

FIVE YEAR CAPITAL IMPROVEMENT PROGRAM
FOR FISCAL YEARS 98/99 TO 02/03



Property of
Flood Control District of MC Library
Please Return to
2801 W. Durango
Phoenix, AZ 85009

AUGUST 18, 1998

FLOOD CONTROL DISTRICT OF MARICOPA
COUNTY

Fulton Brock, District 1

Don Stapley, District 2

Janice K. Brewer, Chair, District 4

Andrew Kunasek, District 3

Mary Rose Wilcox, District 5

Flood Control Advisory Board

Gilbert Rodgers, District 1

Russell G. Stephens, District 4

John E. Miller, Jr., Chair, District 2

Hemet Patel, P.E., District 3

Melvin Martin, District 5

Paul Cherrington, P.E., Salt River Project, Ex Officio Member

James Matteson, P.E., City of Phoenix, Ex Officio Member

Principal Staff

Michael S. Ellegood, P.E., Chief Engineer and General Manager

Thomas D. Johnson, P.E., R.L.S., Deputy Chief Engineer/PPM Manager

Evaluation Committee:

D.R. Johnson, Manager, Regulatory Division

G.D. Lindop, Manager, Operations and Maintenance Division

R.G. Perreault, CIP/Policy Branch Manager

E.A. Raleigh, P.E., Manager, Engineering Division

J.L. Schwartzmann, Manager, Land Management Division

Property of
Flood Control District of MC Library
Please Return to
2801 W. Durango
Phoenix, AZ 85009

Table of Contents

Alphabetical Listing of CIP Projects	iii
1.0 Introduction	1
1.1 FCD Description and General Context	
1.2 What is the Capital Improvement Program (CIP)?	1
1.3 What is the Difference between the Capital Budget and the CIP?	1
1.4 Why Undertake CIP Planning?	2
2.0 Flood Control Planning and the CIP	2
2.1 Overview	2
2.2 The Planning Process	3
2.3 The Prioritization Process	4
2.4 Prioritization Criteria	5
2.5 Integrating Projects into the Natural and Urban Environment	6
3.0 Financial Issues and the CIP	7
3.1 Balancing Future Revenues and Expenditures – Budgetary Challenges	7
3.2 Revenue Trends and Issues	8
3.3 Increased Cost Sharing with Municipalities	10
3.4 The CIP: Implementing District Financial Strategies and Priorities	11
4.0 Using this Document	12
5.0 CIP Project Budget	14
5.1 CIP Project Budget/Schedule Summary	14
5.2 CIP Project Budget/Detailed Schedule	15
6.0 CIP Project Descriptions	19
Appendix 1 Status Report on Prioritization Procedure Results For FY 1997/98	99
Appendix 2 Prioritization Procedures/Criteria	104

Alphabetical Listing of CIP Projects

Project and Project Control Number	Page Number
54 th Street Drain (442-01-XX)	49
84 th Street/Cholla Basin and Storm Drain (027-01-XX)	21
91 st Avenue/Union Hills Drive Drainage Improvements (450-04-XX)	59
Arcadia Area Drainage Project (103-02-XX)	31
Ashbrook/Balboa Wash Improvements (670-02-XX)	89
Bethany Home Road Outfall Channel (620-04-XX)	85
Bullard Wash Outfall Channel (470-07-XX)	65
Camelback Ranch Levee (400-05-XX)	43
Doubletree Ranch Road Drain (580-03-XX)	79
East Mesa Area Drainage Master Plan (442-00-XX)	47
East PVSP Drainage Improvement (120-02-XX)	37
Elliot Road Channel [Phase 1] and Basin (442-04-XX)	53
FCD Operational Facilities (001-00-XX)	19
Five Basins along CAP Canal (442-03-XX)	51
Flood Warning System (017-00-XX)	20

Golden Eagle Park Dam Modifications (670-03-XX)	91
Hawes Road Channel (442-05-XX)	55
Higley Area Drainage Master Plan (491-00-01)	77
Litchfield Park Drainage Improvements (470-08-XX)	67
Maryvale Flooding Mitigation Project (620-01-XX)	83
Northern/Orangewood Storm Drain (450-03-XX)	57
Oak Street Storm Drain Outfall (027-03-XX)	23
Old Cross Cut Canal – McDowell to Arizona Canal (103-01-XX)	29
Osborn Road Storm Drain Outfall (027-04-XX)	25
Pima Road Channel (680-02-XX)	95
Phoenix Rio Salado (124-01-XX)	40
Queen Creek and Sanokai Wash Hydraulic Master Plan (480-02-XX)	73
Rawhide Wash Detention Basin (680-03-XX)	97
Reata Pass Channel (680-01-XX)	93
Rittenhouse Drainage Improvement (480-01-XX)	71
Skunk Creek Improvements – ACDC to Adobe Dam (362-01-XX)	41
Sports Complex Bank Protection (400-06-XX)	45

1.0 Introduction:

1.1 FCD Description and General Context:

The Flood Control District was formed on August 3, 1959, following passage of State legislation empowering counties to set up special districts to provide flood protection. Flood control districts are political subdivisions of the State and have the same powers, privileges and immunities generally given to incorporated cities and towns. The District is governed by a Board of Directors who are also the elected Board of Supervisors for Maricopa County. This Board, in turn, is advised by a seven-member Flood Control Advisory Board. The activities of the District are funded by a flood control tax levy assessed on real property within Maricopa County and a variety of cost-sharing arrangements with federal, state, county and local governments. The tax levy rate for the previous fiscal year (1997/98) was \$.3425 per \$100 of assessed value. The tax levy rate for Fiscal Year 1998/99 is set at \$.3270 per \$100 of assessed value.

The District is organized into six functional areas arranged in the following divisions: Administration, Operations & Maintenance, Engineering, Regulatory, Land Management and Planning & Project Management. The Capital Improvement Program (CIP) serves as the cornerstone of the District's efforts to resolve flooding problems in Maricopa County. This booklet provides information on the anticipated expenditures for flood control projects and programs for the next five years, from July 1998 through June 2003.

1.2 What is the Capital Improvement Program (CIP)?

The Capital Improvement Program (CIP) for the Flood Control District (District) is a Five Year Plan that identifies spending for all anticipated capital projects. The Plan

addresses both modification and replacement of existing infrastructure as well as the development of new facilities to accommodate future growth. This Plan also enables the District and its stakeholders to identify needed capital projects and co-ordinate financing and construction timing. To increase effectiveness, the CIP consists of two crucial segments; an administrative process to identify and prioritize future capital projects (the Prioritization Procedures) and the fiscal plan to provide for the funding of those projects.

The CIP links the planning and budget activities of the District. It can support past policy decisions by establishing priorities between existing and competing projects but can also measure and evaluate the merits of new proposals. Typically, a CIP describes each capital project proposed for development over the forthcoming five-year period by listing the year that it is to be started, the cost per year, and, when applicable, the proposed method of cost-sharing. Based on these details about each project, the District has developed annual cost schedules for capital expenditures. Thus, the capital improvement program presents both the cost and funding for all the project requirements for flood control purposes as tempered by current and future financial capability.

1.3 What is the Difference between the Capital Budget and the CIP?

The capital budget represents the first year of the capital improvement plan. The primary difference between the capital budget and the CIP is that the capital budget gives the District staff authority to spend funds and proceed with specific projects. The CIP includes both first-year projects as well as future projects for which financing has not been secured or authorized. The "out years" of the plan are projected, but not authorized and hence are subject to

change. Every item in the capital budget must be approved by the Board of Directors and is closely reviewed by the Maricopa County Office of Management and Budget to ensure that it meets with the fiscal policies of the County. As a result, the capital budget must be prepared with great care owing to the need for accuracy as well as consistency with County revenue and expenditure forecasts for the upcoming year(s). The Five Year CIP is developed and managed by the Planning and Project Management Division for the Chief Engineer and General Manager, the Flood Control Advisory Board, and the Board of Directors. Because it is not formally tied to the County's budgeting process, it can be altered to reflect future requirements and expectations associated with capital projects more easily than the one-year capital budget.

1.4 Why Undertake CIP Planning?

The CIP process is dynamic in that it helps with the planning for major expenditures in the future and adjusts project schedules as needs and circumstances change. The CIP's five-year perspective allows projects to be planned and programmed ahead of actual authorization. But the yearly repetition of the Prioritization Procedures and the CIP process ensures that each project undergoes several stages of review before it is finally approved and funded. This approach to capital planning is particularly meaningful in the rapid growth environment of Maricopa County. It ensures that new facilities will be evaluated within the context of County and municipal land use plans and weighed against maintenance requirements for existing structures.

Among its many advantages, an effective capital improvement program:

- Focuses attention on goals, needs, and objectives. It ensures that the District's capital projects are consistent

with changing community objectives, anticipated growth, and financial capabilities.

- Requires the scheduling of major investments and avoids the possibility of costly mistakes. It assists the Flood Control Advisory Board and the Board of Directors with making sound budget decisions.
- Facilitates more efficient administration and management. Coordination of necessary capital improvements can reduce scheduling problems, conflicting and overlapping projects, and overemphasis on any single function or geographic area.
- Promotes cooperation with other jurisdictions. The capital planning process gives all jurisdictions the opportunity to co-ordinate location, timing, and financing of related projects.
- Includes leveraging of FCD funds with other funding sources.
- Maintains a sound and stable financial program. Dramatic changes in the County's tax structure can be avoided when capital projects are planned and spaced over several years.

2.0 Flood Control Planning and the CIP:

2.1 Overview:

The District maintains the Five-year Capital Improvement Program (CIP) as called for in state statutes and directed by the District's General Policies. The Five-year CIP includes

all costs associated with the implementation of projects or elements of projects that have been proposed by federal, state, District or local programs. The selected projects are reviewed through the District's Prioritization Procedures which were approved by the Board of Directors in 1993 and put into effect for the Fiscal Year 1994/1995. These procedures were updated and amended in 1995 and 1997. The prioritization process solicits project requests from the District's client communities and other agencies. The process allows comparisons between competing projects to ensure that CIP expenditures are allocated toward the greatest need.

Following the allocation of funds necessary for maintenance and other mandatory programs, the District budgets the remaining tax revenues for capital improvement projects and the related planning programs. When possible, multi-purpose uses of flood control projects and property are promoted and accommodated. This is possible provided the use does not interfere with the flood control projects' primary purposes. In addition, the project costs and the facility's maintenance requirements should not be significantly increased.

2.2 The Planning Process:

The Planning Program promotes the District's mission of "...reducing flood risks for the people of Maricopa County..." by preparing comprehensive regional studies and analyses identifying locations and property at risk from potential flooding. Following an analysis of flooding problems, alternative solutions are developed to determine the most cost effective and publicly acceptable project. Recommended projects are then prioritized for inclusion in the District's CIP. The CIP allocates resources and provides a timetable for the implementation of individual projects.

This process usually includes the project design, relocation of conflicting facilities, acquisition of property and construction phases.

The combined Planning Program and CIP account for approximately three-quarters of the District's annual budget. During FY 1997/98, the District, in cooperation with other agencies and municipalities, completed five major flood control projects and added ten new projects to the CIP (one project previously listed separately, Pima Freeway/TPC Flood Control System, has now been combined with the Pima Road Channel Project). Fourteen projects currently are under construction and twenty-five projects are being designed, studied or are in the land acquisition phase. Activities in the Planning Program include; Area Drainage Master Studies (ADMSs); Watercourse Master Plans; the Comprehensive Flood Control Program Report; Project Pre-design studies; and, the coordination of interagency cooperative projects and agreements. The District strives to maintain its historic close working relationship with local communities and other county, state and federal agencies in all of these endeavors.

Information on flooding and flood-prone areas is generated through the Area Drainage Master Study (ADMS) Program. The ADMS program was conceived in 1983 to provide the District with a proactive and leadership role in developing uniform, comprehensive inventories and models of the features influencing rainfall-runoff in selected areas. There are approximately twenty-five ADMS areas ranging from 15 to 280 square miles. Fourteen of the studies have been completed, two are currently underway, and eight more have been proposed. Area Drainage Master Plans (ADMPs) are then undertaken for each of the ADMS areas. These plans utilize the information provided by ADMSs and recommend specific, project-oriented solutions for flooding problems. The

ADMPs, along with requests from cities, towns and other agencies, are intended to be major sources of projects for the CIP.

The ADMS Program supports the planning effort by providing the physical characteristics and hydrology of a specific area. This Program utilizes a comprehensive watershed perspective, which is used to identify drainage and flooding problems reported by individual communities. Selected and approved alternatives to solve these problems are identified through the ADMPs and are implemented through the CIP. Nine ADMPs have been completed to date, and three more ADMPs are either currently underway or will be initiated in FY 98/99. Watercourse master plans also are underway for Queen Creek, Sanokai Creek, Cave Creek and New River. Watercourse master plans are similar to ADMPs, except that a WCMP has more of a focus on the management of a particular river, stream, creek or wash and its banks and nearby flood zones, while an ADMP focuses on flooding issues over a wider drainage area.

2.3 The Prioritization Process:

The Prioritization Procedures, employed by the District, were initially implemented for the FY 94/95 budget cycle and have been used since that time. They serve as the mechanism for determining new CIP projects. Potential CIP projects are identified either by local cities, towns and other agencies, or through other District programs. The potential projects are evaluated on an annual basis for inclusion in the latter years of the CIP.

An important aspect of the Prioritization Procedures is the District's cooperation with its client communities in defining the criteria for project reviews. Tables included in Appendix 2 show the specific criteria and weights used in identifying

project priorities, as determined through workshops attended by participating agencies and approved by the FCAB. The most recent workshop was held in April of 1997.

The primary benefits of the Prioritization Procedures have been their ability to:

- Reduce uncertainty by applying District-approved and community-reviewed criteria during the project review process;
- Improve fiscal efficiency by requiring concurrent review of all project proposals and timing this review with the District's budget cycle;
- Eliminate duplication and improve community commitment by focusing planning efforts on projects approved for pre-design/feasibility analysis; and,
- Provide a means for reconstructing or reprioritizing the budget and Five-year CIP with a minimum of disruption to ongoing activities by developing a rank ordering system.

The prioritization procedure is accomplished in two major steps. First, all newly proposed projects are evaluated according to a predetermined and weighted criteria by a committee of senior District staff members. The selected projects are included in a District-funded and prioritized pre-design study program. Requesting agencies may complete prioritized pre-design studies using consultants or in-house resources, provided the information produced meets the minimum requirements of District-sponsored studies. The purpose of the pre-design study program is to develop more detailed information on potential CIP projects. This includes design and construction costs, land acquisition

requirements, required permits, mitigation and multiple-use potential.

The second step includes the evaluation and prioritization of projects for inclusion in the District's Five-year CIP. For projects requiring an Intergovernmental Agreement (IGA), the information developed in the pre-design study will serve as the basis for negotiations. When ADMPs are completed, a number of future pre-design studies and CIP project requests are identified. Input regarding the priorities for projects identified within these plans, will continue to be provided to local cities, towns and other agencies. When a CIP project has progressed to the stage where the engineering design, plans and construction specifications are being prepared, its place in the Five-year CIP program is generally maintained. The stability and timeliness of CIP project implementation are important to the timing of interrelated projects.

2.4 Prioritization Criteria:

The Project Evaluation Committee that makes recommendations to the Chief Engineer and General Manager and the FCAB Program and Budget Committee develops their recommendations using a system that allocates points to individual projects based on specific criteria. These criteria include:

- Submitting Agency Priority
- Master Plan Element
- Hydrologic/Hydraulic Significance
- Level of Protection
- Area Protected
- Environmental Quality
- Area-Wide Benefits
- Total Project Cost

- Level of Partner(s) Participation
- Operation and Maintenance Costs
- Operation and Maintenance Responsibility

The prioritization criteria were developed with the goal of promoting a balanced approach to the evaluation of proposed projects. The District tries to identify and support flood control and regional drainage projects that not only provide long-term protection to individuals and property from flash floods and seasonal flooding, but that contribute to community development, protection of natural habitat, and maintenance of watercourse flow paths. The District also leverages its limited resources by entering into joint efforts with other agencies, municipalities or the private sector to fund flood control projects, and this is reflected in the prioritization criteria. Higher scores are given to projects that involve cost-sharing partnerships for the construction phase and/or that involve agreements by other agencies or municipalities to take responsibility for post-construction operations and maintenance.

Although the relative weighting given to each criterion (total points per category) and the points actually assigned to each criterion for a given project by an Evaluation Committee member is somewhat subjective in nature, the evaluation procedure provides a uniform degree of objectivity to the process. The costs and benefits of the proposed projects are explicitly identified and documented, and proposed projects can be more easily compared once individual types of benefits and costs are separately quantified or otherwise evaluated. The inclusion of at least six senior staff representing different functional competencies on the Evaluation Committee further reduces the degree of subjectivity by ensuring that no one individual's personal biases excessively influence the evaluation process.

2.5 Integrating Projects into the Natural and Urban Environment: A New Approach to Flood Control Projects

The District has made an additional commitment to ensuring that new flood control projects not only protect people and property from flooding threats, but also provide additional benefits. These benefits can include increased protection for natural habitat, new recreational facilities and open space, and aesthetically-pleasing designs that contribute to the revitalization of urban areas. Although Maricopa County is located in a largely desert environment, much of the County is subdivided by canals, rivers, creeks and washes, and these linear attributes play a major role in the physical character of the area. Dams, retention basins, channels and outfalls can also be found throughout the County, and can have a major beneficial or negative impact on adjacent neighborhoods and natural areas depending on the design and management of these facilities.

One project that is a good example of this commitment to compatibility with the surrounding environment is the Old Cross Cut Canal project, which involves the construction of approximately 11,000 linear feet of covered concrete channel to convey storm flows from the Old Cross Cut Canal corridor along 48th Street and to provide an outfall for drainage from the Arcadia area north of the Arizona Canal, taking these flows to the Salt River. Although the canal was originally to be open in the same way as most similar urban flood control projects, strong opposition from local citizens and the Phoenix Parks Department convinced the District and the City of Phoenix to change the design to a covered channel (culvert) option that allows for extensive recreational opportunities.

A multi-use path is being provided along most of the right-of-way that will permit people to bicycle, walk, or rollerblade along the route. The District and the City also made a commitment to improving the aesthetics of the project. In addition to being covered with attractive turf and pathways, the inlet, spillways and retaining wall at the south end of the project were specifically designed to allow for the inclusion of public art. As is the case in many of the District's projects, the effort is a cooperative project of the District and the host municipality. The surface features south of Thomas Road were installed and funded by the District, and the multi-use path was designed and installed using District funds, while the City of Phoenix was responsible for surface features north of Thomas Road.

Another example of the District's commitment to multi-purpose facilities can be found in the Tenth Street Wash Basin #2 project. District staff planning and significant citizen involvement combined to lead to a project in which aesthetic and recreational elements played a major role in the design of the structure. Instead of a purely functional spillway facility, the project was developed in such a way that turf, irrigation, plantings, paths and design changes to the structure itself ensured that the final product was attractive and "people friendly". The design even provided space for future potential recreational facilities, such as volleyball courts, to allow for the evolution and improvement of the facility over time.

The District is also planning to be a partner in a number of efforts such as the Rio Salado project, where flood control facilities are included as part of major urban redevelopment, environmental restoration and/or large scale recreational facility developments. If resources are available, many existing flood control systems and facilities in established urban areas could be retrofitted or altered to allow for

additional benefits or activities. Many District right-of-ways or facilities offer the potential to also provide bicycle/walking paths, habitat for native species, or attractions for local businesses, without threatening the underlying flood control role of these projects.

3.0 Financial Issues and the CIP:

3.1 Balancing Future Revenues and Expenditures - Budgetary Challenges:

The FCD operates on a "pay-as-you-go" basis. This means that the FCD's entire capital budget is funded from current revenues, and that no borrowing takes place to finance capital projects like dams, channels and levees. The major advantages of this are that the FCD carries no debt load, that County taxpayers do not have to pay for interest charges on FCD structures, and that there is no need to try to match future debt and interest repayments with future revenues. Since a majority of the FCD's revenues are spent on the CIP and long-term capital expenditures on flood control protection, taxpayers are in effect investing in the future of the County and their property and safety. This policy is quite different from that utilized by most government entities, which usually spend all current revenues on current expenditures and debt repayment associated with past capital expenditures.

Most large government and private sector organizations that plan and construct very large projects over extended periods of time borrow funds to finance these large projects, and then pay for them over many years. Because these principal and interest costs can be distributed over many years, and the necessary funds are obtained from lenders at the

beginning of projects, it is relatively easy for these organizations to plan their long-term capital budgets. The majority of the District's revenue is derived from a secondary tax whose revenues can be difficult to predict because tax valuations based on property values can fluctuate significantly. The rate of growth in urban areas, and thus total tax revenues, can also have a major impact on total District revenues obtained in any given year. A strong economy, high levels of residential, commercial and industrial development, and rising property values will all lead to higher District revenues; conversely a poor economy and falling property values would lead to reduced tax revenue for the District, for a given tax rate.

Because the District's capital spending is affected by strong fluctuations in tax revenue, the CIP must be constantly reviewed and altered to reflect the most recent information on current revenues and expected revenues over the coming years. In the early nineties, a weak economy led to lower District tax revenues, and capital spending had to be reduced to reflect this reality. More recently, high levels of housing, industrial and commercial development and rising property values have both increased tax revenues and led to increased needs for flood control projects. This has necessitated an expansion in the capital budget to initiate required projects while funds are available. Another factor that has had a major impact on District revenues has been the need to reallocate tax revenues among various County entities. The members of the Board of Directors, who are also the members of the County Board of Supervisors, sometimes alter the secondary tax rate to meet overall County fiscal objectives, and this too can have a major impact on District revenues in any given year. For these reasons, the Five Year CIP will continually need to be adjusted and updated to reflect changes both in the level of

need for flood control capital projects and in the availability of funds to pay for these projects.

3.2 Revenue Trends and Issues:

Funding availability for the CIP is based on estimates which combine anticipated revenues from numerous sources with the District's anticipated flood control tax revenues. The District's tax revenues are a function of the tax rate, which is set annually by the Board of Directors. The Flood Control District tax applies to the assessed real property valuations, which are also set annually by the County Board of Supervisors.

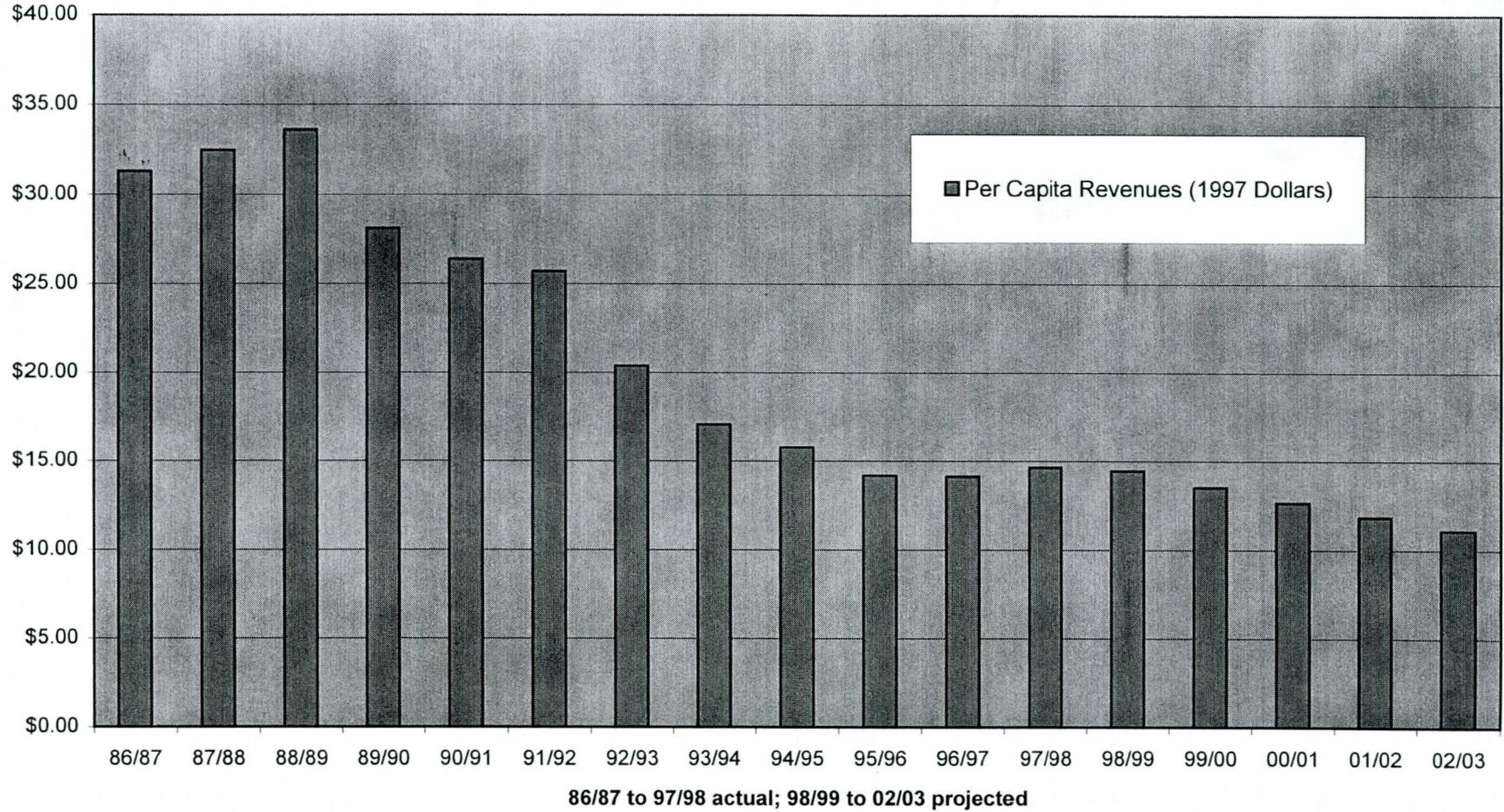
Fiscal Year	Tax Rate	Tax Revenue
97/98	0.3425	\$42,697,000
96/97	0.3413	\$38,501,000
95/96	0.3332	\$36,085,500
94/95	0.3632	\$35,300,000
93/94	0.3632	\$35,400,000
92/93	0.3901	\$39,715,000
91/92	0.4447	\$46,879,000
90/91	0.4235	\$45,797,000
89/90	0.4303	\$46,408,000
88/89	0.5000	\$51,345,000
87/88	0.5000	\$46,059,000
86/87	0.5000	\$41,566,000

The vast majority of the District's Operating and CIP revenues come from the flood control tax that is levied County-wide.

Relatively small revenue sources result from the sale or lease of District rights-of-way and reimbursements from project cost-share partners. Over the past ten years, the inflation-adjusted revenues provided by the Secondary Tax to the District have fallen significantly, and when the increased size of the County's population and increased flood control needs associated with this larger urban area are taken into account, it is apparent that the District is being asked to do more with less. It is anticipated that the District's tax revenues over the coming five years will be capped at a maximum of \$45 million per year because money is needed for other County programs.

As Figure 1 indicates, actual figures for the past eleven years and projected figures for the coming six years show a trend of steadily declining per capita revenues on an inflation-adjusted basis. While the District was collecting over \$30 per Maricopa resident in 1987 (in 1997 dollars), the amount provided by the Secondary Tax in 1997 had fallen to less than \$15 per Maricopa resident, and this amount will probably continue to fall on a per capita, inflation-adjusted basis. As a result, the District will have to continue to seek partnerships with local municipalities and agencies for flood control projects and place a heavy emphasis on reducing project costs.

Figure 1 - FCD Tax Revenues (1997 Dollars) Per Maricopa Resident By Fiscal Year



Past inflation rates for Metropolitan Phoenix provided by Center for Business Research, ASU

Past population estimates for Maricopa County provided by Center for Business Research, ASU

Future inflation and population growth estimates taken from Maricopa County FY 97/98 Business Strategies

Table 2: ESTIMATED 5 YEAR CIP FUNDING

Fiscal Year	Tax Revenue	CIP Amount
98/99	\$45,000,000	\$61,543,000
99/00	\$45,000,000	\$57,369,000
00/01	\$45,000,000	\$55,972,000
01/02	\$45,000,000	\$47,091,000
02/03	\$45,000,000	\$47,056,000

3.3 Increased Cost Sharing with Municipalities

Throughout the history of the Flood Control District of Maricopa County, the District has had to adapt to the evolution of the fiscal, political and institutional environment in which it operates. For a large part of the 1970s and 1980s the District was heavily involved in cost-sharing partnerships with the Federal and State governments, initiating and participating in flood control projects that were funded in large part by higher levels of government. With the virtual end of large-scale participation in regional flood control activities by the Federal Government and the State, the District was left in the position of being the primary source of technical expertise and financial resources for flood control in Maricopa County. As a result, the District must deal with a wide range of regional flood control challenges with a limited budget provided by County taxpayers, who are also responsible for funding a wide range of other important services.

More recently, the District has adopted a number of strategies to address regional flood control problems while minimizing financial requirements. Under the direction of the Board of Directors and Flood Control Advisory Board, District staff have made a concerted effort to make maximum use of every dollar spent. One of the strategies used to obtain the "most bang for the buck" has been to leverage District capital program

expenditures with contributions from municipalities and other agencies. One of the selection criteria for potential projects is the degree to which the projects will be paid for by other government entities; if a higher level of cost sharing can be negotiated, the projects are given a higher priority ranking by the District. It is now an objective of District staff to work towards developing partnerships in new projects so that the District only has to pay for a portion of the design and construction costs and that a municipality or other agency be responsible for the remainder of those costs and for future operations and maintenance

Reviewing the total dollar amount of reimbursements provided by the District's partners over an eight-year period, it is clearly evident that the trend is towards rising reimbursements. Using actual numbers from fiscal years 1992/93 through 1996/97, and projected numbers for fiscal years 1997/98 through 1999/00, this trend is clearly discernible, although this particular fiscal year (1997/98) is something of an anomaly. While total reimbursements were only approximately \$2.4 million in FY 1992/93, they had grown to approximately \$7 million by FY 1996/97, and are projected to rise to almost \$13.3 million in FY 1999/00 (some future year projects do not have signed IGAs; projected reimbursements could still change). Similarly, the eight-year trend of reimbursements as a percentage of total capital program expenditures indicates that the long-term trend is towards higher levels of cost-sharing. While in FY 1992/93 less than 10% of the District's capital program was funded by reimbursements from municipalities and other agencies, in FY 1999/00 it is projected that almost a third of the capital program budget will be provided by other government entities.

Although the trend is towards higher levels of financial participation by partners, the total dollar amount and percentage of costs varies greatly from project to project. In

some cases, a municipality or agency will fund up to 50 % of a multi-million dollar project, while in other cases a cost-sharing partner for a much-needed project cannot be found, and the District will have to bear the costs of the entire project. Approximately one in three projects active in FY 1997/98 involved situations in which the District manages the project and is compensated financially by one or more partners. Approximately another quarter of the capital improvement program projects that the District funded in FY 1997/98 involved the District contributing to a project managed by another government entity. This means that the District is financing the entire cost of projects through its own resources in only about half of the projects.

Expenditures made by the District to operate and maintain flood control structures and adjacent property are substantial; in FY 1997/98 these operations and maintenance (O/M) costs were approximately \$7.67 million, or about 14% of the total budget. One of the most important strategies of the District in recent years in terms of minimizing future expenditures and of providing the most regional flood control protection at the least cost has been to enter into partnerships on projects where the District is responsible only for capital costs and not for O/M costs. To date, the District has been very successful in negotiating cost-sharing agreements in which the District is absolved of any responsibility for future maintenance or operations. A large number of new projects involve intergovernmental agreements (IGAs) that restrict District involvement to only immediate capital costs. Recently initiated projects that have IGAs specifying no future District O/M responsibilities include:

84th Street/Cholla Basin & Storm Drain; East PVSP Drainage Improvement; Oak Street Storm Drain; Osborn Road Storm Drain; Reata Pass Channel; Arcadia Area Drainage; SE Phoenix Regional Drainage System; SEVRDS; Tatum Wash

Drainage Improvement; Northern/Orangewood Storm Drain; Litchfield Park Drainage; and Doubletree Ranch Road Drain.

