin.
                          L= 1.078 mi S= 0.9 ft/mi Kb= 0.034 Urban

              SUBBASIN RUNOFF DATA

 216 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .51  SUBBASIN AREA

                 PRECIPITATION DATA

  92 PB                STORM        3.30  BASIN TOTAL PRECIPITATION

  92 PI            INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                      .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                      .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                      .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

```
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00

219 LG          GREEN AND AMPT LOSS RATE
                STRTL        .27  STARTING LOSS
                  DTH        .22  MOISTURE DEFICIT
                 PSIF       6.40  WETTING FRONT SUCTION
                XKSAT        .21  HYDRAULIC CONDUCTIVITY
                RTIMP      34.00  PERCENT IMPERVIOUS AREA

220 UC          CLARK UNITGRAPH
                   TC       1.50  TIME OF CONCENTRATION
                    R        .91  STORAGE COEFFICIENT

221 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
                  100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.50 HR,       R=   .91 HR
                                  SNYDER   TP=   .77 HR,      CP=   .46

                                              UNIT HYDROGRAPH
                                         66 END-OF-PERIOD ORDINATES
              5.      15.      30.      50.      70.     103.     153.     189.     200.     200.
            196.     191.     185.     178.     169.     160.     152.     144.     135.     123.
            112.     102.      93.      85.      78.      71.      65.      59.      54.      49.
             45.      41.      37.      34.      31.      28.      26.      24.      21.      20.
             18.      16.      15.      14.      12.      11.      10.       9.       9.       8.
              7.       7.       6.       5.       5.       5.       4.       4.       3.       3.
              3.       3.       2.       2.       2.       2.

    ***             ***             ***             ***             ***

                     HYDROGRAPH AT STATION      601

   TOTAL RAINFALL =    3.30, TOTAL LOSS =    1.53, TOTAL EXCESS =    1.77

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     232.     12.67                  78.         24.          8.          3.
                       (INCHES)     1.425       1.754       1.762       1.762
                        (AC-FT)      39.         47.         48.         48.

                     CUMULATIVE AREA =     .51 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 223 KK     *       601  *
            *            *
            **************
                          RETENTION DIVERSION
                          DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                          DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.61 AC-FT
                          DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                          TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 601 = 0.61 AC-FT

 229 KO          OUTPUT CONTROL VARIABLES
                      IPRNT          3  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL         0.  HYDROGRAPH PLOT SCALE

     DT          DIVERSION
                      ISTAD     601RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX        .61  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW        .00  10000.00

     DQ      DIVERTED FLOW        .00  10000.00

                                                  ***

     ***             ***             ***             ***             ***

                     DIVERSION HYDROGRAPH   601RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

```
                          (CFS)
+       4.      3.08                1.          0.          0.          0.
                       (INCHES)    .023        .023        .023        .023
                        (AC-FT)     1.          1.          1.          1.

                       CUMULATIVE AREA =     .51 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      601

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     232.     12.67                 78.         24.          8.          3.
                       (INCHES)    1.425       1.739       1.740       1.740
                        (AC-FT)     39.         47.         47.         47.

                       CUMULATIVE AREA =     .51 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 233 KK     *     CP601  *
            *            *
            **************
                        Combine 600601 & sub 601

 235 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          3  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

 236 HC          HYDROGRAPH COMBINATION
                       ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    CP601

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     232.     12.67                 86.         40.         15.          7.
                       (INCHES)    1.565       2.926       3.369       3.507
                        (AC-FT)     42.         79.         91.         95.

                       CUMULATIVE AREA =     .51 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 237 KK     *      P601  *
            *            *
            **************
                        Ponding in large Retenion Basin located west of school playing fields.
                        Ponding also includes compensatory storage within retention basin in
                        Subdivision south of large retention Basin. Flow is released through a
                        2x2 box culvert under the RR between Warner & Elliot.
                        Any excess flow weirs over RR tracks.

 243 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          3  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

              HYDROGRAPH ROUTING DATA

 244 RS          STORAGE ROUTING
                       NSTPS          1  NUMBER OF SUBREACHES
                        ITYP       STOR  TYPE OF INITIAL CONDITION
                      RSVRIC        .00  INITIAL CONDITION
                           X        .00 WORKING R AND D COEFFICIENT

 245 SV            STORAGE          .0       1.9       9.0      40.5      49.0      58.0      67.7      77.9      89.6     104.9
                                 124.2     128.4     132.6     133.6     134.7     145.3     156.0

 247 SE          ELEVATION     1204.00   1205.00   1206.00   1210.00   1211.00   1212.00   1213.00   1214.00   1215.00   1216.00
                               1217.00   1217.20   1217.40   1217.45   1217.50   1218.00   1218.50

 249 SQ          DISCHARGE          0.        0.        0.        0.        0.        0.        0.        0.        0.       18.
                                   28.       30.       31.       32.       37.     1689.     6416.

                                                                  ***
```

```
*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      1689. TO      6416.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

          ***              ***              ***              ***              ***

                                HYDROGRAPH AT STATION      P601

   PEAK FLOW      TIME                              MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR     166.58-HR
 +   (CFS)        (HR)
                               (CFS)
 +       1.      79.67                      1.           1.           1.           0.
                             (INCHES)     .021         .078         .171         .197
                              (AC-FT)       1.           2.           5.           5.

   PEAK STORAGE   TIME                              MAXIMUM AVERAGE STORAGE
                                          6-HR        24-HR        72-HR     166.58-HR
 +  (AC-FT)       (HR)
         91.     79.58                     91.          90.          90.          79.

   PEAK STAGE     TIME                              MAXIMUM AVERAGE STAGE
                                          6-HR        24-HR        72-HR     166.58-HR
 +   (FEET)       (HR)
    1215.06      79.50                 1215.06      1215.06      1215.01      1213.84

                               CUMULATIVE AREA =      .51 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                    **************
                    *            *
   251 KK           *      602   *       BASIN
                    *            *
                    **************
                                  The following parameters were determined for this sub basin.
                                  L= 1.397 mi S= 3.4 ft/mi Kb= 0.027 Urban

                SUBBASIN RUNOFF DATA

   254 BA         SUBBASIN CHARACTERISTICS
                        TAREA          .51   SUBBASIN AREA

                  PRECIPITATION DATA

    92 PB               STORM         3.30   BASIN TOTAL PRECIPITATION

    92 PI           INCREMENTAL PRECIPITATION PATTERN
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .01        .00        .01
                       .01        .01        .01        .01        .01        .01        .01        .01        .03        .03
                       .03        .09        .09        .09        .01        .01        .01        .01        .01        .01
                       .01        .01        .01        .01        .01        .01        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                       .00        .00        .00        .00        .00        .00        .00        .00

   255 LG           GREEN AND AMPT LOSS RATE
                         STRTL         .15   STARTING LOSS
                           DTH         .23   MOISTURE DEFICIT
                          PSIF        6.40   WETTING FRONT SUCTION
                         XKSAT         .20   HYDRAULIC CONDUCTIVITY
                         RTIMP       51.00   PERCENT IMPERVIOUS AREA

   256 UC           CLARK UNITGRAPH
                            TC        1.27   TIME OF CONCENTRATION
                             R         .93   STORAGE COEFFICIENT

   257 UA           ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0        5.0       16.0       30.0       65.0       77.0       84.0       90.0       94.0       97.0
                     100.0

                                                        ***
```

```
                                    UNIT HYDROGRAPH PARAMETERS
                              CLARK   TC=  1.27 HR,       R=   .93 HR
                             SNYDER   TP=   .69 HR,      CP=   .43

                                          UNIT HYDROGRAPH
                                     66 END-OF-PERIOD ORDINATES
              6.      19.      39.      63.      99.     155.     196.     206.     207.     204.
            199.     192.     184.     175.     167.     156.     143.     131.     120.     109.
            100.      91.      84.      76.      70.      64.      58.      53.      49.      44.
             41.      37.      34.      31.      28.      26.      24.      22.      20.      18.
             17.      15.      14.      13.      12.      11.      10.       9.       8.       7.
              7.       6.       6.       5.       5.       4.       4.       4.       3.       3.
              3.       2.       2.       2.       2.       2.

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      602

    TOTAL RAINFALL =    3.30, TOTAL LOSS =    1.12, TOTAL EXCESS =    2.18

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     264.     12.58                 91.         30.         10.           4.
                         (INCHES)   1.666       2.160       2.172        2.172
                          (AC-FT)   45.         59.         59.          59.

                         CUMULATIVE AREA =     .51 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 259 KK     *     CP602  *
            *            *
            **************
                          DEVELOPED AREA - NO PONDING AREA.
                          Combine sub 602 and outfall from P601

 262 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

 263 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    CP602

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     264.     12.58                 91.         30.         10.           5.
                         (INCHES)    .833       1.080       1.096        1.184
                          (AC-FT)   45.         59.         59.          64.

                         CUMULATIVE AREA =    1.02 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 264 KK     *      D602  *
            *            *
            **************
                          Divert 100% of flow west over Az Ave

 266 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

    DT           DIVERSION
                       ISTAD       Az602  DIVERSION HYDROGRAPH IDENTIFICATION

    DI              INFLOW         .00    100.00

    DQ       DIVERTED FLOW         .00    100.00

                                                          ***

     ***            ***            ***            ***            ***

                    DIVERSION HYDROGRAPH    Az602
```

```
  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     264.     12.58                91.          30.          10.           5.
                        (INCHES)   .833        1.080        1.096        1.184
                         (AC-FT)    45.          59.          59.          64.

                        CUMULATIVE AREA =    1.02 SQ MI


     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     D602

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                 0.           0.           0.           0.
                        (INCHES)   .000         .000         .000         .000
                         (AC-FT)     0.           0.           0.           0.

                        CUMULATIVE AREA =    1.02 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  270 KK    *       604  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 0.741 mi S= 11.7 ft/mi Kb= 0.030 Urban

              SUBBASIN RUNOFF DATA

  273 BA        SUBBASIN CHARACTERISTICS
                     TAREA        .20  SUBBASIN AREA

                PRECIPITATION DATA

   92 PB             STORM       3.30  BASIN TOTAL PRECIPITATION

   92 PI          INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                     .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                     .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00

  274 LG        GREEN AND AMPT LOSS RATE
                     STRTL        .14  STARTING LOSS
                       DTH        .26  MOISTURE DEFICIT
                      PSIF       5.30  WETTING FRONT SUCTION
                     XKSAT        .31  HYDRAULIC CONDUCTIVITY
                     RTIMP      57.00  PERCENT IMPERVIOUS AREA

  275 UC        CLARK UNITGRAPH
                        TC        .50  TIME OF CONCENTRATION
                         R        .34  STORAGE COEFFICIENT

  276 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                   ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=    .50 HR,       R=    .34 HR
```

```
                                        SNYDER   TP=   .31 HR,      CP=   .53

                                                UNIT HYDROGRAPH
                                          24 END-OF-PERIOD ORDINATES
              21.       88.      180.      220.      202.      178.      147.      115.       90.       70.
              54.       42.       33.       26.       20.       16.       12.        9.        7.        6.
               4.        4.        3.        2.

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION      604

    TOTAL RAINFALL =    3.30, TOTAL LOSS =    1.04, TOTAL EXCESS =    2.26

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     214.     12.17                37.         12.          4.           2.
                        (INCHES)    1.702       2.243       2.247        2.247
                         (AC-FT)    18.         24.         24.          24.

                        CUMULATIVE AREA =     .20 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  278 KK    *     CP604  *
            *            *
            **************
                          DEVELOPED AREA - NO PONDING AREA.
                          Combine sub 602, 604, & overflow from 603

  281 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

  282 HC          HYDROGRAPH COMBINATION
                        ICOMP          3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CP604

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     214.     12.17                37.         12.          4.           2.
                        (INCHES)    .143        .188        .189         .189
                         (AC-FT)    18.         24.         24.          24.

                        CUMULATIVE AREA =    2.40 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  283 KK    *      D604  *       Intersection Diversion
            *            *
            **************
                          Flow split at Arizona Ave & Knox with 40% diverted south along Arizona Ave,
                          remaining flow west over Arizona Ave

  286 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

     DT           DIVERSION
                        ISTAD      Az604  DIVERSION HYDROGRAPH IDENTIFICATION

     DI              INFLOW        .00    100.00    500.00   1000.00   2000.00

     DQ       DIVERTED FLOW        .00     60.00    300.00    600.00   1200.00

                                                                  ***

     ***            ***            ***            ***            ***

                      DIVERSION HYDROGRAPH    Az604

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     128.     12.17                22.          7.          2.           1.
```

```
                    (INCHES)      .086        .113        .113        .113
                     (AC-FT)       11.         14.         14.         14.

                    CUMULATIVE AREA =    2.40 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     D604

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      86.     12.17                15.          5.          2.          1.
                    (INCHES)      .057        .075        .075        .075
                     (AC-FT)        7.         10.         10.         10.

                    CUMULATIVE AREA =    2.40 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 290 KK     *    604607  *        ROUTE   REACH
            *            *
            **************
                           Routed south along Arizona Ave

              HYDROGRAPH ROUTING DATA

 292 RS          STORAGE ROUTING
                      NSTPS           2  NUMBER OF SUBREACHES
                       ITYP              TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 293 RC          NORMAL DEPTH CHANNEL
                        ANL        .035  LEFT OVERBANK N-VALUE
                       ANCH        .015  MAIN CHANNEL N-VALUE
                        ANR        .030  RIGHT OVERBANK N-VALUE
                      RLNTH       1732.  REACH LENGTH
                        SEL       .0014  ENERGY SLOPE
                      ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 295 RY        ELEVATION      1.90       .90       .50       .00       .00       .50       .90      1.90
 294 RX        DISTANCE        .00       .00     23.50     23.50    106.50    106.50    130.00    130.00

                                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .33       .66       .99      1.32      1.65      2.00      2.40      2.85      3.34
          OUTFLOW        .00      6.64     21.03     41.28     66.56     96.39    130.76    169.76    213.56    262.30
        ELEVATION        .00       .10       .20       .30       .40       .50       .60       .70       .80       .90

          STORAGE       3.86      4.38      4.89      5.41      5.93      6.45      6.96      7.48      8.00      8.51
          OUTFLOW     316.91    376.23    440.03    508.11    580.32    656.50    736.56    820.36    907.83    998.87
        ELEVATION       1.00      1.10      1.20      1.30      1.40      1.50      1.60      1.70      1.80      1.90

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      580. TO      999.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   604607

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      79.     12.33                15.          5.          2.          1.
                    (INCHES)      .057        .075        .075        .075
                     (AC-FT)        7.         10.         10.         10.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.      12.33                 0.          0.          0.          0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .44      12.33                .13         .05         .02         .01

                    CUMULATIVE AREA =    2.40 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
                **************
                *            *
296 KK          *       607  *        BASIN
                *            *
                **************
                              The following parameters were determined for this sub basin.
                              L= 0.324 mi S= 28.4 ft/mi Kb= 0.049 Natural

                  SUBBASIN RUNOFF DATA

299 BA              SUBBASIN CHARACTERISTICS
                          TAREA         .13  SUBBASIN AREA

                    PRECIPITATION DATA

 92 PB                    STORM        3.30  BASIN TOTAL PRECIPITATION

 92 PI                INCREMENTAL PRECIPITATION PATTERN
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                          .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                          .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                          .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                          .00       .00       .00       .00       .00       .00       .00       .00

300 LG              GREEN AND AMPT LOSS RATE
                          STRTL         .38  STARTING LOSS
                            DTH         .16  MOISTURE DEFICIT
                           PSIF        9.70  WETTING FRONT SUCTION
                          XKSAT         .07  HYDRAULIC CONDUCTIVITY
                          RTIMP       21.00  PERCENT IMPERVIOUS AREA

301 UC              CLARK UNITGRAPH
                             TC         .30  TIME OF CONCENTRATION
                              R         .12  STORAGE COEFFICIENT

302 UA              ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                            .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                         100.0

                                                                  ***

                                                        UNIT HYDROGRAPH PARAMETERS
                                                  CLARK   TC=   .30 HR,       R=   .12 HR
                                                 SNYDER   TP=   .25 HR,      CP=   .92

                                                          UNIT HYDROGRAPH
                                                   10 END-OF-PERIOD ORDINATES
                     19.       95.      260.      292.      164.       81.       40.       20.       10.        5.

          ***            ***            ***            ***            ***

                                HYDROGRAPH AT STATION      607

        TOTAL RAINFALL =    3.30, TOTAL LOSS =    1.57, TOTAL EXCESS =    1.72

      PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                          6-HR       24-HR       72-HR    166.58-HR
+       (CFS)       (HR)
                                        (CFS)
+        224.      12.17                   21.          6.          2.          1.
                                     (INCHES)      1.515       1.715       1.715       1.715
                                      (AC-FT)       10.         12.         12.         12.

                                CUMULATIVE AREA =     .13 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

                **************
                *            *
```

```
 304 KK     *     CP607  *
            *            *
            **************
                          DEVELOPED AREA - NO PONDING AREA.
                          Combine sub 607 & 604607

 307 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

 308 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    CP607

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     279.     12.17                 36.         11.          4.           2.
                       (INCHES)     .131        .158        .159         .159
                        (AC-FT)      18.         21.         21.          21.

                       CUMULATIVE AREA =    2.52 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 309 KK     *      D607  *
            *            *
            **************
                          Divert 100% of flow west over Arizona Ave

 311 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

     DT          DIVERSION
                       ISTAD       Az607  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00    100.00

     DQ      DIVERTED FLOW         .00    100.00

                                                                  ***

      ***             ***             ***             ***             ***

                         DIVERSION HYDROGRAPH    Az607

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     279.     12.17                 36.         11.          4.           2.
                       (INCHES)     .131        .158        .159         .159
                        (AC-FT)      18.         21.         21.          21.

                       CUMULATIVE AREA =    2.52 SQ MI

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     D607

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                  0.          0.          0.           0.
                       (INCHES)     .000        .000        .000         .000
                        (AC-FT)       0.          0.          0.           0.

                       CUMULATIVE AREA =    2.52 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 315 KK     *       608  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin
                          L= 1.685 mi S= 9.0 ft/mi Kb= 0.027 Urban
```

```
                        SUBBASIN RUNOFF DATA

   318 BA                 SUBBASIN CHARACTERISTICS
                                TAREA         1.15  SUBBASIN AREA

                          PRECIPITATION DATA

    92 PB                       STORM         3.30  BASIN TOTAL PRECIPITATION

    92 PI                   INCREMENTAL PRECIPITATION PATTERN
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                                .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                                .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                                .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                                .00       .00       .00       .00       .00       .00       .00       .00

   319 LG                 GREEN AND AMPT LOSS RATE
                                STRTL          .25  STARTING LOSS
                                  DTH          .16  MOISTURE DEFICIT
                                 PSIF         7.00  WETTING FRONT SUCTION
                                XKSAT          .15  HYDRAULIC CONDUCTIVITY
                                RTIMP        28.00  PERCENT IMPERVIOUS AREA

   320 UC                 CLARK UNITGRAPH
                                   TC          .95  TIME OF CONCENTRATION
                                    R          .49  STORAGE COEFFICIENT

   321 UA                 ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                                 .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                              100.0

                                                                   ***

                                                         UNIT HYDROGRAPH PARAMETERS
                                                    CLARK   TC=    .95 HR,         R=    .49 HR
                                                   SNYDER   TP=    .49 HR,        CP=    .53

                                                             UNIT HYDROGRAPH
                                                         37 END-OF-PERIOD ORDINATES
                           31.       119.      245.      450.      693.      798.      779.      735.      680.      617.
                          558.       495.      424.      357.      301.      254.      214.      180.      152.      128.
                          108.        91.       77.       65.       55.       46.       39.       33.       28.       23.
                           20.        16.       14.       12.       10.        8.        7.

          ***            ***             ***             ***             ***

                                  HYDROGRAPH AT STATION        608

            TOTAL RAINFALL =     3.30, TOTAL LOSS =     1.55, TOTAL EXCESS =     1.75

        PEAK FLOW       TIME                            MAXIMUM AVERAGE FLOW
                                           6-HR          24-HR         72-HR     166.58-HR
      +  (CFS)          (HR)
                                  (CFS)
      +     883.       12.42                182.           54.           18.           8.
                                (INCHES)   1.470         1.736         1.739         1.739
                                 (AC-FT)     90.          106.          107.          107.

                                 CUMULATIVE AREA =     1.15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                    **************
                    *            *
   323 KK           *     608    *
                    *            *
                    **************
                                              RETENTION DIVERSION
                                              DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                              DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 78.13 AC-FT
```

```
                    DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                    TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 608 = 78.13 AC-FT

     DT          DIVERSION
                      ISTAD      608RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       78.13  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                          ***

      ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   608RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     883.     12.42                148.         39.         13.           6.
                       (INCHES)     1.195       1.275       1.275        1.275
                        (AC-FT)      73.         78.         78.          78.

                       CUMULATIVE AREA =    1.15 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      608

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     346.     13.17                 49.         14.          5.           2.
                       (INCHES)      .395        .464        .464         .464
                        (AC-FT)      24.         28.         28.          28.

                       CUMULATIVE AREA =    1.15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  332 KK    *   608609   *        ROUTE   REACH
            *            *
            **************
                          Routed west along Ray Rd.

               HYDROGRAPH ROUTING DATA

  334 RS          STORAGE ROUTING
                       NSTPS           7  NUMBER OF SUBREACHES
                        ITYP              TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

  335 RC          NORMAL DEPTH CHANNEL
                         ANL        .030  LEFT OVERBANK N-VALUE
                        ANCH        .015  MAIN CHANNEL N-VALUE
                         ANR        .030  RIGHT OVERBANK N-VALUE
                       RLNTH       6425.  REACH LENGTH
                         SEL       .0014  ENERGY SLOPE
                       ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  337 RY        ELEVATION       .60       .00      1.80      2.10      2.10      1.80       .00       .60
  336 RX        DISTANCE        .00    300.00    311.00    324.90    325.00    339.00    350.00    650.00

                                                          ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00       .91      3.65      8.21     14.59     22.80     32.54     42.46     52.41     62.38
            OUTFLOW        .00      1.67     10.58     31.20     67.20    121.84    208.47    324.41    460.04    614.03
          ELEVATION        .00       .11       .22       .33       .44       .55       .66       .77       .88       .99

            STORAGE      72.37     82.38     92.41    102.47    112.55    122.65    132.77    142.95    153.30    163.81
            OUTFLOW     785.37    973.27   1177.03   1396.10   1629.98   1878.24   2140.51   2418.93   2712.85   3021.93
          ELEVATION       1.11      1.22      1.33      1.44      1.55      1.66      1.77      1.88      1.99      2.10

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   608609

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      94.     15.42                 43.         14.          5.           2.
                       (INCHES)      .347        .464        .464         .464
```

```
                    (AC-FT)        21.         28.         28.         28.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      3.      15.42                    1.          1.          0.          0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     .50      15.42                  .35         .18         .06         .03

                    CUMULATIVE AREA =    1.15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 338 KK     *       609  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 1.397 mi S= 6.3 ft/mi Kb= 0.029 Urban

              SUBBASIN RUNOFF DATA

 341 BA         SUBBASIN CHARACTERISTICS
                     TAREA         .38  SUBBASIN AREA

                PRECIPITATION DATA

  92 PB              STORM        3.30  BASIN TOTAL PRECIPITATION

  92 PI           INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                     .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                     .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00

 342 LG         GREEN AND AMPT LOSS RATE
                     STRTL         .24  STARTING LOSS
                       DTH         .16  MOISTURE DEFICIT
                      PSIF        7.60  WETTING FRONT SUCTION
                     XKSAT         .11  HYDRAULIC CONDUCTIVITY
                     RTIMP       33.00  PERCENT IMPERVIOUS AREA

 343 UC         CLARK UNITGRAPH
                        TC        1.00  TIME OF CONCENTRATION
                         R         .84  STORAGE COEFFICIENT

 344 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0
                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=  1.00 HR,       R=   .84 HR
                                           SNYDER   TP=   .58 HR,      CP=   .41

                                                      UNIT HYDROGRAPH
                                                 59 END-OF-PERIOD ORDINATES
                 6.       22.       46.       82.      135.      171.      177.      175.      171.      165.
               157.      149.      138.      125.      114.      103.       93.       84.       76.       69.
                63.       57.       51.       47.       42.       38.       35.       31.       28.       26.
                23.       21.       19.       17.       16.       14.       13.       12.       11.       10.
                 9.        8.        7.        6.        6.        5.        5.        4.        4.        4.
                 3.        3.        3.        2.        2.        2.        2.        2.        1.

     ***            ***            ***            ***            ***
```

```
                    HYDROGRAPH AT STATION      609

   TOTAL RAINFALL =    3.30, TOTAL LOSS =    1.38, TOTAL EXCESS =    1.92

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     221.     12.50                64.         19.          6.           3.
                          (INCHES)   1.585      1.902       1.909        1.909
                           (AC-FT)    32.         38.         38.          38.

                          CUMULATIVE AREA =     .38 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  346 KK    *       609  *
            *            *
            **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 5.28 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 615 = 5.28 AC-FT

     DT          DIVERSION
                      ISTAD      609RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX        5.28  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH   609RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      34.     11.83                 8.          3.          1.           0.
                          (INCHES)    .196       .262        .262         .262
                           (AC-FT)     4.          5.          5.           5.

                          CUMULATIVE AREA =     .38 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION      609

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     221.     12.50                62.         17.          6.           2.
                          (INCHES)   1.533      1.647       1.647        1.647
                           (AC-FT)    31.         33.         33.          33.

                          CUMULATIVE AREA =     .38 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  355 KK    *       612  *        BASIN
            *            *
            **************
                                The following parameters were determined for this sub basin.
                                L= 1.458 mi S= 10.9 ft/mi Kb= 0.033 Urban

                SUBBASIN RUNOFF DATA

  358 BA          SUBBASIN CHARACTERISTICS
                        TAREA         .26  SUBBASIN AREA

                  PRECIPITATION DATA

   92 PB                STORM        3.30  BASIN TOTAL PRECIPITATION

   92 PI            INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

```
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

 359 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .28  STARTING LOSS
                         DTH         .25  MOISTURE DEFICIT
                        PSIF        5.10  WETTING FRONT SUCTION
                       XKSAT         .32  HYDRAULIC CONDUCTIVITY
                       RTIMP       25.00  PERCENT IMPERVIOUS AREA

 360 UC          CLARK UNITGRAPH
                          TC        1.00  TIME OF CONCENTRATION
                           R        1.09  STORAGE COEFFICIENT

 361 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                   ***

                                          UNIT HYDROGRAPH PARAMETERS
                                     CLARK   TC=  1.00 HR,       R=  1.09 HR
                                   SNYDER   TP=   .64 HR,      CP=   .38

                                              UNIT HYDROGRAPH
                                         74 END-OF-PERIOD ORDINATES
                 3.       12.       25.       45.       74.       94.       99.      100.       99.       97.
                94.       91.       86.       79.       73.       68.       63.       58.       54.       50.
                46.       43.       40.       37.       34.       32.       29.       27.       25.       23.
                22.       20.       18.       17.       16.       15.       14.       13.       12.       11.
                10.        9.        9.        8.        7.        7.        6.        6.        5.        5.
                 5.        4.        4.        4.        3.        3.        3.        3.        3.        2.
                 2.        2.        2.        2.        2.        1.        1.        1.        1.        1.
                 1.        1.        1.        1.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      612

    TOTAL RAINFALL =    3.30, TOTAL LOSS =    1.83, TOTAL EXCESS =    1.46

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                     (CFS)
+     102.     12.50                   33.         10.          3.          1.
                                  (INCHES)      1.201       1.450       1.457       1.457
                                   (AC-FT)       16.         20.         20.         20.

                                  CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 363 KK     *       612  *
            *            *
            **************
                                 RETENTION DIVERSION
                                 DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                 DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.94 AC-FT
                                 DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 4.43 AC-FT
                                 TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 612 = 5.37 AC-FT

     DT          DIVERSION
                      ISTAD      612RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX        5.37  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00
```

```
                                                                    ***
     ***            ***            ***            ***            ***

                    DIVERSION HYDROGRAPH   612RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      95.     12.42                 9.          3.          1.           0.
                          (INCHES)  .338        .392        .392         .392
                           (AC-FT)    5.          5.          5.           5.

                         CUMULATIVE AREA =     .26 SQ MI


     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      612

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     102.     12.50                27.          7.          2.           1.
                          (INCHES)  .982       1.065       1.065        1.065
                           (AC-FT)   13.         15.         15.          15.

                         CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  372 KK    *     D612   *       Intersection Diversion
            *            *
            **************
                          Flow split at McQueen & Frye Rd. with 40% diverted west to CP615

     DT          DIVERSION
                      ISTAD       To615  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00    100.00    500.00   1000.00   2000.00

     DQ      DIVERTED FLOW         .00     40.00    200.00    400.00    800.00

                                                                ***

     ***            ***            ***            ***            ***

                    DIVERSION HYDROGRAPH    To615

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      41.     12.50                11.          3.          1.           0.
                          (INCHES)  .393        .426        .426         .426
                           (AC-FT)    5.          6.          6.           6.

                         CUMULATIVE AREA =     .26 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     D612

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      61.     12.50                16.          4.          1.           1.
                          (INCHES)  .589        .639        .639         .639
                           (AC-FT)    8.          9.          9.           9.

                         CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  377 KK    *   612614   *       ROUTE   REACH
            *            *
            **************
                          Routed south along McQueen Rd.

               HYDROGRAPH ROUTING DATA

  379 RS          STORAGE ROUTING
                       NSTPS           2  NUMBER OF SUBREACHES
```

```
                    ITYP              TYPE OF INITIAL CONDITION
                  RSVRIC         .00  INITIAL CONDITION
                       X         .00 WORKING R AND D COEFFICIENT

 380 RC          NORMAL DEPTH CHANNEL
                     ANL        .030  LEFT OVERBANK N-VALUE
                    ANCH        .015  MAIN CHANNEL N-VALUE
                     ANR        .030  RIGHT OVERBANK N-VALUE
                   RLNTH       1352.  REACH LENGTH
                     SEL       .0036  ENERGY SLOPE
                   ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 382 RY        ELEVATION       .60       .00      1.30      1.70      1.70      1.30       .00       .60
 381 RX        DISTANCE        .00    300.00    307.50    329.90    330.00    352.50    360.00    660.00

                                                          ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00       .13       .50      1.13      2.01      3.14      4.52      6.15      7.83      9.53
            OUTFLOW        .00      1.52      9.65     28.46     61.30    111.14    180.73    279.62    418.47    578.88
          ELEVATION        .00       .09       .18       .27       .36       .45       .54       .63       .72       .81

            STORAGE      11.22     12.92     14.61     16.32     18.02     19.73     21.47     23.23     25.02     26.84
            OUTFLOW     759.52    959.31   1177.42   1413.12   1665.80   1935.95   2224.15   2529.95   2853.77   3195.92
          ELEVATION        .89       .98      1.07      1.16      1.25      1.34      1.43      1.52      1.61      1.70

 *** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN     1413. TO     3196.
                 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   612614

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      48.     13.17                 16.          4.          1.          1.
                        (INCHES)   .580        .639        .639        .639
                         (AC-FT)     8.          9.          9.          9.

  PEAK STORAGE  TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.     13.17                  0.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .32     13.17                 .19         .07         .02         .01

                        CUMULATIVE AREA =     .26 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 383 KK     *    CON406  *
            *            *
            **************
                                Retrieve data from DSS file
                                Overflow from Consolidated Canal at Pecos Rd.
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP406/FLOW/03MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP406/FLOW/03MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP406/FLOW/04MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP406/FLOW/05MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP406/FLOW/06MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP406/FLOW/06MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP406/FLOW/06MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP406/FLOW/07MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP406/FLOW/08MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP406/FLOW/08MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP406/FLOW/08MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP406/FLOW/09MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP406/FLOW/10MAR1903/5MIN/24HR/
 -----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
 Pathname: /CONS/CP406/FLOW/11MAR1903/5MIN/24HR/

              SUBBASIN RUNOFF DATA

 386 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .00  SUBBASIN AREA

                                                          ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   CON406

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
```

```
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      43.     16.25                     33.         16.          6.           3.
                          (INCHES)   305.233     582.724     664.753      721.211
                           (AC-FT)       16.         31.         35.          38.

                          CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  388 KK    *    406617  *        ROUTE   REACH
            *            *
            **************
                          Route CON406 west along Pecos to CP617.

               HYDROGRAPH ROUTING DATA

  390 RS          STORAGE ROUTING
                        NSTPS           4  NUMBER OF SUBREACHES
                         ITYP              TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  391 RC          NORMAL DEPTH CHANNEL
                          ANL        .030  LEFT OVERBANK N-VALUE
                         ANCH        .015  MAIN CHANNEL N-VALUE
                          ANR        .030  RIGHT OVERBANK N-VALUE
                        RLNTH       3807.  REACH LENGTH
                          SEL       .0032  ENERGY SLOPE
                        ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  393 RY        ELEVATION       .60       .00      1.80      2.10      2.10      1.80       .00       .60
  392 RX        DISTANCE        .00    300.00    311.00    324.90    325.00    339.00    350.00    650.00

                                                                  ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00       .54      2.16      4.86      8.65     13.51     19.28     25.16     31.05     36.96
            OUTFLOW        .00      2.52     16.00     47.18    101.60    184.21    315.18    490.47    695.51    928.32
          ELEVATION        .00       .11       .22       .33       .44       .55       .66       .77       .88       .99

            STORAGE      42.88     48.81     54.76     60.72     66.69     72.67     78.67     84.70     90.83     97.06
            OUTFLOW    1187.37   1471.44   1779.51   2110.71   2464.30   2839.64   3236.14   3657.08   4101.44   4568.72
          ELEVATION       1.11      1.22      1.33      1.44      1.55      1.66      1.77      1.88      1.99      2.10


*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN     4101. TO     4569.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   406617

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      41.     17.58                     32.         15.          6.           3.
                          (INCHES)   296.862     576.137     663.744      719.604
                           (AC-FT)       16.         31.         35.          38.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        1.     17.58                      1.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
       .31     17.58                    .28         .20         .10          .05

                          CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  394 KK    *       617  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 0.905 mi S= 7.5 ft/mi Kb= 0.036 Urban

               SUBBASIN RUNOFF DATA
```

```
397 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .22  SUBBASIN AREA

                PRECIPITATION DATA

 92 PB               STORM        3.30  BASIN TOTAL PRECIPITATION

 92 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                     .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                     .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00

398 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .31  STARTING LOSS
                       DTH         .25  MOISTURE DEFICIT
                      PSIF        4.40  WETTING FRONT SUCTION
                     XKSAT         .48  HYDRAULIC CONDUCTIVITY
                     RTIMP       24.00  PERCENT IMPERVIOUS AREA

399 UC          CLARK UNITGRAPH
                        TC         .98  TIME OF CONCENTRATION
                         R         .80  STORAGE COEFFICIENT

400 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                  ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=   .98 HR,       R=   .80 HR
                                        SNYDER   TP=   .57 HR,      CP=   .43

                                                UNIT HYDROGRAPH
                                            56 END-OF-PERIOD ORDINATES
                     4.       14.       29.       53.       85.      105.      108.      107.      104.       99.
                    94.       88.       81.       73.       66.       59.       53.       48.       43.       39.
                    35.       32.       28.       26.       23.       21.       19.       17.       15.       14.
                    12.       11.       10.        9.        8.        7.        7.        6.        5.        5.
                     4.        4.        3.        3.        3.        3.        2.        2.        2.        2.
                     2.        1.        1.        1.        1.        1.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      617

    TOTAL RAINFALL =    3.30, TOTAL LOSS =    1.96, TOTAL EXCESS =    1.33

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      95.     12.42                   26.          8.          3.          1.
                        (INCHES)     1.093       1.323       1.328       1.328
                         (AC-FT)      13.         16.         16.         16.

                        CUMULATIVE AREA =     .22 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 402 KK     *       617  *
            *            *
            **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 7.60 AC-FT
```

```
                    DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 1.74 AC-FT
                    TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 617 = 9.34 AC-FT

     DT          DIVERSION
                      ISTAD      617RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX        9.34  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   617RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      95.     12.42                 17.          5.          2.           1.
                        (INCHES)    .732        .796        .796         .796
                         (AC-FT)      9.          9.          9.           9.

                        CUMULATIVE AREA =     .22 SQ MI


      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      617

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      58.     13.17                 11.          3.          1.           0.
                        (INCHES)    .467        .532        .532         .532
                         (AC-FT)      5.          6.          6.           6.

                        CUMULATIVE AREA =     .22 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  411 KK    *     CP617  *
            *            *
            **************
                        Combine 617 & CON406

  413 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    CP617

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      58.     13.17                 34.         18.          7.           3.
                        (INCHES)   1.430       3.073       3.525        3.785
                         (AC-FT)     17.         36.         42.          45.

                        CUMULATIVE AREA =     .22 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  414 KK    *      D617  *       Intersection Diversion
            *            *
            **************
                        Flow split at McQueen & Pecos with 20% diverted south and routed to CP618

     DT          DIVERSION
                      ISTAD       To618  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00    100.00    500.00   1000.00   2000.00

     DQ      DIVERTED FLOW         .00     20.00    100.00    200.00    400.00

                                                                  ***

      ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH    To618
```

```
  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      12.     13.17                7.          4.          1.          1.
                          (INCHES)      .286        .615        .705        .757
                           (AC-FT)        3.          7.          8.          9.

                          CUMULATIVE AREA =     .22 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     D617

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      46.     13.17               27.         15.          6.          3.
                          (INCHES)     1.144       2.458       2.820       3.028
                           (AC-FT)       13.         29.         33.         36.

                          CUMULATIVE AREA =     .22 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  419 KK    *    617614  *        ROUTE   REACH
            *            *
            **************
                          Route 80% of flow north along McQueen to CP 614 and route to CP615 since
                          split to west would end up at CP615.

              HYDROGRAPH ROUTING DATA

  422 RS          STORAGE ROUTING
                       NSTPS           2  NUMBER OF SUBREACHES
                        ITYP              TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

  423 RC          NORMAL DEPTH CHANNEL
                         ANL        .030  LEFT OVERBANK N-VALUE
                        ANCH        .015  MAIN CHANNEL N-VALUE
                         ANR        .030  RIGHT OVERBANK N-VALUE
                       RLNTH       1379.  REACH LENGTH
                         SEL       .0045  ENERGY SLOPE
                       ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                      CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  425 RY        ELEVATION       .60       .00      1.30      1.70      1.70      1.30       .00       .60
  424 RX        DISTANCE        .00    300.00    307.50    329.90    330.00    352.50    360.00    660.00

                                                                  ***

                                      COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00       .13       .51      1.15      2.05      3.20      4.61      6.27      7.99      9.72
            OUTFLOW        .00      1.70     10.79     31.82     68.53    124.26    202.06    312.62    467.86    647.21
          ELEVATION        .00       .09       .18       .27       .36       .45       .54       .63       .72       .81

            STORAGE      11.44     13.17     14.91     16.64     18.38     20.13     21.90     23.69     25.52     27.38
            OUTFLOW     849.17   1072.55   1316.40   1579.92   1862.42   2164.46   2486.67   2828.57   3190.61   3573.15
          ELEVATION        .89       .98      1.07      1.16      1.25      1.34      1.43      1.52      1.61      1.70


*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN     1316. TO     3573.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   617614

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      34.     17.92               27.         15.          6.          3.
                          (INCHES)     1.138       2.446       2.818       3.026
                           (AC-FT)       13.         29.         33.         36.

  PEAK STORAGE  TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.      17.83                 1.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .27      17.92                .25         .18         .10         .05
```

```
                    CUMULATIVE AREA =     .22 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
426 KK    *      614   *        BASIN
          *            *
          **************
                    The following parameters were determined for this sub basin.
                    L= 1.313 mi S= 12.4 ft/mi Kb= 0.028 Urban

            SUBBASIN RUNOFF DATA

429 BA        SUBBASIN CHARACTERISTICS
                  TAREA          .42  SUBBASIN AREA

              PRECIPITATION DATA

 92 PB            STORM        3.30  BASIN TOTAL PRECIPITATION

 92 PI          INCREMENTAL PRECIPITATION PATTERN
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .01      .00      .01
                  .01      .01      .01      .01      .01      .01      .01      .01      .03      .03
                  .03      .09      .09      .09      .01      .01      .01      .01      .01      .01
                  .01      .01      .01      .01      .01      .01      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00

430 LG        GREEN AND AMPT LOSS RATE
                  STRTL         .24  STARTING LOSS
                    DTH         .25  MOISTURE DEFICIT
                   PSIF        4.60  WETTING FRONT SUCTION
                  XKSAT         .41  HYDRAULIC CONDUCTIVITY
                  RTIMP       32.00  PERCENT IMPERVIOUS AREA

431 UC        CLARK UNITGRAPH
                     TC         .75  TIME OF CONCENTRATION
                      R         .55  STORAGE COEFFICIENT

432 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                    .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                 100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=   .75 HR,       R=   .55 HR
                                  SNYDER   TP=   .42 HR,      CP=   .44

                                          UNIT HYDROGRAPH
                                   39 END-OF-PERIOD ORDINATES
              14.       55.      128.      226.      283.      284.      271.      253.      233.      208.
             178.      153.      132.      113.       97.       83.       72.       62.       53.       45.
              39.       34.       29.       25.       21.       18.       16.       14.       12.       10.
               9.        7.        6.        5.        5.        4.        3.        3.        3.

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION      614

    TOTAL RAINFALL =    3.30, TOTAL LOSS =    1.70, TOTAL EXCESS =    1.59

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     269.     12.33                57.         18.          6.          3.
                         (INCHES)  1.278       1.581       1.585       1.585
                          (AC-FT)    28.         35.         35.         35.
```

```
                    CUMULATIVE AREA =     .42 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 434 KK     *       614  *
            *            *
            **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 19.04 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 614 = 19.04 AC-FT

     DT          DIVERSION
                      ISTAD      614RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       19.04  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   614RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+     269.     12.33                 35.         10.          3.           1.
                             (INCHES)      .775        .858        .858         .858
                              (AC-FT)       17.         19.         19.          19.

                        CUMULATIVE AREA =     .42 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      614

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+     183.     12.75                 29.          8.          3.           1.
                             (INCHES)      .640        .727        .727         .727
                              (AC-FT)       14.         16.         16.          16.

                        CUMULATIVE AREA =     .42 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 443 KK     *     CP614  *
            *            *
            **************
                              Combine 612614, 617614, & 614

 445 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

 446 HC          HYDROGRAPH COMBINATION
                      ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    CP614

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+     205.     12.75                 63.         27.         10.           4.
                             (INCHES)      .659       1.123       1.218        1.270
                              (AC-FT)       31.         54.         58.          61.

                        CUMULATIVE AREA =     .89 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
                **************
                *            *
447 KK          *    614615  *        ROUTE   REACH
                *            *
                **************
                          Routed west along Saragosa Court.

                  HYDROGRAPH ROUTING DATA

449 RS              STORAGE ROUTING
                         NSTPS           5  NUMBER OF SUBREACHES
                          ITYP              TYPE OF INITIAL CONDITION
                        RSVRIC         .00  INITIAL CONDITION
                             X         .00 WORKING R AND D COEFFICIENT

450 RC              NORMAL DEPTH CHANNEL
                           ANL        .030  LEFT OVERBANK N-VALUE
                          ANCH        .015  MAIN CHANNEL N-VALUE
                           ANR        .030  RIGHT OVERBANK N-VALUE
                         RLNTH       5124.  REACH LENGTH
                           SEL       .0001  ENERGY SLOPE
                         ELMAX         3.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                      CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
452 RY        ELEVATION      1.00       .80       .50       .00       .00       .50      1.00      3.00
451 RX        DISTANCE        .00    170.00    190.00    250.00    290.00    310.00    660.00   1060.00

                                                          ***

                                      COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .98      2.42      4.34      7.34     12.57     21.05     33.18     46.12     59.65
          OUTFLOW        .00      2.09      7.63     17.10     33.79     58.54     93.39    145.73    214.04    295.89
        ELEVATION        .00       .16       .32       .47       .63       .79       .95      1.11      1.26      1.42

          STORAGE      73.77     88.47    103.76    119.64    136.10    153.15    170.78    189.00    207.81    227.20
          OUTFLOW     390.73    498.26    618.32    750.85    895.82   1053.26   1223.24   1405.82   1601.11   1809.21
        ELEVATION       1.58      1.74      1.89      2.05      2.21      2.37      2.53      2.68      2.84      3.00


     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   614615

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                             (CFS)
+      79.     16.00                55.         26.         10.          4.
                          (INCHES)  .574       1.098       1.215       1.267
                           (AC-FT)   27.         52.         58.         60.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       3.     15.92                  2.          1.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .88     16.00                 .76         .51         .24         .12

                        CUMULATIVE AREA =     .89 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                **************
                *            *
453 KK          *       613  *        BASIN
                *            *
                **************
                          The following parameters were determined for this sub basin.
                          L= 0.870 mi S= 11.4 ft/mi Kb= 0.035 Urban

                  SUBBASIN RUNOFF DATA

456 BA              SUBBASIN CHARACTERISTICS
                         TAREA         .21  SUBBASIN AREA

                    PRECIPITATION DATA

 92 PB                   STORM        3.30  BASIN TOTAL PRECIPITATION

 92 PI                INCREMENTAL PRECIPITATION PATTERN
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

```
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

457 LG          GREEN AND AMPT LOSS RATE
                STRTL        .22  STARTING LOSS
                  DTH        .27  MOISTURE DEFICIT
                 PSIF       4.60  WETTING FRONT SUCTION
                XKSAT        .40  HYDRAULIC CONDUCTIVITY
                RTIMP      36.00  PERCENT IMPERVIOUS AREA

458 UC          CLARK UNITGRAPH
                   TC        .67  TIME OF CONCENTRATION
                    R        .52  STORAGE COEFFICIENT

459 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                   ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .67 HR,       R=   .52 HR
                                         SNYDER   TP=   .40 HR,      CP=   .46

                                                UNIT HYDROGRAPH
                                          37 END-OF-PERIOD ORDINATES
                 9.       35.       87.      138.      153.      149.      140.      129.      114.       97.
                83.       71.       60.       51.       44.       37.       32.       27.       23.       20.
                17.       14.       12.       10.        9.        7.        6.        5.        5.        4.
                 3.        3.        2.        2.        2.        1.        1.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      613

   TOTAL RAINFALL =    3.30, TOTAL LOSS =    1.61, TOTAL EXCESS =    1.69

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     144.     12.25                    30.          9.          3.          1.
                        (INCHES)     1.338       1.680       1.684       1.684
                         (AC-FT)        15.         19.         19.         19.

                       CUMULATIVE AREA =     .21 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  461 KK    *       613  *
            *            *
            **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 3.32 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 613 = 3.32 AC-FT

     DT          DIVERSION
                    ISTAD      613RET  DIVERSION HYDROGRAPH IDENTIFICATION
                  DSTRMX        3.32  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00  10000.00

     DQ      DIVERTED FLOW        .00  10000.00

                                                   ***

     ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   613RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
```

```
+   (CFS)        (HR)
                          (CFS)
+      19.      11.75                  5.          2.          1.          0.
                        (INCHES)     .221        .299        .299        .299
                         (AC-FT)       2.          3.          3.          3.

                         CUMULATIVE AREA =     .21 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION      613

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     144.      12.25                 28.          8.          3.          1.
                        (INCHES)    1.269       1.385       1.385       1.385
                         (AC-FT)      14.         15.         15.         15.

                         CUMULATIVE AREA =     .21 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  470 KK    *       615  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 0.845 mi S= 10.3 ft/mi Kb= 0.030 Urban

              SUBBASIN RUNOFF DATA

  473 BA        SUBBASIN CHARACTERISTICS
                     TAREA         .37  SUBBASIN AREA

                PRECIPITATION DATA

   92 PB             STORM        3.30  BASIN TOTAL PRECIPITATION

   92 PI          INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                     .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                     .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00

  474 LG        GREEN AND AMPT LOSS RATE
                     STRTL         .20  STARTING LOSS
                       DTH         .27  MOISTURE DEFICIT
                      PSIF        4.45  WETTING FRONT SUCTION
                     XKSAT         .44  HYDRAULIC CONDUCTIVITY
                     RTIMP       24.00  PERCENT IMPERVIOUS AREA

  475 UC        CLARK UNITGRAPH
                        TC         .65  TIME OF CONCENTRATION
                         R         .36  STORAGE COEFFICIENT

  476 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                   ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=   .65 HR,       R=   .36 HR
                                  SNYDER   TP=   .34 HR,      CP=   .51

                                          UNIT HYDROGRAPH
```

```
                                                    26 END-OF-PERIOD ORDINATES
                24.       90.      225.      339.      348.      320.      284.      246.      204.      161.
               127.      101.       80.       63.       50.       39.       31.       25.       19.       15.
                12.       10.        8.        6.        5.        4.

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      615

    TOTAL RAINFALL =    3.30, TOTAL LOSS =    1.93, TOTAL EXCESS =    1.37

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     291.     12.25                   45.         13.          4.           2.
                        (INCHES)     1.133       1.361       1.363        1.363
                         (AC-FT)      22.         27.         27.          27.

                        CUMULATIVE AREA =     .37 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  478 KK    *       615  *
            *            *
            **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 10.54 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 615 = 10.54 AC-FT

     DT          DIVERSION
                      ISTAD      615RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       10.54  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00  10000.00

     DQ      DIVERTED FLOW        .00  10000.00

                                                                  ***

      ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   615RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     272.     12.17                   19.          5.          2.           1.
                        (INCHES)      .477        .537        .537         .537
                         (AC-FT)        9.         11.         11.          11.

                        CUMULATIVE AREA =     .37 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      615

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     275.     12.33                   30.          8.          3.           1.
                        (INCHES)      .758        .826        .826         .826
                         (AC-FT)       15.         16.         16.          16.

                        CUMULATIVE AREA =     .37 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  487 KK    *    FRM612  *
            *            *
            **************
                              Retrieve hydrograph from flow split at McQueen & Frye directed west.

  489 DR          RETRIEVE DIVERSION HYDROGRAPH
                      ISTAD       To615  DIVERSION HYDROGRAPH IDENTIFICATION

                                                                  ***

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   FRM612
```

```
  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      41.     12.50                 11.          3.          1.           0.
                        (INCHES)    .274        .297        .297         .297
                         (AC-FT)      5.          6.          6.           6.

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  490 KK    *    612615  *        ROUTE   REACH
            *            *
            **************
                          Routed west along Frye Rd.

               HYDROGRAPH ROUTING DATA

  492 RS          STORAGE ROUTING
                        NSTPS           4  NUMBER OF SUBREACHES
                         ITYP              TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  493 RC          NORMAL DEPTH CHANNEL
                          ANL        .030  LEFT OVERBANK N-VALUE
                         ANCH        .015  MAIN CHANNEL N-VALUE
                          ANR        .030  RIGHT OVERBANK N-VALUE
                        RLNTH       3867.  REACH LENGTH
                          SEL       .0016  ENERGY SLOPE
                        ELMAX         2.1  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                      CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  495 RY        ELEVATION       .60       .00      1.80      2.10      2.10      1.80       .00       .60
  494 RX        DISTANCE        .00    300.00    311.00    324.90    325.00    339.00    350.00    650.00

                                                                  ***

                                      COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00       .55      2.22      4.99      8.87     13.85     19.75     25.75     31.77     37.80
            OUTFLOW        .00      1.80     11.46     33.78     72.76    131.92    226.10    351.31    497.72    663.90
          ELEVATION        .00       .11       .22       .33       .44       .56       .67       .78       .89      1.00

            STORAGE      43.84     49.90     55.97     62.05     68.14     74.25     80.38     86.54     92.80     99.17
            OUTFLOW     848.77   1051.46   1271.25   1507.52   1759.74   2027.46   2310.26   2610.79   2927.83   3261.38
          ELEVATION       1.11      1.22      1.33      1.44      1.55      1.67      1.78      1.89      2.00      2.11

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   612615

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      19.     14.67                 10.          3.          1.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      5.          6.          6.           6.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.      14.67                  0.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .26      14.67                 .19         .08         .03          .01

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  496 KK    *     CP615  *
            *            *
            **************
                          Combine sub 615, 613, 612615, & 614615

  498 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
```

```
499 HC          HYDROGRAPH COMBINATION
                     ICOMP          4  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    CP615

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     418.     12.33                 108.         45.         16.           7.
                          (INCHES)  .684       1.136       1.215        1.248
                           (AC-FT)   54.         89.         95.          98.

                         CUMULATIVE AREA =    1.47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
500 KK      *    P613-5  *
            *            *
            **************
                        Ponding east of the RR Tracks.


503 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           3  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

               HYDROGRAPH ROUTING DATA

504 RS          STORAGE ROUTING
                     NSTPS           1  NUMBER OF SUBREACHES
                      ITYP        STOR  TYPE OF INITIAL CONDITION
                    RSVRIC         .00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

505 SV            STORAGE          .0        .0        .1        .3        .7       1.4       2.9       9.6      18.4      21.7
                                  62.8     112.3     164.2

507 SE          ELEVATION     1210.00   1211.00   1212.00   1213.00   1214.00   1215.00   1216.00   1217.00   1217.60   1218.00
                              1219.00   1220.00   1221.00

509 SQ          DISCHARGE          0.        0.        0.        0.        0.        0.        0.        0.      105.      380.
                                 2707.    12574.    33570.
                                                                  ***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN    12574. TO    33570.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   P613-5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      95.     13.17                  84.         40.         14.           6.
                          (INCHES)  .531       1.011       1.092        1.125
                           (AC-FT)   42.         79.         86.          88.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       18.     13.17                  17.         13.         11.           9.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1217.55     13.17                1217.48     1217.23     1217.08      1216.53

                         CUMULATIVE AREA =    1.47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
511 KK      *       610  *        BASIN
            *            *
            **************
                        The following parameters were determined for this sub basin.
                        L= 1.112 mi S= 6.6 ft/mi Kb= 0.028 Urban
```

```
                SUBBASIN RUNOFF DATA

514 BA            SUBBASIN CHARACTERISTICS
                       TAREA          .54  SUBBASIN AREA

                  PRECIPITATION DATA

 92 PB                 STORM         3.30  BASIN TOTAL PRECIPITATION

 92 PI              INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                       .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                       .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                       .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00

515 LG            GREEN AND AMPT LOSS RATE
                       STRTL          .23  STARTING LOSS
                         DTH          .26  MOISTURE DEFICIT
                        PSIF         5.20  WETTING FRONT SUCTION
                       XKSAT          .29  HYDRAULIC CONDUCTIVITY
                       RTIMP        31.00  PERCENT IMPERVIOUS AREA

516 UC            CLARK UNITGRAPH
                          TC          .87  TIME OF CONCENTRATION
                           R          .49  STORAGE COEFFICIENT

517 UA            ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                   ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .87 HR,       R=   .49 HR
                                         SNYDER   TP=   .46 HR,      CP=   .51

                                                  UNIT HYDROGRAPH
                                             36 END-OF-PERIOD ORDINATES
                 16.       63.      131.      256.      368.      385.      370.      346.      316.      287.
                255.      219.      184.      155.      131.      110.       93.       78.       66.       56.
                 47.       39.       33.       28.       24.       20.       17.       14.       12.       10.
                  8.        7.        6.        5.        4.        4.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      610

    TOTAL RAINFALL =    3.30, TOTAL LOSS =    1.66, TOTAL EXCESS =    1.63

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+     381.     12.33                  77.         24.          8.          3.
                                  (INCHES)      1.328       1.623       1.626       1.626
                                   (AC-FT)        38.         47.         47.         47.

                                 CUMULATIVE AREA =     .54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                 **************
                 *            *
 519 KK          *     CP610  *
                 *            *
                 **************
                            Combine sub 610, & overflow from P613-5

 521 KO            OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
```

```
                    IPLOT          0  PLOT CONTROL
                    QSCAL         0.  HYDROGRAPH PLOT SCALE

  522 HC        HYDROGRAPH COMBINATION
                    ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

     ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION    CP610

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     381.     12.33                149.         61.         22.          10.
                       (INCHES)     .690       1.123       1.232        1.259
                        (AC-FT)      74.        120.        132.         135.

                       CUMULATIVE AREA =    2.01 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  523 KK    *     CP609  *
            *            *
            **************
                        Combine sub 608609, 609, CP610

  525 KO        OUTPUT CONTROL VARIABLES
                    IPRNT          3  PRINT CONTROL
                    IPLOT          0  PLOT CONTROL
                    QSCAL         0.  HYDROGRAPH PLOT SCALE

  526 HC        HYDROGRAPH COMBINATION
                    ICOMP          3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

     ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION    CP609

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     591.     12.42                246.         92.         33.          14.
                       (INCHES)     .647        .964       1.027        1.043
                        (AC-FT)     122.        182.        194.         197.

                       CUMULATIVE AREA =    3.54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  527 KK    *   P610-9   *
            *            *
            **************
                        Ponding in retention basin east of RR track and within commercial disctrict.
                        Excess flow escapes through a 7'x 3' RR bridge located in sub 610.

  530 KO        OUTPUT CONTROL VARIABLES
                    IPRNT          3  PRINT CONTROL
                    IPLOT          0  PLOT CONTROL
                    QSCAL         0.  HYDROGRAPH PLOT SCALE

              HYDROGRAPH ROUTING DATA

  531 RS        STORAGE ROUTING
                    NSTPS          1  NUMBER OF SUBREACHES
                     ITYP       STOR  TYPE OF INITIAL CONDITION
                   RSVRIC        .00  INITIAL CONDITION
                        X        .00 WORKING R AND D COEFFICIENT

  532 SV          STORAGE         .0        .2        .5       1.2       2.4       4.0       7.8      16.6      49.5     128.5
                                224.1     325.3     427.7

  534 SE        ELEVATION     1208.00   1209.00   1210.00   1211.00   1212.00   1213.00   1214.00   1215.00   1216.00   1217.00
                              1218.00   1219.00   1220.00

  536 SQ        DISCHARGE         0.        0.        0.        0.        0.        0.        0.        0.       10.       39.
                                 78.      131.     3861.

                                                          ***

     ***           ***           ***           ***           ***
```

```
                    HYDROGRAPH AT STATION   P610-9

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+      42.     24.92                 42.         38.         25.          13.
                         (INCHES)   .111        .401        .785         .930
                          (AC-FT)    21.         76.        148.         175.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     137.     25.00                136.        126.         90.          54.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
  1217.09     24.83              1217.08     1216.96     1216.50      1215.59

                        CUMULATIVE AREA =    3.54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  538 KK    *    609611  *        ROUTE   REACH
            *            *
            **************
                          Routed west along Roadway

              HYDROGRAPH ROUTING DATA

  540 RS          STORAGE ROUTING
                       NSTPS           3  NUMBER OF SUBREACHES
                        ITYP              TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

  541 RC          NORMAL DEPTH CHANNEL
                         ANL        .030  LEFT OVERBANK N-VALUE
                        ANCH        .015  MAIN CHANNEL N-VALUE
                         ANR        .030  RIGHT OVERBANK N-VALUE
                       RLNTH       2613.  REACH LENGTH
                         SEL      .0033  ENERGY SLOPE
                       ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                        --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  543 RY        ELEVATION      .60       .00      1.30      1.70      1.70      1.30       .00       .60
  542 RX        DISTANCE       .00    300.00    307.50    329.90    330.00    352.50    360.00    660.00

                                                          ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00       .24       .97      2.19      3.89      6.07      8.74     11.88     15.14     18.41
            OUTFLOW        .00      1.46      9.24     27.25     58.69    106.41    173.03    267.71    400.66    554.24
          ELEVATION        .00       .09       .18       .27       .36       .45       .54       .63       .72       .81

            STORAGE      21.68     24.96     28.25     31.53     34.83     38.14     41.49     44.90     48.36     51.87
            OUTFLOW     727.18    918.47   1127.29   1352.96   1594.88   1853.53   2129.46   2422.24   2732.27   3059.86
          ELEVATION        .89       .98      1.07      1.16      1.25      1.34      1.43      1.52      1.61      1.70

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION   609611

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+      42.     25.67                 42.         38.         25.          13.
                         (INCHES)   .111        .401        .784         .929
                          (AC-FT)    21.         76.        148.         175.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.     25.67                  1.          1.          1.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
       .31     25.67                 .31         .30         .25          .17

                        CUMULATIVE AREA =    3.54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
                **************
                *            *
544 KK          *       611  *        BASIN
                *            *
                **************
                              The following parameters were determined for this sub basin.
                              L= 0.958 mi S= 4.7 ft/mi Kb= 0.030 Urban

                SUBBASIN RUNOFF DATA

547 BA            SUBBASIN CHARACTERISTICS
                        TAREA          .29  SUBBASIN AREA

                  PRECIPITATION DATA

 92 PB                  STORM        3.30  BASIN TOTAL PRECIPITATION

 92 PI              INCREMENTAL PRECIPITATION PATTERN
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                        .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                        .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                        .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00

548 LG            GREEN AND AMPT LOSS RATE
                        STRTL          .21  STARTING LOSS
                          DTH          .26  MOISTURE DEFICIT
                         PSIF         5.00  WETTING FRONT SUCTION
                        XKSAT          .33  HYDRAULIC CONDUCTIVITY
                        RTIMP        41.00  PERCENT IMPERVIOUS AREA

549 UC            CLARK UNITGRAPH
                           TC          .94  TIME OF CONCENTRATION
                            R          .67  STORAGE COEFFICIENT

550 UA            ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                          .0        5.0       16.0       30.0       65.0       77.0       84.0       90.0       94.0       97.0
                       100.0

                                                                  ***

                                                        UNIT HYDROGRAPH PARAMETERS
                                                 CLARK   TC=    .94 HR,        R=    .67 HR
                                                SNYDER   TP=    .51 HR,       CP=    .44

                                                        UNIT HYDROGRAPH
                                                 48 END-OF-PERIOD ORDINATES
                      6.        23.        48.        90.       139.       162.       163.       158.       151.       142.
                    132.       121.       108.        95.        84.        74.        66.        58.        51.        45.
                     40.        35.        31.        28.        24.        22.        19.        17.        15.        13.
                     12.        10.         9.         8.         7.         6.         5.         5.         4.         4.
                      3.         3.         3.         2.         2.         2.         2.         1.

     ***            ***            ***            ***            ***

                         HYDROGRAPH AT STATION      611

    TOTAL RAINFALL =     3.30, TOTAL LOSS =     1.44, TOTAL EXCESS =     1.86

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                                 6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     175.     12.42                 46.         14.          5.          2.
                              (INCHES)      1.451       1.841       1.848       1.848
                               (AC-FT)        23.         29.         29.         29.

                              CUMULATIVE AREA =     .29 SQ MI
```

*** ***

```
                **************
                *            *
552 KK          *     CP611  *
                *            *
                **************
                              Combine  sub 611 & 609611

554 KO                OUTPUT CONTROL VARIABLES
                            IPRNT          3  PRINT CONTROL
                            IPLOT          0  PLOT CONTROL
                            QSCAL         0.  HYDROGRAPH PLOT SCALE

555 HC                HYDROGRAPH COMBINATION
                            ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

     ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    CP611

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     175.     12.42                60.         46.         29.          15.
                          (INCHES)  .145        .445        .836         .999
                           (AC-FT)   30.         91.        171.         204.

                          CUMULATIVE AREA =    3.83 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                **************
                *            *
556 KK          *      D611  *
                *            *
                **************
                              Divert 100% of flow west over Arizona Ave

     DT               DIVERSION
                            ISTAD       Az611  DIVERSION HYDROGRAPH IDENTIFICATION

     DI                  INFLOW         .00    100.00

     DQ           DIVERTED FLOW         .00    100.00

                                                                  ***

     ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH    Az611

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     175.     12.42                60.         46.         29.          15.
                          (INCHES)  .145        .445        .836         .999
                           (AC-FT)   30.         91.        171.         204.

                          CUMULATIVE AREA =    3.83 SQ MI

     ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     D611

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+       0.        .00                 0.          0.          0.           0.
                          (INCHES)  .000        .000        .000         .000
                           (AC-FT)    0.          0.          0.           0.

                          CUMULATIVE AREA =    3.83 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                **************
                *            *
561 KK          *        616 *        BASIN
                *            *
                **************
                              The following parameters were determined for this sub basin.
                              L= 0.433 mi S= 12.9 ft/mi Kb= 0.031 Urban

                     SUBBASIN RUNOFF DATA

564 BA                 SUBBASIN CHARACTERISTICS
```

```
                    TAREA          .17  SUBBASIN AREA

                PRECIPITATION DATA

 92 PB              STORM        3.30  BASIN TOTAL PRECIPITATION

 92 PI           INCREMENTAL PRECIPITATION PATTERN
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                    .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                    .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                    .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00

 565 LG         GREEN AND AMPT LOSS RATE
                    STRTL          .17  STARTING LOSS
                      DTH          .25  MOISTURE DEFICIT
                     PSIF         4.55  WETTING FRONT SUCTION
                    XKSAT          .45  HYDRAULIC CONDUCTIVITY
                    RTIMP        51.00  PERCENT IMPERVIOUS AREA

 566 UC         CLARK UNITGRAPH
                       TC          .35  TIME OF CONCENTRATION
                        R          .16  STORAGE COEFFICIENT

 567 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                             CLARK   TC=   .35 HR,       R=   .16 HR
                                            SNYDER   TP=   .21 HR,      CP=   .65

                                                    UNIT HYDROGRAPH
                                             12 END-OF-PERIOD ORDINATES
              59.      240.      332.      263.      180.      110.       64.       38.       22.       13.
               8.        4.

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION      616

   TOTAL RAINFALL =    3.30, TOTAL LOSS =    1.24, TOTAL EXCESS =    2.06

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     251.     12.08                29.         10.          3.          1.
                       (INCHES)    1.563       2.048       2.050       2.050
                        (AC-FT)     14.         19.         19.         19.

                      CUMULATIVE AREA =     .17 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 569 KK     *     CP616  *
            *            *
            **************
                      Combine 616 & D611

 571 KO         OUTPUT CONTROL VARIABLES
                    IPRNT           3  PRINT CONTROL
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE

 572 HC         HYDROGRAPH COMBINATION
                    ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
```

```
                                                                    ***
      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    CP616

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     251.     12.08                29.         10.          3.           1.
                        (INCHES)    .068        .089        .089         .089
                         (AC-FT)     14.         19.         19.          19.

                       CUMULATIVE AREA =    4.00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  573 KK    *      D616  *
            *            *
            **************
                           Divert 100% flow west over Arizona Ave to be retrieved later

  575 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

      DT          DIVERSION
                        ISTAD      Az616  DIVERSION HYDROGRAPH IDENTIFICATION

      DI             INFLOW         .00    100.00

      DQ      DIVERTED FLOW         .00    100.00
                                                                    ***
      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    Az616

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     251.     12.08                29.         10.          3.           1.
                        (INCHES)    .068        .089        .089         .089
                         (AC-FT)     14.         19.         19.          19.

                       CUMULATIVE AREA =    4.00 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     D616

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                 0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                       CUMULATIVE AREA =    4.00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  579 KK    *       619  *        BASIN
            *            *
            **************
                           The following parameters were determined for this sub basin.
                           L= 0.341 mi S= 12.9 ft/mi Kb= 0.030 Natural

                SUBBASIN RUNOFF DATA

  582 BA          SUBBASIN CHARACTERISTICS
                        TAREA         .12  SUBBASIN AREA

                  PRECIPITATION DATA

   92 PB                STORM        3.30  BASIN TOTAL PRECIPITATION

   92 PI             INCREMENTAL PRECIPITATION PATTERN
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

```
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

583 LG          GREEN AND AMPT LOSS RATE
                      STRTL        .16  STARTING LOSS
                        DTH        .25  MOISTURE DEFICIT
                       PSIF       4.70  WETTING FRONT SUCTION
                      XKSAT        .41  HYDRAULIC CONDUCTIVITY
                      RTIMP      61.00  PERCENT IMPERVIOUS AREA

584 UC          CLARK UNITGRAPH
                         TC        .30  TIME OF CONCENTRATION
                          R        .14  STORAGE COEFFICIENT

585 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0

                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .30 HR,       R=   .14 HR
                                         SNYDER   TP=   .26 HR,      CP=   .91

                                                    UNIT HYDROGRAPH
                                                12 END-OF-PERIOD ORDINATES
                15.       75.      213.      252.      153.       83.       45.       25.       13.        7.
                 4.        2.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      619

    TOTAL RAINFALL =    3.30, TOTAL LOSS =     .97, TOTAL EXCESS =    2.33

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                             (CFS)
+     187.     12.17                21.          7.          2.          1.
                          (INCHES)     1.735       2.317       2.319       2.319
                           (AC-FT)       11.         14.         14.         14.

                          CUMULATIVE AREA =     .12 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
587 KK      *     CP619  *
            *            *
            **************
                          Combine  D616 and 619

589 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

590 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    CP619

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
```

```
+   (CFS)        (HR)
                          (CFS)
+     187.      12.17                21.          7.          2.          1.
                        (INCHES)    .048        .065        .065        .065
                         (AC-FT)     11.         14.         14.         14.

                        CUMULATIVE AREA =    4.12 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 591 KK     *      D619  *
            *            *
            **************
                          Divert 100% flow over Arizona Ave.

 593 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

     DT          DIVERSION
                      ISTAD       Az619  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00    100.00

     DQ      DIVERTED FLOW         .00    100.00

                                                                  ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    Az619

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     187.      12.17                21.          7.          2.          1.
                        (INCHES)    .048        .065        .065        .065
                         (AC-FT)     11.         14.         14.         14.

                        CUMULATIVE AREA =    4.12 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     D619

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                 0.          0.          0.          0.
                        (INCHES)    .000        .000        .000        .000
                         (AC-FT)      0.          0.          0.          0.

                        CUMULATIVE AREA =    4.12 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 597 KK     *     dummy  *
            *            *
            **************
                          Combine

 599 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    dummy

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                 0.          0.          0.          0.
                        (INCHES)    .000        .000        .000        .000
                         (AC-FT)      0.          0.          0.          0.

                        CUMULATIVE AREA =    6.64 SQ MI
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
 600 KK   *       618  *        BASIN
          *            *
          **************
                         The following parameters were determined for this sub basin.
                         L= 0.696 mi S= 10.9 ft/mi Kb= 0.029 Urban

             SUBBASIN RUNOFF DATA

 603 BA        SUBBASIN CHARACTERISTICS
                    TAREA         .32  SUBBASIN AREA

               PRECIPITATION DATA

  92 PB              STORM        3.30  BASIN TOTAL PRECIPITATION

  92 PI          INCREMENTAL PRECIPITATION PATTERN
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                    .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                    .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                    .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00

 604 LG        GREEN AND AMPT LOSS RATE
                    STRTL         .26  STARTING LOSS
                      DTH         .25  MOISTURE DEFICIT
                     PSIF        4.60  WETTING FRONT SUCTION
                    XKSAT         .38  HYDRAULIC CONDUCTIVITY
                    RTIMP       20.00  PERCENT IMPERVIOUS AREA

 605 UC        CLARK UNITGRAPH
                       TC         .53  TIME OF CONCENTRATION
                        R         .26  STORAGE COEFFICIENT

 606 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                   ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=   .53 HR,       R=   .26 HR
                                        SNYDER   TP=   .31 HR,      CP=   .61

                                                UNIT HYDROGRAPH
                                           20 END-OF-PERIOD ORDINATES
              38.      144.      314.      402.      360.      305.      245.      184.      134.       98.
              71.       52.       38.       28.       20.       15.       11.        8.        6.        4.

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION      618

   TOTAL RAINFALL =    3.30, TOTAL LOSS =    1.99, TOTAL EXCESS =    1.31

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     311.     12.17                 39.         11.          4.          2.
                        (INCHES)   1.115       1.305       1.307       1.307
                         (AC-FT)     19.         22.         22.         22.

                        CUMULATIVE AREA =     .32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
                **************
                *            *
608 KK          *       618  *
                *            *
                **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 7.41 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 5.98 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 618 = 13.39 AC-FT

    DT          DIVERSION
                     ISTAD      618RET  DIVERSION HYDROGRAPH IDENTIFICATION
                    DSTRMX       13.39  MAXIMUM VOLUME TO BE DIVERTED

    DI            INFLOW          .00  10000.00

    DQ      DIVERTED FLOW         .00  10000.00

                                                          ***

     ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   618RET

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     311.      12.17                25.          7.          2.          1.
                        (INCHES)    .730        .782        .782        .782
                         (AC-FT)     12.         13.         13.         13.

                        CUMULATIVE AREA =     .32 SQ MI

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      618

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     212.      12.42                16.          5.          2.          1.
                        (INCHES)    .471        .525        .525        .525
                         (AC-FT)      8.          9.          9.          9.

                        CUMULATIVE AREA =     .32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                **************
                *            *
617 KK          *    FRM617  *
                *            *
                **************
                                Retrieve hydrograph from flow split at McQueen & Pecos directed south

619 DR          RETRIEVE DIVERSION HYDROGRAPH
                     ISTAD       To618  DIVERSION HYDROGRAPH IDENTIFICATION

                                                          ***

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   FRM617

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      12.      13.17                 7.          4.          1.          1.
                        (INCHES)    .197        .423        .485        .521
                         (AC-FT)      3.          7.          8.          9.

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                **************
                *            *
620 KK          *    617618  *        ROUTE   REACH
                *            *
                **************
                                Routed south along McQueen

                HYDROGRAPH ROUTING DATA

622 RS          STORAGE ROUTING
                     NSTPS           3  NUMBER OF SUBREACHES
```

```
                    ITYP              TYPE OF INITIAL CONDITION
                  RSVRIC         .00  INITIAL CONDITION
                       X         .00 WORKING R AND D COEFFICIENT

623 RC          NORMAL DEPTH CHANNEL
                     ANL        .030  LEFT OVERBANK N-VALUE
                    ANCH        .015  MAIN CHANNEL N-VALUE
                     ANR        .030  RIGHT OVERBANK N-VALUE
                   RLNTH       2733.  REACH LENGTH
                     SEL       .0028  ENERGY SLOPE
                   ELMAX         1.3  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
625 RY        ELEVATION       .60       .00      1.30      1.70      1.70      1.30       .00       .60
624 RX        DISTANCE        .00    300.00    307.50    329.90    330.00    352.50    360.00    660.00

                                                          ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .14       .55      1.24      2.20      3.43      4.94      6.73      8.79     11.13
          OUTFLOW        .00       .59      3.75     11.06     23.81     43.17     70.20    105.89    151.19    206.98
        ELEVATION        .00       .07       .13       .20       .26       .33       .39       .46       .53       .59

          STORAGE      13.63     16.14     18.65     21.17     23.69     26.21     28.73     31.26     33.79     36.33
          OUTFLOW     287.56    380.79    484.24    597.42    719.94    851.47    991.71   1140.42   1297.36   1462.33
        ELEVATION        .66       .72       .79       .86       .92       .99      1.05      1.12      1.18      1.25

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   617618

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+       8.     18.92                 7.          4.          1.          1.
                         (INCHES)   .000        .000        .000        .000
                          (AC-FT)    3.          7.          8.          9.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.      18.92                 0.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
       .17     18.92                .16         .12         .06         .03

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  626 KK    *     CP618  *
            *            *
            **************
                          Combine sub 618 & 617618
                          Flow enters Santan Storm Drain System

  629 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

  630 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    CP618

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     212.     12.42                19.          8.          3.          1.
                         (INCHES)   .557        .934       1.008       1.045
                          (AC-FT)   10.         16.         17.         18.

                        CUMULATIVE AREA =     .32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
```

```
                *            *
 631 KK         *     P618   *
                *            *
                **************
                              Ponding in Retention basin. Excess flow is conveyed into the Santan
                              Freeway storm drain system

 634 KO            OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

                 HYDROGRAPH ROUTING DATA

 635 RS            STORAGE ROUTING
                        NSTPS          1  NUMBER OF SUBREACHES
                         ITYP       STOR  TYPE OF INITIAL CONDITION
                       RSVRIC        .00  INITIAL CONDITION
                            X        .00 WORKING R AND D COEFFICIENT

 636 SV              STORAGE         .0       1.1       6.1      11.4      14.1

 637 SE            ELEVATION     1215.00   1216.00   1217.00   1218.00   1218.50

 638 SQ            DISCHARGE         0.        0.        0.        0.      896.

                                                                  ***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN        0. TO      896.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     P618

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                             (CFS)
+       9.      20.67          6.           3.           1.           0.
                         (INCHES)       .174         .299         .348         .380
                          (AC-FT)         3.           5.           6.           7.

 PEAK STORAGE    TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)       (HR)
      11.      20.67         11.          11.          11.          10.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+   (FEET)       (HR)
   1218.00     20.67       1218.00      1218.00      1218.00      1217.75

                         CUMULATIVE AREA =     .32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                **************
                *            *
 639 KK         *       620  *        BASIN
                *            *
                **************
                              The following parameters were determined for this sub basin.
                              L= 0.363 mi S= 3.3 ft/mi Kb= 0.039 Natural
                              Total point rainfall = 3.45, Area = 2.90 sq. mi, reduction factor = 0.986
                              Region bounded by the Santan Freeway on the north and Ocotillo Rd.
                              on the south.

                 SUBBASIN RUNOFF DATA

 646 BA            SUBBASIN CHARACTERISTICS
                        TAREA         .07  SUBBASIN AREA

                   PRECIPITATION DATA

 642 PB                 STORM        3.40  BASIN TOTAL PRECIPITATION

  92 PI              INCREMENTAL PRECIPITATION PATTERN
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                        .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                        .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                        .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
```

```
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

647 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .24  STARTING LOSS
                        DTH         .25  MOISTURE DEFICIT
                       PSIF        4.00  WETTING FRONT SUCTION
                      XKSAT         .64  HYDRAULIC CONDUCTIVITY
                      RTIMP       46.00  PERCENT IMPERVIOUS AREA

648 UC          CLARK UNITGRAPH
                         TC         .67  TIME OF CONCENTRATION
                          R         .48  STORAGE COEFFICIENT

649 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=   .67 HR,       R=   .48 HR
                                           SNYDER   TP=   .58 HR,      CP=   .77

                                                      UNIT HYDROGRAPH
                                                 36 END-OF-PERIOD ORDINATES
                  1.        4.        7.       11.       26.       48.       60.       58.       52.       44.
                 37.       31.       26.       22.       18.       15.       13.       11.        9.        8.
                  6.        5.        5.        4.        3.        3.        2.        2.        2.        1.
                  1.        1.        1.        1.        1.        0.

     ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION      620

   TOTAL RAINFALL =    3.40, TOTAL LOSS =    1.48, TOTAL EXCESS =    1.92

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      55.     12.50                   11.          4.          1.          1.
                       (INCHES)     1.458       1.909       1.914       1.914
                        (AC-FT)        5.          7.          7.          7.

                       CUMULATIVE AREA =     .07 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  651 KK    *      D620  *
            *            *
            **************
                         Divert 100% of flow west over Arizona Ave

  653 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

     DT           DIVERSION
                      ISTAD       Az620  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00    100.00

     DQ       DIVERTED FLOW        .00    100.00

                                                          ***

     ***             ***             ***             ***             ***

                       DIVERSION HYDROGRAPH    Az620

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      55.     12.50                   11.          4.          1.          1.
                       (INCHES)     1.458       1.909       1.914       1.914
                        (AC-FT)        5.          7.          7.          7.

                       CUMULATIVE AREA =     .07 SQ MI
```

```
     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     D620

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                0.          0.          0.          0.
                       (INCHES)    .000        .000        .000        .000
                        (AC-FT)      0.          0.          0.          0.

                     CUMULATIVE AREA =     .07 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  657 KK    *     DUMMY  *
            *            *
            **************
                          Combine sub 620 & CP618,

  659 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    DUMMY

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       9.     20.67                6.          3.          1.          0.
                       (INCHES)    .143        .245        .285        .312
                        (AC-FT)      3.          5.          6.          7.

                     CUMULATIVE AREA =     .39 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  660 KK    *       628  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 0.746 mi S= 7.5 ft/mi Kb= 0.049 Natural

               SUBBASIN RUNOFF DATA

  663 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .27  SUBBASIN AREA

                  PRECIPITATION DATA

  642 PB                STORM        3.40  BASIN TOTAL PRECIPITATION

   92 PI            INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                       .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                       .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                       .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

```
                    .00       .00       .00       .00       .00       .00       .00       .00

  664 LG          GREEN AND AMPT LOSS RATE
                        STRTL         .49  STARTING LOSS
                          DTH         .25  MOISTURE DEFICIT
                         PSIF        4.70  WETTING FRONT SUCTION
                        XKSAT         .46  HYDRAULIC CONDUCTIVITY
                        RTIMP        2.00  PERCENT IMPERVIOUS AREA

  665 UC          CLARK UNITGRAPH
                           TC        1.30  TIME OF CONCENTRATION
                            R         .83  STORAGE COEFFICIENT

  666 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                         .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                      100.0

                                                                  ***

                                                        UNIT HYDROGRAPH PARAMETERS
                                                  CLARK   TC=  1.30 HR,       R=   .83 HR
                                                 SNYDER   TP=  1.09 HR,      CP=   .80

                                                            UNIT HYDROGRAPH
                                                     63 END-OF-PERIOD ORDINATES
                 2.        5.        8.       10.       13.       16.       22.       32.       51.       79.
               109.      127.      131.      129.      123.      115.      105.       95.       86.       78.
                71.       64.       58.       52.       47.       43.       39.       35.       32.       29.
                26.       23.       21.       19.       17.       16.       14.       13.       12.       10.
                 9.        9.        8.        7.        6.        6.        5.        5.        4.        4.
                 3.        3.        3.        3.        2.        2.        2.        2.        2.        1.
                 1.        1.        1.

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION      628

    TOTAL RAINFALL =    3.40, TOTAL LOSS =    2.64, TOTAL EXCESS =     .76

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      93.     12.92                     21.          5.          2.           1.
                        (INCHES)      .737        .757        .758         .758
                         (AC-FT)       11.         11.         11.          11.

                        CUMULATIVE AREA =     .27 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  668 KK    *      P628  *
            *            *
            **************
                           Ponding in Agricultural Field east of RR Track
                           Excess flow weirs over Appleby Road and RR Track

  671 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

               HYDROGRAPH ROUTING DATA

  672 RS          STORAGE ROUTING
                        NSTPS           1  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  673 SV            STORAGE          .0        .0        .2       3.5      11.6      15.0      16.9      48.2

  674 SE          ELEVATION     1217.00   1218.00   1219.00   1220.00   1220.63   1220.90   1221.00   1222.00

  675 SQ          DISCHARGE          0.        0.        0.        0.        0.       23.       70.     1807.

                                                                  ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     P628

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                       0.          0.          0.           0.
                        (INCHES)      .000        .000        .000         .000
                         (AC-FT)        0.          0.          0.           0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
```

```
     11.     27.58                  11.         11.         11.         10.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1220.57     26.25              1220.57     1220.56     1220.58     1220.40

                        CUMULATIVE AREA =     .27 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 676 KK     *       627  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 0.820 mi S= 16.8 ft/mi Kb= 0.050 Natural

              SUBBASIN RUNOFF DATA

 679 BA         SUBBASIN CHARACTERISTICS
                     TAREA         .21  SUBBASIN AREA

                PRECIPITATION DATA

 642 PB              STORM        3.40  BASIN TOTAL PRECIPITATION

  92 PI           INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                     .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                     .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00

 680 LG          GREEN AND AMPT LOSS RATE
                     STRTL         .47  STARTING LOSS
                       DTH         .25  MOISTURE DEFICIT
                      PSIF        4.80  WETTING FRONT SUCTION
                     XKSAT         .44  HYDRAULIC CONDUCTIVITY
                     RTIMP        2.00  PERCENT IMPERVIOUS AREA

 681 UC          CLARK UNITGRAPH
                        TC         .94  TIME OF CONCENTRATION
                         R         .71  STORAGE COEFFICIENT

 682 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=   .94 HR,       R=   .71 HR
                                        SNYDER   TP=   .79 HR,      CP=   .72

                                                UNIT HYDROGRAPH
                                           53 END-OF-PERIOD ORDINATES
                 2.        6.        9.       14.       20.       33.       61.       98.      123.      127.
               121.      112.      100.       89.       79.       71.       63.       56.       50.       44.
                39.       35.       31.       28.       25.       22.       19.       17.       15.       14.
                12.       11.       10.        9.        8.        7.        6.        5.        5.        4.
                 4.        3.        3.        3.        2.        2.        2.        2.        1.        1.
                 1.        1.        1.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      627

   TOTAL RAINFALL =    3.40, TOTAL LOSS =    2.62, TOTAL EXCESS =     .78
```

```
  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      91.     12.67                 17.          4.          1.           1.
                        (INCHES)    .757        .777        .777         .777
                         (AC-FT)      9.          9.          9.           9.

                        CUMULATIVE AREA =     .21 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  684 KK    *     CP627  *
            *            *
            **************
                           Combine sub 627, & 628

  686 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

  687 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    CP627

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      91.     12.67                 17.          4.          1.           1.
                        (INCHES)    .334        .342        .342         .342
                         (AC-FT)      9.          9.          9.           9.

                        CUMULATIVE AREA =     .48 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  688 KK    *      P627  *
            *            *
            **************
                           Ponding in Agricultural Field east of RR Track
                           Excess flow weirs over Queen Creek Road and RR Track

  691 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

               HYDROGRAPH ROUTING DATA

  692 RS          STORAGE ROUTING
                        NSTPS           1  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  693 SV            STORAGE          .0        .0        .2        .7       1.7       6.3      24.9      31.0      39.2      72.4
                                  142.4

  695 SE          ELEVATION     1214.00   1215.00   1216.00   1217.00   1218.00   1219.00   1220.00   1220.20   1220.40   1221.00
                                1222.00

  697 SQ          DISCHARGE          0.        0.        0.        0.        0.        0.        0.        0.       22.     1035.
                                   7435.

