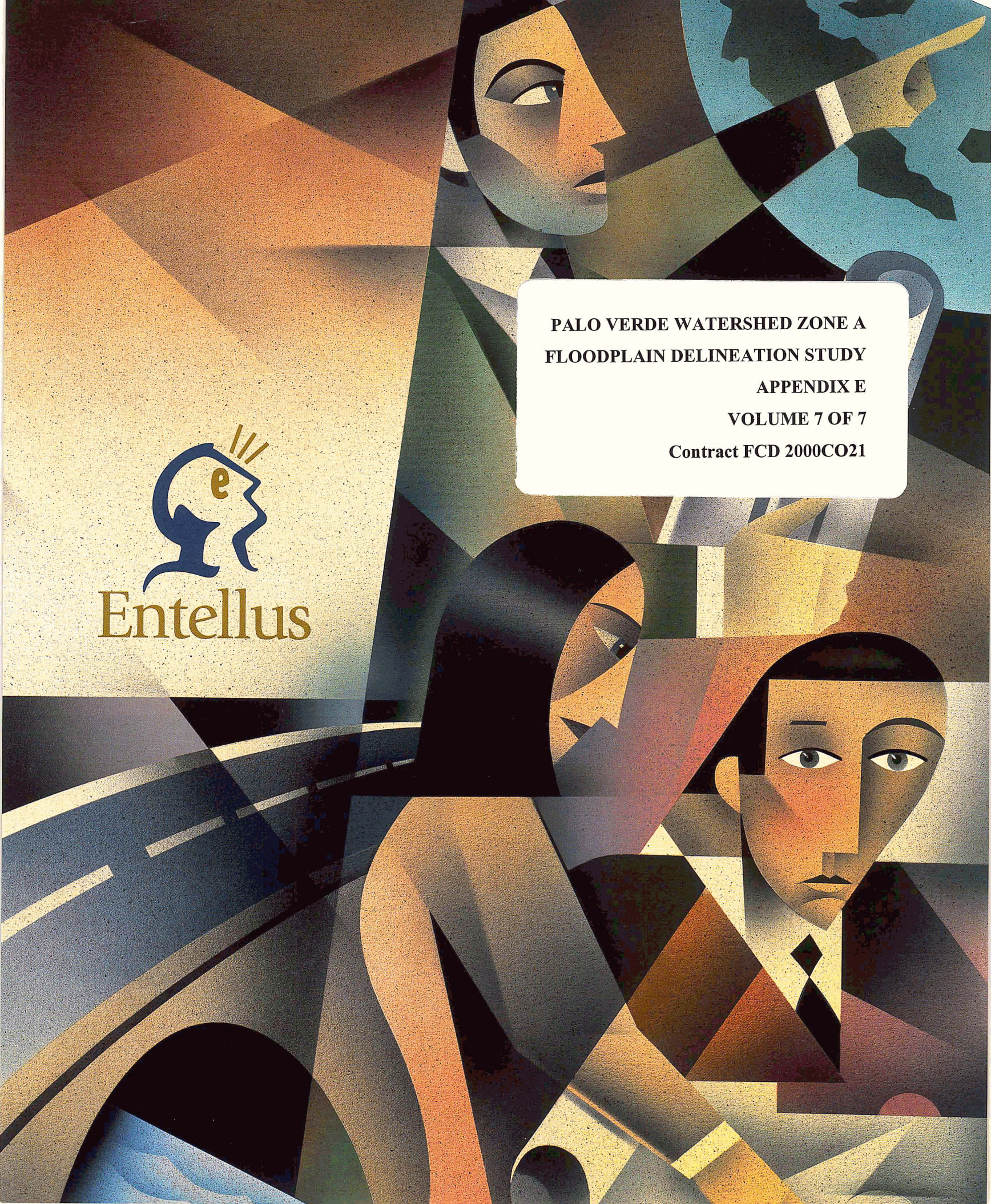

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY

APPENDIX E

VOLUME 7 OF 7

Contract FCD 2000CO21

Entellus

PALO VERDE WATERSHED ZONE A

FLOODPLAIN DELINEATION STUDY

TECHNICAL DATA NOTEBOOK

Contract FCD 2000CO21

Volume 7 of 7

MAY 30 2003

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5-30-03

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PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY

FCD 2000CO21

TECHNICAL DATA NOTEBOOK

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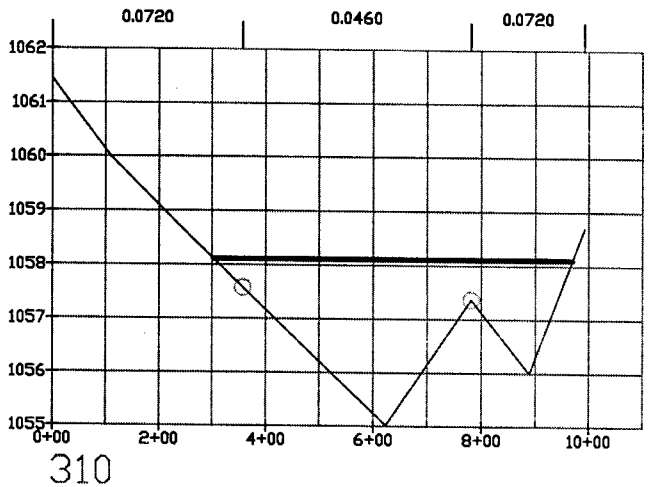
Area E Washes

T1N-R6W-S03E
T1N-R6W-S03W
T1N-R6W-S04E
T1N-R6W-S05E
T1N-R6W-S05W
T1N-R6W-S07
T1N-R6W-S09E
T1N-R6W-S16
T1N-R6W-S17E
T1N-R6W-S17W
T1N-R6W-S18
T1N-R6W-S20E
T1N-R6W-S20W
T1N-R6W-S22E
T1N-R6W-S22N
T1N-R6W-S26
T1N-R6W-S27S
T1N-R6W-S29
T1N-R7W-S01
T1N-R7W-S02
T1N-R7W-S05
T1S-R6W-S08
T1S-R6W-S27
T1S-R6W-S29E
T2N-R6W-S29W
T2N-R6W-S31N
T2N-R6W-S31S
T2N-R6W-S32E
T2N-R6W-S32N
T2N-R6W-S33E
T2N-R6W-S33S
T2N-R6W-S34
T2N-R7W-S19E
T2N-R7W-S19W
T2N-R7W-S20E
T2N-R7W-S20W
T2N-R7W-S25E
T2N-R7W-S25S
T2N-R7W-S25W
T2N-R7W-S26E
T2N-R7W-S26W
T2N-R7W-S27E
T2N-R7W-S27W

Area E Washes (continued)

T2N-R7W-S29
T2N-R7W-S30N
T2N-R7W-S30S
T2N-R7W-S32E
T2N-R7W-S32N
T2N-R7W-S32S
T2N-R7W-S32W
T2N-R7W-S33N
T2N-R7W-S33S
T2N-R7W-S34E
T2N-R7W-S34N
T2N-R7W-S34S
T2N-R7W-S34W
T2N-R7W-S36E
T2N-R7W-S36W

T1N-R6W-S03E



Normal Depth Results

Cross-Section:	310	
Elevation:	1058.11	ft MSL
Depth:	3.09	ft
Discharge:	3000.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.2907	
Flow Regime:	Subcritical	
Flow Area:	1035.32	sq ft
Average Velocity:	2.88	ft/s
Maximum Velocity:	3.31	ft/s
Composite n:	0.0561	
Hydraulic Radius:	1.55	ft
Wetted Perimeter:	667.48	ft
Wetted Top Width:	667.41	ft
Critical Slope:	0.0786	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S03E–310

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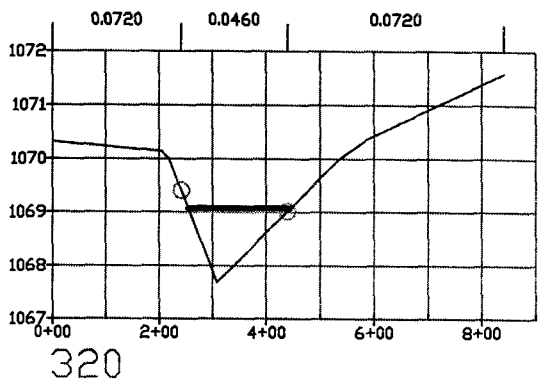

Normal Depth Results

Cross-Section:	320	
Elevation:	1069.08	ft MSL
Depth:	1.39	ft
Discharge:	230.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.2596	
Flow Regime:	Subcritical	
Flow Area:	132.59	sq ft
Average Velocity:	1.75	ft/s
Maximum Velocity:	1.76	ft/s
Composite n:	0.0468	
Hydraulic Radius:	0.69	ft
Wetted Perimeter:	191.10	ft
Wetted Top Width:	191.08	ft
Critical Slope:	0.0719	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S03E–320

Entellus™

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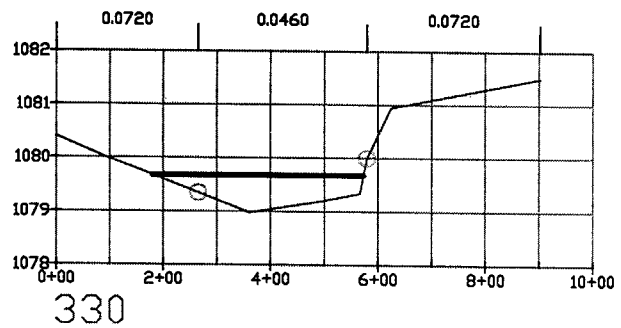


Normal Depth Results

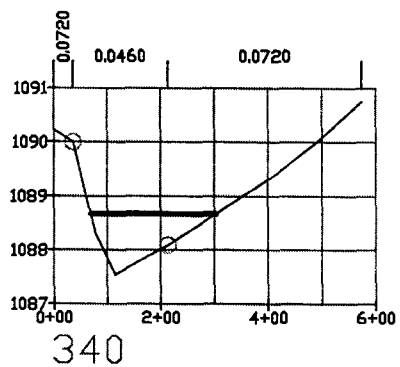
Cross-Section:	330	
Elevation:	1079.68	ft MSL
Depth:	0.70	ft
Discharge:	230.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.2799	
Flow Regime:	Subcritical	
Flow Area:	173.22	sq ft
Average Velocity:	1.33	ft/s
Maximum Velocity:	1.41	ft/s
Composite n:	0.0521	
Hydraulic Radius:	0.44	ft
Wetted Perimeter:	393.43	ft
Wetted Top Width:	393.42	ft
Critical Slope:	0.0823	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S03E–330

Entellus™

File: T1N-R6W-S03E-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

Cross-Section:	340	
Elevation:	1088.67	ft MSL
Depth:	1.12	ft
Discharge:	230.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.2748	
Flow Regime:	Subcritical	
Flow Area:	139.25	sq ft
Average Velocity:	1.63	ft/s
Maximum Velocity:	1.86	ft/s
Composite n:	0.0565	
Hydraulic Radius:	0.59	ft
Wetted Perimeter:	234.05	ft
Wetted Top Width:	234.03	ft
Critical Slope:	0.104	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S03E–340

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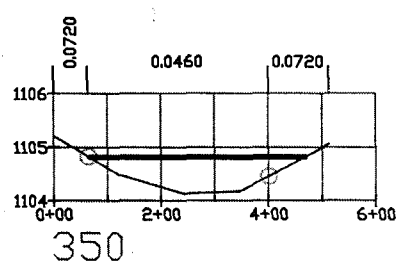
File: T1N-R6W-S03E-New-Mapping.dwg, Date: 10/18/02



Normal Depth Results

Cross-Section:	350	
Elevation:	1104.82	ft MSL
Depth:	0.69	ft
Discharge:	230.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.274	
Flow Regime:	Subcritical	
Flow Area:	178.57	sq ft
Average Velocity:	1.32	ft/s
Maximum Velocity:	1.38	ft/s
Composite n:	0.0507	
Hydraulic Radius:	0.44	ft
Wetted Perimeter:	402.24	ft
Wetted Top Width:	402.23	ft
Critical Slope:	0.0757	ft/ft

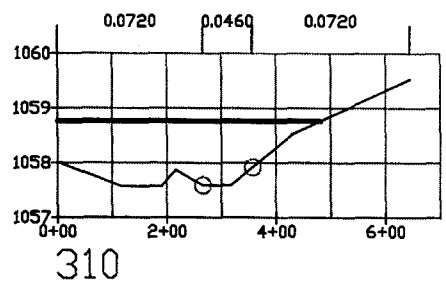
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S03E–350

Entellus™

File: T1N-R6W-S03E-New-Mapping.dwg, Date: 10/18/02

T1N-R6W-S03W



Normal Depth Results

Cross-Section:	310	
Elevation:	1058.77	ft MSL
Depth:	1.20	ft
Discharge:	610.00	cfs
Energy Gradient:	0.0038	ft/ft
Froude Number:	0.2304	
Flow Regime:	Subcritical	
Flow Area:	426.61	sq ft
Average Velocity:	1.44	ft/s
Maximum Velocity:	2.13	ft/s
Composite n:	0.0675	
Hydraulic Radius:	0.88	ft
Wetted Perimeter:	482.10	ft
Wetted Top Width:	482.10	ft
Critical Slope:	0.093	ft/ft

NOT USED IN DELINEATION.

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S03W–310

Entellus™

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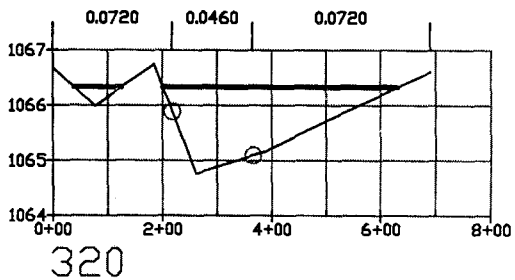

Normal Depth Results

Cross-Section:	320	
Elevation:	1066.34	ft MSL
Depth:	1.58	ft
Discharge:	610.00	cfs
Energy Gradient:	0.0038	ft/ft
Froude Number:	0.2267	
Flow Regime:	Subcritical	
Flow Area:	377.62	sq ft
Average Velocity:	1.63	ft/s
Maximum Velocity:	2.37	ft/s
Composite n:	0.0651	
Hydraulic Radius:	0.73	ft
Wetted Perimeter:	519.33	ft
Wetted Top Width:	519.30	ft
Critical Slope:	0.1484	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S03W–320

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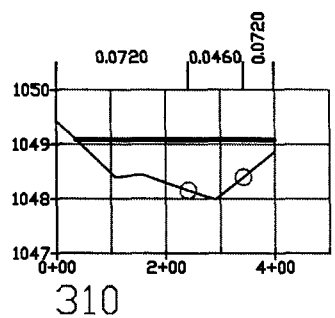
T1N-R6W-S04E



Normal Depth Results

Cross-Section:	310	
Elevation:	1049.09	ft MSL
Depth:	1.10	ft
Discharge:	340.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.2321	
Flow Regime:	Subcritical	
Flow Area:	246.19	sq ft
Average Velocity:	1.39	ft/s
Maximum Velocity:	2.08	ft/s
Composite n:	0.0653	
Hydraulic Radius:	0.68	ft
Wetted Perimeter:	363.43	ft
Wetted Top Width:	363.42	ft
Critical Slope:	0.1143	ft/ft

NOT USED IN DELINEATION.

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S04E–310

Entellus™

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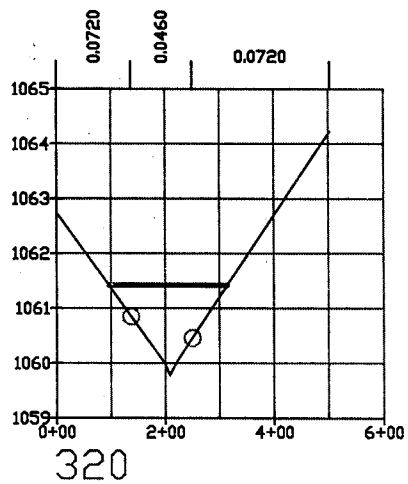

Normal Depth Results

Cross-Section:	320	
Elevation:	1061.42	ft MSL
Depth:	1.64	ft
Discharge:	340.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.2738	
Flow Regime:	Subcritical	
Flow Area:	171.15	sq ft
Average Velocity:	1.96	ft/s
Maximum Velocity:	2.35	ft/s
Composite n:	0.0592	
Hydraulic Radius:	0.79	ft
Wetted Perimeter:	217.98	ft
Wetted Top Width:	217.96	ft
Critical Slope:	0.1148	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S04E–320

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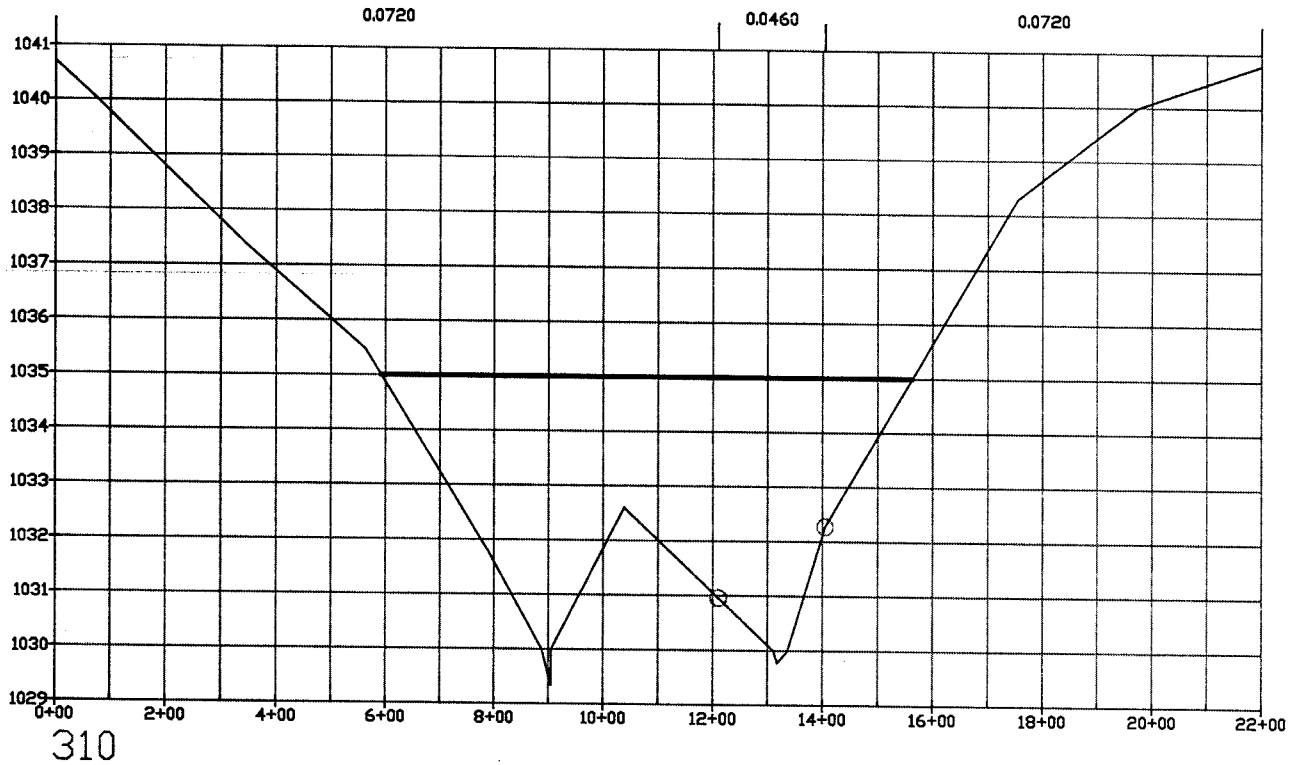
File: T1N-R6W-S04E-New-Mapping.dwg Date: 12/03/02

T1N-R6W-S05E



Normal Depth Results

Cross-Section:	310	
Elevation:	1035.00	ft MSL
Depth:	5.66	ft
Discharge:	11150.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.2822	
Flow Regime:	Subcritical	
Flow Area:	2926.24	sq ft
Average Velocity:	3.81	ft/s
Maximum Velocity:	6.06	ft/s
Composite n:	0.0672	
Hydraulic Radius:	3.01	ft
Wetted Perimeter:	971.20	ft
Wetted Top Width:	970.81	ft
Critical Slope:	0.0852	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S05E–310

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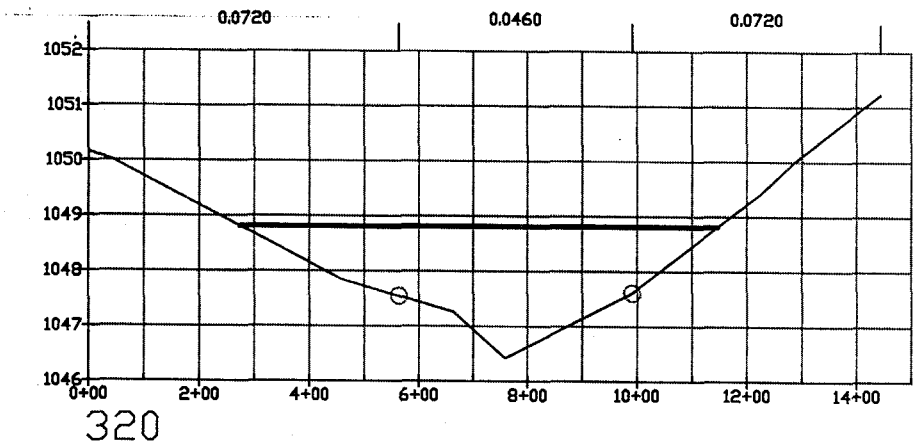

Normal Depth Results

Cross-Section:	320	
Elevation:	1048.81	ft MSL
Depth:	2.39	ft
Discharge:	2770.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.3028	
Flow Regime:	Subcritical	
Flow Area:	1043.06	sq ft
Average Velocity:	2.66	ft/s
Maximum Velocity:	3.28	ft/s
Composite n:	0.0599	
Hydraulic Radius:	1.2	ft
Wetted Perimeter:	872.31	ft
Wetted Top Width:	872.30	ft
Critical Slope:	0.0981	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S05E–320

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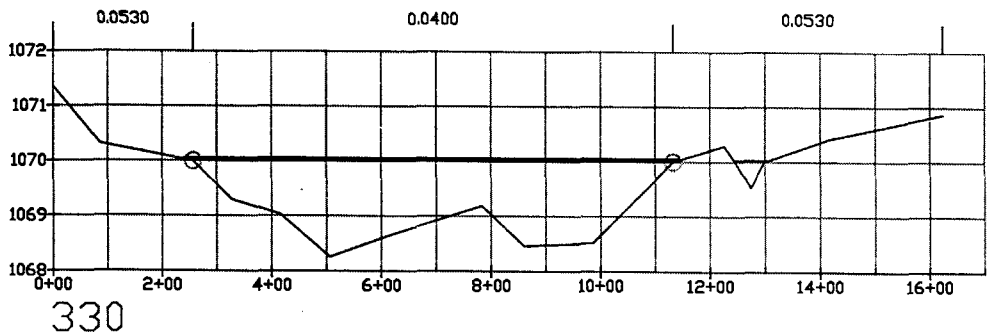


Normal Depth Results

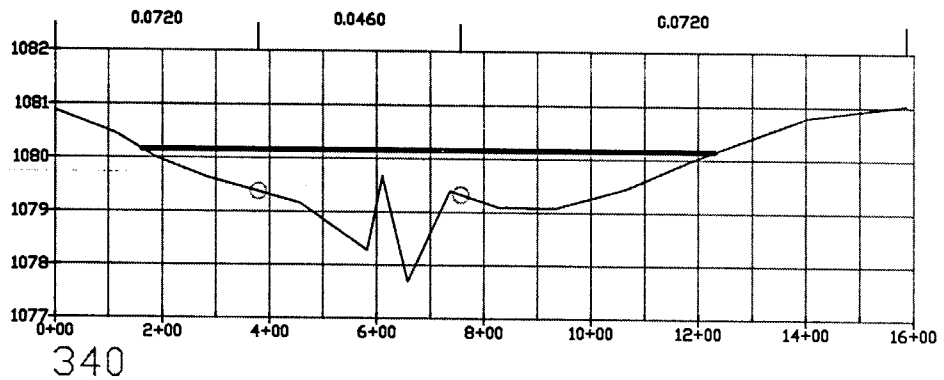
Cross-Section:	330	
Elevation:	1070.03	ft MSL
Depth:	1.77	ft
Discharge:	2770.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.3674	
Flow Regime:	Subcritical	
Flow Area:	999.23	sq ft
Average Velocity:	2.79	ft/s
Maximum Velocity:	2.82	ft/s
Composite n:	0.0412	
Hydraulic Radius:	1.04	ft
Wetted Perimeter:	962.76	ft
Wetted Top Width:	962.73	ft
Critical Slope:	0.0415	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S05E–330

Entellus™

File: T1N-R6W-S05E-NEW-MAPPING.dwg Date: 11/27/02



Normal Depth Results

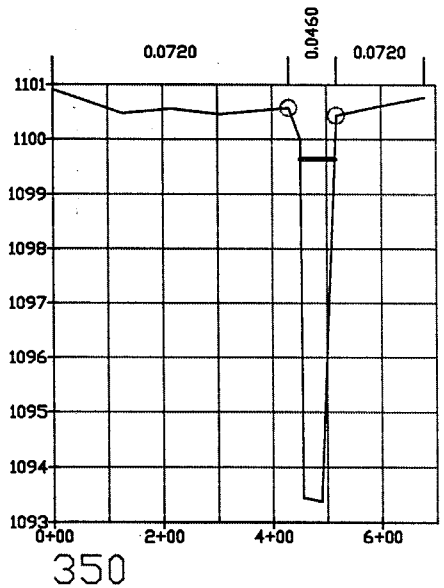
Cross-Section:	340	
Elevation:	1080.15	ft MSL
Depth:	2.46	ft
Discharge:	1820.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.2172	
Flow Regime:	Subcritical	
Flow Area:	940.75	sq ft
Average Velocity:	1.95	ft/s
Maximum Velocity:	2.71	ft/s
Composite n:	0.0634	
Hydraulic Radius:	0.88	ft
Wetted Perimeter:	1067.97	ft
Wetted Top Width:	1067.87	ft
Critical Slope:	0.1701	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S05E–340

Entellus™

File: T1N-R6W-S05E-New-Mapping.dwg; Date: 9/03/02



Normal Depth Results

Cross-Section:	350	
Elevation:	1099.64	ft MSL
Depth:	6.26	ft
Discharge:	1820.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.4315	
Flow Regime:	Subcritical	
Flow Area:	297.09	sq ft
Average Velocity:	6.14	ft/s
Maximum Velocity:	6.14	ft/s
Composite n:	0.046	
Hydraulic Radius:	4.46	ft
Wetted Perimeter:	66.69	ft
Wetted Top Width:	62.22	ft
Critical Slope:	0.0262	ft/ft

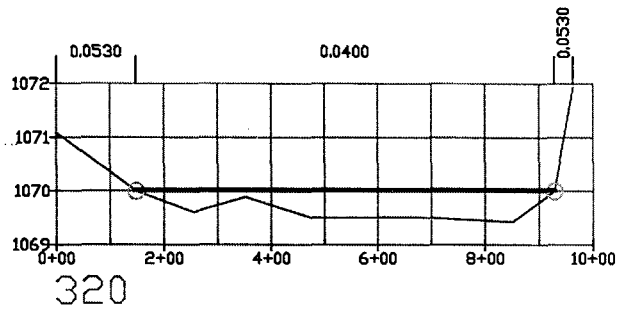
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S05E–350

Entellus™

File: T1N-R6W-S05E-NEW-MAPPING.dwg, Date: 11/27/02

T1N-R6W-S05W



Normal Depth Results

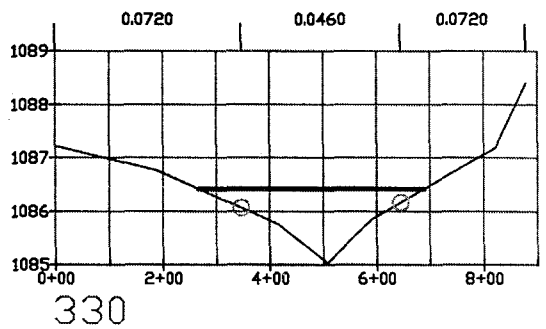
Cross-Section:	320	
Elevation:	1070.02	ft MSL
Depth:	0.59	ft
Discharge:	450.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.3301	
Flow Regime:	Subcritical	
Flow Area:	312.29	sq ft
Average Velocity:	1.42	ft/s
Maximum Velocity:	1.42	ft/s
Composite n:	0.04	
Hydraulic Radius:	0.4	ft
Wetted Perimeter:	784.16	ft
Wetted Top Width:	784.16	ft
Critical Slope:	0.0469	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S05W–320

Entellus™

File: T1N-R6W-S05W-New-Mapping.dwg Date: 11/27/02



Normal Depth Results

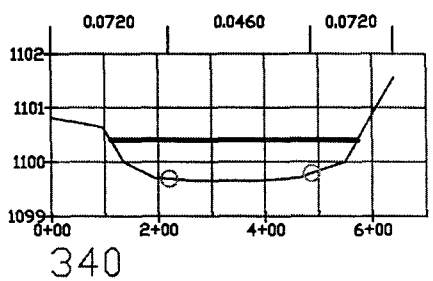
Cross-Section:	330	
Elevation:	1086.42	ft MSL
Depth:	1.39	ft
Discharge:	450.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.2668	
Flow Regime:	Subcritical	
Flow Area:	252.11	sq ft
Average Velocity:	1.81	ft/s
Maximum Velocity:	1.92	ft/s
Composite n:	0.0542	
Hydraulic Radius:	0.6	ft
Wetted Perimeter:	421.90	ft
Wetted Top Width:	421.89	ft
Critical Slope:	0.1177	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S05W–330

Entellus™

File: T1N-R6W-S05W-Now-Mapping.dwg Date: 11/27/02



Normal Depth Results

Cross-Section:	340	
Elevation:	1100.41	ft MSL
Depth:	0.76	ft
Discharge:	450.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.315	
Flow Regime:	Subcritical	
Flow Area:	289.29	sq ft
Average Velocity:	1.54	ft/s
Maximum Velocity:	1.85	ft/s
Composite n:	0.0577	
Hydraulic Radius:	0.63	ft
Wetted Perimeter:	461.74	ft
Wetted Top Width:	461.73	ft
Critical Slope:	0.0682	ft/ft

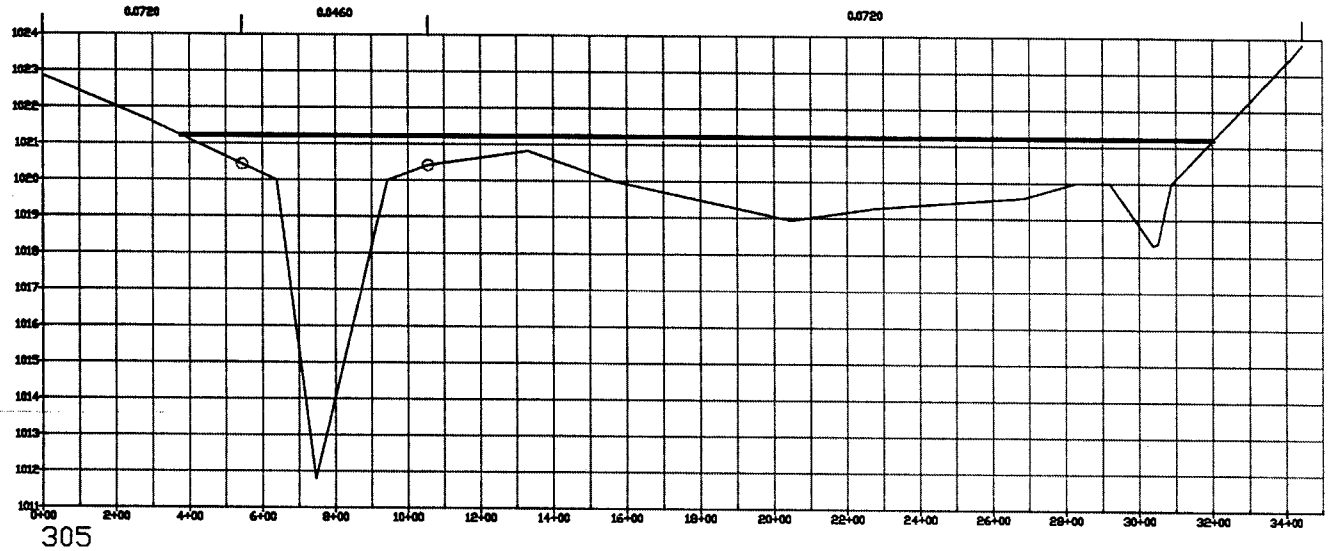
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S05W–340

Entellus™

File: T1N-R6W-S05W-New-Mapping.dwg, Date: 11/27/02

T1N-R6W-S07



Normal Depth Results

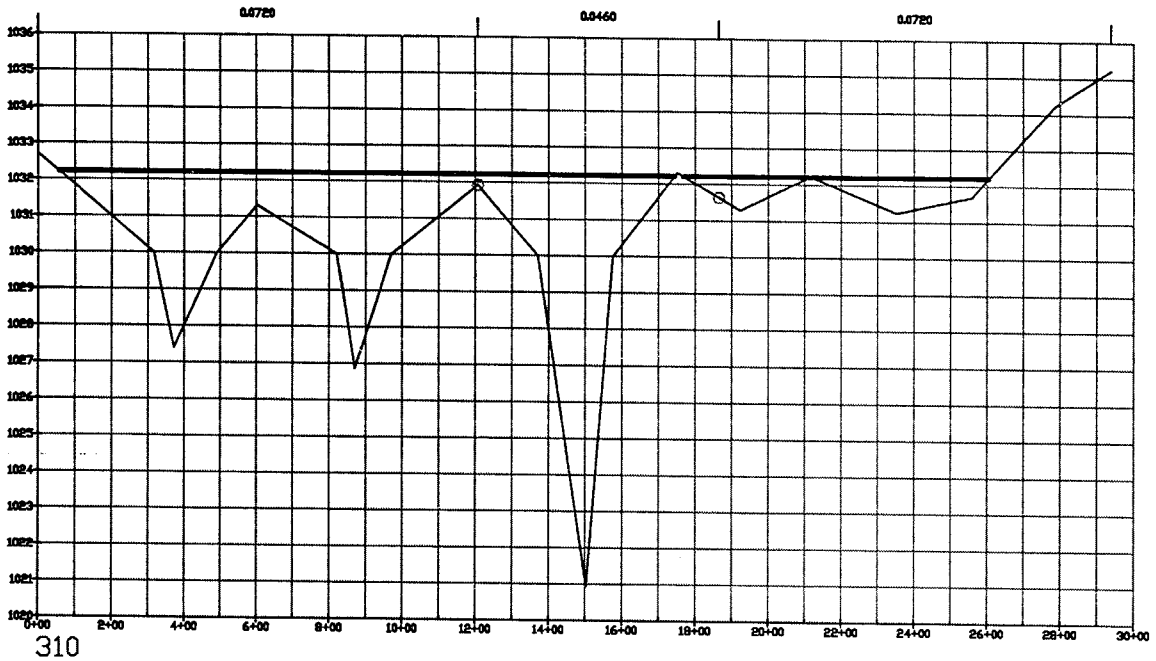
Cross-Section:	305	
Elevation:	1021.23	ft MSL
Depth:	9.42	ft
Discharge:	15340.00	cfs
Energy Gradient:	0.0047	ft/ft
Froude Number:	0.174	
Flow Regime:	Subcritical	
Flow Area:	5064.47	sq ft
Average Velocity:	3.04	ft/s
Maximum Velocity:	5.20	ft/s
Composite n:	0.0676	
Hydraulic Radius:	1.79	ft
Wetted Perimeter:	2825.01	ft
Wetted Top Width:	2824.47	ft
Critical Slope:	0.2872	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S07–305

Entellus™

File: T1N-R6W-S07-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

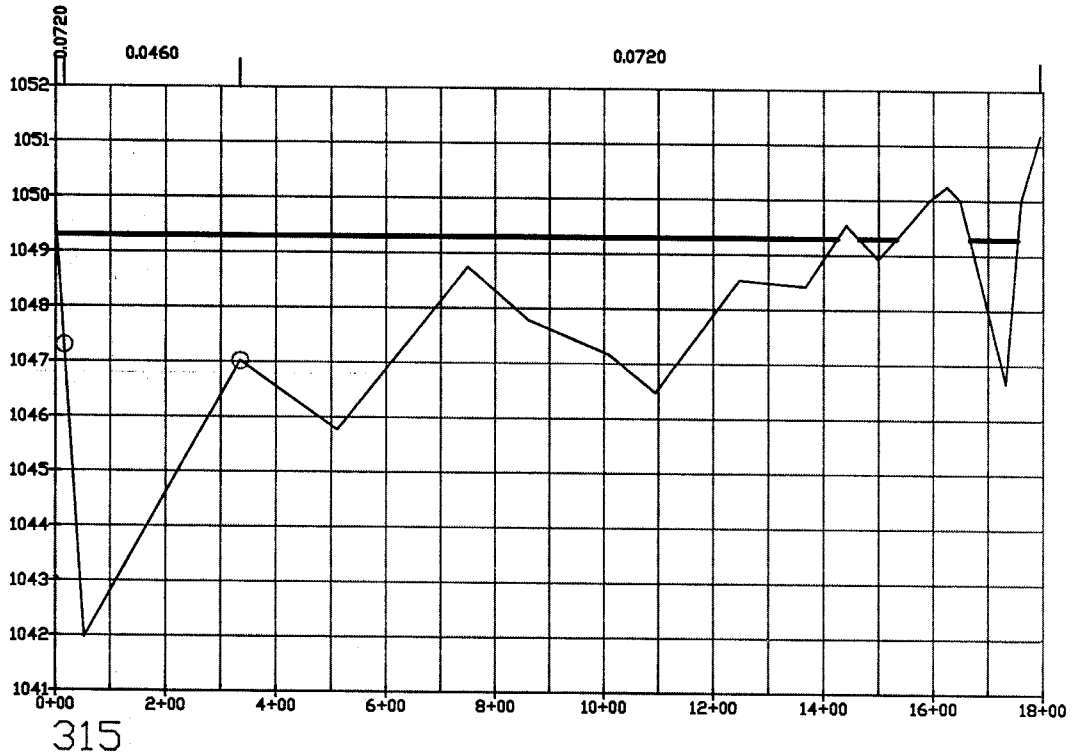
Cross-Section:	310	
Elevation:	1032.22	ft MSL
Depth:	11.27	ft
Discharge:	13450.00	cfs
Energy Gradient:	0.0047	ft/ft
Froude Number:	0.1573	
Flow Regime:	Subcritical	
Flow Area:	4488.87	sq ft
Average Velocity:	3.01	ft/s
Maximum Velocity:	4.44	ft/s
Composite n:	0.0659	
Hydraulic Radius:	1.78	ft
Wetted Perimeter:	2522.97	ft
Wetted Top Width:	2521.80	ft
Critical Slope:	0.3294	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S07–310

Entellus™

File: T1N-R6W-S07-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

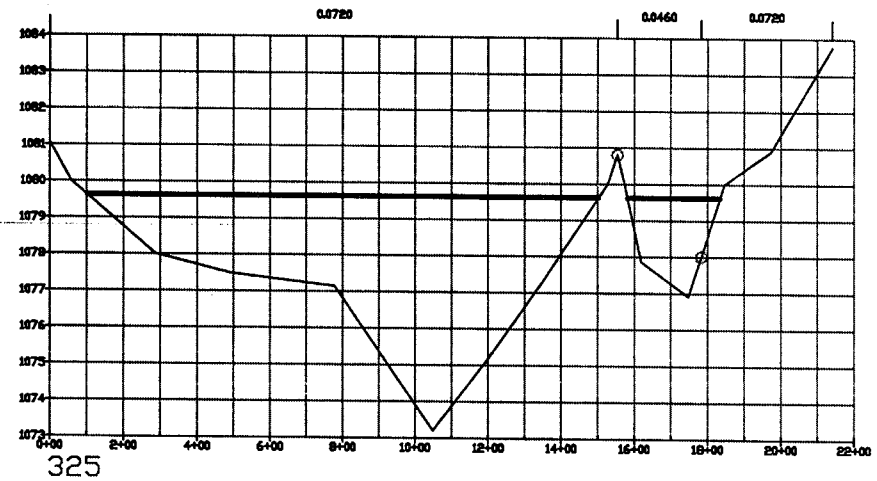
Cross-Section:	315	
Elevation:	1049.30	ft MSL
Depth:	7.33	ft
Discharge:	13450.00	cfs
Energy Gradient:	0.0047	ft/ft
Froude Number:	0.2393	
Flow Regime:	Subcritical	
Flow Area:	3660.15	sq ft
Average Velocity:	3.68	ft/s
Maximum Velocity:	6.32	ft/s
Composite n:	0.0677	
Hydraulic Radius:	2.32	ft
Wetted Perimeter:	1579.70	ft
Wetted Top Width:	1578.87	ft
Critical Slope:	0.1589	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S07–315

Entellus™

File: T1N-R6W-S07-New-Mapping.dwg Date: 12/06/02



Normal Depth Results

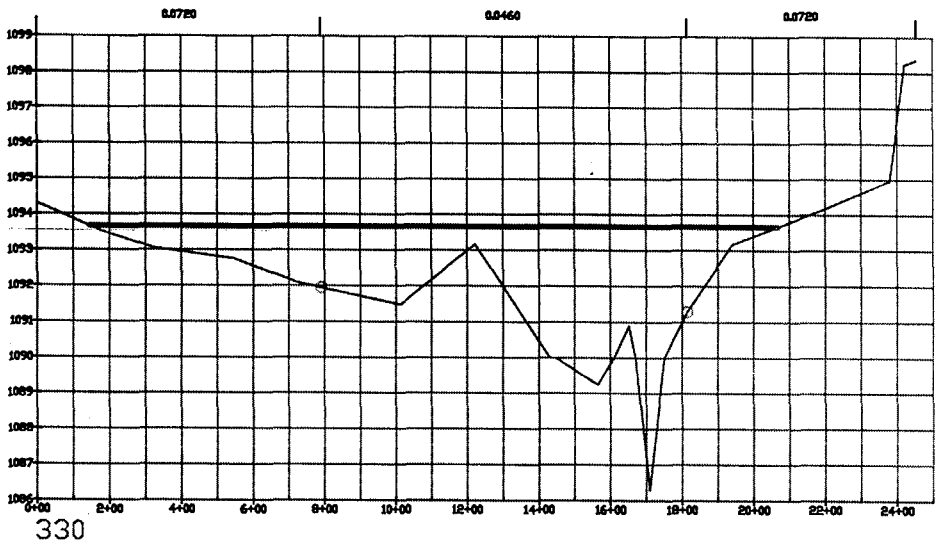
Cross-Section:	325	
Elevation:	1079.62	ft MSL
Depth:	6.41	ft
Discharge:	13140.00	cfs
Energy Gradient:	0.0053	ft/ft
Froude Number:	0.211	
Flow Regime:	Subcritical	
Flow Area:	4333.98	sq ft
Average Velocity:	3.03	ft/s
Maximum Velocity:	3.70	ft/s
Composite n:	0.0691	
Hydraulic Radius:	2.62	ft
Wetted Perimeter:	1652.51	ft
Wetted Top Width:	1652.34	ft
Critical Slope:	0.1227	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S07–325

Entellus™

File: T1N-R6W-S07-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

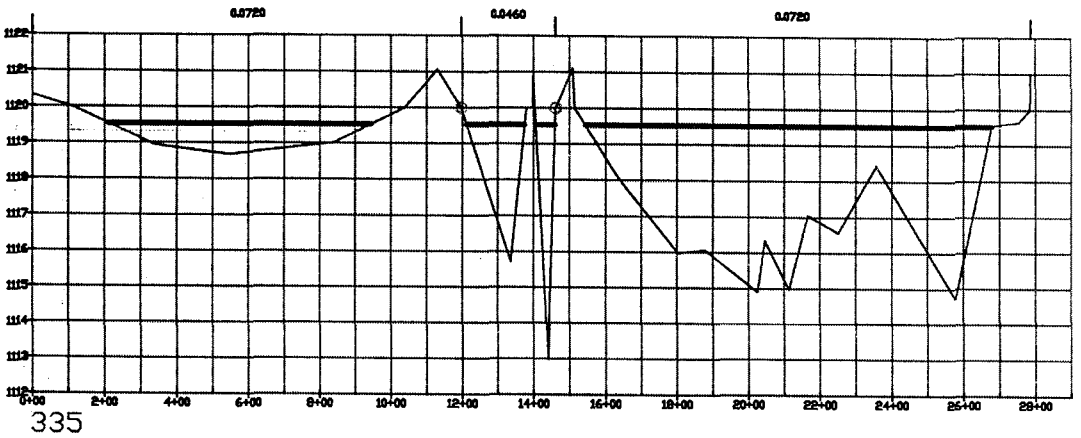
Cross-Section:	330	
Elevation:	1093.66	ft MSL
Depth:	7.37	ft
Discharge:	13140.00	cfs
Energy Gradient:	0.0053	ft/ft
Froude Number:	0.2464	
Flow Regime:	Subcritical	
Flow Area:	3461.69	sq ft
Average Velocity:	3.80	ft/s
Maximum Velocity:	4.49	ft/s
Composite n:	0.0588	
Hydraulic Radius:	1.8	ft
Wetted Perimeter:	1922.41	ft
Wetted Top Width:	1921.97	ft
Critical Slope:	0.169	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S07–330

Entellus™

File: T1S-R6W-S07-New-Mapping.dwg Date: 12/05/02



Normal Depth Results

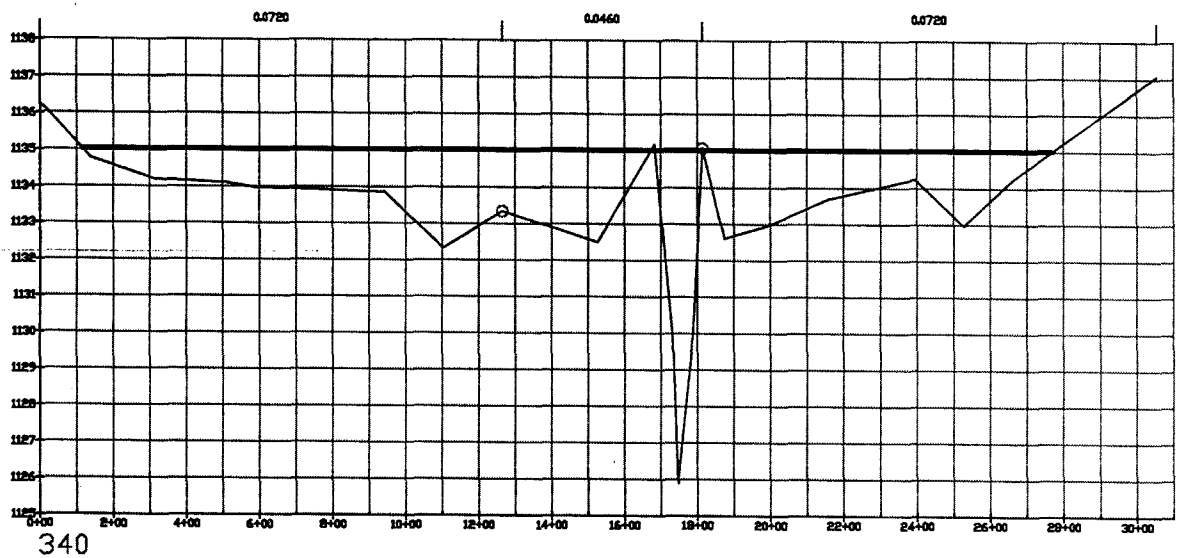
Cross-Section:	335	
Elevation:	1119.53	ft MSL
Depth:	6.55	ft
Discharge:	12060.00	cfs
Energy Gradient:	0.0053	ft/ft
Froude Number:	0.2019	
Flow Regime:	Subcritical	
Flow Area:	4113.52	sq ft
Average Velocity:	2.93	ft/s
Maximum Velocity:	4.02	ft/s
Composite n:	0.0695	
Hydraulic Radius:	1.97	ft
Wetted Perimeter:	2084.32	ft
Wetted Top Width:	2082.05	ft
Critical Slope:	0.1855	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S07–335

Entellus™

File: T1S-R6W-307-New-Mapping.dwg Date: 12/05/02



Normal Depth Results

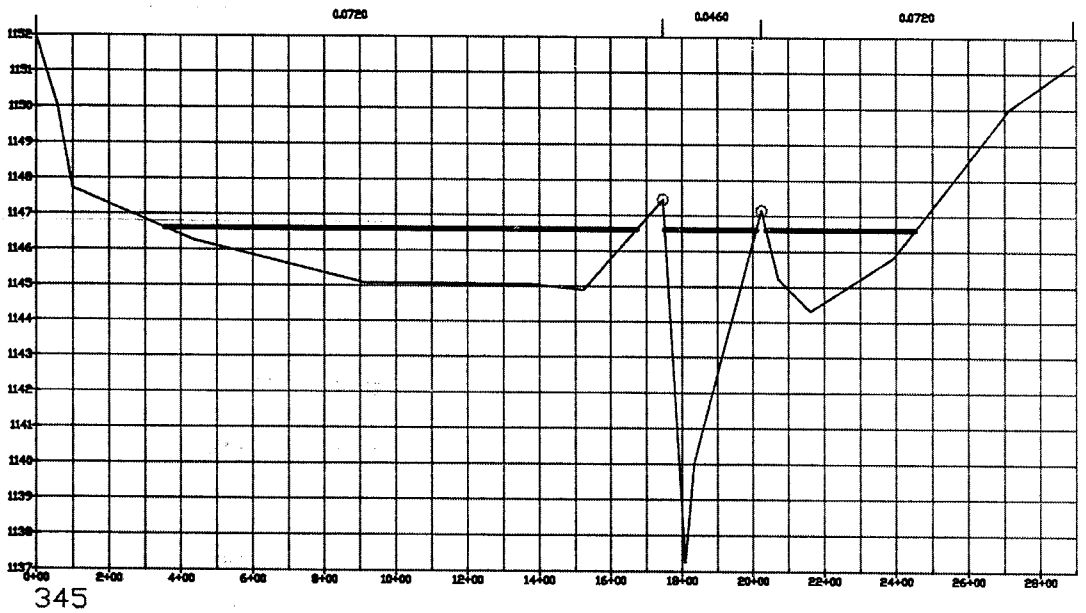
Cross-Section:	340	
Elevation:	1135.02	ft MSL
Depth:	9.11	ft
Discharge:	10380.00	cfs
Energy Gradient:	0.0053	ft/ft
Froude Number:	0.1516	
Flow Regime:	Subcritical	
Flow Area:	3999.44	sq ft
Average Velocity:	2.60	ft/s
Maximum Velocity:	4.28	ft/s
Composite n:	0.0671	
Hydraulic Radius:	1.51	ft
Wetted Perimeter:	2642.72	ft
Wetted Top Width:	2641.14	ft
Critical Slope:	0.3424	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S07–340

Entellus™

File: T1N-R6W-S07-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

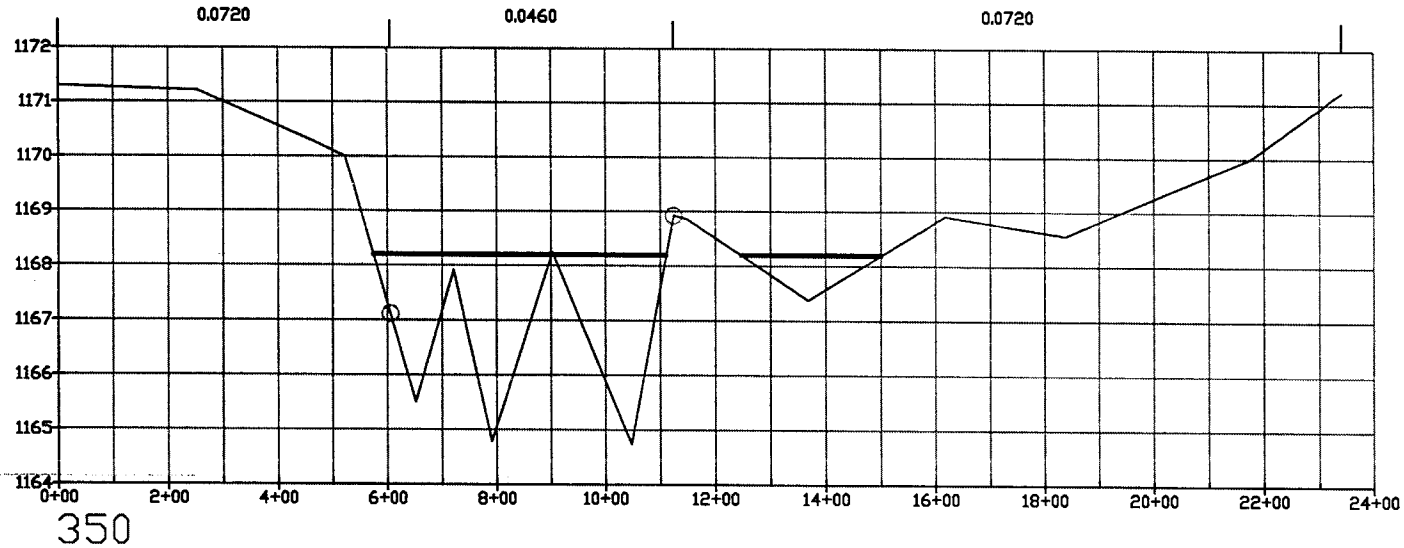
Cross-Section:	345	
Elevation:	1146.62	ft MSL
Depth:	9.36	ft
Discharge:	9970.00	cfs
Energy Gradient:	0.0053	ft/ft
Froude Number:	0.1811	
Flow Regime:	Subcritical	
Flow Area:	3171.41	sq ft
Average Velocity:	3.14	ft/s
Maximum Velocity:	5.99	ft/s
Composite n:	0.0689	
Hydraulic Radius:	1.59	ft
Wetted Perimeter:	1993.80	ft
Wetted Top Width:	1992.71	ft
Critical Slope:	0.347	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S07–345

Entellus™

File: T1S-R6W-S07-New-Mapping.dwg Date: 12/05/02



Normal Depth Results

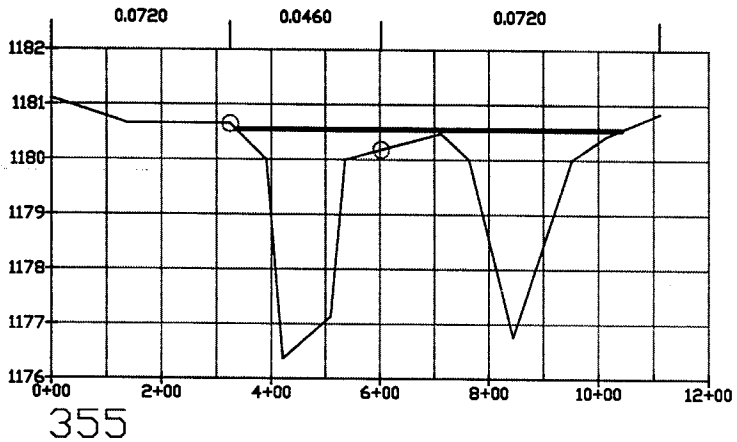
Cross-Section:	350	
Elevation:	1168.20	ft MSL
Depth:	3.46	ft
Discharge:	3510.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3384	
Flow Regime:	Subcritical	
Flow Area:	983.07	sq ft
Average Velocity:	3.56	ft/s
Maximum Velocity:	3.92	ft/s
Composite n:	0.056	
Hydraulic Radius:	1.25	ft
Wetted Perimeter:	786.06	ft
Wetted Top Width:	785.70	ft
Critical Slope:	0.117	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S07–350

Entellus™

File: T1N-R6W-S07-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

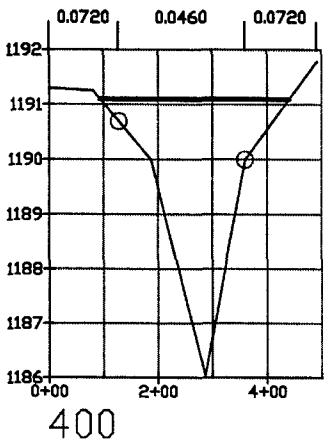
Cross-Section:	355	
Elevation:	1180.55	ft MSL
Depth:	4.19	ft
Discharge:	2950.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.2609	
Flow Regime:	Subcritical	
Flow Area:	973.86	sq ft
Average Velocity:	3.04	ft/s
Maximum Velocity:	4.17	ft/s
Composite n:	0.0628	
Hydraulic Radius:	1.38	ft
Wetted Perimeter:	706.46	ft
Wetted Top Width:	705.96	ft
Critical Slope:	0.156	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S07–355

Entellus™

File: T1N-R6W-S07-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

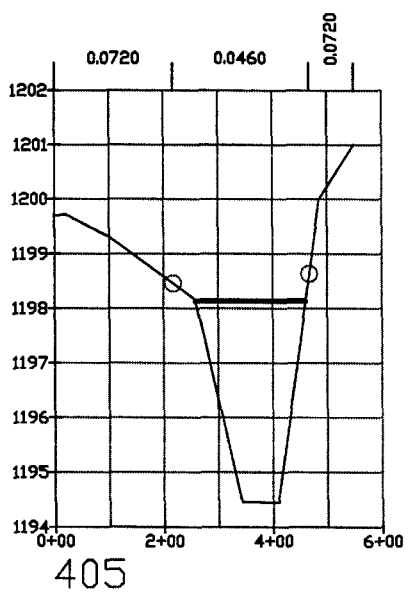
Cross-Section:	400	
Elevation:	1191.10	ft MSL
Depth:	5.06	ft
Discharge:	2950.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3688	
Flow Regime:	Subcritical	
Flow Area:	626.84	sq ft
Average Velocity:	4.68	ft/s
Maximum Velocity:	5.00	ft/s
Composite n:	0.0553	
Hydraulic Radius:	1.8	ft
Wetted Perimeter:	347.47	ft
Wetted Top Width:	347.27	ft
Critical Slope:	0.1022	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S07–400

Entellus™

File: T1N-R6W-S07-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

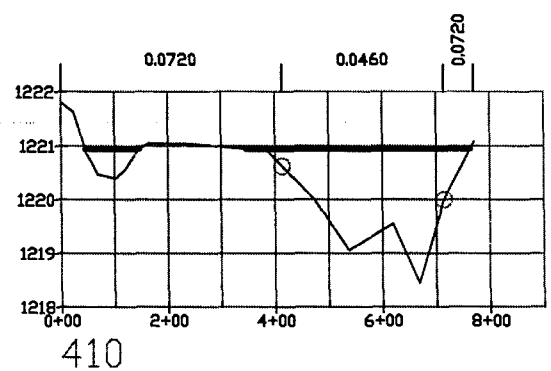
Cross-Section:	405	
Elevation:	1198.14	ft MSL
Depth:	3.69	ft
Discharge:	2450.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.4555	
Flow Regime:	Subcritical	
Flow Area:	493.62	sq ft
Average Velocity:	4.95	ft/s
Maximum Velocity:	4.95	ft/s
Composite n:	0.046	
Hydraulic Radius:	2.44	ft
Wetted Perimeter:	201.99	ft
Wetted Top Width:	201.78	ft
Critical Slope:	0.0343	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S07–405

Entellus™

File: T1N-R6W-S07-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

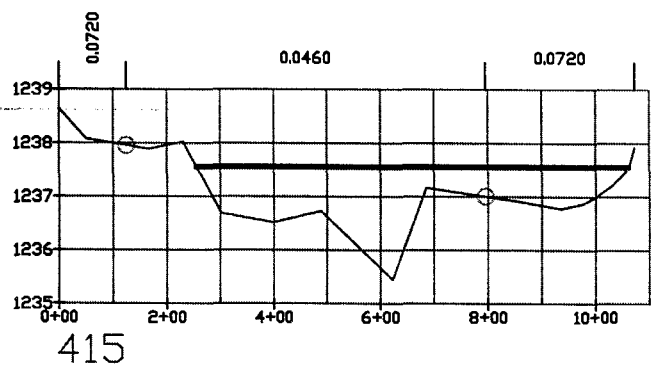
Cross-Section:	410	
Elevation:	1220.95	ft MSL
Depth:	2.50	ft
Discharge:	1580.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3498	
Flow Regime:	Subcritical	
Flow Area:	503.98	sq ft
Average Velocity:	3.16	ft/s
Maximum Velocity:	3.50	ft/s
Composite n:	0.0576	
Hydraulic Radius:	0.97	ft
Wetted Perimeter:	519.59	ft
Wetted Top Width:	519.52	ft
Critical Slope:	0.125	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S07–410

Entellus™

File: T1S-R6W-S07-New-Mapping.dwg Date: 12/05/02



Normal Depth Results

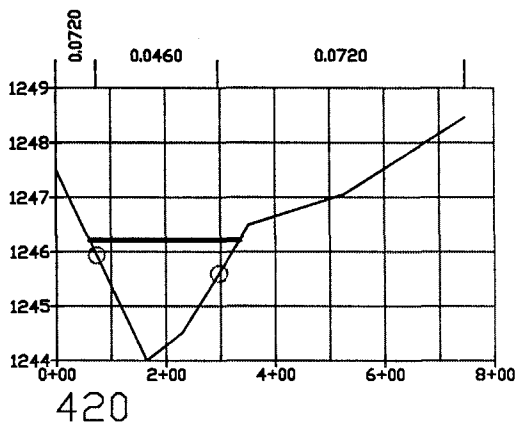
Cross-Section:	415	
Elevation:	1237.56	ft MSL
Depth:	2.11	ft
Discharge:	1580.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.2834	
Flow Regime:	Subcritical	
Flow Area:	677.20	sq ft
Average Velocity:	2.34	ft/s
Maximum Velocity:	2.67	ft/s
Composite n:	0.0552	
Hydraulic Radius:	0.84	ft
Wetted Perimeter:	806.37	ft
Wetted Top Width:	806.33	ft
Critical Slope:	0.1175	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S07–415

Entellus™

File: T1S-R6W-S07-New-Mapping.dwg Date: 12/05/02



Normal Depth Results

Cross-Section:	420	
Elevation:	1246.21	ft MSL
Depth:	2.20	ft
Discharge:	1120.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.4007	
Flow Regime:	Subcritical	
Flow Area:	331.89	sq ft
Average Velocity:	3.35	ft/s
Maximum Velocity:	3.46	ft/s
Composite n:	0.0512	
Hydraulic Radius:	1.21	ft
Wetted Perimeter:	273.78	ft
Wetted Top Width:	273.74	ft
Critical Slope:	0.0649	ft/ft

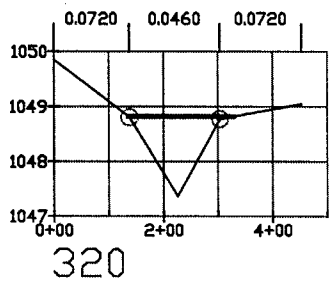
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S07–420

Entellus™

File: T1N-R6W-S07-New-Mapping.dwg Date: 12/02/02

T1N-R6W-S09E



Normal Depth Results

Cross-Section:	320	
Elevation:	1048.83	ft MSL
Depth:	1.46	ft
Discharge:	220.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.2593	
Flow Regime:	Subcritical	
Flow Area:	123.94	sq ft
Average Velocity:	1.75	ft/s
Maximum Velocity:	1.76	ft/s
Composite n:	0.0501	
Hydraulic Radius:	0.64	ft
Wetted Perimeter:	193.78	ft
Wetted Top Width:	193.75	ft
Critical Slope:	0.0962	ft/ft

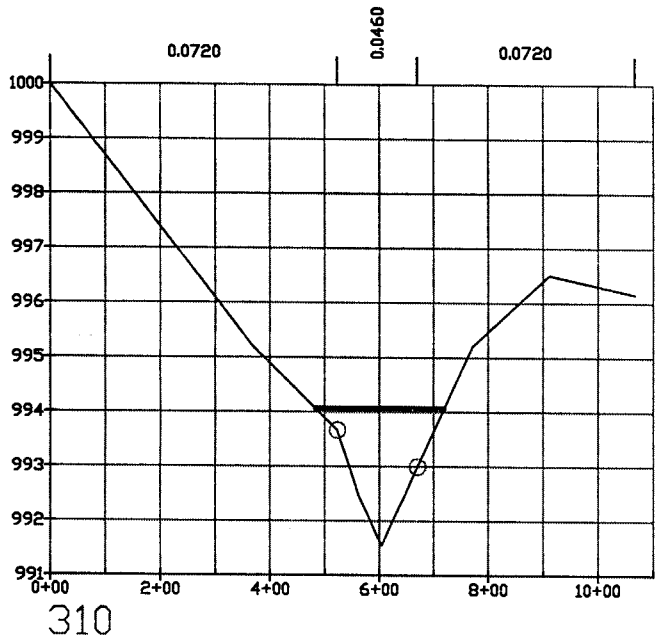
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S09E–320

Entellus™

File: T1N-R6W-S09E-New-Mapping.dwg Date: 11/27/02

T1N-R6W-S16



Normal Depth Results

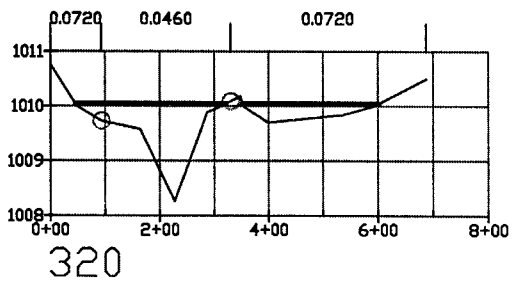
Cross-Section:	310	
Elevation:	994.07	ft MSL
Depth:	2.52	ft
Discharge:	710.00	cfs
Energy Gradient:	0.0038	ft/ft
Froude Number:	0.2834	
Flow Regime:	Subcritical	
Flow Area:	278.25	sq ft
Average Velocity:	2.55	ft/s
Maximum Velocity:	2.80	ft/s
Composite n:	0.0565	
Hydraulic Radius:	1.18	ft
Wetted Perimeter:	236.24	ft
Wetted Top Width:	236.18	ft
Critical Slope:	0.0936	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S16–310

Entellus™

File: T1N-R6W-S16-New-Mapping.dwg Date: 11/11/02



Normal Depth Results

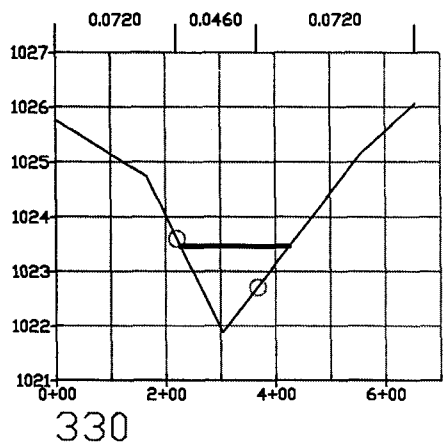
Cross-Section:	320	
Elevation:	1010.05	ft MSL
Depth:	1.79	ft
Discharge:	280.00	cfs
Energy Gradient:	0.0038	ft/ft
Froude Number:	0.1666	
Flow Regime:	Subcritical	
Flow Area:	221.69	sq ft
Average Velocity:	1.26	ft/s
Maximum Velocity:	1.57	ft/s
Composite n:	0.0614	
Hydraulic Radius:	0.42	ft
Wetted Perimeter:	525.87	ft
Wetted Top Width:	525.83	ft
Critical Slope:	0.3086	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S16–320

Entellus™

File: T1N-R6W-S16-New-Mapping.dwg Date: 11/11/02



Normal Depth Results

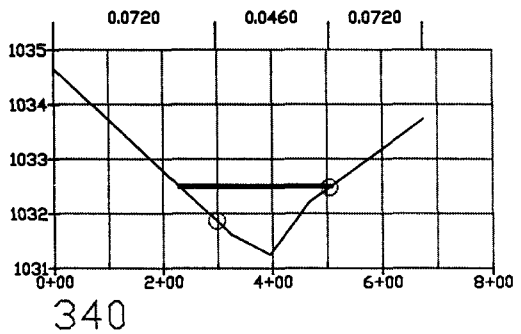
Cross-Section:	330	
Elevation:	1023.47	ft MSL
Depth:	1.59	ft
Discharge:	280.00	cfs
Energy Gradient:	0.0038	ft/ft
Froude Number:	0.2489	
Flow Regime:	Subcritical	
Flow Area:	157.40	sq ft
Average Velocity:	1.77	ft/s
Maximum Velocity:	1.95	ft/s
Composite n:	0.0542	
Hydraulic Radius:	0.79	ft
Wetted Perimeter:	198.55	ft
Wetted Top Width:	198.52	ft
Critical Slope:	0.0923	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S16–330

Entellus™

File: T1N-R6W-S16-New-Mapping.dwg Date: 11/11/02



Normal Depth Results

Cross-Section:	340	
Elevation:	1032.50	ft MSL
Depth:	1.25	ft
Discharge:	280.00	cfs
Energy Gradient:	0.0038	ft/ft
Froude Number:	0.2458	
Flow Regime:	Subcritical	
Flow Area:	179.42	sq ft
Average Velocity:	1.54	ft/s
Maximum Velocity:	1.67	ft/s
Composite n:	0.0532	
Hydraulic Radius:	0.65	ft
Wetted Perimeter:	277.70	ft
Wetted Top Width:	277.69	ft
Critical Slope:	0.092	ft/ft

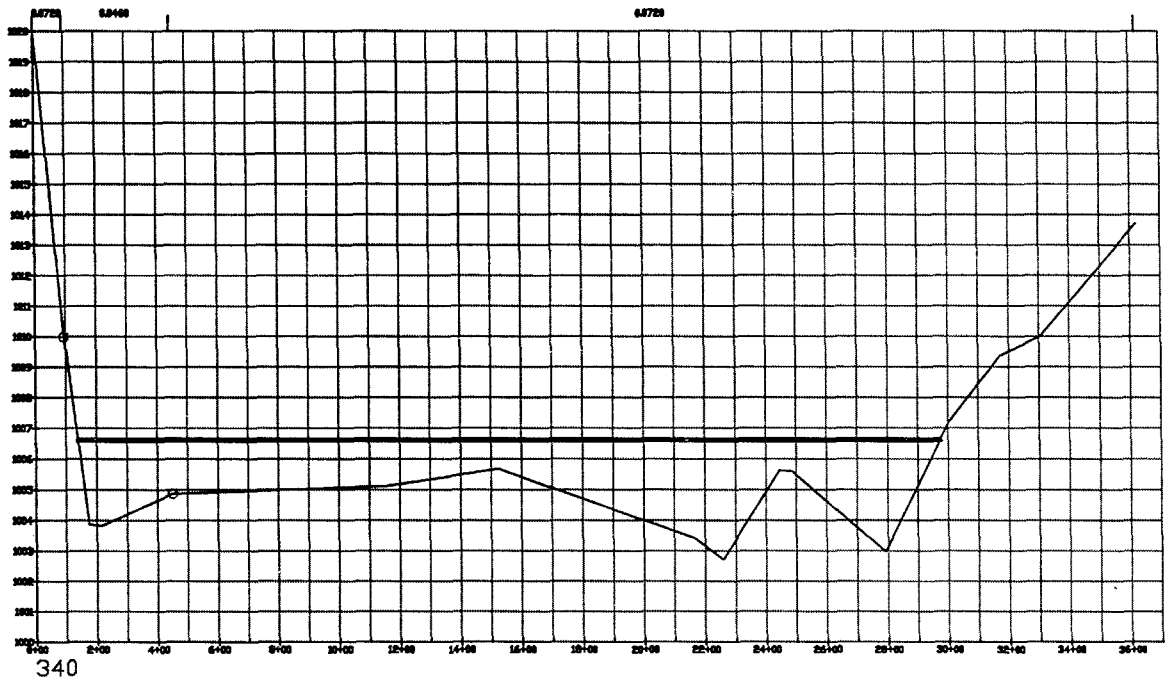
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S16–340

Entellus™

File: T1N-R6W-S16-New-Mapping.dwg Date: 11/11/02

T1N-R6W-S17E



Normal Depth Results

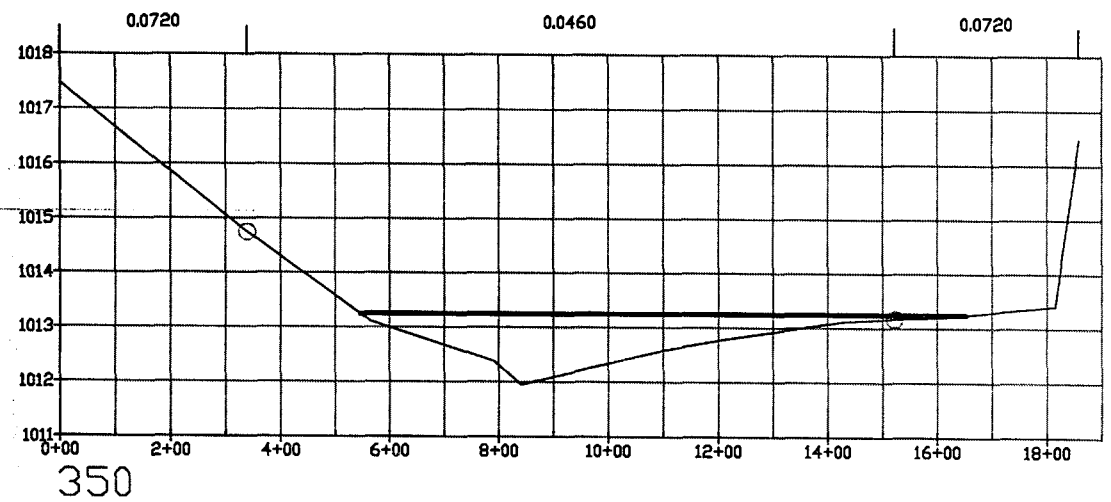
Cross-Section:	340	
Elevation:	1006.62	ft MSL
Depth:	3.91	ft
Discharge:	12680.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.2058	
Flow Regime:	Subcritical	
Flow Area:	5492.24	sq ft
Average Velocity:	2.30	ft/s
Maximum Velocity:	3.67	ft/s
Composite n:	0.0694	
Hydraulic Radius:	1.94	ft
Wetted Perimeter:	2834.88	ft
Wetted Top Width:	2834.70	ft
Critical Slope:	0.113	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S17E–340

Entellus™

File: T1N-R6W-S17E-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

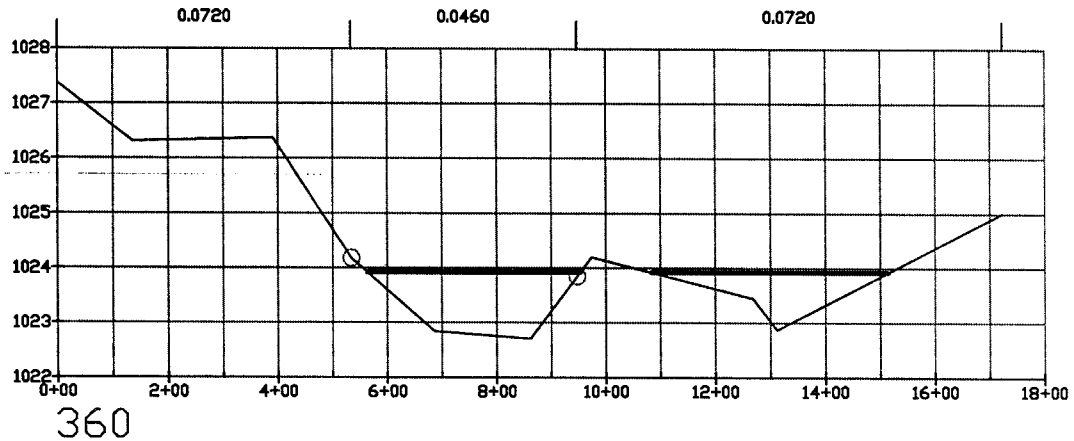
Cross-Section:	350	
Elevation:	1013.25	ft MSL
Depth:	1.30	ft
Discharge:	840.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.2288	
Flow Regime:	Subcritical	
Flow Area:	567.73	sq ft
Average Velocity:	1.47	ft/s
Maximum Velocity:	1.49	ft/s
Composite n:	0.0493	
Hydraulic Radius:	0.51	ft
Wetted Perimeter:	1106.33	ft
Wetted Top Width:	1106.33	ft
Critical Slope:	0.1118	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S17E–350

Entellus™

File: T1N-R6W-S17E-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

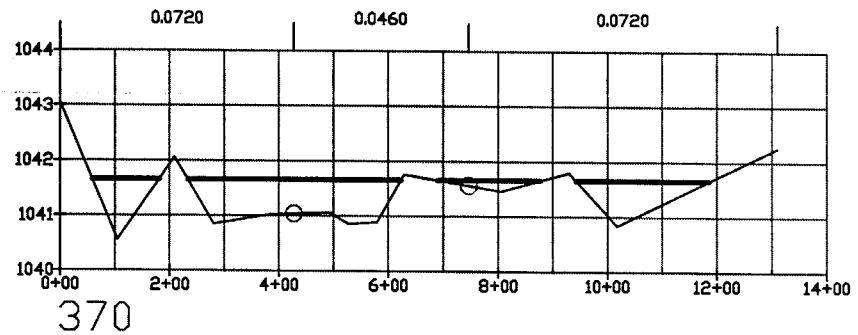
Cross-Section:	360	
Elevation:	1023.92	ft MSL
Depth:	1.21	ft
Discharge:	750.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.2376	
Flow Regime:	Subcritical	
Flow Area:	505.73	sq ft
Average Velocity:	1.50	ft/s
Maximum Velocity:	1.91	ft/s
Composite n:	0.0605	
Hydraulic Radius:	0.62	ft
Wetted Perimeter:	820.14	ft
Wetted Top Width:	820.12	ft
Critical Slope:	0.1224	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S17E–360

Entellus™

File: T1N-R6W-S17E-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

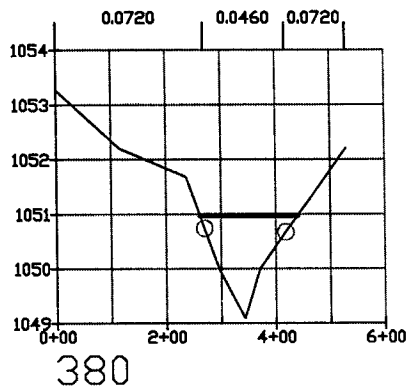
Cross-Section:	370	
Elevation:	1041.66	ft MSL
Depth:	1.10	ft
Discharge:	420.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.1654	
Flow Regime:	Subcritical	
Flow Area:	427.57	sq ft
Average Velocity:	0.98	ft/s
Maximum Velocity:	1.34	ft/s
Composite n:	0.0655	
Hydraulic Radius:	0.45	ft
Wetted Perimeter:	943.30	ft
Wetted Top Width:	943.26	ft
Critical Slope:	0.1962	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S17E–370

Entellus™

File: T1N-R6W-S17E-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

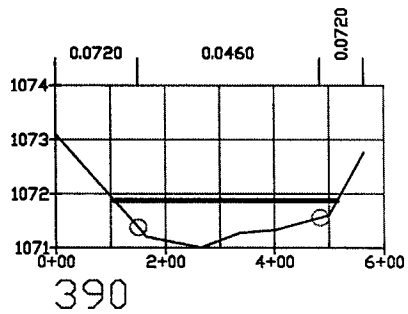
Cross-Section:	380	
Elevation:	1050.98	ft MSL
Depth:	1.89	ft
Discharge:	340.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.2767	
Flow Regime:	Subcritical	
Flow Area:	157.73	sq ft
Average Velocity:	2.15	ft/s
Maximum Velocity:	2.20	ft/s
Composite n:	0.0508	
Hydraulic Radius:	0.88	ft
Wetted Perimeter:	178.63	ft
Wetted Top Width:	178.59	ft
Critical Slope:	0.0833	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S17E–380

Entellus™

File: T1N-R6W-S17E-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

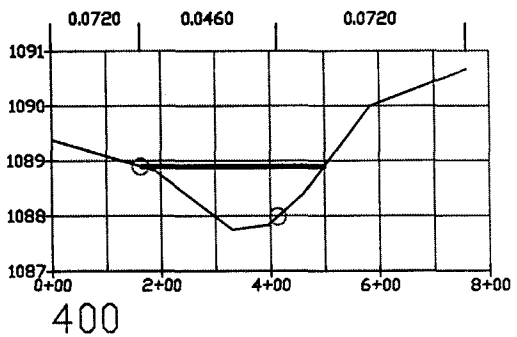
Cross-Section:	390	
Elevation:	1071.88	ft MSL
Depth:	0.87	ft
Discharge:	340.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.2817	
Flow Regime:	Subcritical	
Flow Area:	228.35	sq ft
Average Velocity:	1.50	ft/s
Maximum Velocity:	1.58	ft/s
Composite n:	0.0512	
Hydraulic Radius:	0.56	ft
Wetted Perimeter:	408.32	ft
Wetted Top Width:	408.32	ft
Critical Slope:	0.0716	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S17E–390

Entellus™

File: T1N-R6W-S17E-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

Cross-Section:	400	
Elevation:	1088.89	ft MSL
Depth:	1.14	ft
Discharge:	340.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.256	
Flow Regime:	Subcritical	
Flow Area:	218.97	sq ft
Average Velocity:	1.54	ft/s
Maximum Velocity:	1.71	ft/s
Composite n:	0.0532	
Hydraulic Radius:	0.65	ft
Wetted Perimeter:	334.36	ft
Wetted Top Width:	334.35	ft
Critical Slope:	0.0825	ft/ft

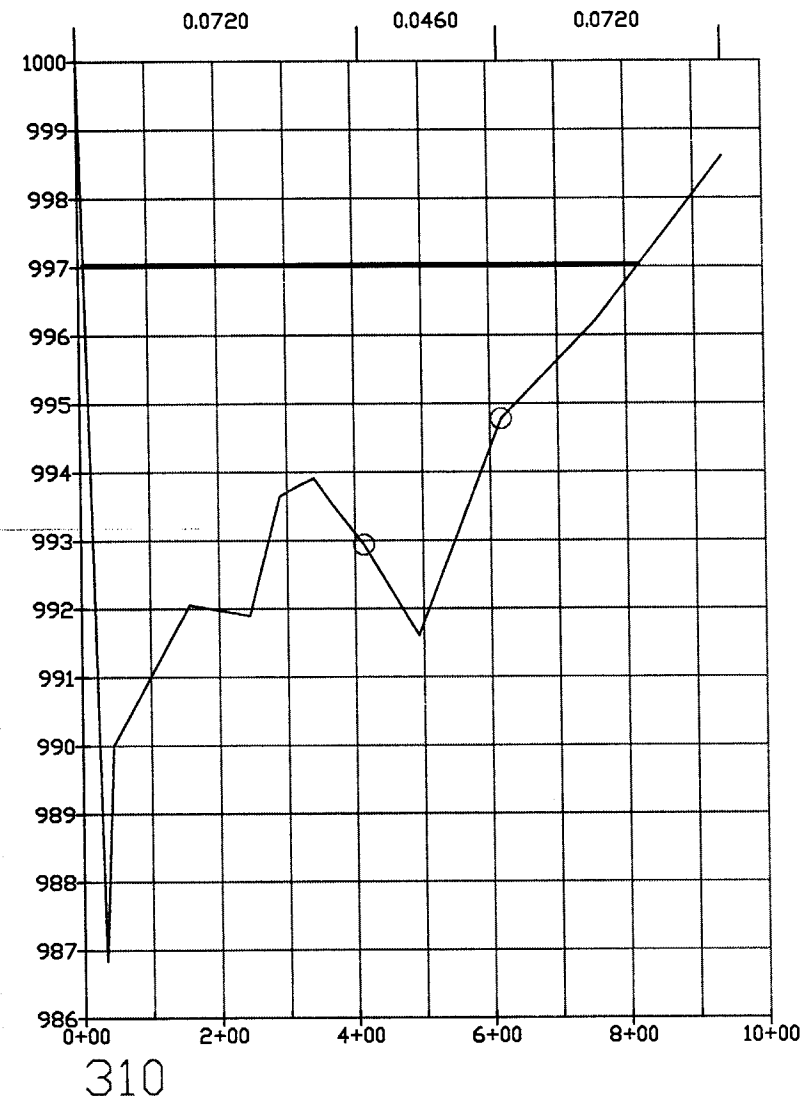
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S17E–400

Entellus™

File: T1N-R6W-S17E-New-Mapping.dwg Date: 12/03/02

T1N-R6W-S17W



Normal Depth Results

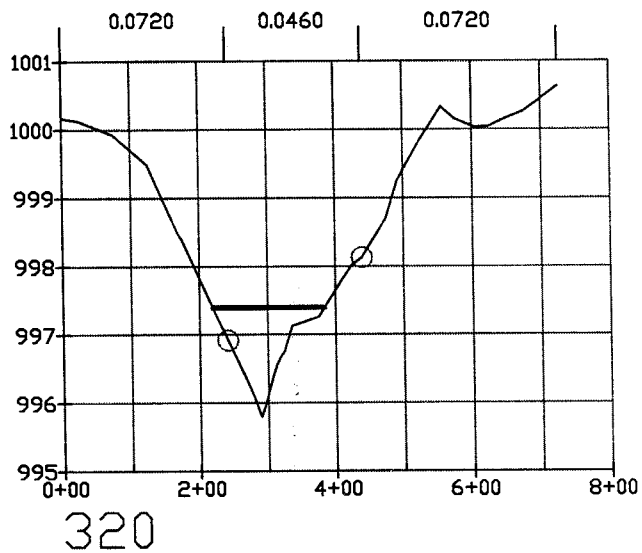
Cross-Section:	310	
Elevation:	997.03	ft MSL
Depth:	10.19	ft
Discharge:	12850.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.2317	
Flow Regime:	Subcritical	
Flow Area:	3062.97	sq ft
Average Velocity:	4.20	ft/s
Maximum Velocity:	5.59	ft/s
Composite n:	0.066	
Hydraulic Radius:	3.76	ft
Wetted Perimeter:	814.79	ft
Wetted Top Width:	812.28	ft
Critical Slope:	0.11	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S17W–310

Entellus™

File: T1N-R6W-S17W.dwg Date: 12/03/02



Normal Depth Results

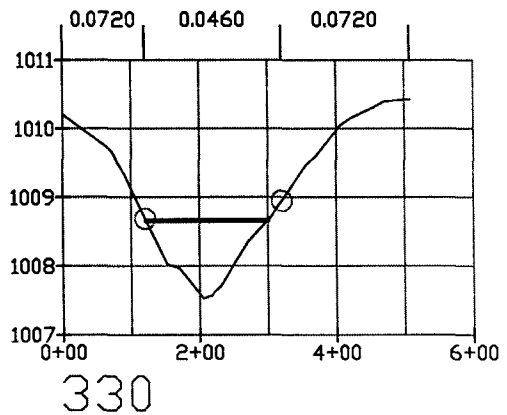
Cross-Section:	320	
Elevation:	997.40	ft MSL
Depth:	1.60	ft
Discharge:	170.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.2253	
Flow Regime:	Subcritical	
Flow Area:	105.12	sq ft
Average Velocity:	1.64	ft/s
Maximum Velocity:	1.69	ft/s
Composite n:	0.0498	
Hydraulic Radius:	0.64	ft
Wetted Perimeter:	164.44	ft
Wetted Top Width:	164.40	ft
Critical Slope:	0.1047	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S17W–320

Entellus™

File: T1N-R6W-S17.dwg Date: 11/27/02



Normal Depth Results

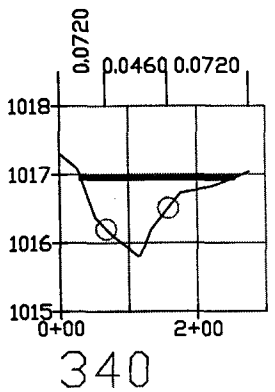
Cross-Section:	330	
Elevation:	1008.66	ft MSL
Depth:	1.13	ft
Discharge:	170.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.2563	
Flow Regime:	Subcritical	
Flow Area:	109.92	sq ft
Average Velocity:	1.56	ft/s
Maximum Velocity:	1.56	ft/s
Composite n:	0.046	
Hydraulic Radius:	0.62	ft
Wetted Perimeter:	177.78	ft
Wetted Top Width:	177.76	ft
Critical Slope:	0.0658	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S17W–330

Entellus™

File: T1N-R6W-S17.dwg Date: 11/27/02



Normal Depth Results

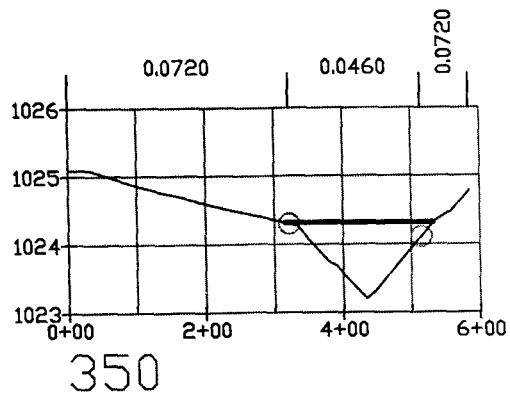
Cross-Section:	340	
Elevation:	1016.94	ft MSL
Depth:	1.13	ft
Discharge:	170.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.2593	
Flow Regime:	Subcritical	
Flow Area:	108.63	sq ft
Average Velocity:	1.55	ft/s
Maximum Velocity:	1.93	ft/s
Composite n:	0.062	
Hydraulic Radius:	0.49	ft
Wetted Perimeter:	222.41	ft
Wetted Top Width:	222.39	ft
Critical Slope:	0.164	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S17W–340

Entellus™

File: T1N-R6W-S17.dwg Date: 11/27/02



Normal Depth Results

Cross-Section:	350	
Elevation:	1024.32	ft MSL
Depth:	1.12	ft
Discharge:	170.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.2448	
Flow Regime:	Subcritical	
Flow Area:	115.92	sq ft
Average Velocity:	1.49	ft/s
Maximum Velocity:	1.51	ft/s
Composite n:	0.0492	
Hydraulic Radius:	0.53	ft
Wetted Perimeter:	217.29	ft
Wetted Top Width:	217.28	ft
Critical Slope:	0.0904	ft/ft

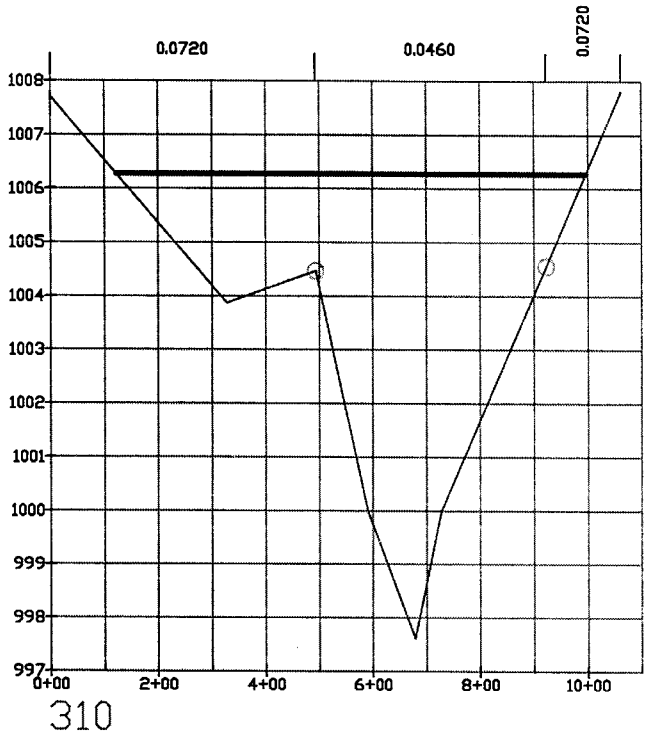
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S17W–350

Entellus™

File: T1N-R6W-S17.dwg Date: 11/27/02

T1N-R6W-S18



Normal Depth Results

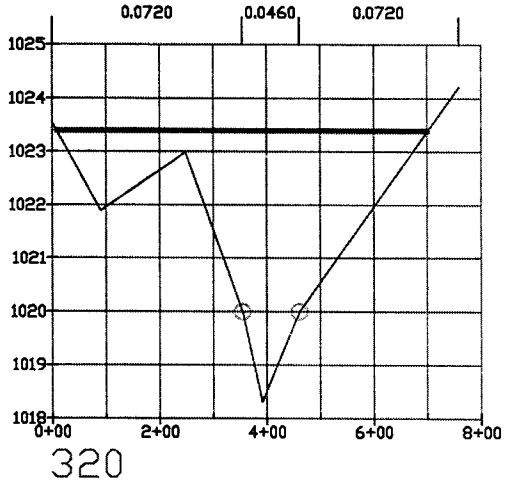
Cross-Section:	310	
Elevation:	1006.28	ft MSL
Depth:	8.67	ft
Discharge:	15590.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.3265	
Flow Regime:	Subcritical	
Flow Area:	2859.42	sq ft
Average Velocity:	5.45	ft/s
Maximum Velocity:	6.52	ft/s
Composite n:	0.0599	
Hydraulic Radius:	3.27	ft
Wetted Perimeter:	874.38	ft
Wetted Top Width:	874.10	ft
Critical Slope:	0.0929	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S18–310

Entellus™

File: T1N-R6W-S18-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

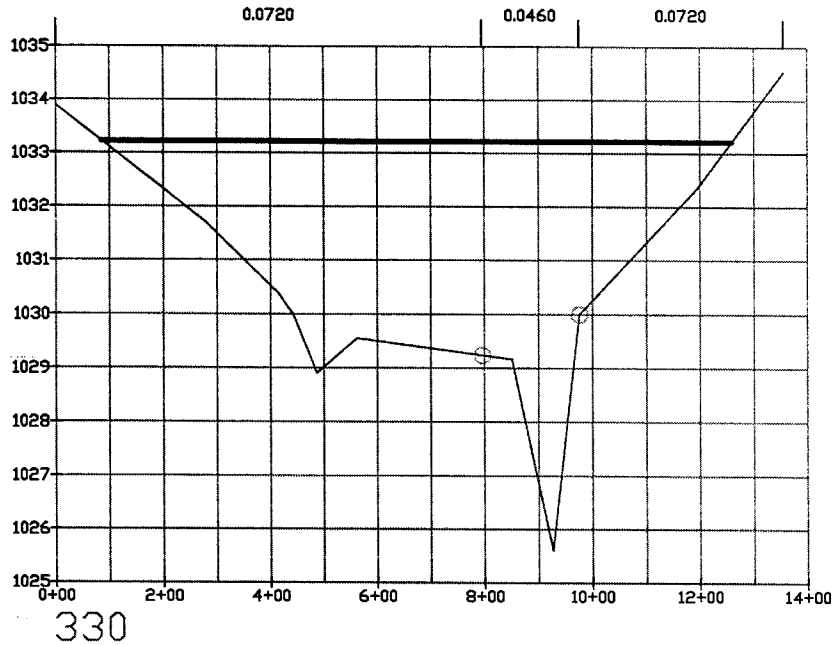
Cross-Section:	320	
Elevation:	1023.40	ft MSL
Depth:	5.08	ft
Discharge:	4190.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.2572	
Flow Regime:	Subcritical	
Flow Area:	1274.05	sq ft
Average Velocity:	3.30	ft/s
Maximum Velocity:	5.94	ft/s
Composite n:	0.0683	
Hydraulic Radius:	1.84	ft
Wetted Perimeter:	692.79	ft
Wetted Top Width:	692.65	ft
Critical Slope:	0.1525	ft/ft

File: T1N-R6W-S18-New-Mapping.dwg Date: 10/18/02

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S18–320

Entellus™



Normal Depth Results

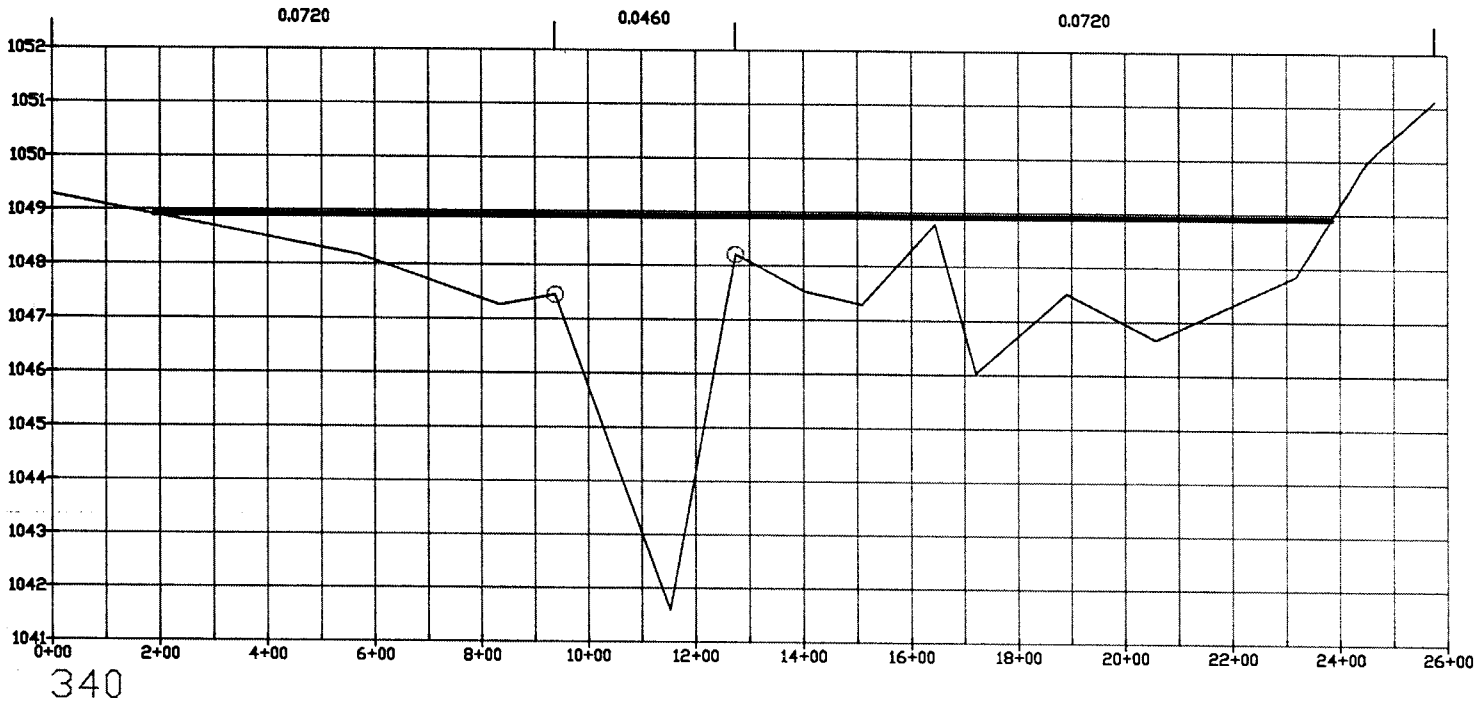
Cross-Section:	330	
Elevation:	1033.22	ft MSL
Depth:	7.61	ft
Discharge:	12500.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.2423	
Flow Regime:	Subcritical	
Flow Area:	3296.34	sq ft
Average Velocity:	3.80	ft/s
Maximum Velocity:	6.77	ft/s
Composite n:	0.0683	
Hydraulic Radius:	2.81	ft
Wetted Perimeter:	1174.10	ft
Wetted Top Width:	1173.77	ft
Critical Slope:	0.1301	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S18–330

Entellus™

File: T1N-R6W-S18-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

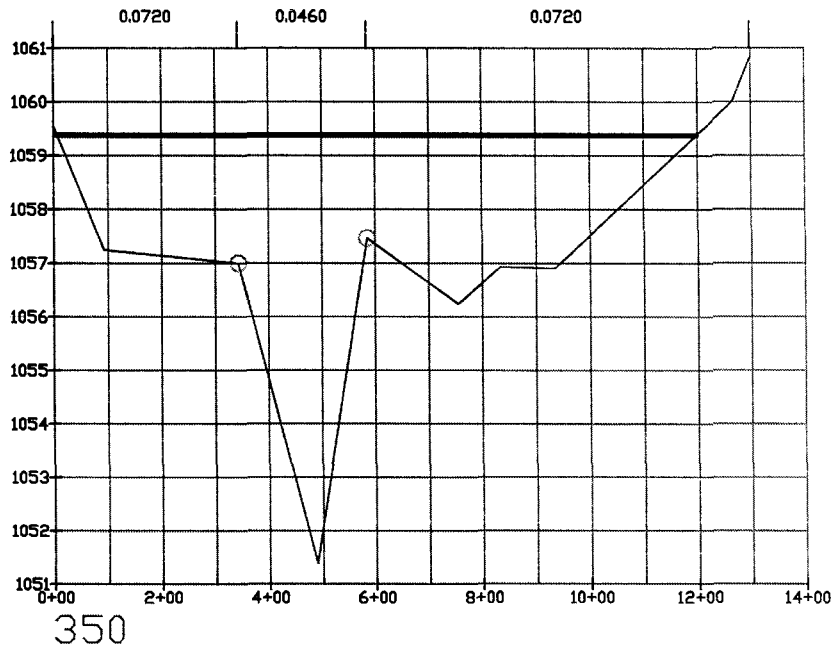
Cross-Section:	340	
Elevation:	1048.92	ft MSL
Depth:	7.33	ft
Discharge:	12500.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.2186	
Flow Regime:	Subcritical	
Flow Area:	3723.49	sq ft
Average Velocity:	3.36	ft/s
Maximum Velocity:	5.96	ft/s
Composite n:	0.0683	
Hydraulic Radius:	1.7	ft
Wetted Perimeter:	2196.58	ft
Wetted Top Width:	2196.24	ft
Critical Slope:	0.2454	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S18–340

Entellus™

File: T1N-R6W-S18-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

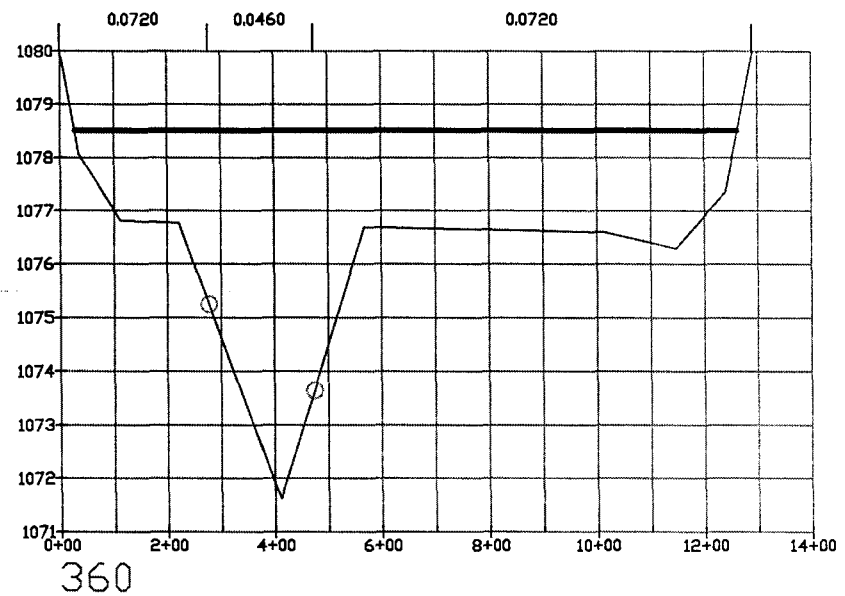
Cross-Section:	350	
Elevation:	1059.38	ft MSL
Depth:	7.99	ft
Discharge:	12500.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.2507	
Flow Regime:	Subcritical	
Flow Area:	3109.04	sq ft
Average Velocity:	4.03	ft/s
Maximum Velocity:	6.71	ft/s
Composite n:	0.0671	
Hydraulic Radius:	2.61	ft
Wetted Perimeter:	1192.47	ft
Wetted Top Width:	1192.12	ft
Critical Slope:	0.1455	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S18–350

Entellus™

File: T1N-R6W-S18-Now-Mapping.dwg, Date: 10/18/02



Normal Depth Results

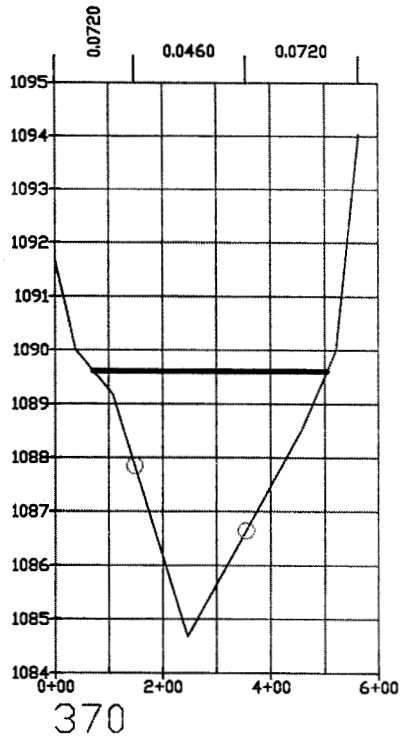
Cross-Section:	360	
Elevation:	1078.51	ft MSL
Depth:	6.89	ft
Discharge:	11760.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.2586	
Flow Regime:	Subcritical	
Flow Area:	3052.93	sq ft
Average Velocity:	3.86	ft/s
Maximum Velocity:	6.92	ft/s
Composite n:	0.0682	
Hydraulic Radius:	2.47	ft
Wetted Perimeter:	1235.48	ft
Wetted Top Width:	1235.27	ft
Critical Slope:	0.1391	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S18–360

Entellus™

File: T1N-R6W-S18-New-Mapping.dwg; Date: 10/18/02



Normal Depth Results

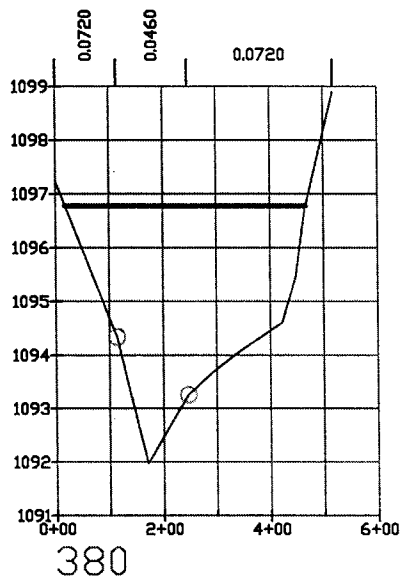
Cross-Section:	370	
Elevation:	1089.61	ft MSL
Depth:	4.93	ft
Discharge:	4590.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.3499	
Flow Regime:	Subcritical	
Flow Area:	1041.53	sq ft
Average Velocity:	4.40	ft/s
Maximum Velocity:	5.38	ft/s
Composite n:	0.0603	
Hydraulic Radius:	2.4	ft
Wetted Perimeter:	433.32	ft
Wetted Top Width:	433.19	ft
Critical Slope:	0.0807	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S18–370

Entellus™

File: T1N-R6W-S18-New-Mapping.dwg, Date: 10/18/02



Normal Depth Results

Cross-Section:	380	
Elevation:	1096.77	ft MSL
Depth:	4.80	ft
Discharge:	4590.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.3116	
Flow Regime:	Subcritical	
Flow Area:	1184.99	sq ft
Average Velocity:	3.87	ft/s
Maximum Velocity:	5.64	ft/s
Composite n:	0.0648	
Hydraulic Radius:	2.64	ft
Wetted Perimeter:	448.95	ft
Wetted Top Width:	448.79	ft
Critical Slope:	0.0802	ft/ft

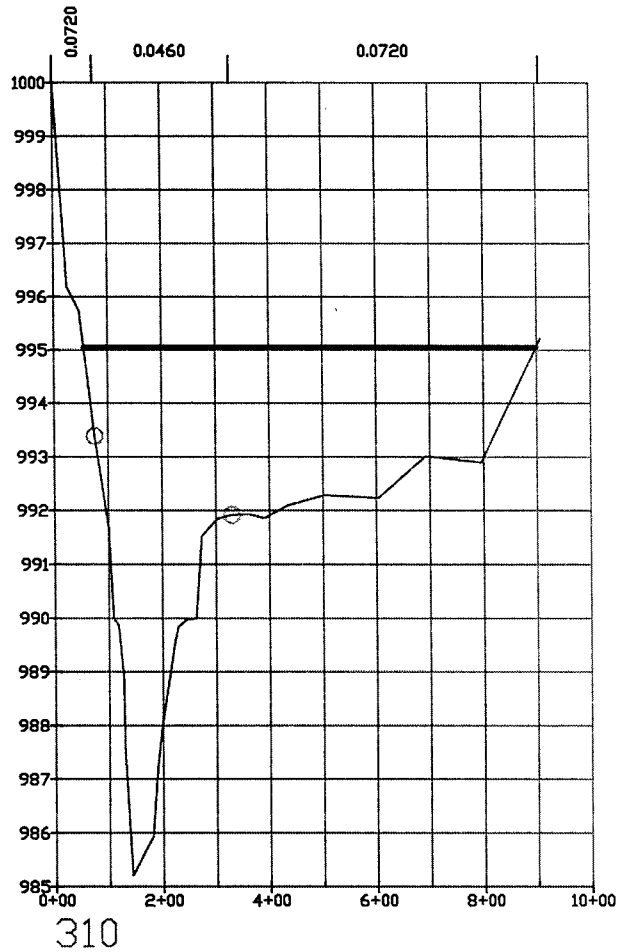
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S18–380

Entellus™

File: T1N-R6W-S18-New-Mapping.dwg Date: 10/18/02

T1N-R6W-S20E



Normal Depth Results

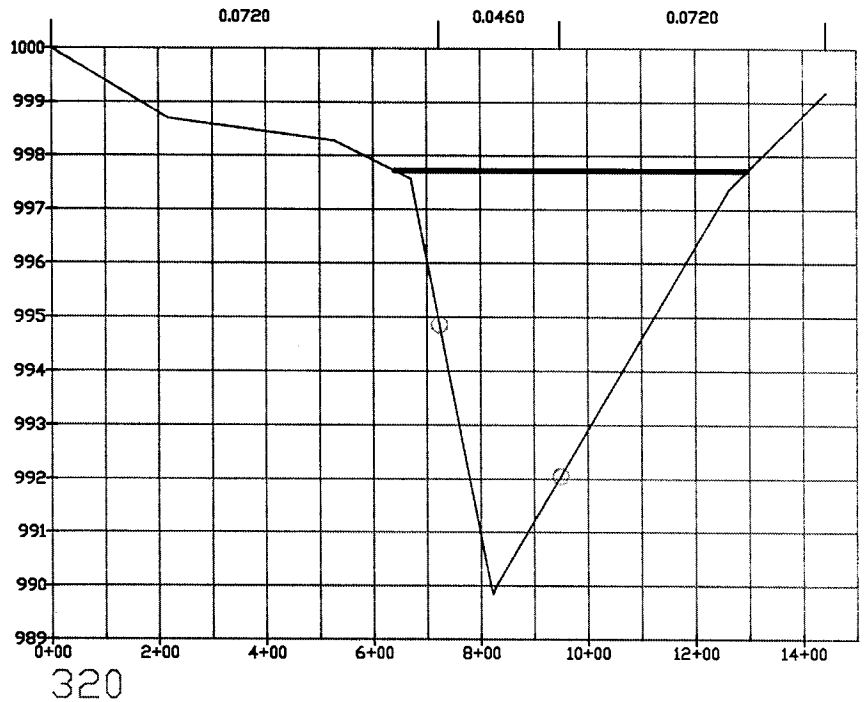
Cross-Section:	310	
Elevation:	995.05	ft MSL
Depth:	9.84	ft
Discharge:	12850.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.2598	
Flow Regime:	Subcritical	
Flow Area:	2779.14	sq ft
Average Velocity:	4.62	ft/s
Maximum Velocity:	6.72	ft/s
Composite n:	0.0646	
Hydraulic Radius:	3.29	ft
Wetted Perimeter:	844.60	ft
Wetted Top Width:	843.31	ft
Critical Slope:	0.1219	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S20E–310