3.4 The CIP: Implementing Flood Control District Financial Strategies and Priorities:

The District's capital spending makes up the majority of the District's overall revenues, and the District's capital spending is directed by the Five Year CIP. As a result, the Five Year CIP must incorporate the District's strategies and priorities, and facilitate the achievement of the District's mission and objectives. Among the District strategies/priorities that are reflected in planned expenditures included in the Five Year CIP are:

- An increased emphasis on cost-sharing and partnerships so that the District is best able to leverage its limited financial resources into the most long-term flood control protection possible throughout the County.
- A preference for partnerships in which the other partners (e.g. municipalities, agencies) assume full responsibility for operations and maintenance activities once the project has been completed.
- A continuing commitment to balance expenditures between newly-developing areas on the fringe of the urban metropolis, and existing older communities where retrofitting, repairs and project improvements are still needed.
- A commitment to avoid the construction of new conventional hard structures when non-structural approaches such as flood plain delineation and management, naturalized watercourse improvements,

and/or minor improvements to natural drainage patterns can be used just as effectively from an economic perspective to protect lives and property.

- A focus on minimizing project costs and streamlining the contract tendering and management processes using information systems that track project progress and analyze engineering, land, and construction costs.
- Use of District-developed hydrological and flood control planning information so that private development infrastructure is built to District standards.

4.0 Using this Document:

Included in this document are narrative descriptions and location maps for the forty-two projects that the Flood Control District of Maricopa County proposes to implement during the next five (5) years (FY 98/99 through FY 02/03) and summaries of the CIP budget that show projected expenditures by "Area" (groupings of projects) and by "Project" (individual facilities and systems). Tables in Appendix 1 provide a summary of the results of the FY 98-99 Prioritization Process. Included in these tables are each of the projects recommended for CIP consideration through previous prioritization processes. Appendix 2 includes a description of the procedures and criteria used in evaluating potential CIP projects.

The CIP budget in section 5.0 is provided in two different formats. Each summarizes estimated expenditures for all projects proposed for the District's Five Year Capital Improvement Program for fiscal years 98/99 through 02/03. The first format (5.1) is a summary of all of the CIP expenditures by "Area". Every Project Control Number (PCN)

is made up of a seven digit code that is used for tracking costs. The first three digits identify the "Area", or clustering or family of projects, and this is the level of detail that is used in the summary of CIP expenditures. For example, the White Tanks "Area" code includes six "Projects" that originated from the White Tanks Area Drainage Master Plan. In the summary, these individual "Projects" and their "Components" are not shown. The second format (5.2) provides a more detailed listing of expenditures by individual projects, which are shown with both the three digit "Area Code" and the two digit "Project Code".

The figures in both tables are shown in thousands of dollars (i.e. 10 equals \$10,000), for ease of display, and are shown by fiscal year for each of the five years. A "Total" column sums all of the expenditures, by project, proposed during the five-year period. It is important to note that although most of the projects are scheduled to be completed in five years, those identified with an asterisk (*) will be continued beyond the five-year period. Possible reasons include: availability of funding; status of design or construction plans; or incompatible schedules of other related activities. Also included in the tables are columns showing supervisor districts and the municipality where the project is located.

Details for each project included in the Five Year CIP are provided in section 6. A description for every project name and associated project control number appearing in the Five Year CIP. Each project can thus be found in this document. Every project description includes basic information such as project name, project control number, the municipality or municipalities in which the project is located, partners involved with the design, administration, construction and/or funding of the project, anticipated beneficial results of the project, and the timing and cost of the project. The projects are listed in order of their project control numbers, or PCNs. An alphabetical list

of projects is also provided at the beginning of this document that provides the PCN and page number for each project.

In some cases, such as those in which the planning and design work is complete and construction is already underway, the scope and cost of the project are almost entirely known. In others, a project might only be in the planning and design stage, and the exact physical design, geographical location, and total cost of the project are still unknown. As a result, the further along the project is, the more likely the project description is to be a complete and dependable guide to the specifics of the project. It should be noted that projects still in the early stages of the development process will still be subject to change, and that significant increases or decreases in project costs do occur well into the design stage. In some cases District projects can be combined with other projects undertaken by ADOT or MCDOT, leading to major reductions in project costs, while in others, unforeseen land acquisition or project engineering costs can greatly increase project costs.

5.1 CIP PROJECT BUDGET/SCHEDULE SUMMARY										
July 31, 1998			SUMMARY		X \$ 1,000					
CITY	DIST.	PCN AREA	DESCRIPTION	TAX RATE:	Five Year CIP					5-Yr TOTAL
					FY 98/99	FY 99/00	FY 00/01	FY 01/02	FY 02/03	
				0.3270						
Multiple	All	001	FCD OPERATIONAL FACILITIES		23	0	0	0	0	23
Multiple	All	002	STORMWATER MONITORING SYSTEM		150	0	75	0	0	225
Multiple	All	017	FLOOD WARNING SYSTEM		20	20	20	20	40	120
Scottsdale	2	027	CITY OF SCOTTSDALE		1,551	800	3,725	1,300	1,000	8,376 *
Guadalupe	5	035	TOWN OF GUADALUPE		386	1,125	0	0	0	1,511
Phoenix	1,2,3	103	OLD CROSS CUT CANAL		2,608	450	1,600	3,000	4,000	11,658 *
Mesa	1,2	108	SOSSAMAN CHANNEL		842	0	0	0	0	842
Multiple	1,5	117	SOUTH PHOENIX DRAINAGE IMPROVEMENT		1,743	2,760	3,605	4,000	4,500	16,598 *
Multiple	2	120	PVSP		0	20	0	200	2,360	2,580 *
Phoenix	5	124	PHOENIX RIO SALADO		0	0	5,000	5,000	0	10,000
Multiple	4	362	SKUNK CREEK		9,555	0	0	0	0	9,555
Multiple	4	400	SKUNK CREEK/NEW RIVER		6,686	2,700	0	0	0	9,386 *
Mesa	1,2	442	EAST MESA ADMP		4,795	6,185	9,010	7,900	9,300	37,190 *
Multiple	4	450	GLENDALE/PEORIA ADMP		3,660	8,150	5,100	0	0	16,910
Multiple	4,5	470	WHITE TANKS ADMP		10,449	7,225	200	0	2,300	20,174 *
Multiple	1	480	QUEEN CREEK ADMP		1,063	0	450	250	5,000	6,763 *
Chandler	1,5	490	GILBERT/CHANDLER ADMP		4,000	7,900	4,400	0	0	16,300
Mesa/Gilbert	1	491	HIGLEY ADMP		0	0	600	3,000	4,500	8,100 *
Phoenix/PV	2	580	ACDC ADMP		826	30	6,500	10,500	0	17,856 *
Phoenix	4,5	620	MARYVALE ADMP		975	0	3,215	4,258	5,800	14,248 *
Phoenix	1	630	FOOTHILLS ADMP		1,000	1,860	0	0	0	2,860
Fntn. Hills	2	670	FOUNTAIN HILLS ADMP		360	459	500	0	700	2,019
Scottsdale	2	680	UIBW ADMP		7,152	14,410	8,600	4,200	4,000	38,362 *
			CIP PROJECT CONTINGENCY		500	0	0	0	0	500
			SUBTOTAL PROJECTS		58,344	54,084	52,600	43,628	43,500	252,156
			INDIRECT CHARGES		1,157	1,192	1,227	1,264	1,302	6,142
			FORCE		2,042	2,093	2,145	2,199	2,254	10,733
			PROJECTS TOTAL		61,543	57,369	55,972	47,091	47,056	269,031

* = Projects that will not be completed during this five year CIP.

5.2 CIP PROJECT BUDGET/DETAILED SCHEDULE						Five Year CIP					
July 31, 1998 (Revision)						X \$1,000					
CITY	DIST.	PCN	DESCRIPTION	FY 98/99	FY 99/00	FY 00/01	FY 01/02	FY 02/03	5-Yr TOTAL		
Multiple	All	001	FCD OPERATIONAL FACILITIES	23	0	0	0	0	23		
Multiple	All	001	FCD OPERATIONAL FACILITIES	23	0	0	0	0	23		
Multiple	All	002	STORMWATER MONITORING SYSTEM	150	0	75	0	0	225		
Multiple	2,4	002	STORMWATER MONITORING SYSTEM	150	0	75	0	0	225		
Multiple	All	017	FLOOD WARNING SYSTEM	20	20	20	20	40	120		
Multiple	All	017	FLOOD WARNING SYSTEM	20	20	20	20	40	120		
Multiple	1,2,5	027	CITY OF SCOTTSDALE	1,551	800	3,725	1,300	1,000	8,376*		
Scottsdale	2	02701	84TH STREET / CHOLLA BASIN DRAIN	400	0	0	0	0	400		
Multiple	1,2,5	02703	OAK STREET STORM DRAIN OUTFALL	401	550	3,725	1,300	0	5,976		
Scottsdale	2	02704	OSBORN ROAD STORM DRAIN OUTFALL	750	250	0	0	1,000	2,000*		
Guadalupe	5	035	TOWN OF GUADALUPE	386	1,125	0	0	0	1,511		
Guadalupe	5	03501	TOWN OF GUADALUPE IMPROVEMENTS	386	1,125	0	0	0	1,511		
Phoenix	1,2,3	103	OLD CROSS CUT CANAL	2,608	450	1,600	3,000	4,000	11,658*		
Phoenix	1,2,3	10301	MCDOWELL TO ARIZONA CANAL	2,505	0	0	0	0	2,505		
Phoenix	2,3	10302	ARCADIA AREA DRAINAGE PROJECT	103	450	1,600	3,000	4,000	9,153*		
Mesa	1,2	108	SOSSAMAN CHANNEL	842	0	0	0	0	842		
Mesa	1,2	10801	SOSSAMAN CHANNEL - US 60 TO BASELINE	842	0	0	0	0	842		
Multiple	1,5	117	SOUTH PHOENIX DRAINAGE IMPROVEMENT	1,743	2,750	3,605	4,000	4,500	16,598*		
Multiple	1,5	11701	SOUTH PHOENIX DRAINAGE IMPROVEMENT	1,743	2,750	3,605	4,000	4,500	16,598*		
Scottsdale	2	120	PVSP	0	20	0	200	2,360	2,580*		
Scottsdale	2	12002	EAST PVSP DRAINAGE IMPROVEMENT	0	0	0	200	2,360	2,560*		
	2	12001	CACTUS RD. NEIGHBORHOOD	0	20	0	0	0	20		

5.2 CIP PROJECT BUDGET/DETAILED SCHEDULE				Five Year CIP					
July 31, 1998 (Revision) X \$1,000				FY	FY	FY	FY	FY	5-Yr
CITY	DIST.	PCN	DESCRIPTION	98/99	99/00	00/01	01/02	02/03	TOTAL
Phoenix	5	124	PHOENIX RIO SALADO	0	0	5,000	5,000	0	10,000
Phoenix	5	12401	PHOENIX RIO SALADO	0	0	5,000	5,000	0	10,000
Glendale	4	362	SKUNK CREEK	9,555	0	0	0	0	9,555
Glendale	4	36201	ACDC TO ADOBE DAM	9,555	0	0	0	0	9,555
Multiple	4	400	SKUNK CREEK/NEW RIVER	6,686	2,700	0	0	0	9,386
Phoenix	4	40005	CAMELBACK RANCH LEVEE	4,686	2,700	0	0	0	7,386
Peoria	4	40006	SPORTS COMPLEX BANK PROTECTION	2,000	0	0	0	0	2,000
Mesa	1,2	442	EAST MESA ADMP	4,795	6,185	9,010	7,900	9,300	37,190*
Mesa	1,2	44200	EAST MESA ADMP	692	0	0	0	4,000	4,692*
Mesa	2	44203	FIVE BASINS ALONG CAP CANAL	400	1,000	2,600	1,000	2,000	7,000
Mesa	2	44201	54ST STREET DRAIN	40	0	0	0	0	40
Mesa	2	44205	HAWES ROAD CHANNEL	0	685	410	1,400	3,300	0
Mesa	2	44204	ELLIOT BASIN AND CHANNEL	3,663	4,500	6,000	5,500	0	0
Multiple	4	450	GLENDALE/PBORIA ADMP	3,660	8,150	5,100	0	0	16,910
Multiple	4	45003	NORTHERN / ORANGEWOOD STORM DRAIN	3,660	4,000	5,100	0	0	12,760
Peoria	4	45004	91ST AVE. / UNION HILLS DR. D.I.	0	4,150	0	0	0	4,150
Multiple	4,5	470	WHITE TANKS ADMP	10,449	7,225	200	0	2,300	20,174*
County	4	47005	WHITE TANKS #4 INLET IMPROVEMENTS	1,032	0	0	0	0	1,032
County	4	47004	WHITE TANKS #3 FRS MODIFICATIONS	767	1,875	0	0	0	2,642
Goodyear	4	47007	BULLARD WASH OUTFALL CHANNEL	8,179	5,350	0	0	0	13,529
County	4	47009	McMICKEN DRAINAGE IMPROVEMENTS	0	0	200	0	2,300	2,500*
Litchfield Pk.	4	47008	LITCHFIELD PARK DRAINAGE IMPROVEMENTS	420	0	0	0	0	420
County	4	47003	COLTER CHANNEL	51	0	0	0	0	51
Multiple	1	480	QUEEN CREEK ADMP	1,063	0	450	250	5,000	6,763*
Qu Cr./Mesa	1	48001	RITTENHOUSE RD DRAINAGE IMPROVEMENT	1,063	0	0	0	0	1,063
Queen Creek	1	48002	QUEEN CREEK AND SANOKAI WASH	0	0	450	250	5,000	5,700*

5.2 CIP Project Budget/ Detailed Schedule

Flood Control District of Maricopa County: Capital Improvement Program

5.2 CIP PROJECT BUDGET/DETAILED SCHEDULE				Five Year CIP					
July 31, 1998 (Revision)				X \$1,000					
CITY	DIST.	PCN	DESCRIPTION	FY 98/99	FY 99/00	FY 00/01	FY 01/02	FY 02/03	5-Yr TOTAL
Chandler/GRIC	1,5	490	GILBERT/CHANDLER ADMP	4,000	7,900	4,400	0	0	16,300
Chandler/GRIC	1,5	49001	SE VALLEY REGIONAL DRAINAGE SYSTEM	4,000	7,900	4,400	0	0	16,300
Mesa/Gilbert	4	491	HIGLEY ADMP	0	0	600	3,000	4,500	8,100*
Mesa/Gilbert	4	4910001	HIGLEY AREA DRAINAGE MASTER PLAN	0	0	600	3,000	4,500	8,100*
Multiple	2,3	580	ACDC ADMP	826	30	6,500	10,500	0	17,856
P.V.	2	58003	DOUBLE TREE RANCH ROAD DRAIN	386	30	6,500	10,500	0	17,416
Phoenix	2,3	58004	TATUM WASH CHANNEL	440	0	0	0	0	440
Multiple	4,5	620	MARYVALE ADMP	975	0	3,215	4,258	5,800	14,248*
Phoenix	4,5	62001	MARYVALE FLOODING MITIGATION PROJECT	475	0	215	258	1,800	2,748*
Multiple	4	62004	BETHANY HOME OUTFALL	500	0	3,000	4,000	4,000	11,500*
Phoenix	1	630	FOOTHILLS ADMP	1,000	1,860	0	0	0	2,860
Phoenix	1	63001	SE PHOENIX REGIONAL DRAINAGE SYSTEM	1,000	1,860	0	0	0	2,860
Fountain Hills	2	670	FOUNTAIN HILLS ADMP	360	459	500	0	700	2,019
Fountain Hills	2	67003	GOLDEN EAGLE PARK DAM MODIFICATIONS	360	459	400	0	0	1,219
Fountain Hills	2	67002	ASHBROOK / BALBOA WASH IMPROVEMENTS	0	0	100	0	700	800
Scottsdale	2	680	UIBW ADMP	7,152	14,410	8,600	4,200	4,000	38,362*
Scottsdale	2	68001	REATA PASS CHANNEL	6,080	9,910	0	0	0	15,990
Scottsdale	2	68002	PIMA ROAD CHANNEL (W/ PIMA FWY./TPC)	0	0	5,100	4,200	4,000	13,300*
Scottsdale	2	68003	RAWHIDE WASH DETENTION BASIN	1,072	4,500	3,500	0	0	9,072
CIP PROJECT CONTINGENCY				500	0	0	0	0	500
SUBTOTAL PROJECTS				58,344	54,084	52,600	43,628	43,500	252,156
INDIRECT CHARGES				1,157	1,192	1,227	1,264	1,302	6,142
FORCE				2,042	2,093	2,145	2,199	2,254	10,733
PROJECTS TOTAL				61,543	57,369	55,972	47,091	47,056	269,031

* = Projects that will not be completed during this Five Year CIP

5.2 CIP PROJECT BUDGET/DETAILED SCHEDULE						Five Year CIP				
July 31, 1998 (Revision)						X \$1,000				
CITY	DIST.	PCN	DESCRIPTION	FY 98/99	FY 99/00	FY 00/01	FY 01/02	FY 02/03	5-Yr TOTAL	
REIMBURSEMENTS										
Multiple	All	017	FLOOD WARNING SYSTEM (SCOTTSDALE)	0	0	0	0	0	0	
Scottsdale	2	027	OAK STREET STORM DRAIN (SCOT/PHOENIX)	245	0	0	2,622	1,500	4,367	
Phoenix	1,2,3	103	OLD CROSS CUT CANAL (PHOENIX)	155	0	800	0	2,000	2,955 *	
Phoenix	5	117	SOUTH PHOENIX DRAINAGE IMPROVEMENT (PHOENIX)	0	0	0	4,000	0	4,000 *	
Scottsdale	2	120	PVSP	0	0	0	0	1,650	1,650 *	
Glen/Peoria	4	362	SKUNK CREEK (GLENDALE)	0	768	576	577	0	1,921	
Peoria	4	400	CAMELBACK RANCH LEVEE	0	4,100	0	0	0	4,100	
Peoria	4	400	SPORTS COMPLEX BANK PROTECTION	1,000	0	0	0	0	1,000	
Mesa	1	442	EAST MESA ADMP	1,850	2,593	4,833	3,085	3,650	16,011 *	
Peoria	4	450	CACTUS ROAD STORM DRAIN (GLEN./PEORIA)	1,000	1,750	1,750	1,750	0	6,250	
Glendale	4	450	NORTHERN/ORANGEWOOD S. D. (GLEN./PEORIA)	1,000	1,750	1,750	1,750	0	6,250	
Glendale	4	450	91ST AVE. - UNION HILLS DRIVE	0	0	0	0	0	0	
Goodyear	4	470	WHITE TANKS # 3 FRS MODIFICATIONS (NCRS)	0	1,500	0	0	0	1,500	
Goodyear	4	470	BULLARD WASH CHANNEL (GOODYEAR)	1,000	2,100	1,400	0	0	4,500	
Goodyear	4	470	BULLARD WASH CHANNEL (MCDOT)	2,771	2,650	0	0	0	5,421	
Chandler	2	480	QUEEN CREEK	0	0	0	0	0	0	
Chandler	2	490	GILBERT/CHANDLER ADMP (CHANDLER) (ADOT)	2,312	1,904	4,400	0	0	8,616	
Chandler	2	491	HIGLEY ADMP	0	0	0	1,250	1,250	2,500 *	
Par. Valley	2	580	DOUBLE TREE RANCH ROAD DRAIN (P.V.)	233	0	2,600	2,600	0	5,433	
Glendale	4	620	BETHANY HOME OUTFALL CHANNEL (GLEN./PHOENIX)	0	0	1,500	0	4,000	5,500 *	
Phoenix	1	630	FOOTHILLS ADMP	0	330	0	0	0	330	
Ftn. Hills	2	670	FOUNTAIN HILLS ADMP (FOUNTAIN HILLS)	72	169	125	0	0	366	
Phnx/Scotts	2	680	UPPER INDIAN BEND WASH (PHNX,SCOTTS,ASLD)	880	2,680	1,750	0	0	5,310	
REIMBURSEMENTS TOTAL				12,518	22,294	21,484	17,634	14,050	87,980	

6.0 CIP Project Descriptions

Project Name: **FCD Operational Facilities**

Municipality: Multiple

Supervisor District: All

Township Range: N/A

Current PM: Kathryn Holappa

PCN: 001-00-XX

A total of \$7,000 is projected to be spent in FY 1998/99 on improvements to FCD facilities to provide improved access for people with disabilities. This expenditure is necessary to maintain compliance with the signage requirements of the Americans with Disabilities Act (ADA). A total of \$10,000 is projected to be spent to make the necessary basin modifications to the FCD main facility to meet local drainage requirements for the City of Phoenix and Maricopa County. It is projected that \$6,000 will be spent to complete the security system for the Administration building.

Project Name: **Stormwater Quality Monitoring System**

Municipality: Multiple

Supervisor District: All

Township Range: N/A

Current PM: Marilyn DeRosa

PCN: 002-00-XX

In 1990 the U.S. Environmental Protection Agency implemented the National Pollutant Discharge Elimination System (NPDES) regulations regarding municipal stormwater quality. The NPDES program is a national effort to monitor and enhance the quality of discharges to streams and rivers of the U.S. The regulations require large cities in urbanized areas to obtain a permit to discharge stormwater and to monitor the quality of the stormwater at the point it enters the effected streams or rivers. In Maricopa County, this included the Cities of Mesa, Phoenix and Tempe, and more recently, the Cities of Glendale and Scottsdale. Since the District has interconnected and shared drainage systems with the impacted cities, and stormwater discharges from nearly all District facilities could potentially reach the Salt/Gila River

system, the District has been working cooperatively with these municipalities to comply with NPDES regulations.

The District has negotiated agreements to collaborate on some of the NPDES permit requirements. The cities have agreed to locate, identify and halt illicitly polluting discharges where they can, and the District collects stormwater quality data for NPDES permit compliance and inclusion in the District's Regional Stormwater Quality database. As a result of these agreements, the District currently operates a network of 16 stormwater quality monitoring stations throughout the Phoenix metropolitan area with plans to add 10 new stations in the next fiscal year. The District has been working cooperatively with the Cities of Mesa and Phoenix since 1993, and the City of Tempe since 1994. We are currently developing similar agreements with the Cities of Glendale and Scottsdale. During FY 98/99, the District anticipates spending approximately \$150,000 from the CIP budget in cost-sharing arrangements for monitoring station equipment and installation. Additionally, laboratory analyses and station operation and maintenance costs will be shared. The District's cost-share for these components will total approximately \$265,000 during the same FY and will be supported by the Operating Budget.

Project Name: **Flood Warning System**

Municipality: Multiple

Supervisor District: All

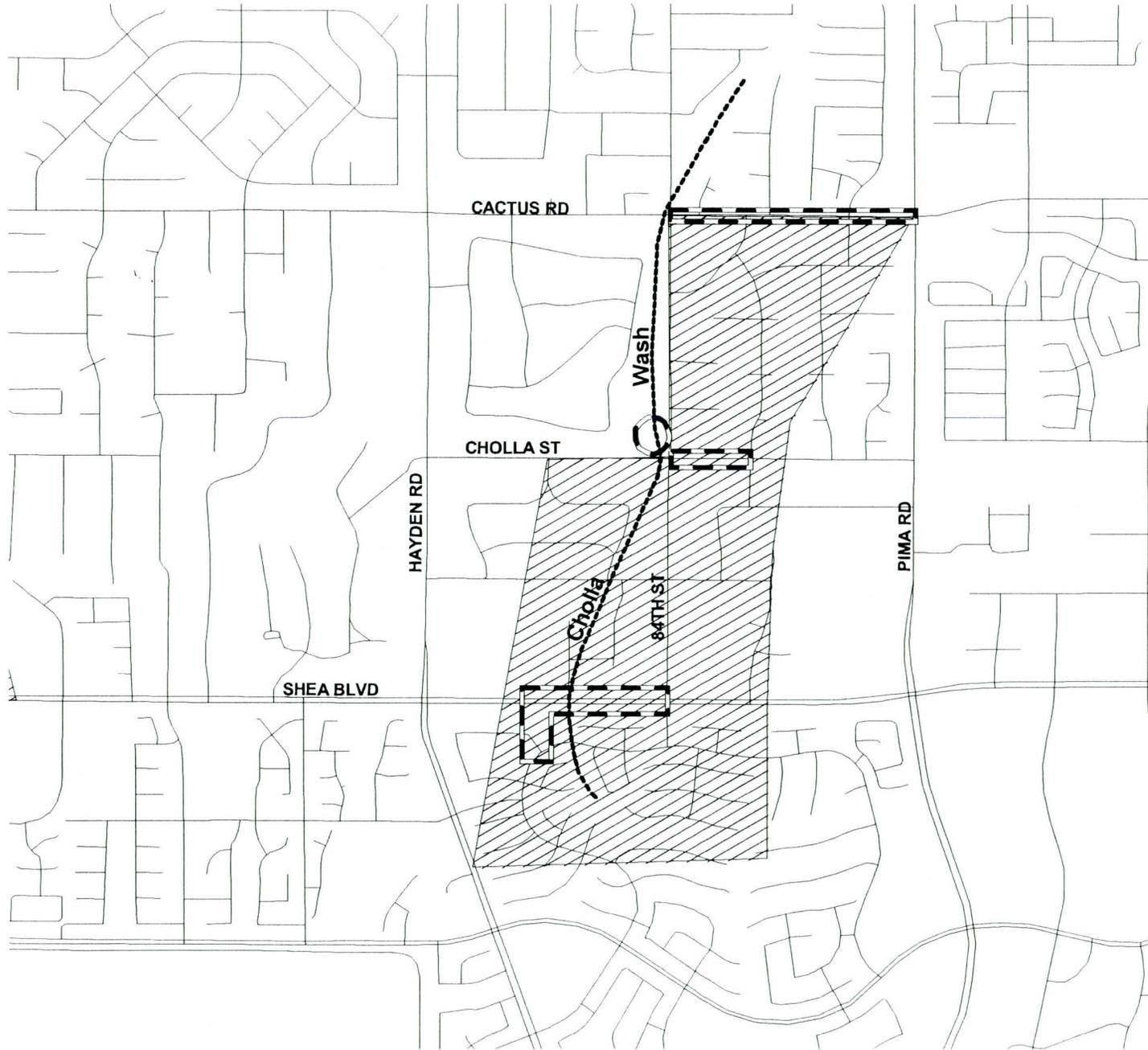
Township Range: N/A

Current PM: Steve Waters

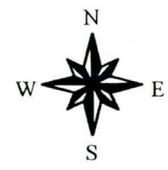
PCN: 017-00-XX

The Flood Warning System is called the Automated Local Evaluation in Real Time (ALERT) system. This system includes 231 self-contained precipitation and stream gauges that transmit information instantaneously by radio waves to base station computers at the District office and the National Weather Service. The data are used for monitoring conditions at flood control structures and for archiving data for hydrologic studies. This CIP project includes instrumentation for rain gauges and other monitoring equipment for the system.

84th St/Cholla Basin & Storm Drain



Legend
Streets
Benefited Area



2000 0 2000 4000 Feet

PCN: 027-01-00
Municipality: Scottsdale
Supervisory District: 2
Township Range: T3NR4E
Current PM: RCS

Project Name: **84th Street/Cholla Basin & Storm Drain**

Municipality: Scottsdale

Supervisor District: 2

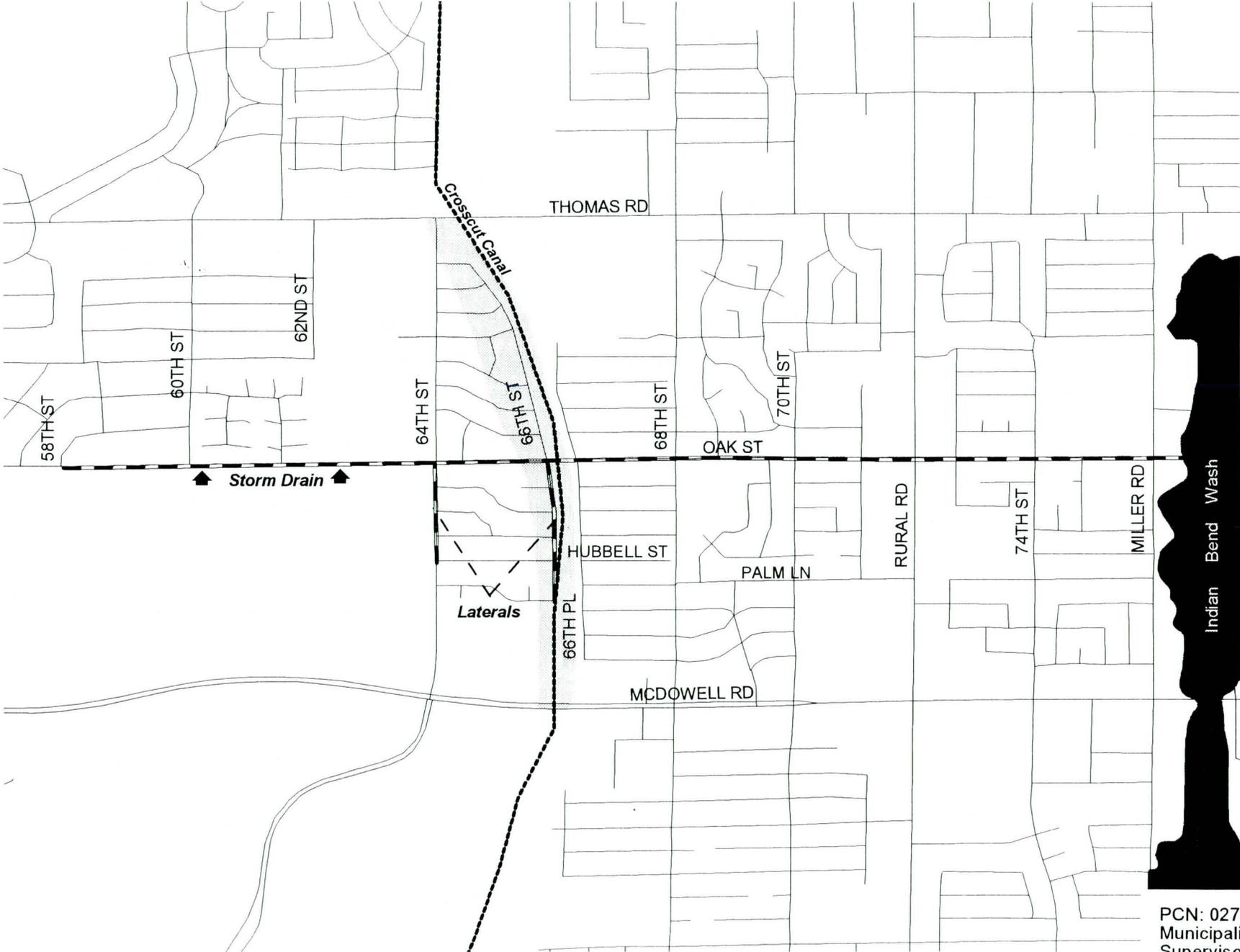
Township/Range: T3N R4E S24

Current PM: Raja Shah

PCN: 027-01-XX

The 84th Street/Cholla Basin and Storm Drain Project includes improvements (650 cfs) in the Cholla Wash watershed of north Scottsdale between Cactus Road and Shea Boulevard to provide a 100-year level of protection. The project improves flood protection for approximately 200 homes and one church in a fully-developed, 250-acre area. Of this total, twenty-one homes are immediately adjacent to the Cholla Wash floodplain. The project area is part of the City of Scottsdale's Hayden/Shea Area Drainage Master Plan. The approved IGA includes a funding split of \$925,000 for Scottsdale and \$750,000 for the District to construct a storm drain system, an open channel, and a detention basin. The final portion of the District's cost share has been budgeted in FY 98-99. Scottsdale will provide future operations and maintenance of the constructed features.

Oak Street Storm Drain Outfall

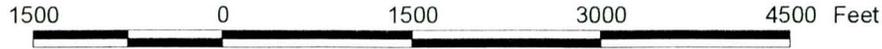


Legend

- Canals
- Streets
- Floodplain**
- A
- FW
-

Descriptions

- Zone A: No base flood elevation determined.
- Zone FW: Floodway areas in Zone AE.