                                                                  ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     P627

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
```

```
+  (AC-FT)      (HR)
       9.     26.08                    9.          9.          9.          8.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1219.13     25.25              1219.13     1219.12     1219.12      1218.84

                        CUMULATIVE AREA =     .48 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  699 KK    *     D627   *
            *            *
            **************
                      Divert flow to 625

  701 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          3  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

     DT           DIVERSION
                       ISTAD      To625  DIVERSION HYDROGRAPH IDENTIFICATION

     DI              INFLOW        .00   100.00

     DQ       DIVERTED FLOW        .00   100.00
                                                                  ***

      ***             ***             ***             ***             ***

                      DIVERSION HYDROGRAPH    To625

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      0.        .00                   0.          0.          0.           0.
                       (INCHES)      .000        .000        .000         .000
                        (AC-FT)        0.          0.          0.           0.

                       CUMULATIVE AREA =     .48 SQ MI

      ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION     D627

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      0.        .00                   0.          0.          0.           0.
                       (INCHES)      .000        .000        .000         .000
                        (AC-FT)        0.          0.          0.           0.

                       CUMULATIVE AREA =     .48 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  705 KK    *      629   *        BASIN
            *            *
            **************
                      The following parameters were determined for this sub basin.
                      L= 1.088 mi S= 5.2 ft/mi Kb= 0.049 Natural

               SUBBASIN RUNOFF DATA

  708 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .26  SUBBASIN AREA

                  PRECIPITATION DATA

  642 PB               STORM        3.40  BASIN TOTAL PRECIPITATION

   92 PI            INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

```
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

709 LG          GREEN AND AMPT LOSS RATE
                      STRTL          .50  STARTING LOSS
                        DTH          .25  MOISTURE DEFICIT
                       PSIF         4.65  WETTING FRONT SUCTION
                      XKSAT          .49  HYDRAULIC CONDUCTIVITY
                      RTIMP          .00  PERCENT IMPERVIOUS AREA

710 UC          CLARK UNITGRAPH
                         TC         1.50  TIME OF CONCENTRATION
                          R         1.34  STORAGE COEFFICIENT

711 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0

                                                  ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=  1.50 HR,       R=  1.34 HR
                                        SNYDER   TP=  1.29 HR,      CP=   .65

                                                UNIT HYDROGRAPH
                                            97 END-OF-PERIOD ORDINATES
                 1.        3.        4.        6.        7.        9.       11.       14.       18.       27.
                42.       58.       74.       83.       86.       86.       85.       82.       79.       74.
                70.       65.       61.       58.       54.       51.       48.       45.       42.       40.
                37.       35.       33.       31.       29.       27.       26.       24.       23.       21.
                20.       19.       18.       17.       16.       15.       14.       13.       12.       11.
                11.       10.       10.        9.        8.        8.        7.        7.        7.        6.
                 6.        5.        5.        5.        5.        4.        4.        4.        4.        3.
                 3.        3.        3.        3.        2.        2.        2.        2.        2.        2.
                 2.        2.        1.        1.        1.        1.        1.        1.        1.        1.
                 1.        1.        1.        1.        1.        1.        1.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      629

    TOTAL RAINFALL =     3.40, TOTAL LOSS =     2.72, TOTAL EXCESS =      .68

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                     (CFS)
+      58.     13.17                   19.          5.          2.           1.
                                  (INCHES)       .666        .678        .678        .678
                                   (AC-FT)         9.          9.          9.           9.

                        CUMULATIVE AREA =      .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
713 KK      *      P629  *
            *            *
            **************
                          Ponding in Agricultural Field east of Arizona Avenue
                          Excess flow weirs west over Arizona Ave and north over Queen Creek Road.

716 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

              HYDROGRAPH ROUTING DATA

717 RS          STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

718 SV            STORAGE          .0        .0        .1        .8       8.7      10.8      13.0      15.3
```

```
 719 SE          ELEVATION     1212.00   1213.00   1214.00   1215.00   1215.70   1215.80   1215.90   1216.00

 720 SQ          DISCHARGE          0.        0.        0.        0.        0.        0.        3.       25.

                                                                  ***

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     P629

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                  0.          0.          0.           0.
                         (INCHES)   .000        .000        .000         .000
                          (AC-FT)     0.          0.          0.           0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        9.     20.00                  9.          9.          9.           9.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1215.73     20.00              1215.73     1215.72     1215.74      1215.46

                        CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 721 KK     *      D629  *
            *            *
            **************
                        Divert 40% of flow west over Arizona Ave

 723 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

     DT          DIVERSION
                       ISTAD       Az629  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00    100.00

     DQ      DIVERTED FLOW         .00     40.00

                                                                  ***

     ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    Az629

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                  0.          0.          0.           0.
                         (INCHES)   .000        .000        .000         .000
                          (AC-FT)     0.          0.          0.           0.

                        CUMULATIVE AREA =     .26 SQ MI

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     D629

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                  0.          0.          0.           0.
                         (INCHES)   .000        .000        .000         .000
                          (AC-FT)     0.          0.          0.           0.

                        CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 727 KK     *    Frm627  *
            *            *
            **************
                        Retrieve flow from 627
```

```
 729 DR          RETRIEVE DIVERSION HYDROGRAPH
                       ISTAD       To625  DIVERSION HYDROGRAPH IDENTIFICATION

                                                                  ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   Frm627

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                   0.          0.          0.          0.
                       (INCHES)      .000        .000        .000        .000
                        (AC-FT)        0.          0.          0.          0.

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 730 KK     *       625  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 1.105 mi S= 12.8 ft/mi Kb= 0.044 Natural

              SUBBASIN RUNOFF DATA

 733 BA         SUBBASIN CHARACTERISTICS
                      TAREA         .42  SUBBASIN AREA

                PRECIPITATION DATA

 642 PB               STORM        3.40  BASIN TOTAL PRECIPITATION

  92 PI           INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                     .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                     .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00

 734 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .43  STARTING LOSS
                        DTH         .25  MOISTURE DEFICIT
                       PSIF        5.00  WETTING FRONT SUCTION
                      XKSAT         .40  HYDRAULIC CONDUCTIVITY
                      RTIMP       11.00  PERCENT IMPERVIOUS AREA

 735 UC          CLARK UNITGRAPH
                         TC        1.09  TIME OF CONCENTRATION
                          R         .73  STORAGE COEFFICIENT

 736 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0

                                                                  ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                             CLARK   TC=  1.09 HR,       R=   .73 HR
                                            SNYDER   TP=   .93 HR,      CP=   .79

                                                        UNIT HYDROGRAPH
                                                   55 END-OF-PERIOD ORDINATES
                 4.       11.       16.       21.       28.       40.       65.      110.      173.      221.
               235.      231.      219.      201.      180.      160.      143.      128.      114.      101.
```

```
          90.      81.      72.      64.      57.      51.      46.      41.      36.      32.
          29.      26.      23.      20.      18.      16.      14.      13.      12.      10.
           9.       8.       7.       7.       6.       5.       5.       4.       4.       3.
           3.       3.       2.       2.       2.

   ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION      625

   TOTAL RAINFALL =    3.40, TOTAL LOSS =    2.34, TOTAL EXCESS =    1.06

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     193.     12.75                 43.         12.          4.           2.
                                (INCHES)       .947       1.055       1.057        1.057
                                 (AC-FT)        21.         24.         24.          24.

                                CUMULATIVE AREA =     .42 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
 738 KK   *     CP625  *
          *            *
          **************
                    Combine sub 625 & CP627

 740 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

 741 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

   ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION    CP625

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     193.     12.75                 43.         12.          4.           2.
                                (INCHES)       .947       1.055       1.057        1.057
                                 (AC-FT)        21.         24.         24.          24.

                                CUMULATIVE AREA =     .42 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
 742 KK   *      D625  *
          *            *
          **************
                    Divert flow to 623

   DT          DIVERSION
                    ISTAD       To623  DIVERSION HYDROGRAPH IDENTIFICATION

   DI             INFLOW         .00    100.00

   DQ      DIVERTED FLOW         .00    100.00
                                                                  ***

   ***          ***          ***          ***          ***

                    DIVERSION HYDROGRAPH    To623

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     193.     12.75                 43.         12.          4.           2.
                                (INCHES)       .947       1.055       1.057        1.057
                                 (AC-FT)        21.         24.         24.          24.

                                CUMULATIVE AREA =     .42 SQ MI

   ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     D625
```

```
  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.          0.
                       (INCHES)      .000        .000        .000        .000
                        (AC-FT)       0.          0.          0.          0.

                       CUMULATIVE AREA =     .42 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 747 KK     *    Frm625  *
            *            *
            **************
                          Retrieve flow from 625

 749 DR          RETRIEVE DIVERSION HYDROGRAPH
                       ISTAD       To623  DIVERSION HYDROGRAPH IDENTIFICATION

                                                                  ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   Frm625

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     193.     12.75                 43.         12.          4.          2.
                       (INCHES)      .947       1.055       1.057       1.057
                        (AC-FT)       21.         24.         24.         24.

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 750 KK     *       623  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 1.258 mi S= 12.7 ft/mi Kb= 0.041 Natural

              SUBBASIN RUNOFF DATA

 753 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .60  SUBBASIN AREA

                 PRECIPITATION DATA

 642 PB                STORM        3.40  BASIN TOTAL PRECIPITATION

  92 PI            INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                       .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                       .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                       .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00
```

```
 754 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .39  STARTING LOSS
                         DTH         .15  MOISTURE DEFICIT
```

```
                    PSIF        7.60  WETTING FRONT SUCTION
                   XKSAT         .14  HYDRAULIC CONDUCTIVITY
                   RTIMP        7.00  PERCENT IMPERVIOUS AREA

755 UC          CLARK UNITGRAPH
                      TC         .98  TIME OF CONCENTRATION
                       R         .58  STORAGE COEFFICIENT

756 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                  100.0

                                                  ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .98 HR,       R=   .58 HR
                                         SNYDER   TP=   .82 HR,      CP=   .85

                                                   UNIT HYDROGRAPH
                                              45 END-OF-PERIOD ORDINATES
                 8.       21.       31.       43.       60.       92.      166.      288.      383.      407.
               391.      361.      320.      277.      240.      208.      180.      156.      135.      117.
               102.       88.       76.       66.       57.       50.       43.       37.       32.       28.
                24.       21.       18.       16.       14.       12.       10.        9.        8.        7.
                 6.        5.        4.        4.        3.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      623

    TOTAL RAINFALL =    3.40, TOTAL LOSS =    2.06, TOTAL EXCESS =    1.34

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     437.     12.67                 82.         22.          7.           3.
                        (INCHES)   1.265      1.333       1.334        1.334
                         (AC-FT)     40.         43.         43.          43.

                        CUMULATIVE AREA =     .60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 758 KK     *       623  *
            *            *
            **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.00 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 2.33 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 623 = 2.33 AC-FT

     DT          DIVERSION
                     ISTAD      623RET  DIVERSION HYDROGRAPH IDENTIFICATION
                    DSTRMX        2.33  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00  10000.00

     DQ      DIVERTED FLOW        .00  10000.00

                                                  ***

     ***             ***             ***             ***             ***

                       DIVERSION HYDROGRAPH   623RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      40.     12.00                  4.          1.          0.           0.
                        (INCHES)    .058       .073        .073         .073
                         (AC-FT)      2.          2.          2.           2.

                        CUMULATIVE AREA =     .60 SQ MI

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      623

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     437.     12.67                 80.         20.          7.           3.
                        (INCHES)   1.238      1.261       1.261        1.261
                         (AC-FT)     40.         40.         40.          40.

                        CUMULATIVE AREA =     .60 SQ MI
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
 767 KK       *     CP623  *
              *            *
              **************
                              Combine sub 623, FRM625

 769 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

 770 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    CP623

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     620.     12.75                 122.         32.         11.           5.
                        (INCHES)    1.892       1.996       1.998        1.998
                         (AC-FT)     61.         64.         64.          64.

                        CUMULATIVE AREA =     .60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
 771 KK       *    P623-5  *
              *            *
              **************
                              Ponding in Agricultural Field east of RR Track. Flow released thru 8x2 box
                              culvert between Germann & Ryan Rd.

 775 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

               HYDROGRAPH ROUTING DATA

 776 RS          STORAGE ROUTING
                       NSTPS           1  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

 777 SV            STORAGE          .0        .1        .9       3.7      27.3      38.6      58.8     101.8     216.5     373.5
                                  578.6

 779 SE          ELEVATION     1213.00   1214.00   1215.00   1216.00   1217.00   1217.20   1217.50   1218.00   1219.00   1220.00
                               1221.00

 781 SQ          DISCHARGE          0.        0.        1.        8.       19.       22.       74.       91.      128.      166.
                                 6339.

                                                                  ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   P623-5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      55.     14.50                  42.         24.         11.           5.
                        (INCHES)     .647       1.508       1.991        1.995
                         (AC-FT)     21.         48.         64.          64.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       52.     14.50                  46.         32.         13.           5.

  PEAK STAGE    TIME                         MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1217.39     14.50               1217.31     1217.01     1215.75      1214.75

                        CUMULATIVE AREA =     .60 SQ MI
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 783 KK     *    CON412  *
            *            *
            **************
                                 Retrieve data from DSS file
                                 Overflow from Consolidated Canal at Santan Fwy
-----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP412/FLOW/03MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP412/FLOW/03MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP412/FLOW/04MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP412/FLOW/05MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP412/FLOW/06MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP412/FLOW/06MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP412/FLOW/06MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP412/FLOW/07MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP412/FLOW/08MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP412/FLOW/08MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP412/FLOW/08MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP412/FLOW/09MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP412/FLOW/10MAR1903/5MIN/24HR/
-----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
Pathname: /CONS/CP412/FLOW/11MAR1903/5MIN/24HR/

              SUBBASIN RUNOFF DATA

 786 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .00  SUBBASIN AREA

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   CON412

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     232.     13.42                98.         30.         10.           4.
                        (INCHES)  910.955    1108.359    1111.697     1111.697
                         (AC-FT)     49.         59.         59.          59.

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 788 KK     *       621  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 1.273 mi S= 10.0 ft/mi Kb= 0.040 Natural

              SUBBASIN RUNOFF DATA

 791 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .50  SUBBASIN AREA

                 PRECIPITATION DATA

 642 PB                STORM        3.40  BASIN TOTAL PRECIPITATION

  92 PI            INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                      .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                      .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                      .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

```
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00

792 LG          GREEN AND AMPT LOSS RATE
                    STRTL        .30  STARTING LOSS
                      DTH        .25  MOISTURE DEFICIT
                     PSIF       6.20  WETTING FRONT SUCTION
                    XKSAT        .23  HYDRAULIC CONDUCTIVITY
                    RTIMP      22.00  PERCENT IMPERVIOUS AREA

793 UC          CLARK UNITGRAPH
                       TC       1.08  TIME OF CONCENTRATION
                        R        .72  STORAGE COEFFICIENT

794 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                   100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                             CLARK   TC=  1.08 HR,       R=   .72 HR
                                            SNYDER   TP=   .92 HR,      CP=   .79

                                                     UNIT HYDROGRAPH
                                              55 END-OF-PERIOD ORDINATES
                 5.       13.       19.       26.       35.       50.       81.      139.      217.      273.
               286.      280.      264.      242.      216.      192.      171.      153.      136.      121.
               108.       96.       86.       76.       68.       61.       54.       48.       43.       38.
                34.       30.       27.       24.       21.       19.       17.       15.       14.       12.
                11.       10.        9.        8.        7.        6.        5.        5.        4.        4.
                 3.        3.        3.        2.        2.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      621

    TOTAL RAINFALL =    3.40, TOTAL LOSS =    1.90, TOTAL EXCESS =    1.51

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     296.     12.75                 69.         20.          7.           3.
                       (INCHES)    1.278       1.494       1.498        1.498
                        (AC-FT)     34.         40.         40.          40.

                       CUMULATIVE AREA =     .50 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  796 KK    *       621  *
            *            *
            **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 3.46 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 621 = 3.46 AC-FT

     DT          DIVERSION
                      ISTAD      621RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX        3.46  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                          ***

     ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH   621RET

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+       9.    11.00                  5.          2.          1.           0.
                       (INCHES)     .095        .128        .128         .128
                        (AC-FT)      3.          3.          3.           3.

                       CUMULATIVE AREA =     .50 SQ MI

     ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION      621

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
```

```
+   (CFS)        (HR)
                                (CFS)
+     296.      12.75                    69.          19.          6.           3.
                             (INCHES)   1.275        1.370        1.370        1.370
                              (AC-FT)    34.          37.          37.          37.

                             CUMULATIVE AREA =     .50 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 805 KK     *     CP621  *
            *            *
            **************
                           Combine 621 & CON412

 807 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          3  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

 808 HC          HYDROGRAPH COMBINATION
                       ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                           HYDROGRAPH AT STATION    CP621

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                (CFS)
+     400.      13.33                   162.         48.         16.           7.
                             (INCHES)   2.984        3.557       3.564        3.564
                              (AC-FT)    81.         96.         96.          96.

                             CUMULATIVE AREA =     .51 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 809 KK     *      P621  *
            *            *
            **************
                           Ponding east of RR Track

 812 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          3  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

                 HYDROGRAPH ROUTING DATA

 813 RS          STORAGE ROUTING
                       NSTPS          1  NUMBER OF SUBREACHES
                        ITYP       STOR  TYPE OF INITIAL CONDITION
                      RSVRIC        .00  INITIAL CONDITION
                           X        .00 WORKING R AND D COEFFICIENT

 814 SV            STORAGE          .0       1.9      21.1      73.5     162.8     183.5     194.0     204.5     215.2     269.0
                                 379.1

 816 SE          ELEVATION     1211.00   1217.00   1218.00   1219.00   1220.00   1220.20   1220.30   1220.40   1220.50   1221.00
                               1222.00

 818 SQ          DISCHARGE         0.        0.        0.        0.        0.        0.        0.        0.       14.      664.
                                 4514.

                                                                  ***

      ***             ***             ***             ***             ***

                           HYDROGRAPH AT STATION     P621

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                (CFS)
+       0.        .00                     0.          0.          0.           0.
                             (INCHES)    .000        .000        .000         .000
                              (AC-FT)     0.          0.          0.           0.

  PEAK STORAGE  TIME                              MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       96.     46.67                    96.         96.         96.          87.
```

```
 PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR        24-HR        72-HR     166.58-HR
+   (FEET)      (HR)
  1219.25     44.33                1219.25      1219.25      1219.25      1218.63

                        CUMULATIVE AREA =      .51 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 820 KK     *       622  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 0.417 mi S= 8.6 ft/mi Kb= 0.047 Natural

              SUBBASIN RUNOFF DATA

 823 BA         SUBBASIN CHARACTERISTICS
                     TAREA          .10  SUBBASIN AREA

                PRECIPITATION DATA

 642 PB              STORM        3.40  BASIN TOTAL PRECIPITATION

  92 PI           INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                     .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                     .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00

 824 LG         GREEN AND AMPT LOSS RATE
                     STRTL         .32  STARTING LOSS
                       DTH         .21  MOISTURE DEFICIT
                      PSIF        6.40  WETTING FRONT SUCTION
                     XKSAT         .23  HYDRAULIC CONDUCTIVITY
                     RTIMP       35.00  PERCENT IMPERVIOUS AREA

 825 UC         CLARK UNITGRAPH
                        TC        1.50  TIME OF CONCENTRATION
                         R        1.13  STORAGE COEFFICIENT

 826 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0

                                                   ***

                                              UNIT HYDROGRAPH PARAMETERS
                                       CLARK   TC=  1.50 HR,       R=  1.13 HR
                                      SNYDER   TP=  1.28 HR,      CP=   .73

                                              UNIT HYDROGRAPH
                                         83 END-OF-PERIOD ORDINATES
                 0.        1.        2.        3.        3.        4.        5.        6.        8.       12.
                19.       26.       33.       37.       38.       38.       37.       36.       34.       31.
                29.       27.       25.       23.       22.       20.       19.       17.       16.       15.
                14.       13.       12.       11.       10.       10.        9.        8.        8.        7.
                 7.        6.        6.        5.        5.        5.        4.        4.        4.        3.
                 3.        3.        3.        3.        2.        2.        2.        2.        2.        2.
                 2.        1.        1.        1.        1.        1.        1.        1.        1.        1.
                 1.        1.        1.        1.        1.        0.        0.        0.        0.        0.
                 0.        0.        0.

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION      622
```

```
    TOTAL RAINFALL =    3.40, TOTAL LOSS =    1.56, TOTAL EXCESS =    1.84

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      46.     13.08                   16.          5.          2.           1.
                        (INCHES)     1.460       1.821       1.831        1.831
                         (AC-FT)       8.         10.         10.          10.

                        CUMULATIVE AREA =     .10 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  828 KK    *     CP622  *
            *            *
            **************
                          DEVELOPED AREA - NO PONDING NECESSARY.
                          Combine 621 & 622

  831 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

  832 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    CP622

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      46.     13.08                   16.          5.          2.           1.
                        (INCHES)      .243        .303        .305         .305
                         (AC-FT)       8.         10.         10.          10.

                        CUMULATIVE AREA =     .61 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  833 KK    *      D622  *      Intersection Diversion
            *            *
            **************
                          Flow split at Arizona Ave & Germann Rd. with 20% diverted west of Arizona Ave

     DT           DIVERSION
                        ISTAD       Az622  DIVERSION HYDROGRAPH IDENTIFICATION

     DI              INFLOW         .00    100.00    500.00   1000.00   2000.00

     DQ       DIVERTED FLOW         .00     20.00    100.00    200.00    400.00

                                                                  ***

      ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH    Az622

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       9.     13.08                    3.          1.          0.           0.
                        (INCHES)      .049        .061        .061         .061
                         (AC-FT)       2.          2.          2.           2.

                        CUMULATIVE AREA =     .61 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     D622

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      36.     13.08                   13.          4.          1.           1.
                        (INCHES)      .194        .242        .244         .244
                         (AC-FT)       6.          8.          8.           8.
```

```
                    CUMULATIVE AREA =     .61 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 838 KK     *    622624  *        ROUTE   REACH
            *            *
            **************
                         Routed south along Arizona Ave to CP624

               HYDROGRAPH ROUTING DATA

 840 RS          STORAGE ROUTING
                      NSTPS           3  NUMBER OF SUBREACHES
                       ITYP              TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 841 RC          NORMAL DEPTH CHANNEL
                        ANL        .035  LEFT OVERBANK N-VALUE
                       ANCH        .015  MAIN CHANNEL N-VALUE
                        ANR        .035  RIGHT OVERBANK N-VALUE
                      RLNTH       2357.  REACH LENGTH
                        SEL       .0004  ENERGY SLOPE
                      ELMAX         1.9  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                      CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 843 RY        ELEVATION      1.90       .90       .50       .00       .00       .50       .90      1.90
 842 RX        DISTANCE        .00       .00     23.50     23.50    106.50    106.50    130.00    130.00

                                                                  ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00       .44       .87      1.31      1.75      2.19      2.65      3.17      3.75      4.39
            OUTFLOW        .00      3.39     10.75     21.11     34.04     49.30     66.83     86.68    108.92    133.60
          ELEVATION        .00       .10       .19       .29       .39       .49       .58       .68       .78       .88

            STORAGE       5.07      5.75      6.44      7.12      7.81      8.49      9.18      9.86     10.55     11.23
            OUTFLOW     161.08    191.04    223.25    257.62    294.06    332.51    372.91    415.19    459.32    505.25
          ELEVATION        .97      1.07      1.17      1.27      1.36      1.46      1.56      1.66      1.75      1.85

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   622624

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      33.     13.58                   13.          4.          1.          1.
                        (INCHES)      .192        .242        .244        .244
                         (AC-FT)        6.          8.          8.          8.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.     13.58                    0.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .38     13.58                   .20         .07         .02         .01

                    CUMULATIVE AREA =     .61 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 844 KK     *       624  *        BASIN
            *            *
            **************
                         The following parameters were determined for this sub basin.
                         L= 0.496 mi S= 8.5 ft/mi Kb= 0.045 Natural

               SUBBASIN RUNOFF DATA

 847 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .13  SUBBASIN AREA

                 PRECIPITATION DATA

 642 PB                STORM        3.40  BASIN TOTAL PRECIPITATION

  92 PI            INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

```
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .01      .00      .01
              .01      .01      .01      .01      .01      .01      .01      .01      .03      .03
              .03      .09      .09      .09      .01      .01      .01      .01      .01      .01
              .01      .01      .01      .01      .01      .01      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00

848 LG          GREEN AND AMPT LOSS RATE
                      STRTL        .34  STARTING LOSS
                        DTH        .15  MOISTURE DEFICIT
                       PSIF       9.70  WETTING FRONT SUCTION
                      XKSAT        .07  HYDRAULIC CONDUCTIVITY
                      RTIMP      24.00  PERCENT IMPERVIOUS AREA

849 UC          CLARK UNITGRAPH
                         TC        .58  TIME OF CONCENTRATION
                          R        .37  STORAGE COEFFICIENT

850 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                    .0       3.0      5.0      8.0     12.0     20.0     43.0     75.0     90.0     96.0
                 100.0

                                                ***

                                    UNIT HYDROGRAPH PARAMETERS
                                 CLARK   TC=   .58 HR,       R=   .37 HR
                                SNYDER   TP=   .50 HR,      CP=   .82

                                           UNIT HYDROGRAPH
                                    28 END-OF-PERIOD ORDINATES
              4.       11.       20.       47.      104.      142.      137.      115.       92.       73.
             58.       46.       37.       29.       23.       18.       15.       12.        9.        7.
              6.        5.        4.        3.        2.        2.        1.        1.

       ***            ***            ***            ***            ***

                         HYDROGRAPH AT STATION      624

     TOTAL RAINFALL =    3.40, TOTAL LOSS =    1.52, TOTAL EXCESS =    1.88

   PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR       72-HR    166.58-HR

+   (CFS)        (HR)
                           (CFS)
+     150.      12.42                23.          7.          2.          1.
                         (INCHES)   1.637       1.872       1.874       1.874
                          (AC-FT)     12.         13.         13.         13.

                        CUMULATIVE AREA =      .13 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
852 KK        *    CP624   *
              *            *
              **************
                            Combine P623-5, sub 624 & 622624

854 KO          OUTPUT CONTROL VARIABLES
                      IPRNT          3  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL         0.  HYDROGRAPH PLOT SCALE

855 HC          HYDROGRAPH COMBINATION
                      ICOMP          3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                ***

       ***            ***            ***            ***            ***

                         HYDROGRAPH AT STATION    CP624

   PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
```

```
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     162.     12.42                    73.         34.         14.           6.
                       (INCHES)       .506        .934       1.187        1.190
                        (AC-FT)        36.         67.         85.          85.

                       CUMULATIVE AREA =    1.34 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 856 KK     *      P624  *
            *            *
            **************
                        Ponding in Agricultural Field east of Arizona Ave


 859 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

               HYDROGRAPH ROUTING DATA

 860 RS          STORAGE ROUTING
                       NSTPS           1  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

 861 SV            STORAGE          .0        .1        .3       2.8      26.5      35.3      40.4      43.1      85.4

 862 SE          ELEVATION     1211.00   1212.00   1213.00   1214.00   1215.00   1215.20   1215.30   1215.35   1216.00

 863 SQ          DISCHARGE          0.        0.        0.        0.        0.        5.       33.       62.     1614.

                                                                                  ***

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     P624

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      25.     20.00                    24.         19.          9.           4.
                       (INCHES)       .168        .529        .782         .818
                        (AC-FT)        12.         38.         56.          58.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      39.     20.00                    39.         38.         35.          28.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1215.27     19.92                 1215.27     1215.25     1215.19      1214.92

                       CUMULATIVE AREA =    1.34 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 864 KK     *      D624  *
            *            *
            **************
                        Divert 100% of flow over Arizona Ave

 866 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

     DT          DIVERSION
                       ISTAD       Az624  DIVERSION HYDROGRAPH IDENTIFICATION

     DI            INFLOW          .00    100.00

     DQ      DIVERTED FLOW         .00    100.00

                                                                                  ***

     ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    Az624
```

```
  PEAK FLOW      TIME                           MAXIMUM AVERAGE FLOW
                                         6-HR         24-HR         72-HR      166.58-HR
+   (CFS)        (HR)
                             (CFS)
+      25.       20.00                    24.           19.            9.            4.
                           (INCHES)      .168          .529          .782          .818
                            (AC-FT)       12.           38.           56.           58.

                          CUMULATIVE AREA =      1.34 SQ MI


        ***                ***              ***               ***               ***

                          HYDROGRAPH AT STATION       D624

  PEAK FLOW      TIME                           MAXIMUM AVERAGE FLOW
                                         6-HR         24-HR         72-HR      166.58-HR
+   (CFS)        (HR)
                             (CFS)
+       0.         .00                     0.            0.            0.            0.
                           (INCHES)      .000          .000          .000          .000
                            (AC-FT)        0.            0.            0.            0.

                          CUMULATIVE AREA =      1.34 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
  870 KK      *      626   *         BASIN
              *            *
              **************
                                The following parameters were determined for this sub basin.
                                L= 0.554 mi S= 12.8 ft/mi Kb= 0.054 Natural

                 SUBBASIN RUNOFF DATA

  873 BA           SUBBASIN CHARACTERISTICS
                         TAREA           .13   SUBBASIN AREA

                   PRECIPITATION DATA

  642 PB                 STORM          3.40   BASIN TOTAL PRECIPITATION

   92 PI             INCREMENTAL PRECIPITATION PATTERN
```

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00		

```
  874 LG           GREEN AND AMPT LOSS RATE
                         STRTL           .50   STARTING LOSS
                           DTH           .25   MOISTURE DEFICIT
                          PSIF          5.40   WETTING FRONT SUCTION
                        XKSAT            .34   HYDRAULIC CONDUCTIVITY
                         RTIMP           .00   PERCENT IMPERVIOUS AREA

  875 UC           CLARK UNITGRAPH
                            TC           .82   TIME OF CONCENTRATION
                             R           .58   STORAGE COEFFICIENT

  876 UA           ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                    .0        3.0        5.0        8.0       12.0       20.0       43.0       75.0       90.0       96.0
                 100.0

                                                ***

                                        UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=     .82 HR,         R=    .58 HR
                                   SNYDER   TP=     .68 HR,        CP=    .74
```

```
                                                    UNIT HYDROGRAPH
                                                 43 END-OF-PERIOD ORDINATES
                2.        5.        8.       12.       20.       41.       73.       93.       94.       88.
               78.       68.       59.       51.       44.       38.       33.       29.       25.       21.
               19.       16.       14.       12.       10.        9.        8.        7.        6.        5.
                4.        4.        3.        3.        2.        2.        2.        2.        1.        1.
                1.        1.        1.

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION      626

    TOTAL RAINFALL =    3.40, TOTAL LOSS =    2.61, TOTAL EXCESS =     .80

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+      71.     12.58                   11.          3.          1.           0.
                                 (INCHES)      .792        .792        .792        .792
                                  (AC-FT)        6.          6.          6.          6.

                                 CUMULATIVE AREA =     .13 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  878 KK    *     CP626  *
            *            *
            **************
                            Combine Flow from CP629, P625,P624 and 626

  880 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

  881 HC          HYDROGRAPH COMBINATION
                        ICOMP           4  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CP626

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+      71.     12.58                   11.          3.          1.           0.
                                 (INCHES)      .049        .049        .049        .049
                                  (AC-FT)        6.          6.          6.          6.

                                 CUMULATIVE AREA =    2.15 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  882 KK    *      P626  *
            *            *
            **************
                              Ponding in Agricultural Field east of Arizona Ave


  885 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

               HYDROGRAPH ROUTING DATA

  886 RS          STORAGE ROUTING
                        NSTPS           1  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  887 SV            STORAGE          .0        .1        .3        .8       3.7       5.7      38.5

  888 SE          ELEVATION     1211.00   1212.00   1213.00   1214.00   1214.80   1215.00   1216.00

  889 SQ          DISCHARGE          0.        0.        0.        0.       56.      184.     2470.

                                                                  ***

     ***            ***            ***            ***            ***
```

```
                    HYDROGRAPH AT STATION     P626

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      35.     13.08                10.          2.          1.           0.
                          (INCHES)  .042        .042        .042         .042
                           (AC-FT)    5.          5.          5.           5.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       3.     13.08                 1.          1.          1.           1.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1214.50     13.08            1214.14     1214.03     1214.01      1213.79

                        CUMULATIVE AREA =    2.15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  890 KK    *      D626  *
            *            *
            **************
                         Divert 100% of flow over Arizona Ave

  892 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

     DT           DIVERSION
                        ISTAD      Az626  DIVERSION HYDROGRAPH IDENTIFICATION

     DI              INFLOW        .00    100.00

     DQ       DIVERTED FLOW        .00    100.00
                                                                  ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    Az626

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      35.     13.08                10.          2.          1.           0.
                          (INCHES)  .042        .042        .042         .042
                           (AC-FT)    5.          5.          5.           5.

                        CUMULATIVE AREA =    2.15 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     D626

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+       0.       .00                 0.          0.          0.           0.
                          (INCHES)  .000        .000        .000         .000
                           (AC-FT)    0.          0.          0.           0.

                        CUMULATIVE AREA =    2.15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  896 KK    *       630  *        BASIN
            *            *
            **************
                         The following parameters were determined for this sub basin.
                         L= 1.238 mi S= 4.7 ft/mi Kb= 0.033 Urban
                         Total point rainfall = 3.45, Area = 1.64 sq. mi, reduction factor = 0.992
                         Region bounded by Ocotillo Rd. on the north and Hunt Hwy. on the south.

               SUBBASIN RUNOFF DATA

  902 BA          SUBBASIN CHARACTERISTICS
                        TAREA         .32  SUBBASIN AREA
```

```
                PRECIPITATION DATA

 899 PB                STORM        3.42  BASIN TOTAL PRECIPITATION

  92 PI            INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                      .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                      .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                      .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00

 903 LG           GREEN AND AMPT LOSS RATE
                       STRTL         .25  STARTING LOSS
                         DTH         .22  MOISTURE DEFICIT
                        PSIF        4.15  WETTING FRONT SUCTION
                       XKSAT         .53  HYDRAULIC CONDUCTIVITY
                       RTIMP       36.00  PERCENT IMPERVIOUS AREA

 904 UC           CLARK UNITGRAPH
                          TC        1.29  TIME OF CONCENTRATION
                           R        1.11  STORAGE COEFFICIENT

 905 UA           ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                         .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                      100.0

                                                   ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=  1.29 HR,       R=  1.11 HR
                                         SNYDER   TP=   .75 HR,      CP=   .41

                                                  UNIT HYDROGRAPH
                                             78 END-OF-PERIOD ORDINATES
                  3.       10.       20.       33.       51.       80.      105.      113.      115.      115.
                113.      111.      107.      103.       99.       95.       89.       82.       76.       71.
                 66.       61.       57.       52.       49.       45.       42.       39.       36.       33.
                 31.       29.       27.       25.       23.       21.       20.       18.       17.       16.
                 15.       14.       13.       12.       11.       10.        9.        9.        8.        7.
                  7.        6.        6.        6.        5.        5.        4.        4.        4.        4.
                  3.        3.        3.        3.        2.        2.        2.        2.        2.        2.
                  2.        1.        1.        1.        1.        1.        1.        1.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      630

    TOTAL RAINFALL =    3.42, TOTAL LOSS =    1.69, TOTAL EXCESS =    1.73

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     126.     12.67                    47.         15.          5.          2.
                        (INCHES)      1.344       1.715       1.726       1.726
                         (AC-FT)       23.         30.         30.         30.

                        CUMULATIVE AREA =     .32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 907 KK     *    CON424  *
            *            *
            **************
                                 Retrieve data from DSS file
                                 Overflow from Consolidated Canal at Chandler Heights Rd.
 -----DSS--- ZREAD Unit  71; Vers.   33:  /CONS/CP424/FLOW/03MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   33:  /CONS/CP424/FLOW/03MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   33:  /CONS/CP424/FLOW/04MAR1903/5MIN/24HR/
```

```
-----DSS--- ZREAD Unit  71; Vers.   33:  /CONS/CP424/FLOW/05MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   33:  /CONS/CP424/FLOW/06MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   33:  /CONS/CP424/FLOW/06MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   33:  /CONS/CP424/FLOW/06MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   33:  /CONS/CP424/FLOW/07MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   33:  /CONS/CP424/FLOW/08MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   33:  /CONS/CP424/FLOW/08MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   33:  /CONS/CP424/FLOW/08MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   33:  /CONS/CP424/FLOW/09MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   33:  /CONS/CP424/FLOW/10MAR1903/5MIN/24HR/
-----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
Pathname: /CONS/CP424/FLOW/11MAR1903/5MIN/24HR/

              SUBBASIN RUNOFF DATA

 910 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .00  SUBBASIN AREA

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   CON424

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      69.     21.92                 63.         29.         10.           4.
                           (INCHES)  581.938   1092.532    1114.614     1114.614
                            (AC-FT)     31.         58.         59.          59.

                           CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


             **************
             *            *
 912 KK      *     CP630  *
             *            *
             **************
                           Combine 630 & CON424

 914 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

 915 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    CP630

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     126.     12.67                 66.         41.         15.           6.
                           (INCHES)    1.882       4.690       5.161        5.161
                            (AC-FT)     33.         81.         89.          89.

                           CUMULATIVE AREA =     .32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


             **************
             *            *
 916 KK      *      P630  *
             *            *
             **************
                           Ponding in lakes within the Pinelake Community and in basins
                           east of RR Track.

 919 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

              HYDROGRAPH ROUTING DATA

 920 RS          STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 921 SV            STORAGE          .0      19.5      42.5      84.9      90.1     101.2     107.2     147.6     236.6
```

```
 922 SE         ELEVATION    1213.00   1218.00   1219.00   1220.00   1220.10   1220.30   1220.40   1221.00   1222.00

 923 SQ         DISCHARGE         0.        0.        0.        0.        0.        5.       41.     1165.     8549.
                                                              ***

     ***            ***             ***             ***             ***

                        HYDROGRAPH AT STATION      P630

 PEAK FLOW      TIME                             MAXIMUM AVERAGE FLOW
                                      6-HR          24-HR         72-HR     166.58-HR
+   (CFS)       (HR)
                           (CFS)
+       0.        .00                   0.            0.            0.            0.
                         (INCHES)     .000          .000          .000          .000
                          (AC-FT)       0.            0.            0.            0.

PEAK STORAGE    TIME                            MAXIMUM AVERAGE STORAGE
                                      6-HR          24-HR         72-HR     166.58-HR
+  (AC-FT)      (HR)
       89.     76.50                   89.           89.           89.           77.

 PEAK STAGE     TIME                             MAXIMUM AVERAGE STAGE
                                      6-HR          24-HR         72-HR     166.58-HR
+   (FEET)      (HR)
   1220.08     69.00               1220.08       1220.09       1220.10       1219.44

                        CUMULATIVE AREA =       .32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
 924 KK       *      631   *       BASIN
              *            *
              **************
                           The following parameters were determined for this sub basin.
                           L= 0.919 mi S= 8.5 ft/mi Kb= 0.042 Urban

               SUBBASIN RUNOFF DATA

 927 BA          SUBBASIN CHARACTERISTICS
                       TAREA          .30   SUBBASIN AREA

                 PRECIPITATION DATA

 899 PB                STORM         3.42   BASIN TOTAL PRECIPITATION

  92 PI            INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                       .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                       .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                       .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00

 928 LG          GREEN AND AMPT LOSS RATE
                       STRTL          .33   STARTING LOSS
                         DTH          .25   MOISTURE DEFICIT
                        PSIF         4.45   WETTING FRONT SUCTION
                       XKSAT          .51   HYDRAULIC CONDUCTIVITY
                       RTIMP        24.00   PERCENT IMPERVIOUS AREA

 929 UC          CLARK UNITGRAPH
                          TC         1.02   TIME OF CONCENTRATION
                           R          .70   STORAGE COEFFICIENT

 930 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0
```

```
                                                  ***

                                        UNIT HYDROGRAPH PARAMETERS
                                 CLARK   TC=  1.02 HR,       R=   .70 HR
                                SNYDER   TP=   .55 HR,      CP=   .45

                                          UNIT HYDROGRAPH
                                   50 END-OF-PERIOD ORDINATES
              5.      20.      42.      73.     122.     156.     160.     157.     152.     144.
            135.     127.     116.     104.      92.      82.      73.      65.      57.      51.
             45.      40.      36.      32.      28.      25.      22.      20.      17.      16.
             14.      12.      11.      10.       9.       8.       7.       6.       5.       5.
              4.       4.       3.       3.       3.       2.       2.       2.       2.       1.

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION      631

    TOTAL RAINFALL =    3.42, TOTAL LOSS =    2.04, TOTAL EXCESS =    1.38

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     145.     12.42                37.         11.          4.           2.
                          (INCHES)  1.131       1.368       1.372        1.372
                           (AC-FT)   18.         22.         22.          22.

                         CUMULATIVE AREA =     .30 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  932 KK    *       631  *
            *            *
            **************
                                RETENTION DIVERSION
                                DIVERT FLOW RETAINED WITHIN RESIDENTIAL AREAS
                                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 3.85 AC-FT
                                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 631 = 3.85 AC-FT

     DT          DIVERSION
                      ISTAD      631RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX        3.85  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00  10000.00

     DQ      DIVERTED FLOW        .00  10000.00
                                                          ***

     ***            ***            ***            ***            ***

                     DIVERSION HYDROGRAPH   631RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      45.     12.08                 6.          2.          1.           0.
                          (INCHES)   .186        .239        .239         .239
                           (AC-FT)    3.          4.          4.           4.

                         CUMULATIVE AREA =     .30 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION      631

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     145.     12.42                34.          9.          3.           1.
                          (INCHES)  1.052       1.133       1.133        1.133
                           (AC-FT)   17.         18.         18.          18.

                         CUMULATIVE AREA =     .30 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  941 KK    *     CP631  *
            *            *
            **************
                                Combine sub 630 & 631
```

```
  943 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

  944 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    CP631

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     145.     12.42                   34.          9.          3.           1.
                        (INCHES)      .507        .546        .546         .546
                         (AC-FT)      17.         18.         18.          18.

                        CUMULATIVE AREA =     .63 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  945 KK    *      P631  *
            *            *
            **************
                           Ponding in Agricultural Field east of Arizona Ave

  948 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

               HYDROGRAPH ROUTING DATA

  949 RS          STORAGE ROUTING
                        NSTPS           1  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  950 SV            STORAGE          .0        .5      12.8      33.4      35.2      41.0     104.9

  951 SE          ELEVATION     1212.00   1213.00   1214.00   1214.80   1214.85   1215.00   1216.00

  952 SQ          DISCHARGE          0.        0.        0.        0.        1.       32.     2087.

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     P631

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                    0.          0.          0.           0.
                        (INCHES)      .000        .000        .000         .000
                         (AC-FT)        0.          0.          0.           0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       18.     27.08                   18.         18.         18.          17.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1214.21     27.42                1214.21     1214.22     1214.21      1214.06

                        CUMULATIVE AREA =     .63 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  953 KK    *      D631  *
            *            *
            **************
                           Divert 100% of flow over Arizona Ave

  955 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
```

```
                    IPLOT          0  PLOT CONTROL
                    QSCAL         0.  HYDROGRAPH PLOT SCALE

     DT          DIVERSION
                    ISTAD       Az631  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW        .00    100.00

     DQ      DIVERTED FLOW        .00    100.00

                                                                  ***

      ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH    Az631

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                        CUMULATIVE AREA =     .63 SQ MI


      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     D631

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                        CUMULATIVE AREA =     .63 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  959 KK    *    CON427  *
            *            *
            **************
                                Retrieve data from DSS file
                                Overflow from Consolidated Canal from Paseo Crossings Subdivision.
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP427/FLOW/03MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP427/FLOW/03MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP427/FLOW/04MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP427/FLOW/05MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP427/FLOW/06MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP427/FLOW/06MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP427/FLOW/06MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP427/FLOW/07MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP427/FLOW/08MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP427/FLOW/08MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP427/FLOW/08MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP427/FLOW/09MAR1903/5MIN/24HR/
 -----DSS--- ZREAD Unit  71; Vers.   83:  /CONS/CP427/FLOW/10MAR1903/5MIN/24HR/
 -----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
 Pathname: /CONS/CP427/FLOW/11MAR1903/5MIN/24HR/

              SUBBASIN RUNOFF DATA

  962 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .00  SUBBASIN AREA

                                                                  ***

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   CON427

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     453.     13.50               116.         37.         12.           5.
                        (INCHES)  1082.077    1361.666    1367.190     1367.190
                         (AC-FT)      58.         73.         73.          73.

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
```

```
964 KK      *      632N  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 0.27 mi S= 56.2 ft/mi Kb= 0.029 Natural

                SUBBASIN RUNOFF DATA

967 BA            SUBBASIN CHARACTERISTICS
                       TAREA          .15  SUBBASIN AREA

                  PRECIPITATION DATA

899 PB                 STORM        3.42  BASIN TOTAL PRECIPITATION

 92 PI              INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                       .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                       .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                       .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00

968 LG            GREEN AND AMPT LOSS RATE
                       STRTL          .19  STARTING LOSS
                         DTH          .24  MOISTURE DEFICIT
                        PSIF         4.50  WETTING FRONT SUCTION
                       XKSAT          .55  HYDRAULIC CONDUCTIVITY
                       RTIMP         6.00  PERCENT IMPERVIOUS AREA

969 UC            CLARK UNITGRAPH
                          TC          .18  TIME OF CONCENTRATION
                           R          .06  STORAGE COEFFICIENT

970 UA            ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                          .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                       100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                             CLARK   TC=   .18 HR,       R=   .06 HR
                                            SNYDER   TP=   .15 HR,      CP=   .84

                                                     UNIT HYDROGRAPH
                                                 5 END-OF-PERIOD ORDINATES
                  85.      493.      485.       89.       14.

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     632N

    TOTAL RAINFALL =    3.42, TOTAL LOSS =    2.52, TOTAL EXCESS =     .90

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     251.     12.08                14.          4.          1.          1.
                         (INCHES)   .841        .900        .900        .900
                          (AC-FT)     7.          7.          7.          7.

                         CUMULATIVE AREA =     .15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
972 KK      *    CP632N  *
            *            *
            **************
                          Combine 632N & CON427
```

```
974 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

975 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   CP632N

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     455.     13.50                123.         40.         13.           6.
                         (INCHES)  7.542       9.784       9.889        9.889
                          (AC-FT)    61.         79.         80.          80.

                         CUMULATIVE AREA =     .15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
976 KK      *     P632N  *
            *            *
            **************
                          Ponding in golf course North of the ridge


979 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

              HYDROGRAPH ROUTING DATA

980 RS          STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

981 SV            STORAGE          .0        .0        .2        .5       1.0       2.2       4.2       7.5      12.8      21.2
                                  34.6      55.5      86.1     127.6     181.0     246.3     320.7     402.1     489.1

983 SE          ELEVATION     1208.00   1209.00   1210.00   1211.00   1212.00   1213.00   1214.00   1215.00   1216.00   1217.00
                              1218.00   1219.00   1220.00   1221.00   1222.00   1223.00   1224.00   1225.00   1226.00

985 SQ          DISCHARGE          0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                                   0.        0.        0.        0.        0.      250.     2142.     8965.    22869.

                                                          ***

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    P632N

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                  0.          0.          0.           0.
                         (INCHES)   .000        .000        .000         .000
                          (AC-FT)     0.          0.          0.           0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      80.      61.33                 80.         80.         80.          72.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1219.81     55.58              1219.80     1219.81     1219.78      1218.96

                         CUMULATIVE AREA =     .15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
987 KK      *      632S  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
```

```
                    L= 0.21 mi S= 64.6 ft/mi Kb= 0.027 Natural

              SUBBASIN RUNOFF DATA

 990 BA          SUBBASIN CHARACTERISTICS
                      TAREA          .26  SUBBASIN AREA

                 PRECIPITATION DATA

 899 PB                STORM        3.42  BASIN TOTAL PRECIPITATION

  92 PI            INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                      .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                      .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                      .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00

 991 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .20  STARTING LOSS
                        DTH         .25  MOISTURE DEFICIT
                       PSIF        4.55  WETTING FRONT SUCTION
                      XKSAT         .54  HYDRAULIC CONDUCTIVITY
                      RTIMP        4.00  PERCENT IMPERVIOUS AREA

 992 UC          CLARK UNITGRAPH
                         TC         .15  TIME OF CONCENTRATION
                          R         .03  STORAGE COEFFICIENT

 993 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0

                                                                  ***
R INCREASED TO MINIMUM OF 0.5

                                                    UNIT HYDROGRAPH PARAMETERS
                                              CLARK   TC=   .15 HR,       R=   .04 HR
                                             SNYDER   TP=   .13 HR,      CP=   .86

                                                        UNIT HYDROGRAPH
                                                   3 END-OF-PERIOD ORDINATES
              371.     1022.      651.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     632S

    TOTAL RAINFALL =    3.42, TOTAL LOSS =    2.58, TOTAL EXCESS =     .84

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     471.     12.00          23.          6.          2.          1.
                        (INCHES)       .802        .842        .842        .842
                         (AC-FT)        11.         12.         12.         12.

                        CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


             **************
             *            *
 995 KK      *    CP632S  *
             *            *
             **************
                          Combine 632S & overflow from 632N

 997 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
```

```
                    IPLOT          0  PLOT CONTROL
                    QSCAL         0.  HYDROGRAPH PLOT SCALE

998 HC          HYDROGRAPH COMBINATION
                    ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   CP632S

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     471.     12.00        23.          6.          2.           1.
                      (INCHES)      .509        .534        .535        .535
                       (AC-FT)       11.         12.         12.         12.

                      CUMULATIVE AREA =     .42 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 999 KK     *     P632S  *
            *            *
            **************
                      Ponding in golf course along UPRR


1002 KO         OUTPUT CONTROL VARIABLES
                    IPRNT          3  PRINT CONTROL
                    IPLOT          0  PLOT CONTROL
                    QSCAL         0.  HYDROGRAPH PLOT SCALE

            HYDROGRAPH ROUTING DATA

1003 RS         STORAGE ROUTING
                    NSTPS          1  NUMBER OF SUBREACHES
                     ITYP       STOR  TYPE OF INITIAL CONDITION
                   RSVRIC        .00  INITIAL CONDITION
                        X        .00 WORKING R AND D COEFFICIENT

1004 SV           STORAGE         .0        .3        .6       1.2       2.5       5.0       9.2      15.8      25.4      38.6
                                 56.4      82.6     121.1     169.7     226.0     288.0     354.0     422.1

1006 SE         ELEVATION    1203.00   1204.00   1205.00   1206.00   1207.00   1208.00   1209.00   1210.00   1211.00   1212.00
                             1213.00   1214.00   1215.00   1216.00   1217.00   1218.00   1219.00   1220.00

1008 SQ         DISCHARGE         0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                                  0.        0.       18.       74.      146.      234.      514.     9191.

                                                          ***

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    P632S

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00         0.          0.          0.           0.
                      (INCHES)      .000        .000        .000        .000
                       (AC-FT)        0.          0.          0.           0.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      12.     24.08                12.         12.         12.          11.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1209.40     24.17              1209.40     1209.41     1209.38      1208.98

                      CUMULATIVE AREA =     .42 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1010 KK     *       634  *        BASIN
            *            *
            **************
                      The following parameters were determined for this sub basin.
                      L= 0.398 mi S= 0.3 ft/mi Kb= 0.051 Natural

1013 KO         OUTPUT CONTROL VARIABLES
```

```
                                IPRNT            3  PRINT CONTROL
                                IPLOT            0  PLOT CONTROL
                                QSCAL           0.  HYDROGRAPH PLOT SCALE

                          SUBBASIN RUNOFF DATA

   1014 BA                  SUBBASIN CHARACTERISTICS
                                TAREA          .07  SUBBASIN AREA

                            PRECIPITATION DATA

    899 PB                      STORM         3.42  BASIN TOTAL PRECIPITATION

     92 PI                    INCREMENTAL PRECIPITATION PATTERN
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .01      .00      .01
                                .01      .01      .01      .01      .01      .01      .01      .01      .03      .03
                                .03      .09      .09      .09      .01      .01      .01      .01      .01      .01
                                .01      .01      .01      .01      .01      .01      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                                .00      .00      .00      .00      .00      .00      .00      .00

   1015 LG                  GREEN AND AMPT LOSS RATE
                                STRTL          .36  STARTING LOSS
                                  DTH          .25  MOISTURE DEFICIT
                                 PSIF         4.25  WETTING FRONT SUCTION
                                XKSAT          .57  HYDRAULIC CONDUCTIVITY
                                RTIMP        14.00  PERCENT IMPERVIOUS AREA

   1016 UC                  CLARK UNITGRAPH
                                   TC         1.50  TIME OF CONCENTRATION
                                    R         1.26  STORAGE COEFFICIENT

   1017 UA                  ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                                 .0      3.0      5.0      8.0     12.0     20.0     43.0     75.0     90.0     96.0
                              100.0

                                                                 ***

                                                         UNIT HYDROGRAPH PARAMETERS
                                                    CLARK   TC=  1.50 HR,        R=  1.26 HR
                                                   SNYDER   TP=  1.28 HR,       CP=   .68

                                                              UNIT HYDROGRAPH
                                                         92 END-OF-PERIOD ORDINATES
                          0.        1.        1.        2.        2.        3.        3.        4.        5.        8.
                         12.       17.       21.       24.       25.       25.       24.       23.       22.       21.
                         20.       18.       17.       16.       15.       14.       13.       12.       12.       11.
                         10.        9.        9.        8.        8.        7.        7.        6.        6.        6.
                          5.        5.        5.        4.        4.        4.        4.        3.        3.        3.
                          3.        3.        2.        2.        2.        2.        2.        2.        2.        1.
                          1.        1.        1.        1.        1.        1.        1.        1.        1.        1.
                          1.        1.        1.        1.        1.        1.        0.        0.        0.        0.
                          0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                          0.        0.

            ***             ***             ***             ***             ***

                                HYDROGRAPH AT STATION       634

           TOTAL RAINFALL =     3.42, TOTAL LOSS =     2.36, TOTAL EXCESS =     1.07

         PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                             6-HR          24-HR          72-HR       166.58-HR
   +     (CFS)         (HR)
                                  (CFS)
   +        20.       13.17                    7.             2.             1.              0.
                                (INCHES)     .903          1.057          1.062           1.062
                                 (AC-FT)       3.              4.             4.              4.

                               CUMULATIVE AREA =        .07 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
                 **************
                 *            *
1019 KK          *      P634  *
                 *            *
                 **************
                                Ponding in open space east of UPRR Track

1022 KO            OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

                 HYDROGRAPH ROUTING DATA

1023 RS            STORAGE ROUTING
                        NSTPS           1  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

1024 SV              STORAGE          .0        .4       1.4       6.5      20.0      45.0

1025 SE            ELEVATION     1213.00   1214.00   1215.00   1216.00   1217.00   1218.00

1026 SQ            DISCHARGE          0.        0.        0.        0.        0.      306.

                                                                   ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     P634

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+       0.       .00                 0.          0.          0.           0.
                         (INCHES)   .000        .000        .000         .000
                          (AC-FT)     0.          0.          0.           0.

  PEAK STORAGE  TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        4.     29.50                 4.          4.          4.           4.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1215.51     29.25            1215.52     1215.50     1215.50      1215.33

                          CUMULATIVE AREA =     .07 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                 **************
                 *            *
1027 KK          *       633  *        BASIN
                 *            *
                 **************
                                The following parameters were determined for this sub basin.
                                L= 0.923 mi S= 11.9 ft/mi Kb= 0.047 Natural

                 SUBBASIN RUNOFF DATA

1030 BA            SUBBASIN CHARACTERISTICS
                        TAREA         .23  SUBBASIN AREA

                   PRECIPITATION DATA

 899 PB                 STORM        3.42  BASIN TOTAL PRECIPITATION

  92 PI              INCREMENTAL PRECIPITATION PATTERN
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                        .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                        .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                        .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

```
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

1031 LG         GREEN AND AMPT LOSS RATE
                      STRTL        .41  STARTING LOSS
                        DTH        .26  MOISTURE DEFICIT
                       PSIF       4.60  WETTING FRONT SUCTION
                      XKSAT        .47  HYDRAULIC CONDUCTIVITY
                      RTIMP      10.00  PERCENT IMPERVIOUS AREA

1032 UC         CLARK UNITGRAPH
                         TC       1.07  TIME OF CONCENTRATION
                          R        .87  STORAGE COEFFICIENT

1033 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                   100.0

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=  1.07 HR,       R=   .87 HR
                                        SNYDER   TP=   .92 HR,      CP=   .70

                                                   UNIT HYDROGRAPH
                                              63 END-OF-PERIOD ORDINATES
                2.        5.        8.       10.       14.       20.       34.       57.       88.      109.
              114.      112.      107.       99.       90.       82.       74.       67.       61.       56.
               50.       46.       42.       38.       34.       31.       28.       26.       23.       21.
               19.       17.       16.       14.       13.       12.       11.       10.        9.        8.
                7.        7.        6.        6.        5.        5.        4.        4.        3.        3.
                3.        3.        2.        2.        2.        2.        2.        1.        1.        1.
                1.        1.        1.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      633

    TOTAL RAINFALL =    3.42, TOTAL LOSS =    2.42, TOTAL EXCESS =    1.00

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      90.     12.75                 22.          6.          2.           1.
                        (INCHES)    .890        .990        .992         .992
                         (AC-FT)     11.         12.         12.          12.

                        CUMULATIVE AREA =     .23 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1035 KK     *     CP633  *
            *            *
            **************
                        Combine sub 634, 633, CP632

1037 KO         OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

1038 HC         HYDROGRAPH COMBINATION
                      ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                    ***

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    CP633

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      90.     12.75                 22.          6.          2.           1.
                        (INCHES)    .283        .315        .315         .315
                         (AC-FT)     11.         12.         12.          12.

                        CUMULATIVE AREA =     .71 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
                 **************
                 *            *
1039 KK          *      P633  *
                 *            *
                 **************
                          Ponding east of Arizona Ave

1042 KO            OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

                 HYDROGRAPH ROUTING DATA

1043 RS            STORAGE ROUTING
                        NSTPS          1  NUMBER OF SUBREACHES
                         ITYP       STOR  TYPE OF INITIAL CONDITION
                       RSVRIC        .00  INITIAL CONDITION
                            X        .00 WORKING R AND D COEFFICIENT

1044 SV              STORAGE         .0      10.3      54.2     148.7     256.1

1045 SE            ELEVATION    1208.00   1212.00   1213.00   1214.00   1215.00

1046 SQ            DISCHARGE        0.        0.        0.      310.     9559.
                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     P633

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+       0.       .00                 0.          0.          0.           0.
                         (INCHES)   .000        .000        .000         .000
                          (AC-FT)     0.          0.          0.           0.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      12.     28.08                 12.         12.         12.          11.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1212.04     26.58            1212.04     1212.03     1212.06      1211.71

                         CUMULATIVE AREA =     .71 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                 **************
                 *            *
1047 KK          *      D633  *
                 *            *
                 **************
                          Divert 100% of flow over Arizona Ave

1049 KO            OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

     DT            DIVERSION
                        ISTAD      Az633  DIVERSION HYDROGRAPH IDENTIFICATION

     DI              INFLOW         .00    100.00

     DQ        DIVERTED FLOW        .00    100.00
                                                                  ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    Az633

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+       0.       .00                 0.          0.          0.           0.
                         (INCHES)   .000        .000        .000         .000
                          (AC-FT)     0.          0.          0.           0.

                         CUMULATIVE AREA =     .71 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     D633
```

```
 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.          0.
                       (INCHES)      .000        .000        .000        .000
                        (AC-FT)       0.          0.          0.          0.

                       CUMULATIVE AREA =     .71 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1053 KK     *       635  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 0.845 mi S= 13.7 ft/mi Kb= 0.030 Urban

               SUBBASIN RUNOFF DATA

1056 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .15  SUBBASIN AREA

                 PRECIPITATION DATA

 899 PB                STORM        3.42  BASIN TOTAL PRECIPITATION

  92 PI            INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                       .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                       .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                       .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00

1057 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .12  STARTING LOSS
                         DTH         .30  MOISTURE DEFICIT
                        PSIF        4.15  WETTING FRONT SUCTION
                       XKSAT         .48  HYDRAULIC CONDUCTIVITY
                       RTIMP       28.00  PERCENT IMPERVIOUS AREA

1058 UC          CLARK UNITGRAPH
                          TC         .56  TIME OF CONCENTRATION
                           R         .50  STORAGE COEFFICIENT

1059 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                   ***

                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=   .56 HR,       R=   .50 HR
                                       SNYDER   TP=   .33 HR,      CP=   .42

                                                UNIT HYDROGRAPH
                                           35 END-OF-PERIOD ORDINATES
                 9.       35.       84.      120.      121.      115.      105.       92.       78.       66.
                56.       47.       40.       34.       28.       24.       20.       17.       15.       12.
                10.        9.        7.        6.        5.        5.        4.        3.        3.        2.
                 2.        2.        1.        1.        1.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      635

   TOTAL RAINFALL =    3.42, TOTAL LOSS =    1.90, TOTAL EXCESS =    1.53

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
```

```
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     111.      12.25                   20.          6.          2.           1.
                          (INCHES)     1.239       1.515       1.518        1.518
                           (AC-FT)      10.         12.         12.          12.

                          CUMULATIVE AREA =     .15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1061 KK     *      D635  *
            *            *
            **************
                             Divert 100% of flow over Arizona Ave

1063 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

     DT          DIVERSION
                       ISTAD       Az635  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00    100.00

     DQ      DIVERTED FLOW         .00    100.00

                                                                  ***

      ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH    Az635

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     111.      12.25                   20.          6.          2.           1.
                          (INCHES)     1.239       1.515       1.518        1.518
                           (AC-FT)      10.         12.         12.          12.

                          CUMULATIVE AREA =     .15 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     D635

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+       0.        .00                     0.          0.          0.           0.
                          (INCHES)      .000        .000        .000         .000
                           (AC-FT)        0.          0.          0.           0.

                          CUMULATIVE AREA =     .15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1067 KK     *     RR432  *
            *            *
            **************
                                 Retrieve data from DSS file
                                 Overflow from RR Track Bridge
-----DSS--- ZREAD Unit  71; Vers.   83:  /RR/CP432/FLOW/03MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /RR/CP432/FLOW/03MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /RR/CP432/FLOW/04MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /RR/CP432/FLOW/05MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /RR/CP432/FLOW/06MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /RR/CP432/FLOW/06MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /RR/CP432/FLOW/06MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /RR/CP432/FLOW/07MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /RR/CP432/FLOW/08MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /RR/CP432/FLOW/08MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /RR/CP432/FLOW/08MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /RR/CP432/FLOW/09MAR1903/5MIN/24HR/
-----DSS--- ZREAD Unit  71; Vers.   83:  /RR/CP432/FLOW/10MAR1903/5MIN/24HR/
-----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
Pathname: /RR/CP432/FLOW/11MAR1903/5MIN/24HR/

               SUBBASIN RUNOFF DATA

1070 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .00  SUBBASIN AREA
```

```
                                                  ***

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    RR432

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.          0.
                       (INCHES)     .000        .000        .000        .000
                        (AC-FT)       0.          0.          0.          0.

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1072 KK     *       636  *        BASIN
            *            *
            **************
                          The following parameters were determined for this sub basin.
                          L= 0.570 mi S= 4.4 ft/mi Kb= 0.028 Urban

               SUBBASIN RUNOFF DATA

1075 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .15  SUBBASIN AREA

                 PRECIPITATION DATA

 899 PB                STORM        3.42  BASIN TOTAL PRECIPITATION

  92 PI            INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                       .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                       .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                       .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00

1076 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .25  STARTING LOSS
                         DTH         .25  MOISTURE DEFICIT
                        PSIF        4.35  WETTING FRONT SUCTION
                       XKSAT         .46  HYDRAULIC CONDUCTIVITY
                       RTIMP       31.00  PERCENT IMPERVIOUS AREA

1077 UC          CLARK UNITGRAPH
                          TC         .66  TIME OF CONCENTRATION
                           R         .44  STORAGE COEFFICIENT

1078 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=   .66 HR,       R=   .44 HR
                                   SNYDER   TP=   .38 HR,      CP=   .49

                                            UNIT HYDROGRAPH
                                   32 END-OF-PERIOD ORDINATES
                 8.       29.       73.      114.      121.      115.      106.       95.       82.       68.
                56.       47.       39.       32.       26.       22.       18.       15.       12.       10.
                 9.        7.        6.        5.        4.        3.        3.        2.        2.        2.
                 1.        1.

     ***            ***            ***            ***            ***
```

```
                    HYDROGRAPH AT STATION      636

    TOTAL RAINFALL =    3.42, TOTAL LOSS =    1.80, TOTAL EXCESS =    1.62

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     113.     12.25                21.          6.          2.           1.
                        (INCHES)  1.303       1.608       1.611        1.611
                         (AC-FT)    10.         13.         13.          13.

                        CUMULATIVE AREA =     .15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1080 KK     *     CP636  *
            *            *
            **************
                          Combine sub 636, & RR432

1082 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          3  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

1083 HC          HYDROGRAPH COMBINATION
                       ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION    CP636

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     113.     12.25                21.          6.          2.           1.
                        (INCHES)  1.294       1.597       1.600        1.600
                         (AC-FT)    10.         13.         13.          13.

                        CUMULATIVE AREA =     .15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1084 KK     *      D636  *
            *            *
            **************
                          Divert 100% of flow over Arizona Ave

1086 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          3  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

     DT          DIVERSION
                       ISTAD       Az636  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00    100.00

     DQ      DIVERTED FLOW         .00    100.00

                                                                  ***

      ***             ***             ***             ***             ***

                    DIVERSION HYDROGRAPH    Az636

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     113.     12.25                21.          6.          2.           1.
                        (INCHES)  1.294       1.597       1.600        1.600
                         (AC-FT)    10.         13.         13.          13.

                        CUMULATIVE AREA =     .15 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     D636

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
```

```
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+       0.       .00                 0.          0.          0.           0.
                (INCHES)          .000        .000        .000         .000
                 (AC-FT)           0.          0.          0.           0.

                CUMULATIVE AREA =     .15 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 1090 KK    *     dummy  *
            *            *
            **************
                      Combine all hydrographs for modeling purposes

 1092 HC          HYDROGRAPH COMBINATION
                       ICOMP           6  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    dummy

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+       0.       .00                 0.          0.          0.           0.
                (INCHES)          .000        .000        .000         .000
                 (AC-FT)           0.          0.          0.           0.

                CUMULATIVE AREA =    4.27 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 1093 KK    *    DSS602  *
            *            *
            **************
                      Write hydrograph for overflow from sub-basin 602

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS602

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+     264.     12.58                91.         30.         10.           5.
                (INCHES)          .198        .257        .261         .282
                 (AC-FT)          45.         59.         59.          64.

                CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP602/FLOW/03MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP602/FLOW/04MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP602/FLOW/05MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP602/FLOW/06MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP602/FLOW/07MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP602/FLOW/08MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP602/FLOW/09MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP602/FLOW/10MAR1903/5MIN/24HR/


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 1097 KK    *    DSS604  *
            *            *
            **************
                      Write hydrograph for overflow from sub-basin 604

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS604

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
```

```
+   (CFS)        (HR)
                              (CFS)
+     128.     12.17                  22.          7.          2.          1.
                          (INCHES)   .000        .000        .000        .000
                           (AC-FT)    11.         14.         14.         14.

                          CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP604/FLOW/03MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP604/FLOW/04MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP604/FLOW/05MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP604/FLOW/06MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP604/FLOW/07MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP604/FLOW/08MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP604/FLOW/09MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP604/FLOW/10MAR1903/5MIN/24HR/


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 1101 KK    *    DSS607  *
            *            *
            **************
                            Write hydrograph for overflow from sub-basin 607

                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   DSS607

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     279.     12.17                  36.         11.          4.          2.
                          (INCHES)   .000        .000        .000        .000
                           (AC-FT)    18.         21.         21.         21.

                          CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP607/FLOW/03MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP607/FLOW/04MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP607/FLOW/05MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP607/FLOW/06MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP607/FLOW/07MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP607/FLOW/08MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP607/FLOW/09MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP607/FLOW/10MAR1903/5MIN/24HR/


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 1105 KK    *    DSS611  *
            *            *
            **************
                            Write hydrograph for overflow from sub-basin 611

                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   DSS611

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     175.     12.42                  60.         46.         29.         15.
                          (INCHES)   .000        .000        .000        .000
                           (AC-FT)    30.         91.        171.        204.

                          CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP611/FLOW/03MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP611/FLOW/04MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP611/FLOW/05MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP611/FLOW/06MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP611/FLOW/07MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP611/FLOW/08MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP611/FLOW/09MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP611/FLOW/10MAR1903/5MIN/24HR/


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 1109 KK    *    DSS616  *
```

```
            *            *
            **************
                          Write hydrograph for overflow from sub-basin 616

                                                                   ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS616

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     251.     12.08                     29.         10.          3.           1.
                         (INCHES)      .000        .000        .000         .000
                          (AC-FT)       14.         19.         19.          19.

                         CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP616/FLOW/03MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP616/FLOW/04MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP616/FLOW/05MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP616/FLOW/06MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP616/FLOW/07MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP616/FLOW/08MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP616/FLOW/09MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP616/FLOW/10MAR1903/5MIN/24HR/


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 1113 KK    *    DSS619  *
            *            *
            **************
                          Write hydrograph for overflow from sub-basin 619

                                                                   ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS619

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     187.     12.17                     21.          7.          2.           1.
                         (INCHES)      .000        .000        .000         .000
                          (AC-FT)       11.         14.         14.          14.

                         CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP619/FLOW/03MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP619/FLOW/04MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP619/FLOW/05MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP619/FLOW/06MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP619/FLOW/07MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP619/FLOW/08MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP619/FLOW/09MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP619/FLOW/10MAR1903/5MIN/24HR/


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 1117 KK    *       DSS  *
            *            *
            **************
                          Combine DSS FILES FOR MODELING PURPOSES

 1119 HC          HYDROGRAPH COMBINATION
                        ICOMP           6  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                   ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      DSS

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    1084.     12.17                    253.        101.         49.          24.
                         (INCHES)      .000        .000        .000         .000
                          (AC-FT)      126.        200.        293.         337.

                         CUMULATIVE AREA =     .00 SQ MI
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
1120 KK       *    DSS620  *
              *            *
              **************
                             Write hydrograph for overflow from sub-basin 620
                                                                        ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   DSS620

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                 (CFS)
+      55.     12.50                 11.          4.          1.           1.
                            (INCHES)      .000        .000        .000         .000
                             (AC-FT)        5.          7.          7.           7.

                          CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP620/FLOW/03MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP620/FLOW/04MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP620/FLOW/05MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP620/FLOW/06MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP620/FLOW/07MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP620/FLOW/08MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP620/FLOW/09MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP620/FLOW/10MAR1903/5MIN/24HR/


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
1124 KK       *    DSS629  *
              *            *
              **************
                             Write hydrograph for overflow from sub-basin 629
                                                                        ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   DSS629

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                 (CFS)
+       0.       .00                  0.          0.          0.           0.
                            (INCHES)      .000        .000        .000         .000
                             (AC-FT)        0.          0.          0.           0.

                          CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP629/FLOW/03MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP629/FLOW/04MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP629/FLOW/05MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP629/FLOW/06MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP629/FLOW/07MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP629/FLOW/08MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP629/FLOW/09MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP629/FLOW/10MAR1903/5MIN/24HR/


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
1128 KK       *    DSS622  *
              *            *
              **************
                             Write hydrograph for overflow from sub-basin 622
                                                                        ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   DSS622

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                 (CFS)
+       9.     13.08                  3.          1.          0.           0.
                            (INCHES)      .000        .000        .000         .000
                             (AC-FT)        2.          2.          2.           2.
```

```
                        CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP622/FLOW/03MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP622/FLOW/04MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP622/FLOW/05MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP622/FLOW/06MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP622/FLOW/07MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP622/FLOW/08MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP622/FLOW/09MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP622/FLOW/10MAR1903/5MIN/24HR/


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 1132 KK    *    DSS624  *
            *            *
            **************
                          Write hydrograph for overflow from sub-basin 624

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS624

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      25.     20.00                24.         19.          9.           4.
                        (INCHES)   .000        .000        .000         .000
                         (AC-FT)    12.         38.         56.          58.

                        CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP624/FLOW/03MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP624/FLOW/04MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP624/FLOW/05MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP624/FLOW/06MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP624/FLOW/07MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP624/FLOW/08MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP624/FLOW/09MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP624/FLOW/10MAR1903/5MIN/24HR/


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 1136 KK    *    DSS626  *
            *            *
            **************
                          Write hydrograph for overflow from sub-basin 626

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS626

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      35.     13.08                10.          2.          1.           0.
                        (INCHES)   .000        .000        .000         .000
                         (AC-FT)     5.          5.          5.           5.

                        CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP626/FLOW/03MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP626/FLOW/04MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP626/FLOW/05MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP626/FLOW/06MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP626/FLOW/07MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP626/FLOW/08MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP626/FLOW/09MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP626/FLOW/10MAR1903/5MIN/24HR/


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 1140 KK    *      DSS2  *
            *            *
            **************
                          Combine DSS FILES FOR MODELING PURPOSES

 1142 HC          HYDROGRAPH COMBINATION
                        ICOMP          5  NUMBER OF HYDROGRAPHS TO COMBINE
```

```
                                                                    ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     DSS2

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      73.     12.75                 26.         23.         11.           5.
                         (INCHES)   .000        .000        .000         .000
                          (AC-FT)    13.         45.         68.          72.

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1143 KK     *    DSS631  *
            *            *
            **************
                            Write hydrograph for overflow from sub-basin 631
                                                                    ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS631

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                   0.          0.          0.           0.
                         (INCHES)   .000        .000        .000         .000
                          (AC-FT)     0.          0.          0.           0.

                        CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP631/FLOW/03MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP631/FLOW/04MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP631/FLOW/05MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP631/FLOW/06MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP631/FLOW/07MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP631/FLOW/08MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP631/FLOW/09MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP631/FLOW/10MAR1903/5MIN/24HR/


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1147 KK     *    DSS633  *
            *            *
            **************
                            Write hydrograph for overflow from sub-basin 633
                                                                    ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS633

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                   0.          0.          0.           0.
                         (INCHES)   .000        .000        .000         .000
                          (AC-FT)     0.          0.          0.           0.

                        CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP633/FLOW/03MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP633/FLOW/04MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP633/FLOW/05MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP633/FLOW/06MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP633/FLOW/07MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP633/FLOW/08MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP633/FLOW/09MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP633/FLOW/10MAR1903/5MIN/24HR/


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
```

```
1151 KK      *    DSS635  *
             *            *
             **************
                          Write hydrograph for overflow from sub-basin 635

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS635

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     111.     12.25                20.          6.          2.           1.
                         (INCHES)  .000        .000        .000         .000
                          (AC-FT)   10.         12.         12.          12.

                        CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP635/FLOW/03MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP635/FLOW/04MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP635/FLOW/05MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP635/FLOW/06MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP635/FLOW/07MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP635/FLOW/08MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP635/FLOW/09MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP635/FLOW/10MAR1903/5MIN/24HR/


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


             **************
             *            *
1155 KK      *    DSS636  *
             *            *
             **************
                          Write hydrograph for overflow from sub-basin 636

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   DSS636

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     113.     12.25                21.          6.          2.           1.
                         (INCHES)  .000        .000        .000         .000
                          (AC-FT)   10.         13.         13.          13.

                        CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP636/FLOW/03MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP636/FLOW/04MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP636/FLOW/05MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP636/FLOW/06MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP636/FLOW/07MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP636/FLOW/08MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP636/FLOW/09MAR1903/5MIN/24HR/
 -----DSS---ZWRITE Unit  71; Vers.    3:  /AZ/CP636/FLOW/10MAR1903/5MIN/24HR/


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


             **************
             *            *
1159 KK      *       OUT  *
             *            *
             **************
                          Combine all Flow Leaving Watershed

1161 HC          HYDROGRAPH COMBINATION
                      ICOMP          6  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    1318.     12.17                318.        134.         65.          32.
                         (INCHES)  .000        .000        .000         .000
                          (AC-FT)  158.        265.        386.         434.