Entellus™

File: T1N-R6W-S20E-New-Mapping.dwg Date: 11/25/02



Normal Depth Results

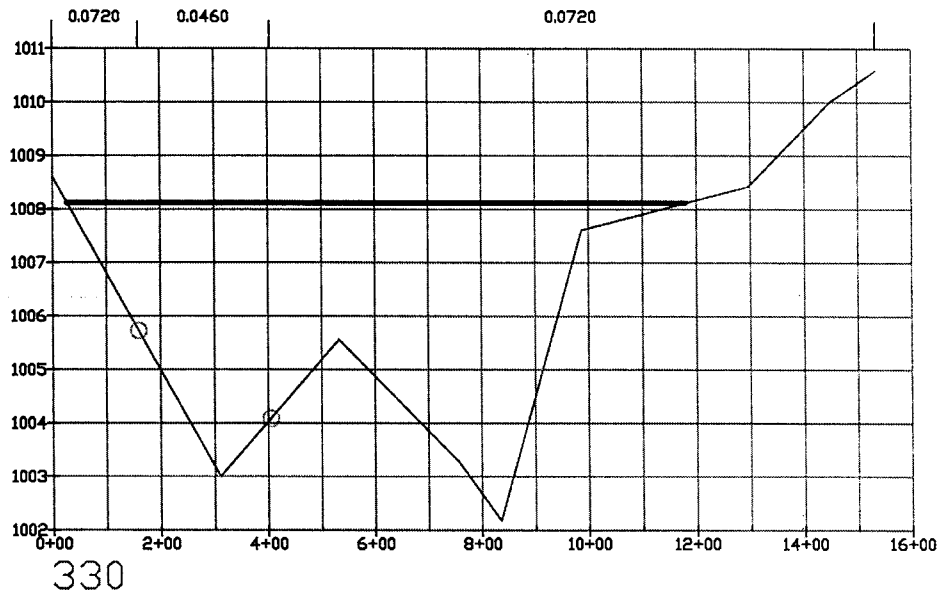
Cross-Section:	320	
Elevation:	997.72	ft MSL
Depth:	7.88	ft
Discharge:	12680.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.3291	
Flow Regime:	Subcritical	
Flow Area:	2420.30	sq ft
Average Velocity:	5.23	ft/s
Maximum Velocity:	7.21	ft/s
Composite n:	0.0636	
Hydraulic Radius:	3.68	ft
Wetted Perimeter:	657.58	ft
Wetted Top Width:	657.32	ft
Critical Slope:	0.0814	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S20E–320

Entellus™

File: T1N-R6W-S20E-New-Mapping.dwg, Date: 11/25/02



Normal Depth Results

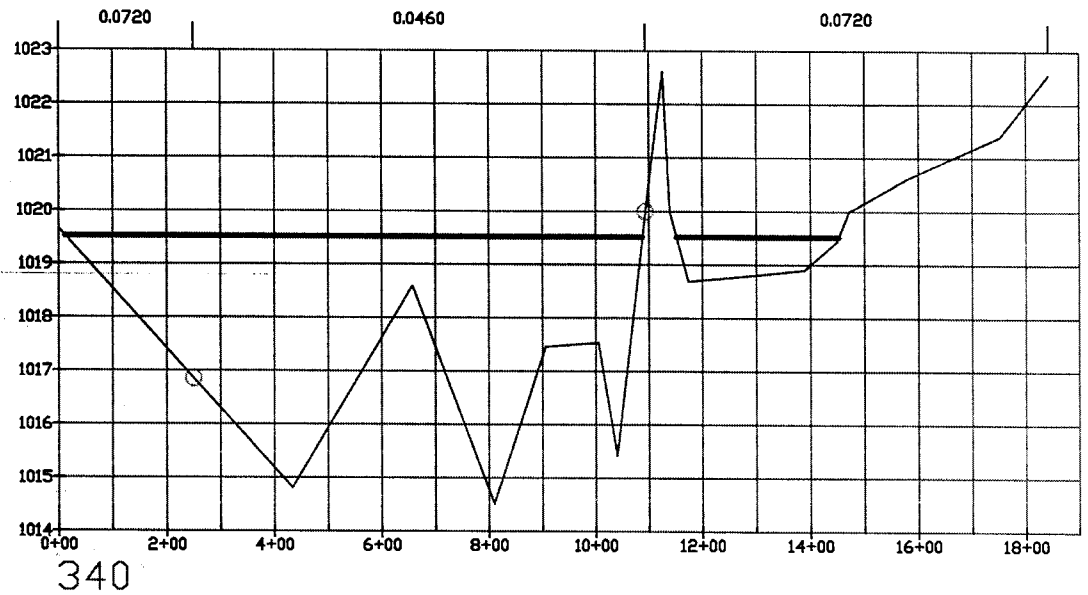
Cross-Section:	330	
Elevation:	1008.12	ft MSL
Depth:	5.94	ft
Discharge:	11840.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.2542	
Flow Regime:	Subcritical	
Flow Area:	3368.97	sq ft
Average Velocity:	3.51	ft/s
Maximum Velocity:	5.48	ft/s
Composite n:	0.0669	
Hydraulic Radius:	2.92	ft
Wetted Perimeter:	1153.33	ft
Wetted Top Width:	1153.15	ft
Critical Slope:	0.0923	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S20E–330

Entellus™

File: T1N-R6W-S20E-New-Mapping.dwg Date: 11/25/02



Normal Depth Results

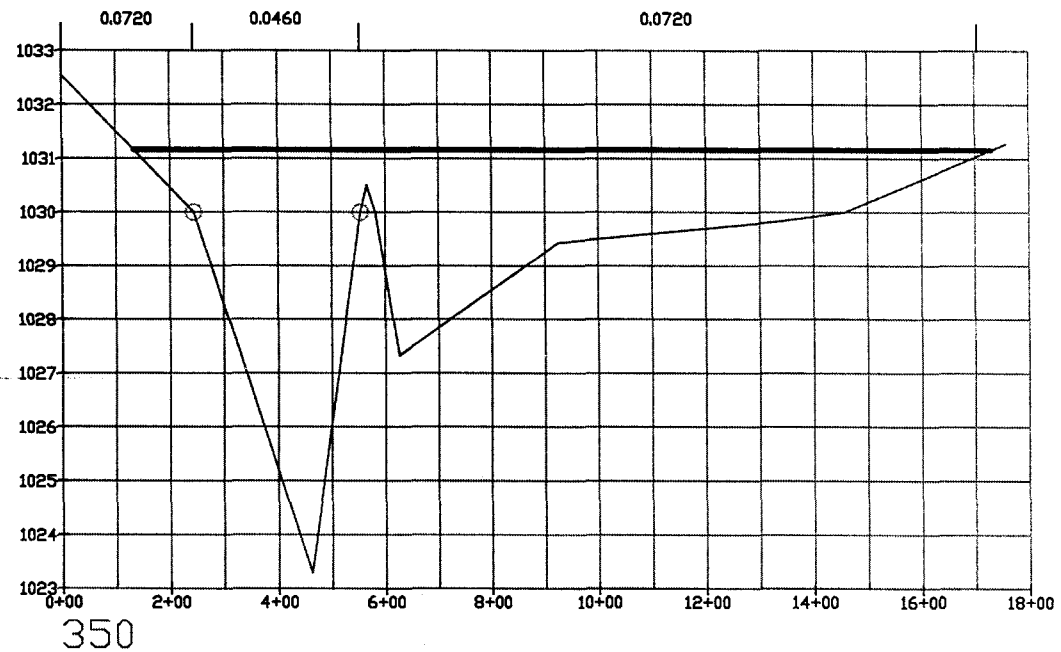
Cross-Section:	340	
Elevation:	1019.52	ft MSL
Depth:	5.00	ft
Discharge:	11840.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.3104	
Flow Regime:	Subcritical	
Flow Area:	3006.87	sq ft
Average Velocity:	3.95	ft/s
Maximum Velocity:	4.45	ft/s
Composite n:	0.0568	
Hydraulic Radius:	2.18	ft
Wetted Perimeter:	1378.03	ft
Wetted Top Width:	1377.61	ft
Critical Slope:	0.0828	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S20E–340

Entellus™

File: T1N-R6W-S20E-New-Mapping.dwg Date: 11/25/02



Normal Depth Results

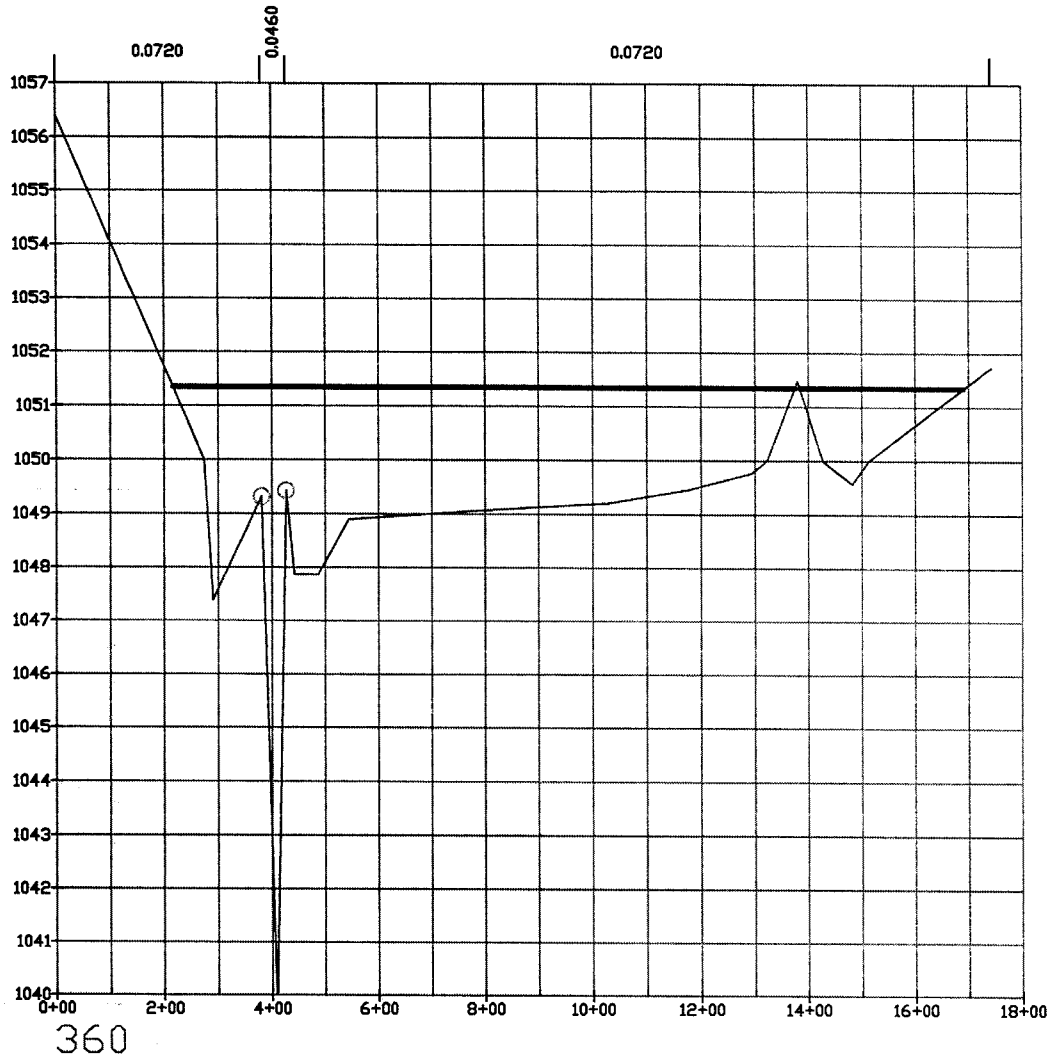
Cross-Section:	350	
Elevation:	1031.16	ft MSL
Depth:	7.87	ft
Discharge:	11840.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.2211	
Flow Regime:	Subcritical	
Flow Area:	3365.06	sq ft
Average Velocity:	3.52	ft/s
Maximum Velocity:	5.86	ft/s
Composite n:	0.0673	
Hydraulic Radius:	2.11	ft
Wetted Perimeter:	1597.50	ft
Wetted Top Width:	1597.04	ft
Critical Slope:	0.1916	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S20E–350

Entellus™

File: T1N-R6W-S20E-New-Mapping.dwg Date: 11/25/02



Normal Depth Results

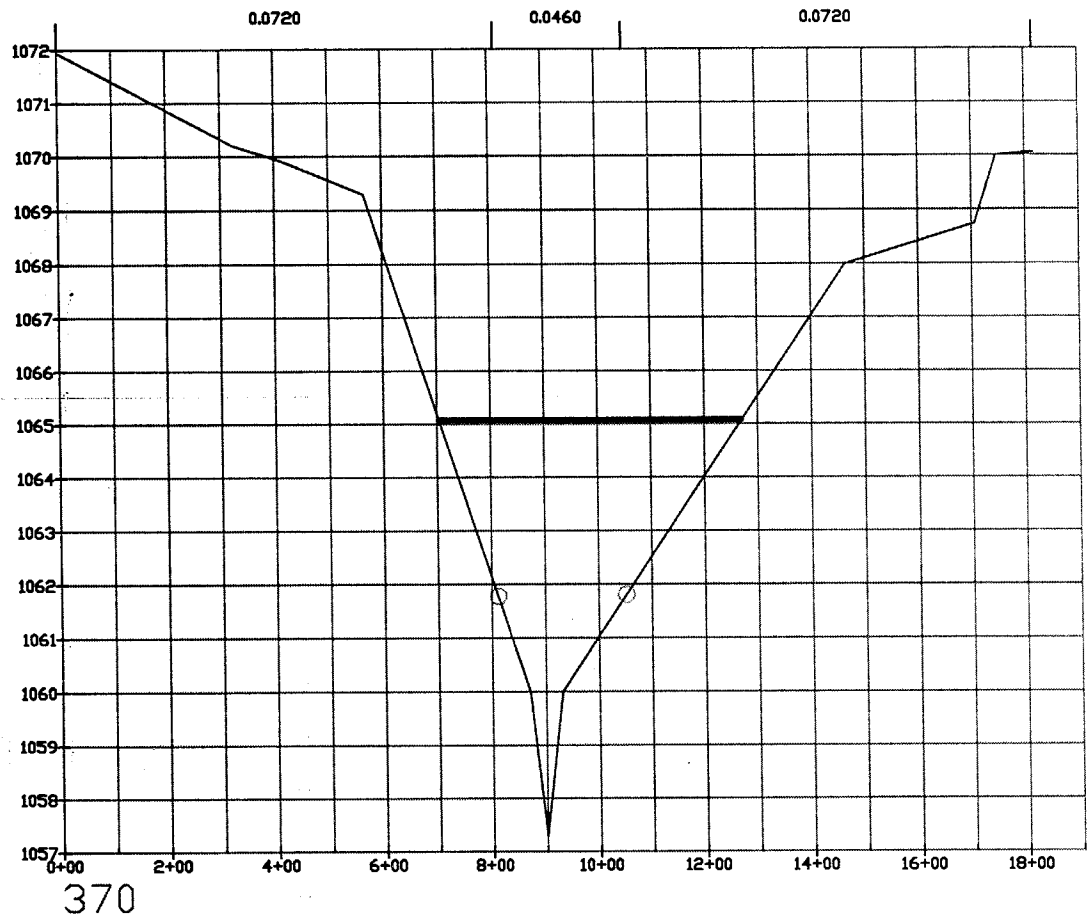
Cross-Section:	360	
Elevation:	1051.35	ft MSL
Depth:	11.35	ft
Discharge:	8380.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.146	
Flow Regime:	Subcritical	
Flow Area:	3003.57	sq ft
Average Velocity:	2.79	ft/s
Maximum Velocity:	7.69	ft/s
Composite n:	0.0712	
Hydraulic Radius:	2.04	ft
Wetted Perimeter:	1469.51	ft
Wetted Top Width:	1465.22	ft
Critical Slope:	0.3214	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S20E–360

Entellus™

File: T1N-R6W-S20E-New-Mapping.dwg Date: 11/25/02



Normal Depth Results

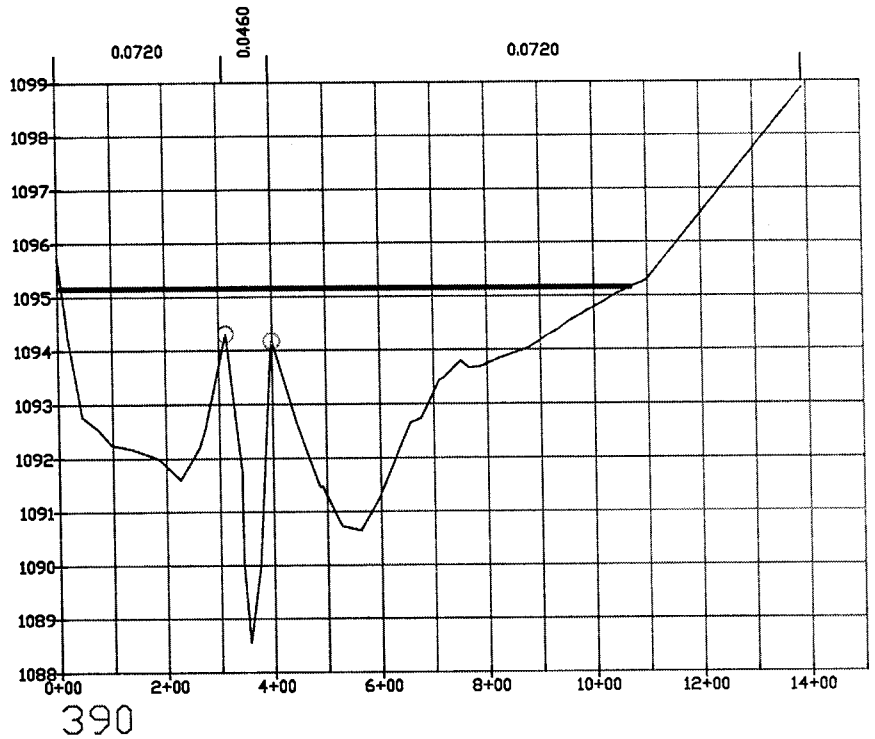
Cross-Section:	370	
Elevation:	1065.08	ft MSL
Depth:	7.78	ft
Discharge:	8380.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.3166	
Flow Regime:	Subcritical	
Flow Area:	1672.99	sq ft
Average Velocity:	5.00	ft/s
Maximum Velocity:	6.40	ft/s
Composite n:	0.0616	
Hydraulic Radius:	2.95	ft
Wetted Perimeter:	566.35	ft
Wetted Top Width:	566.00	ft
Critical Slope:	0.101	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S20E–370

Entellus™

File: T1N-R6W-S20E-New-Mapping.dwg; Date: 11/25/02



Normal Depth Results

Cross-Section:	390	
Elevation:	1095.16	ft MSL
Depth:	6.60	ft
Discharge:	6980.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.1951	
Flow Regime:	Subcritical	
Flow Area:	2454.01	sq ft
Average Velocity:	2.86	ft/s
Maximum Velocity:	5.41	ft/s
Composite n:	0.07	
Hydraulic Radius:	2.31	ft
Wetted Perimeter:	1062.68	ft
Wetted Top Width:	1060.90	ft
Critical Slope:	0.1537	ft/ft

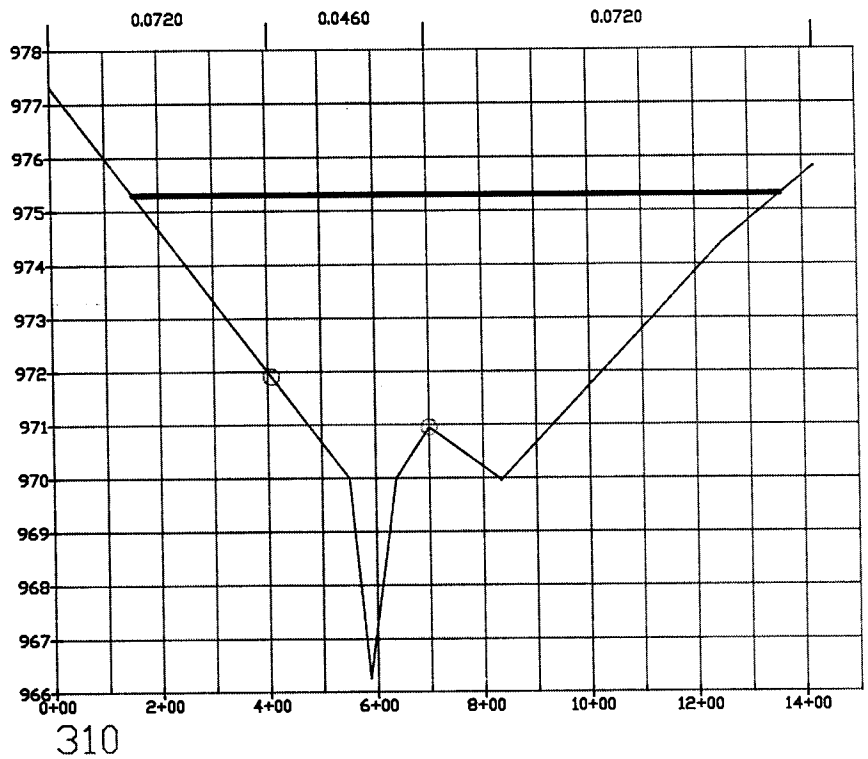
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S20E–390

Entellus™

File: T1N-R6W-S20E-New-Mapping.dwg Date: 11/25/02

T1N-R6W-S20W



Normal Depth Results

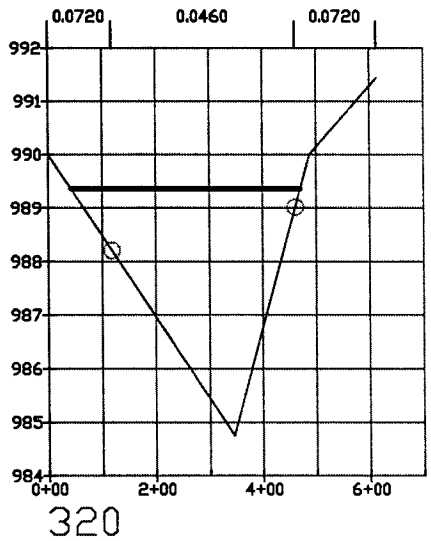
Cross-Section:	310	
Elevation:	975.30	ft MSL
Depth:	9.04	ft
Discharge:	16110.00	cfs
Energy Gradient:	0.0041	ft/ft
Froude Number:	0.2379	
Flow Regime:	Subcritical	
Flow Area:	3970.91	sq ft
Average Velocity:	4.05	ft/s
Maximum Velocity:	6.29	ft/s
Composite n:	0.0661	
Hydraulic Radius:	3.29	ft
Wetted Perimeter:	1206.70	ft
Wetted Top Width:	1206.29	ft
Critical Slope:	0.1171	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S20W–310

Entellus™

File: T1N-R6W-S20W-New-Mapping.dwg; Date: 11/27/02



Normal Depth Results

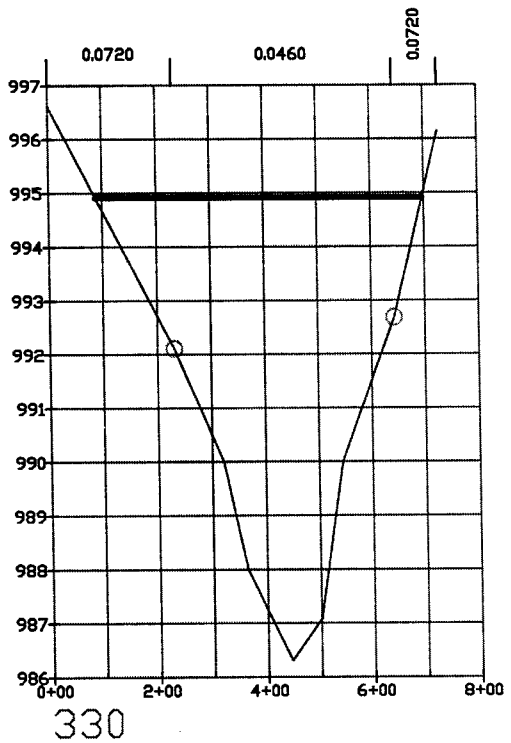
Cross-Section:	320	
Elevation:	989.36	ft MSL
Depth:	4.61	ft
Discharge:	3860.00	cfs
Energy Gradient:	0.0041	ft/ft
Froude Number:	0.3211	
Flow Regime:	Subcritical	
Flow Area:	986.86	sq ft
Average Velocity:	3.92	ft/s
Maximum Velocity:	4.07	ft/s
Composite n:	0.0516	
Hydraulic Radius:	2.3	ft
Wetted Perimeter:	428.29	ft
Wetted Top Width:	428.17	ft
Critical Slope:	0.0586	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S20W–320

Entellus™

File: T1N-R6W-S20W-New-Mapping.dwg Date: 11/27/02



Normal Depth Results

Cross-Section:	330	
Elevation:	994.91	ft MSL
Depth:	8.60	ft
Discharge:	15590.00	cfs
Energy Gradient:	0.0041	ft/ft
Froude Number:	0.3642	
Flow Regime:	Subcritical	
Flow Area:	2573.24	sq ft
Average Velocity:	6.05	ft/s
Maximum Velocity:	6.56	ft/s
Composite n:	0.0551	
Hydraulic Radius:	4.22	ft
Wetted Perimeter:	609.13	ft
Wetted Top Width:	608.83	ft
Critical Slope:	0.0554	ft/ft

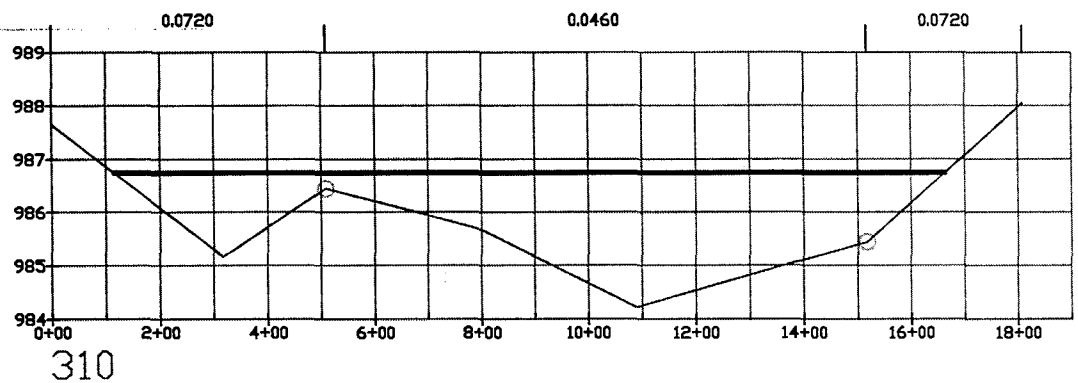
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S20W–330

Entellus™

File: T1N-R6W-S20W-New-Mapping.dwg; Date: 11/27/02

T1N-R6W-S22E



Normal Depth Results

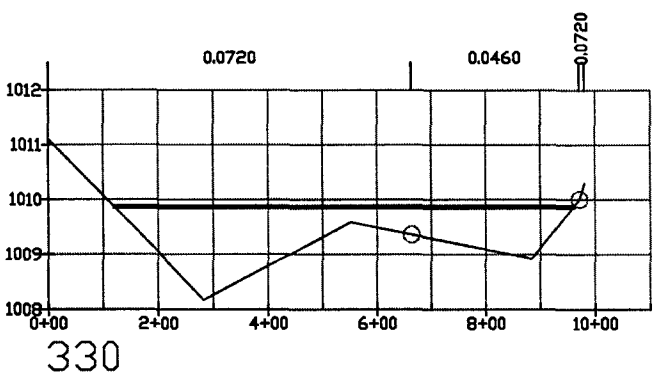
Cross-Section:	310	
Elevation:	986.75	ft MSL
Depth:	2.53	ft
Discharge:	4720.00	cfs
Energy Gradient:	0.004	ft/ft
Froude Number:	0.2648	
Flow Regime:	Subcritical	
Flow Area:	1975.70	sq ft
Average Velocity:	2.37	ft/s
Maximum Velocity:	2.72	ft/s
Composite n:	0.0557	
Hydraulic Radius:	1.28	ft
Wetted Perimeter:	1547.61	ft
Wetted Top Width:	1547.58	ft
Critical Slope:	0.0822	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S22E–310

Entellus™

File: T1N-R6W-S22E-New-Mapping.dwg; Date: 10/28/02



Normal Depth Results

Cross-Section:	330	
Elevation:	1009.86	ft MSL
Depth:	1.69	ft
Discharge:	810.00	cfs
Energy Gradient:	0.004	ft/ft
Froude Number:	0.1712	
Flow Regime:	Subcritical	
Flow Area:	640.88	sq ft
Average Velocity:	1.27	ft/s
Maximum Velocity:	1.55	ft/s
Composite n:	0.0634	
Hydraulic Radius:	0.76	ft
Wetted Perimeter:	839.64	ft
Wetted Top Width:	839.62	ft
Critical Slope:	0.1415	ft/ft

NOT USED IN DELINEATION, COMBINED FLOW WITH T1S-R6W-S27 CONTROLS.

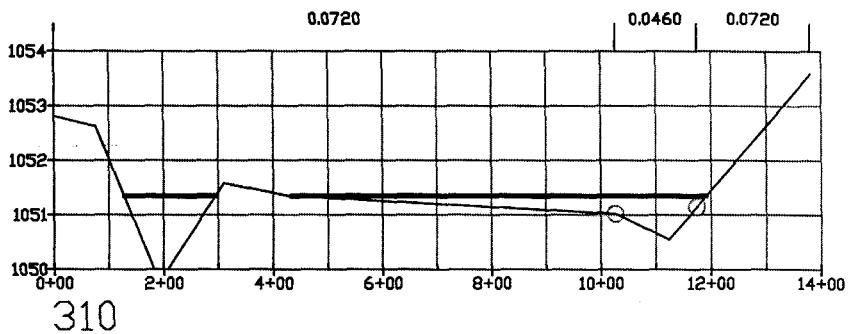
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N-R6W-S22E-330

Entellus™

File: T1N-R6W-S22E-New-Mapping.dwg Date: 10/28/02

T1N-R6W-S22N



Normal Depth Results

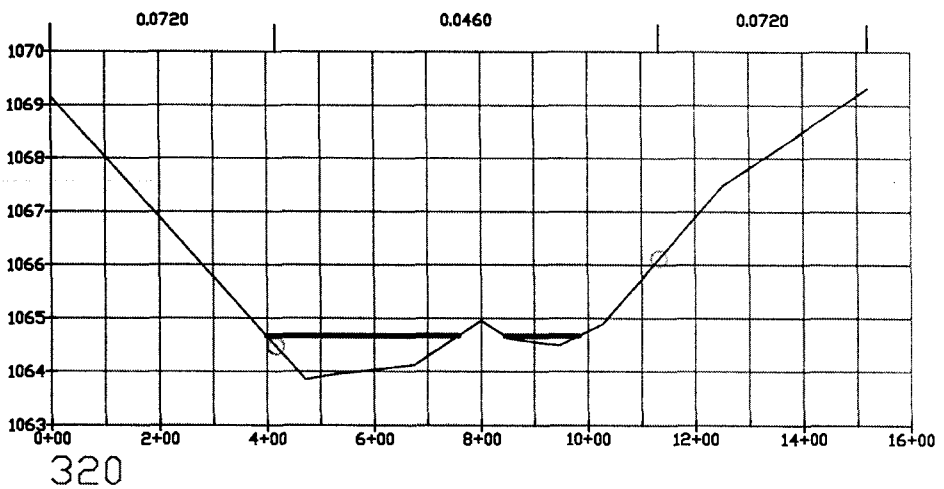
Cross-Section:	310	
Elevation:	1051.35	ft MSL
Depth:	1.35	ft
Discharge:	230.00	cfs
Energy Gradient:	0.0038	ft/ft
Froude Number:	0.113	
Flow Regime:	Subcritical	
Flow Area:	308.86	sq ft
Average Velocity:	0.76	ft/s
Maximum Velocity:	1.32	ft/s
Composite n:	0.0682	
Hydraulic Radius:	0.33	ft
Wetted Perimeter:	926.02	ft
Wetted Top Width:	925.99	ft
Critical Slope:	0.3928	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S22N–310

Entellus™

File: T1N-R6W-S27N-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

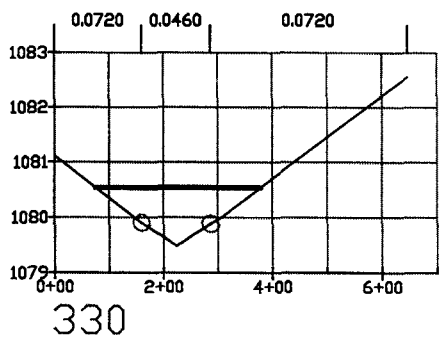
Cross-Section:	320	
Elevation:	1064.67	ft MSL
Depth:	0.81	ft
Discharge:	230.00	cfs
Energy Gradient:	0.0038	ft/ft
Froude Number:	0.2233	
Flow Regime:	Subcritical	
Flow Area:	201.72	sq ft
Average Velocity:	1.11	ft/s
Maximum Velocity:	1.12	ft/s
Composite n:	0.047	
Hydraulic Radius:	0.41	ft
Wetted Perimeter:	495.57	ft
Wetted Top Width:	495.57	ft
Critical Slope:	0.0861	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S22N–320

Entellus™

File: T1N-R6W-S22N-New-Mapping.dwg, Date: 9/03/02



Normal Depth Results

Cross-Section:	330	
Elevation:	1080.54	ft MSL
Depth:	1.05	ft
Discharge:	230.00	cfs
Energy Gradient:	0.0038	ft/ft
Froude Number:	0.2381	
Flow Regime:	Subcritical	
Flow Area:	165.94	sq ft
Average Velocity:	1.37	ft/s
Maximum Velocity:	1.79	ft/s
Composite n:	0.0618	
Hydraulic Radius:	0.55	ft
Wetted Perimeter:	303.32	ft
Wetted Top Width:	303.32	ft
Critical Slope:	0.1303	ft/ft

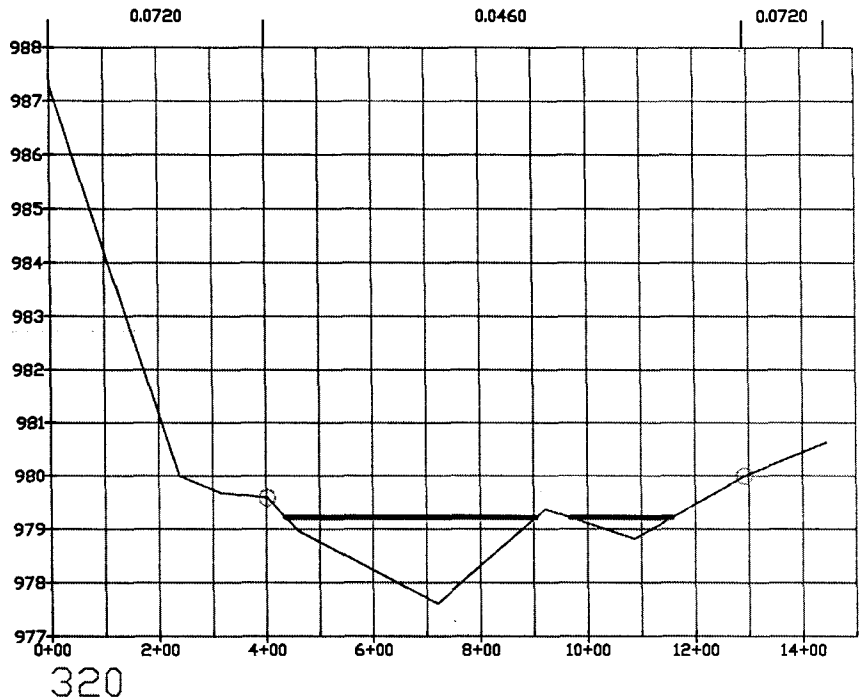
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S22N–330

Entellus™

File: T1N-R6W-S27N-New-Mapping.dwg Date: 12/02/02

T1N-R6W-S26



Normal Depth Results

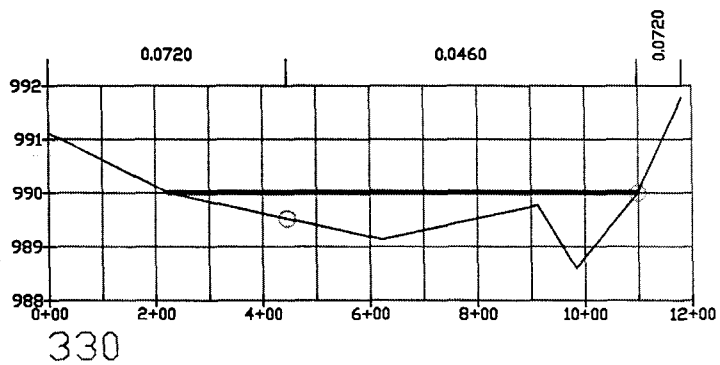
Cross-Section:	320	
Elevation:	979.22	ft MSL
Depth:	1.61	ft
Discharge:	680.00	cfs
Energy Gradient:	0.004	ft/ft
Froude Number:	0.2186	
Flow Regime:	Subcritical	
Flow Area:	431.88	sq ft
Average Velocity:	1.55	ft/s
Maximum Velocity:	1.55	ft/s
Composite n:	0.046	
Hydraulic Radius:	0.66	ft
Wetted Perimeter:	656.64	ft
Wetted Top Width:	656.62	ft
Critical Slope:	0.0864	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S26–320

Entellus™

File: T1N-R6W-S26-New-Mapping.dwg Date: 10/30/02



Normal Depth Results

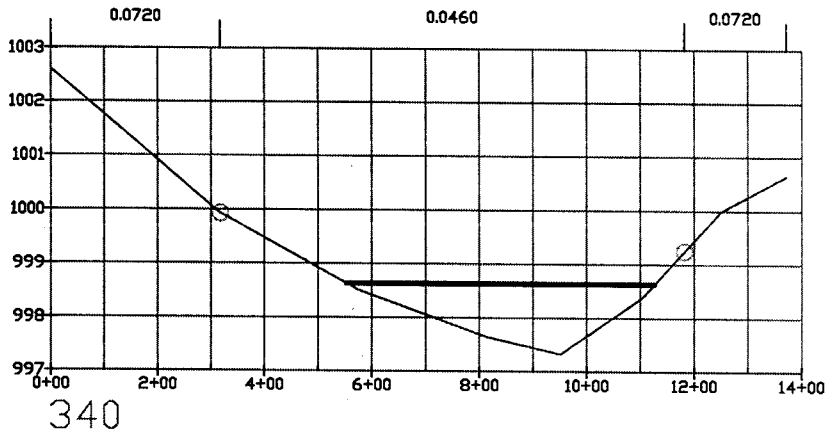
Cross-Section:	330	
Elevation:	990.01	ft MSL
Depth:	1.41	ft
Discharge:	680.00	cfs
Energy Gradient:	0.004	ft/ft
Froude Number:	0.2128	
Flow Regime:	Subcritical	
Flow Area:	474.67	sq ft
Average Velocity:	1.41	ft/s
Maximum Velocity:	1.53	ft/s
Composite n:	0.0531	
Hydraulic Radius:	0.54	ft
Wetted Perimeter:	874.51	ft
Wetted Top Width:	874.49	ft
Critical Slope:	0.1304	ft/ft

File: T1N-R6W-S26-New-Mapping.dwg Date: 10/30/02

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S26–330

Entellus™



Normal Depth Results

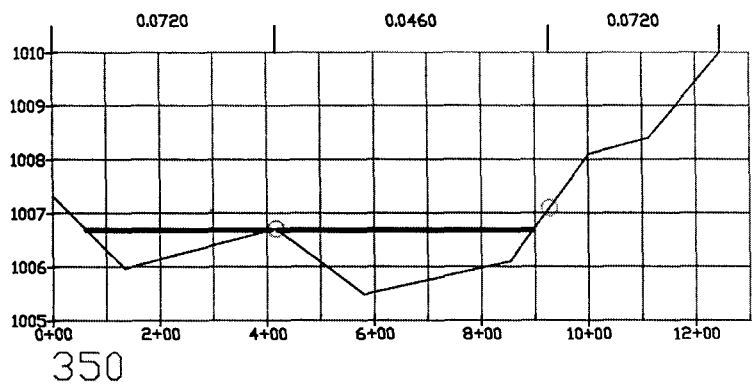
Cross-Section:	340	
Elevation:	998.64	ft MSL
Depth:	1.31	ft
Discharge:	680.00	cfs
Energy Gradient:	0.004	ft/ft
Froude Number:	0.2532	
Flow Regime:	Subcritical	
Flow Area:	414.06	sq ft
Average Velocity:	1.65	ft/s
Maximum Velocity:	1.65	ft/s
Composite n:	0.046	
Hydraulic Radius:	0.72	ft
Wetted Perimeter:	573.94	ft
Wetted Top Width:	573.93	ft
Critical Slope:	0.0619	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S26–340

Entellus™

File: T1N-R6W-S26-New-Mapping.dwg Date: 10/30/02



Normal Depth Results

Cross-Section:	350	
Elevation:	1006.69	ft MSL
Depth:	1.21	ft
Discharge:	680.00	cfs
Energy Gradient:	0.004	ft/ft
Froude Number:	0.2291	
Flow Regime:	Subcritical	
Flow Area:	476.65	sq ft
Average Velocity:	1.42	ft/s
Maximum Velocity:	1.68	ft/s
Composite n:	0.0576	
Hydraulic Radius:	0.58	ft
Wetted Perimeter:	820.84	ft
Wetted Top Width:	820.83	ft
Critical Slope:	0.1197	ft/ft

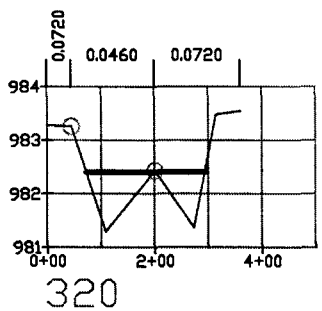
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S26–350

Entellus™

File: T1N-R6W-S26-New-Mapping.dwg Date: 10/30/02

T1N-R6W-S27S



Normal Depth Results

Cross-Section:	320	
Elevation:	982.41	ft MSL
Depth:	1.12	ft
Discharge:	180.00	cfs
Energy Gradient:	0.0066	ft/ft
Froude Number:	0.2543	
Flow Regime:	Subcritical	
Flow Area:	118.02	sq ft
Average Velocity:	1.50	ft/s
Maximum Velocity:	1.78	ft/s
Composite n:	0.0576	
Hydraulic Radius:	0.54	ft
Wetted Perimeter:	217.83	ft
Wetted Top Width:	217.77	ft
Critical Slope:	0.1218	ft/ft

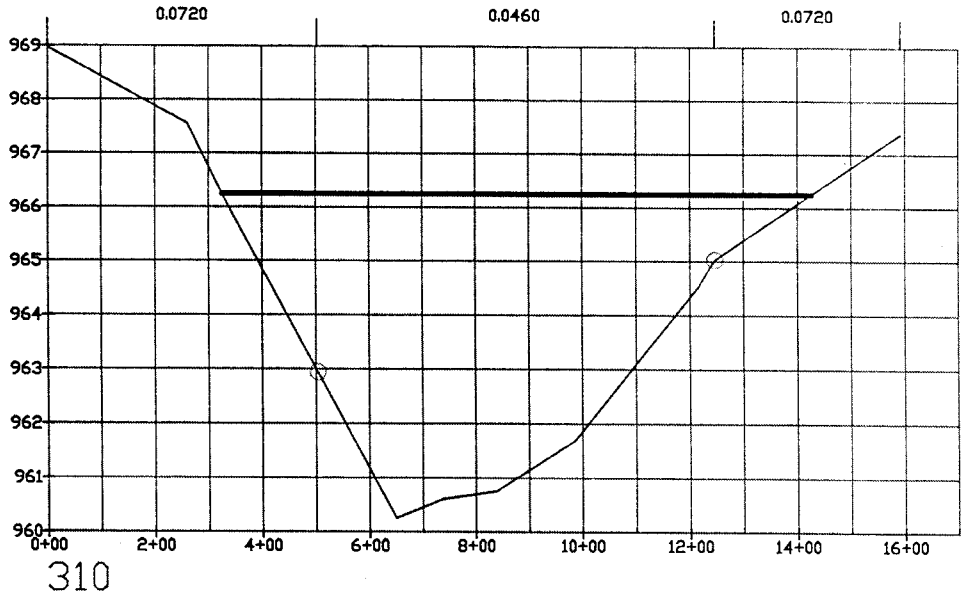
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S27S–320

Entellus™

File: T1N-R6W-S27S-New-Mapping.dwg Date: 11/14/02

T1N-R6W-S29



Normal Depth Results

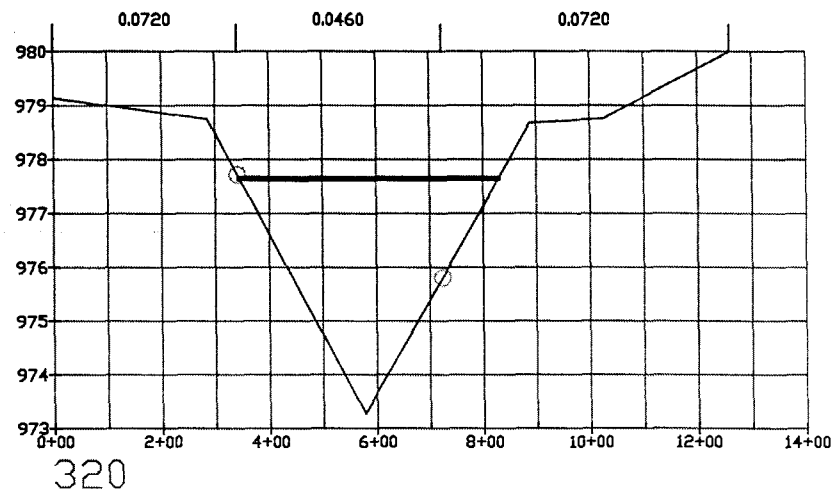
Cross-Section:	310	
Elevation:	966.25	ft MSL
Depth:	5.99	ft
Discharge:	16320.00	cfs
Energy Gradient:	0.0031	ft/ft
Froude Number:	0.3209	
Flow Regime:	Subcritical	
Flow Area:	3663.82	sq ft
Average Velocity:	4.45	ft/s
Maximum Velocity:	4.83	ft/s
Composite n:	0.0551	
Hydraulic Radius:	3.33	ft
Wetted Perimeter:	1100.31	ft
Wetted Top Width:	1100.23	ft
Critical Slope:	0.0529	ft/ft

File: T1N-R6W-S29-New-Mapping.dwg; Date: 07/12/02

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S29–310

Entellus™



Normal Depth Results

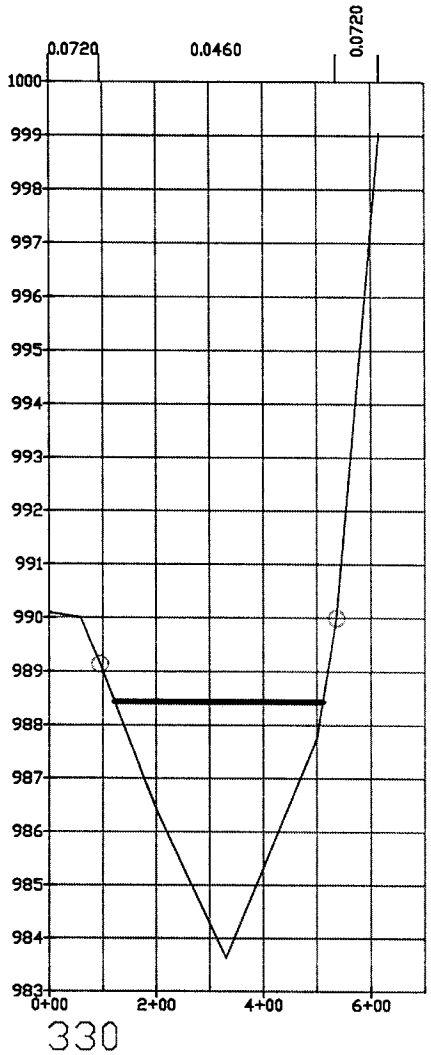
Cross-Section:	320	
Elevation:	977.65	ft MSL
Depth:	4.37	ft
Discharge:	3870.00	cfs
Energy Gradient:	0.0042	ft/ft
Froude Number:	0.3087	
Flow Regime:	Subcritical	
Flow Area:	1057.21	sq ft
Average Velocity:	3.66	ft/s
Maximum Velocity:	3.90	ft/s
Composite n:	0.0521	
Hydraulic Radius:	2.18	ft
Wetted Perimeter:	483.93	ft
Wetted Top Width:	483.85	ft
Critical Slope:	0.0608	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S29–320

Entellus™

File: T1N-R6W-S29-New-Mapping.dwg Date: 11/14/02



Normal Depth Results

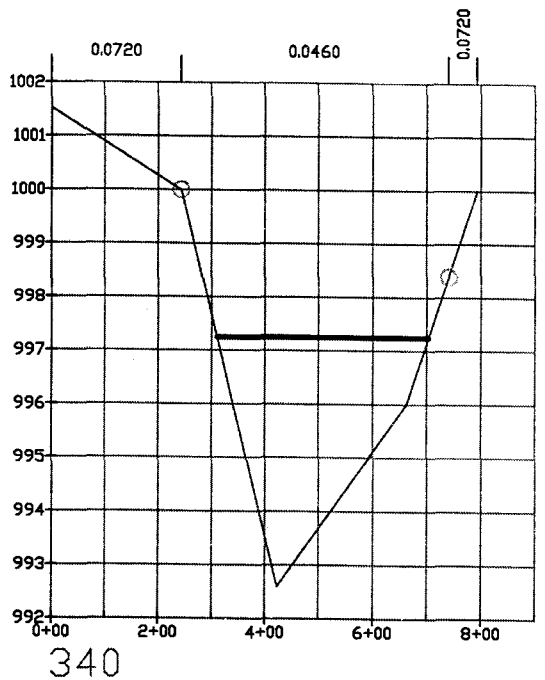
Cross-Section:	330	
Elevation:	988.44	ft MSL
Depth:	4.81	ft
Discharge:	3870.00	cfs
Energy Gradient:	0.0042	ft/ft
Froude Number:	0.314	
Flow Regime:	Subcritical	
Flow Area:	990.97	sq ft
Average Velocity:	3.92	ft/s
Maximum Velocity:	3.92	ft/s
Composite n:	0.046	
Hydraulic Radius:	2.55	ft
Wetted Perimeter:	388.69	ft
Wetted Top Width:	388.56	ft
Critical Slope:	0.0423	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S29–330

Entellus™

File: T1N-R6W-S29-New-Mapping.dwg; Date: 11/14/02



Normal Depth Results

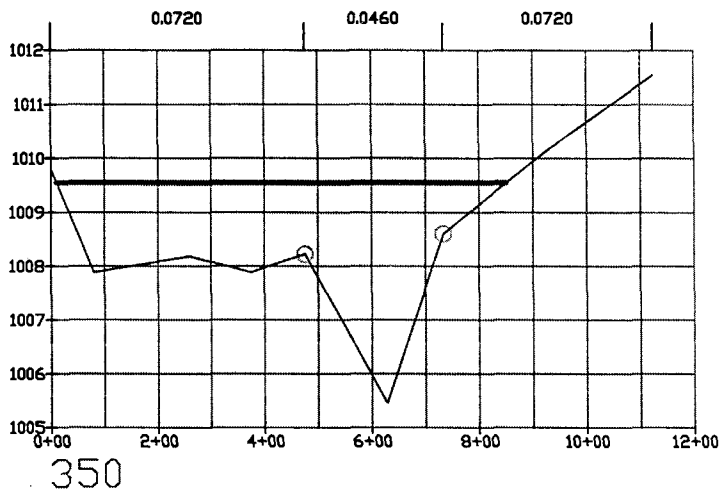
Cross-Section:	340	
Elevation:	997.24	ft MSL
Depth:	4.64	ft
Discharge:	3870.00	cfs
Energy Gradient:	0.0042	ft/ft
Froude Number:	0.3189	
Flow Regime:	Subcritical	
Flow Area:	992.54	sq ft
Average Velocity:	3.89	ft/s
Maximum Velocity:	3.89	ft/s
Composite n:	0.046	
Hydraulic Radius:	2.53	ft
Wetted Perimeter:	393.04	ft
Wetted Top Width:	392.90	ft
Critical Slope:	0.0414	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S29–340

Entellus™

File: T1N-R6W-S29-New-Mapping.dwg, Date: 11/14/02



Normal Depth Results

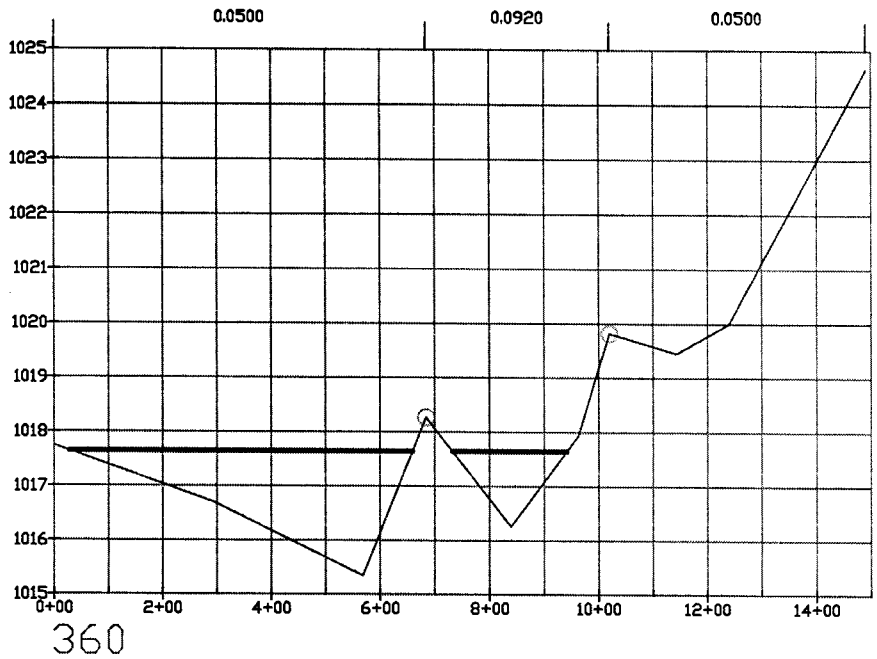
Cross-Section:	350	
Elevation:	1009.55	ft MSL
Depth:	4.10	ft
Discharge:	3870.00	cfs
Energy Gradient:	0.0042	ft/ft
Froude Number:	0.2428	
Flow Regime:	Subcritical	
Flow Area:	1388.00	sq ft
Average Velocity:	2.78	ft/s
Maximum Velocity:	4.00	ft/s
Composite n:	0.0646	
Hydraulic Radius:	1.65	ft
Wetted Perimeter:	840.12	ft
Wetted Top Width:	840.02	ft
Critical Slope:	0.1269	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S29–350

Entellus™

File: T1N-R6W-S29-New-Mapping.dwg; Date: 11/14/02



Normal Depth Results

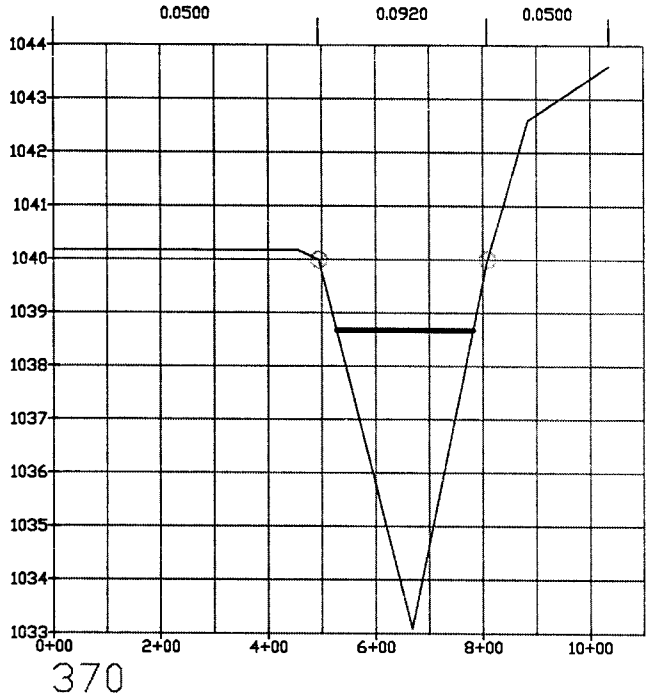
Cross-Section:	360	
Elevation:	1017.65	ft MSL
Depth:	2.30	ft
Discharge:	1480.00	cfs
Energy Gradient:	0.0042	ft/ft
Froude Number:	0.2104	
Flow Regime:	Subcritical	
Flow Area:	818.18	sq ft
Average Velocity:	1.81	ft/s
Maximum Velocity:	2.02	ft/s
Composite n:	0.0617	
Hydraulic Radius:	0.97	ft
Wetted Perimeter:	839.85	ft
Wetted Top Width:	839.80	ft
Critical Slope:	0.1312	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S29–360

Entellus™

File: T1N-R6W-S29-NEW-MAPPING.dwg, Date: 11/27/02



Normal Depth Results

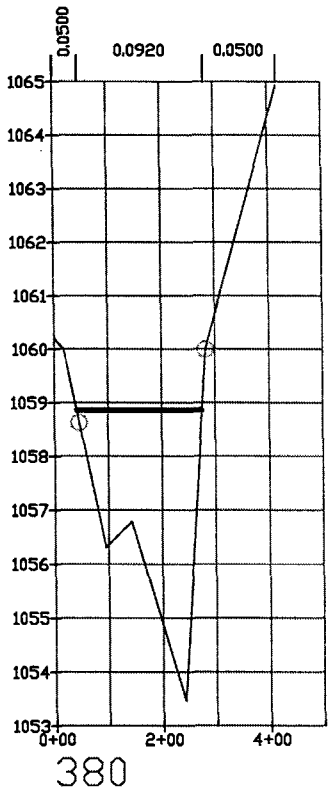
Cross-Section:	370	
Elevation:	1038.68	ft MSL
Depth:	5.59	ft
Discharge:	1480.00	cfs
Energy Gradient:	0.0042	ft/ft
Froude Number:	0.1555	
Flow Regime:	Subcritical	
Flow Area:	709.80	sq ft
Average Velocity:	2.08	ft/s
Maximum Velocity:	2.08	ft/s
Composite n:	0.092	
Hydraulic Radius:	2.79	ft
Wetted Perimeter:	254.34	ft
Wetted Top Width:	254.09	ft
Critical Slope:	0.1744	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S29–370

Entellus™

File: T1N-R6W-S29-New-Mapping.dwg; Date: 11/14/02



Normal Depth Results

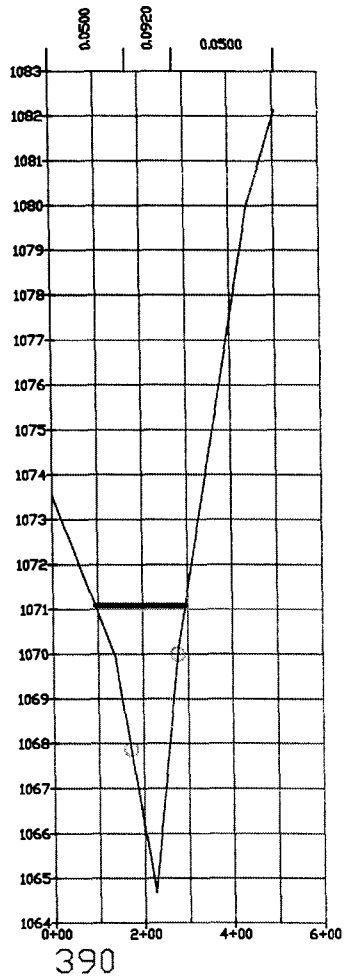
Cross-Section:	380	
Elevation:	1058.86	ft MSL
Depth:	5.39	ft
Discharge:	1480.00	cfs
Energy Gradient:	0.0042	ft/ft
Froude Number:	0.1761	
Flow Regime:	Subcritical	
Flow Area:	638.15	sq ft
Average Velocity:	2.31	ft/s
Maximum Velocity:	3.71	ft/s
Composite n:	0.0859	
Hydraulic Radius:	2.73	ft
Wetted Perimeter:	233.92	ft
Wetted Top Width:	233.36	ft
Critical Slope:	0.1512	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S29–380

Entellus™

File: T1N-R6W-S29-New-Mapping.dwg Date: 11/14/02



Normal Depth Results

Cross-Section:	390	
Elevation:	1071.09	ft MSL
Depth:	6.40	ft
Discharge:	1480.00	cfs
Energy Gradient:	0.0042	ft/ft
Froude Number:	0.1839	
Flow Regime:	Subcritical	
Flow Area:	560.65	sq ft
Average Velocity:	2.65	ft/s
Maximum Velocity:	2.76	ft/s
Composite n:	0.0735	
Hydraulic Radius:	2.78	ft
Wetted Perimeter:	201.38	ft
Wetted Top Width:	200.90	ft
Critical Slope:	0.128	ft/ft

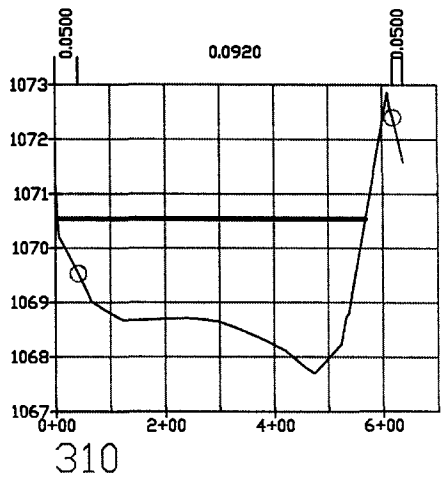
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S29–390

Entellus™

File: T1N-R6W-S29-NEW-MAPPING.dwg Date: 11/27/02

T1N-R7W-S01



Normal Depth Results

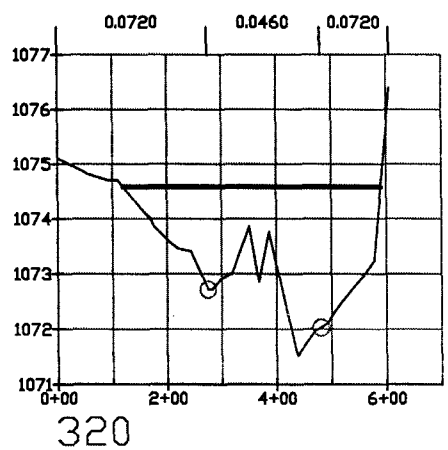
Cross-Section:	310	
Elevation:	1070.54	ft MSL
Depth:	2.84	ft
Discharge:	2010.00	cfs
Energy Gradient:	0.0056	ft/ft
Froude Number:	0.1978	
Flow Regime:	Subcritical	
Flow Area:	1062.33	sq ft
Average Velocity:	1.90	ft/s
Maximum Velocity:	1.91	ft/s
Composite n:	0.0895	
Hydraulic Radius:	1.88	ft
Wetted Perimeter:	564.09	ft
Wetted Top Width:	563.98	ft
Critical Slope:	0.142	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S01–310

Entellus™

File: T1N-R7W-S01.dwg Date: 12/02/02



Normal Depth Results

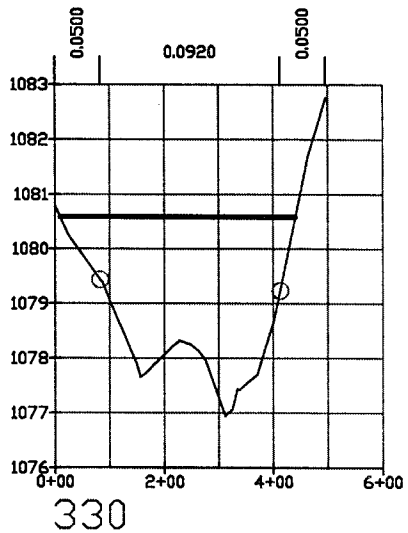
Cross-Section:	320	
Elevation:	1074.59	ft MSL
Depth:	3.07	ft
Discharge:	2010.00	cfs
Energy Gradient:	0.0056	ft/ft
Froude Number:	0.2839	
Flow Regime:	Subcritical	
Flow Area:	712.88	sq ft
Average Velocity:	2.84	ft/s
Maximum Velocity:	3.63	ft/s
Composite n:	0.0612	
Hydraulic Radius:	1.51	ft
Wetted Perimeter:	471.57	ft
Wetted Top Width:	471.36	ft
Critical Slope:	0.0961	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S01–320

Entellus™

File: T1N-R7W-S01.dwg Date: 12/02/02



Normal Depth Results

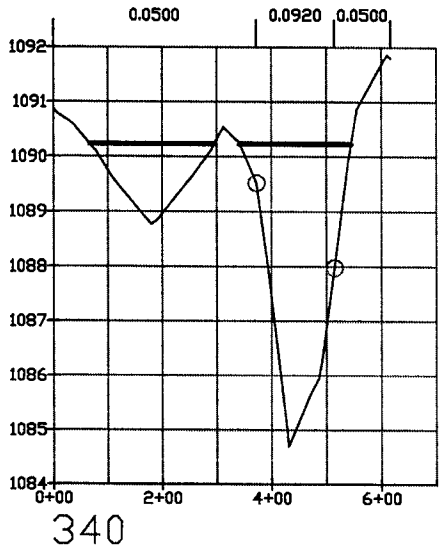
Cross-Section:	330	
Elevation:	1080.59	ft MSL
Depth:	3.64	ft
Discharge:	2010.00	cfs
Energy Gradient:	0.0056	ft/ft
Froude Number:	0.2046	
Flow Regime:	Subcritical	
Flow Area:	907.17	sq ft
Average Velocity:	2.22	ft/s
Maximum Velocity:	2.26	ft/s
Composite n:	0.0831	
Hydraulic Radius:	2.1	ft
Wetted Perimeter:	432.27	ft
Wetted Top Width:	432.15	ft
Critical Slope:	0.1358	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S01–330

Entellus™

File: T1N-k7W-S01.dwg Date: 12/02/02



Normal Depth Results

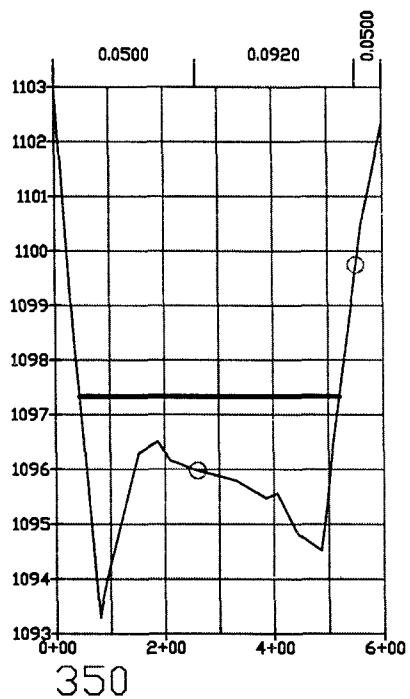
Cross-Section:	340	
Elevation:	1090.24	ft MSL
Depth:	5.54	ft
Discharge:	2010.00	cfs
Energy Gradient:	0.0056	ft/ft
Froude Number:	0.1971	
Flow Regime:	Subcritical	
Flow Area:	763.84	sq ft
Average Velocity:	2.64	ft/s
Maximum Velocity:	2.95	ft/s
Composite n:	0.0653	
Hydraulic Radius:	1.77	ft
Wetted Perimeter:	432.55	ft
Wetted Top Width:	432.15	ft
Critical Slope:	0.1603	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S01–340

Entellus™

File: T1N-R7W-S01.dwg Date: 12/02/02



Normal Depth Results

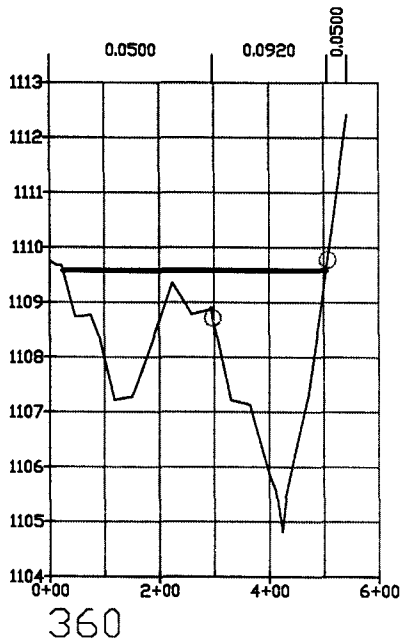
Cross-Section:	350	
Elevation:	1097.33	ft MSL
Depth:	4.03	ft
Discharge:	2010.00	cfs
Energy Gradient:	0.0056	ft/ft
Froude Number:	0.2102	
Flow Regime:	Subcritical	
Flow Area:	839.39	sq ft
Average Velocity:	2.40	ft/s
Maximum Velocity:	3.17	ft/s
Composite n:	0.0744	
Hydraulic Radius:	1.76	ft
Wetted Perimeter:	476.70	ft
Wetted Top Width:	476.28	ft
Critical Slope:	0.1522	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S01–350

Entellus™

File: T1N-R7W-S01.dwg Date: 12/02/02



Normal Depth Results

Cross-Section:	360	
Elevation:	1109.58	ft MSL
Depth:	4.76	ft
Discharge:	2010.00	cfs
Energy Gradient:	0.0056	ft/ft
Froude Number:	0.1898	
Flow Regime:	Subcritical	
Flow Area:	855.35	sq ft
Average Velocity:	2.35	ft/s
Maximum Velocity:	2.45	ft/s
Composite n:	0.0696	
Hydraulic Radius:	1.78	ft
Wetted Perimeter:	480.58	ft
Wetted Top Width:	480.26	ft
Critical Slope:	0.1552	ft/ft

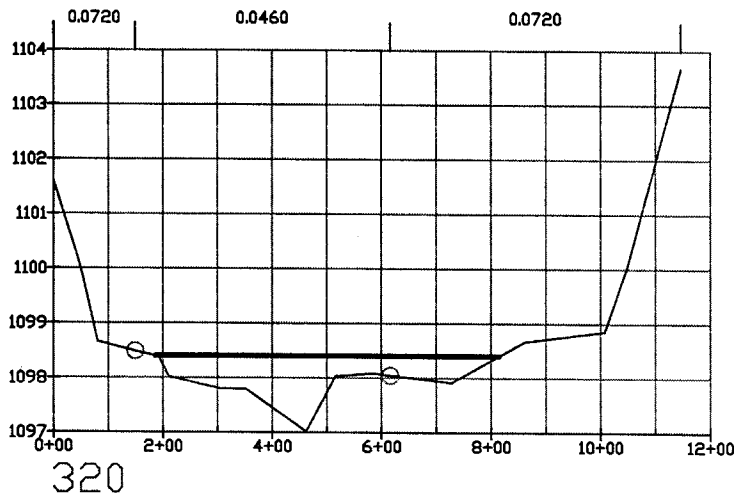
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S01–360

Entellus™

File: T1N-R7W-S01.dwg Date: 12/02/02

T1N-R7W-S02



Normal Depth Results

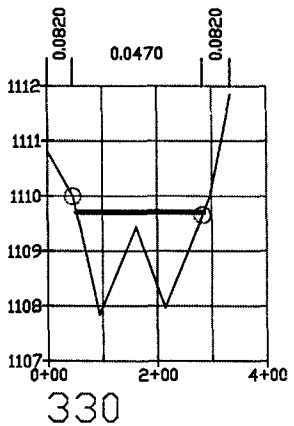
Cross-Section:	320	
Elevation:	1098.41	ft MSL
Depth:	1.39	ft
Discharge:	680.00	cfs
Energy Gradient:	0.0095	ft/ft
Froude Number:	0.3021	
Flow Regime:	Subcritical	
Flow Area:	337.05	sq ft
Average Velocity:	2.04	ft/s
Maximum Velocity:	2.31	ft/s
Composite n:	0.0548	
Hydraulic Radius:	0.54	ft
Wetted Perimeter:	628.71	ft
Wetted Top Width:	628.69	ft
Critical Slope:	0.1386	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S02–320

Entellus™

File: T1N-R7W-S02-New-Mapping.dwg Date: 11/07/02



Normal Depth Results

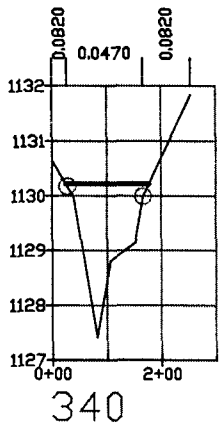
Cross-Section:	330	
Elevation:	1109.71	ft MSL
Depth:	1.87	ft
Discharge:	680.00	cfs
Energy Gradient:	0.0095	ft/ft
Froude Number:	0.3898	
Flow Regime:	Subcritical	
Flow Area:	224.97	sq ft
Average Velocity:	3.04	ft/s
Maximum Velocity:	3.04	ft/s
Composite n:	0.0473	
Hydraulic Radius:	0.97	ft
Wetted Perimeter:	232.34	ft
Wetted Top Width:	232.24	ft
Critical Slope:	0.0633	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S02–330

Entellus™

File: T1N-k7W-S02-New-Mapping.dwg Date: 11/07/02



Normal Depth Results

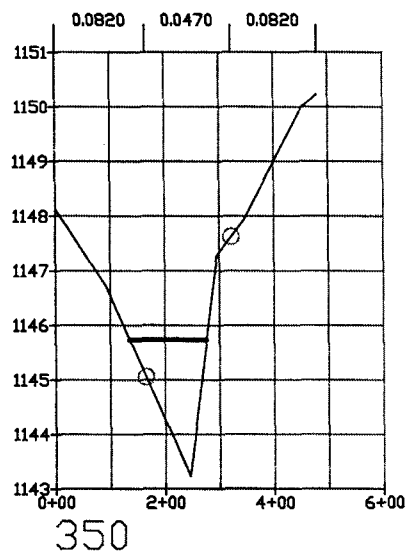
Cross-Section:	340	
Elevation:	1130.22	ft MSL
Depth:	2.80	ft
Discharge:	680.00	cfs
Energy Gradient:	0.0095	ft/ft
Froude Number:	0.3877	
Flow Regime:	Subcritical	
Flow Area:	184.64	sq ft
Average Velocity:	3.70	ft/s
Maximum Velocity:	3.73	ft/s
Composite n:	0.0505	
Hydraulic Radius:	1.22	ft
Wetted Perimeter:	151.78	ft
Wetted Top Width:	151.63	ft
Critical Slope:	0.0799	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S02–340

Entellus™

File: T1N-R7W-S02-New-Mapping.dwg Date: 11/07/02



Normal Depth Results

Cross-Section:	350	
Elevation:	1145.73	ft MSL
Depth:	2.50	ft
Discharge:	680.00	cfs
Energy Gradient:	0.0095	ft/ft
Froude Number:	0.4295	
Flow Regime:	Subcritical	
Flow Area:	176.35	sq ft
Average Velocity:	3.86	ft/s
Maximum Velocity:	4.04	ft/s
Composite n:	0.0552	
Hydraulic Radius:	1.25	ft
Wetted Perimeter:	140.92	ft
Wetted Top Width:	140.79	ft
Critical Slope:	0.0821	ft/ft

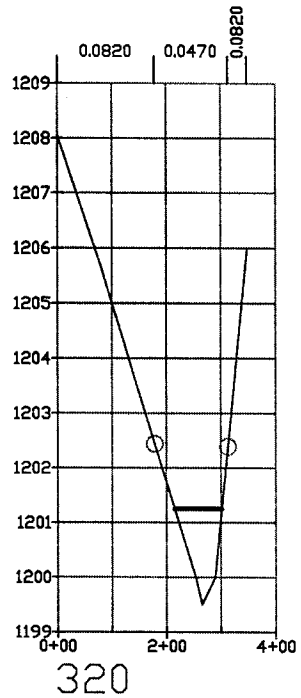
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S02–350

Entellus™

File: T1N-R7W-S02-New-Mapping.dwg Date: 11/07/02

T1N-R7W-S05



Normal Depth Results

Cross-Section:	320	
Elevation:	1201.26	ft MSL
Depth:	1.76	ft
Discharge:	260.00	cfs
Energy Gradient:	0.0094	ft/ft
Froude Number:	0.4031	
Flow Regime:	Subcritical	
Flow Area:	85.76	sq ft
Average Velocity:	3.05	ft/s
Maximum Velocity:	3.05	ft/s
Composite n:	0.047	
Hydraulic Radius:	0.99	ft
Wetted Perimeter:	86.81	ft
Wetted Top Width:	86.71	ft
Critical Slope:	0.0572	ft/ft

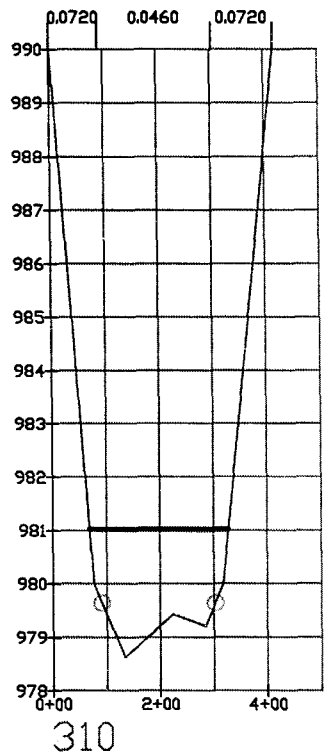
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S05–320

Entellus™

File: T1N-k7W-305-New-Mapping.dwg Date: 11/04/02

T1S-R6W-S08



Normal Depth Results

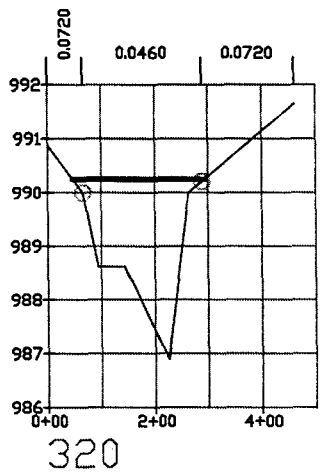
Cross-Section:	310	
Elevation:	981.02	ft MSL
Depth:	2.39	ft
Discharge:	1240.00	cfs
Energy Gradient:	0.0038	ft/ft
Froude Number:	0.3226	
Flow Regime:	Subcritical	
Flow Area:	437.92	sq ft
Average Velocity:	2.83	ft/s
Maximum Velocity:	3.02	ft/s
Composite n:	0.0512	
Hydraulic Radius:	1.69	ft
Wetted Perimeter:	259.55	ft
Wetted Top Width:	259.40	ft
Critical Slope:	0.0454	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S08–310

Entellus™

File: T1S-R6W-S08-New-Mapping.dwg Date: 11/14/02



Normal Depth Results

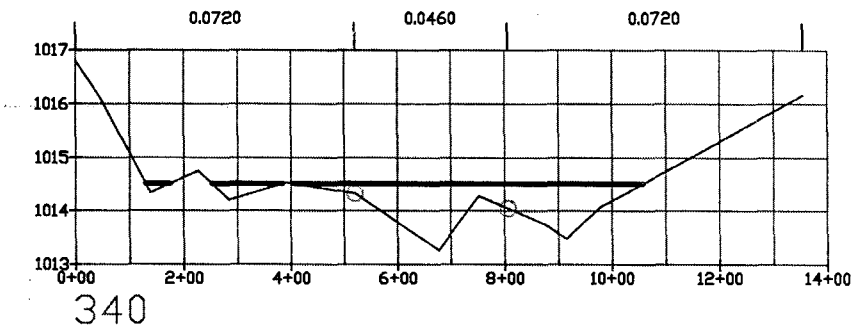
Cross-Section:	320	
Elevation:	990.25	ft MSL
Depth:	3.35	ft
Discharge:	1100.00	cfs
Energy Gradient:	0.0038	ft/ft
Froude Number:	0.2744	
Flow Regime:	Subcritical	
Flow Area:	385.84	sq ft
Average Velocity:	2.84	ft/s
Maximum Velocity:	2.86	ft/s
Composite n:	0.0488	
Hydraulic Radius:	1.56	ft
Wetted Perimeter:	247.68	ft
Wetted Top Width:	247.50	ft
Critical Slope:	0.0641	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S08–320

Entellus™

File: T1S-R6W-S08-New-Mapping.dwg Date: 11/14/02



Normal Depth Results

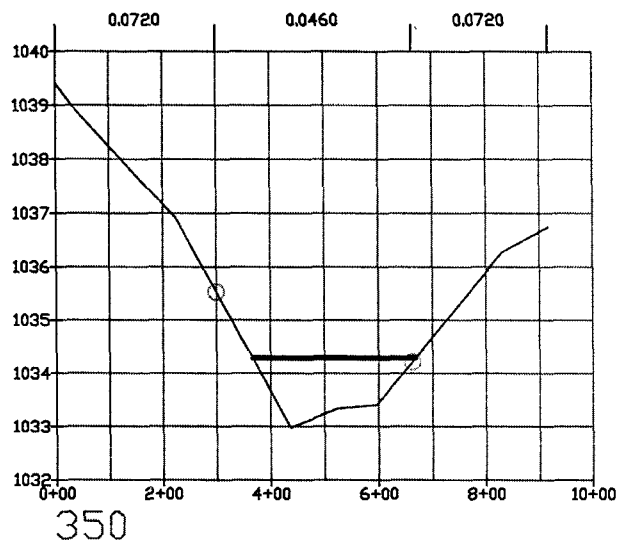
Cross-Section:	340	
Elevation:	1014.51	ft MSL
Depth:	1.24	ft
Discharge:	420.00	cfs
Energy Gradient:	0.0038	ft/ft
Froude Number:	0.1827	
Flow Regime:	Subcritical	
Flow Area:	363.32	sq ft
Average Velocity:	1.14	ft/s
Maximum Velocity:	1.50	ft/s
Composite n:	0.0636	
Hydraulic Radius:	0.44	ft
Wetted Perimeter:	831.44	ft
Wetted Top Width:	831.42	ft
Critical Slope:	0.2204	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S08–340

Entellus™

File: T1S-R6W-S08-New-Mapping.dwg Date: 11/14/02



Normal Depth Results

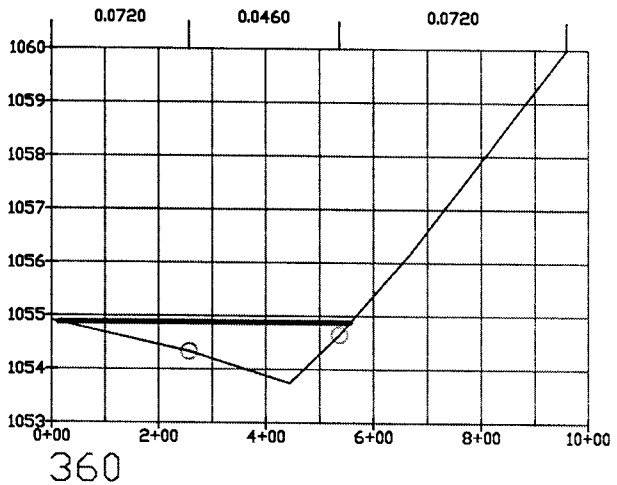
Cross-Section:	350	
Elevation:	1034.29	ft MSL
Depth:	1.31	ft
Discharge:	420.00	cfs
Energy Gradient:	0.0038	ft/ft
Froude Number:	0.267	
Flow Regime:	Subcritical	
Flow Area:	242.35	sq ft
Average Velocity:	1.74	ft/s
Maximum Velocity:	1.74	ft/s
Composite n:	0.0465	
Hydraulic Radius:	0.8	ft
Wetted Perimeter:	302.12	ft
Wetted Top Width:	302.10	ft
Critical Slope:	0.0551	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S08–350

Entellus™

File: T1S-R6W-S08-New-Mapping.dwg Date: 11/14/02



Normal Depth Results

Cross-Section:	360	
Elevation:	1054.88	ft MSL
Depth:	1.14	ft
Discharge:	420.00	cfs
Energy Gradient:	0.0038	ft/ft
Froude Number:	0.237	
Flow Regime:	Subcritical	
Flow Area:	292.27	sq ft
Average Velocity:	1.43	ft/s
Maximum Velocity:	1.71	ft/s
Composite n:	0.0593	
Hydraulic Radius:	0.54	ft
Wetted Perimeter:	544.29	ft
Wetted Top Width:	544.28	ft
Critical Slope:	0.1335	ft/ft

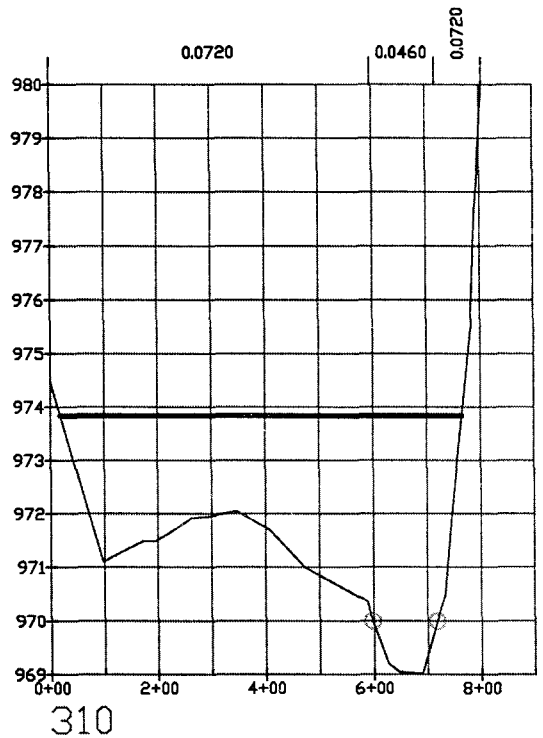
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S08–360

Entellus™

File: T1S-R6W-S08-New-Mapping.dwg Date: 11/14/02

T1S-R6W`-S27



Normal Depth Results

Cross-Section:	310	
Elevation:	973.84	ft MSL
Depth:	4.82	ft
Discharge:	6380.00	cfs
Energy Gradient:	0.004	ft/ft
Froude Number:	0.2572	
Flow Regime:	Subcritical	
Flow Area:	1991.04	sq ft
Average Velocity:	3.20	ft/s
Maximum Velocity:	5.62	ft/s
Composite n:	0.0681	
Hydraulic Radius:	2.66	ft
Wetted Perimeter:	747.83	ft
Wetted Top Width:	747.55	ft
Critical Slope:	0.0879	ft/ft

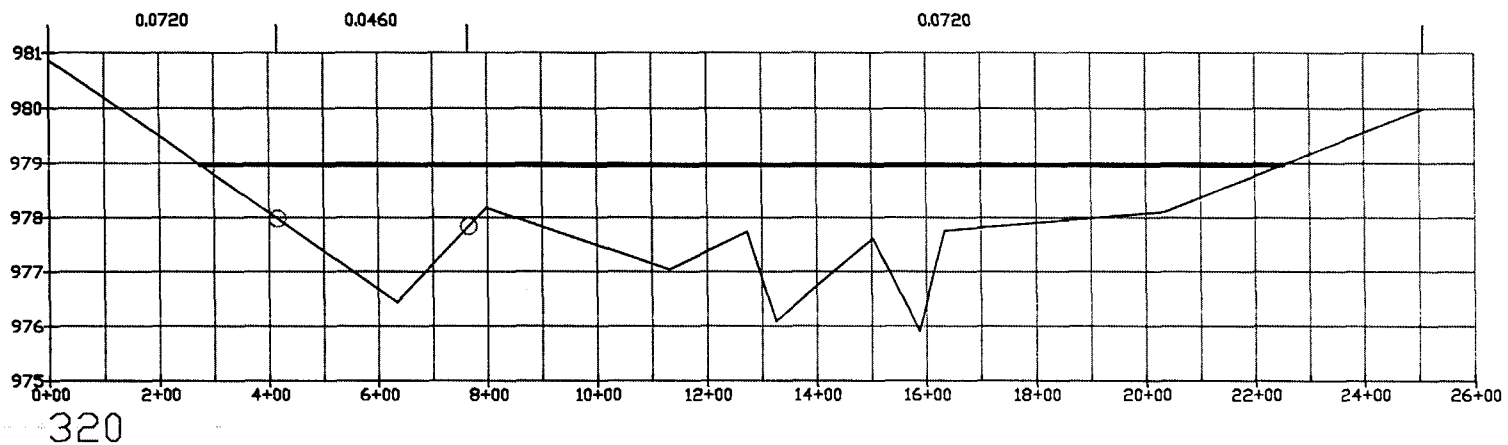
NOT USED IN DELINEATION

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–310

Entellus™

File: T1S-R6W-S27-New-Mapping.dwg; Date: 12/02/02



Normal Depth Results

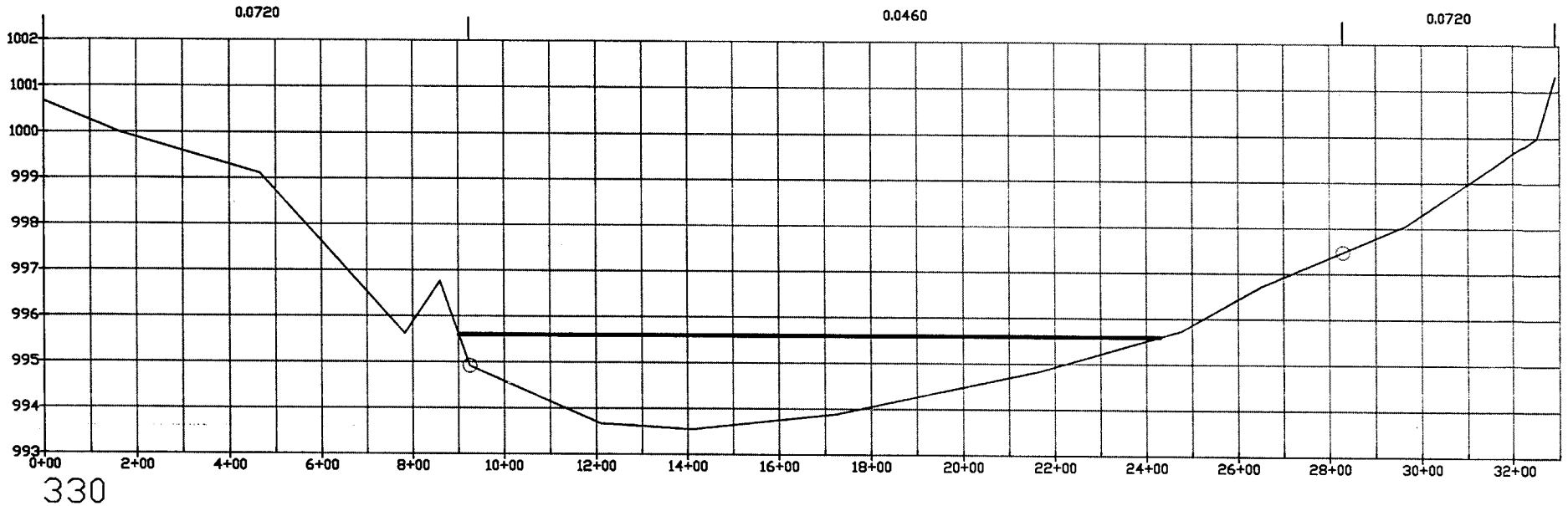
Cross-Section:	320	
Elevation:	978.97	ft MSL
Depth:	3.06	ft
Discharge:	5140.00	cfs
Energy Gradient:	0.004	ft/ft
Froude Number:	0.1931	
Flow Regime:	Subcritical	
Flow Area:	2681.23	sq ft
Average Velocity:	1.90	ft/s
Maximum Velocity:	3.02	ft/s
Composite n:	0.0677	
Hydraulic Radius:	1.36	ft
Wetted Perimeter:	1976.13	ft
Wetted Top Width:	1976.02	ft
Critical Slope:	0.1356	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–320

Entellus™

File: T13-R6W-S27-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

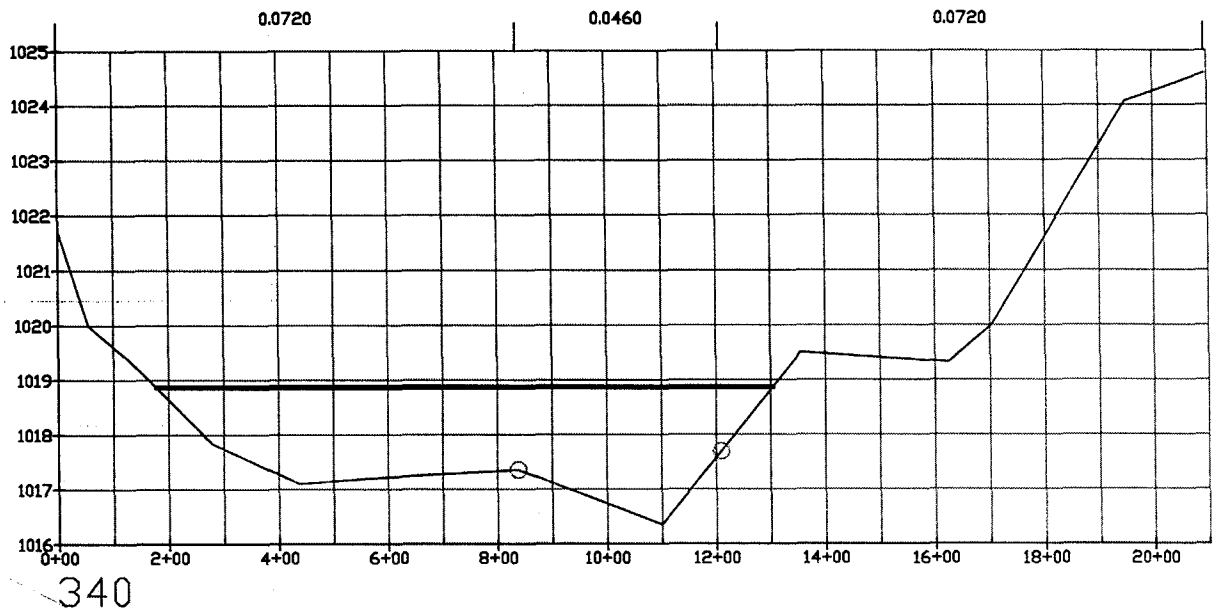
Cross-Section:	330	
Elevation:	995.59	ft MSL
Depth:	2.04	ft
Discharge:	4930.00	cfs
Energy Gradient:	0.004	ft/ft
Froude Number:	0.3025	
Flow Regime:	Subcritical	
Flow Area:	2009.26	sq ft
Average Velocity:	2.47	ft/s
Maximum Velocity:	2.48	ft/s
Composite n:	0.0464	
Hydraulic Radius:	1.31	ft
Wetted Perimeter:	1528.54	ft
Wetted Top Width:	1528.53	ft
Critical Slope:	0.0444	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–330

Entellus™

File: T1S-R6W-S27-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

Cross-Section:	340	
Elevation:	1018.87	ft MSL
Depth:	2.52	ft
Discharge:	3940.00	cfs
Energy Gradient:	0.004	ft/ft
Froude Number:	0.2556	
Flow Regime:	Subcritical	
Flow Area:	1711.76	sq ft
Average Velocity:	2.29	ft/s
Maximum Velocity:	3.22	ft/s
Composite n:	0.064	
Hydraulic Radius:	1.52	ft
Wetted Perimeter:	1126.57	ft
Wetted Top Width:	1126.55	ft
Critical Slope:	0.0857	ft/ft

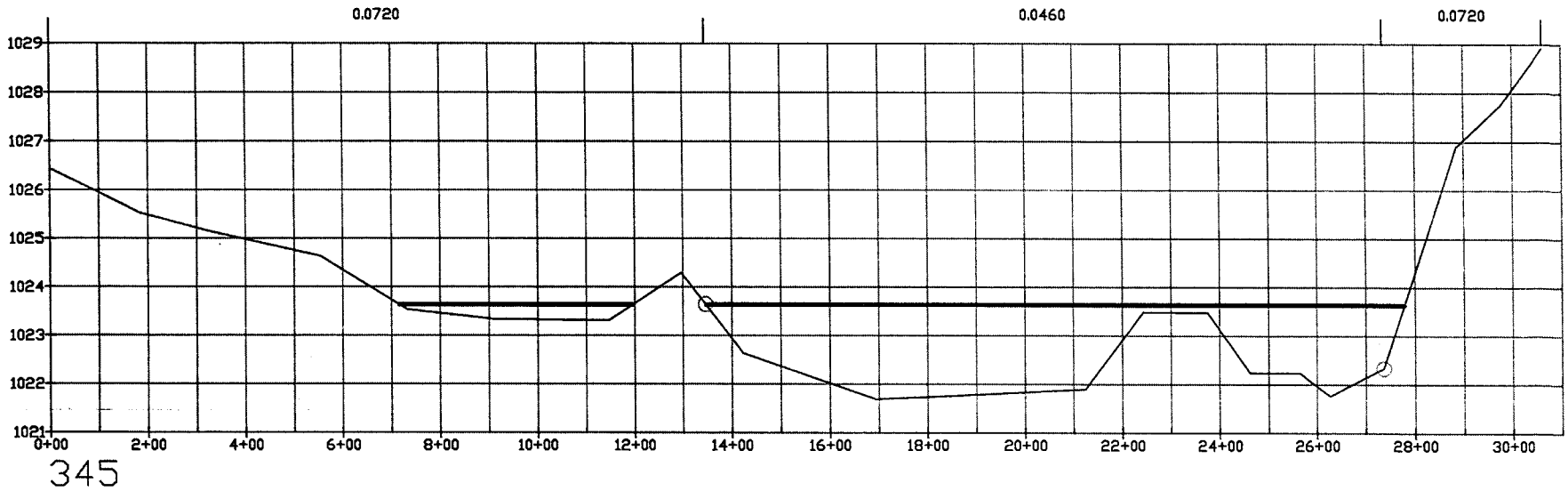
NOT USED IN DELINEATION, COMBINED FLOW CONTROLS.