PCN: 027-03-00
 Municipality: Scottsdale
 Supervisorial District: 2
 Township Range: T2N R4E
 Current PM: RCS

Project Name: **Oak Street Storm Drain Outfall**

Municipality: Scottsdale

Supervisor District: 2

Township/Range: T2N R4E 33, 34 AND 35

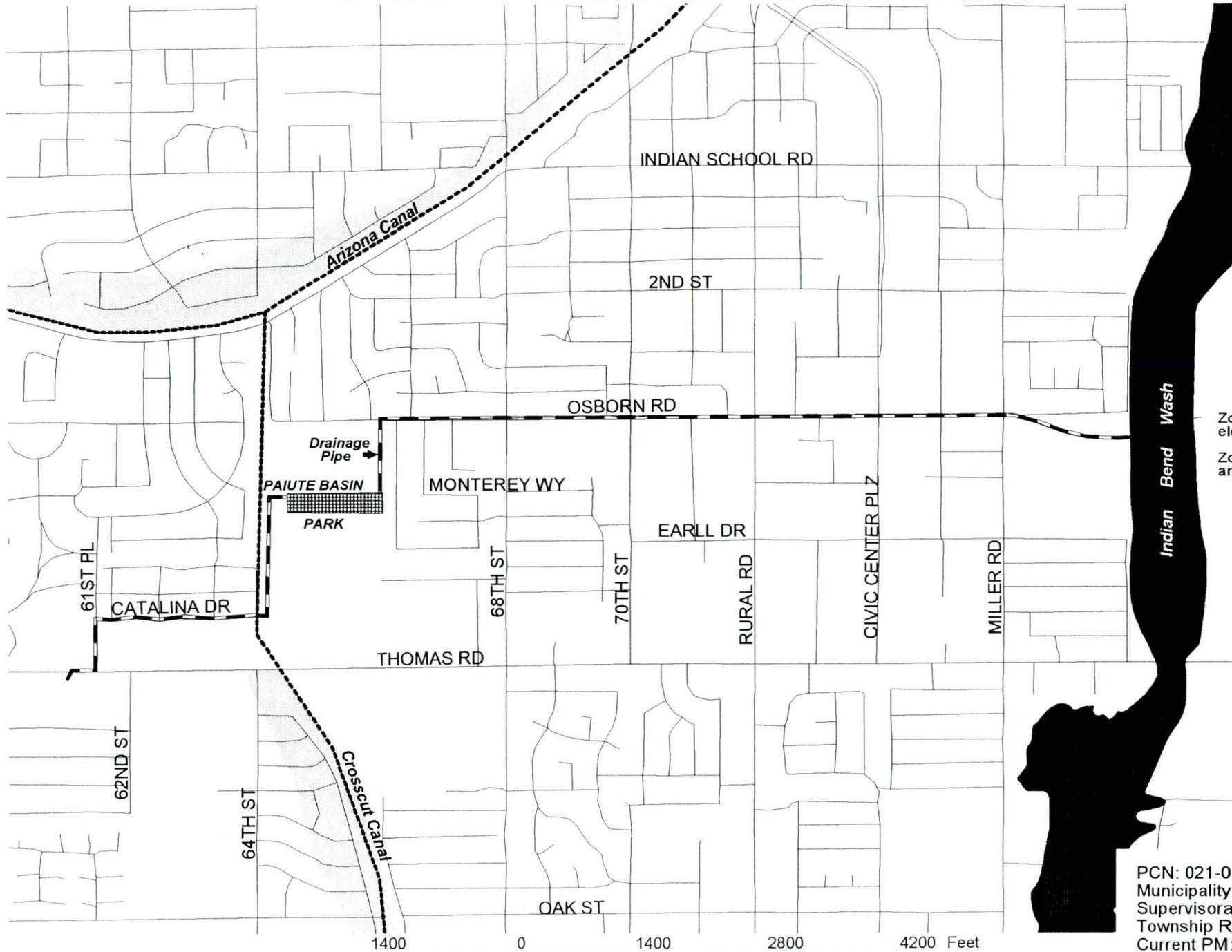
Current PM: Raju Shah

PCN: 027-03-XX

The project consists of approximately 3 miles of storm drain from 58th Street to Indian Bend Wash along Oak Street. The storm drain has two laterals: 1) 64th Street from Hubble Street to Oak Street and 2) 66th Street from Palm Lane to Oak Street. The project will provide a 10-year level of protection to the contributing watershed except for the area west of the New Cross Cut Canal which will be protect against a 100-year flood. There is an existing "Zone A" floodplain designated by FEMA along the west side of the New Cross Cut Canal from McDowell Road to Thomas Road. There are approximately 160 residential and commercial properties currently within that floodplain, that will receive 100 year protection after the completion of the project. The estimated cost of the storm drain system is \$9.5 million. The District, along with the Cities of Scottsdale and Phoenix, will be jointly involved in the

project. The City of Scottsdale will be responsible for project operations and maintenance after completion.

Osborn Rd Storm Drain Outfall



Legend

- Canals
 - Streets
 - Floodplain**
 - A
 - FW
- N
W E
S

Descriptions

- Zone A: No base flood elevation determined.
- Zone FW: Floodway areas in Zone AE.

PCN: 021-04-00
 Municipality: Scottsdale
 Supervisorial District: 2
 Township Range: T2N R4E
 Current PM: RCS

Project Name: **Osborn Road Storm Drain Outfall**

Municipality: Scottsdale

Supervisor District: 2

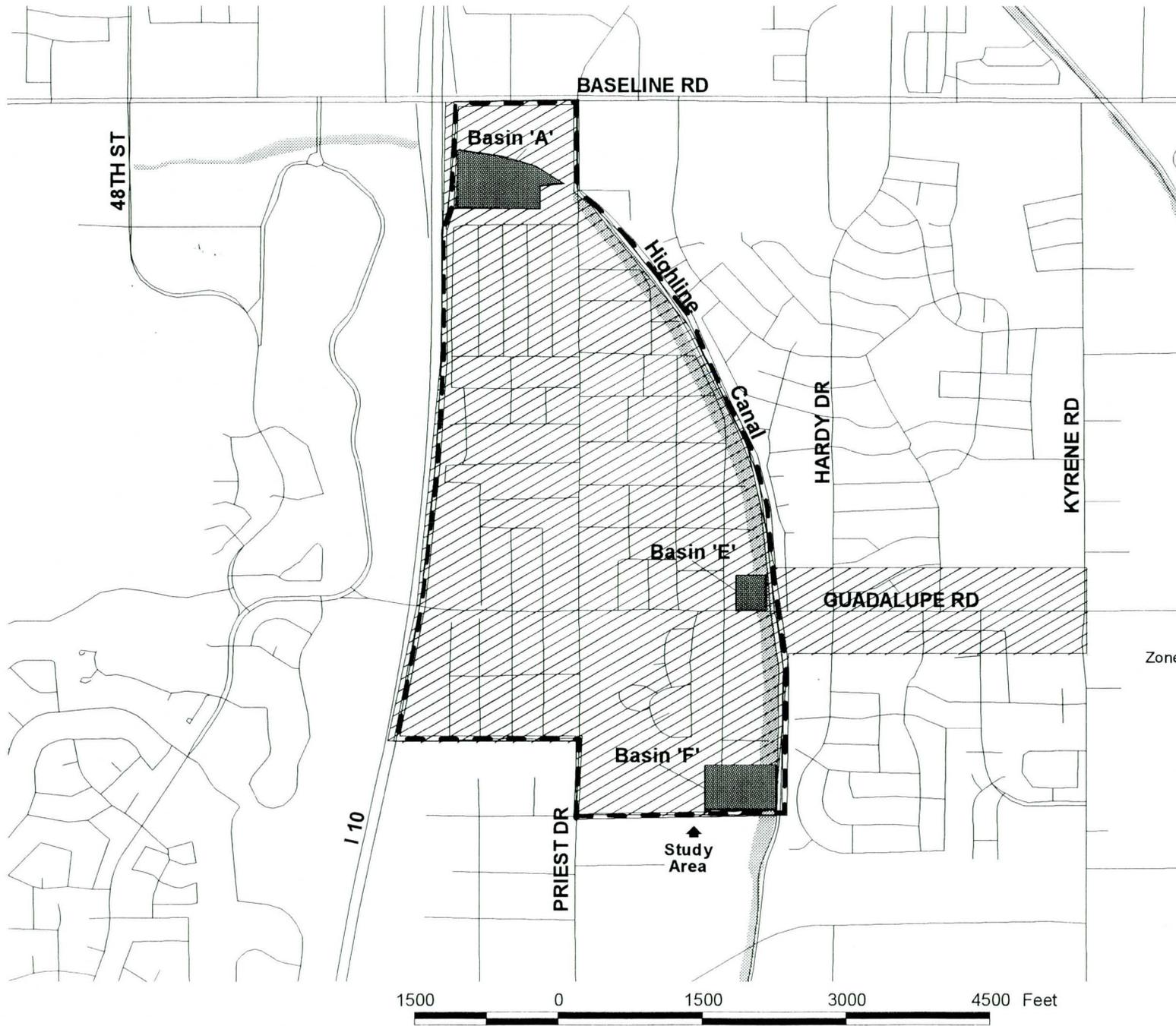
Township/Range: T2N R4E 26, 27 AND 28

Current PM: Raju Shah

PCN: 027-04-XX

The project consists of approximately 2.5 miles of storm drain beginning at 60th Street and Thomas, north along 61st place, east along Catalina Drive, north along 64th Street, east into Paiute Park Basin, north out of the Basin up to Osborn Road, east along Osborn Road into the Indian Bend Wash. The outfall will provide a storm drain with 10-year capacity for contributing areas that have drainage problems. The storm drain will be augmented by basins at Marriott's Brighton Gardens and Paiute Park, which will reduce the required pipe sizes for the downstream storm drain. The estimated cost of the storm drain system is \$8.2 million. The District along with the Cities of Phoenix and Scottsdale will be jointly involved in the project. The City of Scottsdale will be responsible for operation and maintenance of the project after completion.

Town of Guadalupe Improvements



Legend

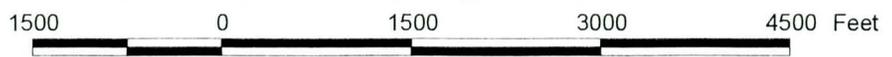
- Streets
- Benefited Area
- Floodplain
- A

North Arrow

N
W E
S

Descriptions
Zone A - No base flood elevation determined.

PCN: 035-01-00
Municipality: Gaudalupe
Supervisory District: 5
Township Range: T1S R4E
Current PM: RUM



Project Name: **Town of Guadalupe Improvements**

Municipality: Town of Guadalupe

Supervisor District: 5

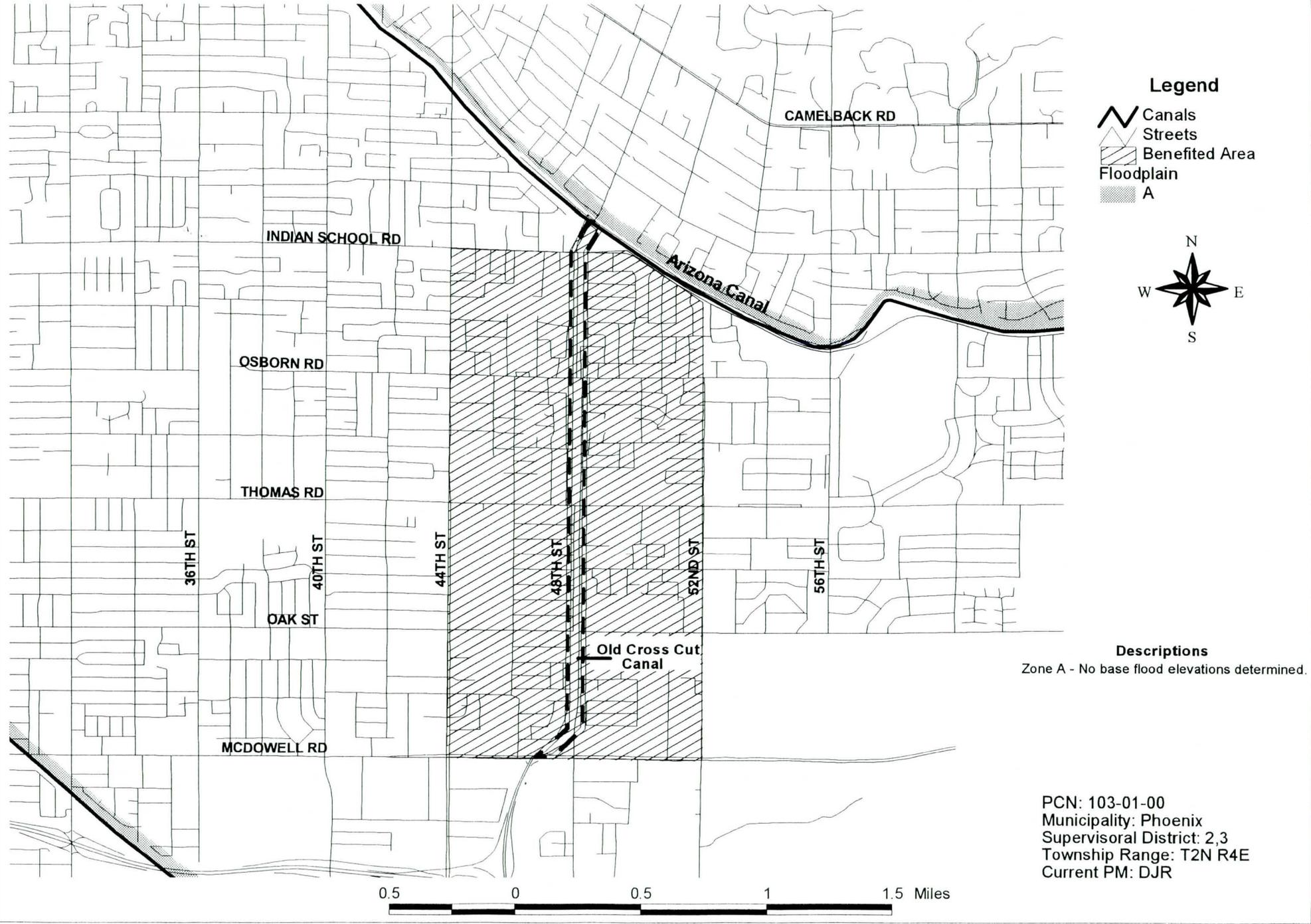
Township/Range: T1S R4E S4, SEC 9

Current PM: Russ Miracle

PCN: 035-01-XX

The project will provide a storm water collection system, three retention basins located along the Highline Canal and an outfall system for runoff originating within the Town of Guadalupe. Runoff from within the Town results in flooding of low-lying houses and collects along the Highline Canal. The ponded water results in flooding of adjacent homes and causes damage to the canal and to downstream properties within Tempe. The project costs for design and construction of the project are estimated to be \$2,340,000. Land acquisition has been completed. The Town is not able to contribute financially to the project but will assume maintenance responsibilities for the basins. Additionally, the Town will seek grants and other means to participate in the construction of street drainage improvements.

Old Cross Cut Canal - McDowell to Arizona Canal

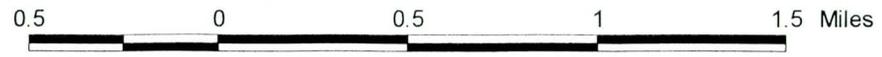


- Legend**
- Canals
 - Streets
 - Benefited Area
 - Floodplain
 - A



Descriptions
 Zone A - No base flood elevations determined.

PCN: 103-01-00
 Municipality: Phoenix
 Supervisorial District: 2,3
 Township Range: T2N R4E
 Current PM: DJR



Project Name: **Old Cross Cut Canal–McDowell to Arizona**

Canal

Municipality: Phoenix

Supervisor District: 2, 5

Township/Range: T2N R4E S19, 20, 29-32

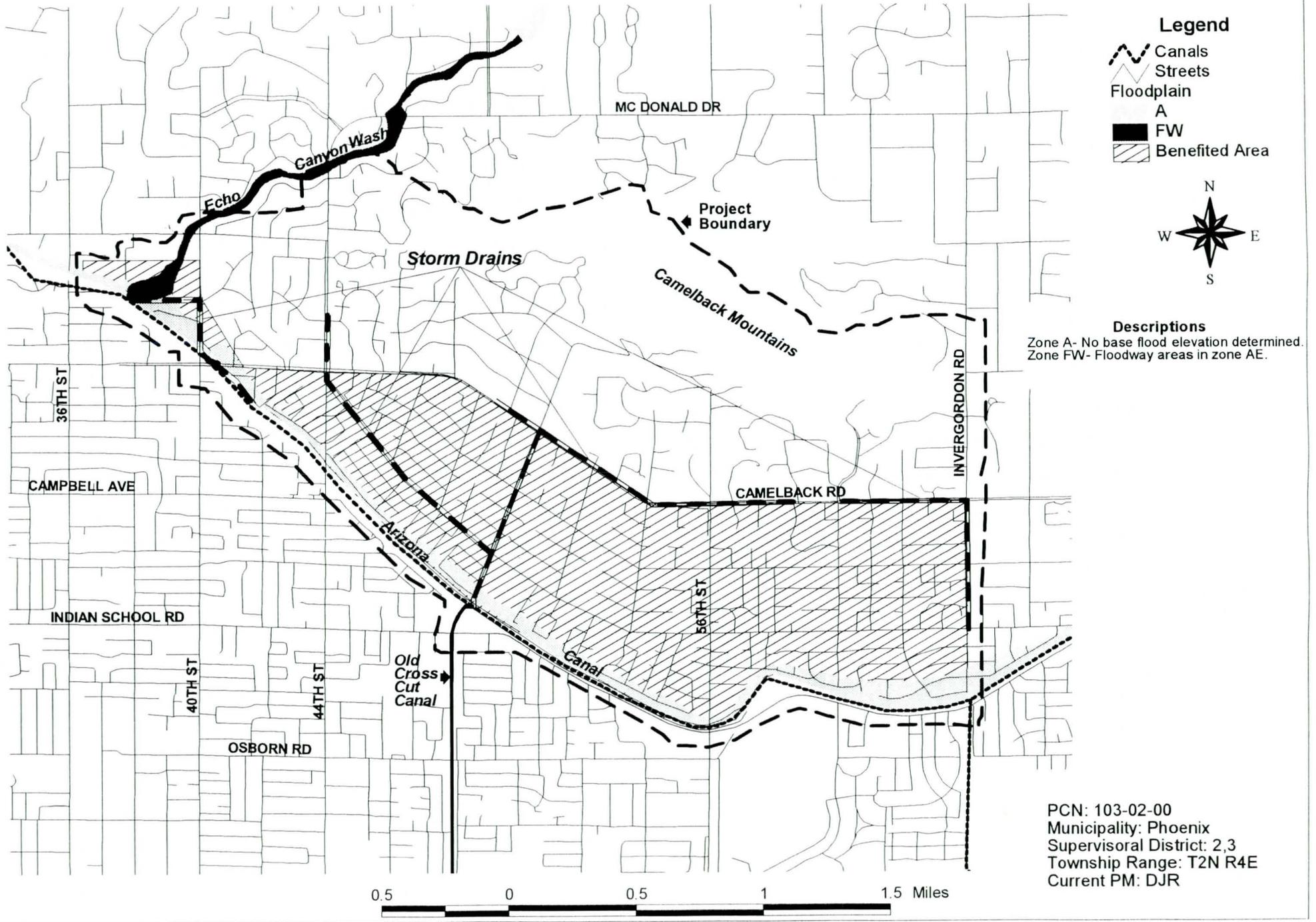
Current PM: Don Rerick

PCN: 103-01-XX

This project represents the major flood control and regional drainage element of the Old Cross Cut Canal project. It includes approximately 11,000 linear feet of covered concrete channel to convey storm flows from the Old Cross Cut Canal corridor along 48th Street and to provide an outfall for drainage from the Arcadia area north of the Arizona Canal, taking these flows to the Salt River. The covered channel will enable the City of Phoenix to make roadway and future park improvements within the Old Cross Cut Canal corridor. Total costs for the project are estimated to be \$18.3 million, with the City contributing approximately \$7 million. The District and the City will operate and maintain the flood control and transportation/recreation features, respectively. The project is being constructed in phases according to the following

schedule: Phase I–Thomas Road crossing (completed in May 1996); Phase II–south of Thomas Road (completed in July 1997); Phase III–Thomas Road to Osborn (completed in April 1998) and Phase IV–Osborn to Indian School Road (Notice to Proceed provided in April 1998, with completion scheduled for February 1999).

Arcadia Area Drainage Project

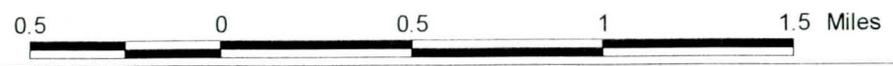


- Legend**
- Canals
 - Streets
 - Floodplain A
 - FW
 - Benefited Area



Descriptions
 Zone A- No base flood elevation determined.
 Zone FW- Floodway areas in zone AE.

PCN: 103-02-00
 Municipality: Phoenix
 Supervisorial District: 2,3
 Township Range: T2N R4E
 Current PM: DJR



Project Name: **Arcadia Area Drainage Project**

Municipality: Phoenix

Supervisor District: 2, 3

Township/Range: T2N R4E S19-21

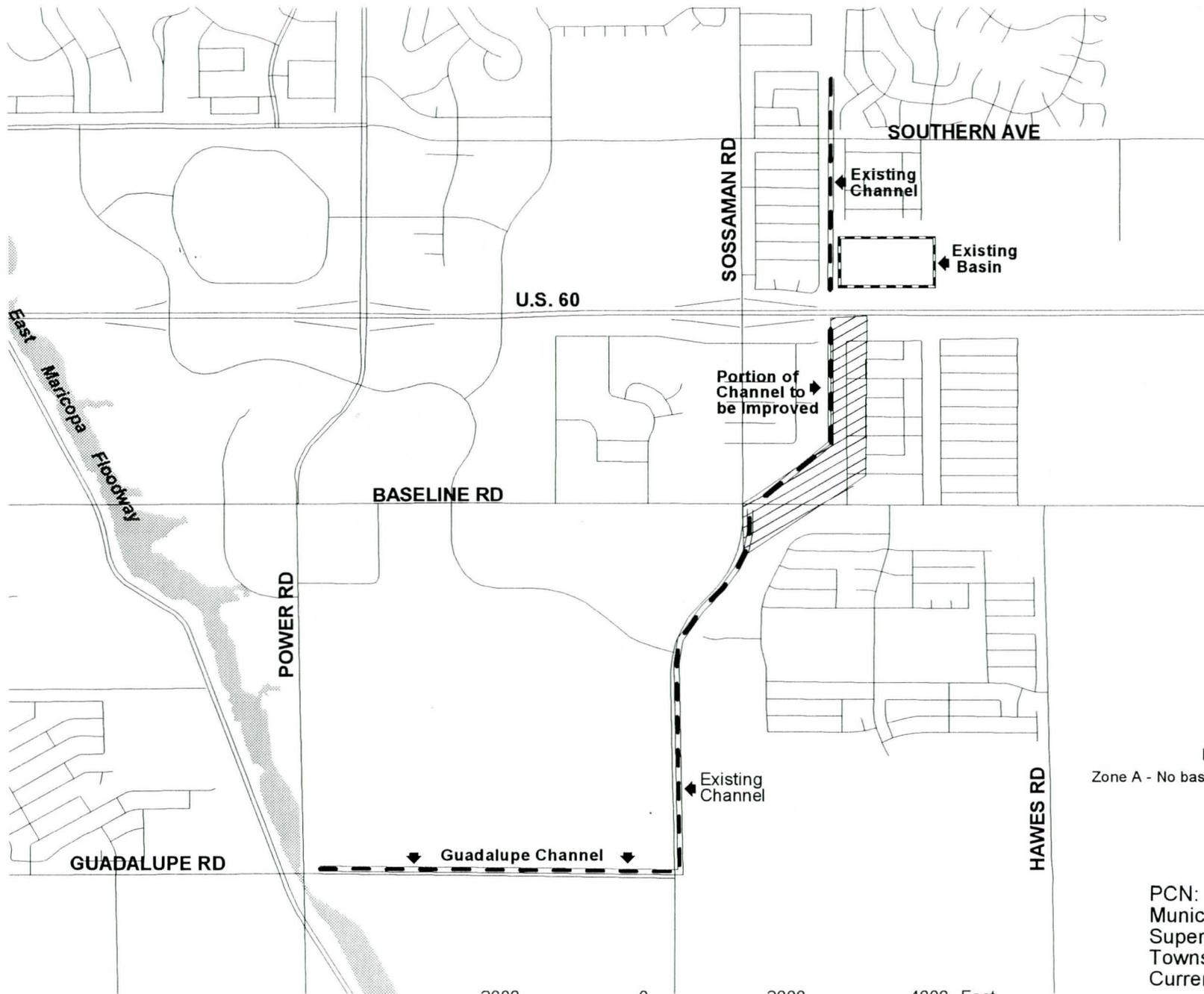
Current PM: Don Rerick

PCN: 103-02-XX

The project will develop and recommend storm drain systems, which will intercept and convey up to 1,000 cfs through a highly developed residential area between 40th and 64th Streets, north of the Arizona Canal and provide a ten-year level of protection. The project will provide drainage outfalls for a four square mile area, utilizing the improved Old Cross Cut Canal, and the ACDC. The project is a component of the Old Cross Cut Canal master plan. The study phase was completed in April 1997 at a cost of \$325,000 funded by the District. The cost for construction of the recommended Alternative Number 2 is estimated at \$12 million, with the costs expected to be shared between the District and the City of Phoenix at 50% each, in accordance with an IGA to be developed in 1999. The design IGA FCD-97016 for the Alternative Number 2 was approved in April 1998. Design

could begin in 1999 and construction could begin in 2001. The City will provide the operation and maintenance for the project.

Sossaman Channel



Legend

- Streets
- Benefited Area
- Floodplain A



Descriptions
 Zone A - No base flood elevations determined.

PCN: 108-01-00
 Municipality: Mesa
 Supervisorial District: 1,2
 Township Range: T1N R7E
 Current PM: RCS



Project Name: **Sossaman Channel**

Municipality: Mesa

Supervisor District: 1, 2

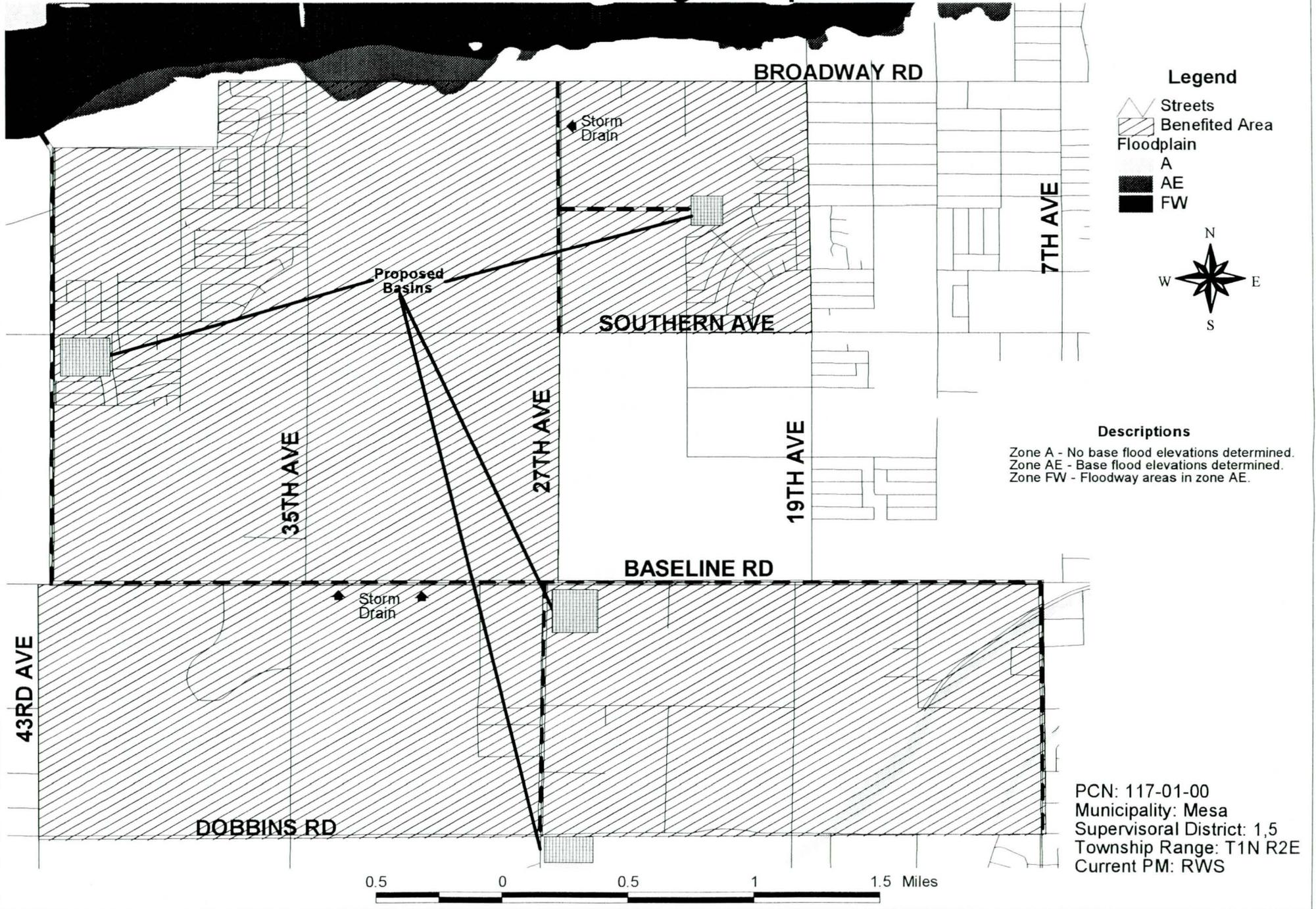
Township/Range: T1N R7E S32

Current PM: Raju Shah

PCN: 108-01-XX

This project is located in east Mesa, between Sossaman Road and Hawes Road and the Superstition Freeway (U.S. 60) to Baseline Road. The existing channel section does not have sufficient capacity to convey the 100-year peak discharge. The project will improve the channel from U.S. 60 to Baseline Road. This project will complete the Sossaman drainage system. The portions north of the Freeway and south of Baseline Road were previously constructed by the District and are being operated and maintained by the District. District staff have completed the design of the project and the project was put out for bids on May 19th. The lowest bid came in at \$832,000. The project is scheduled to be completed by the middle of FY 98/99 (approximately Dec 98/Jan 99).

South Phoenix Drainage Improvements



Legend

- Streets
- Benefited Area
- Floodplain**
- A
- AE
- FW



Descriptions

- Zone A - No base flood elevations determined.
- Zone AE - Base flood elevations determined.
- Zone FW - Floodway areas in zone AE.

PCN: 117-01-00
 Municipality: Mesa
 Supervisorial District: 1,5
 Township Range: T1N R2E
 Current PM: RWS



Project Name: **South Phoenix Drainage Improvements**

Municipality: Phoenix

Supervisor District: 1, 5

Township/Range: T1N R2E; T1N R3E

Current PM: R.W. Shobe/Scott Vogel

PCN: 117-01-XX

Residents in the South Phoenix area have been flooded during relatively minor events, including those considered to be less than 10-year flood storms. The residents living in a subdivision on the southeast corner of 43rd Avenue and Southern are usually the hardest hit. An interim project was constructed at this location through the joint cooperation of the District, the City of Phoenix, and the Salt River Project. The interim project does not provide 100-year flood protection, but it does help to drain the water from the area more quickly after a flood event. The South Phoenix Drainage Improvement Project will provide protection from a 100-year flood event to residences and farmland within the City of Phoenix. In addition, the project will provide flood protection to a proposed high school and an elementary school that are currently being constructed within the project area. The project will be built in phases to maximize the potential for cost sharing with other

agencies. The proposed system is composed of underground pipes, located within existing rights-of-way, and basins that will help to minimize the project's cost. It is estimated that the project will cost \$24 million to design and build. Elements of the project will be constructed in phases through a joint partnership among the District, the City of Phoenix, and the Maricopa County Department of Transportation. Design and construction management for Phase I, or the 43rd Ave Storm Drain and Basin, will be provided by District staff. Phase II, made up of the Baseline Road storm drainage improvements, will be cost-shared among the District, MCDOT, and the City of Phoenix. The goal is for the District to contribute approximately 50% of the project cost of the South Phoenix Drainage Improvements. Depending on funding participation, some project elements may be deleted, downsized or deferred, possibly resulting in a reduced level of protection.

East PVSP Drainage Improvement



- Legend**
- Streets
 - Benefited Area
 - Floodplain**
 - A
 - AE
 - FW



Descriptions

Zone A - No base flood elevations determined.
 Zone AE - Base flood elevations determined.
 Zone FW - Floodway areas in zone AE.