                        CUMULATIVE AREA =     .00 SQ MI

1
```

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	C00525	104.	12.67	15.	4.	1.	.00		
+	ROUTED TO	525605	56.	13.50	14.	4.	1.	.00		
+									.36	13.50
+	HYDROGRAPH AT	605	429.	12.25	71.	22.	7.	.50		
+	DIVERSION TO	605RET	429.	13.25	64.	17.	6.	.50		
+	HYDROGRAPH AT	605	71.	13.25	14.	4.	1.	.50		
+	2 COMBINED AT	CP605	111.	13.33	28.	9.	3.	.50		
+	ROUTED TO	605606	86.	13.92	26.	9.	3.	.50		
+									.54	13.92
+	HYDROGRAPH AT	606	219.	12.50	66.	20.	7.	.38		
+	DIVERSION TO	606RET	213.	12.58	23.	7.	2.	.38		
+	HYDROGRAPH AT	606	219.	12.58	50.	14.	5.	.38		
+	2 COMBINED AT	CP606	219.	12.58	75.	22.	7.	.87		
+	HYDROGRAPH AT	603	202.	12.25	37.	11.	4.	.30		
+	DIVERSION TO	603RET	202.	.00	37.	11.	4.	.30		
+	HYDROGRAPH AT	603	0.	.00	0.	0.	0.	.30		
+	2 COMBINED AT	CP603	219.	12.58	75.	22.	7.	1.18		
+	ROUTED TO	P606-3	0.	.00	0.	0.	0.	1.18		
+									1215.51	30.92
+	HYDROGRAPH AT	C00524	93.	13.00	38.	19.	8.	.00		
+	ROUTED TO	524600	45.	19.83	37.	19.	8.	.00		
+									.32	19.83
+	HYDROGRAPH AT	600	0.	12.50	0.	0.	0.	.00		
+	2 COMBINED AT	CP600	45.	19.83	37.	19.	8.	.00		
+	ROUTED TO	600601	45.	20.58	37.	19.	8.	.00		
+									.37	20.58
+	HYDROGRAPH AT	601	232.	12.67	78.	24.	8.	.51		
+	DIVERSION TO	601RET	4.	12.67	1.	0.	0.	.51		
+	HYDROGRAPH AT	601	232.	12.67	78.	24.	8.	.51		
+	2 COMBINED AT	CP601	232.	12.67	86.	40.	15.	.51		
+	ROUTED TO	P601	1.	79.67	1.	1.	1.	.51		
+									1215.06	79.50
+	HYDROGRAPH AT	602	264.	12.58	91.	30.	10.	.51		
+	2 COMBINED AT	CP602	264.	12.58	91.	30.	10.	1.02		
	DIVERSION TO									

+		Az602	264.	.00	91.	30.	10.	1.02		
+	HYDROGRAPH AT	D602	0.	.00	0.	0.	0.	1.02		
+	HYDROGRAPH AT	604	214.	12.17	37.	12.	4.	.20		
+	3 COMBINED AT	CP604	214.	12.17	37.	12.	4.	2.40		
+	DIVERSION TO	Az604	128.	12.17	22.	7.	2.	2.40		
+	HYDROGRAPH AT	D604	86.	12.17	15.	5.	2.	2.40		
+	ROUTED TO	604607	79.	12.33	15.	5.	2.	2.40		
+									.44	12.33
+	HYDROGRAPH AT	607	224.	12.17	21.	6.	2.	.13		
+	2 COMBINED AT	CP607	279.	12.17	36.	11.	4.	2.52		
+	DIVERSION TO	Az607	279.	.00	36.	11.	4.	2.52		
+	HYDROGRAPH AT	D607	0.	.00	0.	0.	0.	2.52		
+	HYDROGRAPH AT	608	883.	12.42	182.	54.	18.	1.15		
+	DIVERSION TO	608RET	883.	13.17	148.	39.	13.	1.15		
+	HYDROGRAPH AT	608	346.	13.17	49.	14.	5.	1.15		
+	ROUTED TO	608609	94.	15.42	43.	14.	5.	1.15		
+									.50	15.42
+	HYDROGRAPH AT	609	221.	12.50	64.	19.	6.	.38		
+	DIVERSION TO	609RET	34.	12.50	8.	3.	1.	.38		
+	HYDROGRAPH AT	609	221.	12.50	62.	17.	6.	.38		
+	HYDROGRAPH AT	612	102.	12.50	33.	10.	3.	.26		
+	DIVERSION TO	612RET	95.	12.50	9.	3.	1.	.26		
+	HYDROGRAPH AT	612	102.	12.50	27.	7.	2.	.26		
+	DIVERSION TO	To615	41.	12.50	11.	3.	1.	.26		
+	HYDROGRAPH AT	D612	61.	12.50	16.	4.	1.	.26		
+	ROUTED TO	612614	48.	13.17	16.	4.	1.	.26		
+									.32	13.17
+	HYDROGRAPH AT	CON406	43.	16.25	33.	16.	6.	.00		
+	ROUTED TO	406617	41.	17.58	32.	15.	6.	.00		
+									.31	17.58
+	HYDROGRAPH AT	617	95.	12.42	26.	8.	3.	.22		
+	DIVERSION TO	617RET	95.	13.17	17.	5.	2.	.22		
+	HYDROGRAPH AT	617	58.	13.17	11.	3.	1.	.22		
+	2 COMBINED AT	CP617	58.	13.17	34.	18.	7.	.22		
+	DIVERSION TO	To618	12.	13.17	7.	4.	1.	.22		
+	HYDROGRAPH AT	D617	46.	13.17	27.	15.	6.	.22		

```
                ROUTED TO
+                         617614     34.  17.92     27.     15.     6.    .22
+                                                                          .27     17.92

                HYDROGRAPH AT
+                            614    269.  12.33     57.     18.     6.    .42

                DIVERSION TO
+                         614RET    269.  12.75     35.     10.     3.    .42

                HYDROGRAPH AT
+                            614    183.  12.75     29.      8.     3.    .42

                3 COMBINED AT
+                          CP614    205.  12.75     63.     27.    10.    .89

                ROUTED TO
+                         614615     79.  16.00     55.     26.    10.    .89
+                                                                          .88     16.00

                HYDROGRAPH AT
+                            613    144.  12.25     30.      9.     3.    .21

                DIVERSION TO
+                         613RET     19.  12.25      5.      2.     1.    .21

                HYDROGRAPH AT
+                            613    144.  12.25     28.      8.     3.    .21

                HYDROGRAPH AT
+                            615    291.  12.25     45.     13.     4.    .37

                DIVERSION TO
+                         615RET    272.  12.33     19.      5.     2.    .37

                HYDROGRAPH AT
+                            615    275.  12.33     30.      8.     3.    .37

                HYDROGRAPH AT
+                         FRM612     41.  12.50     11.      3.     1.    .00

                ROUTED TO
+                         612615     19.  14.67     10.      3.     1.    .00
+                                                                          .26     14.67

                4 COMBINED AT
+                          CP615    418.  12.33    108.     45.    16.   1.47

                ROUTED TO
+                         P613-5     95.  13.17     84.     40.    14.   1.47
+                                                                      1217.55     13.17

                HYDROGRAPH AT
+                            610    381.  12.33     77.     24.     8.    .54

                2 COMBINED AT
+                          CP610    381.  12.33    149.     61.    22.   2.01

                3 COMBINED AT
+                          CP609    591.  12.42    246.     92.    33.   3.54

                ROUTED TO
+                         P610-9     42.  24.92     42.     38.    25.   3.54
+                                                                      1217.09     24.83

                ROUTED TO
+                         609611     42.  25.67     42.     38.    25.   3.54
+                                                                          .31     25.67

                HYDROGRAPH AT
+                            611    175.  12.42     46.     14.     5.    .29

                2 COMBINED AT
+                          CP611    175.  12.42     60.     46.    29.   3.83

                DIVERSION TO
+                          Az611    175.    .00     60.     46.    29.   3.83

                HYDROGRAPH AT
+                            D611      0.    .00      0.      0.     0.   3.83

                HYDROGRAPH AT
+                            616    251.  12.08     29.     10.     3.    .17

                2 COMBINED AT
+                          CP616    251.  12.08     29.     10.     3.   4.00

                DIVERSION TO
+                          Az616    251.    .00     29.     10.     3.   4.00

                HYDROGRAPH AT
+                            D616      0.    .00      0.      0.     0.   4.00

                HYDROGRAPH AT
+                            619    187.  12.17     21.      7.     2.    .12

                2 COMBINED AT
+                          CP619    187.  12.17     21.      7.     2.   4.12
```

```
                DIVERSION TO
+                          Az619     187.    .00      21.       7.       2.     4.12
                HYDROGRAPH AT
+                           D619       0.    .00       0.       0.       0.     4.12
                2 COMBINED AT
+                          dummy       0.    .00       0.       0.       0.     6.64
                HYDROGRAPH AT
+                            618     311.  12.17      39.      11.       4.      .32
                DIVERSION TO
+                         618RET     311.  12.42      25.       7.       2.      .32
                HYDROGRAPH AT
+                            618     212.  12.42      16.       5.       2.      .32
                HYDROGRAPH AT
+                         FRM617      12.  13.17       7.       4.       1.      .00
                ROUTED TO
+                         617618       8.  18.92       7.       4.       1.      .00
+                                                                                     .17      18.92
                2 COMBINED AT
+                          CP618     212.  12.42      19.       8.       3.      .32
                ROUTED TO
+                           P618       9.  20.67       6.       3.       1.      .32
+                                                                                 1218.00      20.67
                HYDROGRAPH AT
+                            620      55.  12.50      11.       4.       1.      .07
                DIVERSION TO
+                          Az620      55.    .00      11.       4.       1.      .07
                HYDROGRAPH AT
+                           D620       0.    .00       0.       0.       0.      .07
                2 COMBINED AT
+                          DUMMY       9.  20.67       6.       3.       1.      .39
                HYDROGRAPH AT
+                            628      93.  12.92      21.       5.       2.      .27
                ROUTED TO
+                           P628       0.    .00       0.       0.       0.      .27
+                                                                                 1220.57      26.25
                HYDROGRAPH AT
+                            627      91.  12.67      17.       4.       1.      .21
                2 COMBINED AT
+                          CP627      91.  12.67      17.       4.       1.      .48
                ROUTED TO
+                           P627       0.    .00       0.       0.       0.      .48
+                                                                                 1219.13      25.25
                DIVERSION TO
+                          To625       0.    .00       0.       0.       0.      .48
                HYDROGRAPH AT
+                           D627       0.    .00       0.       0.       0.      .48
                HYDROGRAPH AT
+                            629      58.  13.17      19.       5.       2.      .26
                ROUTED TO
+                           P629       0.    .00       0.       0.       0.      .26
+                                                                                 1215.73      20.00
                DIVERSION TO
+                          Az629       0.    .00       0.       0.       0.      .26
                HYDROGRAPH AT
+                           D629       0.    .00       0.       0.       0.      .26
                HYDROGRAPH AT
+                         Frm627       0.    .00       0.       0.       0.      .00
                HYDROGRAPH AT
+                            625     193.  12.75      43.      12.       4.      .42
                2 COMBINED AT
+                          CP625     193.  12.75      43.      12.       4.      .42
                DIVERSION TO
+                          To623     193.    .00      43.      12.       4.      .42
                HYDROGRAPH AT
+                           D625       0.    .00       0.       0.       0.      .42
                HYDROGRAPH AT
+                         Frm625     193.  12.75      43.      12.       4.      .00
                HYDROGRAPH AT
```

```
+                          623      437.  12.67        82.        22.        7.      .60
          DIVERSION TO
+                       623RET       40.  12.67         4.         1.        0.      .60
          HYDROGRAPH AT
+                          623      437.  12.67        80.        20.        7.      .60
          2 COMBINED AT
+                        CP623      620.  12.75       122.        32.       11.      .60
          ROUTED TO
+                       P623-5       55.  14.50        42.        24.       11.      .60
+                                                                                 1217.39      14.50
          HYDROGRAPH AT
+                       CON412      232.  13.42        98.        30.       10.      .00
          HYDROGRAPH AT
+                          621      296.  12.75        69.        20.        7.      .50
          DIVERSION TO
+                       621RET        9.  12.75         5.         2.        1.      .50
          HYDROGRAPH AT
+                          621      296.  12.75        69.        19.        6.      .50
          2 COMBINED AT
+                        CP621      400.  13.33       162.        48.       16.      .51
          ROUTED TO
+                         P621        0.    .00         0.         0.        0.      .51
+                                                                                 1219.25      44.33
          HYDROGRAPH AT
+                          622       46.  13.08        16.         5.        2.      .10
          2 COMBINED AT
+                        CP622       46.  13.08        16.         5.        2.      .61
          DIVERSION TO
+                        Az622        9.  13.08         3.         1.        0.      .61
          HYDROGRAPH AT
+                         D622       36.  13.08        13.         4.        1.      .61
          ROUTED TO
+                       622624       33.  13.58        13.         4.        1.      .61
+                                                                                     .38      13.58
          HYDROGRAPH AT
+                          624      150.  12.42        23.         7.        2.      .13
          3 COMBINED AT
+                        CP624      162.  12.42        73.        34.       14.     1.34
          ROUTED TO
+                         P624       25.  20.00        24.        19.        9.     1.34
+                                                                                 1215.27      19.92
          DIVERSION TO
+                        Az624       25.    .00        24.        19.        9.     1.34
          HYDROGRAPH AT
+                         D624        0.    .00         0.         0.        0.     1.34
          HYDROGRAPH AT
+                          626       71.  12.58        11.         3.        1.      .13
          4 COMBINED AT
+                        CP626       71.  12.58        11.         3.        1.     2.15
          ROUTED TO
+                         P626       35.  13.08        10.         2.        1.     2.15
+                                                                                 1214.50      13.08
          DIVERSION TO
+                        Az626       35.    .00        10.         2.        1.     2.15
          HYDROGRAPH AT
+                         D626        0.    .00         0.         0.        0.     2.15
          HYDROGRAPH AT
+                          630      126.  12.67        47.        15.        5.      .32
          HYDROGRAPH AT
+                       CON424       69.  21.92        63.        29.       10.      .00
          2 COMBINED AT
+                        CP630      126.  12.67        66.        41.       15.      .32
          ROUTED TO
+                         P630        0.    .00         0.         0.        0.      .32
+                                                                                 1220.08      69.00
          HYDROGRAPH AT
+                          631      145.  12.42        37.        11.        4.      .30
          DIVERSION TO
```

```
+                    631RET      45.  12.42       6.       2.       1.      .30
          HYDROGRAPH AT
+                       631     145.  12.42      34.       9.       3.      .30
          2 COMBINED AT
+                     CP631     145.  12.42      34.       9.       3.      .63
          ROUTED TO
+                      P631       0.    .00       0.       0.       0.      .63
+                                                                        1214.21      27.42
          DIVERSION TO
+                     Az631       0.    .00       0.       0.       0.      .63
          HYDROGRAPH AT
+                      D631       0.    .00       0.       0.       0.      .63
          HYDROGRAPH AT
+                    CON427     453.  13.50     116.      37.      12.      .00
          HYDROGRAPH AT
+                      632N     251.  12.08      14.       4.       1.      .15
          2 COMBINED AT
+                    CP632N     455.  13.50     123.      40.      13.      .15
          ROUTED TO
+                     P632N       0.    .00       0.       0.       0.      .15
+                                                                        1219.81      55.58
          HYDROGRAPH AT
+                      632S     471.  12.00      23.       6.       2.      .26
          2 COMBINED AT
+                    CP632S     471.  12.00      23.       6.       2.      .42
          ROUTED TO
+                     P632S       0.    .00       0.       0.       0.      .42
+                                                                        1209.40      24.17
          HYDROGRAPH AT
+                       634      20.  13.17       7.       2.       1.      .07
          ROUTED TO
+                      P634       0.    .00       0.       0.       0.      .07
+                                                                        1215.51      29.25
          HYDROGRAPH AT
+                       633      90.  12.75      22.       6.       2.      .23
          3 COMBINED AT
+                     CP633      90.  12.75      22.       6.       2.      .71
          ROUTED TO
+                      P633       0.    .00       0.       0.       0.      .71
+                                                                        1212.04      26.58
          DIVERSION TO
+                     Az633       0.    .00       0.       0.       0.      .71
          HYDROGRAPH AT
+                      D633       0.    .00       0.       0.       0.      .71
          HYDROGRAPH AT
+                       635     111.  12.25      20.       6.       2.      .15
          DIVERSION TO
+                     Az635     111.    .00      20.       6.       2.      .15
          HYDROGRAPH AT
+                      D635       0.    .00       0.       0.       0.      .15
          HYDROGRAPH AT
+                     RR432       0.    .00       0.       0.       0.      .00
          HYDROGRAPH AT
+                       636     113.  12.25      21.       6.       2.      .15
          2 COMBINED AT
+                     CP636     113.  12.25      21.       6.       2.      .15
          DIVERSION TO
+                     Az636     113.    .00      21.       6.       2.      .15
          HYDROGRAPH AT
+                      D636       0.    .00       0.       0.       0.      .15
          6 COMBINED AT
+                     dummy       0.    .00       0.       0.       0.     4.27
          HYDROGRAPH AT
+                    DSS602     264.  12.58      91.      30.      10.      .00
          HYDROGRAPH AT
+                    DSS604     128.  12.17      22.       7.       2.      .00
          HYDROGRAPH AT
+                    DSS607     279.  12.17      36.      11.       4.      .00
```

```
          HYDROGRAPH AT
+                        DSS611      175.   12.42         60.        46.        29.       .00

          HYDROGRAPH AT
+                        DSS616      251.   12.08         29.        10.         3.       .00

          HYDROGRAPH AT
+                        DSS619      187.   12.17         21.         7.         2.       .00

          6 COMBINED AT
+                           DSS     1084.   12.17        253.       101.        49.       .00

          HYDROGRAPH AT
+                        DSS620       55.   12.50         11.         4.         1.       .00

          HYDROGRAPH AT
+                        DSS629        0.     .00          0.         0.         0.       .00

          HYDROGRAPH AT
+                        DSS622        9.   13.08          3.         1.         0.       .00

          HYDROGRAPH AT
+                        DSS624       25.   20.00         24.        19.         9.       .00

          HYDROGRAPH AT
+                        DSS626       35.   13.08         10.         2.         1.       .00

          5 COMBINED AT
+                          DSS2       73.   12.75         26.        23.        11.       .00

          HYDROGRAPH AT
+                        DSS631        0.     .00          0.         0.         0.       .00

          HYDROGRAPH AT
+                        DSS633        0.     .00          0.         0.         0.       .00

          HYDROGRAPH AT
+                        DSS635      111.   12.25         20.         6.         2.       .00

          HYDROGRAPH AT
+                        DSS636      113.   12.25         21.         6.         2.       .00

          6 COMBINED AT
+                           OUT     1318.   12.17        318.       134.        65.       .00


 *** NORMAL END OF HEC-1 ***


    -----DSS---ZCLOSE Unit:  71,   File: U:\CG\CGFDS24.DSS
              Pointer Utilization:   .73
              Number of Records:   1074
              File Size:   1734.9  Kbytes
              Percent Inactive:    .0
```

```
1****************************************                                    ****************************************
 *                                      *                                    *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                                    *    U.S. ARMY CORPS OF ENGINEERS      *
 *              JUN  1998               *                                    *    HYDROLOGIC ENGINEERING CENTER     *
 *            VERSION 4.1               *                                    *          609 SECOND STREET           *
 *                                      *                                    *       DAVIS, CALIFORNIA 95616        *
 *  RUN DATE   18MAY10  TIME  10:05:32  *                                    *           (916) 756-1104             *
 *                                      *                                    *                                      *
 ****************************************                                    ****************************************


                                        X     X  XXXXXXX   XXXXX          X
                                        X     X  X        X     X        XX
                                        X     X  X        X               X
                                        XXXXXXX  XXXX     X        XXXXX  X
                                        X     X  X        X               X
                                        X     X  X        X     X         X
                                        X     X  XXXXXXX   XXXXX        XXX


          THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

          THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
          THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
          NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
          DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL   LOSS RATE:GREEN AND AMPT INFILTRATION
          KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1                                                   HEC-1 INPUT                                                    PAGE  1

        LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

          1           ID   Project ID: CGFDSP3N_24HR - Major Basin: 01 - Return Period: 100 Years
          2           ID  PHASE III - UPRR/ARIZONA AVE WATERSHED NORTH
                      *
          3           ID  NORTH OF RAY ROAD, EAST OF ARIZONA AVENUE
          4           ID  SOUTH OF BASELINE, WEST OF CONSOLIDATED CANAL
          5           ID  (THE AREA WEST OF THE UPRR SPUR IS NOT INCLUDED IN THIS MODEL)
                      *
          6           ID  PREPARED BY MDH AND YX, PROJECT ENGINEERING CONSULTANTS
                      *
          7           ID  PRELIMINARY HYDROLOGIC MODEL FOR
          8           ID  5-MINUTE TIME INTERVAL - 100-YEAR, 24-HOUR STORM EVENT
                      *
          9           ID  TOTAL WATERSHED AREA = 11.08 SQ.MI
         10           ID  AERIAL REDUCTION WAS APPLIED USING PB RECORDS
         11           ID  THIS STUDY AREA WAS BROKEN INTO TWO REGIONS:
         12           ID  THE FIRST PB CARD REGION (NORTH OF UNION PACIFIC RAILROAD) INCLUDES
         13           ID  SUB-BASINS 501, 502, 503, 508, 509, 516 AND NON-CONTRIBUTING AREA.
         14           ID  NORTH REGION AREA = 6.10 SQ.MI
         15           ID  THE SECOND PB CARD REGION (SOUTH OF UNION PACIFIC RAILROAD AND
         16           ID  EAST OF THE RAILROAD SPUR LINE).  INCLUDES SUB-BASINS 504, 505, 506
         17           ID  510, 511, 512, 513, 517, 519, 521, 522, 523, 524, 525
         18           ID  AND NON-CONTRIBUTING AREA.  AREA = 4.98 SQ.MI
                      *
         19           ID  GREEN AND AMPT INFILTRATION METHOD USED TO DETERMINE RAINFALL LOSSES
         20           ID  CLARK METHOD USED TO CREATE UNIT HYDROGRAPHS
         21           ID  NORMAL DEPTH METHOD USED FOR CHANNEL ROUTING
         22           ID  EASTERN MARICOPA COUNTY SOIL SURVEY USED FOR SOILS DATA
         23           ID  FLOOD CONTROL DISTRICT OF MARICOPA COUNTY'S GIS DATA, AERIAL PHOTOS DATED
         24           ID  DEC. 2002, AND DEVELOPMENTS AS DIRECTED BY CHANDLER AND GILBERT BY DATE OF
         25           ID  APRIL 2003 USED FOR LANDUSE DATA
         26           ID  DDMSW VERSION 2.1.0 PROGRAM USED TO CALCULATE RAINFALL, RAINFALL LOSSES
         27           ID  AND UNIT HYDROGRAPHS
                      *DIAGRAM
                      * NORTH OF UNION PACIFIC RAILROAD
                      *
         28           IT       5 03MAR03    1200    2000
         29           IO       3
                      *
                      * ************************************************
                      *   FIRST PB REGION                              *
                      *   UPDATED PB & PC'S PER 06-04-2008 FCDMC MEMO  *
                      * ************************************************
                      *

         30           KK  CON303
         31           KM  THE BA AND PB PRESENTED IN THIS KK ARE NOT USED FOR CALCULATION
         32           KM  RETRIEVE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&GUADALUPE
         33           BA   0.001
         34           IN      15
         35           PB   3.345
         36           PC   0.000   0.002   0.005   0.008   0.011   0.014   0.017   0.020   0.023   0.026
         37           PC   0.029   0.032   0.035   0.038   0.041   0.044   0.048   0.052   0.056   0.060
         38           PC   0.064   0.068   0.072   0.076   0.080   0.085   0.090   0.095   0.100   0.105
         39           PC   0.110   0.115   0.120   0.126   0.133   0.140   0.147   0.155   0.163   0.172
         40           PC   0.181   0.191   0.203   0.218   0.236   0.257   0.283   0.387   0.663   0.707
1                                                   HEC-1 INPUT                                                    PAGE  2

        LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

         41           PC   0.735   0.758   0.776   0.791   0.804   0.815   0.825   0.834   0.842   0.849
         42           PC   0.856   0.863   0.869   0.875   0.881   0.887   0.893   0.898   0.903   0.908
```

```
PC   0.913   0.918   0.922   0.926   0.930   0.934   0.938   0.942   0.946   0.950
PC   0.953   0.956   0.959   0.962   0.965   0.968   0.971   0.974   0.977   0.980
PC   0.983   0.986   0.989   0.992   0.995   0.998   1.000
LG    .250    .180   9.700    .050  11.000
UC    .521    .619
UA       0       5      16      30      65      77      84      90      94      97
UA     100
ZR     =QI  A=CONS  B=GUAD  C=FLOW  E=5MIN
*

KK  CON501ROUTE   REACH
KM  ROUTE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&GUADALUPE TO 501
RS       6    STOR       0
RC   0.035   0.015   0.035    5500  0.0018    2.00
RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
*

KK     501   BASIN
KM  RUNOFF CALCULATION FOR SUB-BASIN 501
KM  AERIAL REDUCTION FACTOR 0.970 FOR 6.10 SQM (NORTH OF THE RR) IS USED TO
KM  GENERATE THE FOLLOWING PB VALUE
PB   3.345
BA   1.232
LG    0.25    0.16    9.70    0.06      25
UC   1.504   1.041
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  501OUT
KM  RETENTION DIVERSION
KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 22.31 AC-FT
KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 21.98 AC-FT
KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 501 = 44.29 AC-FT
DT  501RET   44.29
DI       0     100
DQ       0     100
*

KK    D501
KM  DIVERT 40% FLOW TO SOUTH
DT   TO508
DI       0     100
DQ       0      40
*
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK   CP501
KM  COMBINE RUNOFF FROM SUB-BASIN 501 AND NORTH OF BASELINE
HC       2
*

KK  501502ROUTE   REACH
KM  ROUTE THE RUNOFF FROM P501 TO P502
RS       7    STOR       0
RC   0.035   0.015   0.035    6550  0.0021    2.00
RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
*

KK     502   BASIN
KM  RUNOFF CALCULATION FOR SUB-BASIN 502
BA   1.016
LG    0.26    0.16    8.00    0.10      29
UC   1.388   0.955
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  502OUT
KM  RETENTION DIVERSION
KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 49.41 AC-FT
KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 4.19 AC-FT
KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 502 = 53.6 AC-FT
DT  502RET    53.6
DI       0     100
DQ       0     100
*

KK   CP502
KM  COMBINE RUNOFF FROM SUB-BASIN 502 AND THE EAST
HC       2
*

KK  502503ROUTE   REACH
KM  ROUTE RUNOFF FROM 502 TO UPRR&BASELINE
RS       9    STOR       0
RC   0.035   0.015   0.035    9000  0.0016    2.00
RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
*

KK  FRM501
```

```
116          KM  RETRIEVE SOUTHBOUND RUNOFF FROM GUADALUPE&GILBERT
117          DR   TO508
             *
1                                    HEC-1 INPUT                                                PAGE  4

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

118          KK  501508ROUTE   REACH
119          KM  ROUTE RUNOFF FROM 501 TO GILBERT&WESTERN CANAL
120          RS       3    STOR       0
121          RC   0.035   0.015   0.035    2640  0.0003    2.00
122          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
123          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

124          KK     508   BASIN
125          KM  RUNOFF CALCULATION FOR SUB-BASIN 508
126          BA   0.487
127          LG    0.26    0.15    8.40    0.09      28
128          UC   1.058   0.865
129          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
130          UA     100
             *

131          KK  508OUT
132          KM  RETENTION DIVERSION
133          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
134          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 3.23 AC-FT
135          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 10.79 AC-FT
136          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 508 = 14.02 AC-FT
137          DT  508RET   14.02
138          DI       0     100
139          DQ       0     100
             *

140          KK   CP508
141          KM  COMBINE RUNOFF FROM 508 AND THE NORTH
142          HC       2
             *

143          KK  508516ROUTE   REACH
144          KM  ROUTE RUNOFF FROM 508 TO RR AND WESTERN CANAL
145          RS       3    STOR       0
146          RC   0.035   0.015   0.035    2400  0.0018    2.00
147          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
148          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

149          KK  CON308
150          KM  RETRIEVE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&ELLIOT
151          BA   0.001
152          ZR     =QI  A=CONS  B=ELLI  C=FLOW  E=5MIN
             *

153          KK  CON310
154          KM  RETRIEVE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&UPRR
155          BA   0.001
156          ZR     =QI  A=CONS    B=RR  C=FLOW  E=5MIN
             *
1                                    HEC-1 INPUT                                                PAGE  5

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

157          KK  308310
158          KM  COMBINE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL
159          HC       2
             *

160          KK  CON516ROUTE   REACH
161          KM  ROUTE RUNOFF FROM THE CONSOLIDATED CANAL TO UPRR&WESTERN CANAL
162          RS       7    STOR       0
163          RC   0.035   0.015   0.035    6500  0.0023    2.00
164          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
165          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

166          KK     516   BASIN
167          KM  RUNOFF CALCULATION FOR SUB-BASIN 516
168          BA   0.361
169          LG    0.22    0.15    9.70    0.06      35
170          UC   1.175   1.266
171          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
172          UA     100
             *

173          KK  516OUT
174          KM  RETENTION DIVERSION
175          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
176          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 2.45 AC-FT
177          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 1.04 AC-FT
178          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 516 = 3.49 AC-FT
179          DT  516RET    3.49
180          DI       0     100
181          DQ       0     100
             *

182          KK   CP516
```

```
 183          KM  COMBINE RUNOFF FROM SUB-BASIN 516, AND THE EAST
 184          HC       2
              *

 185          KK    P516
 186          KM  STORAGE ROUTING AT CP516
 187          KM  RUNOFF MAY FLOW INTO THE WESTERN CANAL, FLOW NW ALONG THE RR
 188          KM  OR FLOW INTO SUB-BASIN 509.
 189          KO       3
 190          RS       1    STOR       0
 191          SV       0    17.4    21.9   23.26   25.62   27.54   29.77      31    32.3    33.7
 192          SE    1221    1232    1233  1233.2  1233.5  1233.7  1233.9    1234  1234.1  1234.2
 193          SQ       0       0   184.5   254.7   378.3   472.5     581   643.3     712   788.5
              *
1                                                   HEC-1 INPUT                                                    PAGE  6

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 194          KK  516WES
 195          KM  DIVERT FLOW TO WESTERN CANAL
 196          KO       3
 197          DT  WES516
 198          DI       0   184.5   254.7   378.3   472.5     581   643.3     712   788.5
 199          DQ       0     8.5      10    12.8    14.5    16.3      17      18    18.8
              *

 200          KK   516NW
 201          KM  DIVERT FLOW NORTH TO SUB-BASIN 509
 202          KO       3
 203          DT  516NOR
 204          DI     5.7      47     176     366     565     626     694     770
 205          DQ       0      22     100     213     331     370     413     464
              *

 206          KK   516RR
 207          KM  COMBINE FLOW FROM 516 AND 508
 208          HC       2
              *

 209          KK  516509ROUTE   REACH
 210          KM  ROUTE RUNOFF FROM 516 TO GUADALUPE&COOPER
 211          RS       4    STOR       0
 212          RC   0.050   0.035   0.050    3860  0.0022   28.20
 213          RX     0.0    52.0    74.0   199.0   267.0   309.0   320.0   344.0
 214          RY    30.3    22.3    27.3    28.0    24.5    25.5    23.8    28.2
              *

 215          KK  516NOR
 216          KM  RETRIEVE 516NOR
 217          DR  516NOR
              *

 218          KK     509   BASIN
 219          KM  RUNOFF CALCULATION FOR SUB-BASIN 509
 220          BA   0.370
 221          LG    0.17    0.17    9.70    0.06      39
 222          UC   1.500   1.238
 223          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 224          UA     100
              *

 225          KK  509BAS
 226          KM  COMBINE RUNOFF FROM SUB-BASIN 509 AND RUNOFF FROM SUB-BASIN 516 (516NOR)
 227          HC       2
              *

 228          KK  509OUT
 229          KM  RETENTION DIVERSION
 230          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
 231          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 1.95 AC-FT
 232          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
 233          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 509 = 1.95 AC-FT
1                                                   HEC-1 INPUT                                                    PAGE  7

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 234          DT  509RET    1.95
 235          DI       0     100
 236          DQ       0     100
              *

 237          KK   CP509
 238          KM  COMBINE RUNOFF FROM SUB-BASIN 509 AND THE EAST
 239          HC       2
              *

 240          KK  509503ROUTE   REACH
 241          KM  ROUTE RUNOFF FROM CP509 TO GUADALUPE AND COOPER
 242          RS      10    STOR       0
 243          RC   0.050   0.035   0.050    9300  0.0015   20.70
 244          RX     0.0    28.0   270.0   319.0   553.0   740.0   817.0   954.0
 245          RY    20.7    17.7    18.5    17.3    17.4    18.9    17.7    20.8
              *

 246          KK     500
 247          KM  RUNOFF CALCULATION FOR SUB-BASIN 500
 248          BA     1.1
 249          LG    0.28    0.19    6.80    0.17      26
```

```
250          UC   1.225   1.014
251          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
252          UA     100
             *

253          KK  500OUT
254          KM  RETENTION DIVERSION
255          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
256          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 29.06 AC-FT
257          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
258          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 509 = 29.06 AC-FT
259          DT  500RET   29.06
260          DI       0     100
261          DQ       0     100
             *

262          KK  500503ROUTE   REACH
263          KM  ROUTE RUNOFF FROM 500 TO RR and McQueen
264          RS       6    STOR       0
265          RC   0.035   0.015   0.035    5500  0.0020    2.00
266          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
267          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

268          KK     503   BASIN
269          KM  RUNOFF CALCULATION FOR SUB-BASIN 503
270          BA   1.428
271          LG    0.18    0.21    6.60    0.18      45
272          UC   0.842   0.283
273          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
274          UA     100
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

275          KK  503OUT
276          KM  RETENTION DIVERSION
277          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
278          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.00 AC-FT
279          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
280          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 503 = 0.00 AC-FT
281          DT  503RET   0.001
282          DI       0     100
283          DQ       0     100
             *

284          KK   CP503
285          KM  COMBINE RUNOFF FROM 503 AND THE EAST
286          HC       4
             *

287          KK    P503
288          KM  STORAGE ROUTING AT CP503
289          KO       3
290          RS       1    STOR       0
291          SV  267.81  299.29   358.9     411  482.89  518.56   703.5  849.29
292          SE    1210    1211    1212  1212.5    1213  1213.2    1214  1214.5
293          SQ       0       0       0       0       0       0       0   0.001
             *
             * SOUTH OF UNION PACIFIC RR
             *
             * ************************************************
             *  SECOND PB REGION                                *
             *  UPDATED PB & PC'S PER 06-04-2008 FCDMC MEMO     *
             * ************************************************
             *

294          KK     510   BASIN
295          KM  RUNOFF CALCULATION FOR SUB-BASIN 510
296          KM  AERIAL REDUCTION FACTOR 0.975 FOR 4.98 SQM (SOUTH OF THE RR AND
297          KM  EAST OF THE RR SPUR LINE) IS USED TO GENERATE THE FOLLOWING PB VALUE
298          PB   3.364
299          BA   0.130
300          LG    0.15    0.16    9.70    0.06      50
301          UC   0.458   0.331
302          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
303          UA     100
             *

304          KK  510511ROUTE   REACH
305          KM  ROUTE RUNOFF FROM 510 TO GUADALUPE&MCQUEEN
306          RS       8    STOR       0
307          RC   0.035   0.015   0.035    7920  0.0015    2.00
308          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
309          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

310          KK     511   BASIN
311          KM  RUNOFF CALCULATION FOR SUB-BASIN 516
312          BA   0.471
313          LG    0.22    0.17    8.80    0.07      21
314          UC   1.500   1.275
315          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```

```
316          UA     100
             *

317          KK  511OUT
318          KM  RETENTION DIVERSION
319          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
320          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 25.83 AC-FT
321          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
322          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 511 = 25.83 AC-FT
323          DT  511RET   25.83
324          DI       0     100
325          DQ       0     100
             *

326          KK   CP511
327          KM  COMBINE RUNOFF FROM SUB-BASIN 509, THE NORTH AND THE EAST
328          HC       2
             *

329          KK  511512ROUTE   REACH
330          KM  ROUTE RUNOFF FROM 511 TO EL DORADO LAKES
331          RS       4    STOR       0
332          RC   0.035   0.015   0.035    4000  0.0009    2.00
333          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
334          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

335          KK     521   BASIN
336          KM  RUNOFF CALCULATION FOR SUB-BASIN 521
337          BA   0.346
338          LG    0.23    0.15    9.70    0.06      32
339          UC   0.879   0.587
340          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
341          UA     100
             *

342          KK  521OUT
343          KM  RETENTION DIVERSION
344          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
345          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.00 AC-FT
346          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
347          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 521 = 0.00 AC-FT
348          DT  521RET   0.001
349          DI       0     100
350          DQ       0     100
             *
1                                    HEC-1 INPUT                                    PAGE 10

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

351          KK  521517ROUTE   REACH
352          KM  ROUTE RUNOFF FROM 521 TO ELLIOT AND COOPER
353          RS       6    STOR       0
354          RC   0.035   0.015   0.035    5280  0.0025    2.00
355          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
356          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

357          KK     517   BASIN
358          KM  RUNOFF CALCULATION FOR SUB-BASIN 517
359          BA   0.356
360          LG    0.20    0.16    8.00    0.10      41
361          UC   0.729   0.543
362          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
363          UA     100
             *

364          KK  517OUT
365          KM  RETENTION DIVERSION
366          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
367          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 2.43 AC-FT
368          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.98 AC-FT
369          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 517 = 3.41 AC-FT
370          DT  517RET    3.41
371          DI       0     100
372          DQ       0     100

373          KK   CP517
374          KM  COMBINE RUNOFF AT CP517
375          HC       2
             *

376          KK  CON314
377          KM  RETRIEVE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&WARNER
378          BA   0.001
379          ZR     =QI  A=CONS B=CP314  C=FLOW  E=5MIN
             *

380          KK  CON524ROUTE   REACH
381          KM  ROUTE RUNOFF FROM THE CONSOLIDATED CANAL TO COOPER
382          RS       6    STOR       0
383          RC   0.035   0.015   0.035    5300  0.0022    2.00
384          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
385          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

386          KK     524   BASIN
387          KM  RUNOFF CALCULATION FOR SUB-BASIN 524
```

```
388          BA   0.364
389          LG    0.26    0.26    5.70    0.24      24
390          UC   0.788   0.545
391          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
392          UA     100
             *
1                                        HEC-1 INPUT                                          PAGE 11

        LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

393          KK  524OUT
394          KM  RETENTION DIVERSION
395          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
396          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 13.76 AC-FT
397          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 6.32 AC-FT
398          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 524 = 20.08 AC-FT
399          DT  524RET   20.08
400          DI       0     100
401          DQ       0     100
             *

402          KK   CP524
403          KM  COMBINE RUNOFF FROM 524 AND THE EAST
404          HC       2
             *

405          KK    D524
406          KM  DIVERT 80% FLOW TO WEST
407          DT  OUT524
408          DI       0     100
409          DQ       0      80
             *

410          KK  524522ROUTE   REACH
411          KM  ROUTE RUNOFF FROM 524 TO ELLIOT&COOPER
412          RS       6    STOR       0
413          RC   0.035   0.015   0.035    5280  0.0010    2.00
414          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
415          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

416          KK     522   BASIN
417          KM  RUNOFF CALCULATION FOR SUB-BASIN 522
418          BA   0.706
419          LG    0.25    0.15    8.40    0.08      28
420          UC     1.5   1.259
421          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
422          UA     100
             *

423          KK  522OUT
424          KM  RETENTION DIVERSION
425          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
426          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 29.66 AC-FT
427          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 2.96 AC-FT
428          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 522 = 32.62 AC-FT
429          DT  522RET   32.62
430          DI       0     100
431          DQ       0     100
             *
1                                        HEC-1 INPUT                                          PAGE 12

        LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

432          KK   CP522
433          KM  COMBINE RUNOFF FROM SUB-BASIN 522, THE SOUTH AND THE EAST
434          HC       3
             *

435          KK  522523ROUTE   REACH
436          KM  ROUTE RUNOFF FROM 522 TO CP523
437          RS       3    STOR       0
438          RC   0.035   0.015   0.035    2640  0.0020    2.00
439          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
440          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

441          KK     523   BASIN
442          KM  RUNOFF CALCULATION FOR SUB-BASIN 523
443          BA   0.251
444          LG    0.25    0.13    10.1    0.04      30
445          UC   0.738    0.58
446          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
447          UA     100
             *

448          KK  523OUT
449          KM  RETENTION DIVERSION
450          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
451          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 8.66 AC-FT
452          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
453          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 523 = 8.66 AC-FT
454          DT  523RET    8.66
455          DI       0     100
456          DQ       0     100
             *
```

```
457          KK   CP523
458          KM  COMBINE RUNOFF FROM SUB-BASIN 523 AND THE EAST
459          HC       2
             *
             *

460          KK  523519ROUTE   REACH
461          KM  ROUTE RUNOFF FROM 523 TO CP519
462          RS       8    STOR       0
463          RC   0.035   0.015   0.035    7920  0.0009    2.00
464          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
465          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

466          KK     518   BASIN
467          KM  RUNOFF CALCULATION FOR SUB-BASIN 518
468          BA   0.469
469          LG    0.25    0.15    8.80    0.07      27
470          UC   1.142   0.913
471          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
472          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 13

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

473          KK  518OUT
474          KM  RETENTION DIVERSION
475          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
476          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 10.75 AC-FT
477          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
478          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 518 = 10.75 AC-FT
479          DT  518RET   10.75
480          DI       0     100
481          DQ       0     100
             *

482          KK  518519ROUTE   REACH
483          KM  ROUTE RUNOFF FROM 518 TO UPRR&WESTERN CANAL
484          RS       3    STOR       0
485          RC   0.035   0.015   0.035    2640  0.0010    2.00
486          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
487          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *

488          KK  WES516
489          KM  RETRIEVE THE FLOW FROM SUB-BASIN 516 ALONG WESTERN CANAL
490          DR  WES516
             *

491          KK  WESFUL
492          KM  ADD WESTERN CANAL BASEFLOW 111 CFS TO THE FLOW CONTRIBUTERD BY 516
493          KM  (DIVERTING -111 CFS OUT MEANS ADDING 111 CFS.)
494          DT  -BASFL
495          DI       0    1000
496          DQ    -111    -111
             *

497          KK  516519   REACH
498          KM  ROUTE THE RUNOFF WES516 VIA THE WESTERN CANAL TO CP519
499          RS      12    STOR       0
500          RC    0.05   0.035    0.05   11050  0.0011      16
501          RX       0       8      12      15      25      28      32      40
502          RY      16      14      12      10      10      12      14      16
             *

503          KK  WES519
504          KM  DIVERT WESTERN CANAL BASEFLOW OUT OF CALCULATION
505          KM  THE REST IS THE FLOW CONTRIBUTED BY SUB 516.
506          KO       3
507          DT  BASOUT
508          DI       0     111    1000
509          DQ       0     111     111
             *
1                                          HEC-1 INPUT                                          PAGE 14

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

510          KK     513   BASIN
511          KM  RUNOFF CALCULATION FOR SUB-BASIN 513
512          BA   0.059
513          LG    0.15    0.15    9.70    0.06      55
514          UC   1.413   1.565
515          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
516          UA     100
             *

517          KK     519   BASIN
518          KM  RUNOFF CALCULATION FOR SUB-BASIN 519
519          BA   0.247
520          LG    0.14    0.19    8.80    0.07      39
521          UC   1.021   0.840
522          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
523          UA     100
             *

524          KK   CP519
```

```
525          KM  COMBINE RUNOFF FROM SUB-BASINS 519, 513 AND THE EAST
526          HC       5
             *

527          KK    P519
528          KM  STORAGE ROUTING AT CP519
529          KM  RUNOFF MAY FLOW BETWEEN THE RR AND THE BLOCKWALL NORTH TO P519.
530          KM  THE BOTTLE NECK OF THIS SHORT CONVEYANCE IS THE CROSS SECTION IMMEDIATELY
531          KM  NORTH OF P519.
532          KM  THIS CORRIDOR IS LESS THAN 1/4 MILE LONG, NARROW AND ALMOST NO SLOPE.
533          KM  NO HYDRAULIC ANALYSIS IS PERFORMED FOR THIS SHORT CORRIDOR.
534          KO       3
535          RS       1    STOR       0
536          SV    0.97    9.96   18.92   34.75    57.9   87.27  113.83     144
537          SE    1210    1212  1212.5    1213  1213.5    1214  1214.4  1214.8
538          SQ       0       0       0       0     3.6   125.5   295.4   536.6
             *

539          KK  519512   SPLIT
540          KM  DIVERT RUNOFF TO THE WEST ALONG WESTERN CANAL
541          DT  WES519
542          DI     3.6   125.5   295.4   536.6
543          DQ       0    34.5      43    51.3
             *

544          KK     512   BASIN
545          KM  RUNOFF CALCULATION FOR SUB-BASIN 512
546          BA   0.205
547          LG    0.21    0.16    9.70    0.06      15
548          UC   0.958   1.008
549          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
550          UA     100
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

551          KK   CP512
552          KM  COMBINE RUNOFF FROM SUB-BASIN 512, AND THE EAST
553          HC       3
             *

554          KK    P512
555          KM  STORAGE ROUTING AT CP512
556          KO       3
557          RS       1    STOR       0
558          SV    1.83   48.38  105.86     119  133.15  213.69
559          SE  1202.2    1207 1209.19  1209.5    1210    1212
560          SQ       0       0       0   41.86  486.43    7953
             *

561          KK     505   BASIN
562          KM  RUNOFF CALCULATION FOR SUB-BASIN 505
563          BA   0.038
564          LG    0.10    0.15    9.70    0.07      80
565          UC   0.758   0.927
566          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
567          UA     100
             *

568          KK    P505
569          KM  STORAGE ROUTING AT 505
570          KO       3
571          RS       1    STOR       0
572          SV       0    0.11    1.01    1.86    8.22
573          SE    1209    1210  1210.7    1211    1212
574          SQ       0       0       0       0   0.001
             *

575          KK     504   BASIN
576          KM  RUNOFF CALCULATION FOR SUB-BASIN 504
577          BA   0.322
578          LG    0.12    0.21    8.80    0.06      27
579          UC   0.588   0.375
580          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
581          UA     100
             *

582          KK  504506ROUTE   REACH
583          KM  ROUTE RUNOFF FROM 504 TO EL DORADO LAKES
584          RS       5    STOR       0
585          RC   0.035   0.015   0.035    4500  0.0007    2.00
586          RX     0.0     1.0    45.0    46.0   125.0   126.0   170.0   171.0
587          RY     2.0     1.0     1.0     0.0     0.0     1.0     1.0     2.0
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

588          KK     506   BASIN
589          KM  RUNOFF CALCULATION FOR SUB-BASIN 506
590          BA   0.347
591          LG    0.21    0.15    9.70    0.07      16
592          UC   1.158   1.101
593          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
594          UA     100
             *
```

```
595          KK   CP506
596          KM  COMBINE RUNOFF FROM SUB-BASIN 516, AND THE EAST
597          HC       4
             *

598          KK    P506
599          KM  STORAGE ROUTING AT CP506.  P506 AND P512 SHARE THE SAME WEIR.
600          KO       3
601          RS       1    STOR       0
602          SV    0.01   39.03    85.9  208.47  335.94  515.57
603          SE  1195.1  1202.2  1204.7    1208    1210    1212
604          SQ       0       0       0       0  486.43    7953
             *

605          KK     525   BASIN
606          KM  RUNOFF CALCULATION FOR SUB-BASIN 525
607          BA   0.218
608          LG    0.25    0.25    4.60    0.40      30
609          UC   0.658   0.532
610          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
611          UA     100
             *

612          KK  COO525
613          KM  RETENTION DIVERSION
614          KM  DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
615          KM  DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 9.33 AC-FT
616          KM  DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.73 AC-FT
617          KM  TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 525 = 10.06 AC-FT
618          DT  525RET   10.06
619          DI       0     100
620          DQ       0     100
621          ZW   A=COO   B=KNO  C=FLOW  E=5MIN
             *

622          KK  COO524
623          KM  RETRIEVE RUNOFF HYDROGRAPH@COOPER AND WARNER AND WRITE TO DSS FILE
624          DR  OUT524
625          ZW   A=COO   B=WAR  C=FLOW  E=5MIN
             *
626          ZZ
1
                 SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

   NO.     (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    30     CON303
                V
                V
    51     CON501
                .
                .
    57          .         501
                .           .
                .           .
    73          .           .-------> 501RET
    67          .      501OUT
                .           .
                .           .
    78          .           .------->  TO508
    76          .        D501
                .           .
                .           .
    81      CP501............
                V
                V
    84     501502
                .
                .
    90          .         502
                .           .
                .           .
   103          .           .-------> 502RET
    97          .      502OUT
                .           .
                .           .
   106      CP502............
                V
                V
   109     502503
                .
                .
   117          .           .<-------  TO508
   115          .      FRM501
                .           V
                .           V
   118          .      501508
                .           .
                .           .
   124          .           .         508
                .           .           .
                .           .           .
   137          .           .           .-------> 508RET
   131          .           .      508OUT
                .           .           .
                .           .           .
```

```
140          .      CP508............
             .          V
             .          V
143          .     508516
             .          .
             .          .
149          .          .     CON308
             .          .          .
             .          .          .
153          .          .          .     CON310
             .          .          .          .
             .          .          .          .
157          .          .     308310............
             .          .          V
             .          .          V
160          .          .     CON516
             .          .          .
             .          .          .
166          .          .          .         516
             .          .          .          .
             .          .          .          .
179          .          .          .          .-------> 516RET
173          .          .          .     516OUT
             .          .          .          .
             .          .          .          .
182          .          .      CP516............
             .          .          V
             .          .          V
185          .          .       P516
             .          .          .
             .          .          .
197          .          .          .-------> WES516
194          .          .     516WES
             .          .          .
             .          .          .
203          .          .          .-------> 516NOR
200          .          .      516NW
             .          .          .
             .          .          .
206          .      516RR............
             .          V
             .          V
209          .     516509
             .          .
             .          .
217          .          .          .<------- 516NOR
215          .          .     516NOR
             .          .          .
             .          .          .
218          .          .          .         509
             .          .          .          .
             .          .          .          .
225          .          .     509BAS............
             .          .          .
             .          .          .
234          .          .          .-------> 509RET
228          .          .     509OUT
             .          .          .
             .          .          .
237          .      CP509............
             .          V
             .          V
240          .     509503
             .          .
             .          .
246          .          .         500
             .          .          .
             .          .          .
259          .          .          .-------> 500RET
253          .          .     500OUT
             .          .          V
             .          .          V
262          .          .     500503
             .          .          .
             .          .          .
268          .          .          .         503
             .          .          .          .
             .          .          .          .
281          .          .          .          .-------> 503RET
275          .          .          .     503OUT
             .          .          .          .
             .          .          .          .
284      CP503.................................
             V
             V
287       P503
             .
             .
294          .         510
             .          V
             .          V
304          .     510511
             .          .
             .          .
310          .          .         511
             .          .          .
             .          .          .
323          .          .          .-------> 511RET
317          .          .     511OUT
```

```
326          CP511............
                V
                V
329          511512
                .
                .
335             .        521
                .          .
                .          .
348             .          .-------> 521RET
342             .     521OUT
                .          V
                .          V
351             .     521517
                .          .
                .          .
357             .          .        517
                .          .          .
                .          .          .
370             .          .          .-------> 517RET
364             .          .     517OUT
                .          .          .
                .          .          .
373             .      CP517............
                .          .
                .          .
376             .          .     CON314
                .          .          V
                .          .          V
380             .          .     CON524
                .          .          .
                .          .          .
386             .          .          .        524
                .          .          .          .
                .          .          .          .
399             .          .          .          .-------> 524RET
393             .          .          .     524OUT
                .          .          .          .
                .          .          .          .
402             .          .      CP524............
                .          .          .
                .          .          .
407             .          .          .-------> OUT524
405             .          .       D524
                .          .          V
                .          .          V
410             .          .     524522
                .          .          .
                .          .          .
416             .          .          .        522
                .          .          .          .
                .          .          .          .
429             .          .          .          .-------> 522RET
423             .          .          .     522OUT
                .          .          .          .
                .          .          .          .
432             .      CP522........................
                .          V
                .          V
435             .     522523
                .          .
                .          .
441             .          .        523
                .          .          .
                .          .          .
454             .          .          .-------> 523RET
448             .          .     523OUT
                .          .          .
                .          .          .
457             .      CP523............
                .          V
                .          V
460             .     523519
                .          .
                .          .
466             .          .        518
                .          .          .
                .          .          .
479             .          .          .-------> 518RET
473             .          .     518OUT
                .          .          V
                .          .          V
482             .          .     518519
                .          .          .
                .          .          .
490             .          .          .          .<------- WES516
488             .          .          .     WES516
                .          .          .          .
                .          .          .          .
494             .          .          .          .-------> -BASFL
491             .          .          .     WESFUL
                .          .          .          V
                .          .          .          V
497             .          .          .     516519
                .          .          .          .
                .          .          .          .
507             .          .          .          .-------> BASOUT
```

```
503          .          .          .          .      WES519
             .          .          .          .          .
             .          .          .          .          .
510          .          .          .          .          .         513
             .          .          .          .          .           .
             .          .          .          .          .           .
517          .          .          .          .          .           .         519
             .          .          .          .          .           .           .
             .          .          .          .          .           .           .
524          .          .      CP519.............................................
             .          .         V
             .          .         V
527          .          .       P519
             .          .         .
             .          .         .
541          .          .         .-------> WES519
539          .          .     519512
             .          .         .
             .          .         .
544          .          .         .         512
             .          .         .           .
             .          .         .           .
551          .      CP512......................
             .         V
             .         V
554          .       P512
             .          .
             .          .
561          .          .        505
             .          .         V
             .          .         V
568          .          .       P505
             .          .         .
             .          .         .
575          .          .         .         504
             .          .         .           V
             .          .         .           V
582          .          .         .     504506
             .          .         .           .
             .          .         .           .
588          .          .         .           .         506
             .          .         .           .           .
             .          .         .           .           .
595          .      CP506..................................
             .         V
             .         V
598          .       P506
             .          .
             .          .
605          .          .        525
             .          .         .
             .          .         .
618          .          .         .-------> 525RET
612          .          .     COO525
             .          .         .
             .          .         .
624          .          .         .          .<-------  OUT524
622          .          .         .     COO524
```

```
(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *              JUN   1998              *
 *           VERSION 4.1                *
 *                                      *
 *  RUN DATE   18MAY10  TIME  10:05:32  *
 *                                      *
 ****************************************
```

```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
```

```
 Project ID: CGFDSP3N_24HR - Major Basin: 01 - Return Period: 100 Years
PHASE III - UPRR/ARIZONA AVE WATERSHED NORTH
NORTH OF RAY ROAD, EAST OF ARIZONA AVENUE
SOUTH OF BASELINE, WEST OF CONSOLIDATED CANAL
(THE AREA WEST OF THE UPRR SPUR IS NOT INCLUDED IN THIS MODEL)
PREPARED BY MDH AND YX, PROJECT ENGINEERING CONSULTANTS
PRELIMINARY HYDROLOGIC MODEL FOR
5-MINUTE TIME INTERVAL - 100-YEAR, 24-HOUR STORM EVENT
TOTAL WATERSHED AREA = 11.08 SQ.MI
AERIAL REDUCTION WAS APPLIED USING PB RECORDS
THIS STUDY AREA WAS BROKEN INTO TWO REGIONS:
THE FIRST PB CARD REGION (NORTH OF UNION PACIFIC RAILROAD) INCLUDES
SUB-BASINS 501, 502, 503, 508, 509, 516 AND NON-CONTRIBUTING AREA.
NORTH REGION AREA = 6.10 SQ.MI
THE SECOND PB CARD REGION (SOUTH OF UNION PACIFIC RAILROAD AND
EAST OF THE RAILROAD SPUR LINE).  INCLUDES SUB-BASINS 504, 505, 506
510, 511, 512, 513, 517, 519, 521, 522, 523, 524, 525
AND NON-CONTRIBUTING AREA.  AREA = 4.98 SQ.MI
GREEN AND AMPT INFILTRATION METHOD USED TO DETERMINE RAINFALL LOSSES
CLARK METHOD USED TO CREATE UNIT HYDROGRAPHS
NORMAL DEPTH METHOD USED FOR CHANNEL ROUTING
EASTERN MARICOPA COUNTY SOIL SURVEY USED FOR SOILS DATA
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY'S GIS DATA, AERIAL PHOTOS DATED
DEC. 2002, AND DEVELOPMENTS AS DIRECTED BY CHANDLER AND GILBERT BY DATE OF
APRIL 2003 USED FOR LANDUSE DATA
```

```
                    DDMSW VERSION 2.1.0 PROGRAM USED TO CALCULATE RAINFALL, RAINFALL LOSSES
                    AND UNIT HYDROGRAPHS

  29 IO          OUTPUT CONTROL VARIABLES
                       IPRNT          3  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

     IT          HYDROGRAPH TIME DATA
                        NMIN          5  MINUTES IN COMPUTATION INTERVAL
                       IDATE     3MAR 3  STARTING DATE
                       ITIME       1200  STARTING TIME
                          NQ       2000  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE    10MAR 3  ENDING DATE
                      NDTIME       1035  ENDING TIME
                      ICENT          19  CENTURY MARK

                  COMPUTATION INTERVAL     .08 HOURS
                       TOTAL TIME BASE  166.58 HOURS

          ENGLISH UNITS
               DRAINAGE AREA          SQUARE MILES
               PRECIPITATION DEPTH    INCHES
               LENGTH, ELEVATION      FEET
               FLOW                   CUBIC FEET PER SECOND
               STORAGE VOLUME         ACRE-FEET
               SURFACE AREA           ACRES
               TEMPERATURE            DEGREES FAHRENHEIT


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  30 KK     *    CON303  *
            *            *
            **************
                    THE BA AND PB PRESENTED IN THIS KK ARE NOT USED FOR CALCULATION
                    RETRIEVE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&GUADALUPE

  34 IN          TIME DATA FOR INPUT TIME SERIES
                       JXMIN         15  TIME INTERVAL IN MINUTES
                      JXDATE     3MAR 3  STARTING DATE
                      JXTIME       1200  STARTING TIME
   -----DSS---ZOPEN:  Existing File Opened,  File: CGFDSP3N-24.DSS
                      Unit:  71;  DSS Version: 6-JG
-----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/GUAD/FLOW/03MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/GUAD/FLOW/03MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/GUAD/FLOW/04MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/GUAD/FLOW/05MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/GUAD/FLOW/06MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/GUAD/FLOW/06MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/GUAD/FLOW/06MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/GUAD/FLOW/07MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/GUAD/FLOW/08MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/GUAD/FLOW/08MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/GUAD/FLOW/08MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/GUAD/FLOW/09MAR1903/5MIN//
-----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/GUAD/FLOW/10MAR1903/5MIN//
-----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
Pathname: /CONS/GUAD/FLOW/11MAR1903/5MIN//

               SUBBASIN RUNOFF DATA

  33 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .00  SUBBASIN AREA

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   CON303

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      22.     14.83                   14.          5.          2.           1.
                       (INCHES)   128.964     200.797     222.210      227.360
                        (AC-FT)        7.          11.         12.          12.

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  51 KK     *    CON501  *     ROUTE   REACH
            *            *
            **************
                    ROUTE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&GUADALUPE TO 501

               HYDROGRAPH ROUTING DATA
```

```
53 RS          STORAGE ROUTING
                    NSTPS          6  NUMBER OF SUBREACHES
                     ITYP       STOR  TYPE OF INITIAL CONDITION
                   RSVRIC        .00  INITIAL CONDITION
                        X        .00 WORKING R AND D COEFFICIENT

54 RC          NORMAL DEPTH CHANNEL
                      ANL       .035  LEFT OVERBANK N-VALUE
                     ANCH       .015  MAIN CHANNEL N-VALUE
                      ANR       .035  RIGHT OVERBANK N-VALUE
                    RLNTH      5500.  REACH LENGTH
                      SEL      .0018  ENERGY SLOPE
                    ELMAX        2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
56 RY        ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
55 RX        DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                   ***

                                       COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      1.05      2.11      3.16      4.22      5.28      6.35      7.42      8.49      9.56
          OUTFLOW        .00      7.81     24.79     48.71     78.66    114.07    154.54    199.75    249.48    303.52
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE      11.22     13.47     15.73     17.98     20.24     22.50     24.76     27.03     29.29     31.57
          OUTFLOW     363.30    432.56    509.50    593.37    683.75    780.31    882.80    991.02   1104.79   1223.96
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00


*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      249. TO     1224.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   CON501

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      21.     15.75                 13.          5.          2.           1.
                        (INCHES)  122.616     200.082     222.037      227.339
                         (AC-FT)      7.          11.         12.          12.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.      15.67                  0.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .19      15.75                 .14         .06         .02          .01

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
57 KK       *      501   *        BASIN
            *            *
            **************
                          RUNOFF CALCULATION FOR SUB-BASIN 501
                          AERIAL REDUCTION FACTOR 0.970 FOR 6.10 SQM (NORTH OF THE RR) IS USED TO
                          GENERATE THE FOLLOWING PB VALUE

              SUBBASIN RUNOFF DATA

62 BA           SUBBASIN CHARACTERISTICS
                     TAREA        1.23  SUBBASIN AREA

                PRECIPITATION DATA

61 PB                STORM        3.35  BASIN TOTAL PRECIPITATION

36 PI             INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
```

```
.01     .01     .01     .01     .01     .01     .01     .01     .03     .03
.03     .09     .09     .09     .01     .01     .01     .01     .01     .01
.01     .01     .01     .01     .01     .01     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00     .00     .00
.00     .00     .00     .00     .00     .00     .00     .00
```

```
63 LG          GREEN AND AMPT LOSS RATE
                    STRTL        .25  STARTING LOSS
                      DTH        .16  MOISTURE DEFICIT
                     PSIF       9.70  WETTING FRONT SUCTION
                    XKSAT        .06  HYDRAULIC CONDUCTIVITY
                    RTIMP      25.00  PERCENT IMPERVIOUS AREA

64 UC          CLARK UNITGRAPH
                       TC       1.50  TIME OF CONCENTRATION
                        R       1.04  STORAGE COEFFICIENT

65 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
                  100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.50 HR,       R=  1.04 HR
                                  SNYDER   TP=   .80 HR,      CP=   .44

                                              UNIT HYDROGRAPH
                                         74 END-OF-PERIOD ORDINATES
            10.      32.      65.     107.     152.     222.     330.     410.     438.     443.
           437.     430.     419.     406.     390.     373.     357.     341.     321.     297.
           274.     253.     234.     216.     199.     184.     170.     156.     144.     133.
           123.     114.     105.      97.      89.      82.      76.      70.      65.      60.
            55.      51.      47.      43.      40.      37.      34.      32.      29.      27.
            25.      23.      21.      19.      18.      17.      15.      14.      13.      12.
            11.      10.       9.       9.       8.       7.       7.       6.       6.       5.
             5.       5.       4.       4.

    ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION      501

   TOTAL RAINFALL =    3.35, TOTAL LOSS =    1.43, TOTAL EXCESS =    1.92

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     606.     12.75                218.         63.         21.           9.
                        (INCHES)   1.648       1.903       1.910        1.910
                         (AC-FT)    108.        125.        125.         125.

                       CUMULATIVE AREA =    1.23 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

                  /

            **************
            *            *
  67 KK     *    501OUT  *
            *            *
            **************
                       RETENTION DIVERSION
                       DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 22.31 AC-FT
                       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 21.98 AC-FT
                       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 501 = 44.29 AC-FT

    DT          DIVERSION
                     ISTAD      501RET  DIVERSION HYDROGRAPH IDENTIFICATION
                    DSTRMX       44.29  MAXIMUM VOLUME TO BE DIVERTED

    DI            INFLOW         .00    100.00

    DQ      DIVERTED FLOW        .00    100.00

                                                  ***

    ***            ***            ***            ***            ***

                     DIVERSION HYDROGRAPH   501RET

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

```
                          (CFS)
+     606.     12.75                  82.         22.          7.           3.
                        (INCHES)     .616        .674        .674         .674
                         (AC-FT)      40.         44.         44.          44.

                        CUMULATIVE AREA =    1.23 SQ MI

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   501OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     594.     12.92                 153.         41.         14.           6.
                        (INCHES)    1.156       1.236       1.236        1.236
                         (AC-FT)      76.         81.         81.          81.

                        CUMULATIVE AREA =    1.23 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
   76 KK    *      D501  *
            *            *
            **************
                         DIVERT 40% FLOW TO SOUTH

      DT          DIVERSION
                       ISTAD       TO508  DIVERSION HYDROGRAPH IDENTIFICATION

      DI             INFLOW         .00    100.00

      DQ      DIVERTED FLOW         .00     40.00

                                                                  ***

      ***             ***             ***             ***             ***

                         DIVERSION HYDROGRAPH    TO508

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     237.     12.92                  61.         16.          5.           2.
                        (INCHES)     .462        .494        .494         .494
                         (AC-FT)      30.         32.         32.          32.

                        CUMULATIVE AREA =    1.23 SQ MI

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     D501

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     356.     12.92                  92.         25.          8.           4.
                        (INCHES)     .694        .741        .741         .741
                         (AC-FT)      46.         49.         49.          49.

                        CUMULATIVE AREA =    1.23 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
   81 KK    *     CP501  *
            *            *
            **************
                         COMBINE RUNOFF FROM SUB-BASIN 501 AND NORTH OF BASELINE

   83 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    CP501

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
```

```
+     356.     12.92                    102.         30.         10.           4.
                          (INCHES)      .772        .902        .921         .925
                           (AC-FT)       51.         59.         61.          61.

                          CUMULATIVE AREA =    1.23 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
   84 KK      *    501502  *     ROUTE   REACH
              *            *
              **************
                             ROUTE THE RUNOFF FROM P501 TO P502

                HYDROGRAPH ROUTING DATA

   86 RS          STORAGE ROUTING
                        NSTPS           7  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

   87 RC          NORMAL DEPTH CHANNEL
                          ANL        .035  LEFT OVERBANK N-VALUE
                         ANCH        .015  MAIN CHANNEL N-VALUE
                          ANR        .035  RIGHT OVERBANK N-VALUE
                        RLNTH       6550.  REACH LENGTH
                          SEL       .0021  ENERGY SLOPE
                        ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
                             --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
   89 RY        ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
   88 RX        DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                                  ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00      1.25      2.51      3.77      5.03      6.29      7.56      8.83     10.11     11.39
            OUTFLOW        .00      8.44     26.78     52.62     84.97    123.21    166.92    215.76    269.47    327.84
          ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

            STORAGE      13.37     16.05     18.73     21.41     24.10     26.79     29.49     32.19     34.89     37.59
            OUTFLOW     392.41    467.22    550.32    640.91    738.53    842.83    953.53   1070.43   1193.31   1322.03
          ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

 *** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      216. TO     1322.
                 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

       ***             ***             ***             ***             ***

                            HYDROGRAPH AT STATION   501502

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     332.     13.42                    99.         30.         10.           4.
                          (INCHES)      .750        .901        .920         .925
                           (AC-FT)       49.         59.         61.          61.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       2.      13.42                     1.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .95      13.42                   .43         .16         .06          .02

                          CUMULATIVE AREA =    1.23 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
   90 KK      *       502  *        BASIN
              *            *
              **************
                             RUNOFF CALCULATION FOR SUB-BASIN 502

                SUBBASIN RUNOFF DATA

   92 BA          SUBBASIN CHARACTERISTICS
                        TAREA        1.02  SUBBASIN AREA
```

```
                    PRECIPITATION DATA

 61 PB                    STORM      3.35  BASIN TOTAL PRECIPITATION

 36 PI               INCREMENTAL PRECIPITATION PATTERN
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .01      .00      .01
                       .01      .01      .01      .01      .01      .01      .01      .01      .03      .03
                       .03      .09      .09      .09      .01      .01      .01      .01      .01      .01
                       .01      .01      .01      .01      .01      .01      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                       .00      .00      .00      .00      .00      .00      .00      .00

 93 LG              GREEN AND AMPT LOSS RATE
                       STRTL         .26  STARTING LOSS
                         DTH         .16  MOISTURE DEFICIT
                        PSIF        8.00  WETTING FRONT SUCTION
                       XKSAT         .10  HYDRAULIC CONDUCTIVITY
                       RTIMP       29.00  PERCENT IMPERVIOUS AREA

 94 UC              CLARK UNITGRAPH
                          TC        1.39  TIME OF CONCENTRATION
                           R         .95  STORAGE COEFFICIENT

 95 UA              ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
                     100.0

                                                 ***

                                       UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=  1.39 HR,       R=   .95 HR
                                   SNYDER   TP=   .75 HR,      CP=   .45

                                             UNIT HYDROGRAPH
                                       68 END-OF-PERIOD ORDINATES
              10.      33.      66.     108.     152.     236.     339.     388.     397.     394.
             387.     377.     364.     348.     331.     316.     299.     278.     255.     233.
             214.     196.     180.     165.     151.     138.     127.     116.     106.      97.
              89.      82.      75.      69.      63.      58.      53.      48.      44.      41.
              37.      34.      31.      29.      26.      24.      22.      20.      19.      17.
              16.      14.      13.      12.      11.      10.       9.       8.       8.       7.
               7.       6.       5.       5.       5.       4.       4.       4.

      ***         ***         ***         ***         ***

                       HYDROGRAPH AT STATION       502

   TOTAL RAINFALL =     3.35, TOTAL LOSS =     1.46, TOTAL EXCESS =     1.88

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                       6-HR        24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     517.     12.67                   173.          51.         17.          7.
                        (INCHES)      1.579        1.867       1.874       1.874
                         (AC-FT)        86.         101.        102.        102.

                       CUMULATIVE AREA =     1.02 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
 97 KK        *   502OUT   *
              *            *
              **************
                      RETENTION DIVERSION
                      DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                      DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 49.41 AC-FT
                      DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 4.19 AC-FT
                      TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 502 = 53.6 AC-FT
```

```
     DT          DIVERSION
                      ISTAD      502RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       53.60  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00    100.00

     DQ      DIVERTED FLOW         .00    100.00

                                                                  ***

      ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   502RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     517.     12.67                100.         27.          9.           4.
                        (INCHES)     .913        .989        .989         .989
                         (AC-FT)      49.         54.         54.          54.

                        CUMULATIVE AREA =    1.02 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   502OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     393.     13.33                 88.         24.          8.           3.
                        (INCHES)     .803        .885        .885         .885
                         (AC-FT)      44.         48.         48.          48.

                        CUMULATIVE AREA =    1.02 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
  106 KK    *    CP502   *
            *            *
            **************
                        COMBINE RUNOFF FROM SUB-BASIN 502 AND THE EAST

  108 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    CP502

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     700.     13.42                187.         54.         18.           8.
                        (INCHES)     .774        .894        .904         .907
                         (AC-FT)      93.        107.        108.         109.

                        CUMULATIVE AREA =    2.25 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
  109 KK    *   502503   *     ROUTE   REACH
            *            *
            **************
                        ROUTE RUNOFF FROM 502 TO UPRR&BASELINE

               HYDROGRAPH ROUTING DATA

  111 RS          STORAGE ROUTING
                       NSTPS           9  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  112 RC          NORMAL DEPTH CHANNEL
                         ANL        .035  LEFT OVERBANK N-VALUE
                        ANCH        .015  MAIN CHANNEL N-VALUE
                         ANR        .035  RIGHT OVERBANK N-VALUE
                       RLNTH       9000.  REACH LENGTH
                         SEL       .0016  ENERGY SLOPE
                       ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION
```

```
                                    CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
114 RY      ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
113 RX      DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                                  ***

                                    COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      1.72      3.45      5.18      6.91      8.65     10.39     12.14     13.89     15.65
          OUTFLOW        .00      7.36     23.37     45.93     74.16    107.55    145.70    188.33    235.22    286.17
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE      18.37     22.05     25.73     29.42     33.12     36.81     40.52     44.22     47.94     51.65
          OUTFLOW     342.52    407.82    480.36    559.44    644.64    735.68    832.31    934.34   1041.61   1153.96
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

     ***          ***          ***          ***          ***

                        HYDROGRAPH AT STATION   502503

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     577.     14.17                181.         54.         18.          8.
                       (INCHES)     .749        .892        .904        .907
                        (AC-FT)      90.        107.        108.        109.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        3.     14.17                  1.          0.          0.          0.

 PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     1.39     14.17                 .65         .25         .09         .04

                       CUMULATIVE AREA =    2.25 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 115 KK     *    FRM501  *
            *            *
            **************
                         RETRIEVE SOUTHBOUND RUNOFF FROM GUADALUPE&GILBERT

 117 DR          RETRIEVE DIVERSION HYDROGRAPH
                       ISTAD       TO508  DIVERSION HYDROGRAPH IDENTIFICATION
                                                                  ***

     ***          ***          ***          ***          ***

                        HYDROGRAPH AT STATION   FRM501

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     237.     12.92                 61.         16.          5.          2.
                       (INCHES)     .253        .271        .271        .271
                        (AC-FT)      30.         32.         32.         32.

                       CUMULATIVE AREA =     .00 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 118 KK     *    501508  *     ROUTE   REACH
            *            *
            **************
                         ROUTE RUNOFF FROM 501 TO GILBERT&WESTERN CANAL

              HYDROGRAPH ROUTING DATA

 120 RS          STORAGE ROUTING
                       NSTPS           3  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

 121 RC          NORMAL DEPTH CHANNEL
                         ANL        .035  LEFT OVERBANK N-VALUE
                        ANCH        .015  MAIN CHANNEL N-VALUE
```

```
                    ANR        .035  RIGHT OVERBANK N-VALUE
                  RLNTH       2640.  REACH LENGTH
                    SEL      .0003  ENERGY SLOPE
                  ELMAX        2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                  CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 123 RY      ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
 122 RX      DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                          ***

                                      COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .50      1.01      1.52      2.03      2.54      3.05      3.56      4.07      4.59
          OUTFLOW        .00      3.19     10.12     19.89     32.11     46.57     63.09     81.55    101.85    123.91
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE       5.39      6.47      7.55      8.63      9.71     10.80     11.88     12.97     14.06     15.15
          OUTFLOW     148.32    176.59    208.00    242.24    279.14    318.56    360.40    404.58    451.03    499.68
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00


    ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   501508

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     190.      13.67                60.         16.          5.           2.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)     30.         32.         32.          32.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       2.      13.67                 1.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     1.20      13.67                .54         .18         .06          .03

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 124 KK     *      508   *        BASIN
            *            *
            **************
                     RUNOFF CALCULATION FOR SUB-BASIN 508

              SUBBASIN RUNOFF DATA

 126 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .49  SUBBASIN AREA

                 PRECIPITATION DATA

  61 PB                STORM        3.35  BASIN TOTAL PRECIPITATION

  36 PI            INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                      .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                      .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                      .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00
```

```
127 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .26  STARTING LOSS
                        DTH         .15  MOISTURE DEFICIT
                       PSIF        8.40  WETTING FRONT SUCTION
                      XKSAT         .09  HYDRAULIC CONDUCTIVITY
                      RTIMP       28.00  PERCENT IMPERVIOUS AREA

128 UC          CLARK UNITGRAPH
                         TC        1.06  TIME OF CONCENTRATION
                          R         .87  STORAGE COEFFICIENT

129 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=  1.06 HR,       R=   .87 HR
                                           SNYDER   TP=   .60 HR,      CP=   .41

                                                      UNIT HYDROGRAPH
                                                 61 END-OF-PERIOD ORDINATES
                 7.       26.       53.       90.      154.      206.      218.      219.      216.      209.
               200.      190.      179.      166.      151.      137.      124.      113.      102.       93.
                84.       77.       70.       63.       57.       52.       47.       43.       39.       35.
                32.       29.       27.       24.       22.       20.       18.       16.       15.       14.
                12.       11.       10.        9.        8.        8.        7.        6.        6.        5.
                 5.        4.        4.        4.        3.        3.        3.        2.        2.        2.
                 2.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      508

    TOTAL RAINFALL =    3.35, TOTAL LOSS =    1.45, TOTAL EXCESS =    1.89

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     283.     12.50                   84.         25.          8.           4.
                        (INCHES)     1.604      1.879       1.885        1.885
                         (AC-FT)      42.         49.         49.          49.

                        CUMULATIVE AREA =     .49 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
131 KK      *   508OUT   *
            *            *
            **************
                         RETENTION DIVERSION
                         DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                         DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 3.23 AC-FT
                         DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 10.79 AC-FT
                         TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 508 = 14.02 AC-FT

    DT          DIVERSION
                     ISTAD      508RET  DIVERSION HYDROGRAPH IDENTIFICATION
                    DSTRMX       14.02  MAXIMUM VOLUME TO BE DIVERTED

    DI            INFLOW         .00    100.00

    DQ      DIVERTED FLOW        .00    100.00

                                                          ***

     ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   508RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     277.     12.42                   25.          7.          2.           1.
                        (INCHES)      .475        .540        .540         .540
                         (AC-FT)      12.         14.         14.          14.

                        CUMULATIVE AREA =     .49 SQ MI

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   508OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     282.     12.58                   66.         18.          6.           3.
```

```
                    (INCHES)     1.257       1.345       1.345       1.345
                     (AC-FT)      33.         35.         35.         35.

                    CUMULATIVE AREA =     .49 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
 140 KK   *     CP508  *
          *            *
          **************
                    COMBINE RUNOFF FROM 508 AND THE NORTH

 142 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    CP508

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     326.     13.50                 125.         34.         11.          5.
                     (INCHES)     2.387       2.596       2.596       2.596
                      (AC-FT)      62.         67.         67.         67.

                    CUMULATIVE AREA =     .49 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
 143 KK   *    508516  *     ROUTE   REACH
          *            *
          **************
                    ROUTE RUNOFF FROM 508 TO RR AND WESTERN CANAL

             HYDROGRAPH ROUTING DATA

 145 RS          STORAGE ROUTING
                      NSTPS           3  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 146 RC          NORMAL DEPTH CHANNEL
                        ANL        .035  LEFT OVERBANK N-VALUE
                       ANCH        .015  MAIN CHANNEL N-VALUE
                        ANR        .035  RIGHT OVERBANK N-VALUE
                      RLNTH       2400.  REACH LENGTH
                        SEL       .0018  ENERGY SLOPE
                      ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 148 RY        ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
 147 RX        DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00
                                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .46       .92      1.38      1.84      2.31      2.77      3.24      3.70      4.17
          OUTFLOW        .00      7.81     24.79     48.71     78.66    114.07    154.54    199.75    249.48    303.52
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE       4.90      5.88      6.86      7.85      8.83      9.82     10.80     11.79     12.78     13.77
          OUTFLOW     363.30    432.56    509.50    593.37    683.75    780.31    882.80    991.02   1104.79   1223.96
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      155. TO     1224.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   508516

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     323.     13.58                 124.         34.         11.          5.
                     (INCHES)     2.364       2.596       2.596       2.596
                      (AC-FT)      61.         67.         67.         67.
```

```
 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.     13.58                    1.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .98     13.58                   .50         .16         .05         .02

                        CUMULATIVE AREA =     .49 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 149 KK     *    CON308  *
            *            *
            **************
                          RETRIEVE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&ELLIOT
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/ELLI/FLOW/03MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/ELLI/FLOW/03MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/ELLI/FLOW/04MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/ELLI/FLOW/05MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/ELLI/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/ELLI/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/ELLI/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/ELLI/FLOW/07MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/ELLI/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/ELLI/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/ELLI/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/ELLI/FLOW/09MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/ELLI/FLOW/10MAR1903/5MIN//
 -----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
 Pathname: /CONS/ELLI/FLOW/11MAR1903/5MIN//

               SUBBASIN RUNOFF DATA

 151 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .00  SUBBASIN AREA

                                                                  ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   CON308

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       8.     26.33                    7.          3.          1.          0.
                        (INCHES)    65.623     103.735     104.867     105.075
                         (AC-FT)        3.          6.          6.          6.

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 153 KK     *    CON310  *
            *            *
            **************
                          RETRIEVE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&UPRR
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/RR/FLOW/03MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/RR/FLOW/03MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/RR/FLOW/04MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/RR/FLOW/05MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/RR/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/RR/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/RR/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/RR/FLOW/07MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/RR/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/RR/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/RR/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/RR/FLOW/09MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   30:  /CONS/RR/FLOW/10MAR1903/5MIN//
 -----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
 Pathname: /CONS/RR/FLOW/11MAR1903/5MIN//

               SUBBASIN RUNOFF DATA

 155 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .00  SUBBASIN AREA

                                                                  ***

      ***             ***             ***             ***             ***
```

```
                    HYDROGRAPH AT STATION   CON310

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     476.     13.00                87.         25.          8.           4.
                       (INCHES)   809.564     925.428     936.457      936.507
                        (AC-FT)      43.         49.         50.          50.

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 157 KK     *    308310  *
            *            *
            **************
                    COMBINE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL

 159 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

     ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION   308310

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     476.     13.00                87.         27.          9.           4.
                       (INCHES)   404.782     510.110     520.646      520.795
                        (AC-FT)      43.         54.         56.          56.

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 160 KK     *    CON516  *     ROUTE   REACH
            *            *
            **************
                    ROUTE RUNOFF FROM THE CONSOLIDATED CANAL TO UPRR&WESTERN CANAL

            HYDROGRAPH ROUTING DATA

 162 RS          STORAGE ROUTING
                      NSTPS           7  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 163 RC          NORMAL DEPTH CHANNEL
                        ANL        .035  LEFT OVERBANK N-VALUE
                       ANCH        .015  MAIN CHANNEL N-VALUE
                        ANR        .035  RIGHT OVERBANK N-VALUE
                      RLNTH       6500.  REACH LENGTH
                        SEL      .0023  ENERGY SLOPE
                      ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                        --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 165 RY        ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
 164 RX        DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                          ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      1.24      2.49      3.74      4.99      6.25      7.50      8.77     10.03     11.30
          OUTFLOW        .00      8.83     28.02     55.07     88.92    128.94    174.68    225.80    282.01    343.10
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE      13.27     15.92     18.58     21.25     23.92     26.59     29.26     31.94     34.62     37.30
          OUTFLOW     410.67    488.96    575.93    670.74    772.90    882.05    997.91   1120.24   1248.85   1383.55
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00


*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      226. TO     1384.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION   CON516
```

```
  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     434.     13.42                  85.         27.          9.           4.
                        (INCHES)   394.098     507.471     520.639      520.792
                         (AC-FT)      42.         54.         56.          56.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        2.     13.42                   1.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     1.08      13.42                 .34         .15         .05          .02

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  166 KK    *       516  *        BASIN
            *            *
            **************
                        RUNOFF CALCULATION FOR SUB-BASIN 516

              SUBBASIN RUNOFF DATA

  168 BA        SUBBASIN CHARACTERISTICS
                      TAREA         .36  SUBBASIN AREA

                PRECIPITATION DATA

   61 PB              STORM        3.35  BASIN TOTAL PRECIPITATION

   36 PI          INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                      .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                      .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                      .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00

  169 LG        GREEN AND AMPT LOSS RATE
                      STRTL         .22  STARTING LOSS
                        DTH         .15  MOISTURE DEFICIT
                       PSIF        9.70  WETTING FRONT SUCTION
                      XKSAT         .06  HYDRAULIC CONDUCTIVITY
                      RTIMP       35.00  PERCENT IMPERVIOUS AREA

  170 UC        CLARK UNITGRAPH
                         TC        1.17  TIME OF CONCENTRATION
                          R        1.27  STORAGE COEFFICIENT

  171 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.17 HR,       R=  1.27 HR
                                  SNYDER   TP=   .77 HR,      CP=   .39

                                              UNIT HYDROGRAPH
                                          87 END-OF-PERIOD ORDINATES
                 3.       12.       23.       38.       64.       95.      114.      119.      120.      120.
               118.      115.      112.      109.      104.       97.       91.       85.       80.       75.
                70.       66.       61.       58.       54.       50.       47.       44.       41.       39.
```

```
          36.      34.      32.      30.      28.      26.      24.      23.      21.      20.
          19.      18.      16.      15.      14.      14.      13.      12.      11.      10.
          10.       9.       9.       8.       7.       7.       7.       6.       6.       5.
           5.       5.       4.       4.       4.       4.       3.       3.       3.       3.
           3.       2.       2.       2.       2.       2.       2.       2.       2.       1.
           1.       1.       1.       1.       1.       1.       1.

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      516

   TOTAL RAINFALL =    3.35, TOTAL LOSS =    1.22, TOTAL EXCESS =    2.13

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     172.     12.67                  67.         20.          7.           3.
                        (INCHES)    1.737       2.107       2.118        2.118
                         (AC-FT)     33.         41.         41.          41.

                        CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  173 KK    *    516OUT  *
            *            *
            **************
                          RETENTION DIVERSION
                          DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                          DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 2.45 AC-FT
                          DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 1.04 AC-FT
                          TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 516 = 3.49 AC-FT

     DT          DIVERSION
                      ISTAD      516RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX        3.49  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00    100.00

     DQ      DIVERTED FLOW        .00    100.00

                                                                  ***

     ***            ***            ***            ***            ***

                    DIVERSION HYDROGRAPH   516RET

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       9.     10.75                   5.          2.          1.           0.
                        (INCHES)     .137        .181        .181         .181
                         (AC-FT)      3.          3.          3.           3.

                        CUMULATIVE AREA =     .36 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   516OUT

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     172.     12.67                  67.         19.          6.           3.
                        (INCHES)    1.737       1.937       1.937        1.937
                         (AC-FT)     33.         37.         37.          37.

                        CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  182 KK    *     CP516  *
            *            *
            **************
                          COMBINE RUNOFF FROM SUB-BASIN 516, AND THE EAST

  184 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

     ***            ***            ***            ***            ***
```

```
                    HYDROGRAPH AT STATION    CP516

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     567.     13.33                149.         46.         16.           7.
                       (INCHES)    3.815       4.692       4.794        4.795
                        (AC-FT)     74.         91.         93.          93.

                      CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  185 KK    *      P516  *
            *            *
            **************
                         STORAGE ROUTING AT CP516
                         RUNOFF MAY FLOW INTO THE WESTERN CANAL, FLOW NW ALONG THE RR
                         OR FLOW INTO SUB-BASIN 509.

  189 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

              HYDROGRAPH ROUTING DATA

  190 RS          STORAGE ROUTING
                        NSTPS           1  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  191 SV            STORAGE          .0      17.4      21.9      23.3      25.6      27.5      29.8      31.0      32.3      33.7

  192 SE          ELEVATION     1221.00   1232.00   1233.00   1233.20   1233.50   1233.70   1233.90   1234.00   1234.10   1234.20

  193 SQ          DISCHARGE          0.        0.      185.      255.      378.      473.      581.      643.      712.      789.

                                                                  ***
      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     P516

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     447.     13.67                120.         37.         13.           5.
                       (INCHES)    3.078       3.822       3.896        3.897
                        (AC-FT)     60.         74.         75.          75.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      27.     13.67                 20.         18.         18.          16.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1233.65     13.67              1232.56     1232.18     1232.06      1231.19

                      CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  194 KK    *    516WES  *
            *            *
            **************
                         DIVERT FLOW TO WESTERN CANAL

  196 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

      DT          DIVERSION
                        ISTAD      WES516  DIVERSION HYDROGRAPH IDENTIFICATION

      DI             INFLOW          .00    184.50    254.70    378.30    472.50    581.00    643.30    712.00    788.50

      DQ      DIVERTED FLOW          .00      8.50     10.00     12.80     14.50     16.30     17.00     18.00     18.80
```

```
                                                                                  ***
      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   WES516

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     14.     13.67                     5.          2.          1.          0.
                        (INCHES)      .121        .156        .159        .159
                         (AC-FT)        2.          3.          3.          3.

                        CUMULATIVE AREA =     .36 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   516WES

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    433.     13.67                   115.         36.         12.          5.
                        (INCHES)     2.957      3.666       3.737       3.738
                         (AC-FT)      57.         71.         72.         72.

                        CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  200 KK    *     516NW  *
            *            *
            **************
                          DIVERT FLOW NORTH TO SUB-BASIN 509

  202 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

      DT          DIVERSION
                        ISTAD     516NOR  DIVERSION HYDROGRAPH IDENTIFICATION

      DI             INFLOW       5.70     47.00    176.00    366.00    565.00    626.00    694.00    770.00

      DQ      DIVERTED FLOW        .00     22.00    100.00    213.00    331.00    370.00    413.00    464.00
                                                                                  ***
      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   516NOR

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    253.     13.67                    64.         17.          6.          3.
                        (INCHES)     1.630      1.792       1.792       1.792
                         (AC-FT)      32.         35.         35.         35.

                        CUMULATIVE AREA =     .36 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    516NW

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    180.     13.67                    52.         18.          6.          3.
                        (INCHES)     1.327      1.874       1.944       1.945
                         (AC-FT)      26.         36.         38.         38.

                        CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  206 KK    *     516RR  *
            *            *
            **************
```

```
                    COMBINE FLOW FROM 516 AND 508

 208 HC          HYDROGRAPH COMBINATION
                       ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

     ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION    516RR

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     503.     13.67                174.         52.         18.          8.
                        (INCHES)   1.907       2.284       2.318        2.318
                         (AC-FT)     86.        104.        105.         105.

                       CUMULATIVE AREA =     .85 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 209 KK     *    516509  *     ROUTE   REACH
            *            *
            **************
                     ROUTE RUNOFF FROM 516 TO GUADALUPE&COOPER

               HYDROGRAPH ROUTING DATA

 211 RS          STORAGE ROUTING
                      NSTPS           4  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 212 RC          NORMAL DEPTH CHANNEL
                        ANL        .050  LEFT OVERBANK N-VALUE
                       ANCH        .035  MAIN CHANNEL N-VALUE
                        ANR        .050  RIGHT OVERBANK N-VALUE
                      RLNTH       3860.  REACH LENGTH
                        SEL      .0022  ENERGY SLOPE
                      ELMAX       28.2  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 214 RY        ELEVATION     30.30     22.30     27.30     28.00     24.50     25.50     23.80     28.20
 213 RX        DISTANCE        .00     52.00     74.00    199.00    267.00    309.00    320.00    344.00

                                                          ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

           STORAGE        .00       .05       .19       .42       .75      1.17      1.75      2.52      3.71      5.62
           OUTFLOW        .00       .21      1.33      3.93      8.46     15.34     25.29     39.43     60.04     93.54
         ELEVATION      22.30     22.61     22.92     23.23     23.54     23.85     24.16     24.47     24.78     25.09

           STORAGE       8.25     11.50     15.07     18.95     23.13     27.62     32.42     38.12     45.61     54.54
           OUTFLOW     145.36    224.26    327.96    454.35    603.87    777.17    974.98   1084.98   1288.60   1645.98
         ELEVATION      25.41     25.72     26.03     26.34     26.65     26.96     27.27     27.58     27.89     28.20

     ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION   516509

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     473.     14.00                172.         52.         18.          8.
                        (INCHES)   1.880       2.278       2.317        2.318
                         (AC-FT)     85.        103.        105.         105.

  PEAK STORAGE  TIME                       MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       5.      14.00                  2.          1.          0.           0.

  PEAK STAGE    TIME                       MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
    26.38      14.00               25.30       24.07       23.06        22.63

                       CUMULATIVE AREA =     .85 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
```

```
                *            *
  215 KK        *    516NOR  *
                *            *
                **************
                          RETRIEVE 516NOR

  217 DR            RETRIEVE DIVERSION HYDROGRAPH
                         ISTAD      516NOR  DIVERSION HYDROGRAPH IDENTIFICATION

                                                                  ***

       ***              ***              ***              ***              ***

                            HYDROGRAPH AT STATION   516NOR

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                             (CFS)
+     253.      13.67                 64.          17.           6.           3.
                         (INCHES)    .696        .765        .765         .765
                          (AC-FT)     32.          35.          35.          35.

                          CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                **************
                *            *
  218 KK        *       509  *        BASIN
                *            *
                **************
                          RUNOFF CALCULATION FOR SUB-BASIN 509

                SUBBASIN RUNOFF DATA

  220 BA            SUBBASIN CHARACTERISTICS
                         TAREA         .37  SUBBASIN AREA

                    PRECIPITATION DATA

   61 PB                 STORM        3.35  BASIN TOTAL PRECIPITATION

   36 PI              INCREMENTAL PRECIPITATION PATTERN
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                         .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                         .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                         .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00

  221 LG            GREEN AND AMPT LOSS RATE
                         STRTL         .17  STARTING LOSS
                           DTH         .17  MOISTURE DEFICIT
                          PSIF        9.70  WETTING FRONT SUCTION
                         XKSAT         .06  HYDRAULIC CONDUCTIVITY
                         RTIMP       39.00  PERCENT IMPERVIOUS AREA

  222 UC            CLARK UNITGRAPH
                            TC        1.50  TIME OF CONCENTRATION
                             R        1.24  STORAGE COEFFICIENT

  223 UA            ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                           .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                        100.0

                                                                  ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=  1.50 HR,       R=  1.24 HR
                                         SNYDER   TP=   .84 HR,      CP=   .41
```

```
                                        UNIT HYDROGRAPH
                                   87 END-OF-PERIOD ORDINATES
      3.      8.     17.     28.     39.     58.     86.    107.    115.    117.
    117.    116.    114.    111.    108.    104.    101.     97.     92.     86.
     81.     76.     71.     66.     62.     58.     54.     50.     47.     44.
     41.     39.     36.     34.     31.     29.     28.     26.     24.     22.
     21.     20.     18.     17.     16.     15.     14.     13.     12.     11.
     11.     10.      9.      9.      8.      8.      7.      7.      6.      6.
      5.      5.      5.      4.      4.      4.      4.      3.      3.      3.
      3.      3.      2.      2.      2.      2.      2.      2.      2.      2.
      1.      1.      1.      1.      1.      1.      1.

   ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION      509

  TOTAL RAINFALL =    3.35, TOTAL LOSS =    1.15, TOTAL EXCESS =    2.19

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+  (CFS)       (HR)
                          (CFS)
+    170.     12.83                70.         22.          7.          3.
                       (INCHES)    1.763       2.170       2.182       2.182
                        (AC-FT)     35.         43.         43.         43.

                       CUMULATIVE AREA =     .37 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 225 KK     *    509BAS  *
            *            *
            **************
                       COMBINE RUNOFF FROM SUB-BASIN 509 AND RUNOFF FROM SUB-BASIN 516 (516NOR)

 227 HC          HYDROGRAPH COMBINATION
                      ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

   ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   509BAS

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+  (CFS)       (HR)
                          (CFS)
+    381.     13.58                131.         39.         13.          6.
                       (INCHES)    3.300       3.883       3.941       3.941
                        (AC-FT)     65.         77.         78.         78.

                       CUMULATIVE AREA =     .37 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 228 KK     *    509OUT  *
            *            *
            **************
                       RETENTION DIVERSION
                       DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                       DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 1.95 AC-FT
                       DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                       TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 509 = 1.95 AC-FT

   DT          DIVERSION
                    ISTAD      509RET  DIVERSION HYDROGRAPH IDENTIFICATION
                   DSTRMX        1.95  MAXIMUM VOLUME TO BE DIVERTED

   DI            INFLOW         .00    100.00

   DQ      DIVERTED FLOW        .00    100.00

                                                          ***

   ***          ***          ***          ***          ***

                    DIVERSION HYDROGRAPH   509RET

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+  (CFS)       (HR)
                          (CFS)
+      5.      7.42                  4.          1.          0.          0.
                       (INCHES)     .095        .099        .099        .099
                        (AC-FT)      2.          2.          2.          2.
```

```
                    CUMULATIVE AREA =     .37 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   509OUT

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     381.     13.58                131.         38.         13.           6.
                       (INCHES)    3.300       3.840       3.842        3.842
                        (AC-FT)     65.         76.         76.          76.