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–340

Entellus™

File: T1S-R6W-S27-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

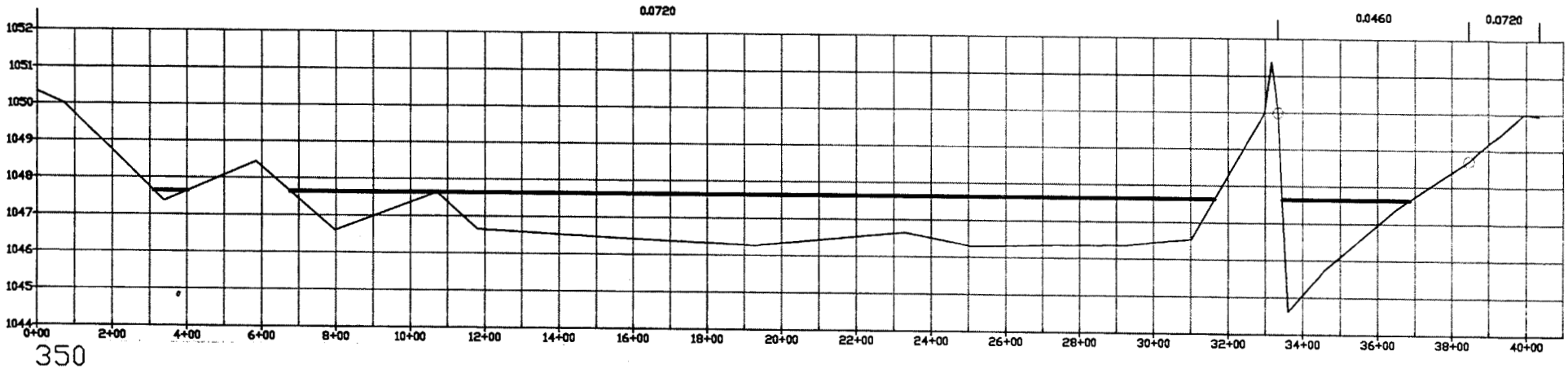
Cross-Section:	345	
Elevation:	1023.64	ft MSL
Depth:	1.95	ft
Discharge:	4570.00	cfs
Energy Gradient:	0.0038	ft/ft
Froude Number:	0.2899	
Flow Regime:	Subcritical	
Flow Area:	1991.66	sq ft
Average Velocity:	2.28	ft/s
Maximum Velocity:	2.41	ft/s
Composite n:	0.0537	
Hydraulic Radius:	1.04	ft
Wetted Perimeter:	1911.28	ft
Wetted Top Width:	1911.23	ft
Critical Slope:	0.077	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–345

Entellus™

File: T1S-R6W-S27-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

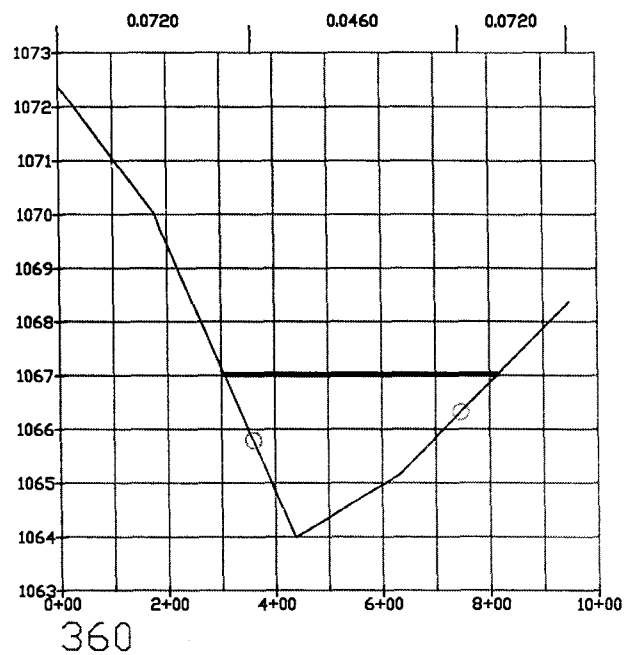
Cross-Section:	350	
Elevation:	1047.64	ft MSL
Depth:	3.02	ft
Discharge:	4570.00	cfs
Energy Gradient:	0.0038	ft/ft
Froude Number:	0.1487	
Flow Regime:	Subcritical	
Flow Area:	3113.58	sq ft
Average Velocity:	1.48	ft/s
Maximum Velocity:	2.48	ft/s
Composite n:	0.0692	
Hydraulic Radius:	1.07	ft
Wetted Perimeter:	2919.36	ft
Wetted Top Width:	2919.03	ft
Critical Slope:	0.1928	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–350

Entellus™

File: T1S-R6W-S27-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

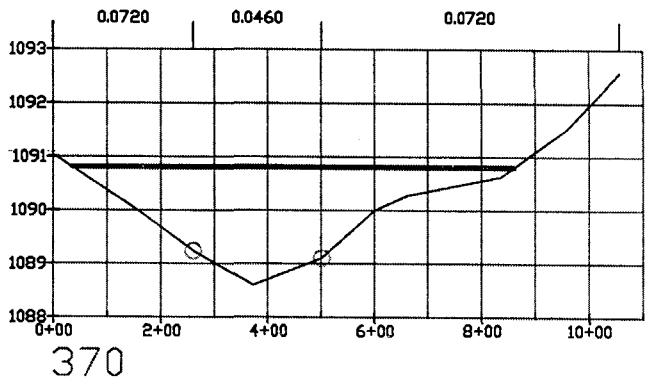
Cross-Section:	360	
Elevation:	1067.02	ft MSL
Depth:	3.03	ft
Discharge:	2770.00	cfs
Energy Gradient:	0.0044	ft/ft
Froude Number:	0.3316	
Flow Regime:	Subcritical	
Flow Area:	846.02	sq ft
Average Velocity:	3.28	ft/s
Maximum Velocity:	3.45	ft/s
Composite n:	0.0528	
Hydraulic Radius:	1.66	ft
Wetted Perimeter:	509.47	ft
Wetted Top Width:	509.42	ft
Critical Slope:	0.0622	ft/ft

File: T1S-R6W-S27-New-Mapping.dwg Date: 12/02/02

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–360

Entellus™



Normal Depth Results

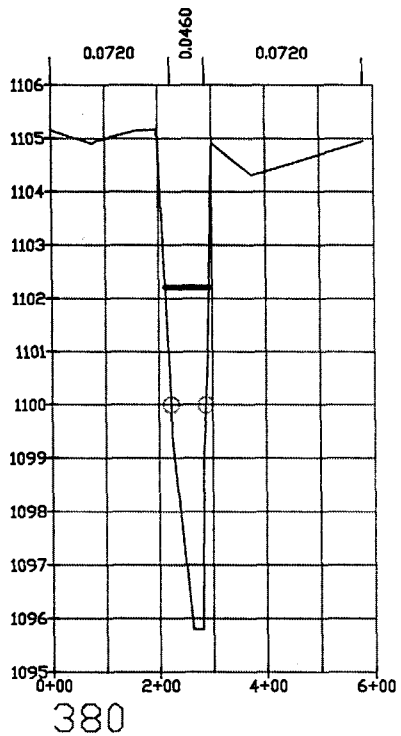
Cross-Section:	370	
Elevation:	1090.81	ft MSL
Depth:	2.21	ft
Discharge:	2110.00	cfs
Energy Gradient:	0.005	ft/ft
Froude Number:	0.2894	
Flow Regime:	Subcritical	
Flow Area:	864.66	sq ft
Average Velocity:	2.43	ft/s
Maximum Velocity:	3.54	ft/s
Composite n:	0.0649	
Hydraulic Radius:	1.05	ft
Wetted Perimeter:	825.11	ft
Wetted Top Width:	825.10	ft
Critical Slope:	0.1269	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–370

Entellus™

File: T1S-R6W-S27-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

Cross-Section:	380	
Elevation:	1102.22	ft MSL
Depth:	6.42	ft
Discharge:	2110.00	cfs
Energy Gradient:	0.005	ft/ft
Froude Number:	0.4329	
Flow Regime:	Subcritical	
Flow Area:	339.17	sq ft
Average Velocity:	6.23	ft/s
Maximum Velocity:	6.53	ft/s
Composite n:	0.052	
Hydraulic Radius:	4.03	ft
Wetted Perimeter:	84.26	ft
Wetted Top Width:	81.79	ft
Critical Slope:	0.0393	ft/ft

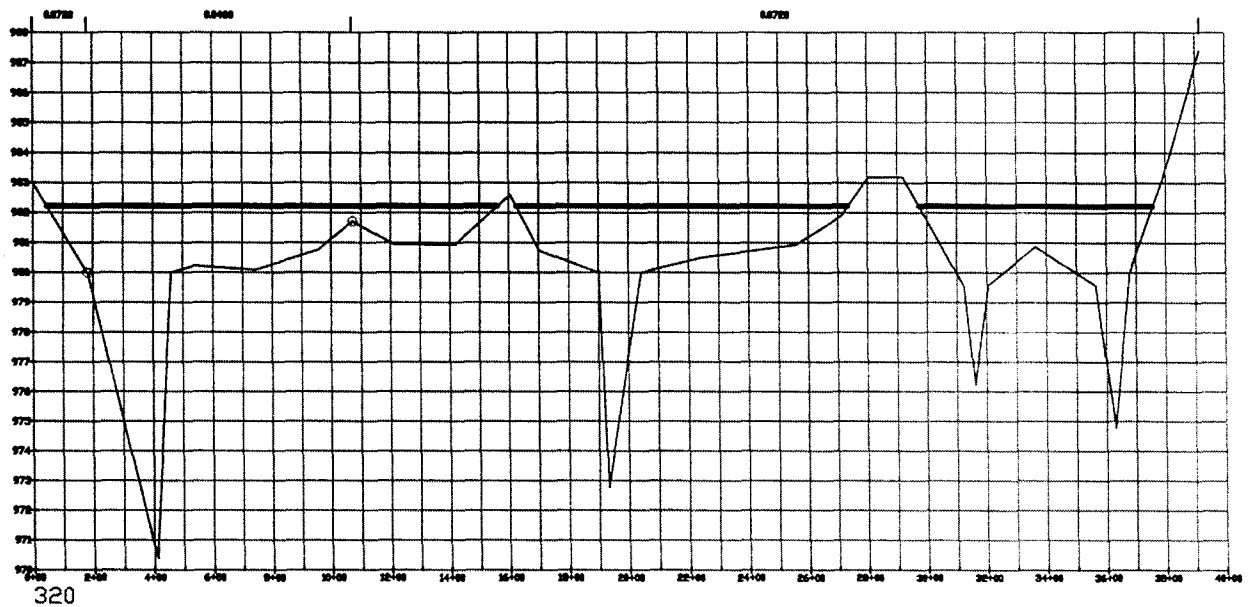
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–380

Entellus™

File: T1S-R6W-S27-New-Mapping.dwg Date: 12/02/02

T1S-R6W-S29E



Normal Depth Results

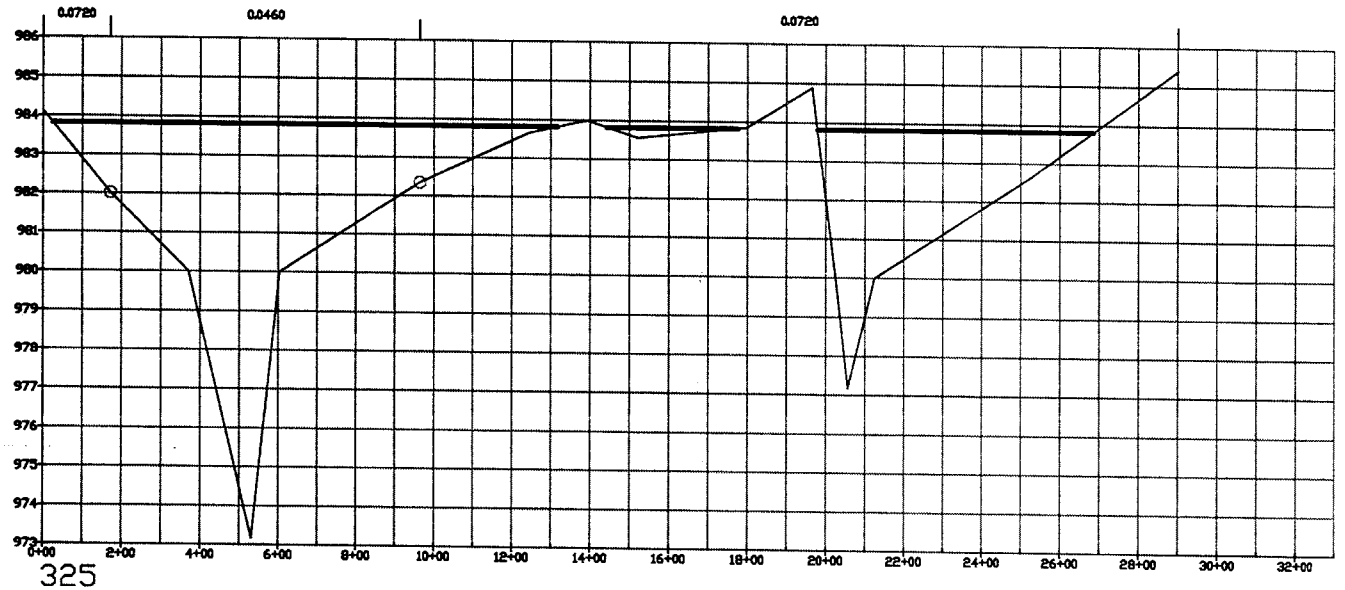
Cross-Section:	320	
Elevation:	982.22	ft MSL
Depth:	11.82	ft
Discharge:	24200.00	cfs
Energy Gradient:	0.0041	ft/ft
Froude Number:	0.1584	
Flow Regime:	Subcritical	
Flow Area:	7834.94	sq ft
Average Velocity:	3.07	ft/s
Maximum Velocity:	4.70	ft/s
Composite n:	0.0657	
Hydraulic Radius:	2.3	ft
Wetted Perimeter:	3412.16	ft
Wetted Top Width:	3409.12	ft
Critical Slope:	0.2442	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29E–320

Entellus™

File: T1S-R6W-S29E-New-Mapping.dwg Date: 11/25/02



Normal Depth Results

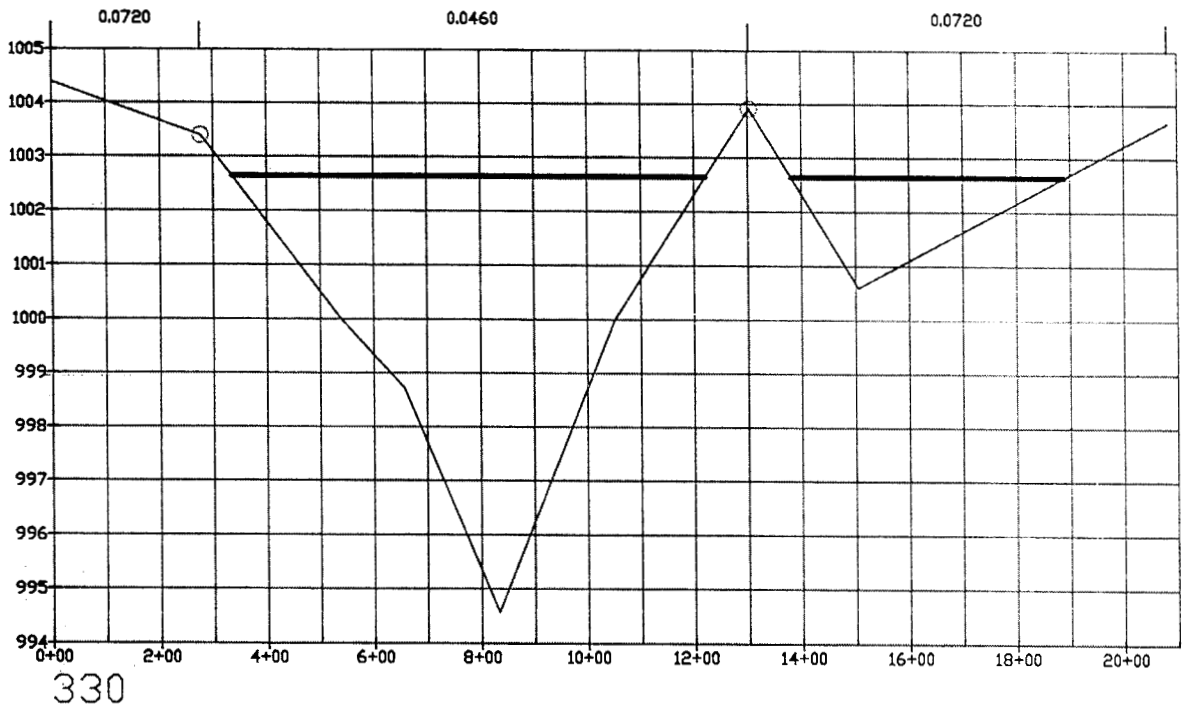
Cross-Section:	325	
Elevation:	983.83	ft MSL
Depth:	10.66	ft
Discharge:	20330.00	cfs
Energy Gradient:	0.0041	ft/ft
Froude Number:	0.2057	
Flow Regime:	Subcritical	
Flow Area:	5335.05	sq ft
Average Velocity:	3.82	ft/s
Maximum Velocity:	5.26	ft/s
Composite n:	0.0637	
Hydraulic Radius:	2.28	ft
Wetted Perimeter:	2336.79	ft
Wetted Top Width:	2335.94	ft
Critical Slope:	0.209	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29E–325

Entellus™

File: T1S-R6W-S29E-New-Mapping.dwg Date: 11/25/02



Normal Depth Results

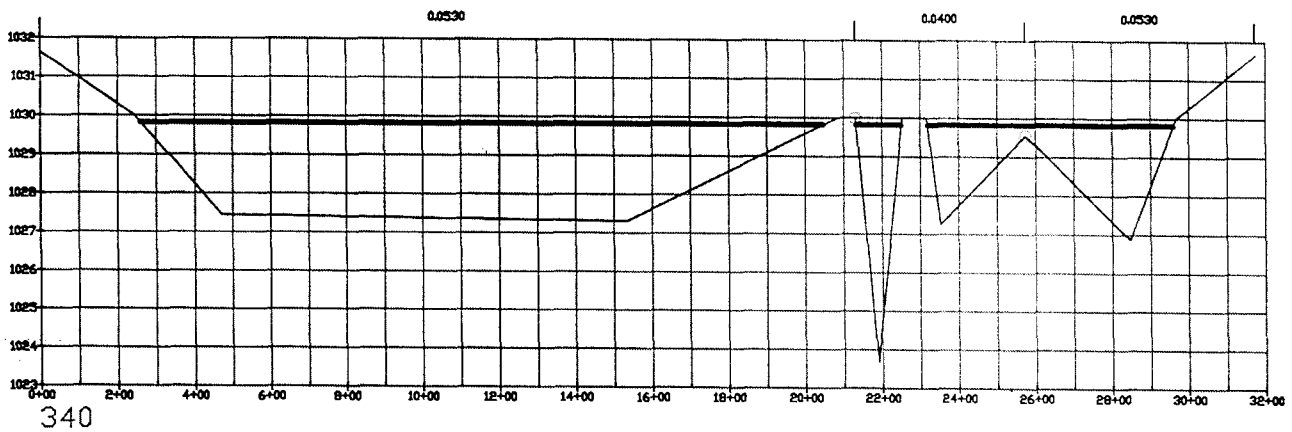
Cross-Section:	330	
Elevation:	1002.64	ft MSL
Depth:	8.07	ft
Discharge:	15590.00	cfs
Energy Gradient:	0.0041	ft/ft
Froude Number:	0.267	
Flow Regime:	Subcritical	
Flow Area:	3623.73	sq ft
Average Velocity:	4.29	ft/s
Maximum Velocity:	4.79	ft/s
Composite n:	0.0561	
Hydraulic Radius:	2.6	ft
Wetted Perimeter:	1394.58	ft
Wetted Top Width:	1394.40	ft
Critical Slope:	0.1033	ft/ft

File: T1S-R6W-S29E-New-Mapping.dwg Date: 11/25/02

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29E–330

Entellus™



Normal Depth Results

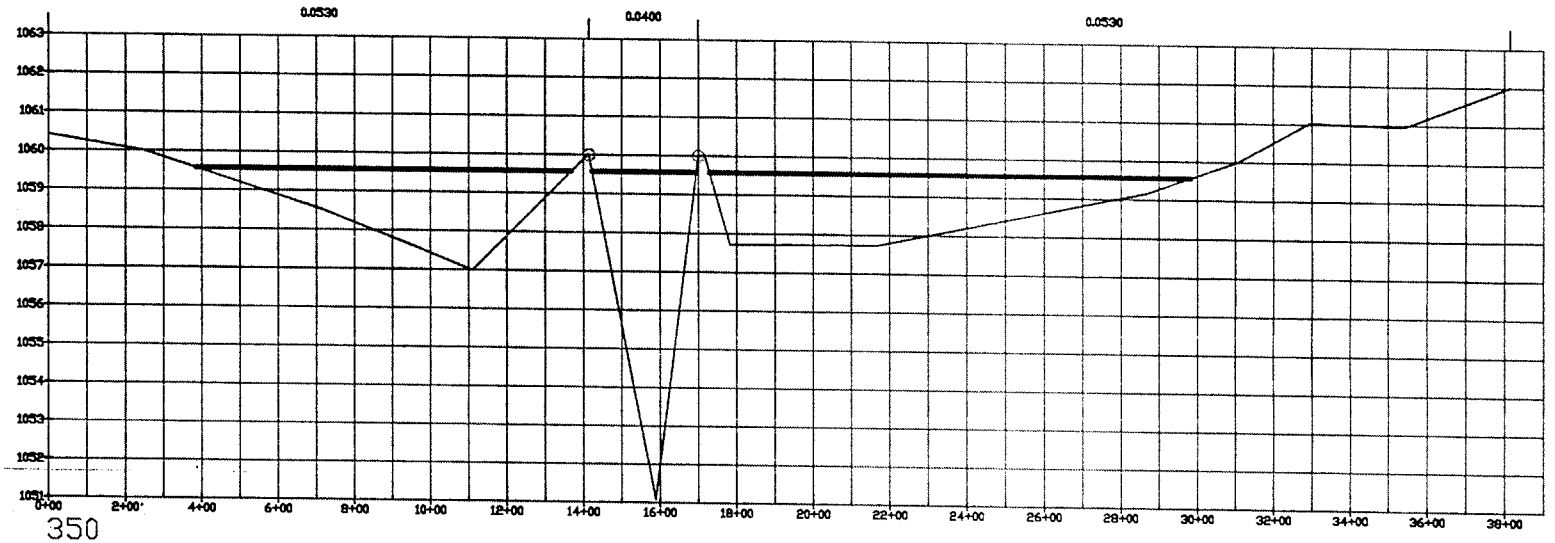
Cross-Section:	340	
Elevation:	1029.82	ft MSL
Depth:	6.13	ft
Discharge:	14140.00	cfs
Energy Gradient:	0.0042	ft/ft
Froude Number:	0.2088	
Flow Regime:	Subcritical	
Flow Area:	4819.38	sq ft
Average Velocity:	2.93	ft/s
Maximum Velocity:	3.73	ft/s
Composite n:	0.0512	
Hydraulic Radius:	1.89	ft
Wetted Perimeter:	2548.69	ft
Wetted Top Width:	2547.87	ft
Critical Slope:	0.0996	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29E–340

Entellus™

File: T1S-R6W-S29E-New-Mapping.dwg; Date: 11/25/02



Normal Depth Results

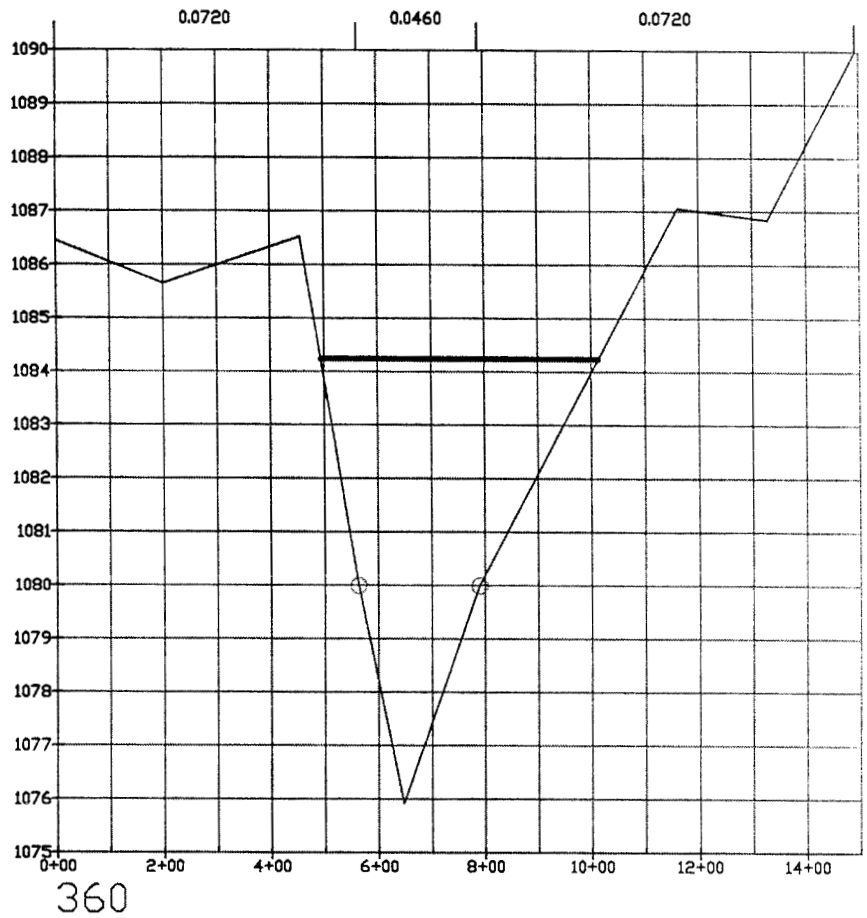
Cross-Section:	350	
Elevation:	1059.57	ft MSL
Depth:	8.48	ft
Discharge:	13190.00	cfs
Energy Gradient:	0.0042	ft/ft
Froude Number:	0.2027	
Flow Regime:	Subcritical	
Flow Area:	3938.10	sq ft
Average Velocity:	3.34	ft/s
Maximum Velocity:	6.32	ft/s
Composite n:	0.0516	
Hydraulic Radius:	1.57	ft
Wetted Perimeter:	2509.15	ft
Wetted Top Width:	2508.55	ft
Critical Slope:	0.1799	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29E–350

Entellus™

File: T1S-R6W-S29E-New-Mapping.dwg Date: 11/25/02



Normal Depth Results

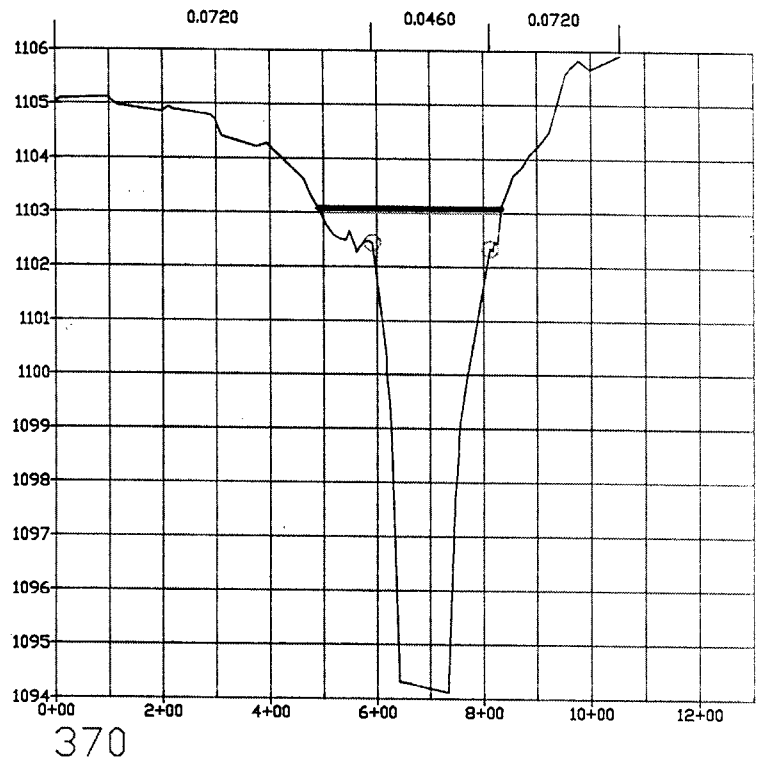
Cross-Section:	360	
Elevation:	1084.24	ft MSL
Depth:	8.32	ft
Discharge:	12120.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.3617	
Flow Regime:	Subcritical	
Flow Area:	2047.83	sq ft
Average Velocity:	5.91	ft/s
Maximum Velocity:	7.48	ft/s
Composite n:	0.0613	
Hydraulic Radius:	3.94	ft
Wetted Perimeter:	520.29	ft
Wetted Top Width:	519.96	ft
Critical Slope:	0.073	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29E–360

Entellus™

File: T1S-R6W-S29E-New-Mapping.dwg; Date: 11/25/02



Normal Depth Results

Cross-Section:	370	
Elevation:	1103.08	ft MSL
Depth:	8.96	ft
Discharge:	8780.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.3926	
Flow Regime:	Subcritical	
Flow Area:	1316.74	sq ft
Average Velocity:	6.66	ft/s
Maximum Velocity:	6.95	ft/s
Composite n:	0.0559	
Hydraulic Radius:	3.81	ft
Wetted Perimeter:	345.81	ft
Wetted Top Width:	343.99	ft
Critical Slope:	0.0683	ft/ft

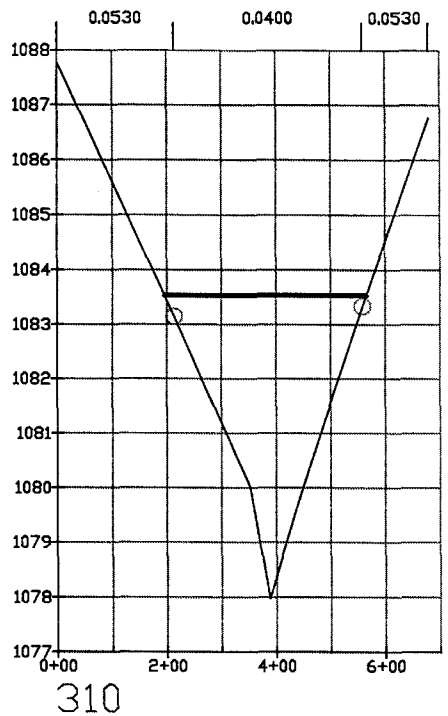
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29E–370

Entellus™

File: T1S-R6W-S29E-New-Mapping.dwg Date: 11/25/02

T2N-R6W-S29W



Normal Depth Results

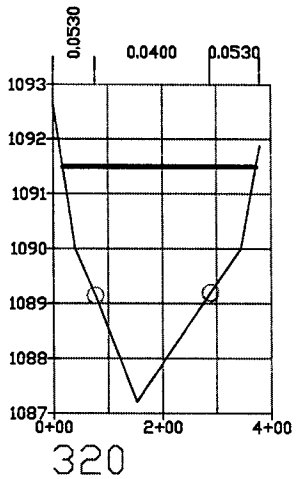
Cross-Section:	310	
Elevation:	1083.54	ft MSL
Depth:	5.56	ft
Discharge:	4590.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.3727	
Flow Regime:	Subcritical	
Flow Area:	920.90	sq ft
Average Velocity:	4.98	ft/s
Maximum Velocity:	5.00	ft/s
Composite n:	0.0409	
Hydraulic Radius:	2.49	ft
Wetted Perimeter:	370.30	ft
Wetted Top Width:	370.12	ft
Critical Slope:	0.04	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S29W–310

Entellus™

File: T2N-R6W-S29W-New-Mapping.dwg Date: 11/27/02



Normal Depth Results

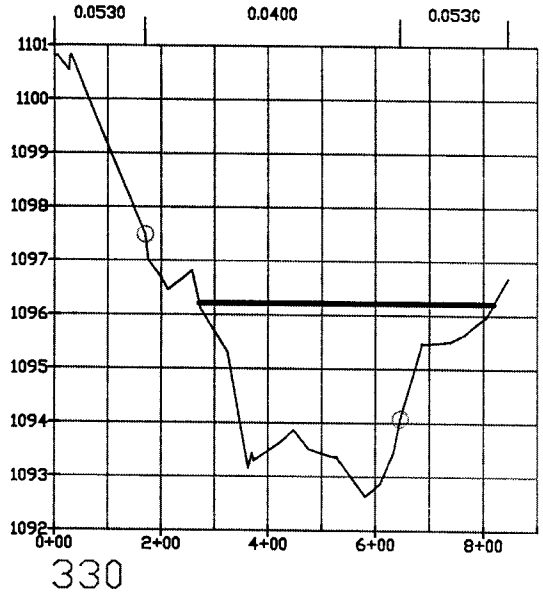
Cross-Section:	320	
Elevation:	1091.50	ft MSL
Depth:	4.29	ft
Discharge:	4590.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.4274	
Flow Regime:	Subcritical	
Flow Area:	914.15	sq ft
Average Velocity:	5.03	ft/s
Maximum Velocity:	5.78	ft/s
Composite n:	0.0454	
Hydraulic Radius:	2.57	ft
Wetted Perimeter:	355.61	ft
Wetted Top Width:	355.46	ft
Critical Slope:	0.0365	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S29W–320

Entellus™

File: T2N-k6W-S29W-New-Mapping.dwg Date: 11/27/02



Normal Depth Results

Cross-Section:	330	
Elevation:	1096.22	ft MSL
Depth:	3.58	ft
Discharge:	4590.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.4063	
Flow Regime:	Subcritical	
Flow Area:	1052.65	sq ft
Average Velocity:	4.36	ft/s
Maximum Velocity:	4.74	ft/s
Composite n:	0.0443	
Hydraulic Radius:	1.92	ft
Wetted Perimeter:	548.04	ft
Wetted Top Width:	547.90	ft
Critical Slope:	0.0426	ft/ft

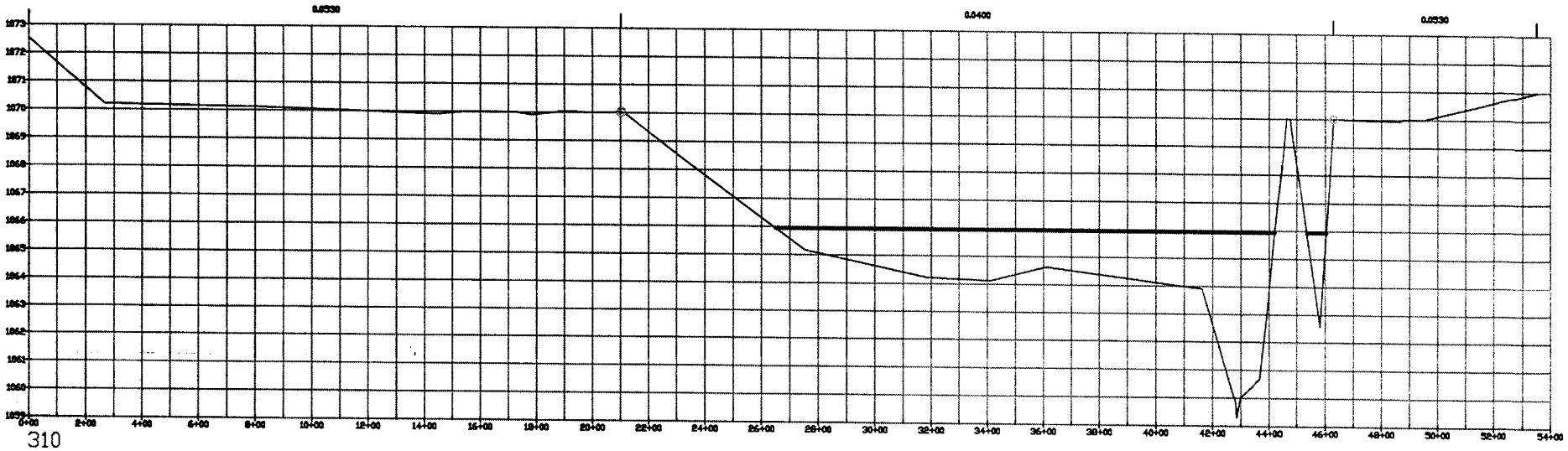
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S29W–330

Entellus™

File: T2N-R6W-S29W-New-Mapping.dwg, Date: 11/27/02

T2N-R6W-S31N



Normal Depth Results

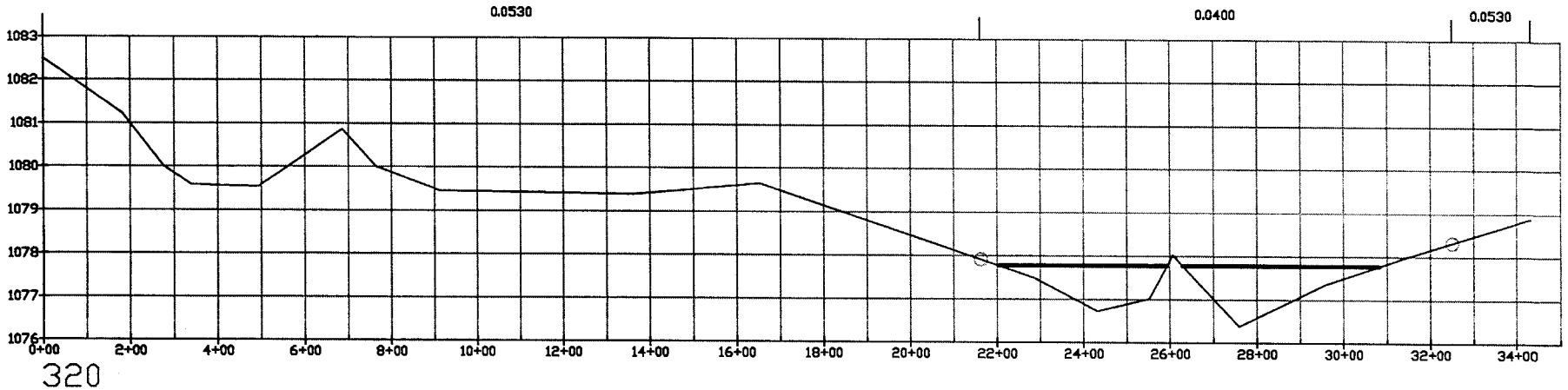
Cross-Section:	310	
Elevation:	1065.95	ft MSL
Depth:	6.64	ft
Discharge:	13170.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.2616	
Flow Regime:	Subcritical	
Flow Area:	3444.99	sq ft
Average Velocity:	3.83	ft/s
Maximum Velocity:	3.84	ft/s
Composite n:	0.0401	
Hydraulic Radius:	1.87	ft
Wetted Perimeter:	1840.81	ft
Wetted Top Width:	1840.04	ft
Critical Slope:	0.0673	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S31N–310

Entellus™

File: T2N-R6W-S31N-New-Mapping.dwg Date: 11/27/02



Normal Depth Results

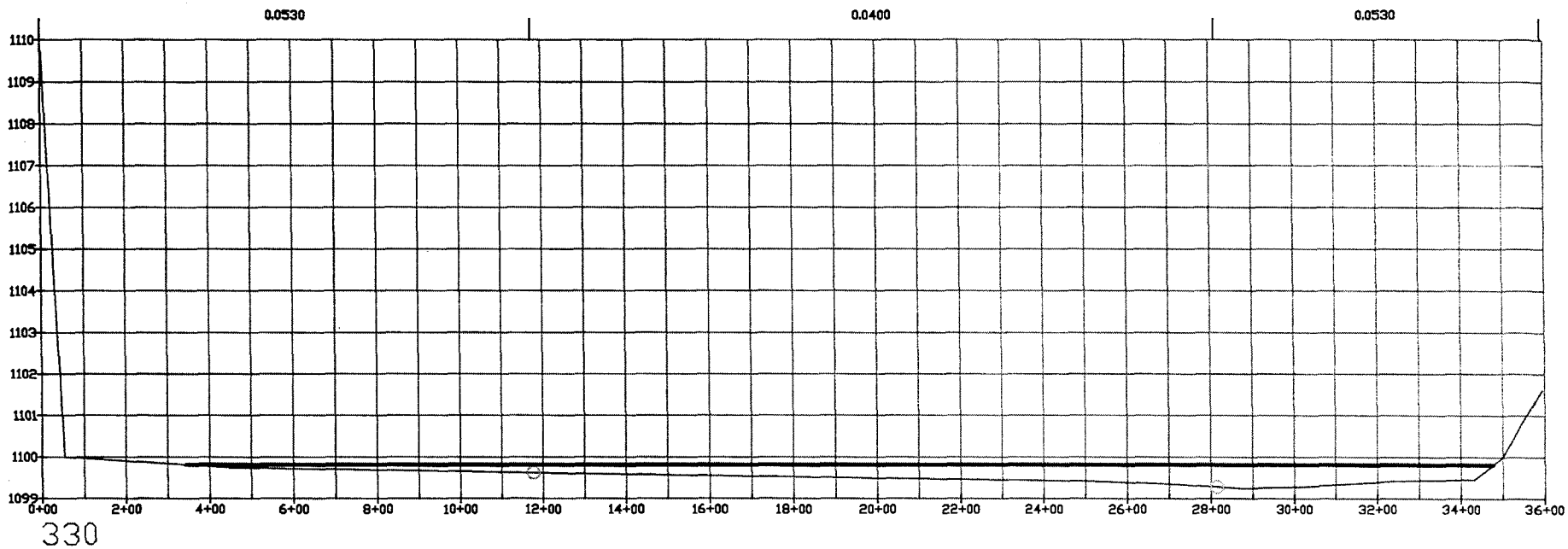
Cross-Section:	320	
Elevation:	1077.78	ft MSL
Depth:	1.40	ft
Discharge:	990.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.2771	
Flow Regime:	Subcritical	
Flow Area:	531.89	sq ft
Average Velocity:	1.86	ft/s
Maximum Velocity:	1.86	ft/s
Composite n:	0.04	
Hydraulic Radius:	0.63	ft
Wetted Perimeter:	843.17	ft
Wetted Top Width:	843.15	ft
Critical Slope:	0.06	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S31N–320

Entellus™

File: T2N-R6W-S31N-New-Mapping.dwg Date: 12/05/02



Normal Depth Results

Cross-Section:	330	
Elevation:	1099.81	ft MSL
Depth:	0.57	ft
Discharge:	990.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.2487	
Flow Regime:	Subcritical	
Flow Area:	927.27	sq ft
Average Velocity:	1.09	ft/s
Maximum Velocity:	1.20	ft/s
Composite n:	0.0464	
Hydraulic Radius:	0.3	ft
Wetted Perimeter:	3132.65	ft
Wetted Top Width:	3132.65	ft
Critical Slope:	0.0906	ft/ft

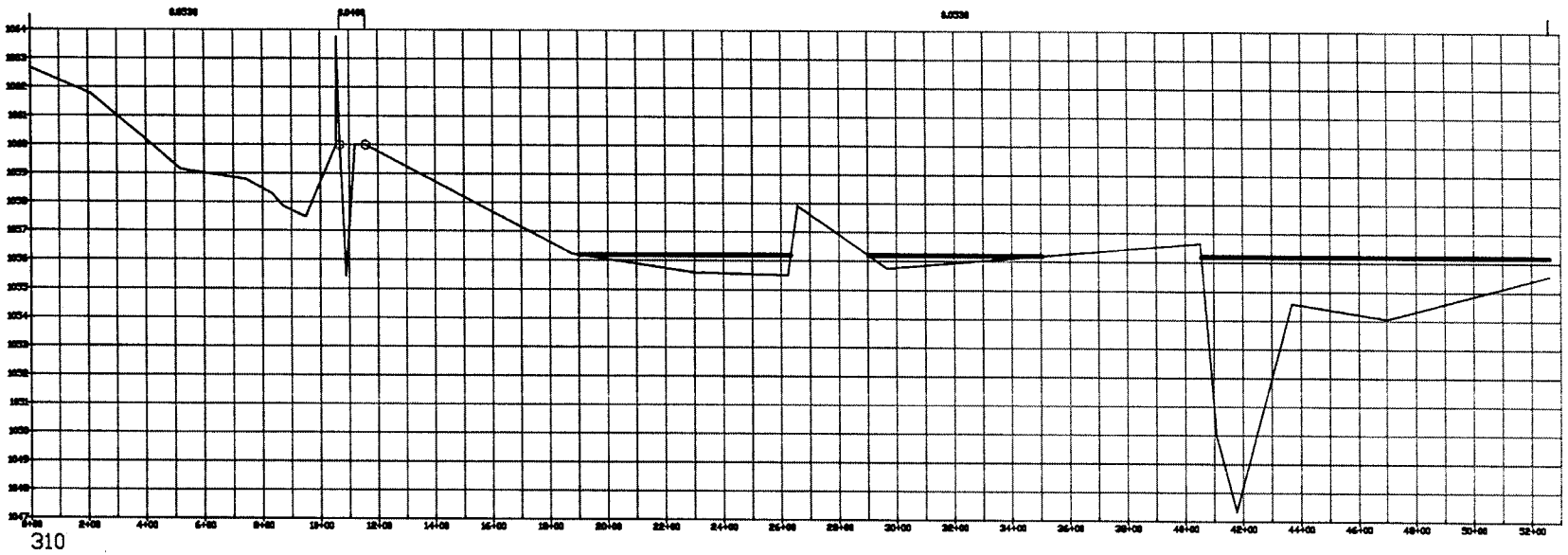
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S31N–330

Entellus™

File: T2N-R6W-S31N-New-Mapping.dwg Date: 11/27/02

T2N-R6W-S31S



Normal Depth Results

Cross-Section:	310	
Elevation:	1056.20	ft MSL
Depth:	8.85	ft
Discharge:	8430.00	cfs
Energy Gradient:	0.0045	ft/ft
Froude Number:	0.1403	
Flow Regime:	Subcritical	
Flow Area:	3559.57	sq ft
Average Velocity:	2.36	ft/s
Maximum Velocity:	2.36	ft/s
Composite n:	0.0529	
Hydraulic Radius:	1.4	ft
Wetted Perimeter:	2548.63	ft
Wetted Top Width:	2547.90	ft
Critical Slope:	0.2304	ft/ft

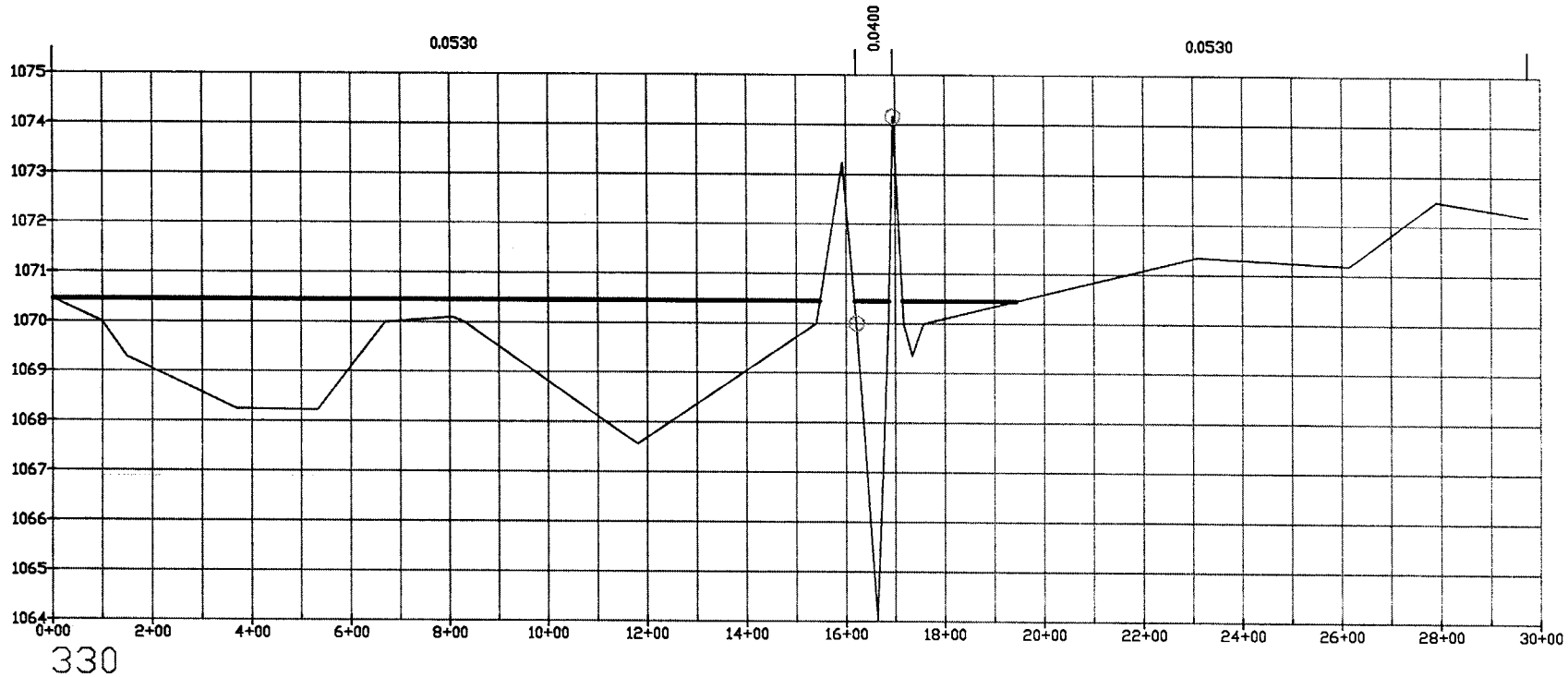
NOT USED IN DELINEATION.

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S31S–310

Entellus™

File: T2N-R6W-S31S-New-Mapping.dwg Date: 12/06/02



Normal Depth Results

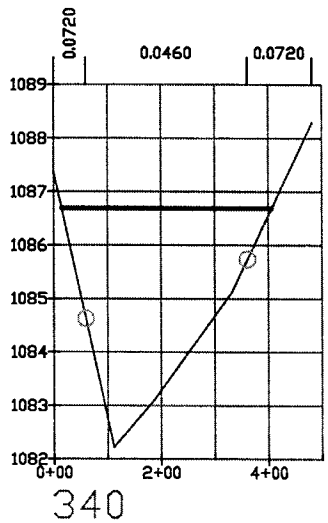
Cross-Section:	330	
Elevation:	1070.46	ft MSL
Depth:	6.41	ft
Discharge:	6750.00	cfs
Energy Gradient:	0.0045	ft/ft
Froude Number:	0.185	
Flow Regime:	Subcritical	
Flow Area:	2540.24	sq ft
Average Velocity:	2.64	ft/s
Maximum Velocity:	5.56	ft/s
Composite n:	0.0525	
Hydraulic Radius:	1.37	ft
Wetted Perimeter:	1847.77	ft
Wetted Top Width:	1846.35	ft
Critical Slope:	0.1678	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S31S–330

Entellus™

File: T2N-R6W-S31S-New-Mapping.dwg Date: 11/27/02



Normal Depth Results

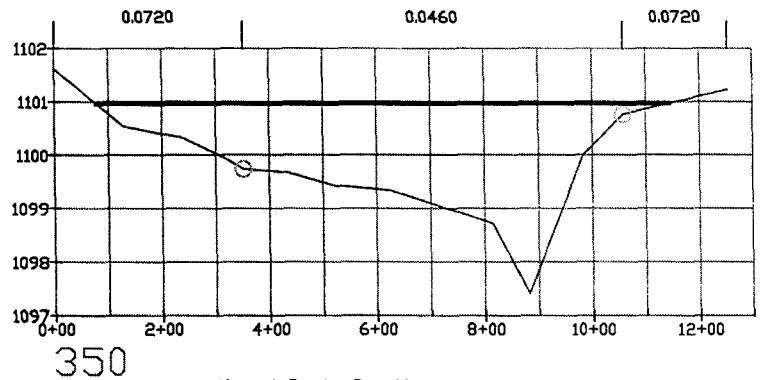
Cross-Section:	340	
Elevation:	1086.69	ft MSL
Depth:	4.47	ft
Discharge:	4020.00	cfs
Energy Gradient:	0.0045	ft/ft
Froude Number:	0.3518	
Flow Regime:	Subcritical	
Flow Area:	952.29	sq ft
Average Velocity:	4.22	ft/s
Maximum Velocity:	4.45	ft/s
Composite n:	0.0525	
Hydraulic Radius:	2.43	ft
Wetted Perimeter:	391.60	ft
Wetted Top Width:	391.46	ft
Critical Slope:	0.0547	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S31S–340

Entellus™

File: T2N-R6W-S31S-New-Mapping.dwg Date: 11/27/02



Normal Depth Results

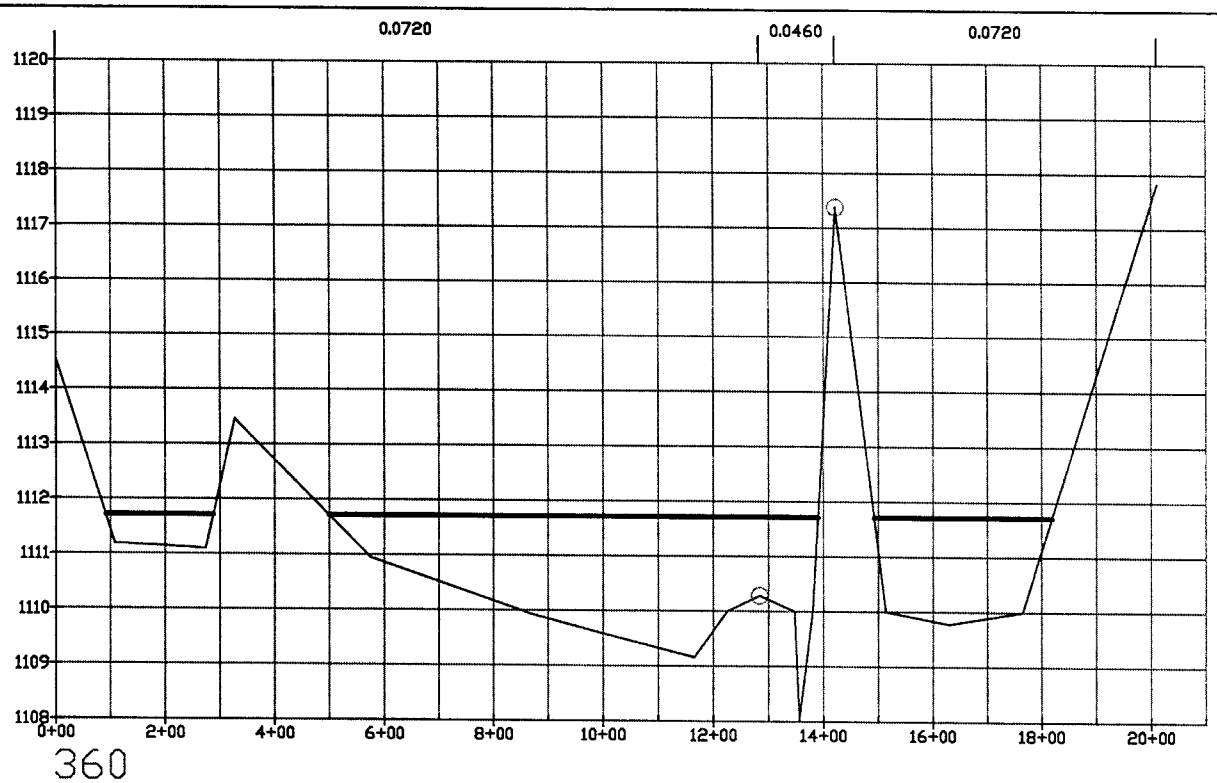
Cross-Section:	350	
Elevation:	1100.97	ft MSL
Depth:	3.56	ft
Discharge:	4020.00	cfs
Energy Gradient:	0.0045	ft/ft
Froude Number:	0.2659	
Flow Regime:	Subcritical	
Flow Area:	1412.62	sq ft
Average Velocity:	2.86	ft/s
Maximum Velocity:	3.14	ft/s
Composite n:	0.0554	
Hydraulic Radius:	1.32	ft
Wetted Perimeter:	1068.61	ft
Wetted Top Width:	1068.55	ft
Critical Slope:	0.1094	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S31S–350

Entellus™

File: T2N-R6W-S31S-New-Mapping.dwg Date: 11/27/02



Normal Depth Results

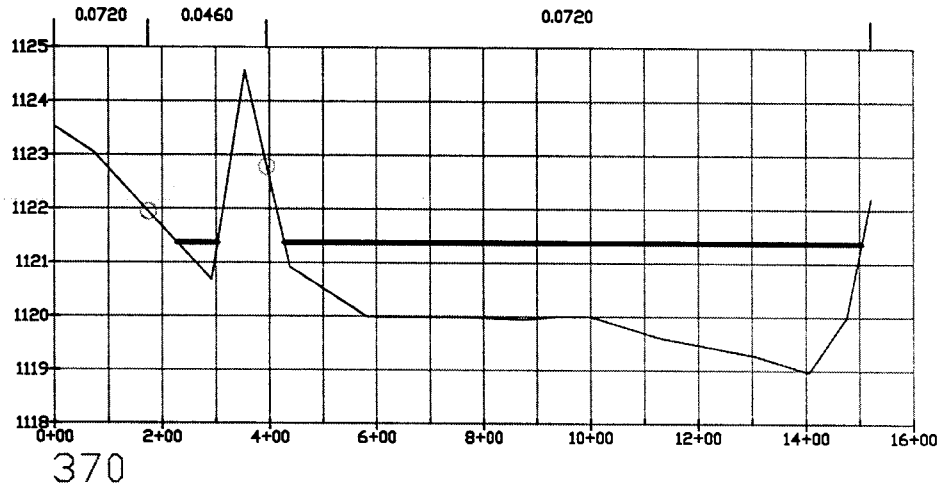
Cross-Section:	360	
Elevation:	1111.72	ft MSL
Depth:	3.69	ft
Discharge:	4020.00	cfs
Energy Gradient:	0.0045	ft/ft
Froude Number:	0.176	
Flow Regime:	Subcritical	
Flow Area:	2096.47	sq ft
Average Velocity:	1.92	ft/s
Maximum Velocity:	3.28	ft/s
Composite n:	0.0702	
Hydraulic Radius:	1.48	ft
Wetted Perimeter:	1415.51	ft
Wetted Top Width:	1414.93	ft
Critical Slope:	0.1561	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S31S–360

Entellus™

File: T2N-R6W-S31S-New-Mapping.dwg Date: 12/06/02



Normal Depth Results

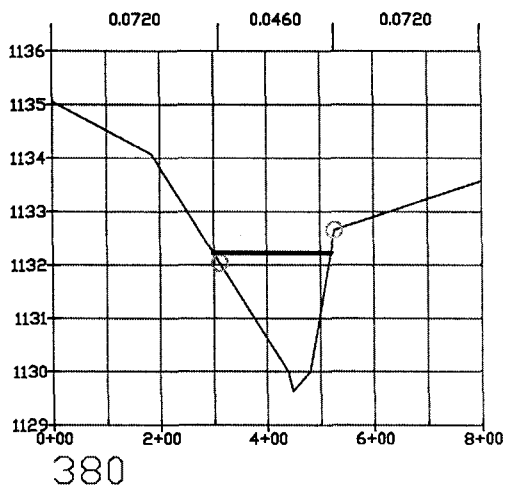
Cross-Section:	370	
Elevation:	1121.38	ft MSL
Depth:	2.41	ft
Discharge:	3800.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.2598	
Flow Regime:	Subcritical	
Flow Area:	1662.56	sq ft
Average Velocity:	2.29	ft/s
Maximum Velocity:	2.30	ft/s
Composite n:	0.0704	
Hydraulic Radius:	1.44	ft
Wetted Perimeter:	1152.20	ft
Wetted Top Width:	1152.12	ft
Critical Slope:	0.1061	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S31S–370

Entellus™

File: T2N-R6W-S31S-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

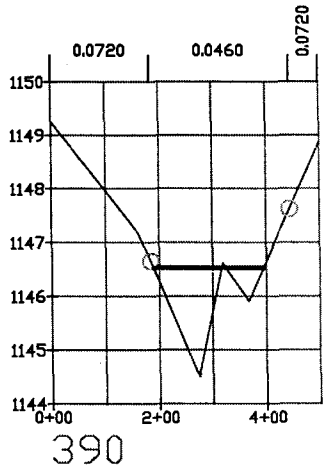
Cross-Section:	380	
Elevation:	1132.24	ft MSL
Depth:	2.60	ft
Discharge:	1040.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3774	
Flow Regime:	Subcritical	
Flow Area:	301.43	sq ft
Average Velocity:	3.46	ft/s
Maximum Velocity:	3.48	ft/s
Composite n:	0.0476	
Hydraulic Radius:	1.36	ft
Wetted Perimeter:	221.15	ft
Wetted Top Width:	221.06	ft
Critical Slope:	0.0565	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S31S–380

Entellus™

File: T2N-R6W-S31S-New-Mapping.dwg; Date: 11/27/02



Normal Depth Results

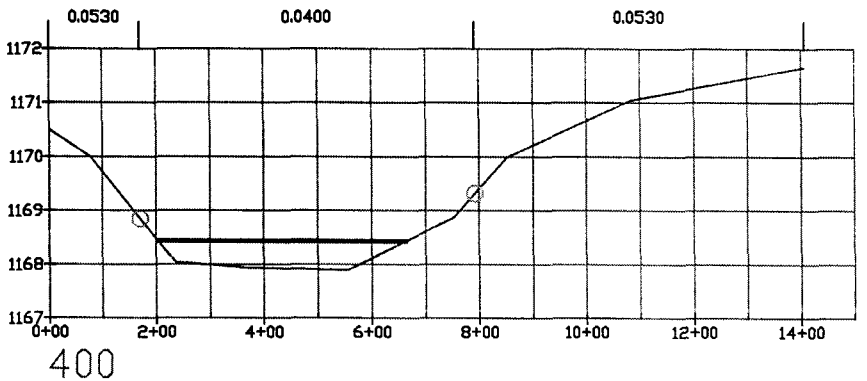
Cross-Section:	390	
Elevation:	1146.53	ft MSL
Depth:	2.02	ft
Discharge:	340.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.2801	
Flow Regime:	Subcritical	
Flow Area:	150.63	sq ft
Average Velocity:	2.27	ft/s
Maximum Velocity:	2.27	ft/s
Composite n:	0.046	
Hydraulic Radius:	0.76	ft
Wetted Perimeter:	198.20	ft
Wetted Top Width:	198.12	ft
Critical Slope:	0.0892	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S31S–390

Entellus™

File: T2N-R6W-S31S-New-Mapping.dwg, Date: 11/27/02



Normal Depth Results

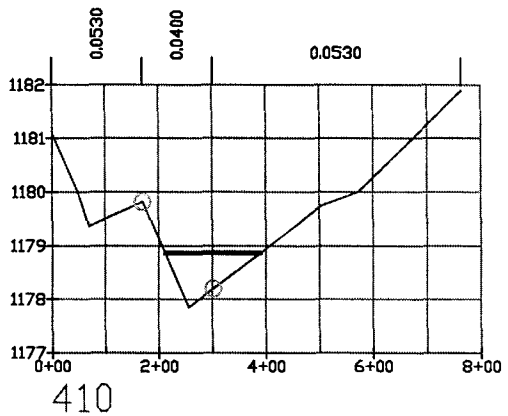
Cross-Section:	400	
Elevation:	1168.44	ft MSL
Depth:	0.54	ft
Discharge:	340.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.4295	
Flow Regime:	Subcritical	
Flow Area:	190.73	sq ft
Average Velocity:	1.74	ft/s
Maximum Velocity:	1.74	ft/s
Composite n:	0.04	
Hydraulic Radius:	0.41	ft
Wetted Perimeter:	460.26	ft
Wetted Top Width:	460.25	ft
Critical Slope:	0.0401	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S31S–400

Entellus™

File: T2N-R6W-S31S-New-Mapping.dwg; Date: 11/27/02



Normal Depth Results

Cross-Section:	410	
Elevation:	1178.87	ft MSL
Depth:	1.02	ft
Discharge:	180.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3468	
Flow Regime:	Subcritical	
Flow Area:	90.59	sq ft
Average Velocity:	2.01	ft/s
Maximum Velocity:	2.43	ft/s
Composite n:	0.0466	
Hydraulic Radius:	0.51	ft
Wetted Perimeter:	177.79	ft
Wetted Top Width:	177.77	ft
Critical Slope:	0.0789	ft/ft

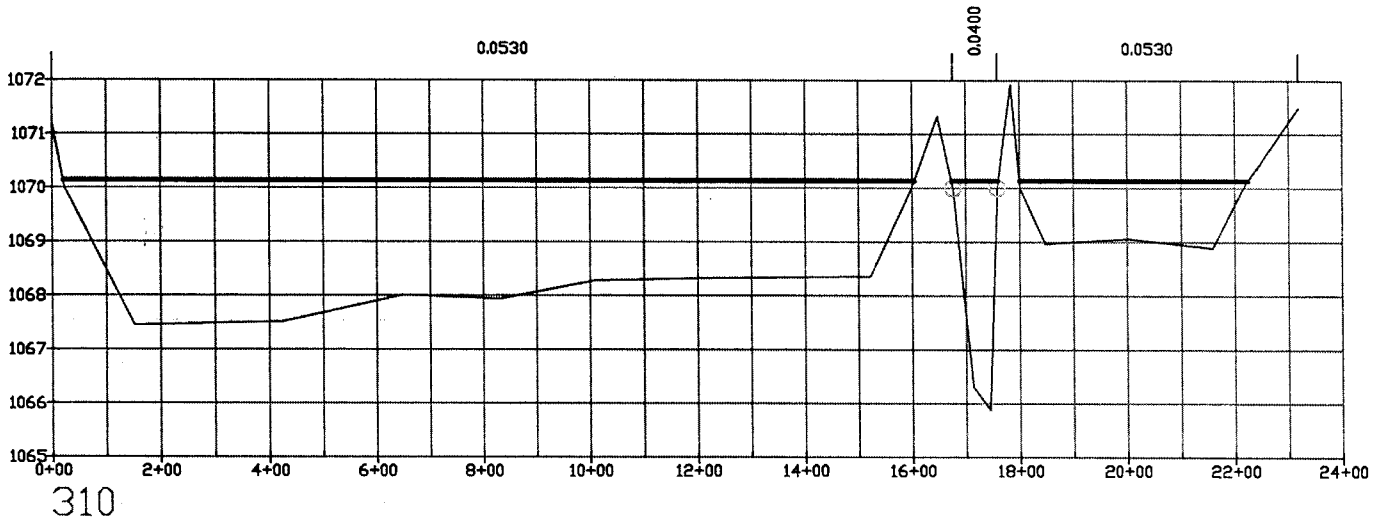
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S31S–410

Entellus™

File: T2N-R6W-S31S-New-Mapping.dwg Date: 11/27/02

T2N-R6W-S32E



Normal Depth Results

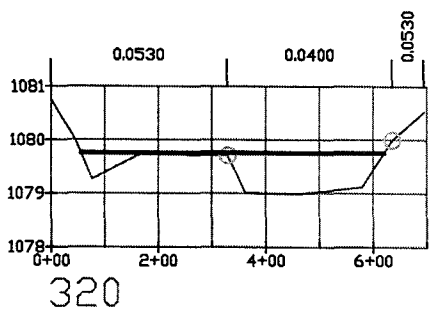
Cross-Section:	310	
Elevation:	1070.14	ft MSL
Depth:	4.25	ft
Discharge:	12110.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.2685	
Flow Regime:	Subcritical	
Flow Area:	3856.75	sq ft
Average Velocity:	3.13	ft/s
Maximum Velocity:	5.14	ft/s
Composite n:	0.0525	
Hydraulic Radius:	1.84	ft
Wetted Perimeter:	2098.17	ft
Wetted Top Width:	2097.34	ft
Critical Slope:	0.0754	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S32E–310

Entellus™

File: T2N-R6W-S32E-New-Mapping.dwg Date: 11/27/02



Normal Depth Results

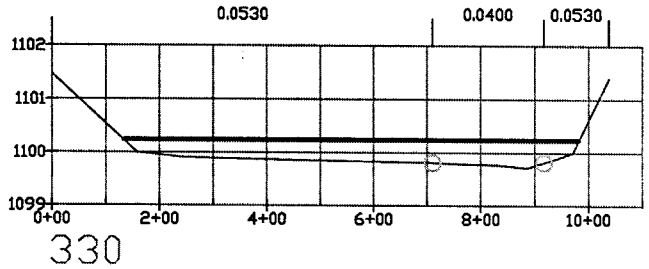
Cross-Section:	320	
Elevation:	1079.76	ft MSL
Depth:	0.77	ft
Discharge:	360.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.3322	
Flow Regime:	Subcritical	
Flow Area:	218.16	sq ft
Average Velocity:	1.69	ft/s
Maximum Velocity:	1.92	ft/s
Composite n:	0.0465	
Hydraulic Radius:	0.39	ft
Wetted Perimeter:	564.37	ft
Wetted Top Width:	564.35	ft
Critical Slope:	0.0854	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S32E–320

Entellus™

File: T2N-R6W-S32E-Now-Mapping.dwg; Date: 11/27/02



Normal Depth Results

Cross-Section:	330	
Elevation:	1100.23	ft MSL
Depth:	0.51	ft
Discharge:	360.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.2803	
Flow Regime:	Subcritical	
Flow Area:	315.95	sq ft
Average Velocity:	1.14	ft/s
Maximum Velocity:	1.55	ft/s
Composite n:	0.0499	
Hydraulic Radius:	0.37	ft
Wetted Perimeter:	848.70	ft
Wetted Top Width:	848.70	ft
Critical Slope:	0.0694	ft/ft

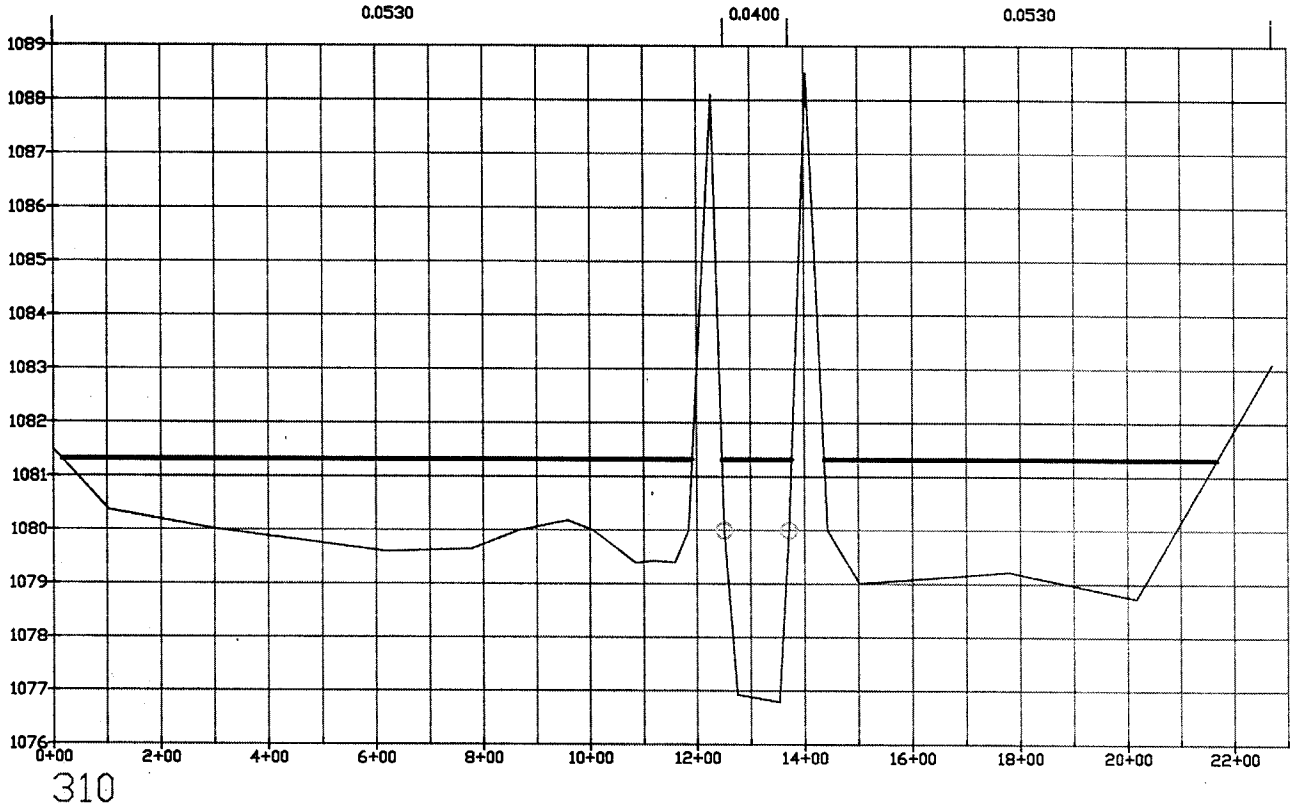
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S32E–330

Entellus™

File: T2N-K6W-S32E-New-Mapping.dwg Date: 11/27/02

T2N-R6W-S32N



Normal Depth Results

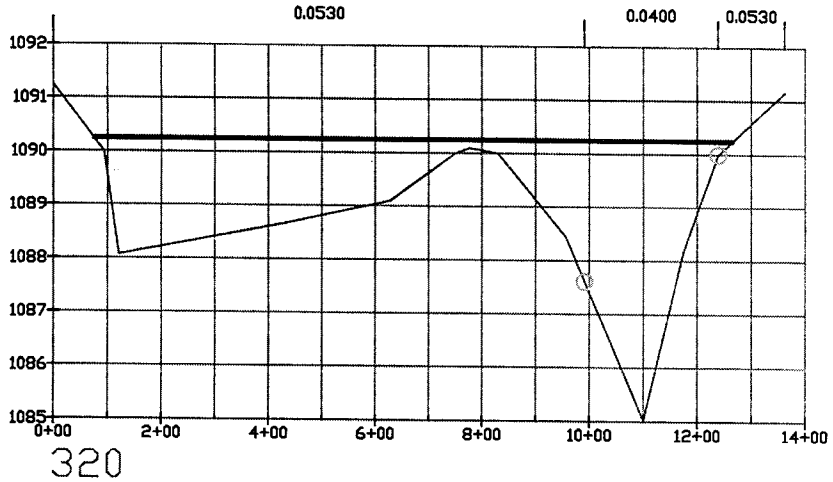
Cross-Section:	310	
Elevation:	1081.32	ft MSL
Depth:	4.53	ft
Discharge:	11620.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.2685	
Flow Regime:	Subcritical	
Flow Area:	3584.97	sq ft
Average Velocity:	3.26	ft/s
Maximum Velocity:	6.45	ft/s
Composite n:	0.0522	
Hydraulic Radius:	1.76	ft
Wetted Perimeter:	2037.04	ft
Wetted Top Width:	2035.87	ft
Critical Slope:	0.0844	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S32N–310

Entellus™

File: T2N-R6W-S32N-New-Mapping.dwg Date: 11/27/02



Normal Depth Results

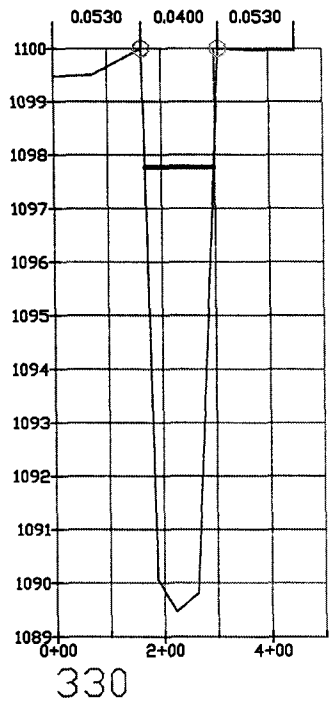
Cross-Section:	320	
Elevation:	1090.25	ft MSL
Depth:	5.23	ft
Discharge:	7140.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.279	
Flow Regime:	Subcritical	
Flow Area:	1973.01	sq ft
Average Velocity:	3.61	ft/s
Maximum Velocity:	5.58	ft/s
Composite n:	0.0504	
Hydraulic Radius:	1.66	ft
Wetted Perimeter:	1190.57	ft
Wetted Top Width:	1190.36	ft
Critical Slope:	0.0982	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S32N–320

Entellus™

File: T2N-R6W-S32N-New-Mapping.dwg Date: 11/27/02



Normal Depth Results

Cross-Section:	330	
Elevation:	1097.77	ft MSL
Depth:	8.30	ft
Discharge:	7140.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.5405	
Flow Regime:	Subcritical	
Flow Area:	808.24	sq ft
Average Velocity:	8.83	ft/s
Maximum Velocity:	8.83	ft/s
Composite n:	0.04	
Hydraulic Radius:	6.23	ft
Wetted Perimeter:	129.74	ft
Wetted Top Width:	127.28	ft
Critical Slope:	0.0167	ft/ft

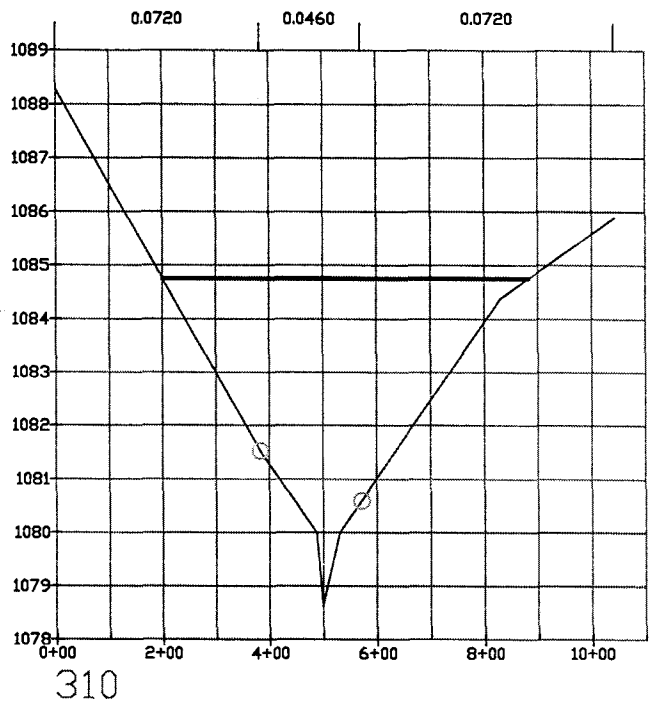
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S32N–330

Entellus™

File: T2N-R6W-S32N-New-Mapping.dwg; Date: 11/27/02

T2N-R6W-S33E



Normal Depth Results

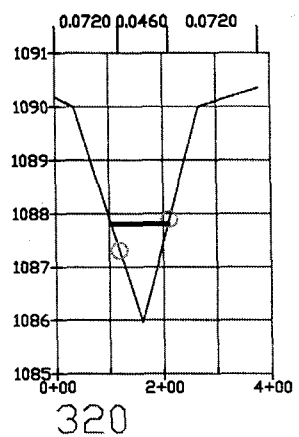
Cross-Section:	310	
Elevation:	1084.76	ft MSL
Depth:	6.13	ft
Discharge:	6980.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.2888	
Flow Regime:	Subcritical	
Flow Area:	1721.29	sq ft
Average Velocity:	4.06	ft/s
Maximum Velocity:	6.11	ft/s
Composite n:	0.0653	
Hydraulic Radius:	2.52	ft
Wetted Perimeter:	681.83	ft
Wetted Top Width:	681.65	ft
Critical Slope:	0.1103	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S33E–310

Entellus™

File: T2N-R6W-S33E-New-Mapping.dwg; Date: 11/27/02



Normal Depth Results

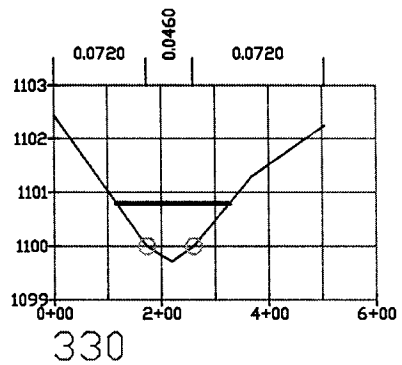
Cross-Section:	320	
Elevation:	1087.81	ft MSL
Depth:	1.85	ft
Discharge:	220.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.2913	
Flow Regime:	Subcritical	
Flow Area:	97.96	sq ft
Average Velocity:	2.26	ft/s
Maximum Velocity:	2.33	ft/s
Composite n:	0.0502	
Hydraulic Radius:	0.92	ft
Wetted Perimeter:	106.11	ft
Wetted Top Width:	106.05	ft
Critical Slope:	0.0751	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S33E–320

Entellus™

File: T2N-R6W-S33E-New-Mapping.dwg, Date: 11/27/02



Normal Depth Results

Cross-Section:	330	
Elevation:	1100.80	ft MSL
Depth:	1.09	ft
Discharge:	220.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.2828	
Flow Regime:	Subcritical	
Flow Area:	131.38	sq ft
Average Velocity:	1.66	ft/s
Maximum Velocity:	2.18	ft/s
Composite n:	0.0619	
Hydraulic Radius:	0.62	ft
Wetted Perimeter:	210.47	ft
Wetted Top Width:	210.46	ft
Critical Slope:	0.1136	ft/ft

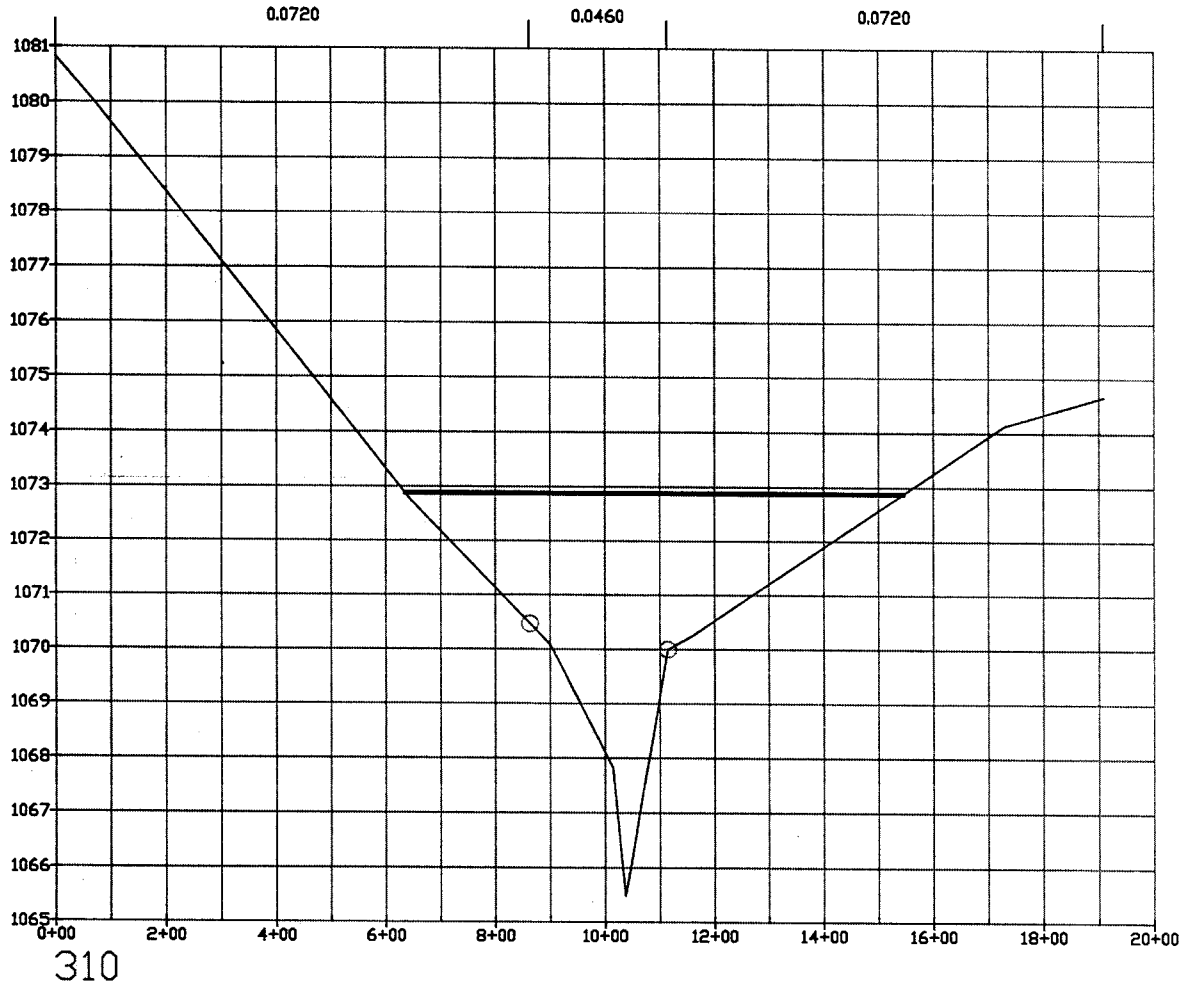
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S33E–330

Entellus™

File: T2N-R6W-S33E-New-Mapping.dwg Date: 11/27/02

T2N-R6W-S33S



Normal Depth Results

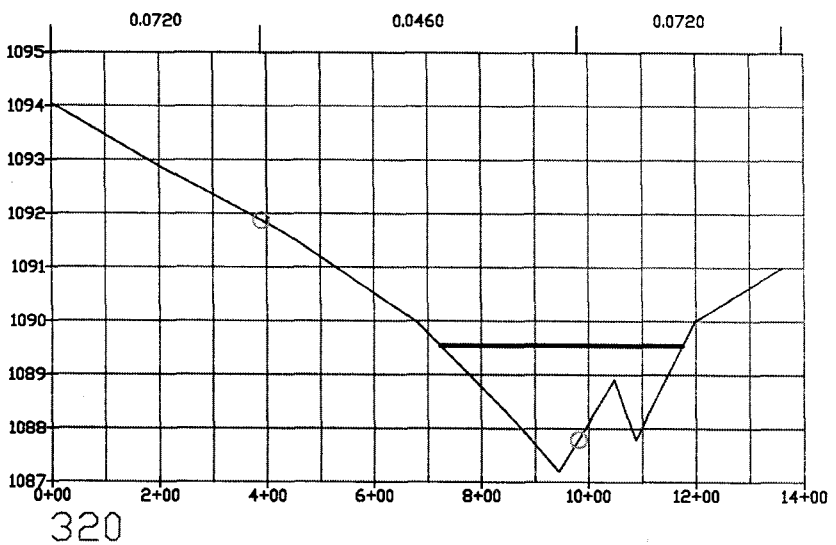
Cross-Section:	310	
Elevation:	1072.88	ft MSL
Depth:	7.39	ft
Discharge:	8150.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.2652	
Flow Regime:	Subcritical	
Flow Area:	1992.86	sq ft
Average Velocity:	4.09	ft/s
Maximum Velocity:	6.01	ft/s
Composite n:	0.0653	
Hydraulic Radius:	2.19	ft
Wetted Perimeter:	910.25	ft
Wetted Top Width:	909.95	ft
Critical Slope:	0.1608	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S33S–310

Entellus™

File: T2N-R6W-S33S-New-Mapping.dwg Date: 11/27/02



Normal Depth Results

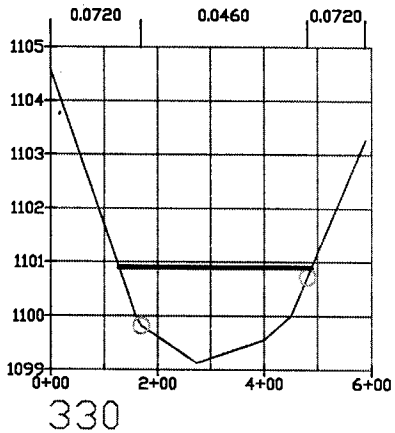
Cross-Section:	320	
Elevation:	1089.55	ft MSL
Depth:	2.36	ft
Discharge:	1170.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.2526	
Flow Regime:	Subcritical	
Flow Area:	531.56	sq ft
Average Velocity:	2.21	ft/s
Maximum Velocity:	2.66	ft/s
Composite n:	0.0578	
Hydraulic Radius:	1.18	ft
Wetted Perimeter:	451.89	ft
Wetted Top Width:	451.83	ft
Critical Slope:	0.0923	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S33S–320

Entellus™

File: T2N-R6W-S33S-New-Mapping.dwg; Date: 11/27/02



Normal Depth Results

Cross-Section:	330	
Elevation:	1100.90	ft MSL
Depth:	1.77	ft
Discharge:	1170.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.35	
Flow Regime:	Subcritical	
Flow Area:	442.75	sq ft
Average Velocity:	2.66	ft/s
Maximum Velocity:	2.76	ft/s
Composite n:	0.0498	
Hydraulic Radius:	1.23	ft
Wetted Perimeter:	360.32	ft
Wetted Top Width:	360.29	ft
Critical Slope:	0.0485	ft/ft

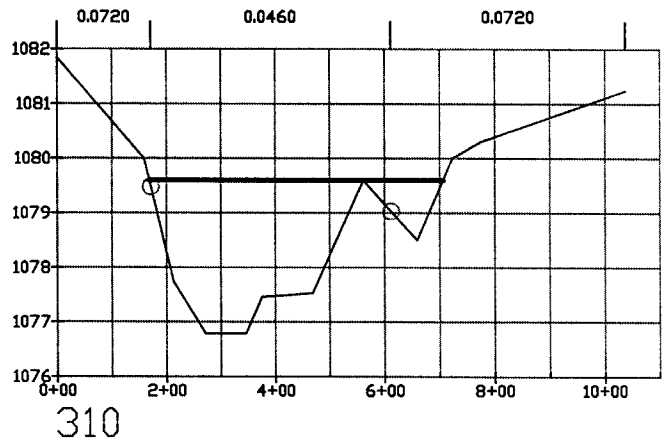
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S33S–330

Entellus™

File: T2N-R6W-S33S-New-Mapping.dwg Date: 11/27/02

T2N-R6W-S34



Normal Depth Results

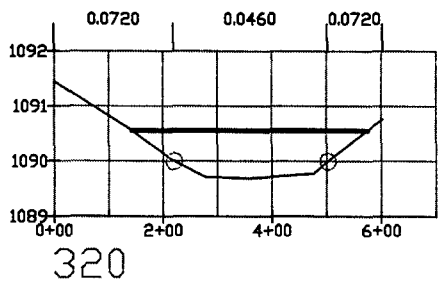
Cross-Section:	310	
Elevation:	1079.60	ft MSL
Depth:	2.82	ft
Discharge:	2580.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.3246	
Flow Regime:	Subcritical	
Flow Area:	833.92	sq ft
Average Velocity:	3.11	ft/s
Maximum Velocity:	3.28	ft/s
Composite n:	0.0511	
Hydraulic Radius:	1.55	ft
Wetted Perimeter:	538.48	ft
Wetted Top Width:	538.38	ft
Critical Slope:	0.0597	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S34–310

Entellus™

File: T2N-R6W-S34-New-Mapping.dwg Date: 11/25/02



Normal Depth Results

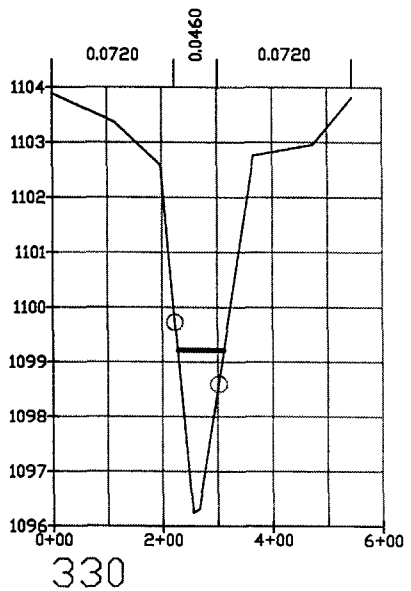
Cross-Section:	320	
Elevation:	1090.56	ft MSL
Depth:	0.87	ft
Discharge:	460.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.3276	
Flow Regime:	Subcritical	
Flow Area:	265.50	sq ft
Average Velocity:	1.73	ft/s
Maximum Velocity:	1.94	ft/s
Composite n:	0.0557	
Hydraulic Radius:	0.61	ft
Wetted Perimeter:	432.16	ft
Wetted Top Width:	432.16	ft
Critical Slope:	0.0748	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S34–320

Entellus™

File: T2N-R6W-S34-New-Mapping.dwg Date: 11/25/02



Normal Depth Results

Cross-Section:	330	
Elevation:	1099.22	ft MSL
Depth:	2.98	ft
Discharge:	460.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.3385	
Flow Regime:	Subcritical	
Flow Area:	138.78	sq ft
Average Velocity:	3.33	ft/s
Maximum Velocity:	3.39	ft/s
Composite n:	0.0493	
Hydraulic Radius:	1.66	ft
Wetted Perimeter:	83.79	ft
Wetted Top Width:	83.54	ft
Critical Slope:	0.0535	ft/ft

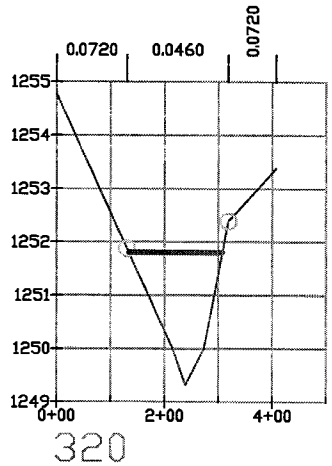
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R6W–S34–330

Entellus™

File: T2N-R6W-S34-New-Mapping.dwg Date: 11/25/02

T2N-R7W-S19E



Normal Depth Results

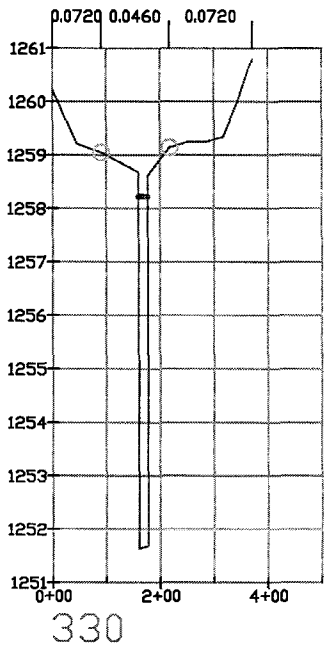
Cross-Section:	320	
Elevation:	1251.81	ft MSL
Depth:	2.49	ft
Discharge:	750.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3666	
Flow Regime:	Subcritical	
Flow Area:	228.71	sq ft
Average Velocity:	3.28	ft/s
Maximum Velocity:	3.28	ft/s
Composite n:	0.046	
Hydraulic Radius:	1.32	ft
Wetted Perimeter:	173.46	ft
Wetted Top Width:	173.37	ft
Critical Slope:	0.0527	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S19E–320

Entellus™

File: T2N-R7W-S19E-New-Mapping.dwg Date: 05/21/03



Normal Depth Results

Cross-Section:	330	
Elevation:	1258.23	ft MSL
Depth:	6.59	ft
Discharge:	750.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.4567	
Flow Regime:	Subcritical	
Flow Area:	112.81	sq ft
Average Velocity:	6.65	ft/s
Maximum Velocity:	6.65	ft/s
Composite n:	0.046	
Hydraulic Radius:	3.8	ft
Wetted Perimeter:	29.68	ft
Wetted Top Width:	17.91	ft
Critical Slope:	0.034	ft/ft

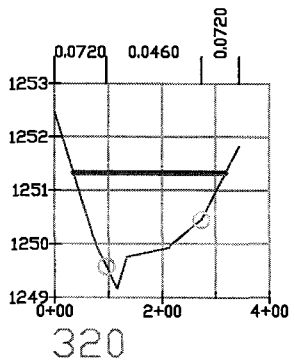
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S19E–330

Entellus™

File: T2N-R7W-S19E-New-Mapping.dwg Date: 05/21/03

T2N-R7W-S19W



Normal Depth Results

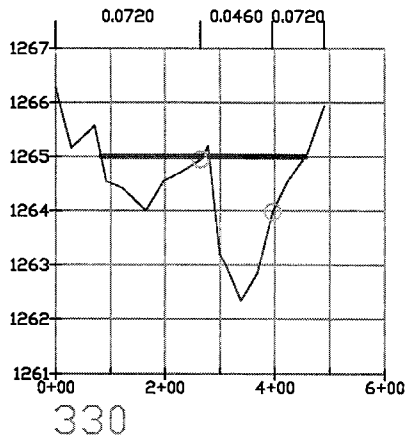
Cross-Section:	320	
Elevation:	1251.33	ft MSL
Depth:	2.16	ft
Discharge:	1020.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3648	
Flow Regime:	Subcritical	
Flow Area:	335.44	sq ft
Average Velocity:	3.04	ft/s
Maximum Velocity:	3.50	ft/s
Composite n:	0.0563	
Hydraulic Radius:	1.18	ft
Wetted Perimeter:	283.63	ft
Wetted Top Width:	283.58	ft
Critical Slope:	0.0794	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S19W–320

Entellus™

File: T2N-R7W-S19W-New-Mapping.dwg Date: 05/21/03



Normal Depth Results

Cross-Section:	330	
Elevation:	1265.00	ft MSL
Depth:	2.66	ft
Discharge:	1020.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3256	
Flow Regime:	Subcritical	
Flow Area:	338.61	sq ft
Average Velocity:	3.03	ft/s
Maximum Velocity:	4.10	ft/s
Composite n:	0.064	
Hydraulic Radius:	0.94	ft
Wetted Perimeter:	360.27	ft
Wetted Top Width:	360.12	ft
Critical Slope:	0.1718	ft/ft

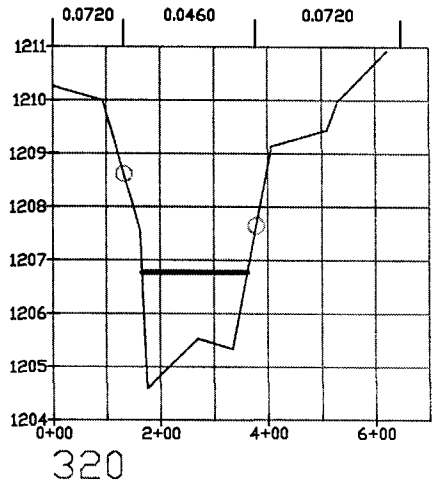
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S19W–330

Entellus™

File: T2N-R7W-S19W-New-Mapping.dwg Date: 05/21/03

T2N-R7W-S20E



Normal Depth Results

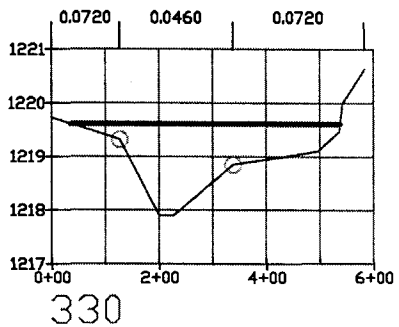
Cross-Section:	320	
Elevation:	1206.77	ft MSL
Depth:	2.17	ft
Discharge:	950.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.4093	
Flow Regime:	Subcritical	
Flow Area:	277.54	sq ft
Average Velocity:	3.44	ft/s
Maximum Velocity:	3.44	ft/s
Composite n:	0.046	
Hydraulic Radius:	1.42	ft
Wetted Perimeter:	195.72	ft
Wetted Top Width:	195.42	ft
Critical Slope:	0.0418	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S20E–320

Entellus™

File: T2N-R7W-S20E-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

Cross-Section:	330	
Elevation:	1219.61	ft MSL
Depth:	1.72	ft
Discharge:	950.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3324	
Flow Regime:	Subcritical	
Flow Area:	384.67	sq ft
Average Velocity:	2.45	ft/s
Maximum Velocity:	3.11	ft/s
Composite n:	0.0617	
Hydraulic Radius:	0.77	ft
Wetted Perimeter:	502.04	ft
Wetted Top Width:	502.01	ft
Critical Slope:	0.1351	ft/ft

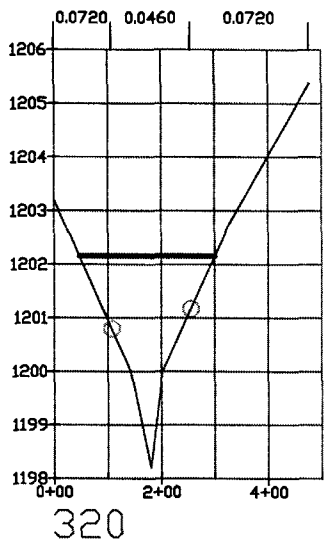
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S20E–330

Entellus™

File: T2N-R7W-S20E-New-Mapping.dwg Date: 10/18/02

T2N-R7W-S20W



Normal Depth Results

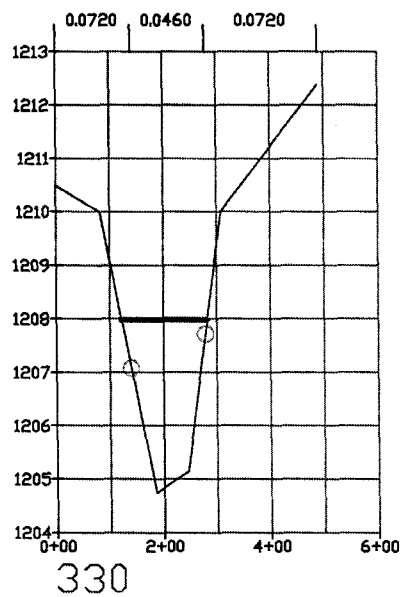
Cross-Section:	320	
Elevation:	1202.16	ft MSL
Depth:	3.96	ft
Discharge:	1600.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3625	
Flow Regime:	Subcritical	
Flow Area:	390.99	sq ft
Average Velocity:	4.09	ft/s
Maximum Velocity:	4.63	ft/s
Composite n:	0.0575	
Hydraulic Radius:	1.54	ft
Wetted Perimeter:	253.49	ft
Wetted Top Width:	253.32	ft
Critical Slope:	0.1065	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S20W–320

Entellus™

File: T2N-R7W-S20W-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

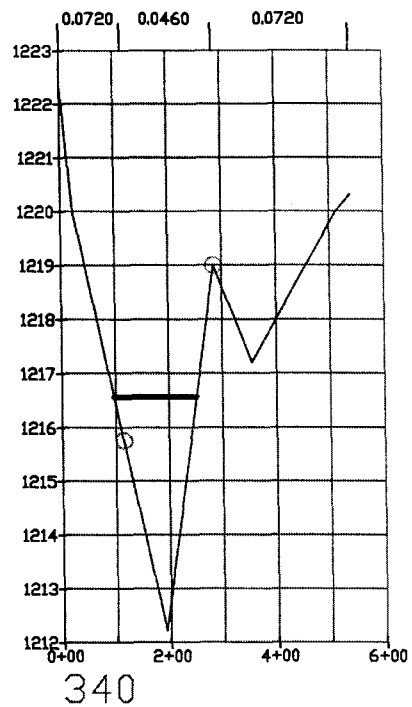
Cross-Section:	330	
Elevation:	1207.98	ft MSL
Depth:	3.24	ft
Discharge:	1600.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.4644	
Flow Regime:	Subcritical	
Flow Area:	337.20	sq ft
Average Velocity:	4.74	ft/s
Maximum Velocity:	4.84	ft/s
Composite n:	0.0498	
Hydraulic Radius:	2.1	ft
Wetted Perimeter:	160.45	ft
Wetted Top Width:	160.26	ft
Critical Slope:	0.0433	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S20W–330

Entellus™

File: T2N-R7W-S20W-Now-Mapping.dwg Date: 12/02/02



Normal Depth Results

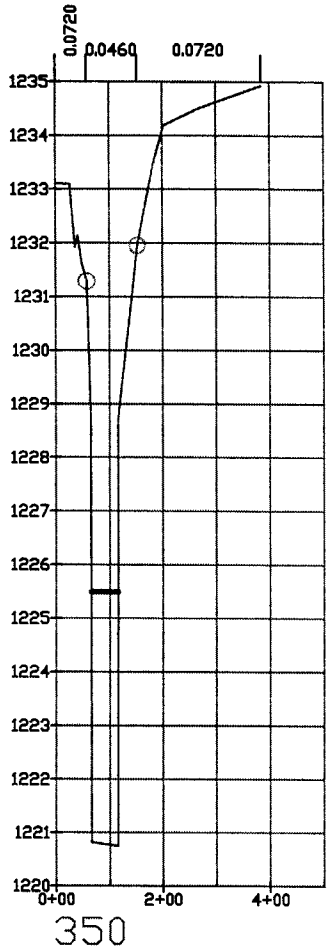
Cross-Section:	340	
Elevation:	1216.56	ft MSL
Depth:	4.34	ft
Discharge:	1600.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.4046	
Flow Regime:	Subcritical	
Flow Area:	334.44	sq ft
Average Velocity:	4.80	ft/s
Maximum Velocity:	4.89	ft/s
Composite n:	0.0492	
Hydraulic Radius:	2.17	ft
Wetted Perimeter:	154.21	ft
Wetted Top Width:	153.95	ft
Critical Slope:	0.0544	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S20W–340

Entellus™

File: T2N-R7W-S20W-New-Mapping.dwg, Date: 12/02/02



Normal Depth Results

Cross-Section:	350	
Elevation:	1225.49	ft MSL
Depth:	4.74	ft
Discharge:	1600.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.5563	
Flow Regime:	Subcritical	
Flow Area:	232.83	sq ft
Average Velocity:	6.88	ft/s
Maximum Velocity:	6.88	ft/s
Composite n:	0.046	
Hydraulic Radius:	4	ft
Wetted Perimeter:	58.21	ft
Wetted Top Width:	50.29	ft
Critical Slope:	0.0229	ft/ft

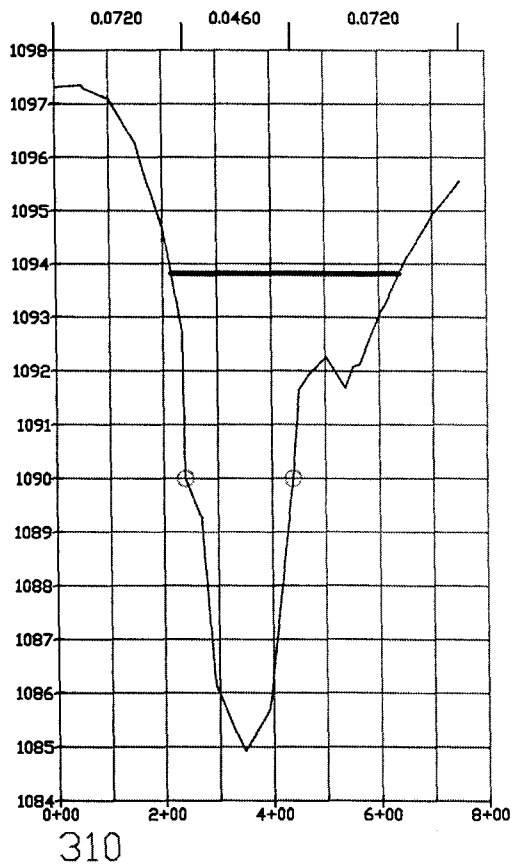
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S20W–350

Entellus™

File: T2N-R7W-S20W-New-Mapping.dwg Date: 12/02/02

T2N-R7W-S25E



Normal Depth Results

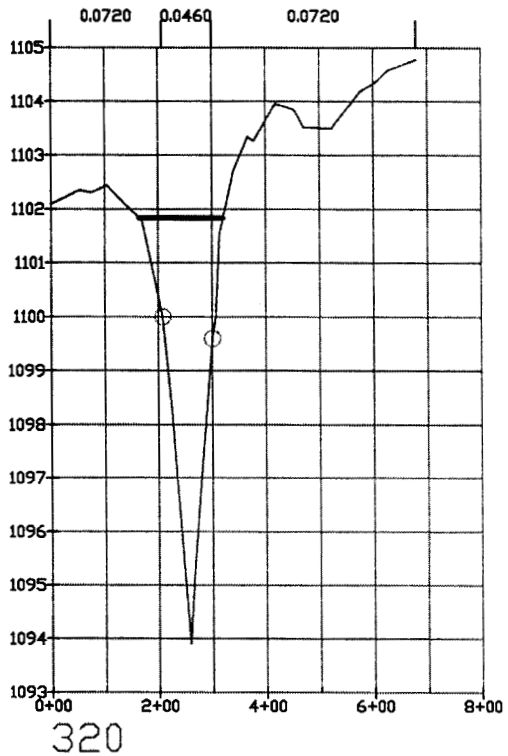
Cross-Section:	310	
Elevation:	1093.82	ft MSL
Depth:	8.90	ft
Discharge:	11650.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.4024	
Flow Regime:	Subcritical	
Flow Area:	1710.89	sq ft
Average Velocity:	6.82	ft/s
Maximum Velocity:	7.98	ft/s
Composite n:	0.0604	
Hydraulic Radius:	4.04	ft
Wetted Perimeter:	423.59	ft
Wetted Top Width:	422.16	ft
Critical Slope:	0.0731	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S25E–310

Entellus™

File: T2N-R7W-S25E-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

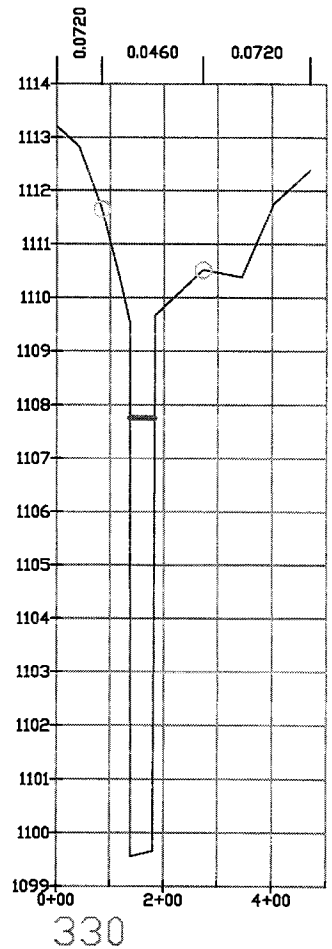
Cross-Section:	320	
Elevation:	1101.84	ft MSL
Depth:	7.93	ft
Discharge:	2870.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.3559	
Flow Regime:	Subcritical	
Flow Area:	504.86	sq ft
Average Velocity:	5.68	ft/s
Maximum Velocity:	6.24	ft/s
Composite n:	0.0572	
Hydraulic Radius:	3.22	ft
Wetted Perimeter:	156.82	ft
Wetted Top Width:	155.84	ft
Critical Slope:	0.0791	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S25E–320

Entellus™

File: T2N-R7W-S25E-New-Mapping.dwg; Date: 12/02/02



Normal Depth Results

Cross-Section:	330	
Elevation:	1107.76	ft MSL
Depth:	8.20	ft
Discharge:	2610.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.4517	
Flow Regime:	Subcritical	
Flow Area:	355.69	sq ft
Average Velocity:	7.34	ft/s
Maximum Velocity:	7.34	ft/s
Composite n:	0.046	
Hydraulic Radius:	6.11	ft
Wetted Perimeter:	58.20	ft
Wetted Top Width:	46.15	ft
Critical Slope:	0.0225	ft/ft

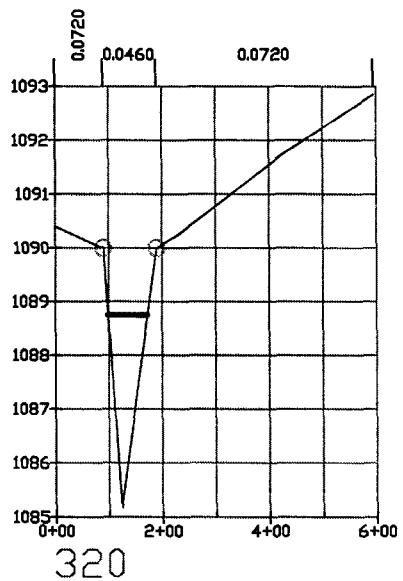
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S25E–330

Entellus™

File: T2N-R7W-S25E-New-Mapping.dwg Date: 05/21/03

T2N-R7W-S25S



Normal Depth Results

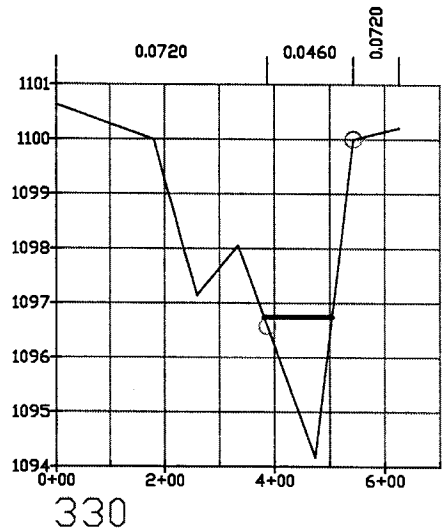
Cross-Section:	320	
Elevation:	1088.76	ft MSL
Depth:	3.58	ft
Discharge:	430.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.3017	
Flow Regime:	Subcritical	
Flow Area:	132.83	sq ft
Average Velocity:	3.23	ft/s
Maximum Velocity:	3.23	ft/s
Composite n:	0.046	
Hydraulic Radius:	1.78	ft
Wetted Perimeter:	74.66	ft
Wetted Top Width:	74.28	ft
Critical Slope:	0.0508	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S25S–320

Entellus™

File: T2N-R7W-S25S-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

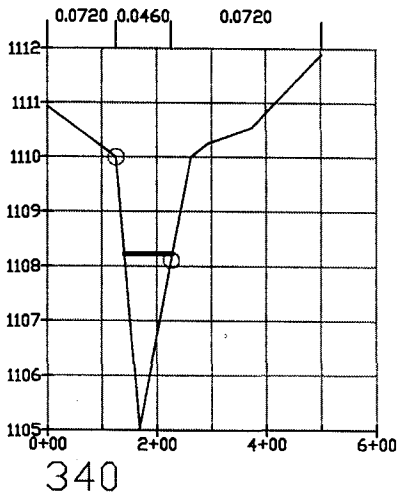
Cross-Section:	330	
Elevation:	1096.75	ft MSL
Depth:	2.58	ft
Discharge:	430.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.2962	
Flow Regime:	Subcritical	
Flow Area:	159.32	sq ft
Average Velocity:	2.68	ft/s
Maximum Velocity:	2.68	ft/s
Composite n:	0.0474	
Hydraulic Radius:	1.29	ft
Wetted Perimeter:	123.66	ft
Wetted Top Width:	123.52	ft
Critical Slope:	0.0599	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S25S–330

Entellus™

File: T2N-R7W-S25S-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

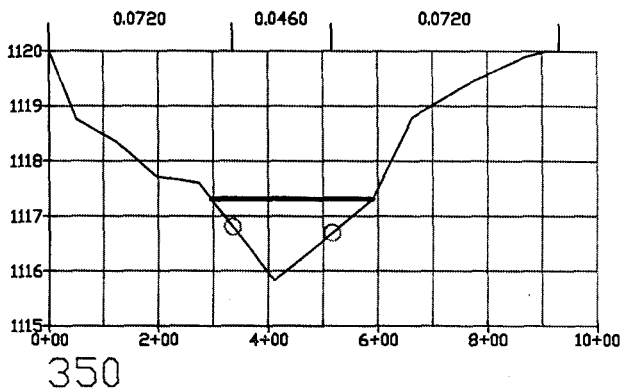
Cross-Section:	340	
Elevation:	1108.23	ft MSL
Depth:	3.20	ft
Discharge:	430.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.3017	
Flow Regime:	Subcritical	
Flow Area:	140.53	sq ft
Average Velocity:	3.04	ft/s
Maximum Velocity:	3.05	ft/s
Composite n:	0.0467	
Hydraulic Radius:	1.59	ft
Wetted Perimeter:	88.18	ft
Wetted Top Width:	87.91	ft
Critical Slope:	0.0543	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S25S–340

Entellus™

File: T2N-R7W-S25S-New-Mapping.dwg Date: 12/05/02



Normal Depth Results

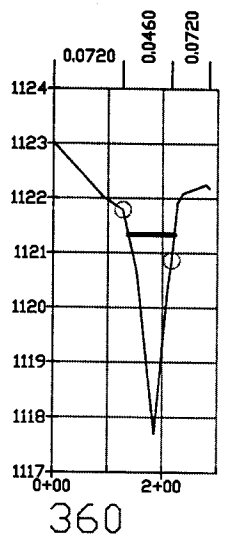
Cross-Section:	350	
Elevation:	1117.32	ft MSL
Depth:	1.49	ft
Discharge:	430.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.2841	
Flow Regime:	Subcritical	
Flow Area:	218.77	sq ft
Average Velocity:	2.00	ft/s
Maximum Velocity:	2.24	ft/s
Composite n:	0.0567	
Hydraulic Radius:	0.74	ft
Wetted Perimeter:	294.27	ft
Wetted Top Width:	294.26	ft
Critical Slope:	0.103	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S25S–350

Entellus™

File: T2N-R7W-S25S-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

Cross-Section:	360	
Elevation:	1121.34	ft MSL
Depth:	3.63	ft
Discharge:	430.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.2895	
Flow Regime:	Subcritical	
Flow Area:	137.40	sq ft
Average Velocity:	3.13	ft/s
Maximum Velocity:	3.15	ft/s
Composite n:	0.0476	
Hydraulic Radius:	1.63	ft
Wetted Perimeter:	84.26	ft
Wetted Top Width:	83.92	ft
Critical Slope:	0.0622	ft/ft

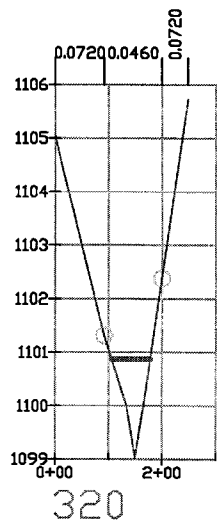
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S25S–360

Entellus™

File: T2N-R7W-S25S-New-Mapping.dwg Date: 12/03/02

T2N-R7W-S25W



Normal Depth Results

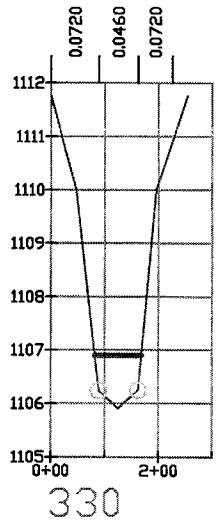
Cross-Section:	320	
Elevation:	1100.88	ft MSL
Depth:	1.86	ft
Discharge:	120.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.2528	
Flow Regime:	Subcritical	
Flow Area:	61.38	sq ft
Average Velocity:	1.97	ft/s
Maximum Velocity:	1.97	ft/s
Composite n:	0.046	
Hydraulic Radius:	0.85	ft
Wetted Perimeter:	72.37	ft
Wetted Top Width:	72.27	ft
Critical Slope:	0.0709	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S25W–320

Entellus™

File: T2N-R7W-S25W-New-Mapping.dwg Date: 05/21/03



Normal Depth Results

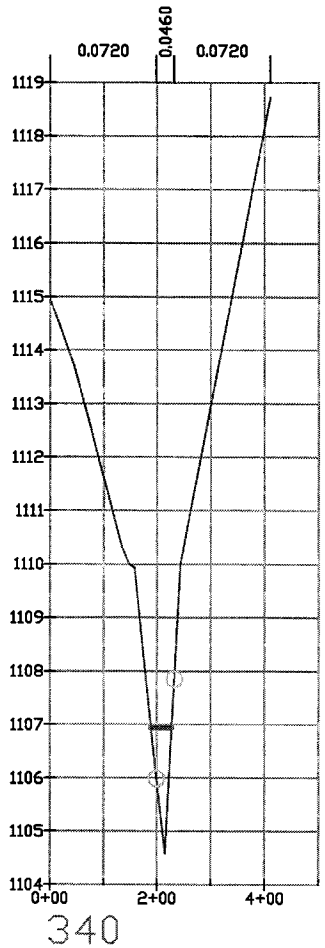
Cross-Section:	330	
Elevation:	1106.90	ft MSL
Depth:	0.99	ft
Discharge:	120.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.328	
Flow Regime:	Subcritical	
Flow Area:	64.75	sq ft
Average Velocity:	1.85	ft/s
Maximum Velocity:	1.93	ft/s
Composite n:	0.0504	
Hydraulic Radius:	0.75	ft
Wetted Perimeter:	86.54	ft
Wetted Top Width:	86.47	ft
Critical Slope:	0.0538	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S25W–330

Entellus™

File: T2N-K7W-S25W-New-Mapping.dwg Date: 05/21/03



Normal Depth Results

Cross-Section:	340	
Elevation:	1106.94	ft MSL
Depth:	2.36	ft
Discharge:	120.00	cfs
Energy Gradient:	0.0046	ft/ft
Froude Number:	0.2975	
Flow Regime:	Subcritical	
Flow Area:	46.25	sq ft
Average Velocity:	2.60	ft/s
Maximum Velocity:	2.80	ft/s
Composite n:	0.0533	
Hydraulic Radius:	1.19	ft
Wetted Perimeter:	38.88	ft
Wetted Top Width:	38.55	ft
Critical Slope:	0.0772	ft/ft

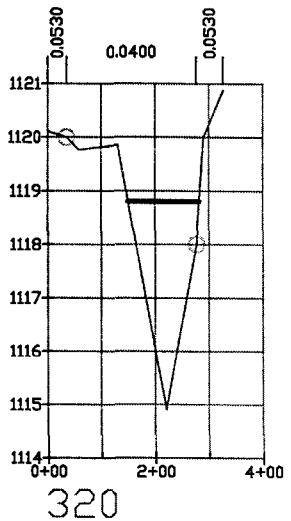
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S25W–340

Entellus™

File: T2N-R7W-S25W-New-Mapping.dwg Date: 05/21/03

T2N-R7W-S26E



Normal Depth Results

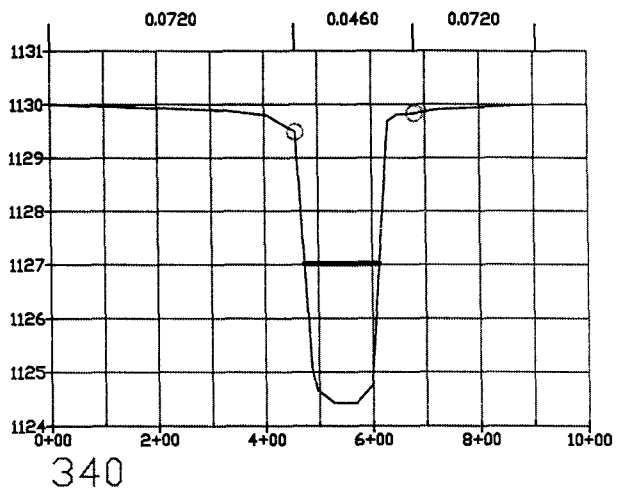
Cross-Section:	320	
Elevation:	1118.81	ft MSL
Depth:	3.90	ft
Discharge:	1420.00	cfs
Energy Gradient:	0.0072	ft/ft
Froude Number:	0.4646	
Flow Regime:	Subcritical	
Flow Area:	272.86	sq ft
Average Velocity:	5.19	ft/s
Maximum Velocity:	5.22	ft/s
Composite n:	0.0405	
Hydraulic Radius:	2.06	ft
Wetted Perimeter:	132.72	ft
Wetted Top Width:	132.46	ft
Critical Slope:	0.0355	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S26E–320

Entellus™

File: T2N-R7W-S26E-New-Mapping.dwg, Date: 10/18/02



Normal Depth Results

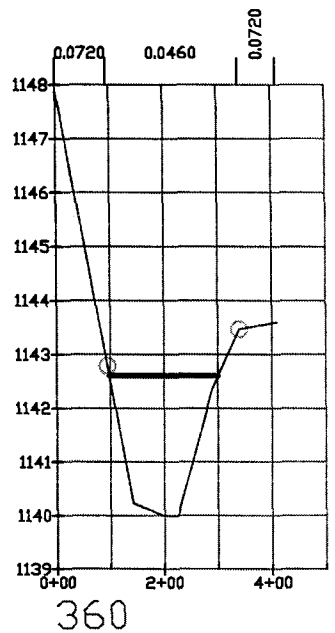
Cross-Section:	340	
Elevation:	1127.02	ft MSL
Depth:	2.59	ft
Discharge:	1420.00	cfs
Energy Gradient:	0.0072	ft/ft
Froude Number:	0.51	
Flow Regime:	Subcritical	
Flow Area:	305.14	sq ft
Average Velocity:	4.64	ft/s
Maximum Velocity:	4.64	ft/s
Composite n:	0.046	
Hydraulic Radius:	2.19	ft
Wetted Perimeter:	139.32	ft
Wetted Top Width:	138.99	ft
Critical Slope:	0.0278	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S26E–340

Entellus™

File: T2N-R7W-S26E-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

Cross-Section:	360	
Elevation:	1142.60	ft MSL
Depth:	2.61	ft
Discharge:	1420.00	cfs
Energy Gradient:	0.0072	ft/ft
Froude Number:	0.4359	
Flow Regime:	Subcritical	
Flow Area:	355.13	sq ft
Average Velocity:	4.00	ft/s
Maximum Velocity:	4.00	ft/s
Composite n:	0.046	
Hydraulic Radius:	1.76	ft
Wetted Perimeter:	202.13	ft
Wetted Top Width:	202.02	ft
Critical Slope:	0.0378	ft/ft

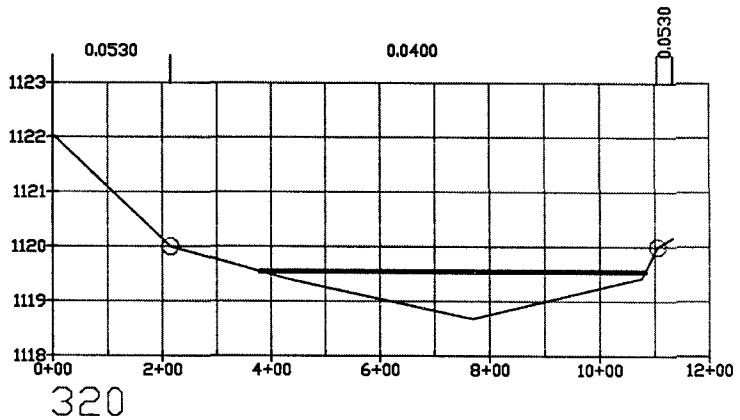
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S26E–360

Entellus™

File: T2N-R7W-S26E-New-Mapping.dwg Date: 10/18/02

T2N-R7W-S26W



Normal Depth Results

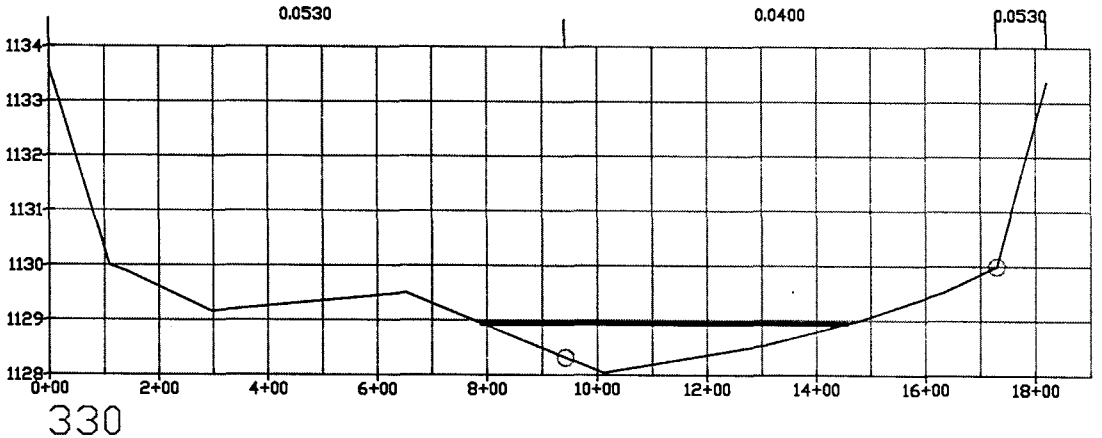
Cross-Section:	320	
Elevation:	1119.55	ft MSL
Depth:	0.87	ft
Discharge:	610.00	cfs
Energy Gradient:	0.0072	ft/ft
Froude Number:	0.3535	
Flow Regime:	Subcritical	
Flow Area:	326.29	sq ft
Average Velocity:	1.90	ft/s
Maximum Velocity:	1.90	ft/s
Composite n:	0.04	
Hydraulic Radius:	0.46	ft
Wetted Perimeter:	702.39	ft
Wetted Top Width:	702.39	ft
Critical Slope:	0.056	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S26W–320