PCN: 120-02-00
 Municipality: Scottsdale
 Supervisorial District: 2
 Township Range: T3N R4E
 Current PM: RCS



Project Name: **East PVSP Drainage Improvement**

Municipality: Scottsdale

Supervisor District: 2

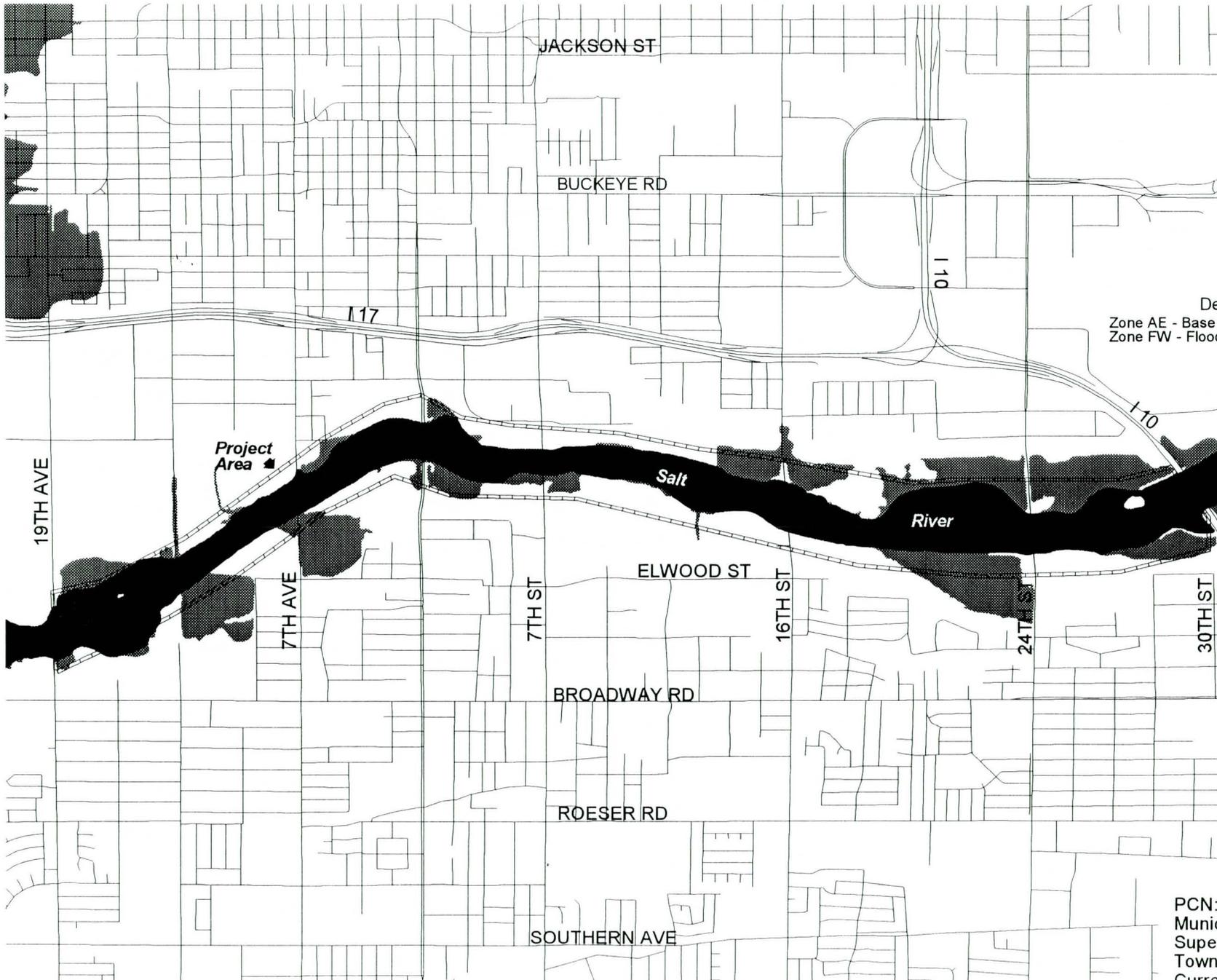
Township/Range: T3N R4E S22, 23, 27

Current PM: Raju Shah

PCN: 120-02-XX

This project will construct a 100-year channel and storm drain improvement along Scottsdale Road (Thunderbird to Gary Road) and 71st Street (Sunnyside Drive to the Berneil Ditch). The first phase of this project, Cactus Road Neighborhood, was completed in FY 1997/98. Together, these two phases serve as supplements to facilities constructed through the PVSP Master Plan. This second phase of the project provides additional protection for Scottsdale Road and Shea Boulevard. When completed, approximately 417 acres of residential and commercial development (140 acres within the City of Phoenix) will be protected. The benefited area contains approximately 330 residences and 70 commercial structures. The total project cost is estimated at \$3.3 million, with 50% funding supplied by the District. The City will be responsible for the future Operation and Maintenance of the facility.

Phoenix Rio Salado



Legend

- Streets
- Floodplain
 - AE
 - FW

Descriptions

- Zone AE - Base flood elevation determined.
- Zone FW - Floodway areas in zone AE.

PCN: 124-01-00
Municipality: Phoenix
Supervisorial District: 5
Township Range: T1N R3E
Current PM: TRR

Project Name: **Phoenix Rio Salado**

Municipality: Phoenix

Supervisor District: 5

Township/Range: T1N R3E

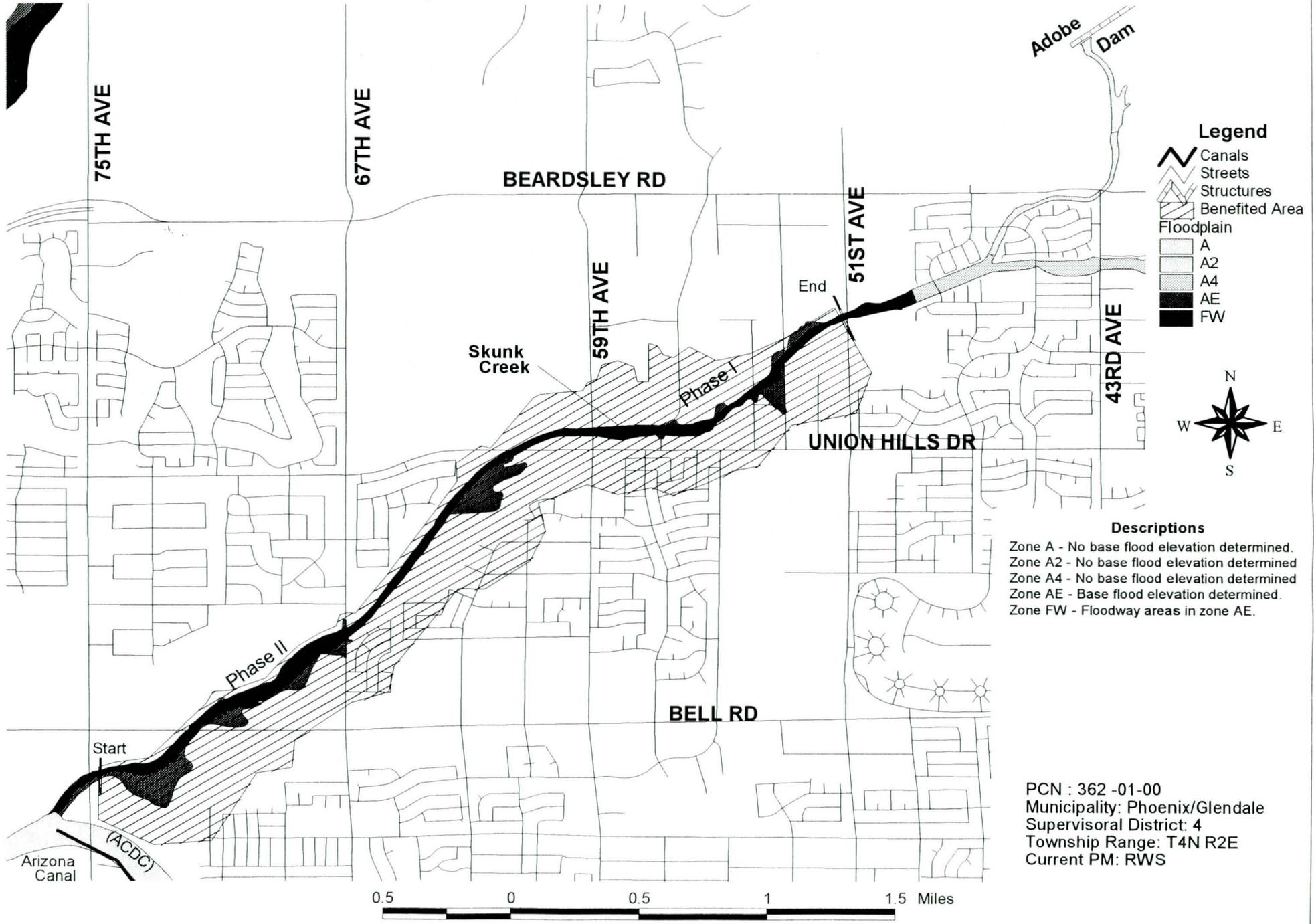
Current PM: Tom Renckly

PCN: 124-01-XX

This project involves the environmental restoration of approximately 5 miles of the Salt River within the City of Phoenix from the I-10 Bridge to 19th Avenue. The project will provide riparian habitat restoration and include channel stabilization, river bank protection, water quality improvements, aesthetic improvements and recreational opportunities. The District has recommended that it participate in the construction of the low flow channel proposed for the full length of the Phoenix Reach. The low flow channel will stabilize the river gradient, safely convey frequent flood flows and will reduce the frequency of inundation of channel vegetation from major flood events during the life of the project. The low flow channel and main bank channel system will also limit scour and erosion of the channel banks and reduce the potential for disturbing landfill material that may be present adjacent to the channel. Project design requirements

will insure that the current level of flood protection and river channel capacity in the 5 mile Phoenix Reach is not decreased by the environmental restoration features. The total project cost is estimated at \$83 million. The District's share for construction of the flood control features of the low flow channel is estimated to be \$10 million.

Skunk Creek Improvements - ACDC to Adobe Dam



- Legend**
- Canals
 - Streets
 - Structures
 - Benefited Area
 - Floodplain**
 - A
 - A2
 - A4
 - AE
 - FW



Descriptions

- Zone A - No base flood elevation determined.
- Zone A2 - No base flood elevation determined.
- Zone A4 - No base flood elevation determined.
- Zone AE - Base flood elevation determined.
- Zone FW - Floodway areas in zone AE.

PCN : 362 -01-00
 Municipality: Phoenix/Glendale
 Supervisorial District: 4
 Township Range: T4N R2E
 Current PM: RWS

Project Name: **Skunk Creek Improvements: ACDC To Adobe Dam**

Municipality: Glendale/Peoria

Supervisor District: 4

Township Range: T4N R2E S28-31; T4N R1E S1-2

Current PM: R.W. Shobe

PCN: 362-01-XX

Under the terms of an agreement with the U. S. Army Corps of Engineers, the District is responsible for assuring 100-year conveyance capacity in Skunk Creek from Adobe Dam to the ACDC. Recent studies indicate that portions of the channel have been restricted, and the 100-year flows break out of the existing channel. Rapid development of the bordering properties has necessitated the completion of a pre-design study to determine 100-year capacity channel designs, including the need for grade control structures and the armoring of the channel banks in the remaining unlined reaches. Public participation has resulted in a multi-use concept designed to incorporate natural vegetation and provide access for pedestrian and equestrian uses, with bank armor buried to preserve a natural appearance. Total costs are estimated at

\$10.7 million, with the District's share estimated at approximately \$5.5 million. It is anticipated that construction will be completed in two projects above and below Union Hills Drive. Phase I will be located between 51st Avenue to 64th Avenue and Phase II from 64th Avenue to 75th Avenue. IGA negotiations with the Cities of Glendale and Peoria to establish cost sharing and operation and maintenance responsibilities have been undertaken.

Camelback Ranch Levee



Legend

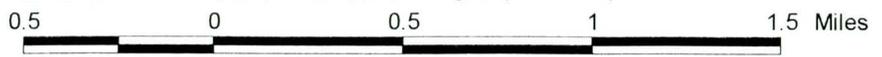
- Streets
- Benefited Area
- Floodplain**
- A
- AE
- AH
- FW



Descriptions

- Zone A - No base flood elevation determined.
- Zone AE - Base flood elevation determined.
- Zone AH - Flood depths of 1 to 3 feet.
- Zone FW - Floodway areas in zone AE.

PCN: 400-05-00
 Municipality: Phoenix
 Supervisorial District: 4
 Township Range: T3N R1E
 Current PM: RWS



Project Name: **Camelback Ranch Levee**

Municipality: Phoenix/Glendale

Supervisor District: 4

Township/Range: T2N R1E S18, 19

Current PM: R.W. Shobe

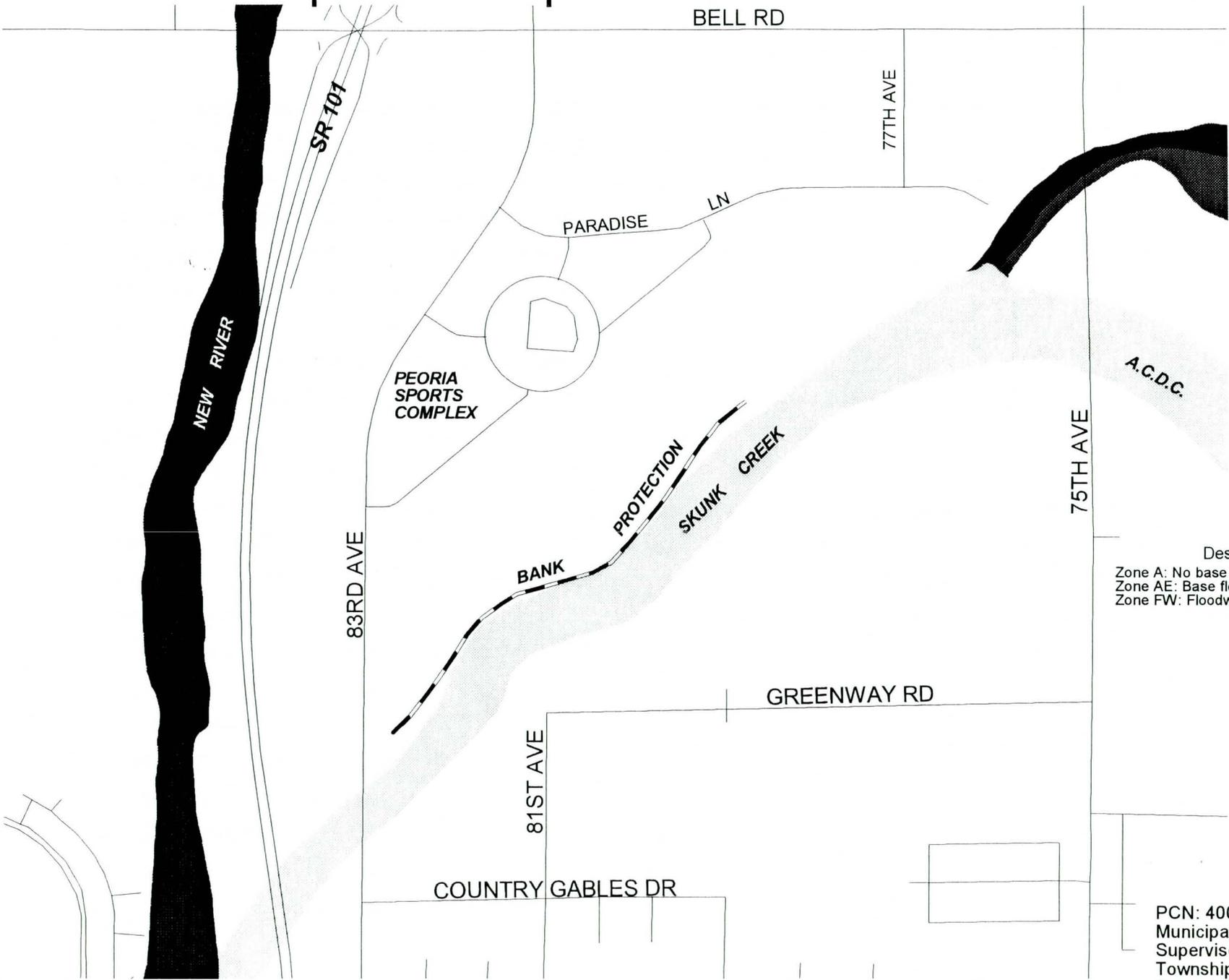
PCN: 400-05-XX

The Camelback Ranch property, 489 acres, was purchased from the Resolution Trust Corporation in order to fulfill the District's obligations under its 221 Agreement with the U.S. Army Corps of Engineers for the Phoenix, Arizona and Vicinity (including New River) Flood Control Project. The District proposes to construct levees to protect the property from New River and Agua Fria River flood flows. The levee will be constructed to meet the Corps' Standard Project Flood requirements and will be operated and maintained by the District. The estimated cost to design and build the levees and rezone the property is \$4.4 million. Upon completion of the project, the remainder of the 489-acre property will be sold at a public auction. The District estimates the potential revenue from this sale will be \$4.6 million, thereby paying for the cost to protect the property. The District will be responsible for the operation and maintenance of the levees. That portion of the

project south of Camelback Road is now completed. Glendale has purchased the property north of Camelback Rd. for \$3 million from District. Construction of the levee from Camelback Road to Bethany Home Road Alignment will commence in FY 98/99 and will be completed in FY 99/00.

Sports Complex Bank Protection

BELL RD

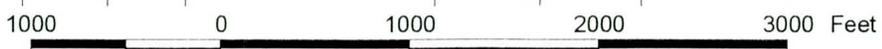


Legend

- Streets
- Floodplain A
- AE
- FW

N
W E
S

Descriptions
 Zone A: No base flood elevation determined.
 Zone AE: Base flood elevation determined.
 Zone FW: Floodway areas in zone AE.



PCN: 400-06-00
 Municipality: Peoria
 Supervisorial District: 4
 Township Range T3N T1E
 Current PM: RWS

Project Name: **Sports Complex Bank Protection**

Municipality: Peoria

Supervisor District: 4

Township Range: T3N T1E

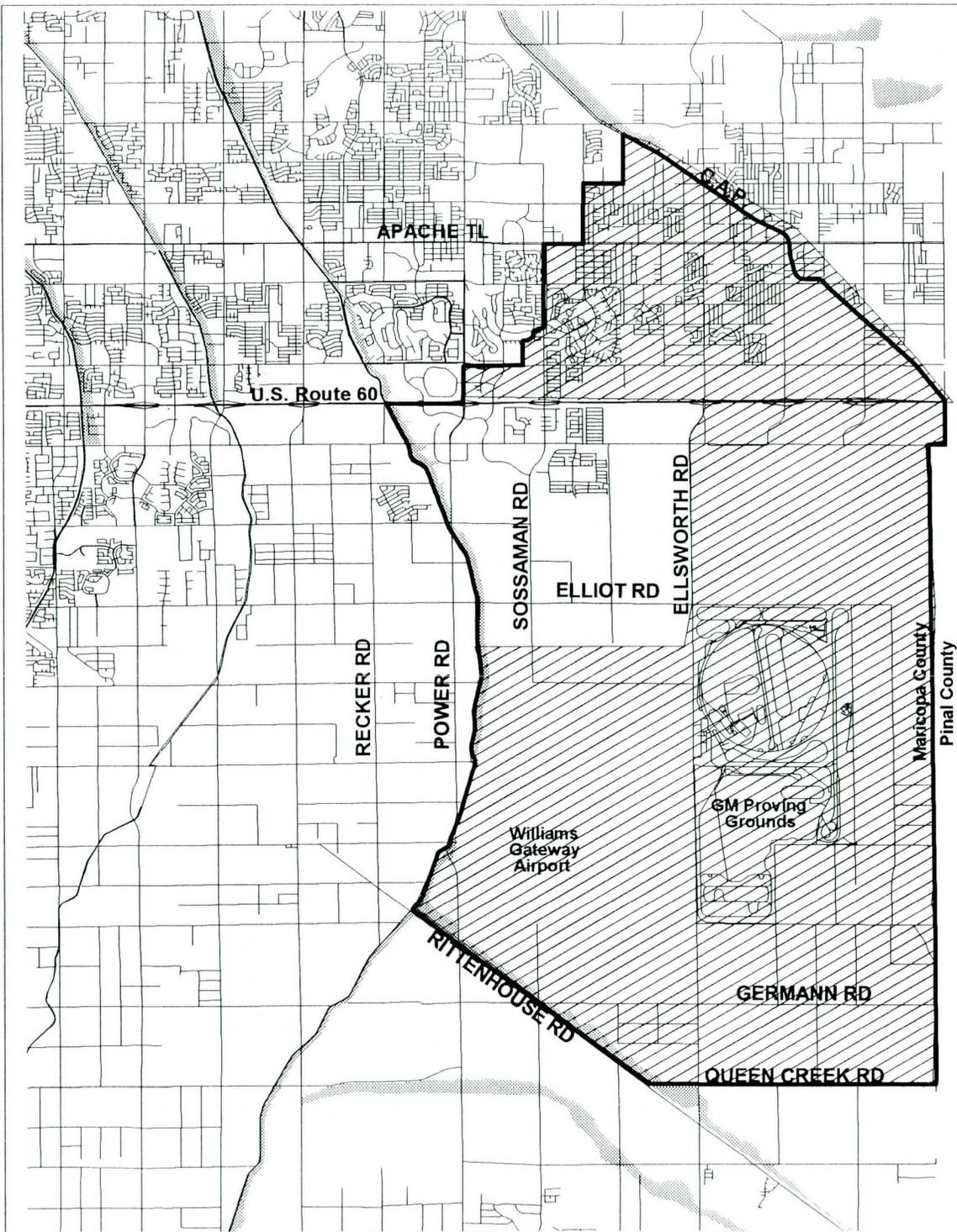
Current PM: R.W. Shobe

PCN: 400-06-XX

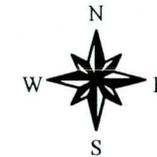
The District, as the local sponsor for the U.S. Army Corps of Engineers' Phoenix, Arizona and Vicinity Project, (including the New River Flood Control Project), is required to assure the safe passage of flood waters through this reach of Skunk Creek. The District has provided bank protection for all but 3400 linear feet of Skunk Creek for this reach. The City of Peoria constructed a sports complex along this segment of Skunk Creek and wishes to provide bank protection at this time. Peoria is proposing an equal cost sharing for the project and the District concurs. The estimated cost for the design, construction, and construction management is \$2 million. The District will provide the design and construction management using in-house staff and invoice Peoria for their cost share (one half of the actual cost). Upon completion of the project the District will assume operation and maintenance responsibilities. Construction will be completed in FY 98/99.

IGA FCD 98002 covers the District's and the City's project responsibilities.

East Mesa ADMP



- Legend**
- Study Bndry
 - Streets
 - Benefited Area
 - Floodplain
 - A



Descriptions
 Zone A - No base flood elevation determined.

PCN: 442-01-00
 Municipality: Mesa/UMC
 Supervisorial District: 1
 Township Range: T1S R7E
 Current PM: RCS



Project Name: **East Mesa Area Drainage Master Plan**

Municipality: Mesa/UMC

Supervisor District: 1

Township/Range: T1S R7E, T1N R7E

Current PM: Raju Shah

442-00-XX

The project was initially requested by the City of Mesa to identify drainage problems and develop cost-effective solutions for a storm water collection and disposal system for the east Mesa area. The City of Mesa, MCDOT, and the District have reported severe flooding along several major transportation corridors in the area. The worst affected areas include Elliot Road, Warner Road, Ellsworth Road, Mountain Road, and Germann Road. In addition, flooding is experienced near the CAP overchutes at their point of discharge, within the General Motors (GM) Proving Ground, and around the perimeter of Williams Gateway Airport. The study watershed area is approximately 77 square miles. The hydrology for the watershed has been prepared by District staff. The project is divided into two phases. Phase One included analysis of existing conditions and identification of existing problem areas, followed by development and analysis

of various alternative drainage solutions. Phase Two includes mapping and preliminary design of the selected drainage solution. Phase One and Phase Two of the project are completed. A final recommended alternative report has been completed. The projects recommended by this study will be carried forward for the final design, and as budget and cost share partners are identified, projects will be prioritized for construction. The City of Mesa has adopted the master plan prepared by the District and will propose that all new development follow this master plan. The District is anticipating that cost-sharing agreements will be developed with MCDOT, the City of Mesa, the Town of Queen Creek, GM, and Williams Gateway Airport Authority to design, construct, operate and maintain the projects recommended in this master plan.

54th Street Drain

UNIVERSITY DR

BUTTE ST

BILLINGS ST

BOISE ST

BOSTON ST

ALBANY ST

AKRON ST

ALBANY ST

54TH ST

56TH ST

MAIN ST

HIGLEY RD

EAST MARICOPA FLOODWAY

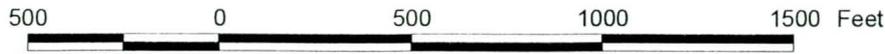
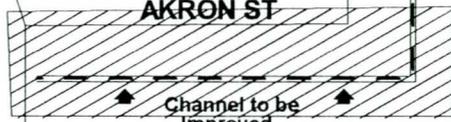
Legend

-  Streets
-  Benefited Area
-  Floodplain
-  A



Descriptions

Zone A - No base flood elevation determined.



PCN: 442-01-00
 Municipality: Mesa
 Supervisorial District: 2
 Township Range: T1N R6E
 Current PM: RCS

Project Name: **54th Street Drain**

Municipality: Mesa

Supervisor District: 2

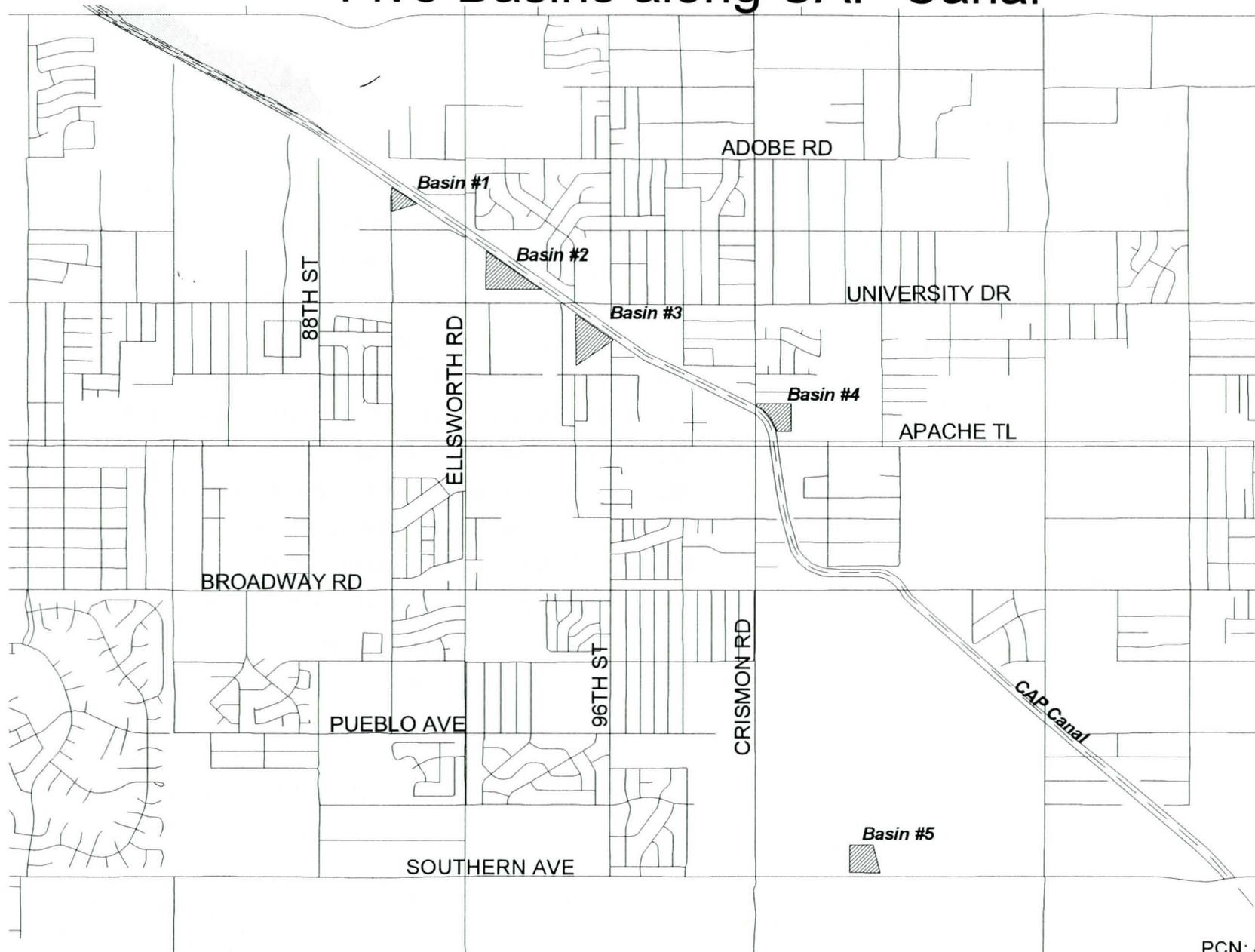
Township Range: T1N R6E S23

Current PM: Raju Shah

442-01-XX

The City of Mesa has requested that the Flood Control District participate in the improvement of 1200 feet of a drainage corridor located approximately 660 feet north of Main Street from 56th Street to 54th Street. The City/County boundary runs down the middle of this unimproved channel. Mesa proposes to reshape the channel to a section with a ten-foot bottom width, 2:1 side slopes with a depth of approximately two feet. The City also proposes to provide the inspection of the project and to assume responsibility for operating and maintaining the completed improvements. The City of Mesa will be the lead agency in all aspects of this project. The proposed Districts' share of this project is half of the project costs, which are estimated to be \$40,000. The project will be constructed in late FY 98/99 by the City of Mesa.

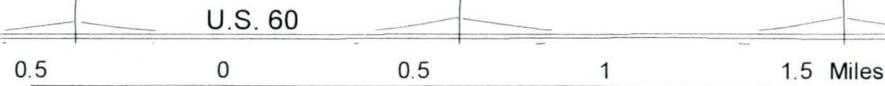
Five Basins along CAP Canal



Legend
 C.A.P. Streets
 Streets
 Floodplain
 A



Descriptions
 Zone A: No base flood elevation determined.