                    CUMULATIVE AREA =     .37 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  237 KK    *     CP509  *
            *            *
            **************
                    COMBINE RUNOFF FROM SUB-BASIN 509 AND THE EAST

  239 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    CP509

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     786.     13.92                297.         89.         30.          13.
                       (INCHES)    2.267       2.719       2.780        2.780
                        (AC-FT)    147.        177.        181.         181.

                    CUMULATIVE AREA =    1.22 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  240 KK    *   509503   *     ROUTE   REACH
            *            *
            **************
                    ROUTE RUNOFF FROM CP509 TO GUADALUPE AND COOPER

               HYDROGRAPH ROUTING DATA

  242 RS          STORAGE ROUTING
                       NSTPS          10  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

  243 RC          NORMAL DEPTH CHANNEL
                         ANL        .050  LEFT OVERBANK N-VALUE
                        ANCH        .035  MAIN CHANNEL N-VALUE
                         ANR        .050  RIGHT OVERBANK N-VALUE
                       RLNTH       9300.  REACH LENGTH
                         SEL       .0015  ENERGY SLOPE
                       ELMAX        20.7  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  245 RY        ELEVATION    20.70     17.70     18.50     17.30     17.40     18.90     17:70     20.80
  244 RX        DISTANCE       .00     28.00    270.00    319.00    553.00    740.00    817.00    954.00

                                                          ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      6.66     16.83     28.96     45.01     65.08     89.14    117.11    147.32    179.18
          OUTFLOW        .00     12.82     55.70    123.37    219.40    348.19    513.69    724.22    988.06   1295.99
        ELEVATION      17.30     17.48     17.66     17.84     18.02     18.19     18.37     18.55     18.73     18.91

          STORAGE     211.99    245.15    278.69    312.59    346.85    381.49    416.48    451.85    487.58    523.67
          OUTFLOW    1679.86   2104.88   2569.53   3072.58   3613.04   4190.04   4802.87   5450.91   6133.62   6850.52
        ELEVATION      19.09     19.27     19.45     19.63     19.81     19.98     20.16     20.34     20.52     20.70

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   509503
```

```
  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     609.      15.67          288.         89.          30.          13.
                          (INCHES)       2.193       2.708        2.780        2.780
                           (AC-FT)         143.        176.         181.         181.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)       (HR)
      10.       15.67            5.          2.           1.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR        72-HR     166.58-HR
+   (FEET)       (HR)
     18.45      15.67        18.07       17.65        17.43        17.36

                        CUMULATIVE AREA =    1.22 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  246 KK    *       500  *
            *            *
            **************
                        RUNOFF CALCULATION FOR SUB-BASIN 500

              SUBBASIN RUNOFF DATA

  248 BA        SUBBASIN CHARACTERISTICS
                      TAREA        1.10  SUBBASIN AREA

                PRECIPITATION DATA

   61 PB              STORM        3.35  BASIN TOTAL PRECIPITATION

   36 PI          INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                     .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                     .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00
  249 LG        GREEN AND AMPT LOSS RATE
                      STRTL         .28  STARTING LOSS
                        DTH         .19  MOISTURE DEFICIT
                       PSIF        6.80  WETTING FRONT SUCTION
                      XKSAT         .17  HYDRAULIC CONDUCTIVITY
                      RTIMP       26.00  PERCENT IMPERVIOUS AREA

  250 UC        CLARK UNITGRAPH
                         TC        1.23  TIME OF CONCENTRATION
                          R        1.01  STORAGE COEFFICIENT

  251 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                   ***

                                          UNIT HYDROGRAPH PARAMETERS
                                     CLARK   TC=  1.23 HR,       R=  1.01 HR
                                    SNYDER   TP=   .70 HR,      CP=   .41

                                          UNIT HYDROGRAPH
                                     71 END-OF-PERIOD ORDINATES
                 11.       41.       82.      133.      215.      332.      407.      422.      425.      420.
                411.      398.      382.      366.      348.      326.      300.      276.      254.      234.
```

```
216.     199.     183.     169.     155.     143.     132.     121.     112.     103.
 95.      87.      80.      74.      68.      63.      58.      53.      49.      45.
 42.      38.      35.      33.      30.      28.      25.      23.      22.      20.
 18.      17.      16.      14.      13.      12.      11.      10.       9.       9.
  8.       7.       7.       6.       6.       5.       5.       5.       4.       4.
  4.

***          ***          ***          ***          ***

                HYDROGRAPH AT STATION      500

TOTAL RAINFALL =    3.35, TOTAL LOSS =    1.67, TOTAL EXCESS =    1.68

PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)      (HR)
                     (CFS)
+     508.    12.58                166.         49.         16.           7.
                 (INCHES)         1.402       1.663       1.669       1.669
                  (AC-FT)          82.         98.         98.          98.

                CUMULATIVE AREA =    1.10 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
253 KK    *    500OUT  *
          *            *
          **************
                RETENTION DIVERSION
                DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 29.06 AC-FT
                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 509 = 29.06 AC-FT

   DT          DIVERSION
                   ISTAD      500RET  DIVERSION HYDROGRAPH IDENTIFICATION
                  DSTRMX       29.06  MAXIMUM VOLUME TO BE DIVERTED

   DI            INFLOW         .00    100.00

   DQ      DIVERTED FLOW        .00    100.00

                                                          ***

   ***          ***          ***          ***          ***

                DIVERSION HYDROGRAPH   500RET

PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)      (HR)
                     (CFS)
+     502.    12.50                 52.         15.          5.           2.
                 (INCHES)         .437        .495        .495         .495
                  (AC-FT)          26.         29.         29.          29.

                CUMULATIVE AREA =    1.10 SQ MI

   ***          ***          ***          ***          ***

                HYDROGRAPH AT STATION   500OUT

PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)      (HR)
                     (CFS)
+     506.    12.67                129.         35.         12.           5.
                 (INCHES)         1.089       1.174       1.174       1.174
                  (AC-FT)          64.         69.         69.          69.

                CUMULATIVE AREA =    1.10 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
262 KK    *   500503   *     ROUTE   REACH
          *            *
          **************
                ROUTE RUNOFF FROM 500 TO RR and McQueen

            HYDROGRAPH ROUTING DATA

264 RS        STORAGE ROUTING
                  NSTPS           6  NUMBER OF SUBREACHES
                   ITYP        STOR  TYPE OF INITIAL CONDITION
                 RSVRIC         .00  INITIAL CONDITION
                      X         .00 WORKING R AND D COEFFICIENT
```

```
265 RC          NORMAL DEPTH CHANNEL
                       ANL        .035  LEFT OVERBANK N-VALUE
                      ANCH        .015  MAIN CHANNEL N-VALUE
                       ANR        .035  RIGHT OVERBANK N-VALUE
                     RLNTH       5500.  REACH LENGTH
                       SEL       .0020  ENERGY SLOPE
                     ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
267 RY        ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
266 RX        DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                          ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      1.05      2.11      3.16      4.22      5.28      6.35      7.42      8.49      9.56
          OUTFLOW        .00      8.23     26.13     51.35     82.92    120.24    162.89    210.56    262.98    319.94
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE      11.22     13.47     15.73     17.98     20.24     22.50     24.76     27.03     29.29     31.57
          OUTFLOW     382.95    455.96    537.06    625.47    720.73    822.52    930.55   1044.63   1164.55   1290.17
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00


*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      211. TO     1290.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   500503

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     456.     13.25                127.         35.         12.          5.
                       (INCHES)    1.070      1.174       1.174      1.174
                        (AC-FT)     63.         69.         69.         69.

 PEAK STORAGE  TIME                        MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       2.     13.25                  1.          0.          0.          0.

 PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     1.16     13.25                 .48         .16         .05         .02

                        CUMULATIVE AREA =    1.10 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
268 KK      *       503  *        BASIN
            *            *
            **************
                        RUNOFF CALCULATION FOR SUB-BASIN 503

              SUBBASIN RUNOFF DATA

270 BA          SUBBASIN CHARACTERISTICS
                      TAREA        1.43  SUBBASIN AREA

                PRECIPITATION DATA

 61 PB                STORM        3.35  BASIN TOTAL PRECIPITATION

 36 PI            INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                      .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                      .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                      .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

```
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

271 LG          GREEN AND AMPT LOSS RATE
                      STRTL        .18  STARTING LOSS
                        DTH        .21  MOISTURE DEFICIT
                       PSIF       6.60  WETTING FRONT SUCTION
                      XKSAT        .18  HYDRAULIC CONDUCTIVITY
                      RTIMP      45.00  PERCENT IMPERVIOUS AREA

272 UC          CLARK UNITGRAPH
                         TC        .84  TIME OF CONCENTRATION
                          R        .28  STORAGE COEFFICIENT

273 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                                  ***

                                                        UNIT HYDROGRAPH PARAMETERS
                                                  CLARK   TC=   .84 HR,       R=   .28 HR
                                                 SNYDER   TP=   .40 HR,      CP=   .65

                                                            UNIT HYDROGRAPH
                                                      23 END-OF-PERIOD ORDINATES
                70.      276.      555.     1090.     1475.     1380.     1213.     1045.      878.      738.
               595.      447.      332.      247.      184.      136.      101.       75.       56.       42.
                31.       23.       17.

     ***            ***            ***            ***            ***

                         HYDROGRAPH AT STATION      503

    TOTAL RAINFALL =    3.35, TOTAL LOSS =    1.24, TOTAL EXCESS =    2.10

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+    1504.     12.33                   254.         80.         27.          12.
                        (INCHES)      1.654      2.088       2.091        2.091
                         (AC-FT)        126.        159.        159.         159.

                        CUMULATIVE AREA =    1.43 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 275 KK     *    503OUT  *
            *            *
            **************
                         RETENTION DIVERSION
                         DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                         DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.00 AC-FT
                         DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                         TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 503 = 0.00 AC-FT

     DT          DIVERSION
                      ISTAD      503RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX         .00  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00    100.00

     DQ      DIVERTED FLOW        .00    100.00

                                                                  ***

     ***            ***            ***            ***            ***

                         DIVERSION HYDROGRAPH   503RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+       0.       .17                      0.          0.          0.           0.
                        (INCHES)       .000        .000        .000         .000
                         (AC-FT)          0.          0.          0.           0.

                        CUMULATIVE AREA =    1.43 SQ MI

     ***            ***            ***            ***            ***

                         HYDROGRAPH AT STATION   503OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
```

```
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+    1504.      12.33                   254.         80.         27.          12.
                        (INCHES)      1.654       2.088       2.091        2.091
                         (AC-FT)       126.        159.        159.         159.

                        CUMULATIVE AREA =    1.43 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  284 KK    *     CP503  *
            *            *
            **************
                         COMBINE RUNOFF FROM 503 AND THE EAST

  286 HC          HYDROGRAPH COMBINATION
                        ICOMP           4  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    CP503

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+    1506.      12.33                   766.        249.         87.          38.
                        (INCHES)      1.188       1.546       1.617        1.619
                         (AC-FT)       380.        494.        517.         518.

                        CUMULATIVE AREA =    6.00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  287 KK    *      P503  *
            *            *
            **************
                         STORAGE ROUTING AT CP503

  289 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

  290 RS          STORAGE ROUTING
                        NSTPS           1  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  291 SV            STORAGE       267.8     299.3     358.9     411.0     482.9     518.6     703.5     849.3

  292 SE          ELEVATION     1210.00   1211.00   1212.00   1212.50   1213.00   1213.20   1214.00   1214.50

  293 SQ          DISCHARGE          0.        0.        0.        0.        0.        0.        0.        0.

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     P503

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+       0.        .00                     0.          0.          0.           0.
                        (INCHES)       .000        .000        .000         .000
                         (AC-FT)         0.          0.          0.           0.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      518.    165.83                    518.        518.        518.         468.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)       (HR)
   1213.20    163.25                 1213.19     1213.19     1213.21      1212.89

                        CUMULATIVE AREA =    6.00 SQ MI
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 294 KK     *       510  *        BASIN
            *            *
            **************
                         RUNOFF CALCULATION FOR SUB-BASIN 510
                         AERIAL REDUCTION FACTOR 0.975 FOR 4.98 SQM (SOUTH OF THE RR AND
                         EAST OF THE RR SPUR LINE) IS USED TO GENERATE THE FOLLOWING PB VALUE

                SUBBASIN RUNOFF DATA

 299 BA           SUBBASIN CHARACTERISTICS
                       TAREA         .13  SUBBASIN AREA

                  PRECIPITATION DATA

 298 PB                STORM        3.36  BASIN TOTAL PRECIPITATION

  36 PI             INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                       .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                       .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                       .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00

 300 LG           GREEN AND AMPT LOSS RATE
                       STRTL         .15  STARTING LOSS
                         DTH         .16  MOISTURE DEFICIT
                        PSIF        9.70  WETTING FRONT SUCTION
                       XKSAT         .06  HYDRAULIC CONDUCTIVITY
                       RTIMP       50.00  PERCENT IMPERVIOUS AREA

 301 UC           CLARK UNITGRAPH
                          TC         .46  TIME OF CONCENTRATION
                           R         .33  STORAGE COEFFICIENT

 302 UA           ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .46 HR,       R=   .33 HR
                                         SNYDER   TP=   .29 HR,      CP=   .51

                                                   UNIT HYDROGRAPH
                                              24 END-OF-PERIOD ORDINATES
                 16.       71.      130.      144.      131.      112.       90.       70.       54.       42.
                 33.       25.       20.       15.       12.        9.        7.        6.        4.        3.
                  3.        2.        2.        1.

      ***             ***             ***        *      ***             ***

                          HYDROGRAPH AT STATION      510

     TOTAL RAINFALL =    3.36, TOTAL LOSS =     .94, TOTAL EXCESS =    2.43

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    160.     12.17                   27.          8.          3.          1.
                         (INCHES)   1.930       2.414       2.418       2.418
                          (AC-FT)     13.         17.         17.         17.

                         CUMULATIVE AREA =     .13 SQ MI
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 304 KK     *    510511  *      ROUTE   REACH
            *            *
            **************
                        ROUTE RUNOFF FROM 510 TO GUADALUPE&MCQUEEN

               HYDROGRAPH ROUTING DATA

 306 RS          STORAGE ROUTING
                      NSTPS           8  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 307 RC          NORMAL DEPTH CHANNEL
                        ANL        .035  LEFT OVERBANK N-VALUE
                       ANCH        .015  MAIN CHANNEL N-VALUE
                        ANR        .035  RIGHT OVERBANK N-VALUE
                      RLNTH       7920.  REACH LENGTH
                        SEL       .0015  ENERGY SLOPE
                      ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 309 RY        ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
 308 RX        DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                          ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      1.51      3.03      4.55      6.08      7.61      9.14     10.68     12.22     13.77
          OUTFLOW        .00      7.13     22.63     44.47     71.81    104.13    141.07    182.35    227.75    277.08
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE      16.16     19.40     22.64     25.89     29.14     32.40     35.65     38.92     42.18     45.45
          OUTFLOW     331.65    394.87    465.10    541.67    624.17    712.32    805.88    904.67   1008.53   1117.32
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   510511

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                             (CFS)
+     126.     12.75            27.          8.          3.           1.
                         (INCHES)      1.918       2.404       2.418        2.418
                          (AC-FT)        13.         17.         17.          17.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.      12.75             0.          0.          0.           0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .59      12.75           .20         .07         .02          .01

                        CUMULATIVE AREA =     .13 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 310 KK     *       511  *        BASIN
            *            *
            **************
                        RUNOFF CALCULATION FOR SUB-BASIN 516

               SUBBASIN RUNOFF DATA

 312 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .47  SUBBASIN AREA

                 PRECIPITATION DATA

 298 PB                STORM        3.36  BASIN TOTAL PRECIPITATION

  36 PI            INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

```
.00    .00    .00    .00    .00    .00    .00    .00    .00    .00
.00    .00    .00    .00    .00    .00    .00    .00    .00    .00
.00    .00    .00    .00    .00    .00    .00    .00    .00    .00
.00    .00    .00    .00    .00    .00    .00    .00    .00    .00
.00    .00    .00    .00    .00    .00    .00    .00    .00    .00
.00    .00    .00    .00    .00    .00    .00    .00    .00    .00
.00    .00    .00    .00    .00    .00    .00    .01    .00    .01
.01    .01    .01    .01    .01    .01    .01    .01    .03    .03
.03    .09    .09    .09    .01    .01    .01    .01    .01    .01
.01    .01    .01    .01    .01    .01    .00    .00    .00    .00
.00    .00    .00    .00    .00    .00    .00    .00    .00    .00
.00    .00    .00    .00    .00    .00    .00    .00    .00    .00
.00    .00    .00    .00    .00    .00    .00    .00    .00    .00
.00    .00    .00    .00    .00    .00    .00    .00    .00    .00
.00    .00    .00    .00    .00    .00    .00    .00    .00    .00
.00    .00    .00    .00    .00    .00    .00    .00    .00    .00
.00    .00    .00    .00    .00    .00    .00    .00    .00    .00
.00    .00    .00    .00    .00    .00    .00    .00    .00    .00
.00    .00    .00    .00    .00    .00    .00    .00    .00    .00
.00    .00    .00    .00    .00    .00    .00    .00    .00    .00
.00    .00    .00    .00    .00    .00    .00    .00    .00    .00
.00    .00    .00    .00    .00    .00    .00    .00
```

```
313 LG          GREEN AND AMPT LOSS RATE
                     STRTL        .22  STARTING LOSS
                       DTH        .17  MOISTURE DEFICIT
                      PSIF       8.80  WETTING FRONT SUCTION
                     XKSAT        .07  HYDRAULIC CONDUCTIVITY
                     RTIMP      21.00  PERCENT IMPERVIOUS AREA

314 UC          CLARK UNITGRAPH
                        TC       1.50  TIME OF CONCENTRATION
                         R       1.27  STORAGE COEFFICIENT

315 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
                   100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.50 HR,       R=  1.27 HR
                                  SNYDER   TP=   .85 HR,      CP=   .40

                                            UNIT HYDROGRAPH
                                   89 END-OF-PERIOD ORDINATES
              3.      10.      21.      34.      49.      72.     107.     133.     143.     146.
            146.     145.     143.     140.     135.     131.     127.     122.     117.     109.
            102.      96.      90.      84.      79.      74.      69.      65.      61.      57.
             53.      50.      47.      44.      41.      38.      36.      34.      32.      30.
             28.      26.      24.      23.      21.      20.      19.      18.      16.      15.
             14.      13.      13.      12.      11.      10.      10.       9.       9.       8.
              7.       7.       7.       6.       6.       5.       5.       5.       4.       4.
              4.       4.       3.       3.       3.       3.       3.       2.       2.       2.
              2.       2.       2.       2.       2.       1.       1.       1.       1.

     ***            ***          ***            ***            ***

                     HYDROGRAPH AT STATION      511

   TOTAL RAINFALL =    3.36, TOTAL LOSS =    1.54, TOTAL EXCESS =    1.82

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
+   (CFS)       (HR)                 6-HR       24-HR       72-HR    166.58-HR
                                    (CFS)
+     201.     12.83                  80.         23.          8.          3.
                              (INCHES)     1.576       1.808       1.815       1.815
                               (AC-FT)       40.         45.         46.         46.

                              CUMULATIVE AREA =     .47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 317 KK     *    511OUT  *
            *            *
            **************
                         RETENTION DIVERSION
                         DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                         DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 25.83 AC-FT
                         DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                         TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 511 = 25.83 AC-FT

     DT          DIVERSION
                      ISTAD      511RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       25.83  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00    100.00

     DQ      DIVERTED FLOW        .00    100.00

                                                  ***
```

```
      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   511RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     201.     12.83                  49.         13.          4.           2.
                        (INCHES)     .972       1.028       1.028        1.028
                         (AC-FT)      24.         26.         26.          26.

                        CUMULATIVE AREA =     .47 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   511OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     139.     13.75                  37.         10.          3.           1.
                        (INCHES)     .726        .786        .786         .786
                         (AC-FT)      18.         20.         20.          20.

                        CUMULATIVE AREA =     .47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  326 KK    *     CP511  *
            *            *
            **************
                        COMBINE RUNOFF FROM SUB-BASIN 509, THE NORTH AND THE EAST

  328 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    CP511

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     180.     13.75                  62.         18.          6.           3.
                        (INCHES)     .962       1.135       1.139        1.139
                         (AC-FT)      31.         36.         37.          37.

                        CUMULATIVE AREA =     .60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  329 KK    *   511512   *     ROUTE   REACH
            *            *
            **************
                        ROUTE RUNOFF FROM 511 TO EL DORADO LAKES

               HYDROGRAPH ROUTING DATA

  331 RS          STORAGE ROUTING
                       NSTPS           4  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  332 RC          NORMAL DEPTH CHANNEL
                         ANL        .035  LEFT OVERBANK N-VALUE
                        ANCH        .015  MAIN CHANNEL N-VALUE
                         ANR        .035  RIGHT OVERBANK N-VALUE
                       RLNTH       4000.  REACH LENGTH
                         SEL       .0009  ENERGY SLOPE
                       ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  334 RY        ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
  333 RX        DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA
```

```
          STORAGE      .00      .76     1.53     2.30     3.07     3.84     4.62     5.40     6.17     6.95
           OUTFLOW     .00     5.52    17.53    34.45    55.62    80.66   109.27   141.25   176.41   214.62
         ELEVATION     .00      .11      .21      .32      .42      .53      .63      .74      .84      .95

          STORAGE     8.16     9.80    11.44    13.08    14.72    16.36    18.01    19.66    21.30    22.96
           OUTFLOW  256.89   305.87   360.27   419.58   483.48   551.76   624.23   700.76   781.21   865.47
         ELEVATION     1.05     1.16     1.26     1.37     1.47     1.58     1.68     1.79     1.89     2.00

     ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   511512

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     153.     14.17       61.         18.          6.           3.
                       (INCHES)     .948       1.134       1.139        1.139
                        (AC-FT)     30.         36.         37.          37.

 PEAK STORAGE   TIME                      MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.      14.17        1.          0.          0.           0.

  PEAK STAGE    TIME                      MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .77      14.17       .42         .16         .05          .02

                     CUMULATIVE AREA =     .60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
  335 KK  *       521  *        BASIN
          *            *
          **************
                    RUNOFF CALCULATION FOR SUB-BASIN 521

.            SUBBASIN RUNOFF DATA

  337 BA       SUBBASIN CHARACTERISTICS
                    TAREA         .35  SUBBASIN AREA

               PRECIPITATION DATA

  298 PB            STORM        3.36  BASIN TOTAL PRECIPITATION

   36 PI         INCREMENTAL PRECIPITATION PATTERN
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                    .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                    .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                    .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00

  338 LG       GREEN AND AMPT LOSS RATE
                    STRTL         .23  STARTING LOSS
                      DTH         .15  MOISTURE DEFICIT
                     PSIF        9.70  WETTING FRONT SUCTION
                    XKSAT         .06  HYDRAULIC CONDUCTIVITY
                    RTIMP       32.00  PERCENT IMPERVIOUS AREA

  339 UC       CLARK UNITGRAPH
                       TC         .88  TIME OF CONCENTRATION
                        R         .59  STORAGE COEFFICIENT

  340 UA       ACCUMULATED-AREA VS. TIME,  11 ORDINATES
```

```
                .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
             100.0

                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=   .88 HR,       R=   .59 HR
                                 SNYDER   TP=   .49 HR,      CP=   .48

                                          UNIT HYDROGRAPH
                                   42 END-OF-PERIOD ORDINATES
          8.      34.      70.     137.     201.     217.     213.     203.     190.     176.
        160.     142.     123.     107.      93.      80.      70.      60.      52.      45.
         39.      34.      30.      26.      22.      19.      17.      15.      13.      11.
         10.       8.       7.       6.       5.       5.       4.       4.       3.       3.
          2.       2.

   ***          ***          ***          ***          ***

                HYDROGRAPH AT STATION      521

  TOTAL RAINFALL =    3.36, TOTAL LOSS =    1.28, TOTAL EXCESS =    2.08

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     274.     12.42                 65.         19.          6.           3.
                       (INCHES)    1.759      2.069       2.074        2.074
                        (AC-FT)     32.         38.         38.          38.

                       CUMULATIVE AREA =     .35 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 342 KK     *   521OUT   *
            *            *
            **************
                         RETENTION DIVERSION
                         DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                         DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 0.00 AC-FT
                         DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                         TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 521 = 0.00 AC-FT

    DT          DIVERSION
                      ISTAD      521RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX         .00  MAXIMUM VOLUME TO BE DIVERTED

    DI             INFLOW         .00    100.00

    DQ      DIVERTED FLOW         .00    100.00

                                                    ***

   ***          ***          ***          ***          ***

                DIVERSION HYDROGRAPH   521RET

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .25                   0.          0.          0.           0.
                       (INCHES)     .000        .000        .000         .000
                        (AC-FT)       0.          0.          0.           0.

                       CUMULATIVE AREA =     .35 SQ MI


   ***          ***          ***          ***          ***

                HYDROGRAPH AT STATION   521OUT

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     274.     12.42                 65.         19.          6.           3.
                       (INCHES)    1.759      2.069       2.074        2.074
                        (AC-FT)     32.         38.         38.          38.

                       CUMULATIVE AREA =     .35 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 351 KK     *   521517   *     ROUTE   REACH
            *            *
```

```
**************
                ROUTE RUNOFF FROM 521 TO ELLIOT AND COOPER

          HYDROGRAPH ROUTING DATA

353 RS      STORAGE ROUTING
                NSTPS          6  NUMBER OF SUBREACHES
                 ITYP       STOR  TYPE OF INITIAL CONDITION
               RSVRIC        .00  INITIAL CONDITION
                    X        .00 WORKING R AND D COEFFICIENT

354 RC      NORMAL DEPTH CHANNEL
                  ANL       .035  LEFT OVERBANK N-VALUE
                 ANCH       .015  MAIN CHANNEL N-VALUE
                  ANR       .035  RIGHT OVERBANK N-VALUE
                RLNTH      5280.  REACH LENGTH
                  SEL      .0025  ENERGY SLOPE
                ELMAX        2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                  CROSS-SECTION DATA
                        --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
356 RY     ELEVATION     2.00     1.00     1.00      .00      .00     1.00     1.00     2.00
355 RX     DISTANCE       .00     1.00    45.00    46.00   125.00   126.00   170.00   171.00

                                                   ***

                                  COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

        STORAGE      .00     1.01     2.02     3.04     4.05     5.07     6.10     7.12     8.15     9.18
        OUTFLOW      .00     9.21    29.22    57.41    92.70   134.43   182.12   235.41   294.02   357.71
      ELEVATION      .00      .11      .21      .32      .42      .53      .63      .74      .84      .95

        STORAGE    10.78    12.93    15.10    17.26    19.43    21.60    23.77    25.94    28.12    30.30
        OUTFLOW   428.15   509.78   600.45   699.30   805.80   919.60  1040.39  1167.93  1302.01  1442.45
      ELEVATION     1.05     1.16     1.26     1.37     1.47     1.58     1.68     1.79     1.89     2.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      182. TO     1442.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

    ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   521517

 PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)      (HR)
                          (CFS)
+    268.     12.67                65.         19.          6.          3.
                        (INCHES)  1.756      2.067       2.074       2.074
                         (AC-FT)    32.         38.         38.         38.

 PEAK STORAGE  TIME                      MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)     (HR)
       1.     12.67                 0.          0.          0.          0.

 PEAK STAGE    TIME                      MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)     (HR)
      .80     12.67                .29         .11         .04         .02

                        CUMULATIVE AREA =     .35 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
357 KK    *       517  *        BASIN
          *            *
          **************
                RUNOFF CALCULATION FOR SUB-BASIN 517

          SUBBASIN RUNOFF DATA

359 BA      SUBBASIN CHARACTERISTICS
                TAREA         .36  SUBBASIN AREA

            PRECIPITATION DATA

298 PB          STORM        3.36  BASIN TOTAL PRECIPITATION

 36 PI        INCREMENTAL PRECIPITATION PATTERN
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
```

```
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

360 LG          GREEN AND AMPT LOSS RATE
                STRTL        .20  STARTING LOSS
                  DTH        .16  MOISTURE DEFICIT
                 PSIF       8.00  WETTING FRONT SUCTION
                XKSAT        .10  HYDRAULIC CONDUCTIVITY
                RTIMP      41.00  PERCENT IMPERVIOUS AREA

361 UC          CLARK UNITGRAPH
                   TC        .73  TIME OF CONCENTRATION
                    R        .54  STORAGE COEFFICIENT

362 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0
                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=   .73 HR,       R=   .54 HR
                                           SNYDER   TP=   .41 HR,      CP=   .45

                                                      UNIT HYDROGRAPH
                                                 39 END-OF-PERIOD ORDINATES
              13.       50.      119.      204.      247.      246.      235.      217.      198.      175.
             150.      129.      110.       95.       81.       70.       60.       51.       44.       38.
              32.       28.       24.       20.       17.       15.       13.       11.        9.        8.
               7.        6.        5.        4.        4.        3.        3.        2.        2.

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      517

   TOTAL RAINFALL =    3.36, TOTAL LOSS =    1.21, TOTAL EXCESS =    2.15

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     303.     12.33                 67.         20.          7.           3.
                         (INCHES)  1.743       2.140       2.145        2.145
                          (AC-FT)    33.         41.         41.          41.

                         CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 364 KK     *    517OUT  *
            *            *
            **************
                         RETENTION DIVERSION
                         DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                         DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 2.43 AC-FT
                         DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.98 AC-FT
                         TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 517 = 3.41 AC-FT

     DT          DIVERSION
                    ISTAD      517RET  DIVERSION HYDROGRAPH IDENTIFICATION
                   DSTRMX        3.41  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00    100.00

     DQ      DIVERTED FLOW        .00    100.00

                                                          ***

     ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   517RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       8.      9.08                  5.          2.          1.           0.
```

```
                    (INCHES)      .141        .180        .180        .180
                     (AC-FT)        3.          3.          3.          3.

                    CUMULATIVE AREA =     .36 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   517OUT

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     303.     12.33                 67.         19.          6.          3.
                    (INCHES)     1.743       1.966       1.966       1.966
                     (AC-FT)       33.         37.         37.         37.

                    CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  373 KK    *     CP517  *
            *            *
            **************
                     COMBINE RUNOFF AT CP517

  375 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    CP517

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     524.     12.58                132.         38.         13.          5.
                    (INCHES)     1.744       2.016       2.019       2.019
                     (AC-FT)       65.         75.         76.         76.

                    CUMULATIVE AREA =     .70 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  376 KK    *    CON314  *
            *            *
            **************
                     RETRIEVE RUNOFF FROM EAST OF THE CONSOLIDATED CANAL&WARNER
 -----DSS--- ZREAD Unit  71; Vers.   25:  /CONS/CP314/FLOW/03MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   25:  /CONS/CP314/FLOW/03MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   25:  /CONS/CP314/FLOW/04MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   25:  /CONS/CP314/FLOW/05MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   25:  /CONS/CP314/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   25:  /CONS/CP314/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   25:  /CONS/CP314/FLOW/06MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   25:  /CONS/CP314/FLOW/07MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   25:  /CONS/CP314/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   25:  /CONS/CP314/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   25:  /CONS/CP314/FLOW/08MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   25:  /CONS/CP314/FLOW/09MAR1903/5MIN//
 -----DSS--- ZREAD Unit  71; Vers.   25:  /CONS/CP314/FLOW/10MAR1903/5MIN//
 -----DSS*** ZRRTS:  CAUTION - Data block not found in file.  Unit:  71
 Pathname: /CONS/CP314/FLOW/11MAR1903/5MIN//

               SUBBASIN RUNOFF DATA

  378 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .00  SUBBASIN AREA

                                                                  ***

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   CON314

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      54.     18.50                 44.         20.          8.          4.
                    (INCHES)   412.074     743.108     892.780     946.582
                     (AC-FT)       22.         40.         48.         50.
```

```
                    CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
 380 KK   *    CON524  *     ROUTE   REACH
          *            *
          **************
                    ROUTE RUNOFF FROM THE CONSOLIDATED CANAL TO COOPER

             HYDROGRAPH ROUTING DATA

 382 RS        STORAGE ROUTING
                    NSTPS          6  NUMBER OF SUBREACHES
                     ITYP       STOR  TYPE OF INITIAL CONDITION
                   RSVRIC        .00  INITIAL CONDITION
                        X        .00 WORKING R AND D COEFFICIENT

 383 RC        NORMAL DEPTH CHANNEL
                      ANL       .035  LEFT OVERBANK N-VALUE
                     ANCH       .015  MAIN CHANNEL N-VALUE
                      ANR       .035  RIGHT OVERBANK N-VALUE
                    RLNTH      5300.  REACH LENGTH
                      SEL      .0022  ENERGY SLOPE
                    ELMAX        2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                        --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 385 RY       ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
 384 RX       DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      1.01      2.03      3.05      4.07      5.09      6.12      7.15      8.18      9.22
          OUTFLOW        .00      8.64     27.41     53.86     86.96    126.11    170.85    220.84    275.82    335.56
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE      10.82     12.98     15.15     17.33     19.50     21.68     23.86     26.04     28.23     30.42
          OUTFLOW     401.64    478.21    563.27    656.00    755.91    862.66    975.97   1095.62   1221.40   1353.14
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      171. TO     1353.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION   CON524

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      54.     19.00                 44.         20.          8.           4.
                        (INCHES)  410.911     739.918     891.625      946.293
                        (AC-FT)       22.         39.         48.          50.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        1.     18.92                  0.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
       .32     19.00                 .28         .15         .07          .03

                       CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
 386 KK   *       524  *        BASIN
          *            *
          **************
                    RUNOFF CALCULATION FOR SUB-BASIN 524

             SUBBASIN RUNOFF DATA

 388 BA        SUBBASIN CHARACTERISTICS
                    TAREA         .36  SUBBASIN AREA

               PRECIPITATION DATA

 298 PB             STORM        3.36  BASIN TOTAL PRECIPITATION
```

```
 36 PI           INCREMENTAL PRECIPITATION PATTERN
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .01      .00      .01
                    .01      .01      .01      .01      .01      .01      .01      .01      .03      .03
                    .03      .09      .09      .09      .01      .01      .01      .01      .01      .01
                    .01      .01      .01      .01      .01      .01      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                    .00      .00      .00      .00      .00      .00      .00      .00

389 LG         GREEN AND AMPT LOSS RATE
                     STRTL         .26  STARTING LOSS
                       DTH         .26  MOISTURE DEFICIT
                      PSIF        5.70  WETTING FRONT SUCTION
                     XKSAT         .24  HYDRAULIC CONDUCTIVITY
                     RTIMP       24.00  PERCENT IMPERVIOUS AREA

390 UC         CLARK UNITGRAPH
                        TC         .79  TIME OF CONCENTRATION
                         R         .55  STORAGE COEFFICIENT

391 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                    .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                 100.0

                                                                    ***

                                                        UNIT HYDROGRAPH PARAMETERS
                                                  CLARK   TC=    .79 HR,        R=    .55 HR
                                                 SNYDER   TP=    .42 HR,       CP=    .45

                                                             UNIT HYDROGRAPH
                                                        39 END-OF-PERIOD ORDINATES
                11.       45.       99.      186.      245.      247.      237.      222.      205.      185.
               161.      138.      119.      102.       87.       75.       64.       55.       47.       41.
                35.       30.       26.       22.       19.       16.       14.       12.       10.        9.
                 8.        6.        6.        5.        4.        4.        3.        3.        2.

      ***            ***            ***            ***            ***

                          HYDROGRAPH AT STATION       524

   TOTAL RAINFALL =     3.36, TOTAL LOSS =     1.83, TOTAL EXCESS =     1.53

 PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR         24-HR        72-HR      166.58-HR
+   (CFS)       (HR)
                           (CFS)
+    252.      12.33                     51.          15.           5.            2.
                         (INCHES)      1.291        1.524        1.527         1.527
                          (AC-FT)        25.          30.          30.           30.

                         CUMULATIVE AREA =       .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

           **************
           *            *
393 KK     *   524OUT   *
           *            *
           **************
                         RETENTION DIVERSION
                         DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                         DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 13.76 AC-FT
                         DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 6.32 AC-FT
                         TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 524 = 20.08 AC-FT

   DT          DIVERSION
                     ISTAD      524RET  DIVERSION HYDROGRAPH IDENTIFICATION
                    DSTRMX       20.08  MAXIMUM VOLUME TO BE DIVERTED

   DI             INFLOW           .00  100.00

   DQ      DIVERTED FLOW           .00  100.00
```

```
                                                                                ***
      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   524RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     252.     12.33                 38.         10.          3.           1.
                        (INCHES)    .967       1.034       1.034        1.034
                         (AC-FT)     19.         20.         20.          20.

                        CUMULATIVE AREA =     .36 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   524OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     116.     13.00                 17.          5.          2.           1.
                        (INCHES)    .429       .492        .492         .492
                         (AC-FT)      8.         10.         10.          10.

                        CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  402 KK    *     CP524  *
            *            *
            **************
                          COMBINE RUNOFF FROM 524 AND THE EAST

  404 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                                ***
      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    CP524

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     116.     13.00                 47.         24.         10.           4.
                        (INCHES)   1.200       2.483       2.925        3.084
                         (AC-FT)     23.         48.         57.          60.

                        CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  405 KK    *      D524  *
            *            *
            **************
                          DIVERT 80% FLOW TO WEST

      DT          DIVERSION
                        ISTAD      OUT524  DIVERSION HYDROGRAPH IDENTIFICATION

      DI             INFLOW         .00    100.00

      DQ      DIVERTED FLOW         .00     80.00
                                                                                ***
      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   OUT524

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      93.     13.00                 38.         19.          8.           3.
                        (INCHES)    .960       1.987       2.340        2.467
                         (AC-FT)     19.         39.         46.          48.

                        CUMULATIVE AREA =     .36 SQ MI
```

```
     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     D524

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      23.     13.00                 9.          5.          2.          1.
                         (INCHES)   .240        .497        .585        .617
                          (AC-FT)     5.         10.         11.         12.

                         CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  410 KK    *   524522   *     ROUTE   REACH
            *            *
            **************
                          ROUTE RUNOFF FROM 524 TO ELLIOT&COOPER

              HYDROGRAPH ROUTING DATA

  412 RS        STORAGE ROUTING
                      NSTPS          6  NUMBER OF SUBREACHES
                       ITYP       STOR  TYPE OF INITIAL CONDITION
                     RSVRIC        .00  INITIAL CONDITION
                          X        .00 WORKING R AND D COEFFICIENT

  413 RC        NORMAL DEPTH CHANNEL
                        ANL       .035  LEFT OVERBANK N-VALUE
                       ANCH       .015  MAIN CHANNEL N-VALUE
                        ANR       .035  RIGHT OVERBANK N-VALUE
                      RLNTH      5280.  REACH LENGTH
                        SEL      .0010  ENERGY SLOPE
                      ELMAX        2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                        --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  415 RY      ELEVATION     2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
  414 RX      DISTANCE       .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                          ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE       .00      1.01      2.02      3.04      4.05      5.07      6.10      7.12      8.15      9.18
          OUTFLOW       .00      5.82     18.48     36.31     58.63     85.02    115.18    148.89    185.95    226.23
        ELEVATION       .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE     10.78     12.93     15.10     17.26     19.43     21.60     23.77     25.94     28.12     30.30
          OUTFLOW    270.79    322.41    379.76    442.27    509.64    581.61    658.00    738.66    823.46    912.29
        ELEVATION      1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   524522

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      11.     20.00                 9.          5.          2.          1.
                         (INCHES)   .236        .492        .584        .616
                          (AC-FT)     5.         10.         11.         12.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.      19.75                 0.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .15      20.00                .13         .08         .03         .01

                         CUMULATIVE AREA =     .36 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  416 KK    *      522   *        BASIN
            *            *
            **************
                          RUNOFF CALCULATION FOR SUB-BASIN 522
```

```
                SUBBASIN RUNOFF DATA

418 BA            SUBBASIN CHARACTERISTICS
                      TAREA          .71  SUBBASIN AREA

                  PRECIPITATION DATA

298 PB                STORM        3.36  BASIN TOTAL PRECIPITATION

 36 PI              INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                      .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                      .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                      .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00

419 LG            GREEN AND AMPT LOSS RATE
                      STRTL          .25  STARTING LOSS
                        DTH          .15  MOISTURE DEFICIT
                       PSIF         8.40  WETTING FRONT SUCTION
                      XKSAT          .08  HYDRAULIC CONDUCTIVITY
                      RTIMP        28.00  PERCENT IMPERVIOUS AREA

420 UC            CLARK UNITGRAPH
                         TC         1.50  TIME OF CONCENTRATION
                          R         1.26  STORAGE COEFFICIENT

421 UA            ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                   ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.50 HR,       R=  1.26 HR
                                 SNYDER   TP=   .84 HR,      CP=   .40

                                          UNIT HYDROGRAPH
                                   88 END-OF-PERIOD ORDINATES
                5.       15.       31.       52.       74.      109.      162.      202.      216.      221.
              220.      219.      216.      211.      204.      198.      191.      184.      175.      164.
              154.      144.      135.      126.      118.      110.      103.       97.       90.       85.
               79.       74.       69.       65.       61.       57.       53.       50.       47.       44.
               41.       38.       36.       34.       31.       29.       27.       26.       24.       23.
               21.       20.       18.       17.       16.       15.       14.       13.       12.       12.
               11.       10.       10.        9.        8.        8.        7.        7.        6.        6.
                6.        5.        5.        5.        4.        4.        4.        4.        3.        3.
                3.        3.        3.        2.        2.        2.        2.        2.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      522

    TOTAL RAINFALL =    3.36, TOTAL LOSS =    1.42, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     309.     12.83                123.         37.         12.          5.
                         (INCHES)  1.626      1.926       1.936      1.936
                          (AC-FT)    61.         73.         73.         73.

                        CUMULATIVE AREA =     .71 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
423 KK      *    522OUT  *
```

```
*            *
**************
                RETENTION DIVERSION
                DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 29.66 AC-FT
                DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 2.96 AC-FT
                TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 522 = 32.62 AC-FT

   DT          DIVERSION
                    ISTAD      522RET  DIVERSION HYDROGRAPH IDENTIFICATION
                   DSTRMX       32.62  MAXIMUM VOLUME TO BE DIVERTED

   DI            INFLOW         .00    100.00

   DQ      DIVERTED FLOW        .00    100.00

                                                                  ***

    ***            ***            ***            ***            ***

                     DIVERSION HYDROGRAPH   522RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     309.     12.83                61.         16.          5.           2.
                        (INCHES)    .797        .866        .866         .866
                         (AC-FT)     30.         33.         33.          33.

                       CUMULATIVE AREA =     .71 SQ MI

    ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   522OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     272.     13.33                75.         20.          7.           3.
                        (INCHES)    .982       1.069       1.069        1.069
                         (AC-FT)     37.         40.         40.          40.

                       CUMULATIVE AREA =     .71 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  432 KK    *     CP522  *
            *            *
            **************
                COMBINE RUNOFF FROM SUB-BASIN 522, THE SOUTH AND THE EAST

  434 HC          HYDROGRAPH COMBINATION
                       ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

    ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    CP522

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     524.     12.58                204.         62.         21.           9.
                        (INCHES)   1.069       1.307       1.342        1.352
                         (AC-FT)    101.        124.        127.         128.

                       CUMULATIVE AREA =    1.77 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  435 KK    *   522523   *     ROUTE   REACH
            *            *
            **************
                ROUTE RUNOFF FROM 522 TO CP523

               HYDROGRAPH ROUTING DATA

  437 RS          STORAGE ROUTING
                       NSTPS           3  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT
```

```
438 RC          NORMAL DEPTH CHANNEL
                      ANL        .035  LEFT OVERBANK N-VALUE
                     ANCH        .015  MAIN CHANNEL N-VALUE
                      ANR        .035  RIGHT OVERBANK N-VALUE
                    RLNTH       2640.  REACH LENGTH
                      SEL       .0020  ENERGY SLOPE
                    ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                  CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
440 RY        ELEVATION     2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
439 RX        DISTANCE       .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                                  ***

                                     COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .50      1.01      1.52      2.03      2.54      3.05      3.56      4.07      4.59
          OUTFLOW        .00      8.23     26.13     51.35     82.92    120.24    162.89    210.56    262.98    319.94
        ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

          STORAGE       5.39      6.47      7.55      8.63      9.71     10.80     11.88     12.97     14.06     15.15
          OUTFLOW     382.95    455.96    537.06    625.47    720.73    822.52    930.55   1044.63   1164.55   1290.17
        ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00


*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      211. TO     1290.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   522523

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     510.      12.75                204.         62.         21.          9.
                         (INCHES)   1.069       1.307       1.342        1.352
                          (AC-FT)     101.        124.        127.         128.

  PEAK STORAGE  TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       2.       12.75                  1.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     1.23       12.75                 .67         .27         .10          .04

                        CUMULATIVE AREA =    1.77 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
441 KK      *       523  *        BASIN
            *            *
            **************
                        RUNOFF CALCULATION FOR SUB-BASIN 523

              SUBBASIN RUNOFF DATA

443 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .25  SUBBASIN AREA

                PRECIPITATION DATA

298 PB                STORM        3.36  BASIN TOTAL PRECIPITATION

 36 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                     .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                     .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

```
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00

 444 LG       GREEN AND AMPT LOSS RATE
                STRTL        .25  STARTING LOSS
                  DTH        .13  MOISTURE DEFICIT
                 PSIF      10.10  WETTING FRONT SUCTION
                XKSAT        .04  HYDRAULIC CONDUCTIVITY
                RTIMP      30.00  PERCENT IMPERVIOUS AREA

 445 UC       CLARK UNITGRAPH
                   TC        .74  TIME OF CONCENTRATION
                    R        .58  STORAGE COEFFICIENT

 446 UA       ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                  .0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
               100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=   .74 HR,       R=   .58 HR
                                  SNYDER   TP=   .42 HR,      CP=   .43

                                            UNIT HYDROGRAPH
                                      41 END-OF-PERIOD ORDINATES
            8.      33.      77.     134.     165.     166.     159.     149.     137.     123.
          106.      92.      80.      69.      60.      52.      45.      39.      34.      29.
           25.      22.      19.      16.      14.      12.      11.       9.       8.       7.
            6.       5.       4.       4.       3.       3.       3.       2.       2.       2.
            1.

    ***          ***          ***          ***          ***

                   HYDROGRAPH AT STATION      523

   TOTAL RAINFALL =    3.36, TOTAL LOSS =    1.18, TOTAL EXCESS =    2.18

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     214.     12.33                 51.         15.          5.           2.
                        (INCHES)    1.873       2.165       2.170        2.170
                         (AC-FT)     25.         29.         29.          29.

                        CUMULATIVE AREA =     .25 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 448 KK     *    523OUT  *
            *            *
            **************
                   RETENTION DIVERSION
                   DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                   DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 8.66 AC-FT
                   DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                   TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 523 = 8.66 AC-FT

    DT          DIVERSION
                   ISTAD      523RET  DIVERSION HYDROGRAPH IDENTIFICATION
                  DSTRMX        8.66  MAXIMUM VOLUME TO BE DIVERTED

    DI            INFLOW         .00    100.00

    DQ      DIVERTED FLOW        .00    100.00

                                                  ***

    ***          ***          ***          ***          ***

                   DIVERSION HYDROGRAPH   523RET

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     182.     12.17                 16.          4.          1.           1.
                        (INCHES)     .575        .647        .647         .647
                         (AC-FT)      8.          9.          9.           9.

                        CUMULATIVE AREA =     .25 SQ MI

    ***          ***          ***          ***          ***

                   HYDROGRAPH AT STATION   523OUT
```

```
  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     214.     12.33                 39.         10.          3.           1.
                         (INCHES)   1.431       1.523       1.523        1.523
                          (AC-FT)     19.         20.         20.          20.

                         CUMULATIVE AREA =     .25 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  457 KK    *     CP523  *
            *            *
            **************
                         COMBINE RUNOFF FROM SUB-BASIN 523 AND THE EAST

  459 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    CP523

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     680.     12.67                242.         73.         25.          11.
                         (INCHES)   1.113       1.334       1.365        1.373
                          (AC-FT)    120.        144.        147.         148.

                         CUMULATIVE AREA =    2.02 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  460 KK    *   523519   *     ROUTE   REACH
            *            *
            **************
                         ROUTE RUNOFF FROM 523 TO CP519

               HYDROGRAPH ROUTING DATA

  462 RS          STORAGE ROUTING
                       NSTPS           8  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

  463 RC          NORMAL DEPTH CHANNEL
                         ANL        .035  LEFT OVERBANK N-VALUE
                        ANCH        .015  MAIN CHANNEL N-VALUE
                         ANR        .035  RIGHT OVERBANK N-VALUE
                       RLNTH       7920.  REACH LENGTH
                         SEL       .0009  ENERGY SLOPE
                       ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  465 RY        ELEVATION     2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
  464 RX        DISTANCE       .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00      1.51      3.03      4.55      6.08      7.61      9.14     10.68     12.22     13.77
            OUTFLOW        .00      5.52     17.53     34.45     55.62     80.66    109.27    141.25    176.41    214.62
          ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

            STORAGE      16.16     19.40     22.64     25.89     29.14     32.40     35.65     38.92     42.18     45.45
            OUTFLOW     256.89    305.87    360.27    419.58    483.48    551.76    624.23    700.76    781.21    865.47
          ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   523519

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     617.     13.25                241.         73.         25.          11.
```

```
                    (INCHES)     1.107       1.333       1.365       1.373
                    (AC-FT)      119.        144.        147.        148.

 PEAK STORAGE   TIME                      MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      4.      13.25                   2.          1.          0.          0.

  PEAK STAGE    TIME                      MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     1.67     13.25                  .91         .37         .13         .06

                    CUMULATIVE AREA =    2.02 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 466 KK     *      518   *        BASIN
            *            *
            **************
                    RUNOFF CALCULATION FOR SUB-BASIN 518

              SUBBASIN RUNOFF DATA

 468 BA         SUBBASIN CHARACTERISTICS
                     TAREA         .47  SUBBASIN AREA

                PRECIPITATION DATA

 298 PB              STORM        3.36  BASIN TOTAL PRECIPITATION

  36 PI           INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                     .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                     .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00

 469 LG         GREEN AND AMPT LOSS RATE
                     STRTL         .25  STARTING LOSS
                       DTH         .15  MOISTURE DEFICIT
                      PSIF        8.80  WETTING FRONT SUCTION
                     XKSAT         .07  HYDRAULIC CONDUCTIVITY
                     RTIMP       27.00  PERCENT IMPERVIOUS AREA

 470 UC         CLARK UNITGRAPH
                        TC        1.14  TIME OF CONCENTRATION
                         R         .91  STORAGE COEFFICIENT

 471 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.14 HR,       R=   .91 HR
                                  SNYDER   TP=   .65 HR,      CP=   .43

                                          UNIT HYDROGRAPH
                                     64 END-OF-PERIOD ORDINATES
                 6.       21.       43.       69.      117.      171.      196.      200.      198.      194.
               188.      179.      171.      162.      150.      137.      125.      114.      104.       95.
                87.       79.       72.       66.       60.       55.       50.       46.       42.       38.
                35.       32.       29.       26.       24.       22.       20.       18.       17.       15.
                14.       13.       12.       11.       10.        9.        8.        7.        7.        6.
                 6.        5.        5.        4.        4.        4.        3.        3.        3.        2.
                 2.        2.        2.        2.
```

```
     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      518

   TOTAL RAINFALL =    3.36, TOTAL LOSS =    1.41, TOTAL EXCESS =    1.96

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     268.     12.58                 84.         24.          8.           4.
                        (INCHES)   1.673       1.941       1.947        1.947
                         (AC-FT)     42.         49.         49.          49.

                    CUMULATIVE AREA =     .47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 473 KK     *    518OUT  *
            *            *
            **************
                    RETENTION DIVERSION
                    DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                    DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 10.75 AC-FT
                    DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.00 AC-FT
                    TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 518 = 10.75 AC-FT

     DT          DIVERSION
                    ISTAD      518RET  DIVERSION HYDROGRAPH IDENTIFICATION
                   DSTRMX       10.75  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00    100.00

     DQ      DIVERTED FLOW        .00    100.00
                                                                  ***
     ***            ***            ***            ***            ***

                    DIVERSION HYDROGRAPH   518RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     218.     12.33                 19.          5.          2.           1.
                        (INCHES)    .371        .430        .430         .430
                         (AC-FT)      9.         11.         11.          11.

                    CUMULATIVE AREA =     .47 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   518OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     268.     12.58                 72.         19.          6.           3.
                        (INCHES)   1.427       1.518       1.518        1.518
                         (AC-FT)     36.         38.         38.          38.

                    CUMULATIVE AREA =     .47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 482 KK     *    518519  *     ROUTE   REACH
            *            *
            **************
                    ROUTE RUNOFF FROM 518 TO UPRR&WESTERN CANAL

               HYDROGRAPH ROUTING DATA

 484 RS          STORAGE ROUTING
                    NSTPS          3  NUMBER OF SUBREACHES
                     ITYP       STOR  TYPE OF INITIAL CONDITION
                   RSVRIC        .00  INITIAL CONDITION
                        X        .00 WORKING R AND D COEFFICIENT

 485 RC          NORMAL DEPTH CHANNEL
                      ANL       .035  LEFT OVERBANK N-VALUE
                     ANCH       .015  MAIN CHANNEL N-VALUE
                      ANR       .035  RIGHT OVERBANK N-VALUE
                    RLNTH      2640.  REACH LENGTH
                      SEL      .0010  ENERGY SLOPE
```

```
                    ELMAX          2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
                              --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 487 RY        ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
 486 RX        DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                                  ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00       .50      1.01      1.52      2.03      2.54      3.05      3.56      4.07      4.59
            OUTFLOW        .00      5.82     18.48     36.31     58.63     85.02    115.18    148.89    185.95    226.23
          ELEVATION        .00       .11       .21       .32       .42       .53       .63       .74       .84       .95

            STORAGE       5.39      6.47      7.55      8.63      9.71     10.80     11.88     12.97     14.06     15.15
            OUTFLOW     270.79    322.41    379.76    442.27    509.64    581.61    658.00    738.66    823.46    912.29
          ELEVATION       1.05      1.16      1.26      1.37      1.47      1.58      1.68      1.79      1.89      2.00

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   518519

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     257.     12.92                 71.         19.          6.           3.
                        (INCHES)   1.410      1.518       1.518        1.518
                         (AC-FT)     35.         38.         38.          38.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       2.      12.92                  1.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     1.02      12.92                 .41         .13         .04          .02

                        CUMULATIVE AREA =     .47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 488 KK     *    WES516  *
            *            *
            **************
                        RETRIEVE THE FLOW FROM SUB-BASIN 516 ALONG WESTERN CANAL

 490 DR          RETRIEVE DIVERSION HYDROGRAPH
                       ISTAD      WES516  DIVERSION HYDROGRAPH IDENTIFICATION

                                                                  ***

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   WES516

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      14.     13.67                  5.          2.          1.           0.
                        (INCHES)    .094        .120        .123         .123
                         (AC-FT)      2.          3.          3.           3.

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 491 KK     *    WESFUL  *
            *            *
            **************
                        ADD WESTERN CANAL BASEFLOW 111 CFS TO THE FLOW CONTRIBUTERD BY 516
                        (DIVERTING -111 CFS OUT MEANS ADDING 111 CFS.)

     DT          DIVERSION
                       ISTAD      -BASFL  DIVERSION HYDROGRAPH IDENTIFICATION

     DI             INFLOW         .00   1000.00

     DQ      DIVERTED FLOW     -111.00   -111.00

                                                                  ***
```

```
     ***            ***            ***            ***            ***

                    DIVERSION HYDROGRAPH   -BASFL

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    -111.       .00                 0.          0.          0.        -111.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.       -1528.

                        CUMULATIVE AREA =     .00 SQ MI


     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   WESFUL

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     125.     13.67               116.        113.        112.         111.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)     57.        223.        664.        1531.

                        CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  497 KK    *   516519   *        REACH
            *            *
            **************
                    ROUTE THE RUNOFF WES516 VIA THE WESTERN CANAL TO CP519

              HYDROGRAPH ROUTING DATA

  499 RS        STORAGE ROUTING
                     NSTPS          12  NUMBER OF SUBREACHES
                      ITYP        STOR  TYPE OF INITIAL CONDITION
                    RSVRIC         .00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

  500 RC        NORMAL DEPTH CHANNEL
                       ANL        .050  LEFT OVERBANK N-VALUE
                      ANCH        .035  MAIN CHANNEL N-VALUE
                       ANR        .050  RIGHT OVERBANK N-VALUE
                     RLNTH      11050.  REACH LENGTH
                       SEL      .0011  ENERGY SLOPE
                     ELMAX        16.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                        --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  502 RY      ELEVATION    16.00     14.00     12.00     10.00     10.00     12.00     14.00     16.00
  501 RX      DISTANCE       .00      8.00     12.00     15.00     25.00     28.00     32.00     40.00

                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .84      1.75      2.74      3.81      4.95      6.17      7.47      8.87     10.37
          OUTFLOW        .00      2.08      6.66     13.24     21.67     31.90     43.92     59.23     77.36     97.66
        ELEVATION      10.00     10.32     10.63     10.95     11.26     11.58     11.89     12.21     12.53     12.84

          STORAGE      11.98     13.68     15.48     17.39     19.49     21.78     24.28     26.97     29.87     32.98
          OUTFLOW     120.19    144.97    172.06    201.29    232.79    267.18    304.58    345.14    389.00    436.30
        ELEVATION      13.16     13.47     13.79     14.11     14.42     14.74     15.05     15.37     15.68     16.00


     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   516519

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     124.     14.58               116.        113.        112.         110.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)     57.        223.        664.        1520.

  PEAK STORAGE  TIME                        MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.      14.58                 1.          1.          1.           1.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
    13.20      14.58               13.09       13.05       13.04        13.01

                        CUMULATIVE AREA =     .00 SQ MI
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
  503 KK      *    WES519  *
              *            *
              **************
                             DIVERT WESTERN CANAL BASEFLOW OUT OF CALCULATION
                             THE REST IS THE FLOW CONTRIBUTED BY SUB 516.

  506 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           3  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

      DT          DIVERSION
                        ISTAD      BASOUT  DIVERSION HYDROGRAPH IDENTIFICATION

      DI             INFLOW         .00    111.00   1000.00

      DQ      DIVERTED FLOW         .00    111.00    111.00

                                                                  ***

       ***            ***            ***            ***            ***

                          DIVERSION HYDROGRAPH   BASOUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     111.      2.58                111.        111.        111.        110.
                         (INCHES)   .000        .000        .000        .000
                          (AC-FT)    55.        220.        660.       1517.

                         CUMULATIVE AREA =     .00 SQ MI

       ***            ***            ***            ***            ***

                          HYDROGRAPH AT STATION   WES519

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      13.     14.58                  5.          2.          1.          0.
                         (INCHES)   .000        .000        .000        .000
                          (AC-FT)     2.          3.          3.          3.

                         CUMULATIVE AREA =     .00 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
  510 KK      *       513  *        BASIN
              *            *
              **************
                             RUNOFF CALCULATION FOR SUB-BASIN 513

                SUBBASIN RUNOFF DATA

  512 BA          SUBBASIN CHARACTERISTICS
                        TAREA         .06  SUBBASIN AREA

                  PRECIPITATION DATA

  298 PB                STORM        3.36  BASIN TOTAL PRECIPITATION

   36 PI            INCREMENTAL PRECIPITATION PATTERN
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                        .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                        .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                        .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

```
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00

513 LG        GREEN AND AMPT LOSS RATE
                STRTL        .15  STARTING LOSS
                  DTH        .15  MOISTURE DEFICIT
                 PSIF       9.70  WETTING FRONT SUCTION
                XKSAT        .06  HYDRAULIC CONDUCTIVITY
                RTIMP      55.00  PERCENT IMPERVIOUS AREA

514 UC        CLARK UNITGRAPH
                  TC       1.41  TIME OF CONCENTRATION
                   R       1.57  STORAGE COEFFICIENT

515 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                 .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
               100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.41 HR,       R=  1.57 HR
                                  SNYDER   TP=   .94 HR,      CP=   .39

                                          UNIT HYDROGRAPH
                                   107 END-OF-PERIOD ORDINATES
            0.       1.       2.       4.       6.       9.      13.      15.      16.      16.
           16.      16.      16.      16.      15.      15.      14.      14.      13.      13.
           12.      11.      11.      10.      10.       9.       9.       8.       8.       7.
            7.       7.       6.       6.       6.       5.       5.       5.       5.       4.
            4.       4.       4.       3.       3.       3.       3.       3.       3.       3.
            2.       2.       2.       2.       2.       2.       2.       2.       2.       1.
            1.       1.       1.       1.       1.       1.       1.       1.       1.       1.
            1.       1.       1.       1.       1.       1.       1.       1.       1.       1.
            0.       0.       0.       0.       0.       0.       0.       0.       0.       0.
            0.       0.       0.       0.       0.       0.       0.       0.       0.       0.
            0.       0.       0.       0.       0.       0.       0.

   ***            ***            ***            ***            ***

                  HYDROGRAPH AT STATION      513

   TOTAL RAINFALL =    3.36, TOTAL LOSS =     .83, TOTAL EXCESS =    2.53

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     25.      12.83            12.          4.          1.          1.
                          (INCHES)      1.893       2.495       2.517       2.517
                           (AC-FT)        6.          8.          8.          8.

                          CUMULATIVE AREA =     .06 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
517 KK      *      519   *        BASIN
            *            *
            **************
                         RUNOFF CALCULATION FOR SUB-BASIN 519

              SUBBASIN RUNOFF DATA

519 BA          SUBBASIN CHARACTERISTICS
                     TAREA        .25  SUBBASIN AREA

                PRECIPITATION DATA

298 PB               STORM       3.36  BASIN TOTAL PRECIPITATION

 36 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .01      .00      .01
```

```
                .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

520 LG          GREEN AND AMPT LOSS RATE
                      STRTL        .14  STARTING LOSS
                        DTH        .19  MOISTURE DEFICIT
                       PSIF       8.80  WETTING FRONT SUCTION
                      XKSAT        .07  HYDRAULIC CONDUCTIVITY
                      RTIMP      39.00  PERCENT IMPERVIOUS AREA

521 UC          CLARK UNITGRAPH
                         TC       1.02  TIME OF CONCENTRATION
                          R        .84  STORAGE COEFFICIENT

522 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                   ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=  1.02 HR,       R=   .84 HR
                                        SNYDER   TP=   .58 HR,      CP=   .42

                                                UNIT HYDROGRAPH
                                            59 END-OF-PERIOD ORDINATES
                 4.       14.       29.       51.       86.      111.      115.      114.      112.      108.
               103.       97.       91.       83.       75.       68.       62.       56.       51.       46.
                41.       37.       34.       31.       28.       25.       23.       21.       19.       17.
                15.       14.       13.       11.       10.        9.        8.        8.        7.        6.
                 6.        5.        5.        4.        4.        3.        3.        3.        3.        2.
                 2.        2.        2.        2.        1.        1.        1.        1.        1.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      519

    TOTAL RAINFALL =    3.36, TOTAL LOSS =    1.19, TOTAL EXCESS =    2.17

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                     (CFS)
+     155.     12.50                   47.         14.          5.           2.
                                  (INCHES)      1.770       2.153       2.161       2.161
                                   (AC-FT)       23.         28.         28.         28.

                                 CUMULATIVE AREA =     .25 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
524 KK        *     CP519  *
              *            *
              **************
                        COMBINE RUNOFF FROM SUB-BASINS 519, 513 AND THE EAST

526 HC          HYDROGRAPH COMBINATION
                      ICOMP           5  NUMBER OF HYDROGRAPHS TO COMBINE

                                                   ***

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    CP519

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                     (CFS)
+     968.     13.17                  371.        110.         38.          16.
                                  (INCHES)      1.231       1.468       1.505       1.512
                                   (AC-FT)      184.        219.        225.        226.

                                 CUMULATIVE AREA =    2.80 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
                 **************
                 *            *
527 KK           *     P519   *
                 *            *
                 **************
                          STORAGE ROUTING AT CP519
                          RUNOFF MAY FLOW BETWEEN THE RR AND THE BLOCKWALL NORTH TO P519.
                          THE BOTTLE NECK OF THIS SHORT CONVEYANCE IS THE CROSS SECTION IMMEDIATELY
                          NORTH OF P519.
                          THIS CORRIDOR IS LESS THAN 1/4 MILE LONG, NARROW AND ALMOST NO SLOPE.
                          NO HYDRAULIC ANALYSIS IS PERFORMED FOR THIS SHORT CORRIDOR.

534 KO              OUTPUT CONTROL VARIABLES
                          IPRNT          3  PRINT CONTROL
                          IPLOT          0  PLOT CONTROL
                          QSCAL         0.  HYDROGRAPH PLOT SCALE

                  HYDROGRAPH ROUTING DATA

535 RS              STORAGE ROUTING
                          NSTPS          1  NUMBER OF SUBREACHES
                           ITYP       STOR  TYPE OF INITIAL CONDITION
                          RSVRIC        .00  INITIAL CONDITION
                               X        .00 WORKING R AND D COEFFICIENT

536 SV                STORAGE        1.0      10.0      18.9      34.8      57.9      87.3     113.8     144.0

537 SE              ELEVATION    1210.00   1212.00   1212.50   1213.00   1213.50   1214.00   1214.40   1214.80

538 SQ              DISCHARGE        0.        0.        0.        0.        4.      126.      295.      537.

                                                                   ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     P519

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     355.     15.08                  229.         83.         30.          13.
                                (INCHES)       .761       1.103       1.180       1.243
                                 (AC-FT)       114.        165.        176.        186.

 PEAK STORAGE   TIME                                MAXIMUM AVERAGE STORAGE
                                          6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     121.     15.08                  103.         75.         60.          48.

  PEAK STAGE    TIME                                MAXIMUM AVERAGE STAGE
                                          6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1214.50     15.08                1214.23     1213.78     1213.53     1213.13

                          CUMULATIVE AREA =    2.80 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


                 **************
                 *            *
539 KK           *   519512   *        SPLIT
                 *            *
                 **************
                          DIVERT RUNOFF TO THE WEST ALONG WESTERN CANAL

      DT          DIVERSION
                       ISTAD      WES519  DIVERSION HYDROGRAPH IDENTIFICATION

      DI             INFLOW        3.60    125.50    295.40    536.60

      DQ       DIVERTED FLOW        .00     34.50     43.00     51.30

                                                                   ***

      ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH   WES519

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+      45.     15.08                   39.         16.          5.           2.
                                (INCHES)       .130       .217       .217       .217
                                 (AC-FT)        19.         32.         32.         32.

                          CUMULATIVE AREA =    2.80 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   519512
```

```
 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     310.     15.08                190.         67.          24.          11.
                        (INCHES)    .630        .886         .963        1.026
                         (AC-FT)     94.         132.         144.         153.

                       CUMULATIVE AREA =    2.80 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 544 KK     *       512  *        BASIN
            *            *
            **************
                       RUNOFF CALCULATION FOR SUB-BASIN 512

               SUBBASIN RUNOFF DATA

 546 BA          SUBBASIN CHARACTERISTICS
                      TAREA          .20  SUBBASIN AREA

                 PRECIPITATION DATA

 298 PB                STORM        3.36  BASIN TOTAL PRECIPITATION

  36 PI            INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                      .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                      .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                      .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00

 547 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .21  STARTING LOSS
                        DTH         .16  MOISTURE DEFICIT
                       PSIF        9.70  WETTING FRONT SUCTION
                      XKSAT         .06  HYDRAULIC CONDUCTIVITY
                      RTIMP       15.00  PERCENT IMPERVIOUS AREA

 548 UC          CLARK UNITGRAPH
                         TC         .96  TIME OF CONCENTRATION
                          R        1.01  STORAGE COEFFICIENT

 549 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                   ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=   .96 HR,       R=  1.01 HR
                                  SNYDER   TP=   .60 HR,      CP=   .38

                                            UNIT HYDROGRAPH
                                        69 END-OF-PERIOD ORDINATES
                 3.       11.       23.       42.       67.       82.       85.       85.       84.       81.
                78.       74.       69.       64.       59.       54.       50.       46.       42.       39.
                36.       33.       30.       28.       26.       24.       22.       20.       18.       17.
                16.       14.       13.       12.       11.       10.       10.        9.        8.        7.
                 7.        6.        6.        5.        5.        5.        4.        4.        4.        3.
                 3.        3.        3.        2.        2.        2.        2.        2.        2.        1.
                 1.        1.        1.        1.        1.        1.        1.        1.        1.

    ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION      512
```

```
    TOTAL RAINFALL =    3.36, TOTAL LOSS =    1.61, TOTAL EXCESS =    1.76

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     112.     12.50                35.         10.          3.           1.
                        (INCHES)   1.588       1.743       1.747        1.747
                         (AC-FT)    17.         19.         19.          19.

                        CUMULATIVE AREA =     .20 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  551 KK    *     CP512  *
            *            *
            **************
                      COMBINE RUNOFF FROM SUB-BASIN 512, AND THE EAST

  553 HC          HYDROGRAPH COMBINATION
                       ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

      ***             ***             ***            ***             ***

                        HYDROGRAPH AT STATION    CP512

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     424.     14.67                264.         93.         33.          15.
                        (INCHES)    .681        .963       1.027        1.086
                         (AC-FT)    131.        185.        197.         209.

                        CUMULATIVE AREA =    3.60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  554 KK    *      P512  *
            *            *
            **************
                      STORAGE ROUTING AT CP512

  556 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

  557 RS          STORAGE ROUTING
                       NSTPS           1  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

  558 SV            STORAGE        1.8      48.4     105.9     119.0     133.1     213.7

  559 SE          ELEVATION     1202.20   1207.00   1209.19   1209.50   1210.00   1212.00

  560 SQ          DISCHARGE        0.        0.        0.        42.       486.     7953.
                                                                  ***

      ***             ***             ***            ***             ***

                        HYDROGRAPH AT STATION     P512

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     151.     18.00                 93.         41.         16.           7.
                        (INCHES)    .239        .422        .486         .534
                         (AC-FT)    46.         81.         93.         103.

  PEAK STORAGE  TIME                          MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     122.     18.00                121.        115.        110.          98.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1209.62     18.00              1209.55     1209.42     1209.27      1208.66
```

```
                    CUMULATIVE AREA =     3.60 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
 561 KK   *       505  *        BASIN
          *            *
          **************
                    RUNOFF CALCULATION FOR SUB-BASIN 505

             SUBBASIN RUNOFF DATA

 563 BA        SUBBASIN CHARACTERISTICS
                    TAREA          .04  SUBBASIN AREA

               PRECIPITATION DATA

 298 PB             STORM        3.36  BASIN TOTAL PRECIPITATION

  36 PI          INCREMENTAL PRECIPITATION PATTERN
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                   .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                   .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                   .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00
 564 LG        GREEN AND AMPT LOSS RATE
                   STRTL         .10  STARTING LOSS
                     DTH         .15  MOISTURE DEFICIT
                    PSIF        9.70  WETTING FRONT SUCTION
                   XKSAT         .07  HYDRAULIC CONDUCTIVITY
                   RTIMP       80.00  PERCENT IMPERVIOUS AREA

 565 UC        CLARK UNITGRAPH
                      TC         .76  TIME OF CONCENTRATION
                       R         .93  STORAGE COEFFICIENT

 566 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                  100.0
                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .76 HR,       R=    .93 HR
                                         SNYDER   TP=    .51 HR,      CP=    .36

                                                   UNIT HYDROGRAPH
                                             63 END-OF-PERIOD ORDINATES
                 1.        3.        7.       13.       17.       18.       18.       17.       17.       16.
                14.       13.       12.       11.       10.        9.        8.        8.        7.        6.
                 6.        5.        5.        4.        4.        4.        3.        3.        3.        3.
                 2.        2.        2.        2.        2.        2.        1.        1.        1.        1.
                 1.        1.        1.        1.        1.        1.        1.        1.        0.        0.
                 0.        0.        0.        0.        0.        0.        0.        0.        0.        0.
                 0.        0.        0.

     ***            ***             ***             ***             ***

                    HYDROGRAPH AT STATION      505

   TOTAL RAINFALL =     3.36, TOTAL LOSS =     .38, TOTAL EXCESS =    2.98

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+      26.     12.42                  9.          3.          1.          0.
                        (INCHES)    2.163       2.951       2.969       2.969
```

```
                    (AC-FT)        4.          6.          6.          6.

                    CUMULATIVE AREA =     .04 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
568 KK    *      P505  *
          *            *
          **************
                STORAGE ROUTING AT 505

570 KO          OUTPUT CONTROL VARIABLES
                     IPRNT          3  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL         0.  HYDROGRAPH PLOT SCALE

             HYDROGRAPH ROUTING DATA

571 RS          STORAGE ROUTING
                     NSTPS          1  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                    RSVRIC        .00  INITIAL CONDITION
                         X        .00 WORKING R AND D COEFFICIENT

572 SV            STORAGE         .0        .1       1.0       1.9       8.2

573 SE          ELEVATION     1209.00   1210.00   1210.70   1211.00   1212.00

574 SQ          DISCHARGE          0.        0.        0.        0.        0.
                                                                 ***

     ***            ***            ***            ***            ***

                  HYDROGRAPH AT STATION     P505

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      0.        .00                 0.          0.          0.          0.
                          (INCHES)  .000        .001        .002        .004
                           (AC-FT)     0.          0.          0.          0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      6.      27.50                   6.          6.          6.          6.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1211.65     27.83             1211.66     1211.66     1211.63     1211.52

                  CUMULATIVE AREA =     .04 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
575 KK    *       504  *        BASIN
          *            *
          **************
                RUNOFF CALCULATION FOR SUB-BASIN 504

             SUBBASIN RUNOFF DATA

577 BA          SUBBASIN CHARACTERISTICS
                     TAREA         .32  SUBBASIN AREA

                PRECIPITATION DATA

298 PB               STORM        3.36  BASIN TOTAL PRECIPITATION

 36 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                     .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
```

```
                .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

578 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .12  STARTING LOSS
                        DTH         .21  MOISTURE DEFICIT
                       PSIF        8.80  WETTING FRONT SUCTION
                      XKSAT         .06  HYDRAULIC CONDUCTIVITY
                      RTIMP       27.00  PERCENT IMPERVIOUS AREA

579 UC          CLARK UNITGRAPH
                         TC         .59  TIME OF CONCENTRATION
                          R         .38  STORAGE COEFFICIENT

580 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                   ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .59 HR,       R=   .38 HR
                                         SNYDER   TP=   .32 HR,      CP=   .49

                                                UNIT HYDROGRAPH
                                           27 END-OF-PERIOD ORDINATES
              24.       88.      216.      308.      302.      276.      244.      207.      166.      133.
             106.       85.       68.       54.       43.       35.       28.       22.       18.       14.
              11.        9.        7.        6.        5.        4.        3.

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION      504

   TOTAL RAINFALL =    3.36, TOTAL LOSS =    1.39, TOTAL EXCESS =    1.97

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     349.     12.25                  59.         17.          6.           2.
                        (INCHES)    1.696      1.957       1.960        1.960
                         (AC-FT)     29.         34.         34.          34.

                        CUMULATIVE AREA =     .32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 582 KK     *    504506  *     ROUTE   REACH
            *            *
            **************
                      ROUTE RUNOFF FROM 504 TO EL DORADO LAKES

               HYDROGRAPH ROUTING DATA

 584 RS          STORAGE ROUTING
                      NSTPS           5  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 585 RC          NORMAL DEPTH CHANNEL
                        ANL        .035  LEFT OVERBANK N-VALUE
                       ANCH        .015  MAIN CHANNEL N-VALUE
                        ANR        .035  RIGHT OVERBANK N-VALUE
                      RLNTH       4500.  REACH LENGTH
                        SEL      .0007  ENERGY SLOPE
                      ELMAX         2.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                      CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 587 RY        ELEVATION      2.00      1.00      1.00       .00       .00      1.00      1.00      2.00
 586 RX        DISTANCE        .00      1.00     45.00     46.00    125.00    126.00    170.00    171.00

                                                   ***

                                      COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .86      1.72      2.59      3.45      4.32      5.20      6.07      6.95      7.82
          OUTFLOW        .00      4.87     15.46     30.38     49.05     71.13     96.37    124.57    155.58    189.28
```

ELEVATION	.00	.11	.21	.32	.42	.53	.63	.74	.84	.95
STORAGE	9.18	11.02	12.87	14.71	16.56	18.41	20.26	22.11	23.97	25.83
OUTFLOW	226.56	269.75	317.73	370.03	426.39	486.61	550.52	618.01	688.96	763.28
ELEVATION	1.05	1.16	1.26	1.37	1.47	1.58	1.68	1.79	1.89	2.00

*** *** *** *** ***

HYDROGRAPH AT STATION 504506

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 286.	12.75		59.	17.	6.	2.
		(INCHES)	1.693	1.952	1.960	1.960
		(AC-FT)	29.	34.	34.	34.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
2.	12.75	1.	0.	0.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
1.19	12.75	.38	.14	.05	.02

CUMULATIVE AREA = .32 SQ MI

*** ***

```
              **************
              *            *
588 KK        *     506    *        BASIN
              *            *
              **************
```

RUNOFF CALCULATION FOR SUB-BASIN 506

SUBBASIN RUNOFF DATA

590 BA SUBBASIN CHARACTERISTICS

TAREA .35 SUBBASIN AREA

PRECIPITATION DATA

298 PB STORM 3.36 BASIN TOTAL PRECIPITATION

36 PI INCREMENTAL PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00		

591 LG GREEN AND AMPT LOSS RATE

STRTL	.21	STARTING LOSS
DTH	.15	MOISTURE DEFICIT
PSIF	9.70	WETTING FRONT SUCTION
XKSAT	.07	HYDRAULIC CONDUCTIVITY
RTIMP	16.00	PERCENT IMPERVIOUS AREA

592 UC CLARK UNITGRAPH

TC	1.16	TIME OF CONCENTRATION
R	1.10	STORAGE COEFFICIENT

593 UA ACCUMULATED-AREA VS. TIME, 11 ORDINATES

.0	5.0	16.0	30.0	65.0	77.0	84.0	90.0	94.0	97.0
100.0									

```
                                                  ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=  1.16 HR,       R=  1.10 HR
                                        SNYDER   TP=   .68 HR,      CP=   .38

                                                  UNIT HYDROGRAPH
                                             76 END-OF-PERIOD ORDINATES
                 4.      13.      26.      42.      71.     106.     124.     128.     128.     127.
               125.     121.     116.     112.     105.      98.      91.      84.      78.      72.
                67.      62.      57.      53.      49.      46.      42.      39.      36.      34.
                31.      29.      27.      25.      23.      21.      20.      18.      17.      16.
                15.      14.      13.      12.      11.      10.       9.       9.       8.       7.
                 7.       6.       6.       5.       5.       5.       4.       4.       4.       3.
                 3.       3.       3.       3.       2.       2.       2.       2.       2.       2.
                 2.       1.       1.       1.       1.       1.

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      506

    TOTAL RAINFALL =    3.36, TOTAL LOSS =    1.63, TOTAL EXCESS =    1.73

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     171.     12.67                 58.         16.          5.           2.
                        (INCHES)    1.553       1.722       1.726        1.726
                         (AC-FT)     29.         32.         32.          32.

                        CUMULATIVE AREA =     .35 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  595 KK    *     CP506  *
            *            *
            **************
                        COMBINE RUNOFF FROM SUB-BASIN 516, AND THE EAST

  597 HC          HYDROGRAPH COMBINATION
                       ICOMP           4  NUMBER OF HYDROGRAPHS TO COMBINE
                                                          ***

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    CP506

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     455.     12.75                135.         70.         26.          12.
                        (INCHES)     .291        .604        .679         .732
                         (AC-FT)     67.         139.        156.         168.

                        CUMULATIVE AREA =    4.31 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  598 KK    *      P506  *
            *            *
            **************
                        STORAGE ROUTING AT CP506.  P506 AND P512 SHARE THE SAME WEIR.

  600 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

  601 RS          STORAGE ROUTING
                       NSTPS           1  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

  602 SV            STORAGE          .0      39.0      85.9     208.5     335.9     515.6

  603 SE          ELEVATION     1195.10   1202.20   1204.70   1208.00   1210.00   1212.00

  604 SQ          DISCHARGE          0.        0.        0.        0.      486.     7953.

                                                          ***
```

```
     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     P506

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.           0.
                       (INCHES)      .000        .000        .000         .000
                        (AC-FT)        0.          0.          0.           0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     168.    166.58                 168.        167.        165.         140.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1206.92    166.58              1206.91     1206.89     1206.82      1205.61

                    CUMULATIVE AREA =    4.31 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  605 KK    *       525  *        BASIN
            *            *
            **************
                         RUNOFF CALCULATION FOR SUB-BASIN 525

              SUBBASIN RUNOFF DATA

  607 BA          SUBBASIN CHARACTERISTICS
                        TAREA         .22  SUBBASIN AREA

                  PRECIPITATION DATA

  298 PB                STORM        3.36  BASIN TOTAL PRECIPITATION

   36 PI            INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                       .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                       .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                       .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00
                       .00       .00       .00       .00       .00       .00       .00       .00

  608 LG          GREEN AND AMPT LOSS RATE
                        STRTL         .25  STARTING LOSS
                          DTH         .25  MOISTURE DEFICIT
                         PSIF        4.60  WETTING FRONT SUCTION
                        XKSAT         .40  HYDRAULIC CONDUCTIVITY
                        RTIMP       30.00  PERCENT IMPERVIOUS AREA

  609 UC          CLARK UNITGRAPH
                           TC         .66  TIME OF CONCENTRATION
                            R         .53  STORAGE COEFFICIENT

  610 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                         .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                       100.0

                                                   ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=    .66 HR,       R=    .53 HR
                                  SNYDER   TP=    .40 HR,      CP=    .45

                                          UNIT HYDROGRAPH
```

```
                                                  38 END-OF-PERIOD ORDINATES
                10.       37.       93.      146.      159.      154.      145.      133.      118.      101.
                86.       74.       63.       54.       46.       39.       34.       29.       25.       21.
                18.       15.       13.       11.       10.        8.        7.        6.        5.        4.
                 4.        3.        3.        2.        2.        2.        1.        1.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      525

     TOTAL RAINFALL =    3.36, TOTAL LOSS =    1.78, TOTAL EXCESS =    1.59

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     150.     12.25                 30.          9.          3.          1.
                        (INCHES)    1.288       1.578       1.582       1.582
                         (AC-FT)     15.         18.         18.         18.

                       CUMULATIVE AREA =     .22 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 612 KK     *    COO525  *
            *            *
            **************
                         RETENTION DIVERSION
                         DIVERTED FLOW RETAINED WITHIN RESIDENTIAL AREAS
                         DIVERTED FLOW RETAINED DUE TO RETENTION BASINS = 9.33 AC-FT
                         DIVERTED FLOW RETAINED DUE TO FLOOD IRRIGATED LOTS = 0.73 AC-FT
                         TOTAL VOLUME DIVERTED OUT FROM SUB-BASIN 525 = 10.06 AC-FT

     DT          DIVERSION
                      ISTAD      525RET  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       10.06  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW          .00    100.00

     DQ       DIVERTED FLOW        .00    100.00

                                                                  ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH   525RET

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     150.     12.25                 18.          5.          2.          1.
                        (INCHES)     .786        .865        .865        .865
                         (AC-FT)      9.         10.         10.         10.

                       CUMULATIVE AREA =     .22 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   COO525

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     104.     12.67                 15.          4.          1.          1.
                        (INCHES)     .633        .717        .717        .717
                         (AC-FT)      7.          8.          8.          8.

                       CUMULATIVE AREA =     .22 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    9:  /COO/KNO/FLOW/03MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  /COO/KNO/FLOW/04MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  /COO/KNO/FLOW/05MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  /COO/KNO/FLOW/06MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  /COO/KNO/FLOW/07MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  /COO/KNO/FLOW/08MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  /COO/KNO/FLOW/09MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  /COO/KNO/FLOW/10MAR1903/5MIN//


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 622 KK     *    COO524  *
            *            *
            **************
                         RETRIEVE RUNOFF HYDROGRAPH@COOPER AND WARNER AND WRITE TO DSS FILE
```

```
                                                                    ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   CO0524

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      93.     13.00                 38.         19.          8.          3.
                         (INCHES)   1.607       3.326       3.919       4.130
                          (AC-FT)     19.         39.         46.         48.