Entellus™

File: T2N-R7W-S26W-New-Mapping.dwg Date: 12/04/02



Normal Depth Results

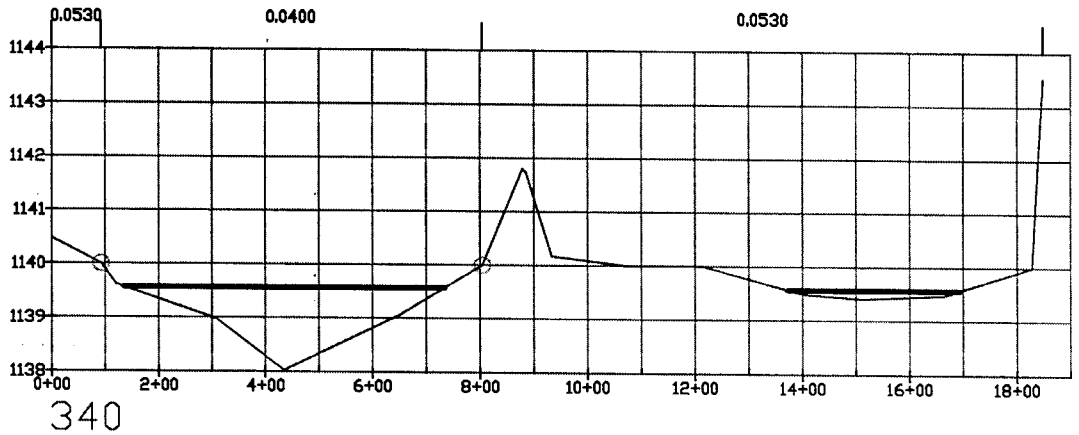
Cross-Section:	330	
Elevation:	1128.94	ft MSL
Depth:	0.90	ft
Discharge:	610.00	cfs
Energy Gradient:	0.0072	ft/ft
Froude Number:	0.356	
Flow Regime:	Subcritical	
Flow Area:	318.33	sq ft
Average Velocity:	1.92	ft/s
Maximum Velocity:	2.07	ft/s
Composite n:	0.0431	
Hydraulic Radius:	0.48	ft
Wetted Perimeter:	665.50	ft
Wetted Top Width:	665.50	ft
Critical Slope:	0.0649	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S26W–330

Entellus™

File: T2N-R7W-S26W-New-Mapping.dwg Date: 12/04/02



Normal Depth Results

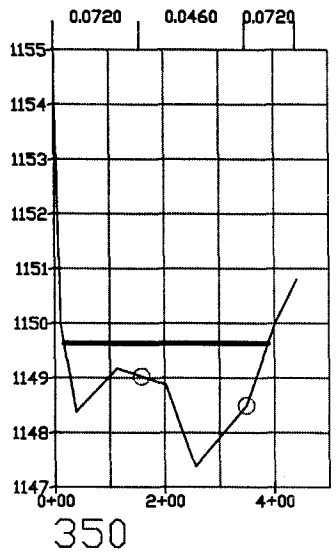
Cross-Section:	340	
Elevation:	1139.57	ft MSL
Depth:	1.54	ft
Discharge:	1110.00	cfs
Energy Gradient:	0.0072	ft/ft
Froude Number:	0.3391	
Flow Regime:	Subcritical	
Flow Area:	464.77	sq ft
Average Velocity:	2.38	ft/s
Maximum Velocity:	2.53	ft/s
Composite n:	0.0447	
Hydraulic Radius:	0.5	ft
Wetted Perimeter:	921.46	ft
Wetted Top Width:	921.45	ft
Critical Slope:	0.1114	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S26W–340

Entellus™

File: T2N-R7W-S26W-New-Mapping.dwg Date: 12/05/02



Normal Depth Results

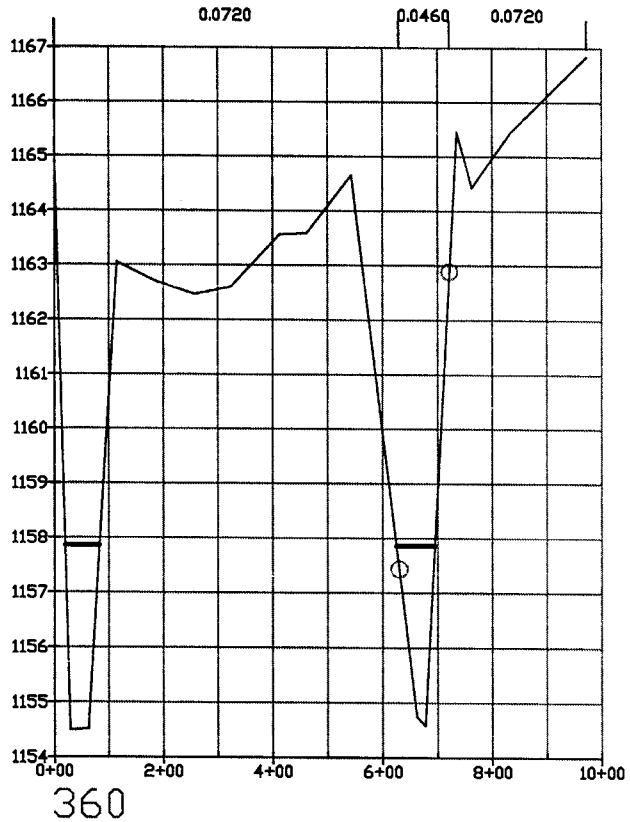
Cross-Section:	350	
Elevation:	1149.64	ft MSL
Depth:	2.26	ft
Discharge:	1110.00	cfs
Energy Gradient:	0.0072	ft/ft
Froude Number:	0.3306	
Flow Regime:	Subcritical	
Flow Area:	393.85	sq ft
Average Velocity:	2.80	ft/s
Maximum Velocity:	3.46	ft/s
Composite n:	0.0593	
Hydraulic Radius:	1.06	ft
Wetted Perimeter:	371.96	ft
Wetted Top Width:	371.88	ft
Critical Slope:	0.1068	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S26W–350

Entellus™

File: T2N-R7W-S26W-New-Mapping.dwg Date: 12/04/02



Normal Depth Results

Cross-Section:	360	
Elevation:	1157.86	ft MSL
Depth:	3.36	ft
Discharge:	1110.00	cfs
Energy Gradient:	0.0072	ft/ft
Froude Number:	0.3587	
Flow Regime:	Subcritical	
Flow Area:	297.41	sq ft
Average Velocity:	3.71	ft/s
Maximum Velocity:	4.44	ft/s
Composite n:	0.06	
Hydraulic Radius:	2.21	ft
Wetted Perimeter:	134.64	ft
Wetted Top Width:	133.34	ft
Critical Slope:	0.0611	ft/ft

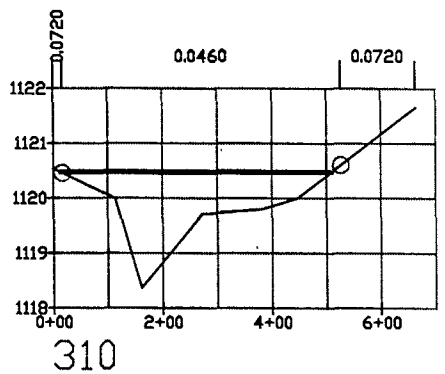
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S26W–360

Entellus™

File: T2N-R7W-S26W-New-Mapping.dwg Date: 12/04/02

T2N-R7W-S27E



Normal Depth Results

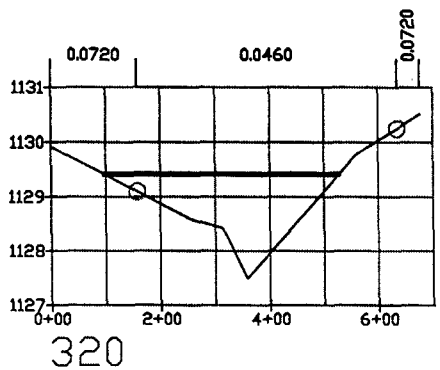
Cross-Section:	310	
Elevation:	1120.48	ft MSL
Depth:	2.11	ft
Discharge:	870.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.2804	
Flow Regime:	Subcritical	
Flow Area:	376.79	sq ft
Average Velocity:	2.28	ft/s
Maximum Velocity:	2.28	ft/s
Composite n:	0.0462	
Hydraulic Radius:	0.76	ft
Wetted Perimeter:	496.21	ft
Wetted Top Width:	496.17	ft
Critical Slope:	0.0941	ft/ft

File: T2N-R7W-S27E-New-Mapping.dwg Date: 12/03/02

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S27E–310

Entellus™



Normal Depth Results

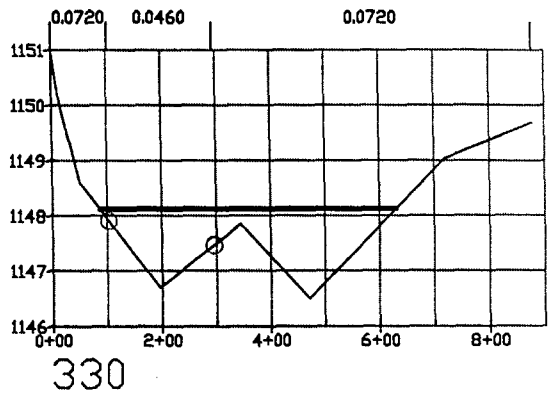
Cross-Section:	320	
Elevation:	1129.42	ft MSL
Depth:	1.92	ft
Discharge:	870.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3208	
Flow Regime:	Subcritical	
Flow Area:	345.27	sq ft
Average Velocity:	2.50	ft/s
Maximum Velocity:	2.56	ft/s
Composite n:	0.05	
Hydraulic Radius:	0.8	ft
Wetted Perimeter:	430.36	ft
Wetted Top Width:	430.34	ft
Critical Slope:	0.0934	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S27E–320

Entellus™

File: T2N-R7W-S27E-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

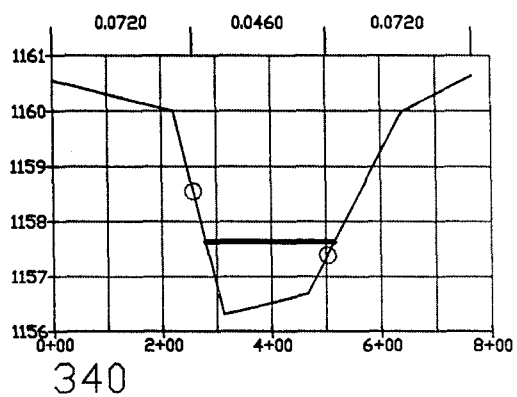
Cross-Section:	330	
Elevation:	1148.13	ft MSL
Depth:	1.63	ft
Discharge:	870.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.2647	
Flow Regime:	Subcritical	
Flow Area:	454.33	sq ft
Average Velocity:	1.95	ft/s
Maximum Velocity:	2.61	ft/s
Composite n:	0.0634	
Hydraulic Radius:	0.84	ft
Wetted Perimeter:	543.24	ft
Wetted Top Width:	543.21	ft
Critical Slope:	0.1203	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S27E–330

Entellus™

File: T2N-R7W-S27E-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

Cross-Section:	340	
Elevation:	1157.64	ft MSL
Depth:	1.33	ft
Discharge:	590.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.4097	
Flow Regime:	Subcritical	
Flow Area:	220.39	sq ft
Average Velocity:	2.68	ft/s
Maximum Velocity:	2.70	ft/s
Composite n:	0.0475	
Hydraulic Radius:	0.94	ft
Wetted Perimeter:	235.35	ft
Wetted Top Width:	235.31	ft
Critical Slope:	0.0475	ft/ft

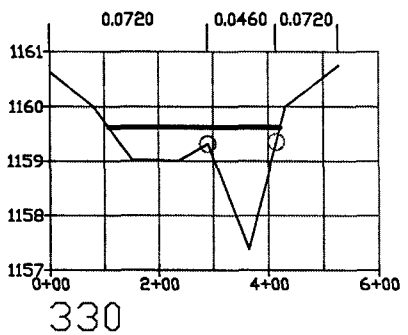
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S27E–340

Entellus™

File: T2N-R7W-S27E-New-Mapping.dwg Date: 12/03/02

T2N-R7W-S27W



Normal Depth Results

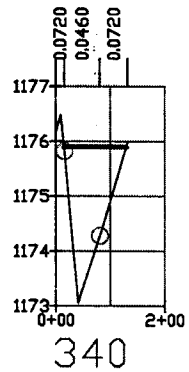
Cross-Section:	330	
Elevation:	1159.62	ft MSL
Depth:	2.23	ft
Discharge:	590.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.2816	
Flow Regime:	Subcritical	
Flow Area:	247.08	sq ft
Average Velocity:	2.41	ft/s
Maximum Velocity:	3.18	ft/s
Composite n:	0.0623	
Hydraulic Radius:	0.79	ft
Wetted Perimeter:	314.09	ft
Wetted Top Width:	314.02	ft
Critical Slope:	0.1734	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S27W–330

Entellus™

File: T2N-R7W-S27W-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

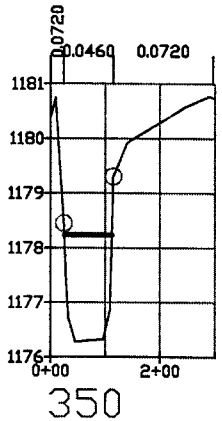
Cross-Section:	340	
Elevation:	1175.90	ft MSL
Depth:	2.84	ft
Discharge:	590.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3731	
Flow Regime:	Subcritical	
Flow Area:	165.39	sq ft
Average Velocity:	3.58	ft/s
Maximum Velocity:	4.23	ft/s
Composite n:	0.0579	
Hydraulic Radius:	1.44	ft
Wetted Perimeter:	114.65	ft
Wetted Top Width:	114.45	ft
Critical Slope:	0.0847	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S27W–340

Entellus™

File: T2N-R7W-S27W-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

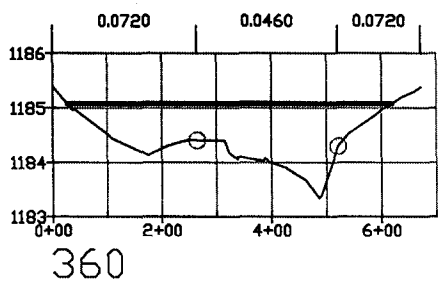
Cross-Section:	350	
Elevation:	1178.24	ft MSL
Depth:	1.96	ft
Discharge:	590.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.4944	
Flow Regime:	Subcritical	
Flow Area:	150.22	sq ft
Average Velocity:	3.91	ft/s
Maximum Velocity:	3.91	ft/s
Composite n:	0.046	
Hydraulic Radius:	1.71	ft
Wetted Perimeter:	87.73	ft
Wetted Top Width:	87.28	ft
Critical Slope:	0.0293	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S27W–350

Entellus™

File: T2N-R7W-S27W-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

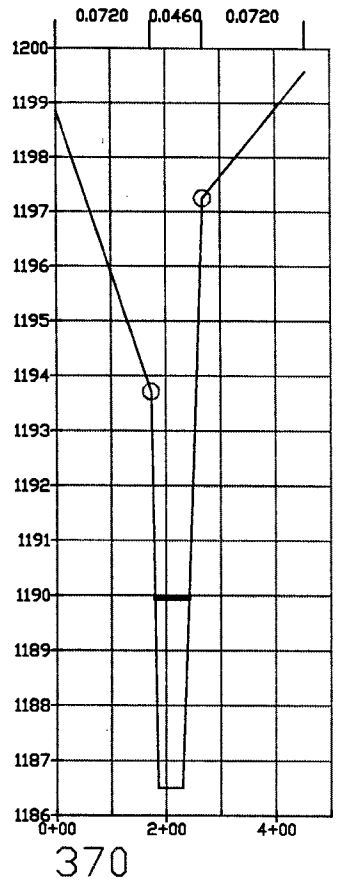
Cross-Section:	360	
Elevation:	1185.08	ft MSL
Depth:	1.74	ft
Discharge:	1020.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.2961	
Flow Regime:	Subcritical	
Flow Area:	459.90	sq ft
Average Velocity:	2.21	ft/s
Maximum Velocity:	2.88	ft/s
Composite n:	0.0614	
Hydraulic Radius:	0.78	ft
Wetted Perimeter:	592.68	ft
Wetted Top Width:	592.65	ft
Critical Slope:	0.1337	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S27W–360

Entellus™

File: T2N-R7W-S27W-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

Cross-Section:	370	
Elevation:	1189.95	ft MSL
Depth:	3.45	ft
Discharge:	1020.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.5257	
Flow Regime:	Subcritical	
Flow Area:	184.22	sq ft
Average Velocity:	5.53	ft/s
Maximum Velocity:	5.53	ft/s
Composite n:	0.046	
Hydraulic Radius:	2.88	ft
Wetted Perimeter:	63.90	ft
Wetted Top Width:	62.48	ft
Critical Slope:	0.0257	ft/ft

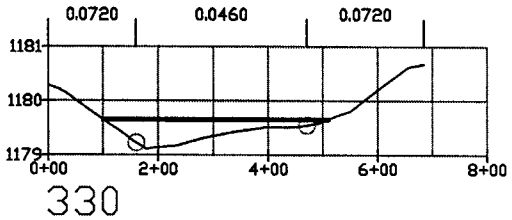
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S27W–370

Entellus™

File: T2N-R7W-S27W-New-Mapping.dwg Date: 10/18/02

T2N-R7W-S29



Normal Depth Results

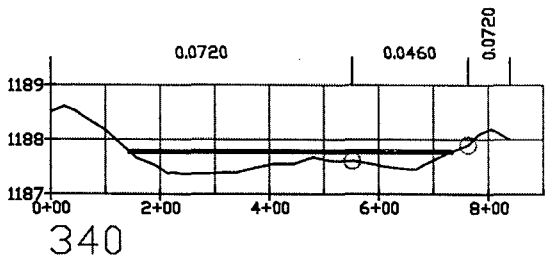
Cross-Section:	330	
Elevation:	1179.66	ft MSL
Depth:	0.55	ft
Discharge:	120.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.2617	
Flow Regime:	Subcritical	
Flow Area:	109.21	sq ft
Average Velocity:	1.14	ft/s
Maximum Velocity:	1.23	ft/s
Composite n:	0.0528	
Hydraulic Radius:	0.27	ft
Wetted Perimeter:	409.66	ft
Wetted Top Width:	409.66	ft
Critical Slope:	0.1294	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S29–330

Entellus™

File: T2N-R7W-S29.dwg Date: 11/08/02



Normal Depth Results

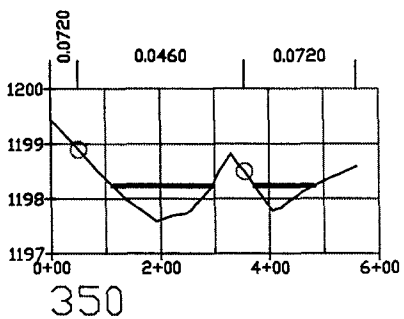
Cross-Section:	340	
Elevation:	1187.78	ft MSL
Depth:	0.41	ft
Discharge:	120.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.2207	
Flow Regime:	Subcritical	
Flow Area:	150.09	sq ft
Average Velocity:	0.80	ft/s
Maximum Velocity:	1.00	ft/s
Composite n:	0.0646	
Hydraulic Radius:	0.26	ft
Wetted Perimeter:	588.27	ft
Wetted Top Width:	588.27	ft
Critical Slope:	0.1524	ft/ft

File: T2N-R7W-S29.dwg Date: 12/05/02

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S29–340

Entellus™



Normal Depth Results

Cross-Section:	350	
Elevation:	1198.24	ft MSL
Depth:	0.65	ft
Discharge:	120.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.2697	
Flow Regime:	Subcritical	
Flow Area:	97.32	sq ft
Average Velocity:	1.25	ft/s
Maximum Velocity:	1.47	ft/s
Composite n:	0.0564	
Hydraulic Radius:	0.33	ft
Wetted Perimeter:	292.07	ft
Wetted Top Width:	292.06	ft
Critical Slope:	0.1298	ft/ft

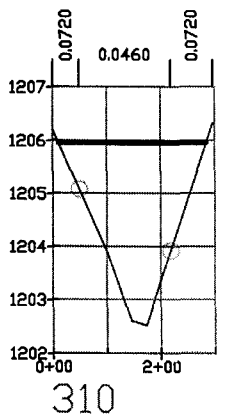
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S29–350

Entellus™

File: T2N-R7W-S29.dwg Date: 11/08/02

T2N-R7W-S30N



Normal Depth Results

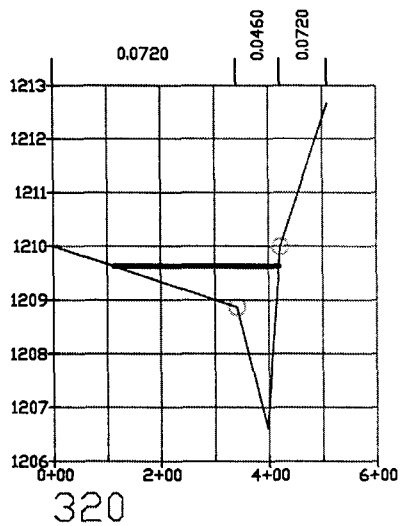
Cross-Section:	310	
Elevation:	1205.95	ft MSL
Depth:	3.43	ft
Discharge:	2200.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.419	
Flow Regime:	Subcritical	
Flow Area:	499.60	sq ft
Average Velocity:	4.40	ft/s
Maximum Velocity:	4.96	ft/s
Composite n:	0.0565	
Hydraulic Radius:	1.82	ft
Wetted Perimeter:	273.90	ft
Wetted Top Width:	273.81	ft
Critical Slope:	0.0714	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S30N–310

Entellus™

File: T2N-R7W-S30N-Now-Mapping.dwg Date: 10/18/02



Normal Depth Results

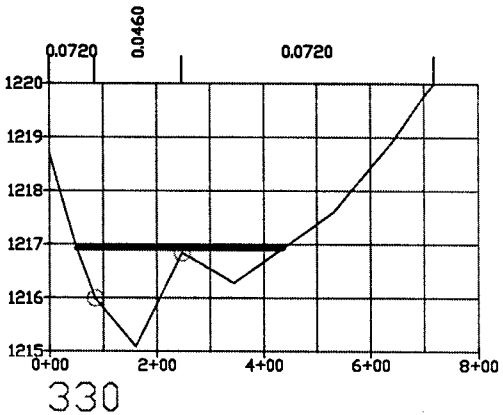
Cross-Section:	320	
Elevation:	1209.63	ft MSL
Depth:	3.02	ft
Discharge:	640.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.2886	
Flow Regime:	Subcritical	
Flow Area:	224.98	sq ft
Average Velocity:	2.82	ft/s
Maximum Velocity:	4.00	ft/s
Composite n:	0.0658	
Hydraulic Radius:	0.74	ft
Wetted Perimeter:	305.37	ft
Wetted Top Width:	305.12	ft
Critical Slope:	0.2852	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S30N–320

Entellus™

File: T2N-R7W-S30N-New-Mapping.dwg; Date: 10/18/02



Normal Depth Results

Cross-Section:	330	
Elevation:	1216.93	ft MSL
Depth:	1.84	ft
Discharge:	640.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3074	
Flow Regime:	Subcritical	
Flow Area:	270.68	sq ft
Average Velocity:	2.37	ft/s
Maximum Velocity:	3.01	ft/s
Composite n:	0.0617	
Hydraulic Radius:	0.7	ft
Wetted Perimeter:	385.98	ft
Wetted Top Width:	385.94	ft
Critical Slope:	0.1629	ft/ft

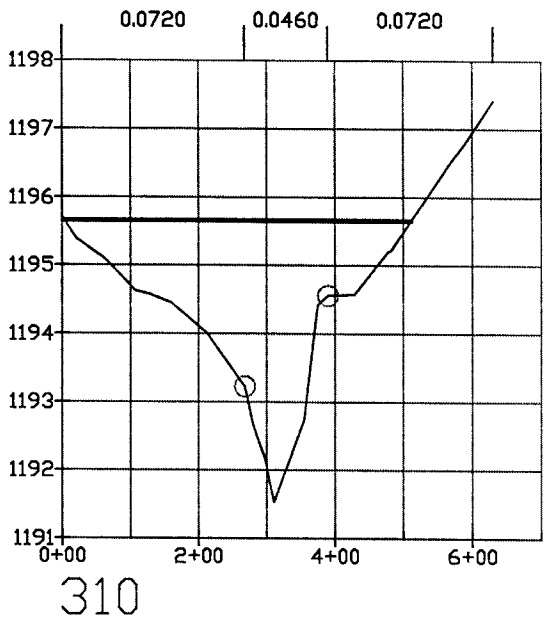
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S30N–330

Entellus™

File: T2N-R7W-S30N-New-Mapping.dwg; Date: 10/18/02

T2N-R7W-S30S



Normal Depth Results

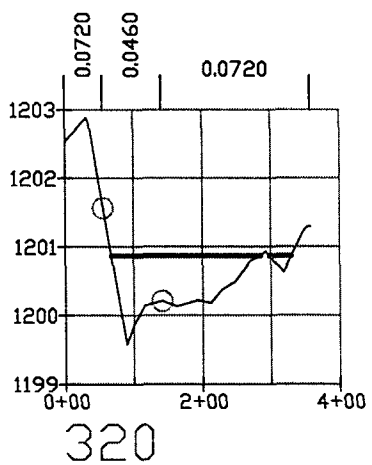
Cross-Section:	310	
Elevation:	1195.66	ft MSL
Depth:	4.13	ft
Discharge:	2650.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3092	
Flow Regime:	Subcritical	
Flow Area:	743.65	sq ft
Average Velocity:	3.58	ft/s
Maximum Velocity:	5.55	ft/s
Composite n:	0.0662	
Hydraulic Radius:	1.46	ft
Wetted Perimeter:	508.16	ft
Wetted Top Width:	508.02	ft
Critical Slope:	0.1579	ft/ft

File: T2N-R7W-S30S.dwg Date: 11/27/02

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S30S–310

Entellus™



Normal Depth Results

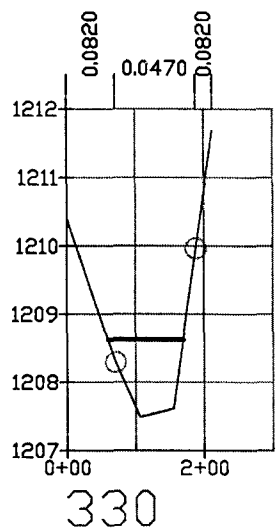
Cross-Section:	320	
Elevation:	1200.87	ft MSL
Depth:	1.29	ft
Discharge:	210.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.2419	
Flow Regime:	Subcritical	
Flow Area:	134.65	sq ft
Average Velocity:	1.57	ft/s
Maximum Velocity:	2.32	ft/s
Composite n:	0.0649	
Hydraulic Radius:	0.54	ft
Wetted Perimeter:	250.57	ft
Wetted Top Width:	250.51	ft
Critical Slope:	0.1805	ft/ft

File: T2N-R7W-S30S.dwg Date: 11/04/02

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S30S–320

Entellus™



Normal Depth Results

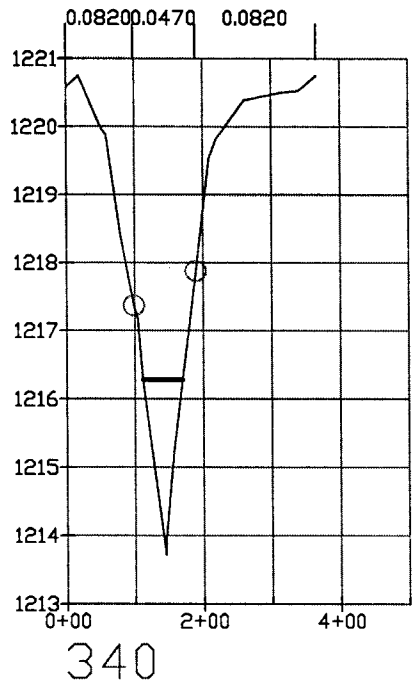
Cross-Section:	330	
Elevation:	1208.63	ft MSL
Depth:	1.14	ft
Discharge:	210.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3947	
Flow Regime:	Subcritical	
Flow Area:	87.79	sq ft
Average Velocity:	2.40	ft/s
Maximum Velocity:	2.44	ft/s
Composite n:	0.051	
Hydraulic Radius:	0.8	ft
Wetted Perimeter:	109.72	ft
Wetted Top Width:	109.67	ft
Critical Slope:	0.058	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S30S–330

Entellus™

File: T2N-R7W-S30S.dwg Date: 11/04/02



Normal Depth Results

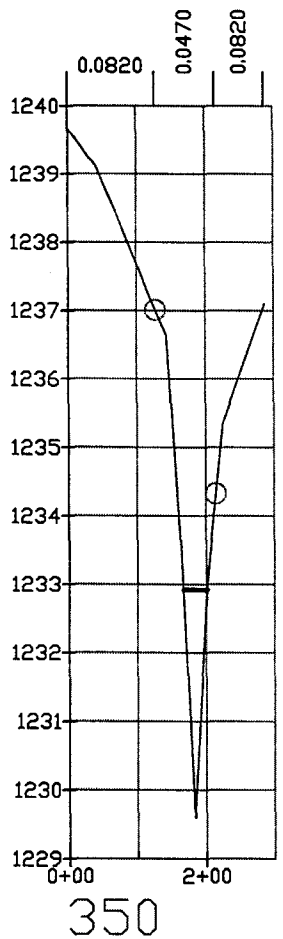
Cross-Section:	340	
Elevation:	1216.28	ft MSL
Depth:	2.56	ft
Discharge:	210.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3331	
Flow Regime:	Subcritical	
Flow Area:	69.44	sq ft
Average Velocity:	3.01	ft/s
Maximum Velocity:	3.01	ft/s
Composite n:	0.047	
Hydraulic Radius:	1.2	ft
Wetted Perimeter:	57.99	ft
Wetted Top Width:	57.74	ft
Critical Slope:	0.0644	ft/ft

File: T2N-R7W-S30S.dwg Date: 11/04/02

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S30S–340

Entellus™



Normal Depth Results

Cross-Section:	350	
Elevation:	1232.92	ft MSL
Depth:	3.32	ft
Discharge:	210.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3546	
Flow Regime:	Subcritical	
Flow Area:	57.32	sq ft
Average Velocity:	3.69	ft/s
Maximum Velocity:	3.69	ft/s
Composite n:	0.047	
Hydraulic Radius:	1.62	ft
Wetted Perimeter:	35.27	ft
Wetted Top Width:	34.64	ft
Critical Slope:	0.0556	ft/ft

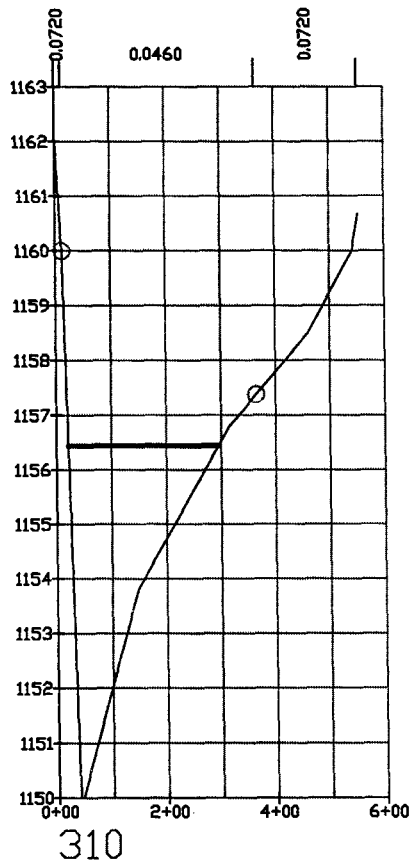
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S30S–350

Entellus™

File: T2N-R7W-S30S.dwg Date: 11/04/02

T2N-R7W-S32E



Normal Depth Results

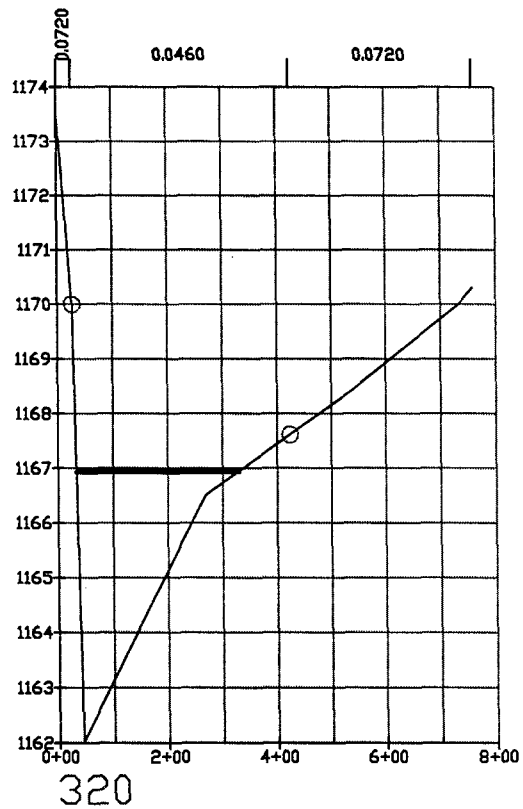
Cross-Section:	310	
Elevation:	1156.45	ft MSL
Depth:	6.45	ft
Discharge:	4010.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3696	
Flow Regime:	Subcritical	
Flow Area:	753.30	sq ft
Average Velocity:	5.34	ft/s
Maximum Velocity:	5.34	ft/s
Composite n:	0.046	
Hydraulic Radius:	2.74	ft
Wetted Perimeter:	275.42	ft
Wetted Top Width:	274.20	ft
Critical Slope:	0.0516	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32E–310

Entellus™

File: T2N-R7W-S32E-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

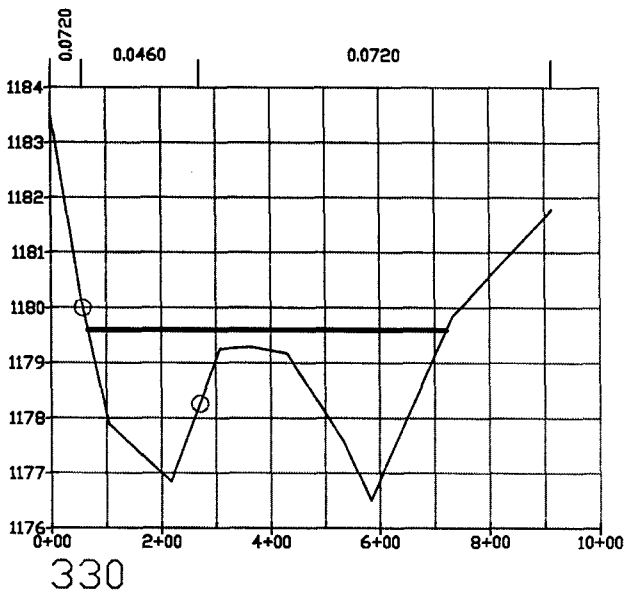
Cross-Section:	320	
Elevation:	1166.94	ft MSL
Depth:	4.92	ft
Discharge:	2910.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3613	
Flow Regime:	Subcritical	
Flow Area:	640.13	sq ft
Average Velocity:	4.56	ft/s
Maximum Velocity:	4.56	ft/s
Composite n:	0.046	
Hydraulic Radius:	2.16	ft
Wetted Perimeter:	296.67	ft
Wetted Top Width:	295.54	ft
Critical Slope:	0.0541	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32E–320

Entellus™

File: T2N-R7W-S32E-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

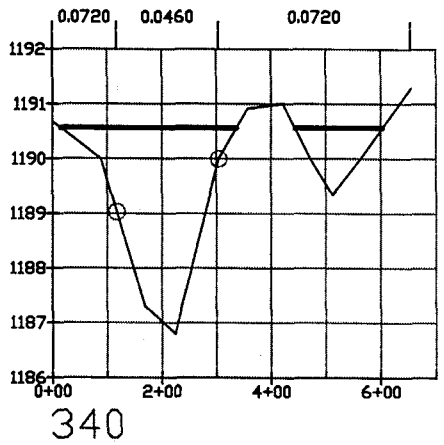
Cross-Section:	330	
Elevation:	1179.60	ft MSL
Depth:	3.09	ft
Discharge:	2750.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.2946	
Flow Regime:	Subcritical	
Flow Area:	936.09	sq ft
Average Velocity:	2.92	ft/s
Maximum Velocity:	4.22	ft/s
Composite n:	0.0644	
Hydraulic Radius:	1.43	ft
Wetted Perimeter:	656.05	ft
Wetted Top Width:	655.92	ft
Critical Slope:	0.1158	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32E–330

Entellus™

File: T2N-R7W-S32E-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

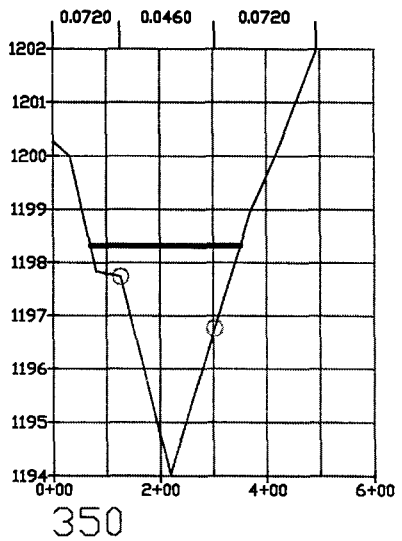
Cross-Section:	340	
Elevation:	1190.57	ft MSL
Depth:	3.77	ft
Discharge:	2750.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3813	
Flow Regime:	Subcritical	
Flow Area:	654.96	sq ft
Average Velocity:	4.21	ft/s
Maximum Velocity:	5.20	ft/s
Composite n:	0.0625	
Hydraulic Radius:	1.36	ft
Wetted Perimeter:	481.73	ft
Wetted Top Width:	481.59	ft
Critical Slope:	0.1418	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32E–340

Entellus™

File: T2N-R7W-S32E-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

Cross-Section:	350	
Elevation:	1198.32	ft MSL
Depth:	4.29	ft
Discharge:	2560.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.4069	
Flow Regime:	Subcritical	
Flow Area:	535.34	sq ft
Average Velocity:	4.78	ft/s
Maximum Velocity:	5.25	ft/s
Composite n:	0.0563	
Hydraulic Radius:	1.9	ft
Wetted Perimeter:	281.20	ft
Wetted Top Width:	281.04	ft
Critical Slope:	0.0836	ft/ft

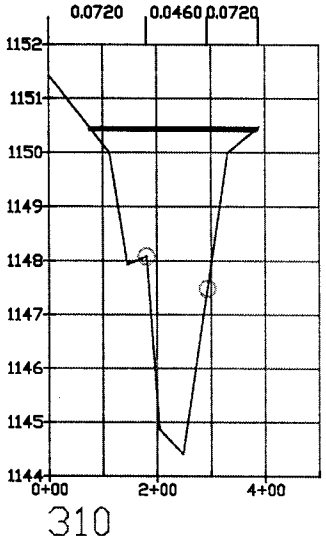
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32E–350

Entellus™

File: T2N-k7W-S32E-New-Mapping.dwg Date: 12/06/02

T2N-R7W-S32N



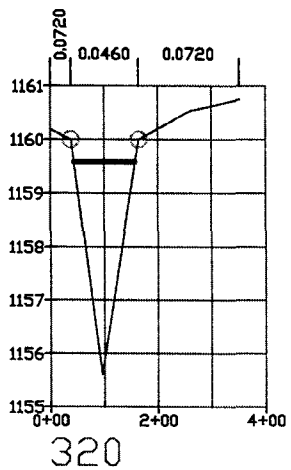
Normal Depth Results

Cross-Section:	310	
Elevation:	1150.44	ft MSL
Depth:	6.03	ft
Discharge:	4780.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.4447	
Flow Regime:	Subcritical	
Flow Area:	771.56	sq ft
Average Velocity:	6.19	ft/s
Maximum Velocity:	7.85	ft/s
Composite n:	0.063	
Hydraulic Radius:	2.51	ft
Wetted Perimeter:	307.33	ft
Wetted Top Width:	306.85	ft
Critical Slope:	0.1017	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32N–310

Entellus™



Normal Depth Results

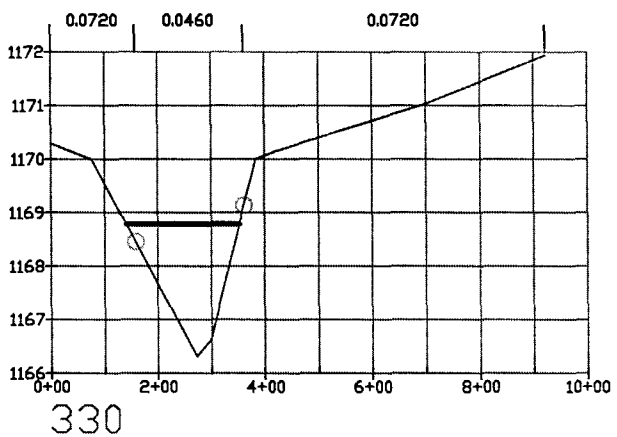
Cross-Section:	320	
Elevation:	1159.59	ft MSL
Depth:	3.98	ft
Discharge:	980.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3816	
Flow Regime:	Subcritical	
Flow Area:	227.07	sq ft
Average Velocity:	4.31	ft/s
Maximum Velocity:	4.31	ft/s
Composite n:	0.046	
Hydraulic Radius:	1.98	ft
Wetted Perimeter:	114.52	ft
Wetted Top Width:	114.24	ft
Critical Slope:	0.0489	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32N–320

Entellus™

File: T2N-R7W-S32N-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

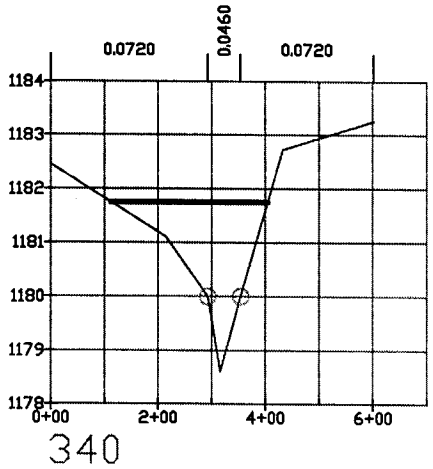
Cross-Section:	330	
Elevation:	1168.79	ft MSL
Depth:	2.48	ft
Discharge:	980.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3883	
Flow Regime:	Subcritical	
Flow Area:	282.72	sq ft
Average Velocity:	3.45	ft/s
Maximum Velocity:	3.47	ft/s
Composite n:	0.0483	
Hydraulic Radius:	1.33	ft
Wetted Perimeter:	212.19	ft
Wetted Top Width:	212.12	ft
Critical Slope:	0.0572	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32N–330

Entellus™

File: T2N-K7W-S32N-New-Mapping.dwg, Date: 10/18/02



Normal Depth Results

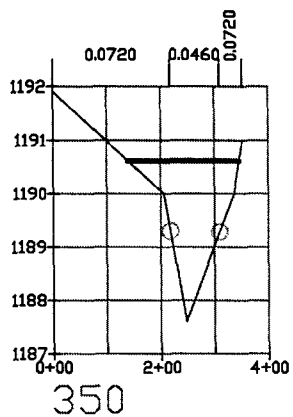
Cross-Section:	340	
Elevation:	1181.75	ft MSL
Depth:	3.14	ft
Discharge:	980.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3047	
Flow Regime:	Subcritical	
Flow Area:	320.00	sq ft
Average Velocity:	3.08	ft/s
Maximum Velocity:	4.95	ft/s
Composite n:	0.0669	
Hydraulic Radius:	1.1	ft
Wetted Perimeter:	292.18	ft
Wetted Top Width:	292.07	ft
Critical Slope:	0.1808	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32N–340

Entellus™

File: T2N-R7W-S32N-New-Mapping.dwg; Date: 10/18/02



Normal Depth Results

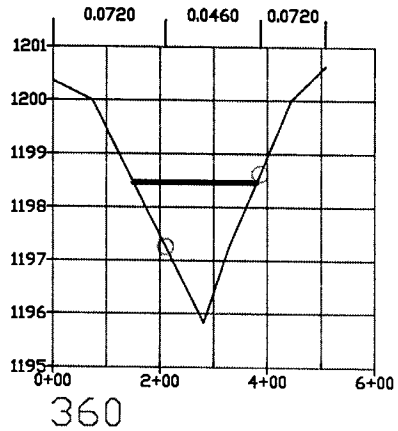
Cross-Section:	350	
Elevation:	1190.62	ft MSL
Depth:	3.01	ft
Discharge:	980.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3819	
Flow Regime:	Subcritical	
Flow Area:	260.79	sq ft
Average Velocity:	3.78	ft/s
Maximum Velocity:	4.57	ft/s
Composite n:	0.0611	
Hydraulic Radius:	1.26	ft
Wetted Perimeter:	207.22	ft
Wetted Top Width:	207.09	ft
Critical Slope:	0.1199	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32N–350

Entellus™

File: T2N-R7W-S32N-New-Mapping.dwg, Date: 10/18/02



Normal Depth Results

Cross-Section:	360	
Elevation:	1198.46	ft MSL
Depth:	2.63	ft
Discharge:	980.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3614	
Flow Regime:	Subcritical	
Flow Area:	294.54	sq ft
Average Velocity:	3.32	ft/s
Maximum Velocity:	3.61	ft/s
Composite n:	0.0534	
Hydraulic Radius:	1.28	ft
Wetted Perimeter:	229.65	ft
Wetted Top Width:	229.59	ft
Critical Slope:	0.0781	ft/ft

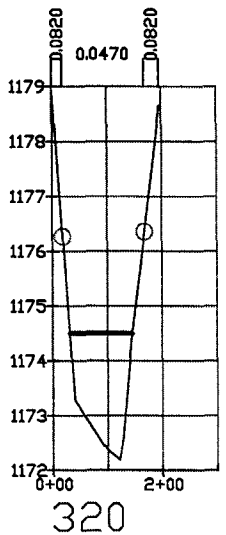
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32N–360

Entellus™

File: T2N-K7W-S32N-New-Mapping.dwg Date: 10/18/02

T2N-R7W-S32S



Normal Depth Results

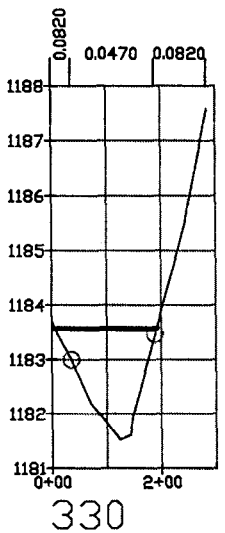
Cross-Section:	320	
Elevation:	1174.51	ft MSL
Depth:	2.32	ft
Discharge:	780.00	cfs
Energy Gradient:	0.0094	ft/ft
Froude Number:	0.4885	
Flow Regime:	Subcritical	
Flow Area:	184.90	sq ft
Average Velocity:	4.24	ft/s
Maximum Velocity:	4.24	ft/s
Composite n:	0.047	
Hydraulic Radius:	1.62	ft
Wetted Perimeter:	113.95	ft
Wetted Top Width:	113.74	ft
Critical Slope:	0.0389	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32S–320

Entellus™

File: T2N-R7W-S32S.dwg Date: 11/04/02



Normal Depth Results

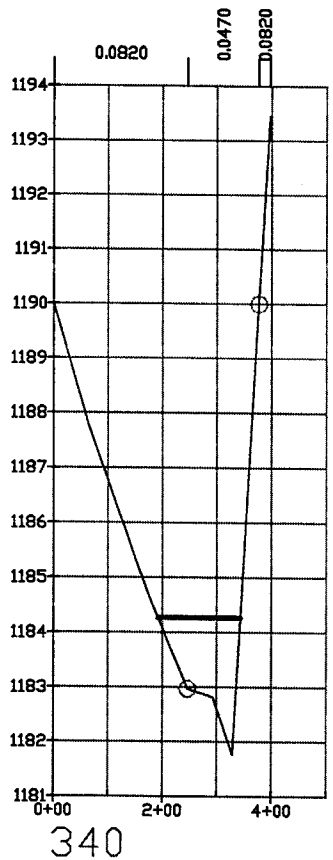
Cross-Section:	330	
Elevation:	1183.57	ft MSL
Depth:	2.04	ft
Discharge:	780.00	cfs
Energy Gradient:	0.0094	ft/ft
Froude Number:	0.4464	
Flow Regime:	Subcritical	
Flow Area:	215.68	sq ft
Average Velocity:	3.63	ft/s
Maximum Velocity:	3.76	ft/s
Composite n:	0.054	
Hydraulic Radius:	1.16	ft
Wetted Perimeter:	186.11	ft
Wetted Top Width:	186.05	ft
Critical Slope:	0.0709	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32S–330

Entellus™

File: T2N-R7W-S32S.dwg Date: 11/04/02



Normal Depth Results

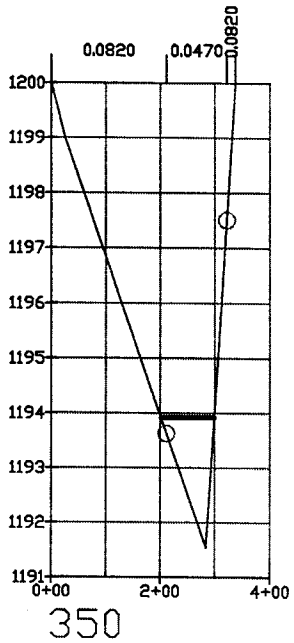
Cross-Section:	340	
Elevation:	1184.27	ft MSL
Depth:	2.51	ft
Discharge:	680.00	cfs
Energy Gradient:	0.0094	ft/ft
Froude Number:	0.4021	
Flow Regime:	Subcritical	
Flow Area:	188.26	sq ft
Average Velocity:	3.63	ft/s
Maximum Velocity:	4.16	ft/s
Composite n:	0.0606	
Hydraulic Radius:	1.24	ft
Wetted Perimeter:	151.58	ft
Wetted Top Width:	151.34	ft
Critical Slope:	0.1002	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32S–340

Entellus™

File: T2N-R7W-S32S-New-Mapping.dwg Date: 11/04/02



Normal Depth Results

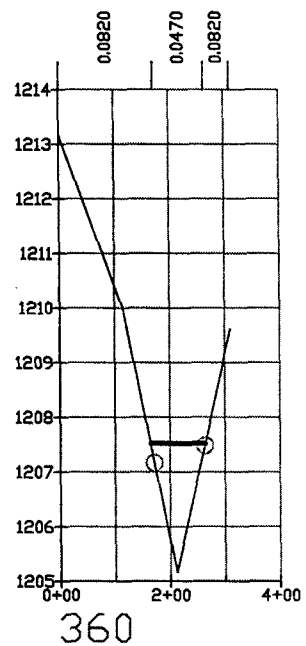
Cross-Section:	350	
Elevation:	1193.92	ft MSL
Depth:	2.37	ft
Discharge:	420.00	cfs
Energy Gradient:	0.0094	ft/ft
Froude Number:	0.4143	
Flow Regime:	Subcritical	
Flow Area:	116.02	sq ft
Average Velocity:	3.63	ft/s
Maximum Velocity:	3.67	ft/s
Composite n:	0.0511	
Hydraulic Radius:	1.18	ft
Wetted Perimeter:	97.98	ft
Wetted Top Width:	97.76	ft
Critical Slope:	0.0718	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32S–350

Entellus™

File: T2N-R7W-S32S-New-Mapping.dwg Date: 11/04/02



Normal Depth Results

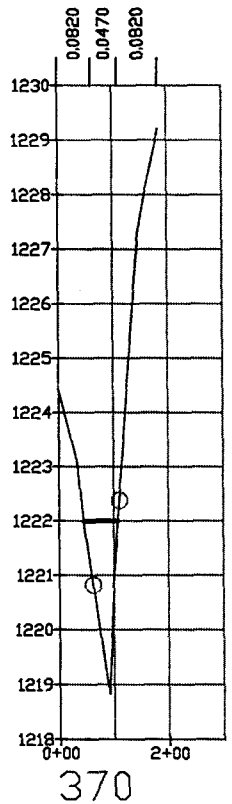
Cross-Section:	360	
Elevation:	1207.53	ft MSL
Depth:	2.36	ft
Discharge:	420.00	cfs
Energy Gradient:	0.0094	ft/ft
Froude Number:	0.4101	
Flow Regime:	Subcritical	
Flow Area:	117.56	sq ft
Average Velocity:	3.57	ft/s
Maximum Velocity:	3.60	ft/s
Composite n:	0.0502	
Hydraulic Radius:	1.18	ft
Wetted Perimeter:	99.78	ft
Wetted Top Width:	99.67	ft
Critical Slope:	0.0693	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32S–360

Entellus™

File: T2N-R7W-S32S-New-Mapping.dwg Date: 11/04/02



Normal Depth Results

Cross-Section:	370	
Elevation:	1222.00	ft MSL
Depth:	3.17	ft
Discharge:	420.00	cfs
Energy Gradient:	0.0094	ft/ft
Froude Number:	0.428	
Flow Regime:	Subcritical	
Flow Area:	97.19	sq ft
Average Velocity:	4.33	ft/s
Maximum Velocity:	4.69	ft/s
Composite n:	0.0573	
Hydraulic Radius:	1.54	ft
Wetted Perimeter:	63.05	ft
Wetted Top Width:	62.62	ft
Critical Slope:	0.0848	ft/ft

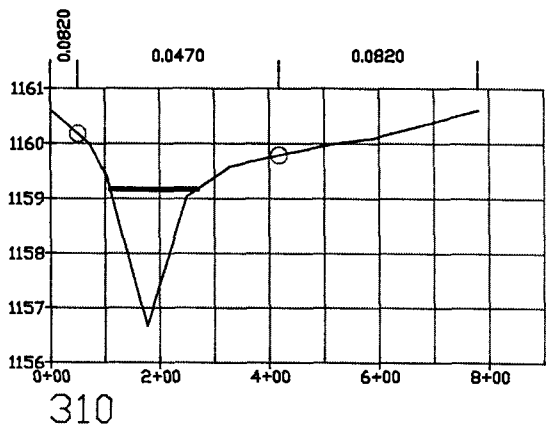
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32S–370

Entellus™

File: T2N-R7W-S32S.dwg Date: 11/04/02

T2N-R7W-S32W



Normal Depth Results

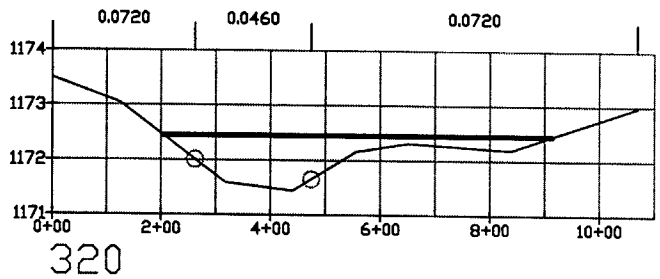
Cross-Section:	310	
Elevation:	1159.17	ft MSL
Depth:	2.50	ft
Discharge:	560.00	cfs
Energy Gradient:	0.008	ft/ft
Froude Number:	0.3427	
Flow Regime:	Subcritical	
Flow Area:	182.10	sq ft
Average Velocity:	3.09	ft/s
Maximum Velocity:	3.09	ft/s
Composite n:	0.047	
Hydraulic Radius:	1.14	ft
Wetted Perimeter:	159.89	ft
Wetted Top Width:	159.81	ft
Critical Slope:	0.0673	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32W–310

Entellus™

File: T2N-R7W-S32W-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

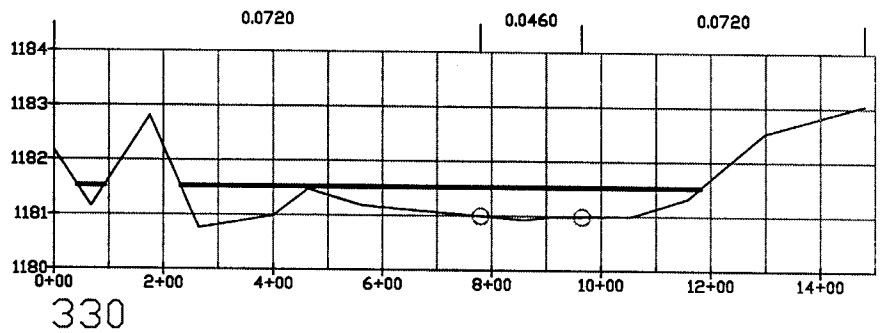
Cross-Section:	320	
Elevation:	1172.45	ft MSL
Depth:	1.01	ft
Discharge:	560.00	cfs
Energy Gradient:	0.008	ft/ft
Froude Number:	0.3208	
Flow Regime:	Subcritical	
Flow Area:	306.27	sq ft
Average Velocity:	1.84	ft/s
Maximum Velocity:	2.61	ft/s
Composite n:	0.0648	
Hydraulic Radius:	0.43	ft
Wetted Perimeter:	710.02	ft
Wetted Top Width:	710.01	ft
Critical Slope:	0.1886	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32W–320

Entellus™

File: T2N-R7W-S32W-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

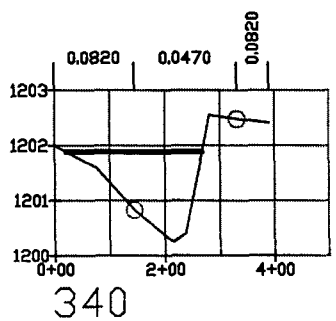
Cross-Section:	330	
Elevation:	1181.53	ft MSL
Depth:	0.77	ft
Discharge:	560.00	cfs
Energy Gradient:	0.008	ft/ft
Froude Number:	0.2584	
Flow Regime:	Subcritical	
Flow Area:	435.62	sq ft
Average Velocity:	1.32	ft/s
Maximum Velocity:	1.79	ft/s
Composite n:	0.0637	
Hydraulic Radius:	0.44	ft
Wetted Perimeter:	999.67	ft
Wetted Top Width:	999.66	ft
Critical Slope:	0.1369	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32W–330

Entellus™

File: T2N-R7W-S32W-New-Mapping.dwg Date: 12/06/02



Normal Depth Results

Cross-Section:	340	
Elevation:	1201.89	ft MSL
Depth:	1.64	ft
Discharge:	560.00	cfs
Energy Gradient:	0.008	ft/ft
Froude Number:	0.3714	
Flow Regime:	Subcritical	
Flow Area:	207.70	sq ft
Average Velocity:	2.66	ft/s
Maximum Velocity:	3.28	ft/s
Composite n:	0.0657	
Hydraulic Radius:	0.84	ft
Wetted Perimeter:	246.61	ft
Wetted Top Width:	246.57	ft
Critical Slope:	0.1288	ft/ft

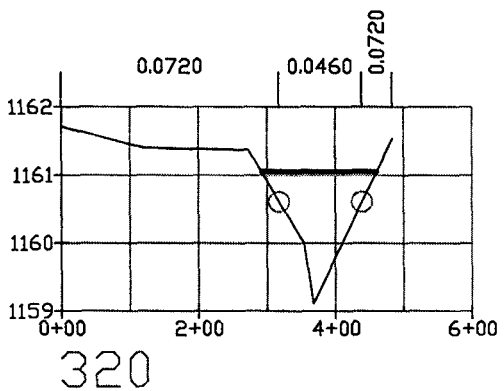
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S32W–340

Entellus™

File: T2N-R7W-S32W-New-Mapping.dwg Date: 12/03/02

T2N-R7W-S33N



Normal Depth Results

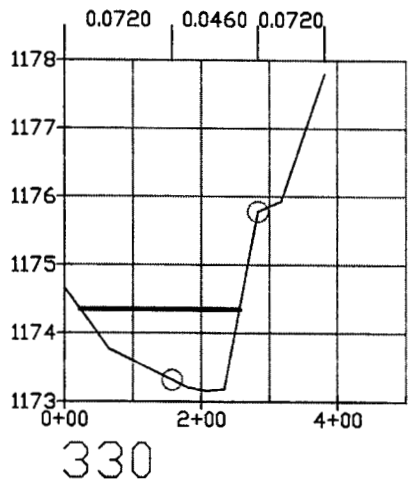
Cross-Section:	320	
Elevation:	1161.05	ft MSL
Depth:	1.94	ft
Discharge:	450.00	cfs
Energy Gradient:	0.0094	ft/ft
Froude Number:	0.397	
Flow Regime:	Subcritical	
Flow Area:	143.36	sq ft
Average Velocity:	3.14	ft/s
Maximum Velocity:	3.34	ft/s
Composite n:	0.0539	
Hydraulic Radius:	0.85	ft
Wetted Perimeter:	168.88	ft
Wetted Top Width:	168.82	ft
Critical Slope:	0.1019	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S33N–320

Entellus™

File: T2N-R7W-S33N-New-Mapping.dwg Date: 11/04/02



Normal Depth Results

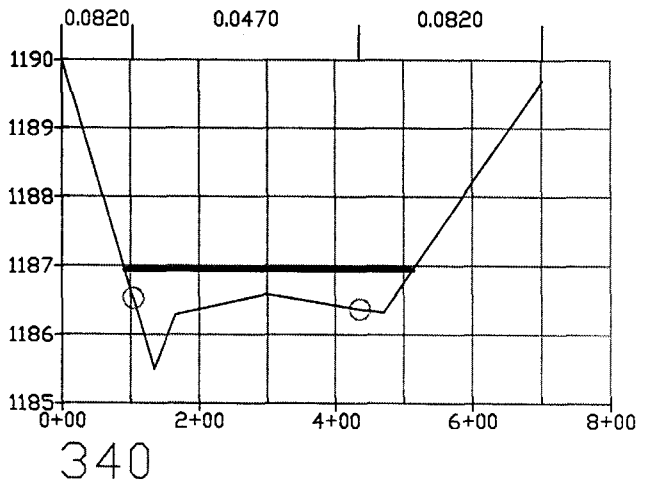
Cross-Section:	330	
Elevation:	1174.35	ft MSL
Depth:	1.19	ft
Discharge:	450.00	cfs
Energy Gradient:	0.0094	ft/ft
Froude Number:	0.3908	
Flow Regime:	Subcritical	
Flow Area:	186.37	sq ft
Average Velocity:	2.40	ft/s
Maximum Velocity:	3.17	ft/s
Composite n:	0.0616	
Hydraulic Radius:	0.8	ft
Wetted Perimeter:	232.90	ft
Wetted Top Width:	232.86	ft
Critical Slope:	0.088	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S33N–330

Entellus™

File: T2N-R7W-S33N-New-Mapping.dwg Date: 11/04/02



Normal Depth Results

Cross-Section:	340	
Elevation:	1186.94	ft MSL
Depth:	1.44	ft
Discharge:	450.00	cfs
Energy Gradient:	0.0094	ft/ft
Froude Number:	0.2888	
Flow Regime:	Subcritical	
Flow Area:	228.49	sq ft
Average Velocity:	1.95	ft/s
Maximum Velocity:	2.13	ft/s
Composite n:	0.0553	
Hydraulic Radius:	0.54	ft
Wetted Perimeter:	421.85	ft
Wetted Top Width:	421.81	ft
Critical Slope:	0.1455	ft/ft

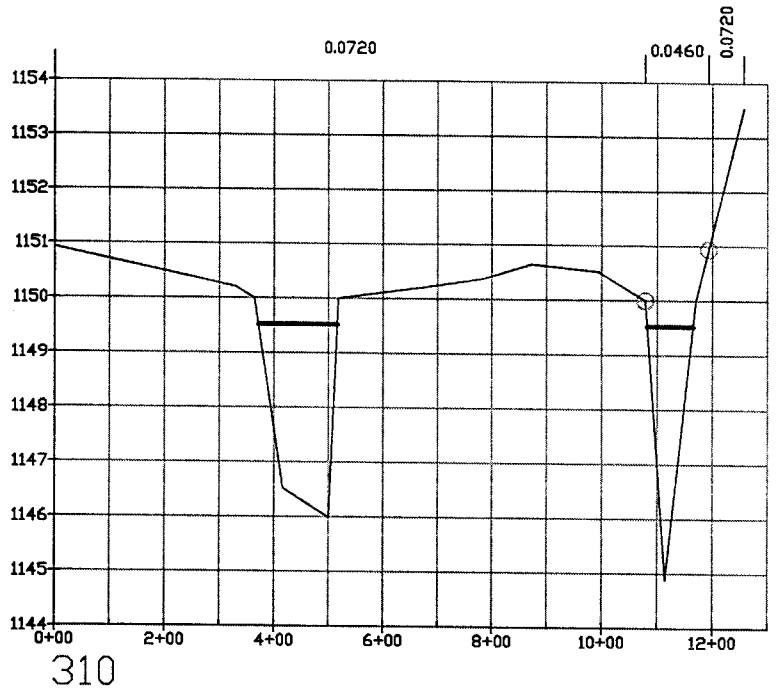
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S33N–340

Entellus™

File: T2N-R7W-S33N-New-Mapping.dwg Date: 11/04/02

T2N-R7W-S33S



Normal Depth Results

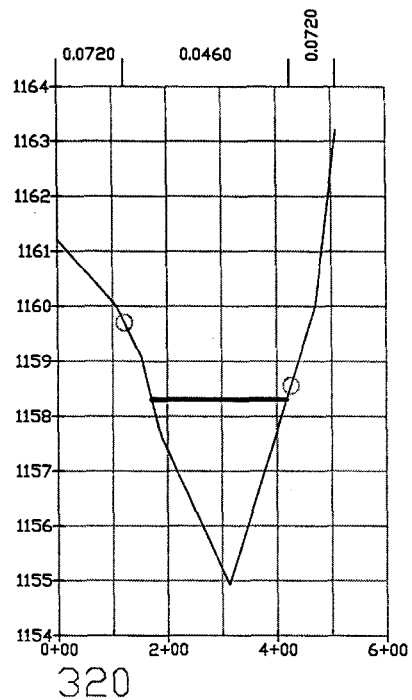
Cross-Section:	310	
Elevation:	1149.53	ft MSL
Depth:	4.64	ft
Discharge:	2450.00	cfs
Energy Gradient:	0.0094	ft/ft
Froude Number:	0.3562	
Flow Regime:	Subcritical	
Flow Area:	563.10	sq ft
Average Velocity:	4.34	ft/s
Maximum Velocity:	5.48	ft/s
Composite n:	0.0631	
Hydraulic Radius:	2.46	ft
Wetted Perimeter:	228.90	ft
Wetted Top Width:	227.87	ft
Critical Slope:	0.0806	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S33S–310

Entellus™

File: T2N-R7W-S33S-New-Mapping.dwg Date: 11/05/02



Normal Depth Results

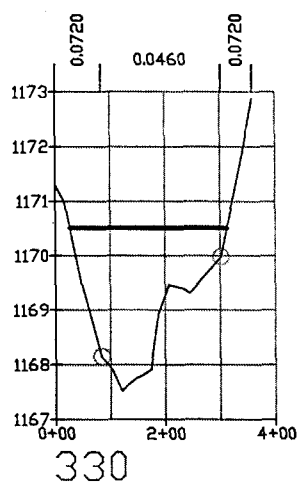
Cross-Section:	320	
Elevation:	1158.31	ft MSL
Depth:	3.38	ft
Discharge:	2000.00	cfs
Energy Gradient:	0.0094	ft/ft
Froude Number:	0.4408	
Flow Regime:	Subcritical	
Flow Area:	435.35	sq ft
Average Velocity:	4.59	ft/s
Maximum Velocity:	4.59	ft/s
Composite n:	0.046	
Hydraulic Radius:	1.77	ft
Wetted Perimeter:	246.62	ft
Wetted Top Width:	246.52	ft
Critical Slope:	0.0485	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S33S–320

Entellus™

File: T2N-R7W-S33S-New-Mapping.dwg Date: 11/05/02



Normal Depth Results

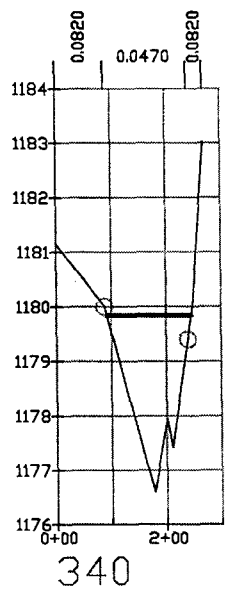
Cross-Section:	330	
Elevation:	1170.51	ft MSL
Depth:	2.99	ft
Discharge:	1960.00	cfs
Energy Gradient:	0.0094	ft/ft
Froude Number:	0.4297	
Flow Regime:	Subcritical	
Flow Area:	464.88	sq ft
Average Velocity:	4.24	ft/s
Maximum Velocity:	4.63	ft/s
Composite n:	0.0528	
Hydraulic Radius:	1.62	ft
Wetted Perimeter:	286.63	ft
Wetted Top Width:	286.51	ft
Critical Slope:	0.0634	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S33S–330

Entellus™

File: T2N-R7W-S33S.dwg Date: 11/05/02



Normal Depth Results

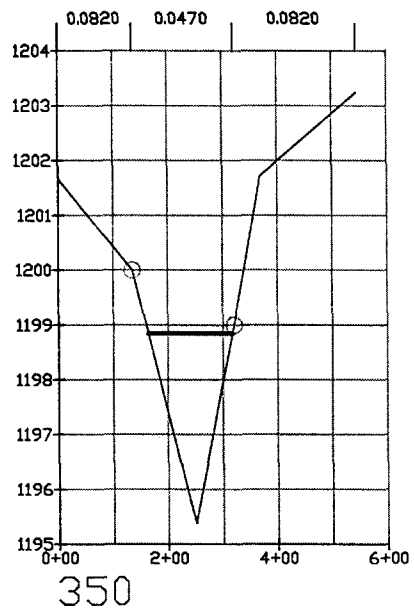
Cross-Section:	340	
Elevation:	1179.84	ft MSL
Depth:	3.24	ft
Discharge:	1180.00	cfs
Energy Gradient:	0.0094	ft/ft
Froude Number:	0.4399	
Flow Regime:	Subcritical	
Flow Area:	262.58	sq ft
Average Velocity:	4.48	ft/s
Maximum Velocity:	4.50	ft/s
Composite n:	0.0487	
Hydraulic Radius:	1.71	ft
Wetted Perimeter:	153.96	ft
Wetted Top Width:	153.76	ft
Critical Slope:	0.0547	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S33S–340

Entellus™

File: T2N-R7W-S33S-New-Mapping.dwg Date: 11/05/02



Normal Depth Results

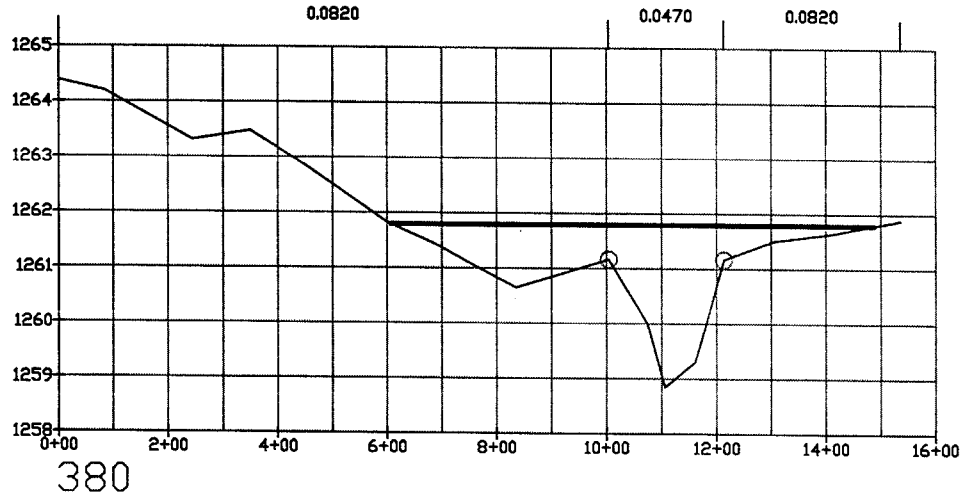
Cross-Section:	350	
Elevation:	1198.85	ft MSL
Depth:	3.47	ft
Discharge:	1180.00	cfs
Energy Gradient:	0.0094	ft/ft
Froude Number:	0.4195	
Flow Regime:	Subcritical	
Flow Area:	266.28	sq ft
Average Velocity:	4.43	ft/s
Maximum Velocity:	4.43	ft/s
Composite n:	0.047	
Hydraulic Radius:	1.73	ft
Wetted Perimeter:	153.73	ft
Wetted Top Width:	153.57	ft
Critical Slope:	0.0533	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S33S–350

Entellus™

File: T2N-R7W-S33-New-Mapping.dwg Date: 11/05/02



Normal Depth Results

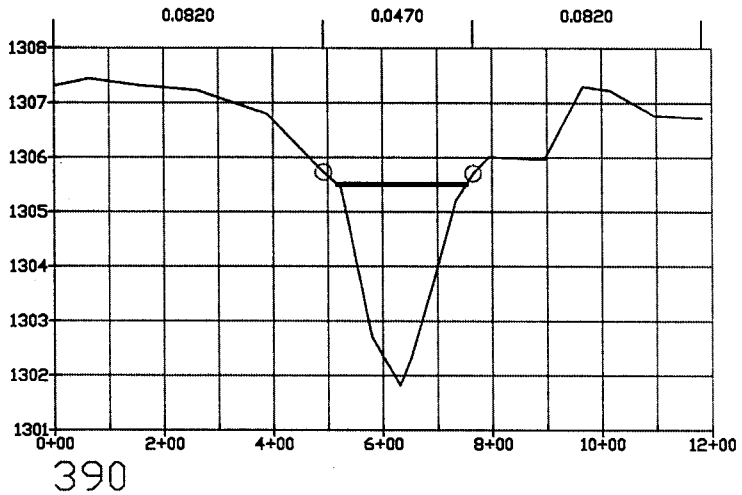
Cross-Section:	380	
Elevation:	1261.80	ft MSL
Depth:	2.95	ft
Discharge:	1180.00	cfs
Energy Gradient:	0.0026	ft/ft
Froude Number:	0.1644	
Flow Regime:	Subcritical	
Flow Area:	737.14	sq ft
Average Velocity:	1.61	ft/s
Maximum Velocity:	2.45	ft/s
Composite n:	0.0744	
Hydraulic Radius:	0.84	ft
Wetted Perimeter:	880.22	ft
Wetted Top Width:	880.15	ft
Critical Slope:	0.2998	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S33S–380

Entellus™

File: T2N-R7W-S33S-New-Mapping.dwg Date: 12/06/02



Normal Depth Results

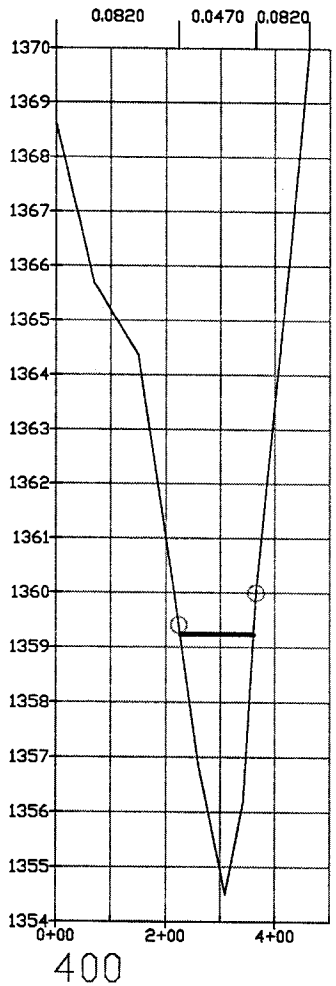
Cross-Section:	390	
Elevation:	1305.51	ft MSL
Depth:	3.69	ft
Discharge:	1180.00	cfs
Energy Gradient:	0.0026	ft/ft
Froude Number:	0.2336	
Flow Regime:	Subcritical	
Flow Area:	463.52	sq ft
Average Velocity:	2.54	ft/s
Maximum Velocity:	2.54	ft/s
Composite n:	0.047	
Hydraulic Radius:	1.97	ft
Wetted Perimeter:	235.16	ft
Wetted Top Width:	235.02	ft
Critical Slope:	0.0477	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S33S–390

Entellus™

File: T2N-R7W-S33S-New-Mapping.dwg Date: 12/06/02



Normal Depth Results

Cross-Section:	400	
Elevation:	1359.24	ft MSL
Depth:	4.74	ft
Discharge:	1180.00	cfs
Energy Gradient:	0.0026	ft/ft
Froude Number:	0.2576	
Flow Regime:	Subcritical	
Flow Area:	370.97	sq ft
Average Velocity:	3.18	ft/s
Maximum Velocity:	3.18	ft/s
Composite n:	0.047	
Hydraulic Radius:	2.76	ft
Wetted Perimeter:	134.65	ft
Wetted Top Width:	134.22	ft
Critical Slope:	0.0392	ft/ft

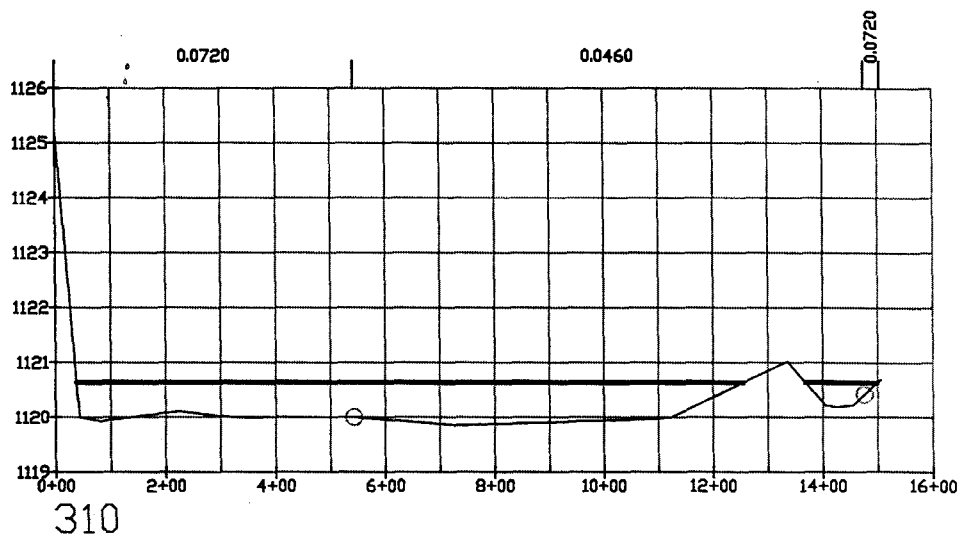
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S33S–400

Entellus™

File: T2N-R7W-S33-New-Mapping.dwg Date: 11/05/02

T2N-R7W-S34E



Normal Depth Results

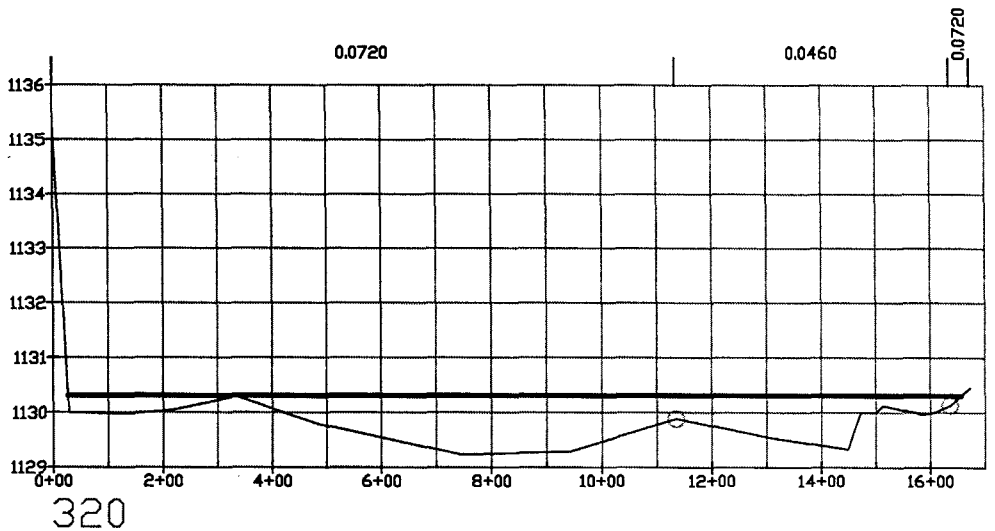
Cross-Section:	310	
Elevation:	1120.64	ft MSL
Depth:	0.79	ft
Discharge:	1370.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3368	
Flow Regime:	Subcritical	
Flow Area:	808.81	sq ft
Average Velocity:	1.68	ft/s
Maximum Velocity:	1.95	ft/s
Composite n:	0.0569	
Hydraulic Radius:	0.6	ft
Wetted Perimeter:	1347.86	ft
Wetted Top Width:	1347.81	ft
Critical Slope:	0.0728	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S34E–310

Entellus™

File: T2N-R7W-S34E-New-Mapping.dwg Date: 12/06/02



Normal Depth Results

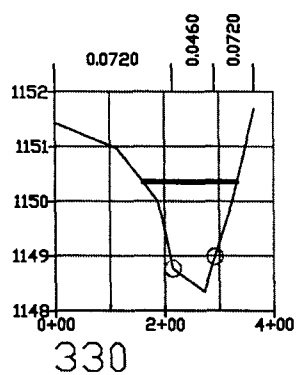
Cross-Section:	320	
Elevation:	1130.31	ft MSL
Depth:	1.08	ft
Discharge:	1370.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.2418	
Flow Regime:	Subcritical	
Flow Area:	960.32	sq ft
Average Velocity:	1.44	ft/s
Maximum Velocity:	1.88	ft/s
Composite n:	0.0645	
Hydraulic Radius:	0.59	ft
Wetted Perimeter:	1629.59	ft
Wetted Top Width:	1629.55	ft
Critical Slope:	0.1323	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S34E–320

Entellus™

File: T2N-R7W-S34E-New-Mapping.dwg Date: 12/06/02



Normal Depth Results

Cross-Section:	330	
Elevation:	1150.35	ft MSL
Depth:	2.00	ft
Discharge:	620.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3923	
Flow Regime:	Subcritical	
Flow Area:	196.88	sq ft
Average Velocity:	3.16	ft/s
Maximum Velocity:	3.98	ft/s
Composite n:	0.061	
Hydraulic Radius:	1.14	ft
Wetted Perimeter:	172.67	ft
Wetted Top Width:	172.61	ft
Critical Slope:	0.0907	ft/ft

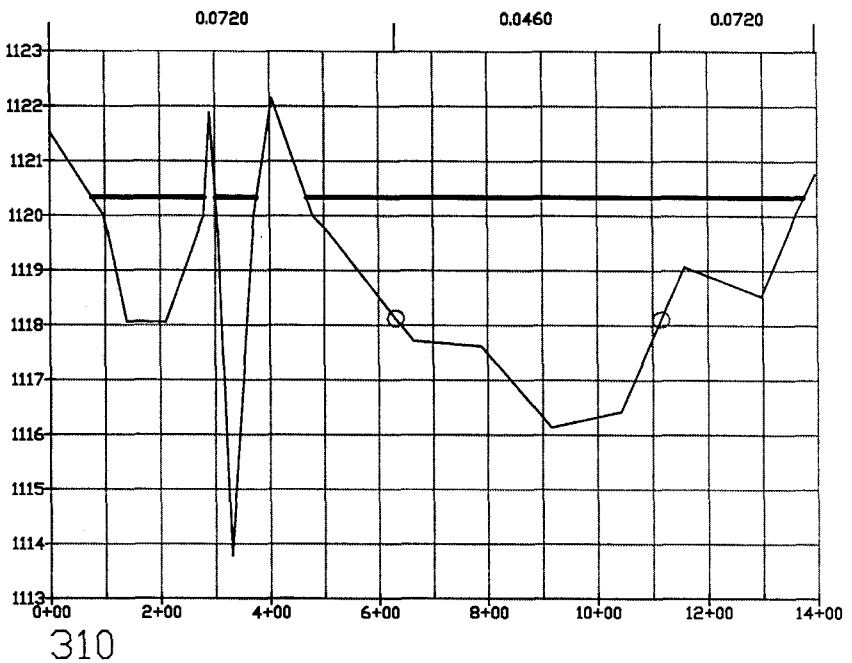
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S34E–330

Entellus™

File: T2N-R7W-S34E-New-Mapping.dwg Date: 12/03/02

T2N-R7W-S34N



Normal Depth Results

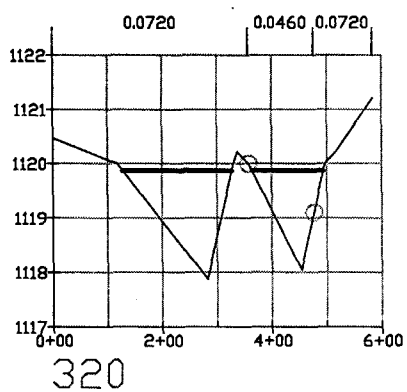
Cross-Section:	310	
Elevation:	1120.34	ft MSL
Depth:	6.55	ft
Discharge:	10970.00	cfs
Energy Gradient:	0.0058	ft/ft
Froude Number:	0.2822	
Flow Regime:	Subcritical	
Flow Area:	2677.80	sq ft
Average Velocity:	4.09	ft/s
Maximum Velocity:	5.44	ft/s
Composite n:	0.062	
Hydraulic Radius:	2.25	ft
Wetted Perimeter:	1188.43	ft
Wetted Top Width:	1187.01	ft
Critical Slope:	0.1237	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S34N–310

Entellus™

File: T2N-R7W-S34N-New-Mapping.dwg Date: 11/27/02



Normal Depth Results

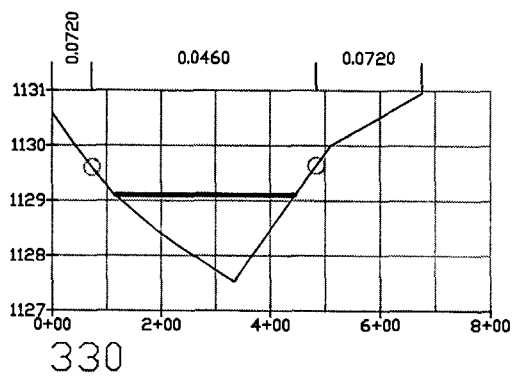
Cross-Section:	320	
Elevation:	1119.87	ft MSL
Depth:	1.99	ft
Discharge:	590.00	cfs
Energy Gradient:	0.0058	ft/ft
Froude Number:	0.2315	
Flow Regime:	Subcritical	
Flow Area:	318.10	sq ft
Average Velocity:	1.87	ft/s
Maximum Velocity:	2.45	ft/s
Composite n:	0.0637	
Hydraulic Radius:	0.96	ft
Wetted Perimeter:	330.32	ft
Wetted Top Width:	330.21	ft
Critical Slope:	0.1234	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S34N–320

Entellus™

File: T2N-R7W-S34N-New-Mapping.dwg Date: 11/05/02



Normal Depth Results

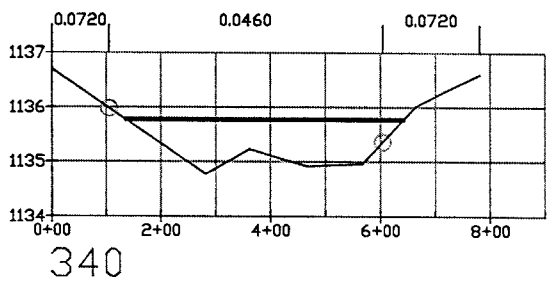
Cross-Section:	330	
Elevation:	1129.10	ft MSL
Depth:	1.57	ft
Discharge:	590.00	cfs
Energy Gradient:	0.0058	ft/ft
Froude Number:	0.3075	
Flow Regime:	Subcritical	
Flow Area:	269.48	sq ft
Average Velocity:	2.16	ft/s
Maximum Velocity:	2.16	ft/s
Composite n:	0.046	
Hydraulic Radius:	0.82	ft
Wetted Perimeter:	329.20	ft
Wetted Top Width:	329.18	ft
Critical Slope:	0.063	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S34N–330

Entellus™

File: T2N-R7W-S34N-New-Mapping.dwg Date: 11/05/02



Normal Depth Results

Cross-Section:	340	
Elevation:	1135.77	ft MSL
Depth:	1.00	ft
Discharge:	590.00	cfs
Energy Gradient:	0.0058	ft/ft
Froude Number:	0.324	
Flow Regime:	Subcritical	
Flow Area:	320.99	sq ft
Average Velocity:	1.85	ft/s
Maximum Velocity:	1.89	ft/s
Composite n:	0.0481	
Hydraulic Radius:	0.63	ft
Wetted Perimeter:	505.89	ft
Wetted Top Width:	505.88	ft
Critical Slope:	0.0616	ft/ft

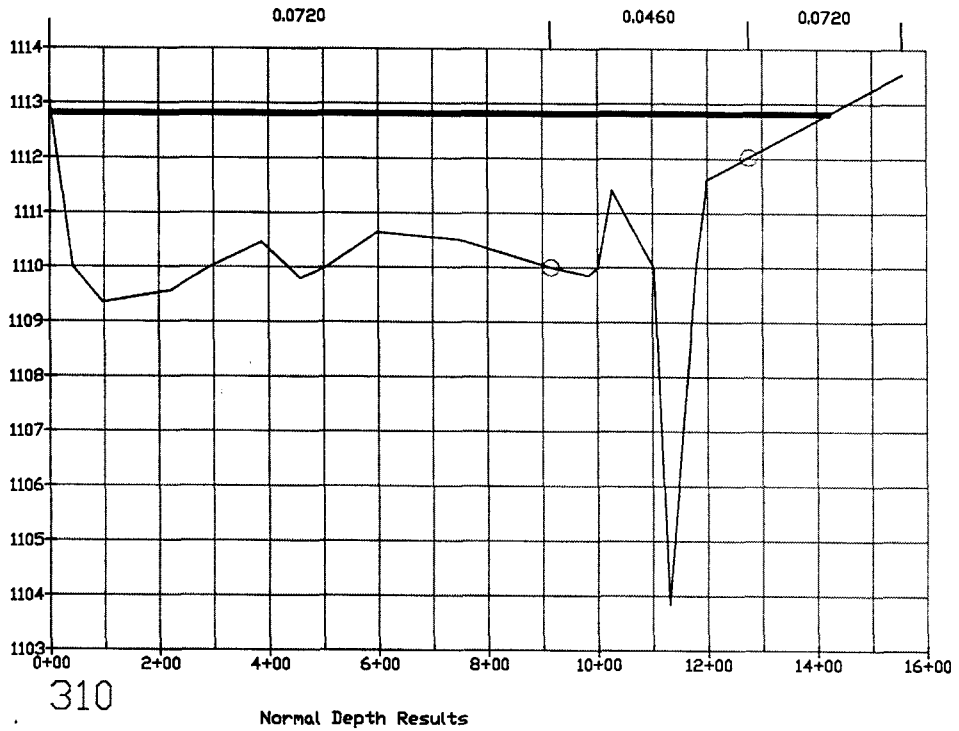
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S34N–340

Entellus™

File: T2N-R7W-S34N-New-Mapping.dwg Date: 11/05/02

T2N-R7W-S34S



Normal Depth Results

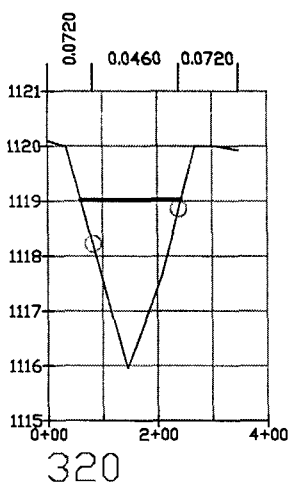
Cross-Section:	310	
Elevation:	1112.81	ft MSL
Depth:	8.96	ft
Discharge:	12990.00	cfs
Energy Gradient:	0.0062	ft/ft
Froude Number:	0.2174	
Flow Regime:	Subcritical	
Flow Area:	3517.17	sq ft
Average Velocity:	3.68	ft/s
Maximum Velocity:	5.13	ft/s
Composite n:	0.0658	
Hydraulic Radius:	2.48	ft
Wetted Perimeter:	1419.37	ft
Wetted Top Width:	1418.07	ft
Critical Slope:	0.1681	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S34S–310

Entellus™

File: T2N-R7W-S34S-New-Mapping.dwg Date: 11/27/02



Normal Depth Results

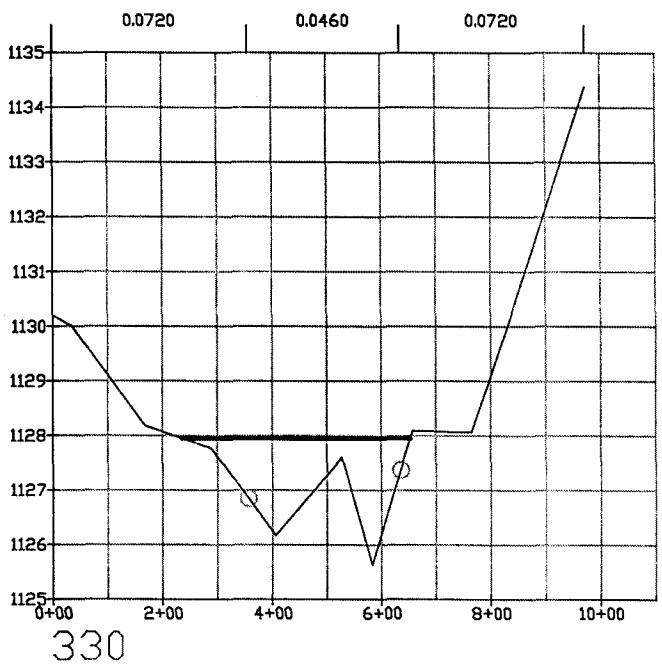
Cross-Section:	320	
Elevation:	1119.02	ft MSL
Depth:	3.07	ft
Discharge:	1090.00	cfs
Energy Gradient:	0.0062	ft/ft
Froude Number:	0.3713	
Flow Regime:	Subcritical	
Flow Area:	295.22	sq ft
Average Velocity:	3.71	ft/s
Maximum Velocity:	3.80	ft/s
Composite n:	0.05	
Hydraulic Radius:	1.61	ft
Wetted Perimeter:	183.17	ft
Wetted Top Width:	183.06	ft
Critical Slope:	0.059	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S34S–320

Entellus™

File: T2N-R7W-S34S-New-Mapping.dwg Date: 11/05/02



Normal Depth Results

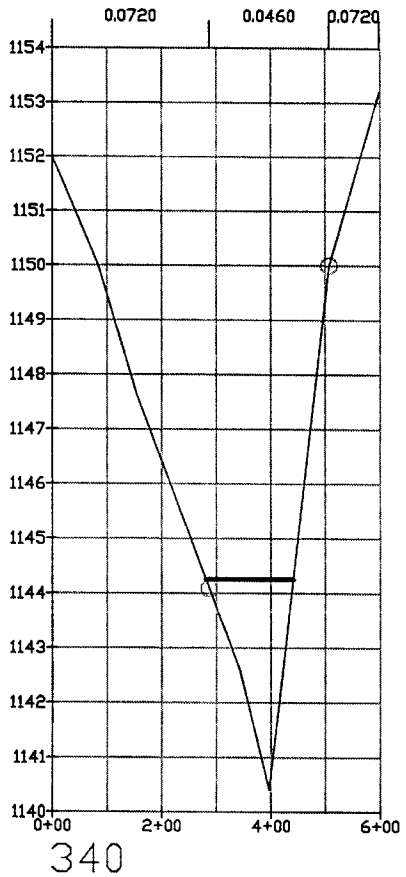
Cross-Section:	330	
Elevation:	1127.95	ft MSL
Depth:	2.32	ft
Discharge:	1090.00	cfs
Energy Gradient:	0.0062	ft/ft
Froude Number:	0.3116	
Flow Regime:	Subcritical	
Flow Area:	404.63	sq ft
Average Velocity:	2.70	ft/s
Maximum Velocity:	2.97	ft/s
Composite n:	0.0553	
Hydraulic Radius:	0.97	ft
Wetted Perimeter:	417.75	ft
Wetted Top Width:	417.66	ft
Critical Slope:	0.1074	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S34S–330

Entellus™

File: T2N-R7W-S34S-New-Mapping.dwg Date: 11/05/02



Normal Depth Results

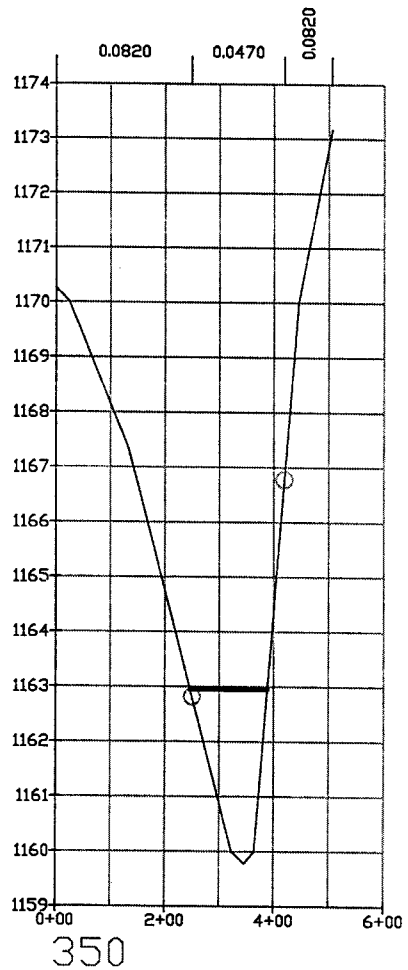
Cross-Section:	340	
Elevation:	1144.26	ft MSL
Depth:	3.85	ft
Discharge:	1090.00	cfs
Energy Gradient:	0.0062	ft/ft
Froude Number:	0.3438	
Flow Regime:	Subcritical	
Flow Area:	284.88	sq ft
Average Velocity:	3.83	ft/s
Maximum Velocity:	3.84	ft/s
Composite n:	0.0471	
Hydraulic Radius:	1.78	ft
Wetted Perimeter:	160.43	ft
Wetted Top Width:	160.20	ft
Critical Slope:	0.0576	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S34S–340

Entellus™

File: T2N-R7W-S34S-New-Mapping.dwg Date: 11/05/02



Normal Depth Results

Cross-Section:	350	
Elevation:	1162.95	ft MSL
Depth:	3.17	ft
Discharge:	1090.00	cfs
Energy Gradient:	0.0062	ft/ft
Froude Number:	0.3903	
Flow Regime:	Subcritical	
Flow Area:	276.30	sq ft
Average Velocity:	3.95	ft/s
Maximum Velocity:	3.95	ft/s
Composite n:	0.0479	
Hydraulic Radius:	1.94	ft
Wetted Perimeter:	142.18	ft
Wetted Top Width:	141.93	ft
Critical Slope:	0.0436	ft/ft

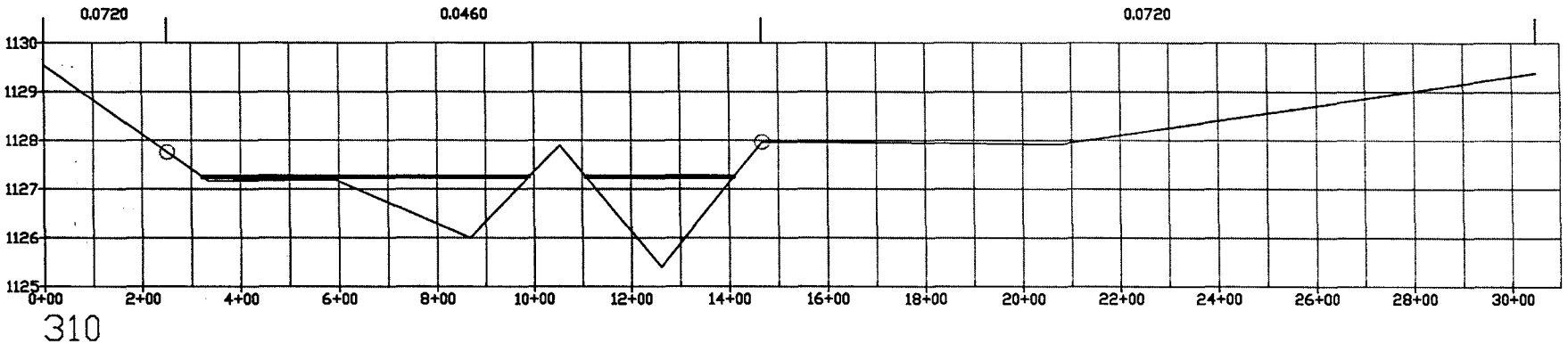
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S34S–350

Entellus™

File: T2N-R7W-S34S-New-Mapping.dwg Date: 11/05/02

T2N-R7W-S34W



Normal Depth Results

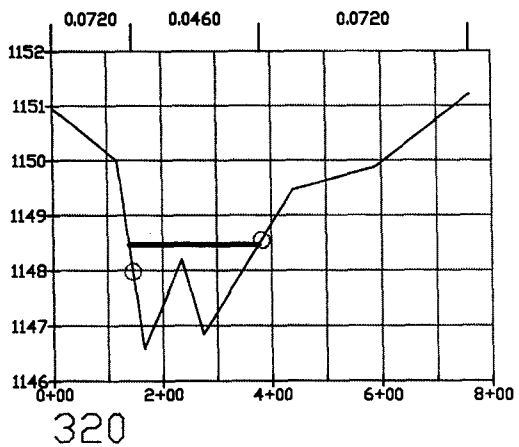
Cross-Section:	310	
Elevation:	1127.25	ft MSL
Depth:	1.85	ft
Discharge:	1040.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.2425	
Flow Regime:	Subcritical	
Flow Area:	555.73	sq ft
Average Velocity:	1.88	ft/s
Maximum Velocity:	1.88	ft/s
Composite n:	0.046	
Hydraulic Radius:	0.57	ft
Wetted Perimeter:	969.24	ft
Wetted Top Width:	969.21	ft
Critical Slope:	0.1191	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S34W–310

Entellus™

File: T2N-R7W-S34W-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

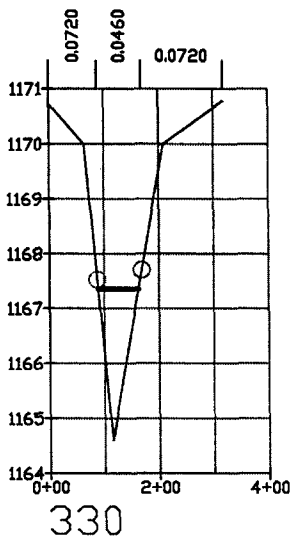
Cross-Section:	320	
Elevation:	1148.47	ft MSL
Depth:	1.89	ft
Discharge:	570.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3332	
Flow Regime:	Subcritical	
Flow Area:	219.47	sq ft
Average Velocity:	2.61	ft/s
Maximum Velocity:	2.63	ft/s
Composite n:	0.0468	
Hydraulic Radius:	0.92	ft
Wetted Perimeter:	237.33	ft
Wetted Top Width:	237.21	ft
Critical Slope:	0.0666	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S34W–320

Entellus™

File: T2N-R7W-S34W-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

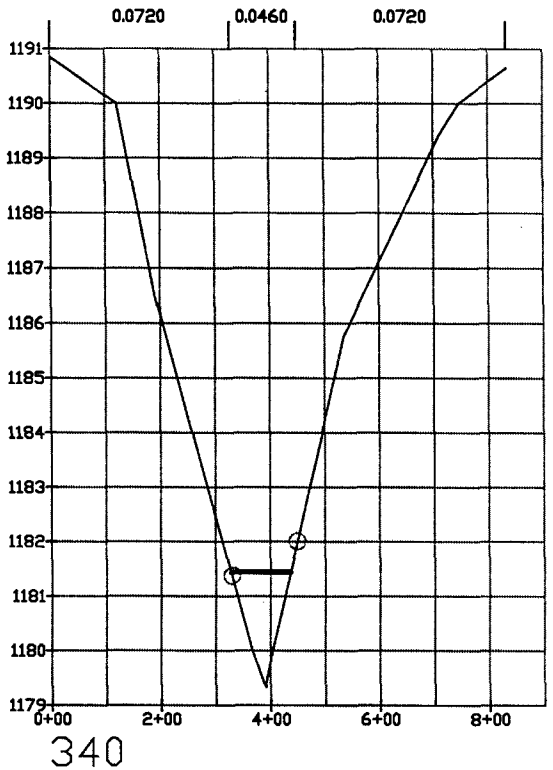
Cross-Section:	330	
Elevation:	1167.36	ft MSL
Depth:	2.75	ft
Discharge:	340.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.3575	
Flow Regime:	Subcritical	
Flow Area:	101.16	sq ft
Average Velocity:	3.37	ft/s
Maximum Velocity:	3.37	ft/s
Composite n:	0.046	
Hydraulic Radius:	1.37	ft
Wetted Perimeter:	73.89	ft
Wetted Top Width:	73.67	ft
Critical Slope:	0.0554	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S34W–330

Entellus™

File: T2N-R7W-S34W-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

Cross-Section:	340	
Elevation:	1181.45	ft MSL
Depth:	2.11	ft
Discharge:	340.00	cfs
Energy Gradient:	0.0071	ft/ft
Froude Number:	0.351	
Flow Regime:	Subcritical	
Flow Area:	117.66	sq ft
Average Velocity:	2.90	ft/s
Maximum Velocity:	2.90	ft/s
Composite n:	0.0464	
Hydraulic Radius:	1.08	ft
Wetted Perimeter:	109.20	ft
Wetted Top Width:	109.11	ft
Critical Slope:	0.0596	ft/ft

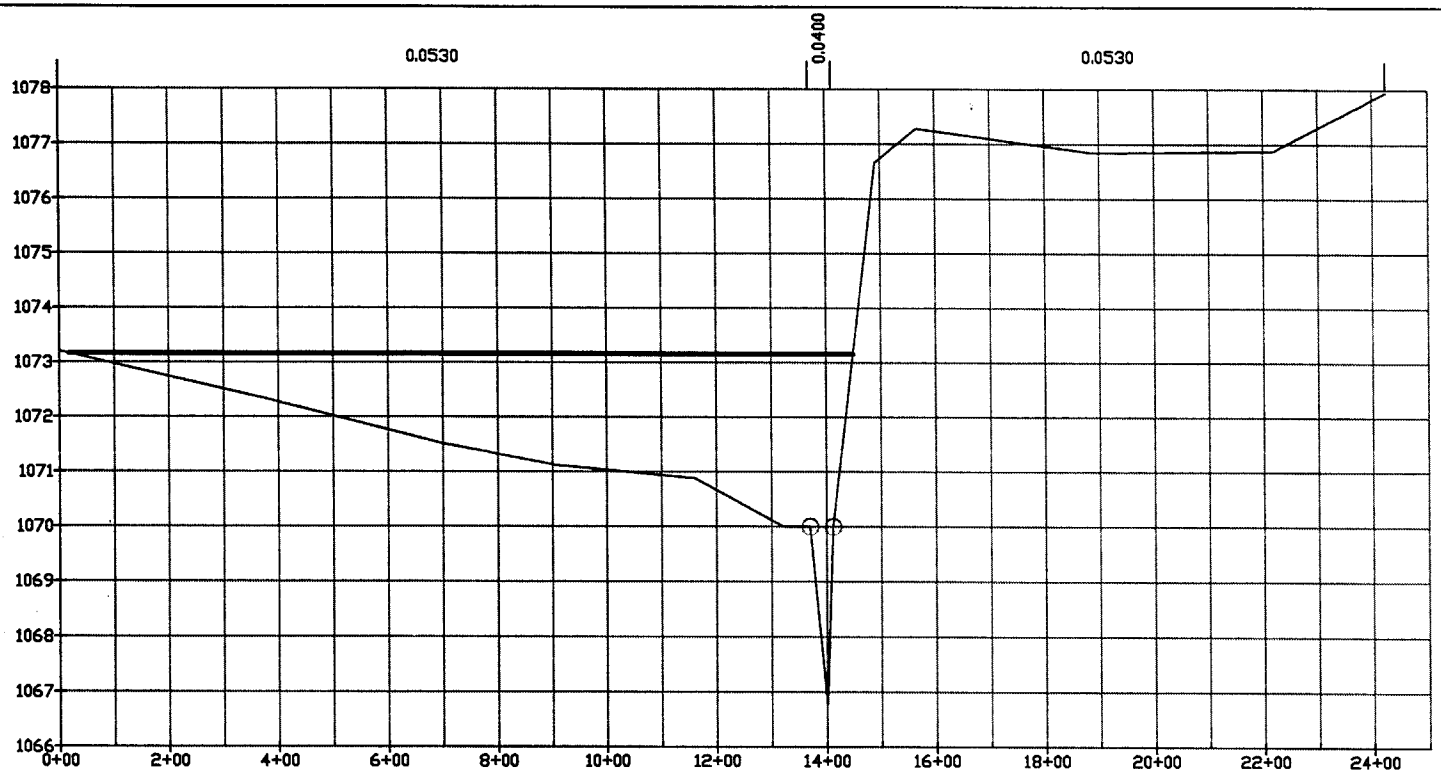
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S34W–340

Entellus™

File: T2N-R7W-S34W-New-Mapping.dwg Date: 12/03/02

T2N-R7W-S36E



310

Normal Depth Results

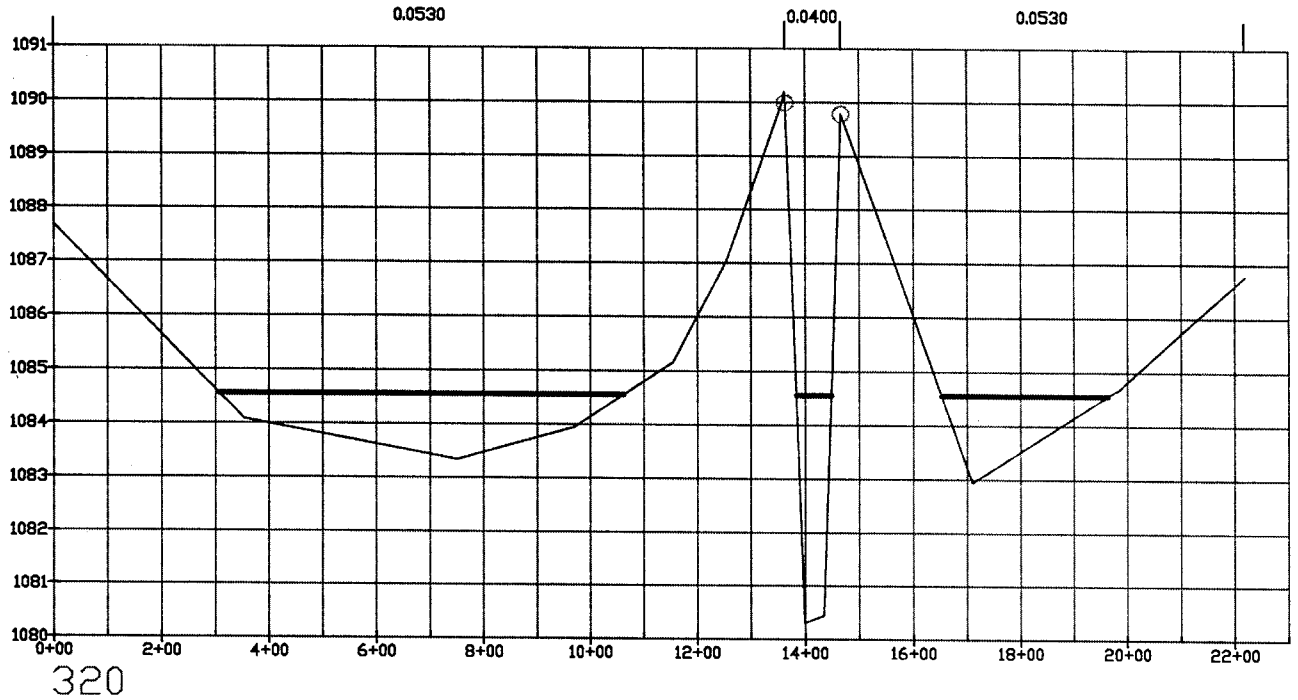
Cross-Section:	310	
Elevation:	1073.16	ft MSL
Depth:	6.38	ft
Discharge:	6750.00	cfs
Energy Gradient:	0.0045	ft/ft
Froude Number:	0.2018	
Flow Regime:	Subcritical	
Flow Area:	2333.59	sq ft
Average Velocity:	2.90	ft/s
Maximum Velocity:	7.02	ft/s
Composite n:	0.0526	
Hydraulic Radius:	1.63	ft
Wetted Perimeter:	1432.87	ft
Wetted Top Width:	1432.11	ft
Critical Slope:	0.1337	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S36E–310