PCN: 442-03-00
 Municipality: Mesa/UMC
 Supervisorial District: 1
 Township Range: T1N R7E
 Current PM: RCS

Project Name: **Five Basins along CAP Canal**

Municipality: Mesa

Supervisor District: 1

Township/Range: T1N R7E 15, 16, 22, AND 23

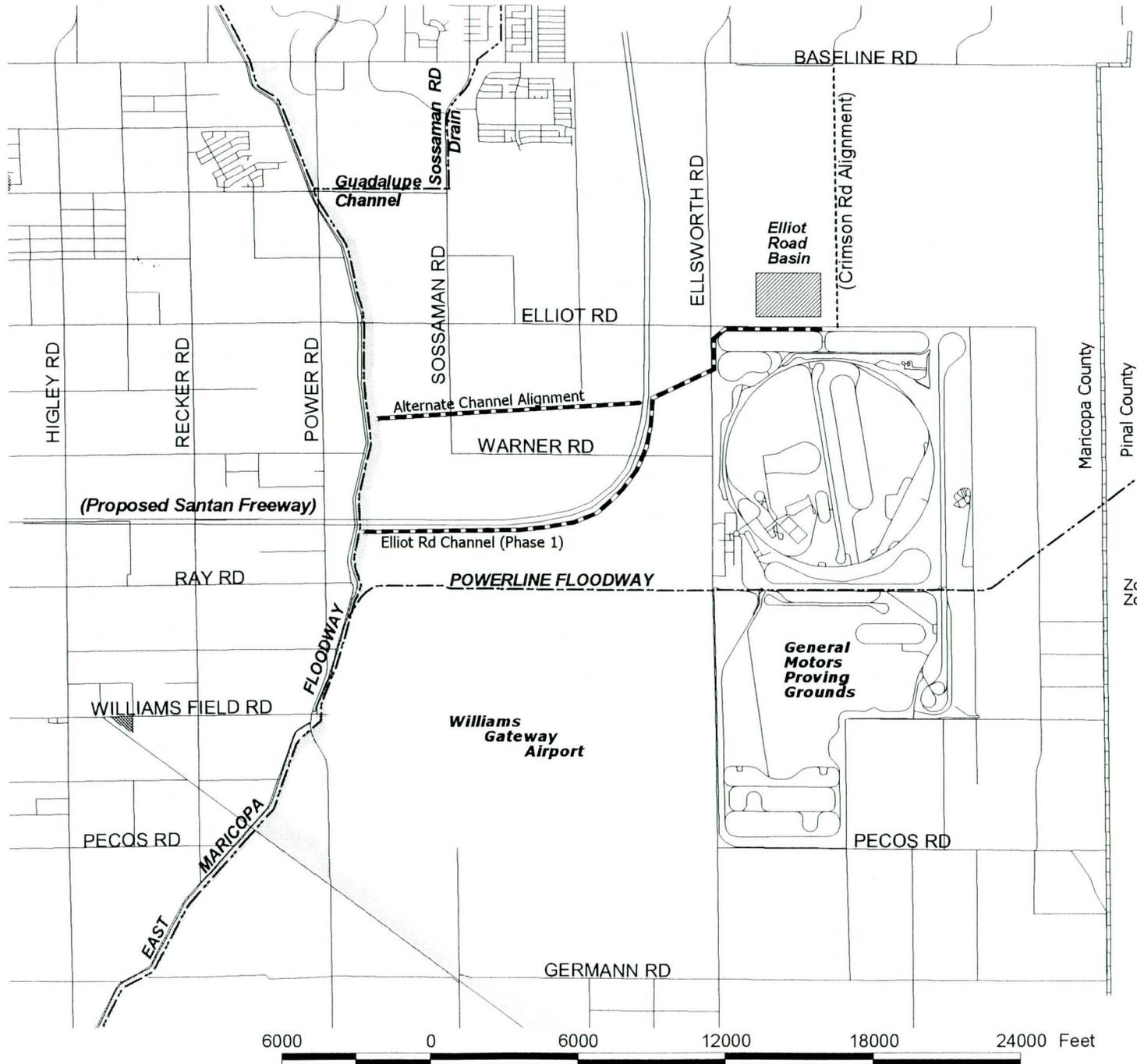
Current PM: Raju Shah

PCN: 442-03-XX

The project consists of five detention basins along CAP Canal at the following locations: 1) Basin #1- west of 90th Street north of Decatur Street; 2) Basin #2 - northeast corner of Ellsworth Road and University Drive; 3) Basin #3 - west of 96th Street and north of Boise Street; 4) Basin #4 - north of CAP Canal and east of Crismon Road; and 5) #5 Basin - northeast corner of Crismon Road and Southern Avenue. The purpose of these basins is to intercept flow from the CAP Canal overchutes before it discharges into natural washes and causes downstream flooding. The basins are designed so that routine overflows (5 year storm events or smaller) are allowed to pass through the basins, leaving most of the basins dry. This allows recreation uses to continue after all but the severest storm events. However, when there is a major storm event, the basins retain water, protecting areas from flooding. The estimated cost for the five basins is \$ 6.1 million. Future

operations and maintenance of the basins is being discussed with the City of Mesa. Land for the first four basins has been acquired and 30% level design is underway. The basin near Crismon Road and Southern Avenue is currently the subject of partnership discussions with Mesa, the local school district and a developer.

Elliot Road Channel(Phase 1) and Basin



Legend

- Floodways
- Streets
- Floodplain**
- A
- AH

North Arrow

N
W E
S

Descriptions

Zone A: No base flood elevation determined.
Zone AH: Flood Depths of 1 to 3 feet.

PCN: 442-04-00
Municipality: Mesa, County
Supervisory District: 1
Township Range: T1S R7E
Current PM: CSV

Project Name: **Elliot Road Channel (Phase 1) and Basin**

Municipality: Mesa

Supervisor District: 1

Township Range: T1S R7E

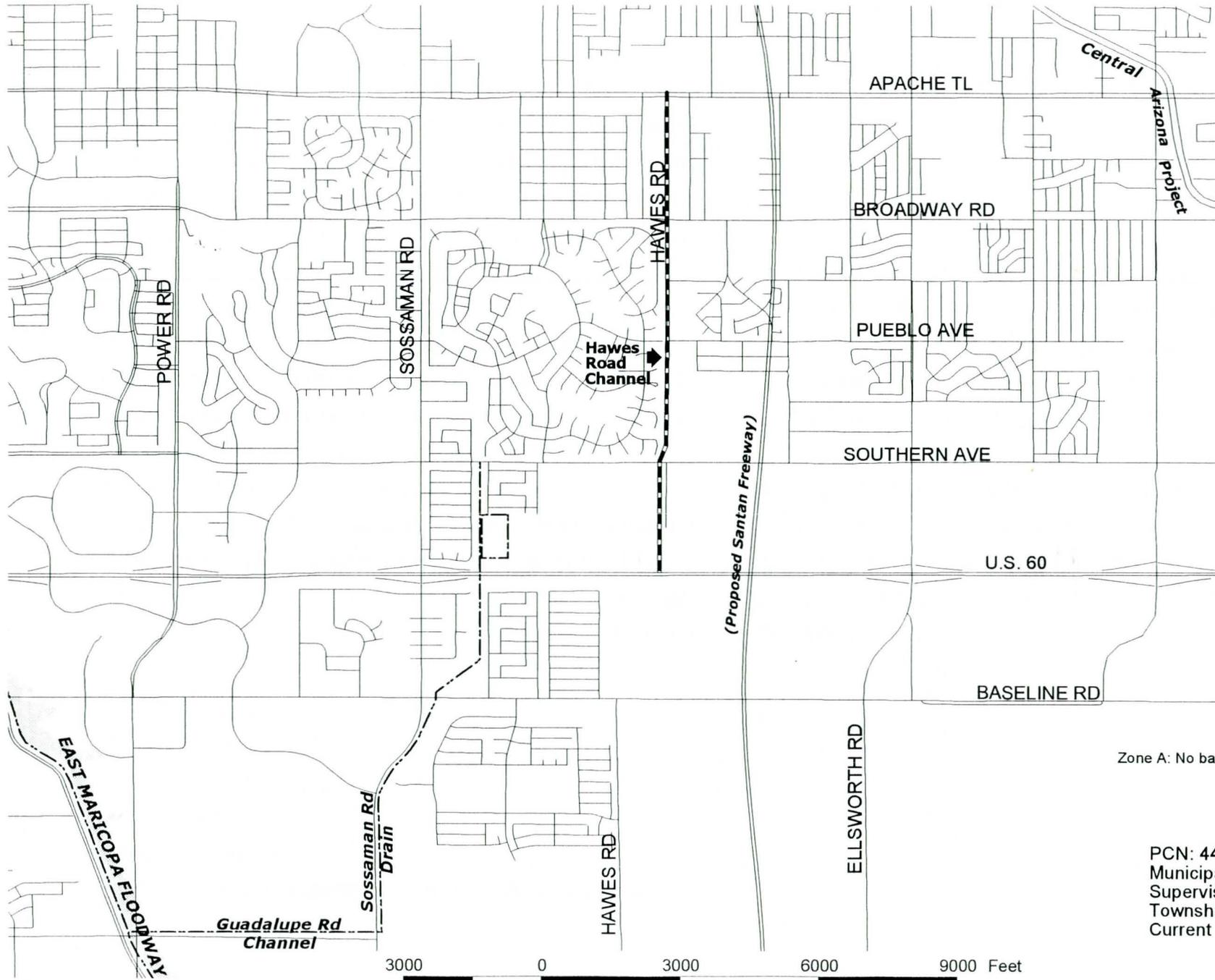
Current PM: Scott Vogel

PCN: 442-04-XX

The Elliot Road Channel and Basin are projects that are identified in the East Mesa Area Drainage Master Plan. The East Mesa ADMP identifies drainage problems and develops solutions for a storm water collection and basin system for eastern Maricopa County including portions of the City of Mesa, the Town of Gilbert, the Town of Queen Creek, and unincorporated Maricopa County. The Elliot Road Basin is located on the northwest corner of Elliot Road and the Crismon Road alignment. It collects runoff from the Crismon Channel, which extends along Crismon Road north of Elliot Road. The basin attenuates peak flows to reduce the size and cost of required downstream improvements. The basin is anticipated to become a joint use facility, being improved and maintained as a City of Mesa park. The Elliot Road Channel, Phase 1 (Elliot Road Basin to the East Maricopa Floodway) is the outfall for the Elliot Road Channel to the EMF. The

channel conveys discharge from the Elliot Road Basin, from the Elliot Road Channel, Phase 2 (extending east along Elliot Road to a basin at Meridian Road) and from the Elliot Road Basin. The Elliot Road Channel, Phase 1, extends west along Elliot Road to Ellsworth Road, then follows the proposed Santan Freeway alignment to the EMF. An alternate route for the channel has been identified that extends from Elliot Road and Ellsworth Road westerly, crossing the Santan Freeway and to the EMF. The City of Mesa may be interested in creating a joint use for the channel as a linear park. Acquisition of the basin is anticipated to occur in FY 98/99.

Hawes Road Channel



- Legend**
- Floodways
 - Future Hiway
 - Streets
 - Floodplain
 - A**



Description
 Zone A: No base flood elevation determined.

PCN: 442-05-00
 Municipality: Mesa
 Supervisorial District: 1
 Township Range: T1S R7E
 Current PM: CSV

Project Name: **Hawes Road Channel**

Municipality: Mesa

Supervisor District: 2

Township Range: T1S R7E

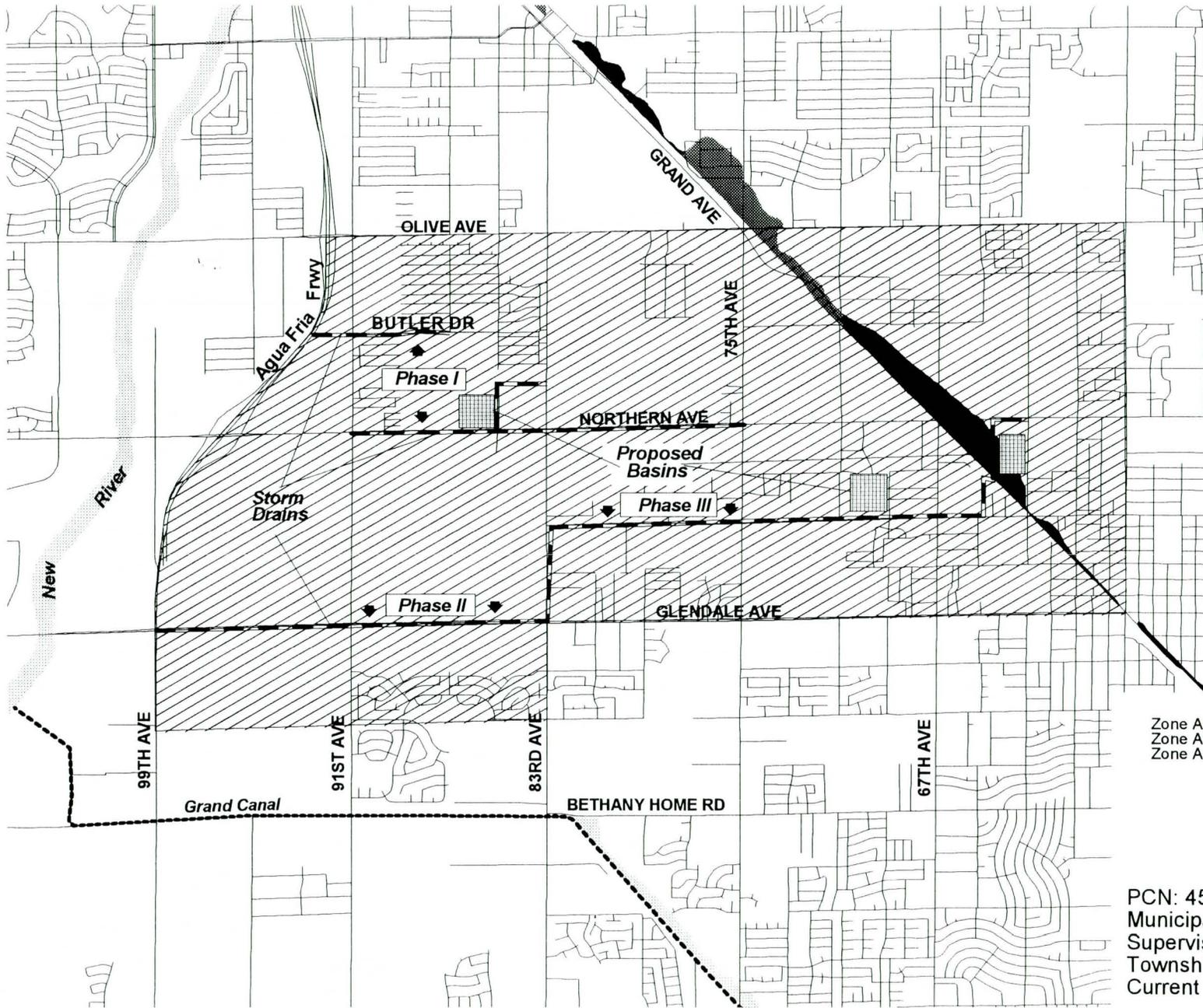
Current PM: Scott Vogel

PCN: 442-05-XX

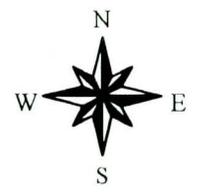
The Hawes Road Channel is a project that is identified in the East Mesa Area Drainage Master Plan. The East Mesa ADMP identifies drainage problems and develops solutions for a storm water collection and disposal system for eastern Maricopa County including portions of the City of Mesa, the Town of Gilbert, the Town of Queen Creek, and unincorporated Maricopa County. The Hawes Road Channel extends from the Apache Trail to the Superstition Freeway along Hawes Road. The portion of the channel from Pueblo Avenue to the Superstition is being constructed by the City of Mesa and/or developers. The remainder of the project (Apache Trail to Pueblo Avenue) will be the subject of a Candidate Assessment Report (CAR) to develop information to evaluate the benefits and costs of the project. The facility consists of a channel/box culvert within or adjacent to the

Hawes Road right-of-way. Mesa will share project responsibilities that will be defined in a future IGA.

Northern/Orangewood Storm Drain



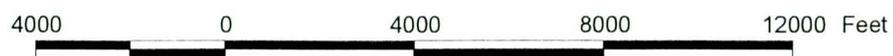
- Legend**
- Canals
 - Streets
 - Benefited Area
 - Floodplain**
 - A
 - AH
 - AO



Descriptions

Zone A - No base flood elevation determined.
 Zone AO - Flood depths of 1 to 3 feet.
 Zone AH - Flood depths of 1 to 3 feet.

PCN: 450-03-00
 Municipality: Peoria/Glendale
 Supervisorial District: 4
 Township Range: T3N R1E, T2N R1E
 Current PM: RWS



Project Name: **Northern/Orangewood Storm Drain**

Municipality: Peoria

Supervisor District: 4

Township/Range: T2N R1E S1-5

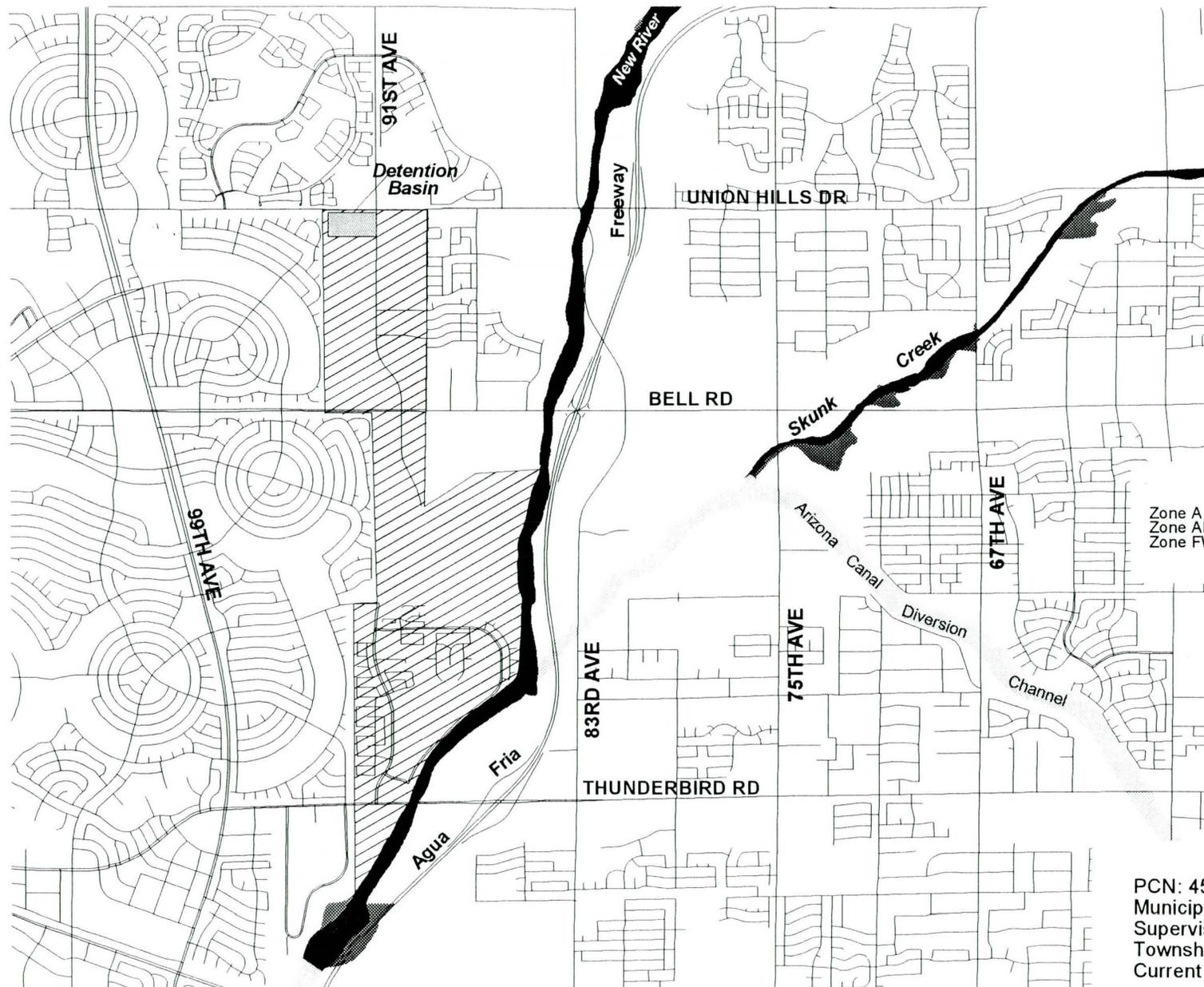
Current PM: R.W. Shobe

PCN: 450-03-XX

This project includes a 10-year storm drain, running west between the Butler Drive and Glendale Drive alignments, from 63th Avenue to New River. The project will benefit nine square miles of existing development in Glendale, Peoria and unincorporated County lands that have been subjected to several flood events in the past four years. The drain will also provide an outlet for future municipal storm drains and MCDOT's & ADOT's Grand Avenue project. The District plans to construct three detention basins (two in Glendale and one in Peoria) along the drain corridor to reduce pipe costs while increasing the future level of protection and providing water quality and recharge benefits. ADOT will excavate the basins and the District, and ADOT and the District will save an estimated \$2 million each. Total costs are estimated at \$17 million (50% the District, 50% by Glendale and Peoria). Glendale will provide O&M for the portions of the project in

Glendale and the unincorporated County, while Peoria will provide operations and maintenance for the portions within its city limits. An IGA with the cities was approved in April 1994. The District has acquired the basin sites. Reimbursements to the District have begun, and it is anticipated that the District will have completed construction and received all reimbursements by FY01/02.

91st Ave/Union Hills Drainage Improvements



- Legend**
- Streets
 - Benefited Area
 - Floodplain
 - A
 - AE
 - FW



Descriptions

- Zone A - No base flood elevation determined.
- Zone AE - Base flood elevation determined.
- Zone FW - Floodway areas in zone AE.

PCN: 450-04-00
 Municipality: Peoria
 Supervisorial District: 4
 Township Range: T4N R1E, T3N R1E
 Current PM: RWS



Project Name: **91st Avenue/Union Hills Drive Drainage
Improvements**

Municipality: Peoria

Supervisor District: 4

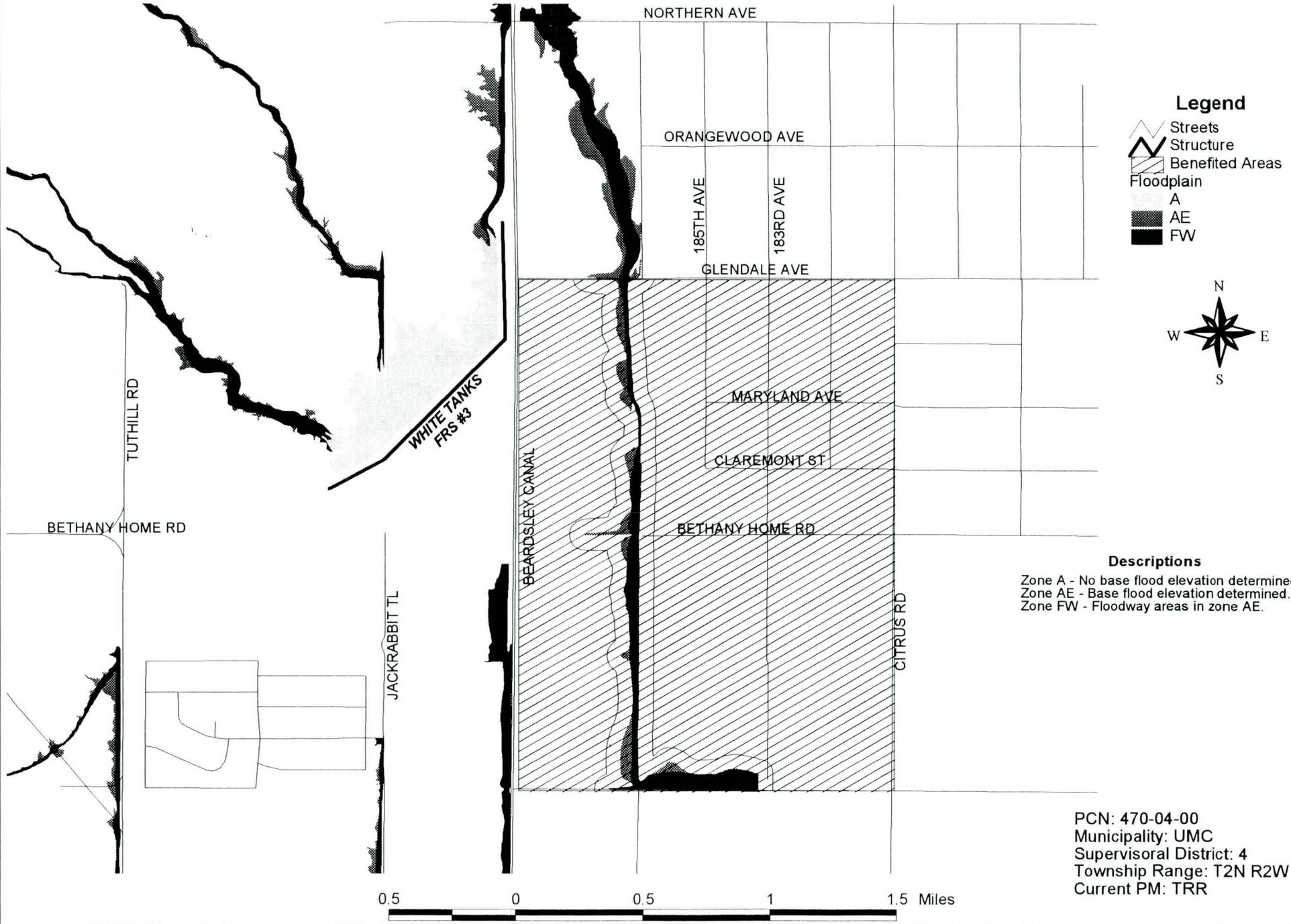
Township/Range: T3N R4E S24

Current PM: R.W. Shobe

PCN: 450-04-XX

This project will include the construction of a Regional flood control basin, and an outfall channel/storm drain, from Union Hills Drive to New River south of Bell Road. The project will protect seventy-five existing homes and a twenty-acre multi-family complex. An additional 600 residential lots and a forty-acre business park have been platted in the project area. The need for the project has been identified in the City of Peoria's North Area Drainage Plan, which indicated a concentration of 1750 cfs of sheet flow from the eastern perimeter of Sun City. The District has budgeted \$4.15 million in FY 99/00 for construction, with Peoria providing design and right-of-way acquisition (estimated at \$1.2 million) and the remainder of the construction cost. The District will not be responsible for the operation and maintenance for this project. Project responsibilities are specified in IGA FCD 98005.

White Tanks #3 FRS Modifications



Legend

- Streets
- Structure
- Benefited Areas
- Floodplain**
- A
- AE
- FW

Descriptions

Zone A - No base flood elevation determined.
 Zone AE - Base flood elevation determined.
 Zone FW - Floodway areas in zone AE.

PCN: 470-04-00
 Municipality: UMC
 Supervisorial District: 4
 Township Range: T2N R2W
 Current PM: TRR

0.5 0 0.5 1 1.5 Miles

Project Name: **White Tanks #3 FRS Modifications**

Municipality: Buckeye/UMC

Supervisor District: 4

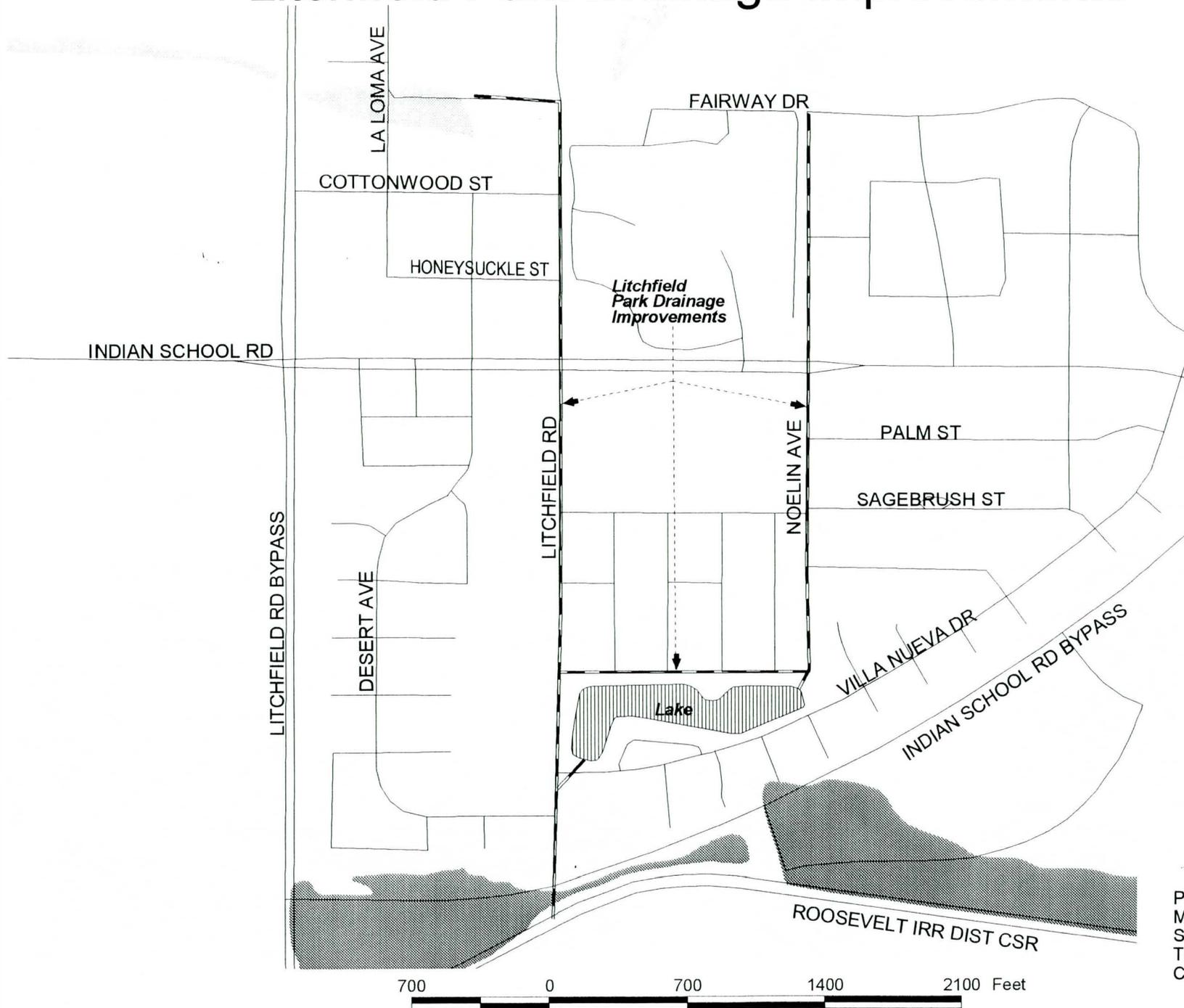
Township/Range: T2N R2W S4, 8-9

Current PM: Tom Renckly

PCN: 470-04-XX

The White Tanks Flood Retarding Structure #3 (White Tanks #3), owned and operated by the District, requires modifications to bring the structure into compliance with dam safety standards and requirements. The Natural Resources Conservation Service (NRCS, formerly SCS) is the Federal sponsor for the project. In November 1997, NRCS informed District staff that it had FY 1999 construction funds for this project, but did not have resources (personnel or funding) to initiate project designs in the foreseeable future. The District has assumed design responsibilities for the project to ensure that the \$1.5 million that NRCS has allocated for project construction in FY 1999 is used as planned. The total project cost is estimated at \$2.6 million. The District's design contract FCD 98-11 consultant has been selected and design should be completed by May 1999. Construction will occur in FY 99/00.

Litchfield Park Drainage Improvements



Legend

-  Streets
-  Floodplain A
-  AH



Descriptions

Zone A: No base flood elevation determined.
 Zone AH: Flood depths of 1 to 3 feet.