                          CUMULATIVE AREA =     .00 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    9:  /COO/WAR/FLOW/03MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  /COO/WAR/FLOW/04MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  /COO/WAR/FLOW/05MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  /COO/WAR/FLOW/06MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  /COO/WAR/FLOW/07MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  /COO/WAR/FLOW/08MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  /COO/WAR/FLOW/09MAR1903/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  /COO/WAR/FLOW/10MAR1903/5MIN//
1
                                                  RUNOFF SUMMARY
                                          FLOW IN CUBIC FEET PER SECOND
                                       TIME IN HOURS,  AREA IN SQUARE MILES

                                     PEAK   TIME OF    AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN     MAXIMUM     TIME OF
          OPERATION       STATION    FLOW    PEAK                                          AREA      STAGE     MAX STAGE
+                                                        6-HOUR     24-HOUR     72-HOUR

          HYDROGRAPH AT
+                         CON303      22.   14.83         14.          5.          2.       .00
          ROUTED TO
+                         CON501      21.   15.75         13.          5.          2.       .00
+                                                                                                      .19       15.75

          HYDROGRAPH AT
+                            501     606.   12.75        218.         63.         21.      1.23
          DIVERSION TO
+                         501RET     606.   12.92         82.         22.          7.      1.23
          HYDROGRAPH AT
+                         501OUT     594.   12.92        153.         41.         14.      1.23
          DIVERSION TO
+                          TO508     237.   12.92         61.         16.          5.      1.23
          HYDROGRAPH AT
+                           D501     356.   12.92         92.         25.          8.      1.23
          2 COMBINED AT
+                          CP501     356.   12.92        102.         30.         10.      1.23
          ROUTED TO
+                         501502     332.   13.42         99.         30.         10.      1.23
+                                                                                                      .95       13.42

          HYDROGRAPH AT
+                            502     517.   12.67        173.         51.         17.      1.02
          DIVERSION TO
+                         502RET     517.   13.33        100.         27.          9.      1.02
          HYDROGRAPH AT
+                         502OUT     393.   13.33         88.         24.          8.      1.02
          2 COMBINED AT
+                          CP502     700.   13.42        187.         54.         18.      2.25
          ROUTED TO
+                         502503     577.   14.17        181.         54.         18.      2.25
+                                                                                                     1.39       14.17

          HYDROGRAPH AT
+                         FRM501     237.   12.92         61.         16.          5.       .00
          ROUTED TO
+                         501508     190.   13.67         60.         16.          5.       .00
+                                                                                                     1.20       13.67

          HYDROGRAPH AT
+                            508     283.   12.50         84.         25.          8.       .49
          DIVERSION TO
+                         508RET     277.   12.58         25.          7.          2.       .49
          HYDROGRAPH AT
+                         508OUT     282.   12.58         66.         18.          6.       .49
          2 COMBINED AT
+                          CP508     326.   13.50        125.         34.         11.       .49
          ROUTED TO
+                         508516     323.   13.58        124.         34.         11.       .49
```

```
+                                                                                                  .98       13.58

          HYDROGRAPH AT
+                         CON308        8.   26.33          7.          3.          1.        .00

          HYDROGRAPH AT
+                         CON310      476.   13.00         87.         25.          8.        .00

          2 COMBINED AT
+                         308310      476.   13.00         87.         27.          9.        .00

          ROUTED TO
+                         CON516      434.   13.42         85.         27.          9.        .00
+                                                                                                 1.08       13.42

          HYDROGRAPH AT
+                            516      172.   12.67         67.         20.          7.        .36

          DIVERSION TO
+                         516RET        9.   12.67          5.          2.          1.        .36

          HYDROGRAPH AT
+                         516OUT      172.   12.67         67.         19.          6.        .36

          2 COMBINED AT
+                          CP516      567.   13.33        149.         46.         16.        .36

          ROUTED TO
+                           P516      447.   13.67        120.         37.         13.        .36
+                                                                                            1233.65       13.67

          DIVERSION TO
+                         WES516       14.   13.67          5.          2.          1.        .36

          HYDROGRAPH AT
+                         516WES      433.   13.67        115.         36.         12.        .36

          DIVERSION TO
+                         516NOR      253.   13.67         64.         17.          6.        .36

          HYDROGRAPH AT
+                          516NW      180.   13.67         52.         18.          6.        .36

          2 COMBINED AT
+                          516RR      503.   13.67        174.         52.         18.        .85

          ROUTED TO
+                         516509      473.   14.00        172.         52.         18.        .85
+                                                                                             26.38       14.00

          HYDROGRAPH AT
+                         516NOR      253.   13.67         64.         17.          6.        .00

          HYDROGRAPH AT
+                            509      170.   12.83         70.         22.          7.        .37

          2 COMBINED AT
+                         509BAS      381.   13.58        131.         39.         13.        .37

          DIVERSION TO
+                         509RET        5.   13.58          4.          1.          0.        .37

          HYDROGRAPH AT
+                         509OUT      381.   13.58        131.         38.         13.        .37

          2 COMBINED AT
+                          CP509      786.   13.92        297.         89.         30.       1.22

          ROUTED TO
+                         509503      609.   15.67        288.         89.         30.       1.22
+                                                                                             18.45       15.67

          HYDROGRAPH AT
+                            500      508.   12.58        166.         49.         16.       1.10

          DIVERSION TO
+                         500RET      502.   12.67         52.         15.          5.       1.10

          HYDROGRAPH AT
+                         500OUT      506.   12.67        129.         35.         12.       1.10

          ROUTED TO
+                         500503      456.   13.25        127.         35.         12.       1.10
+                                                                                              1.16       13.25

          HYDROGRAPH AT
+                            503     1504.   12.33        254.         80.         27.       1.43

          DIVERSION TO
+                         503RET        0.   12.33          0.          0.          0.       1.43

          HYDROGRAPH AT
+                         503OUT     1504.   12.33        254.         80.         27.       1.43

          4 COMBINED AT
+                          CP503     1506.   12.33        766.        249.         87.       6.00

          ROUTED TO
+                           P503        0.     .00          0.          0.          0.       6.00
```

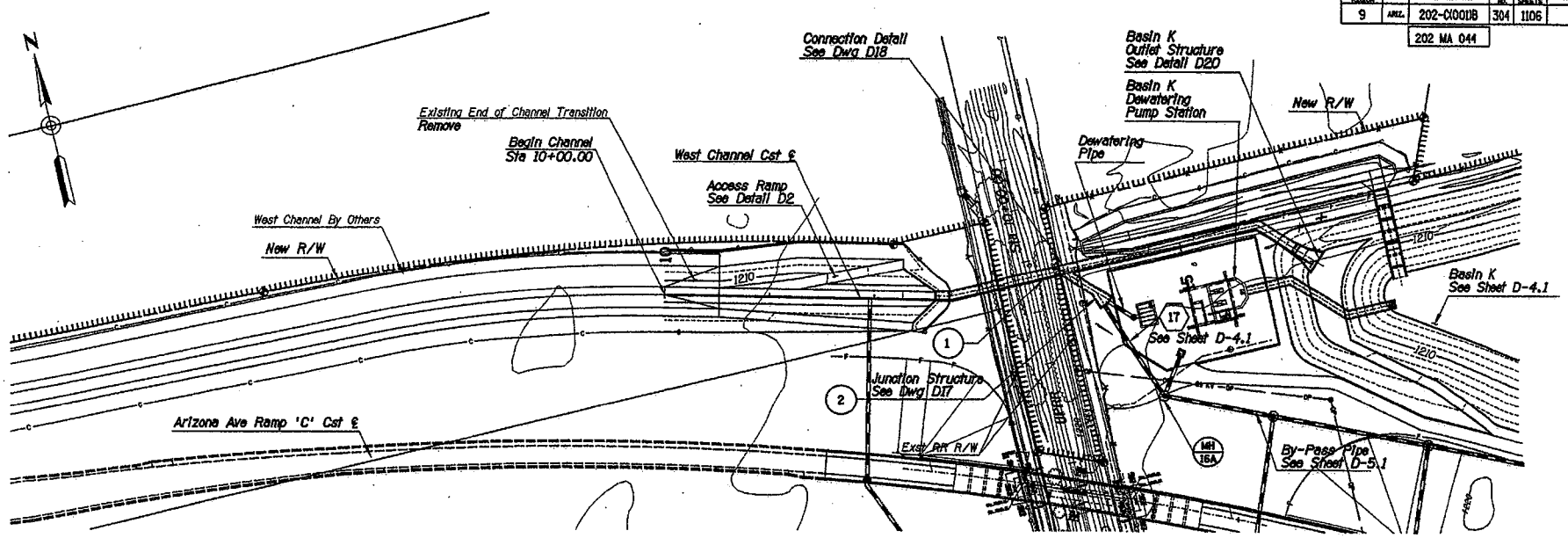
+									1213.20	163.25
+	HYDROGRAPH AT	510	160.	12.17	27.	8.	3.	.13		
+	ROUTED TO	510511	126.	12.75	27.	8.	3.	.13	.59	12.75
+	HYDROGRAPH AT	511	201.	12.83	80.	23.	8.	.47		
+	DIVERSION TO	511RET	201.	13.75	49.	13.	4.	.47		
+	HYDROGRAPH AT	511OUT	139.	13.75	37.	10.	3.	.47		
+	2 COMBINED AT	CP511	180.	13.75	62.	18.	6.	.60		
+	ROUTED TO	511512	153.	14.17	61.	18.	6.	.60	.77	14.17
+	HYDROGRAPH AT	521	274.	12.42	65.	19.	6.	.35		
+	DIVERSION TO	521RET	0.	12.42	0.	0.	0.	.35		
+	HYDROGRAPH AT	521OUT	274.	12.42	65.	19.	6.	.35		
+	ROUTED TO	521517	268.	12.67	65.	19.	6.	.35	.80	12.67
+	HYDROGRAPH AT	517	303.	12.33	67.	20.	7.	.36		
+	DIVERSION TO	517RET	8.	12.33	5.	2.	1.	.36		
+	HYDROGRAPH AT	517OUT	303.	12.33	67.	19.	6.	.36		
+	2 COMBINED AT	CP517	524.	12.58	132.	38.	13.	.70		
+	HYDROGRAPH AT	CON314	54.	18.50	44.	20.	8.	.00		
+	ROUTED TO	CON524	54.	19.00	44.	20.	8.	.00	.32	19.00
+	HYDROGRAPH AT	524	252.	12.33	51.	15.	5.	.36		
+	DIVERSION TO	524RET	252.	13.00	38.	10.	3.	.36		
+	HYDROGRAPH AT	524OUT	116.	13.00	17.	5.	2.	.36		
+	2 COMBINED AT	CP524	116.	13.00	47.	24.	10.	.36		
+	DIVERSION TO	OUT524	93.	13.00	38.	19.	8.	.36		
+	HYDROGRAPH AT	D524	23.	13.00	9.	5.	2.	.36		
+	ROUTED TO	524522	11.	20.00	9.	5.	2.	.36	.15	20.00
+	HYDROGRAPH AT	522	309.	12.83	123.	37.	12.	.71		
+	DIVERSION TO	522RET	309.	13.33	61.	16.	5.	.71		
+	HYDROGRAPH AT	522OUT	272.	13.33	75.	20.	7.	.71		
+	3 COMBINED AT	CP522	524.	12.58	204.	62.	21.	1.77		
+	ROUTED TO	522523	510.	12.75	204.	62.	21.	1.77	1.23	12.75
+	HYDROGRAPH AT	523	214.	12.33	51.	15.	5.	.25		
	DIVERSION TO									

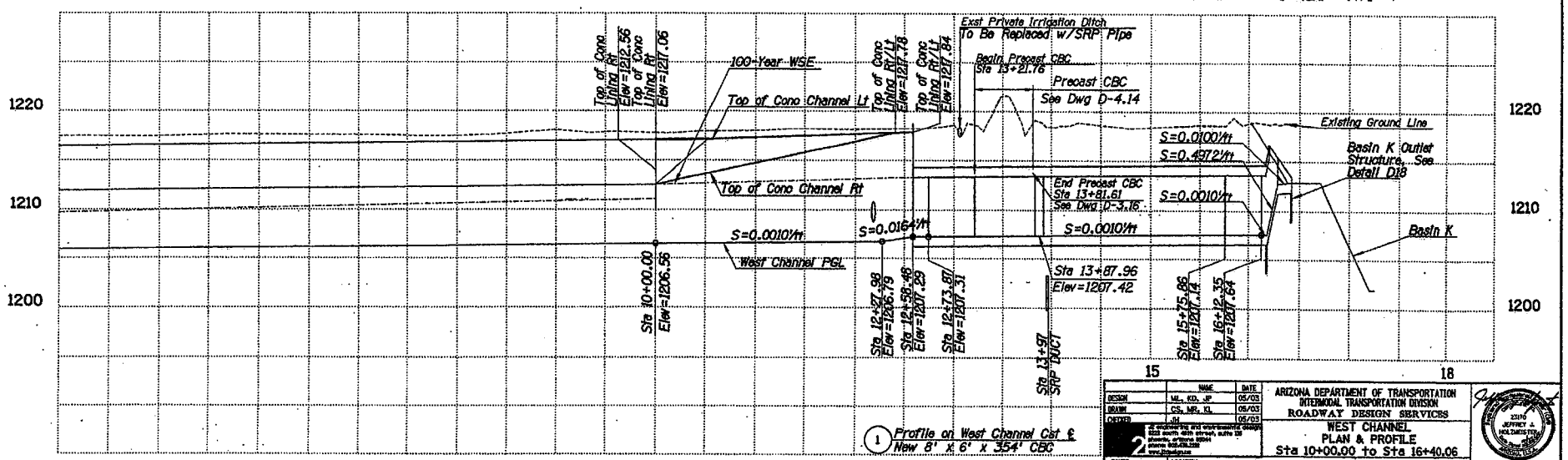
```
+                    523RET     182.  12.33     16.     4.     1.    .25
          HYDROGRAPH AT
+                    523OUT     214.  12.33     39.    10.     3.    .25
          2 COMBINED AT
+                     CP523     680.  12.67    242.    73.    25.   2.02
          ROUTED TO
+                    523519     617.  13.25    241.    73.    25.   2.02
+                                                                   1.67     13.25
          HYDROGRAPH AT
+                       518     268.  12.58     84.    24.     8.    .47
          DIVERSION TO
+                    518RET     218.  12.58     19.     5.     2.    .47
          HYDROGRAPH AT
+                    518OUT     268.  12.58     72.    19.     6.    .47
          ROUTED TO
+                    518519     257.  12.92     71.    19.     6.    .47
+                                                                   1.02     12.92
          HYDROGRAPH AT
+                    WES516      14.  13.67      5.     2.     1.    .00
          DIVERSION TO
+                    -BASFL    -111.  13.67      0.     0.     0.    .00
          HYDROGRAPH AT
+                    WESFUL     125.  13.67    116.   113.   112.    .00
          ROUTED TO
+                    516519     124.  14.58    116.   113.   112.    .00
+                                                                  13.20     14.58
          DIVERSION TO
+                    BASOUT     111.  14.58    111.   111.   111.    .00
          HYDROGRAPH AT
+                    WES519      13.  14.58      5.     2.     1.    .00
          HYDROGRAPH AT
+                       513      25.  12.83     12.     4.     1.    .06
          HYDROGRAPH AT
+                       519     155.  12.50     47.    14.     5.    .25
          5 COMBINED AT
+                     CP519     968.  13.17    371.   110.    38.   2.80
          ROUTED TO
+                      P519     355.  15.08    229.    83.    30.   2.80
+                                                                1214.50     15.08
          DIVERSION TO
+                    WES519      45.  15.08     39.    16.     5.   2.80
          HYDROGRAPH AT
+                    519512     310.  15.08    190.    67.    24.   2.80
          HYDROGRAPH AT
+                       512     112.  12.50     35.    10.     3.    .20
          3 COMBINED AT
+                     CP512     424.  14.67    264.    93.    33.   3.60
          ROUTED TO
+                      P512     151.  18.00     93.    41.    16.   3.60
+                                                                1209.62     18.00
          HYDROGRAPH AT
+                       505      26.  12.42      9.     3.     1.    .04
          ROUTED TO
+                      P505       0.    .00      0.     0.     0.    .04
+                                                                1211.65     27.83
          HYDROGRAPH AT
+                       504     349.  12.25     59.    17.     6.    .32
          ROUTED TO
+                    504506     286.  12.75     59.    17.     6.    .32
+                                                                   1.19     12.75
          HYDROGRAPH AT
+                       506     171.  12.67     58.    16.     5.    .35
          4 COMBINED AT
+                     CP506     455.  12.75    135.    70.    26.   4.31
          ROUTED TO
+                      P506       0.    .00      0.     0.     0.   4.31
+                                                                1206.92    166.58
          HYDROGRAPH AT
+                       525     150.  12.25     30.     9.     3.    .22
```

```
          DIVERSION TO
+                        525RET       150.   12.67          18.          5.          2.        .22