Entellus™

File: T2N-R7W-S36E-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

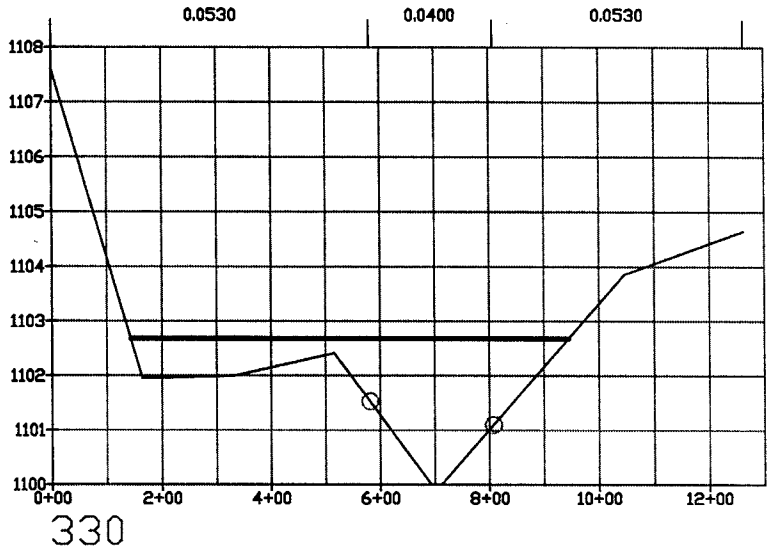
Cross-Section:	320	
Elevation:	1084.56	ft MSL
Depth:	4.25	ft
Discharge:	2450.00	cfs
Energy Gradient:	0.0045	ft/ft
Froude Number:	0.2017	
Flow Regime:	Subcritical	
Flow Area:	1038.65	sq ft
Average Velocity:	2.36	ft/s
Maximum Velocity:	5.39	ft/s
Composite n:	0.0522	
Hydraulic Radius:	0.92	ft
Wetted Perimeter:	1133.78	ft
Wetted Top Width:	1132.59	ft
Critical Slope:	0.1893	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S36E–320

Entellus™

File: T2N-R7W-S36E-New-Mapping.dwg Date: 12/03/02



Normal Depth Results

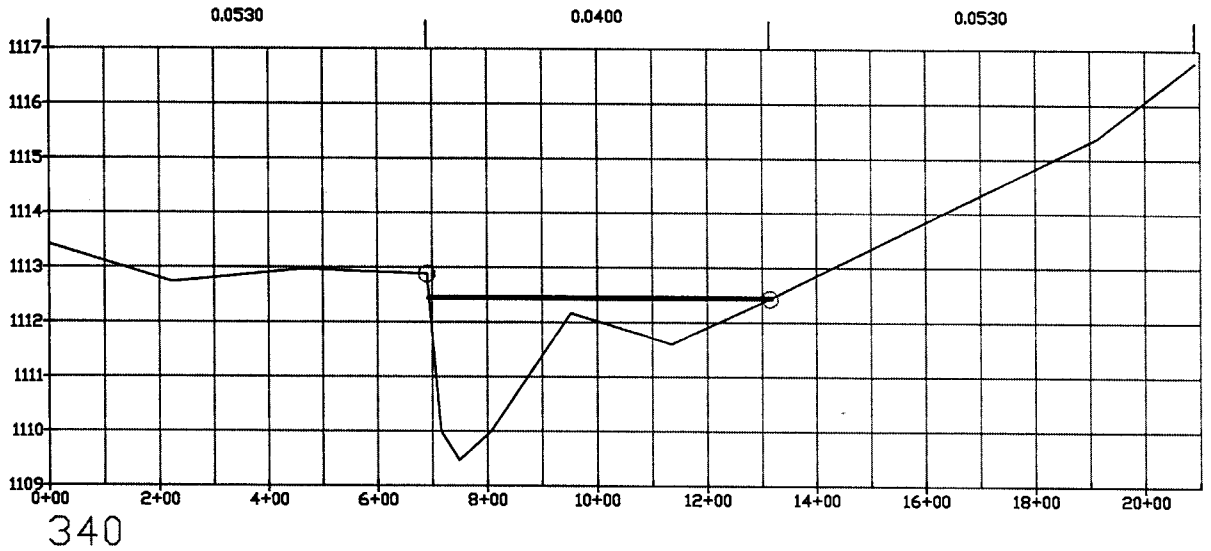
Cross-Section:	330	
Elevation:	1102.69	ft MSL
Depth:	2.69	ft
Discharge:	2450.00	cfs
Energy Gradient:	0.0045	ft/ft
Froude Number:	0.3141	
Flow Regime:	Subcritical	
Flow Area:	838.97	sq ft
Average Velocity:	2.90	ft/s
Maximum Velocity:	4.06	ft/s
Composite n:	0.0495	
Hydraulic Radius:	1.05	ft
Wetted Perimeter:	801.38	ft
Wetted Top Width:	801.33	ft
Critical Slope:	0.0897	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S36E–330

Entellus™

File: T2N-R7W-S36E-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

Cross-Section:	340	
Elevation:	1112.44	ft MSL
Depth:	2.97	ft
Discharge:	2100.00	cfs
Energy Gradient:	0.0072	ft/ft
Froude Number:	0.3319	
Flow Regime:	Subcritical	
Flow Area:	646.97	sq ft
Average Velocity:	3.25	ft/s
Maximum Velocity:	3.25	ft/s
Composite n:	0.04	
Hydraulic Radius:	1.04	ft
Wetted Perimeter:	622.86	ft
Wetted Top Width:	622.70	ft
Critical Slope:	0.0657	ft/ft

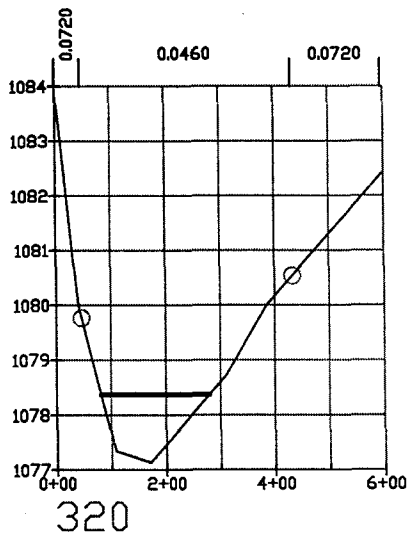
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S36E–340

Entellus™

File: T2N-R7W-S36E-New-Mapping.dwg Date: 12/02/02

T2N-R7W-S36W



Normal Depth Results

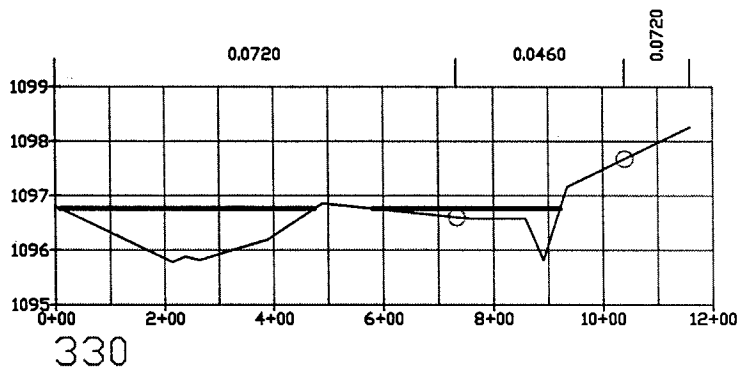
Cross-Section:	320	
Elevation:	1078.37	ft MSL
Depth:	1.24	ft
Discharge:	280.00	cfs
Energy Gradient:	0.0045	ft/ft
Froude Number:	0.2901	
Flow Regime:	Subcritical	
Flow Area:	152.81	sq ft
Average Velocity:	1.82	ft/s
Maximum Velocity:	1.82	ft/s
Composite n:	0.046	
Hydraulic Radius:	0.77	ft
Wetted Perimeter:	198.61	ft
Wetted Top Width:	198.58	ft
Critical Slope:	0.0539	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S36W–320

Entellus™

File: T2N-R7W-S36W-New-Mapping.dwg Date: 11/27/02



Normal Depth Results

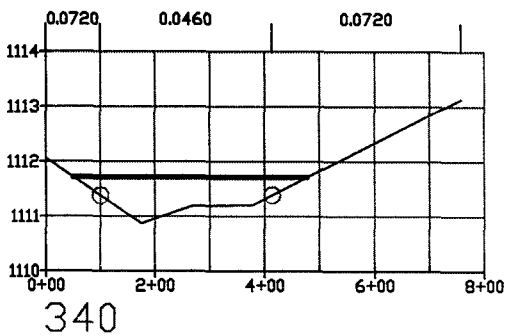
Cross-Section:	330	
Elevation:	1096.76	ft MSL
Depth:	0.98	ft
Discharge:	280.00	cfs
Energy Gradient:	0.0045	ft/ft
Froude Number:	0.1487	
Flow Regime:	Subcritical	
Flow Area:	334.85	sq ft
Average Velocity:	0.84	ft/s
Maximum Velocity:	0.97	ft/s
Composite n:	0.0664	
Hydraulic Radius:	0.41	ft
Wetted Perimeter:	808.08	ft
Wetted Top Width:	808.05	ft
Critical Slope:	0.2033	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S36W–330

Entellus™

File: T2N-R7W-S36W-New-Mapping.dwg Date: 11/08/02



Normal Depth Results

Cross-Section:	340	
Elevation:	1111.72	ft MSL
Depth:	0.85	ft
Discharge:	280.00	cfs
Energy Gradient:	0.0045	ft/ft
Froude Number:	0.2672	
Flow Regime:	Subcritical	
Flow Area:	200.29	sq ft
Average Velocity:	1.40	ft/s
Maximum Velocity:	1.51	ft/s
Composite n:	0.0535	
Hydraulic Radius:	0.47	ft
Wetted Perimeter:	427.88	ft
Wetted Top Width:	427.87	ft
Critical Slope:	0.0971	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T2N–R7W–S36W–340

Entellus™

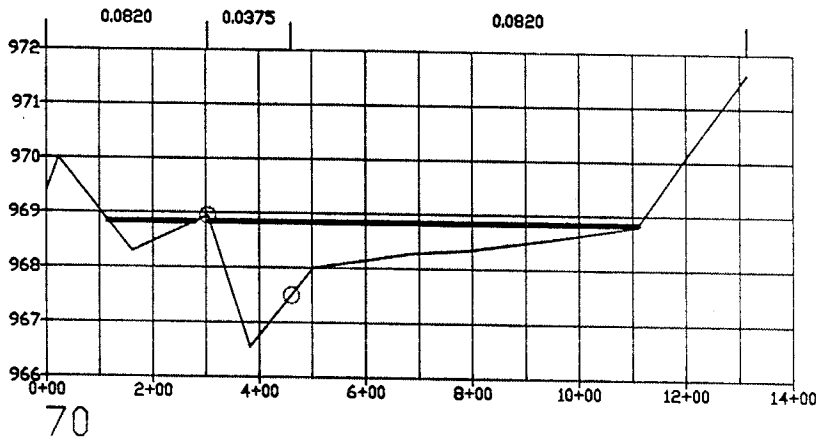
File: T2N-R7W-S36W-New-Mapping.dwg Date: 11/08/02

E.6 Area F – Cross Sections

Area F Washes

T1N-R6W-S30E
T1N-R6W-S30W
T1N-R7W-S17
T1N-R7W-S21E
T1N-R7W-S21W
T1N-R7W-S26E
T1N-R7W-S26W
T1N-R7W-S28E
T1N-R7W-S28W
T1N-R7W-S35
T1N-R7W-S36
T1S-R6W-S05E
T1S-R6W-S05N
T1S-R6W-S05S
T1S-R6W-S05W
T1S-R6W-S08
T1S-R6W-S22W
T1S-R6W-S23
T1S-R6W-S27
T1S-R6W-S28N
T1S-R6W-S29E
T1S-R6W-S29W

T1N-R6W-S30E



Normal Depth Results

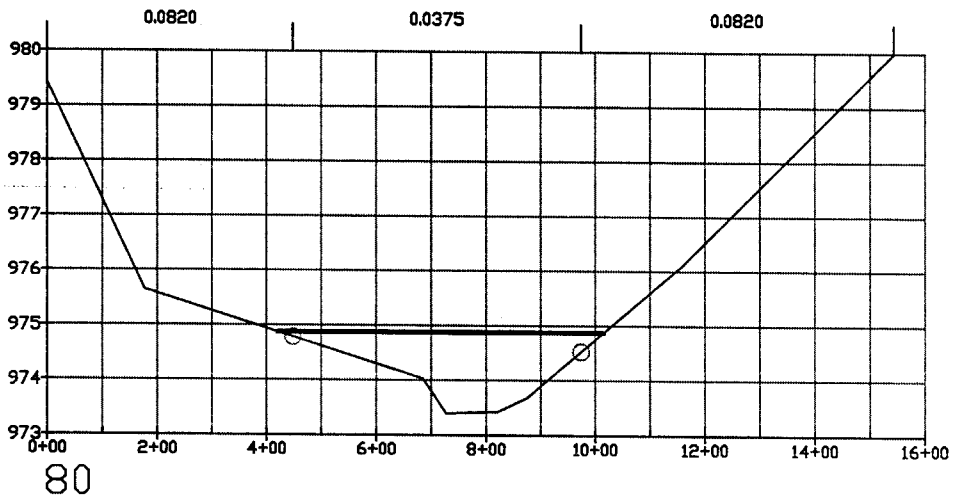
Cross-Section:	70	
Elevation:	968.84	ft MSL
Depth:	2.29	ft
Discharge:	880.00	cfs
Energy Gradient:	0.0031	ft/ft
Froude Number:	0.1731	
Flow Regime:	Subcritical	
Flow Area:	592.10	sq ft
Average Velocity:	1.48	ft/s
Maximum Velocity:	2.88	ft/s
Composite n:	0.0758	
Hydraulic Radius:	0.61	ft
Wetted Perimeter:	967.81	ft
Wetted Top Width:	967.76	ft
Critical Slope:	0.3682	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S30E–70

Entellus™

File: T1N-R6W-S30E-Now-Mapping.dwg; Date: 12/17/02



Normal Depth Results

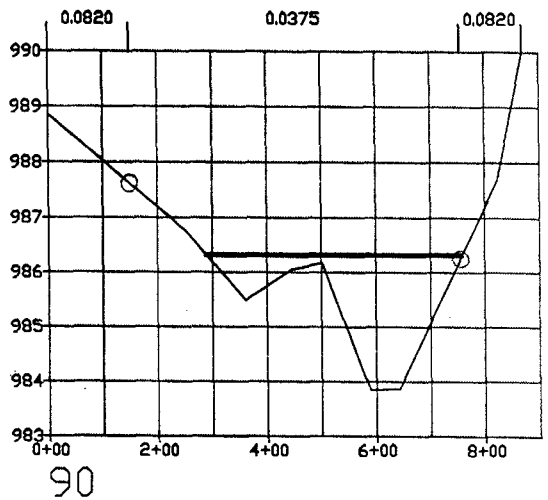
Cross-Section:	80	
Elevation:	974.88	ft MSL
Depth:	1.48	ft
Discharge:	880.00	cfs
Energy Gradient:	0.0031	ft/ft
Froude Number:	0.2818	
Flow Regime:	Subcritical	
Flow Area:	452.80	sq ft
Average Velocity:	1.95	ft/s
Maximum Velocity:	1.98	ft/s
Composite n:	0.0436	
Hydraulic Radius:	0.76	ft
Wetted Perimeter:	594.37	ft
Wetted Top Width:	594.36	ft
Critical Slope:	0.0587	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S30E–80

Entellus™

File: T1N-R6W-S30E-New-Mapping.dwg Date: 12/17/02



Normal Depth Results

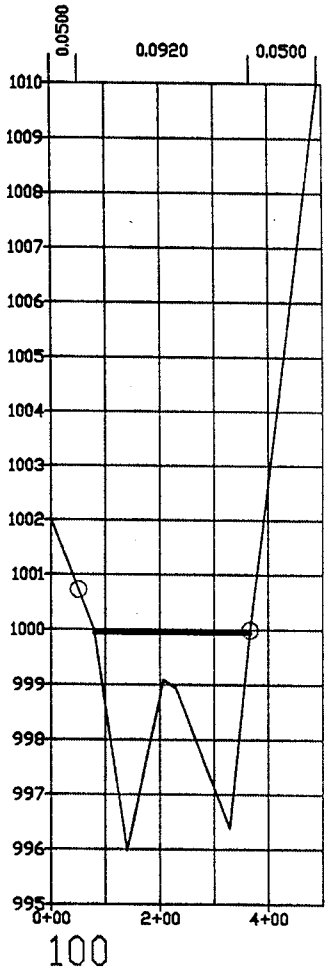
Cross-Section:	90	
Elevation:	986.32	ft MSL
Depth:	2.47	ft
Discharge:	880.00	cfs
Energy Gradient:	0.0031	ft/ft
Froude Number:	0.2074	
Flow Regime:	Subcritical	
Flow Area:	475.81	sq ft
Average Velocity:	1.84	ft/s
Maximum Velocity:	2.13	ft/s
Composite n:	0.0502	
Hydraulic Radius:	1.01	ft
Wetted Perimeter:	469.45	ft
Wetted Top Width:	469.39	ft
Critical Slope:	0.0887	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S30E–90

Entellus™

File: T1N-R6W-S30E-New-Mapping.dwg Date: 12/17/02



Normal Depth Results

Cross-Section:	100	
Elevation:	999.96	ft MSL
Depth:	3.98	ft
Discharge:	880.00	cfs
Energy Gradient:	0.0031	ft/ft
Froude Number:	0.1303	
Flow Regime:	Subcritical	
Flow Area:	596.98	sq ft
Average Velocity:	1.47	ft/s
Maximum Velocity:	1.47	ft/s
Composite n:	0.092	
Hydraulic Radius:	2.08	ft
Wetted Perimeter:	287.21	ft
Wetted Top Width:	286.80	ft
Critical Slope:	0.1838	ft/ft

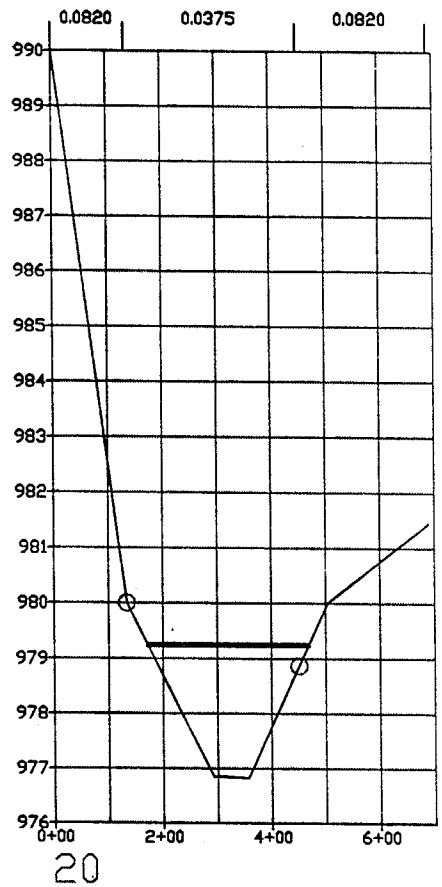
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S30E–100

Entellus™

File: T1N-R6W-S30E-New-Mapping.dwg Date: 12/17/02

T1N-R6W-S30W



Normal Depth Results

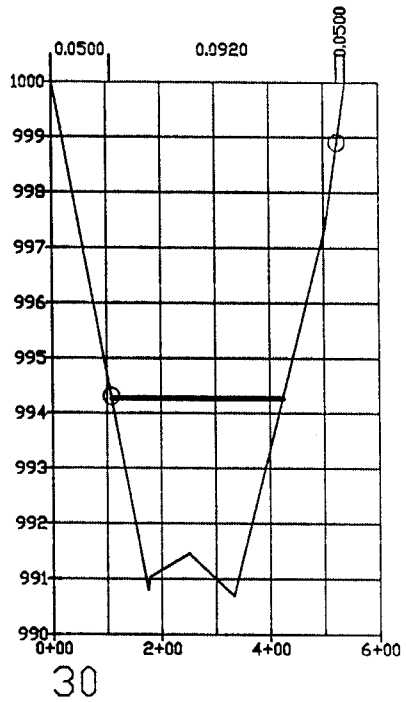
Cross-Section:	20	
Elevation:	979.24	ft MSL
Depth:	2.41	ft
Discharge:	1340.00	cfs
Energy Gradient:	0.0035	ft/ft
Froude Number:	0.3518	
Flow Regime:	Subcritical	
Flow Area:	432.41	sq ft
Average Velocity:	3.11	ft/s
Maximum Velocity:	3.13	ft/s
Composite n:	0.0406	
Hydraulic Radius:	1.46	ft
Wetted Perimeter:	296.07	ft
Wetted Top Width:	296.02	ft
Critical Slope:	0.0349	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S30W–20

Entellus™

File: T1N-R6W-S30W-New-Mapping.dwg Date: 12/17/02



Normal Depth Results

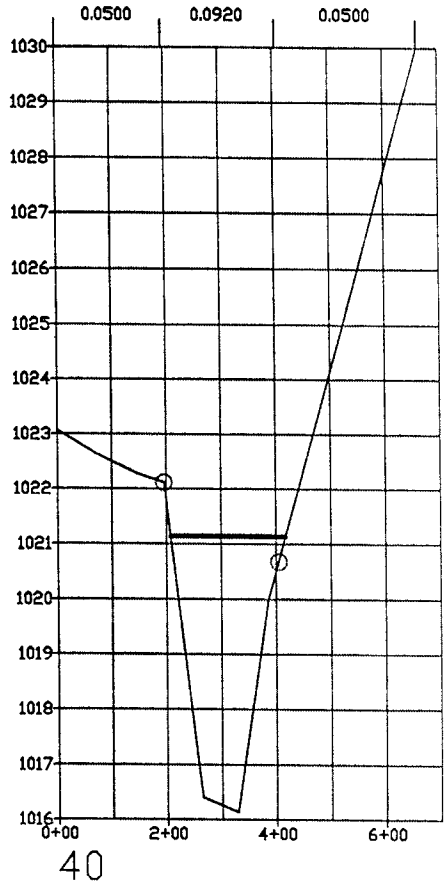
Cross-Section:	30	
Elevation:	994.27	ft MSL
Depth:	3.57	ft
Discharge:	1340.00	cfs
Energy Gradient:	0.0035	ft/ft
Froude Number:	0.1623	
Flow Regime:	Subcritical	
Flow Area:	770.02	sq ft
Average Velocity:	1.74	ft/s
Maximum Velocity:	1.74	ft/s
Composite n:	0.092	
Hydraulic Radius:	2.44	ft
Wetted Perimeter:	315.15	ft
Wetted Top Width:	314.98	ft
Critical Slope:	0.133	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S30W–30

Entellus™

File: T1N-R6W-S30W-New-Mapping.dwg Date: 12/17/02



Normal Depth Results

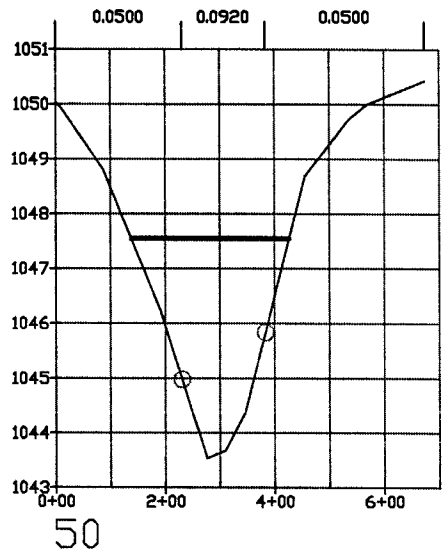
Cross-Section:	40	
Elevation:	1021.14	ft MSL
Depth:	5.00	ft
Discharge:	1340.00	cfs
Energy Gradient:	0.0035	ft/ft
Froude Number:	0.1642	
Flow Regime:	Subcritical	
Flow Area:	643.30	sq ft
Average Velocity:	2.09	ft/s
Maximum Velocity:	2.09	ft/s
Composite n:	0.0897	
Hydraulic Radius:	3.05	ft
Wetted Perimeter:	210.92	ft
Wetted Top Width:	210.58	ft
Critical Slope:	0.132	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S30W–40

Entellus™

File: T1N-R6W-S30W-New-Mapping.dwg, Date: 12/17/02



Normal Depth Results

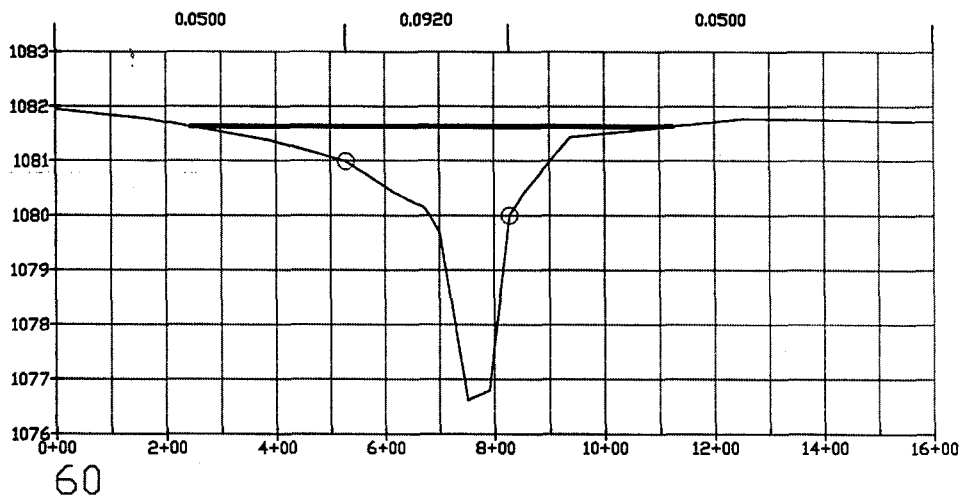
Cross-Section:	50	
Elevation:	1047.55	ft MSL
Depth:	4.01	ft
Discharge:	1340.00	cfs
Energy Gradient:	0.0035	ft/ft
Froude Number:	0.1817	
Flow Regime:	Subcritical	
Flow Area:	649.19	sq ft
Average Velocity:	2.06	ft/s
Maximum Velocity:	2.11	ft/s
Composite n:	0.0737	
Hydraulic Radius:	2.25	ft
Wetted Perimeter:	288.84	ft
Wetted Top Width:	288.71	ft
Critical Slope:	0.1072	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S30W–50

Entellus™

File: T1N-R6W-S30W-New-Mapping.dwg Date: 12/17/02



Normal Depth Results

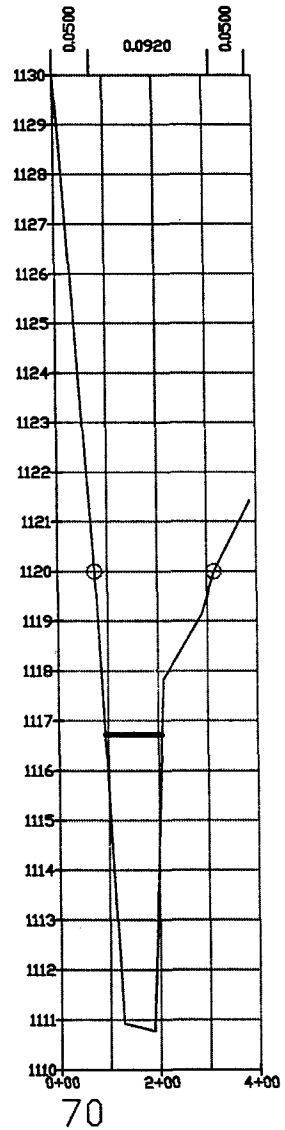
Cross-Section:	60	
Elevation:	1081.64	ft MSL
Depth:	5.02	ft
Discharge:	1340.00	cfs
Energy Gradient:	0.0035	ft/ft
Froude Number:	0.118	
Flow Regime:	Subcritical	
Flow Area:	893.62	sq ft
Average Velocity:	1.50	ft/s
Maximum Velocity:	1.68	ft/s
Composite n:	0.0657	
Hydraulic Radius:	1.02	ft
Wetted Perimeter:	879.36	ft
Wetted Top Width:	879.12	ft
Critical Slope:	0.3077	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S30W–60

Entellus™

File: T1N-R6W-S30W-New-Mapping.dwg Date: 12/17/02



Normal Depth Results

Cross-Section:	70	
Elevation:	1116.72	ft MSL
Depth:	5.94	ft
Discharge:	1340.00	cfs
Energy Gradient:	0.0035	ft/ft
Froude Number:	0.1873	
Flow Regime:	Subcritical	
Flow Area:	517.39	sq ft
Average Velocity:	2.59	ft/s
Maximum Velocity:	2.59	ft/s
Composite n:	0.092	
Hydraulic Radius:	4.45	ft
Wetted Perimeter:	116.28	ft
Wetted Top Width:	114.93	ft
Critical Slope:	0.0996	ft/ft

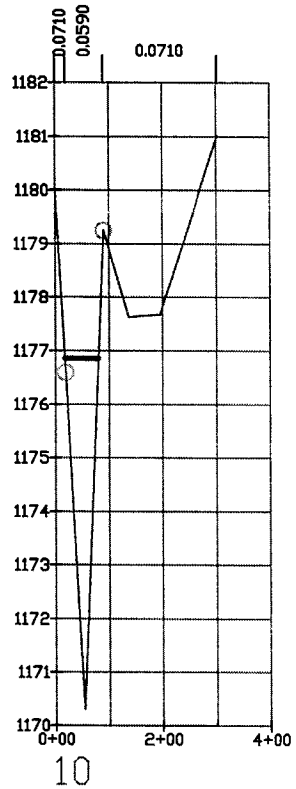
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R6W–S30W–70

Entellus™

File: T1N-R6W-S30W-New-Mapping.dwg Date: 12/17/02

T1N-R7W-S17



Normal Depth Results

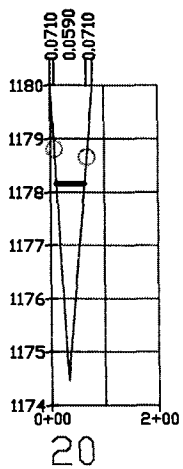
Cross-Section:	10	
Elevation:	1176.86	ft MSL
Depth:	6.55	ft
Discharge:	1010.00	cfs
Energy Gradient:	0.0077	ft/ft
Froude Number:	0.3377	
Flow Regime:	Subcritical	
Flow Area:	206.06	sq ft
Average Velocity:	4.89	ft/s
Maximum Velocity:	4.89	ft/s
Composite n:	0.0592	
Hydraulic Radius:	3.2	ft
Wetted Perimeter:	64.30	ft
Wetted Top Width:	62.93	ft
Critical Slope:	0.0706	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S17–10

Entellus™

File: T1N-R7W-S17-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

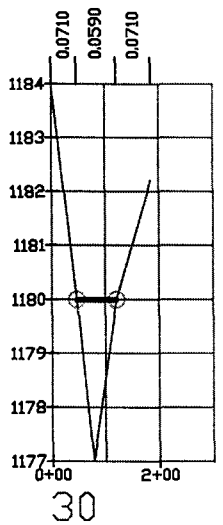
Cross-Section:	20	
Elevation:	1178.16	ft MSL
Depth:	3.69	ft
Discharge:	320.00	cfs
Energy Gradient:	0.0077	ft/ft
Froude Number:	0.3028	
Flow Regime:	Subcritical	
Flow Area:	96.94	sq ft
Average Velocity:	3.31	ft/s
Maximum Velocity:	3.31	ft/s
Composite n:	0.059	
Hydraulic Radius:	1.83	ft
Wetted Perimeter:	53.05	ft
Wetted Top Width:	52.51	ft
Critical Slope:	0.0833	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S17–20

Entellus™

File: T1N-R7W-S17-New-Mapping.dwg, Date: 10/18/02



Normal Depth Results

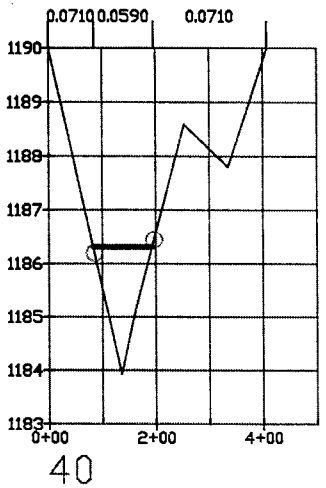
Cross-Section:	30	
Elevation:	1180.00	ft MSL
Depth:	2.99	ft
Discharge:	320.00	cfs
Energy Gradient:	0.0077	ft/ft
Froude Number:	0.2945	
Flow Regime:	Subcritical	
Flow Area:	110.85	sq ft
Average Velocity:	2.89	ft/s
Maximum Velocity:	2.89	ft/s
Composite n:	0.059	
Hydraulic Radius:	1.49	ft
Wetted Perimeter:	74.51	ft
Wetted Top Width:	74.26	ft
Critical Slope:	0.0886	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S17–30

Entellus™

File: T1N-R7W-S17-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

Cross-Section:	40	
Elevation:	1186.31	ft MSL
Depth:	2.38	ft
Discharge:	320.00	cfs
Energy Gradient:	0.0077	ft/ft
Froude Number:	0.2834	
Flow Regime:	Subcritical	
Flow Area:	128.89	sq ft
Average Velocity:	2.48	ft/s
Maximum Velocity:	2.48	ft/s
Composite n:	0.0592	
Hydraulic Radius:	1.16	ft
Wetted Perimeter:	110.99	ft
Wetted Top Width:	110.88	ft
Critical Slope:	0.0995	ft/ft

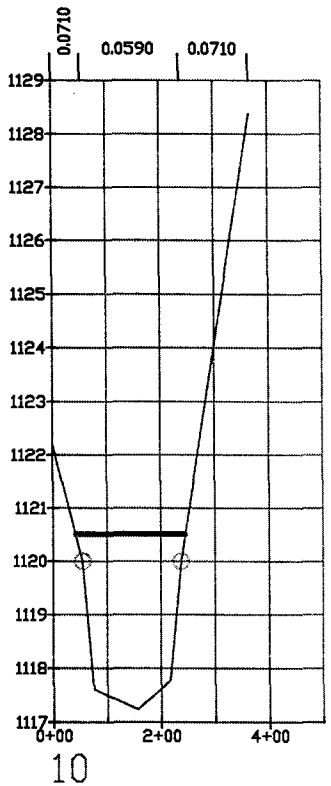
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S17–40

Entellus™

File: T1N-R7W-S17-New-Mapping.dwg; Date: 10/18/02

T1N-R7W-S21E



Normal Depth Results

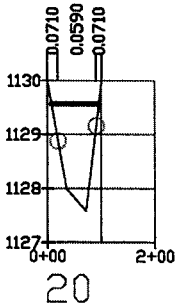
Cross-Section:	10	
Elevation:	1120.51	ft MSL
Depth:	3.27	ft
Discharge:	2180.00	cfs
Energy Gradient:	0.0077	ft/ft
Froude Number:	0.4191	
Flow Regime:	Subcritical	
Flow Area:	506.96	sq ft
Average Velocity:	4.30	ft/s
Maximum Velocity:	4.34	ft/s
Composite n:	0.0602	
Hydraulic Radius:	2.49	ft
Wetted Perimeter:	203.76	ft
Wetted Top Width:	203.46	ft
Critical Slope:	0.051	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S21E–10

Entellus™

File: T1N-R7W-S21E-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

Cross-Section:	20	
Elevation:	1129.57	ft MSL
Depth:	1.99	ft
Discharge:	310.00	cfs
Energy Gradient:	0.0077	ft/ft
Froude Number:	0.3495	
Flow Regime:	Subcritical	
Flow Area:	110.90	sq ft
Average Velocity:	2.78	ft/s
Maximum Velocity:	2.87	ft/s
Composite n:	0.0614	
Hydraulic Radius:	1.25	ft
Wetted Perimeter:	88.75	ft
Wetted Top Width:	88.62	ft
Critical Slope:	0.0806	ft/ft

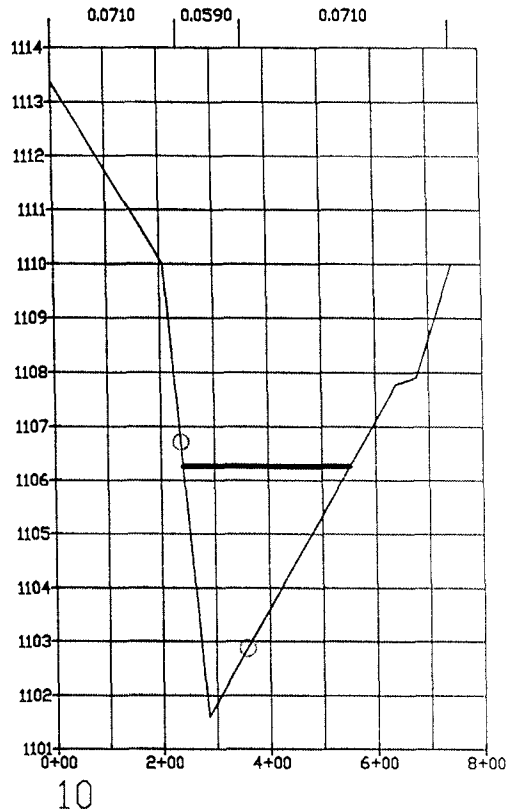
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S21E–20

Entellus™

File: T1N-R7W-S21E-New-Mapping.dwg Date: 10/18/02

T1N-R7W-S21W



Normal Depth Results

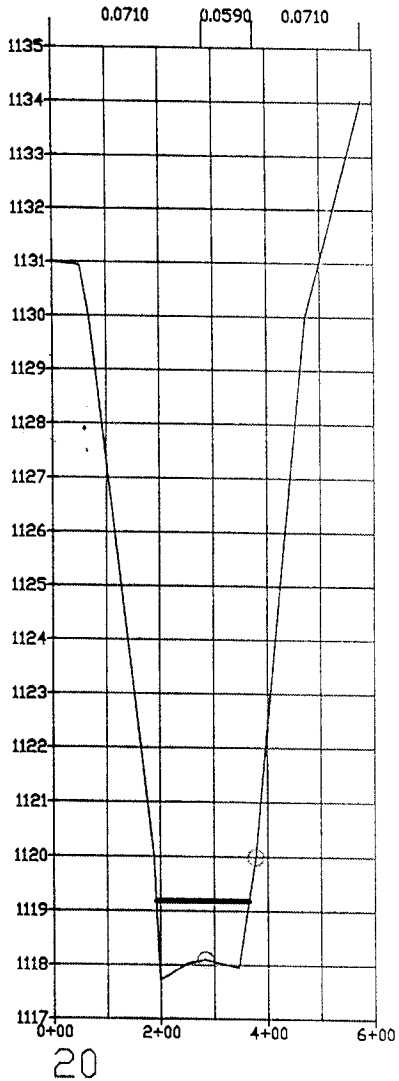
Cross-Section:	10	
Elevation:	1106.27	ft MSL
Depth:	4.67	ft
Discharge:	2850.00	cfs
Energy Gradient:	0.0077	ft/ft
Froude Number:	0.3205	
Flow Regime:	Subcritical	
Flow Area:	725.54	sq ft
Average Velocity:	3.92	ft/s
Maximum Velocity:	5.00	ft/s
Composite n:	0.0666	
Hydraulic Radius:	2.33	ft
Wetted Perimeter:	311.43	ft
Wetted Top Width:	311.14	ft
Critical Slope:	0.0971	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S21W–10

Entellus™

File: T1N-R7W-S21W-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

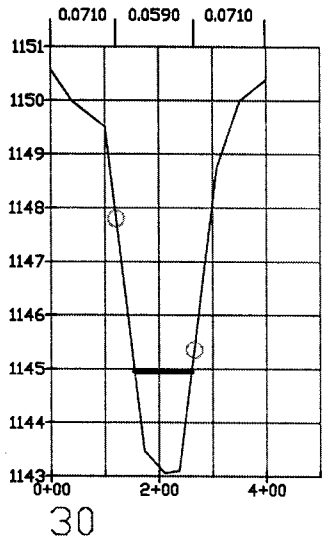
Cross-Section:	20	
Elevation:	1119.19	ft MSL
Depth:	1.47	ft
Discharge:	620.00	cfs
Energy Gradient:	0.017	ft/ft
Froude Number:	0.4665	
Flow Regime:	Subcritical	
Flow Area:	193.56	sq ft
Average Velocity:	3.20	ft/s
Maximum Velocity:	3.36	ft/s
Composite n:	0.0654	
Hydraulic Radius:	1.12	ft
Wetted Perimeter:	173.26	ft
Wetted Top Width:	173.07	ft
Critical Slope:	0.0785	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S21W–20

Entellus™

File: T1N-R7W-S21W-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

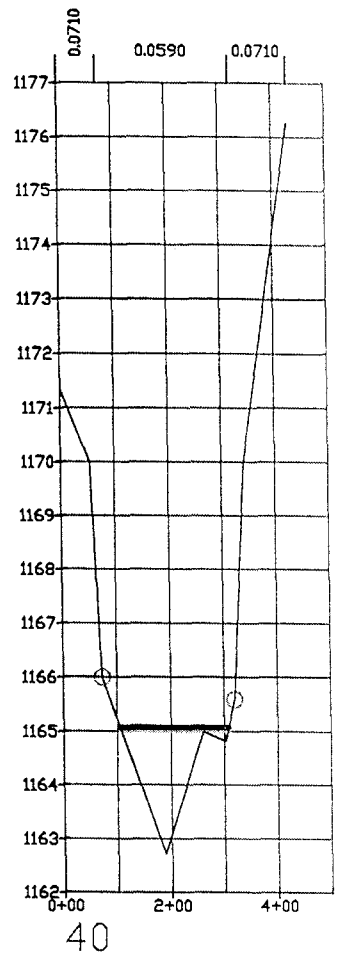
Cross-Section:	30	
Elevation:	1144.96	ft MSL
Depth:	1.90	ft
Discharge:	620.00	cfs
Energy Gradient:	0.017	ft/ft
Froude Number:	0.5306	
Flow Regime:	Subcritical	
Flow Area:	149.62	sq ft
Average Velocity:	4.14	ft/s
Maximum Velocity:	4.14	ft/s
Composite n:	0.059	
Hydraulic Radius:	1.41	ft
Wetted Perimeter:	106.08	ft
Wetted Top Width:	105.95	ft
Critical Slope:	0.0604	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S21W–30

Entellus™

File: T1N-R7W-S21W-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

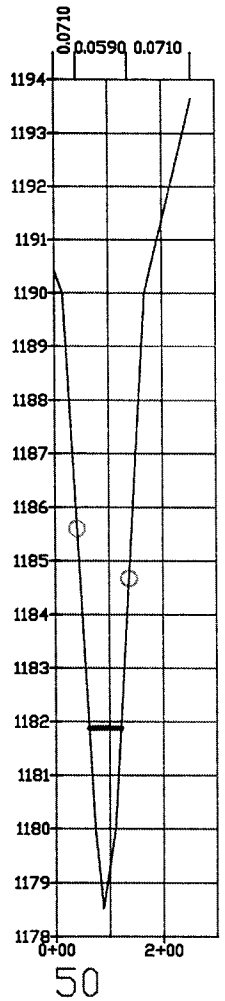
Cross-Section:	40	
Elevation:	1165.07	ft MSL
Depth:	2.35	ft
Discharge:	620.00	cfs
Energy Gradient:	0.017	ft/ft
Froude Number:	0.3682	
Flow Regime:	Subcritical	
Flow Area:	193.44	sq ft
Average Velocity:	3.19	ft/s
Maximum Velocity:	3.19	ft/s
Composite n:	0.059	
Hydraulic Radius:	0.95	ft
Wetted Perimeter:	203.09	ft
Wetted Top Width:	203.01	ft
Critical Slope:	0.1267	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S21W–40

Entellus™

File: T1N-R7W-S21W-New-Mapping.dwg, Date: 10/18/02



Normal Depth Results

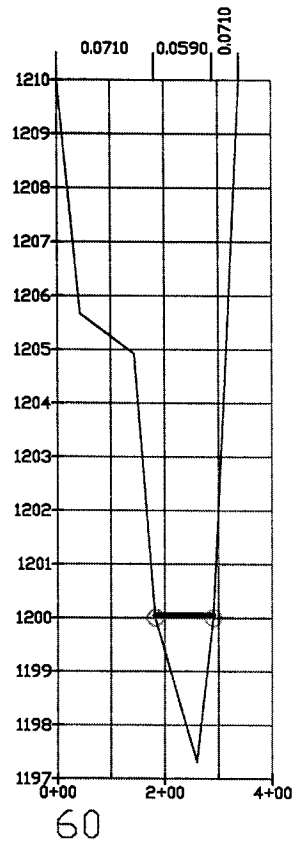
Cross-Section:	50	
Elevation:	1181.88	ft MSL
Depth:	3.35	ft
Discharge:	620.00	cfs
Energy Gradient:	0.017	ft/ft
Froude Number:	0.5038	
Flow Regime:	Subcritical	
Flow Area:	118.51	sq ft
Average Velocity:	5.21	ft/s
Maximum Velocity:	5.21	ft/s
Composite n:	0.059	
Hydraulic Radius:	1.99	ft
Wetted Perimeter:	59.52	ft
Wetted Top Width:	59.07	ft
Critical Slope:	0.0674	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S21W–50

Entellus™

File: T1N-R7W-S21W-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

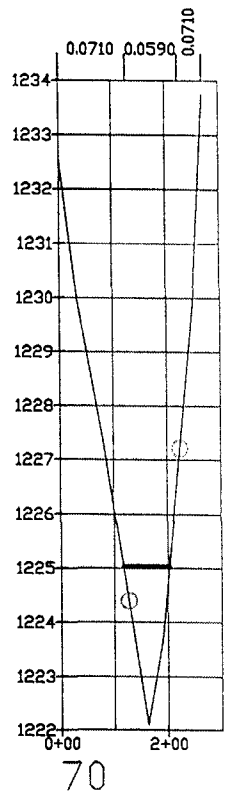
Cross-Section:	60	
Elevation:	1200.05	ft MSL
Depth:	2.74	ft
Discharge:	620.00	cfs
Energy Gradient:	0.017	ft/ft
Froude Number:	0.4392	
Flow Regime:	Subcritical	
Flow Area:	150.34	sq ft
Average Velocity:	4.11	ft/s
Maximum Velocity:	4.11	ft/s
Composite n:	0.059	
Hydraulic Radius:	1.38	ft
Wetted Perimeter:	108.58	ft
Wetted Top Width:	108.41	ft
Critical Slope:	0.0897	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S21W–60

Entellus™

File: T1N-R7W-S21W-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

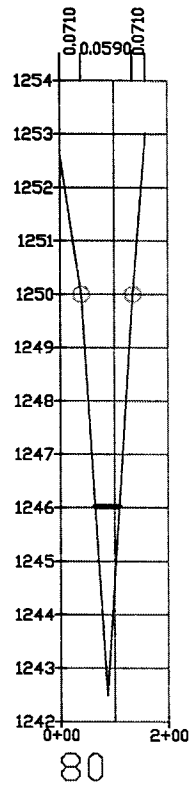
Cross-Section:	70	
Elevation:	1225.03	ft MSL
Depth:	2.92	ft
Discharge:	620.00	cfs
Energy Gradient:	0.017	ft/ft
Froude Number:	0.4798	
Flow Regime:	Subcritical	
Flow Area:	133.35	sq ft
Average Velocity:	4.63	ft/s
Maximum Velocity:	4.71	ft/s
Composite n:	0.0604	
Hydraulic Radius:	1.55	ft
Wetted Perimeter:	85.99	ft
Wetted Top Width:	85.78	ft
Critical Slope:	0.086	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S21W–70

Entellus™

File: T1N-R7W-S21W-New-Mapping.dwg, Date: 10/18/02



Normal Depth Results

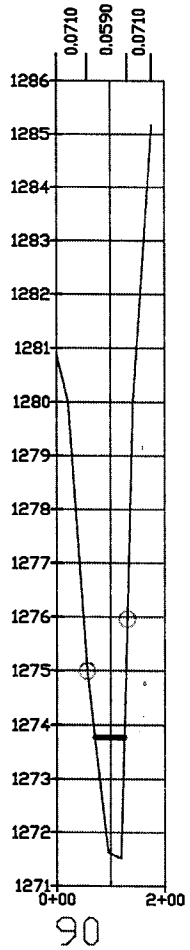
Cross-Section:	80	
Elevation:	1246.03	ft MSL
Depth:	3.54	ft
Discharge:	380.00	cfs
Energy Gradient:	0.017	ft/ft
Froude Number:	0.4471	
Flow Regime:	Subcritical	
Flow Area:	79.67	sq ft
Average Velocity:	4.78	ft/s
Maximum Velocity:	4.78	ft/s
Composite n:	0.059	
Hydraulic Radius:	1.75	ft
Wetted Perimeter:	45.62	ft
Wetted Top Width:	45.07	ft
Critical Slope:	0.0848	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S21W–80

Entellus™

File: T1N-k7W-S21W-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

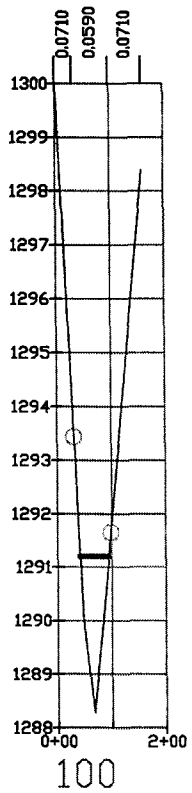
Cross-Section:	90	
Elevation:	1273.77	ft MSL
Depth:	2.25	ft
Discharge:	380.00	cfs
Energy Gradient:	0.017	ft/ft
Froude Number:	0.5193	
Flow Regime:	Subcritical	
Flow Area:	85.92	sq ft
Average Velocity:	4.43	ft/s
Maximum Velocity:	4.43	ft/s
Composite n:	0.059	
Hydraulic Radius:	1.56	ft
Wetted Perimeter:	55.01	ft
Wetted Top Width:	54.50	ft
Critical Slope:	0.0627	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S21W–90

Entellus™

File: T1N-R7W-S21W-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

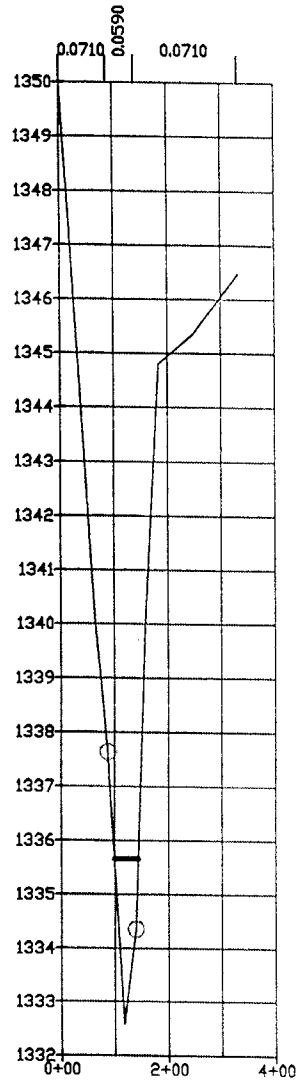
Cross-Section:	100	
Elevation:	1291.21	ft MSL
Depth:	2.92	ft
Discharge:	380.00	cfs
Energy Gradient:	0.017	ft/ft
Froude Number:	0.4607	
Flow Regime:	Subcritical	
Flow Area:	85.14	sq ft
Average Velocity:	4.49	ft/s
Maximum Velocity:	4.49	ft/s
Composite n:	0.059	
Hydraulic Radius:	1.59	ft
Wetted Perimeter:	53.39	ft
Wetted Top Width:	53.04	ft
Critical Slope:	0.0789	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S21W–100

Entellus™

File: T1N-R7W-S21W-New-Mapping.dwg Date: 10/18/02



110

Normal Depth Results

Cross-Section:	110	
Elevation:	1335.66	ft MSL
Depth:	3.07	ft
Discharge:	380.00	cfs
Energy Gradient:	0.017	ft/ft
Froude Number:	0.4907	
Flow Regime:	Subcritical	
Flow Area:	77.96	sq ft
Average Velocity:	4.89	ft/s
Maximum Velocity:	5.00	ft/s
Composite n:	0.0602	
Hydraulic Radius:	1.75	ft
Wetted Perimeter:	44.61	ft
Wetted Top Width:	44.09	ft
Critical Slope:	0.0766	ft/ft

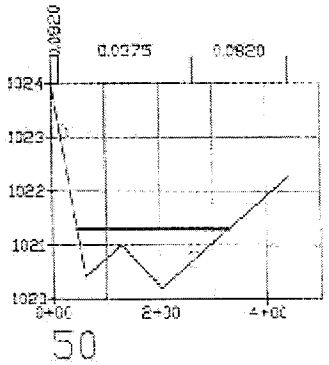
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S21W–110

Entellus™

File: T1N-R7W-S21W-New-Mapping.dwg, Date: 10/18/02

T1N-R7W-S26E



Normal Depth Results

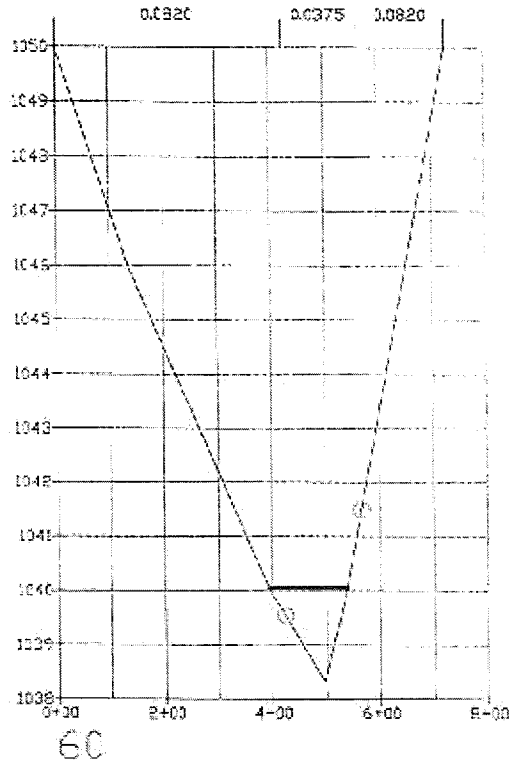
Cross-Section:	50	
Elevation:	1021.00	ft MSL
Depth:	1.10	ft
Discharge:	370.03	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.3695	
Flow Regime:	Subcritical	
Flow Area:	168.29	sq ft
Average Velocity:	2.20	ft/s
Maximum Velocity:	2.39	ft/s
Composite n:	0.0493	
Hydraulic Radius:	1.59	ft
Wetted Perimeter:	283.50	ft
Wetted Top Width:	283.47	ft
Critical Slope:	0.0777	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S26E–50

Entellus™

File: T1N-R7W-S26E-NewMagnolia-Dwg Date: 12/16/01



Normal Depth Results

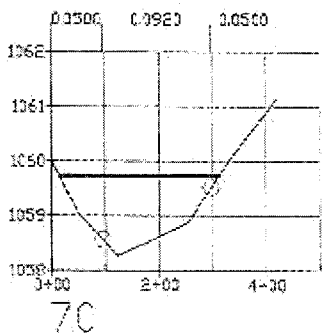
Cross-Section	60	
Elevation	1040.36	ft MSL
Depth	1.73	ft
Discharge	370.00	cfs
Energy Gradient	0.006	ft/ft
Froude Number	0.3942	
Flow Regime	Subcritical	
Flow Area	125.85	sq ft
Average Velocity	2.96	ft/s
Maximum Velocity	3.13	ft/s
Composite n	0.0486	
Hydraulic Radius	0.85	ft
Wetted Perimeter	145.91	ft
Wetted Top Width	145.86	ft
Critical Slope	0.0721	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S26E–60

Entellus™

File: T1N-R7W-S26E-New-Mapping.dwg Date: 12/16/03



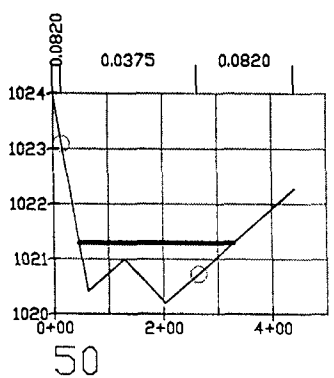
Normal Depth Results

Cross-Section	70	
Elevation	1059.73	ft MSL
Depth	1.46	ft
Discharge	370.00	cfs
Energy Gradient	0.006	ft/ft
Froude Number	0.2092	
Flow Regime	Subcritical	
Flow Area	265.84	sq ft
Average Velocity	1.38	ft/s
Maximum Velocity	1.76	ft/s
Composite n	0.08	
Hydraulic Radius	0.9	ft
Wetted Perimeter	296.63	ft
Wetted Top Width	296.58	ft
Critical Slope	0.1565	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S26E–70

Entellus™



Normal Depth Results

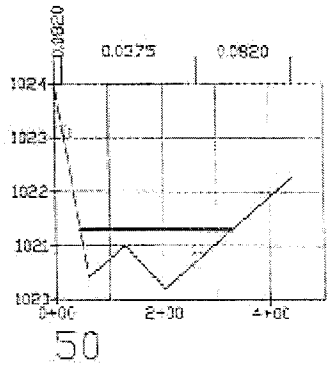
Cross-Section:	50	
Elevation:	1021.30	ft MSL
Depth:	1.10	ft
Discharge:	370.00	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.3696	
Flow Regime:	Subcritical	
Flow Area:	168.39	sq ft
Average Velocity:	2.20	ft/s
Maximum Velocity:	2.39	ft/s
Composite n:	0.0493	
Hydraulic Radius:	0.59	ft
Wetted Perimeter:	283.50	ft
Wetted Top Width:	283.47	ft
Critical Slope:	0.0777	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S26E–50

Entellus™

File: T1N-R7W-S26E-New-Mapping.dwg Date: 12/16/02



Normal Depth Results

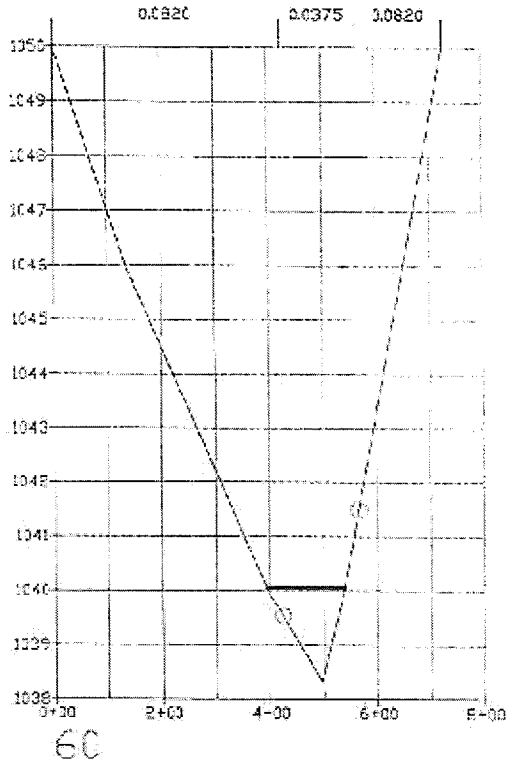
Cross-Section:	50	
Elevation:	1021.30	ft MSL
Depth:	1.10	ft
Discharge:	370.03	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.3696	
Flow Regime:	Subcritical	
Flow Area:	168.39	sq ft
Average Velocity:	2.20	ft/s
Maximum Velocity:	2.39	ft/s
Composite n:	0.0493	
Hydraulic Radius:	3.55	ft
Wetted Perimeter:	283.50	ft
Wetted Top Width:	283.47	ft
Critical Slope:	0.0777	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S26E–50

Entellus™

File: T1N-R7W-S26E-New-Mapping-Dwg, Date: 12/16/02



Normal Depth Results

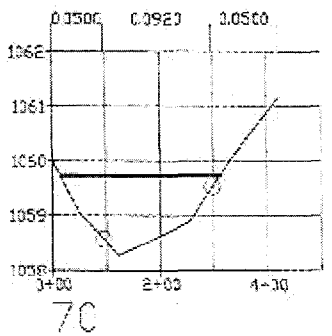
Cross-Section	60	
Elevation:	1040.36	ft MSL
Depth:	1.72	ft
Discharge:	370.00	cfs
Energy Gradient:	0.006	ft/ft
Froude Number	0.3942	
Flow Regime:	Subcritical	
Flow Area:	125.85	sq ft
Average Velocity:	2.96	ft/s
Maximum Velocity:	3.13	ft/s
Composite n:	0.0466	
Hydraulic Radius:	0.85	ft
Wetted Perimeter:	145.91	ft
Wetted Top Width:	145.86	ft
Critical Slope:	0.0721	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S26E–60

Entellus™

File: T1N-R7W-S26E-New-Mapping.dwg Date: 12/16/02



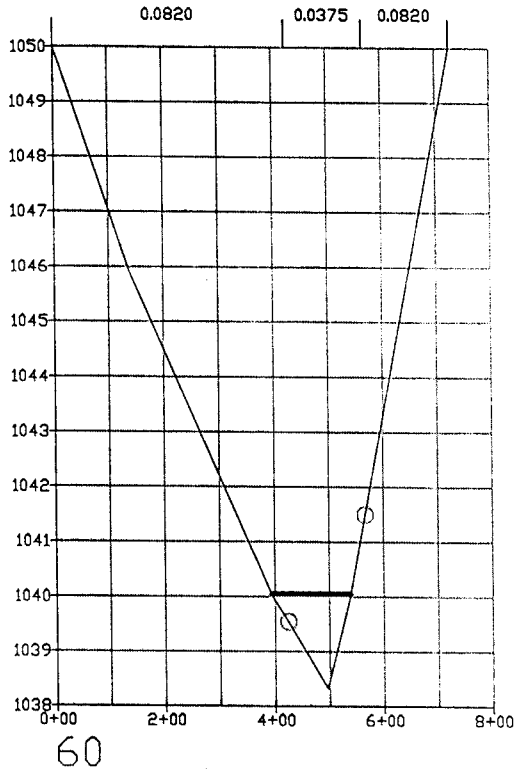
Normal Depth Results

Cross-Section	70	
Elevation	1059.73	ft MSL
Depth	1.46	ft
Discharge	370.00	cfs
Energy Gradient	0.006	ft/ft
Froude Number	0.2032	
Flow Regime	Subcritical	
Flow Area	265.84	sq ft
Average Velocity	1.38	ft/s
Maximum Velocity	1.96	ft/s
Composite n	0.08	
Hydraulic Radius	0.9	ft
Wetted Perimeter	296.63	ft
Wetted Top Width	296.58	ft
Critical Slope	0.1565	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N-R7W-S26E-70

Entellus™



Normal Depth Results

Cross-Section:	60	
Elevation:	1040.06	ft MSL
Depth:	1.73	ft
Discharge:	370.00	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.3942	
Flow Regime:	Subcritical	
Flow Area:	125.85	sq ft
Average Velocity:	2.96	ft/s
Maximum Velocity:	3.13	ft/s
Composite n:	0.0486	
Hydraulic Radius:	0.86	ft
Wetted Perimeter:	145.91	ft
Wetted Top Width:	145.86	ft
Critical Slope:	0.0721	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S26E–60

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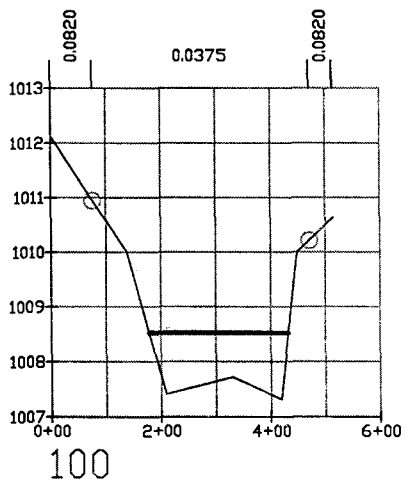
Figure E2 – Wash: T1N–R7W–S26E–70

Entellus

File: T1N-R7W-S26E-New-Mapping.dwg Date: 12/16/02

T1N-R7W-S26W



Normal Depth Results

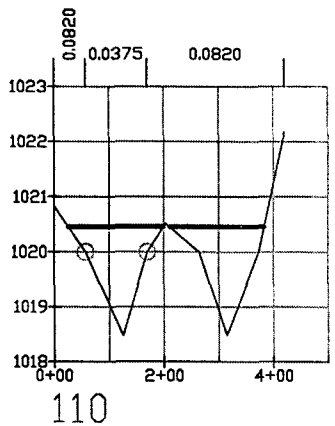
Cross-Section:	100	
Elevation:	1008.53	ft MSL
Depth:	1.21	ft
Discharge:	670.00	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.4634	
Flow Regime:	Subcritical	
Flow Area:	231.66	sq ft
Average Velocity:	2.90	ft/s
Maximum Velocity:	2.90	ft/s
Composite n:	0.0375	
Hydraulic Radius:	0.91	ft
Wetted Perimeter:	253.72	ft
Wetted Top Width:	253.64	ft
Critical Slope:	0.0278	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S26W–100

Entellus™

File: T1N-R7W-S26W-New-Mapping.dwg Date: 12/16/02



Normal Depth Results

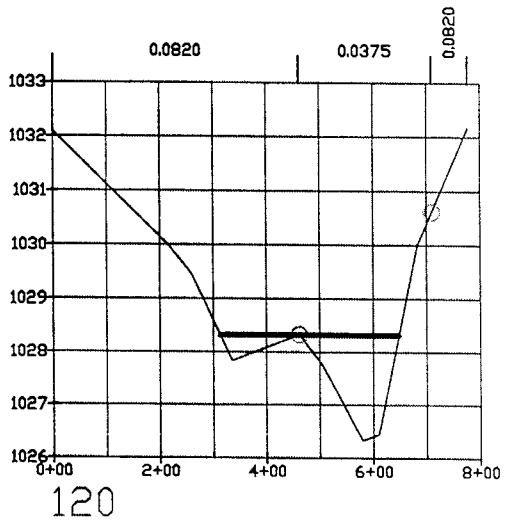
Cross-Section:	110	
Elevation:	1020.46	ft MSL
Depth:	1.99	ft
Discharge:	670.00	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.2805	
Flow Regime:	Subcritical	
Flow Area:	298.59	sq ft
Average Velocity:	2.24	ft/s
Maximum Velocity:	3.52	ft/s
Composite n:	0.0691	
Hydraulic Radius:	0.86	ft
Wetted Perimeter:	346.02	ft
Wetted Top Width:	345.91	ft
Critical Slope:	0.1678	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S26W–110

Entellus™

File: T1N-R7W-S26W-New-Mapping.dwg Date: 12/16/02



Normal Depth Results

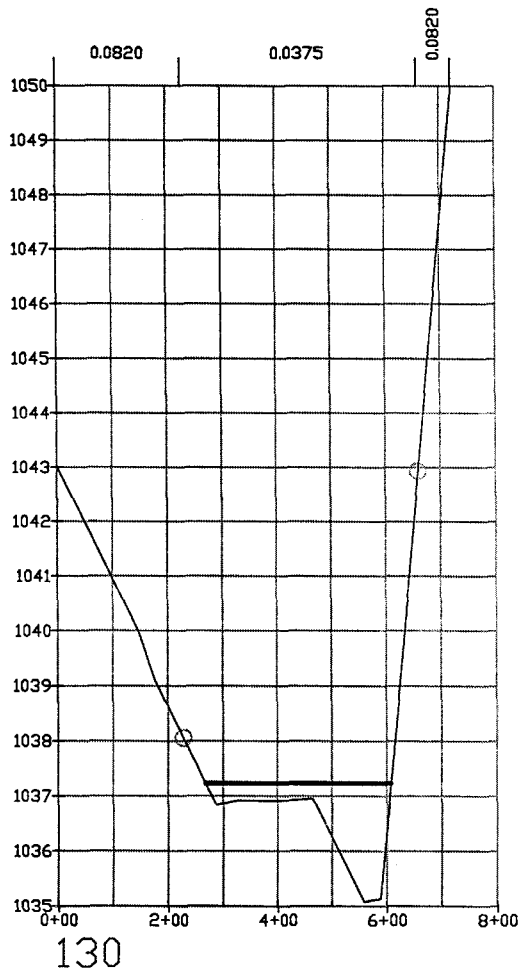
Cross-Section:	120	
Elevation:	1028.32	ft MSL
Depth:	1.99	ft
Discharge:	670.00	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.3537	
Flow Regime:	Subcritical	
Flow Area:	236.70	sq ft
Average Velocity:	2.84	ft/s
Maximum Velocity:	3.25	ft/s
Composite n:	0.0591	
Hydraulic Radius:	0.71	ft
Wetted Perimeter:	332.14	ft
Wetted Top Width:	332.07	ft
Critical Slope:	0.1587	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S26W–120

Entellus™

File: T1N-R7W-S26W-New-Mapping.dwg; Date: 12/02/02



Normal Depth Results

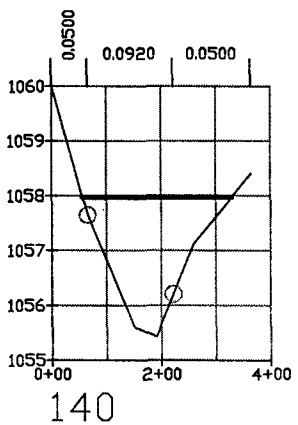
Cross-Section:	130	
Elevation:	1037.23	ft MSL
Depth:	2.15	ft
Discharge:	670.00	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.3113	
Flow Regime:	Subcritical	
Flow Area:	258.67	sq ft
Average Velocity:	2.56	ft/s
Maximum Velocity:	2.56	ft/s
Composite n:	0.0375	
Hydraulic Radius:	0.76	ft
Wetted Perimeter:	340.32	ft
Wetted Top Width:	340.19	ft
Critical Slope:	0.0631	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S26W–130

Entellus™

File: T1N-R7W-S26W-New-Mapping.dwg Date: 12/16/02



Normal Depth Results

Cross-Section:	140	
Elevation:	1057.98	ft MSL
Depth:	2.55	ft
Discharge:	670.00	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.2046	
Flow Regime:	Subcritical	
Flow Area:	361.67	sq ft
Average Velocity:	1.85	ft/s
Maximum Velocity:	1.88	ft/s
Composite n:	0.0755	
Hydraulic Radius:	1.32	ft
Wetted Perimeter:	273.59	ft
Wetted Top Width:	273.54	ft
Critical Slope:	0.1453	ft/ft

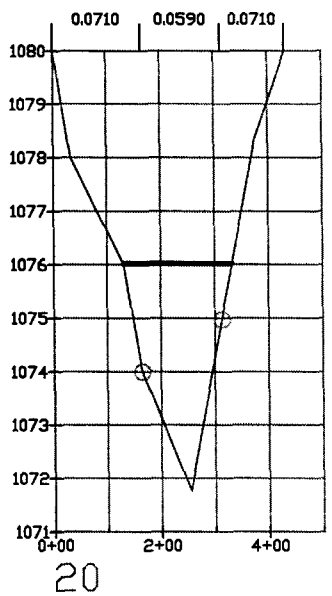
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S26W–140

Entellus™

File: T1N-R7W-S26W-New-Mapping.dwg Date: 12/16/02

T1N-R7W-S28E



Normal Depth Results

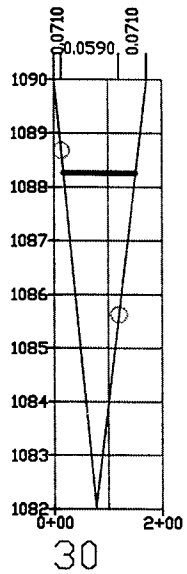
Cross-Section:	20	
Elevation:	1076.02	ft MSL
Depth:	4.25	ft
Discharge:	2050.00	cfs
Energy Gradient:	0.0076	ft/ft
Froude Number:	0.3648	
Flow Regime:	Subcritical	
Flow Area:	480.55	sq ft
Average Velocity:	4.25	ft/s
Maximum Velocity:	4.52	ft/s
Composite n:	0.0623	
Hydraulic Radius:	2.37	ft
Wetted Perimeter:	202.48	ft
Wetted Top Width:	202.27	ft
Critical Slope:	0.0755	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28E–20

Entellus™

File: T1N-R7W-S28E-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

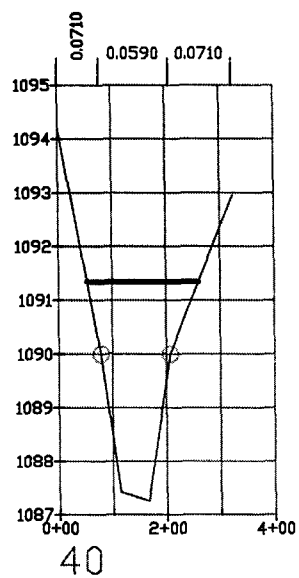
Cross-Section:	30	
Elevation:	1088.26	ft MSL
Depth:	6.21	ft
Discharge:	2050.00	cfs
Energy Gradient:	0.0076	ft/ft
Froude Number:	0.3481	
Flow Regime:	Subcritical	
Flow Area:	416.47	sq ft
Average Velocity:	4.91	ft/s
Maximum Velocity:	5.21	ft/s
Composite n:	0.0619	
Hydraulic Radius:	3.09	ft
Wetted Perimeter:	134.67	ft
Wetted Top Width:	134.09	ft
Critical Slope:	0.0765	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28E–30

Entellus™

File: T1N-R7W-S28E-Now-Mapping.dwg Date: 10/18/02



Normal Depth Results

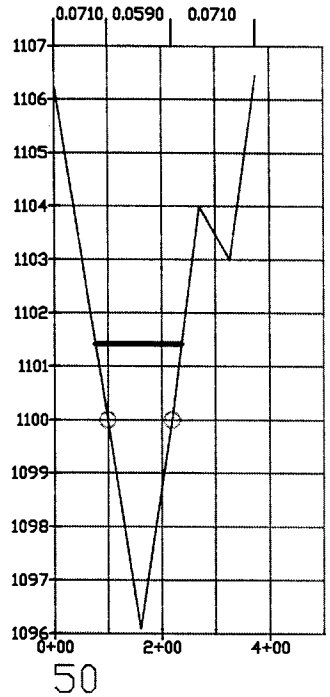
Cross-Section:	40	
Elevation:	1091.35	ft MSL
Depth:	4.10	ft
Discharge:	2050.00	cfs
Energy Gradient:	0.0076	ft/ft
Froude Number:	0.3832	
Flow Regime:	Subcritical	
Flow Area:	465.96	sq ft
Average Velocity:	4.41	ft/s
Maximum Velocity:	4.79	ft/s
Composite n:	0.0636	
Hydraulic Radius:	2.25	ft
Wetted Perimeter:	206.92	ft
Wetted Top Width:	206.68	ft
Critical Slope:	0.0814	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28E–40

Entellus™

File: T1N-R7W-S28E-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

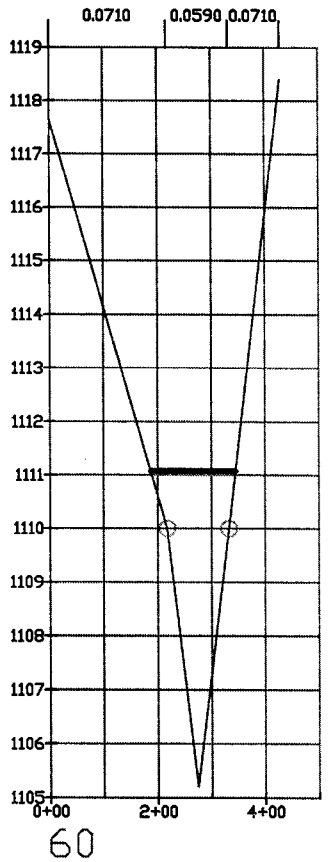
Cross-Section:	50	
Elevation:	1101.42	ft MSL
Depth:	5.33	ft
Discharge:	2050.00	cfs
Energy Gradient:	0.0076	ft/ft
Froude Number:	0.3607	
Flow Regime:	Subcritical	
Flow Area:	433.92	sq ft
Average Velocity:	4.72	ft/s
Maximum Velocity:	4.95	ft/s
Composite n:	0.0621	
Hydraulic Radius:	2.7	ft
Wetted Perimeter:	160.91	ft
Wetted Top Width:	160.56	ft
Critical Slope:	0.0795	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28E–50

Entellus™

File: T1N-R7W-S28E-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

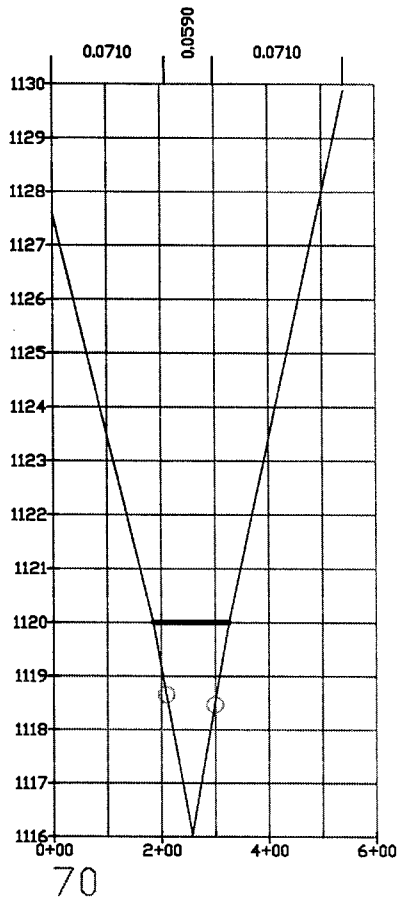
Cross-Section:	60	
Elevation:	1111.08	ft MSL
Depth:	5.87	ft
Discharge:	2050.00	cfs
Energy Gradient:	0.0076	ft/ft
Froude Number:	0.3521	
Flow Regime:	Subcritical	
Flow Area:	423.54	sq ft
Average Velocity:	4.83	ft/s
Maximum Velocity:	5.04	ft/s
Composite n:	0.0623	
Hydraulic Radius:	2.67	ft
Wetted Perimeter:	158.75	ft
Wetted Top Width:	158.28	ft
Critical Slope:	0.0895	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28E–60

Entellus™

File: T1N-R7W-S28E-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

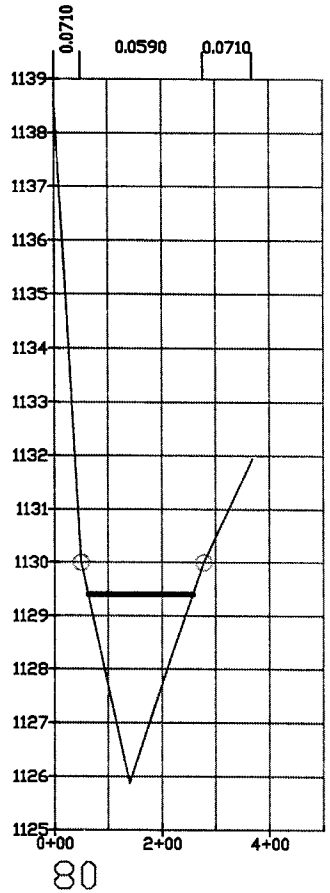
Cross-Section:	70	
Elevation:	1120.01	ft MSL
Depth:	3.97	ft
Discharge:	1090.00	cfs
Energy Gradient:	0.0076	ft/ft
Froude Number:	0.3454	
Flow Regime:	Subcritical	
Flow Area:	279.31	sq ft
Average Velocity:	3.90	ft/s
Maximum Velocity:	4.27	ft/s
Composite n:	0.0634	
Hydraulic Radius:	1.98	ft
Wetted Perimeter:	141.11	ft
Wetted Top Width:	140.88	ft
Critical Slope:	0.0932	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28E–70

Entellus™

File: T1N-R7W-S28E-New-Mapping.dwg, Date: 10/18/02



Normal Depth Results

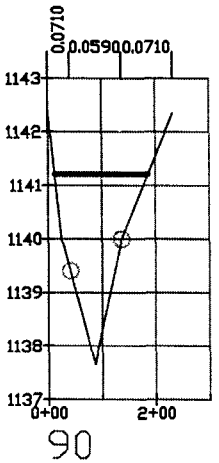
Cross-Section:	80	
Elevation:	1129.40	ft MSL
Depth:	3.52	ft
Discharge:	1090.00	cfs
Energy Gradient:	0.0076	ft/ft
Froude Number:	0.3001	
Flow Regime:	Subcritical	
Flow Area:	341.12	sq ft
Average Velocity:	3.20	ft/s
Maximum Velocity:	3.20	ft/s
Composite n:	0.059	
Hydraulic Radius:	1.75	ft
Wetted Perimeter:	194.92	ft
Wetted Top Width:	194.78	ft
Critical Slope:	0.0842	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28E–80

Entellus™

File: T1N-R7W-S28E-New-Mapping.dwg, Date: 10/18/02



Normal Depth Results

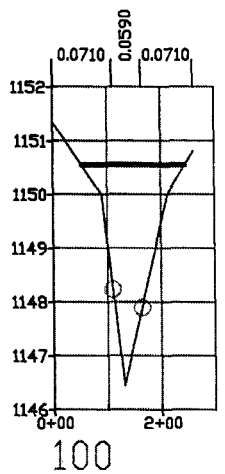
Cross-Section:	90	
Elevation:	1141.21	ft MSL
Depth:	3.55	ft
Discharge:	1090.00	cfs
Energy Gradient:	0.0076	ft/ft
Froude Number:	0.3347	
Flow Regime:	Subcritical	
Flow Area:	304.50	sq ft
Average Velocity:	3.59	ft/s
Maximum Velocity:	4.08	ft/s
Composite n:	0.0645	
Hydraulic Radius:	1.75	ft
Wetted Perimeter:	174.15	ft
Wetted Top Width:	173.98	ft
Critical Slope:	0.1017	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28E–90

Entellus™

File: T1N-R7W-S28E-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

Cross-Section:	100	
Elevation:	1150.55	ft MSL
Depth:	4.10	ft
Discharge:	1090.00	cfs
Energy Gradient:	0.0076	ft/ft
Froude Number:	0.313	
Flow Regime:	Subcritical	
Flow Area:	303.10	sq ft
Average Velocity:	3.59	ft/s
Maximum Velocity:	4.89	ft/s
Composite n:	0.0677	
Hydraulic Radius:	1.57	ft
Wetted Perimeter:	192.78	ft
Wetted Top Width:	192.54	ft
Critical Slope:	0.1493	ft/ft

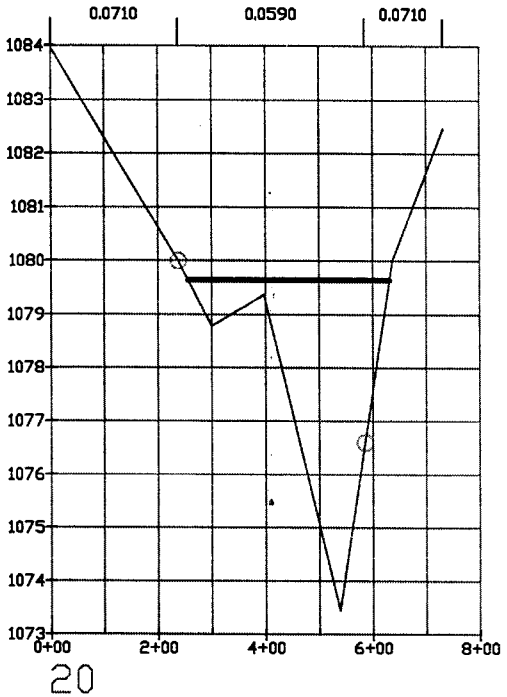
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28E–100

Entellus™

File: T1N-R7W-S28E-New-Mapping.dwg Date: 10/18/02

T1N-R7W-S28W



Normal Depth Results

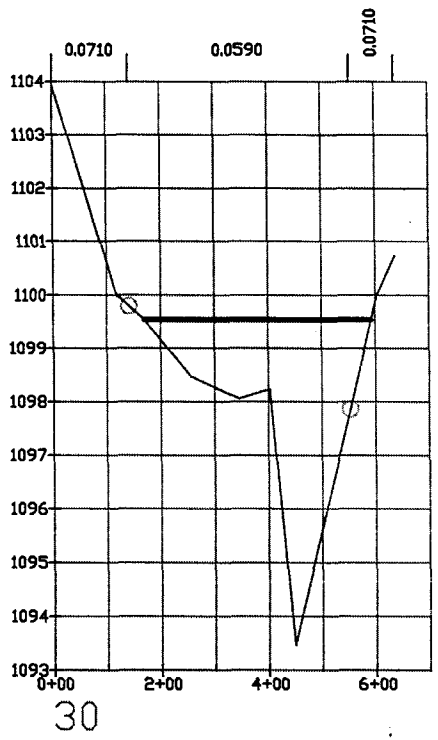
Cross-Section:	20	
Elevation:	1079.64	ft MSL
Depth:	6.19	ft
Discharge:	3020.00	cfs
Energy Gradient:	0.0077	ft/ft
Froude Number:	0.262	
Flow Regime:	Subcritical	
Flow Area:	816.52	sq ft
Average Velocity:	3.71	ft/s
Maximum Velocity:	3.83	ft/s
Composite n:	0.0605	
Hydraulic Radius:	2.18	ft
Wetted Perimeter:	375.14	ft
Wetted Top Width:	374.80	ft
Critical Slope:	0.1165	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28W–20

Entellus™

File: T1N-R7W-S28W-New-Mapping.dwg; Date: 10/18/02



Normal Depth Results

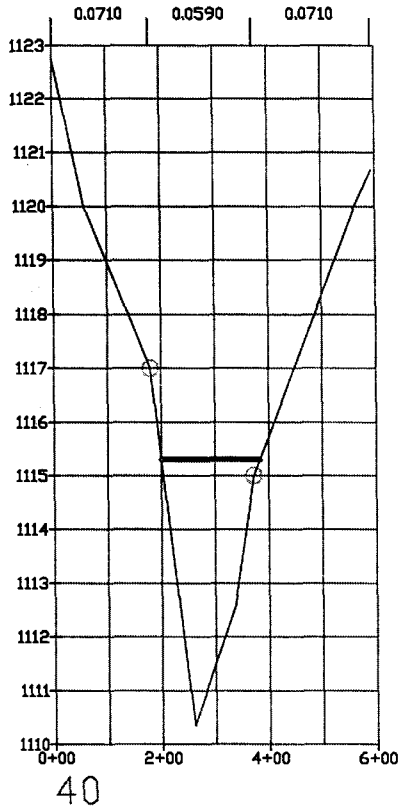
Cross-Section:	30	
Elevation:	1099.54	ft MSL
Depth:	6.07	ft
Discharge:	3020.00	cfs
Energy Gradient:	0.0077	ft/ft
Froude Number:	0.2562	
Flow Regime:	Subcritical	
Flow Area:	843.38	sq ft
Average Velocity:	3.57	ft/s
Maximum Velocity:	3.65	ft/s
Composite n:	0.0601	
Hydraulic Radius:	1.99	ft
Wetted Perimeter:	423.42	ft
Wetted Top Width:	423.03	ft
Critical Slope:	0.127	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28W–30

Entellus™

File: T1N-K7W-S28W-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

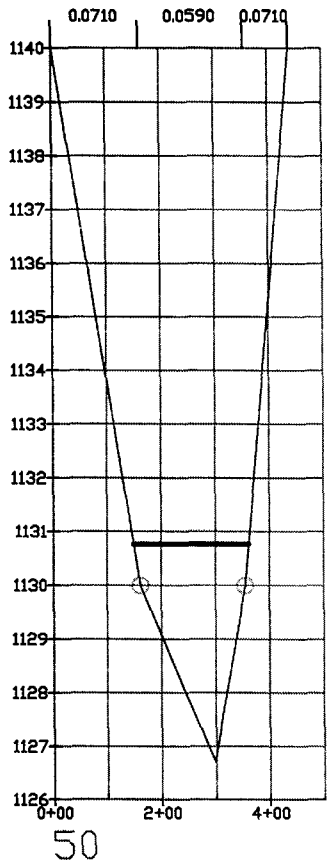
Cross-Section:	40	
Elevation:	1115.31	ft MSL
Depth:	4.94	ft
Discharge:	2220.00	cfs
Energy Gradient:	0.0077	ft/ft
Froude Number:	0.353	
Flow Regime:	Subcritical	
Flow Area:	498.60	sq ft
Average Velocity:	4.46	ft/s
Maximum Velocity:	4.48	ft/s
Composite n:	0.0597	
Hydraulic Radius:	2.71	ft
Wetted Perimeter:	184.23	ft
Wetted Top Width:	183.91	ft
Critical Slope:	0.0678	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28W–40

Entellus™

File: T1N-R7W-S28W-New-Mapping.dwg, Date: 10/18/02



Normal Depth Results

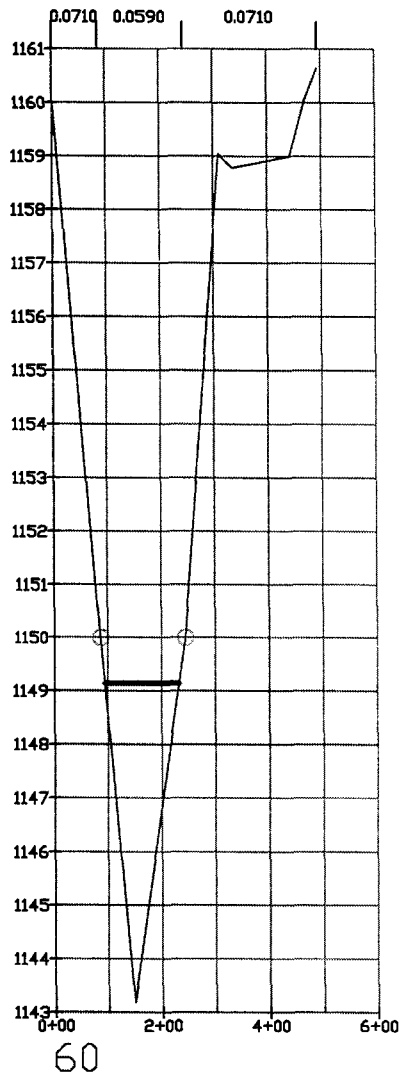
Cross-Section:	50	
Elevation:	1130.77	ft MSL
Depth:	4.06	ft
Discharge:	1870.00	cfs
Energy Gradient:	0.0077	ft/ft
Froude Number:	0.3435	
Flow Regime:	Subcritical	
Flow Area:	476.06	sq ft
Average Velocity:	3.94	ft/s
Maximum Velocity:	3.99	ft/s
Composite n:	0.0601	
Hydraulic Radius:	2.24	ft
Wetted Perimeter:	212.98	ft
Wetted Top Width:	212.77	ft
Critical Slope:	0.0728	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28W–50

Entellus™

File: T1N-R7W-S28W-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

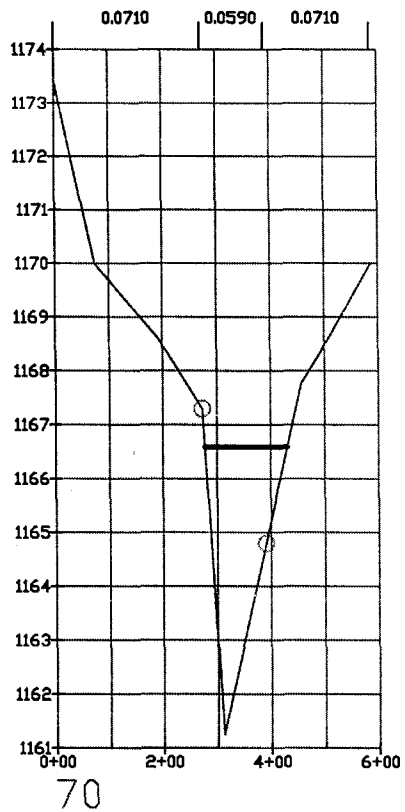
Cross-Section:	60	
Elevation:	1149.14	ft MSL
Depth:	5.95	ft
Discharge:	1870.00	cfs
Energy Gradient:	0.0077	ft/ft
Froude Number:	0.3292	
Flow Regime:	Subcritical	
Flow Area:	410.47	sq ft
Average Velocity:	4.57	ft/s
Maximum Velocity:	4.57	ft/s
Composite n:	0.059	
Hydraulic Radius:	2.96	ft
Wetted Perimeter:	138.48	ft
Wetted Top Width:	137.94	ft
Critical Slope:	0.0705	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28W–60

Entellus™

File: T1N-R7W-S28W-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

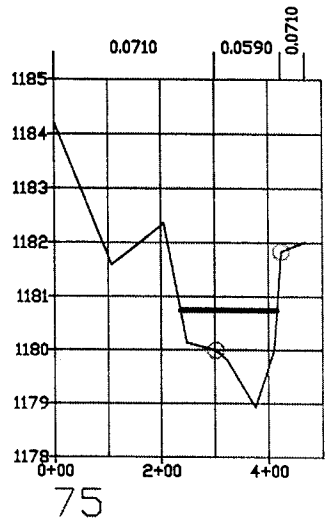
Cross-Section:	70	
Elevation:	1166.59	ft MSL
Depth:	5.33	ft
Discharge:	1870.00	cfs
Energy Gradient:	0.0077	ft/ft
Froude Number:	0.3508	
Flow Regime:	Subcritical	
Flow Area:	407.14	sq ft
Average Velocity:	4.61	ft/s
Maximum Velocity:	4.88	ft/s
Composite n:	0.0622	
Hydraulic Radius:	2.65	ft
Wetted Perimeter:	153.40	ft
Wetted Top Width:	152.88	ft
Critical Slope:	0.0813	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28W–70

Entellus™

File: T1N-K7W-S28W-New-Mapping.dwg, Date: 10/18/02



Normal Depth Results

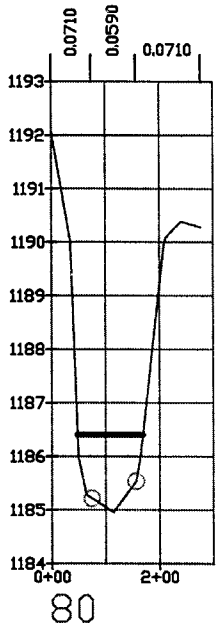
Cross-Section:	75	
Elevation:	1180.75	ft MSL
Depth:	1.82	ft
Discharge:	390.00	cfs
Energy Gradient:	0.0075	ft/ft
Froude Number:	0.2876	
Flow Regime:	Subcritical	
Flow Area:	177.20	sq ft
Average Velocity:	2.21	ft/s
Maximum Velocity:	2.47	ft/s
Composite n:	0.0635	
Hydraulic Radius:	0.99	ft
Wetted Perimeter:	179.43	ft
Wetted Top Width:	179.34	ft
Critical Slope:	0.1081	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28W–75

Entellus™

File: T1N-R7W-S28W-New-Mapping.dwg; Date: 10/18/02



Normal Depth Results

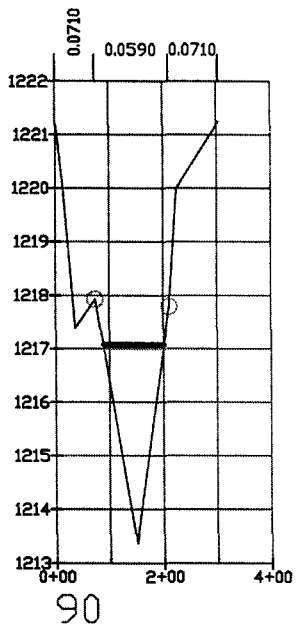
Cross-Section:	80	
Elevation:	1186.40	ft MSL
Depth:	1.44	ft
Discharge:	300.00	cfs
Energy Gradient:	0.0075	ft/ft
Froude Number:	0.3365	
Flow Regime:	Subcritical	
Flow Area:	130.84	sq ft
Average Velocity:	2.29	ft/s
Maximum Velocity:	2.51	ft/s
Composite n:	0.063	
Hydraulic Radius:	1.07	ft
Wetted Perimeter:	121.75	ft
Wetted Top Width:	121.64	ft
Critical Slope:	0.0754	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28W–80

Entellus™

File: T1N-R7W-S28W-New-Mapping.dwg, Date: 10/18/02



Normal Depth Results

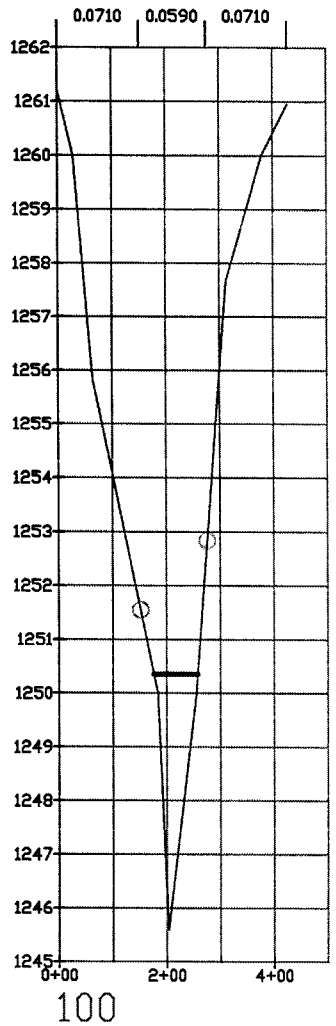
Cross-Section:	90	
Elevation:	1217.08	ft MSL
Depth:	3.71	ft
Discharge:	690.00	cfs
Energy Gradient:	0.0075	ft/ft
Froude Number:	0.3013	
Flow Regime:	Subcritical	
Flow Area:	209.60	sq ft
Average Velocity:	3.30	ft/s
Maximum Velocity:	3.30	ft/s
Composite n:	0.059	
Hydraulic Radius:	1.85	ft
Wetted Perimeter:	113.26	ft
Wetted Top Width:	113.01	ft
Critical Slope:	0.0823	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28W–90

Entellus™

File: T1N-k7W-S28W-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

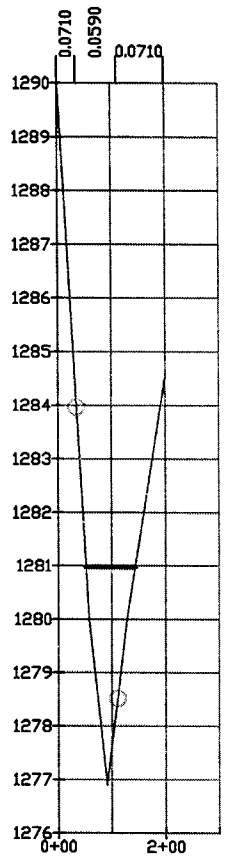
Cross-Section:	100	
Elevation:	1250.35	ft MSL
Depth:	4.76	ft
Discharge:	690.00	cfs
Energy Gradient:	0.0075	ft/ft
Froude Number:	0.303	
Flow Regime:	Subcritical	
Flow Area:	183.93	sq ft
Average Velocity:	3.75	ft/s
Maximum Velocity:	3.75	ft/s
Composite n:	0.059	
Hydraulic Radius:	2.25	ft
Wetted Perimeter:	81.77	ft
Wetted Top Width:	81.06	ft
Critical Slope:	0.0815	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28W–100

Entellus™

File: T1N-R7W-S28W-New-Mapping.dwg, Date: 10/18/02



110

Normal Depth Results

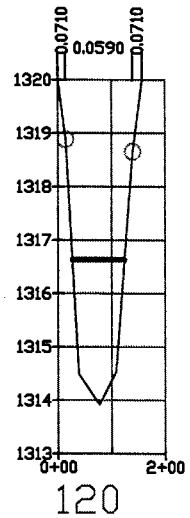
Cross-Section:	110	
Elevation:	1280.98	ft MSL
Depth:	4.07	ft
Discharge:	690.00	cfs
Energy Gradient:	0.0075	ft/ft
Froude Number:	0.3201	
Flow Regime:	Subcritical	
Flow Area:	188.41	sq ft
Average Velocity:	3.67	ft/s
Maximum Velocity:	4.09	ft/s
Composite n:	0.0634	
Hydraulic Radius:	2.05	ft
Wetted Perimeter:	92.06	ft
Wetted Top Width:	91.67	ft
Critical Slope:	0.0913	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28W–110

Entellus™

File: T1N-R7W-S28W-New-Mapping.dwg Date: 10/18/02



Normal Depth Results

Cross-Section:	120	
Elevation:	1316.63	ft MSL
Depth:	2.71	ft
Discharge:	690.00	cfs
Energy Gradient:	0.0075	ft/ft
Froude Number:	0.3728	
Flow Regime:	Subcritical	
Flow Area:	198.09	sq ft
Average Velocity:	3.50	ft/s
Maximum Velocity:	3.50	ft/s
Composite n:	0.059	
Hydraulic Radius:	2.02	ft
Wetted Perimeter:	97.83	ft
Wetted Top Width:	97.48	ft
Critical Slope:	0.0534	ft/ft

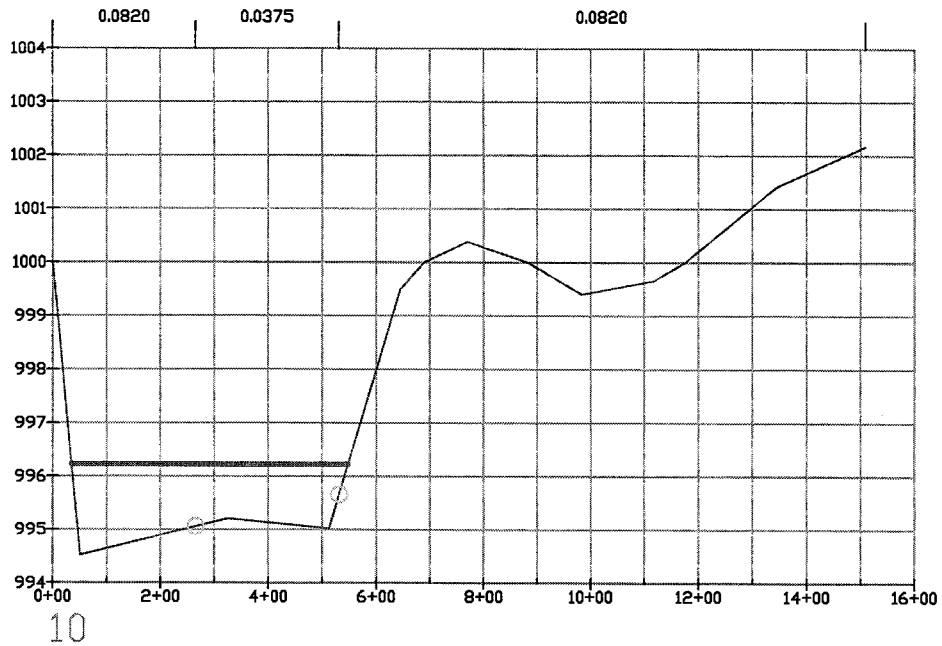
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S28W–120

Entellus™

File: T1N-R7W-S28W-New-Mapping.dwg Date: 10/18/02

T1N-R7W-S35



Normal Depth Results

Cross-Section:	10	
Elevation:	996.23	ft MSL
Depth:	1.71	ft
Discharge:	1510.00	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.3303	
Flow Regime:	Subcritical	
Flow Area:	616.76	sq ft
Average Velocity:	2.46	ft/s
Maximum Velocity:	3.26	ft/s
Composite n:	0.0609	
Hydraulic Radius:	1.2	ft
Wetted Perimeter:	513.13	ft
Wetted Top Width:	513.02	ft
Critical Slope:	0.0719	ft/ft

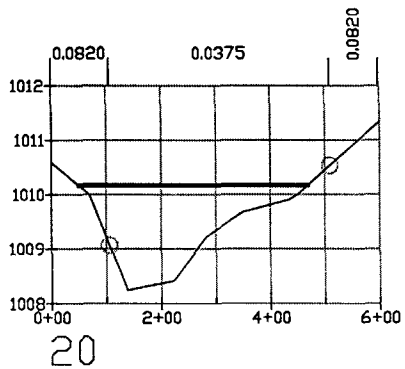
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S35–10

Entellus™

File: T1N-R7W-S35.dwg Date: 5/21/03

T1N-R7W-S36



Normal Depth Results

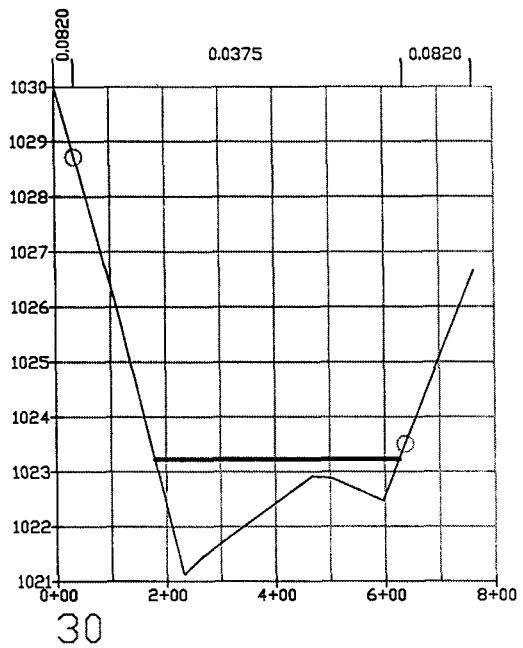
Cross-Section:	20	
Elevation:	1010.17	ft MSL
Depth:	1.92	ft
Discharge:	1170.00	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.3766	
Flow Regime:	Subcritical	
Flow Area:	395.01	sq ft
Average Velocity:	2.97	ft/s
Maximum Velocity:	3.12	ft/s
Composite n:	0.0446	
Hydraulic Radius:	0.94	ft
Wetted Perimeter:	419.08	ft
Wetted Top Width:	419.05	ft
Critical Slope:	0.0601	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S36–20

Entellus™

File: T1N-R7W-S36-New-Mapping.dwg Date: 12/16/02



Normal Depth Results

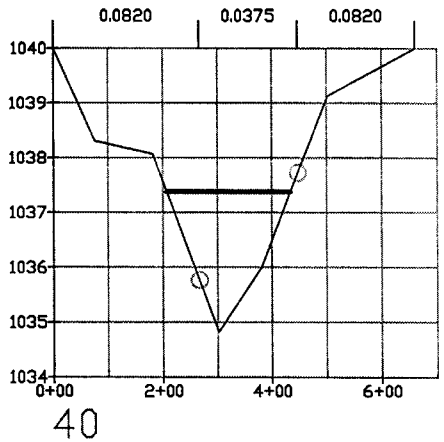
Cross-Section:	30	
Elevation:	1023.23	ft MSL
Depth:	2.11	ft
Discharge:	1170.00	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.3477	
Flow Regime:	Subcritical	
Flow Area:	408.16	sq ft
Average Velocity:	2.90	ft/s
Maximum Velocity:	2.90	ft/s
Composite n:	0.0375	
Hydraulic Radius:	0.91	ft
Wetted Perimeter:	446.66	ft
Wetted Top Width:	446.60	ft
Critical Slope:	0.0485	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S36–30

Entellus™

File: T1N-R7W-S36-New-Mapping.dwg Date: 12/16/02



Normal Depth Results

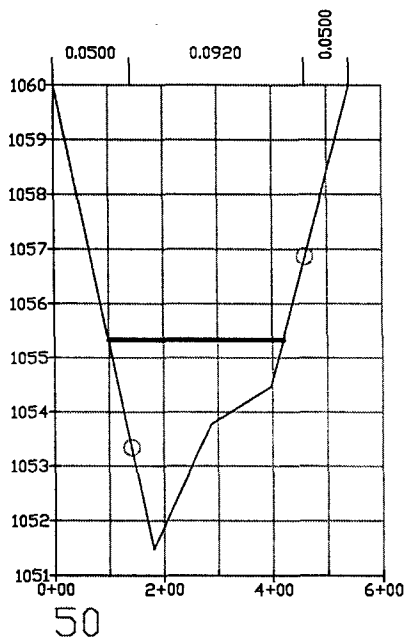
Cross-Section:	40	
Elevation:	1037.38	ft MSL
Depth:	2.56	ft
Discharge:	1170.00	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.4101	
Flow Regime:	Subcritical	
Flow Area:	314.18	sq ft
Average Velocity:	3.73	ft/s
Maximum Velocity:	4.19	ft/s
Composite n:	0.051	
Hydraulic Radius:	1.38	ft
Wetted Perimeter:	227.42	ft
Wetted Top Width:	227.36	ft
Critical Slope:	0.0629	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S36–40

Entellus™

File: T1N-R7W-S36-New-Mapping.dwg Date: 12/16/02



Normal Depth Results

Cross-Section:	50	
Elevation:	1055.33	ft MSL
Depth:	3.85	ft
Discharge:	1170.00	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.1784	
Flow Regime:	Subcritical	
Flow Area:	588.93	sq ft
Average Velocity:	1.99	ft/s
Maximum Velocity:	2.30	ft/s
Composite n:	0.087	
Hydraulic Radius:	1.84	ft
Wetted Perimeter:	320.74	ft
Wetted Top Width:	320.61	ft
Critical Slope:	0.1883	ft/ft

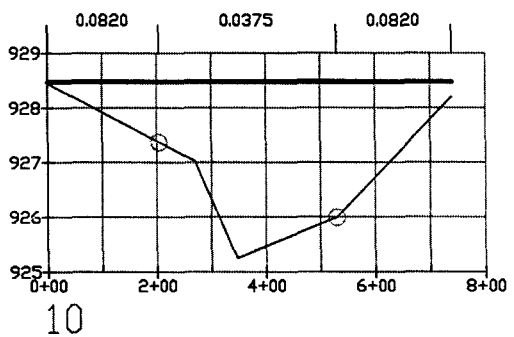
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1N–R7W–S36–50

Entellus™

File: T1N-R7W-S36-New-Mapping.dwg Date: 12/16/02

T1S-R6W-S05E



Normal Depth Results

Cross-Section:	10	
Elevation:	928.48	ft MSL
Depth:	3.23	ft
Discharge:	3560.00	cfs
Energy Gradient:	0.0031	ft/ft
Froude Number:	0.2929	
Flow Regime:	Subcritical	
Flow Area:	1192.69	sq ft
Average Velocity:	3.00	ft/s
Maximum Velocity:	3.98	ft/s
Composite n:	0.0643	
Hydraulic Radius:	1.61	ft
Wetted Perimeter:	739.16	ft
Wetted Top Width:	739.12	ft
Critical Slope:	0.1023	ft/ft

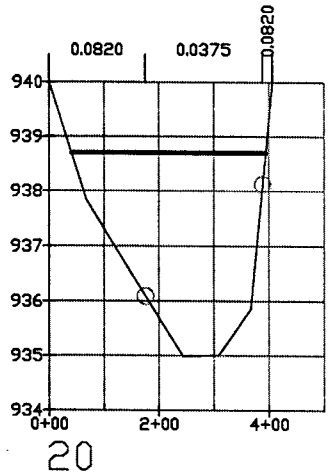
NOT USED IN DELINEATION.