700 0 700 1400 2100 Feet

PCN: 470-08-00
 Municipality: Litchfield Park
 Supervisoral District: 4
 Township Range: T2N R1W
 Current PM: CSV

Project Name: **Litchfield Park Drainage Improvements**

Municipality: Litchfield Park

Supervisor District: 4

Township Range: T2N R1W

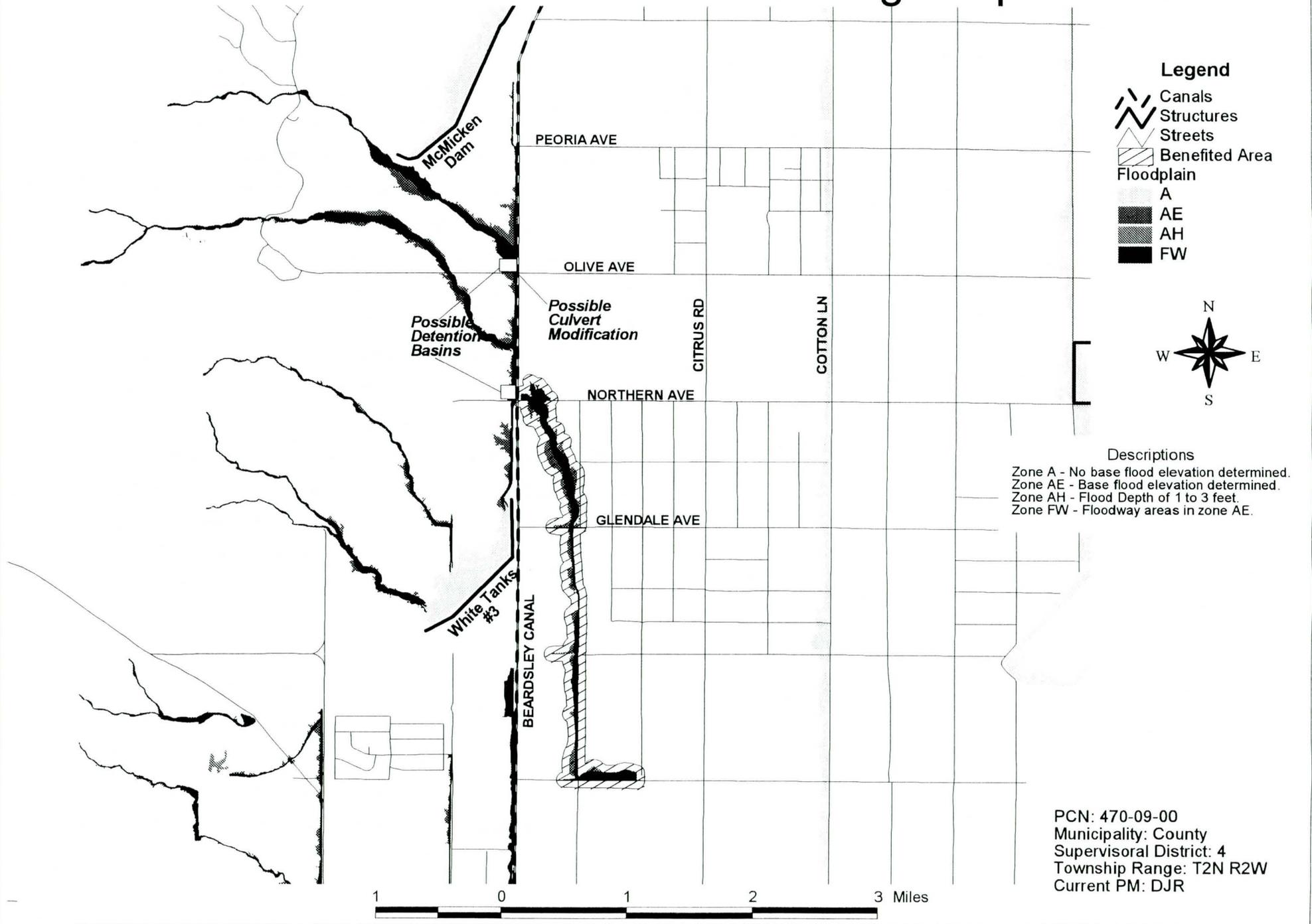
Current PM: Scott Vogel

PCN: 470-08-XX

The project is located within the City of Litchfield Park and will tie into the RID Overchute that was completed by the District in 1997. Since the completion of the City of Litchfield Park Master Drainage Study in 1989, and as a result of the District's White Tanks-Agua Fria River Area Drainage Master Study, the City and the District have undertaken several projects to reduce flooding within the City. They include the Colter Channel, the RID Overchute Phase I, the Ancora Storm Drain, and the Indian School Road Bypass Storm Drain. The drainage improvements will reduce flooding on the surface of Litchfield Road, Indian School Road Bypass, Neolin Avenue, and Wigwam Boulevard. The drainage improvements consist of storm drains within Litchfield Road, and Neolin Avenue, and flood control improvements to "The Lake," located at the intersection of Litchfield Road and Villa Nueva Drive. The City of Litchfield Park will be responsible for the design,

construction and operation and maintenance of the drainage improvements. The District is participating as a cost share partner.

White Tanks / McMicken Dam - Drainage Improvements



Project Name: **White Tanks/McMicken Drainage Improvements**

Municipality: County

Supervisor District: 4

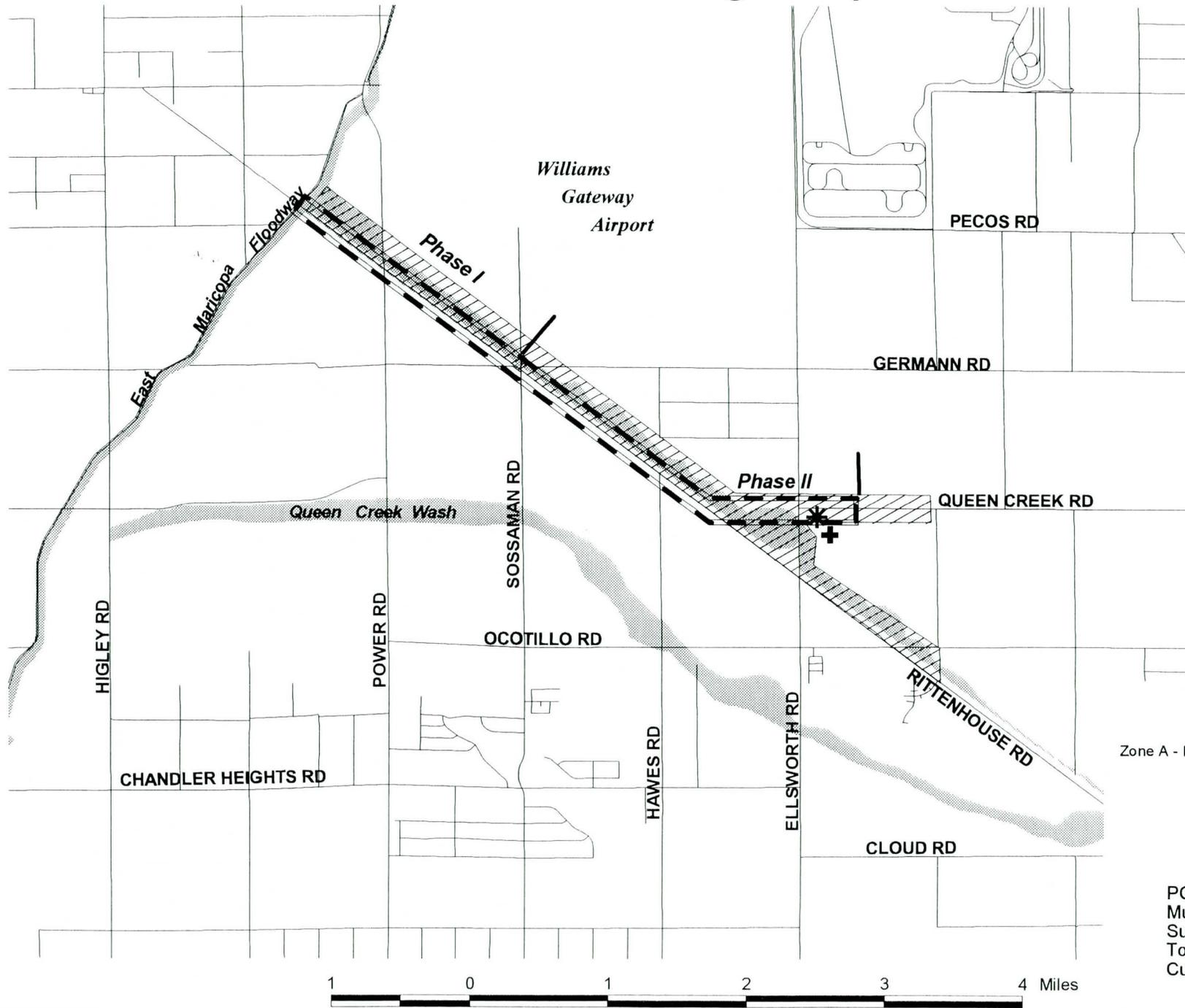
Township/Range: T3N R2W S29, 32

Current PM: Don Rerick

PCN: 470-09-XX

This project consists of two detention basins located southwest of McMicken Dam. The proposed basins would intercept and divert runoff that now flows across Jackrabbit Trail (195th Avenue) to the White Tanks #3 FRS. The intent of the project is to eliminate approximately 3 and ½ miles of delineated floodplain. In addition, completion of this project would minimize repair costs to several County roads as well as the Beardsley Canal. Alternative solutions to the detention basins are still being studied. One possibility involves up sizing the culverts under Jackrabbit Trail in lieu of the initial diversion. Funds for this project are budgeted for FY 00/01 and 02/03. The District will provide future operation and maintenance costs.

Rittenhouse Drainage Improvement



Legend

- Streets
- Benefited Area
- Floodplain
- A
- Queen Creek High School
- Queen Creek Junior High

N
W E
S

Descriptions
Zone A - No base flood elevation determined.

PCN: 480-01-00
Municipality: Queen Creek
Supervisorial District: 1
Township Range: T2S R7E
Current PM: RCS

Project Name: **Rittenhouse Drainage Improvement**

Municipality: Queen Creek

Supervisor District: 1

Township Range: T2S R7E

Current PM: Raju Shah

PCN: 480-01-XX

The project consists of an earthen channel adjacent to the Southern Pacific Railroad between the Queen Creek School east of Ellsworth Road, and the East Maricopa Floodway, west of Power Road. The six-mile long project includes portions of Queen Creek, Mesa and Gilbert. The channel will provide 100-year protection for the school, contain the FEMA 100-year floodplain, and provide an outfall for future storm drain construction. Costs for construction are estimated at \$5 million (100% District). The District will be responsible for operation and maintenance of the completed project. Approximately \$650,000 in project costs have been saved through advance construction of a portion of the channel by the Air Force Base Conversion Agency near Williams Gateway Airport. This construction was completed by the Agency in exchange for the District's purchase of the necessary rights-of-

way. Phase I construction started in January 1997 and cost \$1.5 million. Phase II channel construction began in March, 1998 and will be completed in October, 1998.

Queen Creek & Sanokai Wash Hydraulic Master Plan



- Legend**
- Sonokai
 - Queen Creek
 - Streets
 - Future Hiway
 - Floodplain A
 - Floodplain AH



Descriptions
 Zone A - No base flood elevations determined.
 Zone AH - Flood Depths of 1 to 3 feet.



PCN: 480-02-01
 Municipality: Queen Creek/UMC
 Supervisorial District: 1
 Township Range: T2S R7E
 Current PM: TSP

Project Name: **Queen Creek and Sanokai Wash Hydraulic
Master Plan**

Municipality: Town of Gilbert/Town of Queen Creek

Supervisor District: 1

Township/Range: T2S, R6E, Sections 11, 12, 13, 14, 15, 22,
23, 24; T2S, R7E, Sections 7, 8, 16, 17, 18, 19, 20, 21, 22, 23,
25, 26, 27, 28, 29, 33, 34; T2S, R8E, Sections 20, 21, 22, 23,
25, 26, 27, 28, 29, 30

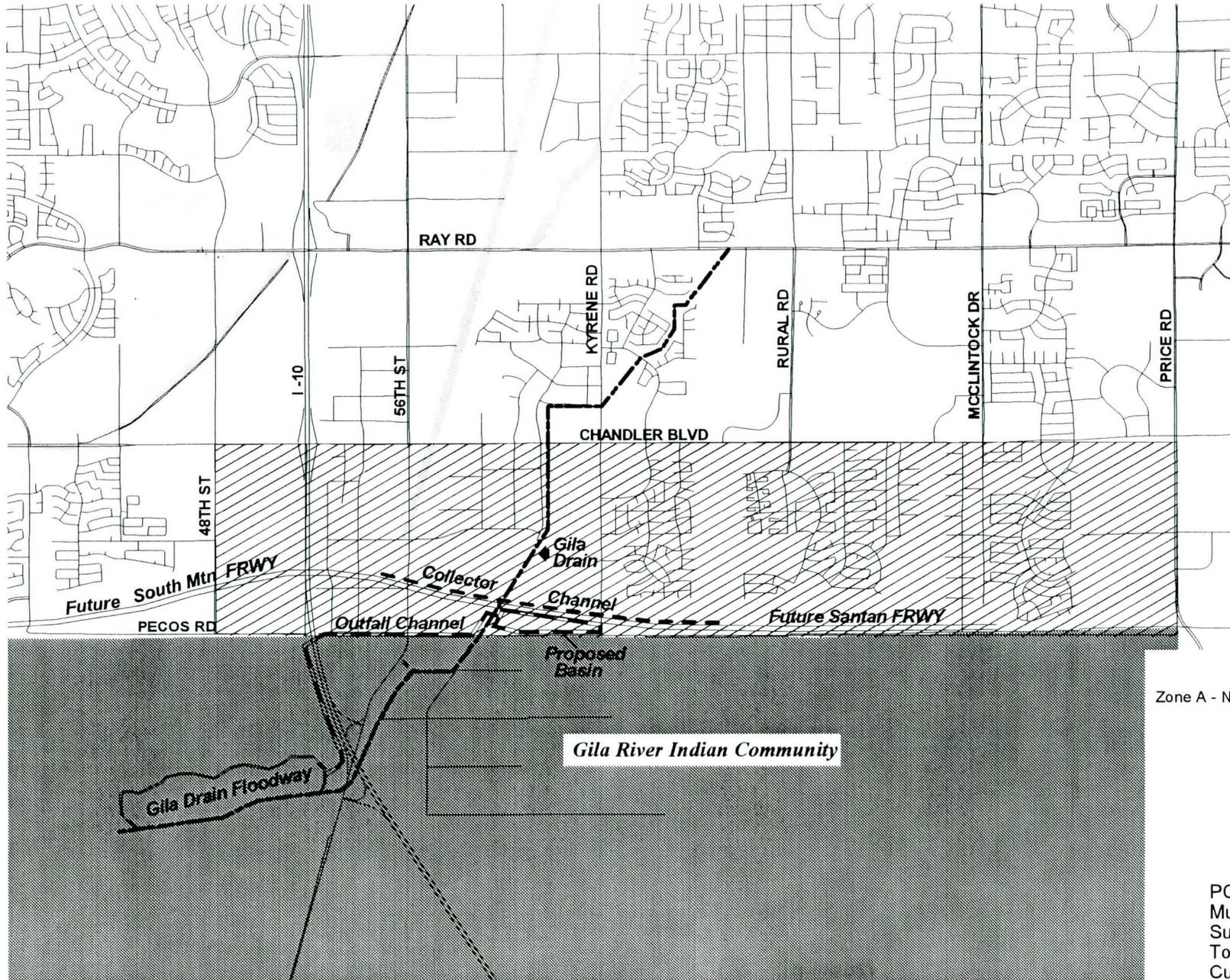
Current PM: Tim Phillips

PCN: 480-02-XX

Current and projected District CIP expenditures can be divided into two parts: a planning study that will lay the groundwork for further flood control activities; and a design and construction phase that will address flooding issues in the Queen Creek and Sanokai Wash floodplains. The planning study consists of providing professional engineering services necessary for developing a hydraulic master plan to maintain the 100-year hydraulic conveyance capacity of both Queen Creek and Sanokai Wash. The study will include analysis of 17 miles of waterways associated with Queen Creek from the Central Arizona Project Canal to the East Maricopa Floodway, and Sanokai Wash from its general origin at Ellsworth Road and

Riggs Road to its outfall into Queen Creek. The study will be utilized as a tool to monitor and control development along the respective waterways by the Town of Queen Creek and to maintain the 100-year conveyance capacity. The planning study is budgeted at \$300,000 and is included in the Planning Program Budget. The design and construction phase, which is not scheduled to begin until FY 00/01, will involve the implementation of solutions to flooding along Queen Creek and Sanokai Wash that are identified once the planning and conceptual design phases have been completed, and remedial actions have been specified. Total expenditures in the CIP are now tentatively estimated at \$7 million.

Southeast Valley Regional Drainage System



- Legend**
- Streets
 - Benefited Area
 - GRIC
 - Floodplain
 - A



Descriptions
 Zone A - No base flood elevation determined.

PCN: 490-01-00
 Municipality: Chandler/GRIC
 Supervisorial District: 1,5
 Township Range: T2S R4E
 Current PM: DJR



Project Name: **Southeast Valley Regional Drainage System**

Municipality: Chandler/GRIC

Supervisor District: 1, 5

Township/Range: T1S R4E S33-36; T2S R4E S4-6

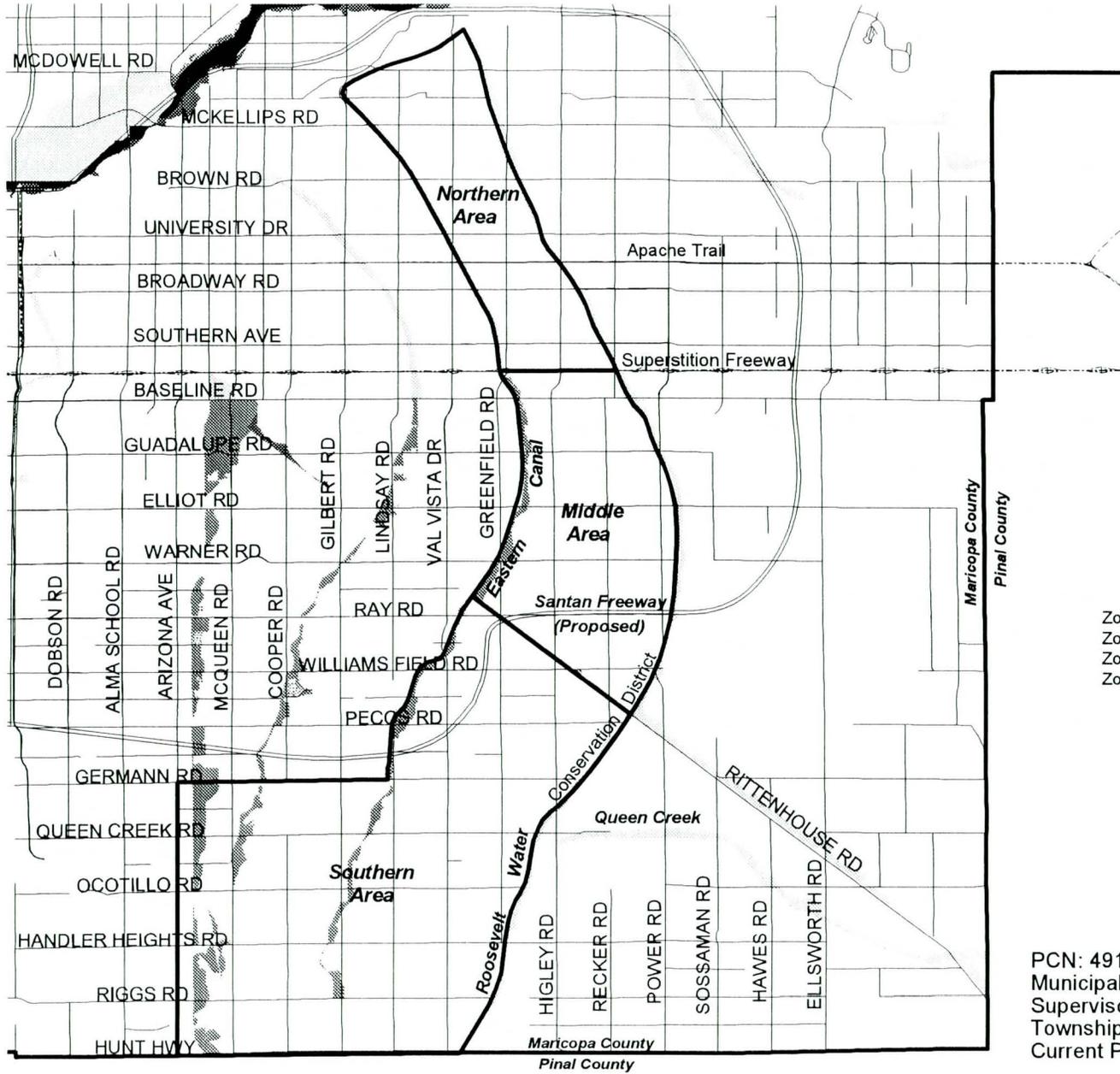
Current PM: Don Rerick

PCN: 490-01-XX

An IGA between the City of Chandler, ADOT, and FCD is in place for this project. The Southeast Valley Regional Drainage System (SEVRDS) includes a 100-year drainage system to be built within the Santan Freeway corridor between Price Road, on the east, and 56th Street, on the west. A connecting channel will extend from the basin and wetlands complex near Kyrene Road and the Pecos Road alignment to the Gila Drain Floodway west of Interstate-10. When combined with contributing flows from the Price Freeway drainage system (south of Ray Road), the SEVRDS will intercept and convey municipal and freeway drainage from 58 square miles in Chandler, Tempe, Gilbert and Maricopa County. The project will also protect areas of the Gila River Indian Community (GRIC) located south of Pecos Road and west of Price Road from flows originating from outside the Community. The SEVRDS is addressed in the

Gilbert/Chandler ADMS and is an integral component of Chandler's storm water master plan. The design concept was developed in cooperation with Chandler, ADOT, SRP and the GRIC. The total cost of the project is estimated at more than \$25 million, of which the District will pay \$10.6 million. The Project is to be designed and constructed in three phases. ADOT will acquire necessary rights-of-way and be responsible for the design. They will also own, operate and maintain the completed project. The District will provide construction management services for the three phases of the project. ADOT intends to fund all associated costs in excess of Chandler and FCD funding. Phase 1, the basin complex, has been constructed, Phase 2, consisting of the basin outfall channel system is scheduled for construction starting in the fall of 1998, and Phase 3, the collector channel system is scheduled for construction starting in the fall of 1999.

Higley A.D.M.P



- Legend**
- County Border
 - Future Hiway
 - Hiways
 - Streets
 - Floodplain**
 - A
 - AE
 - AH
 - FW



Descriptions

- Zone A: No base flood elevation determined.
- Zone AE: Base flood elevation determined.
- Zone AH: Flood depths of 1 to 3 feet.
- Zone FW: Floodway areas in Zone AE.

PCN: 491-00-01
 Municipality: Mesa, Gilbert, Chandler.
 Supervisorial District: 1
 Township Range: T2S R6E, T1S R6E, T1N R6E
 Current PM: TSP



Project Name: **Higley Area Drainage Master Plan**

Municipality: Town of Gilbert/City of Mesa/City of Chandler/

Supervisor District: 1

Township/Range: T1N, R6E, Sections 4-10,15,16,17,21-23,26,27,28,34-36; T1S, R6E, Sections 1,2,3,10,11-15,21-29,32,33-36;T1S, R7E, Sections 7,18,19,30,31; T2S, R6E, Sections 1-11,15,16,17-22,27-33; T2S, R5E, Sections 24,25,34,35,36

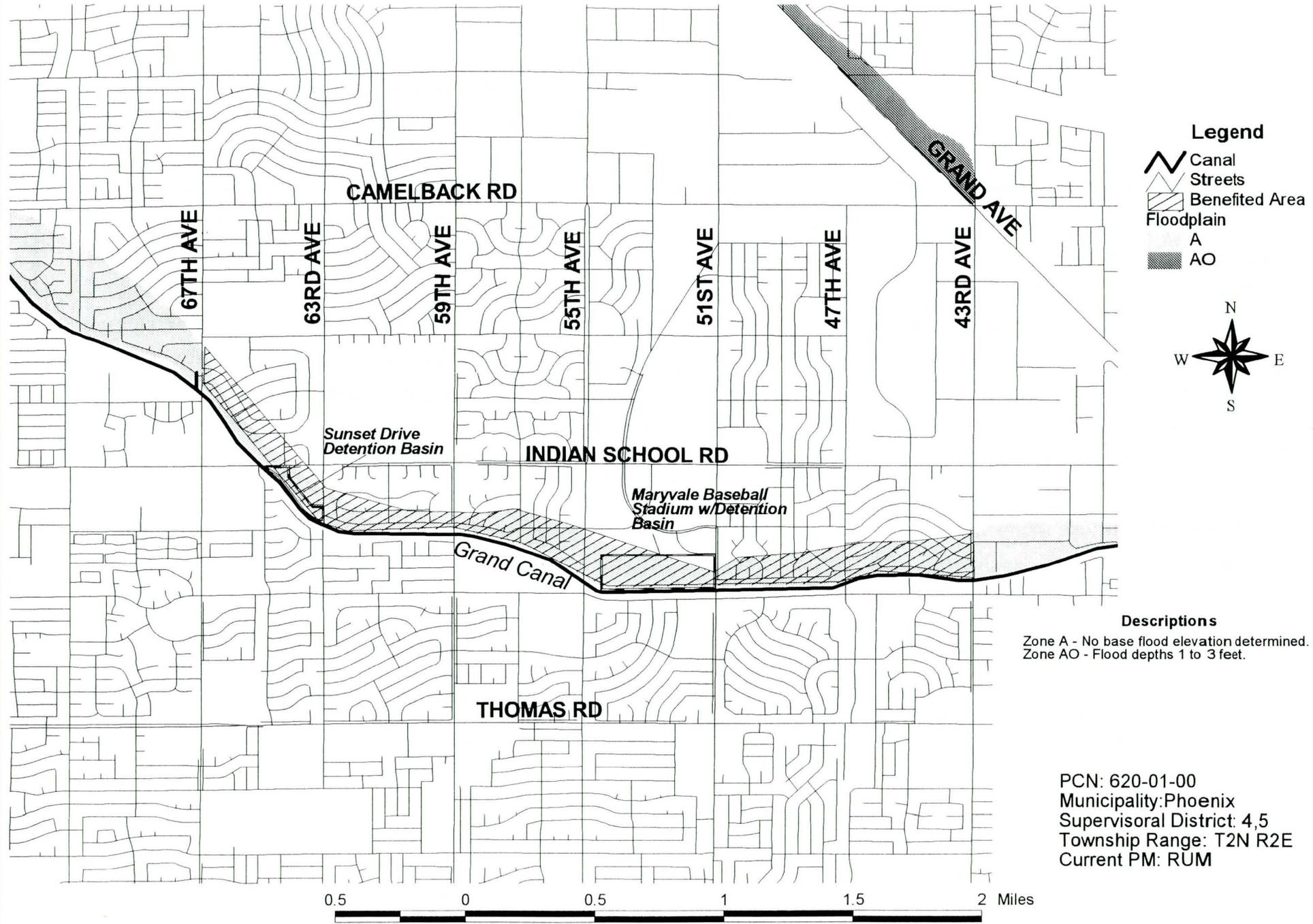
Current PM: Tim Phillips

PCN: 491-00-01

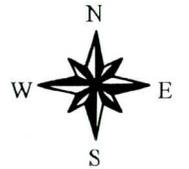
Current and projected District CIP expenditures can be divided into two parts: a planning study that will lay the groundwork for further flood control activities; and a design and construction phase that will address flooding issues along the Salt River Project Eastern Canal. The planning study consists of providing professional engineering services necessary for developing an area drainage master plan to determine guidelines for stormwater management and mitigate flooding for the Higley Area. The study will include analysis of approximately 75 square miles of watershed from the Salt River Project South Canal south to Hunt Highway and from the Salt River Project Eastern Canal to the Roosevelt Water

Conservation District Main Canal. The study will identify drainage problems, and develop cost effective solutions for a storm water collection and disposal system and will further identify potential outfall alternatives. The planning study is budgeted at \$400,000 and is included in the Planning Program Budget. The design and construction phase, which is not scheduled to begin until FY 00/01, may involve the implementation of solutions to flooding along Eastern Canal that are identified once the planning and conceptual design phases have been completed, and remedial actions have been specified. Total expenditures in the CIP are now tentatively estimated at \$13 million.

Maryvale Flooding Mitigation Project



- Legend**
- Canal
 - Streets
 - Benefited Area
 - Floodplain
 - A
 - AO



Descriptions
 Zone A - No base flood elevation determined.
 Zone AO - Flood depths 1 to 3 feet.

PCN: 620-01-00
 Municipality: Phoenix
 Supervisorial District: 4,5
 Township Range: T2N R2E
 Current PM: RUM

Project Name: **Maryvale Flooding Mitigation Project**

Municipality: Maryvale

Supervisor District: 4, 5

Township/Range: T2N R2E

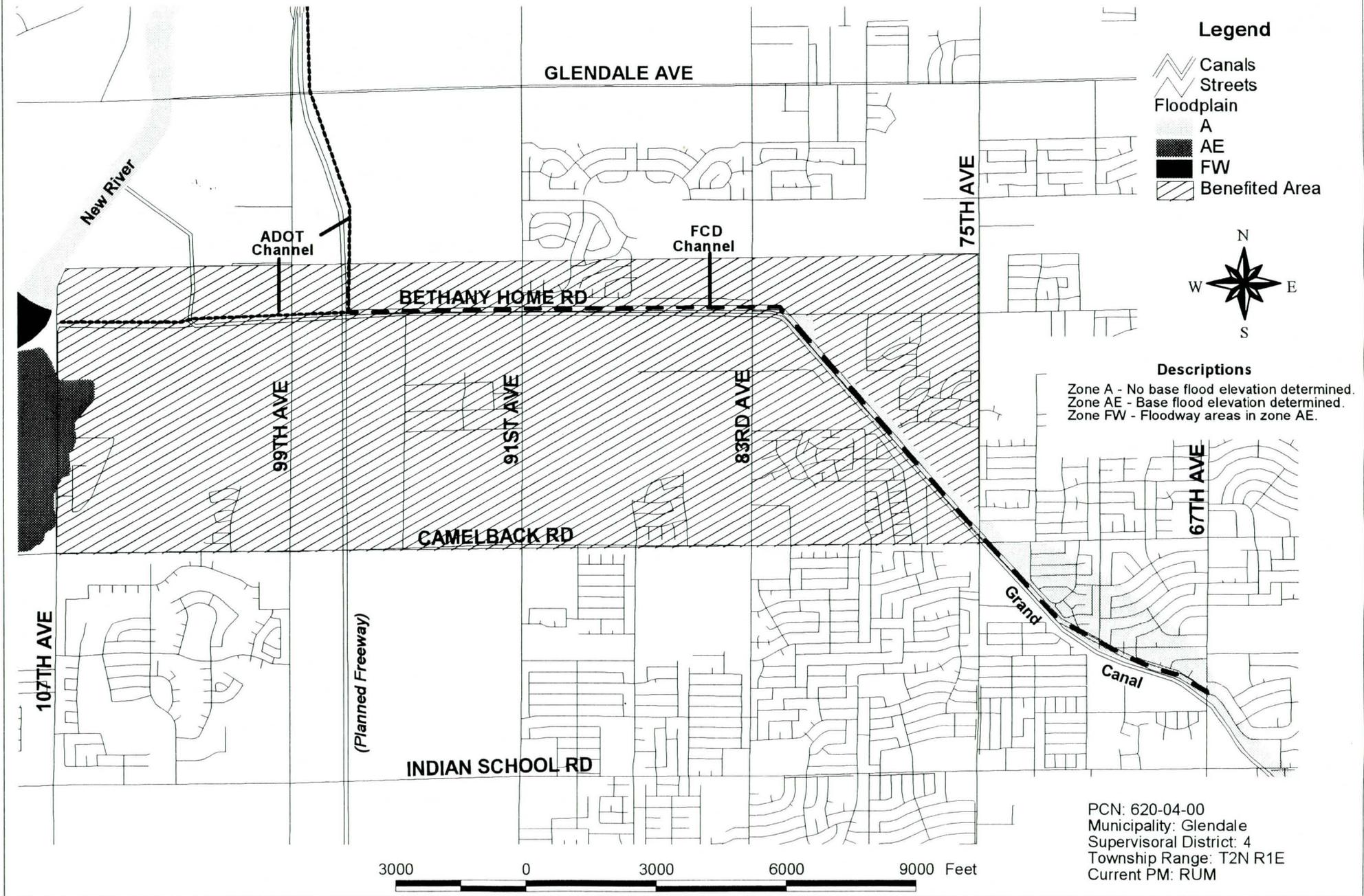
Current PM: Russ Miracle

PCN: 620-01-XX

Flooding along the north bank of the Grand Canal, between 43rd Avenue and 64th Avenue, has resulted in frequent flooding of approximately 150 houses. The project includes construction of two detention basins discharging into existing storm drains and modifications to existing streets and storm drains to divert flows into the basins. The proposed basins will be designed to store runoff from a ten-year storm. A basin located at 51st Avenue and the Grand Canal was constructed in 1997 as a multi-use facility incorporating flood water storage into a Cactus League stadium development by depressing a parking lot and practice field(s). The Sunset Drive Basin, located adjacent to the Grand Canal between 63rd Ave. and Indian School Road, will require removal of 36 existing houses and relocation of the existing residents. Also required, will be the construction of a detention basin, and modification of existing streets and storm drains. The District has acquired

the houses and will demolish them by January 1999. The City of Phoenix will complete construction of the basin. The cost of this basin is estimated at \$4.5 million and partner responsibilities are included in IGA FCD 96021.