          HYDROGRAPH AT
+                        COO525       104.   12.67          15.          4.          1.        .22

          HYDROGRAPH AT
+                        COO524        93.   13.00          38.         19.          8.        .00


 *** NORMAL END OF HEC-1 ***


    -----DSS---ZCLOSE Unit:  71,   File: CGFDSP3N-24.DSS
              Pointer Utilization:   .66
              Number of Records:    954
              File Size:   1560.5  Kbytes
              Percent Inactive:    .0
```

DS & DN.7 Pertinent Excerpts

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	202-C(001)B	304	1106	
		202 MA 044			





1 Profile on West Channel Cst ℄
New 8' x 6' x 354' CBC

REDUCED SIZE - DO NOT SCALE

	NAME	DATE
DESIGN	ML, KD, JP	05/03
DRAWN	CS, MR, KL	05/03
CHECKED	JH	05/03

2 dl engineering and environmental design
8123 south date street, suite 135
phoenix, arizona 85044
phone 602.438.2288
www.dlengineering.com

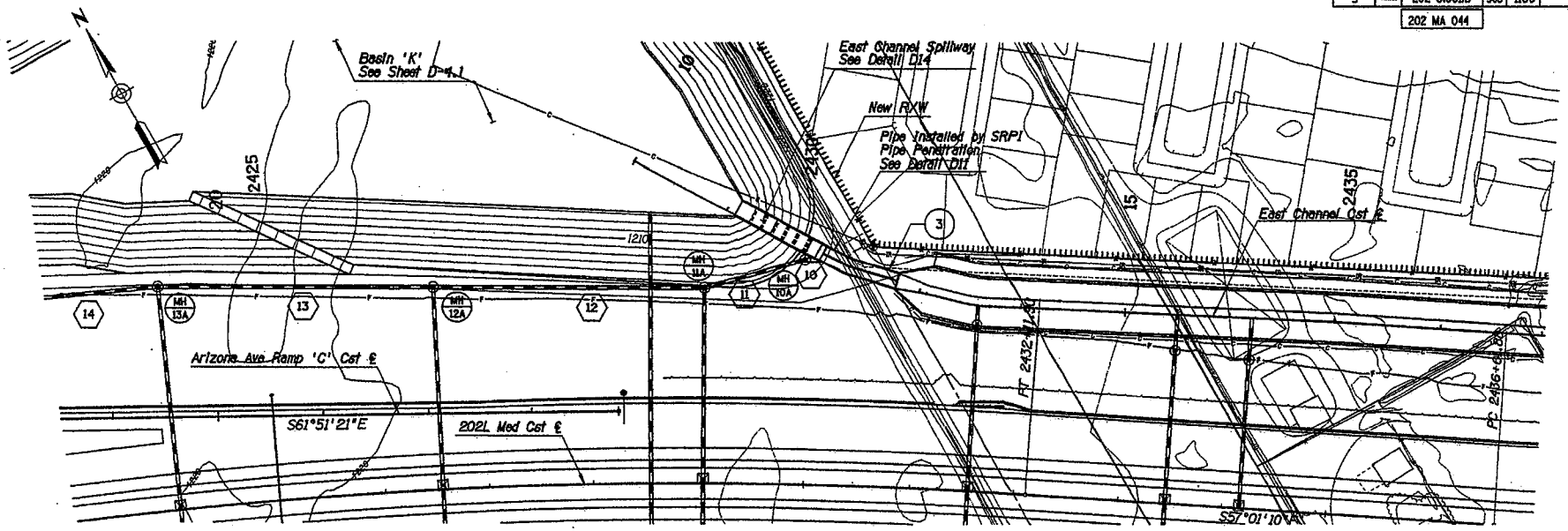
ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

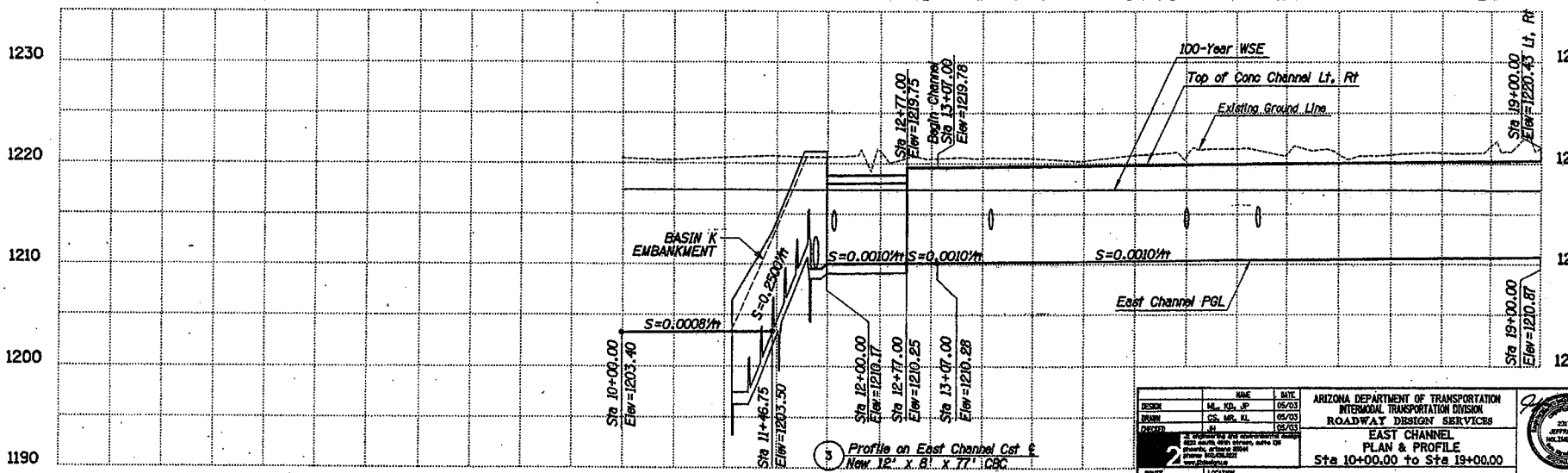
WEST CHANNEL
PLAN & PROFILE
Sta 10+00.00 to Sta 16+40.06

ROUTE: L202
LOCATION: ARIZONA AVE - GILBERT RD
TRACS NO. H5381 01C
202-C(001)B
DWG. NO. D-2.1
304 OF 1106

23176 JEFFREY J. HOLDHEISER

F.A.H.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	202-C(001)B	305	1106	
		202 MA 044			





	NAME	DATE
DESIGN	ML, KD, JP	05/03
DRAWN	CS, MR, KL	05/03
CHECKED	JH	05/03

2 ℄ engineering and environmental design 4201 south 40th street, suite 101 phoenix, arizona 85040 phone 602.438.1222 www.ecdesign.us

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

EAST CHANNEL
PLAN & PROFILE
Sta 10+00.00 to Sta 19+00.00

ROUTE: L202
LOCATION: ARIZONA AVE - GILBERT RD

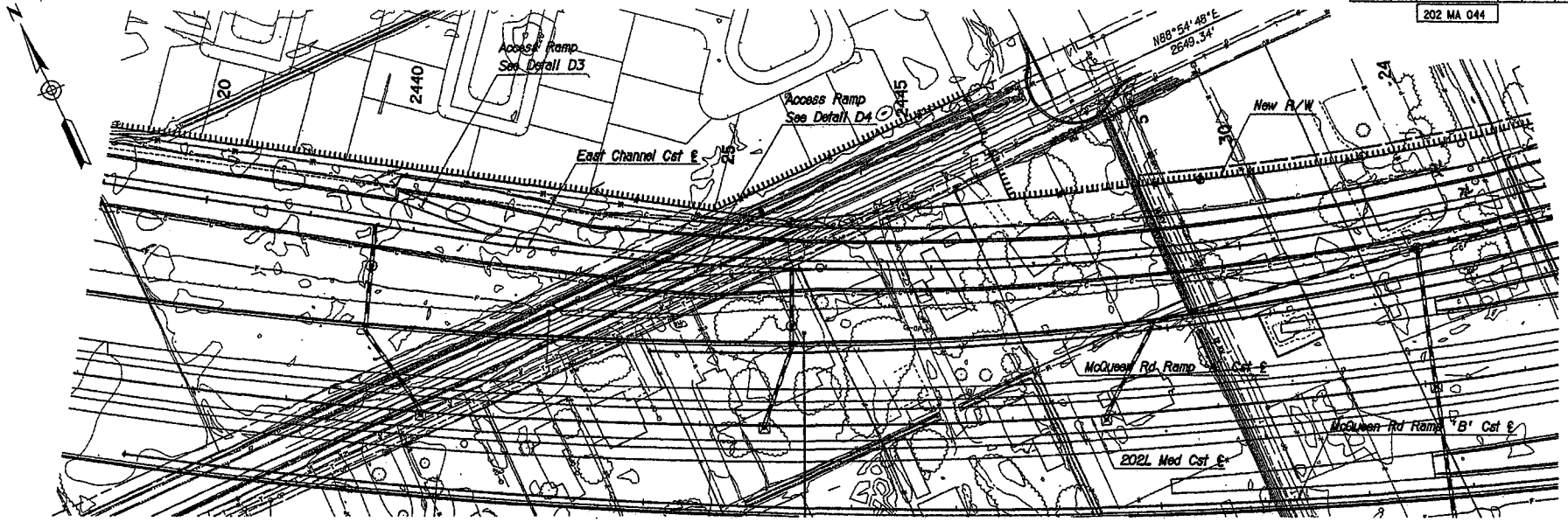
TRACS NO. H5381 01C | 202-C(001)B

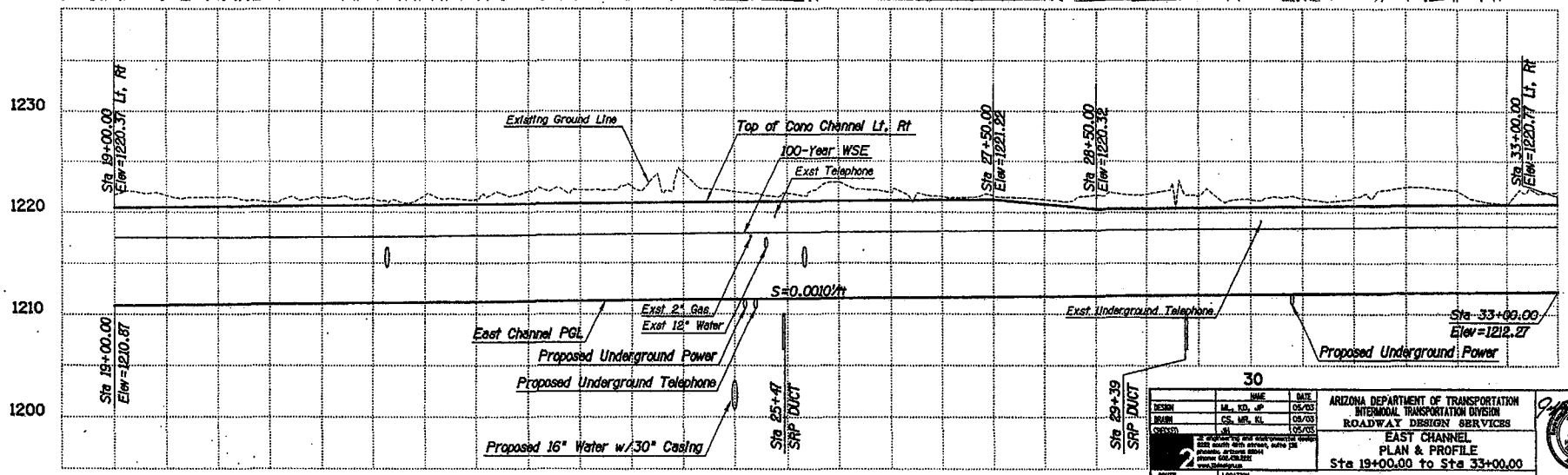
DWG. NO. D-2.2

305 OF 1106

REDUCED SIZE - DO NOT SCALE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	202-C(001)B	306	1106	
		202 MA 044			





REDUCED SIZE - DO NOT SCALE

	NAME	DATE
DESIGN	ML, KD, JP	05/03
DRAWN	CS, MR, KL	05/03
CHECKED	JH	05/03

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

EAST CHANNEL
PLAN & PROFILE
Sta 19+00.00 to Sta 33+00.00

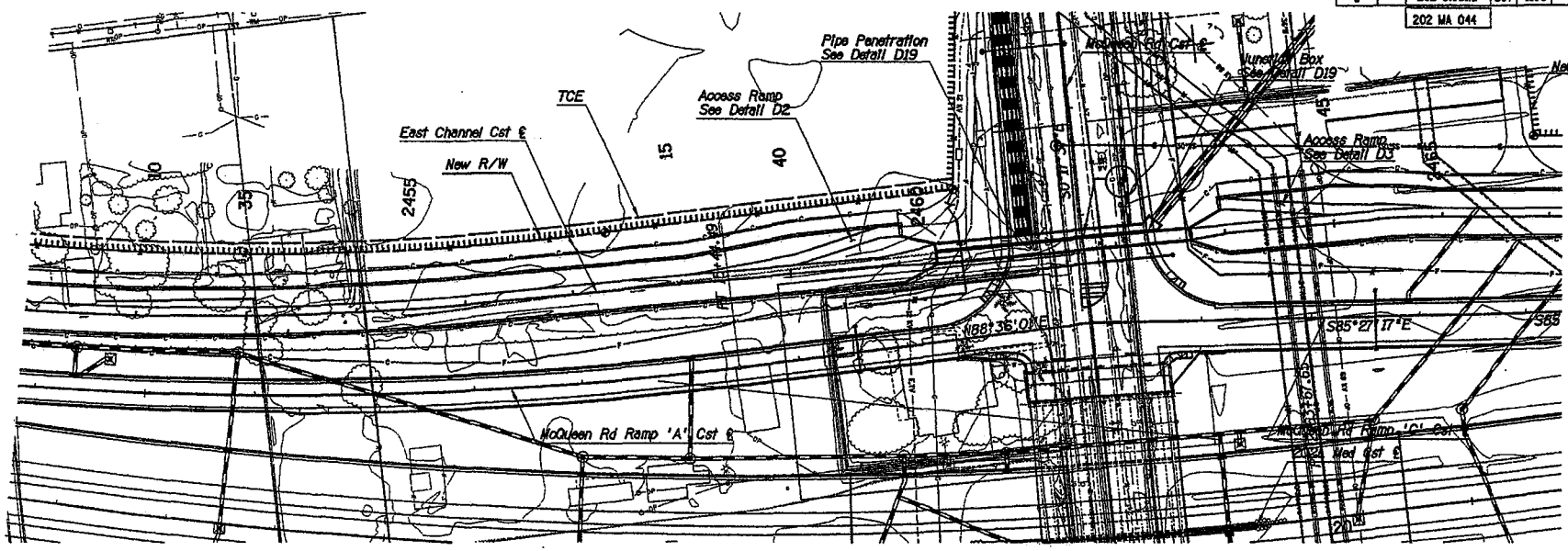
ROUTE: L202 | LOCATION: ARIZONA AVE - GILBERT RD

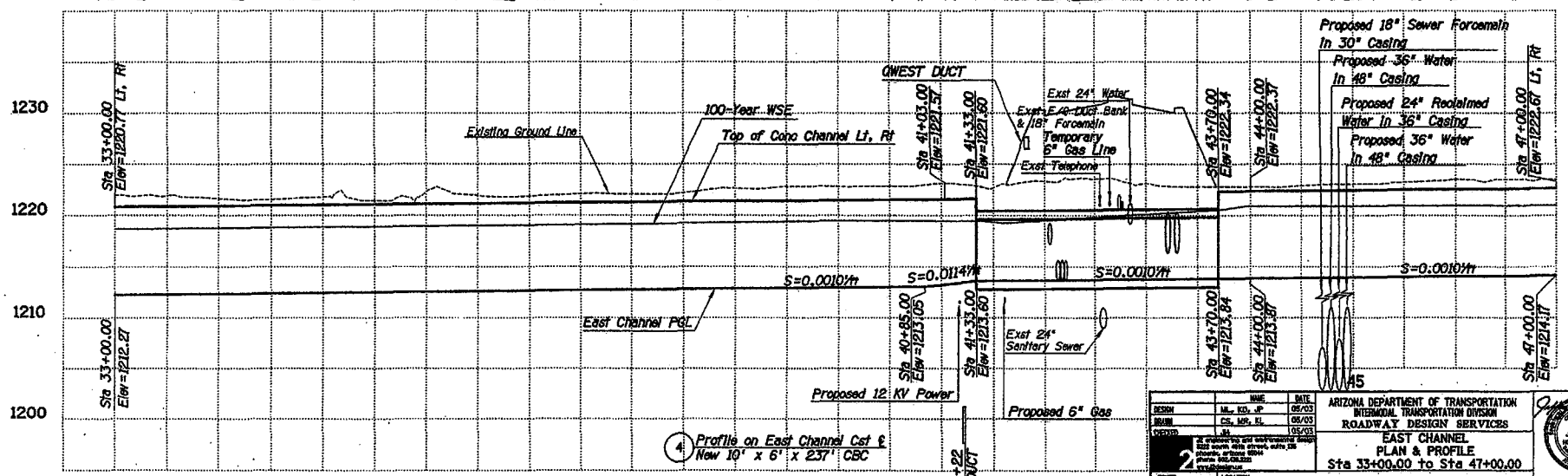
TRACS NO. H5381 01C | 202-C(001)B

DWG. NO. D-2.3

306 OF 1106

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	202-C(001)B	307	1106	
		202 MA 044			





	NAME	DATE
DESIGN	ML, KD, JP	05/03
DRAWN	CS, MR, KL	05/03
CHECKED	JH	05/03

2 Engineering and environmental design 5225 north 40th street, suite 135 phoenix, az 85018 phone 602.438.2220 www.ffdesign.us

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

EAST CHANNEL
PLAN & PROFILE
Sta 33+00.00 to Sta 47+00.00

ESTO JEFFREY A. HOLZWESTER

ROUTE	LOCATION	
L202	ARIZONA AVE - GILBERT RD	
TRACS NO. H5381 01C		202-C(001)B

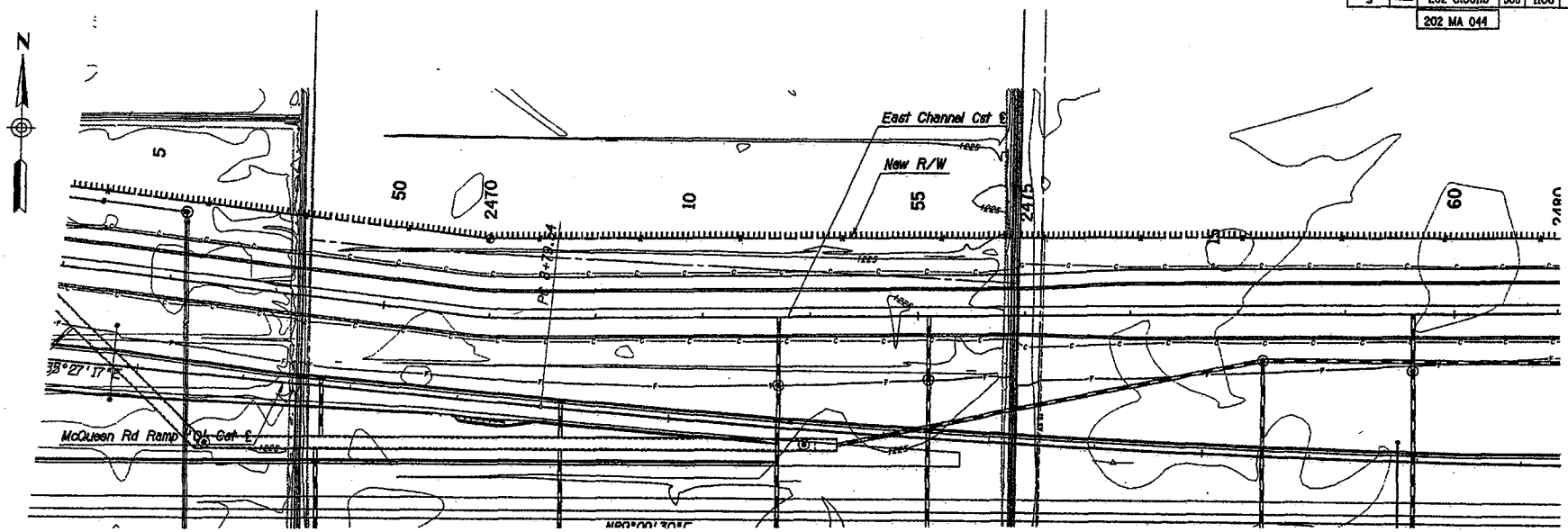
DWG. NO. D-2.4

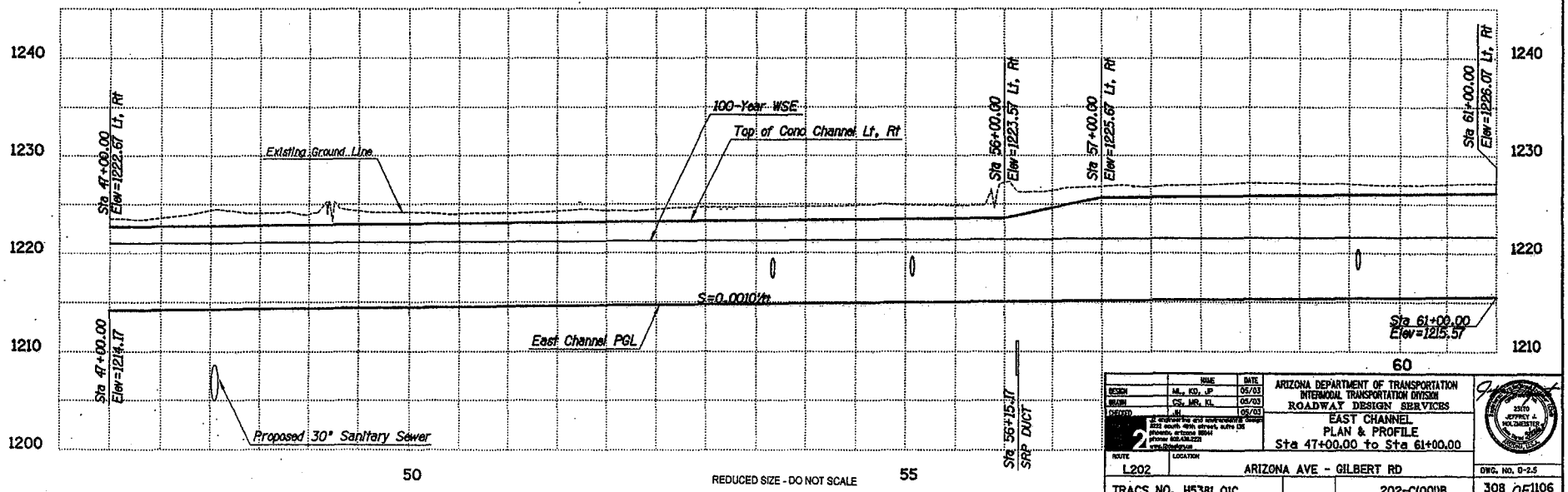
307 OF 1106

REDUCED SIZE - DO NOT SCALE

Plotted By: MGR 8/21/2003 8:07:48 PM

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	202-C(001)B	308	1106	
		202 MA 044			





REDUCED SIZE - DO NOT SCALE

	NAME	DATE
DESIGN	ML, KD, JP	05/03
DRAWN	CS, MR, KL	05/03
CHECKED	JH	05/03

2 JE Engineering and Environmental Design 2222 south 48th street, suite 135 phoenix, arizona 85044 phone 602.438.2221 www.jeedesign

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

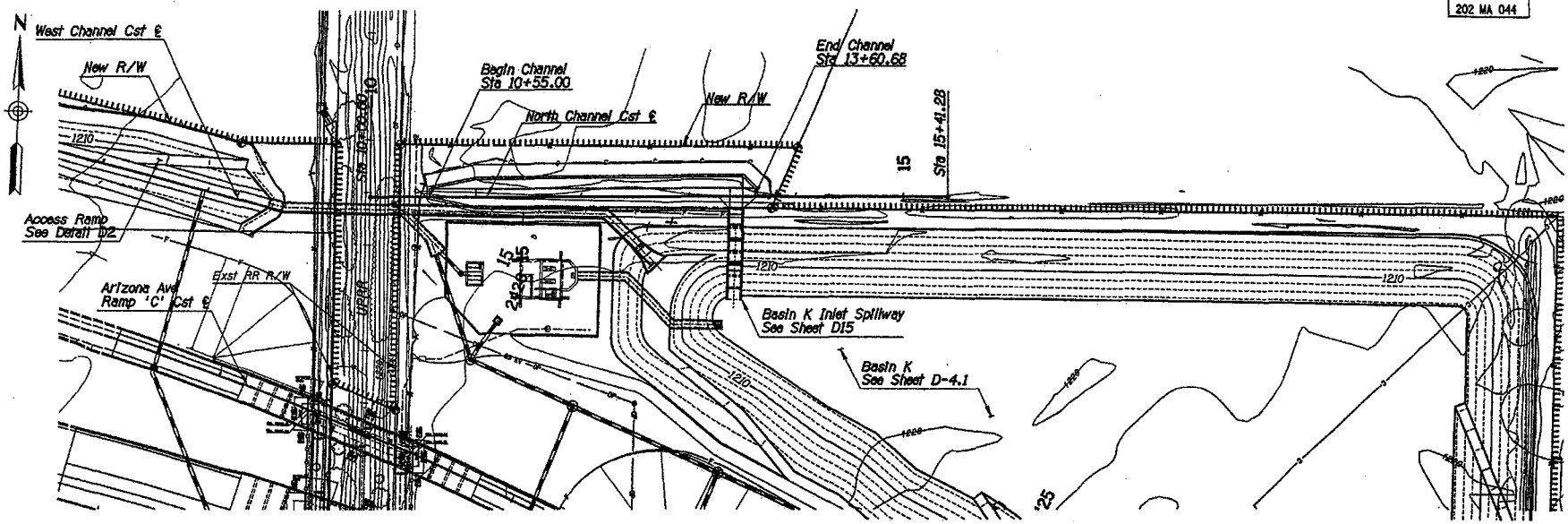
EAST CHANNEL
PLAN & PROFILE
Sta 47+00.00 to Sta 61+00.00

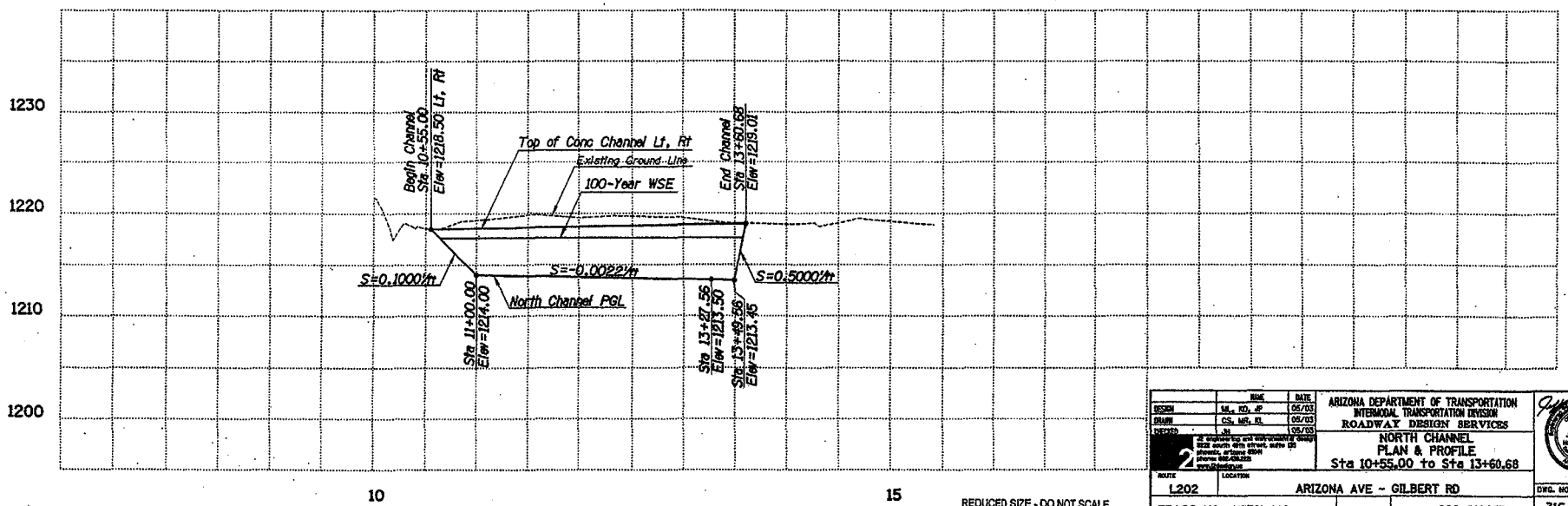
23170 JEFFREY A. MOLDENHAUER ARIZONA

ROUTE	LOCATION	DWG. NO. 0-2.5
L202	ARIZONA AVE - GILBERT RD	
TRACS NO. H5381 01C	202-C(001)B	308 OF 1106

p:\38148\cadd\drainage\sheet files\h5381c05.dgn Plotted By: MGR 9/29/2003 8:17:50 PM

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	202-C(001)B	316	1106	
		202 MA 044			





REDUCED SIZE - DO NOT SCALE

	NAME	DATE
DESIGN	ML, KO, JF	06/03
DRAWN	CS, MF, KL	06/03
CHECKED	JH	06/03

2 al engineering and environmental design 5232 south 48th street, suite 120 phoenix, arizona 85044 phone 602-438.8225 www.alenginuse

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

NORTH CHANNEL
PLAN & PROFILE
Sta 10+55.00 to Sta 13+60.68

ZOTO JEFFREY J. HOLMQUISTOR 22570 ARIZONA, U.S.A.

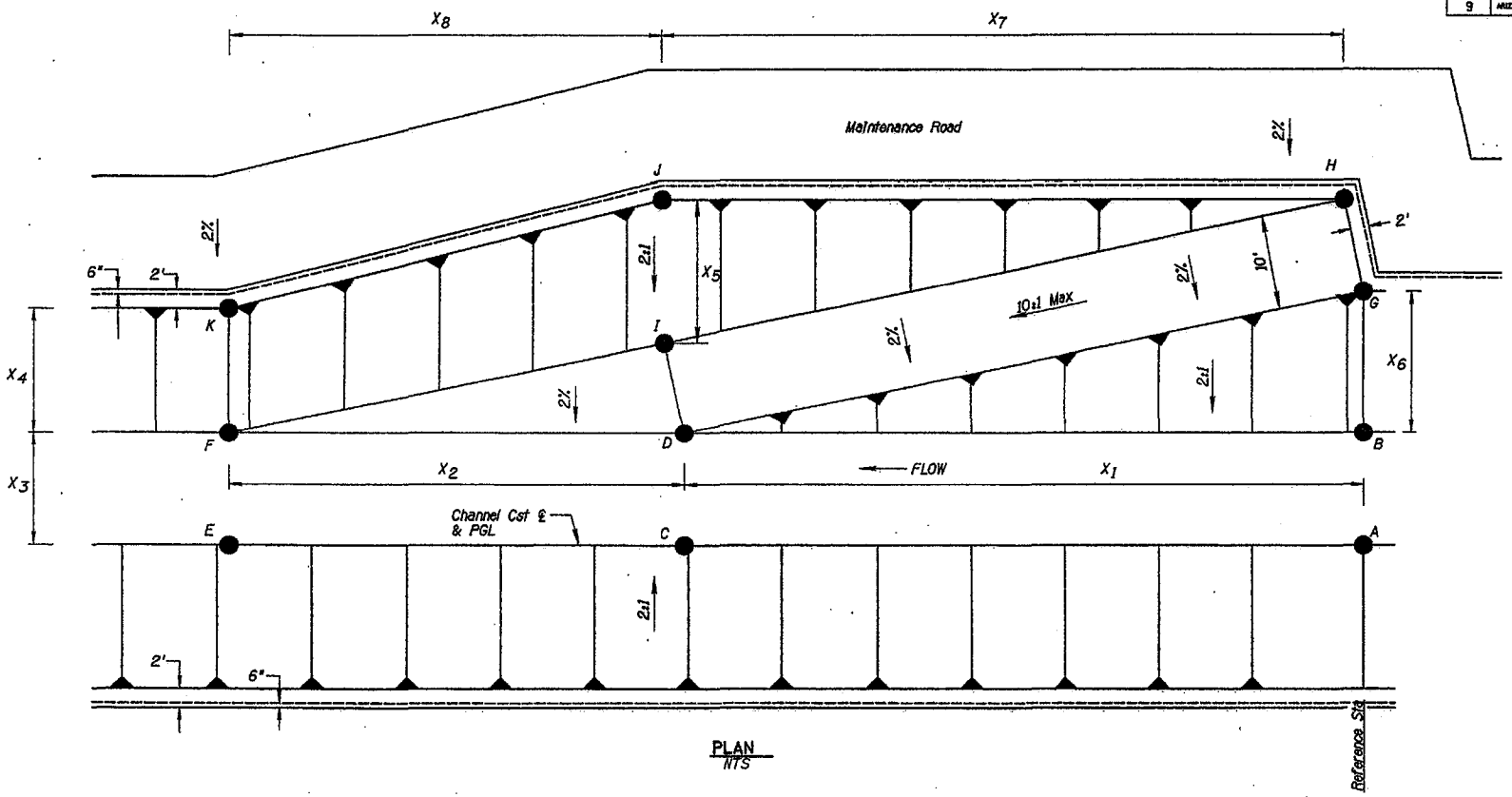
ROUTE	LOCATION	
L202	ARIZONA AVE - GILBERT RD	
TRACS NO. H5381 01C.		202-C(001)B

DWG. NO. D- 2.13

316 OF 1106

p:\20140_ladot\drawings\sheet files\h5381c13.dgn Plotted By: MGR 9/23/2003 6:16:04 PM

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	202-C(001)B	318	1106	
		202 MA 044			



PLAN
NTS

Note: All dimensions shown are measured in the horizontal plane.

CHANNEL REACH	RAMP REFERENCE STATION	DISTANCES (FT)								ELEVATIONS										
		X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	A	B	C	D	E	F	G	H	I	J	K
West	Sta 12+28.00	100.00	100.00	8.00	20.00	19.80	20.00	100.00	99.00	1206.79	1207.29	1206.69	1207.19	1206.61	1207.11	1217.54	1217.71	1207.39	1217.36	1217.09
East	Sta 41+03.00	80.00	100.00	8.00	16.00	15.82	16.00	80.00	99.00	1213.25	1213.77	1212.97	1213.47	1212.87	1213.37	1221.57	1221.77	1213.67	1221.60	1221.39
East	Sta 65+00.00	120.00	100.00	8.00	21.80	22.58	24.00	120.00	99.00	1215.97	1216.47	1215.85	1216.35	1215.75	1216.25	1228.47	1228.67	1216.55	1227.78	1227.21
East	Sta 94+08.00	80.00	100.00	8.00	14.00	13.82	14.00	80.00	99.00	1227.87	1228.37	1227.70	1228.20	1227.49	1227.99	1235.37	1235.57	1228.40	1235.20	1234.99
East	Sta 147+27.00	80.00	100.00	8.00	14.00	13.82	14.00	80.00	99.00	1239.51	1240.01	1239.34	1239.84	1239.13	1239.63	1247.01	1247.21	1240.04	1246.66	1246.23

REDUCED SIZE - DO NOT SCALE

DETAIL D2

	NAME	DATE
DESIGN	ML, KD, JP	06/03
DRAWN	CS, MR, KL	06/03
REVIEW	JJ	05/03

JE engineering and environmental design
8222 south 48th street, suite 135
phoenix, arizona 85044
phone 602.438.5221
www.jeengineering.com

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

CHANNEL
ACCESS RAMP LAYOUT

ROUTE: L202 | LOCATION: ARIZONA AVE - GILBERT RD

TRACS NO. H5381 01C | 202-C(001)B

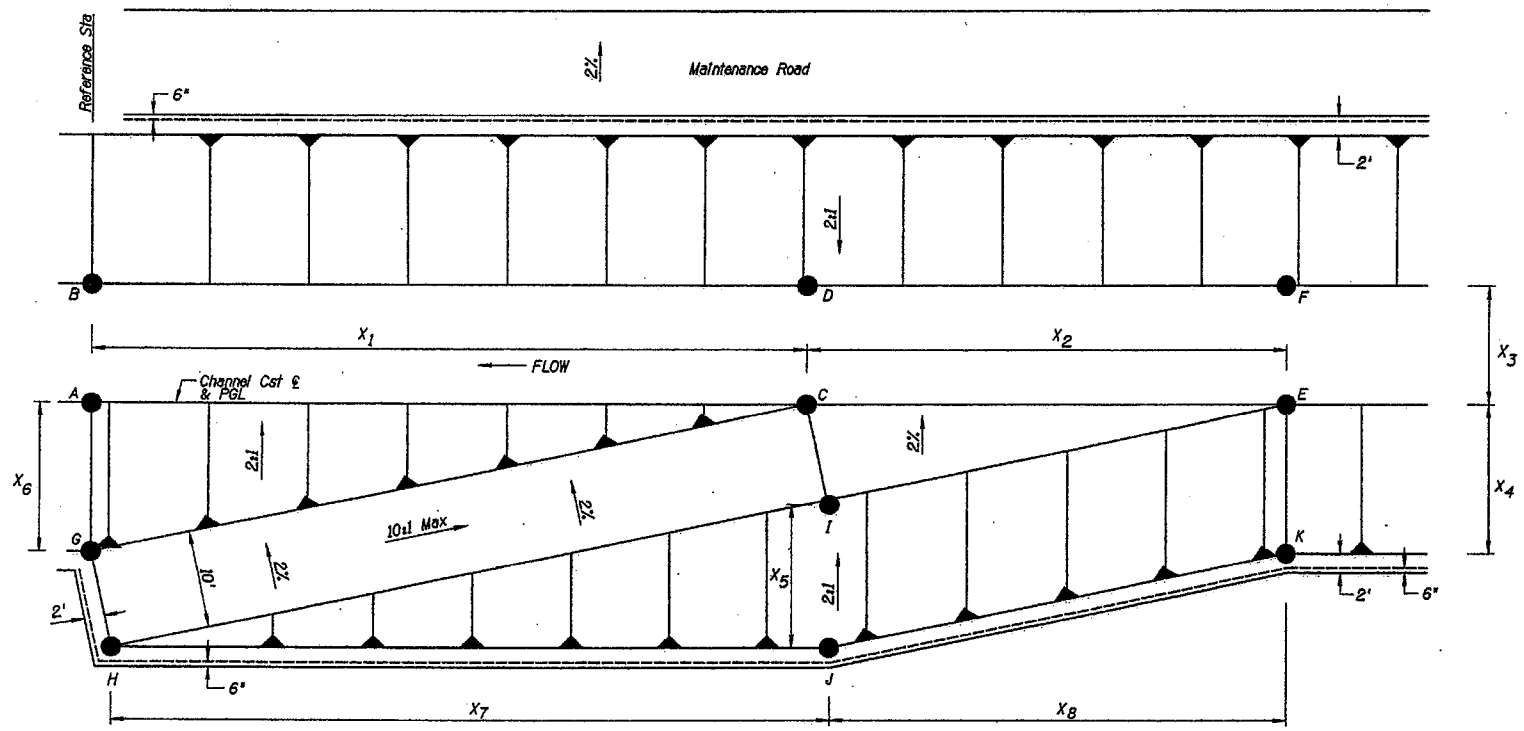
DWG. NO. D-3.2

318 OF 1106

23470 JEFFREY J. POLZIN EXPIRES 12/31/03 ARIZONA

P:\20148\cadd\drainage\sheet files\h5381\d32.dgn Plotted By: MOR 6/12/2003 4:36:28 PM

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	202-C(001)B	320	1106	
		202 MA 044			



Note: All dimensions shown are measured in the horizontal plane.

PLAN
NTS

CHANNEL REACH	RAMP REFERENCE STATION	DISTANCES (FT)								ELEVATIONS										
		X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	A	B	C	D	E	F	G	H	I	J	K
East	Sta 24+00.00	90.00	100.00	8.00	19.00	18.80	19.00	90.00	99.00	1211.37	1211.87	1211.46	1211.96	1211.56	1212.06	1220.87	1221.07	1211.66	1220.98	1221.06
East	Sta 82+00.00	80.00	100.00	8.00	15.00	14.82	15.00	90.00	99.00	1225.34	1225.84	1225.51	1226.01	1225.72	1226.22	1232.64	1232.84	1225.71	1233.12	1233.22
East	Sta 111+00.00	80.00	100.00	8.00	14.00	13.82	14.00	90.00	99.00	1231.91	1232.41	1232.12	1232.68	1232.33	1232.83	1238.71	1238.90	1232.32	1239.12	1239.33

REDUCED SIZE - DO NOT SCALE

DETAIL D4

	NAME	DATE
DESIGN	MR., KD., JP	05/03
DRAWN	CS., MR., KL	05/03
CHECKED	JH	05/03

2 ac engineering and environmental design 8202 south 40th street, suite 139 phoenix, arizona 85044 phone 602.438.8301 www.2acdesign.com

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

CHANNEL ACCESS RAMP LAYOUT

ROUTE: L202 | LOCATION: ARIZONA AVE - GILBERT RD

TRACS NO. H5381 01C | 202-C(001)B

DWG. NO. D-3.4

320 OF 1106

IMPROVEMENT PLANS FOR PINELAKE VILLAGE

COORDINATION WITH UTILITY COMPANIES

SALT RIVER PROJECT (POWER)	MAL DROP XCT 330 CO. REP. CONTACTED	3-11-03 DATE
SALT RIVER PROJECT (SRVWUA)	SUSANA ORTEGA CO. REP. CONTACTED	3-11-03 DATE
ARIZONA PUBLIC SERVICE	N/A CO. REP. CONTACTED	3-11-03 DATE
U.S. WEST COMMUNICATIONS	JOHN O'DELL CO. REP. CONTACTED	3-11-03 DATE
COX COMMUNICATIONS	TRAFFIC MANAGEMENT DV64 CO. REP. CONTACTED	3-11-03 DATE
SOUTHWEST GAS CORPORATION	HEATHER SYMONS CO. REP. CONTACTED	3-11-03 DATE
EL PASO NATURAL GAS	DENNIS SEGARS CO. REP. CONTACTED	3-11-03 DATE
SOUTHERN PACIFIC GAS	N/A CO. REP. CONTACTED	3-11-03 DATE
SPRINT TELEPHONE (LONG DISTANCE)	COLIN SHARD CO. REP. CONTACTED	3-11-03 DATE
AT & T TELEPHONE (LONG DISTANCE)	DALE POLANSKY CO. REP. CONTACTED	3-11-03 DATE
AIR PRODUCTS AND CHEMICALS, INC.	GIL GARCIA CO. REP. CONTACTED	3-11-03 DATE
KINDER MORGAN ENERGY PARTNERS	DANIEL TARANGO CO. REP. CONTACTED	3-11-03 DATE

FINISH GRADE CERTIFICATION

THIS IS TO CERTIFY THAT THE FINISH GRADES SHOWN OR AS-BUILT ON THIS GRADING PLAN ARE IN COMPLIANCE WITH THE SOILS REPORT PREPARED BY:

CONSTRUCTION INSPECTION & TESTING CO. — 8-14-2001 DATE

REGISTERED CIVIL ENGINEER (OR REGISTERED LAND SURVEYOR) — 7-19-2004 DATE

REQUIRED AS-BUILT CERTIFICATION

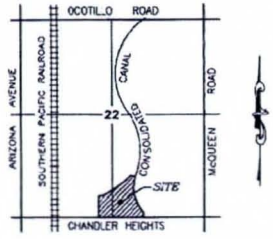
AS-BUILT CONSTRUCTION PLANS FOR POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER, THE ENGINEER'S CERTIFICATE OF COMPLETION AND ALL OTHER REQUIREMENTS OF THE MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT HAVE BEEN COMPLETED.

REGISTERED CIVIL ENGINEER — 7-19-2004 DATE

AS-BUILT CERTIFICATION OF SITE WALLS

I HEREBY CERTIFY THAT THE WALLS AND/OR RETAINING WALLS SHOWN HEREON HAVE BEEN INSPECTED BY ME, OR UNDER MY SUPERVISION, AND THAT THEY HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE DETAILS SHOWN ON THESE PLANS.

REGISTERED CIVIL ENGINEER — 7/20/04 DATE



VICINITY MAP

A PORTION OF THE S 1/2 SECTION 22, T.2S., R.5E., G.& S.R.B. & M., MARICOPA COUNTY, ARIZONA.

BENCH MARK (CMCN) NO. 47

SECTION 23, TOWNSHIP 2 SOUTH, RANGE 5 EAST, 3" CITY OF CHANDLER BRASS CAP IN CONCRETE, FLUSH. 200'± EAST OF INTERSECTION OF McQUEEN ROAD AND OCOTILLO ROAD; 21.5'± SOUTH OF EDGE OF PAVEMENT.

ELEV. = 1228.48

SHEET INDEX

SHEET	1	COVER SHEET
SHEET	2	UTILITY PLAN & KEY MAP
SHEET	3	GENERAL NOTES
SHEET	4	QUANTITIES & DETAILS
SHEETS	5-15	PLAN & PROFILE
SHEETS	16-17	GRADING & DRAINAGE PLANS
SHEETS	18-19	GRADING & DRAINAGE DETAILS
SHEET	20	RETAINING WALL DETAILS

GRADE CERTIFICATION

THIS IS TO CERTIFY THAT THIS GRADING PLAN IS IN COMPLIANCE WITH THE GRADE REQUIREMENTS OF THE SOILS REPORT

PREPARED BY: CONSTRUCTION INSPECTION & TESTING CO.

DATE: 8-14-2001

REGISTERED CIVIL ENGINEER — 8-29-03 DATE

SUBMITTED BY:

REGISTERED CIVIL ENGINEER — 8-29-03 DATE

APPROVED FOR COMPLIANCE WITH CITY CODE:

CITY ENGINEER — 10/1/03 DATE

PUBLIC WORKS ENGINEER — 8-29-03 DATE

APPROVED BY:

DOMESTIC WATER APPROVED:

MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT — 032633 — 9/16/03 DATE

SANITARY SEWER APPROVED:

MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT — 032634 — 9/16/03 DATE

FOR SEWER ONLY
APPROVED FOR COMPLIANCE WITH CITY CODE:

CITY ENGINEER — 10/21/03 date

PUBLIC WORKS ENGINEER — OCT. 29/03 DATE

AS BUILTS
Date 7-19-04

C.O.C. LOG NO. ENR03-0004

NOTES:

THE IMPROVEMENTS SHOWN ON THIS SET OF PLANS WILL NOT BE FULLY APPROVED BY THE CITY, THE CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED, UNTIL THE OVERHEAD UTILITY LINE UNDERGROUNDING AND/OR 69KV POLE RELOCATION REQUIREMENT HAS BEEN SATISFIED.

THE EXISTING RETENTION AND DRAINAGE FACILITIES ON THIS SITE WILL NOT BE REMOVED FROM SERVICE UNTIL THE PERMANENT RETENTION AND DRAINAGE FACILITIES ARE FUNCTIONAL.

EXISTING TREES WITHIN THE CITY RIGHT-OF-WAY TO BE PROTECTED IN PLACE OR REPLACED IN KIND. CONTACT THE CITY OF CHANDLER STREETS DIVISION AT (480) 782-3500 PRIOR TO START OF CONSTRUCTION.

THE IMPROVEMENTS SHOWN ON THIS SET OF PLANS WILL NOT BE FULLY APPROVED BY THE CITY AND THE CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED UNTIL THE IRRIGATION FACILITY UNDERGROUNDING REQUIREMENT HAS BEEN SATISFIED.

A RETAINING WALL WILL BE REQUIRED IF AT THE COMPLETION OF GRADING THERE EXISTS MORE THAN ONE FOOT OF DIFFERENCE IN ELEVATION BETWEEN THIS SITE AND ADJACENT PROPERTIES.

Two working days before you dig CALL FOR "K" BLUE STAKE 602-263-1100 Blue Stake Center CALL COLLECT

CLOUSE ENGINEERING, INC., SHALL NOT BE LIABLE FOR ANY PORTION OF WORK NOT CONFORMING TO APPROVED PLANS SHOULD THEIR STAKES BE FOUND MISSING OR DISTURBED.

DEVELOPER
MOM 104 LLC
3767 W OAKLAND STREET
CHANDLER, ARIZONA, 85226
PHONE (480) 940-0220
FAX: (480) 940-1750

ENGINEER
CLOUSE ENGINEERING, INC.
1642 E. ORANGEWOOD AVENUE
PHOENIX, AZ 85020
PHONE (602) 395-9300

Clouse Engineering, Inc.
ENGINEERS • SURVEYORS
1942 E. Orangewood Ave. Phoenix, Arizona 85020
Tel 602-395-9300 Fax 602-395-9310

IMPROVEMENT PLANS FOR PINELAKE VILLAGE
CHANDLER ARIZONA

Revisions	Date
5-20-03	1-20-03
8-13-03	Job No. 010405

SH. 1 OF 20

1-3831

IMPROVEMENT PLANS FOR PINELAKE VILLAGE

STORMDRAIN CROSS-SECTION NO. 1
HORIZONTAL SCALE 1"=30'
VERTICAL SCALE 1"=3'

STORMDRAIN CROSS-SECTION NO. 2
HORIZONTAL SCALE 1"=30'
VERTICAL SCALE 1"=3'

TYPICAL STREET DIMENSIONS
SIDEWALK ONE SIDE ONLY
HORIZ. SCALE : 1"=30'

TYPICAL STREET DIMENSIONS
SIDEWALK BOTH SIDES
HORIZ. SCALE : 1"=30'

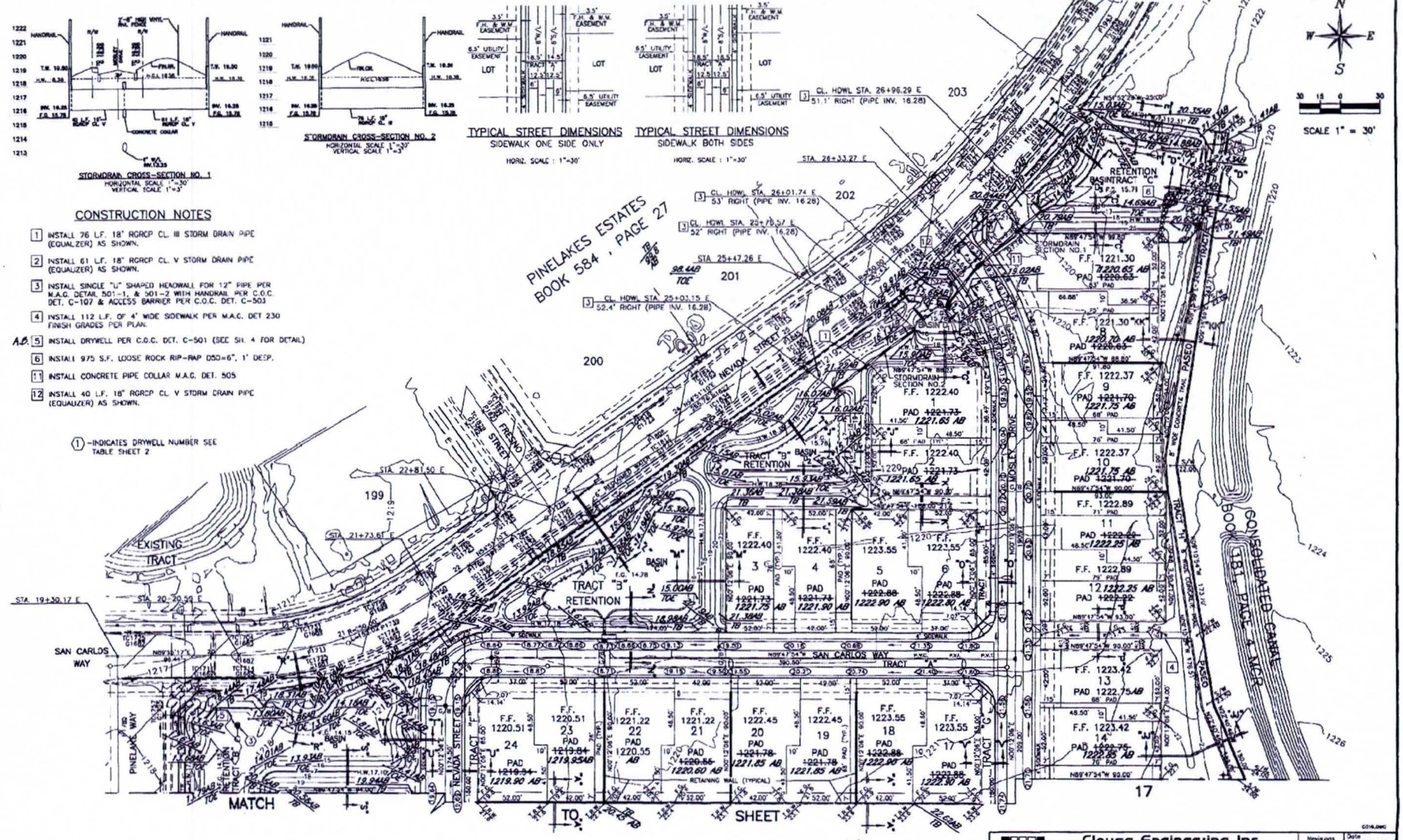
CONSTRUCTION NOTES

1. INSTALL 76 L.F. 18" RGRCP CL. III STORM DRAIN PIPE (EQUALIZER) AS SHOWN.
2. INSTALL 61 L.F. 18" RGRCP CL. V STORM DRAIN PIPE (EQUALIZER) AS SHOWN.
3. INSTALL SINGLE "U" SHAPED HEADWALL FOR 12" PIPE PER M.A.G. DETAIL 501-1, & 501-2 WITH HANDRAIL PER C.O.C. DET. C-107 & ACCESS BARRIER PER C.O.C. DET. C-503
4. INSTALL 112 L.F. OF 4' WIDE SIDEWALK PER M.A.C. DET 230 FINISH GRADES PER PLAN.

A.B. 5. INSTALL DRYWELL PER C.O.C. DET. C-501 (SEE SH. 4 FOR DETAIL)

6. INSTALL 975 S.F. LOOSE ROCK RIP-RAP D50=6", 1' DEEP.
11. INSTALL CONCRETE PIPE COLLAR M.A.C. DET. 505
12. INSTALL 40 L.F. 18" RGRCP CL. V STORM DRAIN PIPE (EQUALIZER) AS SHOWN.

(1) -INDICATES DRYWELL NUMBER SEE TABLE SHEET 2



CLOUSE ENGINEERING, INC., SHALL NOT BE LIABLE FOR ANY PORTION OF WORK NOT CONFORMING TO APPROVED PLANS SHOULD THOUH STAKES BE FOUND MISSING OR DISTURBED.

AS-BUILTS
Date: 7/19/04

Clouse Engineering, Inc.
ENGINEERS • SURVEYORS
1842 E. Orangewood Ave. Phoenix, Arizona 85020
Tel 602-395-8300 Fax 602-395-8310

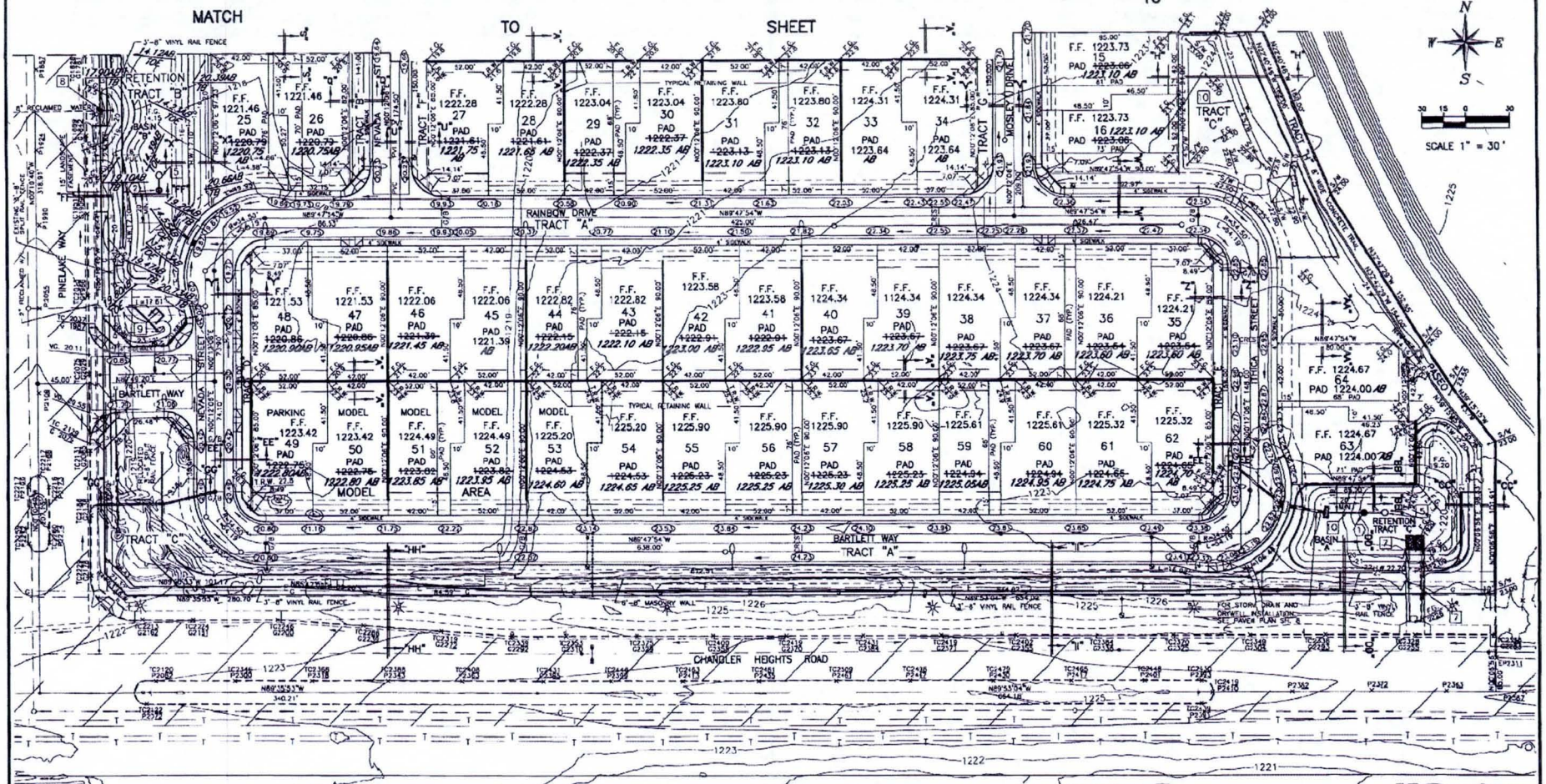
GRADING AND DRAINAGE PLAN
FOR
PINELAKE VILLAGE

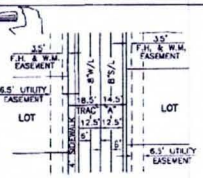
CHANDLER ARIZONA

Revisions	Date
5-2C-03	1-20-03
8-13-03	Job No.
10-30-03	010405
12-2-03	SH. 16
As-Built	OF 20

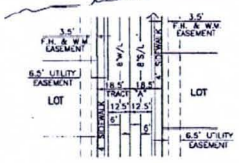
1-3831

MATCH TO SHEET

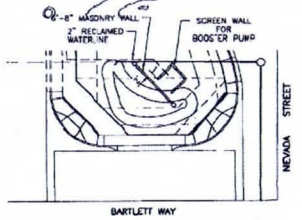




TYPICAL STREET DIMENSIONS
SIDEWALK ONE SIDE ONLY
HORIZ. SCALE : 1"=30'



TYPICAL STREET DIMENSIONS
SIDEWALK BOTH SIDES
HORIZ. SCALE : 1"=30'



ENLARGED PLAN VIEW OF SCREEN WALL
N.T.S.

CONSTRUCTION NOTES

5. INSTALL DRYWELL PER C.O.C. DET. C-501(SEE DETAIL SHEET 4)A.B.
7. REMOVE EXISTING 8' WIDE CONCRETE SPILLWAY AND SPLASH PAD. INSTALL NEW 8' WIDE CONC. SPILLWAY AND RIP-RAP SPLASH PAD PER C.O.C. DET. C-500 AS SHOWN.
8. INSTALL 2" RECLAIMED WATER METER PER C.O.C. DET. C-404 PAGE 1. SEE LDSP PLANS FOR IRRIGATION PLANS.
9. SCREEN WALL FOR RECLAIMED WATER TURNOUT BOOSTER PUMPS. COC DET.404, PAGE 1 SEE ENLARGED DETAIL THIS SHEET.
10. SEE PAVING PLAN SH. 8 FOR 12" P.V.C. PIPE INSTALLATION

(0) -INDICATES DRYWELL NUMBER SEE TABLE SHEET 2

CALL FOR THE BLUE STAKES 602-263-1100 Blue Stake Center CALL COLLECT

CLOUSE ENGINEERING, INC., SHALL NOT BE LIABLE FOR ANY PORTION OF WORK NOT CONFORMING TO APPROVED PLANS SHOULD THEIR STAKES BE FOUND MISSING OR DISTURBED.

AS-BUILTS
Date: 7/19/04

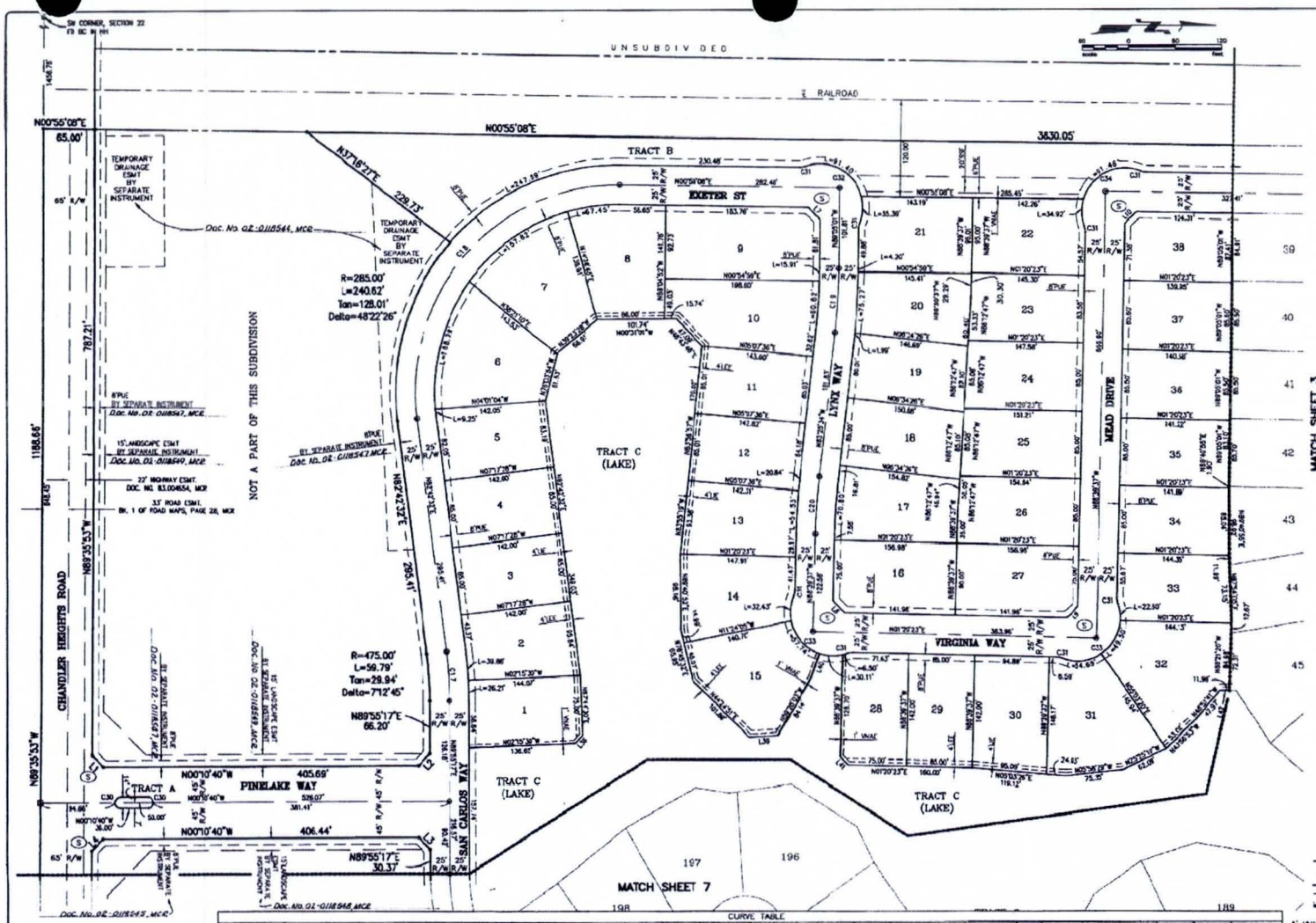
Clouse Engineering, Inc.
ENGINEERS • SURVEYORS
1842 E. Orangewood Ave. Phoenix, Arizona 85020
Tel 602-395-8300 Fax 602-395-8310

GRADING AND DRAINAGE PLAN
FOR
PINELAKE VILLAGE

CHANDLER ARIZONA

Revisions	Date
5-20-03	1-20-03
8-13-03	Job No.
10-30-03	010405
12-2-03	SH. 17
As-Built	OF 20

1-3831



LINE TABLE		
LINE	LENGTH	BEARING
L1	21.11'	S45°06'44"W
L2	21.23'	N45°07'41"W
L3	21.18'	S44°52'38"W
L4	21.32'	N44°53'16"W
L5	21.21'	N44°43'48"W
L6	21.21'	S45°16'12"W
L7	21.21'	S45°05'53"W
L8	21.21'	S44°27'33"W
L9	21.21'	N43°39'37"W
L10	21.29'	N43°52'19"W
L11	21.13'	S46°07'41"W
L12	21.28'	N43°52'19"W
L13	21.14'	S46°07'24"W
L14	21.21'	S46°20'33"W
L15	24.30'	N34°34'08"W
L16	21.29'	N43°52'14"W
L17	21.14'	S46°07'46"W
L18	21.29'	N43°52'14"W
L19	19.69'	S38°19'03"W
L20	21.15'	N47°31'47"W
L21	21.21'	S28°45'30"W
L22	21.22'	N61°14'30"W
L23	21.21'	S28°45'59"W
L24	21.21'	N61°14'01"W
L25	21.21'	S23°06'10"W
L26	21.21'	N66°53'50"W
L27	21.09'	S23°25'29"W
L28	21.37'	S24°10'33"W
L29	23.24'	N71°48'42"W
L30	21.21'	N45°16'38"W
L31	21.21'	S48°41'52"W
L32	21.21'	N40°18'58"W
L33	21.90'	S21°39'32"W
L34	20.42'	N68°07'20"W
L35	23.40'	S16°07'33"W
L36	21.21'	N80°08'50"W
L37	21.28'	S09°41'86"W
L38	14.14'	N47°15'20"W
L39	37.50'	N02°28'11"W
L40	32.53'	N71°33'4"W
L41	14.14'	S46°20'23"W
L42	21.01'	S00°07'33"W
L43	24.92'	N07°03'09"W
L44	31.55'	S61°09'09"W
L45	28.71'	S59°01'47"W
L46	13.49'	N08°31'15"W
L47	36.57'	S71°00'36"W
L48	21.82'	N36°40'49"W
L49	16.18'	N43°38'37"W
L50	32.11'	S21°49'0"W
L51	13.60'	N20°31'26"W
L52	28.13'	S74°52'25"W
L53	32.94'	S12°26'29"W
L54	24.97'	S42°04'22"W
L55	38.40'	N14°08'22"W
L56	35.14'	S08°07'7"W
L57	25.10'	S00°00'00"E
L58	32.54'	N40°16'98"W
L59	7.38'	S78°11'97"W
L60	37.82'	N65°53'32"W
L61	13.81'	N38°38'50"W
L62	29.81'	S88°44'33"W
L63	19.12'	S02°33'35"W
L64	32.41'	N81°04'42"W
L65	20.59'	S36°50'35"W
L66	18.47'	N72°46'13"W
L67	14.24'	N71°32'34"W
L68	12.87'	S15°28'29"W
L69	13.42'	S06°11'7"W
L70	46.10'	S00°40'28"W
L71	16.96'	S16°19'31"W

CURVE TABLE																													
CURVE	DELTA	RADIUS	LENGTH	TANGENT	CHORD	CHD BRG	CURVE	DELTA	RADIUS	LENGTH	TANGENT	CHORD	CHD BRG	CURVE	DELTA	RADIUS	LENGTH	TANGENT	CHORD	CHD BRG	CURVE	DELTA	RADIUS	LENGTH	TANGENT	CHORD	CHD BRG
C1	92°29'00"	400.00'	366.40'	197.19'	353.73'	S28°30'44"W	C18	98°12'35"	250.00'	445.86'	300.20	393.07'	N48°11'10"W	C35	43°14'00"	20.00'	15.09'	7.93	14.74'	N77°45'06"W	C52	111°35'22"	20.00'	38.95'	29.12	33.08'	
C2	4°53'08"	1000.00'	84.39'	42.22	84.36'	N0°04'40"W	C19	5°36'27"	800.00'	78.89'	39.53	78.96'	N85°15'18"W	C36	286°56'49"	50.00'	250.41'	37.03	59.52'	N19°38'32"W	C53	250°12'47"	50.00'	218.35'	71.13	81.81'	N35°43'44"W
C3	58°18'13"	400.00'	406.81'	222.96	389.50'	S27°37'07"W	C20	5°14'03"	800.00'	73.08'	36.57	73.06'	N88°22'35"W	C37	83°42'19"	20.00'	22.24	13.43	21.11'	S48°48'28"W	C54	67°19'06"	20.00'	23.50'	13.32	22.17'	N73°09'08"W
C4	29°54'56"	165.00'	86.13'	44.08	85.18'	S75°43'34"W	C21	10°42'31"	525.00'	98.13'	49.20	97.98'	N85°39'06"W	C38	132°49'35"	55.00'	127.51'	125.99	100.81'	S46°17'34"W	C55	180°31'20"	50.00'	249.17'	38.01	80.51'	N0°15'18"W
C5	90°22'15"	200.00'	315.63'	201.47	283.88'	S46°07'45"W	C22	18°20'00"	300.00'	95.93'	48.41	95.58'	N79°36'40"W	C39	18°40'35"	20.00'	6.52'	3.29	6.49	N76°37'46"W	C56	36°12'16"	20.00'	13.34'	6.93	13.09'	S27°06'12"W
C6	4°31'06"	2000.00'	157.72'	78.90	157.68'	S89°04'50"W	C23	18°10'57"	300.00'	95.22'	48.01	94.80'	N79°34'08"W	C40	20°23'30"	20.00'	7.13'	3.60	7.09'	N77°47'18"W	C57	34°14'30"	20.00'	11.95'	6.16	11.78'	
C7	90°49'30"	200.00'	317.04'	202.90	284.87'	N47°45'58"W	C24	18°10'57"	150.00'	47.62'	24.00	47.40'	N79°34'08"W	C41	132°07'38"	55.00'	126.83'	123.90	100.54'	S46°21'50"W	C58	158°29'04"	55.00'	152.13'	289.48	188.07'	
C8	14°06'18"	300.00'	73.55'	37.11	73.87'	S86°14'30"W	C25	5°38'53"	2500.00'	246.43'	123.31	246.33'	N19°24'24"W	C42	113°53'47"	55.00'	109.33'	84.33	92.20'	N34°34'08"W	C59	137°43'22"	55.00'	127.40'	125.56	190.77'	S73°25'29"W
C9	13°33'46"	500.00'	121.27'	60.93	120.97'	N06°18'00"W	C26	13°21'20"	500.00'	124.00'	67.40	123.60'	N07°28'10"W	C43	131°39'29"	55.00'	126.36'	122.55	100.36'	N43°39'14"W	C60	131°28'13"	55.00'	126.21'	122.03	180.28'	S24°02'53"W
C10	11°27'00"	400.00'	79.94'	40.10	79.86'	S63°01'18"W	C27	80°26'59"	394.00'	536.51'	324.22	495.45'	S14°40'40"W	C44	76°47'13"	20.00'	26.82	15.65	24.84'	N50°18'00"W	C61	20°28'05"	20.00'	7.14'	3.61	7.11'	
C11	10°48'22"	400.00'	75.44'	37.83	75.33'	S67°41'39"W	C28	31°25'26"	165.00'	145.34'	74.55	143.52'	S80°26'49"W	C45	276°15'00"	50.00'	241.07'	44.82	66.75'	S30°00'07"W	C62	120°48'06"	55.00'	115.98'	96.82	85.85'	N71°41'02"W
C12	9°34'40"	500.00'	86.49'	43.35	86.38'		C29	14°47'14"	1322.56'	341.34'	171.82	340.39'	N26°23'46"W	C46	19°27'47"	20.00'	6.79'	3.43	6.76'	S81°36'30"W	C63	88°52'02"	20.00'	31.02'	19.51	28.00'	N59°37'30"W
C13	20°46'04"	300.00'	181.23'	91.62	180.24'	S77°20'20"W	C30	180°00'00"	7.00'	21.99'		14.00'		C47	89°20'00"	20.00'	24.26'	13.83	22.75'	N53°38'37"W	C64	251°37'90"	50.00'	219.58'	89.31	81.10'	S42°00'01"W
C14	4°37'40"	750.00'	84.84'	42.49	84.92'	S02°12'12"W	C31	21°00'22"	20.00'	7.34'	3.71	7.30'		C48	286°23'30"	50.00'	249.18'	36.78	61.23'	S18°28'26"W	C65	147°28'51"	55.00'	141.57'	198.60	165.60'	S18°21'11"W
C15	50°10'08"	750.00'	656.71'	351.06	635.93'	S29°48'05"W	C32	132°04'35"	55.00'	126.78'	123.75	100.52'		C49	38°03'54"	20.00'	12.24	6.32	12.05'	S73°48'26"W	C66	31°36'20"	20.00'	11.15'	5.72	11.00'	N42°20'09"W
C16	35°04'08"	250.00'	153.02'	78.99	150.64'	S77°23'14"W	C33	132°04'44"	55.00'	126.79'	123.76	100.52'		C50	290°07'45"	50.00'	227.01'	59.45	76.53'		C67	2°01'15"	1000.00'	35.29'	17.64	35.26'	N04°30'22"W
C17	7°12'45"	500.00'	62.84'	31.51	62.96'	S86°18'55"W	C34	131°39'20"	55.00'	126.36'	122.54	100.36'	N43°52'19"W	C51	80°07'45"	20.00'	27.97	16.82	25.75'								

LEGEND

- Indicates Set Brass Cap
- Indicates Found Monument, as noted
- Indicates Corner of Subdivision
- Indicates Boundary of this Subdivision
- Indicates 8' Public Utility Easement
- 1' VNAE — Indicates 1' Vehicular Non Access Easement
- 15 BSL — Indicates Building Setback Line
- W.M.F.H.&S.L.E. — Indicates 3.5' City of Chandler Water Main, Fire Hydrant & Street Light Easement
- LEE — Indicates Lake Edge Easement
- LIE — Indicates Lake Inundation Easement
- SSE — Indicates Sanitary Sewer Easement
- Indicates Sight Visibility Easement
- Indicates Sight Distance Triangle
- EFM ESMT — Indicates Effluent Force Main Easement

BOOK 584 PAGE 27
OFFICIAL RECORDS OF MARICOPA COUNTY RECORDER
HELEN PURCELL
2002-0141088
02/11/2002

amec
AMEC Infrastructure, Inc.
4625 EAST INDIAN AVENUE
PHOENIX, ARIZONA 85018-2806
PHONE: (480) 830-3700
FAX (480) 830-3803

FINAL PLAT

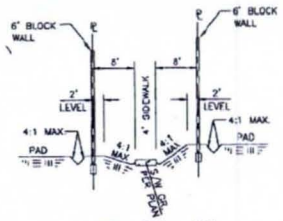
PROJECT: PINELAKE ESTATES
CHANDLER, ARIZONA

DRAWN BY: GM

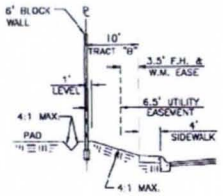
JOB NO. 01 2000 118

2 OF 8

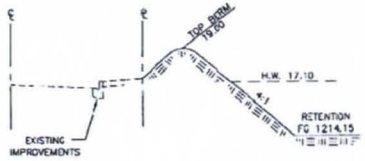
SHEET NO. 2



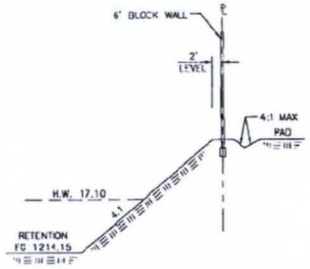
SECTION "P" – "P"
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=3'



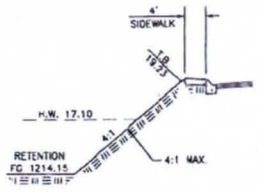
SECTION "Q" – "Q"
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=3'



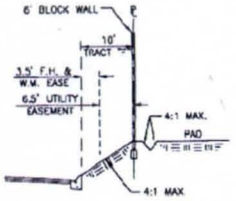
SECTION "R" – "R"
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=3'



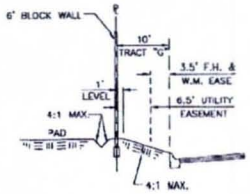
SECTION "S" – "S"
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=3'



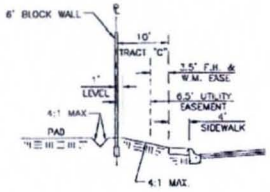
SECTION "T" – "T"
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=3'



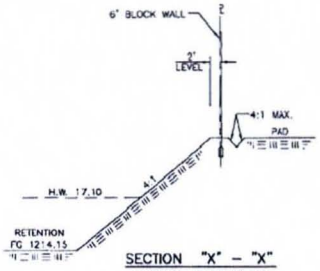
SECTION "U" – "U"
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=3'



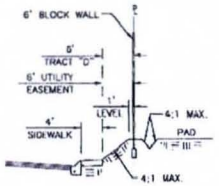
SECTION "V" – "V"
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=3'



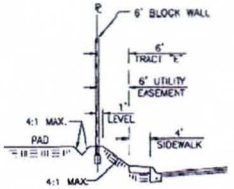
SECTION "W" – "W"
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=3'



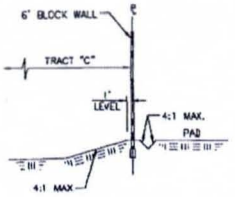
SECTION "X" – "X"
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=3'



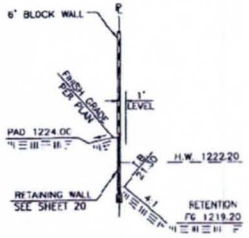
SECTION "Y" – "Y"
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=3'



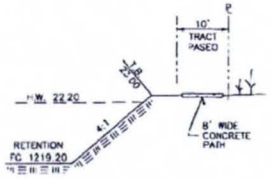
SECTION "Z" – "Z"
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=3'



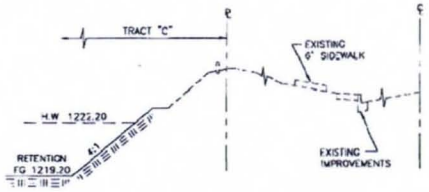
SECTION "AA" – "AA"
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=3'



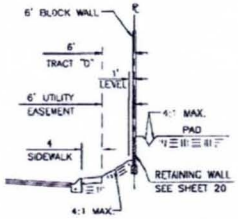
SECTION "BB" – "BB"
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=3'



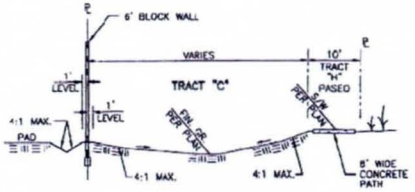
SECTION "CC" – "CC"
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=3'



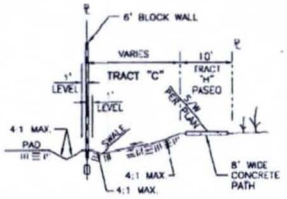
SECTION "DD" – "DD"
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=3'



SECTION "EE" – "EE"
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=3'



SECTION "JJ" – "JJ"
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=3'



SECTION "KK" – "KK"
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=3'

AS BUILTS
Date 7/19/04

Clouse Engineering, Inc.
ENGINEERS • SURVEYORS
1842 E. Orangewood Ave. Phoenix, Arizona 85020
Tel 602-395-6300 Fax 602-395-6310

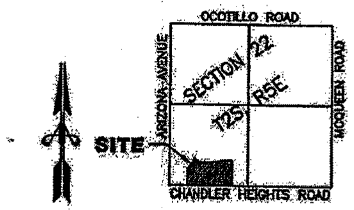
GRADING AND DRAINAGE DETAIL SHEET
FOR
PINELAKE VILLAGE

CHANDLER ARIZONA

Revisions	Date
5-20-03	1-20-03
8-13-03	Job No. 010405
10-30-03	SH. 19 OF 20

1-3831

ON-SITE CIVIL IMPROVEMENT PLANS
FOR
Chandler United Methodist Church
450 E. CHANDLER HEIGHTS ROAD
CHANDLER, ARIZONA 85225



VICINITY MAP
(NOT TO SCALE)

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MOST CURRENT ADOPTED MAG SPECIFICATIONS AND STANDARD DETAILS AS MODIFIED BY THE CITY OF CHANDLER.
2. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
3. THE CITY ENGINEER'S OFFICE SHALL BE NOTIFIED 24 HOURS PRIOR TO STARTING EACH PHASE OF CONSTRUCTION (480-782-3320).
4. PRIOR TO ANY CONSTRUCTION IN THE PUBLIC RIGHT-OF-WAY, THE CONTRACTOR/DEVELOPER SHALL NOTIFY THE LANDSCAPE ARCHITECT AT 480-782-3428. ANY CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE RESTORED TO ORIGINAL CONDITIONS USING THE FOLLOWING REQUIREMENTS:
   A. ALL TREES IMPACTED BY CONSTRUCTION SHALL BE REPLACED WITH THE SAME SIZE AND TYPE OF TREE AT A LOCATION DETERMINED BY THE CITY;
   B. ALL IRRIGATION SYSTEMS SHALL BE RESTORED TO FULLY FUNCTIONING STATUS. ANY IRRIGATION LOCATED BENEATH ASPHALT OR CONCRETE SHALL BE SLEEVED WITH SCHEDULE 40 PVC TWO (2) NOMINAL SIZES LARGER;
   C. THE AREA OF CONSTRUCTION SHALL BE TREATED WITH PRE-EMERGENT HERBICIDE (I.E. SURFLAN);
   D. GRANITE OF A SIZE AND COLOR TO MATCH EXISTING SHALL BE SPREAD A MINIMUM OF TWO (2) INCHES THICK;
   E. THE STREET DIVISION SHALL BE CONTACTED TO INSPECT ALL WORK BEFORE A CONDITIONAL ACCEPTANCE IS ISSUED;
   F. THE CONTRACTOR/DEVELOPER SHALL MAINTAIN THE AREA FOR NINETY (90) DAYS AFTER CONDITIONAL ACCEPTANCE. AFTER 90 DAYS THE CITY SHALL BE CONTACTED FOR FINAL ACCEPTANCE AND ASSUMPTION OF MAINTENANCE.
5. ANY WORK PERFORMED WITHOUT THE APPROVAL OF THE CITY ENGINEER AND/OR ALL WORK AND MATERIAL NOT IN CONFORMANCE WITH THE SPECIFICATIONS IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
6. THE CONTRACTOR SHALL UNCOVER ALL EXISTING LINES BEING TIED INTO TO VERIFY THEIR LOCATION. THE CONTRACTOR SHALL LOCATE OR HAVE LOCATED ALL EXISTING UNDERGROUND UTILITIES (ELECTRIC, TELEPHONE, PIPELINES, ETC.) AND STRUCTURES IN ADVANCE OF CONSTRUCTION AND SHALL ELIMINATE ALL CONFLICTS PRIOR TO START OF CONSTRUCTION. BLUE STAKE TELEPHONE (602) 263-1100.
7. THE CITY OF CHANDLER IS NOT RESPONSIBLE FOR LIABILITY ACCRUED DUE TO DELAYS AND/OR DAMAGES TO UTILITIES IN CONJUNCTION WITH THIS CONSTRUCTION. THE CITY WILL NOT PARTICIPATE IN THE COST OF CONSTRUCTION OR UTILITY RELOCATION.
8. NO FINAL ACCEPTANCE SHALL BE ISSUED UNTIL 4 MIL PHOTO MYLAR REPRODUCIBLE "AS-BUILT" PLANS CERTIFIED AND SEALED BY A REGISTERED CIVIL ENGINEER, HAVE BEEN SUBMITTED AND ACCEPTED BY THE CITY ENGINEER.
9. BACKFILLING SHALL NOT BE STARTED UNTIL LINES ARE APPROVED BY THE CITY ENGINEER.
10. ALL BACKFILL SHALL BE INSTALLED IN ACCORDANCE WITH MAG STANDARD SPECIFICATION 601, TYPE I.
11. DISPOSAL OF AND STOCKPILING OF EXCESS MATERIAL WITHIN THE CHANDLER CITY LIMITS OR PLANNING AREA SHALL BE DONE IN SUCH A WAY THAT WILL NOT CREATE A NUISANCE. THE PLACING OF MATERIAL ON PRIVATE PROPERTY OF ANOTHER REQUIRES WRITTEN AUTHORIZATION. EARTHWORK STOCKPILES ARE NOT TO EXCEED 6 FEET IN HEIGHT. SLOPES ON ALL SIDES OF THE STOCKPILE SHALL NOT EXCEED A 1 TO 2 RATIO OF HEIGHT TO LENGTH. ANY EARTHWORK STOCKPILE, EVEN LESS THAN 6 FEET, MUST BE REMOVED WITHIN 7 DAYS OF CITY NOTIFICATION IF DUST SUPPRESSION EFFORTS FAIL TO MAINTAIN SATISFACTORY AIRBORNE CONTAMINANT CONTROL.
12. TRAFFIC CONTROL SHALL BE MAINTAINED IN ACCORDANCE WITH THE CHANDLER TRAFFIC BARRICADE MANUAL.
13. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS FOR CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD PRIOR TO ENTERING PUBLIC STREETS, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLEAN STREETS, ALLAY DUST, AND TAKE WHATEVER MEASURES ARE NECESSARY TO INSURE THAT ALL ROADS ARE MAINTAINED IN A CLEAN, MUD AND DUST-FREE CONDITION AT ALL TIMES.
14. APPLICATIONS FOR STREET CUT PERMITS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO APPROVAL OF IMPROVEMENT PLANS. ALL PAVEMENT REPLACEMENT SHALL BE EITHER FULL-DEPTH OF A.B.C. OR A.B.C. SLURRY BACKFILL IN ACCORDANCE WITH CITY OF CHANDLER STANDARD SPECIFICATION 3 AND MAG STANDARD DETAIL 200, "T" TOP.
15. AN APPROVED SET OF PLANS SHALL BE MAINTAINED ON THE JOB SITE AT ALL TIMES THAT WORK IS IN PROGRESS. DEVIATION FROM THE PLANS SHALL NOT BE ALLOWED WITHOUT AN APPROVED PLAN REVISION.
16. A MINIMUM HORIZONTAL SEPARATION OF SIX (6) FEET IS REQUIRED BETWEEN SEWER SERVICES AND WATER OR FIRELINE SERVICES. A MINIMUM HORIZONTAL SEPARATION OF SIX (6) FEET IS REQUIRED BETWEEN RECLAIMED WATER SERVICES AND SEWER, WATER, OR FIRELINE SERVICES.
17. SETBACKS FOR UTILITY POLES, STRUCTURES, AND OTHER SIMILAR FACILITIES GREATER THAN 18 INCHES IN HEIGHT SHALL BE 5.5 FEET BACK OF CURB. IN CASES WHERE THE FACILITIES ARE ADJACENT TO A DECELERATION LANE OR BUS BAY, THE SETBACK CAN BE REDUCED TO 2.5 FEET BACK OF CURB.
18. ANY PROPOSED RETAINING WALLS, OR COMBINATION RETAINING/SCREEN WALLS, SHALL BE CONSTRUCTED, AND THE RETAINING WALL AS-BUILT CERTIFICATION SIGNED BY THE REGISTERED CIVIL/STRUCTURAL ENGINEER, BEFORE ANY IMPROVEMENTS ARE ACCEPTED, OR CONDITIONALLY ACCEPTED, BY THE CITY ENGINEER.
19. I HEREBY CERTIFY THAT THE "AS-BUILT" INFORMATION AS SHOWN HEREON WAS MADE UNDER MY SUPERVISION, OR AS NOTED, AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

   [signature] 42285 4/16/08
   REGISTERED LAND SURVEYOR — REGISTRATION NO. — DATE
   FIRM NAME: HIGHLAND BENSON ASSOCIATES

   I HEREBY CERTIFY THAT THE "AS-BUILT" INFORMATION SHOWN HEREON SATISFIES THE INTENT OF THE DESIGN.

   REGISTERED CIVIL ENGINEER — REGISTRATION NO. — DATE
   FIRM NAME:

REFERENCE BENCHMARK

CMCN #47

SECTION 23, TOWNSHIP 2 SOUTH, RANGE 5 EAST, 3" CITY OF CHANDLER BRASS CAP IN CONCRETE, FLUSH, 200' ± EAST OF INTERSECTION OF MCQUEEN ROAD AND OCOTILLO ROAD; 21.5 ± SOUTH OF EDGE OF PAVEMENT.

ELEVATION = 1228.49 (C.O.C. DATUM)

Z:\CAD Files\PROJECTS\Roberts-Jones\CUMC\0535plans.dwg, grdng-C1.0, 4/13/2007 8:47:44 AM

OWNER/DEVELOPER

CHANDLER UNITED METHODIST CHURCH
251 W. CHANDLER BLVD.
CHANDLER, AZ 85225-7513
PHONE: (480) 963-3380

SHEET INDEX

SHEET NO.	SHEET TITLE
C1.0	COVER SHEET
C1.1A	KEY MAP
C1.1	NOTES & DETAILS
C1.2 – C1.5	GRADING & DRAINAGE PLAN
C1.6	SECTIONS & DETAILS
C1.7 – C1.10	ON-SITE UTILITY PLAN

LEGAL DESCRIPTION

THAT PORTION OF THE SOUTHWEST QUARTER OF SECTION 22, TOWNSHIP 2 SOUTH, RANGE 5 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:
COMMENCING AT THE SOUTH QUARTER CORNER OF SAID SECTION 22;
THENCE, ALONG THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 22, NORTH 89 DEGREES 35 MINUTES 53 SECONDS WEST (ASSUMED BEARING), 1188.88 FEET TO A POINT ON THE EAST RIGHT OF WAY LINE OF THE SOUTHERN PACIFIC RAILROAD AS SET FORTH IN INSTRUMENT RECORDED IN BOOK 200 OF DEEDS, PAGE 520, RECORDS OF MARICOPA COUNTY, ARIZONA;
THENCE, ALONG SAID EAST RIGHT-OF-WAY LINE, NORTH 00 DEGREES 55 MINUTES 08 SECONDS EAST, A DISTANCE OF 65.00 FEET TO A POINT ON THE NORTH LINE OF THE SOUTH 65.00 FEET OF SAID SOUTHWEST QUARTER, AND THE POINT OF BEGINNING;
THENCE, ALONG SAID NORTH LINE, SOUTH 89 DEGREES 35 MINUTES 53 SECONDS EAST, A DISTANCE OF 787.21 FEET;
THENCE NORTH 45 DEGREES 06 MINUTES 44 SECONDS EAST, A DISTANCE OF 21.11 FEET;
THENCE NORTH 00 DEGREES 10 MINUTES 40 SECONDS WEST, A DISTANCE OF 405.69 FEET;
THENCE NORTH 45 DEGREES 07 MINUTES 41 SECONDS WEST, A DISTANCE OF 21.23 FEET;
THENCE SOUTH 89 DEGREES 55 MINUTES 17 SECONDS WEST, A DISTANCE OF 66.20 FEET TO A POINT ON A TANGENT CURVE CONCAVE SOUTHERLY AND HAVING A RADIUS OF 475.00 FEET;
THENCE WESTERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 07 DEGREES 12 MINUTES 45 SECONDS, AN ARC DISTANCE OF 59.79 FEET;
THENCE SOUTH 82 DEGREES 42 MINUTES 32 SECONDS WEST, A DISTANCE OF 295.41 FEET TO A POINT ON A TANGENT CURVE CONCAVE NORTHERLY AND HAVING A RADIUS OF 285.00 FEET;
THENCE WESTERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 48 DEGREES 22 MINUTES 28 SECONDS, AN ARC DISTANCE OF 240.62 FEET;
THENCE SOUTH 37 DEGREES 16 MINUTES 27 SECONDS WEST, A DISTANCE OF 229.73 FEET TO A POINT ON THE EAST RIGHT-OF-WAY LINE, SOUTHERN PACIFIC RAILROAD;
THENCE ALONG SAID EAST RIGHT-OF-WAY LINE, SOUTH 00 DEGREES 55 MINUTES 08 SECONDS WEST, A DISTANCE OF 273.72 FEET TO A POINT OF BEGINNING.

LOT AREA

324,051 S.F. = 7.4392 ACRES

ENGINEER'S NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF THE PROPERTY AND MUST REPAIR OR REPLACE, AT HIS EXPENSE, ANY DAMAGE TO THE FACILITY OR SITE, THAT OCCURS AS A RESULT OF HIS OR ANY OF HIS SUB-CONTRACTORS, OR SUPPLIERS ACTIONS.
2. ALL PROTECTIVE DEVICES SUCH AS SWALES, DITCHES, BERMS, AND OTHER INCIDENTAL GRADING MUST BE COMPLETED PRIOR TO ANY CONSTRUCTION BEING BUILT.
3. ESTIMATED QUANTITIES SHOWN ARE FOR INFORMATIONAL AND PERMIT PURPOSES ONLY. CONTRACTOR TO VERIFY QUANTITIES AND BASE HIS BID SOLELY ON HIS OWN ESTIMATE.
4. A THOROUGH ATTEMPT HAS BEEN MADE TO SHOW THE LOCATIONS OF ALL UTILITY LINES. HOWEVER, IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
5. DURING CONSTRUCTION, FIRE DEPARTMENT ACCESS ROADS SHALL BE IN PLACE PRIOR TO THE START OF VERTICAL CONSTRUCTION. THE MINIMUM ACCEPTABLE SURFACE SHALL BE NO LESS THAN SIX INCHES OF ABC COMPACTED TO 100%. ALL OPEN TRENCHES WITHIN THE REQUIRED ACCESS ROADS SHALL BE PLATED AT ALL TIMES WITH STEEL PLATES CAPABLE OF SUPPORTING 16 TONS. REQUIRED FIRELINES SHALL BE IN OPERATION PRIOR TO THE START OF CONSTRUCTION.
6. FOR SITE DIMENSIONS AND DETAILS, SEE ARCHITECTURAL SITE PLAN.
7. A RETAINING WALL WILL BE REQUIRED IF AT THE COMPLETION OF GRADING IF THERE EXISTS MORE THAN ONE FOOT OF DIFFERENCE IN ELEVATION BETWEEN THIS SITE AND ADJACENT PROPERTIES.
8. THE EXISTING RETENTION AND DRAINAGE FACILITIES WITHIN THIS DEVELOPMENT WILL NOT BE REMOVED FROM SERVICE UNTIL THE PERMANENT RETENTION AND DRAINAGE FACILITIES ARE FUNCTIONAL.

GRADING NOTES

1. A GRADING PERMIT IS REQUIRED.
2. NO MINIMUM FINISH FLOOR ELEVATION SHALL BE ALTERED.
3. STAKING FINISH FLOOR ELEVATION IS THE RESPONSIBILITY OF THE DEVELOPER AND HIS ENGINEER.
4. CERTIFIED SHALLOW PIT PERCOLATION TEST RESULT IS 0.147 CFH/SF. BASED ON A 50% ATTENUATION OF THE SHALLOW PIT PERCOLATION TEST RESULTS, THE ESTIMATED DRAINAGE TIME OF RETENTION POND IS 26.62 HRS.
5. CONTRACTOR SHALL PROVIDE GRADING FOR POSITIVE DRAINAGE IN ALL RETENTION BASINS AT ELEVATIONS AS SHOWN ON THE PLANS. BOTTOM OF BASIN SHALL BE GRADED TO DRAIN TOWARD DRYWELLS (WHEN USED). MAXIMUM SIDE SLOPES SHALL BE 4:1.
6. DRYWELL INLET GRATE SHALL BE 2" ABOVE FINISH GRADE AT BOTTOM OF THE RETENTION BASIN.
7. DRILLING LOGS FOR DRYWELLS WILL BE FURNISHED TO THE CITY INSPECTOR PRIOR TO FINAL ACCEPTANCE.
8. A PERCOLATION TEST WILL BE REQUIRED OF COMPLETED DRYWELLS PRIOR TO ACCEPTANCE. SHOULD EXISTING SOIL CONDITIONS BE ENCOUNTERED WHICH LACK SUFFICIENT PERCOLATION RATES, ADDITIONAL DRYWELLS OR AN ALTERNATE METHOD OF STORM WATER RUN-OFF DISPOSAL WILL BE REQUIRED. THE PERCOLATION RATE FOR DRYWELL NO. 01 IS 0.23 CFS.
9. DRYWELL CONSTRUCTION SHALL BE DONE ONLY BY CONTRACTORS LICENSED BY THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY. APPLICATION FOR DRYWELL REGISTRATION WAS SUBMITTED TO THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY ON 2/26/08.
10. THE APPROVED DRYWELL REGISTRATION SHALL BE SUBMITTED TO THE CITY BY THE DEVELOPER OR HIS ENGINEER AT THE TIME AS-BUILTS ARE SUBMITTED.
11. ALL WEEP HOLES IN WALLS SHALL BE PROVIDED WITH EROSION PROTECTION 12" THICK WITH D50 = 4" RIPRAP, 24" IN WIDTH, EXTENDED TO THE BACK OF SIDEWALK OR TO THE BOTTOM OF RETENTION BASIN, WHICHEVER APPLIES.

FEMA CLASSIFICATION

THIS SITE LIES IN FEMA FLOOD ZONES X AND AH (SEE APPENDIX B, FLOOD INSURANCE RATE MAP No. 04013C3030 F REVISED, DEC. 13, 2001). ZONE X AREAS ARE AREAS OF 500-YEAR FLOOD; AREAS OF 100-YEAR FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 100-YEAR FLOOD. ZONE AH AREAS ARE AREAS WITH FLOOD DEPTHS OF 1 TO 3 FEET (USUALLY AREAS OF PONDING); BASE FLOOD ELEVATIONS DETERMINED. THE BASE FLOOD ELEVATION FOR ZONE AH ON THIS SITE IS 1216.

AS-BUILT [seal: REGISTERED LAND SURVEYOR 42285 KEVIN D. RILEY, ARIZONA, U.S.A.]

UTILITY COORDINATION BLOCK

	PLANS SUBMITTED TO	DATE
SALT RIVER PROJECT – POWER	BOB MAURER	6/24/06
SALT RIVER PROJECT – IRRIGATION	BOB MAURER	6/24/06
ARIZONA PUBLIC SERVICE	—	—
QWEST COMMUNICATIONS	JOAN FORWITH	6/24/06
SOUTHWEST GAS CORPORATION	ELTON BUELL	6/24/06
EL PASO NATURAL GAS	—	—
SOUTHERN PACIFIC GAS	—	—
SPRINT TELEPHONE LONG DISTANCE	—	—
COX COMMUNICATIONS	AMY LOGSDON	6/24/06
AT&T LONG DISTANCES	—	—
AIR PRODUCTS & CHEMICALS, INC.	—	—
ROOSEVELT WATER CONSERVATION DISTRICT (RWCD)	—	—

FINISH GRADE CERTIFICATION

THIS IS TO CERTIFY THAT THE FINISH GRADES SHOWN OR AS-BUILT ON THIS GRADING PLAN ARE IN COMPLIANCE WITH THE SOILS REPORT PREPARED BY:

RICKER, ATKINSON – McBEE & ASSOCIATES, INC.
2105 SOUTH HARDY DRIVE, SUITE 13
TEMPE, ARIZONA 85282
PHONE: (480) 961-1169
PROJECT NO. G12095, DATED AUGUST 22, 2005

REGISTERED CIVIL ENGINEER (OR REGISTERED LAND SURVEYOR) — DATE

GRADE CERTIFICATION

THIS IS TO CERTIFY THAT THIS GRADING PLAN IS IN COMPLIANCE WITH THE GRADE REQUIREMENTS OF THE SOILS REPORT PREPARED BY:

RICKER, ATKINSON – McBEE & ASSOCIATES, INC.
2105 SOUTH HARDY DRIVE, SUITE 13
TEMPE, ARIZONA 85282
PHONE: (480) 961-1169
PROJECT NO. G12095, DATED AUGUST 22, 2005

ROBERT B. ATHERTON — 4/13/07
REGISTERED CIVIL ENGINEER — DATE

CERTIFICATION

I HEREBY CERTIFY THE SETBACKS FOR UTILITY POLES, STRUCTURES, AND OTHER SIMILAR FACILITIES GREATER THAN 18 INCHES IN HEIGHT SHALL BE 5.5 FEET BACK OF CURB. IN CASES WHERE THE FACILITIES ARE ADJACENT TO A DECELERATION LANE OR BUS BAY, THE SETBACK CAN BE REDUCED TO 2.5 FEET BACK OF CURB.

BY: ROBERT B. ATHERTON — 4/13/07
DATE

APPROVALS

APPROVED FOR COMPLIANCE WITH CITY CODE:

BY: [signature] 4-18-07
CITY ENGINEER — DATE

BY: [signature] 4-17-07
DEVELOPMENT SERVICES ENGINEER — DATE

FLOODPLAIN USE PERMIT GRANTED FAC 06-047

C.O.C. LOG No. CM06-00181

ESTIMATED QUANTITIES

	Unit	Quantity
Paving		
1. Public right-of-way	Square Yards	38
2. Parking Areas	Square Yards	8,329
Concrete		
1. Concrete driveway or alley entrance	Each	2
2. Concrete valley gutter	Lineal Feet	220
3. Curb and gutter	Linear Feet	1,060
4. Sidewalk	Square Feet	8,760
5. Catch basin/scupper	Each	2
6. Sidewalk ramp	Each	7
Water		
1. Water services	Lineal Feet	237
Sewer		
1. Manhole	Each	1
2. Clean out/drop connection	Each	4
Drainage		
1. Retention basin, on-site plus offsite (grading)	Acres	0.84
2. Dry well	Each	1

Option in lieu of paying the pavement damage fee.

I hereby certify that these quantities are accurate.

Seal, date and signature of Registered Civil Engineer:

ROBERT B. ATHERTON
Printed Name

ASBUILT 2/21/08

CALL TWO WORKING DAYS BEFORE YOU DIG (602)263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

ATHERTON ENGINEERING, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
4020 N. 16th STREET, SUITE 108 PHOENIX, AZ 85016-5148
(602) 279-7331 • FAX (602) 230-1902

JOB NO: 05-35

Cover Sheet
Scale: N/A

Notice: These Project Documents, as instruments of service of Roberts/Jones Associates, Inc. and associated authors, ... © 2005 Roberts/Jones Associates, Inc.

Issue Date: 09.28.2006

Revisions:
1
2
3
4

phase one facilities for:
Chandler United Methodist Church
450 East Chandler Heights Road
Chandler, Arizona 85429

Roberts/Jones Associates, Inc.

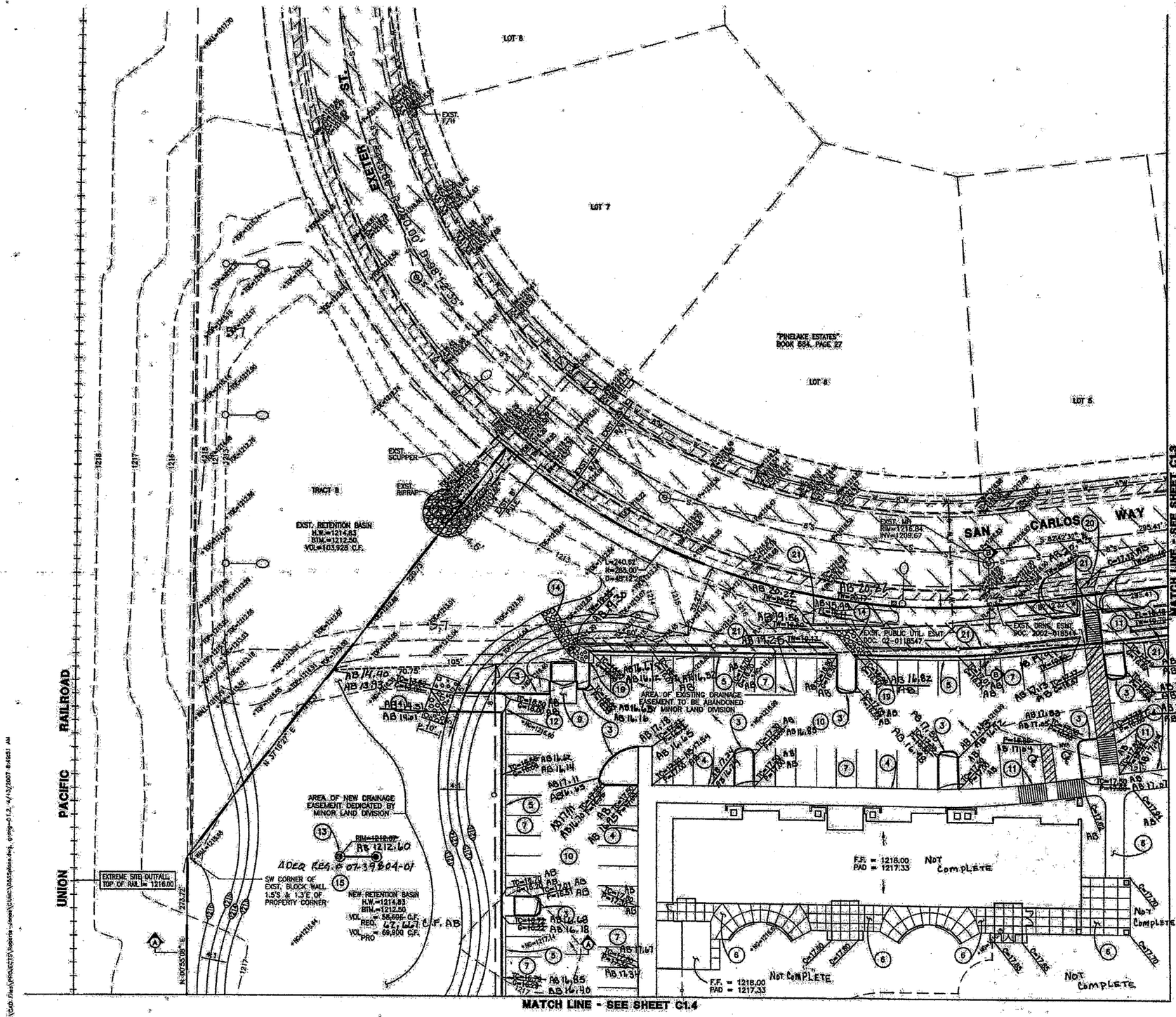
Project Number:

Drawing: 0535plans.dwg

Sheet: C1.0
1 of 8

1-4244

GRADING & DRAINAGE PLAN



CONSTRUCTION NOTES (f)

3 CONSTRUCT 6" HIGH SINGLE CURB PER MAG STD. DET. 222, TYPE "A".

4 CONSTRUCT NEW 4" THICK SIDEWALK WITH 6" WIDE BY 12" DEEP TURN DOWN WALL ADJACENT TO PAVEMENT.

5 CONSTRUCT 6" VERTICAL CURB AND GUTTER PER MAG STD. DET. 220, TYPE "A".

6 CONSTRUCT NEW 4" THICK SIDEWALK PER MAG STD. DET. 230.