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05E–10

Entellus™

File: T1S-R6W-S05E-New-Mapping.dwg Date: 12/16/02



Normal Depth Results

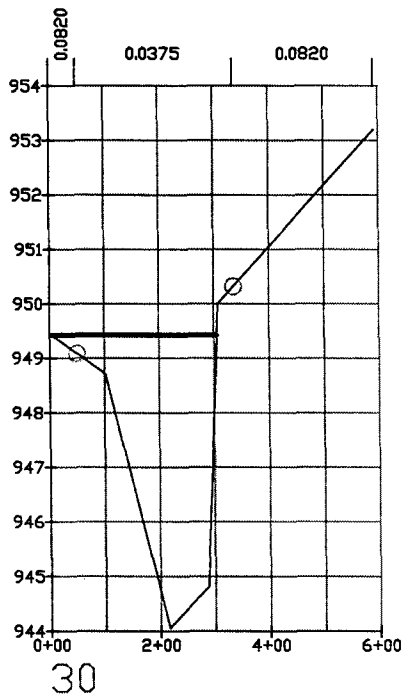
Cross-Section:	20	
Elevation:	938.70	ft MSL
Depth:	3.71	ft
Discharge:	3560.00	cfs
Energy Gradient:	0.0031	ft/ft
Froude Number:	0.3681	
Flow Regime:	Subcritical	
Flow Area:	884.76	sq ft
Average Velocity:	4.01	ft/s
Maximum Velocity:	4.81	ft/s
Composite n:	0.0572	
Hydraulic Radius:	2.5	ft
Wetted Perimeter:	353.84	ft
Wetted Top Width:	353.65	ft
Critical Slope:	0.052	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05E–20

Entellus™

File: T1S-R6W-S05E-New-Mapping.dwg Date: 12/16/02



Normal Depth Results

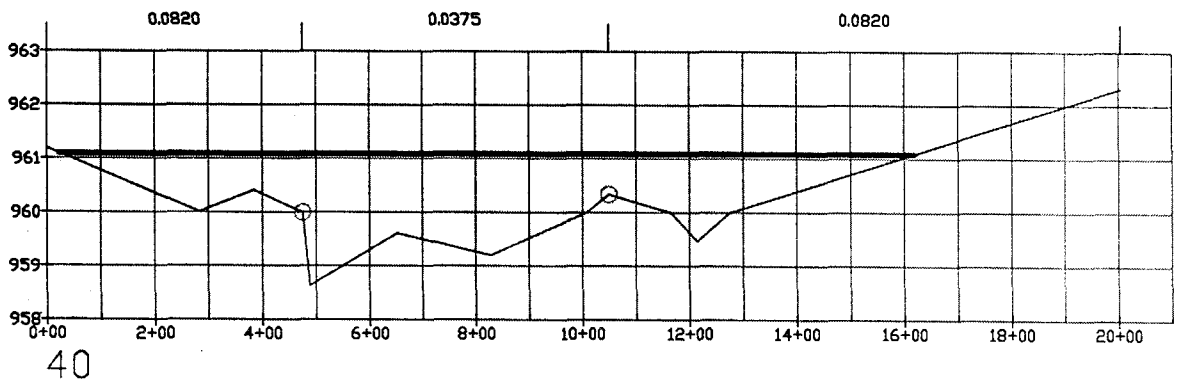
Cross-Section:	30	
Elevation:	949.42	ft MSL
Depth:	5.36	ft
Discharge:	3560.00	cfs
Energy Gradient:	0.0031	ft/ft
Froude Number:	0.3476	
Flow Regime:	Subcritical	
Flow Area:	779.60	sq ft
Average Velocity:	4.56	ft/s
Maximum Velocity:	4.60	ft/s
Composite n:	0.0454	
Hydraulic Radius:	2.58	ft
Wetted Perimeter:	302.60	ft
Wetted Top Width:	301.93	ft
Critical Slope:	0.0455	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05E–30

Entellus™

File: T1S-R6W-S05E-New-Mapping.dwg Date: 12/16/02



Normal Depth Results

Cross-Section:	40	
Elevation:	961.09	ft MSL
Depth:	2.46	ft
Discharge:	3560.00	cfs
Energy Gradient:	0.0031	ft/ft
Froude Number:	0.2346	
Flow Regime:	Subcritical	
Flow Area:	1704.16	sq ft
Average Velocity:	2.09	ft/s
Maximum Velocity:	3.09	ft/s
Composite n:	0.0677	
Hydraulic Radius:	1.07	ft
Wetted Perimeter:	1595.24	ft
Wetted Top Width:	1595.16	ft
Critical Slope:	0.1501	ft/ft

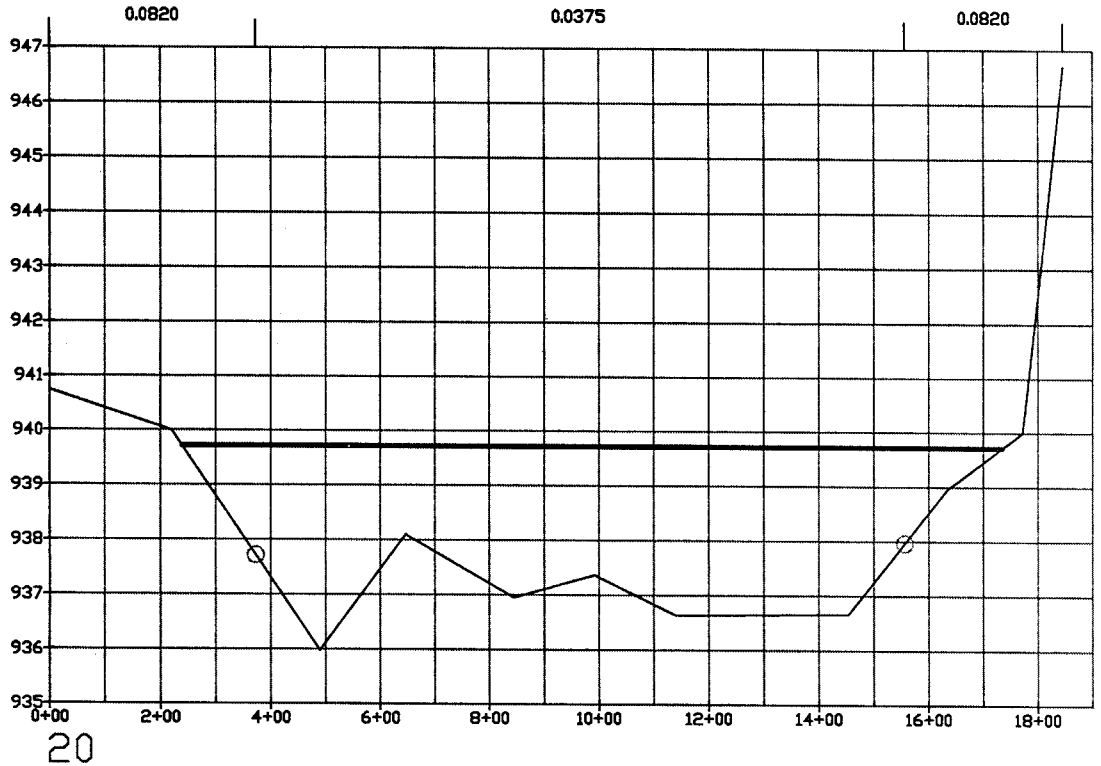
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05E–40

Entellus™

File: T1S-R6W-S05E-New-Mapping.dwg Date: 12/02/02

T1S-R6W-S05N



Normal Depth Results

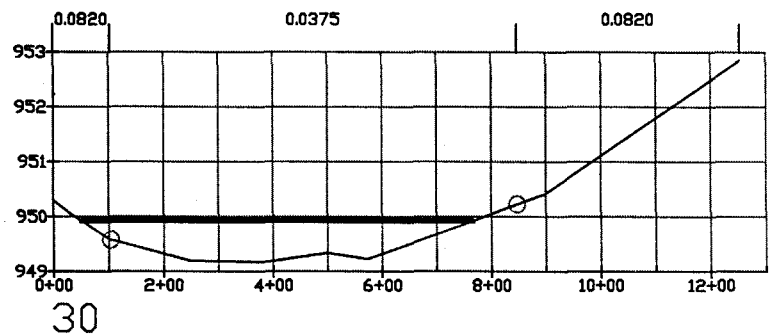
Cross-Section:	20	
Elevation:	939.72	ft MSL
Depth:	3.74	ft
Discharge:	12450.00	cfs
Energy Gradient:	0.0025	ft/ft
Froude Number:	0.3295	
Flow Regime:	Subcritical	
Flow Area:	3445.91	sq ft
Average Velocity:	3.60	ft/s
Maximum Velocity:	3.84	ft/s
Composite n:	0.0483	
Hydraulic Radius:	2.3	ft
Wetted Perimeter:	1495.41	ft
Wetted Top Width:	1495.34	ft
Critical Slope:	0.0416	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05N–20

Entellus™

File: T1S-R6W-S05N-New-Mapping.dwg Date: 12/11/02



Normal Depth Results

Cross-Section:	30	
Elevation:	949.92	ft MSL
Depth:	0.75	ft
Discharge:	510.00	cfs
Energy Gradient:	0.0025	ft/ft
Froude Number:	0.2728	
Flow Regime:	Subcritical	
Flow Area:	379.37	sq ft
Average Velocity:	1.32	ft/s
Maximum Velocity:	1.35	ft/s
Composite n:	0.0415	
Hydraulic Radius:	0.53	ft
Wetted Perimeter:	716.03	ft
Wetted Top Width:	716.03	ft
Critical Slope:	0.044	ft/ft

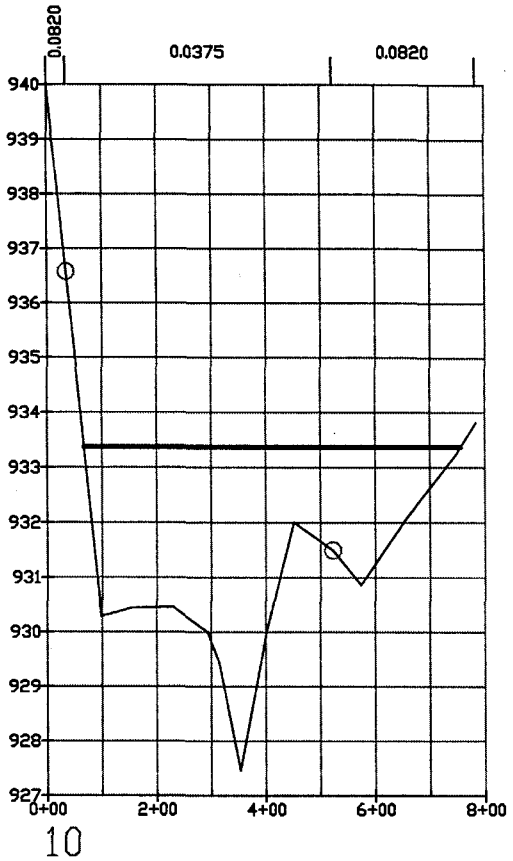
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05N–30

Entellus™

File: T1S-R6W-S05N-New-Mapping.dwg Date: 12/17/02

T1S-R6W-S05S



Normal Depth Results

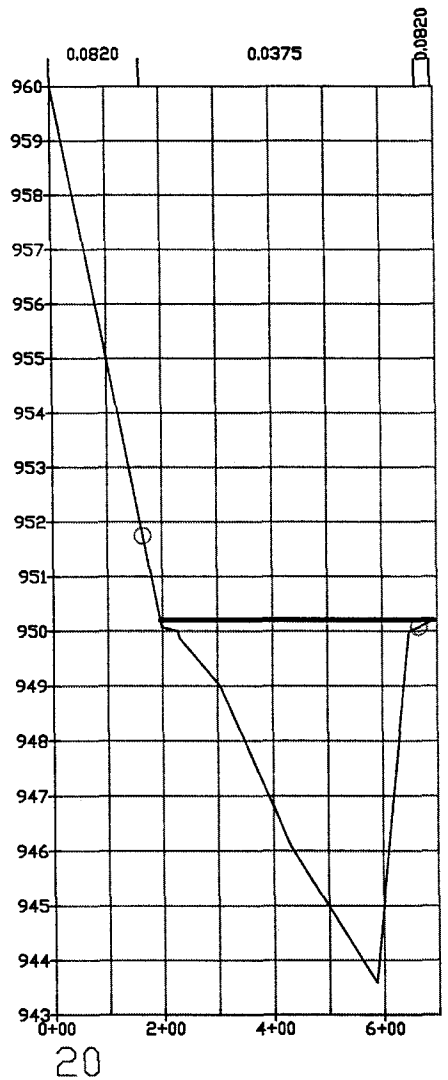
Cross-Section:	10	
Elevation:	933.38	ft MSL
Depth:	5.92	ft
Discharge:	8450.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.3607	
Flow Regime:	Subcritical	
Flow Area:	1697.90	sq ft
Average Velocity:	4.95	ft/s
Maximum Velocity:	5.77	ft/s
Composite n:	0.0545	
Hydraulic Radius:	2.47	ft
Wetted Perimeter:	688.74	ft
Wetted Top Width:	688.40	ft
Critical Slope:	0.0766	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05S–10

Entellus™

File: T13-R6W-S05S-New-Mapping.dwg Date: 12/11/02



Normal Depth Results

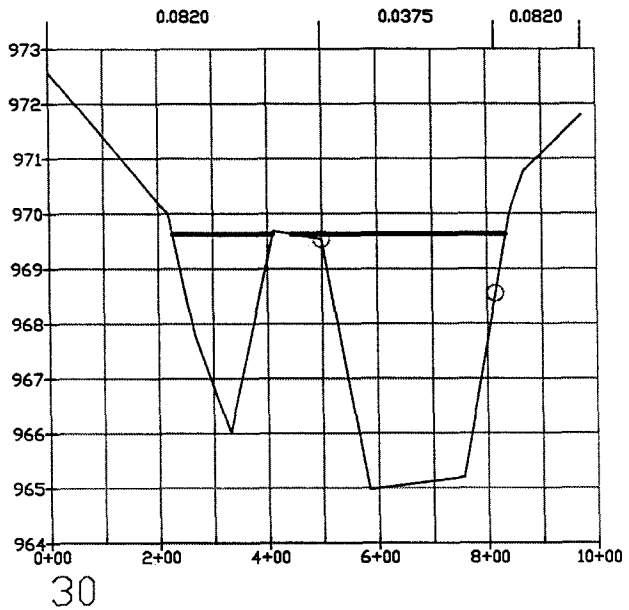
Cross-Section:	20	
Elevation:	950.20	ft MSL
Depth:	6.62	ft
Discharge:	8450.00	cfs
Energy Gradient:	0.0049	ft/ft
Froude Number:	0.4001	
Flow Regime:	Subcritical	
Flow Area:	1446.50	sq ft
Average Velocity:	5.86	ft/s
Maximum Velocity:	5.87	ft/s
Composite n:	0.0404	
Hydraulic Radius:	2.9	ft
Wetted Perimeter:	498.36	ft
Wetted Top Width:	497.96	ft
Critical Slope:	0.0379	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05S–20

Entellus™

File: T1S-R6W-S05S-New-Mapping.dwg Date: 12/16/02



Normal Depth Results

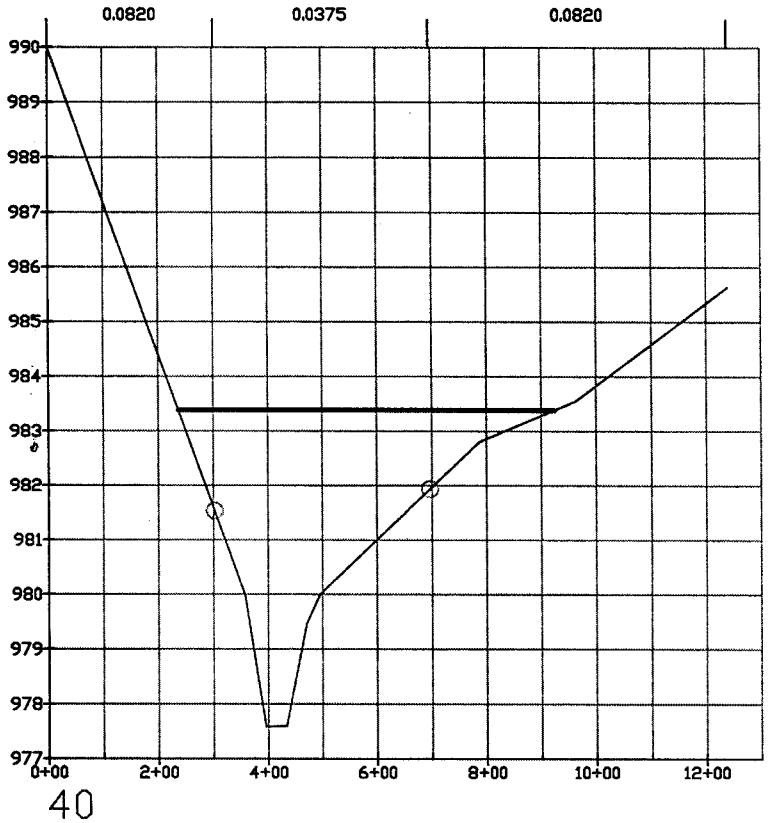
Cross-Section:	30	
Elevation:	969.63	ft MSL
Depth:	4.65	ft
Discharge:	8450.00	cfs
Energy Gradient:	0.0053	ft/ft
Froude Number:	0.4563	
Flow Regime:	Subcritical	
Flow Area:	1513.30	sq ft
Average Velocity:	5.58	ft/s
Maximum Velocity:	6.82	ft/s
Composite n:	0.0595	
Hydraulic Radius:	2.63	ft
Wetted Perimeter:	574.40	ft
Wetted Top Width:	574.00	ft
Critical Slope:	0.0658	ft/ft

File: T1S-R6W-S05S-New-Mapping.dwg Date: 12/16/02

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05S–30

Entellus™



Normal Depth Results

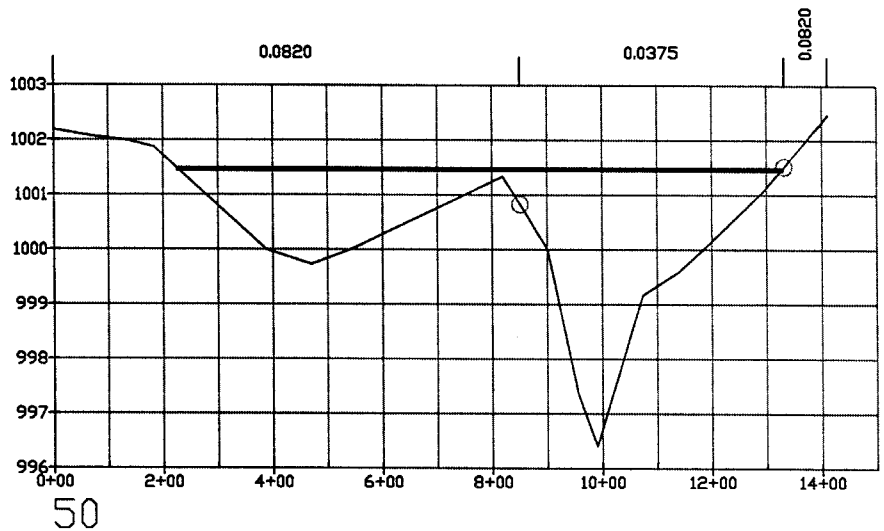
Cross-Section:	40	
Elevation:	983.39	ft MSL
Depth:	5.81	ft
Discharge:	8450.00	cfs
Energy Gradient:	0.0053	ft/ft
Froude Number:	0.4154	
Flow Regime:	Subcritical	
Flow Area:	1487.90	sq ft
Average Velocity:	5.70	ft/s
Maximum Velocity:	6.39	ft/s
Composite n:	0.0585	
Hydraulic Radius:	2.16	ft
Wetted Perimeter:	687.69	ft
Wetted Top Width:	687.50	ft
Critical Slope:	0.1032	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05S–40

Entellus™

File: T1S-R6W-S05S-New-Mapping.dwg Date: 12/16/02



Normal Depth Results

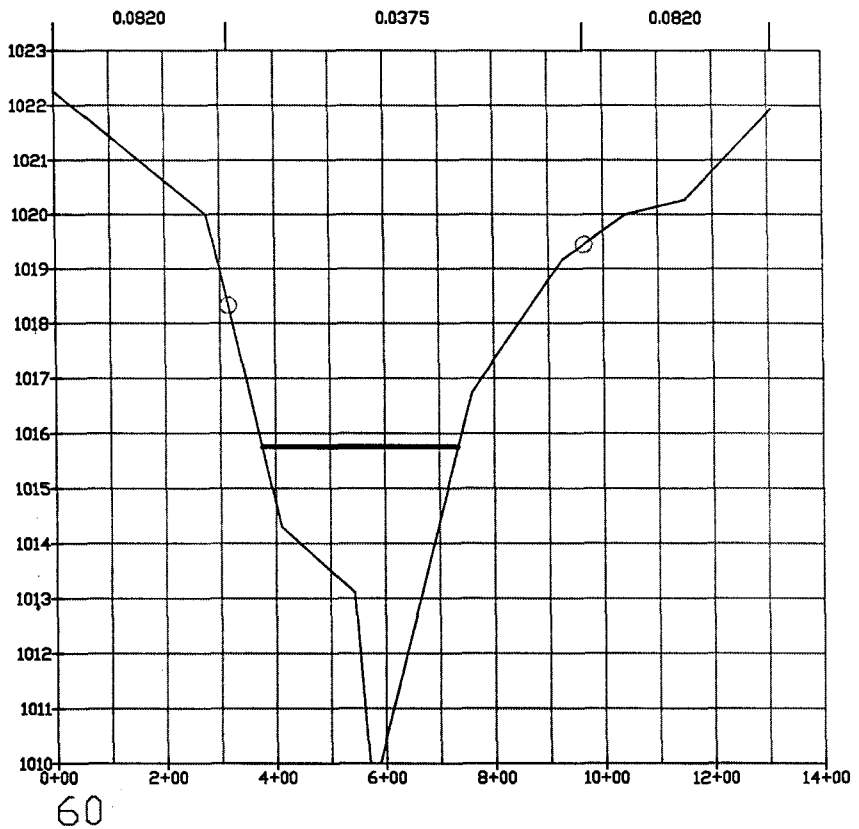
Cross-Section:	50	
Elevation:	1001.47	ft MSL
Depth:	5.06	ft
Discharge:	5760.00	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.2841	
Flow Regime:	Subcritical	
Flow Area:	1589.21	sq ft
Average Velocity:	3.64	ft/s
Maximum Velocity:	5.01	ft/s
Composite n:	0.0646	
Hydraulic Radius:	1.44	ft
Wetted Perimeter:	1099.86	ft
Wetted Top Width:	1099.70	ft
Critical Slope:	0.1877	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05S–50

Entellus™

File: T1S-R6W-S05S-New-Mapping.dwg Date: 12/17/02



Normal Depth Results

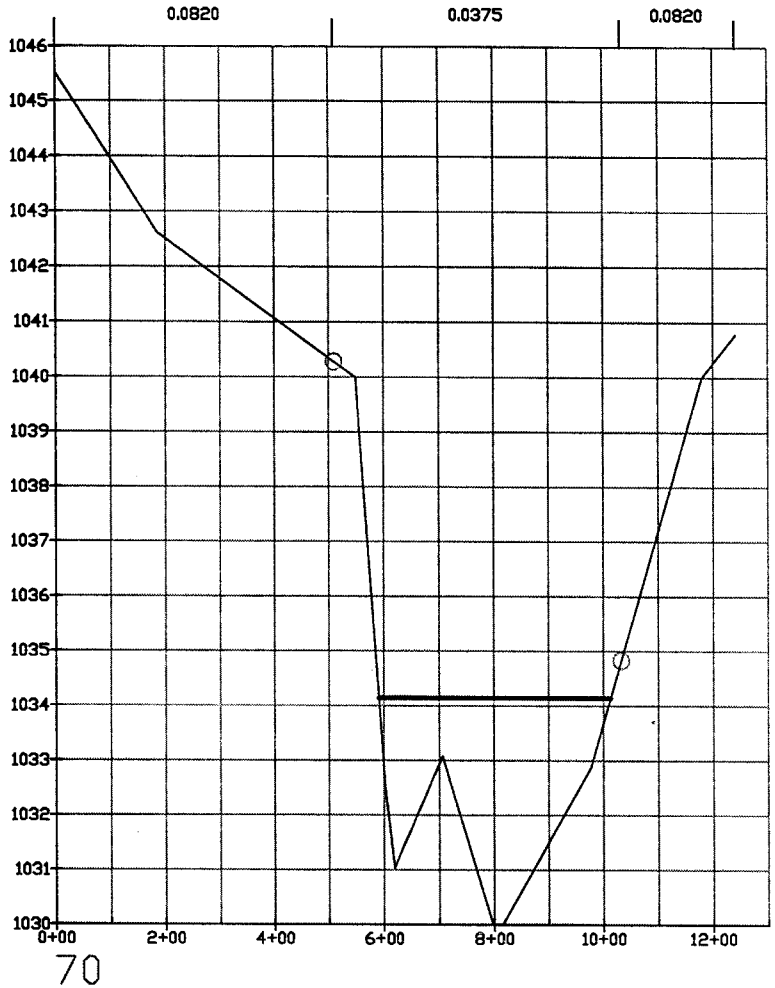
Cross-Section:	60	
Elevation:	1015.76	ft MSL
Depth:	5.76	ft
Discharge:	5490.00	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.4305	
Flow Regime:	Subcritical	
Flow Area:	936.79	sq ft
Average Velocity:	5.83	ft/s
Maximum Velocity:	5.83	ft/s
Composite n:	0.0375	
Hydraulic Radius:	2.61	ft
Wetted Perimeter:	359.07	ft
Wetted Top Width:	358.73	ft
Critical Slope:	0.0326	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05S–60

Entellus™

File: T1S-R6W-S05S-New-Mapping.dwg Date: 12/16/02



Normal Depth Results

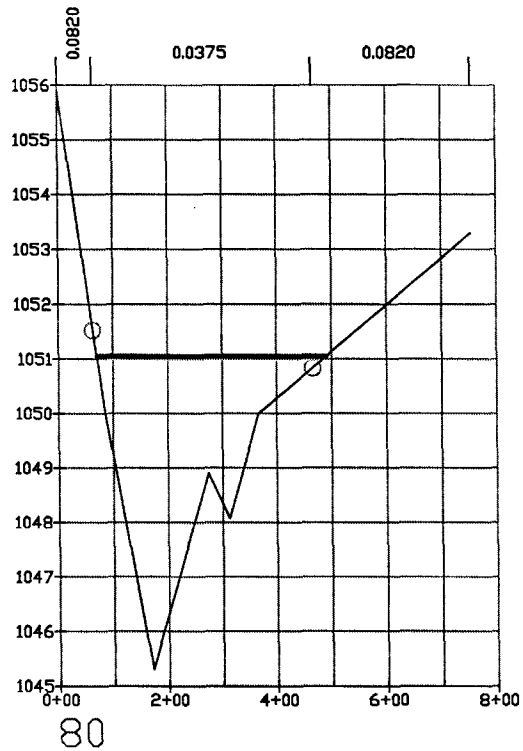
Cross-Section:	70	
Elevation:	1034.15	ft MSL
Depth:	4.15	ft
Discharge:	5490.00	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.4728	
Flow Regime:	Subcritical	
Flow Area:	1004.82	sq ft
Average Velocity:	5.48	ft/s
Maximum Velocity:	5.48	ft/s
Composite n:	0.0375	
Hydraulic Radius:	2.38	ft
Wetted Perimeter:	422.93	ft
Wetted Top Width:	422.63	ft
Critical Slope:	0.0266	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05S–70

Entellus™

File: T1S-R6W-S05S-New-Mapping.dwg Date: 12/16/02



Normal Depth Results

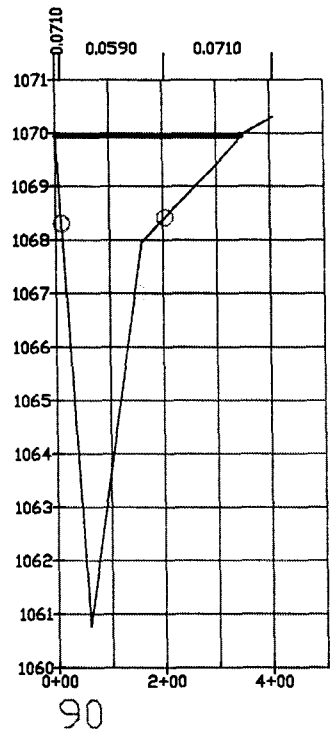
Cross-Section:	80	
Elevation:	1051.05	ft MSL
Depth:	5.74	ft
Discharge:	5490.00	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.4131	
Flow Regime:	Subcritical	
Flow Area:	977.59	sq ft
Average Velocity:	5.60	ft/s
Maximum Velocity:	5.62	ft/s
Composite n:	0.0407	
Hydraulic Radius:	2.32	ft
Wetted Perimeter:	420.55	ft
Wetted Top Width:	420.28	ft
Critical Slope:	0.0448	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05S–80

Entellus™

File: T1S-R6W-S05S-New-Mapping.dwg Date: 12/16/02



Normal Depth Results

Cross-Section:	90	
Elevation:	1069.95	ft MSL
Depth:	9.18	ft
Discharge:	5070.00	cfs
Energy Gradient:	0.006	ft/ft
Froude Number:	0.2884	
Flow Regime:	Subcritical	
Flow Area:	1022.89	sq ft
Average Velocity:	4.96	ft/s
Maximum Velocity:	5.44	ft/s
Composite n:	0.0644	
Hydraulic Radius:	2.94	ft
Wetted Perimeter:	348.08	ft
Wetted Top Width:	347.11	ft
Critical Slope:	0.1312	ft/ft

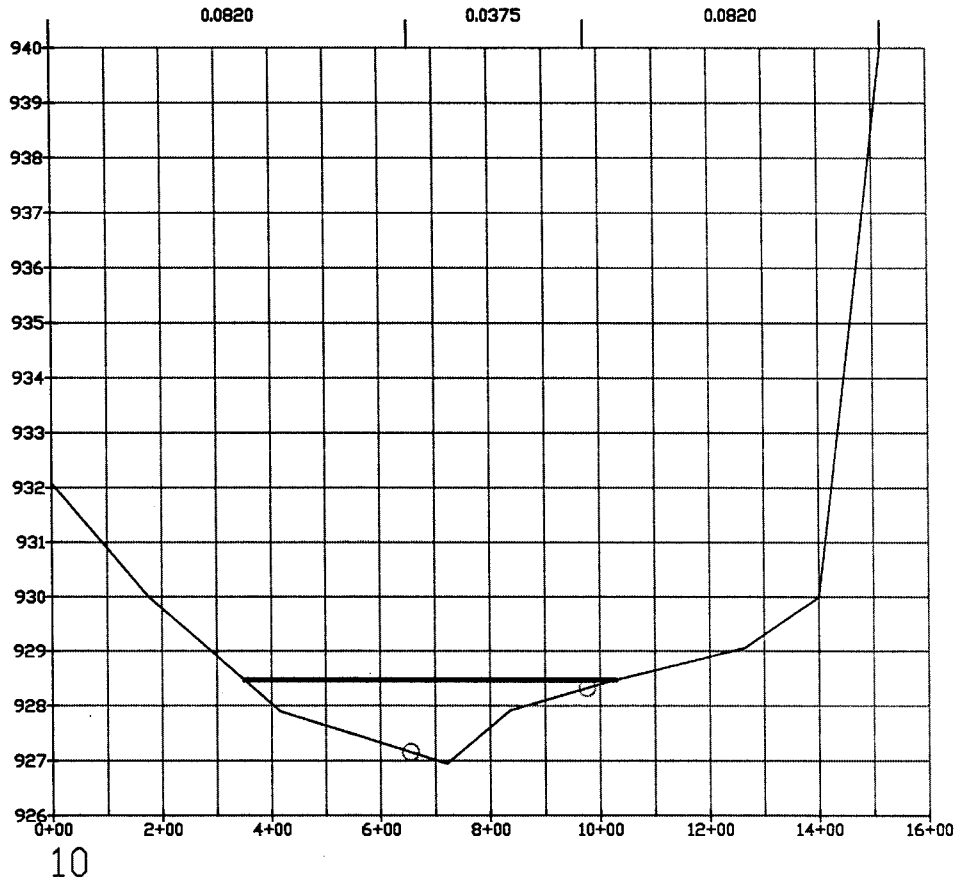
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05S–90

Entellus™

File: T1S-R6W-S05S-New-Mapping.dwg; Date: 12/02/02

T1S-R6W-S05W



Normal Depth Results

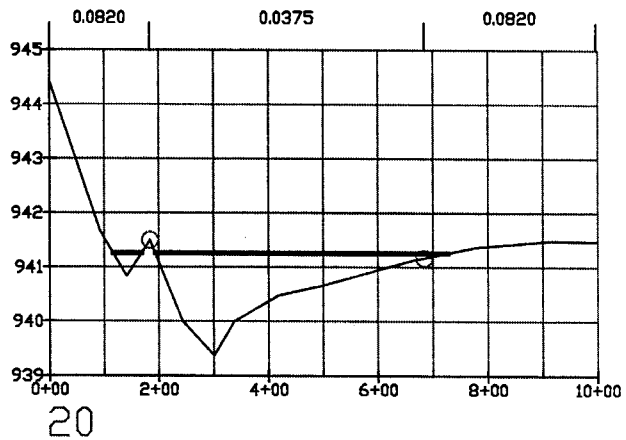
Cross-Section:	10	
Elevation:	928.48	ft MSL
Depth:	1.53	ft
Discharge:	720.00	cfs
Energy Gradient:	0.0031	ft/ft
Froude Number:	0.2008	
Flow Regime:	Subcritical	
Flow Area:	511.70	sq ft
Average Velocity:	1.42	ft/s
Maximum Velocity:	1.94	ft/s
Composite n:	0.0629	
Hydraulic Radius:	0.75	ft
Wetted Perimeter:	678.06	ft
Wetted Top Width:	678.05	ft
Critical Slope:	0.1276	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05W–10

Entellus™

File: T1S-R6W-S05W-New-Mapping.dwg Date: 12/17/02



Normal Depth Results

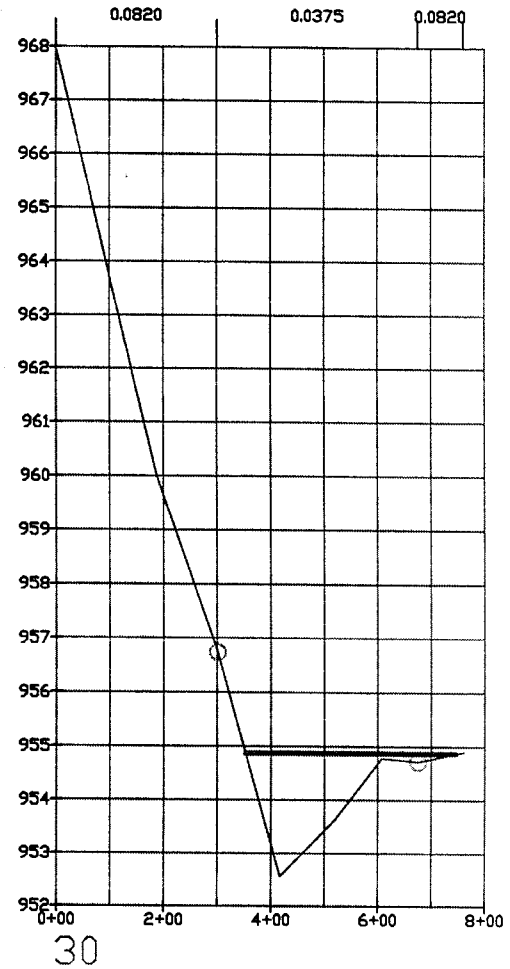
Cross-Section:	20	
Elevation:	941.26	ft MSL
Depth:	1.89	ft
Discharge:	720.00	cfs
Energy Gradient:	0.0031	ft/ft
Froude Number:	0.2345	
Flow Regime:	Subcritical	
Flow Area:	393.51	sq ft
Average Velocity:	1.81	ft/s
Maximum Velocity:	1.87	ft/s
Composite n:	0.0461	
Hydraulic Radius:	0.67	ft
Wetted Perimeter:	587.08	ft
Wetted Top Width:	587.04	ft
Critical Slope:	0.0997	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05W–20

Entellus™

File: T1S-R6W-S05W-New-Mapping.dwg Date: 12/17/02



Normal Depth Results

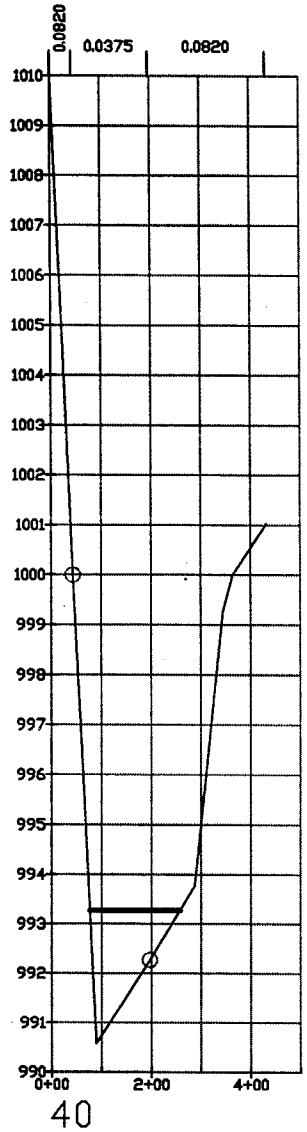
Cross-Section:	30	
Elevation:	954.88	ft MSL
Depth:	2.32	ft
Discharge:	720.00	cfs
Energy Gradient:	0.0031	ft/ft
Froude Number:	0.2533	
Flow Regime:	Subcritical	
Flow Area:	329.25	sq ft
Average Velocity:	2.18	ft/s
Maximum Velocity:	2.21	ft/s
Composite n:	0.0468	
Hydraulic Radius:	0.84	ft
Wetted Perimeter:	393.00	ft
Wetted Top Width:	392.94	ft
Critical Slope:	0.0932	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05W–30

Entellus™

File: T1S-R6W-S05W-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

Cross-Section:	40	
Elevation:	993.28	ft MSL
Depth:	2.70	ft
Discharge:	720.00	cfs
Energy Gradient:	0.0031	ft/ft
Froude Number:	0.3132	
Flow Regime:	Subcritical	
Flow Area:	246.81	sq ft
Average Velocity:	2.94	ft/s
Maximum Velocity:	3.26	ft/s
Composite n:	0.0543	
Hydraulic Radius:	1.36	ft
Wetted Perimeter:	181.25	ft
Wetted Top Width:	180.95	ft
Critical Slope:	0.0764	ft/ft

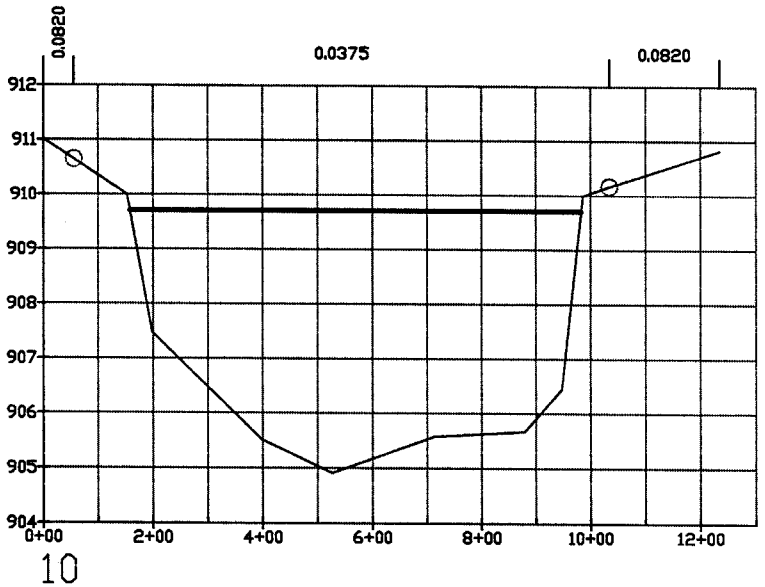
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S05W–40

Entellus™

File: T1S-R6W-S05W-New-Mapping.dwg Date: 12/17/02

T1S-R6W-S08



Normal Depth Results

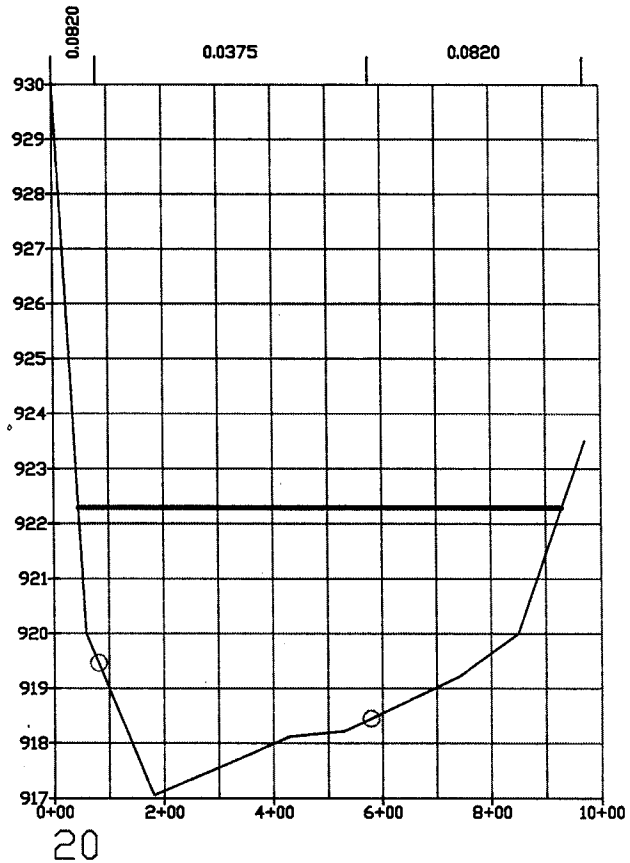
Cross-Section:	10	
Elevation:	909.71	ft MSL
Depth:	4.80	ft
Discharge:	13505.00	cfs
Energy Gradient:	0.0021	ft/ft
Froude Number:	0.3526	
Flow Regime:	Subcritical	
Flow Area:	3081.72	sq ft
Average Velocity:	4.39	ft/s
Maximum Velocity:	4.39	ft/s
Composite n:	0.0375	
Hydraulic Radius:	3.74	ft
Wetted Perimeter:	824.35	ft
Wetted Top Width:	824.12	ft
Critical Slope:	0.0168	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S08–10

Entellus™

File: T1S-R6W-S08-Now-Mapping.dwg Date: 12/16/02



Normal Depth Results

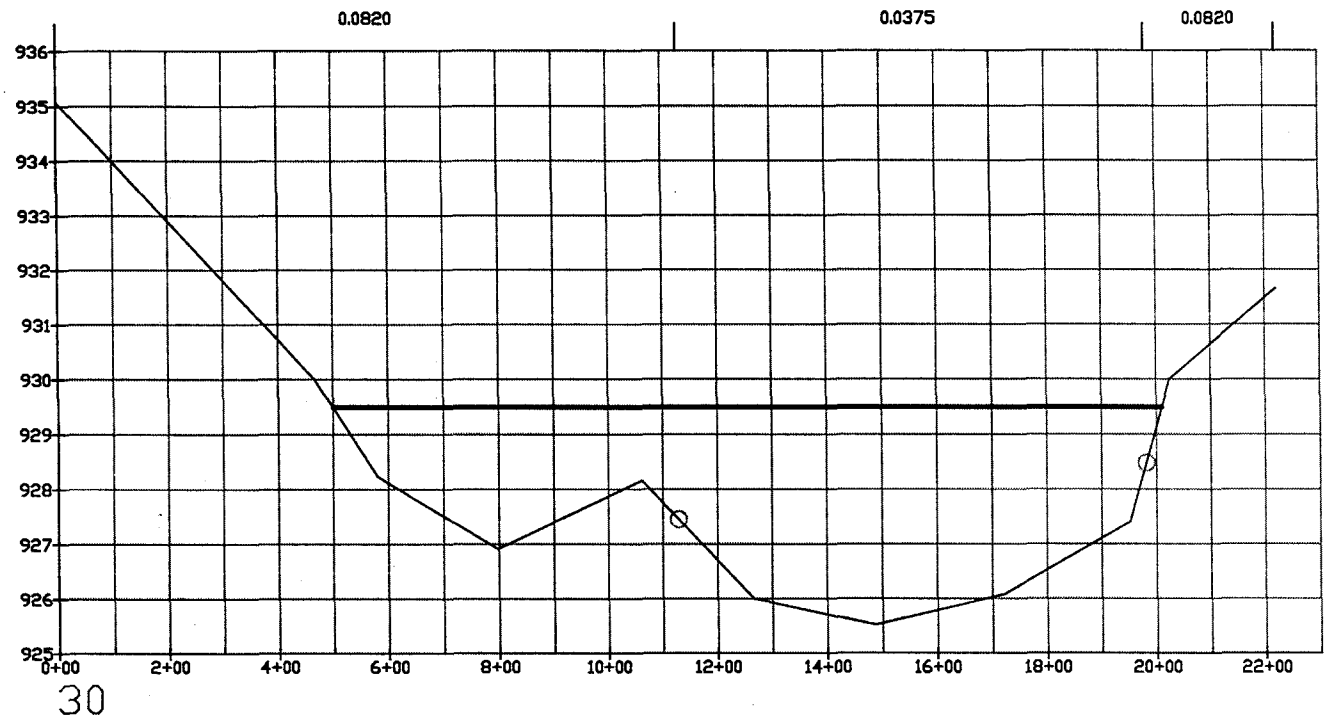
Cross-Section:	20	
Elevation:	922.30	ft MSL
Depth:	5.24	ft
Discharge:	13410.00	cfs
Energy Gradient:	0.0025	ft/ft
Froude Number:	0.3225	
Flow Regime:	Subcritical	
Flow Area:	3202.52	sq ft
Average Velocity:	4.18	ft/s
Maximum Velocity:	5.32	ft/s
Composite n:	0.059	
Hydraulic Radius:	3.62	ft
Wetted Perimeter:	884.55	ft
Wetted Top Width:	884.27	ft
Critical Slope:	0.0475	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S08–20

Entellus™

File: T1S-R6W-S08-New-Mapping.dwg Date: 12/10/02



Normal Depth Results

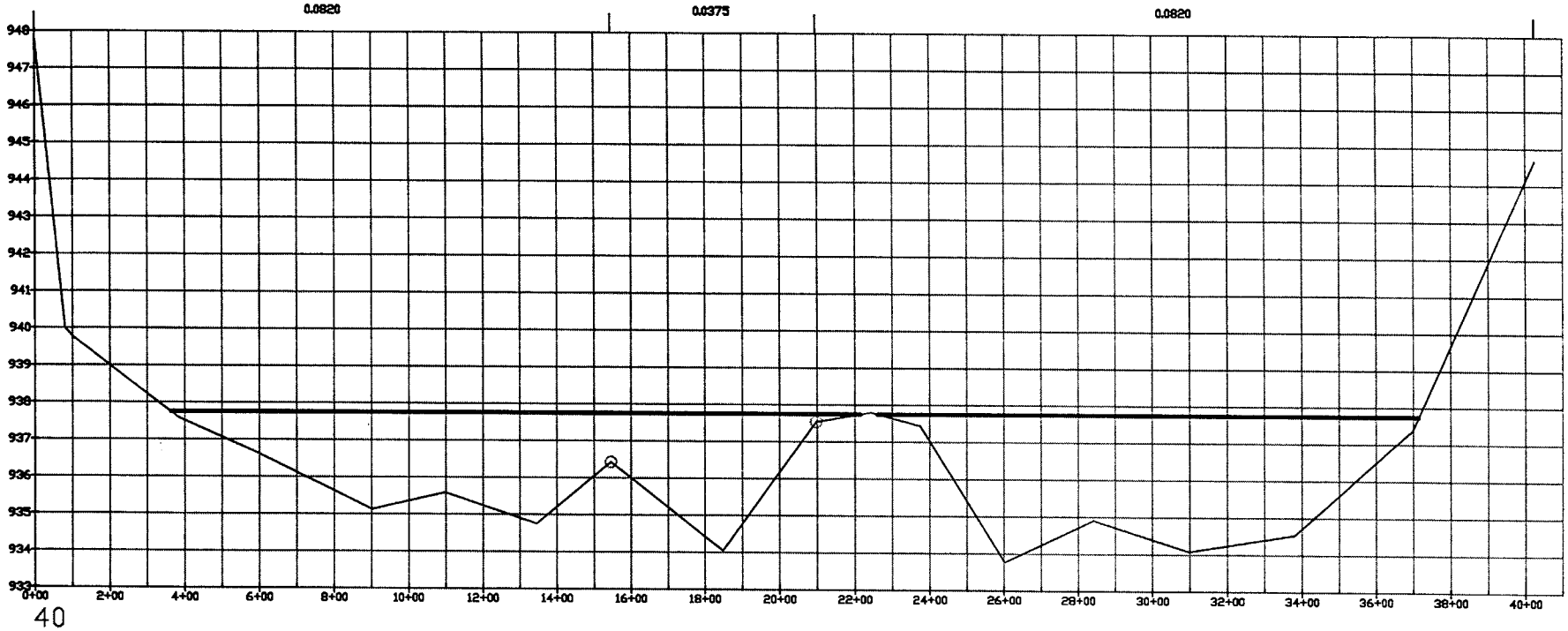
Cross-Section:	30	
Elevation:	929.49	ft MSL
Depth:	3.97	ft
Discharge:	13390.00	cfs
Energy Gradient:	0.0025	ft/ft
Froude Number:	0.3065	
Flow Regime:	Subcritical	
Flow Area:	3863.27	sq ft
Average Velocity:	3.46	ft/s
Maximum Velocity:	4.33	ft/s
Composite n:	0.0589	
Hydraulic Radius:	2.56	ft
Wetted Perimeter:	1510.98	ft
Wetted Top Width:	1510.91	ft
Critical Slope:	0.0573	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S08–30

Entellus™

File: T1S-R6W-S08-New-Mapping.dwg Date: 12/10/02



Normal Depth Results

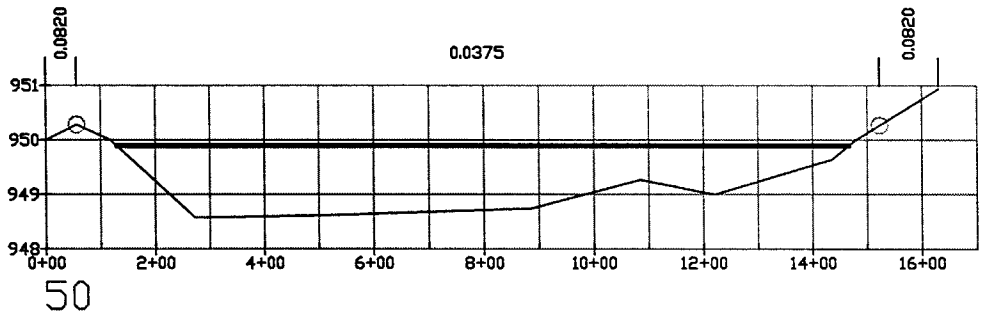
Cross-Section:	40	
Elevation:	937.75	ft MSL
Depth:	3.98	ft
Discharge:	13390.00	cfs
Energy Gradient:	0.0025	ft/ft
Froude Number:	0.1641	
Flow Regime:	Subcritical	
Flow Area:	7208.73	sq ft
Average Velocity:	1.86	ft/s
Maximum Velocity:	3.42	ft/s
Composite n:	0.0755	
Hydraulic Radius:	2.18	ft
Wetted Perimeter:	3306.28	ft
Wetted Top Width:	3306.17	ft
Critical Slope:	0.1165	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S08–40

Entellus™

File: T1S-R6W-S08-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

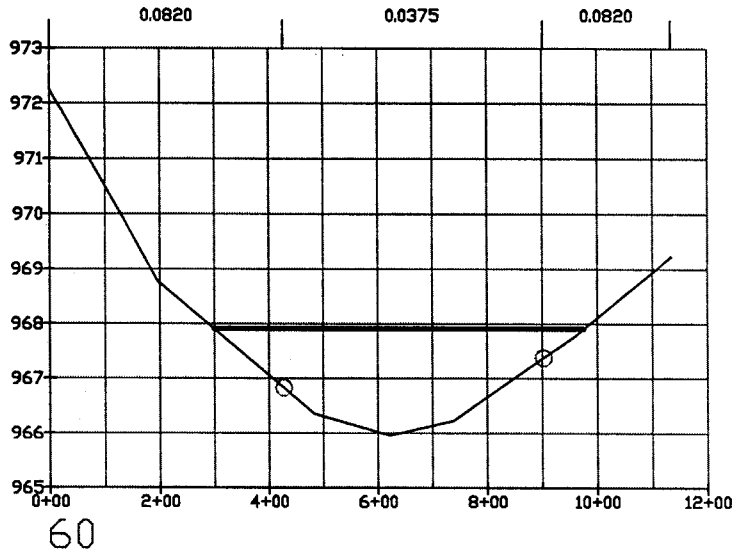
Cross-Section:	50	
Elevation:	949.89	ft MSL
Depth:	1.32	ft
Discharge:	2430.00	cfs
Energy Gradient:	0.0025	ft/ft
Froude Number:	0.2934	
Flow Regime:	Subcritical	
Flow Area:	1268.19	sq ft
Average Velocity:	1.92	ft/s
Maximum Velocity:	1.92	ft/s
Composite n:	0.0375	
Hydraulic Radius:	0.95	ft
Wetted Perimeter:	1337.10	ft
Wetted Top Width:	1337.09	ft
Critical Slope:	0.0289	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S08–50

Entellus™

File: T1S-R6W-S29E-New-Mapping.dwg Date: 12/10/02



Normal Depth Results

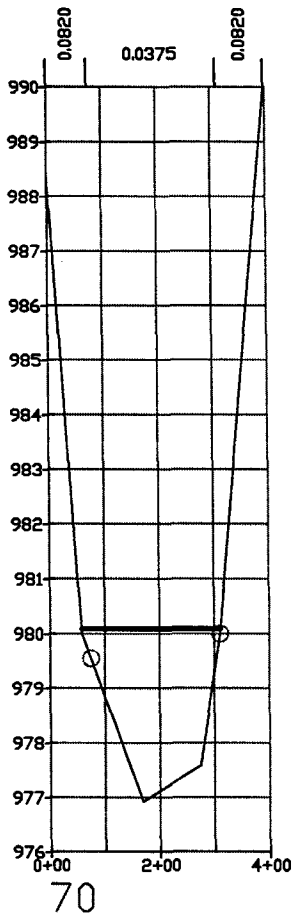
Cross-Section:	60	
Elevation:	967.91	ft MSL
Depth:	1.95	ft
Discharge:	1900.00	cfs
Energy Gradient:	0.0025	ft/ft
Froude Number:	0.3002	
Flow Regime:	Subcritical	
Flow Area:	798.66	sq ft
Average Velocity:	2.37	ft/s
Maximum Velocity:	2.59	ft/s
Composite n:	0.0526	
Hydraulic Radius:	1.18	ft
Wetted Perimeter:	676.26	ft
Wetted Top Width:	676.25	ft
Critical Slope:	0.0628	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S08–60

Entellus™

File: T1S-R6W-S08-New-Mapping.dwg Date: 12/10/02



Normal Depth Results

Cross-Section:	70	
Elevation:	980.09	ft MSL
Depth:	3.17	ft
Discharge:	1900.00	cfs
Energy Gradient:	0.0029	ft/ft
Froude Number:	0.357	
Flow Regime:	Subcritical	
Flow Area:	526.71	sq ft
Average Velocity:	3.59	ft/s
Maximum Velocity:	3.63	ft/s
Composite n:	0.0413	
Hydraulic Radius:	2.07	ft
Wetted Perimeter:	254.12	ft
Wetted Top Width:	253.99	ft
Critical Slope:	0.0296	ft/ft

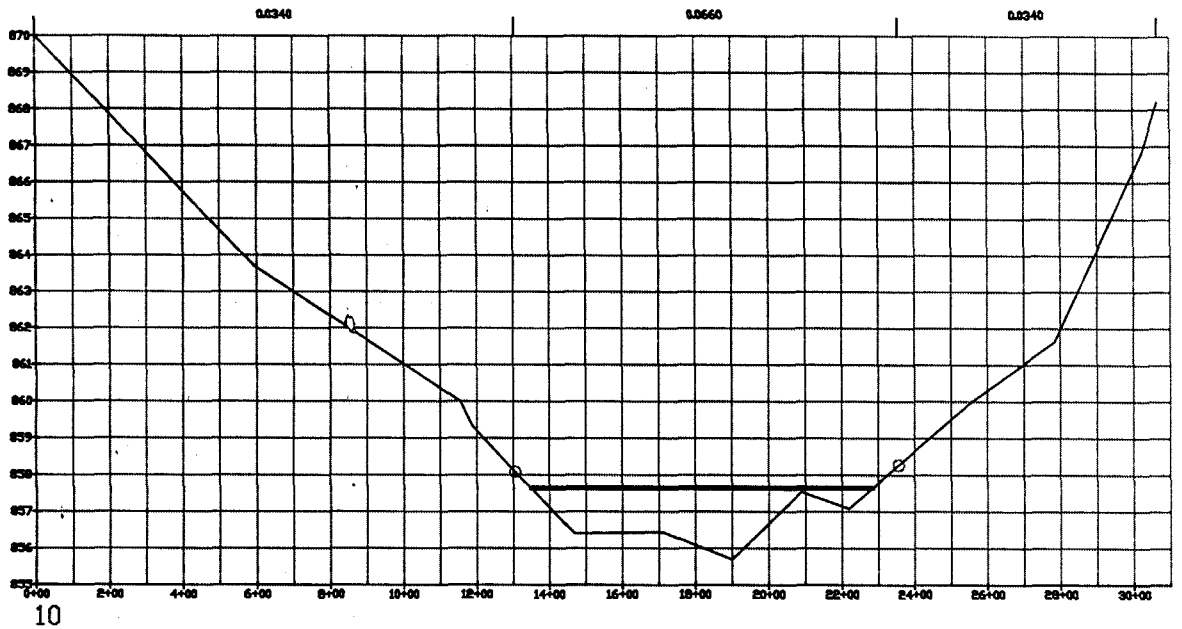
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S08–70

Entellus™

File: T1S-R6W-S08-New-Mapping.dwg Date: 12/10/02

T1S-R6W-S22W



Normal Depth Results

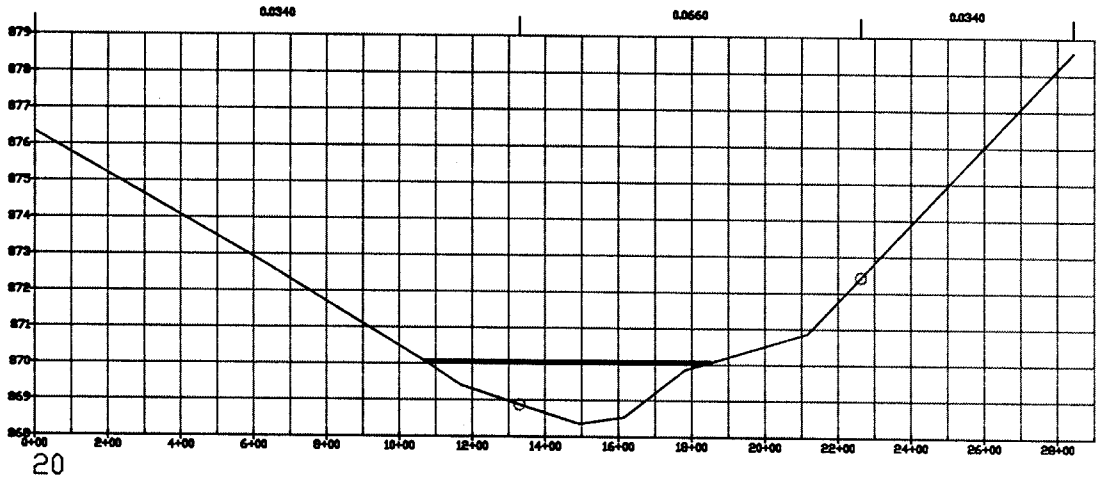
Cross-Section:	10	
Elevation:	857.64	ft MSL
Depth:	1.94	ft
Discharge:	1310.00	cfs
Energy Gradient:	0.0041	ft/ft
Froude Number:	0.1798	
Flow Regime:	Subcritical	
Flow Area:	920.95	sq ft
Average Velocity:	1.43	ft/s
Maximum Velocity:	1.43	ft/s
Composite n:	0.066	
Hydraulic Radius:	0.99	ft
Wetted Perimeter:	933.76	ft
Wetted Top Width:	933.74	ft
Critical Slope:	0.125	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S22W–10

Entellus™

File: T1S-R6W-S22W-New-Mapping.dwg; Date: 12/11/02



Normal Depth Results

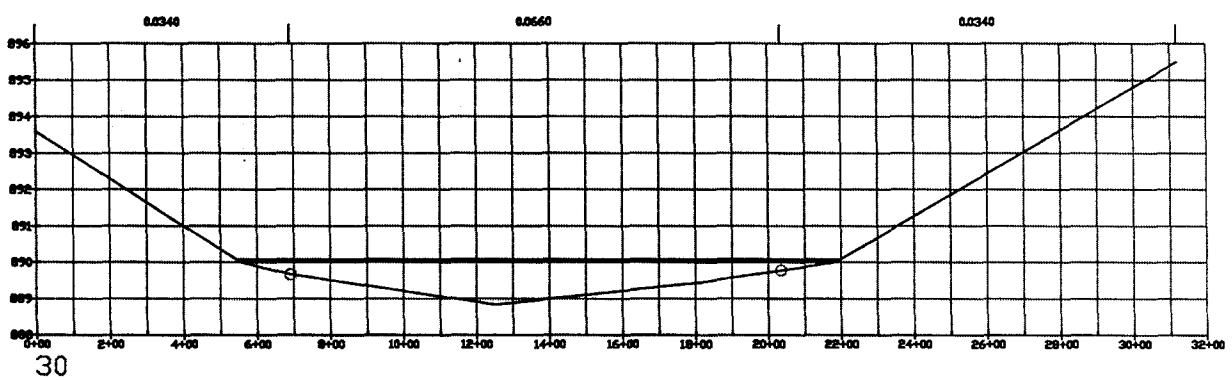
Cross-Section:	20	
Elevation:	870.06	ft MSL
Depth:	1.71	ft
Discharge:	1310.00	cfs
Energy Gradient:	0.0041	ft/ft
Froude Number:	0.2296	
Flow Regime:	Subcritical	
Flow Area:	768.09	sq ft
Average Velocity:	1.71	ft/s
Maximum Velocity:	2.20	ft/s
Composite n:	0.0564	
Hydraulic Radius:	0.98	ft
Wetted Perimeter:	782.47	ft
Wetted Top Width:	782.46	ft
Critical Slope:	0.0811	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S22W–20

Entellus™

File: T1S-R6W-S22W-New-Mapping.dwg Date: 12/11/02



Normal Depth Results

Cross-Section:	30	
Elevation:	890.05	ft MSL
Depth:	1.21	ft
Discharge:	1310.00	cfs
Energy Gradient:	0.0041	ft/ft
Froude Number:	0.191	
Flow Regime:	Subcritical	
Flow Area:	1100.08	sq ft
Average Velocity:	1.21	ft/s
Maximum Velocity:	1.22	ft/s
Composite n:	0.0608	
Hydraulic Radius:	0.67	ft
Wetted Perimeter:	1644.06	ft
Wetted Top Width:	1644.06	ft
Critical Slope:	0.1106	ft/ft

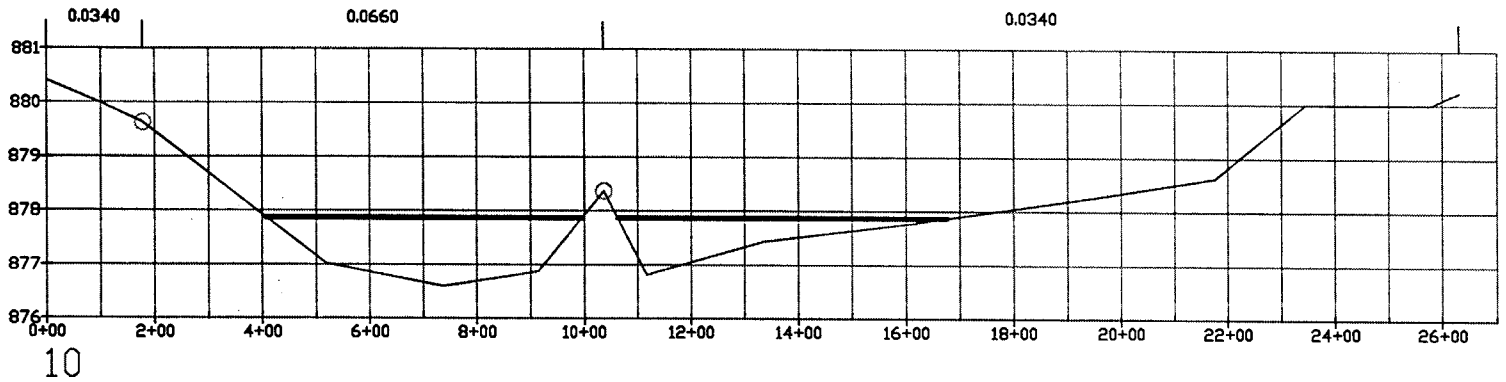
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S22W–30

Entellus™

File: T1S-R6W-S22W-New-Mapping.dwg; Date: 12/11/02

T1S-R6W-S23



Normal Depth Results

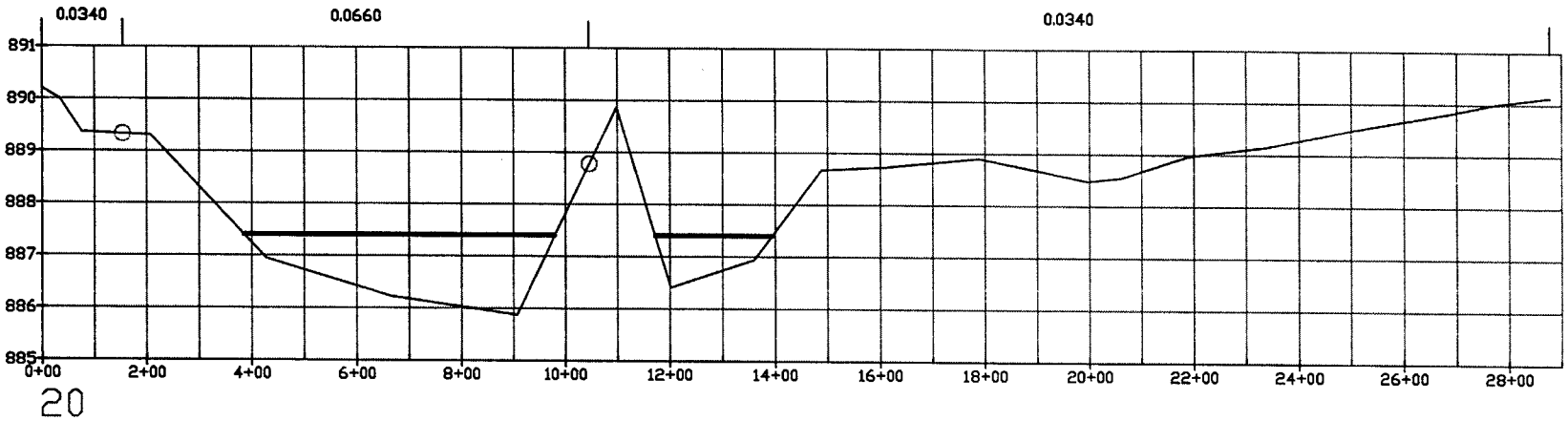
Cross-Section:	10	
Elevation:	877.87	ft MSL
Depth:	1.27	ft
Discharge:	1070.00	cfs
Energy Gradient:	0.0037	ft/ft
Froude Number:	0.2137	
Flow Regime:	Subcritical	
Flow Area:	783.62	sq ft
Average Velocity:	1.35	ft/s
Maximum Velocity:	1.52	ft/s
Composite n:	0.0509	
Hydraulic Radius:	0.65	ft
Wetted Perimeter:	1200.57	ft
Wetted Top Width:	1200.55	ft
Critical Slope:	0.0843	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S23–10

Entellus™

File: T1S-R6W-S23-New-Mapping.dwg, Date: 12/02/02



Normal Depth Results

Cross-Section:	20	
Elevation:	887.40	ft MSL
Depth:	1.52	ft
Discharge:	1070.00	cfs
Energy Gradient:	0.0037	ft/ft
Froude Number:	0.2119	
Flow Regime:	Subcritical	
Flow Area:	721.67	sq ft
Average Velocity:	1.47	ft/s
Maximum Velocity:	1.94	ft/s
Composite n:	0.0582	
Hydraulic Radius:	0.88	ft
Wetted Perimeter:	816.54	ft
Wetted Top Width:	816.50	ft
Critical Slope:	0.0881	ft/ft

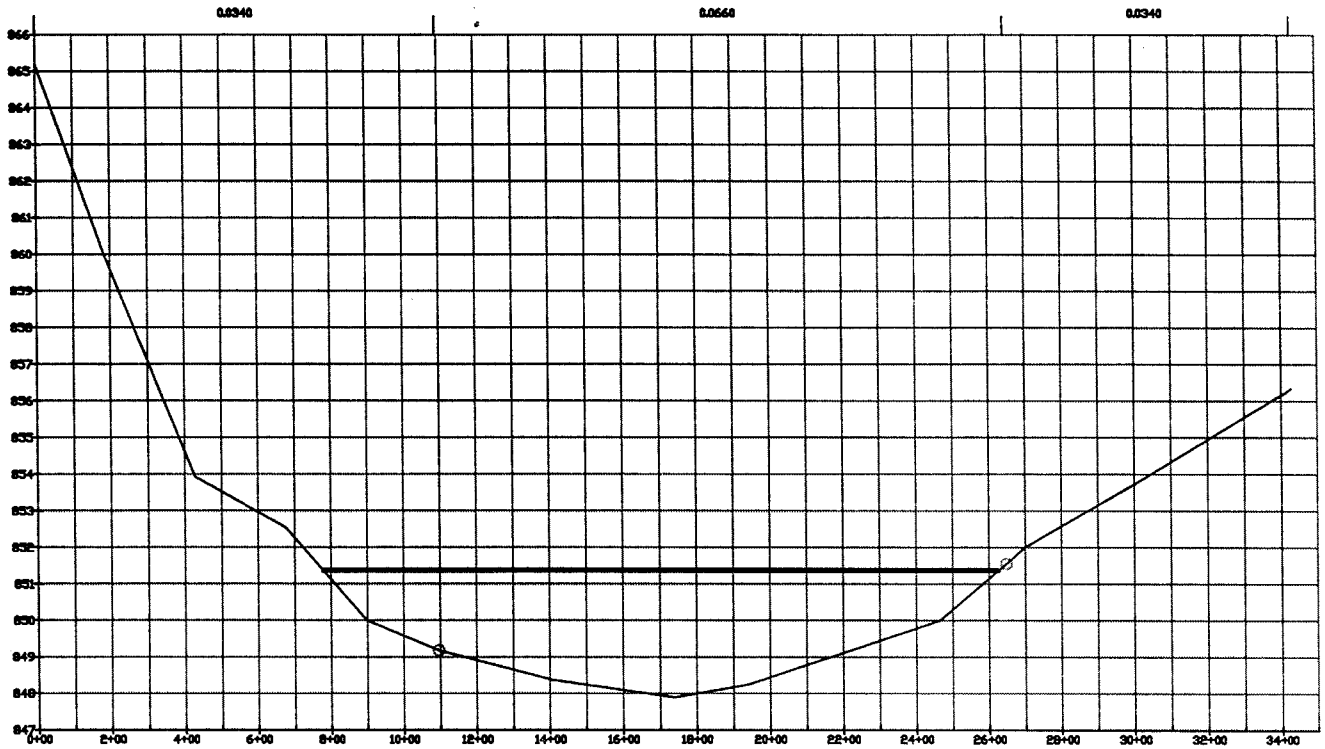
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S23–20

Entellus™

File: T1S-R6W-S23-New-Mapping.dwg Date: 12/02/02

T1S-R6W-S27



10

Normal Depth Results

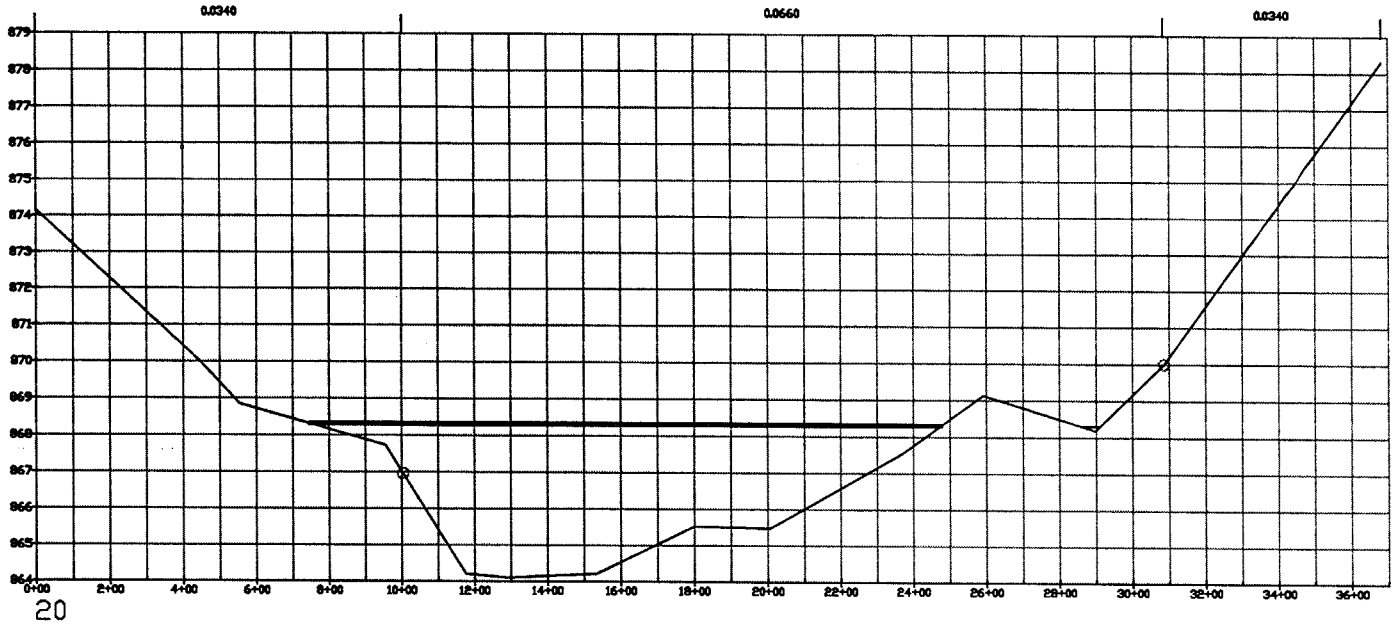
Cross-Section:	10	
Elevation:	851.38	ft MSL
Depth:	3.49	ft
Discharge:	11540.00	cfs
Energy Gradient:	0.0039	ft/ft
Froude Number:	0.2541	
Flow Regime:	Subcritical	
Flow Area:	4286.45	sq ft
Average Velocity:	2.69	ft/s
Maximum Velocity:	3.38	ft/s
Composite n:	0.0611	
Hydraulic Radius:	2.32	ft
Wetted Perimeter:	1848.07	ft
Wetted Top Width:	1848.05	ft
Critical Slope:	0.0615	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–10

Entellus™

File: T1S-R6W-S27-New-Mapping.dwg Date: 12/11/02



Normal Depth Results

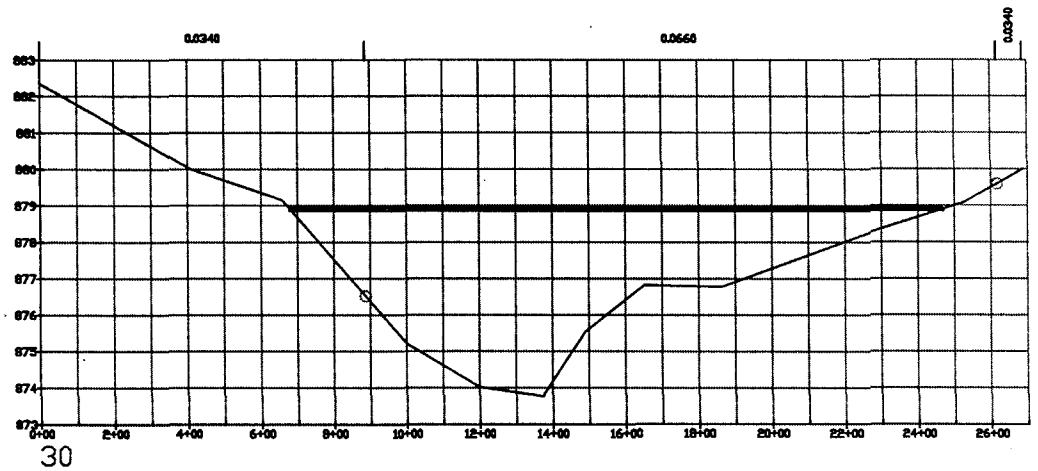
Cross-Section:	20	
Elevation:	868.31	ft MSL
Depth:	4.21	ft
Discharge:	11540.00	cfs
Energy Gradient:	0.0039	ft/ft
Froude Number:	0.2329	
Flow Regime:	Subcritical	
Flow Area:	4255.84	sq ft
Average Velocity:	2.72	ft/s
Maximum Velocity:	2.75	ft/s
Composite n:	0.0619	
Hydraulic Radius:	2.39	ft
Wetted Perimeter:	1781.62	ft
Wetted Top Width:	1781.58	ft
Critical Slope:	0.0733	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–20

Entellus™

File: T1S-R6W-S27-New-Mapping.dwg Date: 12/11/02



Normal Depth Results

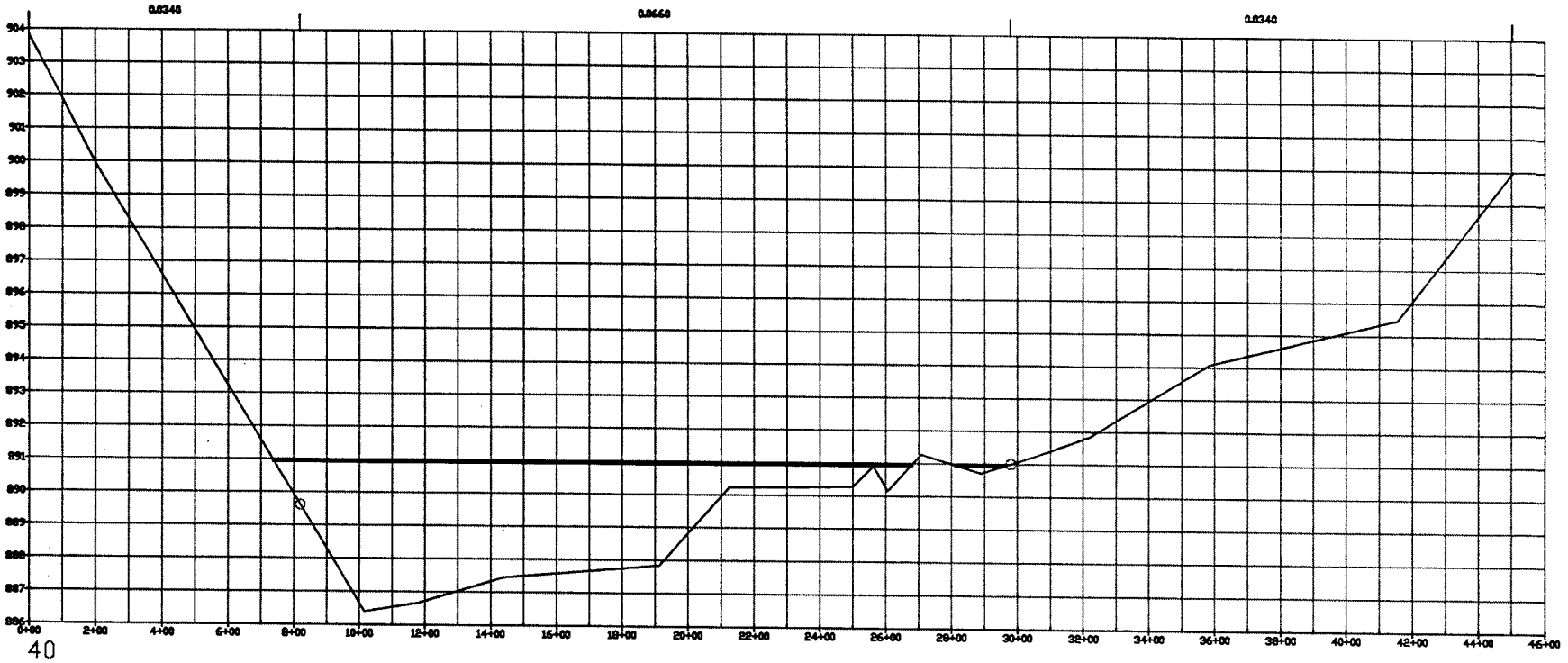
Cross-Section:	30	
Elevation:	878.90	ft MSL
Depth:	5.13	ft
Discharge:	11540.00	cfs
Energy Gradient:	0.0039	ft/ft
Froude Number:	0.2082	
Flow Regime:	Subcritical	
Flow Area:	4312.23	sq ft
Average Velocity:	2.67	ft/s
Maximum Velocity:	3.08	ft/s
Composite n:	0.0627	
Hydraulic Radius:	2.41	ft
Wetted Perimeter:	1787.00	ft
Wetted Top Width:	1786.95	ft
Critical Slope:	0.0904	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–30

Entellus™

File: T1S-R6W-S27-New-Mapping.dwg Date: 12/11/02



Normal Depth Results

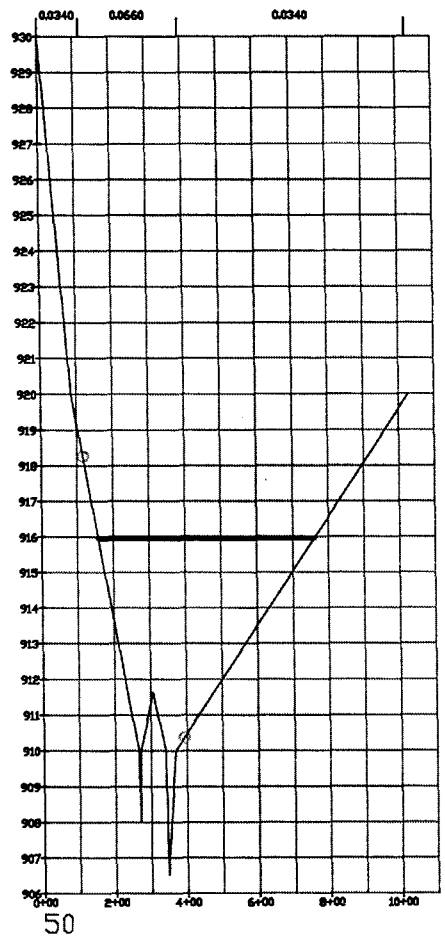
Cross-Section:	40	
Elevation:	890.95	ft MSL
Depth:	4.55	ft
Discharge:	11540.00	cfs
Energy Gradient:	0.0039	ft/ft
Froude Number:	0.2032	
Flow Regime:	Subcritical	
Flow Area:	4690.21	sq ft
Average Velocity:	2.46	ft/s
Maximum Velocity:	2.46	ft/s
Composite n:	0.0649	
Hydraulic Radius:	2.24	ft
Wetted Perimeter:	2089.20	ft
Wetted Top Width:	2089.13	ft
Critical Slope:	0.0946	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–40

Entellus™

File: T1S-R6W-S27-New-Mapping.dwg Date: 12/11/02



Normal Depth Results

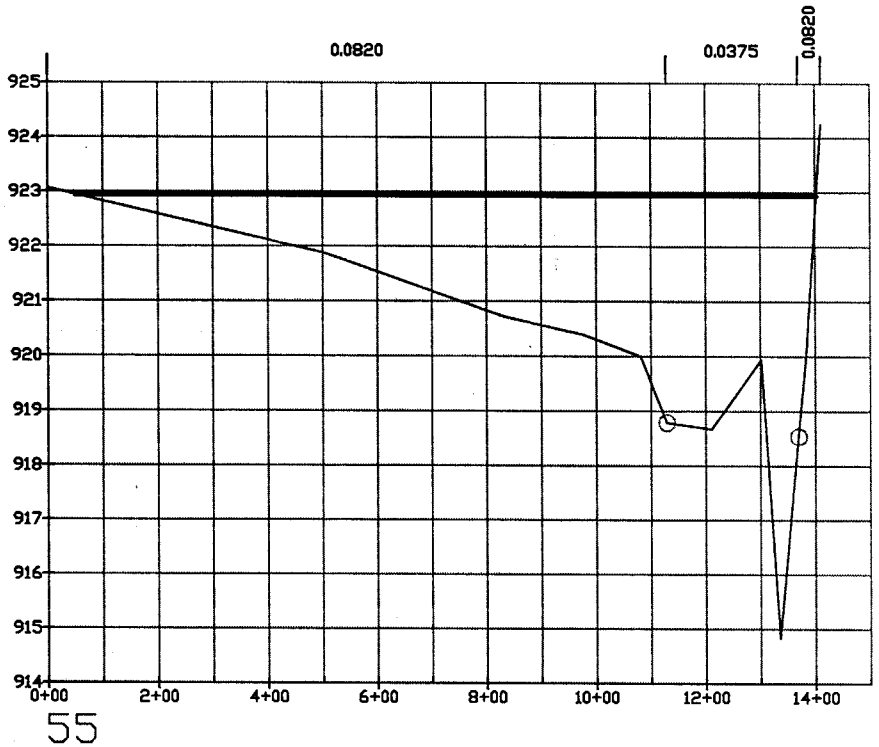
Cross-Section:	50	
Elevation:	915.96	ft MSL
Depth:	9.42	ft
Discharge:	9840.00	cfs
Energy Gradient:	0.004	ft/ft
Froude Number:	0.2686	
Flow Regime:	Subcritical	
Flow Area:	2104.08	sq ft
Average Velocity:	4.68	ft/s
Maximum Velocity:	5.49	ft/s
Composite n:	0.0478	
Hydraulic Radius:	3.47	ft
Wetted Perimeter:	606.04	ft
Wetted Top Width:	603.26	ft
Critical Slope:	0.0595	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–50

Entellus™

File: T1S-R6W-S27-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

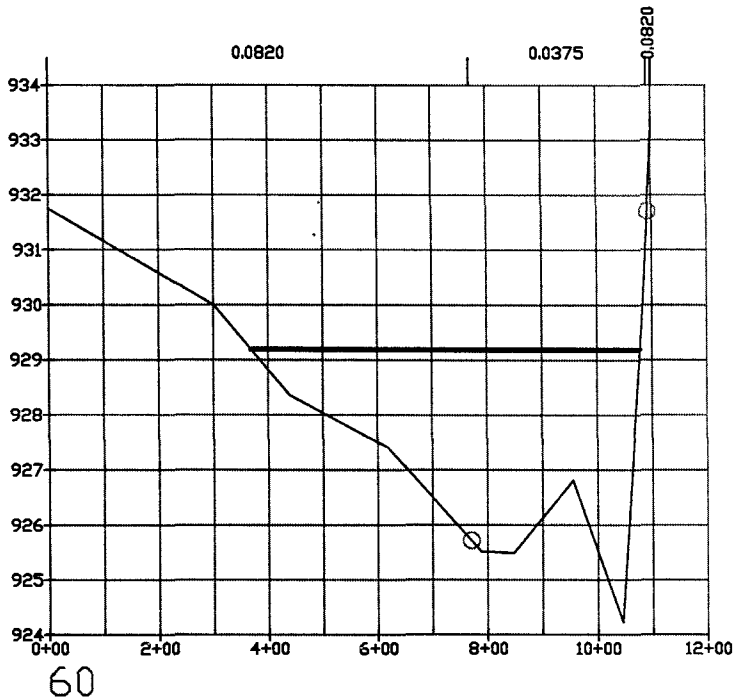
Cross-Section:	55	
Elevation:	922.94	ft MSL
Depth:	8.10	ft
Discharge:	9840.00	cfs
Energy Gradient:	0.004	ft/ft
Froude Number:	0.2225	
Flow Regime:	Subcritical	
Flow Area:	2738.16	sq ft
Average Velocity:	3.59	ft/s
Maximum Velocity:	6.81	ft/s
Composite n:	0.0751	
Hydraulic Radius:	2.02	ft
Wetted Perimeter:	1353.11	ft
Wetted Top Width:	1352.20	ft
Critical Slope:	0.2589	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–55

Entellus™

File: T1S-R6W-S27-New-Mapping.dwg Date: 12/11/02



Normal Depth Results

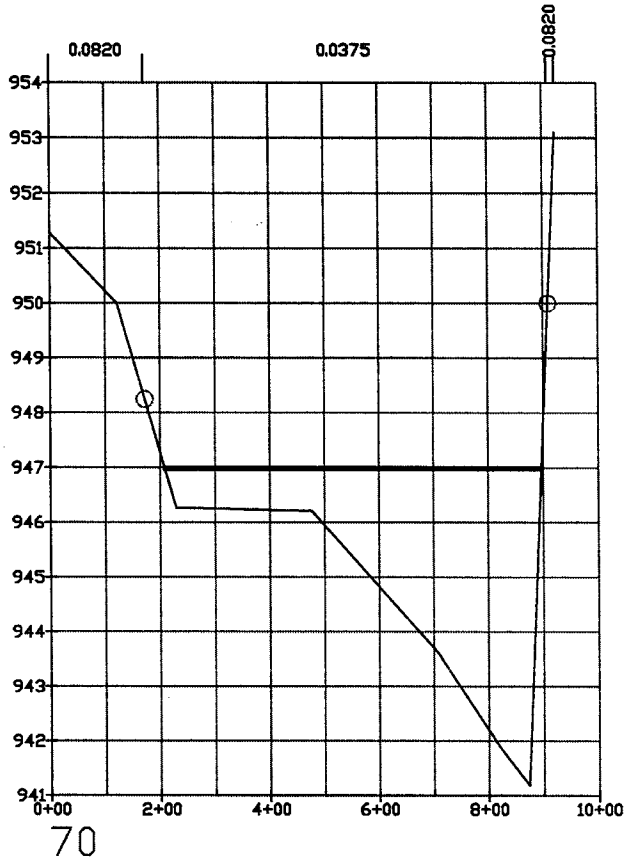
Cross-Section:	60	
Elevation:	929.19	ft MSL
Depth:	4.97	ft
Discharge:	6790.00	cfs
Energy Gradient:	0.004	ft/ft
Froude Number:	0.3186	
Flow Regime:	Subcritical	
Flow Area:	1684.80	sq ft
Average Velocity:	4.03	ft/s
Maximum Velocity:	5.59	ft/s
Composite n:	0.0646	
Hydraulic Radius:	2.37	ft
Wetted Perimeter:	709.59	ft
Wetted Top Width:	709.15	ft
Critical Slope:	0.095	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–60

Entellus™

File: T1S-R6W-S27-New-Mapping.dwg Date: 12/11/02



Normal Depth Results

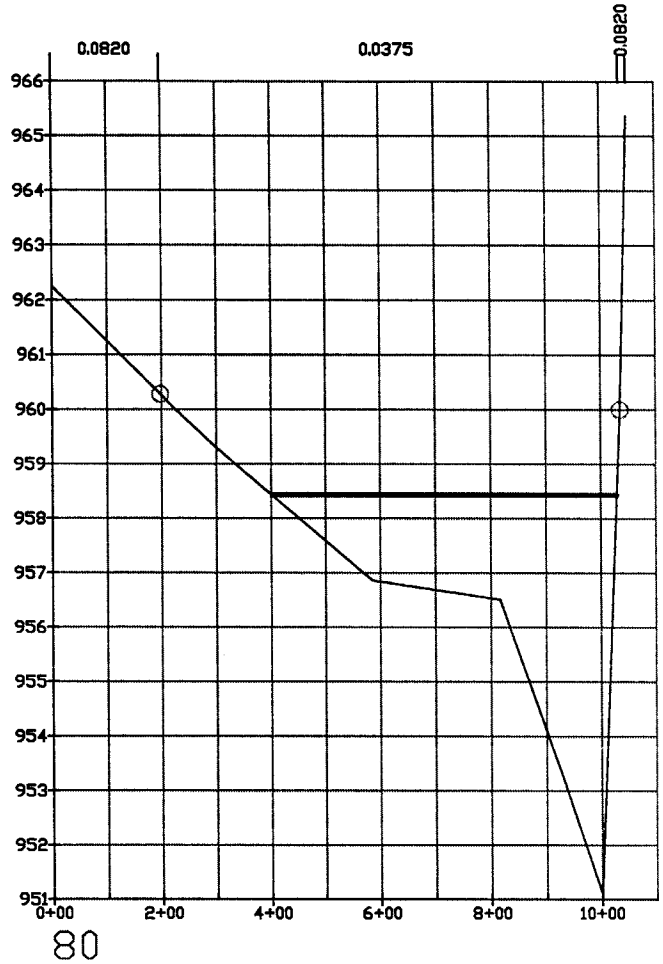
Cross-Section:	70	
Elevation:	946.99	ft MSL
Depth:	5.80	ft
Discharge:	6380.00	cfs
Energy Gradient:	0.004	ft/ft
Froude Number:	0.3106	
Flow Regime:	Subcritical	
Flow Area:	1503.85	sq ft
Average Velocity:	4.23	ft/s
Maximum Velocity:	4.23	ft/s
Composite n:	0.0375	
Hydraulic Radius:	2.18	ft
Wetted Perimeter:	689.50	ft
Wetted Top Width:	688.76	ft
Critical Slope:	0.0417	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–70

Entellus™

File: T1S-R6W-S27-New-Mapping.dwg Date: 12/11/02



Normal Depth Results

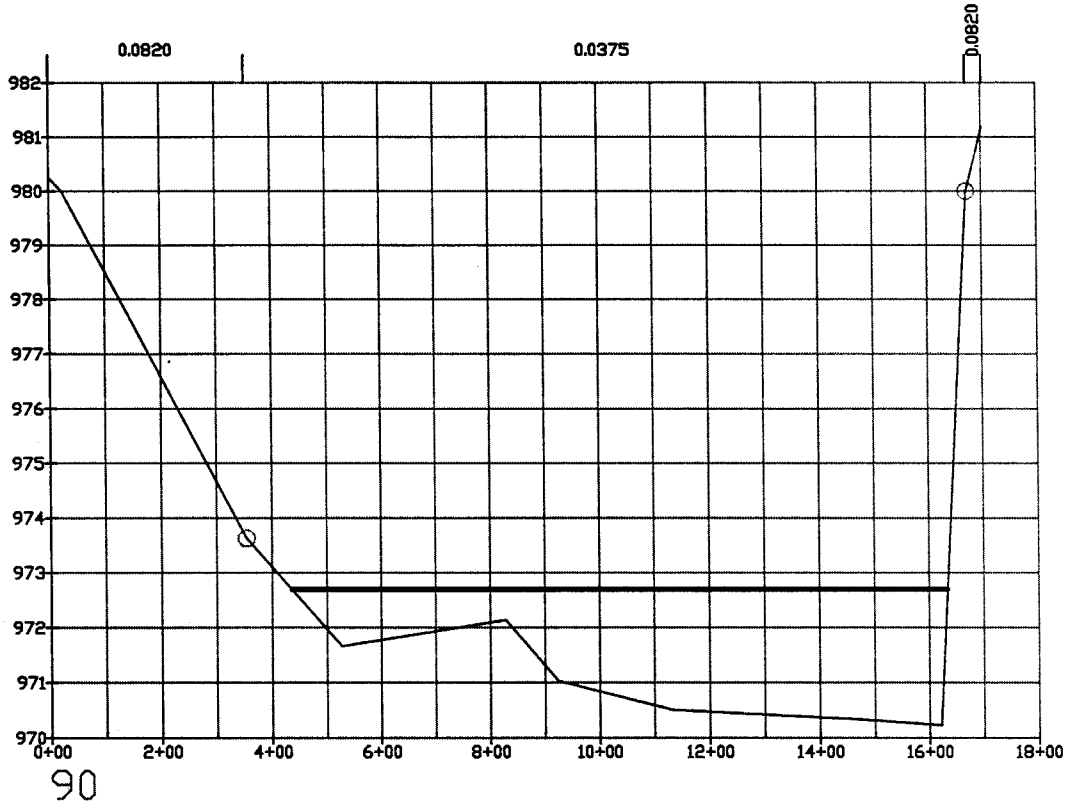
Cross-Section:	80	
Elevation:	958.44	ft MSL
Depth:	7.34	ft
Discharge:	6380.00	cfs
Energy Gradient:	0.0036	ft/ft
Froude Number:	0.2772	
Flow Regime:	Subcritical	
Flow Area:	1497.96	sq ft
Average Velocity:	4.25	ft/s
Maximum Velocity:	4.25	ft/s
Composite n:	0.0375	
Hydraulic Radius:	2.38	ft
Wetted Perimeter:	629.32	ft
Wetted Top Width:	628.32	ft
Critical Slope:	0.047	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–80

Entellus™

File: T1S-R6W-S27-New-Mapping.dwg, Date: 12/11/02



Normal Depth Results

Cross-Section:	90	
Elevation:	972.70	ft MSL
Depth:	2.47	ft
Discharge:	6380.00	cfs
Energy Gradient:	0.0036	ft/ft
Froude Number:	0.3684	
Flow Regime:	Subcritical	
Flow Area:	1943.32	sq ft
Average Velocity:	3.29	ft/s
Maximum Velocity:	3.29	ft/s
Composite n:	0.0375	
Hydraulic Radius:	1.62	ft
Wetted Perimeter:	1198.03	ft
Wetted Top Width:	1197.78	ft
Critical Slope:	0.0263	ft/ft

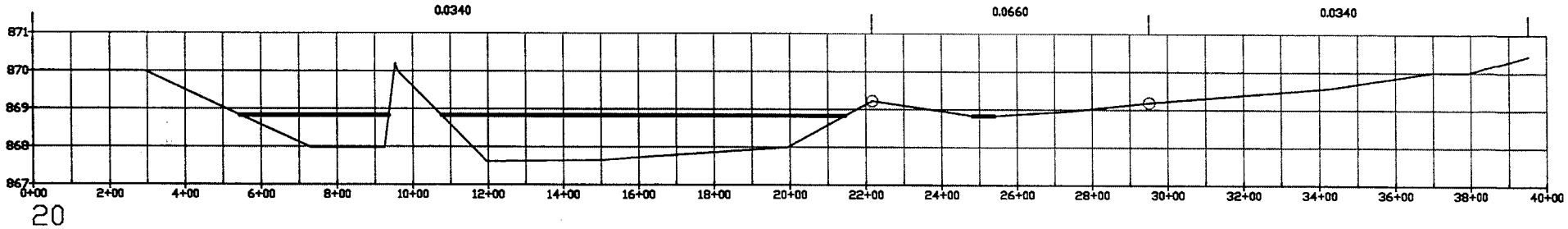
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S27–90

Entellus™

File: T1S-R6W-S27-New-Mapping.dwg Date: 12/11/02

T1S-R6W-S28N



Normal Depth Results

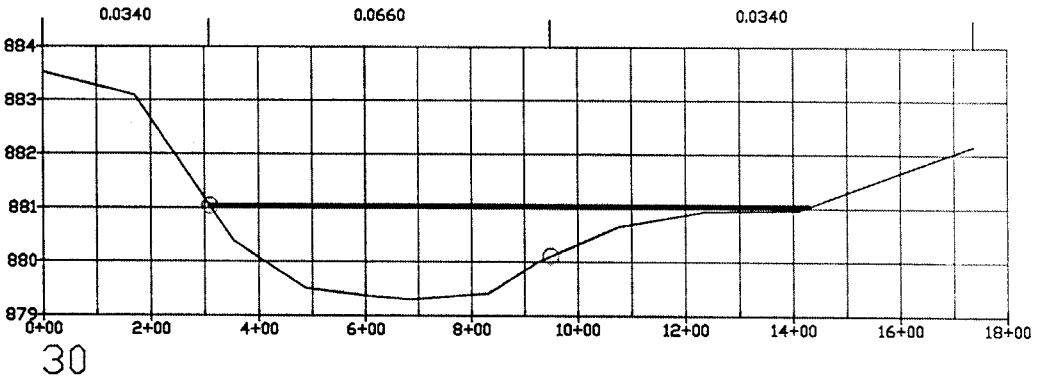
Cross-Section:	20	
Elevation:	868.84	ft MSL
Depth:	1.22	ft
Discharge:	2480.00	cfs
Energy Gradient:	0.0025	ft/ft
Froude Number:	0.3164	
Flow Regime:	Subcritical	
Flow Area:	1252.84	sq ft
Average Velocity:	1.97	ft/s
Maximum Velocity:	2.05	ft/s
Composite n:	0.0391	
Hydraulic Radius:	0.82	ft
Wetted Perimeter:	1521.57	ft
Wetted Top Width:	1521.52	ft
Critical Slope:	0.035	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S28N–20

Entellus™

File: T1S-R6W-S28N-New-Mapping.dwg Date: 12/05/02



Normal Depth Results

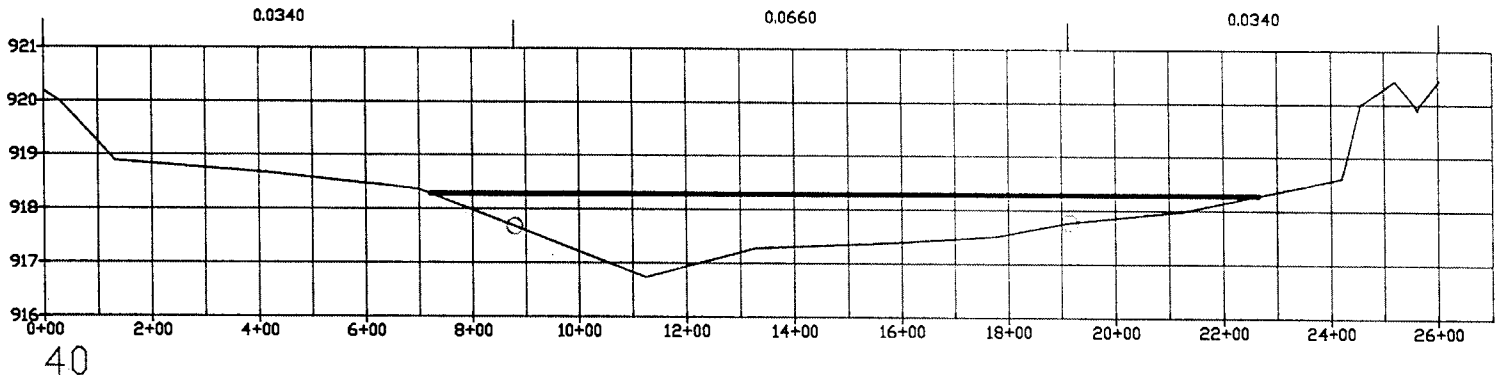
Cross-Section:	30	
Elevation:	881.03	ft MSL
Depth:	1.73	ft
Discharge:	1770.00	cfs
Energy Gradient:	0.0042	ft/ft
Froude Number:	0.2337	
Flow Regime:	Subcritical	
Flow Area:	1013.46	sq ft
Average Velocity:	1.73	ft/s
Maximum Velocity:	1.81	ft/s
Composite n:	0.0535	
Hydraulic Radius:	0.91	ft
Wetted Perimeter:	1119.76	ft
Wetted Top Width:	1119.74	ft
Critical Slope:	0.0822	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S28N–30

Entellus™

File: T1S-R6W-S28N-New-Mapping.dwg Date: 12/05/02



Normal Depth Results

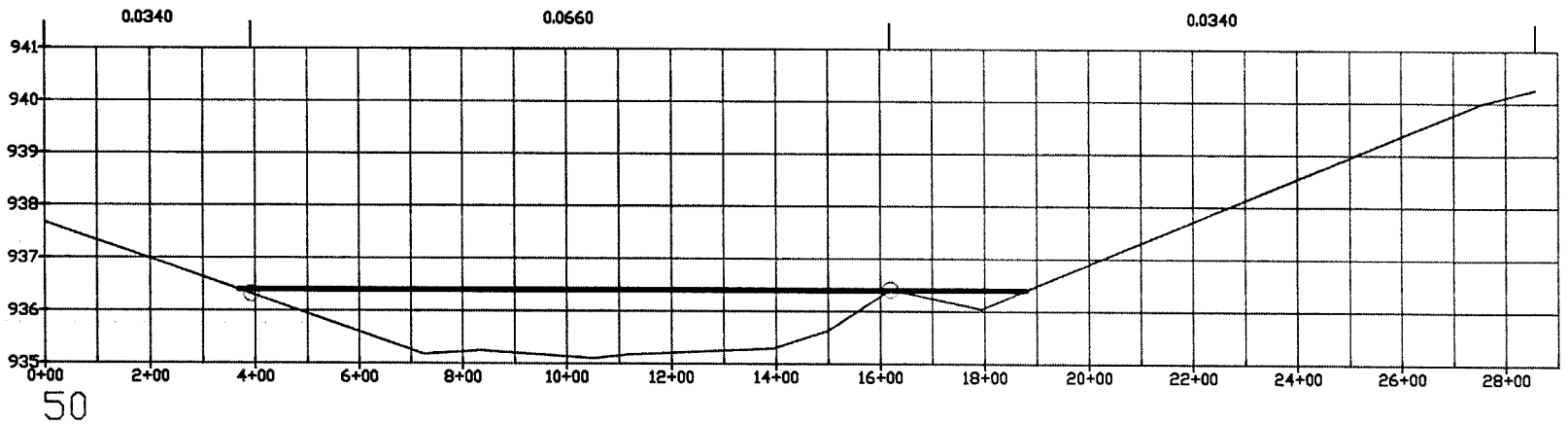
Cross-Section:	40	
Elevation:	918.28	ft MSL
Depth:	1.54	ft
Discharge:	1770.00	cfs
Energy Gradient:	0.0047	ft/ft
Froude Number:	0.2151	
Flow Regime:	Subcritical	
Flow Area:	1167.88	sq ft
Average Velocity:	1.50	ft/s
Maximum Velocity:	1.53	ft/s
Composite n:	0.0565	
Hydraulic Radius:	0.76	ft
Wetted Perimeter:	1543.83	ft
Wetted Top Width:	1543.82	ft
Critical Slope:	0.1036	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S28N–40

Entellus™

File: T1S-R6W-S28N-New-Mapping.dwg Date: 12/05/02



Normal Depth Results

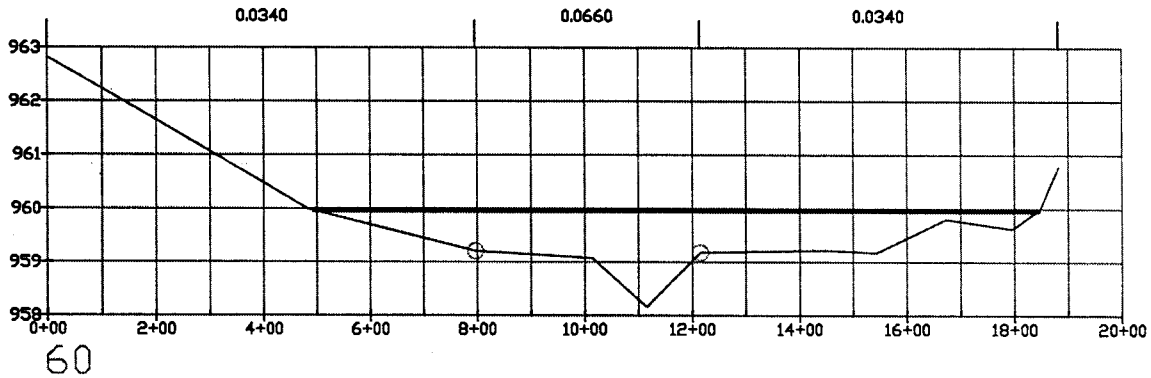
Cross-Section:	50	
Elevation:	936.40	ft MSL
Depth:	1.30	ft
Discharge:	1770.00	cfs
Energy Gradient:	0.0047	ft/ft
Froude Number:	0.2253	
Flow Regime:	Subcritical	
Flow Area:	1212.40	sq ft
Average Velocity:	1.48	ft/s
Maximum Velocity:	1.50	ft/s
Composite n:	0.0607	
Hydraulic Radius:	0.81	ft
Wetted Perimeter:	1505.71	ft
Wetted Top Width:	1505.70	ft
Critical Slope:	0.093	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S28N–50

Entellus™

File: T1S-R6W-S28N-New-Mapping.dwg, Date: 12/05/02



Normal Depth Results

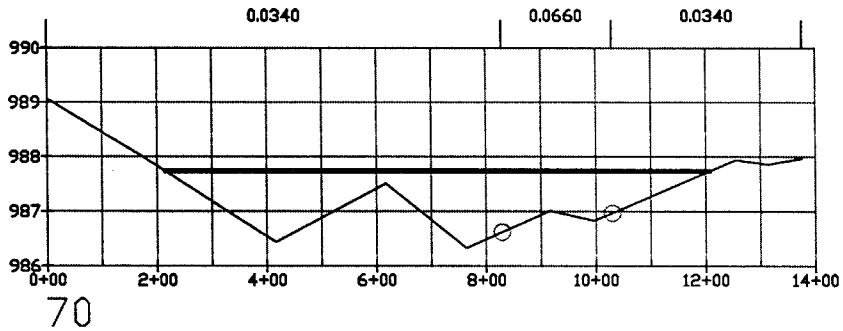
Cross-Section:	60	
Elevation:	959.97	ft MSL
Depth:	1.81	ft
Discharge:	1770.00	cfs
Energy Gradient:	0.0058	ft/ft
Froude Number:	0.2555	
Flow Regime:	Subcritical	
Flow Area:	908.28	sq ft
Average Velocity:	1.97	ft/s
Maximum Velocity:	2.26	ft/s
Composite n:	0.0451	
Hydraulic Radius:	0.67	ft
Wetted Perimeter:	1348.57	ft
Wetted Top Width:	1348.56	ft
Critical Slope:	0.0902	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S28N–60

Entellus™

File: T1S-R6W-S28N-New-Mapping.dwg, Date: 12/05/02



Normal Depth Results

Cross-Section:	70	
Elevation:	987.74	ft MSL
Depth:	1.41	ft
Discharge:	1770.00	cfs
Energy Gradient:	0.0058	ft/ft
Froude Number:	0.3621	
Flow Regime:	Subcritical	
Flow Area:	726.59	sq ft
Average Velocity:	2.44	ft/s
Maximum Velocity:	2.85	ft/s
Composite n:	0.0414	
Hydraulic Radius:	0.73	ft
Wetted Perimeter:	991.85	ft
Wetted Top Width:	991.83	ft
Critical Slope:	0.0529	ft/ft

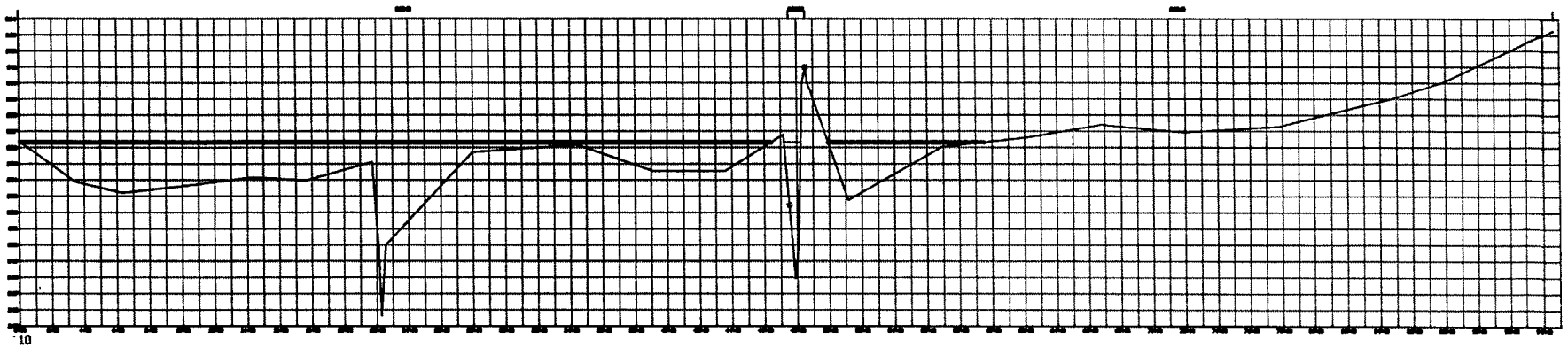
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S28N–70

Entellus™

File: T1S-R6W-S28N-New-Mapping.dwg Date: 12/05/02

T1S-R6W-S29E



Normal Depth Results

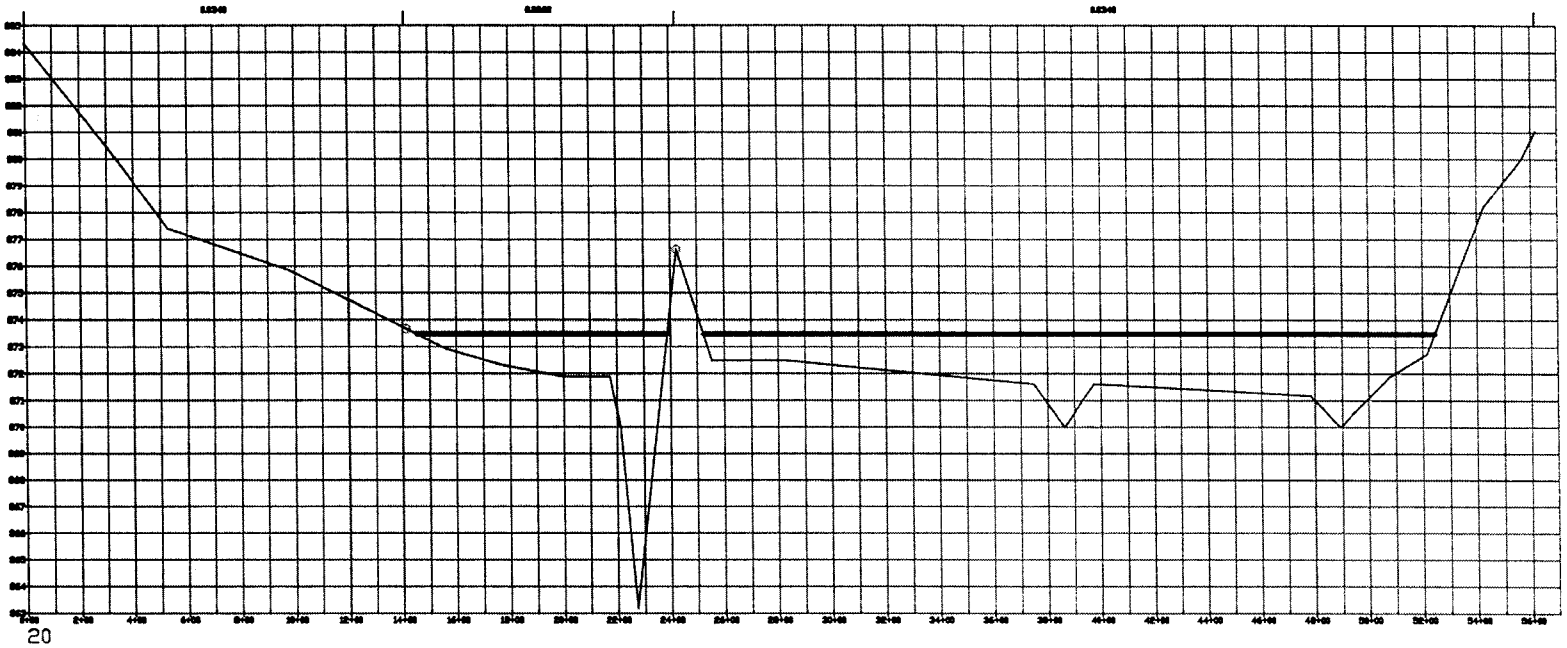
Cross-Section:	10	
Elevation:	856.33	ft MSL
Depth:	10.69	ft
Discharge:	36430.00	cfs
Energy Gradient:	0.0026	ft/ft
Froude Number:	0.182	
Flow Regime:	Subcritical	
Flow Area:	10793.48	sq ft
Average Velocity:	3.39	ft/s
Maximum Velocity:	3.63	ft/s
Composite n:	0.0344	
Hydraulic Radius:	1.89	ft
Wetted Perimeter:	5699.68	ft
Wetted Top Width:	5696.53	ft
Critical Slope:	0.0786	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29E–10