Bethany Home Road Outfall Channel



Project Name: **Bethany Home Road Outfall Channel**

Municipality: Glendale, Phoenix, unincorporated County

Supervisor District: 4

Township Range: T2N R1E

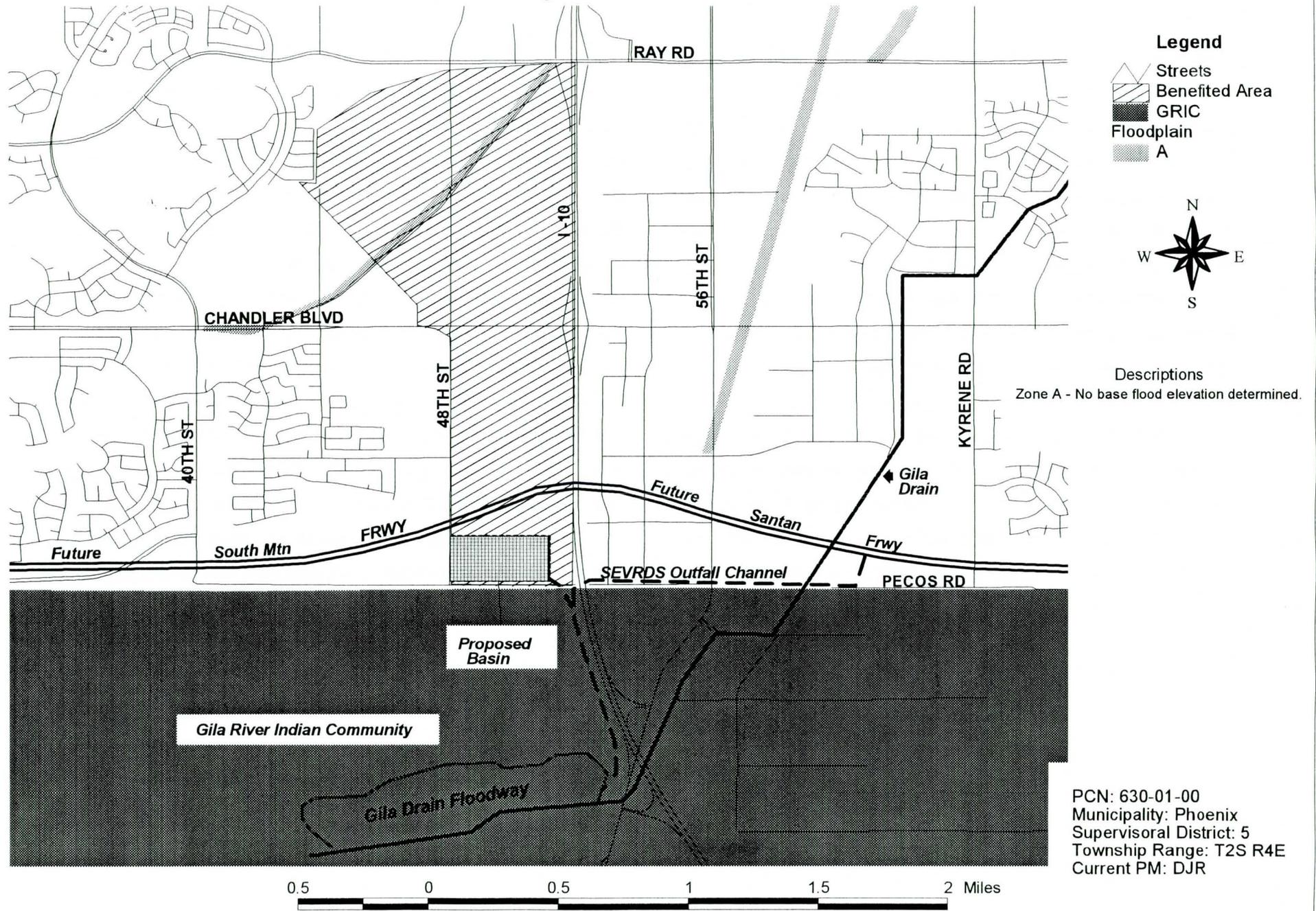
Current PM: RUM

PCN: 620-04-XX

The Bethany Home Road Outfall Channel was identified in the Maryvale Area Drainage Master Plan (ADMP). The project includes a linear basin and channel along the north side of the Grand Canal extending westerly from 67th Avenue to the New River. The project would have a 100-year capacity removing approximately 682 houses with an estimated value of \$ 49.2 million from the floodplain. The channel will receive storm water from portions of Peoria, Glendale, Phoenix, and unincorporated Maricopa County. The channel alignment (Phase I and II) is in Phoenix, Glendale, and unincorporated Maricopa County. Phase I of the project is being completed by ADOT, with District participation. This reach extends west from the proposed Agua Fria Freeway to the New River following the Bethany Home Road Alignment. ADOT has increased the size of their channel and freeway bridges to accommodate additional flows from the Maryvale area. Phase

II of the project will extend along Bethany Home Road easterly from the Agua Fria Freeway and along the northern side of the Grand Canal to 67th Avenue. This phase of the project will include a channel from the Agua Fria Freeway alignment to 73rd Avenue and an earthen, linear, on-line detention basin from 67th Avenue to 73rd Avenue, and would require acquisition and demolition of 63 houses. The ADMP also recommends ten year capacity storm drains, located within Bethany Home Road and Camelback Road, extending from 67th Avenue to the Outfall Channel. Preliminary estimates indicate that the cost to construct this 100-year channel are approximately \$20.6 million (\$8.8 million within Phoenix and \$11.9 million within Glendale). Additional storm drains along Bethany Home and Camelback Road are estimated to cost approximately \$6.9 million. The Cities of Glendale and Phoenix will be asked to cost share the project.

Southeast Phoenix Regional Basin



PCN: 630-01-00
 Municipality: Phoenix
 Supervisorial District: 5
 Township Range: T2S R4E
 Current PM: DJR

Project Name: **Southeast Phoenix Regional Basin**

Municipality: Phoenix

Supervisor District: 1

Township/Range: T1S R4E S32

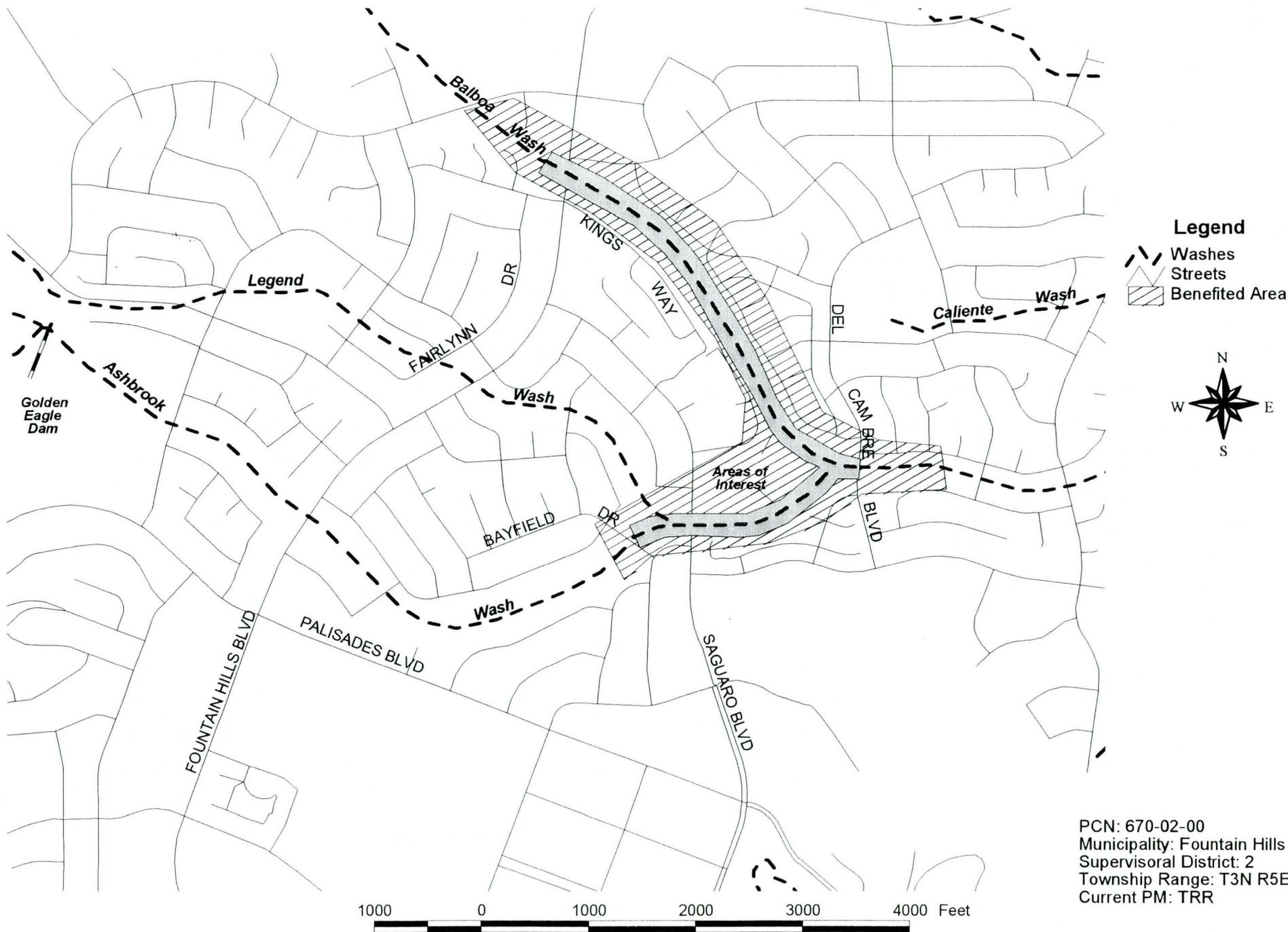
Current PM: Don Rerick

PCN: 630-01-XX

The project was developed within the Foothills ADMP area and will create a 100-year outfall system for a 4.5 square mile watershed. The area impacted by the project is bounded by Interstate-10 (E), Pecos Road (S), 40th Street (W) and Knox Road (N). Improvements will be located within a corridor located between 48th Street and Interstate-10. Flows will be discharged to the Southeast Valley Regional Drainage System (SEVRDS) outfall channel prior to its final discharge into the Gila Drain Floodway on the Gila River Indian Community. The watershed is rapidly developing, with the remainder primarily in agricultural production. Currently, there are many manmade channels in the upper watershed, but these waterways terminate at development boundaries, and stormwater is typically dispersed back to pre-development flow patterns. Opportunities for water quality and groundwater enhancement

will be given full consideration in the proposed detention basin. The City also intends to use the basin as a future park site. Additional inflows to the Gila Drain Floodway may complement the GRIC's plan for wetlands and a natural open-space corridor. Costs are estimated by Phoenix staff to be \$7 million, with a proposed 50/50 split between Phoenix and the District. The City is acquiring the basin site and the project schedule has recently been accelerated by the City, with an informal request for active District participation. Upon negotiations of a project IGA, the District's role in the project will be defined. Future operation and maintenance of this facility will probably be the responsibility of the City of Phoenix.

Ashbrook/Balboa Wash Improvements



PCN: 670-02-00
Municipality: Fountain Hills
Supervisory District: 2
Township Range: T3N R5E
Current PM: TRR

Project Name: **Ashbrook/Balboa Wash Improvements**

Municipality: Fountain Hills

Supervisor District: 2

Township/Range: T3N R6E S10-11

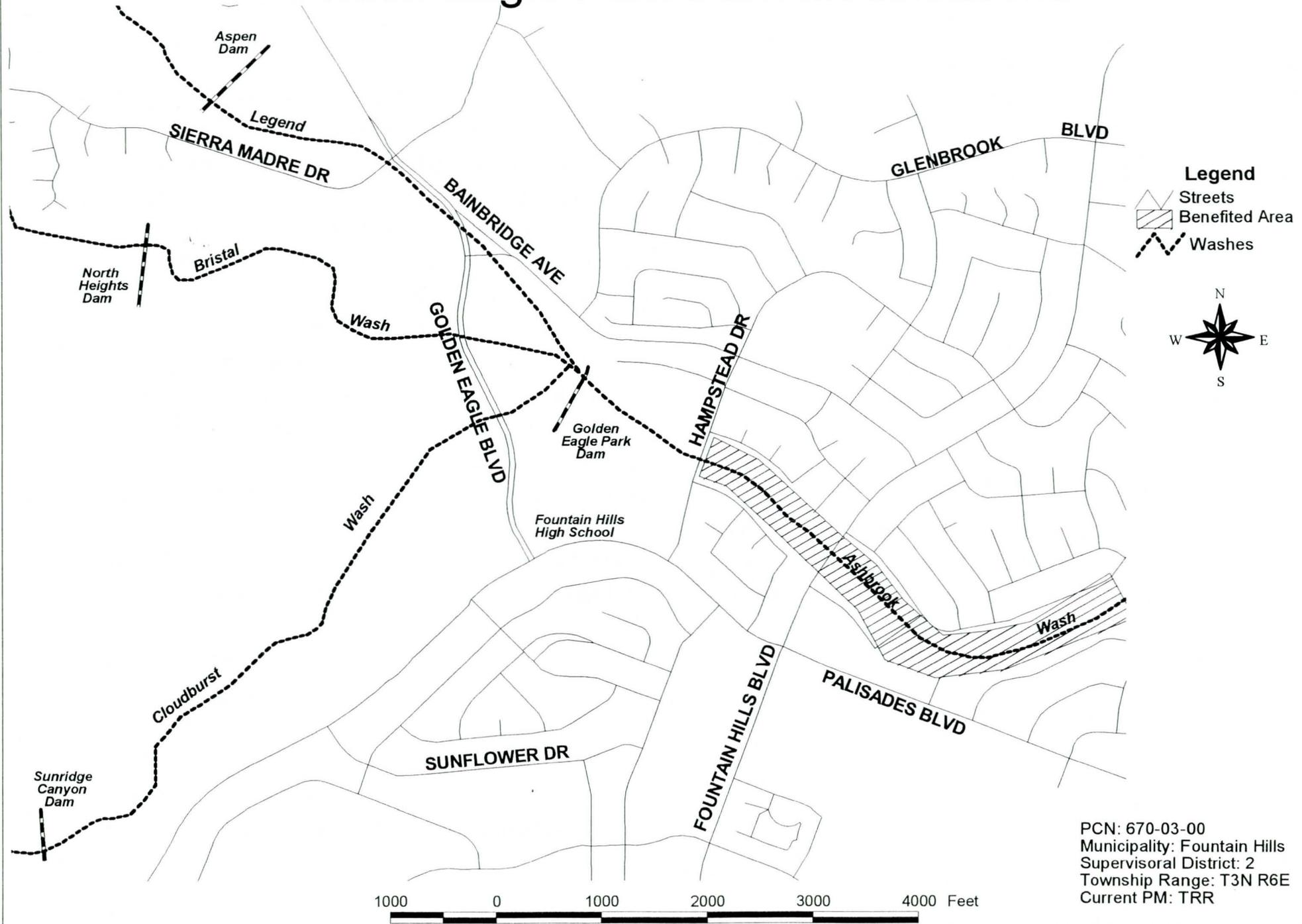
Current PM: Tom Renckly

PCN: 670-02-XX

Ashbrook Wash and its tributaries (including Balboa Wash) are the largest wash system in Fountain Hills. Downstream of an existing series of dams, 100-year flows of 3,190 cfs affect three major problem areas (Ashbrook Wash, Del Cambre west for 900 feet; Ashbrook Wash, Saguaro Boulevard to Bayfield Dr.; Balboa Wash, and Kings Way to west of Fairlynn Drive). These areas contain sixteen single-family and twenty-three multi-family residences. The 100-year flows may also threaten the Fountain Hills Sewage Treatment Plant. The project is proposed to provide 100-year protection for the thirty-nine residences and the treatment plant. It will also improve conditions for nine roadway segments and enhance implementation of the Town's recreational Trails Plan. The project area is within the Fountain Hills ADMS (completed in FY 96-97). Cost for design and construction have been estimated by Town staff at \$1.3 million (60% by FCD, 40% by

Fountain Hills). Rights-of-way are to be donated to the Town by development interests. Future operation and maintenance will be provided by the Town of Fountain Hills.

Golden Eagle Park Dam Modifications



Project Name: **Golden Eagle Park Dam Modifications**

Municipality: Fountain Hills

Supervisor District: 2

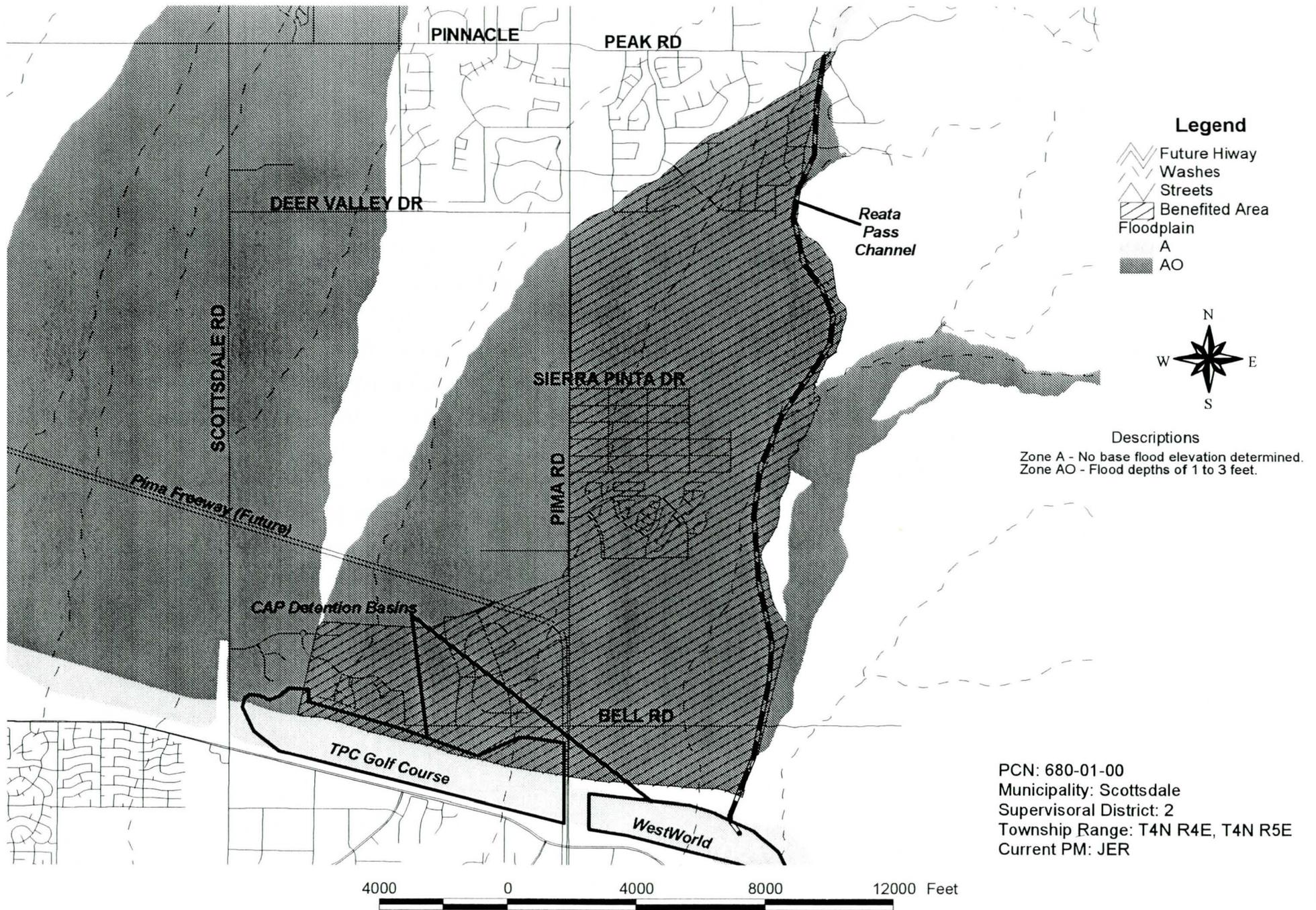
Township/Range: T3N R6E S9, 10

Current PM: Tom Renckly

PCN: 670-03-XX

Golden Eagle Park Dam is a 28-foot high zoned earthfill embankment dam. The Dam functions as a flood control structure and is classified as a high hazard/small dam under the jurisdiction of the Arizona Department of Water Resources (ADWR). The Dam is unable to safely pass the Inflow Design Flood (IDF). The safety of the Dam is of major concern since it is upstream of Fountain Hills High School and a highly developed residential community. Modifications will bring the Dam into compliance with current ADWR dam safety requirements and significantly reduce the potential for flooding at the Fountain Hills High School facilities. The Town of Fountain Hills will be a project participant. The total project cost is estimated at \$1.1 million, of which the Town will fund 35% (\$385,000).

Reata Pass Channel



PCN: 680-01-00
 Municipality: Scottsdale
 Supervisorial District: 2
 Township Range: T4N R4E, T4N R5E
 Current PM: JER

Project Name: **Reata Pass Channel**

Municipality: Scottsdale

Supervisor District: 2

Township/Range: T4N R5E S8, 17, 20, 29, 32

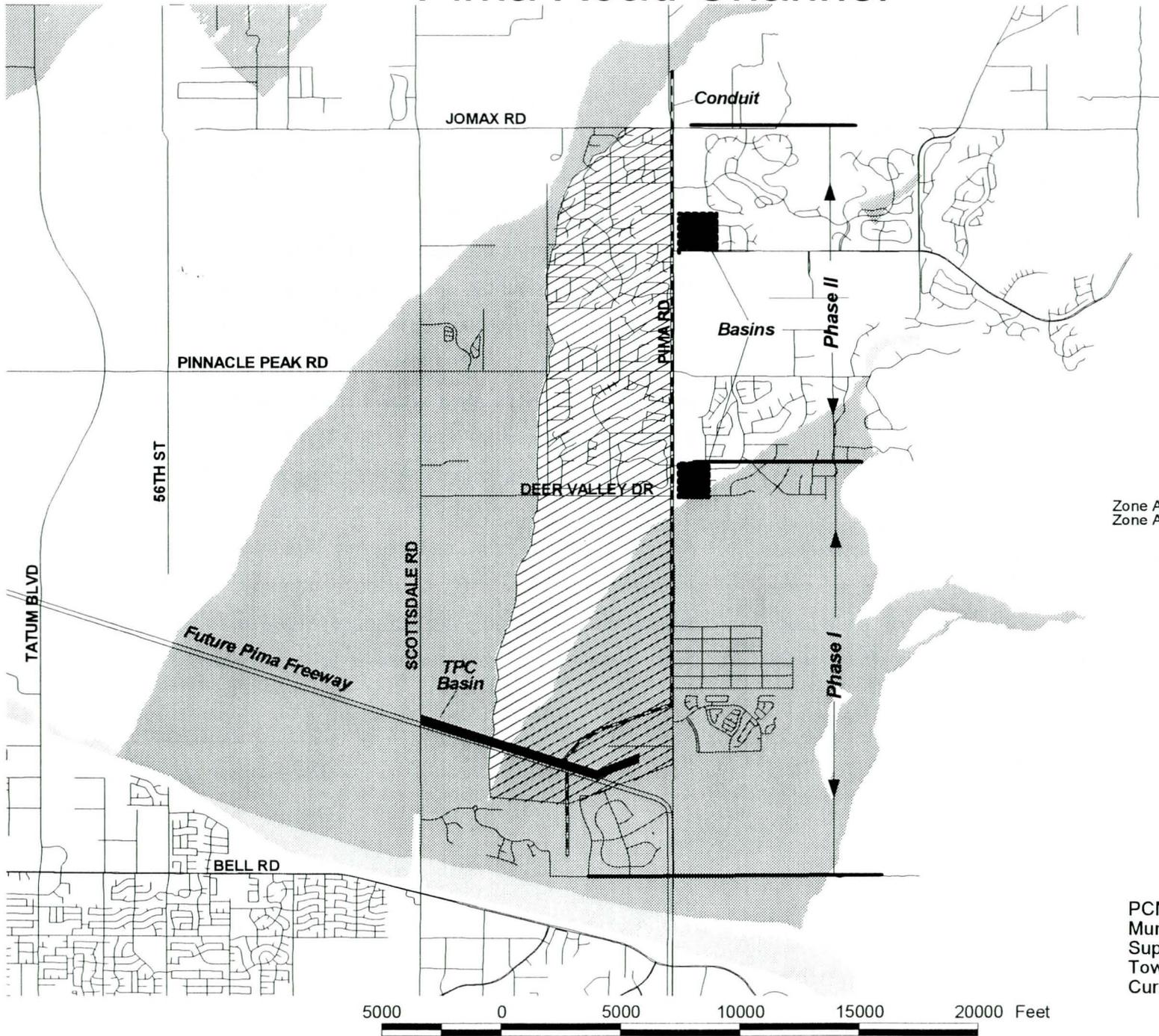
Current PM: John Rodriguez

PCN: 680-01-XX

This project includes a 100-year channel (11,500-16,700 cfs) between Pinnacle Peak Road and the Central Arizona Project (CAP) aquaduct detention basin at Westworld. It will protect 750 existing homes and 760 multi-family units from flows 1-3 feet in depth. The project is a major component of the UIBW ADMP and will allow for future removal of 8.5 square miles of 100-year FEMA alluvial fan flood zone. Flows will be conveyed into regional detention basins at the CAP allowing for potential recharge and water quality enhancements. The project is planned to include a recreational corridor connecting the Westworld area with the McDowell Mountains. The Reata Pass Channel also reduces drainage requirements along the Pima Road and Loop 101 corridors. Under two IGA's, the District will cost-share approximately half of the total Project costs which are estimated at \$32 million, with Scottsdale. Channel design has been completed. Rights-of-ways

have been acquired, and construction is scheduled to commence in late 1998 if a Federal 404 permit is made available in time. The City will provide for future operations and maintenance of the constructed features

Pima Road Channel



- Legend**
- Future Hiway
 - Streets
 - Benefited Area
 - Floodplain**
 - A
 - AO



Descriptions
 Zone A - No base flood elevation determined.
 Zone AO - Flood depths of 1 to 3 feet.

PCN: 680-02-00
 Municipality: Scottsdale
 Supervisorial District: 2
 Township Range: T4N R4E, T4N R5E
 Current PM: JER

Project Name: **Pima Road Channel**

Municipality: Scottsdale

Supervisor District: 2

Township/Range: T4N R4E S24; T4N R5E S6-7, 18-19

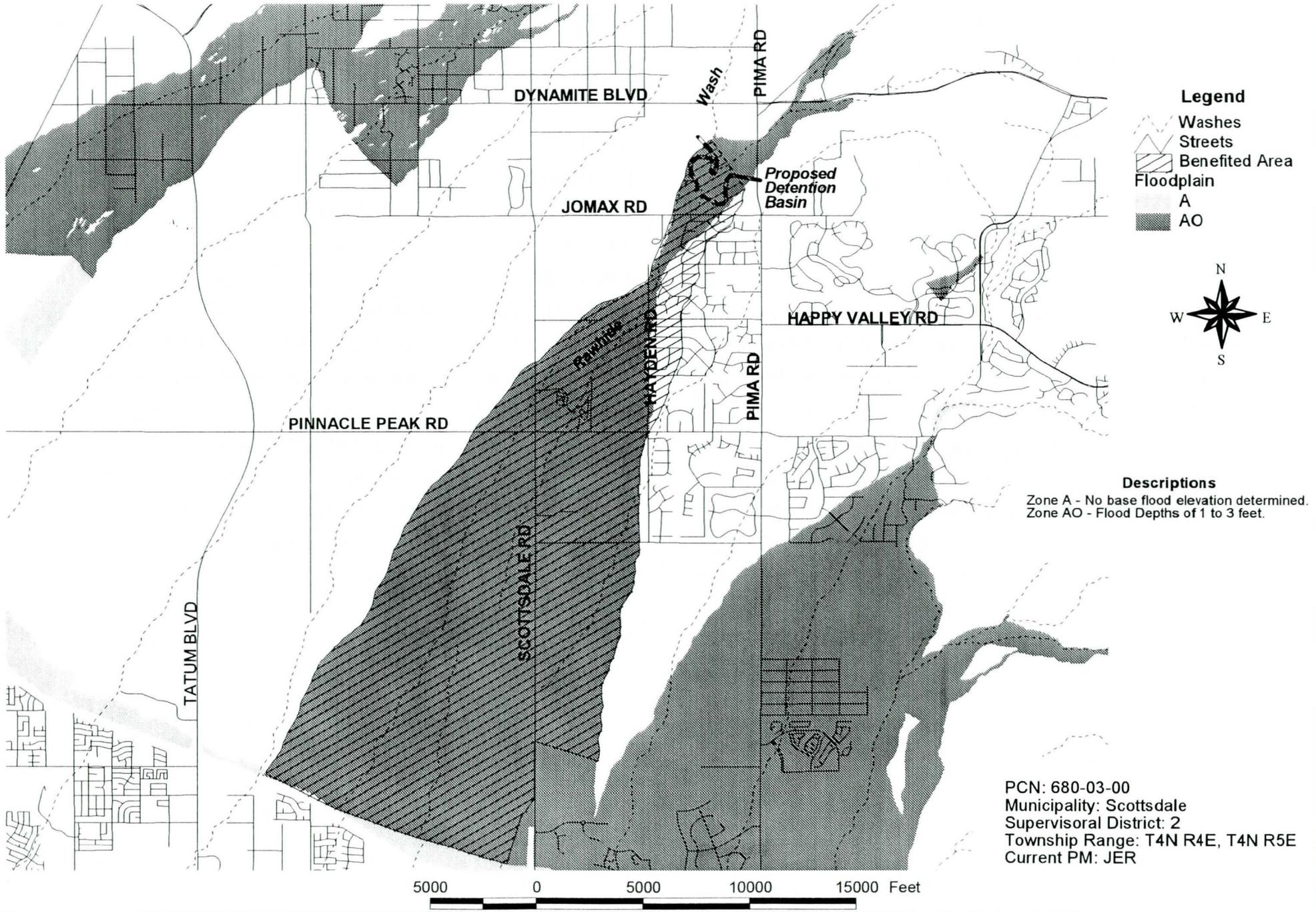
Current PM: John Rodriguez

PCN: 680-02-XX

This project is a continuous conveyance system of collector channels, three detention basins, and outlet conduits that extend from one-quarter mile north of Jomax Road to the U.S. Bureau of Reclamation detention basin at the City of Scottsdale Tournament Players Club (TPC) Golf Course. At its outlet at the TPC, this project receives runoff from a total area of 12.4 square miles. The three basins are located at Happy Valley Road, Deer Valley Drive, and along the north side of the Loop 101 Freeway between Pima and Scottsdale roads. The outfall conduit to the TPC is in the Hayden Road alignment. The project incorporates what was previously defined as the Pima Freeway/TPC Flood Control System. This project is a major component of the UIBW ADMP that will protect approximately 1250 homes, 40 commercial structures, and a water treatment plant, as well as reducing drainage

requirements along Pima Road and Loop 101 Freeway corridors. Flows will be conveyed through the basins, allowing for potential recharge and water quality enhancements. Phase I (TPC to the Deer Valley Basin) is under final design with construction scheduled to start in the last quarter of 1998. Phase II (Deer Valley to Jomax Road) will be constructed at a future date as needed. Phase I costs are estimated at \$ 35 million, with the District contribution being \$18.5 million, while Phase II costs are estimated at \$ 15 million.

Rawhide Wash Detention Basin



Project Name: **Rawhide Wash Detention Basin**

Municipality: Scottsdale

Supervisor District: 2

Township/Range: T4N R4E S1-2, 11, 14

Current PM: John Rodriguez

PCN: 680-03-XX

This Project is a large detention basin facility on property owned by the State Land Department north of Jomax Road. The project will eliminate the need for large-scale channel improvements downstream to the CAP. The project will allow for future removal of 4.5 square miles of 100-year floodplain in Scottsdale and 6.1 square miles in Phoenix. Flows will be conveyed along the existing wash alignment into a regional detention basin upstream of the CAP aquaduct, and will allow for potential recharge and water quality enhancements. The project is also planned to serve future recreational needs. Total costs for the project are estimated at approximately \$16 million for the detention basin. Funding for the basin is expected to be split between the Cities of Phoenix and Scottsdale, the State Land Department and the District. Maintenance and operation responsibilities of the flood control features are expected to be assumed by the District.

Scottsdale would be responsible for maintaining the recreational and landscaping features. The District will be the lead agency for design and construction. Design will commence in FY 98-99 and construction will follow in 2000.