7 CONSTRUCT NEW 2" A.C. (C 3/4) ON 5" A.B.C. PAVEMENT ON PREPARED SUBGRADE FOR AUTO PARKING AREAS.

9 CONSTRUCT 6 INCHES OF PORTLAND CEMENT CONCRETE ON PREPARED SUBGRADE.

10 CONSTRUCT NEW 3" A.C. (C 3/4) ON 7" A.B.C. PAVEMENT ON PREPARED SUBGRADE FOR DRIVE ISLES.

11 CONSTRUCT SIDEWALK RAMP PER ARCHITECTURAL DETAIL WITH MAXIMUM LONGITUDINAL SLOPE OF 1 IN 12 AND MAXIMUM CROSS SLOPE OF 1 IN 50.

12 CONSTRUCT 8 FOOT WIDE SCUPPER PER C.O.C. STD. DET. C-500 SHOWN ON SHEET C1.1.

13 INSTALL DRYWELL PER C.O.C. STD. DET. C-501.

14 CONSTRUCT ROCK RIP RAP (6" PLUS SIZED ROCK) 18" DEEP TO CONFIGURATION SHOWN.

15 GRADE RETENTION BASIN TO CONFIGURATION SHOWN WITH 4:1 SIDE SLOPES.

19 CONSTRUCT 5 FOOT WIDE CURB OPENING PER DETAIL SHOWN ON SHEET C1.6.

20 MATCH EXISTING.

21 NEW SCREEN WALL.

SCALE: 1"=20'

20 0 20 40

ROBERT B. ATHERTON

ARIZONA, U.S.A.

ATHERTON ENGINEERING, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
4620 N. 16th STREET, SUITE 108 PHOENIX, AZ 85016-5146
(602) 279-7331 • FAX (602) 230-1908

CALL TWO WORKING DAYS BEFORE YOU DIG (602)263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

JOB. NO.: 05-35

Grading & Drainage Plan

Notice: These Project Documents, an unpublished instrument of service of Atherton Group Associates, Inc. and attorneys-at-law, are protected by the 1976 Federal copyright laws and protected by law in all jurisdictions with the author's ownership, rights, interests, and intellectual property. Do not copy, disclose, or distribute in any form or medium without express written consent of Atherton Group Associates, Inc. Violations will be prosecuted and SUBJECT to a minimum fee of $150.00 per day, per violation. Do not alter electronic files nor transmit them to other parties. If transferred in any form or any media, distribution, transformation, processing, modification, or reproduction of the author's instruments of service constitutes "Alteration of the author's work" and is subject to the Visual Artists Rights Act of 1990 (VARA). © 2005 Atherton Associates, Inc.

ASBUILT 2/21/08

Issue Date: 09.26.2006

Revisions:
1
2
3
4

phase one facilities for:

Chandler United Methodist Church

450 East Chandler Heights Road
Chandler, Arizona 85249

Project Number:

Drawing: 0535plans.dwg

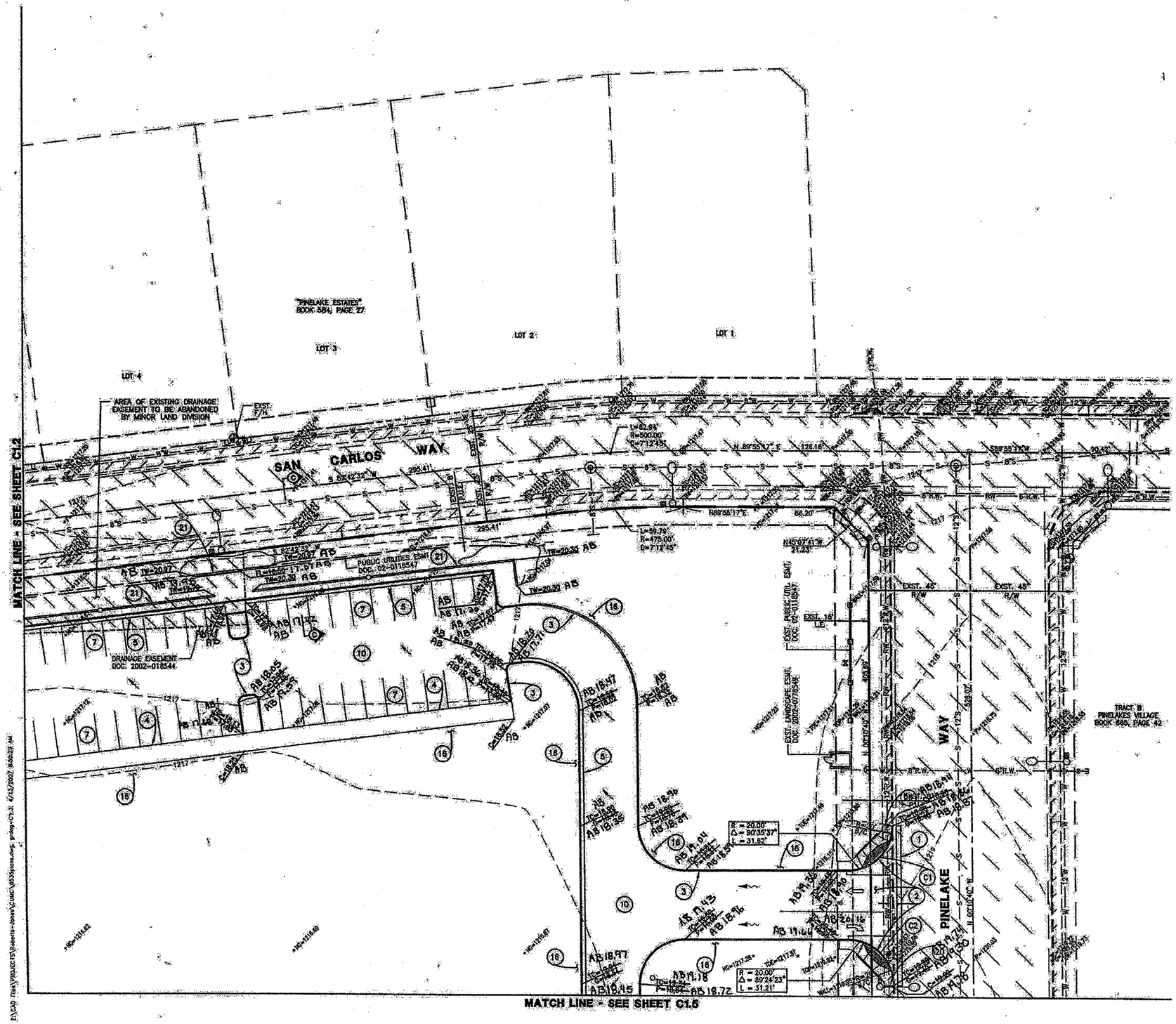
Sheet: C1.2

4 of 8

1-4244

Z:\CAD Files\PROJECTS\Roberts-Jones\CUMC\05-35plans.dwg, plotg=C1.2, 4/13/2007 8:45:51 AM

GRADING & DRAINAGE PLAN



CONSTRUCTION NOTES

1. SAWCUT EXISTING PAVEMENT TO NEAT EDGE AT LOCATION SHOWN AND REMOVE EXISTING IMPROVEMENTS WITHIN THE AREA OF THE NEW CONSTRUCTION.
2. CONSTRUCT 6" THICK CONCRETE RETURN TYPE DRIVEWAY ENTRANCE PER MAG STD. DET. 251 MODIFIED TO RADIUS SHOWN AND 3 FOOT WIDE CONCRETE VALLEY GUTTER PER MAG STD. DET. 240. CONSTRUCT SIDEWALK RAMP PER MAG STD. DET. 231.
3. CONSTRUCT 6" HIGH SINGLE CURB PER MAG STD. DET. 222, TYPE "A".
4. CONSTRUCT NEW 4" THICK SIDEWALK WITH 6" WIDE BY 12" DEEP TURN DOWN WALL ADJACENT TO PAVEMENT.
5. CONSTRUCT 6" VERTICAL CURB AND GUTTER PER MAG STD. DET. 220, TYPE "A".
7. CONSTRUCT NEW 2" A.C. (C 3/4) ON 5" A.B.C. PAVEMENT ON PREPARED SUBGRADE FOR AUTO PARKING AREAS.
10. CONSTRUCT NEW 3" A.C. (C 3/4) ON 7" A.B.C. PAVEMENT ON PREPARED SUBGRADE FOR DRIVE ISLES.
16. GRADE AT 4:1 SLOPE TO MATCH EXISTING GROUND.
20. MATCH EXISTING.
21. NEW SCREEN WALL.

SCALE: 1"=20'

20 0 20 40

ATHERTON ENGINEERING, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
4828 N. 16th STREET, SUITE 108 PHOENIX, AZ 85016-5148
(602) 276-7331 • FAX (602) 230-1908

JOB NO: 05-35

Grading & Drainage Plan

AS BUILT 2/21/08

Issue Date: 09.28.2006

Revisions:
1
2
3
4

please over facilities for:
Chandler United Methodist Church
450 East Chandler Heights Road
Chandler, Arizona 85249

Project Number: 1-4244

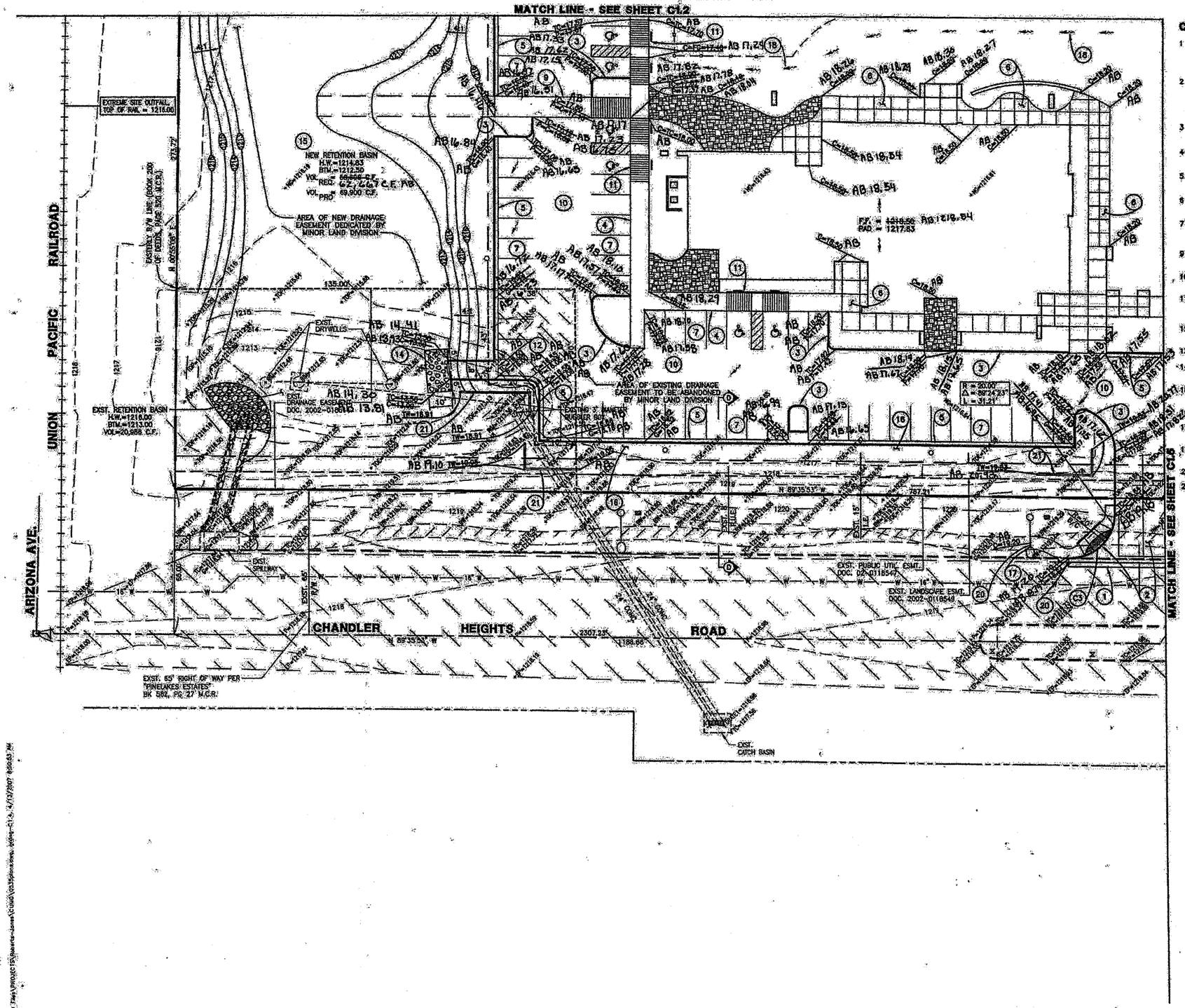
Drawing: 0535plans.dwg

Sheet: C1.3

5 of 8

GRADING & DRAINAGE PLAN

MATCH LINE - SEE SHEET C1.2



CONSTRUCTION NOTES

1. SAWCUT EXISTING PAVEMENT TO NEAT EDGE AT LOCATION SHOWN AND REMOVE EXISTING IMPROVEMENTS WITHIN THE AREA OF THE NEW CONSTRUCTION.
2. CONSTRUCT 8" THICK CONCRETE RETURN TYPE DRIVEWAY ENTRANCE PER MAG STD. DET. 251 MODIFIED TO RADIUS SHOWN AND 3 FOOT WIDE CONCRETE VALLEY GUTTER PER MAG STD. DET. 240. CONSTRUCT SIDEWALK RAMP PER MAG STD. DET. 231.
3. CONSTRUCT 6" HIGH SINGLE CURB PER MAG STD. DET. 222, TYPE "A".
4. CONSTRUCT NEW 4" THICK SIDEWALK WITH 6" WIDE BY 12" DEEP TURN DOWN WALL ADJACENT TO PAVEMENT.
5. CONSTRUCT 6" VERTICAL CURB AND GUTTER PER MAG STD. DET. 220, TYPE "A".
6. CONSTRUCT NEW 4" THICK SIDEWALK PER MAG STD. DET. 230.
7. CONSTRUCT NEW 2" A.C. (C 3/4) ON 5" A.B.C. PAVEMENT ON PREPARED SUBGRADE FOR AUTO PARKING AREAS.
8. CONSTRUCT 6 INCHES OF PORTLAND CEMENT CONCRETE ON PREPARED SUBGRADE.
10. CONSTRUCT NEW 3" A.C. (C 3/4) ON 7" A.B.C. PAVEMENT ON PREPARED SUBGRADE FOR DRIVE ISLES.
11. CONSTRUCT SIDEWALK RAMP PER ARCHITECTURAL DETAIL WITH MAXIMUM LONGITUDINAL SLOPE OF 1 IN 12 AND MAXIMUM CROSS SLOPE OF 1 IN 50.
12. CONSTRUCT 8 FOOT WIDE SCUPPER PER C.O.C. STD. DET. C-500 SHOWN ON SHEET C1.1.
13. INSTALL DRYWELL PER C.O.C. STD. DET. C-501.
14. CONSTRUCT ROCK RIP RAP (6" PLUS SIZED ROCK) 18" DEEP TO CONFIGURATION SHOWN.
15. GRADE RETENTION BASIN TO CONFIGURATION SHOWN WITH 4:1 SIDE SLOPES.
16. GRADE AT 4:1 SLOPE TO MATCH EXISTING GROUND.
17. SAWCUT, REMOVE AND REPLACE SIDEWALK TO MATCH NEW DRIVEWAY ENTRANCE.
18. GRADE SWALE FOR DRAINAGE TO BACK OF A.D.A. RAMP AS SHOWN.
20. MATCH EXISTING.
21. NEW SCREEN WALL.

SCALE: 1"=20'

20 0 20 40

ROBERT B. ATHERTON ARIZONA, U.S.A.

CALL TWO WORKING DAYS BEFORE YOU DIG (602)263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

ATHERTON ENGINEERING, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
4620 N. 16th STREET, SUITE 108 PHOENIX, AZ 85016-5148
(602) 279-7201 * FAX (602) 230-1908

JOB NO: 05-35

Grading & Drainage Plan

ASBUILT 2/21/08

Issue Date: 09.26.2006

Revisions:
1
2
3
4

please use facilities for:
Chandler United Methodist Church
450 East Chandler Heights Road
Chandler, Arizona 85249

Project Number:

Drawing: 0535plans.dwg

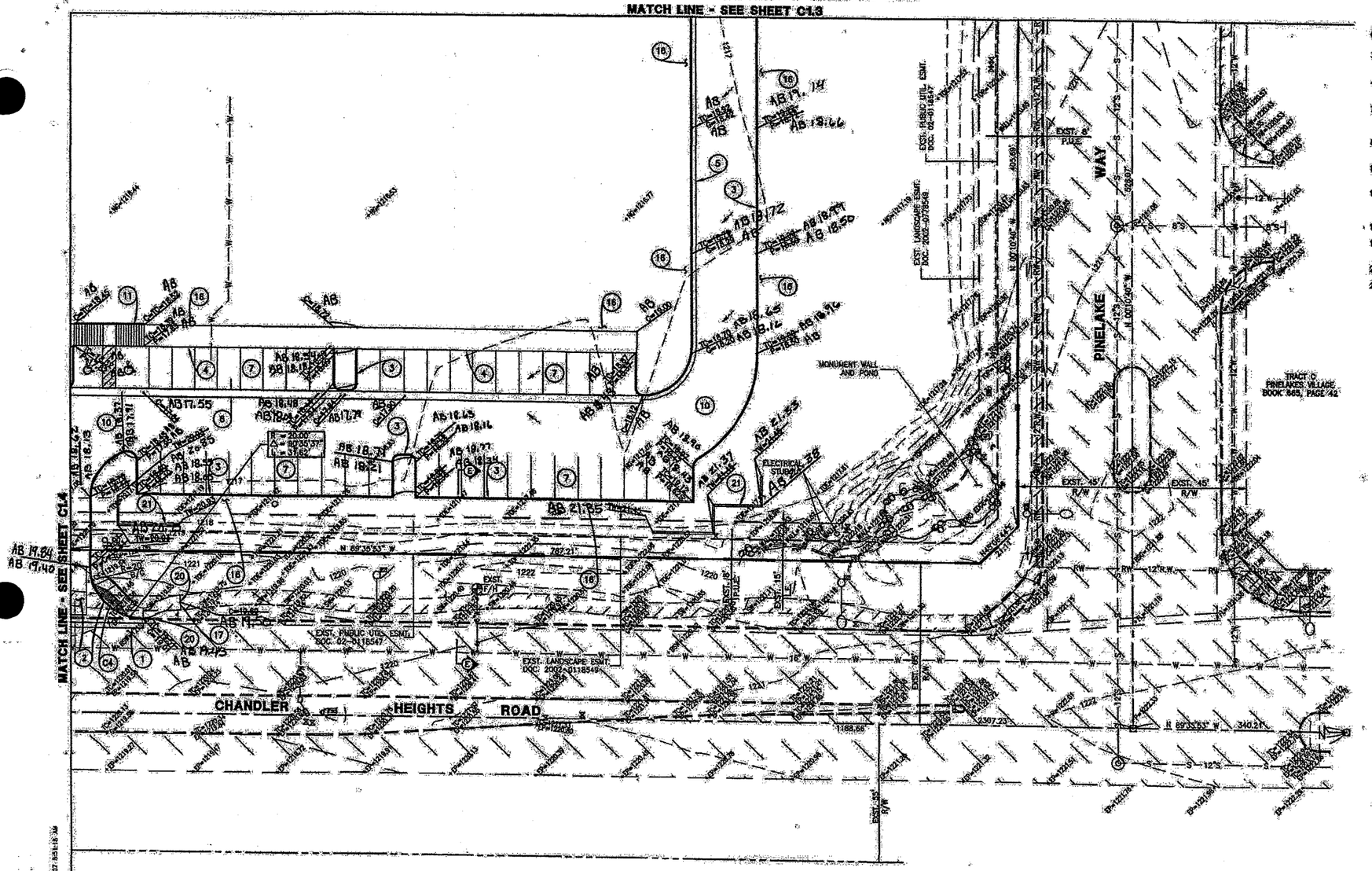
Sheet: C1.4

6 of 11

1-4244

GRADING & DRAINAGE PLAN

MATCH LINE - SEE SHEET C1.3



CONSTRUCTION NOTES

3 CONSTRUCT 6" HIGH SINGLE CURB PER MAG STD. DET. 222, TYPE "A".

4 CONSTRUCT NEW 4" THICK SIDEWALK WITH 6" WIDE BY 12" DEEP TURN DOWN WALL ADJACENT TO PAVEMENT.

7 CONSTRUCT NEW 2" A.C. (C 3/4) ON 5" A.B.C. PAVEMENT ON PREPARED SUBGRADE FOR AUTO PARKING AREAS.

8 CONSTRUCT NEW 3 FOOT WIDE VALLEY GUTTER PER MAG STD. DET. 240.

10 CONSTRUCT NEW 3" A.C. (C 3/4) ON 7" A.B.C. PAVEMENT ON PREPARED SUBGRADE FOR DRIVE ISLES.

11 CONSTRUCT SIDEWALK RAMP PER ARCHITECTURAL DETAIL WITH MAXIMUM LONGITUDINAL SLOPE OF 1 IN 12 AND MAXIMUM CROSS SLOPE OF 1 IN 50.

16 GRADE AT 4:1 SLOPE TO MATCH EXISTING GROUND.

17 SAWCUT, REMOVE AND REPLACE SIDEWALK TO MATCH NEW DRIVEWAY ENTRANCE.

20 MATCH EXISTING.

21 NEW SCREEN WALL.

SCALE: 1"=20'

20 0 20 40

CALL TWO WORKING DAYS BEFORE YOU DIG (602)263-1100 1-800-STAKE-IT OUTSIDE MARICOPA COUNTY

ATHERTON ENGINEERING, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
4620 N. 16th STREET, SUITE 108 PHOENIX, AZ 85016-5148
(602) 279-7331 * FAX (602) 230-1906

JOB NO: 05-35

Grading & Drainage Plan

ASBUILT 2/21/08

Issue Date: 09.26.2006

Revisions:
1
2
3
4

phase one facilities for:
Chandler United Methodist Church
450 East Chandler Heights Road
Chandler, Arizona 85225

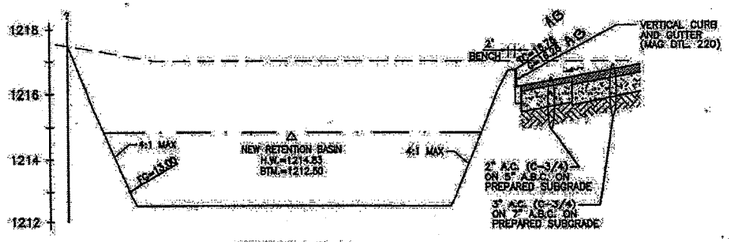
Project Number:

Drawing: 0535plans.dwg

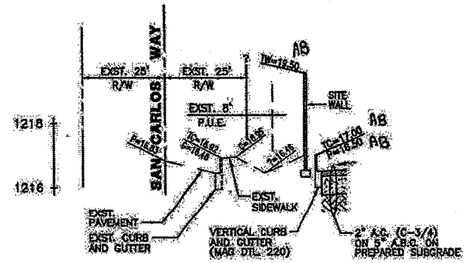
Sheet: C1.5

1-4244

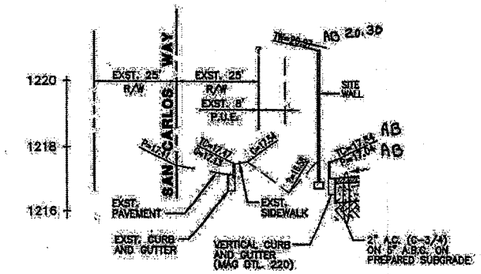
SECTIONS & DETAILS



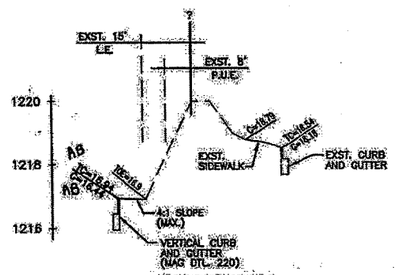
SECTION A-A
SCALE: HORIZ: 1"=20' VERT: 1"= 2'



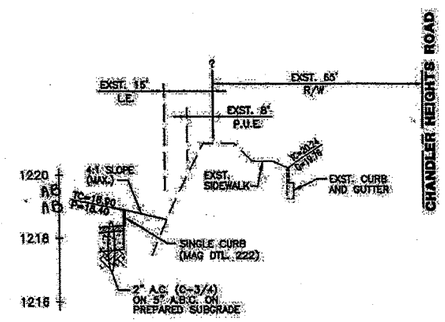
SECTION B-B
SCALE: HORIZ: 1"=20' VERT: 1"= 2'



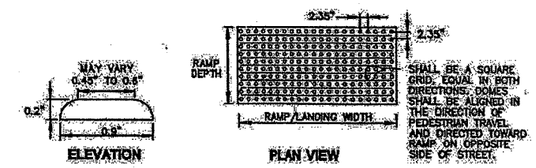
SECTION C-C
SCALE: HORIZ: 1"=20' VERT: 1"= 2'



SECTION D-D
SCALE: HORIZ: 1"=20' VERT: 1"= 2'



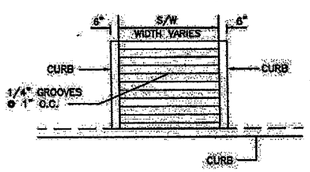
SECTION E-E
SCALE: HORIZ: 1"=20' VERT: 1"= 2'



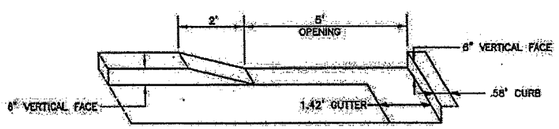
TRUNCATED DOME DETECTABLE WARNING DETAIL

NOTES

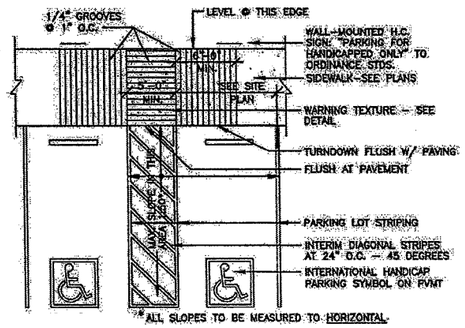
1. ALL RAMPS MUST MEET ADA ACCESSIBILITY GUIDELINE (ADAAG) STANDARDS, 2% MAX. CROSS SLOPES AND 12:1 MAX. LONGITUDINAL SLOPES. TRUNCATED DOMES AS DETECTABLE WARNINGS ARE REQUIRED ON ALL ON-SITE RAMPS PER ADAAG SECTION 4.7.7.
2. TRUNCATED DOMES AS DETECTABLE WARNINGS ARE ALSO REQUIRED ON ALL ON-SITE WALKS THAT CROSS OR ADJOIN A VEHICULAR WAY PER ADAAG SECTION 4.29.5.
3. DETECTABLE WARNING SHALL CONSIST OF RAISED TRUNCATED DOMES MANUFACTURED BY "COTE-L INDUSTRIES, INC.", CALLED "SAFTI-TRAX", WITH POLYURETHANE COATING "DURABAK", OR APPROVED EQUAL. APPLIED ON SMOOTH (NON-GROOVED) CLEAN CONCRETE RAMP, AND SHALL CONFORM TO THE DETAILS IN THE PLANS AND IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND INSTALLATION INSTRUCTIONS.
4. ALL DETECTABLE WARNING AREAS SHALL START AT BACK OF CURB, BE 24 INCHES IN DEPTH AND COVER THE COMPLETE WIDTH OF THE RAMP AREA 48 INCHES MIN.
5. 70% VISUAL CONTRAST IS REQUIRED. THE COLOR SHALL BE AN INTEGRAL PART OF THE DETECTABLE WARNING MATERIAL, AS SPECIFIED ON THE PLANS. COLOR TO BE DETERMINED BY THE CITY STAFF. SAFETY YELLOW IS THE DEFAULT COLOR.
6. THE SMOOTH AND CLEAN CONCRETE UNDER DETECTABLE WARNING DEVICE AREA SHALL BE INCLUDED IN THE COST OF THE CONCRETE CURB RAMP. THE COST OF FURNISHING AND INSTALLING THE DETECTABLE WARNING DEVICE SHALL BE INCLUDED SEPARATELY AS "DETECTABLE WARNING DEVICE" PER SQUARE FOOT OR AS OUTLINED IN THE SPECIFICATIONS.
7. DETECTABLE WARNING SURFACE:
   APPLIED A COATING OF "DURABAK" SLIP-RESISTANT POLYURETHANE COATING TO THE SMOOTH, CLEAN CONCRETE SURFACE. ON TOP OF THE POLYURETHANE COATING APPLY TRUNCATED DOMES FROM A "SAFTY-TRAX" CONTACT SHEET. ON TOP OF THE TRUNCATED DOMES AND INITIAL POLYURETHANE COATING PLACE THREE ADDITIONAL COATS OF "DURABAK" POLYURETHANE COATING. COLOR TO BE DETERMINED BY CITY STAFF OR AS SPECIFIED ON THE PLANS. SAFETY YELLOW IS A DEFAULT COLOR.
8. ALL RAMPS AND DETECTABLE WARNING SHALL BE ALIGNED IN THE DIRECTION OF PEDESTRIAN TRAVEL AND DIRECTED TOWARD RAMP ON THE OP STREET.



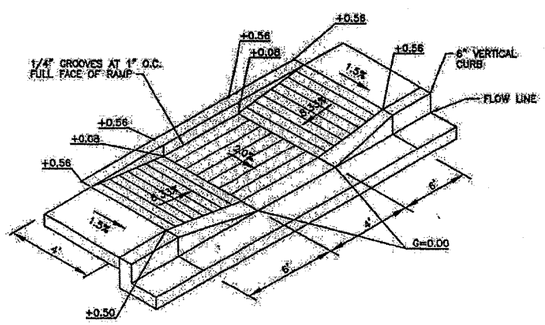
SIDEWALK RAMP
N.T.S.



CURB OPENING
N.T.S.



HANDICAP STALL AND RAMP
N.T.S.



IN-LINE RAMP DETAIL
N.T.S.

CALL TWO WORKING DAYS BEFORE YOU DIG
(602)263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

ATHERTON ENGINEERING, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
4020 N. 16th STREET, SUITE 108 PHOENIX, AZ 85016-5148
(602) 279-7331 * FAX (602) 230-1908

JOB NO: 05-35

Sections & Details

Scale: N/A

Notice: These Project Documents are unpublished instruments of service of Richardson Jones Associates, Inc. and are loaned to owner, in the only on this Project and is licensed for use in accordance with the owner's interpretation, construction, duplicate, and reproduction as described in AIA Document A201, unless otherwise provided in writing. Reuse of these documents may be construed, or altered in a material manner, or for purposes other than those intended by the owner, without the written permission of the author. Violators will be held to the full extent of the law. (Reference: 17 U.S.C. par. 201 (1976)).
© 2005 Richardson Jones Associates, Inc.

ASBUILT 2/21/08

Issue Date: 09.26.2006

Revisions:
1
2
3
4

phase one facilities for:

Chandler United Methodist Church

450 East Chandler Heights Road
Chandler, Arizona 85249

Richardson Jones Associates
Architecture/Planning/Programming
1835 East Arizona Biltmore Circle
Suite 23
Phoenix, Arizona 85016
602-955-8181 (FAX)
www.richardsonjones.com

Project Number:

Drawing: 0535plans.dwg

Sheet: C1.6

8 of 8

1-4244

Z:\CAD-FILES\PROJECTS\Bobarts-jones\05\05plans.dwg, grading-C1.6, 9/13/2007 8:51:08 AM

000615 PINELAKE ESTATES

IMPROVEMENT PLANS FOR PINELAKE ESTATES

CHANDLER, ARIZONA

CITY OF CHANDLER GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT ADOPTED MAG SPECIFICATIONS AND STANDARD DETAILS AS MODIFIED BY THE CITY OF CHANDLER.
2. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
3. THE CITY ENGINEER'S OFFICE SHALL BE NOTIFIED 24 HOURS PRIOR TO STARTING EACH PHASE OF CONSTRUCTION (480-782-3320).
4. PRIOR TO ANY CONSTRUCTION IN THE PUBLIC RIGHT-OF-WAY, THE CONTRACTOR/DEVELOPER SHALL NOTIFY THE STREETS DIVISION AT (480)-782-3500. ANY CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE RESTORED TO ORIGINAL CONDITIONS USING THE FOLLOWING REQUIREMENTS.
   - A. ALL TREES IMPACTED BY CONSTRUCTION SHALL BE REPLACED WITH THE SAME SIZE AND TYPE OF TREE AT A LOCATION DETERMINED BY THE CITY.
   - B. ALL IRRIGATION SYSTEMS SHALL BE RESTORED TO FULLY FUNCTIONING STATUS. ANY IRRIGATION LOCATED BENEATH ASPHALT OR CONCRETE SHALL BE SLEEVED WITH SCHEDULE 40 PVC TWO (2) NOMINAL SIZES LARGER.
   - C. THE AREA OF CONSTRUCTION SHALL BE TREATED WITH PRE-EMERGENT HERBICIDE (I.E. SURFLAN).
   - D. GRANITE OF A SIZE AND COLOR TO MATCH EXISTING SHALL BE SPREAD A MINIMUM OF TWO (2) INCHES THICK.
   - E. THE STREET AND PARKS DIVISIONS SHALL BE CONTACTED TO INSPECT ALL WORK BEFORE A CONDITIONAL ACCEPTANCE IS ISSUED.
   - F. THE CONTRACTOR/DEVELOPER SHALL MAINTAIN THE AREA FOR NINETY (90) DAYS AFTER CONDITIONAL ACCEPTANCE. AFTER 90 DAYS THE CITY SHALL BE CONTACTED FOR FINAL ACCEPTANCE AND ASSUMPTION OF MAINTENANCE.
5. ANY WORK PERFORMED WITHOUT THE APPROVAL OF THE CITY ENGINEER AND/OR ALL WORK AND MATERIAL NOT IN CONFORMANCE WITH THE SPECIFICATIONS IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
6. THE CONTRACTOR SHALL UNCOVER ALL EXISTING LINES BEING TIED INTO THEN VERIFY THEIR LOCATION. THE CONTRACTOR SHALL LOCATE OR HAVE LOCATED ALL EXISTING UNDERGROUND UTILITIES (ELECTRIC, TELEPHONE, PIPELINES, ETC.) AND STRUCTURES IN ADVANCE OF CONSTRUCTION AND SHALL ELIMINATE ALL CONFLICTS PRIOR TO START OF CONSTRUCTION. BLUE STATE TELEPHONE #263-1100.
7. THE CITY OF CHANDLER IS NOT RESPONSIBLE FOR LIABILITY ACCRUED DUE TO DELAYS AND/OR DAMAGES TO UTILITIES IN CONJUNCTION WITH THIS CONSTRUCTION. THE CITY WILL NOT PARTICIPATE IN THE COST OF CONSTRUCTION OR UTILITY RELOCATION.
8. NO FINAL ACCEPTANCE SHALL BE ISSUED UNTIL 4 MIL PHOTO MYLAR REPRODUCIBLE "AS-BUILT" PLANS CERTIFIED AND SEALED BY A REGISTERED CIVIL ENGINEER, HAVE BEEN SUBMITTED AND ACCEPTED BY THE CITY ENGINEER.
9. BACKFILLING SHALL NOT BE STARTED UNTIL LINES ARE APPROVED BY THE CITY ENGINEER.
10. ALL BACKFILL SHALL BE INSTALLED IN ACCORDANCE WITH MAG STANDARD SPECIFICATION 601: TYPE I.
11. DISPOSAL OF AND STOCKPILING OF EXCESS MATERIAL WITHIN THE CHANDLER CITY LIMITS OR PLANNING AREA SHALL BE DONE IN SUCH A WAY THAT WILL NOT CREATE NUISANCE AND SHALL COMPLY WITH ADMINISTRATIVE REGULATION NO. CC 30-3. THE PLACING OF MATERIAL ON PRIVATE PROPERTY OF ANOTHER REQUIRES WRITTEN AUTHORIZATION.
12. TRAFFIC CONTROL SHALL BE MAINTAINED IN ACCORDANCE WITH THE CHANDLER TRAFFIC BARRICADE MANUAL.
13. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS FOR CLEANING TRUCKS AND/OR OTHER EQUIPMENT OR MUD PRIOR TO ENTERING PUBLIC STREETS, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLEAN STREETS, ALLEY DUST, AND TAKE WHATEVER MEASURES ARE NECESSARY TO INSURE THAT ALL ROADS ARE MAINTAINED IN A CLEAN MUD AND DUST FREE CONDITION AT ALL TIMES.
14. APPLICATIONS FOR STREET CUT PERMITS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO APPROVAL OF IMPROVEMENT PLANS. ALL PAVEMENT REPLACEMENT SHALL BE EITHER FULL-DEPTH OF A.B.C. OR A.B.C. SLURRY BACKFILL IN ACCORDANCE WITH CITY OF CHANDLER STANDARDS SPECIFICATION 4 AND MAG STANDARD DETAIL 200, "T" TOP.
15. AN APPROVED SET OF PLANS SHALL BE MAINTAINED ON THE JOB SITE AT ALL TIMES THAT WORK IS IN PROGRESS. DEVIATION FROM THE PLANS SHALL NOT BE ALLOWED WITHOUT AN APPROVED PLAN REVISION.
16. A MINIMUM HORIZONTAL SEPARATION OF SIX (6) FEET IS REQUIRED BETWEEN SEWER SERVICES AND WATER OR FIRELINE SERVICES. A MINIMUM HORIZONTAL SEPARATION OF SIX (6) FEET IS REQUIRED BETWEEN RECLAIMED WATER SERVICES AND SEWER, WATER, OR FIRELINE SERVICES.
17. NO ABOVE GRADE FACILITY SHALL BE LOCATED CLOSER THAN SIX (6) FEET TO THE FACE OF CURB EXCEPT FOR POLES TWO & ONE HALF (2-1/2) INCHES, OR EQUIVALENT, IN DIAMETER OR LESS.
18. ANY PROPOSED RETAINING WALLS, OR COMBINATION RETAINING/SCREEN WALLS, SHALL BE CONSTRUCTED, AND THE RETAINING WALL AS-BUILT CERTIFICATION SIGNED BY THE REGISTERED CIVIL/STRUCTURAL ENGINEER, BEFORE ANY IMPROVEMENTS ARE ACCEPTED, OR CONDITIONALLY ACCEPTED, BY THE CITY ENGINEER.

(Revision 4) 8-10-02 RECLAIMED WATER DISCHARGE STRUCTURE REVISION TO SHEET 17 & 17A
CITY ENGINEER — DATE 6/24/02
FOR PUBLIC WORKS ENGINEERING — DATE 6/22/02

CITY OF CHANDLER ADDITIONAL NOTES

1. THE IMPROVEMENTS SHOWN ON THIS SET OF PLANS WILL NOT BE FULLY APPROVED BY THE CITY. THE CERTIFICATION OF OCCUPANCY WILL NOT BE ISSUED, UNTIL THE OVERHEAD UTILITY LINE UNDERGROUNDING REQUIREMENT HAS BEEN SATISFIED.
2. THE EXISTING RETENTION AND DRAINAGE FACILITIES ON THIS SITE WILL NOT BE REMOVED FROM SERVICE UNTIL THE PERMANENT RETENTION AND DRAINAGE FACILITIES ARE FUNCTIONAL.
3. THE FOLLOWING INSTALLATION PROCEDURE SHALL BE FOLLOWED ON ALL WATER LINE EXTENSIONS: (FOR 11 MONTHS AND OLDER)

   A NEW VALVE OF LIKE SIZE SHALL BE INSTALLED IN THE NEW LINE EXTENSION AT THE POINT OF EXTENSION. A 3/4" SADDLE AND RISER SHALL BE INSTALLED IN THE LINE BETWEEN THE NEW VALVE AND THE FIRST EXISTING VALVE IN THE EXISTING SYSTEM. THIS LINE WILL BE FLUSHED AND TESTED BY THE CITY AND THE 3/4" NUT AND RISER REMOVED.

   AFTER THE NEW WATER SYSTEM IS ACCEPTED BY THE CITY, AND THE NEW VALVE AND EXISTING VALVE ARE TURNED ON, THE OPERATION NUT SHALL BE REMOVED FROM ONE OR THE OTHER OF THE VALVES AND ABANDONED.
4. "THE IMPROVEMENTS SHOWN ON THIS SET OF PLANS WILL NOT BE FULLY APPROVED BY THE CITY AND THE CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED UNTIL THE IRRIGATION FACILITY UNDERGROUNDING REQUIREMENT HAS BEEN SATISFIED."
5. A RETAINING WALL WILL BE REQUIRED IF AT THE COMPLETION OF GRADING IF THERE EXISTS MORE THAN ONE FOOT OF DIFFERENCE IN ELEVATION BETWEEN THIS SITE AND ADJACENT PROPERTIES.
6. "EXISTING TREES WITHIN THE CITY RIGHT-OF-WAY TO BE PROTECTED IN PLACE OR REPLACED IN KIND. CONTACT THE CITY OF CHANDLER STREETS DIVISIONA (480) 782-3331 PRIOR TO START OF CONSTRUCTION."
7. THE OUTFALL SEWER LINE TO BE CONSTRUCTED AND ACCEPTED WITH THIS SUBDIVISION PHASE PASSES THROUGH PHASES WHICH WILL BE COMPLETED AT A LATER DATE. SUITABLE MEASURES SHALL BE TAKEN TO PREVENT DEBRIS FROM ENTERING THE SEWER ONCE IT IS IN USE.
8. PRIOR TO PAVEMENT SUBGRADE PREPARATION ON SUBSEQUENT PHASES, THE OUTFALL SEWER SHALL BE PLUGGED AT THE FIRST DOWNSTREAM MANHOLE. UPON COMPLETION OF PAVING THE OUTFALL SEWER SHALL BE VACTORED TO PREVENT DEBRIS FROM ENTERING THE EXISTING SYSTEM AND REINSPECTED FOR DEBRIS PRIOR TO ACCEPTANCE.
9. THE FOLLOWING INSTALLATION PROCEDURE SHALL BE FOLLOWED ON ALL WATER LINE EXTENSIONS OF LINES OVER ELEVEN (11) MONTHS IN AGE.

   1. A NEW VALVE OF LIKE SIZE SHALL BE INSTALLED IN THE NEW LINE EXTENSION AT THE POINT OF EXTENSION. A 3/4" SADDLE AND RISER SHALL BE INSTALLED IN THE LINE BETWEEN THE NEW VALVE AND THE FIRST EXISTING VALVE IN THE EXISTING SYSTEM. THIS LINE WILL BE FLUSHED AND TESTED BY THE CITY AND THE 3/4" NUT AND RISER REMOVED.

   2. AFTER THE NEW WATER SYSTEM IS ACCEPTED BY THE CITY, AND THE NEW VALVE AND EXISTING VALVE ARE TURNED ON, THE OPERATING NUT SHALL BE REMOVED FROM ONE OR THE OTHER OF THE VALVES AND ABANDONED.

THE DEVELOPER SHALL PROVIDE WATER METER ADAPTERS FOR WATER METERS OTHER THAN 1" IN SIZE.

COORDINATION LIST

DESCRIPTION	REPRESENTATIVE	PHONE
SRP POWER	JUDY SNIDER	602-236-6165
S.R.P. (SRVWUA)	SUSANA ORTEGA	602-236-2902
A.P.S.	CARLO A. CARDELLA	602-493-4440
QWEST	JOHN AKER	602-630-0498
COX COMMUNICATIONS	BRENT CRICHTON	623-322-7215
SOUTHWEST GAS	NORMA JORDIN	602-484-5344
EL PASO NATURAL GAS	GALE PINEGAR	602-438-4237
KINDER MORGAN ENERGY PARTNERS	DANIEL TARANGO	602-278-2320
SPRINT TELEPHONE	MARVIN GIBSON	602-245-3798
AT&T TELEPHONE	PETE FUNK	1-800-252-1133
AIR PRODUCTS AND CHEMICALS	GIL GARCIA	480-963-3002

SHEET INDEX

DESCRIPTION	SHEET NO.
COVER SHEET, COC, MCDOT, MISC NOTES	1
COC, GRADING, PAVING, RECLAIMED WATER, WATER, SEWER, SIGNING AND STRIPING NOTES, AND QUANTITIES	2
INDEX SHEETS	3 & 4
DETAILS	5 & 6
GRADING INDEX	7A
GRADING PLANS	7 - 13
ONSITE PLAN AND PROFILES	15 - 65
OFFSITE PLAN AND PROFILES	66 - 74
SIGNING AND STRIPING PLANS	75 & 76
SECTIONS AA - WW, DETAILS, ETC	77 - 81

(Revision 5) Add Drop MH 8-27-02 Relocate WMs & HC Ramps; SHEETS 23, 31, 33, 34, 38, 39, 40, 41, 50, 74C
CITY ENGINEER — DATE
FOR PUBLIC WORKS ENGINEERING — DATE

MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION (GENERAL NOTES FOR WORK WITHIN COUNTY LIMITS)

1. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION (MCDOT) ROADWAY DESIGN MANUAL AND M.A.G. SPECIFICATIONS AND MARICOPA COUNTY SPECIAL PROVISIONS FOR CONSTRUCTION OF STREET IMPROVEMENTS, ADOPTED 11/03/93.
2. CONTRACTOR TO OBTAIN NECESSARY MCDOT PERMITS PRIOR TO CONSTRUCTION WITHIN COUNTY RIGHT-OF-WAY.
3. CONTRACTOR SHALL NOTIFY THE MCDOT INSPECTION DEPARTMENT AT LEAST 24 HOURS IN ADVANCE OF ANY CONSTRUCTION AT (602) 506-8605.
4. CONTRACTOR PERFORMING EXCAVATING OPERATIONS IS RESPONSIBLE FOR LOCATING, RELOCATING AND/OR PROTECTING ALL UNDERGROUND UTILITIES, AT NO EXPENSE TO MARICOPA COUNTY.
5. ALL COMPACTION AND BACKFILL WITHIN COUNTY RIGHT-OF-WAY SHALL CONFORM TO THE SPECIAL PROVISIONS FOR CONSTRUCTION OF STREET IMPROVEMENTS AND INSTALLATION OF UNDERGROUND UTILITIES, ADOPTED 11/03/93. (SEE DETAIL ON SHEET 2)
6. ALL STRUCTURES, SUCH AS MANHOLES, VALVE BOX & COVERS, AND MONITORING WELLS MUST BE MARKED WITH AT LEAST TWO REFLECTORIZED YELLOW FLEX POST WHEN STRUCTURES ARE LOCATED OUTSIDE THE TRAVELED WAY AND WITHIN THE RIGHT-OF-WAY. (*APPLIES ONLY WHEN THERE IS NO CURB.*)
7. ALL EXISTING PAVEMENT MARKING, TRAFFIC SIGNS AND SIGNAL EQUIPMENT THAT NEED TO BE REMOVED, REPLACED, RELOCATED OR REPAIRED BECAUSE OF CONTRACTOR'S WORK, WILL BE DONE BY THE CONTRACTOR AT HIS EXPENSE. ALL TRAFFIC SIGNS THAT ARE REMOVED SHALL BE STOCKPILED ON THE PROJECT SITE AND THE CONTRACTOR IS TO NOTIFY THE INSPECTOR WHEN ALL SIGNS HAVE BEEN REMOVED. ALL COUNTY SIGNS WILL BE INSTALLED BY MCDOT CREWS. ALL NEW STREET NAME SIGNS SHALL BE PROVIDED AND INSTALLED BY PERMITTEE AT NO EXPENSE TO MARICOPA COUNTY.
8. PAVEMENT MARKING, SIGNING AND SIGNAL WORK WILL BE INSPECTED AND WILL HAVE TO MEET COUNTY STANDARDS BEFORE RELEASE OF BOND.
9. ASPHALT MIX DESIGN SHALL BE SUBMITTED TO MCDOT A MINIMUM OF 48 HOURS PRIOR TO PLACING ANY ASPHALT COURSES. (TRENCH WORK EXCLUDED.)
10. PRIOR TO CONDUCTING EXCAVATION OPERATIONS, THE CONTRACTOR SHALL OBTAIN FROM THE ARIZONA STATE ENVIRONMENTAL PLANNING GROUP (602) 712-7780, RECOMMENDATIONS REGARDING THE NEED FOR CULTURAL RESOURCES (ARCHAEOLOGICAL) CLEARANCE. ALL DISCOVERIES OF HUMAN REMAINS, CULTURAL ARTIFACTS, OR PALEONTOLOGICAL REMAINS SHALL BE REPORTED TO THE ARIZONA STATE MUSEUM AND MCDOT. UPON DISCOVERY, CONTRACTOR SHALL CEASE OPERATIONS IN THE VICINITY OF THE FIND AND PROTECT THE DISCOVERY AREA FROM FURTHER DISTURBANCE UNTIL THE FIND CAN BE PROFESSIONALLY INVESTIGATED BY THE ARIZONA STATE MUSEUM AND MCDOT.
11. PRIOR TO MOVING OR DESTROYING PROTECTED NATIVE PLANT SPECIES, THE CONTRACTOR SHALL FILE A FORMAL NOTICE OF INTENT WITH THE ARIZONA DEPARTMENT OF AGRICULTURE NATIVE PLANTS (602) 542-3292.
12. EXCEPT UNDER EMERGENCY CONDITIONS, ROADS SHALL NOT BE CLOSED FOR CONSTRUCTION ACTIVITY UNLESS PRIOR APPROVAL IS OBTAINED FROM THE TRANSPORTATION DIRECTOR OR HIS REPRESENTATIVE.

ENGINEER'S CERTIFICATION

I hereby certify that, for the constuction items checked:
( ) Sanitary Sewer
( ) Reclaimed Water
( ) Potable Water

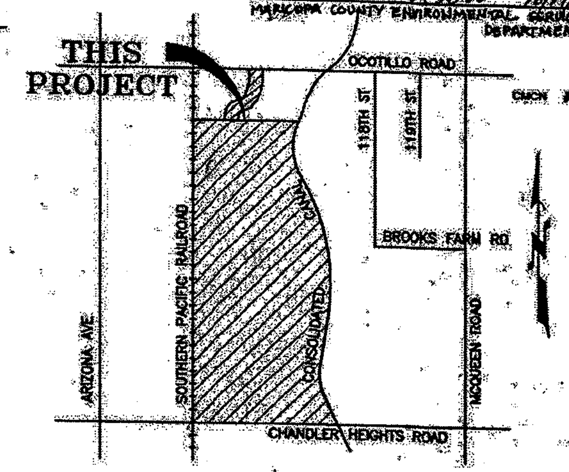
all of the following items have been prepared and submitted to the Maricopa County Environmental Services Department:
1. As-Built Drawings
2. Engineer's Certificate of Completion
3. All other requirements of the Maricopa County Environmental Services Department.

Registered Civil Engineer: Date

RE-APPROVED FOR COMPLIANCE WITH CITY CODE
City Engineer — Date 10/22/01
For Public Works Engineer — Date 10/19/01

Note: Revision (1) represents a complete change to the sewer system for this project. Clouds around sewer changes for revision 1 have been omitted on purpose.

Re-APPROVAL: SANITARY SEWER
T.S. Chiild 013680 10/17/01
MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT



VICINITY MAP
N.T.S.

DEVELOPER
TREND HOMES
2020 NORTH ARIZONA AVE. SUITE G-62
CHANDLER, ARIZONA 85225
(480) 821-8000 EXT 287
FAX (480) 821-8300

ENGINEER
H.E.C. ENGINEERING, LLC
3740 E. SOUTHERN AVE., STE. 218
MESA, ARIZONA 85206
(480) 218-8631

H.E.C. ENGINEERING NOTES

1. THESE PLANS ARE SUBJECT TO THE INTERPRETATION OF INTENT BY THE ENGINEER. ALL QUESTIONS REGARDING THESE PLANS SHALL BE PRESENTED TO THE ENGINEER. ANYONE WHO TAKES UPON HIMSELF THE INTERPRETATION OF THE DRAWINGS OR MAKES REVISIONS TO SAME WITHOUT CONFERRING WITH THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR THE CONSEQUENCES THEREOF.
2. THE ENGINEER MAKES NO GUARANTEE REGARDING THE LOCATION OR ELEVATION OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS. THE CONTRACTOR SHALL CALL BLUE STAKE FOR LOCATION OF ALL UTILITIES.
3. THE CONTRACTOR SHALL MAKE HIS OWN ESTIMATE OF EARTHWORK QUANTITIES REQUIRED TO COMPLETE ALL WORK AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL IMPORT FILL OR EXPORT SOIL AS REQUIRED TO PROVIDE AN EARTHWORK BALANCE AT NO EXTRA COST TO THE PROJECT.
4. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS SPECIFIED IN THE GEOTECHNICAL INVESTIGATION PREPARED BY SPEEDE AND ASSOCIATES FOR FAIRWAYS AT SUPERSTITION SPRINGS PROJECT NO. 000136SA.

STAKING NOTES

1. ALL OFFSET OR REFERENCE STAKES SET BY THE ENGINEER ARE TO BE MAINTAINED INTACT. NO CLAIMS FOR ADDITIONAL COMPENSATION FOR CORRECTIONS SHALL BE PRESENTED TO ANY PARTY UNLESS SUCH STAKES ARE PRESENT AND THEIR ORIGIN IS VERIFIED. IF STAKES ARE NOT MAINTAINED INTACT, ALL CORRECTIONS SHALL BE MADE BY THE CONTRACTOR.

BENCH MARK

SECTION 21, T.2S, R.5E
FLUSH C.O.C. BRASS CAP IN 12" CONC. CYLINDER 200' E. OF OCOTILLO RD. & MCQUEEN & 21.5' S. OF EDGE OF PAVEMENT. C.O.C. BENCK MARK #47
ELEV. = 1228.49

BASIS OF BEARING:

THE SOUTH LINE OF THE SOUTHEAST QUARTER, SECTION 22. ASSUMED BEARING N89°53'04"W

RE-APPROVED FOR COMPLIANCE TO CITY CODE
(2) 11/27/2001 Sewer and water revisions
Add sewer and water stubs to Gary Gested and SE parcels as requested by developers of those parcels; change the alignment of the Chandler Heights sewer; all as shown on sheets 3,4,14,17,18,62,70C,70D.) 6" to 4" curb changes.
City Engineer — Date 1/7/02
For Public Works Engineering — Date 1/4/02

RE-APPROVED FOR COMPLIANCE TO CITY CODE
(3) 04/19/2002 OCOTILLO ROAD SEWER CHANGES
Revisions made to sheets 1,4,73,74,74C,74D
CITY ENGINEER — DATE 5/17/02
FOR PUBLIC WORKS ENGINEERING — DATE 5/13/02

MARICOPA COUNTY ENVIRONMENTAL SERVICES NOTE

IN ACCORDANCE WITH AAC R-18-4-119, ALL MATERIALS ADDED AFTER JANUARY 1, 1993 WHICH MAY COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NATIONAL SANITATION FOUNDATION STANDARDS 60 AND 61.

DOMESTIC WATER APPROVED:
T.S. Chiild 2001552 — MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT — DATE 4/6/01

SANITARY SEWER APPROVED:
T.S. Chiild 2001553 — MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT — DATE 4/6/01

RECLAIMED WATER APPROVED:
T.S. Chiild 2010377 — MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT — DATE 4/6/01

GRADING CERTIFICATION
THIS IS TO CERTIFY THAT THIS GRADING PLAN IS IN COMPLIANCE WITH THE GRADING REQUIREMENTS OF THE SOILS REPORT PREPARED BY CONSTRUCTION INSPECTION & TESTING DATED JAN. 9, 1998.
REGISTERED CIVIL ENGINEER — DATE 4/11/01

6' CLEARANCE CERTIFICATION
I HEREBY CERTIFY THAT NO ABOVE GRADE FACILITY DESIGNED HEREIN IS CLOSER THAN SIX (6) FEET TO THE FACE OF CURB EXCEPT FOR POLES EQUIVALENT TO TWO & ONE HALF (2 1/2) INCHES IN DIAMETER OR LESS.
REGISTERED CIVIL ENGINEER — DATE 4/4/01

FINISHED GRADE CERTIFICATION
THIS IS TO CERTIFY THAT THE FINISHED GRADES SHOWN OR AS BUILT ON THIS GRADING PLAN ARE IN COMPLIANCE WITH THE SOILS REPORT PREPARED BY CONSTRUCTION INSPECTION & TESTING DATED JAN. 9, 1998.
REGISTERED CIVIL ENGINEER — DATE 4/4/01

AS-BUILT CERTIFICATION
I HEREBY CERTIFY THAT THE "AS-BUILT" MEASUREMENTS AS SHOWN OR NOTED HEREON WERE MADE BY MYSELF OR UNDER MY SUPERVISION AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.
Dean R. Crouse 25070
REGISTERED ~~CIVIL ENGINEER~~ SURVEYOR — REGISTRATION NO. — DATE
FIRM NAME: HEC ENGINEERING

AS-BUILT CONSTRUCTION PLANS FOR SANITARY SEWER, THE ENGINEER'S CERTIFICATE OF COMPLETION, AND ALL OTHER REQUIREMENTS OF THE MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT HAVE BEEN COMPLETED.
REGISTERED CIVIL ENGINEER — REGISTRATION NO. — DATE
FIRM NAME:

AS-BUILT CONSTRUCTION PLANS FOR RECLAIMED WATER, THE ENGINEER'S CERTIFICATE OF COMPLETION, AND ALL OTHER REQUIREMENTS OF THE MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT HAVE BEEN COMPLETED.
REGISTERED CIVIL ENGINEER — REGISTRATION NO. — DATE
FIRM NAME:

AS-BUILT CONSTRUCTION PLANS FOR POTABLE WATER, THE ENGINEER'S CERTIFICATE OF COMPLETION, AND ALL OTHER REQUIREMENTS OF THE MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT HAVE BEEN COMPLETED.
REGISTERED CIVIL ENGINEER — REGISTRATION NO. — DATE
FIRM NAME:

AS-BUILT CERTIFICATION OF SITE WALLS
I HEREBY CERTIFY THAT THE WALLS AND/OR RETAINING WALLS SHOWN HEREIN HAVE BEEN INSPECTED BY ME, OR UNDER MY SUPERVISION, AND THAT THEY HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE DETAILS SHOWN ON THESE PLANS.
REGISTERED CIVIL/STRUCTURAL ENGINEER — DATE

I HEREBY CERTIFY THAT THE WALL DETAILS SHOWN HEREON WERE DESIGNED IN COMPLIANCE WITH THE U.B.C., CURRENT EDITION, THAT THEY WERE SUBMITTED TO THE BUILDING DEPARTMENT AND THAT THEY CONFORM TO THAT DESIGN.
REGISTERED CIVIL/STRUCTURAL ENGINEER — DATE 7/23/01

APPROVALS
APPROVED FOR COMPLIANCE WITH CITY CODE
CITY ENGINEER — DATE 8/14/01
PUBLIC WORKS ENGINEER — DATE 8/13/01
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY — DATE 3/23/01
APPROVED FOR COORDINATION KERBY ESTATES (COE & VAN LOO, ENGINEER) — DATE 7/19/01
Approved by Letter — MARICOPA COUNTY HIGHWAY DEPARTMENT — DATE 7 June 2001
SRVWUA PERMIT # 0100255

C.O.C. Log No. ENR 00-0119

1-3621 AS-BUILT: 1-28-03

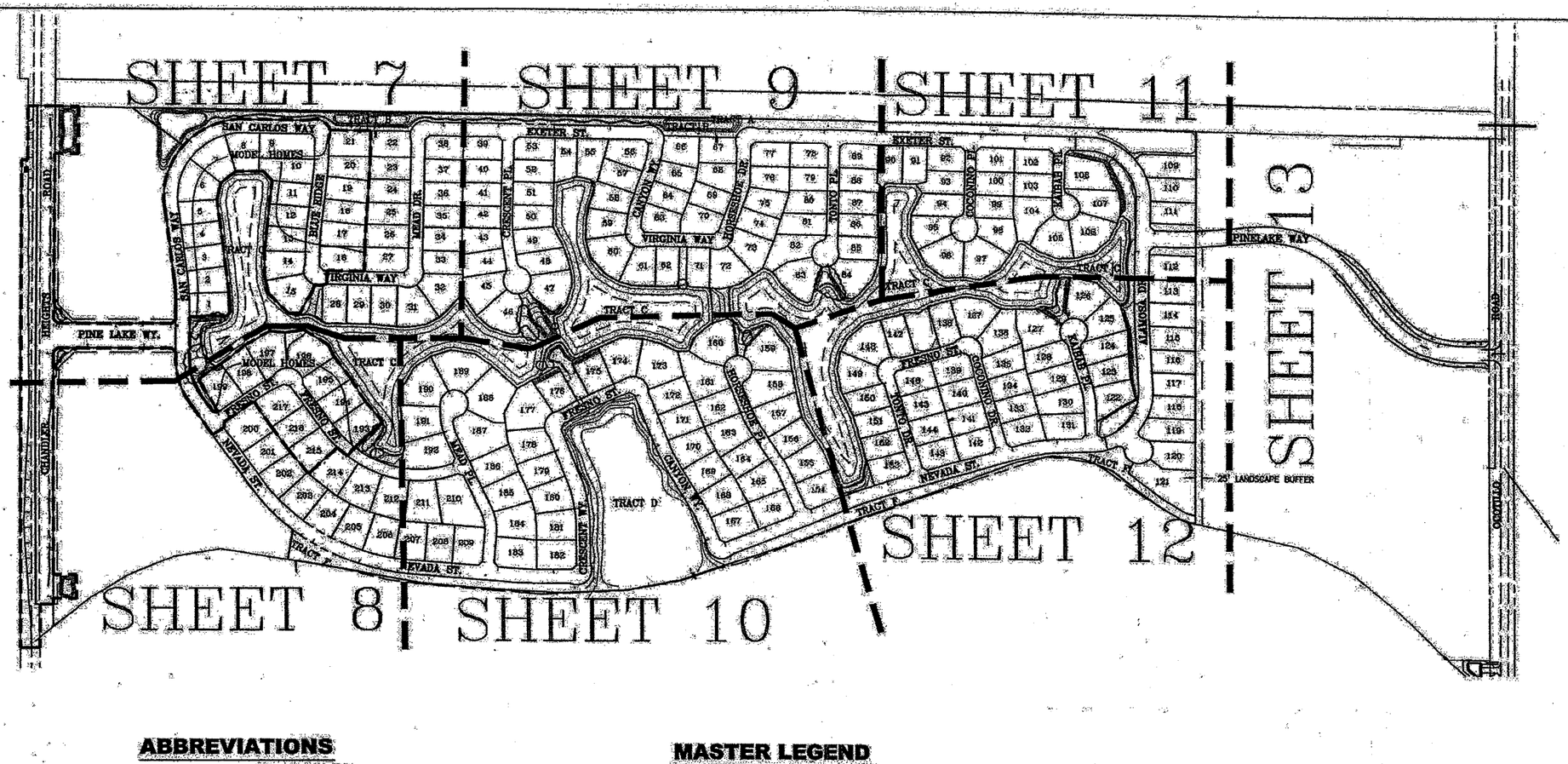
H.E.C. Engineering, L.L.C.
3740 E. SOUTHERN AVE. SUITE 218 MESA, ARIZONA 85206 PHONE (480) 218-8631 FAX (480) 830-4888

COVER SHEET
PROJECT: PINELAKE ESTATES, CHANDLER, ARIZONA

~~ER 01-0050~~ ER 01-0066

JOB NO. 000615
FILE NO. 0615CS01
CS01
SHEET NO. 1 OF 81

000615 PINELAKE ESTATES



ABBREVIATIONS

AB	AS BUILT	NPI	NO PAY ITEM
BC	BACK OF CURB	NG	NATURAL GROUND
BSL	BUILDING SETBACK LINE	P#	PAVING ELEVATION
CL	CENTERLINE	PC	POINT OF CURVATURE
E	ELECTRIC	PL	PROPERTY LINE
EA	EACH	PT	POINT OF TANGENT
EF	EFFLUENT FORCE MAIN	PUE	PUBLIC UTILITY EASEMENT
EL	ELEVATION	RT	RIGHT OF CENTERLINE
EP	EDGE OF PAVEMENT	R/W	RIGHT OF WAY
EX	EXISTING	S#	SLOPE
FC	FACE OF CURB	S	SEWER
FG	FINISH GRADE	S/W	SIDEWALK
FH	FIRE HYDRANT	SD	STORM DRAIN
FL	FLOW LINE	SF	SQUARE FEET
G#	GUTTER ELEVATION	STA	STATION
GB	GRADE BREAK	SY	SQUARE YARDS
GC	GRADE CHANGE	T	TELEPHONE
HW	HIGH WATER	TC	TOP OF CURB
INV	INVERT	TW	TOP OF WALL
LF	LINEAR FEET	W	WATER
LT	LEFT OF CENTERLINE	VG	VALLEY GUTTER
MH	MANHOLE		

LINE TYPES

BSL
CL
FL
ML
MATCH LINE P&P
MATCH LINE OTHER
PUE
R/W
SAWCUT
VNAE
WARP

THE PROMPT PAY LAW WILL BE ALTERED FOR THIS CONTRACT

NOTICE OF EXTENDED PAYMENT PROVISION

THE CONSTRUCTION CONTRACT WILL ALLOW THE OWNER TO MAKE PAYMENT WITHIN THIRTY (30) DAYS AFTER CERTIFICATION AND APPROVAL OF BILLINGS.

MASTER LEGEND

8" S	SEWER LINE
	SEWER MANHOLE
	SEWER FLOW DIRECTION
	SEWER PLUG
EX. 8"S	EXIST. SEWER LINE
	EXIST. SEWER MANHOLE
	WATER PLUG
8" W	WATER LINE
	WATER VALVE
	FIRE HYDRANT
EX. 8"W	EXIST. WATER LINE
6" EFM PUB	PUBLIC EFFLUENT FORCE MAIN
6" EFM PRIV	PRIVATE EFFLUENT FORCE MAIN
	HANDICAP RAMP
	STREET LIGHT
	SCUPPER
	DRYWELL
5	LOT NUMBER
PAD=17.5 FF=18.17	PAD & FINISHED FLOOR ELEVATION
17.45	TC ELEVATION AT PL
TC=18.45 G=18.45	ELEV. AT BC
0.30%	SLOPE
	GRADE BREAK
	GRADE CHANGE
19.2	BERM ELEV. AT REAR OF LOTS
B B	GRADING SECTION
	RETAINING WALL

EXISTING FLOOD PLAIN LIMITS BFE=1216.00

MODEL PHASE

SPEED HUMP

SPEED VALLEY GUTTER

NOTE TO CONTRACTOR

CONTRACTOR SHALL REMOVE ALL EXISTING IRRIGATION DITCHES WITHIN THE PROJECT LIMITS UNLESS OTHERWISE NOTED.

GENERAL EARTHWORK AND GRADING NOTES:

NOTE:

1. A SOILS REPORT FOR THIS PROJECT HAS BEEN PREPARED BY CONSTRUCTION INSPECTION AND TESTING CO. (JOB NO.98-7955 DATED 11/02/98).
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A COPY OF THE SOILS REPORT (AND ALL ADDENDUM) AND USING IT IN PREPARING A BID AND COMPLETING WORK FOR THIS PROJECT.
3. ALL EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH THE RESULTS OF THE SOILS REPORT AND ADDENDUMS.
4. AN ATTEMPT HAS BEEN MADE TO BALANCE CUT AND FILL. THE CONTRACTOR IS RESPONSIBLE TO 1) PERFORM AN INDEPENDENT ANALYSIS OF THE CUT AND FILL ON THIS PROJECT PRIOR TO PLACING A BID, 2) OBTAIN THE ENGINEER'S APPROVAL FOR ANY DESIGN CHANGES, AND 3) EXPORT OR IMPORT DIRT AS REQUIRED AT HIS/HER OWN EXPENSE.
5. THE CONTRACTOR SHALL REMOVE ALL EXISTING FEATURES UNLESS OTHERWISE NOTED INCLUDING TREES, IRRIGATION DITCHES AND FACILITIES, POWER POLES, ETC. CONTRACTOR SHALL COORDINATE WITH THE ELECTRIC COMPANY PRIOR TO POWER POLE REMOVAL.
6. STEP ALL PADS HAVING AN ELEVATION DIFFERENCE BETWEEN ADJACENT PADS OF GREATER THAN OR EQUAL TO 0.3 FEET.
7. SEE SHEETS 79-80 FOR ALL SECTION DETAILS.

200 0 200 400
Scale Feet

5740 E. SOUTHERN AVE.
SUITE 2-B
MESA, ARIZONA 85206
PHONE (480) 218-4631
FAX (480) 830-1868
HC Engineering, L.L.C.
Civil Engineers • Land Surveyors • Surveyors

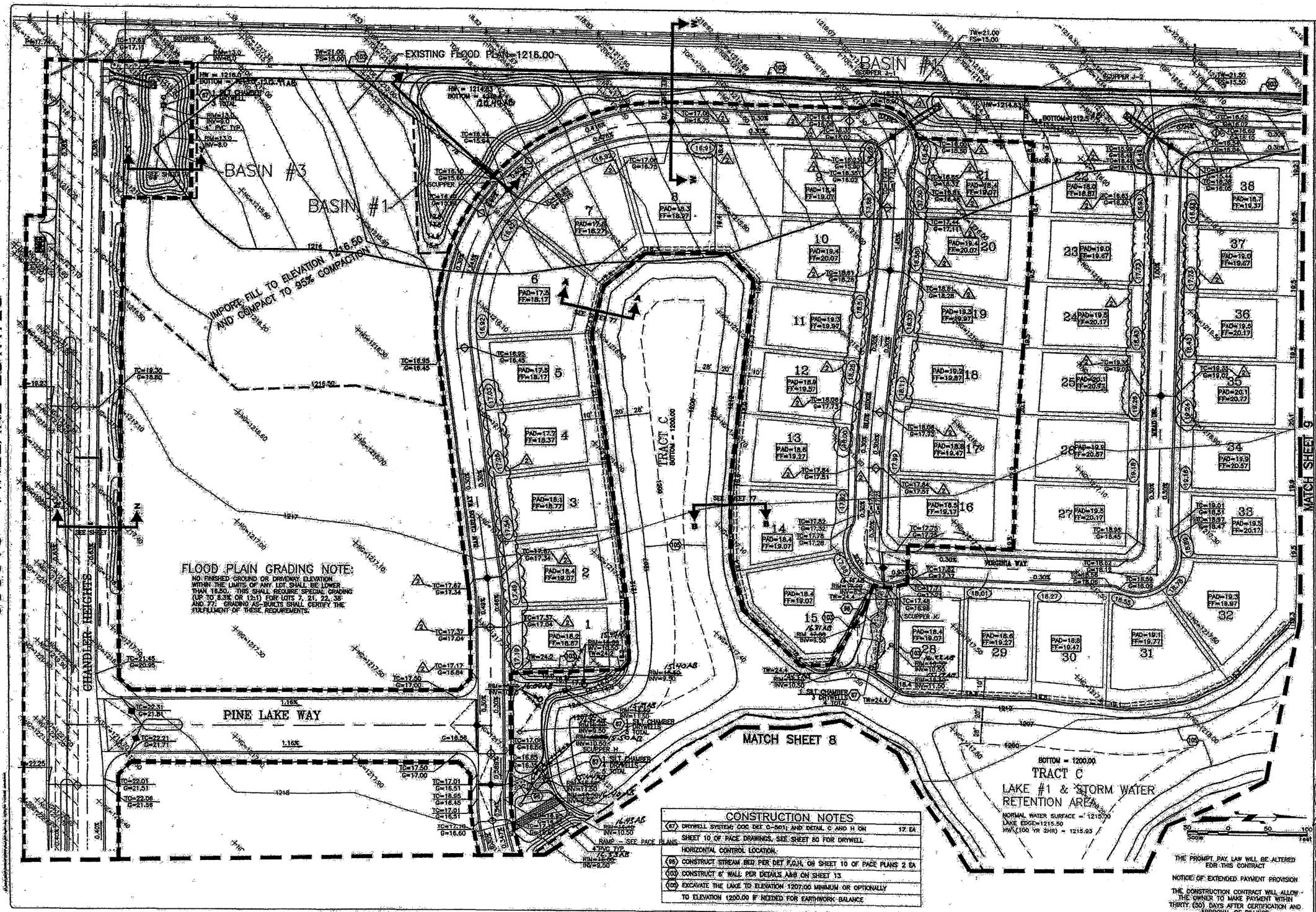
GRADING PLAN SHEET INDEX

PROJECT: PINELAKE ESTATES
CHANDLER, ARIZONA

JOB/ACC. 000615
FILE NO. 061SGDINDX
GDINDX
SHEET NO. 7AOF81

13621 AS-BUILT 1-28-03

000615 PINELAKE ESTATES



FLOOD PLAIN GRADING NOTE:
NO FINISHED GROUND OR DRIVEWAY ELEVATION WITHIN THE LIMITS OF ANY LOT SHALL BE LOWER THAN 18.50. THIS SHALL REQUIRE SPECIAL GRADING (UP TO 8.3% OR 12:1) FOR LOTS 7, 21, 22, 38 AND 77. GRADING AS-BUILTS SHALL CERTIFY THE FULFILLMENT OF THESE REQUIREMENTS.

CONSTRUCTION NOTES

(67)	DRYWELL SYSTEM(COC DET C-501) AND DETAIL C AND H ON SHEET 10 OF PACE DRAWINGS, SEE SHEET 80 FOR DRYWELL HORIZONTAL CONTROL LOCATION.	17 EA
(98)	CONSTRUCT STREAM BED PER DET F,G,H, ON SHEET 10 OF PACE PLANS	2 EA
(103)	CONSTRUCT 6' WALL PER DETAILS A&B ON SHEET 13.	
(105)	EXCAVATE THE LAKE TO ELEVATION 1207.00 MINIMUM OR OPTIONALLY TO ELEVATION 1200.00 IF NEEDED FOR EARTHWORK BALANCE	

THE PROMPT PAY LAW WILL BE ALTERED FOR THIS CONTRACT

NOTICE OF EXTENDED PAYMENT PROVISION

THE CONSTRUCTION CONTRACT WILL ALLOW THE OWNER TO MAKE PAYMENT WITHIN THIRTY (30) DAYS AFTER CERTIFICATION AND APPROVAL OF BILLINGS.

REVISIONS:
1 11/22/01 SEWER & WATER REVISIONS
2 6" TO 8" CURB CHANGES, REMOVE D/W JC-4
REL. CURBS

3740 E. SOUTHERN AVE.
SUITE 218
MESA, ARIZONA 85206
PHONE (480) 218-8837
FAX (480) 830-1984

Engineering, L.L.C.

GRADING PLAN

PINELAKE ESTATES
CHANDLER, ARIZONA

PROJECT:

1"=100' STANDARD
1"=50' STANDARD

JOB NO. 000615
FILE NO. 0815CD01
GD01
SHEET NO. 7 OF 81

1-3621 — AS-BUILT 1-28-03

000615 PINELAKE ESTATES

MATCH SHEET 7

MATCH SHEET 10

TRACT C
LAKE#1 & STORM WATER RETENTION AREA
NORMAL WATER SURFACE = 1215.00
LAKE EDGE=1215.50
HW(100YR 2HR) = 1215.93

TRACT F

BASIN #2

SCUPPER D

SEE SHEET 9

197	PAD=20.0 FF=20.87
196	PAD=19.9 FF=20.87
198	PAD=19.5 FF=20.17
199	PAD=18.9 FF=19.57
195	PAD=19.5 FF=20.17
217	PAD=19.5 FF=20.27
194	PAD=19.2 FF=19.97
216	PAD=19.2 FF=19.97
193	PAD=19.0 FF=19.67
200	PAD=18.6 FF=19.27
201	PAD=18.8 FF=19.47
215	PAD=19.0 FF=19.67
202	PAD=19.1 FF=19.77
214	PAD=19.2 FF=19.97
213	PAD=19.6 FF=20.27
203	PAD=19.3 FF=20.17
212	PAD=20.2 FF=20.87
204	PAD=19.8 FF=20.47
205	PAD=20.2 FF=20.87
206	PAD=20.5 FF=21.17
207	PAD=20.9 FF=21.57

CONSTRUCTION NOTES

(67) DRYWELL SYSTEM; COC DET C-501; AND DETAIL C AND H ON SHEET 10 OF PACE DRAWINGS, SEE SHEET 50 FOR DRYWELL HORIZONTAL CONTROL LOCATION.	14 EA
(96) CONSTRUCT STREAM BED PER DET F,G,H, ON SHEET 10 OF PACE PLANS	1 EA
(103) CONSTRUCT 6' WALL PER DETAILS A&B ON SHEET 13.	
(105) EXCAVATE THE LAKE TO ELEVATION 1207.00 MINIMUM OR OPTIONALLY TO ELEVATION 1200.00 IF NEEDED FOR EARTHWORK BALANCE.	

Scale 50 0 50 100 Feet

THE PROMPT PAY LAW WILL BE ALTERED FOR THIS CONTRACT

NOTICE OF EXTENDED PAYMENT PROVISION

THE CONSTRUCTION CONTRACT WILL ALLOW THE OWNER TO MAKE PAYMENT WITHIN THIRTY (30) DAYS AFTER CERTIFICATION AND APPROVAL OF BILLINGS.

REVISIONS
△1 11/22/00-SEWER & WATER REVISIONS
#10.3"-CURB CHANGES/REMOVE 1/W
AT 4" ROLL CURBS

Engineering, L.L.C.
Civil Engineers • Land Planners • Surveyors
2740 E. SOUTHERN AVE.
SUITE 218
MESA, ARIZONA 85206
PHONE (480) 218-8531
FAX (480) 830-8988

GRADING PLAN

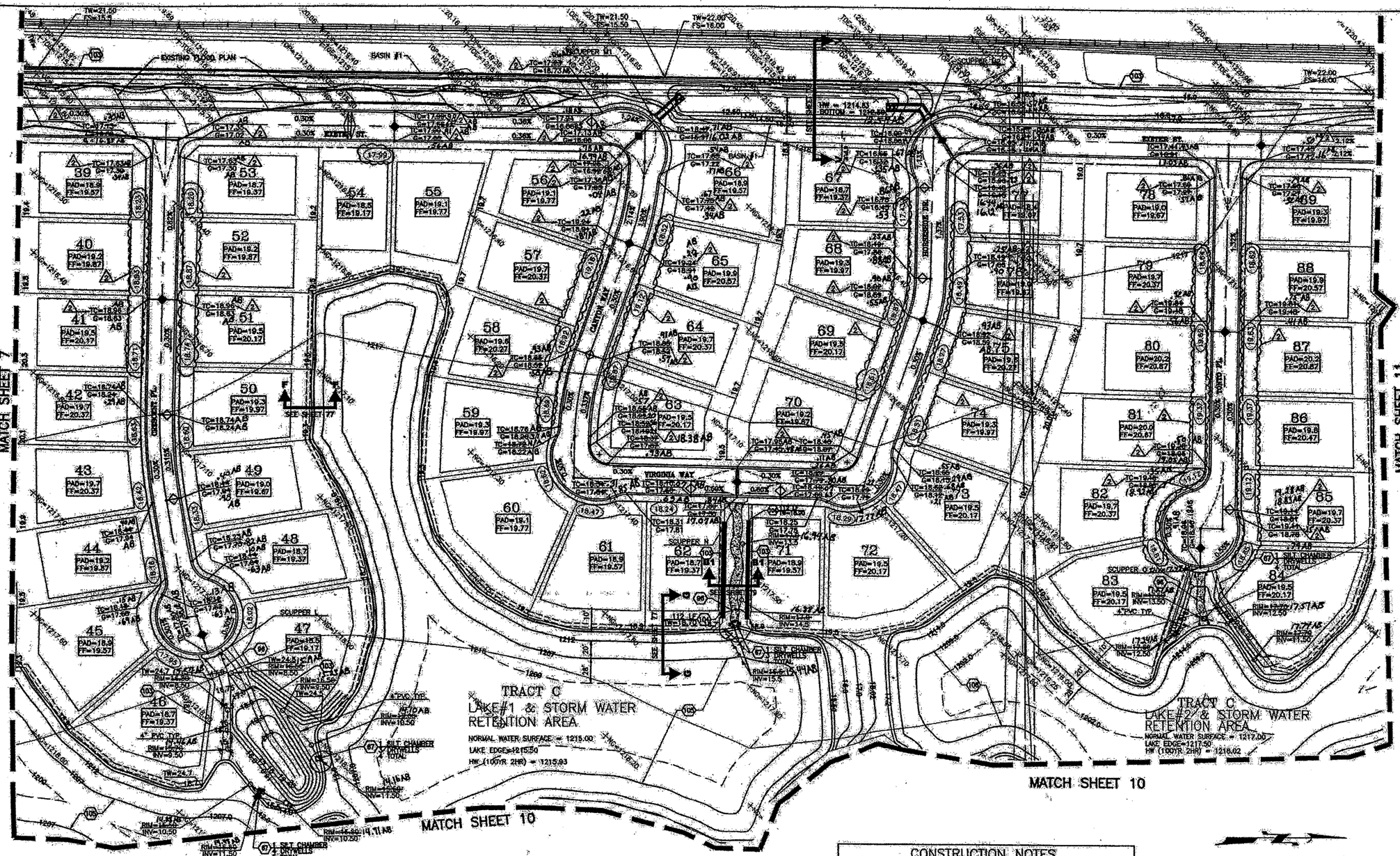
PROJECT:
PINELAKE ESTATES
CHANDLER, ARIZONA

JOB NO. 000615
FILE NO. 0615GD02
GD02
SHEET NO. 8 OF 81

1-3621 AS-BUILT 1-28-03

PINELAKE ESTATES

000615



CONSTRUCTION NOTES

(87)	DRYWELL SYSTEM; COC DET C-501; AND DETAIL C AND H ON SHEET 10 OF PACE DRAWINGS. SEE SHEET 80 FOR DRYWELL HORIZONTAL CONTROL LOCATION.	17 EA
(98)	CONSTRUCT STREAM BED PER DET F,G,H, ON SHEET 10 OF PACE PLANS	3 EA
(103)	CONSTRUCT 6' WALL PER DETAILS A&B ON SHEET 13	
(104)	CONSTRUCT RETAINING WALL WITH TOP OF WALL AS SHOWN. SEE 4' RETAINING STRUCTURAL WALL DETAILS ON SHEET 61 (SW-1).	224 LF
(105)	EXCAVATE THE LAKE TO ELEVATION 1207.00 MINIMUM OR OPTIONALLY TO ELEVATION 1200.00 IF NEEDED FOR EARTHWORK BALANCE	
(106)	EXCAVATE THE LAKE TO ELEVATION 1209.00 MINIMUM OR OPTIONALLY TO ELEVATION 1202.00 IF NEEDED FOR EARTHWORK BALANCE	

50 0 50 100
Scale Feet

THE PROMPT PAY LAW WILL BE ALTERED FOR THIS CONTRACT

NOTICE OF EXTENDED PAYMENT PROVISION

THE CONSTRUCTION CONTRACT WILL ALLOW THE OWNER TO MAKE PAYMENT WITHIN THIRTY (30) DAYS AFTER CERTIFICATION AND APPROVAL OF BILLINGS.

REVISIONS:
1 11/27/01 SEWER & WATER REVISIONS
6" TO 4" CURB CHANGES; REMOVE D/B
AT 4" BOLL CURBS

2740 E. SOUTHERN AVE.
SUITE 216
MESA, ARIZONA 85205
PHONE: (480) 218-8035
FAX: (480) 830-4588

TC Engineering, L.L.C.
Civil Engineers • Land Surveyors • Planners

GRADING PLAN

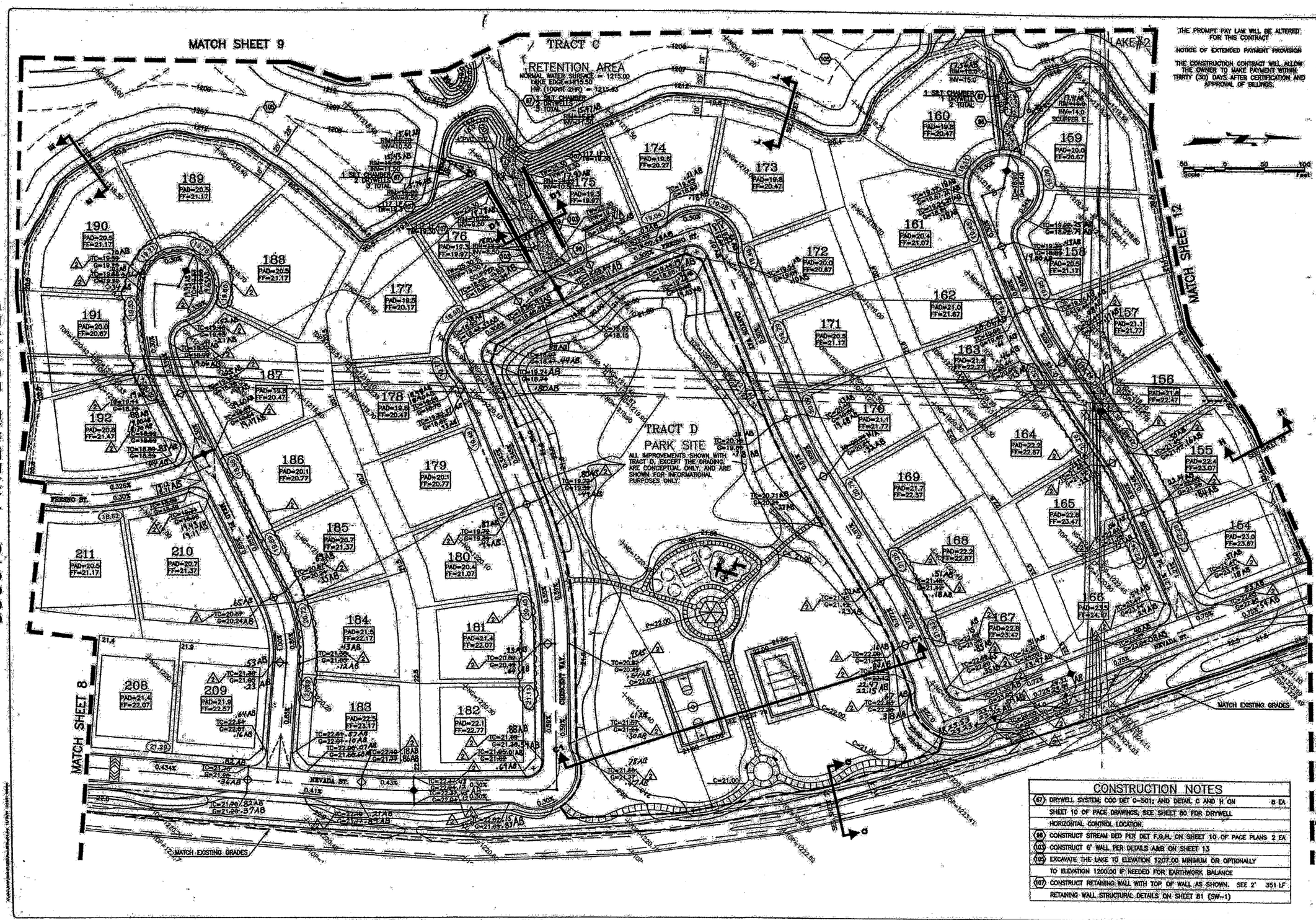
PROJECT: PINELAKE ESTATES
CHANDLER, ARIZONA

BASIS OF BEARING: 1-800-STAKE-IT

JOB NO.: 000615
FILE NO.: 0615GD03
GD03
SHEET NO.: 9 OF 81

1-3621 AS-BUILT 1-28-03

000615 PINELAKE ESTATES



CONSTRUCTION NOTES

(67)	DRYWELL SYSTEM; COD DET C-501; AND DETAIL C AND H ON SHEET 10 OF PACE DRAWINGS; SEE SHEET 80 FOR DRYWELL HORIZONTAL CONTROL LOCATION.	8 EA
(98)	CONSTRUCT STREAM BED PER DET F,G,H, ON SHEET 10 OF PACE PLANS	2 EA
(103)	CONSTRUCT 6' WALL PER DETAILS A&B ON SHEET 13	
(105)	EXCAVATE THE LAKE TO ELEVATION 1207.00 MINIMUM OR OPTIONALLY TO ELEVATION 1200.00 IF NEEDED FOR EARTHWORK BALANCE	
(107)	CONSTRUCT RETAINING WALL WITH TOP OF WALL AS SHOWN. SEE RETAINING WALL STRUCTURAL DETAILS ON SHEET 81 (SW-1)	2' 351 LF

REVISIONS
1/17/97 (1) SEWER & WATER REVISIONS
5" TO 4" CURB CHANGES, REMOVE D/W, AT K' ROLL CURBS

3740 E SOUTHERN AVE
SUITE 218
MESA, ARIZONA 85206
PHONE (480) 218-9831
FAX (480) 830-4858

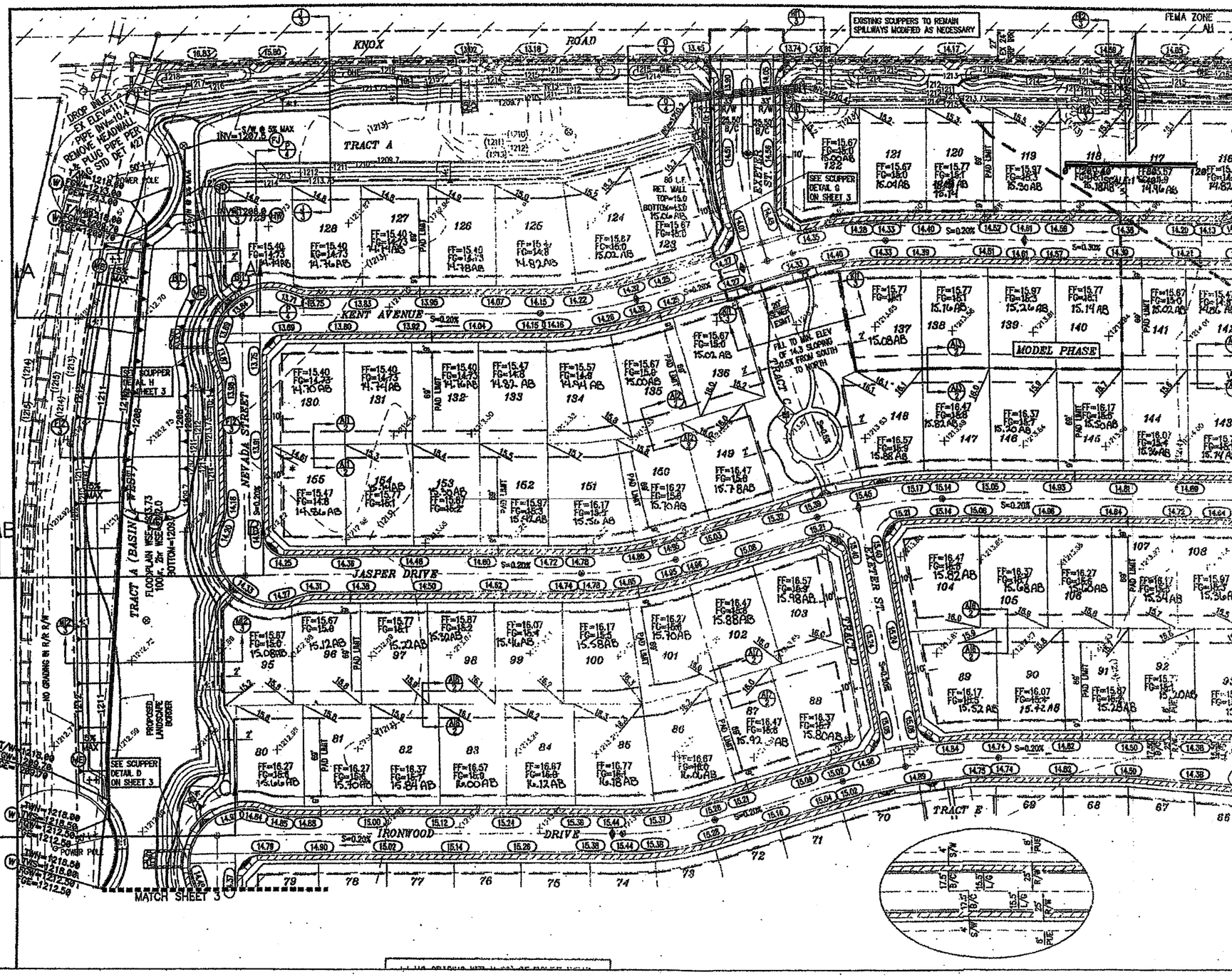
Engineering, L.L.C.
Civil Engineers • Land Surveyors • Planners

GRADING PLAN

PROJECT: PINELAKE ESTATES
CHANDLER, ARIZONA

JOB NO. 000615
FILE NO. 0615GD04
GD04
SHEET NO. 10 OF 81

1-3621 AS-BUILT 1-28-03

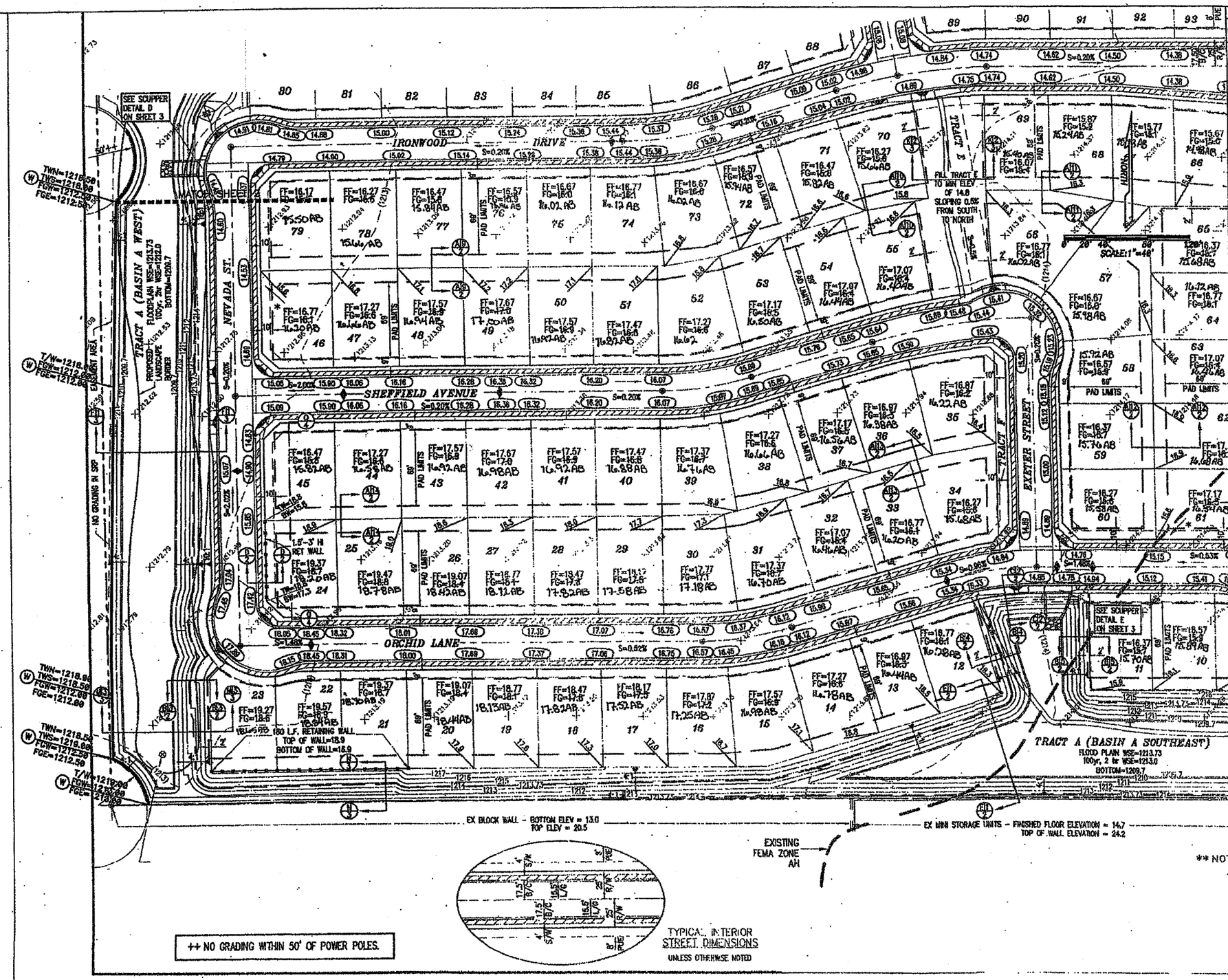


CONSTRUCTION NOTES	
ME	MATCH EXISTING GRADE
SD	CONSTRUCT CMP STORMDRAIN, SIZE AS INDICATED
FJ	CONNECT STORMDRAIN TO EXISTING DRYWELL WITH FIELD JOINT PER MAG DET 505
HW	CONSTRUCT STRAIGHT TYPE HEADWALL PER MAG DET 501-1
W	CONSTRUCT SITE WALL PER STRUCTURAL PLANS. INSTALL 16"x8" DRAIN BLOCKS (16' SPACING) AT BASE OF WALL.

FESTIVA COURT
GRADING PLANS

ERIE & ASSOCIATES, INC.
3120 N. 24th ST.
PHOENIX, ARIZONA 85016
(602) 954-0399

JOB NO. 1821.01	DRAWN: J.A.L.	SHEET NO.
DATE: 04/02/2007	DESIGN: L.J.E.	G2 OF 4
SCALE: 1"=40'	CHECKED: L.J.E.	



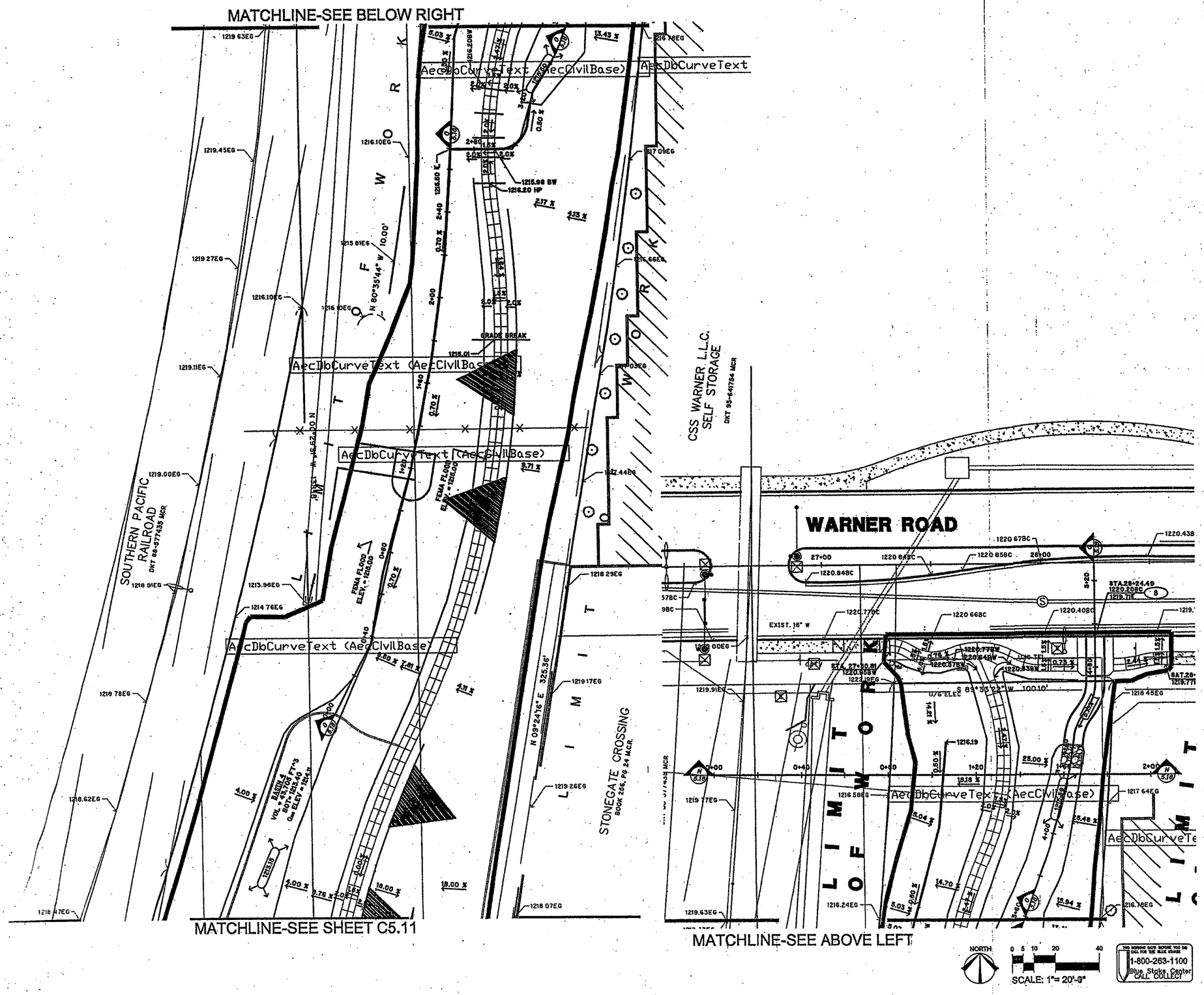
++ NO GRADING WITHIN 50' OF POWER POLES.

CONSTRUCTION NOTES	
ME	MATCH EXISTING GRADE
SD	CONSTRUCT CMP STORMDRAIN, SIZE AS INDICATED
FJ	CONNECT STORMDRAIN TO EXISTING DRYWELL WITH FIELD JOINT PER MAG DET 505