Entellus™

File: T1S-R6W-S29E-New-Mapping.dwg Date: 12/10/02



Normal Depth Results

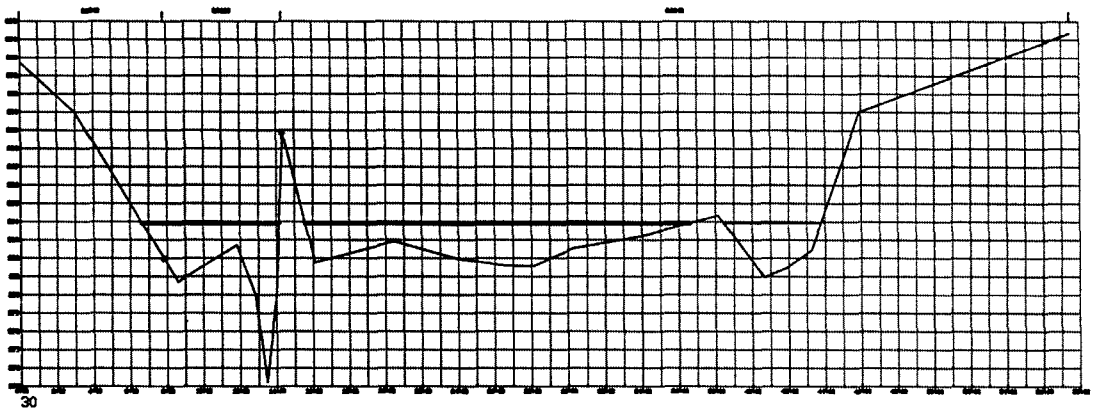
Cross-Section:	20	
Elevation:	873.48	ft MSL
Depth:	10.30	ft
Discharge:	19320.00	cfs
Energy Gradient:	0.0026	ft/ft
Froude Number:	0.1574	
Flow Regime:	Subcritical	
Flow Area:	6741.78	sq ft
Average Velocity:	2.88	ft/s
Maximum Velocity:	3.28	ft/s
Composite n:	0.0432	
Hydraulic Radius:	1.84	ft
Wetted Perimeter:	3657.68	ft
Wetted Top Width:	3656.72	ft
Critical Slope:	0.1237	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29E–20

Entellus™

File: T1S-R6W-S29E-New-Mapping.dwg; Date: 12/02/02



Normal Depth Results

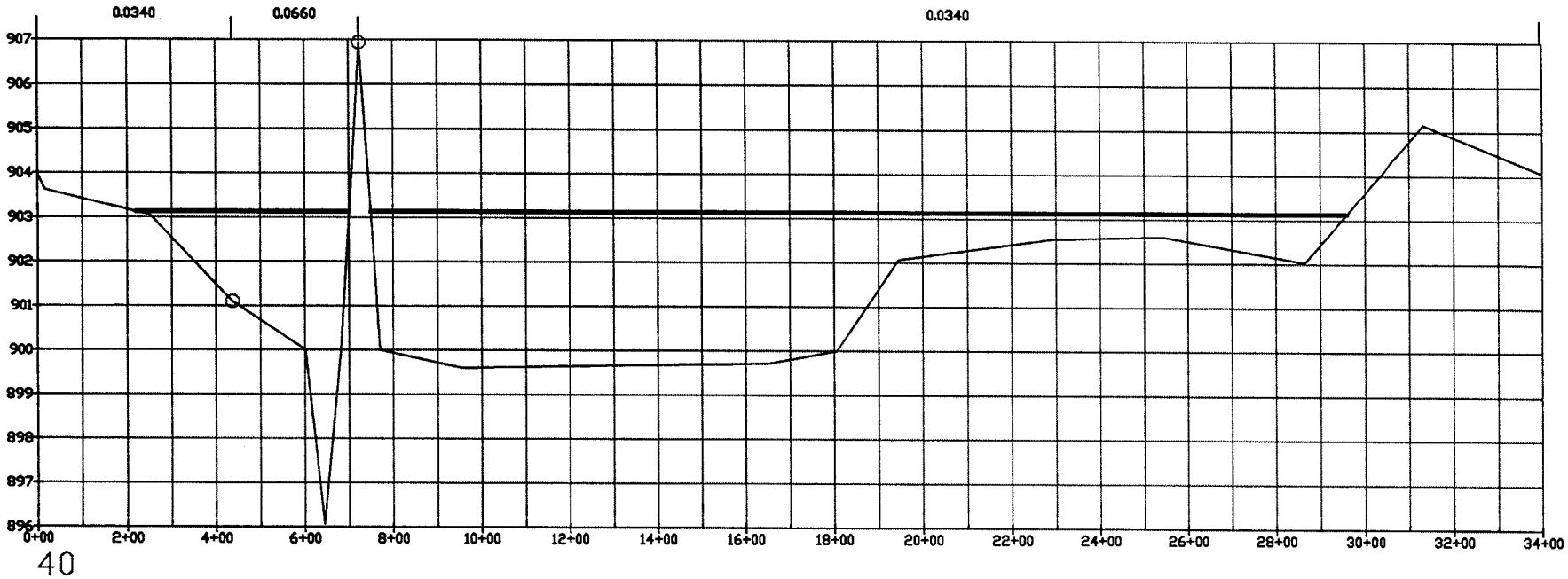
Cross-Section:	30	
Elevation:	883.92	ft MSL
Depth:	8.66	ft
Discharge:	18870.00	cfs
Energy Gradient:	0.0033	ft/ft
Froude Number:	0.1869	
Flow Regime:	Subcritical	
Flow Area:	6046.89	sq ft
Average Velocity:	3.12	ft/s
Maximum Velocity:	3.33	ft/s
Composite n:	0.0408	
Hydraulic Radius:	1.79	ft
Wetted Perimeter:	3380.92	ft
Wetted Top Width:	3379.88	ft
Critical Slope:	0.0965	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29E–30

Entellus™

File: T1S-R6W-S29E-New-Mapping.dwg Date: 12/10/02



Normal Depth Results

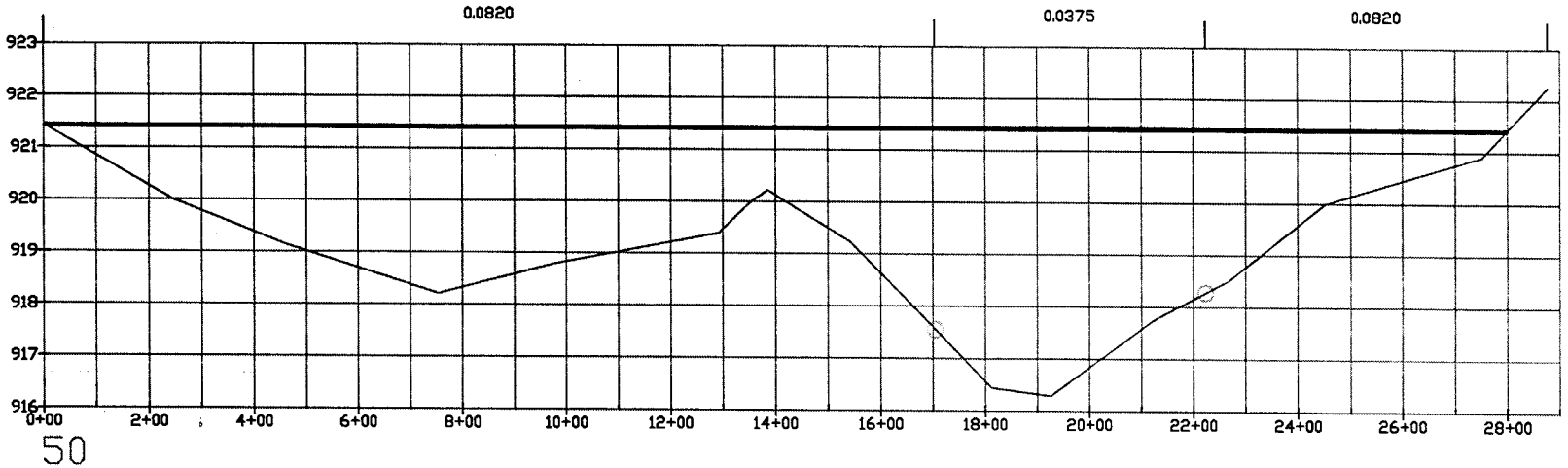
Cross-Section:	40	
Elevation:	903.13	ft MSL
Depth:	7.06	ft
Discharge:	17410.00	cfs
Energy Gradient:	0.0021	ft/ft
Froude Number:	0.2041	
Flow Regime:	Subcritical	
Flow Area:	5659.23	sq ft
Average Velocity:	3.07	ft/s
Maximum Velocity:	3.27	ft/s
Composite n:	0.0377	
Hydraulic Radius:	2.1	ft
Wetted Perimeter:	2692.46	ft
Wetted Top Width:	2691.55	ft
Critical Slope:	0.054	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29E–40

Entellus™

File: T1S-R6W-S29E-New-Mapping.dwg Date: 12/11/02



Normal Depth Results

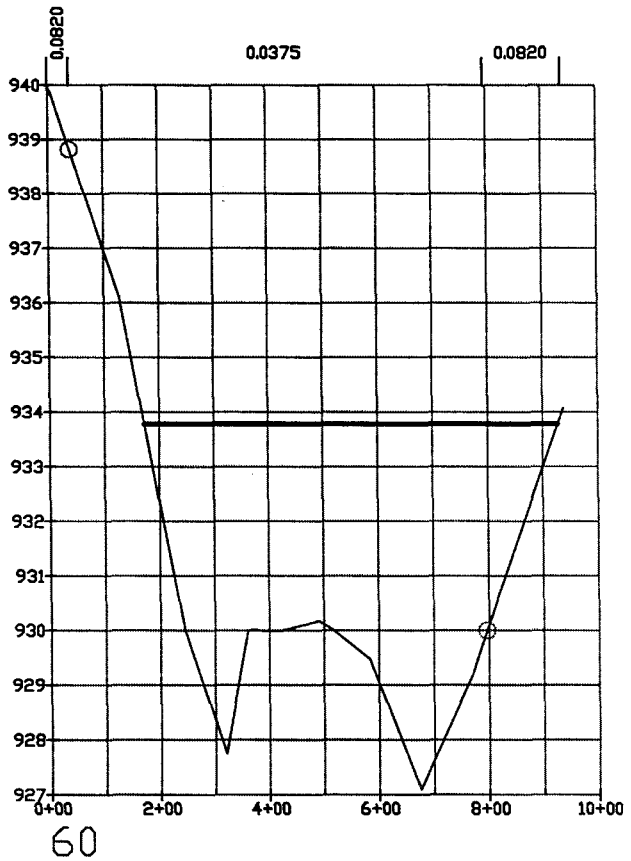
Cross-Section:	50	
Elevation:	921.42	ft MSL
Depth:	5.13	ft
Discharge:	16930.00	cfs
Energy Gradient:	0.0021	ft/ft
Froude Number:	0.1952	
Flow Regime:	Subcritical	
Flow Area:	6752.18	sq ft
Average Velocity:	2.51	ft/s
Maximum Velocity:	4.85	ft/s
Composite n:	0.0748	
Hydraulic Radius:	2.42	ft
Wetted Perimeter:	2795.75	ft
Wetted Top Width:	2795.71	ft
Critical Slope:	0.1283	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29E–50

Entellus™

File: T1S-R6W-S29E-New-Mapping.dwg Date: 12/02/02



Normal Depth Results

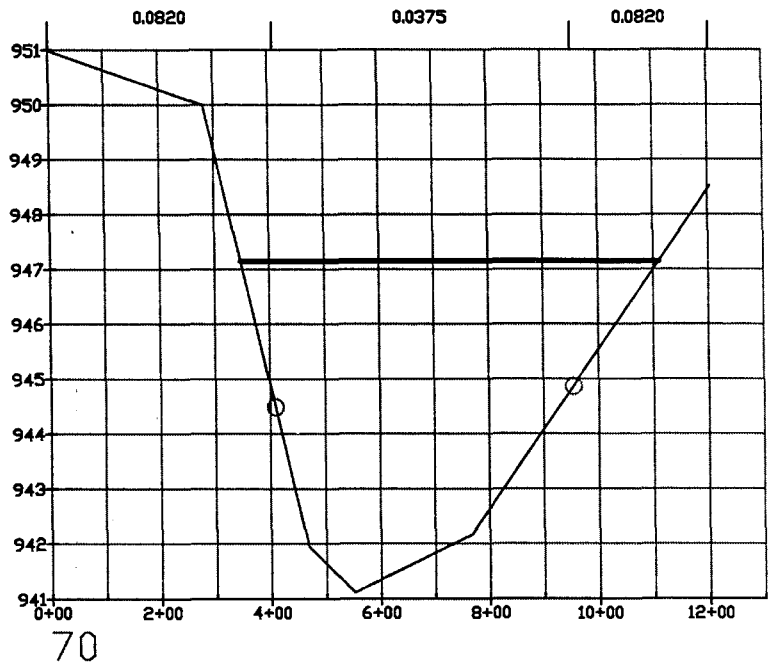
Cross-Section:	60	
Elevation:	933.79	ft MSL
Depth:	6.69	ft
Discharge:	16320.00	cfs
Energy Gradient:	0.0031	ft/ft
Froude Number:	0.3763	
Flow Regime:	Subcritical	
Flow Area:	2956.26	sq ft
Average Velocity:	5.52	ft/s
Maximum Velocity:	5.88	ft/s
Composite n:	0.0466	
Hydraulic Radius:	3.91	ft
Wetted Perimeter:	755.73	ft
Wetted Top Width:	755.41	ft
Critical Slope:	0.0342	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29E–60

Entellus™

File: T1S-R6W-S29E-New-Mapping.dwg Date: 12/10/02



Normal Depth Results

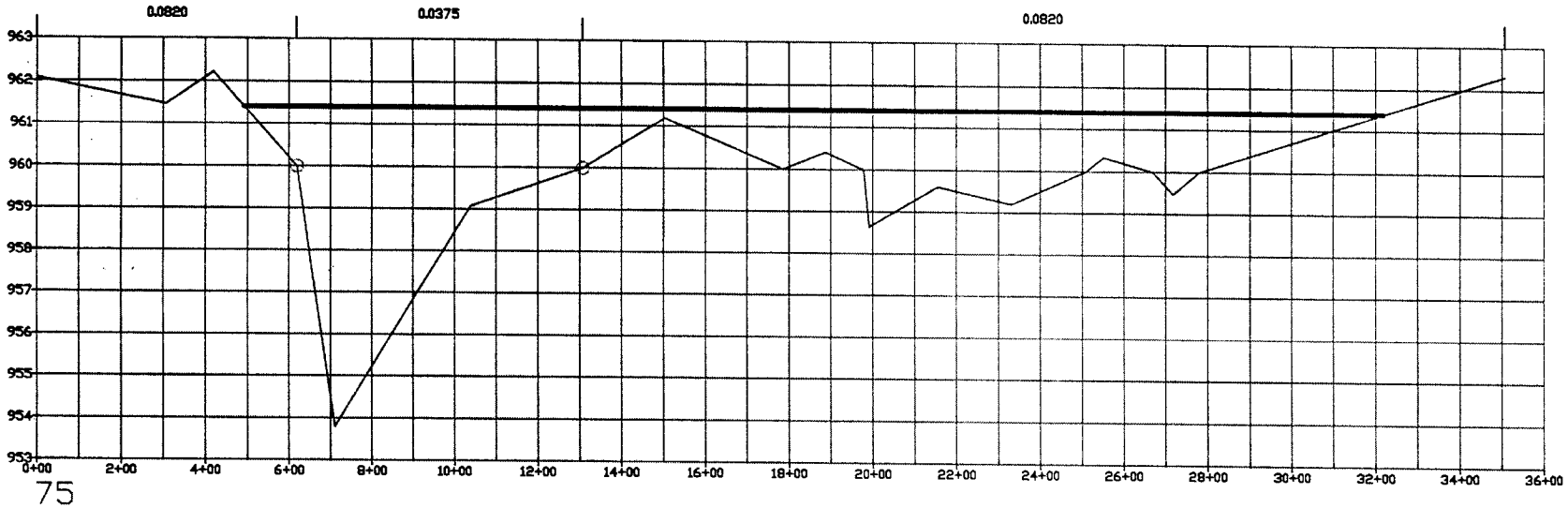
Cross-Section:	70	
Elevation:	947.15	ft MSL
Depth:	6.03	ft
Discharge:	16320.00	cfs
Energy Gradient:	0.0031	ft/ft
Froude Number:	0.4139	
Flow Regime:	Subcritical	
Flow Area:	2830.03	sq ft
Average Velocity:	5.75	ft/s
Maximum Velocity:	6.22	ft/s
Composite n:	0.0521	
Hydraulic Radius:	3.71	ft
Wetted Perimeter:	763.80	ft
Wetted Top Width:	763.65	ft
Critical Slope:	0.0414	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29E–70

Entellus™

File: T1S-R6W-S29E-New-Mapping.dwg Date: 12/10/02



Normal Depth Results

Cross-Section:	75	
Elevation:	961.40	ft MSL
Depth:	7.60	ft
Discharge:	16320.00	cfs
Energy Gradient:	0.0031	ft/ft
Froude Number:	0.2083	
Flow Regime:	Subcritical	
Flow Area:	5007.86	sq ft
Average Velocity:	3.25	ft/s
Maximum Velocity:	5.28	ft/s
Composite n:	0.0721	
Hydraulic Radius:	1.84	ft
Wetted Perimeter:	2726.51	ft
Wetted Top Width:	2726.16	ft
Critical Slope:	0.255	ft/ft

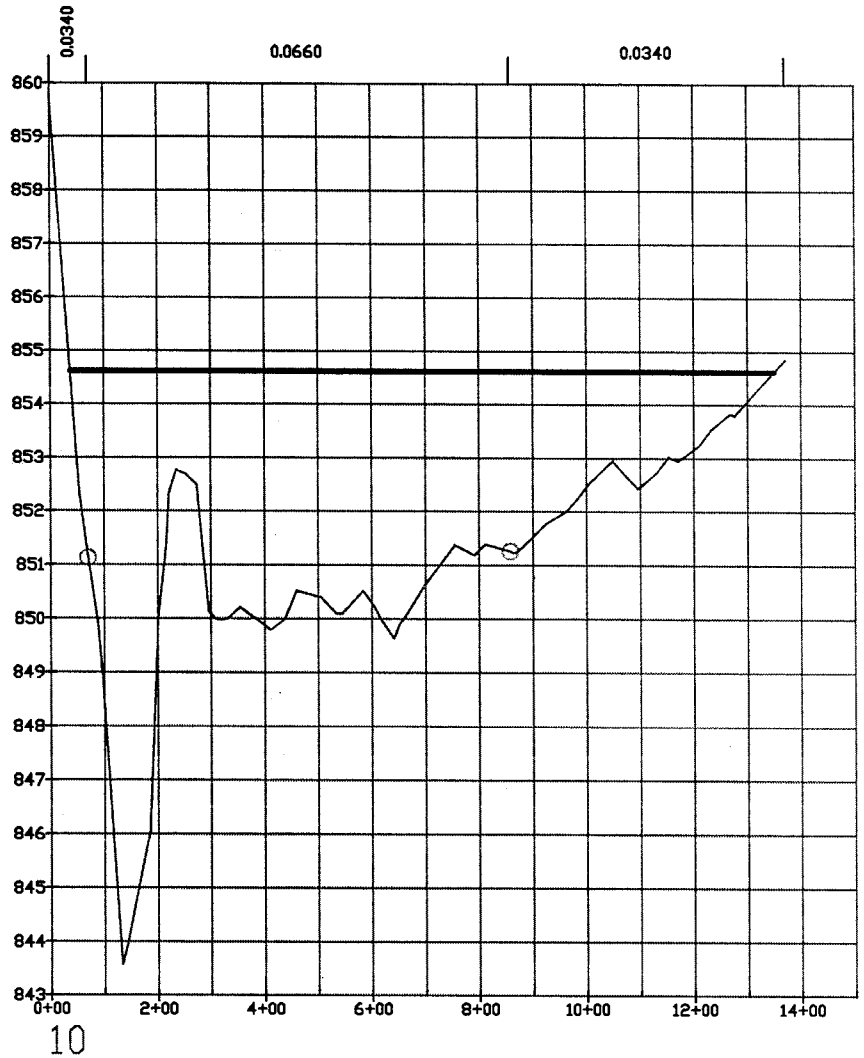
PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29E–75

Entellus™

File: T1S-R6W-S29E-New-Mapping.dwg Date: 12/12/12

T1S-R6W-S29W



Normal Depth Results

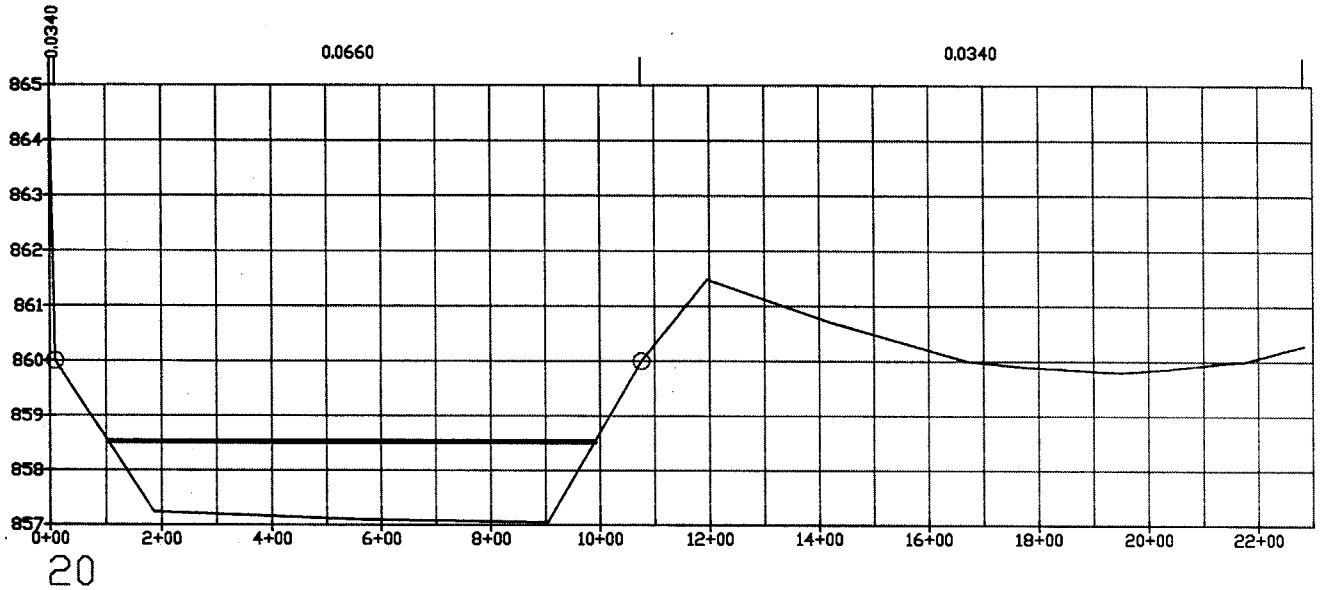
Cross-Section:	10	
Elevation:	854.62	ft MSL
Depth:	11.05	ft
Discharge:	17550.00	cfs
Energy Gradient:	0.0037	ft/ft
Froude Number:	0.2027	
Flow Regime:	Subcritical	
Flow Area:	4590.72	sq ft
Average Velocity:	3.84	ft/s
Maximum Velocity:	4.20	ft/s
Composite n:	0.0544	
Hydraulic Radius:	3.49	ft
Wetted Perimeter:	1314.00	ft
Wetted Top Width:	1312.40	ft
Critical Slope:	0.0894	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29W–10

Entellus™

File: T1S-R6W-S29W-New-Mapping.dwg, Date: 12/05/02



Normal Depth Results

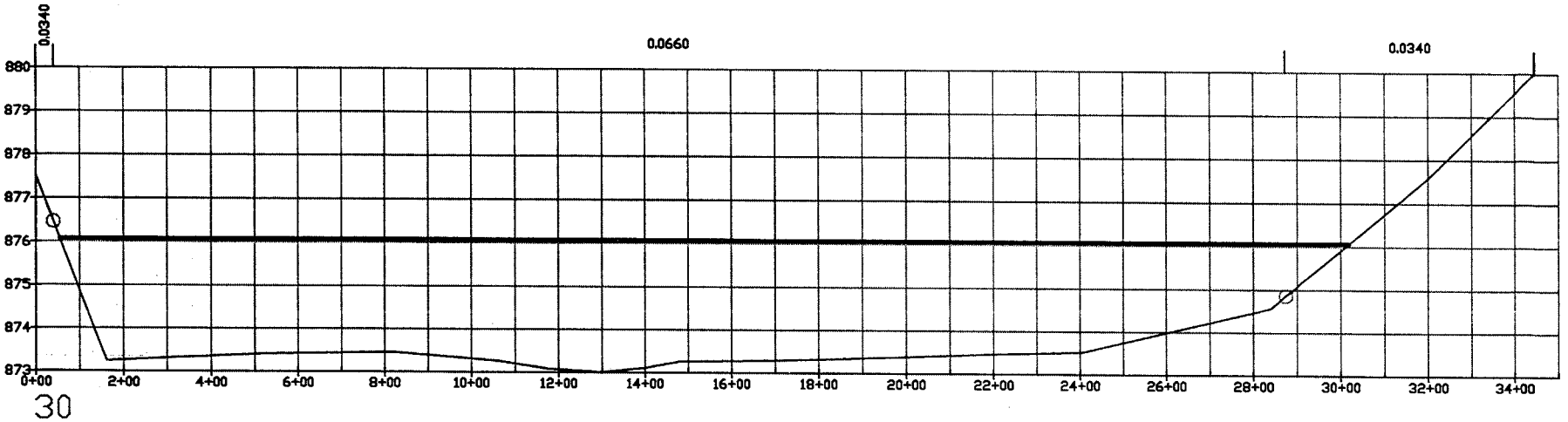
Cross-Section:	20	
Elevation:	858.53	ft MSL
Depth:	1.48	ft
Discharge:	1800.00	cfs
Energy Gradient:	0.0037	ft/ft
Froude Number:	0.2325	
Flow Regime:	Subcritical	
Flow Area:	1122.62	sq ft
Average Velocity:	1.61	ft/s
Maximum Velocity:	1.61	ft/s
Composite n:	0.066	
Hydraulic Radius:	1.27	ft
Wetted Perimeter:	886.00	ft
Wetted Top Width:	885.98	ft
Critical Slope:	0.068	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29W–20

Entellus™

File: T1S-R6W-S29W-New-Mapping.dwg Date: 12/05/02



Normal Depth Results

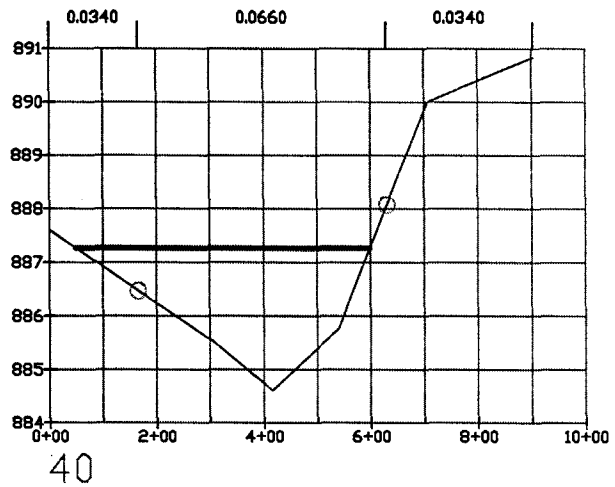
Cross-Section:	30	
Elevation:	876.07	ft MSL
Depth:	3.06	ft
Discharge:	18870.00	cfs
Energy Gradient:	0.0037	ft/ft
Froude Number:	0.2593	
Flow Regime:	Subcritical	
Flow Area:	7331.61	sq ft
Average Velocity:	2.57	ft/s
Maximum Velocity:	2.58	ft/s
Composite n:	0.0646	
Hydraulic Radius:	2.47	ft
Wetted Perimeter:	2964.88	ft
Wetted Top Width:	2964.84	ft
Critical Slope:	0.0554	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29W–30

Entellus™

File: T1S-R6W-S29W-New-Mapping.dwg Date: 12/05/02



Normal Depth Results

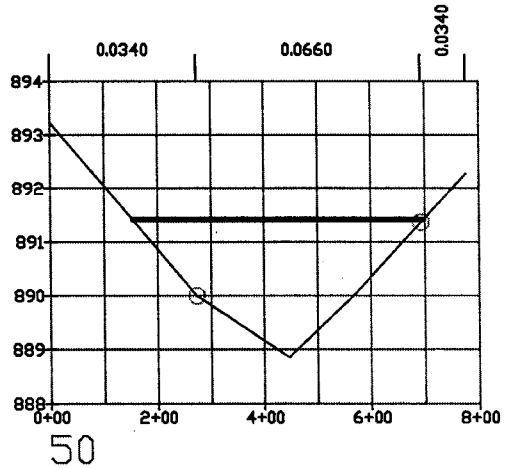
Cross-Section:	40	
Elevation:	887.27	ft MSL
Depth:	2.66	ft
Discharge:	1460.00	cfs
Energy Gradient:	0.0037	ft/ft
Froude Number:	0.2054	
Flow Regime:	Subcritical	
Flow Area:	768.45	sq ft
Average Velocity:	1.90	ft/s
Maximum Velocity:	1.93	ft/s
Composite n:	0.0599	
Hydraulic Radius:	1.4	ft
Wetted Perimeter:	549.78	ft
Wetted Top Width:	549.75	ft
Critical Slope:	0.0885	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29W–40

Entellus™

File: T1S-R6W-S29W-New-Mapping.dwg Date: 12/05/02



Normal Depth Results

Cross-Section:	50	
Elevation:	891.42	ft MSL
Depth:	2.56	ft
Discharge:	1460.00	cfs
Energy Gradient:	0.0037	ft/ft
Froude Number:	0.2117	
Flow Regime:	Subcritical	
Flow Area:	760.22	sq ft
Average Velocity:	1.91	ft/s
Maximum Velocity:	2.12	ft/s
Composite n:	0.0595	
Hydraulic Radius:	1.4	ft
Wetted Perimeter:	543.43	ft
Wetted Top Width:	543.40	ft
Critical Slope:	0.0838	ft/ft

PALO VERDE WATERSHED ZONE A FLOODPLAIN DELINEATION STUDY: FCD 2000C021

Figure E2 – Wash: T1S–R6W–S29W–50

Entellus™

File: T1S-R6W-S29W-New-Mapping.dwg Date: 12/05/02

E.6 Expansion and Contraction Coefficients

E.7 Analysis of Structures

The analysis of structures for the CAP Canal is located in **Appendix E.1** and the analysis of structures for the I-10 Highway is located in **Appendix E.2**.

E.8 Hydraulic Calculations

The following are general problem descriptions of special problems encountered.

Cross Sections
The cross sections for this project were initially done individually for each wash. If the wash contained the flow then the floodplain was drawn only for that particular wash. If the wash did not contain the flow, then the second alternative is cutting a cross section into the adjoining wash. If the combined flow contained the flow then the floodplain was drawn to include both washes. If the two washes don't contain the combined flow, then the third wash is added and the combined flow is calculated to see if the three washes contain the flow, and so forth. After drawing the floodplains for the individual washes, they are put together. In areas where the floodplains overlapped, they were joined together with the adjoining floodplain to act as one floodplain. This is the reason the floodplain map sheets will show either the left or right or the entire cross section enclosed within the floodplain even though, in most cases, the cross sections were contained.

Mapping
The mapping initially received to cut cross sections was not very accurate. The errors were within accuracy, but the centerline of the wash would show a ridge present and would be significantly higher than the surrounding overbanks. Therefore, washes that were present within these areas of mapping problems were cut from 10 foot contours. Cross sections were cut in areas where there was no indication of mapping errors, but in some areas there was no way to avoid these, so a limited number of cross sections were cut for these areas.

Flow Splits
The analysis for analyzing a flow split was approximated by looking at aerial photographs and widths of the split washes. In most cases, if the wash splitting did not return to the main wash, the split was approximated as more flow in the main wash than in the wash diverging. A rough percentage of the split was given if the flow split came back into the main wash.

Confluences
There are many confluences identified in each of the areas, the concentration point is shown along with its corresponding flow. If two flows were added together the two concentration points are shown and the total flow is shown. The hydrology showing the corresponding concentration points can be found in **Appendix D**.

Piedmonts
Aerial photographs are shown for all piedmonts described. The piedmont areas show both or either active or inactive movement. Geomorphologic principles were used to determine the floodplain boundaries in these areas with piedmont present.

Agricultural Areas
The areas where agricultural areas are present any berm, dyke, or any man made obstruction present was ignored, since a 100 year storm would wash away these types of obstructions once they fail. Also, in these areas sheet flow is present, therefore, individual floodplains are shown to combine as one floodplain.

Stock Ponds
There are stock ponds present in certain areas of the project. The assumption of these stock ponds is that they cannot hold the 100 year flow, so they will be washed away and there will be

no ponding where these stock ponds are present. Therefore, most likely they are included within the floodplain boundary.

Ponding

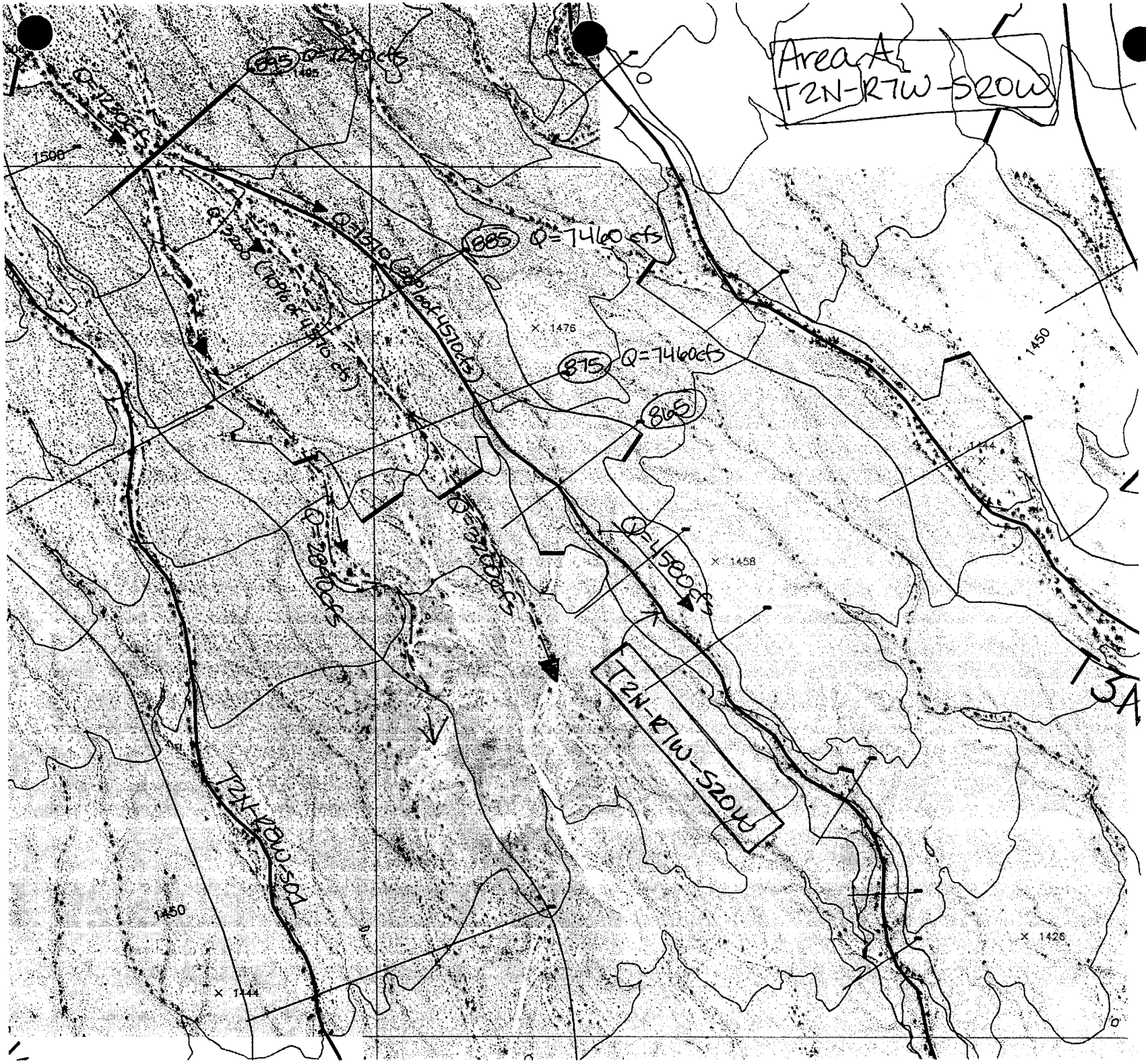
The areas where there is indication of ponding is north of the CAP Canal and north of the Interstate 10 Highway. See **Appendix D** for the calculations.

Area A Washes-Special Problems

Wash	Problem description	How problem was handled
T2N-R7W-S20W	Flow Split that meanders downstream of the main wash for cross sections 875 to 895	Flow Split was approximated as 70-30 split, see plot on page 3 of this section.
T2N-R8W-S01	Flow Split within Basin A8C that comes back into the main wash for cross sections 830 to 845	Flow Split was approximated as 75-25 split, see plot on page 7 of this section.
T3N-R7W-S31E	Cross section 756 is contained in the cross section plot, but the floodplain boundary extends to either side of the cross section because of wash T3N-R7W-S31W coming in from the west and flow splits meandering on the east side.	
T3N-R7W-S31S	Confluence with two washes T3N-R8W-S13W and T3N-R8W-S13S for cross section 875	The combined flow before flow split was used, Cpt. A86-04, Q=7180 cfs
T3N-R7W-S31W	Downstream of cross section 840 there is a flow split going into the main wash and towards wash T2N-R8W-S01. This flow split is not accounted for in hydrology and there are no back-up hydraulic calculations provided. The floodplains are connected together using aerial and contour mapping.	
T3N-R7W-S32	Flow Split occurs in Basin A78A2 that splits from the basin downstream of cross section 785	Flow Split was approximated as 70-30 split, see plot on page 6 of this section.
	Flow Split for cross sections 786 and 787 is approximated.	Flow Split was approximated as 60-40 split, see plot on page 5 of this section.
T3N-R8W-S11W	Confluence at flow split location for cross section 890	The combined flow before flow split was used, Cpt. A75-04, Q=2290 cfs
	Cross section 885 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section, due to wash T4N-R8W-S35W splitting towards the east.	
T3N-R8W-S13E	Cross sections 870 and 880 are contained in the cross section plots, but the right side of the floodplain boundary extends pass the cross section, due to wash T3N-R8W-S11E coming in on the west.	
T3N-R8W-S13W	Confluence with wash T3N-R8W-S13E at the downstream end for cross sections 780 to 800	The combined flow was used for the confluence Cpt. A88-04 + Cpt. A64-04 which equals Q=5860 cfs
T4N-R8W-S35E	Confluence downstream of wash for cross section 760	The combined flow was used for the confluence, Cpt. A91-04, Q=2790 cfs

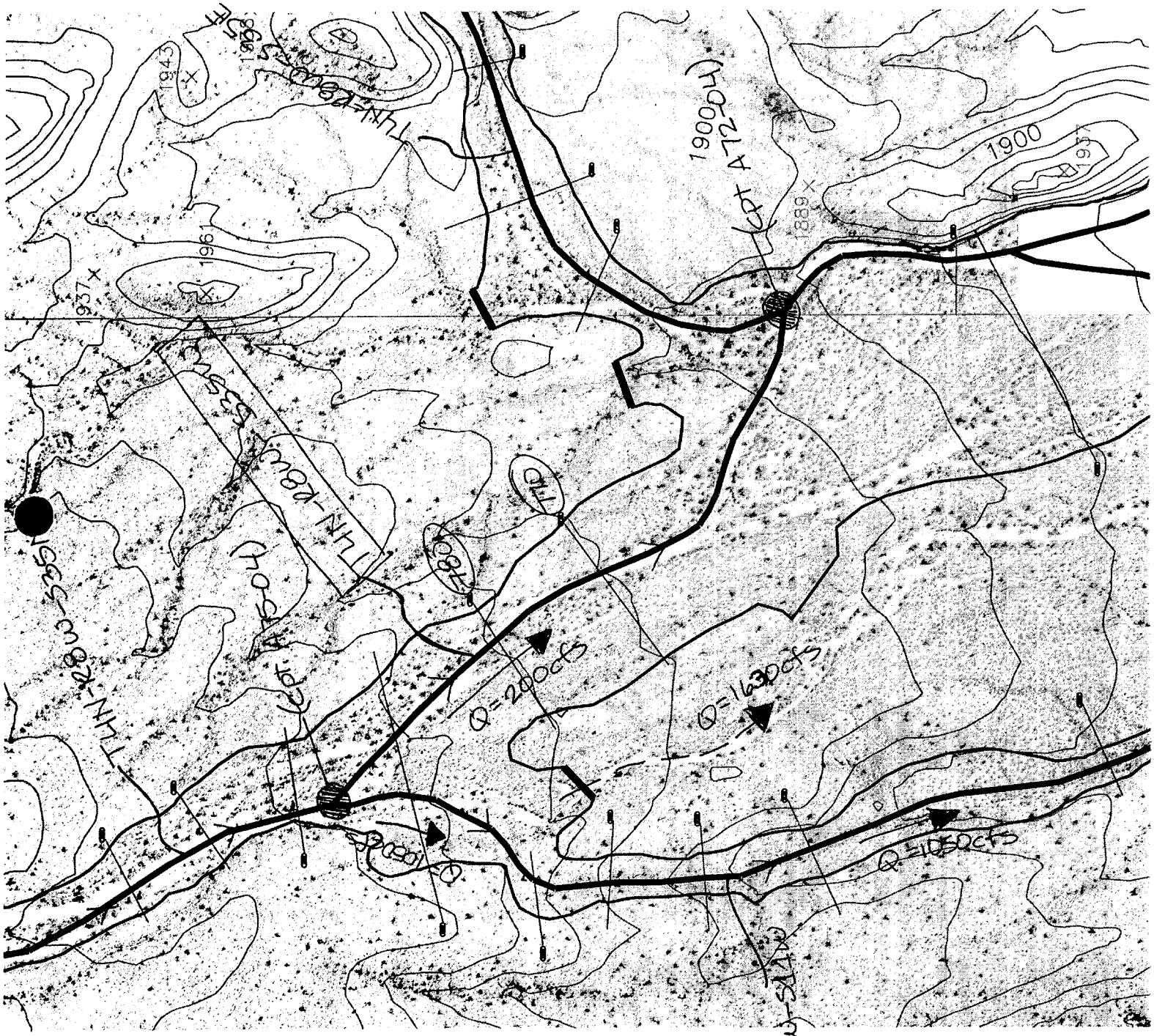
Area A Washes-Special Problems

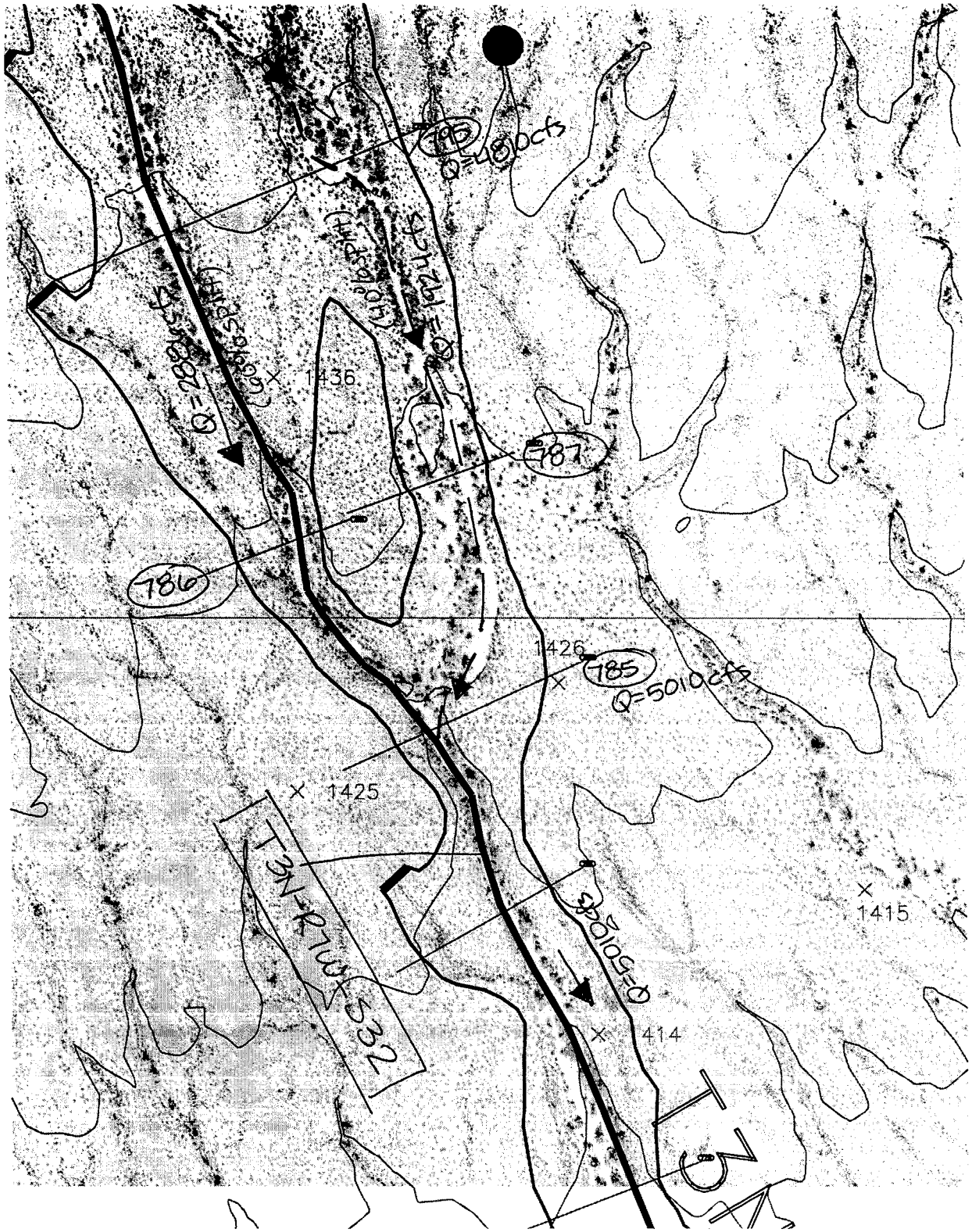
Wash	Problem description	How problem was handled
T4N-R8W-S35W	Flow Split in the main wash that was approximated to be Q(max)=200 cfs in the main channel and Q=1630 cfs that splits from the main wash and wash T3N-R8W-S11W. The reason for this flow split was the main channel could not carry the original flow and extending the cross section just pushed Flow Split either to the west or east side of the main channel. Therefore, this flow split was approximated using Normal Depth to find the maximum flow in the main channel and the difference of the flow went into the flow split from the main wash. See plot on page 4 of this section.	


Area A
T2N-R7W-S20W
N
895 Q=1230cfs
Q=1220cfs
1508
Q=1320 (100% of 4510cfs)
Q=1220 (70% of 4510 cfs)
885 Q=7460 cfs
1476
875 Q=7460cfs
865
Q=2810cfs
Q=2700cfs
Q=4580cfs
1458
T2N-R7W-S20W
T2N-R8W-S21
1450
1444
1426
T3A

N

Area A
T4N-R8W-S35W





↑N

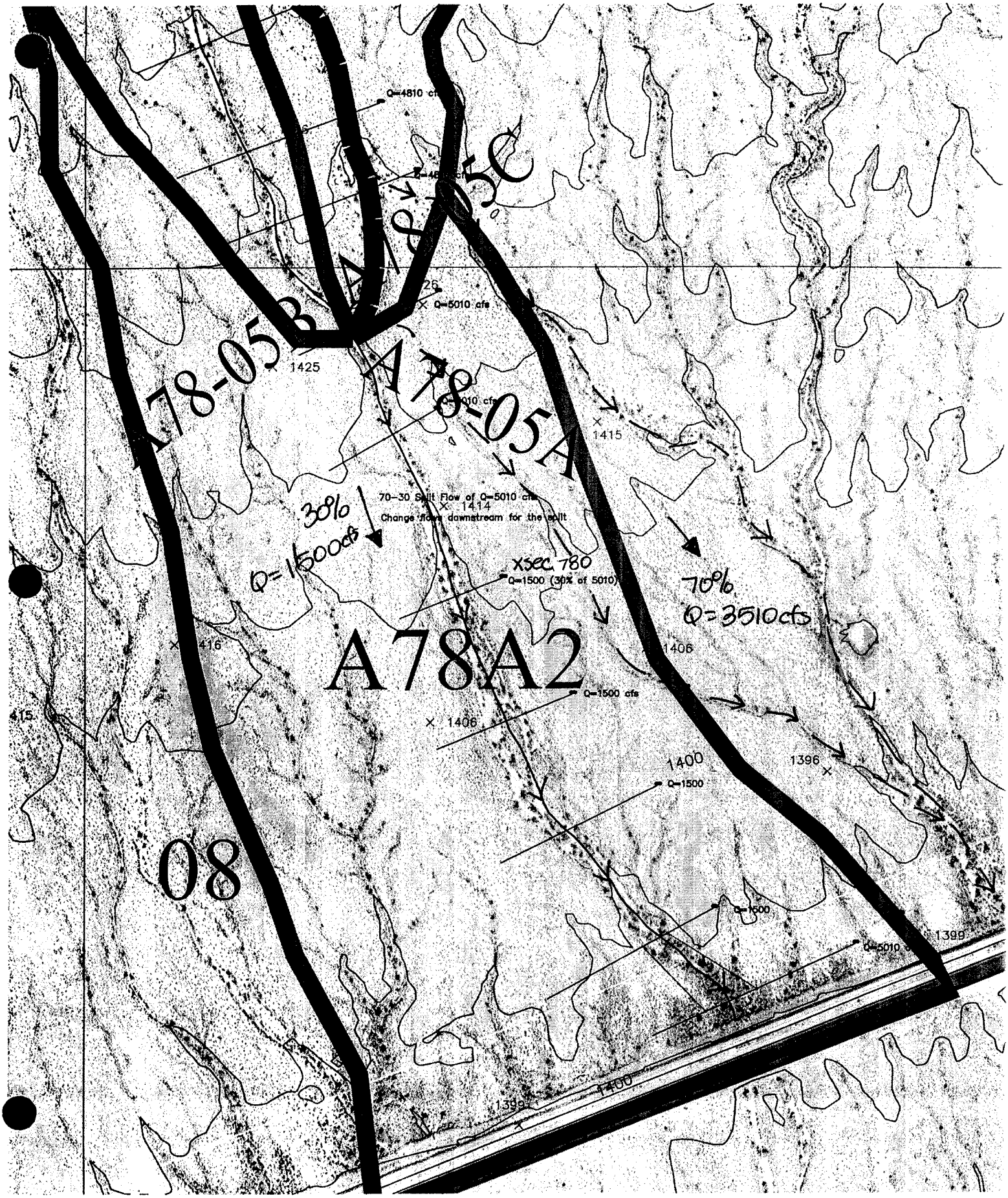
Area A

T3N-R7W-S32

5

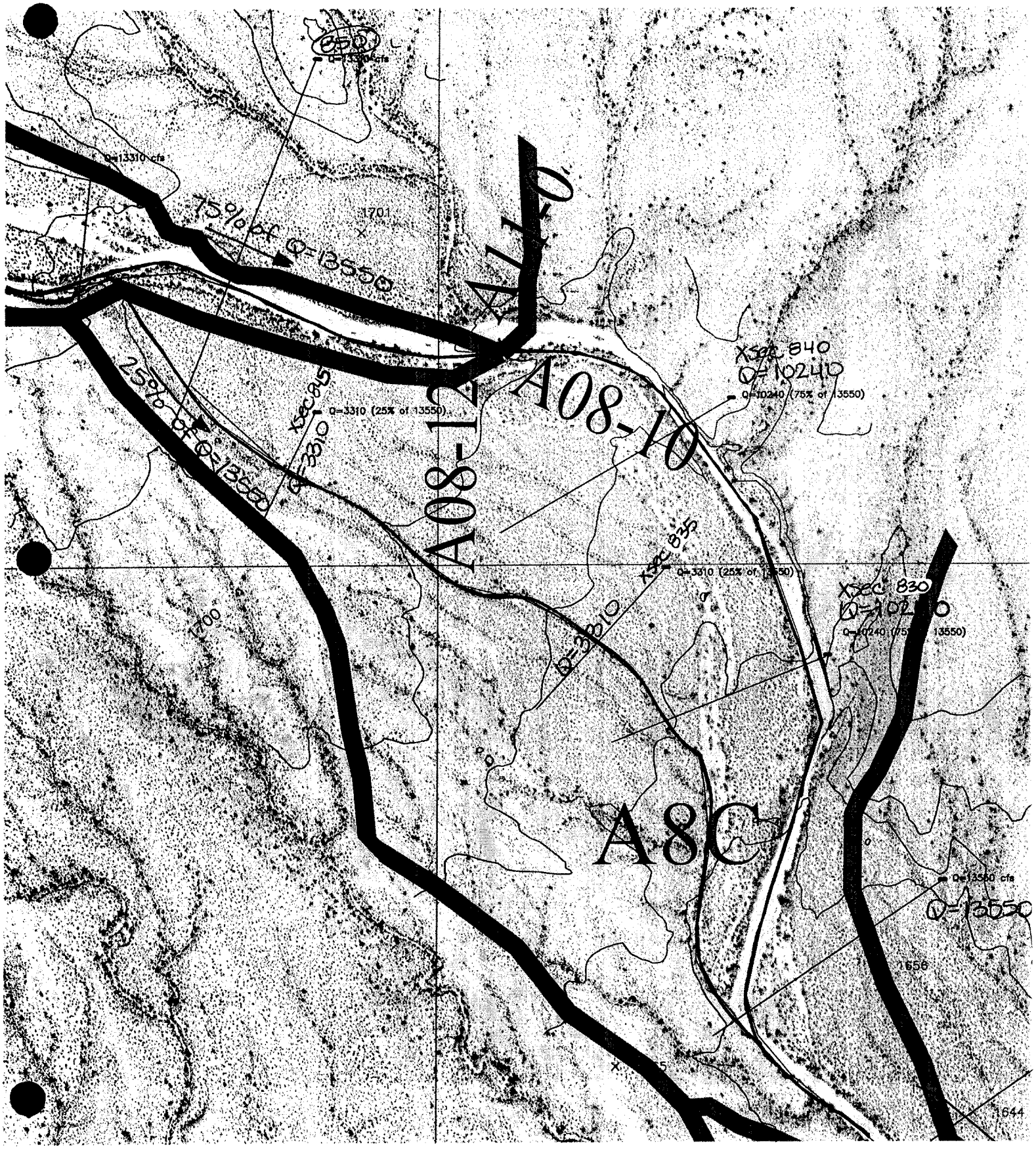
Area A – Wash T3N-R7W-S32

↑N



Area A
T2N-R8W-S01

↑N



Area B Washes-Special Problems

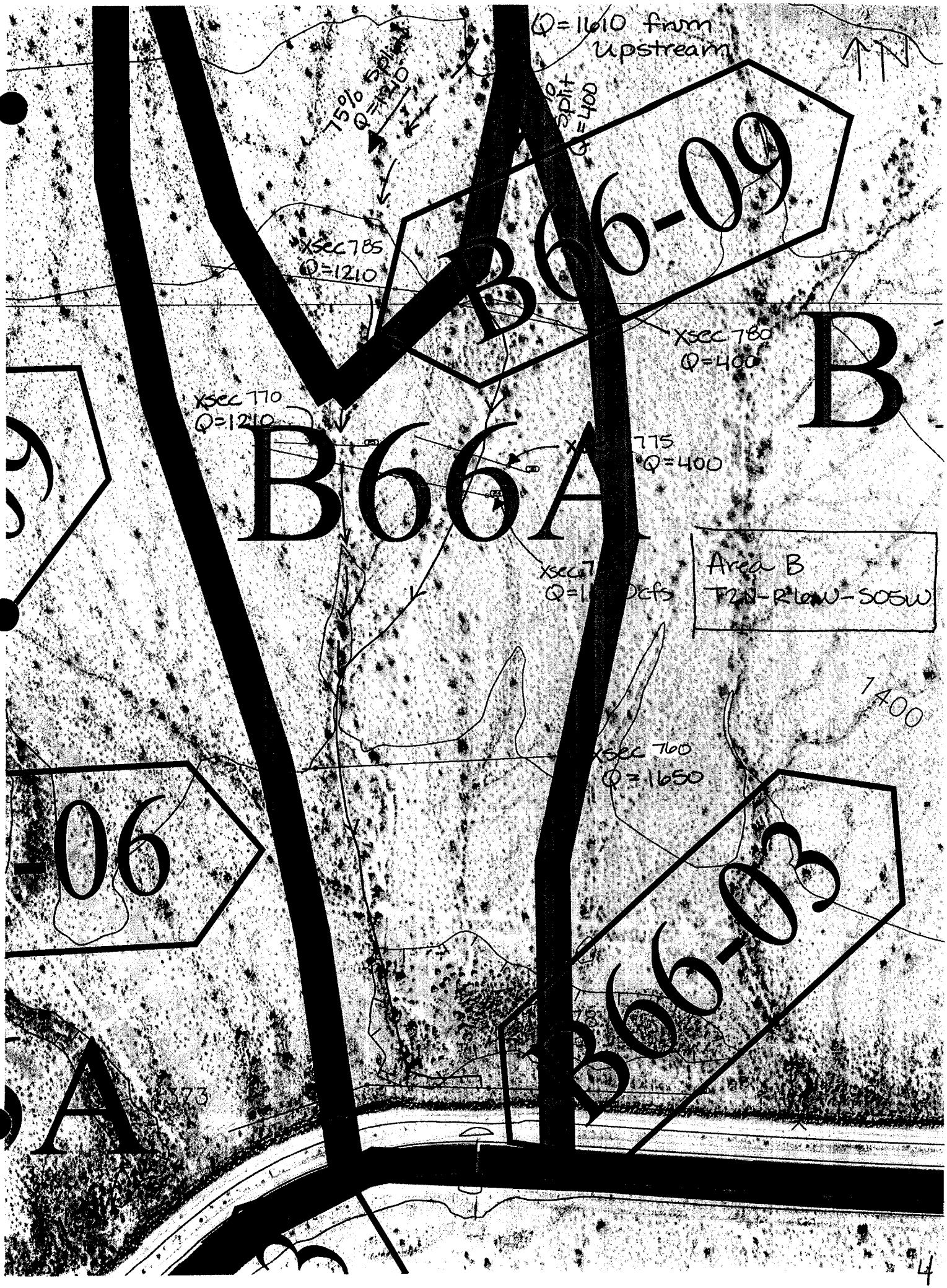
Wash	Problem description	How problem was handled
T2N-R6W-S05W	Flow Split that comes back into main wash from Basin B66B to Basin B66A for cross sections 770 to 785.	Flow Split was approximated as 75-25 split, see plot on page 4 of this section.
	Cross section 765 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section, due to meandering flow splits from the main wash.	
T2N-R6W-S18W	Cross section 752 is not contained in the cross section plot, therefore is not used in delineation.	
	Cross section 754 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section, due to wash T3N-R7W-S26 coming in from the east.	
	Flow Split occurs in Basin B16B2 that leaves the basin	Flow Split was approximated as 90-10 split, see plot on page 6 of this section.
	Confluence occurs at several locations for cross section 772 to 776	A combined flow was used for cross sections 772-776, Cpt. B16-08 + Basin. B16B2 + Basin B13B which equals Q=13360 cfs
	Confluence with wash T2N-R6W-S19 for cross section 776	The combined flow used for the confluence, Cpt. B16-08 + Cpt. B16B2 + B13B, which equals Q=13,360 cfs
	An active piedmont is present in the main wash	The plot shows the active piedmont area on page 5 of this section.
	Confluence in active piedmont area for cross section 786	The combined flow used for the confluence, Cpt. B16-13, Q=8770 cfs,
	Cross section 788 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section, due to wash T3N-R7W-S09W diverging to the east.	
	Confluence with wash T3N-R7W-S09W for cross sections 790 and 792	The combined flow used for the confluence, Cpt. B16-18 + B26-12, Q=9430 cfs
T2N-R6W-S19	Confluence with wash T2N-R6W-S18W for cross section 810	A combined flow was used for confluence, Cpt. B13-06 + Cpt. B16-06B, which equals Q=13450 cfs
T3N-R6W-S16E	Confluence with wash T3N-R6W-S16W for cross section 765	The combined flow was used for confluence, Cpt. B78-06, Q=1460 cfs
T3N-R6W-S16W	Confluence with wash T3N-R6W-S16E for cross sections 755 to 760	The combined flow was used for confluence, Cpt. B78-06, Q=1460 cfs

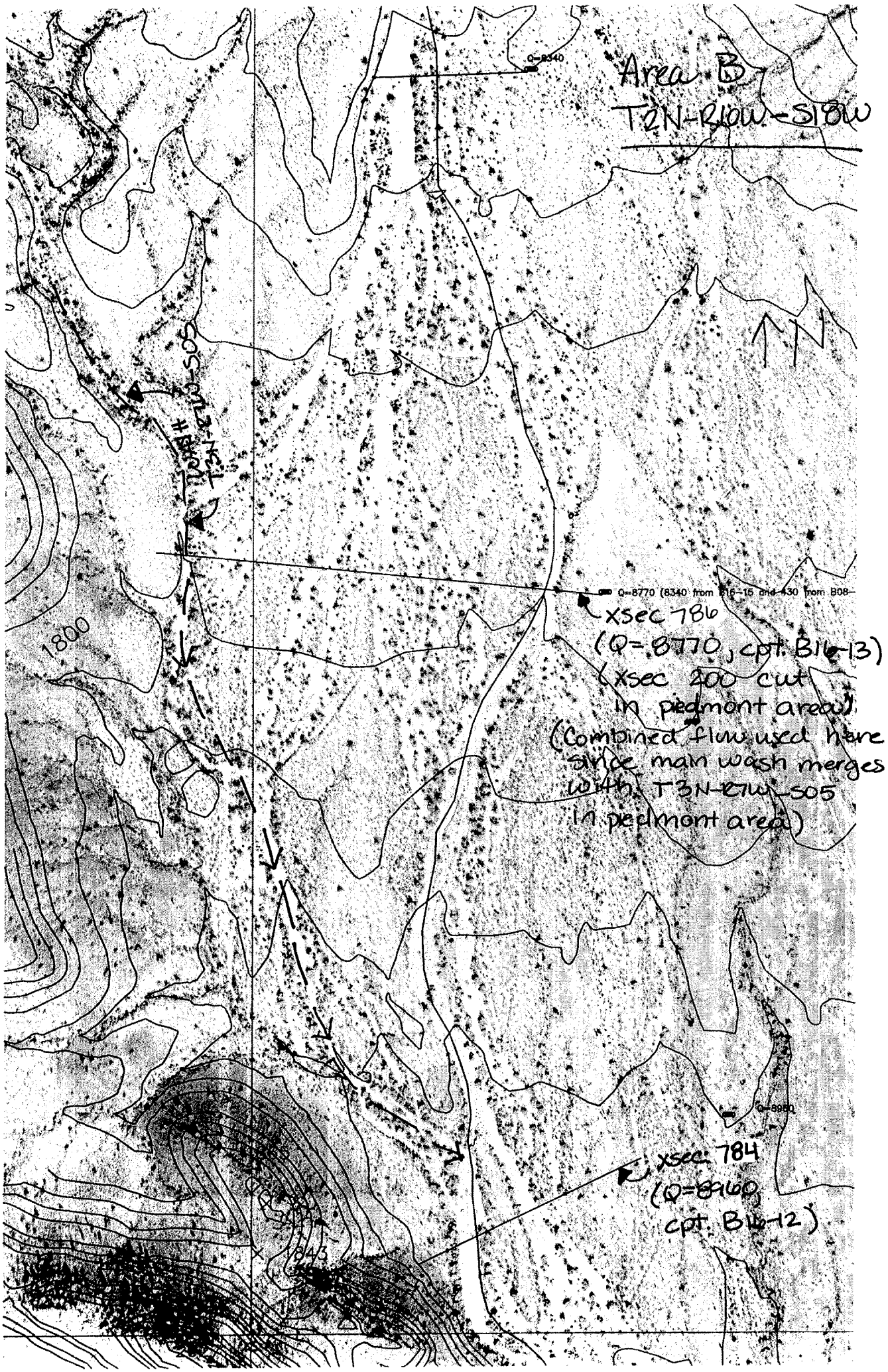
Area B Washes-Special Problems

Wash	Problem description	How problem was handled
T3N-R6W-S20	An active piedmont is present in the area where cross sections 755 and 760 are located. The cumulative areas were used to calculate the total flow for these cross sections.	The cumulative areas for Cpt. B71-03 + Cpt. B118-03 equals Q=1070 cfs, see plot and hand calculations on page 7 and 8 of this section.
T3N-R7W-S05	Cross sections 760 and 765 are contained in the cross section plots, but the left side of the floodplain boundary extends pass the cross section, due to wash T2N-R6W-S18W coming in on the east.	
T3N-R7W-S09W	Flow Split that comes back into main wash for cross sections 770 to 785	Flow Split was approximated as 75-25 split, see plot on page 9 of this section.
	Cross section 775 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section, due to meandering washes on the east side of the main wash.	
	Cross sections 805 and 810 are contained in the cross section plots, but the floodplain boundary extends pass the cross section, due to wash T2N-R6W-S18W coming in from the west.	
	Downstream of cross section 785 there is a flow split where Q=2420 cfs splits to the east towards wash T3N-R7W-S09E. The floodplains are connected together using aerial and contour mapping.	
T3N-R7W-S11	Confluence with wash T3N-R6W-S18W for cross section 755	The combined flow was used for confluence, Cpt. B58-12, Q=2320 cfs
T3N-R7W-S12	Cross section 760 is contained in the cross section plot, but the right side of the floodplain boundary extends pass the cross section, due to wash T3N-R6W-S18W coming in from the west.	
T3N-R7W-S15	Flow Split that comes back into main wash for cross sections 785 and 790	Flow Split was approximated as 70-30 split, see plot on page 10 of this section.
	Cross section 765 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section, due to wash T3N-R7W-S26 on the east.	
T3N-R7W-S20	Flow Split that comes back into main wash for cross sections 815 and 820	Flow Split was approximated as 75-25 split, see plot on page 11 of this section.
T3N-R7W-S24	Flow Split occurs where main wash moves into Basin B114. The cumulative areas were used to calculate total flow for cross sections 755 and 760.	The cumulative areas for Cpt. B53-03 + Cpt. B114-03 equals Q=780 cfs, see plot and hand calculations on page 12 and 13 of this section.

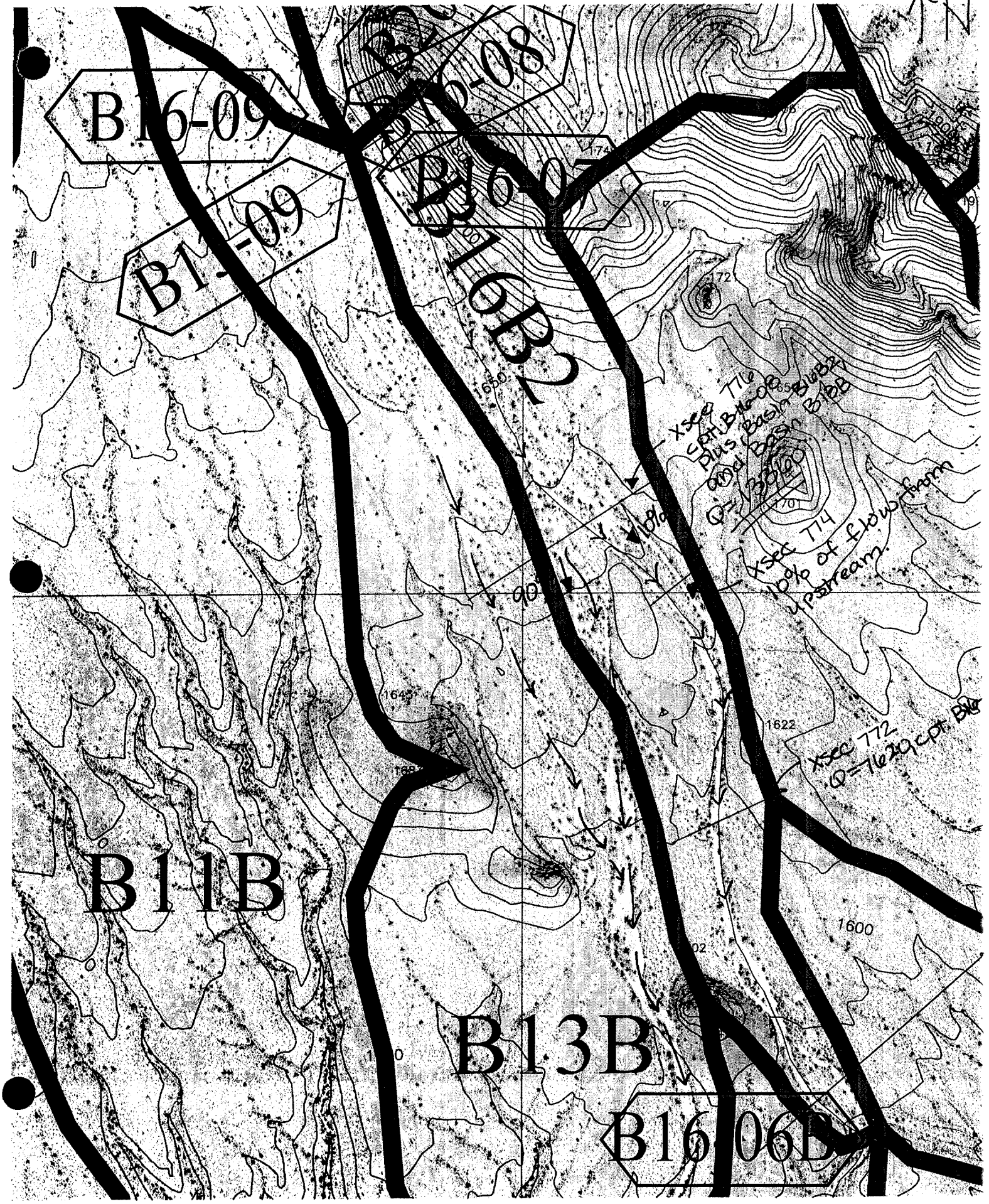
Area B Washes-Special Problems

Wash	Problem description	How problem was handled
	Flow Split occurs that comes back into main wash for cross sections 795 to 810	Flow Split was approximated as 60-40 split, see plot on page 14 of this section.
T3N-R7W-S26	Confluence with wash T2N-R6W-S18W for cross section 765	The combined flow was used for the confluence, Cpt. B43-03 + Cpt. B16-03 which equals Q=10060 cfs
	Cross section 805 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section, due to wash T3N-R7W-S15 coming in from the east.	
T3N-R7W-S28W	Flow Split that comes back into main wash for cross sections 772 to 778	Flow Split was approximated as 75-25 split, see plot on page 15 of this section.

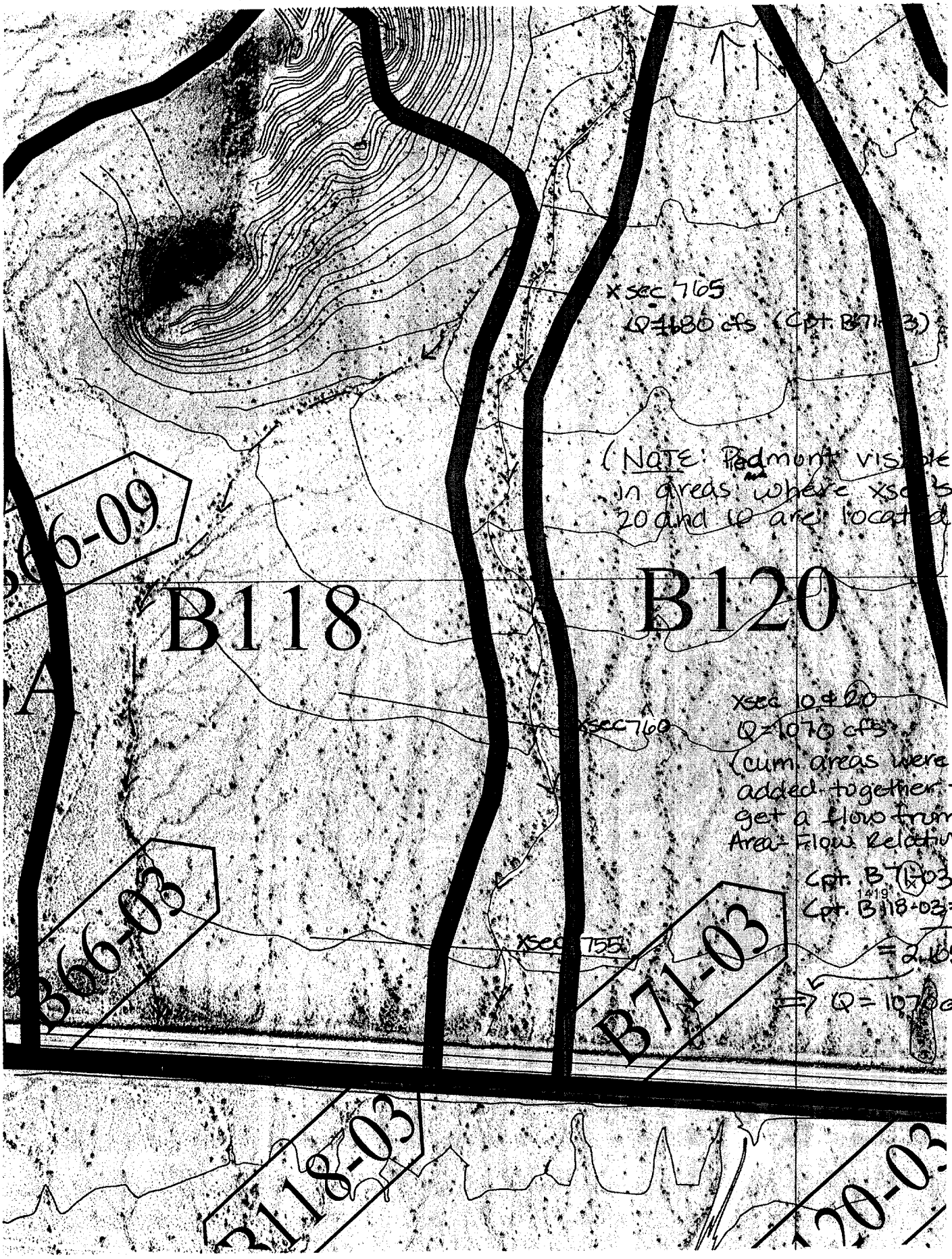

Q=1610 from upstream
75% split Q=1210
split Q=400
B66-09
xsec 785 Q=1210
xsec 780 Q=400
B
xsec 770 Q=1210
B66A
775 Q=400
Area B
T2N-R16W-S05W
1400
xsec 760 Q=1650
B66-03
373


Area B
T2N-R10W-S18W
Q=8340
Q=8770 (8340 from B16-16 and 430 from B08-
xsec 786
(Q=8770, cpt. B16-13)
(xsec 200 cut
in piedmont area)
(Combined flow used here
since main wash merges
with T3N-R7W-S05
in piedmont area)
1800
1843
xsec 784
(Q=8960
cpt. B16-12)

Area B - T2N - R6W - S18W



Area B - T3N-R6W-S20



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SHEET ____ OF ____
BY AMG DATE 10/23/02
CHECK ____ DATE ____

CLIENT ____
JOB NAME Palo Verde Zone A Delineation JOB NO. 310.019

For WASH T3N-R1EW-S20

At downstream end of wash a pedmont area is present. Therefore, the cumulative areas for Concentration Point B71-03 and B118-03 were added together to get a flow of Q = 1070 cfs.

Cumulative Area

B71-03 = 1.76 s.mi.
B118-03 = 0.345 s.mi.

2.105 s.mi.

Area-Flow Relationship

Q = 510 × Area (s.mi.)

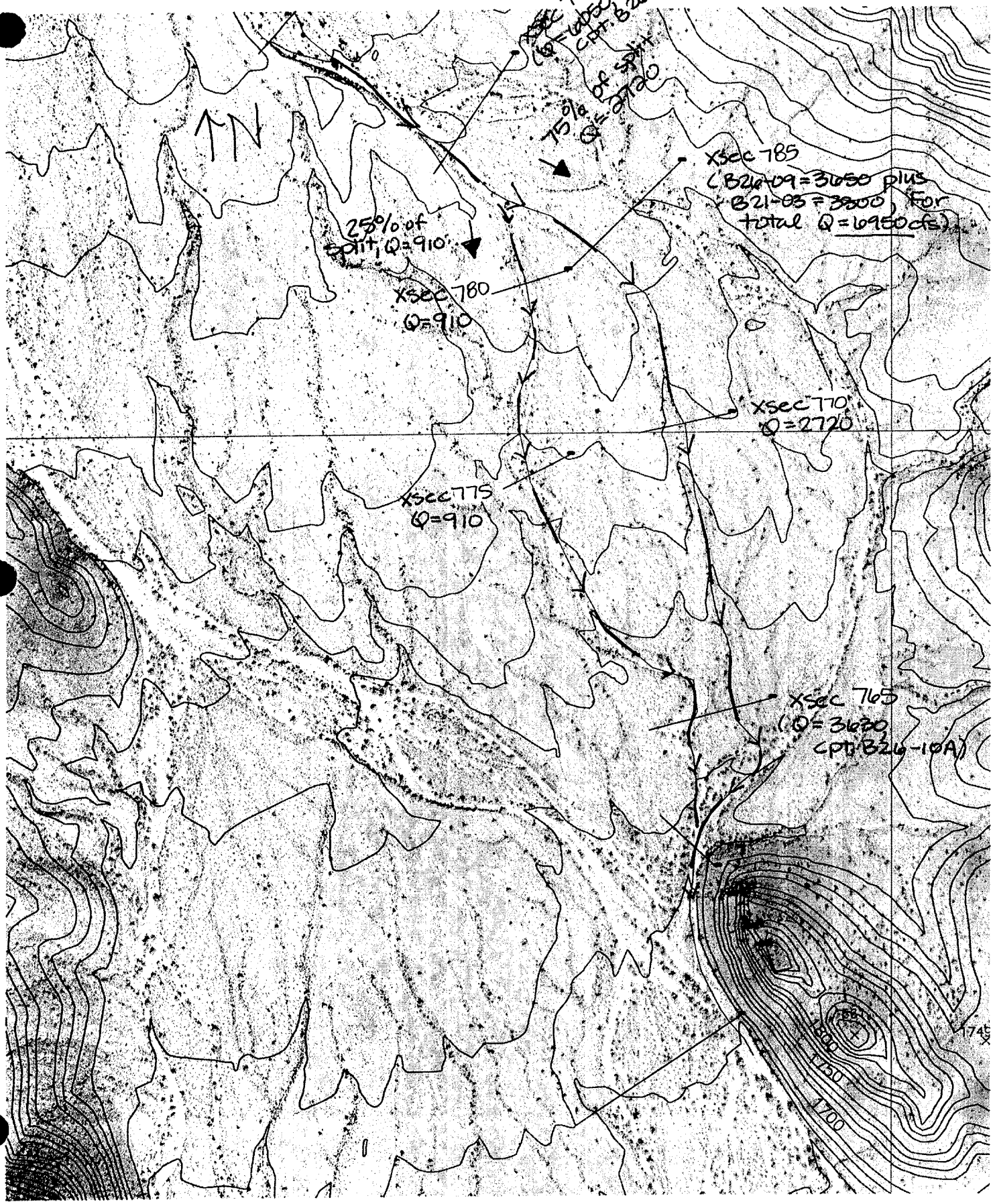
Q = 510 × 2.105 (s.mi)

Q = 1073.6 cfs

$\boxed{Q \simeq 1070 \text{ cfs}}$

Note:
* Cumulative Area was used which is the actual area, not the equivalent area obtained from area-flow relationship equation. (Appendix D.9)

Area B
T3N-R7W-S09W

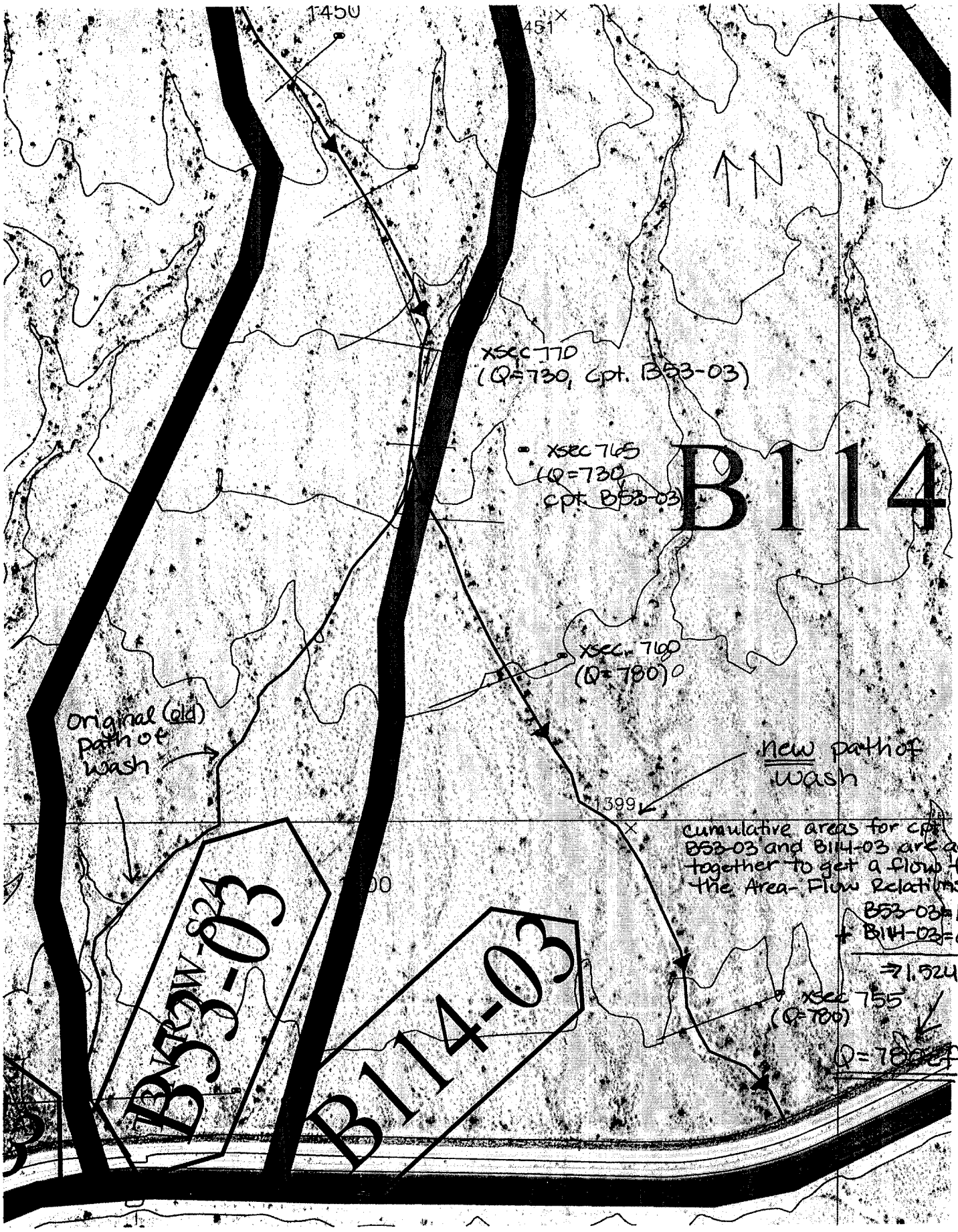


Area B

T3N-R7W- S15

Area B
T3N-R7W-S20
N
75% split
25% split
825
Q=3390, cpt. B03-11
Q=2540 cfs
820
Q=850 cfs
815
810
Q=3390 cfs

Area B
T3N-R7W-S24



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SHEET ____ OF ____

BY AMG DATE 10/23/02

CHECK ____ DATE ____

CLIENT ____

JOB NAME Palo Verde Zone A Delineation JOB NO. 310.019

For wash T3N-R7W-S24

At the downstream end, since the main wash flowed in Basin B114 the cumulative areas for concentration points B53-03 and B114-03 were added together to get a flow of Q=780cfs

Cumulative Area

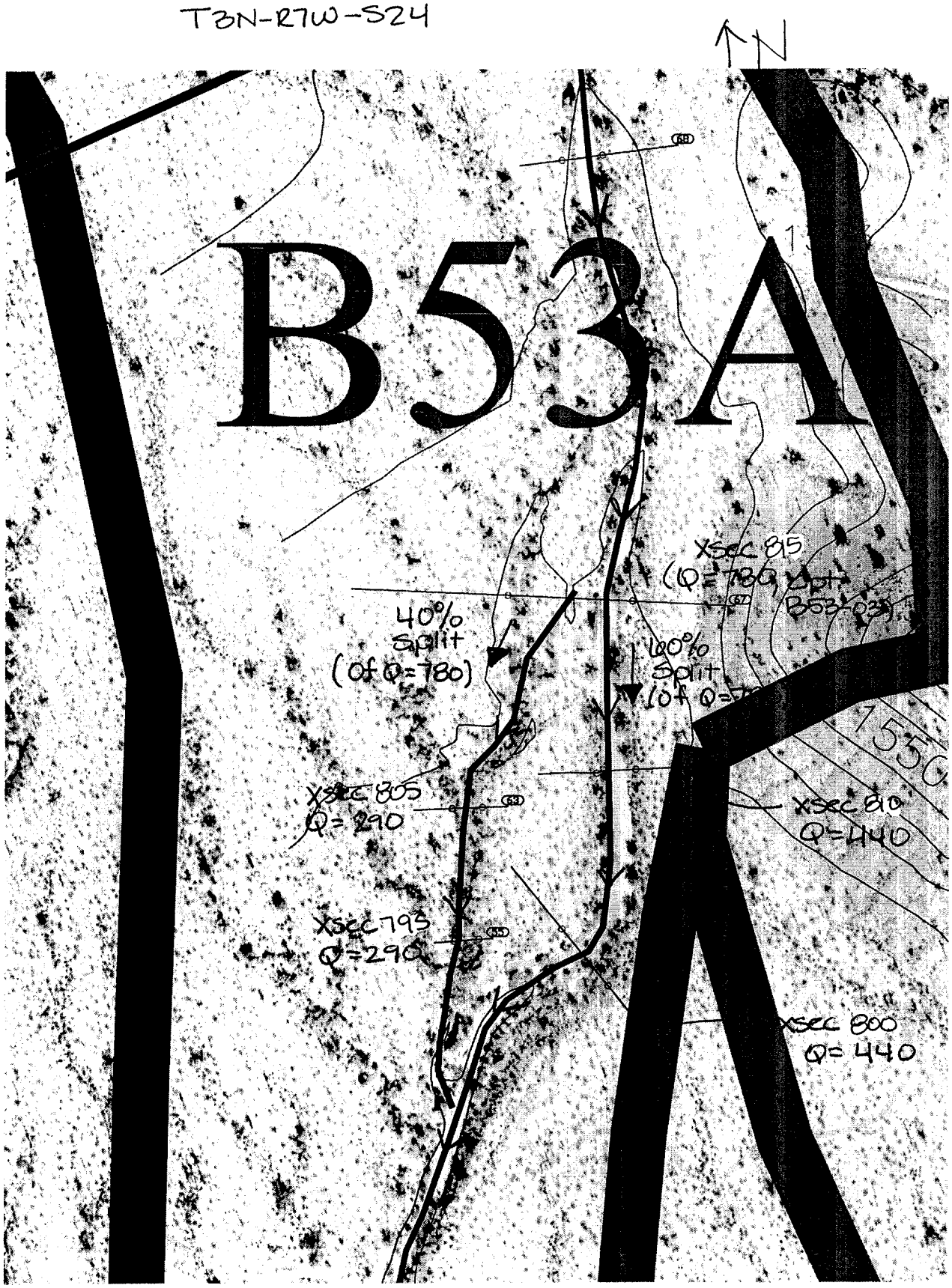
B53-03 = 1.066 s.mi.
B114-03 = 0.458 s.mi.
= 1.524 s.mi.

Area-Flow Relationship

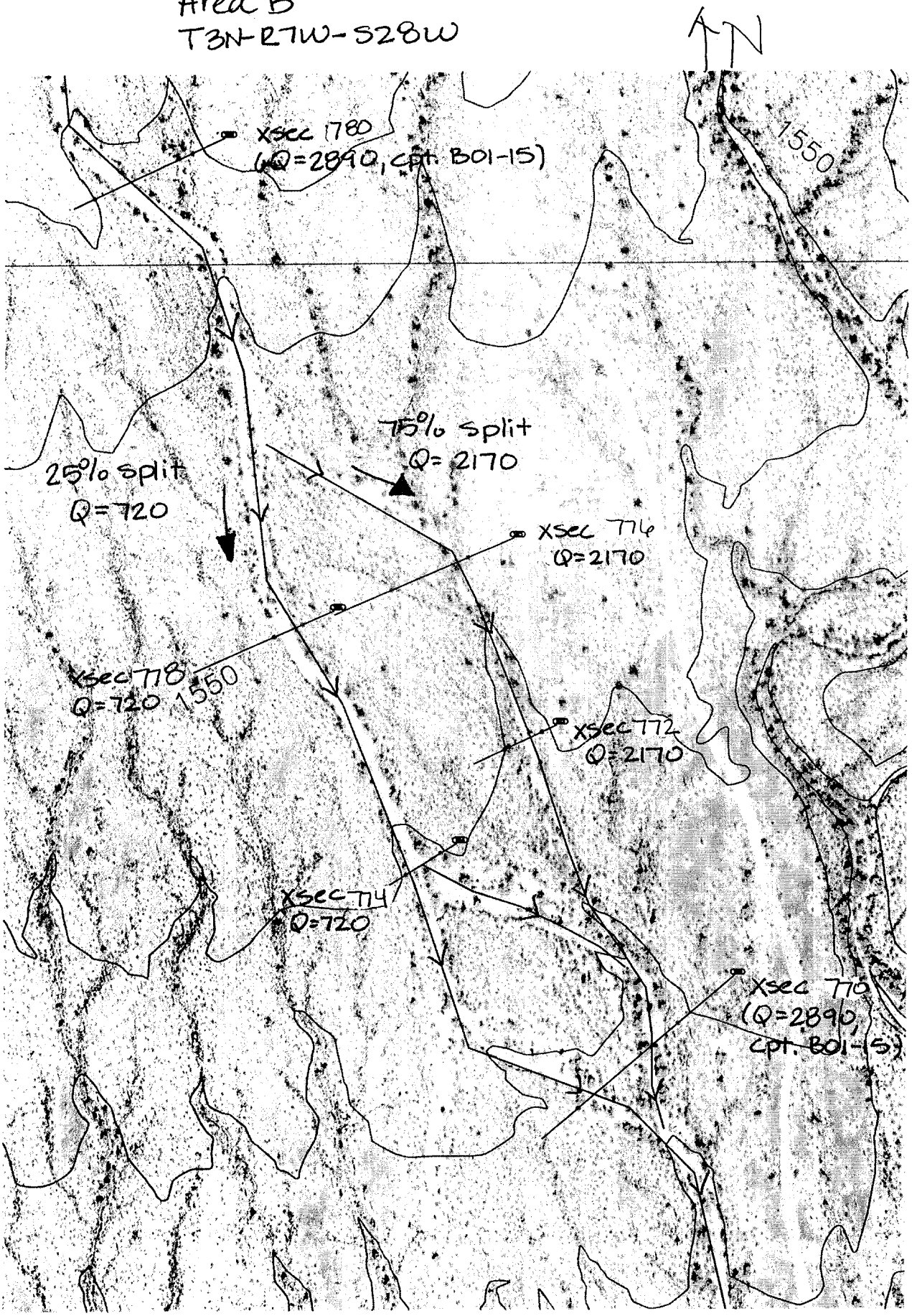
Q=510 x Area (s.mi.)
Q= 510 x 1.524 s.mi.
Q= 777.2 cfs
$\boxed{Q \simeq 780 \text{ cfs}}$

*Note: Cumulative Area was used which is the actual area, not the equivalent area obtained from the mountain-valley equation.

Area B
T3N-R7W-S24



Area B
T3N-R7W-S28W



Area C Washes-Special Problems

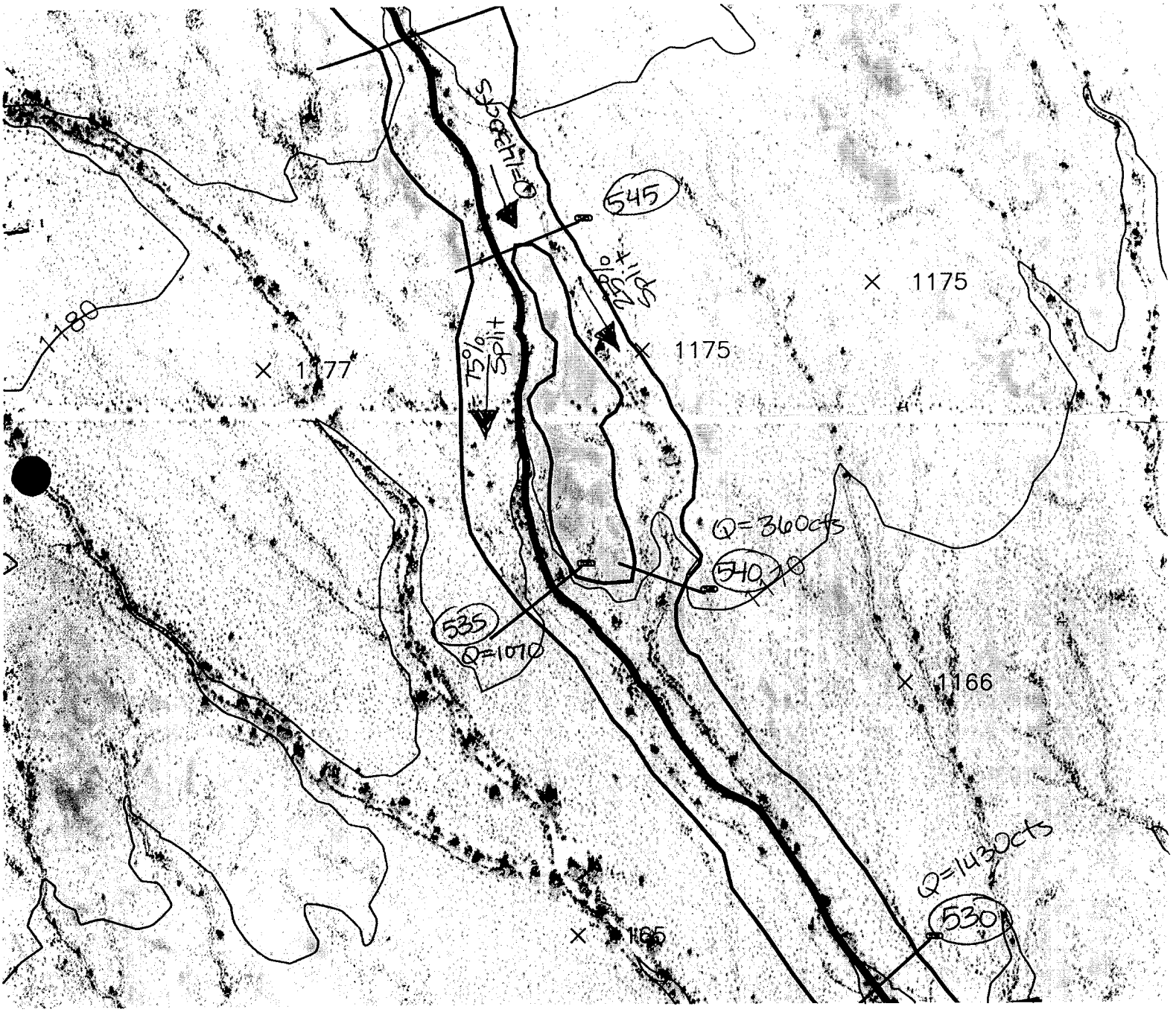
Wash	Problem description	How problem was handled
T1S-R6W-S29E	**GENERAL NOTE:** Floodplain is contained in cross section 505 at the roadway location. This flow is contained with the cross section, but since there is ponding upstream from the roadway, the floodplain boundary was adjusted based on ponding elevation. This caused the floodplain to be extended pass the end of the cross section.	
	Cross sections 565 to 575 are contained on the left side due to ponding north of the roadway that is assumed to overtop and flow southerly back into the main wash.	
T2N-R6W-S19	Flow split that comes back into the main wash for cross sections 535 and 540	Flow split was approximated as 75-25 split, see plot on page 3 of this section.
T2N-R6W-S30W	**GENERAL NOTE:** Cross section 505 is shown in the cross section plot as being contained, but the floodplain boundary extends pass the end of the cross section on the right side, due to ponding near the I-10 Highway.	
T2N-R7W-S02	The contours between cross sections 510 and 515 do not appear to represent the ground correctly as observed in the aerial photography. Therefore, the floodplain boundary was drawn based on the upstream cross sections and aerial photography.	
T2N-R7W-S10	Confluence with wash T2N-R7W-S25E for cross section 505	The combined flow was used for confluence, Cpt. C54-15, Q=2050 cfs
	Downstream of cross section 530 there is evidence from aerial photography of a flow split that comes back into main wash.	Cross sections 520 and 525 are cut across two washes to account for the flow split. Due to mapping accuracy island could not be justified between cross sections. See plot on page 4 of this section.
T2N-R7W-S15W	Confluence with wash T2N-R7W-S15E for cross section 510	The combined flow was used for confluence, Cpt. C42-03, Q=710 cfs
T2N-R7W-S18E	Confluence with wash T2N-R7W-S20W for cross section 510	The combined flow was used for confluence, Cpt. C12-09, Q=1060 cfs
T2N-R7W-S18E	Confluence with wash T2N-R7W-S07S and T2N-R7W-S07E for cross section 525	The combined flow was used for confluence Cpt. C18-06, Q=320 cfs
T2N-R7W-S18W	A stock pond is located within the floodplain boundary downstream of cross section 520. See plot on page 5 of this section.	
T2N-R7W-S19E	Cross section 505 is contained in the cross section plot, but the right side of the floodplain boundary extends pass the cross section, due to ponding north of I-10 Highway	

Area C Washes-Special Problems

Wash	Problem description	How problem was handled
T2N-R7W-S19W	A stock pond is located within the floodplain boundary downstream of cross section 510 near I-10 Highway. See plot on page 6 of this section.	
T2N-R7W-S20W	Confluence with wash T2N-R7W-S18E for cross section 525	The combined flow was used for confluence, Cpt. C12-09, Q=1060 cfs
T2N-R7W-S25E	The contour mapping for the area of this wash did not represent the ground accurately, therefore the aerials were used to determine the floodplain boundary limits.	
	Cross section 510 is shown in the cross section plot as being contained, but the floodplain boundary extends pass the cross section, due to ponding near the I-10 Highway.	
T2N-R7W-S26E	Cross section 510 is shown in the cross section plot as being contained, but the floodplain boundary extends pass the cross section, due to ponding near the I-10 Highway.	
	Confluence with washes T2N-R7W-S15E and T2N-R7W-S15W for cross section 580	The combined flow was used for confluence, Cpt. C39-12, Q=1200 cfs

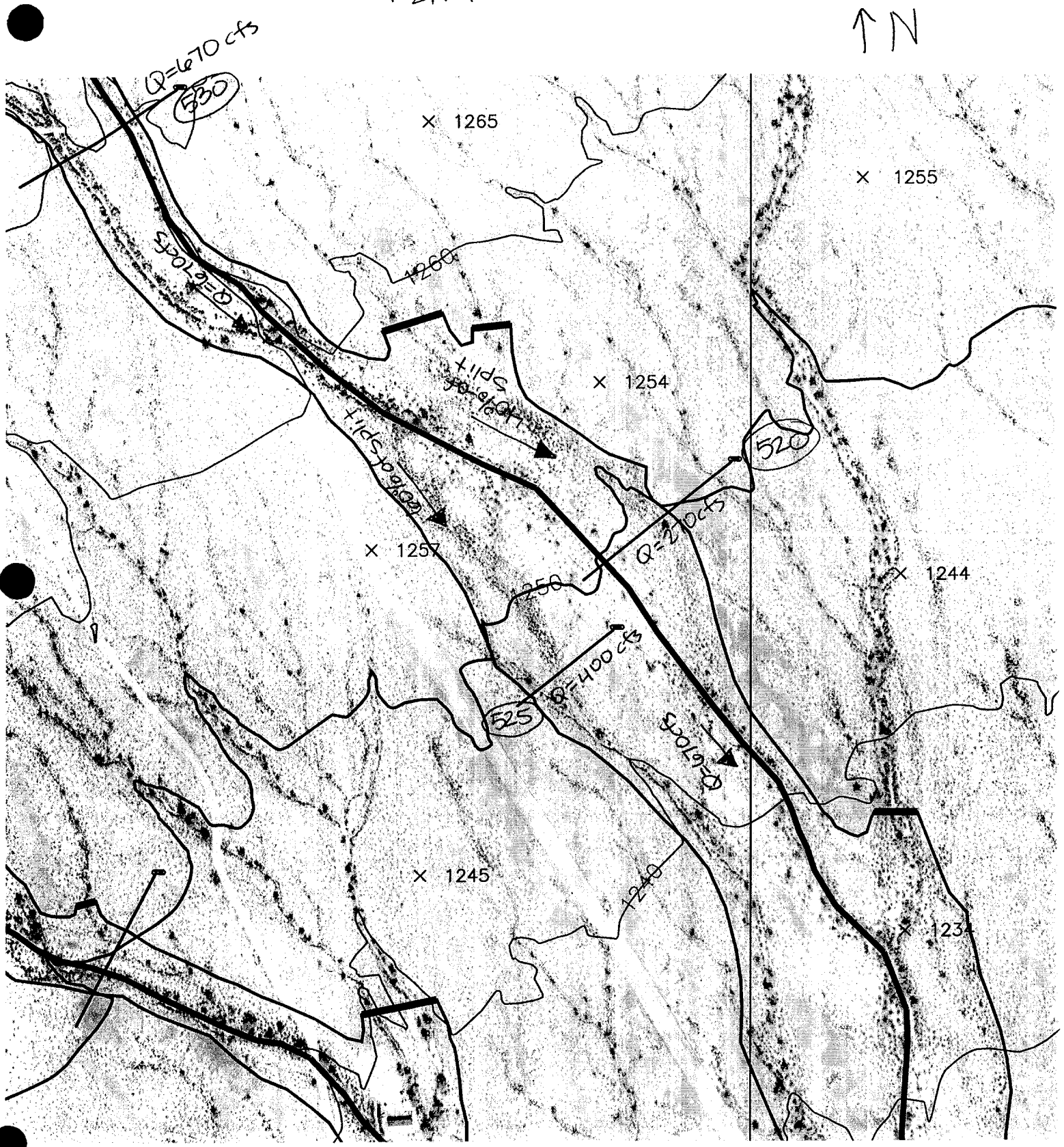
Area C
T2N-R6W-S19

↑N

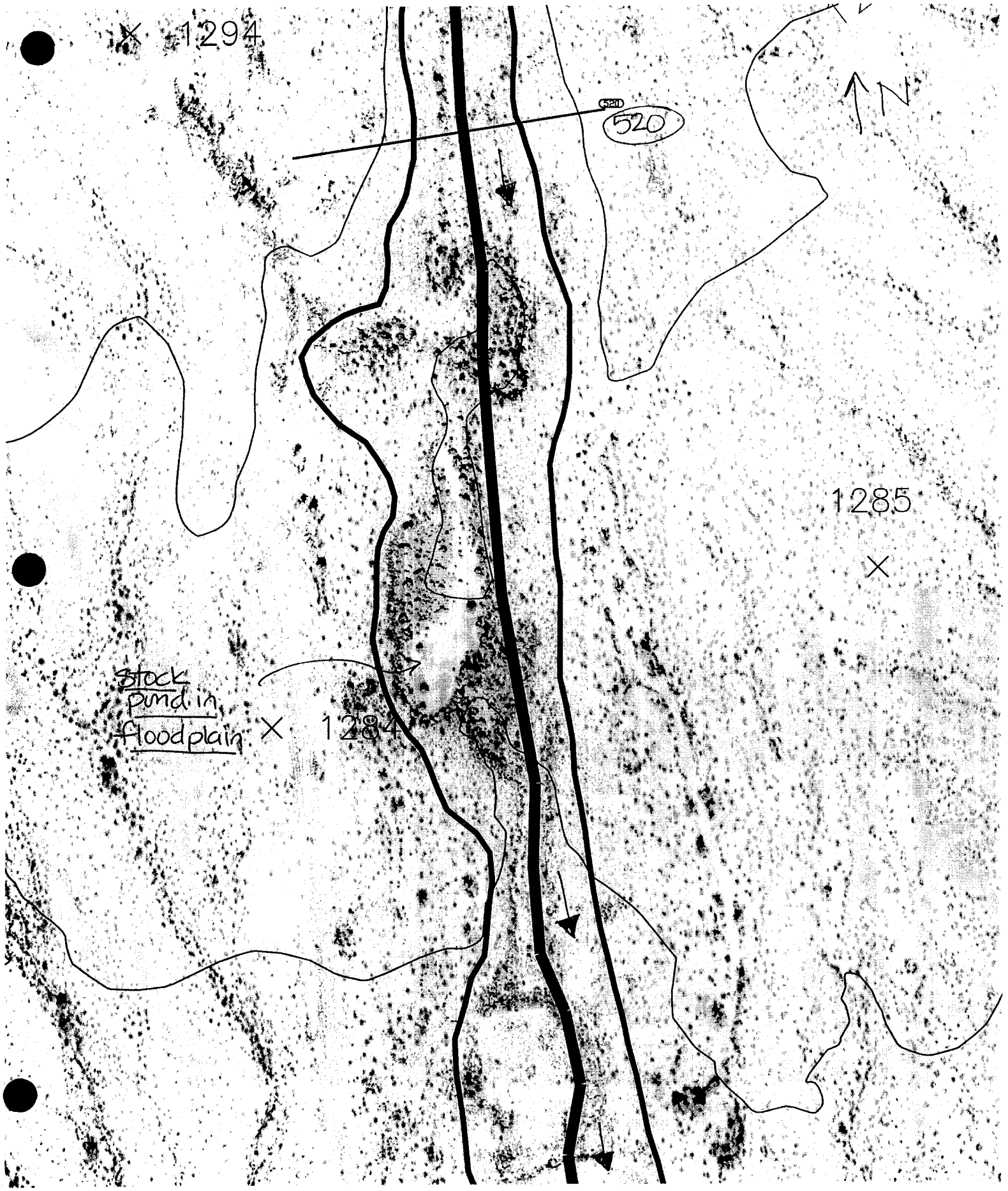


Area C

T2N-R7W-S10



Area C
T2N-R7W-S18W



Area C
T2N-R7W-S19W

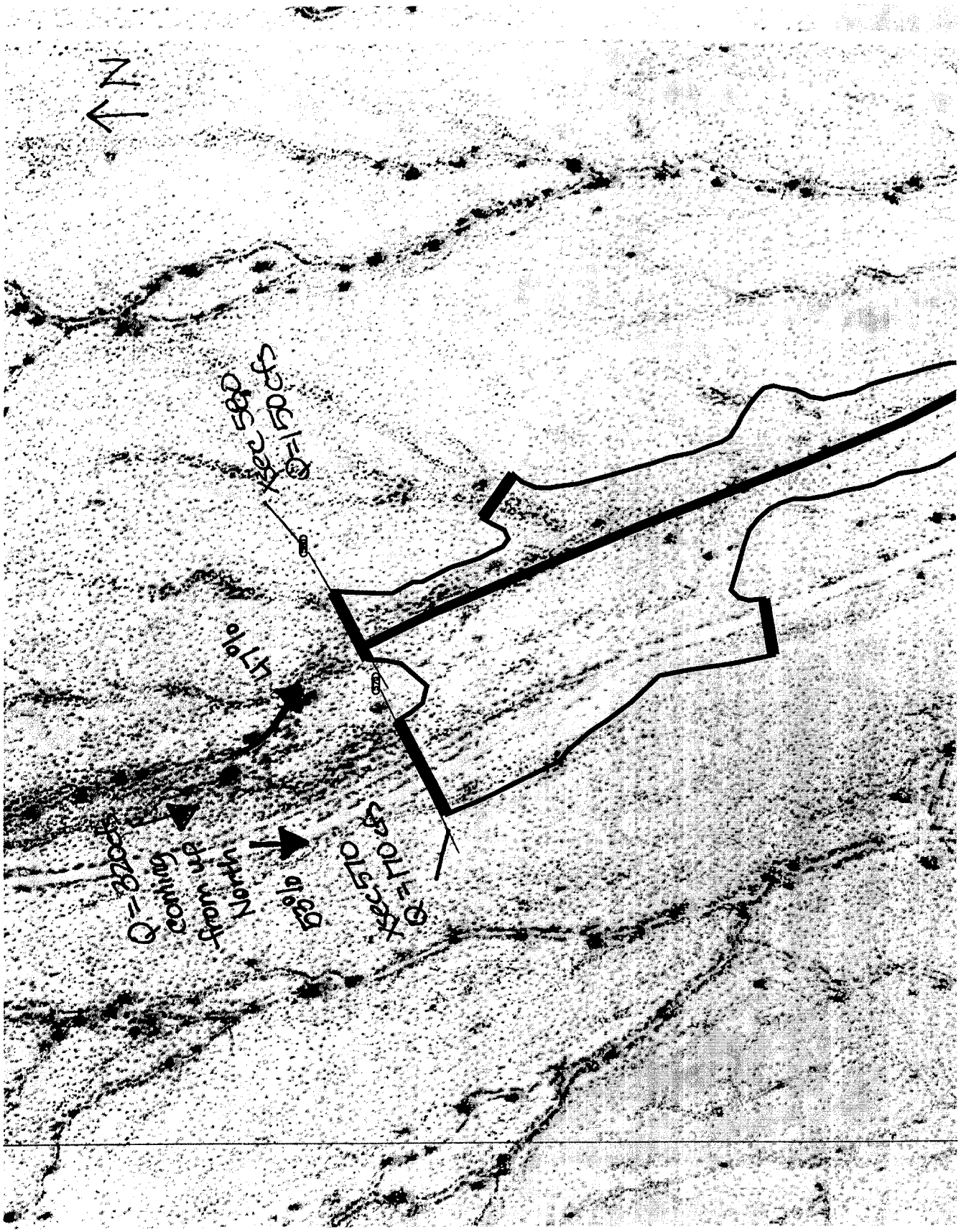
Area D Washes-Special Problems

Wash	Problem description	How problem was handled
T1N-R6W-S18	Cross section 590 as shown in the cross section plot as being contained, but the floodplain boundary extends pass the cross section, due to ponding at the upstream of I-10 Highway.	
	Sheet flow appears to move south across the agricultural area, The floodplain boundary extends pass either side of the cross section for cross sections 640 and 660, even though these cross sections show containment.	
	GENERAL NOTE: Agricultural area allows flow from upstream to move downstream as sheet flow and any obstructions, such as levees, berms, or man made structure, are assumed to be overtopped and washed away downstream.	
T1N-R6W-S20E	Cross section 510 as shown in the cross section plot as being contained, but the floodplain boundary extends pass the cross section, due to ponding at the upstream of I-10 Highway.	
T1S-R6W-S27	Cross section 510 as shown in the cross section plot as being contained, but the floodplain boundary extends pass the cross section, due to ponding at the upstream of I-10 Highway.	
	Upstream of cross section 540 a flow split coming from Wash T2N-R6W-S28 is coming into the main wash. This flow split is not accounted for in hydrology and there are no back-up hydraulic calculations provided. The floodplains are connected together using aerials and contour mapping.	
T2N-R6W-S02	Confluence with wash T1N-R6W-S20E for cross section 505	The combined flow was used for confluence, Cpt. D45-24, Q=2660 cfs
T2N-R6W-S05E	Confluence with Basin D94 for cross section 510	The combined flow was used for confluence, Cpt. D03-24 + Cpt. D94-03, which equals Q=8390 cfs
	Between cross sections 560 and 570 there is an irrigation canal. The canal appears to be an inverted siphon, therefore north of the canal geomorphology doesn't apply. Also, it is assumed there is ponding upstream of the crossing of the irrigation canal.	
	Cross section 630 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section, due to the manual adjustment of the floodplain boundary using aerial photography.	
T2N-R6W-S05N	Between cross section 520 there is an irrigation canal. The canal appears to be an inverted siphon, therefore north of the canal geomorphology doesn't apply. Also, it is assumed there is ponding upstream of the crossing of the irrigation canal.	
T2N-R6W-S05S	Flow split occurs that comes back into main wash for cross sections 570 and 580	Flow split was approximated as 53-47 split, see plot on page 3 of this section.