Appendix 1

Status Report on Prioritization Results for
FY 1998/99

**Summary of CIP Project Recommendations
Based on Prioritization Procedure for FY 98/99**

		Proposed By City/Town	Total Original Cost	Remaining FCD Cost	Score	Projected Fiscal Year(s)
I.	Continuing CIP Projects:					
I.A.	Design/Land Acq./Const. Ongoing 1997-98:					
<i>I.A.1</i>	<i>Bethany Home Road, Phase I</i>	<i>U.C.</i>	<i>\$9,400,000</i>	<i>\$1,600,000</i>	<i>82</i>	<i>97/98</i>
I.A.2	Reata Pass Channel	Scottsdale	\$17,300,333	\$1,580,000	74	96/97 - 99/00
I.A.3	Bullard Wash Outfall Channel	Goodyear	\$1,500,000	\$4,500,000	74	95/96 - 01/02
I.A.4	White Tanks #3 FRS Modification	U.C.	\$700,000	\$800,000	73	97/98 - 99/00
II.A.3	C.A.P. Overchute Collection System (FY 96/97)	Mesa	\$10,000,000	\$7,100,000	73	96/97 - 00/01
I.A.5	Pima Road Channel/TPC Basins	Scottsdale	\$18,300,000	\$18,500,000	72	97/98 - 02/03
I.A.6	Oak Street Storm Drain	Scottsdale/Phx.	\$13,500,000	\$7,000,000	72	96/97 - 02/03
I.A.7	Osborn Road Storm Drain	Scottsdale	N/A	TBD*	72	98/99 - TBD
I.A.8	South Phoenix Drainage Improvements	Phoenix/U.C.	\$10,000,000	\$12,150,000	70	95/96 - 02/03
I.A.9	SE Valley Reg. Drainage System	Chandler	\$23,800,000	\$9,100,000	70	96/97 - 00/01
I.A.10	84th St./Cholla Basin & Storm Drain	Scottsdale	\$1,700,000	\$400,000	66	99/00
I.A.11	RID Canal Overchute	Litchfield Park	\$600,000	\$730,000	66	95/96 - 97/98
I.A.12	Rittenhouse Channel	Queen Creek	\$5,156,000	\$2,130,000	66	96/97 - 98/99
I.A.13	Grand Canal Detention Basins (Maryvale ADMP)	Phoenix	\$30,000,000	\$4,300,000	64	96/97 - 99/00
I.A.14	Northern/Orangewood Storm Drain	Glendale/Peoria	\$16,500,000	\$7,300,000	63	95/96 - 01/02
I.A.15	Skunk Creek Improvements	Glendale/Peoria	\$8,200,000	\$9,150,000	60	95/96 - 99/00
I.A.16	Guadalupe Improvements	Guadalupe	\$200,000	\$2,240,000	59	95/96 - 99/00
I.A.17	Tatum Wash Channel	Phoenix	\$10,000,000	\$440,000	56	96/97 - 97/98
I.A.18	Old Cross Cut Canal	Phoenix	\$26,000,000	\$2,800,000	54	95/96 - 98/99
I.A.19	Camelback Ranch Channelization	Phoenix	\$4,250,000	\$4,610,000	53	95/96 - 99/00
I.A.20	White Tanks #4 Inlet	Buckeye	\$3,100,000	\$1,800,000	50	95/96 - 98/99
I.A.21	EMF - Broadway Channel Inlet Improvement	Mesa	\$255,000	\$280,000	N/A	97/98
I.A.22	Sossaman Channel	Mesa	\$800,000	\$1,300,000	N/A	97/98 - 98/99
Subtotal for I.A.:			\$211,261,333	\$99,810,000		

*TBD = To Be Determined

Status Report on Prioritization Results
for FY 1998/99

**Summary Of CIP Project Recommendations
Based On Prioritization Procedure FY 98/99**

		Proposed By City/Town	Total Original Cost	Estimated FCD Cost	Score	Projected Fiscal Year(s)
I.B	IGA/Board Approval Ongoing:					
I.B.1	Skunk Creek Stabilization (Sports Complex)	Peoria	\$1,500,000	\$800,000	73	98/99 - 99/00
I.B.2	Rawhide Wash Reg. Detention Basin (FY 96-97)	Phx./Scottsdale	\$17,500,000	\$8,000,000	73	97/98 - 00/01
I.B.3	Golden Eagle Park Dam (#4) (FY 97/98)	Ftn. Hills	\$414,200	\$650,000	71	97/98 - TBD
I.B.4	Ashbrook/Balboa Wash Improvements (FY 96/97)	Ftn. Hills	\$1,330,000	\$800,000	64	98/99 - 02/03
I.B.5	Arcadia Area Drainage Project	Phoenix	\$12,000,000	\$6,000,000	61	98/99 - TBD
I.B.6	Doubletree Ranch Rd. Drain	P. Valley	\$8,300,000	\$5,750,000	53	96/97 - 01/02
Subtotal for I.B:			\$41,044,200	\$22,000,000		
Total for I.A-I.B:			\$252,305,533	\$121,810,000		

**Summary Of CIP Project Recommendations
Based On Prioritization Procedure FY 98/99**

		Proposed By City/Town	Total Original Cost	Estimated FCD Cost	Score	Projected Fiscal Year(s)
II.	Potential CIP Projects:					
II.A	Pre-Design Initiated					
<i>II.A.1</i>	<i>91st Ave./Union Hills Improvements (FY 94/95 & 98/99)</i>	<i>Peoria</i>	<i>\$8,600,000</i>	<i>\$5,000,000</i>	<i>75</i>	<i>97/98 - 00/01</i>
<i>II.A.2</i>	<i>Bethany Home Road, Phase II (FY 98/99)</i>	<i>FCD</i>	<i>\$27,000,000</i>	<i>\$14,000,000</i>	<i>74</i>	<i>99/00 - TBD</i>
<i>II.A.3</i>	<i>Litchfield Road Storm Drain (FY 98/99)</i>	<i>Litchfield Park</i>	<i>\$1,789,000</i>	<i>\$620,000</i>	<i>73</i>	<i>TBD</i>
<i>II.A.4</i>	<i>Elliot Road Retention Basin (FY 96/97 & FY 98/99) *2</i>	<i>Mesa</i>	<i>\$21,000,000</i>	<i>\$15,750,000</i>	<i>69</i>	<i>TBD</i>
II.A.5	SE Phoenix Regional Storm Drain (FY 96/97)	Phoenix	\$10,000,000	TBD	68	TBD
II.A.6	Queen Creek Rd. & EMF Floodway Basin (FY 97/98) *2	Mesa	\$5,000,000	\$3,750,000	67	TBD
<i>II.A.7</i>	<i>Hawes Road Channel (FY 97/98 & FY98/99) *2</i>	<i>Mesa</i>	<i>\$5,600,000</i>	<i>\$4,200,000</i>	<i>67</i>	<i>TBD</i>
II.A.8	McMicken Dam Inlet Channel (FY 96/97)	FCD	\$2,500,000	\$2,500,000	65	96/97 - TBD
<i>II.A.9</i>	<i>Salt River South Bank Levee (FY98/99)</i>	<i>Tempe</i>	<i>\$600,000</i>	<i>\$600,000</i>	<i>65</i>	<i>01/02</i>
II.A.10	Warner Rd. & EMF Retention Basin (FY 97/98) *2	Mesa	\$1,000,000	\$750,000	64	TBD
<i>II.A.11</i>	<i>Elliot Road Channel West (FY 98/99) *2</i>	<i>Mesa</i>	<i>\$10,300,000</i>	<i>\$7,725,000</i>	<i>63</i>	<i>98/99 - 01/02</i>
<i>II.A.12</i>	<i>ADOT Pit Modifications (FY 98/99)</i>	<i>Tempe</i>	<i>\$750,000</i>	<i>\$375,000</i>	<i>63</i>	<i>TBD</i>
II.A.13	Southern Pacific RR Drain. Improvements (95/96) *1	Tolleson	\$1,500,000	\$1,500,000	59	95/96 - TBD
II.A.14	Southern Ave. Storm Drain - Phase I (FY 96/97) *2	Mesa	\$1,000,000	\$500,000	55	TBD
II.A.15	Ellsworth/Germann Collector Channel (FY 94/95) *2	Mesa	\$2,650,000	TBD	51	TBD
II.A.16	Southern Ave. Storm Drain - Phase II (FY 96/97) *2	Mesa	\$1,500,000	\$750,000	49	TBD
II.A.17	Van Buren St. Drain. Improvements (FY 95/96) *1	Tolleson	\$1,000,000	\$1,000,000	43	95/96 - TBD
Subtotal for II.A:			\$101,789,000	\$59,020,000 (Subject To Change)		

*1 - Durango ADMP, *2 - East Mesa ADMP

Projects with * are linked under single pre-design study recommendations due to their proximity.

Status Report on Prioritization Results
for FY 1998/99

Summary Of CIP Project Recommendations Based On Prioritization Procedure FY 98/99						
		Proposed By City/Town	Total Original Cost	Proposed FCD Cost	Score	Projected Fiscal Year(s)
II.	Potential CIP Projects:					
II.B	Pre-Design Recommended (not initiated):					
<i>II.B.1</i>	<i>Granite Reef Watershed Mitigation</i>	<i>Scottsdale</i>	<i>\$3,400,000</i>	<i>\$2,380,000</i>	<i>77</i>	<i>TBD</i>
<i>II.B.2</i>	<i>New River and Skunk Creek (FY 98/99)</i>	<i>Peoria</i>	<i>\$5,200,000</i>	<i>\$2,500,000</i>	<i>73</i>	<i>TBD</i>
<i>II.B.3</i>	<i>Phoenix Rio Salado (FY 98/99)</i>	<i>Phoenix</i>	<i>\$23,000,000</i>	<i>\$10,000,000</i>	<i>72</i>	<i>01/02 - 02/03</i>
II.B.4	East PVSP Project (FY 95/96)	Scottsdale	\$3,318,000	\$1,650,000	63	01/02 - 02/03
II.B.5	Hayden/Shea Flood Control Project (FY 95/96)	Scottsdale	\$4,600,000	\$2,300,000	63	TBD
II.B.6	East Shea Reg. Flood Control Project (FY 95/96)	Scottsdale	\$4,339,000	\$2,169,500	62	TBD
II.B.8	Dreamy Draw Wash East and West (FY 95/96) *3	Phoenix	\$8,000,000	\$8,000,000	58	TBD
II.B.9	Myrtle Avenue Wash (FY 95/96) *3	Phoenix	\$3,000,000	\$3,000,000	53	TBD
II.B.10	Flynn Lane Wash (FY 95/96) *3	Phoenix	\$5,000,000	\$5,000,000	51	TBD
Subtotal for II.B:			\$59,857,000	\$36,999,500		
Total for II.A-II.B:			\$161,646,000	\$96,019,500 (Subject To Change)		
Total for I.A; I.B; II.A; II.B:			\$413,951,533	\$217,829,500		

*3 - Metro ADMP

Projects with * are linked under single pre-design study recommendations due to their proximity.

Appendix 2

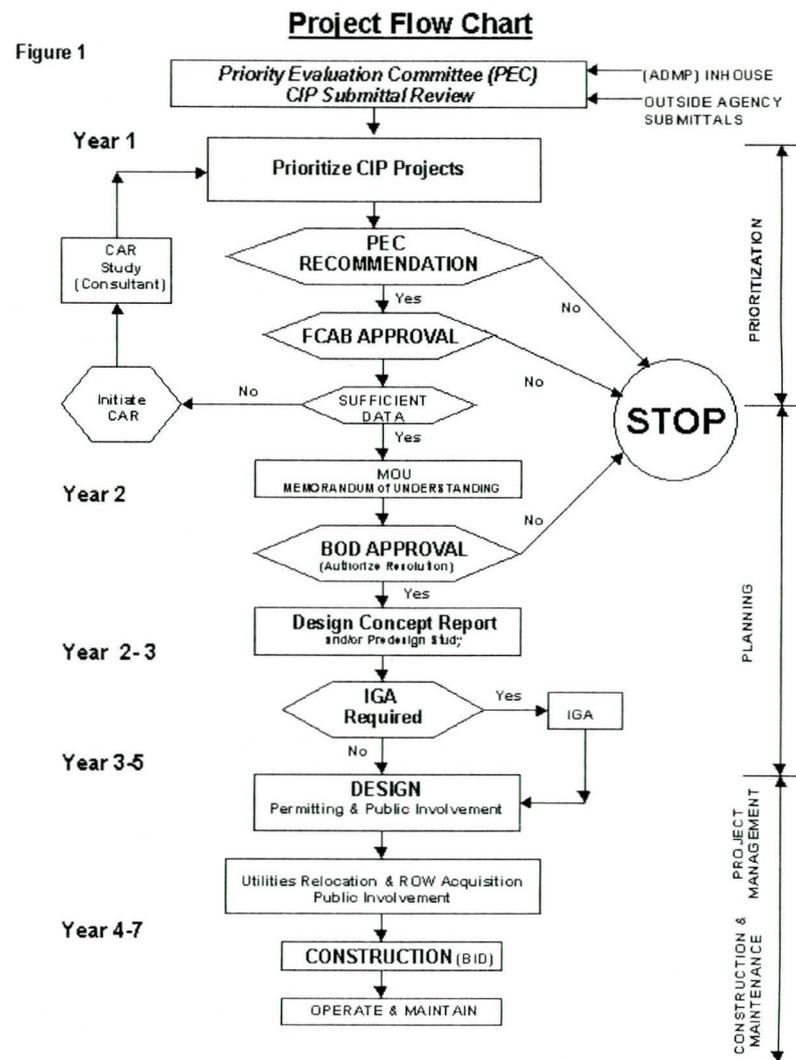
Prioritization Procedures/Weightings

POTENTIAL 5-YEAR CIP PROJECTS

I. PURPOSE OF THE PROCEDURE:

The prioritization process used by the Flood Control District is a two-step mechanism intended to implement previously approved fiscal policies from the District's Strategic Plan. Potential CIP projects are identified primary through agency requests and/or the Area Drainage Master Studies/Area Drainage Master Plans (ADMS/ADMP), Floodplain Delineation or other District programs. The term "Agency" is defined as a municipality or other publicly-managed entity, such as a department of the Federal or State government operating in Maricopa County.

In the first step, all proposed projects are evaluated for inclusion in a District-funded and prioritized pre-design study program. Requesting agencies may elect to complete prioritized pre-design studies with their own staff and funds, provided this information meets the requirements of District-sponsored studies. The primary aim of the pre-design study program is to develop more detailed information on potential CIP projects in the areas of design and construction costs, land acquisition, permitting and mitigation implications, operations and maintenance requirements, and project scheduling. Also important is that a consistent, minimum level of information is provided, so that decisions on CIP priority can be fairly determined. The target cost for performing these studies will be \leq \$75,000.



In the second step, those projects approved for pre-design study will be evaluated and prioritized for inclusion in the District's 5-Year CIP (see Flowchart on Figure 1). For projects requiring an Intergovernmental Agreement (IGA), the information generated in the pre-design study can serve as the basis for negotiations.

As ADMPs are completed and adopted, it is anticipated that a significant number of future pre-design studies and CIP project requests will be generated through this program. Input received annually concerning project priorities coming from these, or other plans, as well as other potential projects, will continue to be sought and prioritized on a County-wide basis using this procedure.

II. GOALS OF THE PROCEDURE:

1. To provide an objective method for prioritizing flood control and regional drainage projects generated through District programs or requested by other agencies.
2. To familiarize other agencies with the project evaluation criteria to be considered by the District when prioritizing potential projects for inclusion in the District's 5-Year CIP.
3. To optimize the timing of project requests with the District's annual budgeting cycle.

4. To reduce uncertainty in the project scoping and IGA negotiation processes.
5. To identify projects on an annual basis that would be eligible for pre-design study and, pending the results of the study, potential inclusion and prioritization in the District's 5-Year Capital Improvement Program (CIP).
6. To provide a mechanism for redistributing funds in the District's 5-Year CIP in response to unanticipated events which may impact the 5-Year CIP.

III. PROJECT REQUEST CALENDAR:

1. Each year by the first Friday in July, District staff will send notice to each appropriate agency requesting that the agencies prepare prioritized CIP project requests for the District's next fiscal year review cycle. Six (6) copies of each project proposal should be received by the District no later than the last Friday in September, if an agency wishes to have projects considered by staff for the following fiscal year's 5-Year CIP. Project requests received after this date must be authorized for review by the Flood Control Advisory Board (FCAB) prior to staff prioritization. The notice will detail the criteria, listed in Section IV below, to be used by District staff when evaluating and prioritizing potential CIP projects.

2. By the last Friday in October, and each year thereafter, detailed information on District-proposed CIP projects will be submitted to the Planning Branch for processing.
3. Planning Branch staff will serve as point of contact, receive all CIP project proposals, and prepare project summaries for use by the Project Evaluation Committee. The Committee will be comprised of District staff and will include two members from the Planning Branch, the Manager of the Regulatory Division, the Manager of the Engineering Division, the Manager of the Construction and Maintenance Division, and the Manager of the Land Management Division.
4. During the month of November, the Project Evaluation Committee will review and prioritize all new project proposals for potential inclusion in the District's pre-design study program. The priority for recommended pre-design studies that have not been initiated in the preceding fiscal year shall be based on the project proposal's total score, regardless of the year in which the proposal was submitted.
5. Also during the month of November, project proposals that have pre-design studies completed will be re-prioritized by the Project Evaluation Committee as potential CIP projects. The prioritization will use the same criteria used to rank pre-design studies and will be based on the information generated during the pre-design study.
6. By December 1st, the Committee will provide its prioritized list of District-proposed and agency-requested pre-design studies and CIP projects to the Manager of the Planning and Project Management Division and the FCAB Program and Budget Committee, where the prioritized list will be reviewed for budget and manpower implications.
7. By January 1st, the Manager of the Planning and Project Management Division will submit a staff recommendation to the Chief Engineer and General Manager and the FCAB Program and Budget Committee.
8. In January, the prioritized list of pre-design studies and CIP projects recommended for approval by the Chief Engineer and General Manager and the FCAB Program and Budget Committee will be included in the draft annual budget for the upcoming fiscal year. Also, in January, notice of the staff recommendation will be provided to all agencies submitting project proposals.
9. In February, the draft annual budget, which will include the recommended list of pre-design studies and CIP projects, will be presented to the FCAB in their regularly noticed meeting.
10. At the discretion of the agency submitting a project proposal, those lower priority requests not approved for pre-design study by the FCAB may be held by the District as originally submitted, or they may be

reformatted to potentially upgrade their priority in a following year.

11. The Planning Branch will be responsible for coordinating agreements of intent with cooperating agencies, for completing the pre-design studies and for providing status reports on the projects.
12. Projects determined to be feasible through the pre-design study step will be re-prioritized in accordance with #5 above. Projects which remain priorities and have signed IGAs, where applicable, will then be recommended for inclusion in the District's 5-Year CIP.

IV. PRIORITIZATION CRITERIA:

The Prioritization Criteria has been developed as a means for staff to uniformly consider and evaluate District-generated or agency-requested 5-Year CIP projects. Agencies having jurisdiction over stormwater drainage in the project area must be able to demonstrate that their regulations conform with or exceed the provisions of the Uniform Drainage Policies and Standards (UDPS) for Maricopa County. To satisfy this requirement, copies of pertinent ordinances should be referenced and/or attached to the project request. In the event that concerns arise, a joint determination of conformance will be made by the requesting agency and the District.

Each request which meets this minimum standard will be evaluated by District staff and scored on the Project Priority

Worksheet (copy attached). Through the eleven (11) weighted criteria listed below, a maximum total of 100 points per project is possible. If insufficient data is provided for a particular criterion, the minimum number of points will be awarded in that category. Projects will be ranked by staff according to the total points received.

PROJECT OVERVIEW & DETAILS

Project Description (0 points)

Provide a summary of the proposed project with a reproducible location map. Include information concerning project goals, problems to be addressed, anticipated project features, and relationships to any other planned, ongoing or completed infrastructure projects.

1. Agency Priority (5 points)

Multiple project proposals from a single agency should be ranked by the agency prior to submittal. Separate projects must not be grouped into generalized categories such as high, medium or low. However, a number of integrated projects required to improve a particular watershed may be classified as a single, phased project. As appropriate, the District will request an annual update of the agency's priority list.

2. Master Plan Element (8 points)

Provide information on the project's relationship to any existing or ongoing, flood control/stormwater management master plans or other types of plans. These plans could include, but are not limited to, Drainage, Land Use, Transportation, Recreation, Environmental, Economic Development or other agency-sponsored plans. For projects that are components of an agency-sponsored master plan, points will be awarded on the basis of the project's relative significance or priority within the overall plan.

3. Hydrologic/Hydraulic Significance (10 points)

Describe existing watershed conditions. Where applicable, the description should assess both the contributing watershed and the availability and/or conveyance capacity of the receiving outfall system. The types of information to be considered include the following:

- a. Location in delineated floodway/floodway fringe area or non-delineated flood prone (minimum of two events in 10 years) area;
- b. Peak discharges and frequency of flooding events;
- c. Depth, velocity and duration of flow;

- d. Contributing watershed characteristics (size, slope, land use, etc.);
- e. Existing outfall characteristics (none, undersized, full capacity, etc.); and,
- f. Other.

4. Level of Protection (10 points)

Identify the flood return frequency (2-year to 100-year) to be addressed by the project. When applicable, information regarding both the anticipated design level of protection and the effective level of protection, such as that provided by storm drains combined with curb and gutter roadways, should be provided.

PROJECT BENEFITS

5. Area Protected (25 points)

Provide a summary of the benefits that would be provided by completion of the project. The various types of information to be considered includes the following:

- a. The number and estimated value of residential, commercial and industrial buildings to be protected that are located in delineated floodways or 100-year floodplains;

- b. The number and estimated value of residential, commercial and industrial buildings to be protected that are not located in delineated floodplains;
 - c. Number of public buildings (schools, libraries, churches, etc.) to be protected;
 - d. Amount of infrastructure (roads, drainage/flood control or wastewater facilities, etc.) to be protected or enhanced (e.g., storm drain capacity increase from 2-10 years.);
 - e. Amount of cultivated acreage to be protected by the project;
 - f. Acreage of developed, agricultural and undeveloped land to be removed from the 100-year floodplain;
 - g. Percentage of agency's jurisdictional area (developed and undeveloped) to be protected;
 - h. Identify the population directly and indirectly benefited by the project;
 - i. Age of development and length of time that the flooding problem has existed;
 - j. Year drainage regulations and/or floodplain delineation were adopted;
 - k. Will completion of the project result in a reduction of the floodplain and/or an improvement in the community's floodplain rating? and,
 - l. Other.
6. Environmental Quality (8 points)
- Provide enough detail to permit an evaluation of how the project may immediately or potentially benefit existing conditions in the areas of:
- a. Water quality (e.g., will stormwater be managed through basins or wetlands prior to its discharge to the receiving waters?);
 - b. Vegetation and wildlife habitat (e.g., will an existing wildlife corridor be maintained/enhanced, or will new habitat areas be created through the provision of dedicated drainage/open space areas?);
 - c. Environmentally sensitive areas (designated wildlife areas, riparian corridors, etc.) to be protected;

7. Area-wide Benefits (10 points)

These immediate or potential benefits will be weighed in addition to the flood control requirements of the project.

- a. Multi-use features such as groundwater enhancement (e.g., will basins be used to encourage groundwater percolation, or is direct groundwater recharge planned?). Or will the proposed drainage improvements benefit existing or planned recreation or transportation facilities;
- b. Support of the “MAG Desert Spaces Open Space Management Plan”; and,
- c. Improvement of quality of life indicators such as, but not limited to, cultural, economic or environmental aspects of the community.

PROJECT FUNDING

8. Total Project Cost (6 points)

Estimate the total design, land acquisition, and construction costs, and provide a projection of the amount of time necessary to complete each phase. At a minimum, qualitative information on environmental

permitting/mitigation and aesthetic/public acceptance costs should also be included.

9. Level of Partner(s) Participation (8 points)

Provide pertinent information on the availability of other agency resources to assist with project implementation. The types of information to be considered include the following:

- a. Direct agency matching dollars available;
- b. An agency's financial capabilities and ad-valorem tax contributions to the District;
- c. The availability of non-cash contributions (R/W donations, etc.);
- d. Previous agency flood control expenditures in the project area;
- e. The availability of funds from other sources, such as federal matching funds or private contributions; and.

10. Operation & Maintenance Costs (5 points)

At a minimum, the request should qualitatively address expected future public costs for the operations and maintenance of the project.

11. Operation & Maintenance Responsibility (5 points)

Describe in detail which agency will be responsible for the Operation & Maintenance of the completed project. The discussion should include whether the District, the requesting agency, or others will be expected to assume responsibility for operations, maintenance and replacement.

PROJECT PRIORITY WORKSHEET

Project Name:
Requested by:

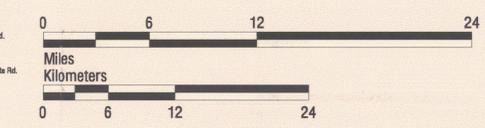
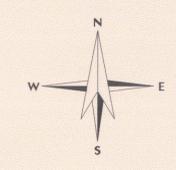
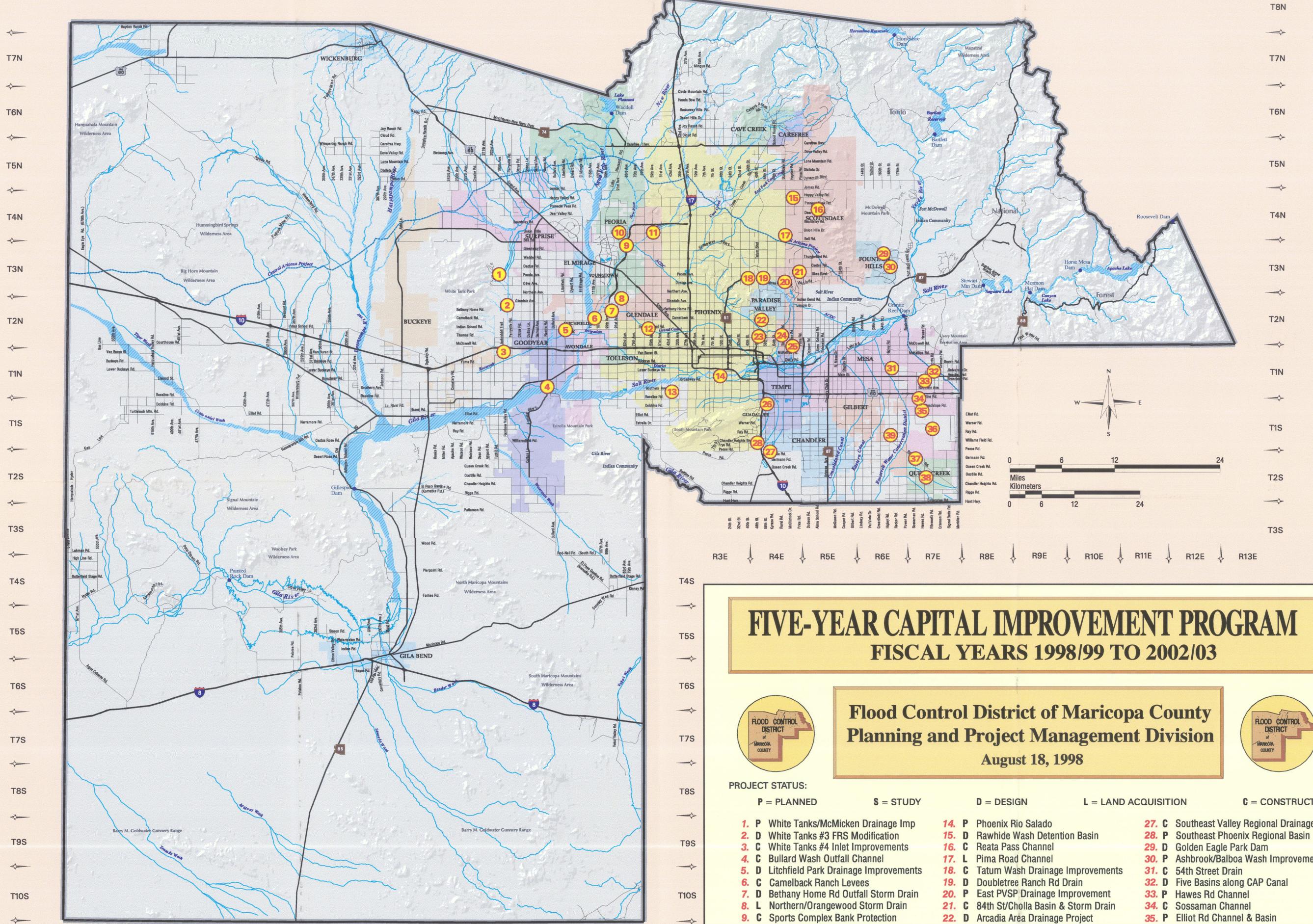
Date:

FACTOR	Range			Points
Agency Priority	<u>Low</u> 0-1	<u>Med</u> 2-4	<u>High</u> 5	
Master Plan Element	<u>Low</u> 0-3	<u>Med</u> 4-6	<u>High</u> 7-8	
Hydrologic/Hydraulic Significance	<u>Low</u> 0-3	<u>Med</u> 4-7	<u>High</u> 8-10	
Level of Protection	<u>2-10 yr</u> 0-5	<u>11-50 yr</u> 6-8	<u>above 50 yr</u> 9-10	
Area Protected	<u>Low</u> 0-9	<u>Med</u> 10-18	<u>High</u> 19-25	
Environmental Quality	0-3	4-6	7-8	
Area-wide Benefits	0-3	4-7	8-10	
Total Project Cost	<u>above \$10M</u> 0-3	<u>between \$3-10M</u> 4-5	<u>under \$3M</u> 6	
Level of Partner(s) Participation	<u>0-30%</u> 0-3	<u>31-60%</u> 4-7	<u>above 60%</u> 8	
O&M Costs	<u>High</u> 0-2	<u>Med</u> 3-4	<u>Low</u> 5	
O & M Responsibility	<u>District</u> 0	<u>Others</u> 3	<u>Agency</u> 5	

TOTAL

Project Description:

R10W R9W R8W R7W R6W R5W R4W R3W R2W R1W R1E R2E R3E R4E R5E R6E R7E R8E R9E R10E R11E R12E R13E



R3E R4E R5E R6E R7E R8E R9E R10E R11E R12E R13E

FIVE-YEAR CAPITAL IMPROVEMENT PROGRAM FISCAL YEARS 1998/99 TO 2002/03

Flood Control District of Maricopa County
Planning and Project Management Division
August 18, 1998

PROJECT STATUS:
P = PLANNED S = STUDY D = DESIGN L = LAND ACQUISITION C = CONSTRUCTION

- | | | |
|--|---|--|
| 1. P White Tanks/McMicken Drainage Imp | 14. P Phoenix Rio Salado | 27. C Southeast Valley Regional Drainage |
| 2. D White Tanks #3 FRS Modification | 15. D Rawhide Wash Detention Basin | 28. P Southeast Phoenix Regional Basin |
| 3. C White Tanks #4 Inlet Improvements | 16. C Reata Pass Channel | 29. D Golden Eagle Park Dam |
| 4. C Bullard Wash Outfall Channel | 17. L Pima Road Channel | 30. P Ashbrook/Balboa Wash Improvements |
| 5. D Litchfield Park Drainage Improvements | 18. C Tatum Wash Drainage Improvements | 31. C 54th Street Drain |
| 6. C Camelback Ranch Levees | 19. D Doubletree Ranch Rd Drain | 32. D Five Basins along CAP Canal |
| 7. D Bethany Home Rd Outfall Storm Drain | 20. P East PVSP Drainage Improvement | 33. P Hawes Rd Channel |
| 8. L Northern/Orangewood Storm Drain | 21. C 84th St/Cholla Basin & Storm Drain | 34. C Sossaman Channel |
| 9. C Sports Complex Bank Protection | 22. D Arcadia Area Drainage Project | 35. P Elliot Rd Channel & Basin |
| 10. D 91st Av/Union Hills Drainage Imp. | 23. C Old Cross Cut Canal (McDowell-AZ Canal) | 36. L East Mesa ADMP |
| 11. C Skunk Creek Improvements | 24. D Osborne Rd Storm Drain Outfall | 37. C Rittenhouse Rd Drainage Improvements |
| 12. L Maryvale Flooding Mitigation | 25. C Oak St Storm Drain | 38. P Queen Creek & Sanokai Wash |
| 13. L South Phoenix Drainage Imp. | 26. L Town of Guadalupe | 39. P Higley ADMP |