HW	CONSTRUCT STRAIGHT TYPE HEADWALL PER MAG DET 501-1
W	CONSTRUCT SITE WALL PER STRUCTURAL PLANS. INSTALL 16"x8" DRAIN BLOCKS (18' SPACING) AT BASE OF WALL.

FESTIVA COURT
GRADING PLANS

ERIE & ASSOCIATES, INC.
3120 N. 24th ST.
PHOENIX, ARIZONA 85016
(602) 954-5599

JOB NO. 1621.01	DRAWN: J.A.L.	SHEET NO.
DATE: 04/02/2007	DESIGN: L.J.E.	G3 OF 4
SCALE: 1"=40'	CHECKED: L.J.E.	



GRADING LEGEND

EXISTING GRADE

SYMBOL	DESCRIPTION
BC	BACK OF CURB
BCF	BRASS CAP FLUSH
EG	EXISTING GROUND
EP	EDGE OF PAVEMENT
PK	PK NAIL
00.0EG	EXISTING SPOT ELEVATION

PROPOSED GRADE

SYMBOL	DESCRIPTION
℄	FLOW LINE
FG	FINISH GRADE
HP	HIGH POINT
LP	LOW POINT
TSW	TOP OF SEAT WALL
BSW	BOTTOM OF SEAT WALL
TW	TOP OF WALL
BW	BACK OF WALK
FS	FINISH SUBGRADE
TC	TOP OF CURB
G	GUTTER
EP	PAVEMENT
℄	CENTERLINE

PROPOSED SWALE

00.00 FG — FINISHED SPOT ELEVATION

2.00% — DIRECTION & PERCENT OF SLOPE

00.00 FG — PROPOSED FLAT GRADED AREA: FF/PAD/BASIN ELEV.

00.00 FG — DIRECTIONAL GRADE INDICATOR

— SCUPPER NO. PER TABLE SHT C-5.19

1215 — NEW CONTOUR - MAJOR INTERVAL

1214 — NEW CONTOUR - MINOR INTERVAL

1215 — EXISTING CONTOUR - MAJOR INTERVAL

1214 — EXISTING CONTOUR - MINOR INTERVAL

GRADE BREAK - TOE

GRADE BREAK - TOP

GRADE BREAK - RIDGE

LIMIT OF GRADING

GENERAL GRADING NOTES

1. ALL LAND FORMS AND SWALES SHALL BE GRADED TO A SMOOTH FLOWING SURFACE PROVIDING POSITIVE DRAINAGE AND VISUAL LAND FORM CONTINUITY. FINAL GRADE TO BE REVIEWED & APPROVED BY THE OWNER & LANDSCAPE ARCHITECT.
2. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL CLEARED VEGETATION, DEBRIS FENCING, ETC. FROM THE SITE.
3. SLOPE REQUIREMENTS:

PATHS AND WALKS:	4.5% MAX. RUN SLOPE
	1.5% TYP. CROSS SLOPE
PAVEMENTS:	0.3% MIN. RUN SLOPE
	2.0% TYP. CROSS SLOPE
BASINS	12:1 TYP. MATCH SLOPE
& DAYLIGHT:	4:1 MAX. MATCH SLOPE

4. RETENTION BASINS ARE TO BE FLOOD IRRIGATED.

BENCHMARK:

CMCN 26 - SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, 3" CITY OF CHANDLER BRASS CAP IN CONCRETE, FLUSH, BETWEEN WARNER ROAD AND RAY ROAD; 450'± WEST OF MCQUEEN ROAD AT THE INTERSECTION OF CALLE DEL NORTE AND KINGSTON STREET.
DATUM ELEV. = 1218.86 (NAVD 1929)

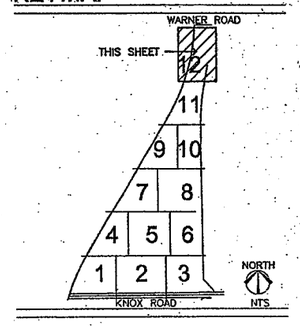
BASIS OF BEARING:

THE MONUMENT LINE OF KNOX ROAD RUNNING ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER SECTION OF SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, HAVING AN ASSUMED BEARING OF S 89° 41' 52" WEST.

FLOOD PLAIN DESIGNATION

The Flood Insurance Rate Map (FIRM) for Maricopa County, Arizona, and Incorporated Areas, Map 04013C2655F Dated July 19, 2001 as published by the Federal Emergency management Agency (Ref. 2) shows the site to be within Zone "AH". Exhibit 2 shows the portion of the FIRM covering the proposed park site. Zone AH is defined by FEMA as:
"Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevation determined."
100 YR FLOOD ELEVATION = 1215.00 FT
FEMA DATUM = NAVD 1929.

KEYMAP



GRADING PLAN

Carter+Arizona
Burns

PLANNING
LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING
STRUCTURAL ENGINEERING
TRANSPORTATION

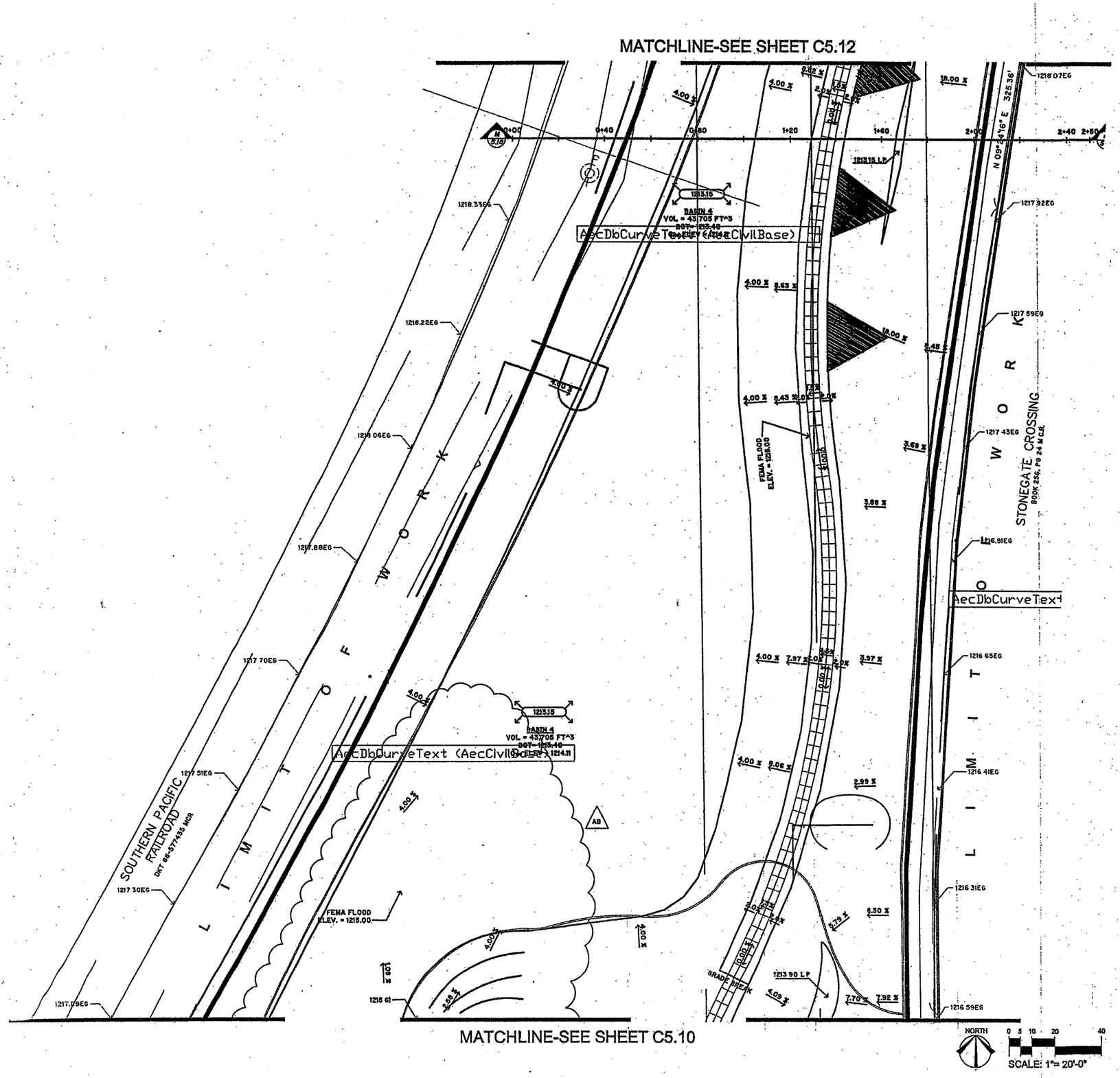
REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 35476 BRIAN T. BERNARD ARIZONA, U.S.A.

VAGABOND PARK

450 EAST KNOX ROAD
CITY OF CHANDLER, ARIZONA 85225

DESIGNED
DRAWN
CHECKED

C5



NORTH

0 5 10 20 40

SCALE: 1"= 20'-0"

THIS WORKING DAYS BEFORE YOU DIG CALL FOR THE BLUE STAKES 1-800-263-1100 Blue Stake, Center CALL COLLECT

GRADING LEGEND

EXISTING GRADE

SYMBOL	DESCRIPTION
BC	BACK OF CURB
BLF	BRASS CAP FLUSH
EG	EXISTING GROUND
EP	EDGE OF PAVEMENT
PK	PK NAIL
00.0EG	EXISTING SPOT ELEVATION

PROPOSED GRADE

SYMBOL	DESCRIPTION
FL	FLOW LINE
FG	FINISH GRADE
HP	HIGH POINT
LP	LOW POINT
TSW	TOP OF SEAT WALL
BSW	BOTTOM OF SEAT WALL
TW	TOP OF WALL
BW	BACK OF WALK
FS	FINISH SUBGRADE
TC	TOP OF CURB
G	GUTTER
EP	PAVEMENT
℄	CENTERLINE

PROPOSED SWALE

00.00 FG — FINISHED SPOT ELEVATION

2.00% — DIRECTION & PERCENT OF SLOPE

00.00 FG — PROPOSED FLAT GRADED AREA: FF/PAD/BASIN ELEV.

00.00 FG — DIRECTIONAL GRADE INDICATOR

— SCUPPER NO. PER TABLE SHT C-5.19

1216 — NEW CONTOUR - MAJOR INTERVAL

1214 — NEW CONTOUR - MINOR INTERVAL

1216 — EXISTING CONTOUR - MAJOR INTERVAL

1214 — EXISTING CONTOUR - MINOR INTERVAL

GRADE BREAK - TOE

GRADE BREAK - TOP

GRADE BREAK - RIDGE

LIMIT OF GRADING

GENERAL GRADING NOTES

1. ALL LAND FORMS AND SWALES SHALL BE GRADED TO A SMOOTH FLOWING SURFACE PROVIDING POSITIVE DRAINAGE AND VISUAL LAND FORM CONTINUITY. FINAL GRADE TO BE REVIEWED & APPROVED BY THE OWNER & LANDSCAPE ARCHITECT.
2. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL CLEARED VEGETATION, DEBRIS FENCING, ETC. FROM THE SITE.
3. SLOPE REQUIREMENTS:

PATHS AND WALKS:	4.5% MAX. RUN SLOPE
	1.5% TYP. CROSS SLOPE
PAVEMENTS:	0.3% MIN. RUN SLOPE
	2.0% TYP. CROSS SLOPE
BASINS	12:1 TYP. MATCH SLOPE
& DAYLIGHT:	4:1 MAX. MATCH SLOPE

4. RETENTION BASINS ARE TO BE FLOOD IRRIGATED.

BENCHMARK:

CMCN 26 - SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, 3" CITY OF CHANDLER BRASS CAP IN CONCRETE, FLUSH. BETWEEN WARNER ROAD AND RAY ROAD; 450'± WEST OF MCQUEEN ROAD AT THE INTERSECTION OF CALLE DEL NORTE AND KINGSTON STREET.
DATUM ELEV. = 1216.88 (NAVD 1929)

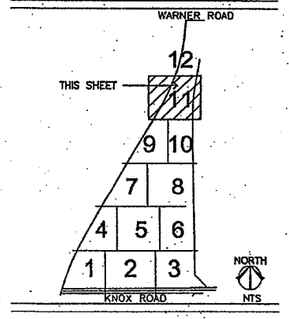
BASIS OF BEARING:

THE MONUMENT LINE OF KNOX ROAD RUNNING ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER SECTION OF SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, HAVING AN ASSUMED BEARING OF S 89° 41' 52" WEST.

FLOOD PLAIN DESIGNATION

The Flood Insurance Rate Map (FIRM) for Maricopa County, Arizona, and Incorporated Areas, Map 04013C2655F Dated July 19, 2001 as published by the Federal Emergency management Agency (Ref. 2) shows the site to be within Zone "AH". Exhibit 2 shows the portion of the FIRM covering the proposed park site. Zone AH is defined by FEMA as:
"Flood depths at 1 to 3 feet (usually areas of ponding; base flood elevation determined."
100 YR FLOOD ELEVATION = 1215.00 FT
FEMA DATUM = NAVD 1929.

KEYMAP



GRADING PLAN

Carter Burgess

PLANNING
LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING
STRUCTURAL ENGINEERING
TRANSPORTATION

REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 35476 BRIAN T. BERNARD ARIZONA, U.S.A.

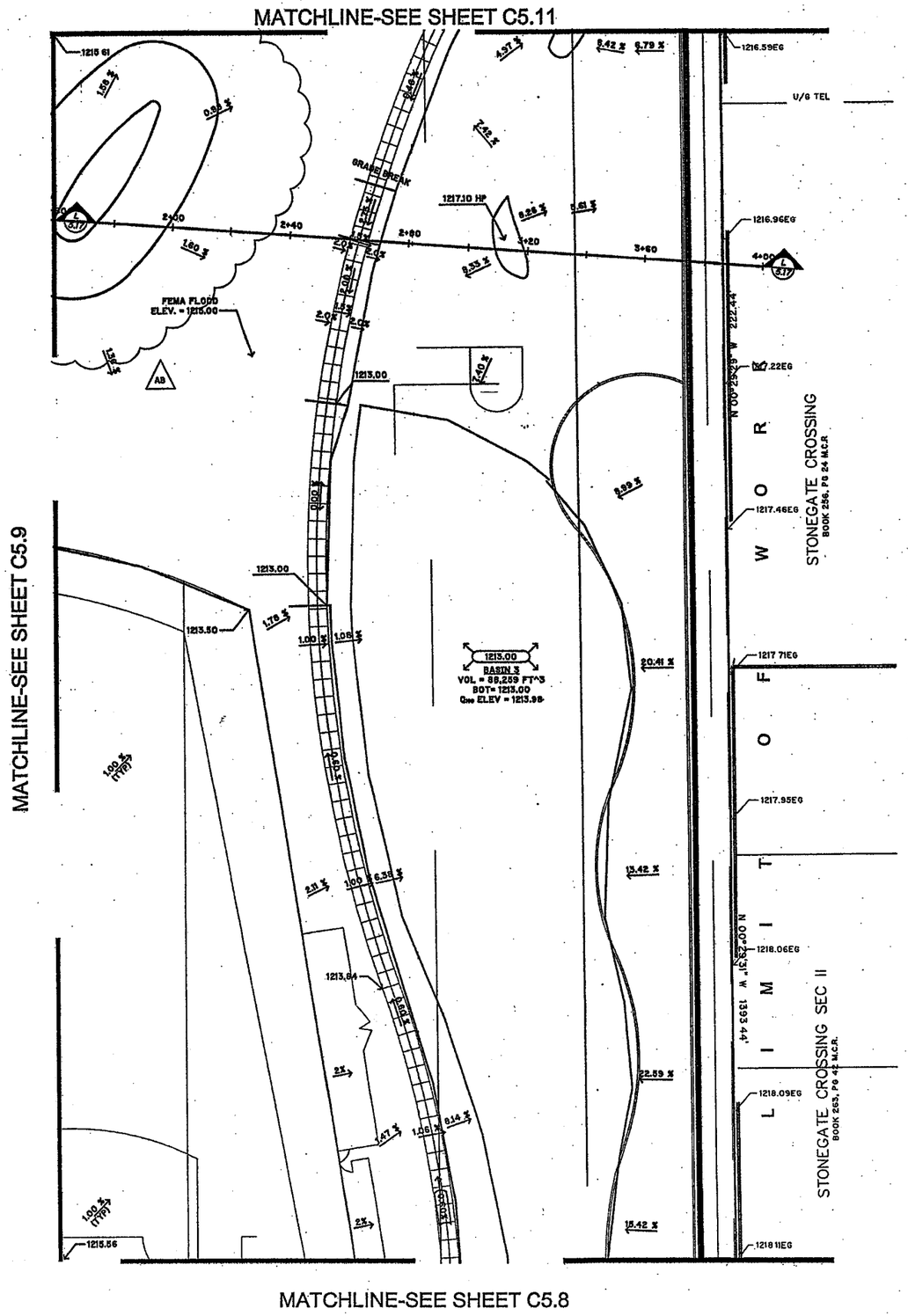
VAGABOND PARK

450 EAST KNOX ROAD
CITY OF CHANDLER, ARIZONA 85225

DESIGNED
DRAWN
CHECKED

C5.11

Copyright © 2003 by Carter Burgess



GRADING LEGEND

EXISTING GRADE

SYMBOL	DESCRIPTION
BC	BACK OF CURB
BCF	BRASS CAP FLUSH
EG	EXISTING GROUND
LP	EDGE OF PAVEMENT
PK	PK NAIL
00.00EG	EXISTING SPOT ELEVATION

PROPOSED GRADE

SYMBOL	DESCRIPTION
℄	FLOW LINE
FG	FINISH GRADE
HP	HIGH POINT
LP	LOW POINT
TSW	TOP OF SEAT WALL
BSW	BOTTOM OF SEAT WALL
TW	TOP OF WALL
BW	BACK OF WALK
FS	FINISH SUBGRADE
TC	TOP OF CURB
G	GUTTER
EP	PAVEMENT
℄	CENTERLINE
	PROPOSED SWALE
00.00 FG	FINISHED SPOT ELEVATION
2.00%	DIRECTION & PERCENT OF SLOPE
00.00 FG	PROPOSED FLAT GRADED AREA: FF/PAD/BASIN ELEV.
00.00 FG	DIRECTIONAL GRADE INDICATOR
#	SCUPPER NO. PER TABLE SHT C-5.19
1216	NEW CONTOUR - MAJOR INTERVAL
1214	NEW CONTOUR - MINOR INTERVAL
1215	EXISTING CONTOUR - MAJOR INTERVAL
1214	EXISTING CONTOUR - MINOR INTERVAL
	GRADE BREAK - TOE
	GRADE BREAK - TOP
	GRADE BREAK - RIDGE
	LIMIT OF GRADING

GENERAL GRADING NOTES

1. ALL LAND FORMS AND SWALES SHALL BE GRADED TO A SMOOTH FLOWING SURFACE PROVIDING POSITIVE DRAINAGE AND VISUAL LAND FORM CONTINUITY. FINAL GRADE TO BE REVIEWED & APPROVED BY THE OWNER & LANDSCAPE ARCHITECT.
2. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL CLEARED VEGETATION, DEBRIS FENCING, ETC. FROM THE SITE.
3. SLOPE REQUIREMENTS:
   PATHS AND WALKS: 4.5% MAX. RUN SLOPE
   1.5% TYP. CROSS SLOPE
   PAVEMENTS: 0.3% MIN. RUN SLOPE
   2.0% TYP. CROSS SLOPE
   BASINS & DAYLIGHT: 12:1 TYP. MATCH SLOPE
   4:1 MAX. MATCH SLOPE
4. RETENTION BASINS ARE TO BE FLOOD IRRIGATED.

BENCHMARK:

CMCN 26 - SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, 3" CITY OF CHANDLER BRASS CAP IN CONCRETE, FLUSH, BETWEEN WARNER ROAD AND RAY ROAD; 450'± WEST OF MCQUEEN ROAD AT THE INTERSECTION OF CALLE DEL NORTE AND KINGSTON STREET.
DATUM ELEV. = 1216.88 (NAVD 1929)

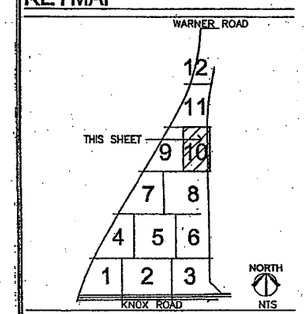
BASIS OF BEARING:

THE MONUMENT LINE OF KNOX ROAD RUNNING ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER SECTION OF SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST; HAVING AN ASSUMED BEARING OF S 89° 41' 52" WEST.

FLOOD PLAIN DESIGNATION

The Flood Insurance Rate Map (FIRM) for Maricopa County, Arizona, and Incorporated Areas, Map 04013C2655F Dated July 19, 2001 as published by the Federal Emergency management Agency (Ref. 2) shows the site to be within Zone "AH". Exhibit 2 shows the portion of the FIRM covering the proposed park site. Zone AH is defined by FEMA as:
"Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevation determined."
100 YR FLOOD ELEVATION = 1215.00 FT
FEMA DATUM = NAVD 1929.

KEYMAP



NORTH

0 5 10 20 40
SCALE: 1"= 20'-0"

TWO WORKING DAYS BEFORE YOU DIG CALL FOR THE BLUE STAKES
1-800-263-1100
Blue Stake Center
CALL COLLECT

GRADING PLAN

Carter:Burgess
PLANNING
LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING
STRUCTURAL ENGINEERING
TRANSPORTATION

REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO. 35476
BRIAN T. BERNARD
ARIZONA, U.S.A.

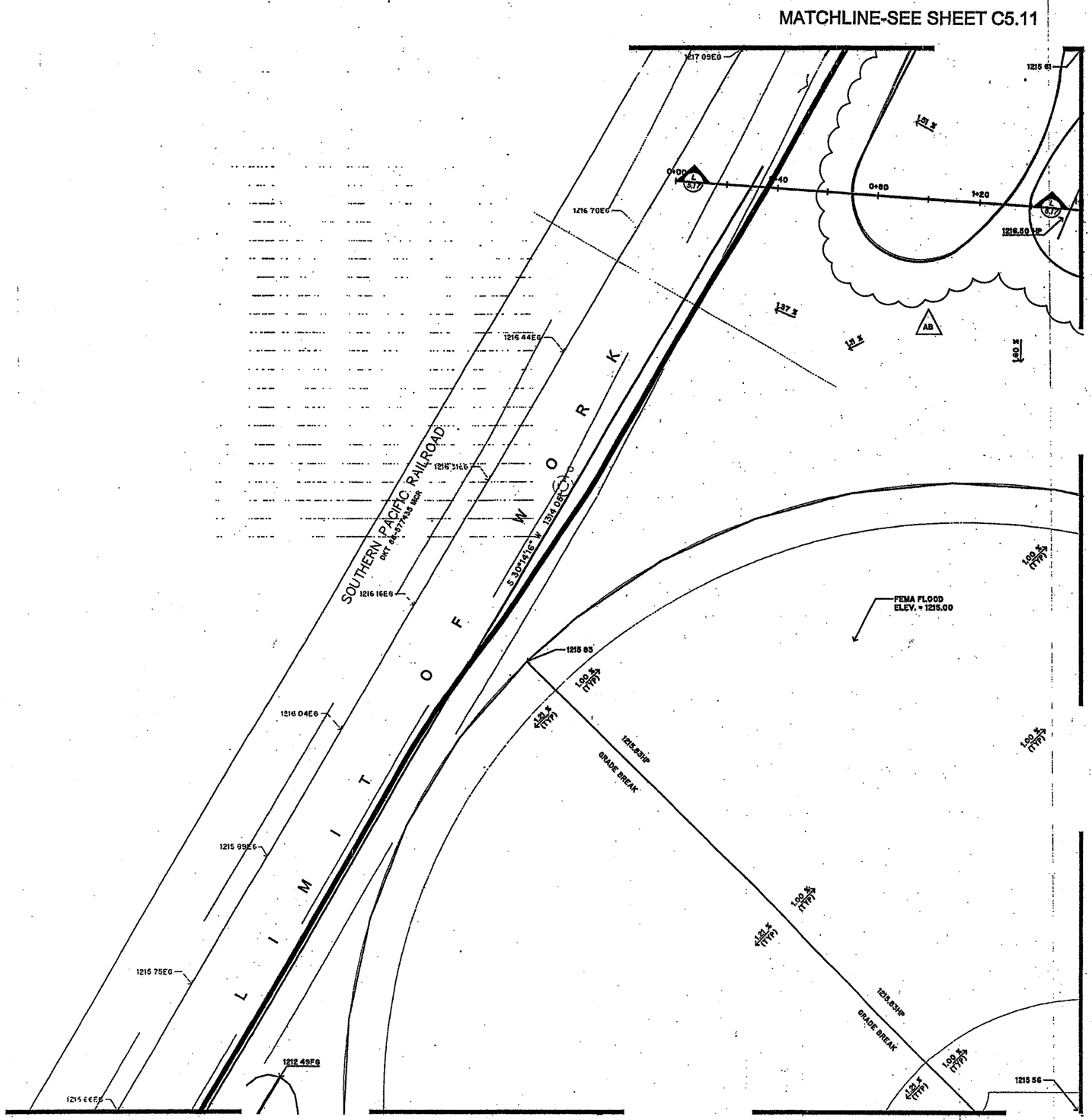
VAGABOND PARK

450 EAST KNOX ROAD
CITY OF CHANDLER, ARIZONA 85225

DESIGNED
DRAWN
CHECKED

C5.1

Copyright © 2003 by Carter Burgess



GRADING LEGEND

EXISTING GRADE

SYMBOL	DESCRIPTION
BC	BACK OF CURB
BCF	BRASS CAP FLUSH
EG	EXISTING GROUND
EP	EDGE OF PAVEMENT
PK	PK NAIL
✓	EXISTING SPOT ELEVATION

PROPOSED GRADE

SYMBOL	DESCRIPTION
℄	FLOW LINE
FG	FINISH GRADE
HP	HIGH POINT
LP	LOW POINT
TSW	TOP OF SEAT WALL
BSW	BOTTOM OF SEAT WALL
TW	TOP OF WALL
BW	BACK OF WALK
FS	FINISH SUBGRADE
TC	TOP OF CURB
G	GUTTER
EP	PAVEMENT
℄	CENTERLINE

PROPOSED SWALE

00.00 FG — FINISHED SPOT ELEVATION

2.00% — DIRECTION & PERCENT OF SLOPE

00.00 FG — PROPOSED FLAT GRADED AREA: FF/PAD/BASIN ELEV.

00.00 FG — DIRECTIONAL GRADE INDICATOR

— SCUPPER NO. PER TABLE SHT C-5.19

1215 — NEW CONTOUR - MAJOR INTERVAL

1214 — NEW CONTOUR - MINOR INTERVAL

1215 — EXISTING CONTOUR - MAJOR INTERVAL

1214 — EXISTING CONTOUR - MINOR INTERVAL

GRADE BREAK - TOE

GRADE BREAK - TOP

GRADE BREAK - RIDGE

LIMIT OF GRADING

GENERAL GRADING NOTES

1. ALL LAND FORMS AND SWALES SHALL BE GRADED TO A SMOOTH FLOWING SURFACE PROVIDING POSITIVE DRAINAGE AND VISUAL LAND FORM CONTINUITY. FINAL GRADE TO BE REVIEWED & APPROVED BY THE OWNER & LANDSCAPE ARCHITECT.
2. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL CLEARED VEGETATION, DEBRIS FENCING, ETC. FROM THE SITE.
3. SLOPE REQUIREMENTS:
   PATHS AND WALKS: 4.5% MAX. RUN SLOPE
   1.5% TYP. CROSS SLOPE
   PAVEMENTS: 0.5% MIN. RUN SLOPE
   2.0% TYP. CROSS SLOPE
   BASINS 12:1 TYP. MATCH SLOPE
   & DAYLIGHT: 4:1 MAX. MATCH SLOPE
4. RETENTION BASINS ARE TO BE FLOOD IRRIGATED.

BENCHMARK:

CMCN 26 - SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, 3" CITY OF CHANDLER BRASS CAP IN CONCRETE, FLUSH, BETWEEN WARNER ROAD AND RAY ROAD; 450'± WEST OF MCQUEEN ROAD AT THE INTERSECTION OF CALLE DEL NORTE AND KINGSTON STREET.
DATUM ELEV. = 1216.88 (NAVD 1929)

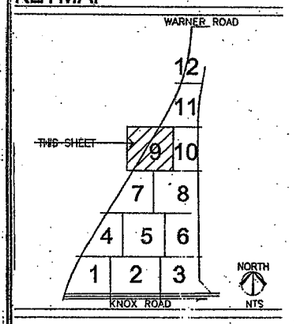
BASIS OF BEARING:

THE MONUMENT LINE OF KNOX ROAD RUNNING ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER SECTION OF SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, HAVING AN ASSUMED BEARING OF S 89° 41' 52" WEST.

FLOOD PLAIN DESIGNATION

The Flood Insurance Rate Map (FIRM) for Maricopa County, Arizona, and Incorporated Areas, Map 04013C0655F Dated July 19, 2001 as published by the Federal Emergency management Agency (Ref. 2) shows the site to be within Zone "AH". Exhibit 2 shows the portion of the FIRM covering the proposed park site. Zone AH is defined by FEMA as:
"Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevation determined."
100 YR FLOOD ELEVATION = 1215.00 FT
FEMA DATUM = NAVD 1929.

KEYMAP



GRADING PLAN

Carter+Burgess

PLANNING
LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING
STRUCTURAL ENGINEERING
TRANSPORTATION

REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO. 35476
BRIAN T. BERNARD
ARIZONA U.S.A.

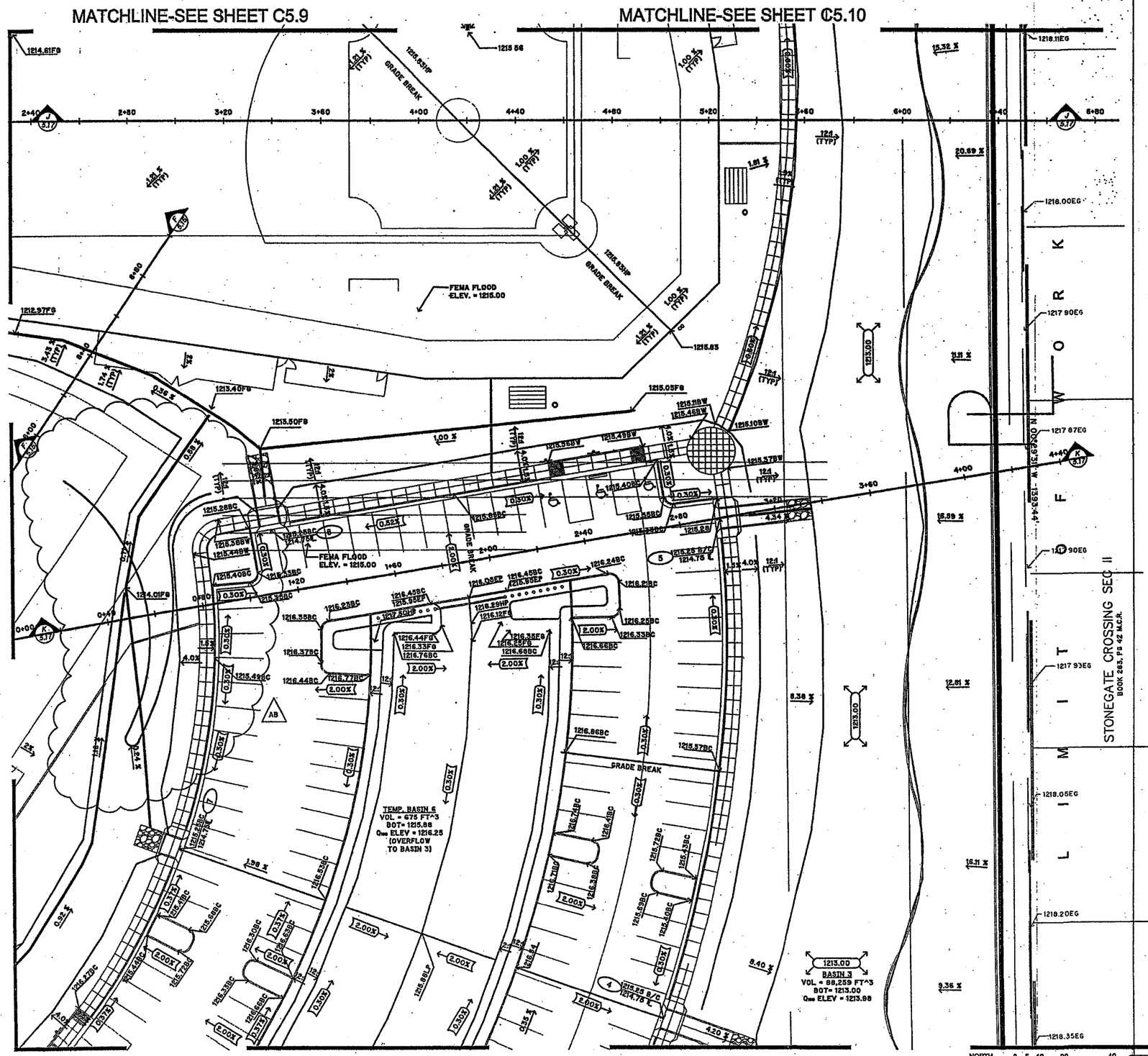
VAGABOND PARK

450 EAST KNOX ROAD
CITY OF CHANDLER, ARIZONA 85225

DESIGNED
DRAWN
CHECKED

C5.8

Copyright © 2003 by Carter+Burgess



GRADING LEGEND

EXISTING GRADE

SYMBOL	DESCRIPTION
BC	BACK OF CURB
BCF	BRASS CAP FLUSH
EG	EXISTING GROUND
EP	EDGE OF PAVEMENT
PK	PK NAIL
00.00EG	EXISTING SPOT ELEVATION

PROPOSED GRADE

SYMBOL	DESCRIPTION
℄	FLOW LINE
FG	FINISH GRADE
HP	HIGH POINT
LP	LOW POINT
TSW	TOP OF SEAT WALL
BSW	BOTTOM OF SEAT WALL
TW	TOP OF WALL
BW	BACK OF WALK
FS	FINISH SUBGRADE
TC	TOP OF CURB
G	GUTTER
EP	PAVEMENT
℄	CENTERLINE

PROPOSED SWALE

00.00 FG — FINISHED SPOT ELEVATION

2.00% — DIRECTION & PERCENT OF SLOPE

00.00 FG — PROPOSED FLAT GRADED AREA: FF/PAD/BASIN ELEV.

00.00 FG — DIRECTIONAL GRADE INDICATOR

— SCUPPER NO. PER TABLE SHT C-5.19

1215 — NEW CONTOUR - MAJOR INTERVAL

1214 — NEW CONTOUR - MINOR INTERVAL

1215 — EXISTING CONTOUR - MAJOR INTERVAL

1214 — EXISTING CONTOUR - MINOR INTERVAL

GRADE BREAK - TOE

GRADE BREAK - TOP

GRADE BREAK - RIDGE

LIMIT OF GRADING

GENERAL GRADING NOTES

1. ALL LAND FORMS AND SWALES SHALL BE GRADED TO A SMOOTH FLOWING SURFACE PROVIDING POSITIVE DRAINAGE AND VISUAL LAND FORM CONTINUITY. FINAL GRADE TO BE REVIEWED & APPROVED BY THE OWNER & LANDSCAPE ARCHITECT.
2. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL CLEARED VEGETATION, DEBRIS FENCING, ETC. FROM THE SITE.
3. SLOPE REQUIREMENTS:
   - PATHS AND WALKS: 4.5% MAX. RUN SLOPE; 1.5% TYP. CROSS SLOPE
   - PAVEMENTS: 0.3% MIN. RUN SLOPE; 2.0% TYP. CROSS SLOPE
   - BASINS & DAYLIGHT: 12:1 TYP. MATCH SLOPE; 4:1 MAX. MATCH SLOPE
4. RETENTION BASINS ARE TO BE FLOOD IRRIGATED.

BENCHMARK:

CMCN 26 - SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, 3" CITY OF CHANDLER BRASS CAP IN CONCRETE, FLUSH. BETWEEN WARNER ROAD AND RAY ROAD; 450'± WEST OF MCQUEEN ROAD AT THE INTERSECTION OF CALLE DEL NORTE AND KINGSTON STREET.
DATUM ELEV. = 1218.88 (NAVD 1929)

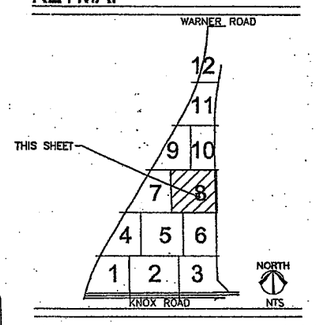
BASIS OF BEARING:

THE MONUMENT LINE OF KNOX ROAD RUNNING ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER SECTION OF SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, HAVING AN ASSUMED BEARING OF S 89° 41' 52" WEST.

FLOOD PLAIN DESIGNATION

The Flood Insurance Rate Map (FIRM) for Maricopa County, Arizona, and Incorporated Areas, Map 04013C2655F Dated July 19, 2001 as published by the Federal Emergency management Agency (Ref. 2) shows the site to be within Zone "AH". Exhibit 2 shows the portion of the FIRM covering the proposed park site. Zone AH is defined by FEMA as:
"Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevation determined."
100 YR FLOOD ELEVATION = 1215.00 FT
FEMA DATUM = NAVD 1929.

KEYMAP



GRADING PLAN

Carter+Arizona

Carter+Burgess

PLANNING
LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING
STRUCTURAL ENGINEERING
TRANSPORTATION

REGISTERED PROFESSIONAL ENGINEER (CERTIFICATE NO. 35476) BRIAN T. BERNARD ARIZONA, U.S.A.

VAGABOND PARK

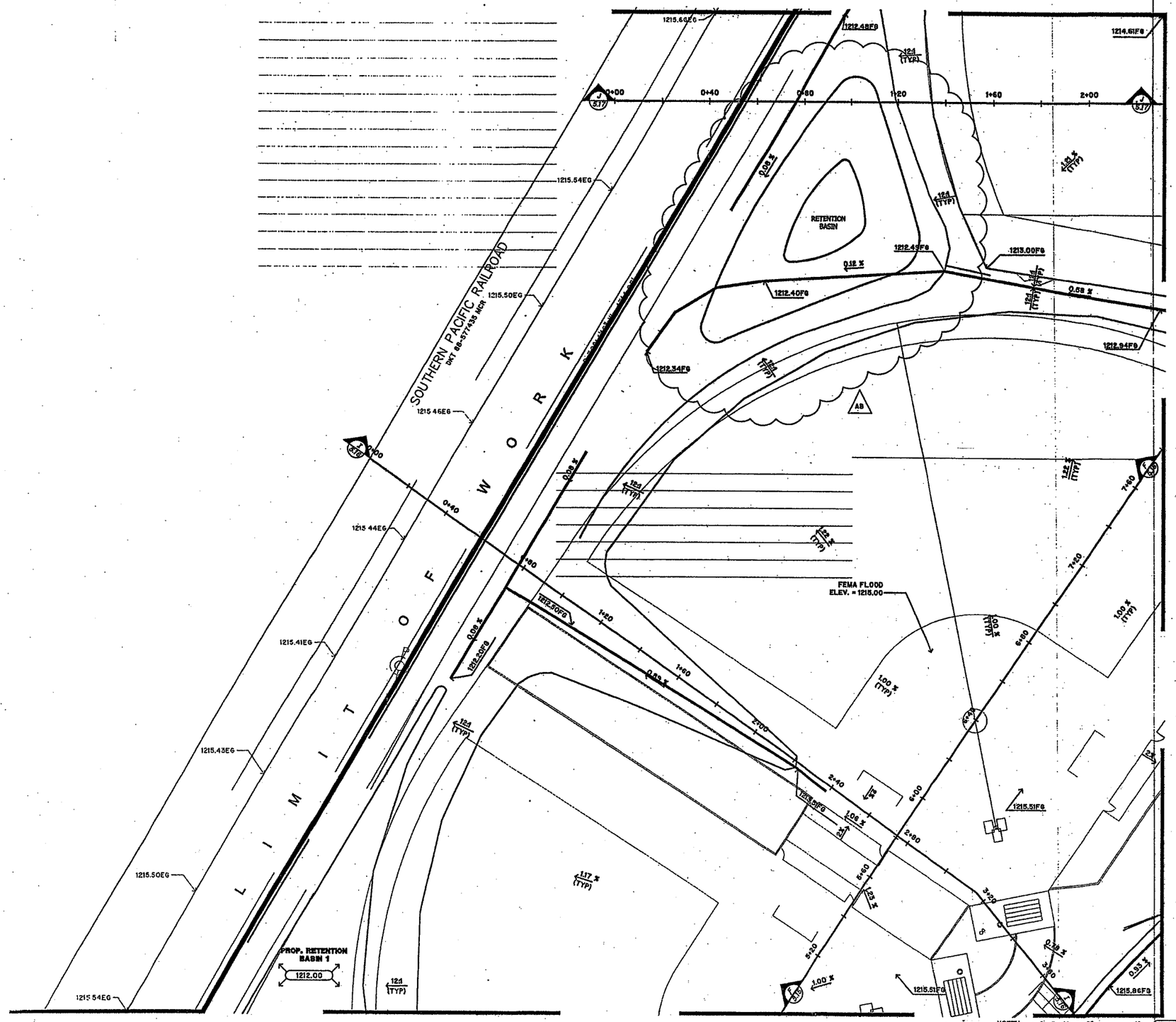
450 EAST KNOX ROAD
CITY OF CHANDLER, ARIZONA 85225

DESIGNED
DRAWN
CHECKED

C5.8

Copyright © 2003 by Carter

MATCHLINE-SEE SHEET C5.9



MATCHLINE-SEE SHEET C5.8

MATCHLINE-SEE SHEET C5.4

GRADING LEGEND

EXISTING GRADE

SYMBOL	DESCRIPTION
BC	BACK OF CURB
BCF	BRASS CAP FLUSH
EG	EXISTING GROUND
EP	EDGE OF PAVEMENT
PK	PK NAIL
00.00EG	EXISTING SPOT ELEVATION

PROPOSED GRADE

SYMBOL	DESCRIPTION
℄	FLOW LINE
FG	FINISH GRADE
HP	HIGH POINT
LP	LOW POINT
TSW	TOP OF SEAT WALL
BSW	BOTTOM OF SEAT WALL
TW	TOP OF WALL
BW	BACK OF WALK
FS	FINISH SUBGRADE
TC	TOP OF CURB
G	GUTTER
EP	PAVEMENT
℄	CENTERLINE

PROPOSED SWALE

00.00 FG — FINISHED SPOT ELEVATION

2.00% — DIRECTION & PERCENT OF SLOPE

00.00 FG — PROPOSED FLAT GRADED AREA: FF/PAD/BASIN ELEV.

00.00 FG — DIRECTIONAL GRADE INDICATOR

— SCUPPER NO. PER TABLE SHT C-5.19

1215 — NEW CONTOUR - MAJOR INTERVAL

1214 — NEW CONTOUR - MINOR INTERVAL

1215 — EXISTING CONTOUR - MAJOR INTERVAL

1214 — EXISTING CONTOUR - MINOR INTERVAL

GRADE BREAK - TOE

GRADE BREAK - TOP

GRADE BREAK - RIDGE

LIMIT OF GRADING

GENERAL GRADING NOTES

1. ALL LAND FORMS AND SWALES SHALL BE GRADED TO A SMOOTH FLOWING SURFACE PROVIDING POSITIVE DRAINAGE AND VISUAL LAND FORM CONTINUITY. FINAL GRADE TO BE REVIEWED & APPROVED BY THE OWNER & LANDSCAPE ARCHITECT.
2. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL CLEARED VEGETATION, DEBRIS FENCING, ETC. FROM THE SITE.
3. SLOPE REQUIREMENTS:

PATHS AND WALKS:	4.5% MAX. RUN SLOPE
	1.5% TYP. CROSS SLOPE
PAVEMENTS:	0.3% MIN. RUN SLOPE
	2.0% TYP. CROSS SLOPE
BASINS	12:1 TYP. MATCH SLOPE
& DAYLIGHT:	4:1 MAX. MATCH SLOPE

4. RETENTION BASINS ARE TO BE FLOOD IRRIGATED.

BENCHMARK:

CMCN 26 - SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, 3" CITY OF CHANDLER BRASS CAP IN CONCRETE, FLUSH. BETWEEN WARNER ROAD AND RAY ROAD; 450'± WEST OF MCQUEEN ROAD AT THE INTERSECTION OF CALLE DEL NORTE AND KINGSTON STREET.
DATUM ELEV. = 1216.88 (NAVD 1929)

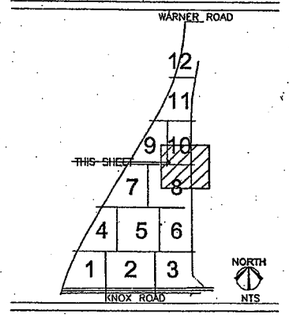
BASIS OF BEARING:

THE MONUMENT LINE OF KNOX ROAD RUNNING ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER SECTION OF SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, HAVING AN ASSUMED BEARING OF S 89° 41' 52" WEST.

FLOOD PLAIN DESIGNATION

The Flood Insurance Rate Map (FIRM) for Maricopa County, Arizona, and Incorporated Areas, Map 04013C2655F Dated July 19, 2001 as published by the Federal Emergency management Agency (Ref. 2) shows the site to be within Zone "AH". Exhibit 2 shows the portion of the FIRM covering the proposed park site. Zone AH is defined by FEMA as:
"Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevation determined."
100 YR FLOOD ELEVATION = 1215.00 FT
FEMA DATUM = NAVD 1929.

KEYMAP



GRADING PLAN

Carter+Burgess
PLANNING
LANDSCAPE ARCHITECTS
CIVIL ENGINEERING
STRUCTURAL ENGINEERING
TRANSPORTATION

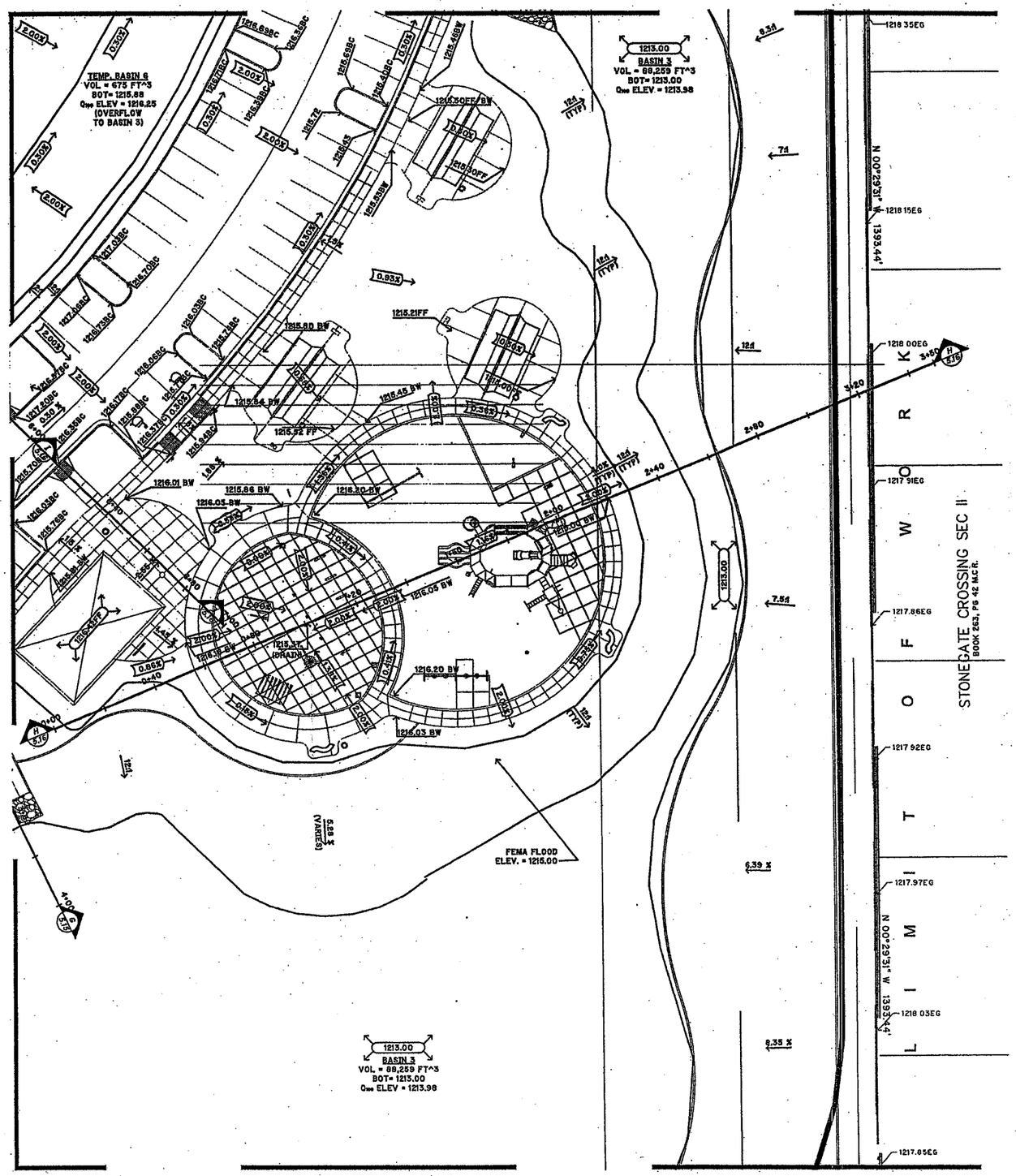
REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 35476 BRIAN T. BERNARD ARIZONA, U.S.A.

VAGABOND PARK

450 EAST KNOX ROAD
CITY OF CHANDLER, ARIZONA 85225

DESIGNED
DRAWN
CHECKED

MATCHLINE-SEE SHEET C5.8



MATCHLINE-SEE SHEET C5.3

GRADING LEGEND

EXISTING GRADE

SYMBOL	DESCRIPTION
BC	BACK OF CURB
BCF	BRASS CAP FLUSH
EG	EXISTING GROUND
EP	EDGE OF PAVEMENT
PK	PK NAIL
00.0EG	EXISTING SPOT ELEVATION

PROPOSED GRADE

SYMBOL	DESCRIPTION
FL	FLOW LINE
FG	FINISH GRADE
HP	HIGH POINT
LP	LOW POINT
TSW	TOP OF SEAT WALL
BSW	BOTTOM OF SEAT WALL
TW	TOP OF WALL
BW	BACK OF WALK
FS	FINISH SUBGRADE
TC	TOP OF CURB
G	GUTTER
EP	PAVEMENT
℄	CENTERLINE
	PROPOSED SWALE
00.00 FG	FINISHED SPOT ELEVATION
2.00%	DIRECTION & PERCENT OF SLOPE
00.00 FG	PROPOSED FLAT GRADED AREA: FF/PAD/BASIN ELEV.
00.00 FG	DIRECTIONAL GRADE INDICATOR
#	SCUPPER NO. PER TABLE SHT C-5.19
1216	NEW CONTOUR - MAJOR INTERVAL
1214	NEW CONTOUR - MINOR INTERVAL
1215	EXISTING CONTOUR - MAJOR INTERVAL
1214	EXISTING CONTOUR - MINOR INTERVAL
	GRADE BREAK - TOE
	GRADE BREAK - TOP
	GRADE BREAK - RIDGE
	LIMIT OF GRADING

GENERAL GRADING NOTES

1. ALL LAND FORMS AND SWALES SHALL BE GRADED TO A SMOOTH FLOWING SURFACE PROVIDING POSITIVE DRAINAGE AND VISUAL LAND FORM CONTINUITY. FINAL GRADE TO BE REVIEWED & APPROVED BY THE OWNER & LANDSCAPE ARCHITECT.
2. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL CLEARED VEGETATION, DEBRIS FENCING, ETC. FROM THE SITE.
3. SLOPE REQUIREMENTS:
   - PATHS AND WALKS: 4.5% MAX. RUN SLOPE; 1.5% TYP. CROSS SLOPE
   - PAVEMENTS: 0.3% MIN. RUN SLOPE; 2.0% TYP. CROSS SLOPE
   - BASINS & DAYLIGHT: 12:1 TYP. MATCH SLOPE; 4:1 MAX. MATCH SLOPE
4. RETENTION BASINS ARE TO BE FLOOD IRRIGATED.

BENCHMARK:

CMCN 26 - SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, 3" CITY OF CHANDLER BRASS CAP IN CONCRETE, FLUSH. BETWEEN WARNER ROAD AND RAY ROAD; 450'± WEST OF MCQUEEN ROAD AT THE INTERSECTION OF CALLE DEL NORTE AND KINGSTON STREET.
DATUM ELEV. = 1216.88 (NAVD 1929)

BASIS OF BEARING:

THE MONUMENT LINE OF KNOX ROAD RUNNING ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER SECTION OF SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, HAVING AN ASSUMED BEARING OF S 89° 41' 52" WEST.

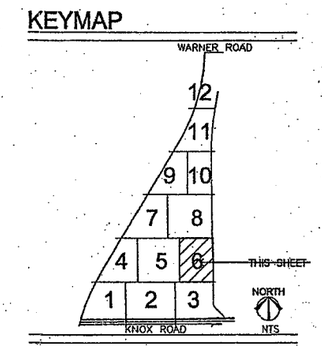
FLOOD PLAIN DESIGNATION

The Flood Insurance Rate Map (FIRM) for Maricopa County, Arizona, and Incorporated Areas, Map 04013C2655F Dated July 19, 2001 as published by the Federal Emergency management Agency (Ref. 2) shows the site to be within Zone "AH". Exhibit 2 shows the portion of the FIRM covering the proposed park site. Zone AH is defined by FEMA as:
"Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevation determined."
100 YR FLOOD ELEVATION = 1215.00 FT
FEMA DATUM = NAVD 1929.

NORTH
0 5 10 20 40
SCALE: 1"= 20'-0"

TWO WORKING DAYS BEFORE YOU DIG CALL FOR THE BLUE STAKES
1-800-263-1100
Blue Stake Center
CALL COLLECT

KEYMAP



GRADING PLAN

Carter Burgess
PLANNING
LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING
STRUCTURAL ENGINEERING
TRANSPORTATION

REGISTERED PROFESSIONAL ENGINEER CERTIFICATE NO. 35476 BRIAN T. BERNARD ARIZONA, U.S.A.

VAGABOND PARK

450 EAST KNOX ROAD
CITY OF CHANDLER, ARIZONA 85225

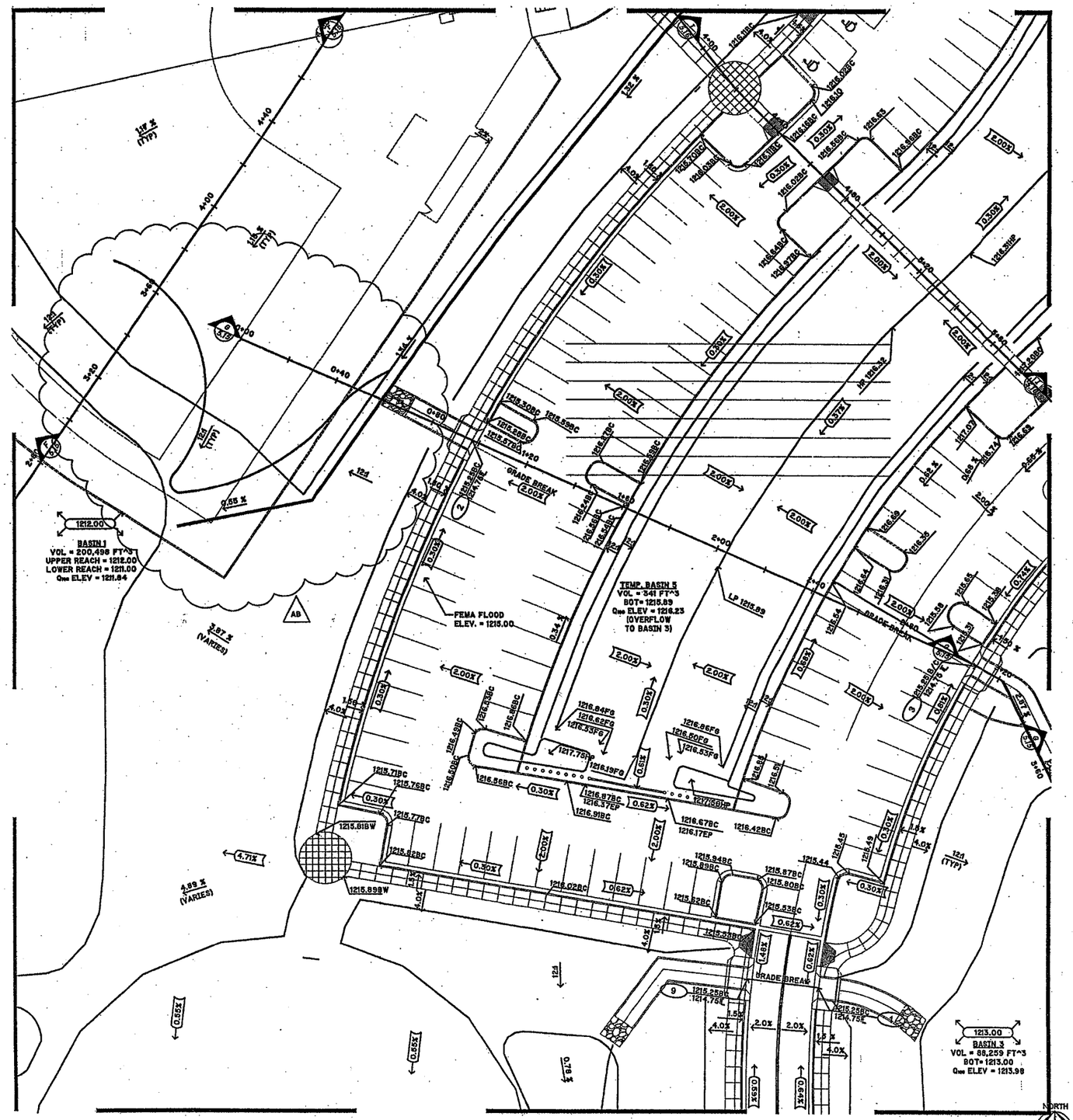
DESIGNED
DRAWN
CHECKED

C5.6

Copyright © 2003 by Carter

MATCHLINE-SEE SHEET C5.7

MATCHLINE-SEE SHEET C5.4



MATCHLINE-SEE SHEET C5.6

MATCHLINE-SEE SHEET C5.2

NORTH

SCALE: 1"= 20'-0"

THE NUMBER YOU DIAL BEFORE YOU DIG CALL FOR THE BLUE STAKES
1-800-263-1100
Blue Stake Center
CALL COLLECT

GRADING LEGEND

EXISTING GRADE

SYMBOL	DESCRIPTION
BC	BACK OF CURB
BCF	BRASS CAP FLUSH
EG	EXISTING GROUND
EP	EDGE OF PAVEMENT
PK	PK NAIL
00.00EG	EXISTING SPOT ELEVATION

PROPOSED GRADE

SYMBOL	DESCRIPTION
℄	FLOW LINE
FG	FINISH GRADE
HP	HIGH POINT
LP	LOW POINT
TSW	TOP OF SEAT WALL
BSW	BOTTOM OF SEAT WALL
TW	TOP OF WALL
BW	BACK OF WALK
FS	FINISH SUBGRADE
TC	TOP OF CURB
G	GUTTER
EP	PAVEMENT
℄	CENTERLINE

PROPOSED SWALE

00.00 FG — FINISHED SPOT ELEVATION

2.00% — DIRECTION & PERCENT OF SLOPE

00.00 FG — PROPOSED FLAT GRADED AREA: FF/PAD/BASIN ELEV.

00.00 FG — DIRECTIONAL GRADE INDICATOR

— SCUPPER NO. PER TABLE SHT C-8.19

1216 — NEW CONTOUR - MAJOR INTERVAL

1214 — NEW CONTOUR - MINOR INTERVAL

1216 — EXISTING CONTOUR - MAJOR INTERVAL

1214 — EXISTING CONTOUR - MINOR INTERVAL

GRADE BREAK - TOE

GRADE BREAK - TOP

GRADE BREAK - RIDGE

LIMIT OF GRADING

GENERAL GRADING NOTES

1. ALL LAND FORMS AND SWALES SHALL BE GRADED TO A SMOOTH FLOWING SURFACE PROVIDING POSITIVE DRAINAGE AND VISUAL LAND FORM CONTINUITY. FINAL GRADE TO BE REVIEWED & APPROVED BY THE OWNER & LANDSCAPE ARCHITECT.
2. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL CLEARED VEGETATION, DEBRIS FENCING, ETC. FROM THE SITE.
3. SLOPE REQUIREMENTS:
   PATHS AND WALKS: 4.5% MAX. RUN SLOPE
   1.5% TYP. CROSS SLOPE
   PAVEMENTS: 0.3% MIN. RUN SLOPE
   2.0% TYP. CROSS SLOPE
   BASINS & DAYLIGHT: 12:1 TYP. MATCH SLOPE
   4:1 MAX. MATCH SLOPE
4. RETENTION BASINS ARE TO BE FLOOD IRRIGATED.

BENCHMARK:

CMCN 26 - SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, 3" CITY OF CHANDLER BRASS CAP IN CONCRETE, FLUSH, BETWEEN WARNER ROAD AND RAY ROAD; 450'± WEST OF MCQUEEN ROAD AT THE INTERSECTION OF CALLE DEL NORTE AND KINGSTON STREET.
DATUM ELEV. = 1218.88 (NAVD 1929)

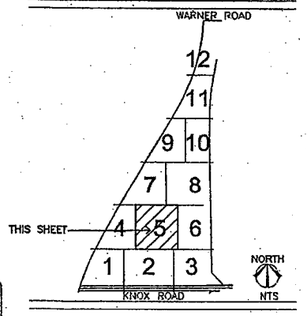
BASIS OF BEARING:

THE MONUMENT LINE OF KNOX ROAD RUNNING ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER SECTION OF SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, HAVING AN ASSUMED BEARING OF S 89° 41' 52" WEST.

FLOOD PLAIN DESIGNATION

The Flood Insurance Rate Map (FIRM) for Maricopa County, Arizona, and Incorporated Areas, Map 04013C2655F Dated July 19, 2001 as published by the Federal Emergency management Agency (Ref. 2) shows the site to be within Zone "AH". Exhibit 2 shows the portion of the FIRM covering the proposed park site. Zone AH is defined by FEMA as:
"Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevation determined."
100 YR FLOOD ELEVATION = 1215.00 FT
FEMA DATUM = NAVD 1929.

KEYMAP



GRADING PLAN

Carter+Burgess

PLANNING
LANDSCAPE ARCHITECT
CIVIL ENGINEERING
STRUCTURAL ENGINEER
TRANSPORTATION

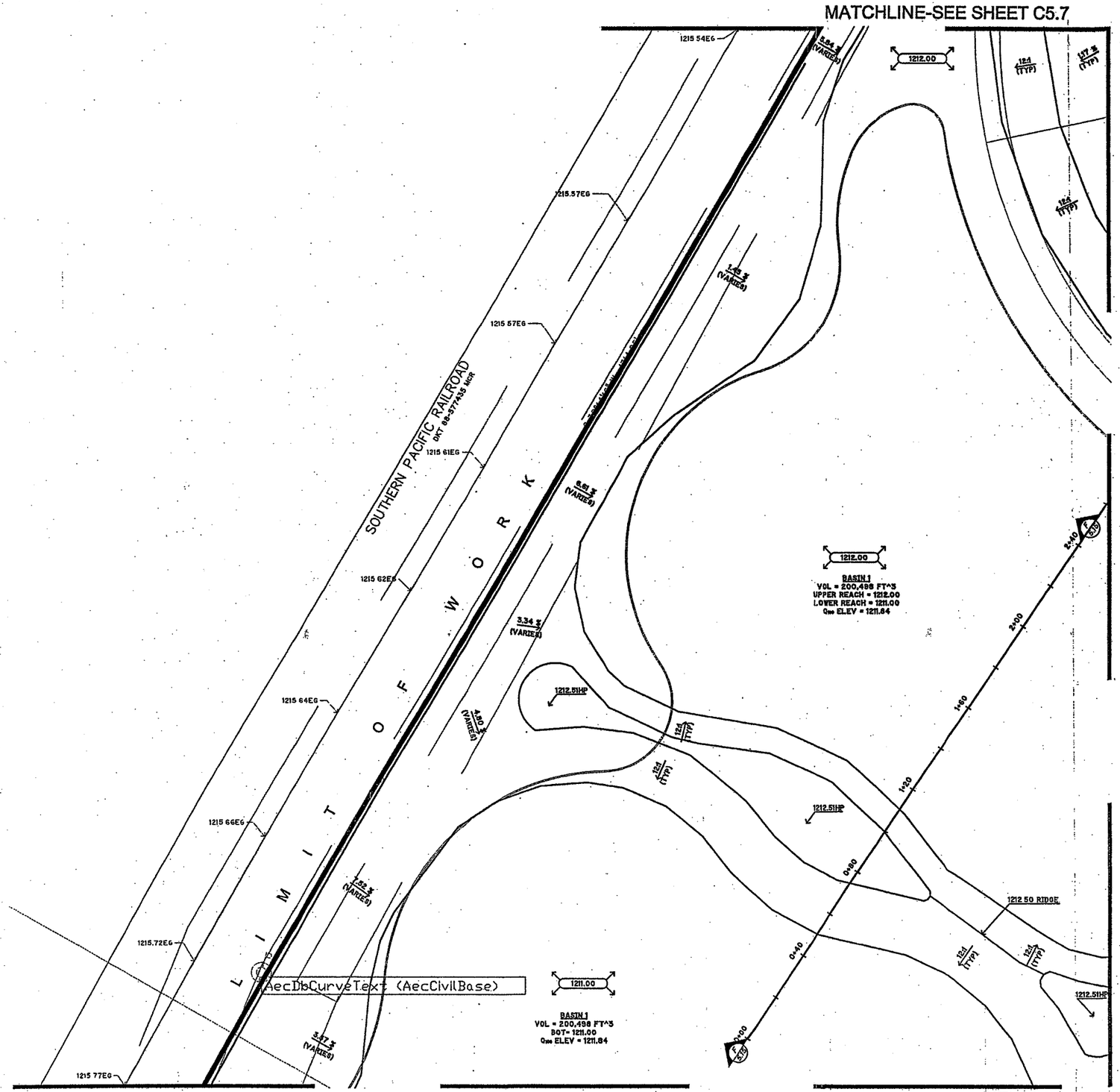
REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE NO. 35476
BRIAN T. BERNARD
ARIZONA, U.S.A.

VAGABOND PARK

450 EAST KNOX ROAD
CITY OF CHANDLER, ARIZONA 85225

DESIGNED
DRAWN
CHECKED

C5



GRADING LEGEND

EXISTING GRADE

SYMBOL	DESCRIPTION
BC	BACK OF CURB
BCF	BRASS CAP FLUSH
EG	EXISTING GROUND
EP	EDGE OF PAVEMENT
PK	PK NAIL
00 0EG	EXISTING SPOT ELEVATION

PROPOSED GRADE

SYMBOL	DESCRIPTION
℄	FLOW LINE
FG	FINISH GRADE
HP	HIGH POINT
LP	LOW POINT
TSW	TOP OF SEAT WALL
BSW	BOTTOM OF SEAT WALL
TW	TOP OF WALL
BW	BACK OF WALK
FS	FINISH SUBGRADE
TC	TOP OF CURB
G	GUTTER
EP	PAVEMENT
℄	CENTERLINE

PROPOSED SWALE
00.00 FG — FINISHED SPOT ELEVATION
2.00% — DIRECTION & PERCENT OF SLOPE
00.00 FG — PROPOSED FLAT GRADED AREA: FF/PAD/BASIN ELEV.
00.00 FG — DIRECTIONAL GRADE INDICATOR
— SCUPPER NO. PER TABLE SHT C-5.19
1215 — NEW CONTOUR - MAJOR INTERVAL
1214 — NEW CONTOUR - MINOR INTERVAL
1215 — EXISTING CONTOUR - MAJOR INTERVAL
1214 — EXISTING CONTOUR - MINOR INTERVAL
GRADE BREAK - TOE
GRADE BREAK - TOP
GRADE BREAK - RIDGE
LIMIT OF GRADING

GENERAL GRADING NOTES

1. ALL LAND FORMS AND SWALES SHALL BE GRADED TO A SMOOTH FLOWING SURFACE PROVIDING POSITIVE DRAINAGE AND VISUAL LAND FORM CONTINUITY. FINAL GRADE TO BE REVIEWED & APPROVED BY THE OWNER & LANDSCAPE ARCHITECT.
2. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL CLEARED VEGETATION, DEBRIS FENCING, ETC. FROM THE SITE.
3. SLOPE REQUIREMENTS:
   PATHS AND WALKS: 4.5% MAX. RUN SLOPE
   1.5% TYP. CROSS SLOPE
   PAVEMENTS: 0.3% MIN. RUN SLOPE
   2.0% TYP. CROSS SLOPE
   BASINS & DAYLIGHT: 12:1 TYP. MATCH SLOPE
   4:1 MAX. MATCH SLOPE
4. RETENTION BASINS ARE TO BE FLOOD IRRIGATED.

BENCHMARK:

CMCN 26 - SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, 3" CITY OF CHANDLER BRASS CAP IN CONCRETE, FLUSH. BETWEEN WARNER ROAD AND RAY ROAD; 450'± WEST OF MCQUEEN ROAD AT THE INTERSECTION OF CALLE DEL NORTE AND KINGSTON STREET.
DATUM ELEV. = 1216.88 (NAVD 1929)

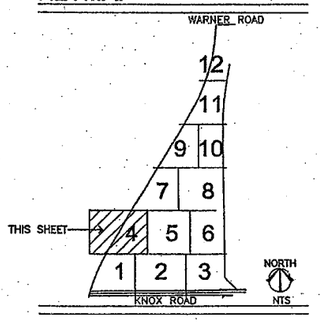
BASIS OF BEARING:

THE MONUMENT LINE OF KNOX ROAD RUNNING ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER SECTION OF SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, HAVING AN ASSUMED BEARING OF S 89° 41' 52" WEST.

FLOOD PLAIN DESIGNATION

The Flood Insurance Rate Map (FIRM) for Maricopa County, Arizona, and Incorporated Areas, Map 04013C2655F Dated July 19, 2001 as published by the Federal Emergency management Agency (Ref. 2) shows the site to be within Zone "AH". Exhibit 2 shows the portion of the FIRM covering the proposed park site. Zone AH is defined by FEMA as:
"Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevation determined."
100 YR FLOOD ELEVATION = 1215.00 FT
FEMA DATUM = NAVD 1929.

KEYMAP



GRADING PLAN

Carter+Burgess
PLANNING
LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING
STRUCTURAL ENGINEERING
TRANSPORTATION

REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE NO. 35476
BRIAN T. BERNARD
ARIZONA, U.S.A.

VAGABOND PARK

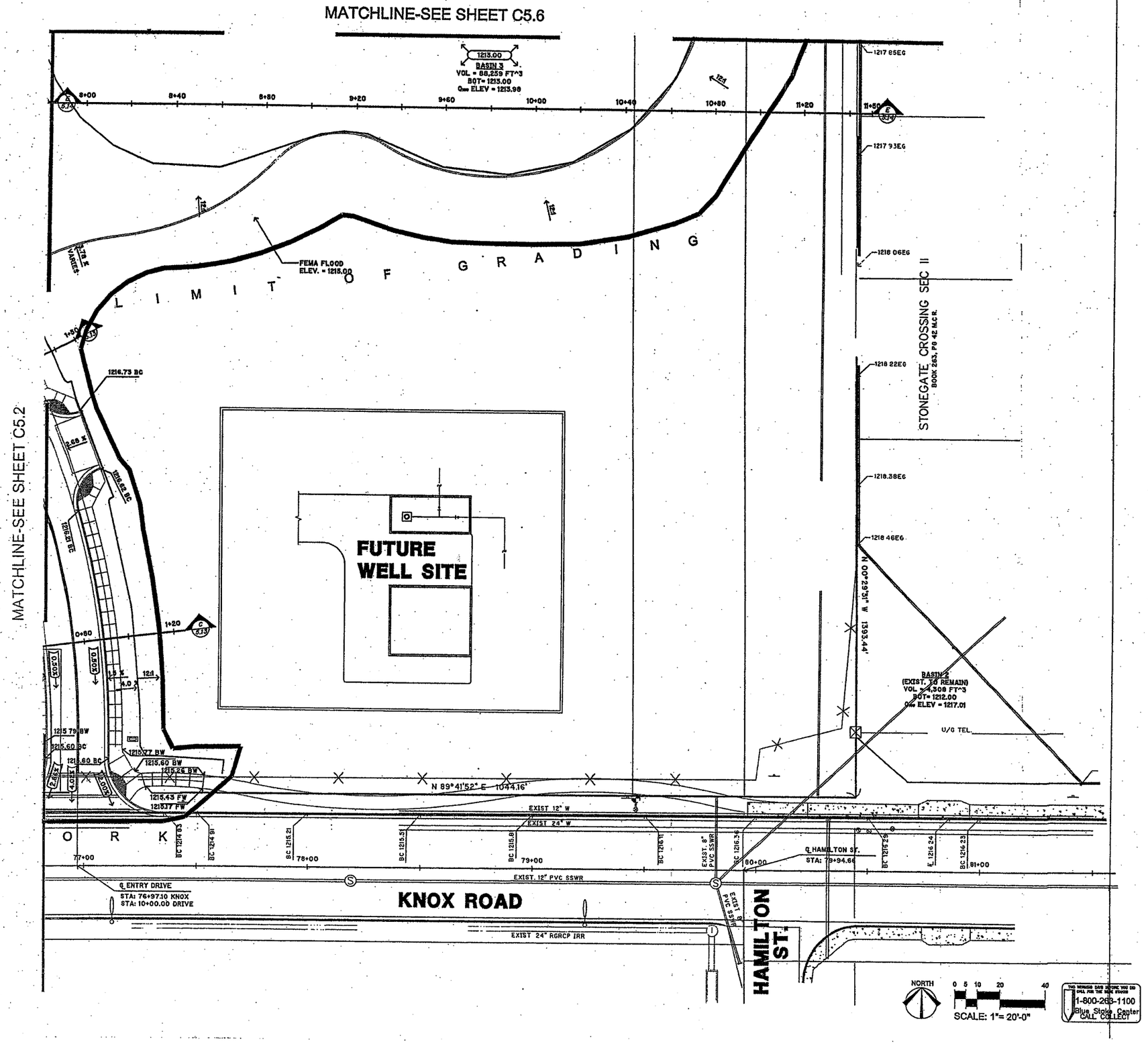
450 EAST KNOX ROAD
CITY OF CHANDLER, ARIZONA 85225

DESIGNED
DRAWN
CHECKED

C5.7

Copyright © 2003 by Carter

TWO WORKING DAYS BEFORE YOU DIG CALL FOR THE BLUE STAKES
1-800-263-1100
Blue Stake Center
CALL COLLECT



GRADING LEGEND

EXISTING GRADE

SYMBOL	DESCRIPTION
BC	BACK OF CURB
BCF	BRASS CAP FLUSH
EG	EXISTING GROUND
EP	EDGE OF PAVEMENT
PK	PK NAIL
00.0EG	EXISTING SPOT ELEVATION

PROPOSED GRADE

SYMBOL	DESCRIPTION
E	FLOW LINE
FG	FINISH GRADE
HP	HIGH POINT
LP	LOW POINT
TSW	TOP OF SEAT WALL
BSW	BOTTOM OF SEAT WALL
TW	TOP OF WALL
BW	BACK OF WALK
FS	FINISH SUBGRADE
TC	TOP OF CURB
G	GUTTER
EP	PAVEMENT
℄	CENTERLINE

PROPOSED SWALE

00.00 FG — FINISHED SPOT ELEVATION

2.00% — DIRECTION & PERCENT OF SLOPE

00.00 FG — PROPOSED FLAT GRADED AREA: FF/PAD/BASIN ELEV.

00.00 FG — DIRECTIONAL GRADE INDICATOR

— SCUPPER NO. PER TABLE SHT C-5.19

1216 — NEW CONTOUR - MAJOR INTERVAL

1214 — NEW CONTOUR - MINOR INTERVAL

1215 — EXISTING CONTOUR - MAJOR INTERVAL

1214 — EXISTING CONTOUR - MINOR INTERVAL

GRADE BREAK - TOE

GRADE BREAK - TOP

GRADE BREAK - RIDGE

LIMIT OF GRADING

GENERAL GRADING NOTES

1. ALL LAND FORMS AND SWALES SHALL BE GRADED TO A SMOOTH FLOWING SURFACE PROVIDING POSITIVE DRAINAGE AND VISUAL LAND FORM CONTINUITY. FINAL GRADE TO BE REVIEWED & APPROVED BY THE OWNER & LANDSCAPE ARCHITECT.
2. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL CLEARED VEGETATION, DEBRIS FENCING, ETC. FROM THE SITE.
3. SLOPE REQUIREMENTS:
   - PATHS AND WALKS: 4.5% MAX. RUN SLOPE; 1.5% TYP. CROSS SLOPE
   - PAVEMENTS: 0.3% MIN. RUN SLOPE; 2.0% TYP. CROSS SLOPE
   - BASINS & DAYLIGHT: 12:1 TYP. MATCH SLOPE; 4:1 MAX. MATCH SLOPE
4. RETENTION BASINS ARE TO BE FLOOD IRRIGATED.

BENCHMARK:

CMCN 26 - SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, 3" CITY OF CHANDLER BRASS CAP IN CONCRETE, FLUSH, BETWEEN WARNER ROAD AND RAY ROAD; 450'± WEST OF MCQUEEN ROAD AT THE INTERSECTION OF CALLE DEL NORTE AND KINGSTON STREET.
DATUM ELEV. = 1218.88 (NAVD 1929)

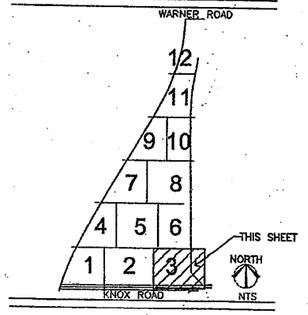
BASIS OF BEARING:

THE MONUMENT LINE OF KNOX ROAD RUNNING ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER SECTION OF SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, HAVING AN ASSUMED BEARING OF S 89° 41' 52" WEST.

FLOOD PLAIN DESIGNATION

The Flood Insurance Rate Map (FIRM) for Maricopa County, Arizona, and Incorporated Areas, Map 04013C2655F Dated July 16, 2001 as published by the Federal Emergency management Agency (Ref. 2) shows the site to be within Zone "AH". Exhibit 2 shows the portion of the FIRM covering the proposed park site. Zone AH is defined by FEMA as:
"Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevation determined."
100 YR FLOOD ELEVATION = 1215.00 FT
FEMA DATUM = NAVD 1929.

KEYMAP



GRADING PLAN

Carter+Burgess

PLANNING
LANDSCAPE ARCHITECT
CIVIL ENGINEERING
STRUCTURAL ENGINEER
TRANSPORTATION

REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE NO. 35476
BRIAN T. BERNARD
ARIZONA, U.S.A.

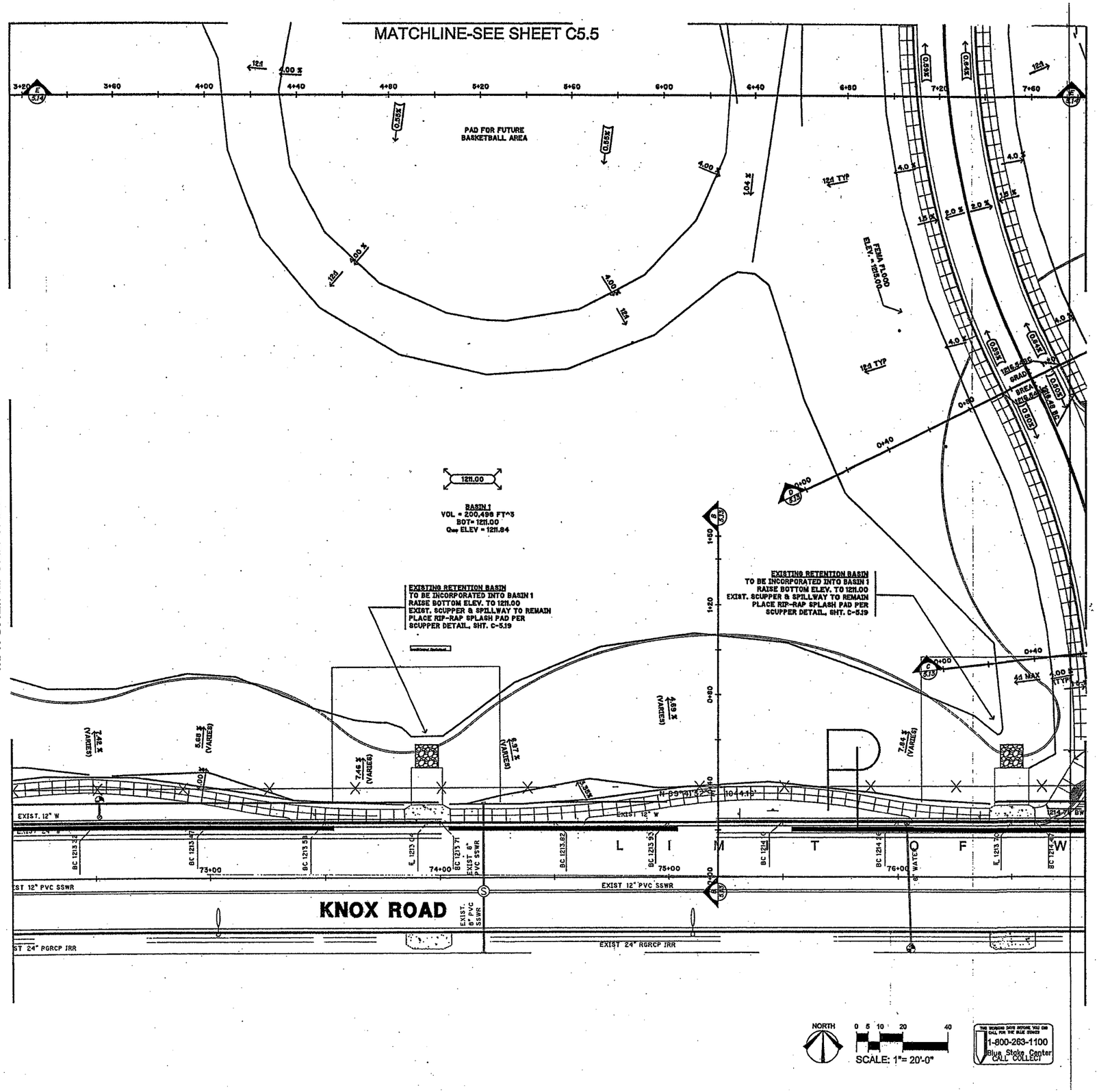
VAGABOND PARK

450 EAST KNOX ROAD
CITY OF CHANDLER, ARIZONA 85225

DESIGNED
DRAWN
CHECKED

C5.3

Copyright © 2003



GRADING LEGEND

EXISTING GRADE

SYMBOL	DESCRIPTION
BC	BACK OF CURB
BCF	BRASS CAP FLUSH
EG	EXISTING GROUND
EP	EDGE OF PAVEMENT
PK	PK NAIL
00.0EG	EXISTING SPOT ELEVATION

PROPOSED GRADE

SYMBOL	DESCRIPTION
FL	FLOW LINE
FG	FINISH GRADE
HP	HIGH POINT
LP	LOW POINT
TSW	TOP OF SEAT WALL
BSW	BOTTOM OF SEAT WALL
TW	TOP OF WALL
BW	BACK OF WALK
FS	FINISH SUBGRADE
TC	TOP OF CURB
G	GUTTER
EP	PAVEMENT
℄	CENTERLINE

PROPOSED SWALE

00.00 FG FINISHED SPOT ELEVATION

2.00% DIRECTION & PERCENT OF SLOPE

00.00 FG PROPOSED FLAT GRADED AREA: FF/PAD/BASIN ELEV.

00.00 FG DIRECTIONAL GRADE INDICATOR

SCUPPER NO. PER TABLE SHT C-5.19

1216 NEW CONTOUR - MAJOR INTERVAL

1214 NEW CONTOUR - MINOR INTERVAL

1215 EXISTING CONTOUR - MAJOR INTERVAL

1214 EXISTING CONTOUR - MINOR INTERVAL

GRADE BREAK - TOE

GRADE BREAK - TOP

GRADE BREAK - RIDGE

LIMIT OF GRADING

GENERAL GRADING NOTES

1. ALL LAND FORMS AND SWALES SHALL BE GRADED TO A SMOOTH FLOWING SURFACE PROVIDING POSITIVE DRAINAGE AND VISUAL LAND FORM CONTINUITY. FINAL GRADE TO BE REVIEWED & APPROVED BY THE OWNER & LANDSCAPE ARCHITECT.
2. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL CLEARED VEGETATION, DEBRIS FENCING, ETC. FROM THE SITE.
3. SLOPE REQUIREMENTS:
   - PATHS AND WALKS: 4.5% MAX. RUN SLOPE; 1.5% TYP. CROSS SLOPE
   - PAVEMENTS: 0.3% MIN. RUN SLOPE; 2.0% TYP. CROSS SLOPE
   - BASINS: 12:1 TYP. MATCH SLOPE
   - @ DAYLIGHT: 4:1 MAX. MATCH SLOPE
4. RETENTION BASINS ARE TO BE FLOOD IRRIGATED.

BENCHMARK:

CMCN 26 - SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, 3" CITY OF CHANDLER BRASS CAP IN CONCRETE, FLUSH, BETWEEN WARNER ROAD AND RAY ROAD; 450'± WEST OF MCQUEEN ROAD AT THE INTERSECTION OF CALLE DEL NORTE AND KINGSTON STREET.
DATUM ELEV. = 1218.88 (NAVD 1929)

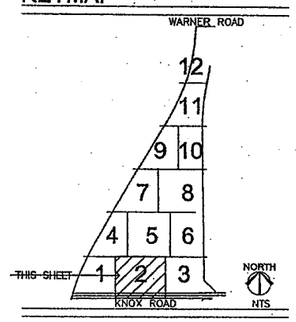
BASIS OF BEARING:

THE MONUMENT LINE OF KNOX ROAD RUNNING ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER SECTION OF SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, HAVING AN ASSUMED BEARING OF S 89° 41' 52" WEST.

FLOOD PLAIN DESIGNATION

The Flood Insurance Rate Map (FIRM) for Maricopa County, Arizona, and Incorporated Areas, Map 04013C2655F Dated July 19, 2001 as published by the Federal Emergency management Agency (Ref. 2) shows the site to be within Zone "AH". Exhibit 2 shows the portion of the FIRM covering the proposed park site. Zone AH is defined by FEMA as:
"Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevation determined."
100 YR FLOOD ELEVATION = 1215.00 FT
FEMA DATUM = NAVD 1929.

KEYMAP



GRADING PLAN

Carter + Burgess
PLANNING
LANDSCAPE ARCHITECT
CIVIL ENGINEERING
STRUCTURAL ENGINEER
TRANSPORTATION

REGISTERED PROFESSIONAL ENGINEER CERTIFICATE NO. 35476 BRIAN T. BERNARD ARIZONA, U.S.A.

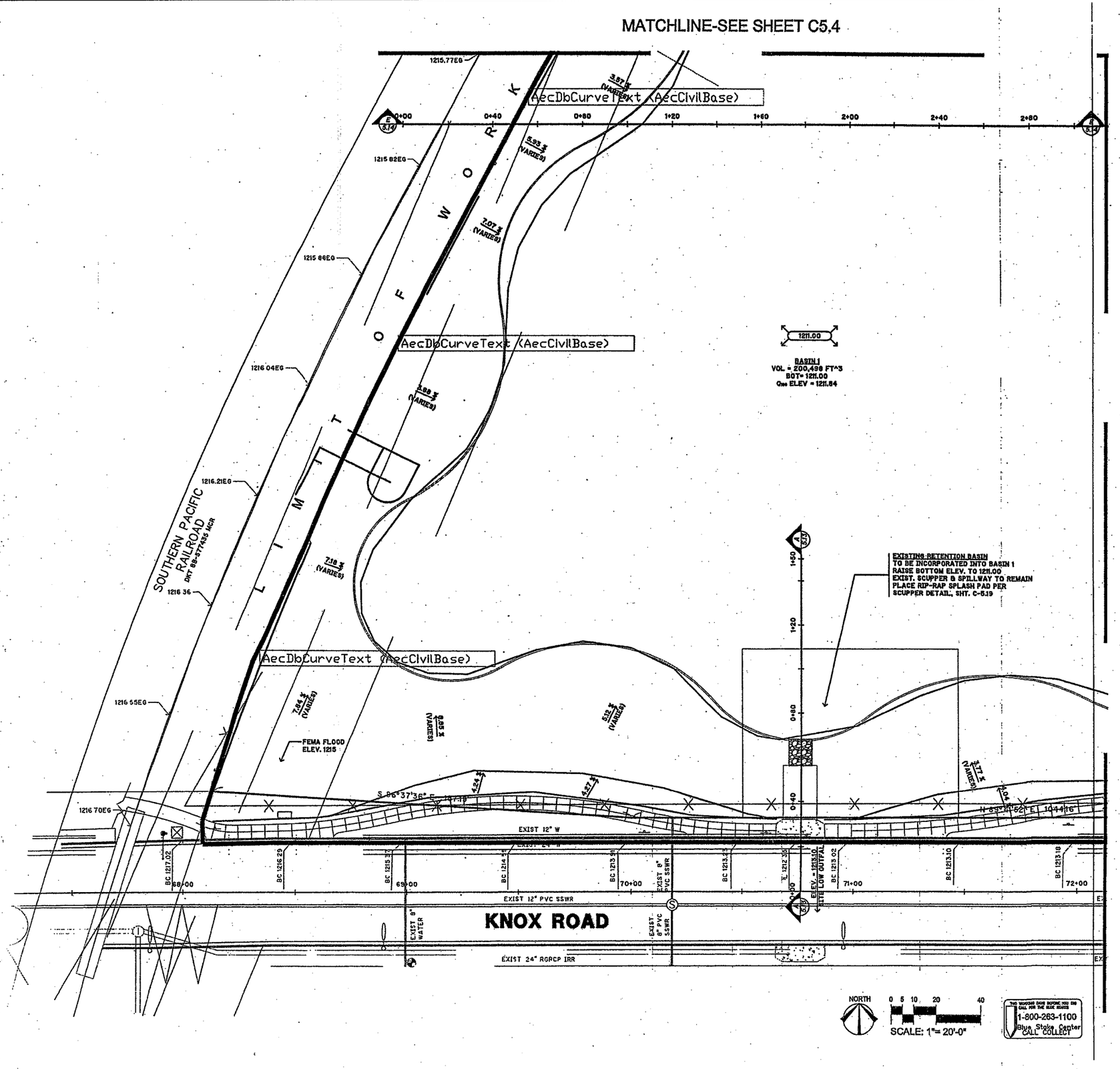
VAGABOND PARK

450 EAST KNOX ROAD
CITY OF CHANDLER, ARIZONA 85225

DESIGNED
DRAWN
CHECKED

C5

Copyright © 2003 by Carter &



GRADING LEGEND

EXISTING GRADE

SYMBOL	DESCRIPTION
BC	BACK OF CURB
BCF	BRASS CAP FLUSH
EG	EXISTING GROUND
EP	EDGE OF PAVEMENT
PK	PK NAIL
00.0EG	EXISTING SPOT ELEVATION

PROPOSED GRADE

SYMBOL	DESCRIPTION
℄	FLOW LINE
FG	FINISH GRADE
HP	HIGH POINT
LP	LOW POINT
TSW	TOP OF SEAT WALL
BSW	BOTTOM OF SEAT WALL
TW	TOP OF WALL
BW	BACK OF WALK
FS	FINISH SUBGRADE
TC	TOP OF CURB
G	GUTTER
EP	PAVEMENT
℄	CENTERLINE
	PROPOSED SWALE
00.00 FG	FINISHED SPOT ELEVATION
2.00%	DIRECTION & PERCENT OF SLOPE
00.00 FG	PROPOSED FLAT GRADED AREA: FF/PAD/BASIN ELEV.
00.00 FG	DIRECTIONAL GRADE INDICATOR
#	SCUPPER NO. PER TABLE SHT C-5.19
1216	NEW CONTOUR - MAJOR INTERVAL
1214	NEW CONTOUR - MINOR INTERVAL
1216	EXISTING CONTOUR - MAJOR INTERVAL
1214	EXISTING CONTOUR - MINOR INTERVAL
	GRADE BREAK - TOE
	GRADE BREAK - TOP
	GRADE BREAK - RIDGE
	LIMIT OF GRADING

GENERAL GRADING NOTES

1. ALL LAND FORMS AND SWALES SHALL BE GRADED TO A SMOOTH FLOWING SURFACE PROVIDING POSITIVE DRAINAGE AND VISUAL LAND FORM CONTINUITY. FINAL GRADE TO BE REVIEWED & APPROVED BY THE OWNER & LANDSCAPE ARCHITECT.
2. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL CLEARED VEGETATION, DEBRIS FENCING, ETC. FROM THE SITE.
3. SLOPE REQUIREMENTS:
   - PATHS AND WALKS: 4.8% MAX. RUN SLOPE; 1.5% TYP. CROSS SLOPE
   - PAVEMENTS: 0.3% MIN. RUN SLOPE; 2.0% TYP. CROSS SLOPE
   - BASINS & DAYLIGHT: 12:1 TYP. MATCH SLOPE; 4:1 MAX. MATCH SLOPE
4. RETENTION BASINS ARE TO BE FLOOD IRRIGATED.

BENCHMARK:

CMCN 26 - SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, 3" CITY OF CHANDLER BRASS CAP IN CONCRETE, FLUSH. BETWEEN WARNER ROAD AND RAY ROAD; 450'± WEST OF MCQUEEN ROAD AT THE INTERSECTION OF CALLE DEL NORTE AND KINGSTON STREET.
DATUM ELEV. = 1216.88 (NAVD 1929)

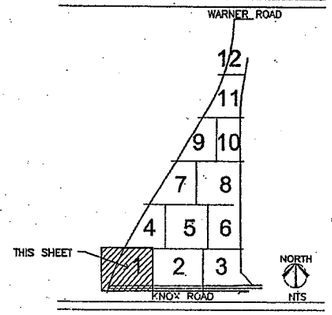
BASIS OF BEARING:

THE MONUMENT LINE OF KNOX ROAD RUNNING ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER SECTION OF SECTION 22, TOWNSHIP 1 SOUTH, RANGE 5 EAST, HAVING AN ASSUMED BEARING OF S 89° 41' 52" WEST.

FLOOD PLAIN DESIGNATION

The Flood Insurance Rate Map (FIRM) for Maricopa County, Arizona, and Incorporated Areas, Map 04013C2635F Dated July 19, 2001 as published by the Federal Emergency management Agency (Ref. 2) shows the site to be within Zone "AH". Exhibit 2 shows the portion of the FIRM covering the proposed park site. Zone AH is defined by FEMA as:
"Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevation determined."
100 YR FLOOD ELEVATION = 1215.00 FT
FEMA DATUM = NAVD 1929.

KEYMAP



GRADING PLAN

Carter Burgess
PLANNING
LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING
STRUCTURAL ENGINEERING
TRANSPORTATION

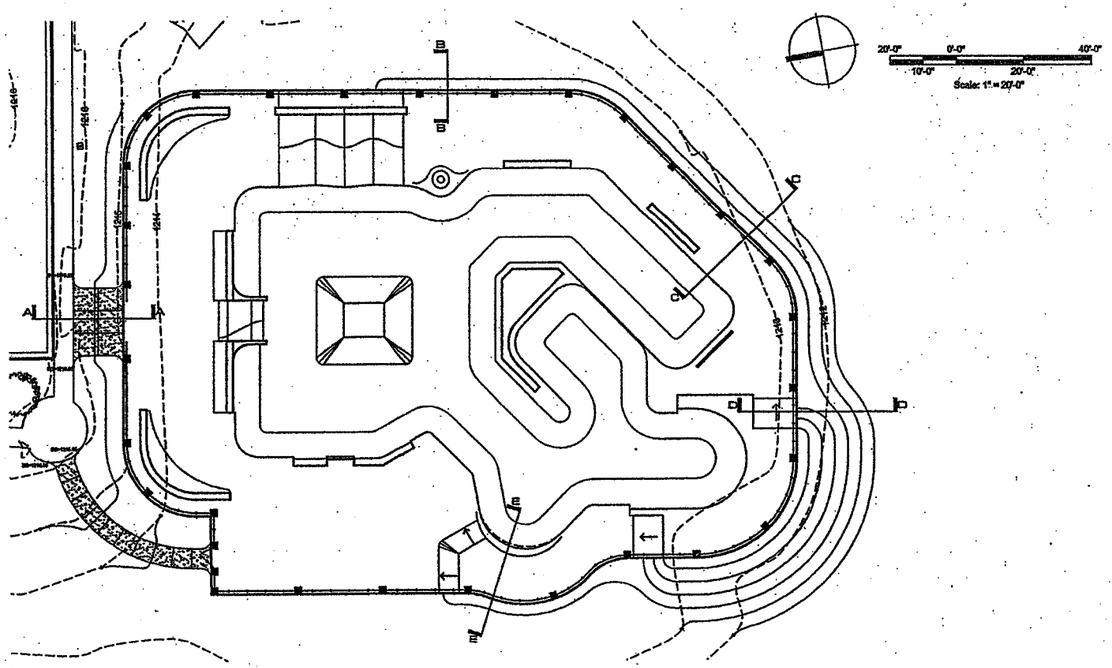
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO. 35476
BRIAN T. BERNARD
ARIZONA, U.S.A.

VAGABOND PARK
450 EAST KNOX ROAD
CITY OF CHANDLER, ARIZONA 85225

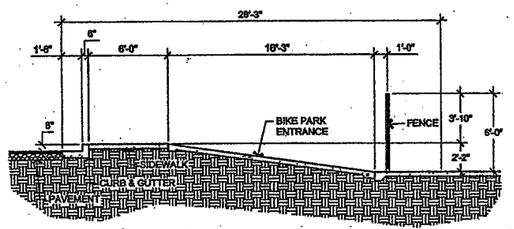
Carter Burgess
2000 NORTH CENTRAL AVENUE, SUITE 1100
PHOENIX, ARIZONA 85004-1345
PHONE (602) 263-5300 FAX (602) 263-5373

DESIGNED
DRAWN
CHECKED

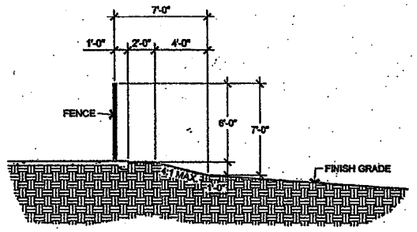
C5.1



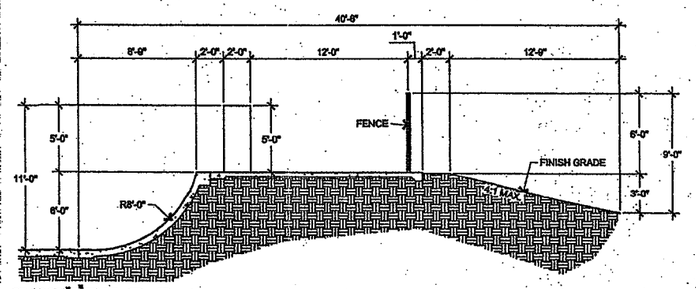
key map



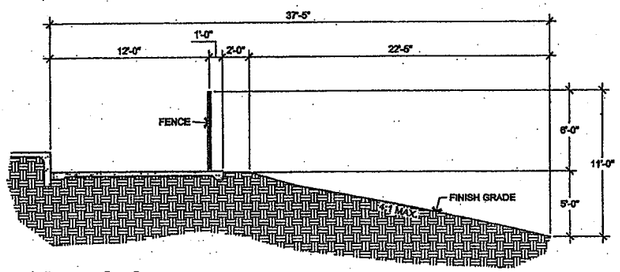
section a-a



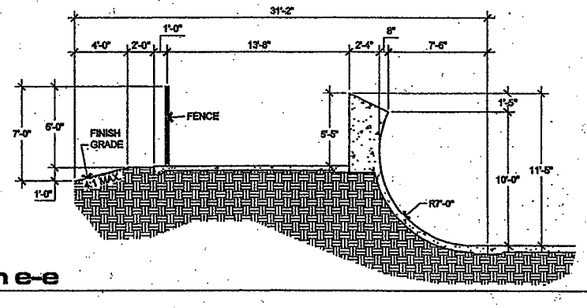
section b-b



section c-c



section d-d



section e-e

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: CC
DRAWN BY: BS
SHEET CHK'D BY: CC
CROSS CHK'D BY: BS
APPROVED BY: MM
DATE: 07/31/08

REGISTERED LANDSCAPE ARCHITECT MICHAEL B. McINTYRE ARIZONA U.S.A.

SITE DESIGN GROUP, INC.
24 West 5th Ste. Suite 202
Tempe, Arizona 85281
(t) 480.984.6787
(f) 480.984.6788
www.sitedesigngroup.com

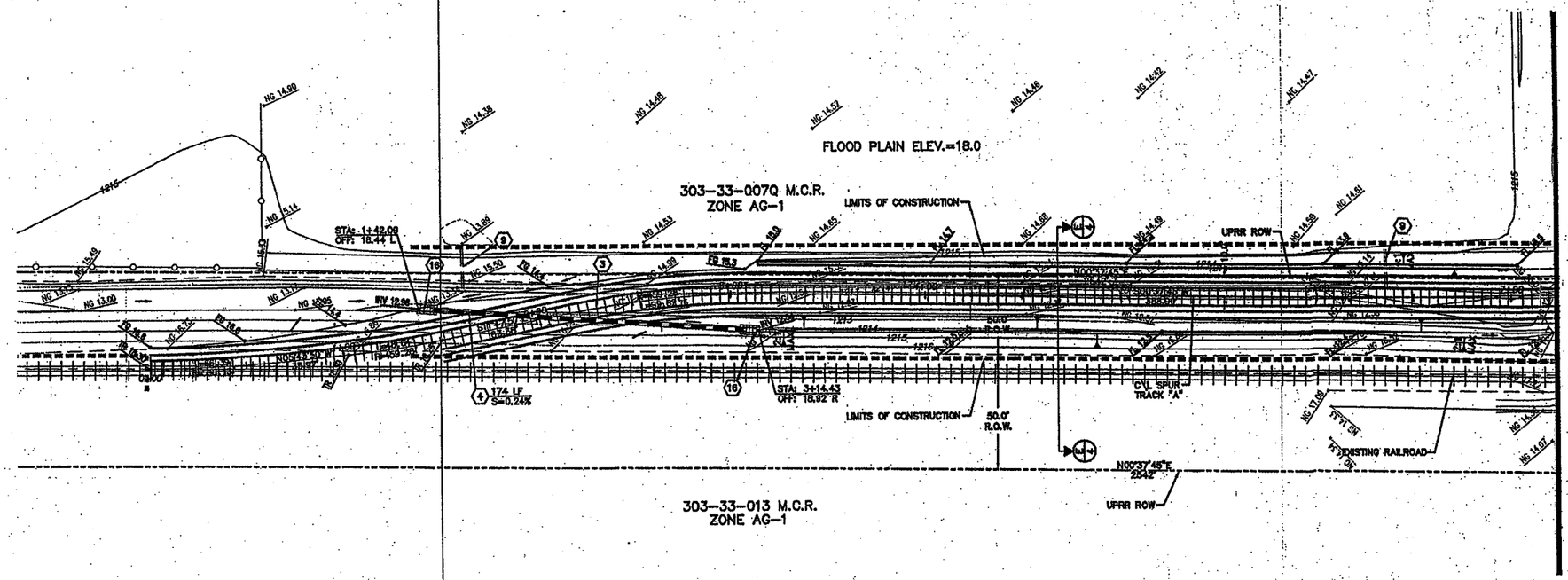
CITY OF CHANDLER, ARIZONA
ESPEE BIKE PARK

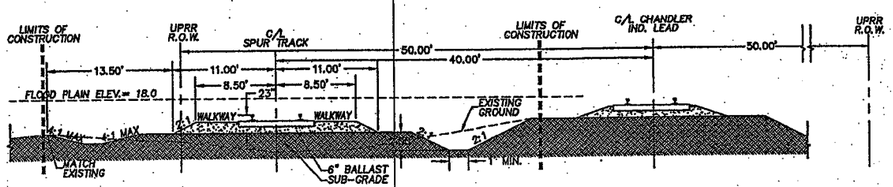
GRADING SECTIONS

PROJECT NO.
FILE NAME:

SHEET NO.
SP-1.6

SHEET 12 OF 25





SECTION E-E
N.T.S.

CONSTRUCTION NOTES

(3) SEE RAILROAD PLANS BY MOUNTAIN STATE CONTRACTING.

(4) INSTALL 30" 14 GA. C.M.P. STORM DRAIN PIPE.

(9) REMOVE EXISTING PIPE.

(18) MITER PIPE TO SLOPE OF BASIN AND INSTALL TRASH RACK PER DETAIL, SHEET R04.

CALL TWO WORKING DAYS BEFORE YOU DIG
(602) 263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:	LD
DRAWN BY:	CB
SHEET CHK'D BY:	LD
CROSS CHK'D BY:	JC
APPROVED BY:	TH
DATE:	04/19/05

Registered Professional Engineer (Civil) CERTIFICATE NO. 30608 TIMOTHY A. HOWAL Date Signed 4-19-05 ARIZONA, U.S.A.

WOOD/PATEL
CIVIL ENGINEERS
HYDROLOGISTS
LAND SURVEYORS
CONSTRUCTION MANAGERS

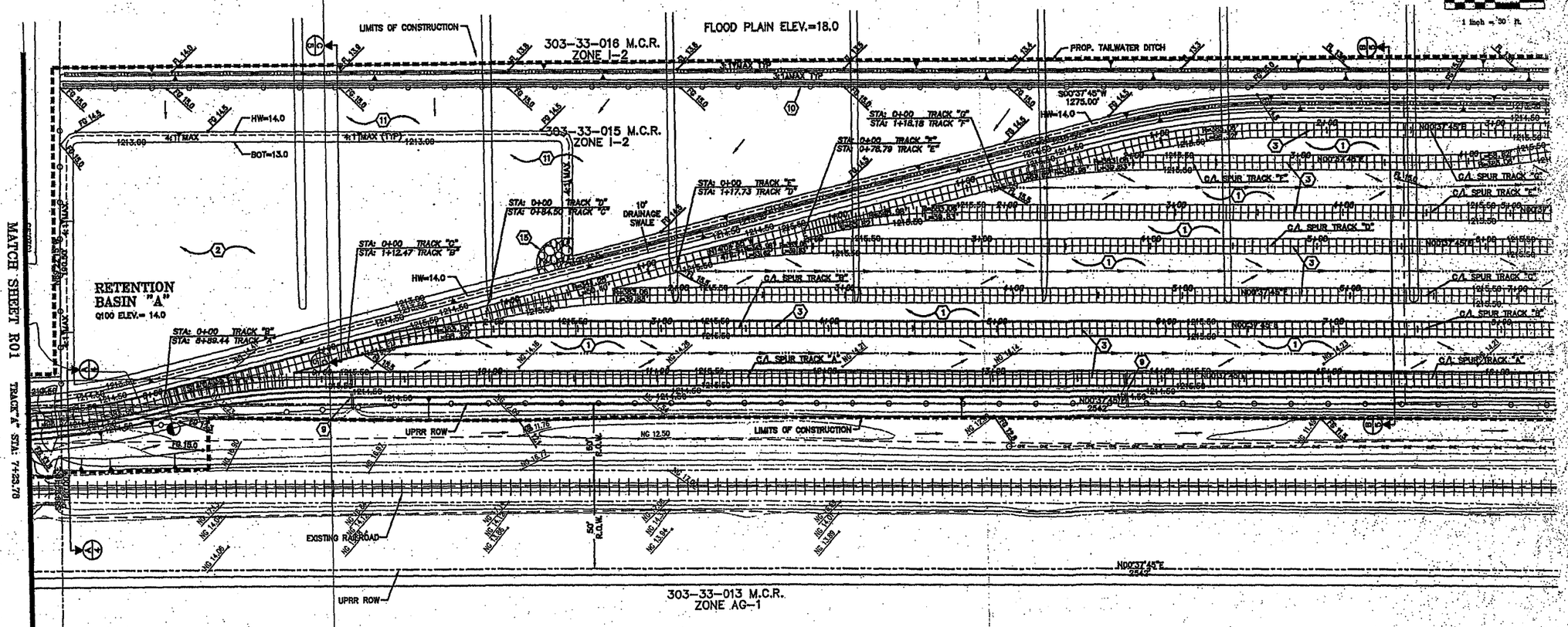
1855 N. Stapley Drive
Mesa, AZ 85203
Phone: (480) 834-3300
Fax: (480) 834-3320

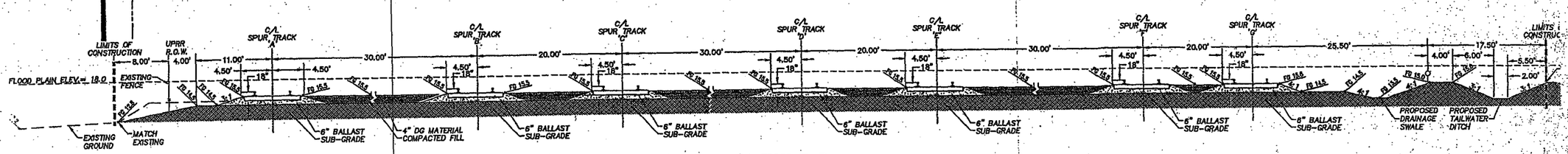
CITY OF CHANDLER, ARIZONA
TUMBLEWEED PARK
ARIZONA RAILROAD MUSEUM

GRADING & DRAINAGE IMPROVEMENTS

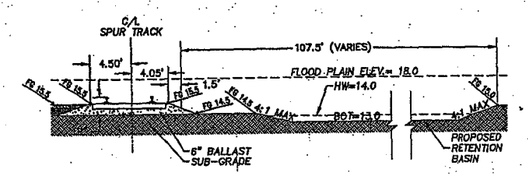
PROJECT NO. PR0415-201
FILE NAME: 042117

SHEET NO.
R01
SHEET 4 OF 7





SECTION B-B
(LOOKING NORTH) N.T.S.



SECTION C-C
(LOOKING NORTH) N.T.S.

CONSTRUCTION NOTES

1. CONSTRUCT 4" DG/COMPACTED SUB-BASE.
2. CONSTRUCT RETENTION BASIN AS SHOWN. CONTRACTOR TO SCARIFY BOTTOM OF BASIN 2' DEEP TO MAXIMUM 80% COMPACTION, AND PER SOILS ENGINEER'S RECOMMENDATION.
3. SEE RAILROAD PLANS BY MOUNTAIN STATE CONTRACTING.
9. REMOVE EXISTING PIPE.
10. INSTALL 6' HIGH CHAIN LINK FENCE.
11. CLEAR GRUB AND KILL EXISTING ALFALFA.
15. INSTALL RIP-RAP.

REV. NO.	DATE	DRWN	CHKD	REMARKS

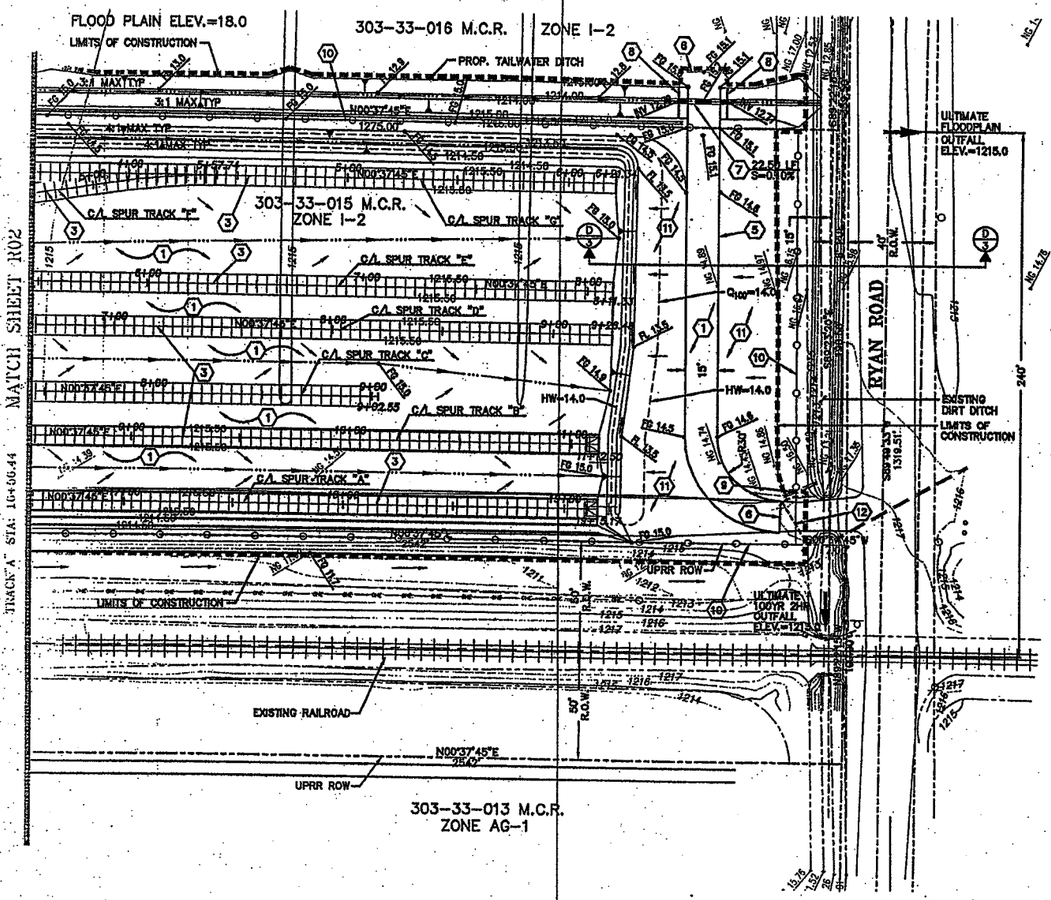
DESIGNED BY: LD
DRAWN BY: CB
SHEET CHK'D BY: LD
CROSS CHK'D BY: JC
APPROVED BY: TH
DATE: 04/19/05

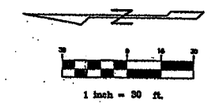
WOOD/PATEL
CIVIL ENGINEERS
HYDROLOGISTS
LAND SURVEYORS
CONSTRUCTION MANAGERS
1855 N. Stapley Drive
Mesa, AZ 85203
Phone: (480) 834-3300
Fax: (480) 834-3320

CITY OF CHANDLER, ARIZONA
TUMBLEWEED PARK
ARIZONA RAILROAD MUSEUM

GRADING & DRAINAGE IMPROVEMENTS

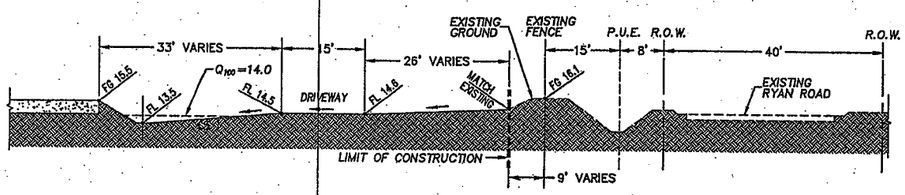
PROJECT NO.
FILE NAME:
SHEET R(
SHEET 5





CONSTRUCTION NOTES

1. CONSTRUCT 4" DG/COMPACTED SUB-BASE.
3. SEE RAILROAD PLANS BY MOUNTAIN STATE CONTRACTING.
5. CONSTRUCT 4" DECOMPOSED GRANITE PATH.
6. MATCH EXISTING.
7. INSTALL 18" H.D.P.E. STORM DRAIN PIPE.
8. CONSTRUCT HEADWALL PER M.A.G. STD. DET. 501-1 AND 501-2 (STRAIGHT TYPE) WITH TRASH RACK PER M.A.G. STD. DET. 502-2.
9. REMOVE EXISTING PIPE.
10. INSTALL 6' HIGH CHAIN LINK FENCE.
11. CLEAR GRUB AND KILL EXISTING ALFALFA.
12. INSTALL GATE.



SECTION D-D
(LOOKING EAST) N.T.S.

DATE	DRWN	CHKD	REMARKS

DESIGNED BY: LD
DRAWN BY: CB
SHEET CHK'D BY: LD
CROSS CHK'D BY: JC
APPROVED BY: TH
DATE: 04/19/05

Registered Professional Engineer (Civil) CERTIFICATE NO. 30605 TRACHT A. HUNAL DATE EXPIRES 12-31-05 ARIZONA, U.S.A.

WOOD/PATEL
CIVIL ENGINEERS
HYDROLOGISTS
LAND SURVEYORS
CONSTRUCTION MANAGERS

1855 N. Stapley Drive
Mesa, AZ 85203
Phone: (480) 834-3300
Fax: (480) 834-3320

CITY OF CHANDLER, ARIZONA
TUMBLEWEED PARK
ARIZONA RAILROAD MUSEUM

GRADING & DRAINAGE IMPROVEMENTS

CALL TWO WORKING DAYS BEFORE YOU DIG. (602) 263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

PROJECT NO. PR0415-201
FILE NAME: 042117
SHEET NO. R03
SHEET 6 OF 7