Area D Washes-Special Problems

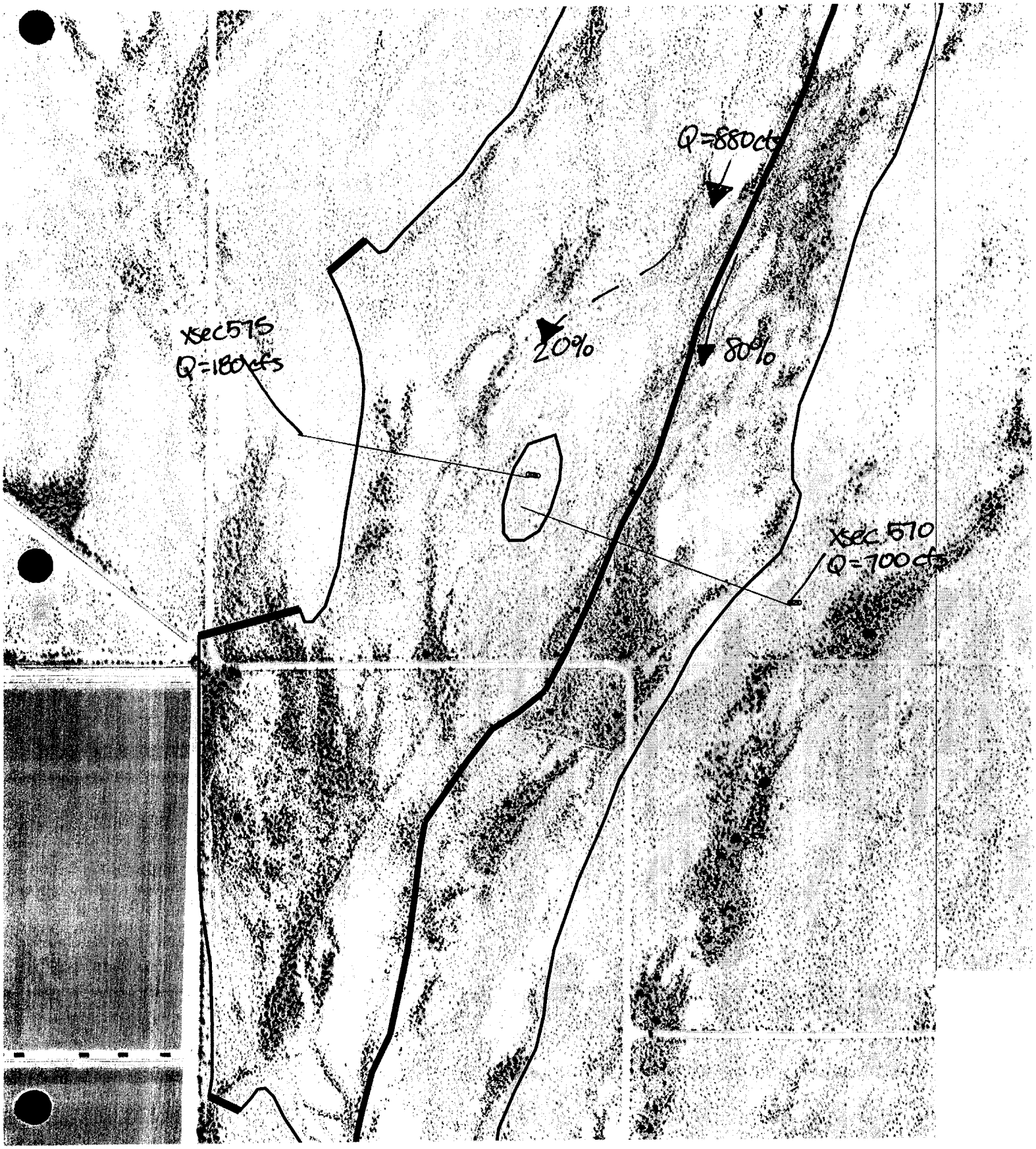
Wash	Problem description	How problem was handled
T2N-R6W-S05W	Cross section 510 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section, due to Wash T2N-R6W-S05E coming in from the east.	
	Cross section 530 is contained in the cross section plot, but the right side of the floodplain boundary extends pass the cross section, due to flow splits meandering near the main wash.	
	Cross section 640 is contained in the cross section plot, but the floodplain boundary extends pass the cross section, due to flow splits meandering near the main wash	
T2N-R6W-S22	Confluence with wash T1N-R6W-S20E for cross section 510	The combined flow was used for confluence, Cpt. D45-09, Q=4810 cfs
	Flow split that comes back into main wash for cross sections 570 and 575	Flow split was approximated as 80-20 split, see plot on page 4 of this section.
T2N-R6W-S28	Cross section 510 is contained in the cross section plot, but the floodplain boundary extends pass the cross section, due to ponding at upstream of the I-10 Highway.	
T3N-R6W-S27W	Contour mapping indicates a ridge area, as opposed to the aerial photography which shows a defined wash.	Due to the inaccurate contour mapping areas, the cross sections were cut in areas where mapping appeared to be good.

T2N-R6W-S055
(Area D)



T2N-R6W-S22
(Area D)

↑N



Area E Washes-Special Problems

Wash	Problem description	How problem was handled
T1N-R6W-S03E	Cross section 310 is contained in the cross section plot, but the right side of the floodplain boundary extends pass the cross section, due to wash T1N-R6W-S03W coming in from the west.	
T1N-R6W-S03W	Cross Section 310 is not contained in the cross section plot, so therefore it is not used in delineation	
T1N-R6W-S04E	Cross Section 310 is not contained in the cross section plot, so therefore it is not used in delineation	
T1N-R6W-S05E	Confluence with wash T1N-R6W-S20E for cross section 310	The combined flow was used for confluence, Cpt. E81-10, Q=11150 cfs
	Cross section 320 and 330 are contained in the cross section plots, but the floodplain boundary extends pass the cross section on the left side for cross section 320 and extends pass cross section 330, due to sheet flow moving across the agricultural fields.	
	GENERAL NOTE: This agricultural area have many washes confluencing together, therefore the floodplain is connected altogether assuming there is sheet flow moving downstream and any man made structure, levee, or berm is assumed to be overtopped and washed away downstream.	
T1N-R6W-S05W	Cross section 320 is contained in the cross section plot, but sheet flow moving across the agricultural fields cause the floodplain boundary to be extended pass the cross section.	
	GENERAL NOTE: This agricultural area have many washes confluencing together, therefore the floodplain is connected altogether assuming there is sheet flow moving downstream and any man made structure, levee, or berm is assumed to be overtopped and washed away downstream.	
T1N-R6W-S07	Cross sections 305 to 315 are contained in the cross section plots, but the floodplain boundary extends pass the left side of the cross sections because wash T1S-R6W-S29E is combining on the east side and there is also wash T2N-R6W-S31S moving south, therefore the floodplains are combined together.	
	Cross section 335 is contained in the cross section plot, but the right side of the floodplain boundary extends pass the cross section because of the flow overtopping the roadway. It is assumed that at some location on the roadway the ponding upstream of the roadway will overtop and proceed to move downstream.	
T1N-R6W-S16	Confluence with wash T1S-R6W-S08 for cross section 310	The combined flow was used for confluence, Cpt. E89-06, Q=710 cfs
T1N-R6W-S17E	Confluence with wash T1N-R6W-S20E for cross section 340	The combined flow was used for confluence, Cpt. E81-09, Q=12680 cfs

Area E Washes-Special Problems

Wash	Problem description	How problem was handled
T1N-R6W-S17W	Confluence with wash T1N-R6W-S20E for cross section 310	The combined flow was used for confluence, Cpt. E81-06, Q=12850 cfs
	Downstream of cross section 350 there is ponding at the north side of the roadway. The assumption is that no flow overtops the roadway and the flow is directed east towards wash T1N-R6W-S20E, where it eventually overtops the roadway. Therefore, floodplain boundaries were connected together between cross sections 350 to 340 across the roadway.	
T1N-R6W-S18	Cross sections 310 and 320 are contained in the cross section plot. The floodplain boundary extends pass cross section 310 and extends pass cross section 320 on the right side because wash T1S-R6W-S29E controls.	
	Cross sections 350 to 370 are contained in the cross section plots, but the floodplain boundaries extend pass the cross section on either side, due to sheet flow moving across the agricultural fields.	
	Cross section 380 is contained in the cross section plot, but the right side of the floodplain boundary extends pass the cross section because of the flowing moving east along I-10 Highway.	
	GENERAL NOTE: This agricultural area have many washes confluencing together, therefore the floodplain is connected altogether assuming there is sheet flow moving downstream and any man made structure, levee, or berm is assumed to be overtopped and washed away downstream.	
T1N-R6W-S20E	Cross section 330 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section because wash T1N-R6W-S17E is coming in from the east.	
	Cross section 360 is contained in the cross section plot, but the right side of the floodplain boundary extends pass the cross section, due to sheet flow moving across the agricultural fields.	
T1N-R6W-S20W	Cross sections 310 to 330 are contained in the cross section plots, but the floodplain boundary extends pass the cross sections on either side because wash T1S-R6W-S29E controls.	
T1N-R6W-S22E	Confluence with wash T1S-R6W-S27 for cross section 310	The combined flow was used for confluence, Cpt. E95-06, Q=4720 cfs
	Cross section 330 is contained in the cross section plot, but the right side of the floodplain boundary extends pass the cross section because wash T1S-R6W-S27 controls.	
T1N-R6W-S29	Cross sections 320 to 360 are contained in the cross section plots, but the left side of the floodplain boundary extends pass the cross sections because wash T1S-R6W-S29E controls.	

Area E Washes-Special Problems

Wash	Problem description	How problem was handled
T1N-R7W-S01	Cross sections 310 and 320 are contained in the cross section plots, but the floodplain boundary extends pass cross section 310 and extends pass cross section 320 on the left side because wash T1N-R6W-S07 controls.	
T1N-R7W-S02	Cross section 320 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section because wash T1N-R6W-S07 controls.	
	Cross section 330 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section due to the ponding upstream of the roadway. It is assumed at some location along the roadway the flow will overtop and move downstream.	
T1S-R6W-S27	Cross section 310 is not used in the delineation due to cross section 90 (same wash) controlling, which is located at the roadway.	
	Cross section 340 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section because wash T1N-R6W-S22N and sheet flow moving across the agricultural area are combining together.	
	Cross sections 345 and 350 are combining with wash T1N-R6W-S22N. These cross sections are located in an abandoned agricultural field as seen from aerial photographs. This abandoned field is assumed to create sheet flow moving downstream, therefore the floodplains are combined together across the abandoned field.	
	GENERAL NOTE: This agricultural area have many washes confluencing together, therefore the floodplain is connected altogether assuming there is sheet flow moving downstream and any man made structure, levee, or berm is assumed to be overtopped and washed away downstream.	
T1S-R6W-S29E	Confluence with wash T1N-R6W-S20W for cross section 320	The combined flow was used for confluence, Cpt. E01-03 + Cpt. E05-03 + Cpt. E03-10, which equals Q=24,200 cfs
	Cross sections 325-340 are contained in the cross section plots, but the right side of the floodplain boundary extends pass the cross section because wash T1N-R6W-S29 is combining with the floodplain on the west.	
	GENERAL NOTE: This agricultural area have many washes confluencing together, therefore the floodplain is connected altogether assuming there is sheet flow moving downstream and any man made structure, levee, or berm is assumed to be overtopped and washed away downstream.	
T2N-R6W-S29W	Cross section 310 is contained in the cross section plot, but the right side of the floodplain boundary extends pass the cross section, due to sheet flow moving across the agricultural fields.	

Area E Washes-Special Problems

Wash	Problem description	How problem was handled
T2N-R6W-S31N	Confluence with wash T1S-R6W-S29E for cross section 310	The combined flow was used for confluence, Cpt. E03-39, Q=13170 cfs
	GENERAL NOTE: This agricultural area have many washes confluencing together, therefore the floodplain is connected altogether assuming there is sheet flow moving downstream and any man made structure, levee, or berm is assumed to be overtopped and washed away downstream.	
T2N-R6W-S31S	Cross section 310 is not contained in the cross section plot, therefore it is not used in delineation.	
	Cross section 330 is contained in the cross section plot, but the floodplain boundary extends pass the cross section, due to sheet flow moving across the agricultural fields and the combined flow from wash T1N-R6W-S07.	
	Cross section 380 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section because wash T2N-R7W-S34W controls.	
	GENERAL NOTE: This agricultural area have many washes confluencing together, therefore the floodplain is connected altogether assuming there is sheet flow moving downstream and any man made structure, levee, or berm is assumed to be overtopped and washed away downstream.	
T2N-R6W-S32E	Cross sections 310 and 320 are contained in the cross section plots, but the floodplain boundary extends pass the cross sections, due to sheet flow moving across the agricultural fields.	
	GENERAL NOTE: This agricultural area have many washes confluencing together, therefore the floodplain is connected altogether assuming there is sheet flow moving downstream and any man made structure, levee, or berm is assumed to be overtopped and washed away downstream.	
T2N-R6W-S32N	Cross sections 310 and 320 are contained in the cross section plots, but the left side of the floodplain boundary extends pass the cross sections, due to sheet flow moving across the agricultural fields.	
	GENERAL NOTE: This agricultural area have many washes confluencing together, therefore the floodplain is connected altogether assuming there is sheet flow moving downstream and any man made structure, levee, or berm is assumed to be overtopped and washed away downstream.	
T2N-R6W-S33S	Confluence with wash T1N-R6W-S20E for cross section 310	The combined flow was used for confluence, Cpt. E81-15, Q=8150 cfs

Area E Washes-Special Problems

Wash	Problem description	How problem was handled
	An active/inactive piedmont is present in this area of the wash as seen from aerial photography. Geomorphologic principles were used to determine the active boundary areas and the floodplain boundary was drawn using the governing principles.	
T2N-R6W-S34	Confluence with wash T1S-R6W-S27 for cross section 310	The combined flow was used for confluence, Cpt. E95-24, Q=2580 cfs
T2N-R7W-S19E	Cross sections 320-330 have a flow of Q=750 cfs, which is the flow through culvert #10 (See **Appendix E**, I-10 Hydraulic Calculations).	
T2N-R7W-S19W	Cross sections 320-330 have a flow of Q=1020 cfs, which is the flow through culvert #8 (See **Appendix E**, I-10 Hydraulic Calculations).	
T2N-R7W-S25E	Confluence with wash T1S-R6W-S29E for cross section 310	The combined flow was used for confluence, Cpt. E03-51, Q=11650 cfs
	Confluence with wash T2N-R7W-S25W for cross section 320	The combined flow was used for confluence, Cpt. E67-03, Q=2870 cfs
	Cross section 330 has a flow of Q=2610 cfs, which is the flow through culvert #51 (See **Appendix E**, I-10 Hydraulic Calculations).	
T2N-R7W-S25W	Cross section 320-340 have a flow of Q=120 cfs, which is the flow through culvert #50 (See **Appendix E**, I-10 Hydraulic Calculations).	
T2N-R7W-S26E	Cross section 320 is contained in the cross section plot, but the right side of the floodplain boundary extends pass the cross section, due to the ponding upstream of the roadway. It is assumed that at some location on the roadway the flow will overtop and move downstream.	
T2N-R7W-S26W	Cross section 320 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section, due to the ponding upstream of the roadway. It is assumed that at some location on the roadway the flow will overtop and move downstream.	
	Cross section 360 is shown as having a divided flow, this is a result of the low flow at the outlet of the two culverts located at the I-10 Highway.	
	GENERAL NOTE: This agricultural area have many washes confluencing together, therefore the floodplain is connected altogether assuming there is sheet flow moving downstream and any man made structure, levee, or berm is assumed to be overtopped and washed away downstream.	

Area E Washes-Special Problems

Wash	Problem description	How problem was handled
T2N-R7W-S27E	Cross section 310 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section because wash T2N-R7W-S34E is coming from the north.	
T2N-R7W-S30N	Cross section 310 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross sections, due to the ponding upstream of the roadway. It is assumed that at some location on the roadway the flow will overtop and move downstream.	
	Cross section 320 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section because wash T1N-R6W-S07 is coming from the east.	
T2N-R7W-S30S	Confluence with wash T1N-R6W-S07 for cross section 310	The combined flow was used for confluence, Cpt. E07-33, Q=2650 cfs
T2N-R7W-S32E	Cross section 310 is contained in the cross section plot, but the right side of the floodplain boundary extends pass the cross section because wash T2N-R7W-S32N is coming from the east.	
	Confluence with wash T2N-R7W-S20W and T2N-R7W-S20E for cross section 350	The combined flow was used for confluence, Cpt. E37-12, Q=2560 cfs
T2N-R7W-S32N	Cross section 310 is contained in the cross section plot, but the floodplain boundary extends pass the cross section because the combined flow controls.	
T2N-R7W-S32W	Cross section 310 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section because wash T1N-R6W-S07 controls.	
T2N-R7W-S33S	Cross section 310 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section because wash T1N-R6W-S07 controls.	
T2N-R7W-S34E	Cross section 310 is contained in the cross section plot, but the right side of the floodplain boundary extends pass the cross section because wash T2N-R7W-S27E is coming from the west.	
T2N-R7W-S34N	Cross sections 310 and 320 are contained in the cross section plots, but the floodplain boundary extends pass the cross sections because wash T1N-R6W-S07 controls.	
	Cross sections 330 and 340 are contained in the cross section plots, but the right side of the floodplain boundary extends pass the cross sections because wash T1N-R6W-S07 controls.	
T2N-R7W-S34S	Cross sections 310 and 320 are contained in the cross section plots, but the floodplain boundary extends pass the cross sections on either side because wash T1N-R6W-S07 controls.	

Area E Washes-Special Problems

Wash	Problem description	How problem was handled
T2N-R7W-S34W	Confluence with wash T2N-R6W-S31S for cross section 310	The combined flow was used for confluence, Cpt. E43-21, Q=1040 cfs
T2N-R7W-S36E	Cross section 310 is contained in the cross section plot, but the floodplain boundary extends pass the cross section, due to sheet flow moving across the agricultural fields.	
	Confluence with wash T2N-R7W-S26E and T2N-R7W-S26W for cross section 340	The combined flow was used for confluence, Cpt. E55-12, Q=2100 cfs
	GENERAL NOTE: This agricultural area have many washes confluencing together, therefore the floodplain is connected altogether assuming there is sheet flow moving downstream and any man made structure, levee, or berm is assumed to be overtopped and washed away downstream.	
T2N-R7W-S36E	Cross section 310 is contained in the cross section plot, but the floodplain boundary extends pass the cross section, due to sheet flow moving south across the agricultural fields.	
	GENERAL NOTE: This agricultural area have many washes confluencing together, therefore the floodplain is connected altogether assuming there is sheet flow moving downstream and any man made structure, levee, or berm is assumed to be overtopped and washed away downstream.	
T2N-R7W-S36W	Cross section 320 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section because wash T2N-R7W-S36E controls.	

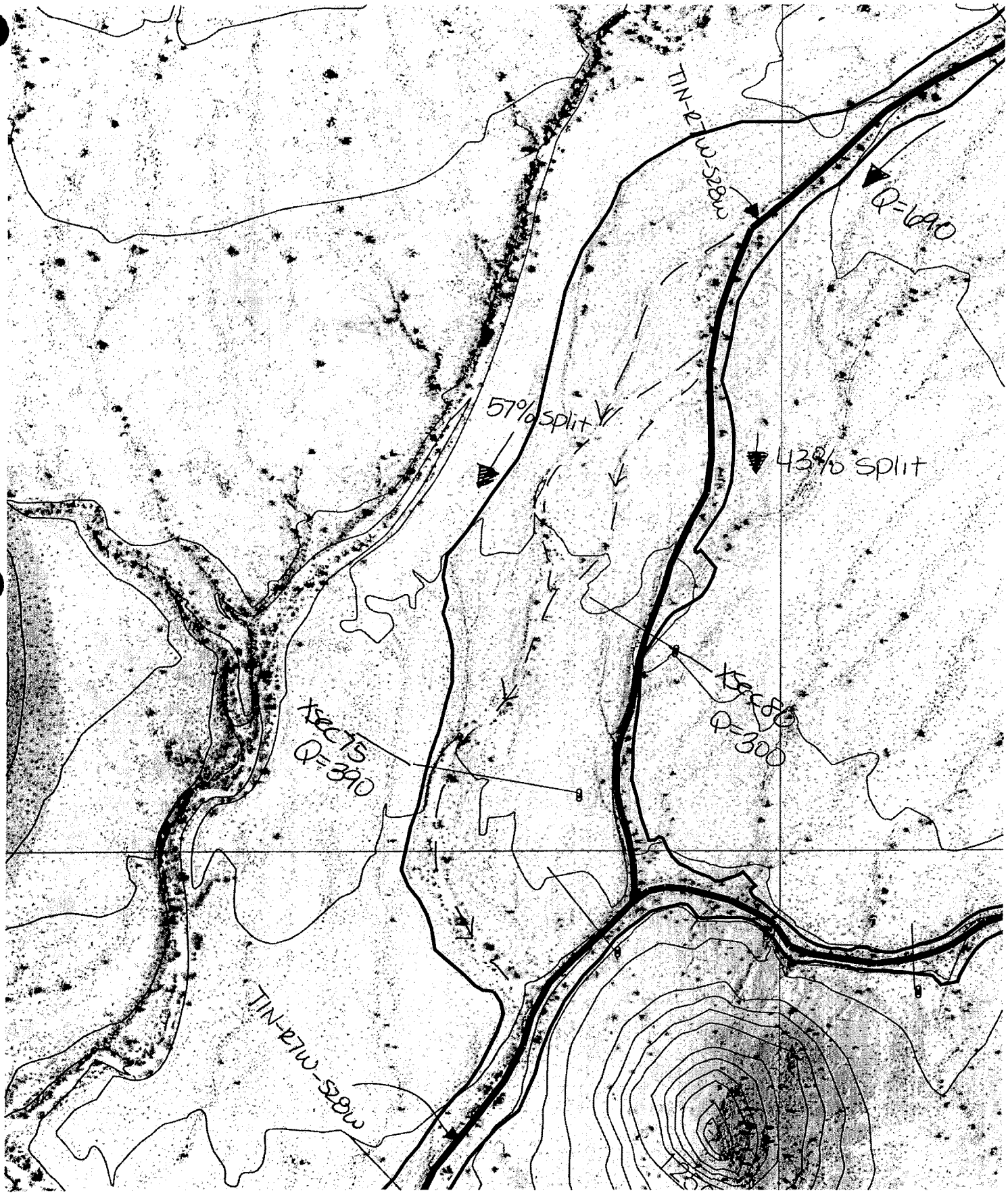
Area F Washes-Special Problems

Wash	Problem description	How problem was handled
T1N-R7W-S17	Cross section 10 is contained in the cross section plot, but the right side of the floodplain boundary extends pass the cross section because wash T1N-R7W-S28W is acting as sheet flow moving downstream.	
T1N-R7W-S21E	Confluence with wash T1N-R7W-S28W for cross section 10	The combined flow was used for confluence, Cpt. F15-12, Q=2180 cfs
T1N-R7W-S21W	Confluence with wash T1N-R7W-S28W for cross section 10	The combined flow was used for confluence, Cpt. F15-06, Q=2850 cfs
T1N-R7W-S26E	Cross section 50 is contained in the cross section plot, but the right side of the floodplain boundary extends pass the cross section because wash T1N-R7W-S26W is combining with the floodplain on the west.	
T1N-R7W-S26W	Confluence with wash T1N-R7W-S26E for cross section 100	The combined flow was used for confluence, Cpt. F36-03, Q=670 cfs
	Cross section 110 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section because wash T1N-R7W-S26E is combining with the floodplain on the east.	
T1N-R7W-S28W	Cross sections 75 and 80 are contained in the cross section plots, but the floodplain boundary extends pass the left side of cross section 75 and extends pass the right side of cross section 80. An island appears to be present in the middle of the floodplain. Since the mapping is not detailed enough the island was ignored. See plot on page 3 of this section.	
T1N-R7W-S35	Confluence with wash T1N-R7W-S36 for cross section 10	The combined flow was used for confluence, Cpt. F33-03, Q=1510 cfs
T1S-R6W-S05E	Cross section 10 is not contained in the cross section plot, therefore it is not used in the delineation.	
	Between cross sections 10 and 20 there is a flow split coming in from wash T1S-R6W-S29E. This flow split is not in hydrology and there is no back-up hydraulic calculations, therefore the flows do not change downstream of the flow split.	
	Cross section 30 is contained in the cross section plot, but the right side of the floodplain boundary extends pass the cross section because the ponding upstream of the roadway will overtop. The assumption is that at some location along the roadway the flow will overtop and continue to move downstream.	
	Cross section 40 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section because wash T1S-R6W-S29E controls.	

Area F Washes-Special Problems

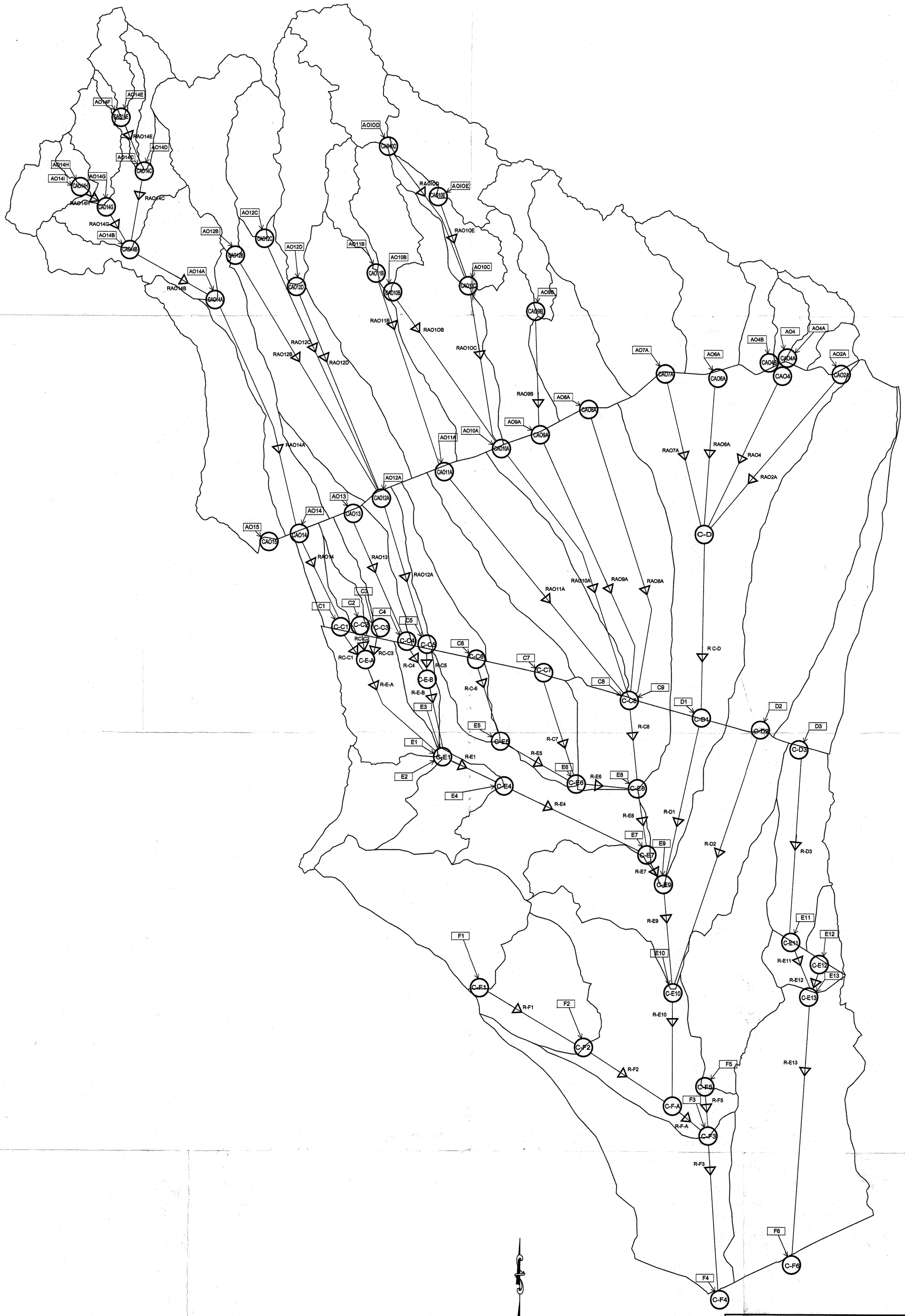
Wash	Problem description	How problem was handled
T1S-R6W-S05N	Cross section 20 is contained in the cross section plot, but the left side of the floodplain boundary extends pass the cross section because wash T1S-R6W-S08 is combining with the floodplain on the east.	
T1S-R6W-S08	Confluence with wash T1S-R6W-S05N for cross section 20	The combined flow was used for confluence, Cpt. F54-06, Q=13410 cfs
	Confluence with wash T1S-R6W-S05N for cross sections 30 and 40	The combined flow was used for confluence, Cpt. F57-03 + F54-15 + F60-03, which equals Q=13390 cfs
T1S-R6W-S27	Cross section 10 is contained in the cross section plot, but the existing Zone A Floodway for Centennial Wash extends pass the cross section on right side of the cross section.	
	Upstream of cross section 40 the floodplain is almost horizontal this is a result of ponding upstream of the roadway. It is assumed the flow will move east and/or west until it overtops the roadway and continues downstream.	
	Cross sections 50 to 70 are contained in the cross section plots, but the flow is assumed to not overtop the berm located on the west side. The berm is east of the Palo Verde Power Plant, therefore the floodplain is adjusted accordingly.	
T1S-R6W-S28N	Cross section 20 is contained in the cross section plot, but the existing Zone A Floodplain for Centennial Wash extends pass the cross section on the right side.	
T1S-R6W-S29E	Cross section 10 is contained in the cross section plot, but the existing Zone A Floodplain for Centennial Wash extends pass the cross section.	
	Confluence with wash T1S-R6W-S29W for cross section 20	The combined flow was used for confluence, Cpt. F09-05 +Cpt. F06-09 + Basin F02A, which equals Q=19,320 cfs
	Confluence with wash T1S-R6W-S29W for cross section 30	The combined flow was used for confluence, Cpt. F09-05 +Cpt. F06-09, which equals Q=18,870 cfs
T1S-R6W-S29W	Cross sections 10 to 20 are contained in the cross section plots, but the existing Zone A Floodway for Centennial Wash extends pass the cross section on either side of the cross section.	
	Cross sections 30 to 40 are contained in the cross section plots, but the left side of the floodplain boundary extends pass the cross sections because wash T1S-R6W-S29E controls.	

T1N-R7W-S28W
(Area F)



N →

E.9 CD



LEGEND

———	Basin Boundary
E7	Basin ID
CAO9B	Concentration Point
R-E4	Routing Reach

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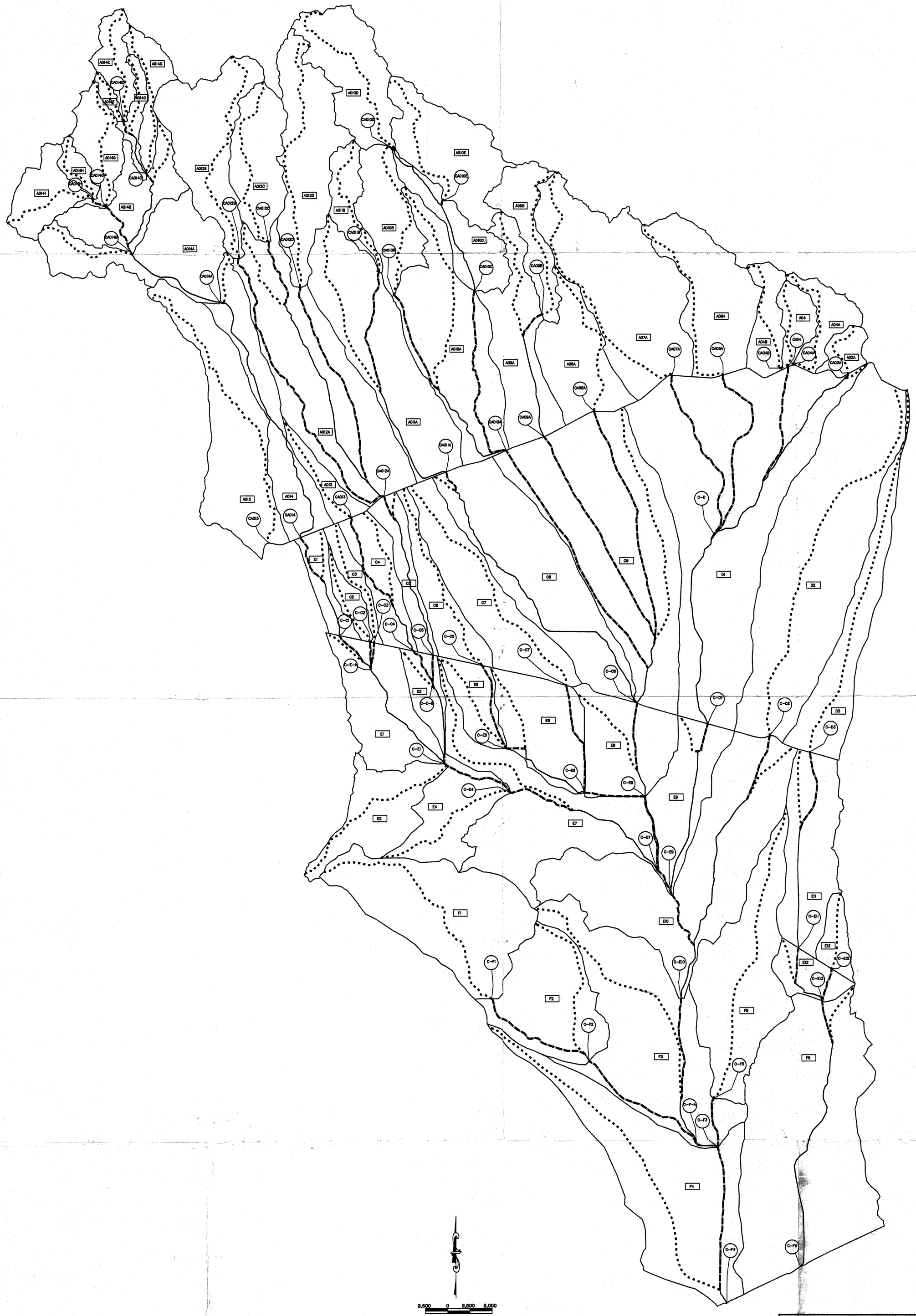
PALO VERDE WATERSHED ZONE A
FLOODPLAIN DELINEATION STUDY
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FCD PROJECT NO. 2000CO21

HEC-1 SCHEMATIC MAP

PLATE 4.1

FILE: R:\310\31019\Reports\PFT-Hydrology\VEC-1 SCHEMATIC Date_12-04-02



LEGEND

- Basin Boundary
- F4 Basin
- CF4 Concentration Point
- Time of Concentration
- Routes
- Route and Time of Concentration

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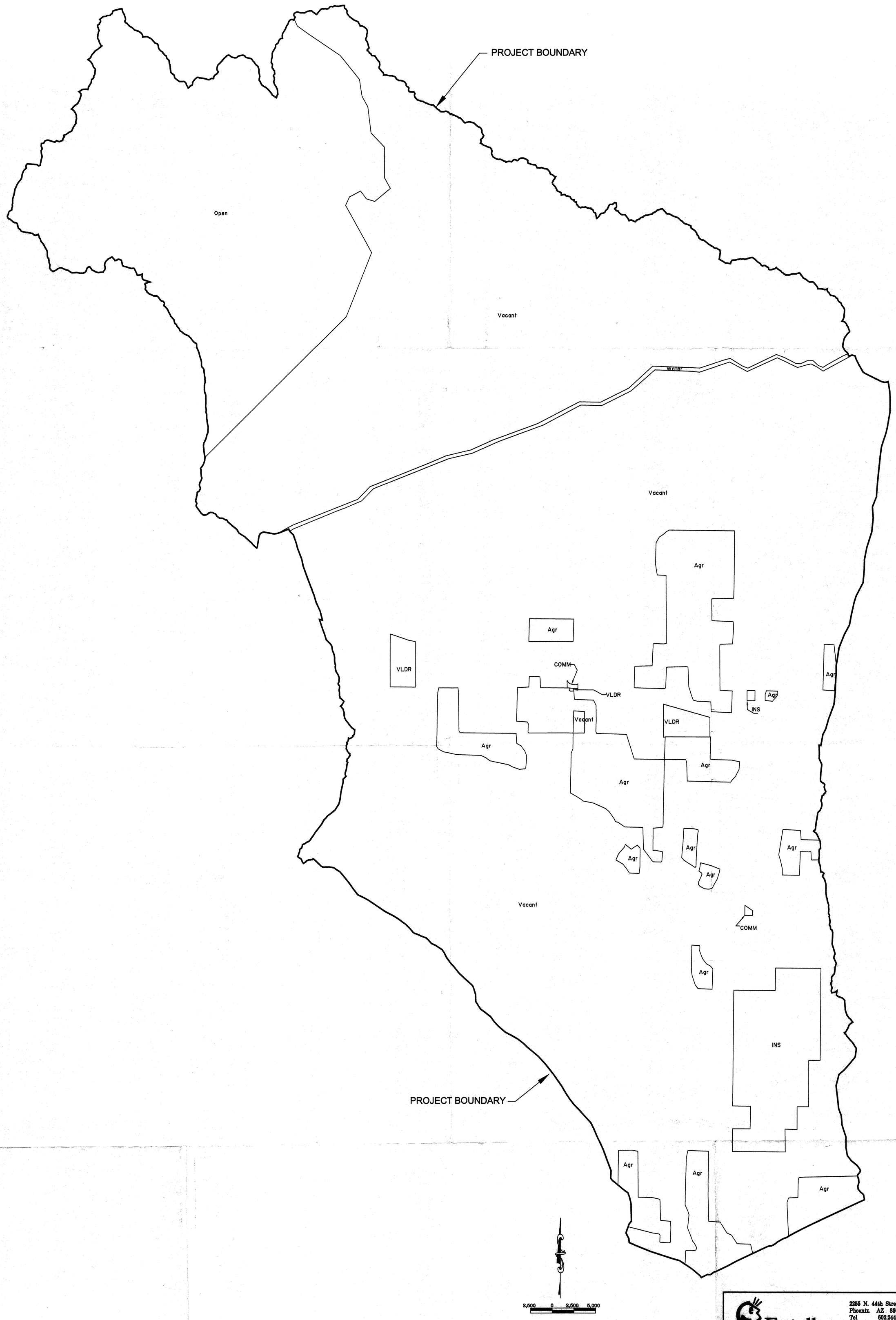
HYDROLOGY MAP
PLATE 4.2

FILE: R:\300\35009\Reports\PT-Hydrology\HYDROLOGY Date_12-04-02



LEGEND

- Fwy — Freeway (I-10)
- INS — Institutional
- VLDR — Very Low Density Residential
- Agr — Agriculture
- COMM — Commercial

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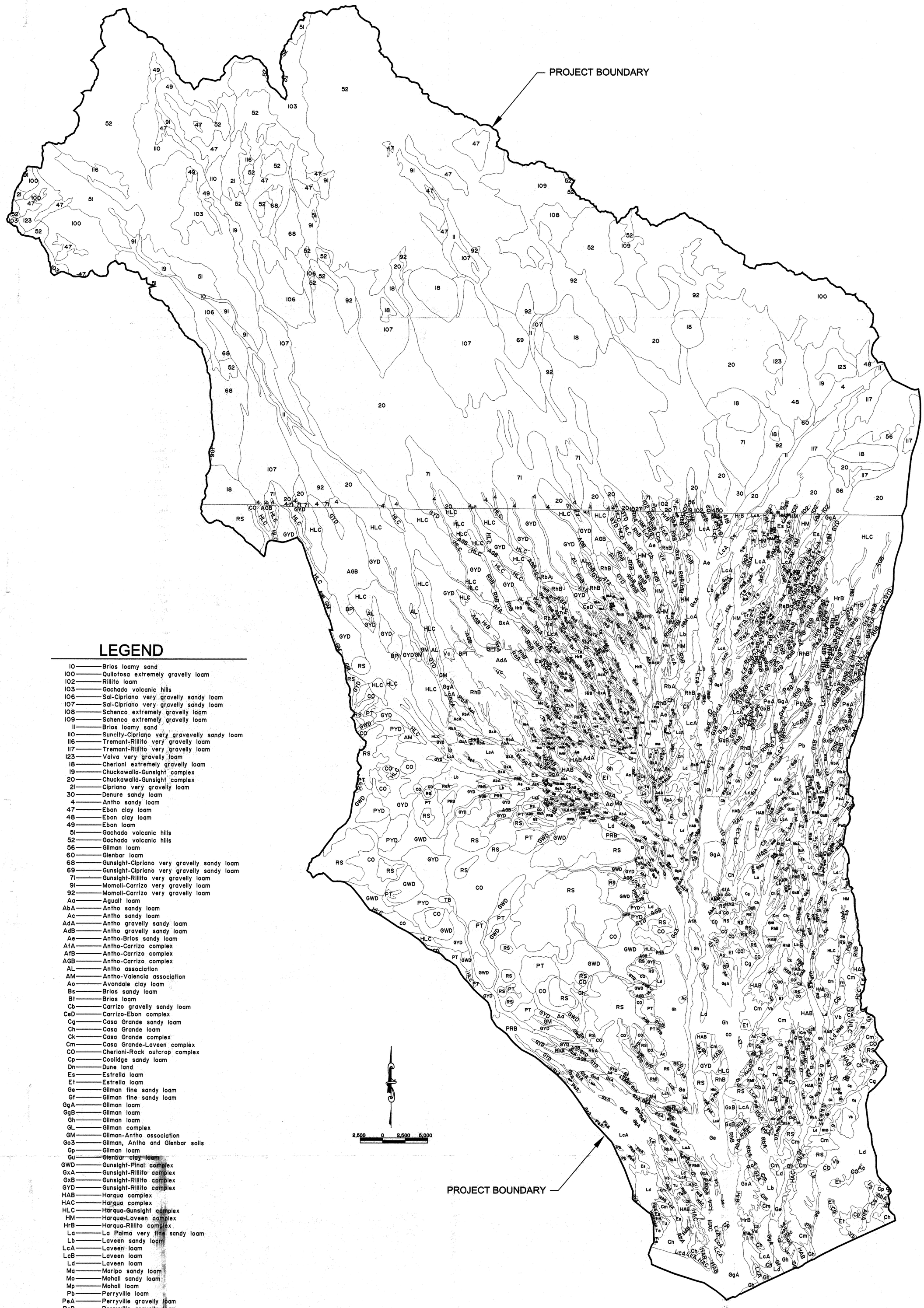
LAND USE MAP

PLATE 4.3

FILE: R:\310\310019\Reports\PFT-Hydrology\LAND USE MAP Date_05-02-03



LEGEND

10	Brios loamy sand
100	Quilotosa extremely gravelly loam
102	Rillito loam
103	Gachado volcanic hills
106	Sal-Cipriano very gravelly sandy loam
107	Sal-Cipriano very gravelly sandy loam
108	Schenco extremely gravelly loam
109	Schenco extremely gravelly loam
11	Brios loamy sand
110	Suncity-Cipriano very gravevelly sandy loam
116	Tremant-Rillito very gravelly loam
117	Tremant-Rillito very gravelly loam
123	Valva very gravelly loam
18	Cherioni extremely gravelly loam
19	Chuckawalla-Gunsight complex
20	Chuckawalla-Gunsight complex
21	Cipriano very gravelly loam
30	Denure sandy loam
4	Antho sandy loam
47	Ebon clay loam
48	Ebon clay loam
49	Ebon loam
51	Gachado volcanic hills
52	Gachado volcanic hills
56	Gilman loam
60	Glenbar loam
68	Gunsight-Cipriano very gravelly sandy loam
69	Gunsight-Cipriano very gravelly sandy loam
71	Gunsight-Rillito very gravelly loam
91	Momoli-Carrizo very gravelly loam
92	Momoli-Carrizo very gravelly loam
Aa	Aguait loam
AbA	Antho sandy loam
Ac	Antho sandy loam
AdA	Antho gravelly sandy loam
AdB	Antho gravelly sandy loam
Ae	Antho-Brios sandy loam
AfA	Antho-Carrizo complex
AfB	Antho-Carrizo complex
AGB	Antho-Carrizo complex
AL	Antho association
AM	Antho-Valencia association
Ao	Avondale clay loam
Bs	Brios sandy loam
Bt	Brios loam
Cb	Carrizo gravelly sandy loam
CeD	Carrizo-Ebon complex
Cg	Casa Grande sandy loam
Ch	Casa Grande loam
Ck	Casa Grande complex
Cm	Casa Grande-Laveen complex
CO	Cherioni-Rock outcrop complex
Cp	Coolidge sandy loam
Dn	Dune land
Es	Estrella loam
Et	Estrella loam
Ge	Gilman fine sandy loam
Gf	Gilman fine sandy loam
GgA	Gilman loam
GgB	Gilman loam
Gh	Gilman loam
GL	Gilman complex
GM	Gilman-Antho association
Go3	Gilman, Antho and Glenbar soils
Gp	Gilman loam
Gu	Glenbar clay loam
GWD	Gunsight-Pinal complex
GxA	Gunsight-Rillito complex
GxB	Gunsight-Rillito complex
GYD	Gunsight-Rillito complex
HAB	Harqua complex
HAC	Harqua complex
HLC	Harqua-Gunsight complex
HM	Harqua-Laveen complex
HrB	Harqua-Rillito complex
La	La Palma very fine sandy loam
Lb	Laveen sandy loam
LcA	Laveen loam
LcB	Laveen loam
Ld	Laveen loam
Ma	Maripo sandy loam
Mo	Mohall sandy loam
Mp	Mohall loam
Pb	Perryville loam
PeA	Perryville gravelly loam
PeB	Perryville gravelly loam
PRB	Perryville-Rillito complex
PsB	Pinal loam
PT	Pinal gravelly loam
PYD	Pinamt-Tremant complex
RaA	Rillito sandy loam
RbA	Rillito loam
RbB	Rillito loam
RhB	Rillito loam
RS	Rock outcrop-Cherioni complex
TB	Torrifluvents
Tc	Torriorthents
TD	Torripsamments and Torrifluvents
Te	Tremant loam
TfA	Tremant gravelly loam
TrA	Tremant-Rillito complex
Tu	Tucson loam
Va	Valencia sandy loam
Vb	Valencia sandy loam
Vc	Valencia gravelly sandy loam

Note: For detailed resolution see, included CD.

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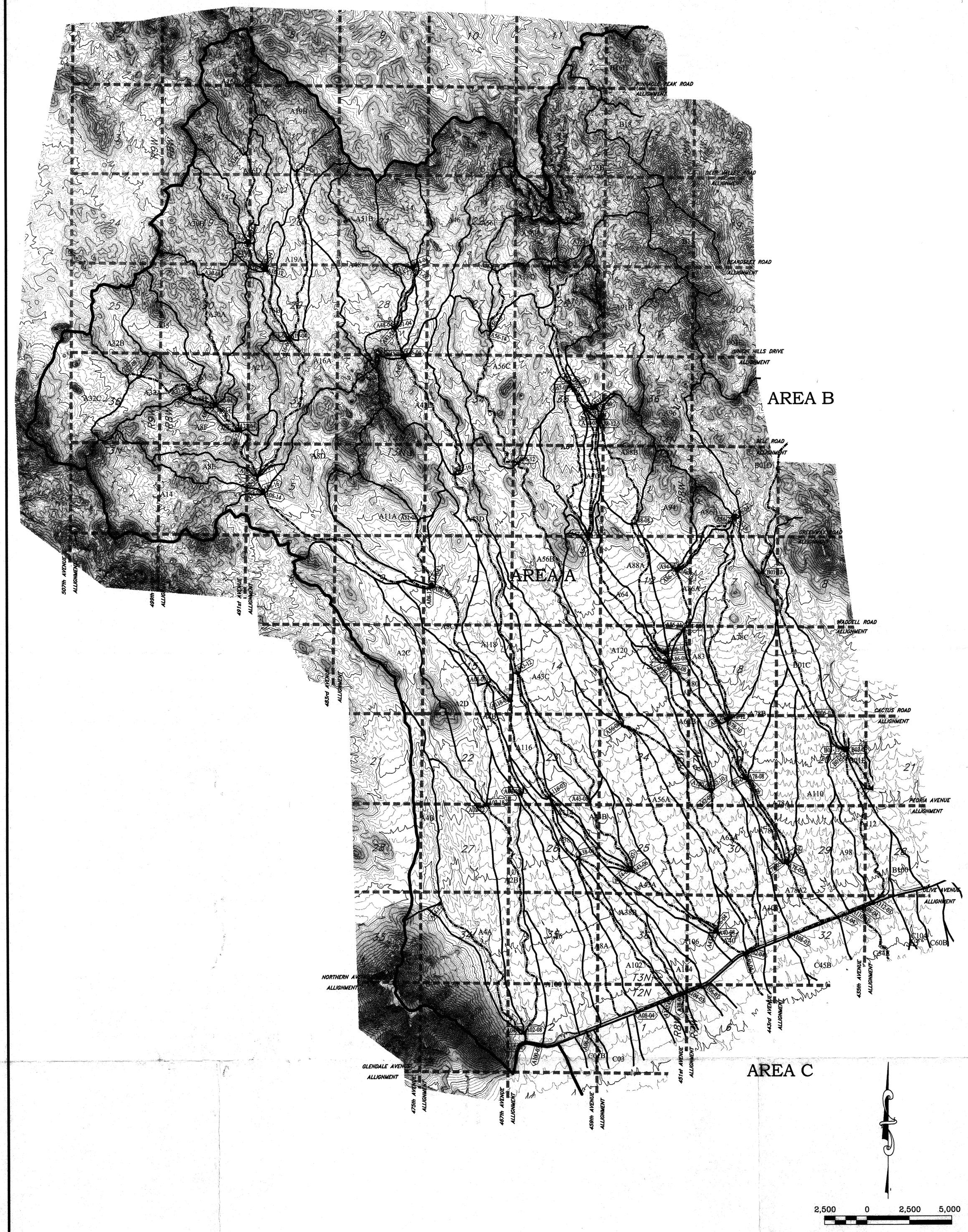
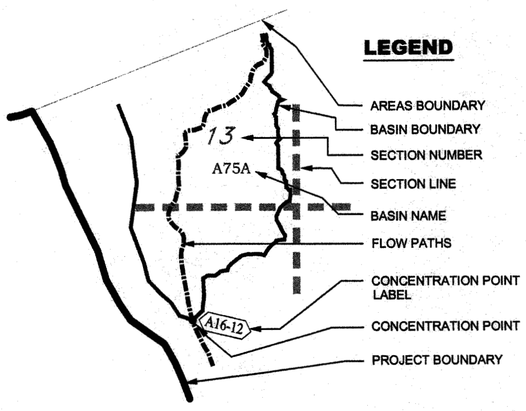
SOILS MAP
PLATE 4.4





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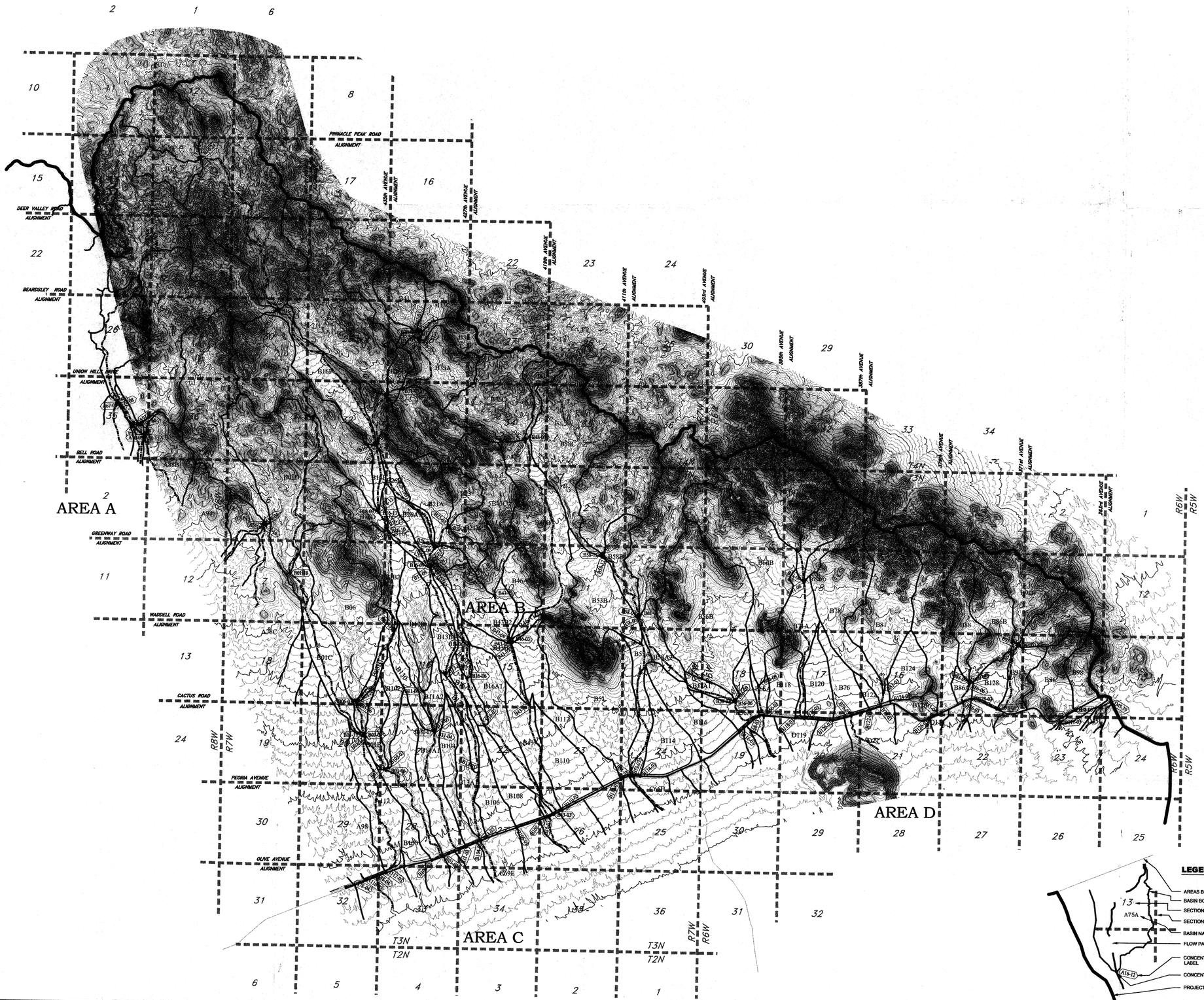
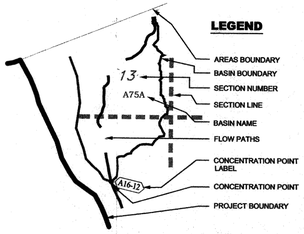
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FCD PROJECT NO. 2000CO21

AREA A
SUB-BASINS HYDROLOGY MAP
PLATE 4.5A





2,500 0 2,500 5,000

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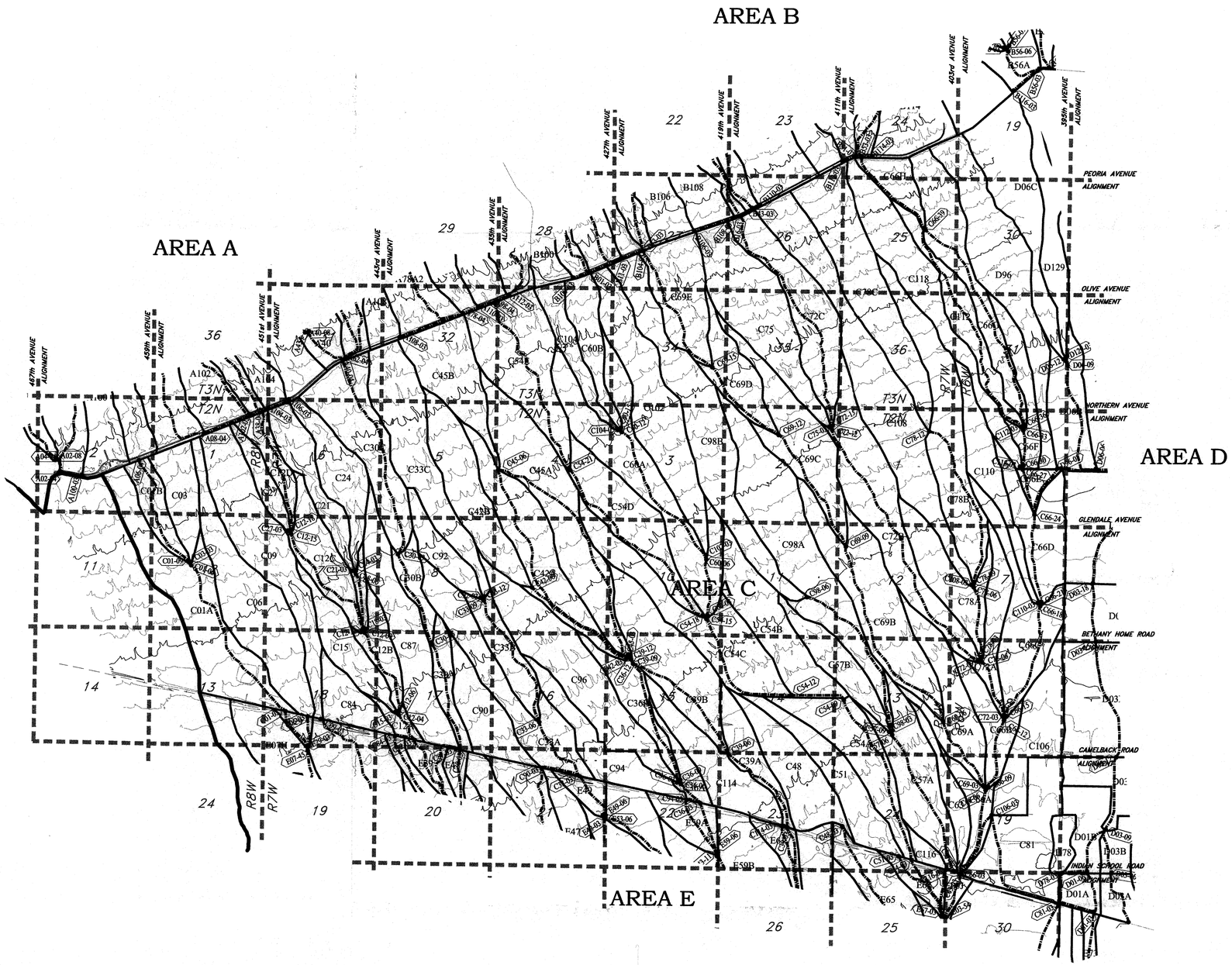
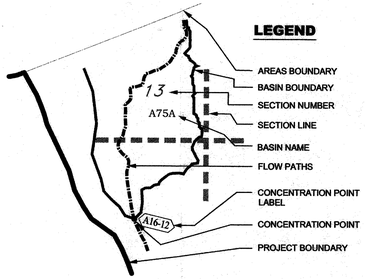
AREA B
SUB-BASINS HYDROLOGY MAP
PLATE 4.5B





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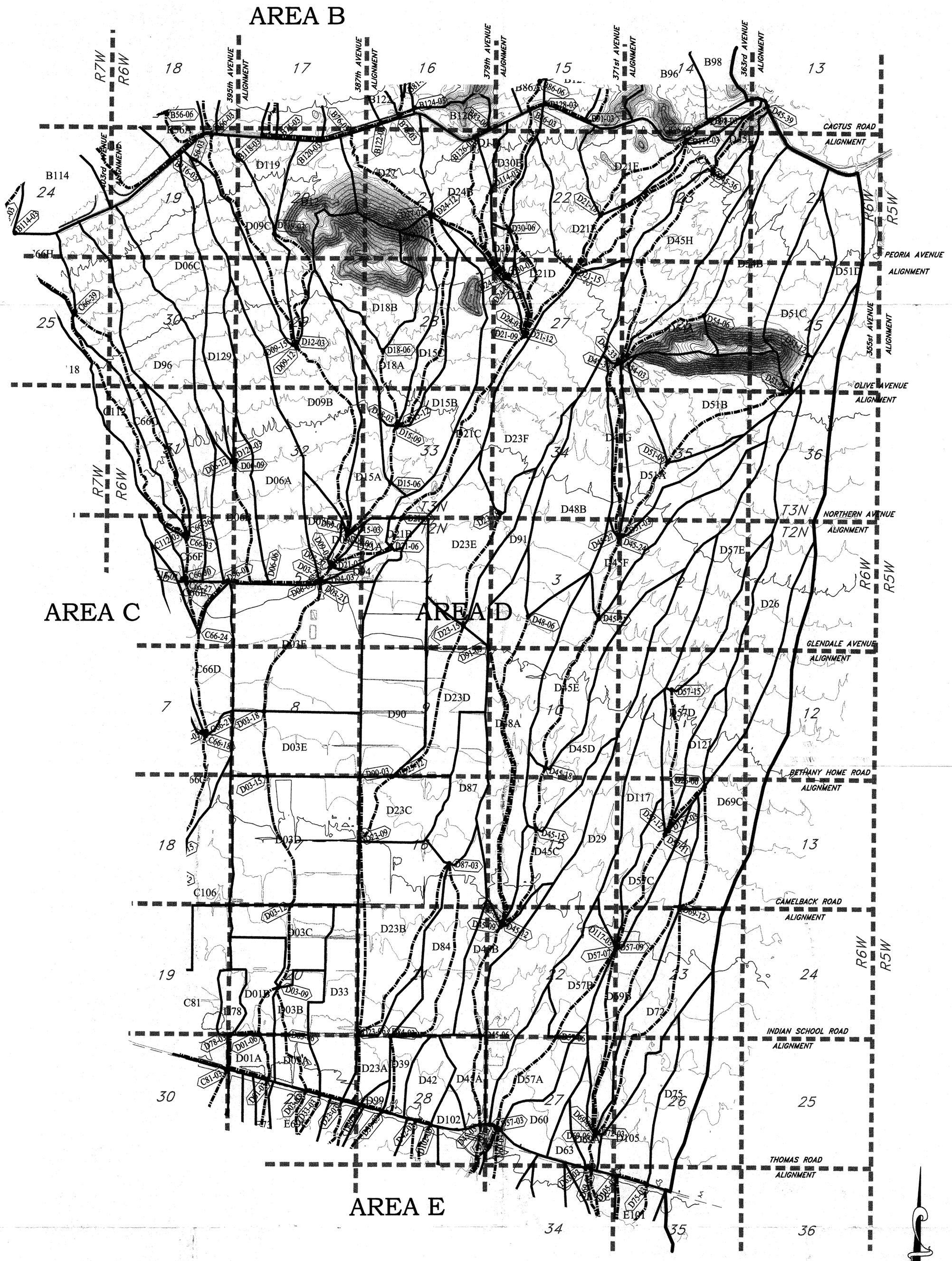
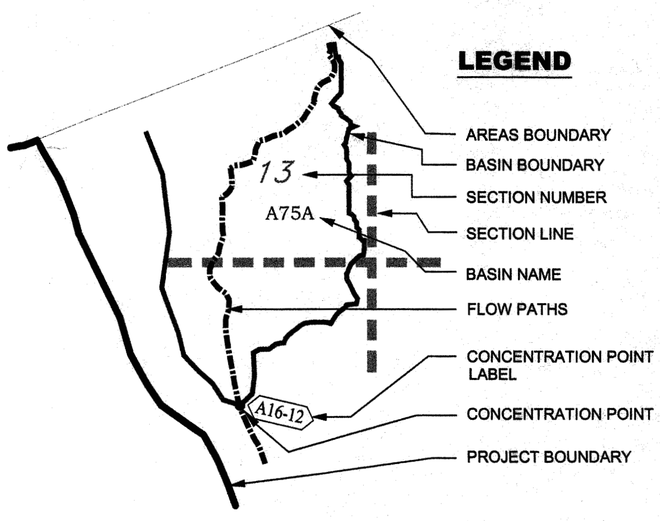
AREA C
SUB-BASINS HYDROLOGY MAP
PLATE 4.5C





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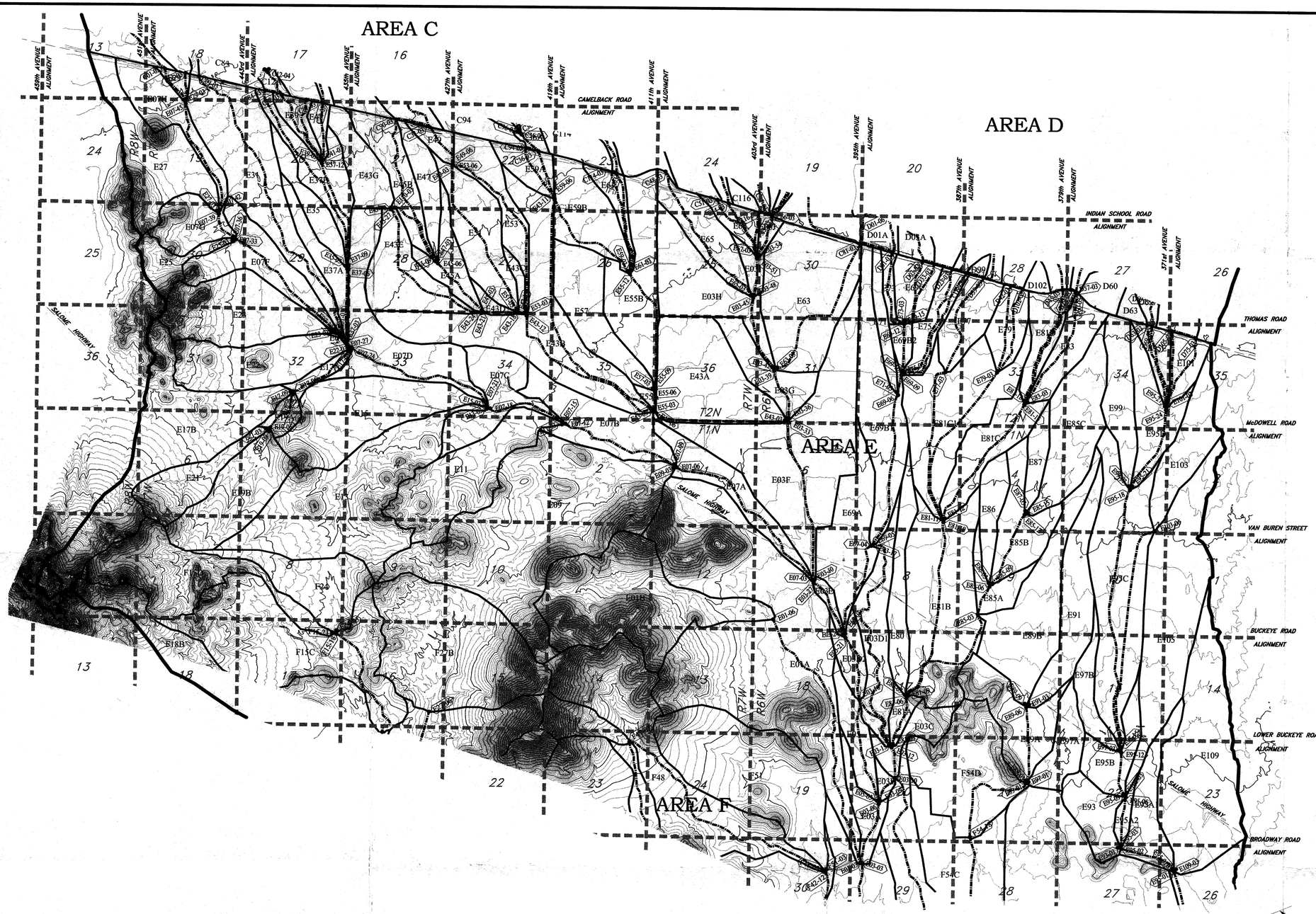
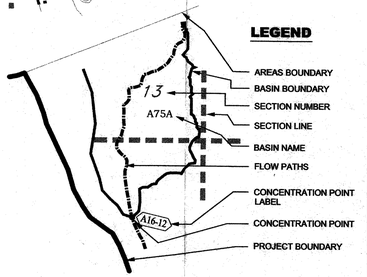
AREA D
SUB-BASINS HYDROLOGY MAP
PLATE 4.5D





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- AREAS BOUNDARY
- BASIN BOUNDARY
- SECTION NUMBER
- SECTION LINE
- BASIN NAME
- FLOW PATHS
- CONCENTRATION POINT LABEL
- CONCENTRATION POINT
- PROJECT BOUNDARY

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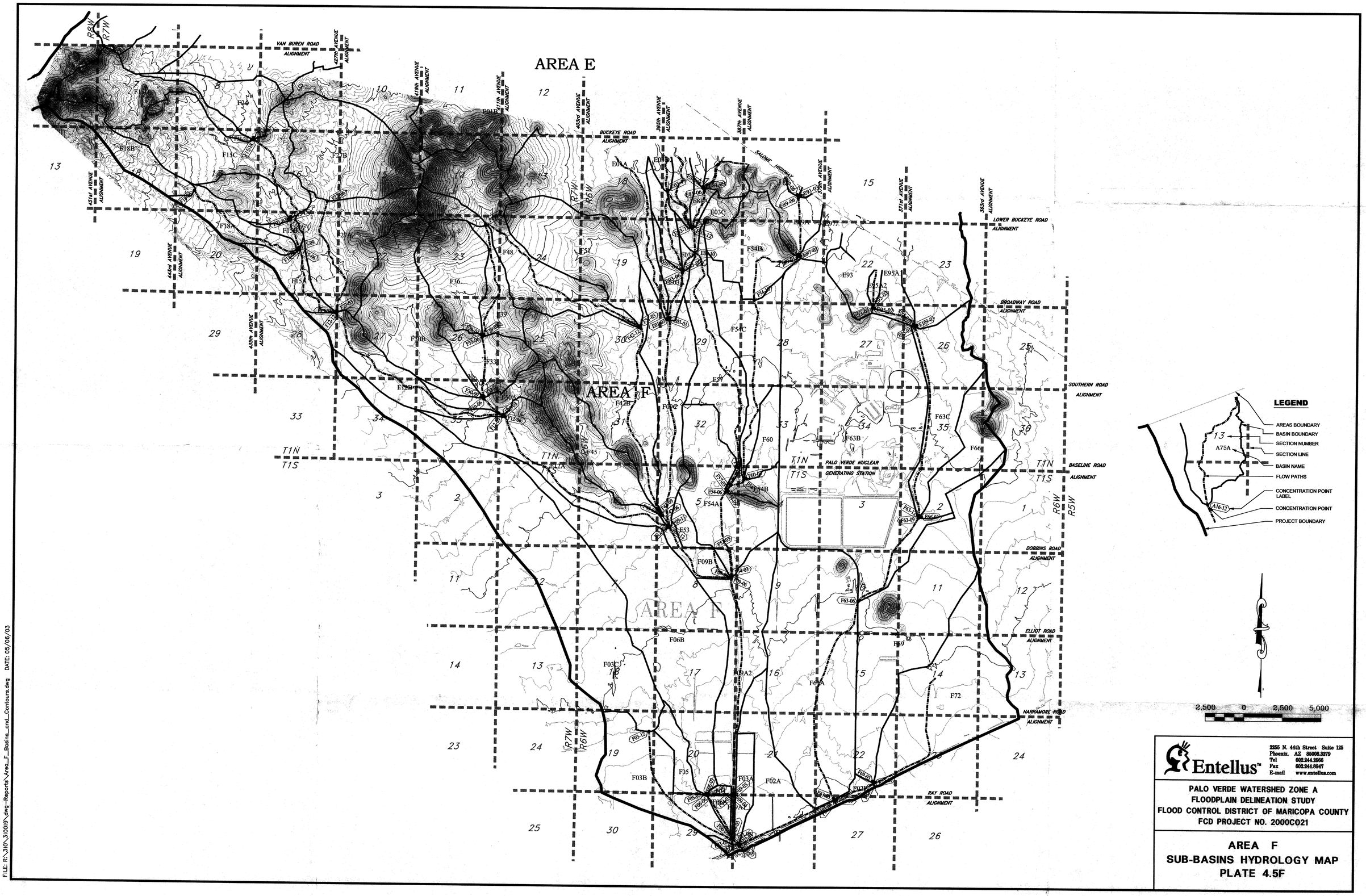
AREA E
SUB-BASINS HYDROLOGY MAP
PLATE 4.5E

FILE: R:_310_310019_dwg-Reports\Area_E_Basins_and_Contours.dwg DATE: 04/30/03



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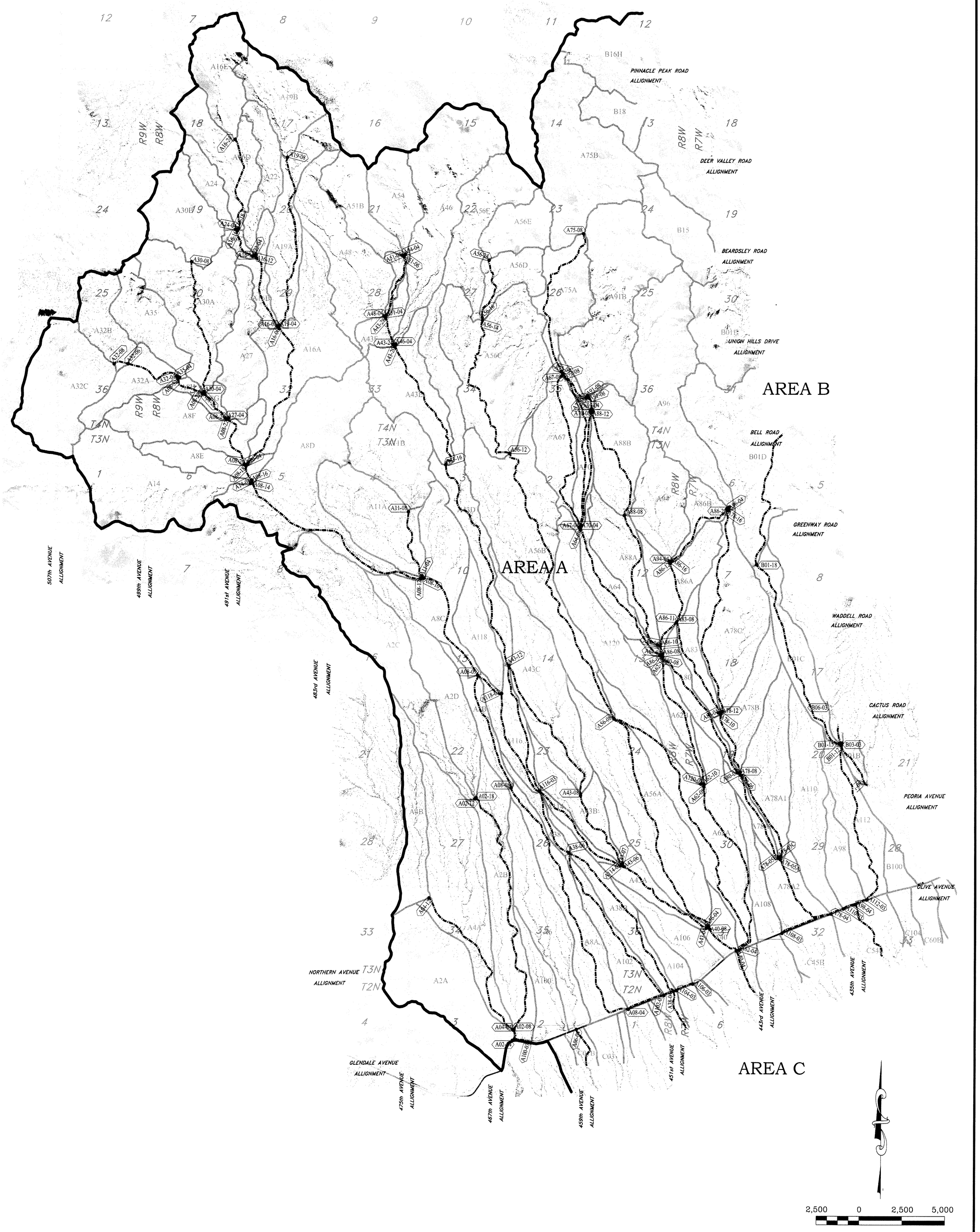
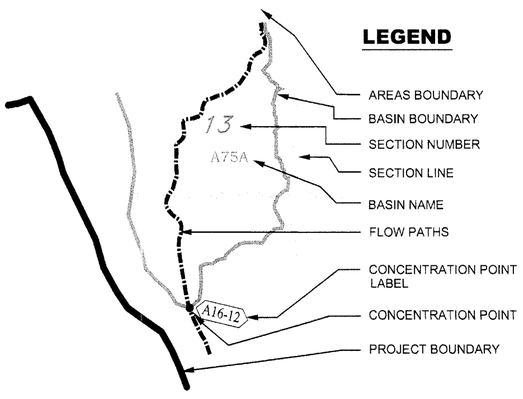
AREA F
SUB-BASINS HYDROLOGY MAP
PLATE 4.5F

FILE: R:\310\310019\dwg-Reports\Area_F_Basins_and_Contours.dwg DATE: 05/08/03





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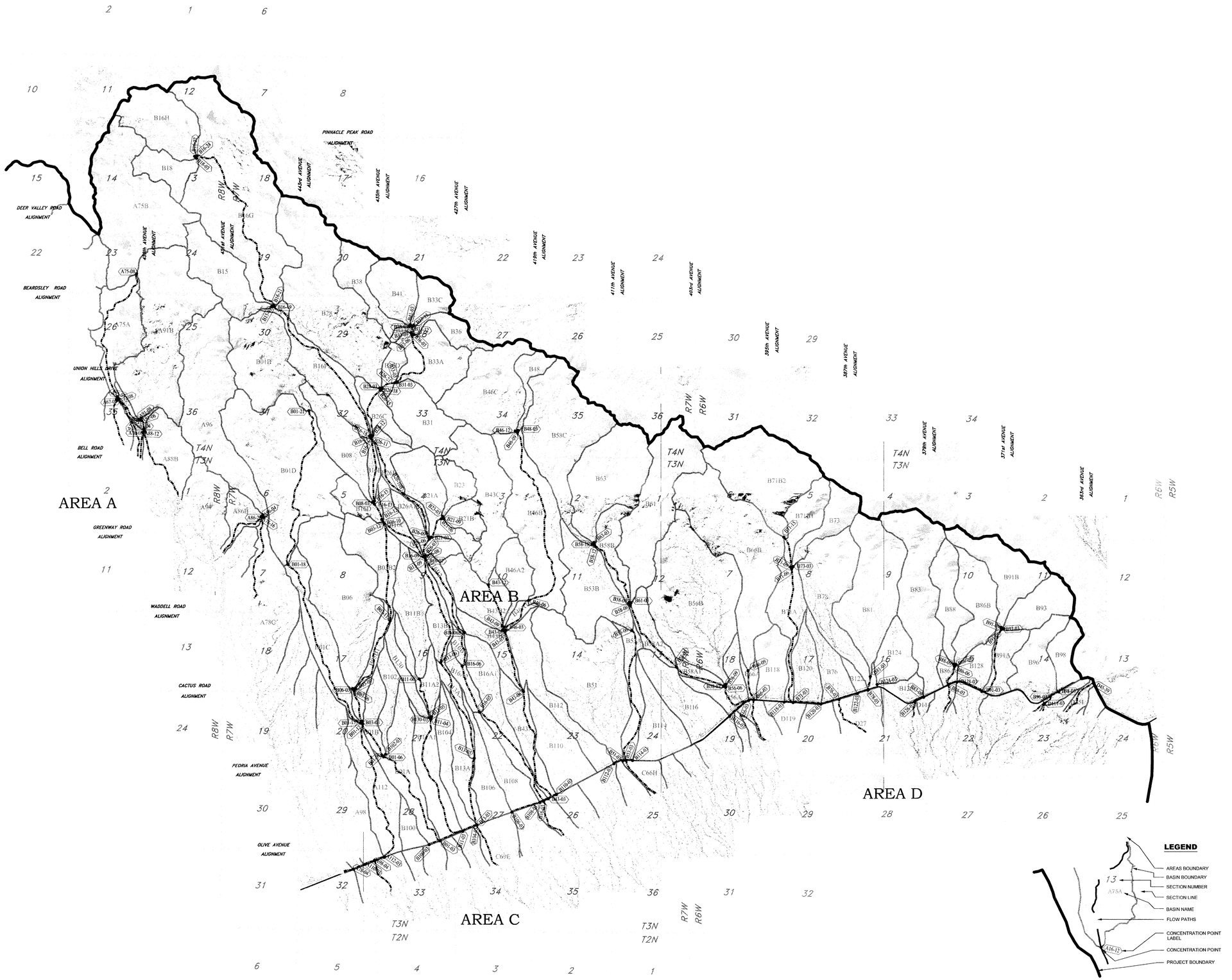
AREA A
SUB-BASINS AERIAL MAP
PLATE 4.6A



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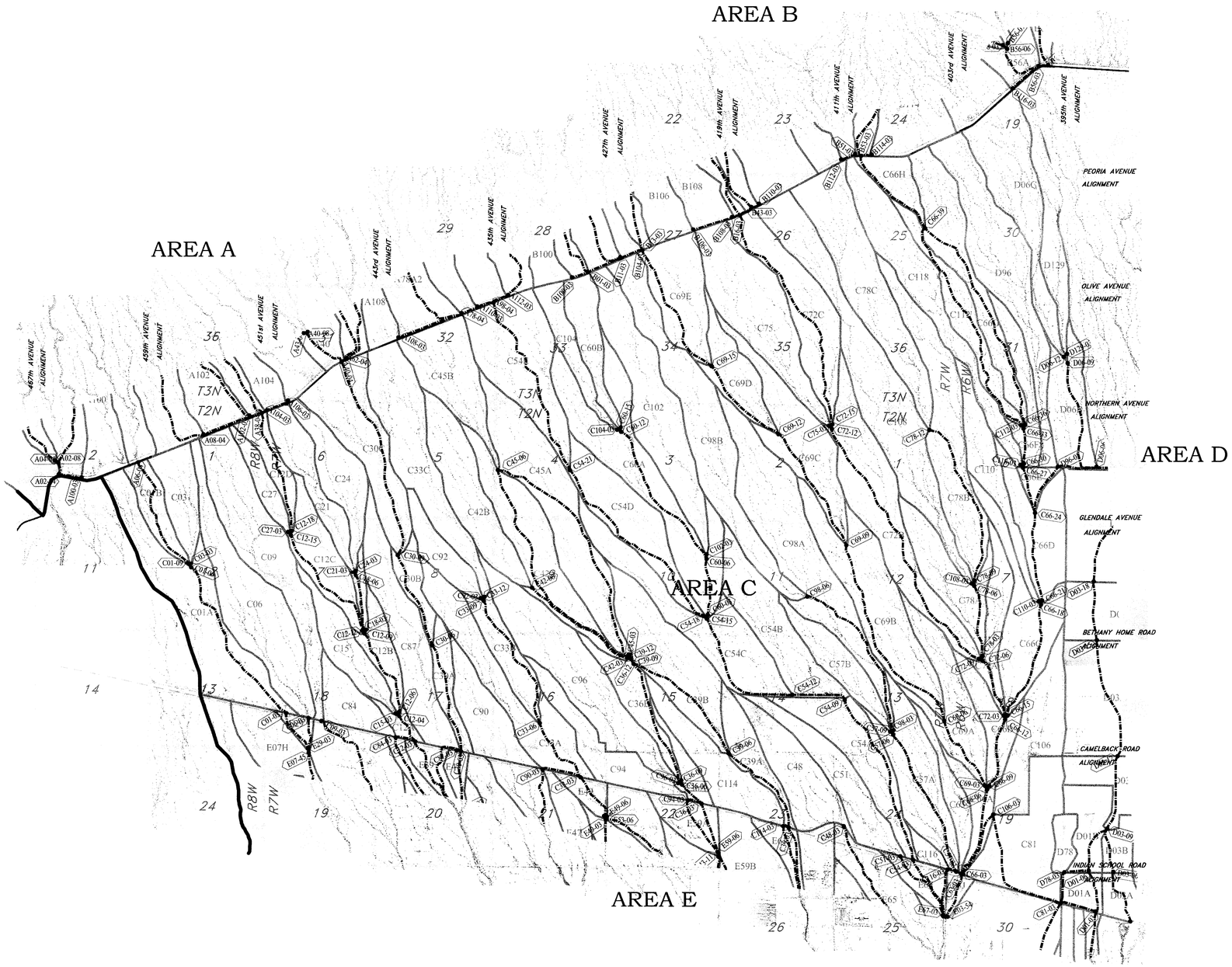
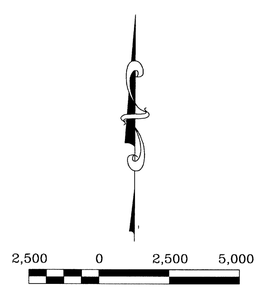
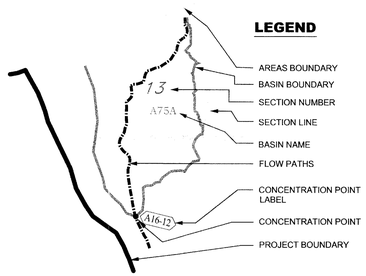
AREA B
SUB-BASINS AERIAL MAP
PLATE 4.6B







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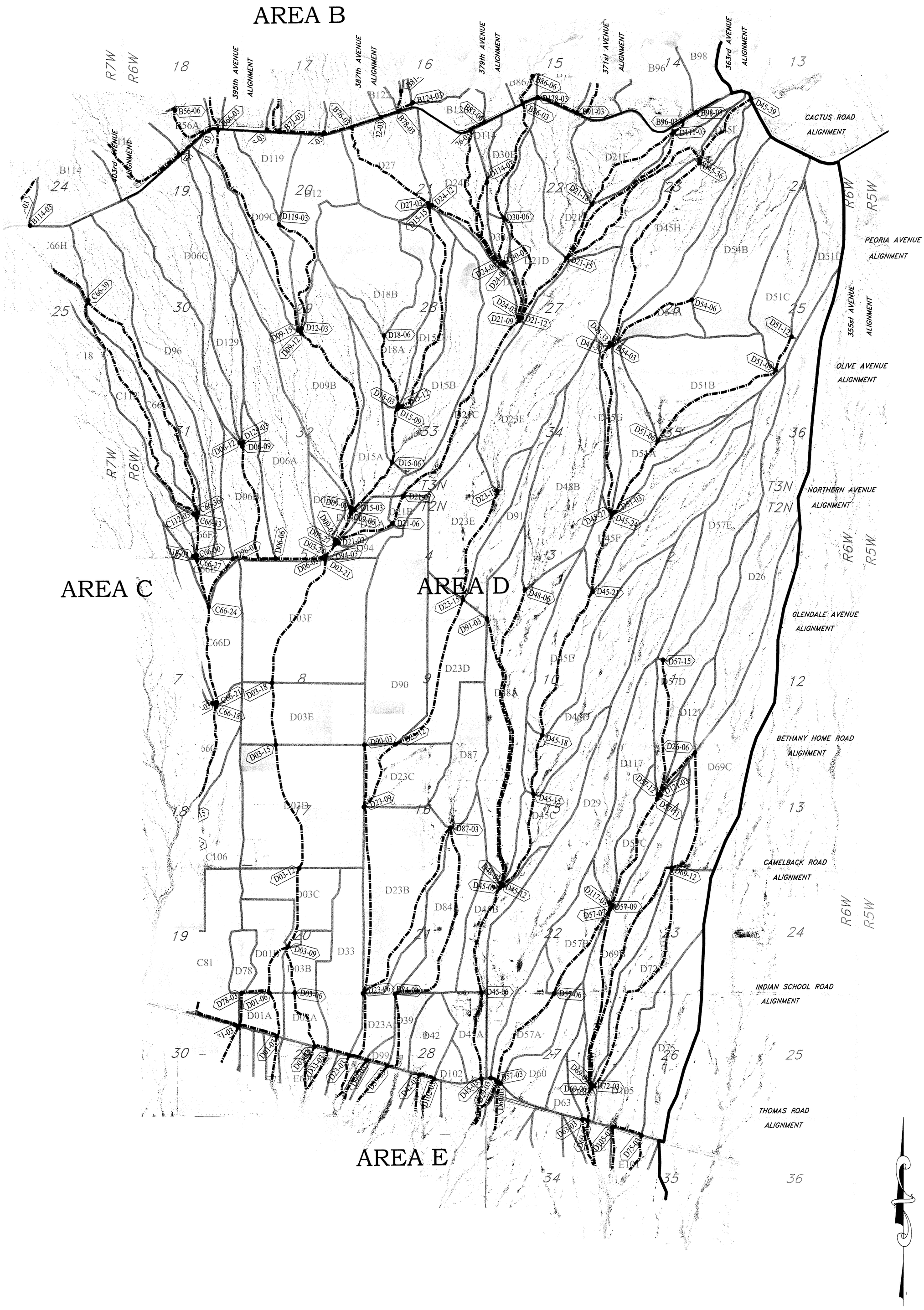
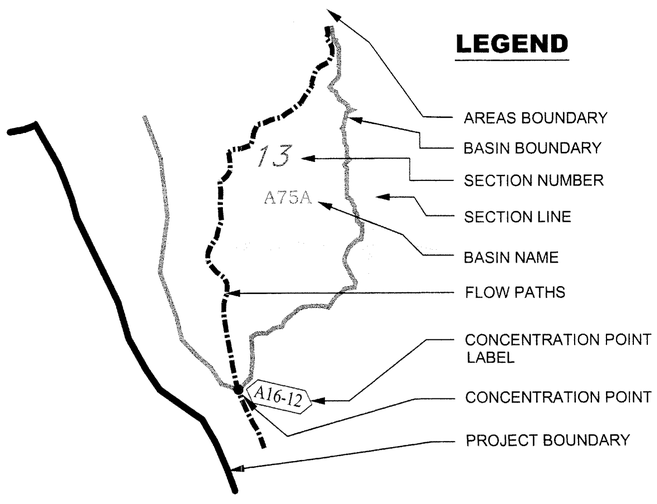
AREA C
SUB-BASINS AERIAL MAP
PLATE 4.6C





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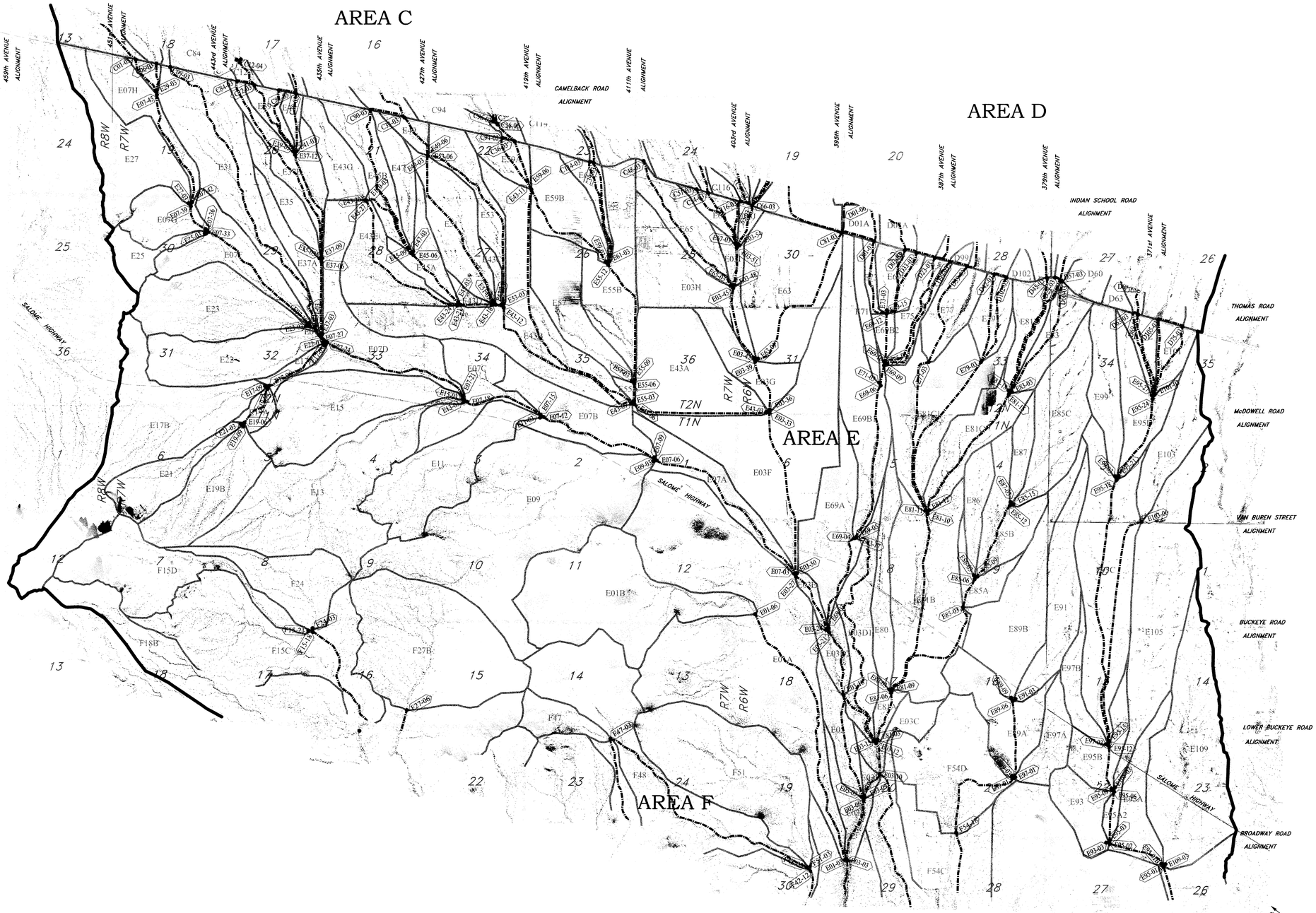
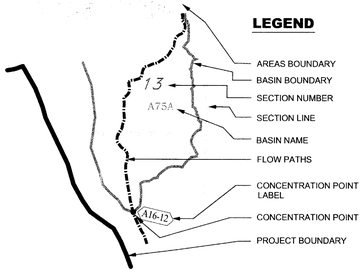
AREA D
SUB-BASINS AERIAL MAP
PLATE 4.6D

FILE: R:\JJ0\JJ0001P.dwg - Reports\Area_D_Basins_and_Aerials.dwg DATE: 05/06/03





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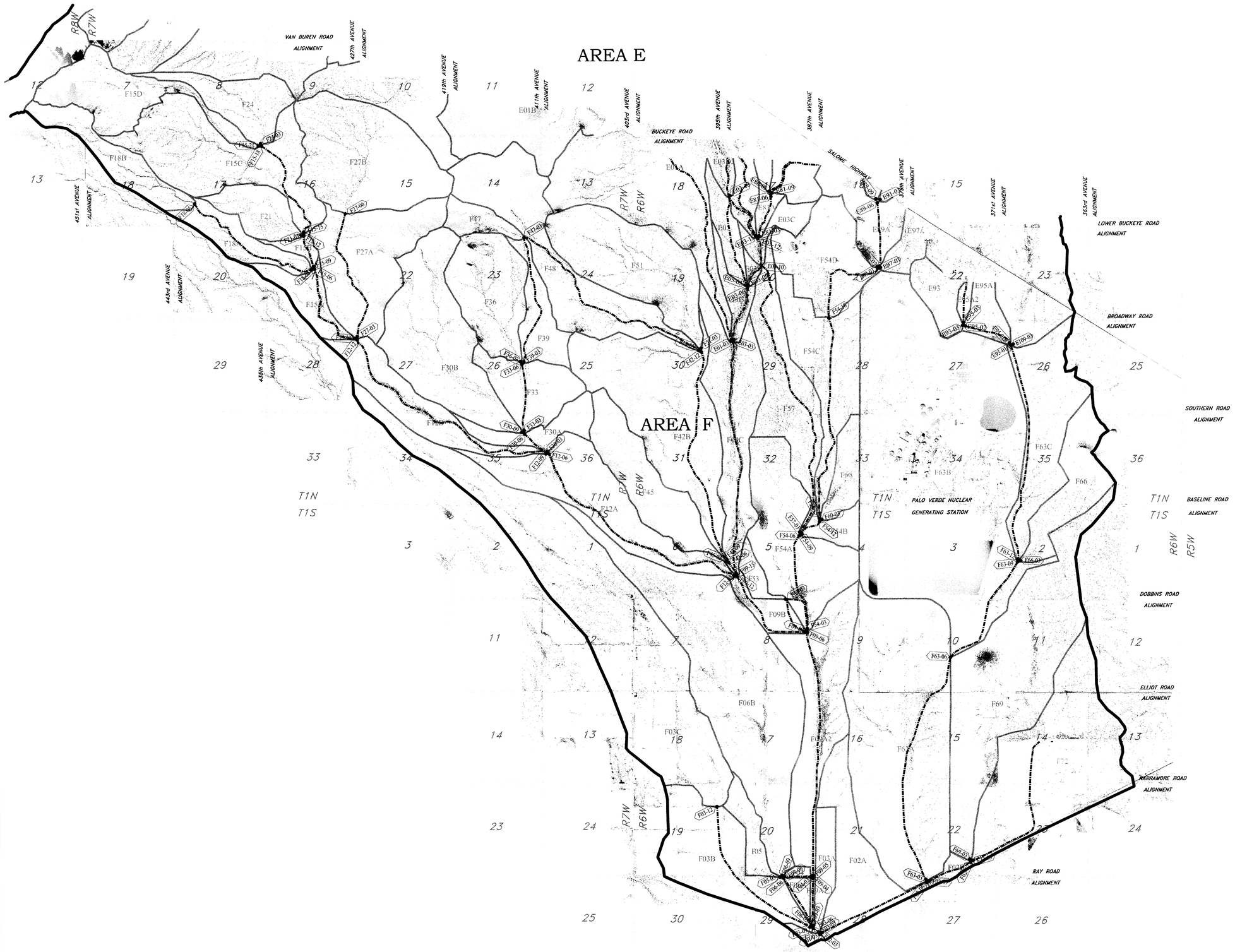
AREA E
SUB-BASINS AERIAL MAP
PLATE 4.6E

FILE: R:\310\310019\dwg-Reports\Area_E_Basins_and_Aerials.dwg DATE: 05/06/03



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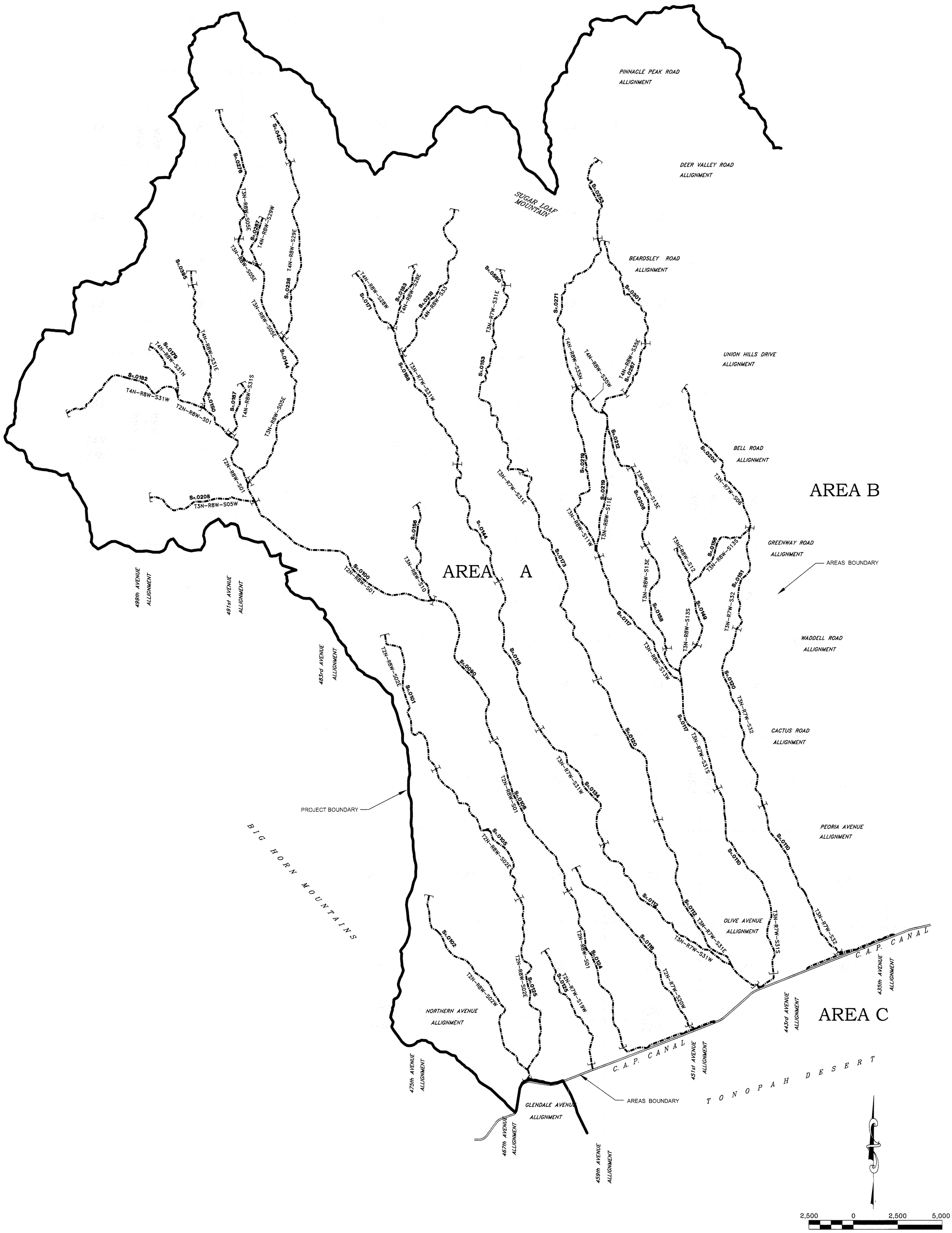
AREA F
SUB-BASINS AERIAL MAP
PLATE 4.6F

FILE: R:_310_310019_dwg-Reports\Area_F_Basins_and_Aerials.dwg DATE: 05/06/03



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	SLOPE CHANGE LOCATION
	WASH BASELINE
T2N-R8W-S02W	WASH I.D. LABEL SECTION LINE and NUMBER
	AREAS BOUNDARY
	PROJECT BOUNDARY

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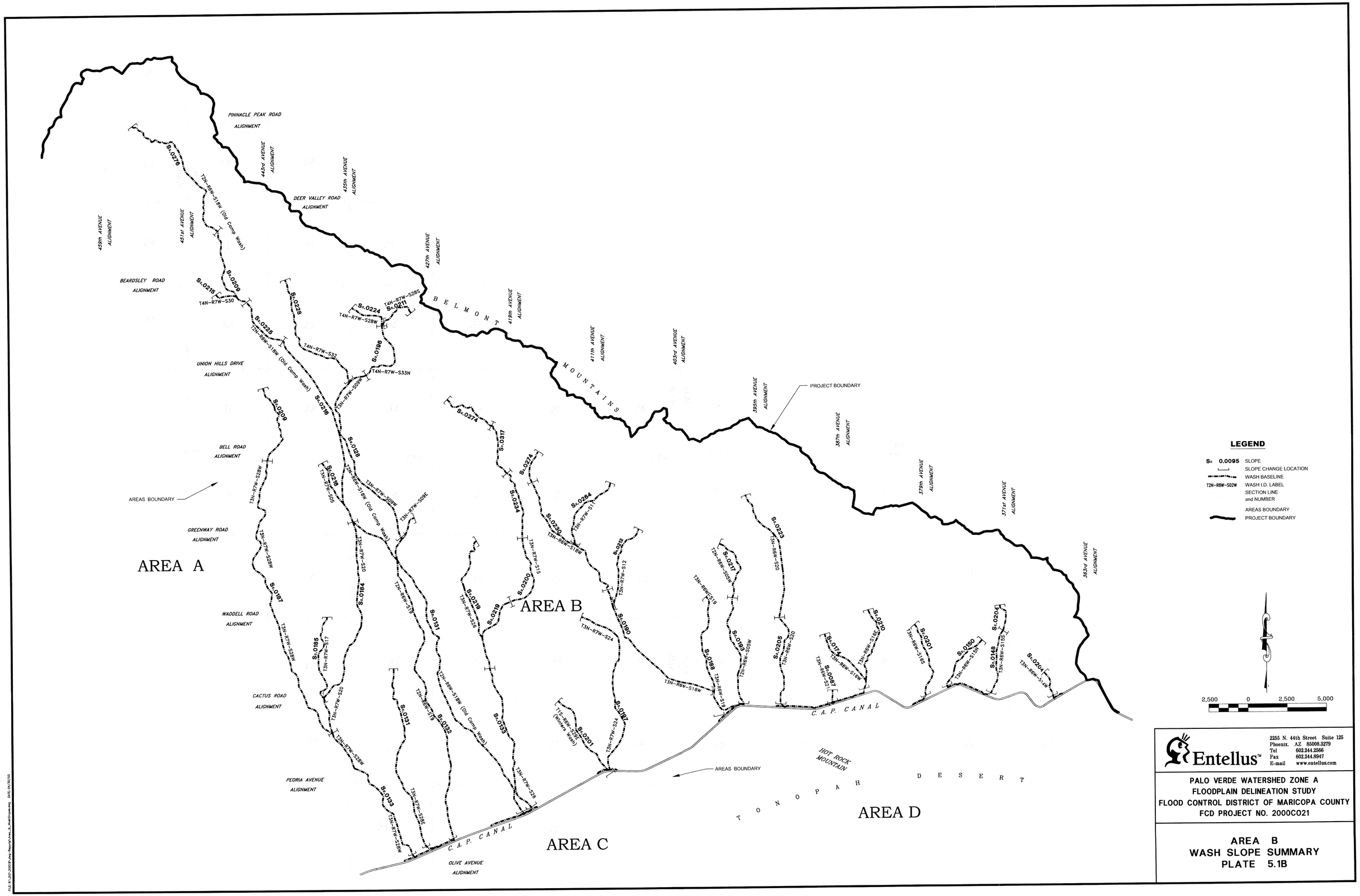
AREA A
WASH SLOPE SUMMARY
PLATE 5.1A

FILE: R:_3107_3100\FP\dwg-Reports\Area_A_WashSlopes.dwg DATE: 04/30/03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DEER VALLEY ROAD ALIGNMENT
BEARDSLEY ROAD ALIGNMENT
UNION HILLS DRIVE ALIGNMENT
BELL ROAD ALIGNMENT
GREENWAY ROAD ALIGNMENT
WADDELL ROAD ALIGNMENT
CACTUS ROAD ALIGNMENT
PEORIA AVENUE ALIGNMENT
OLIVE AVENUE ALIGNMENT
459th AVENUE ALIGNMENT
451st AVENUE ALIGNMENT
443rd AVENUE ALIGNMENT
435th AVENUE ALIGNMENT
427th AVENUE ALIGNMENT
419th AVENUE ALIGNMENT
411th AVENUE ALIGNMENT
403rd AVENUE ALIGNMENT
395th AVENUE ALIGNMENT
387th AVENUE ALIGNMENT
379th AVENUE ALIGNMENT
371st AVENUE ALIGNMENT
363rd AVENUE ALIGNMENT
BELMONT MOUNTAINS
PROJECT BOUNDARY
AREAS BOUNDARY
AREA A
AREA B
AREA C
AREA D
C. A. P. CANAL
HOT ROCK MOUNTAIN
TONOPAH DESERT
T2N-R8W-S18W (Old Camp Wash)
T3N-R8W-S18W (Old Camp Wash)
T4N-R7W-S30
T4N-R7W-S28W
T4N-R7W-S28S
T4N-R7W-S32
T4N-R7W-S33N
T3N-R7W-S24
T3N-R7W-S26
T1S-R8W-S1E (Waters Wash)
LEGEND
S= 0.0095 SLOPE
SLOPE CHANGE LOCATION
WASH BASELINE
T2N-R8W-S02W WASH I.D. LABEL
SECTION LINE and NUMBER
AREAS BOUNDARY
PROJECT BOUNDARY
2,500 0 2,500 5,000
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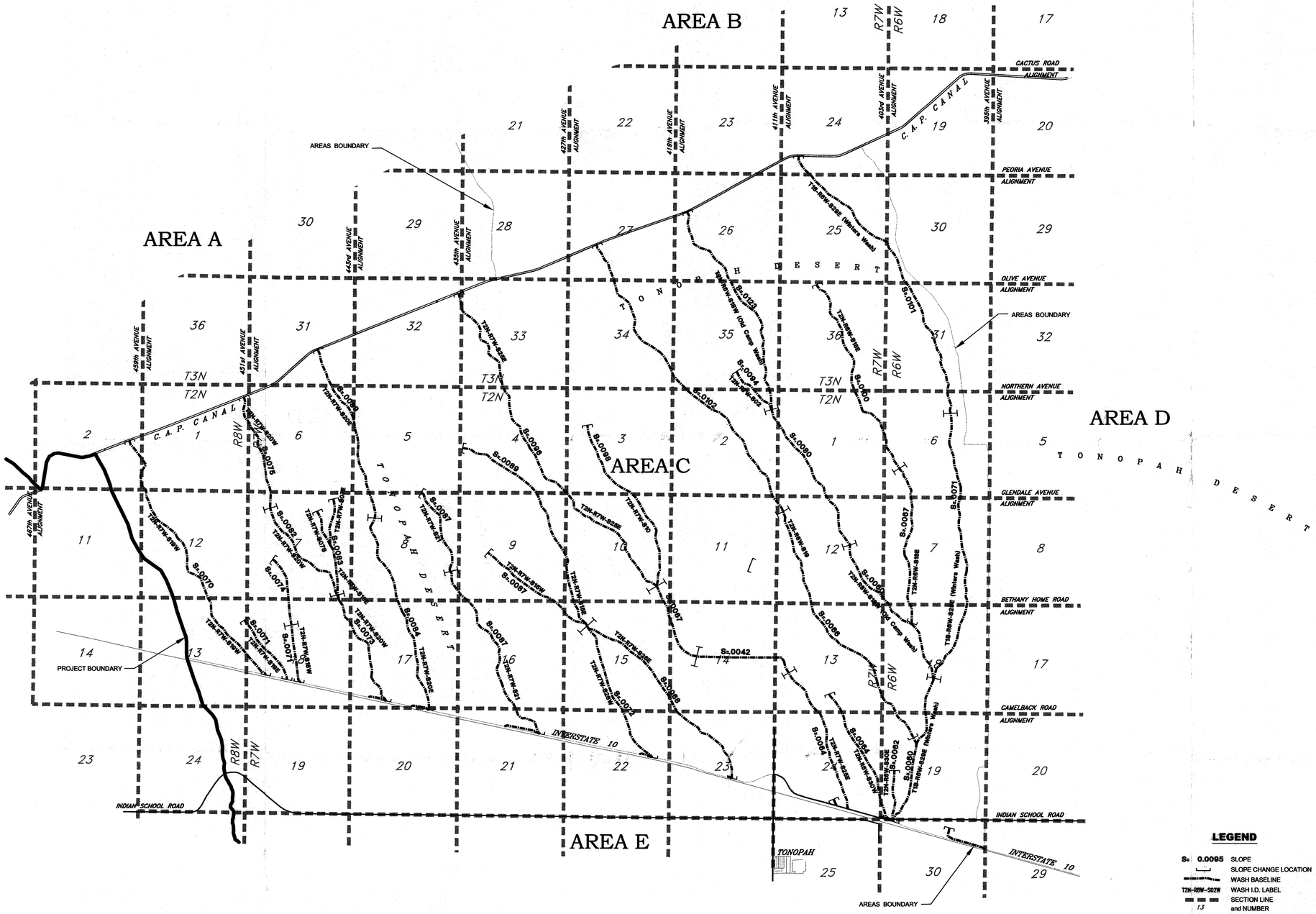
AREA B
WASH SLOPE SUMMARY
PLATE 5.1B



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	SLOPE CHANGE LOCATION
	WASH BASELINE
T2N-R8W-S02W	WASH I.D. LABEL
13	SECTION LINE and NUMBER
	AREAS BOUNDARY
	PROJECT BOUNDARY

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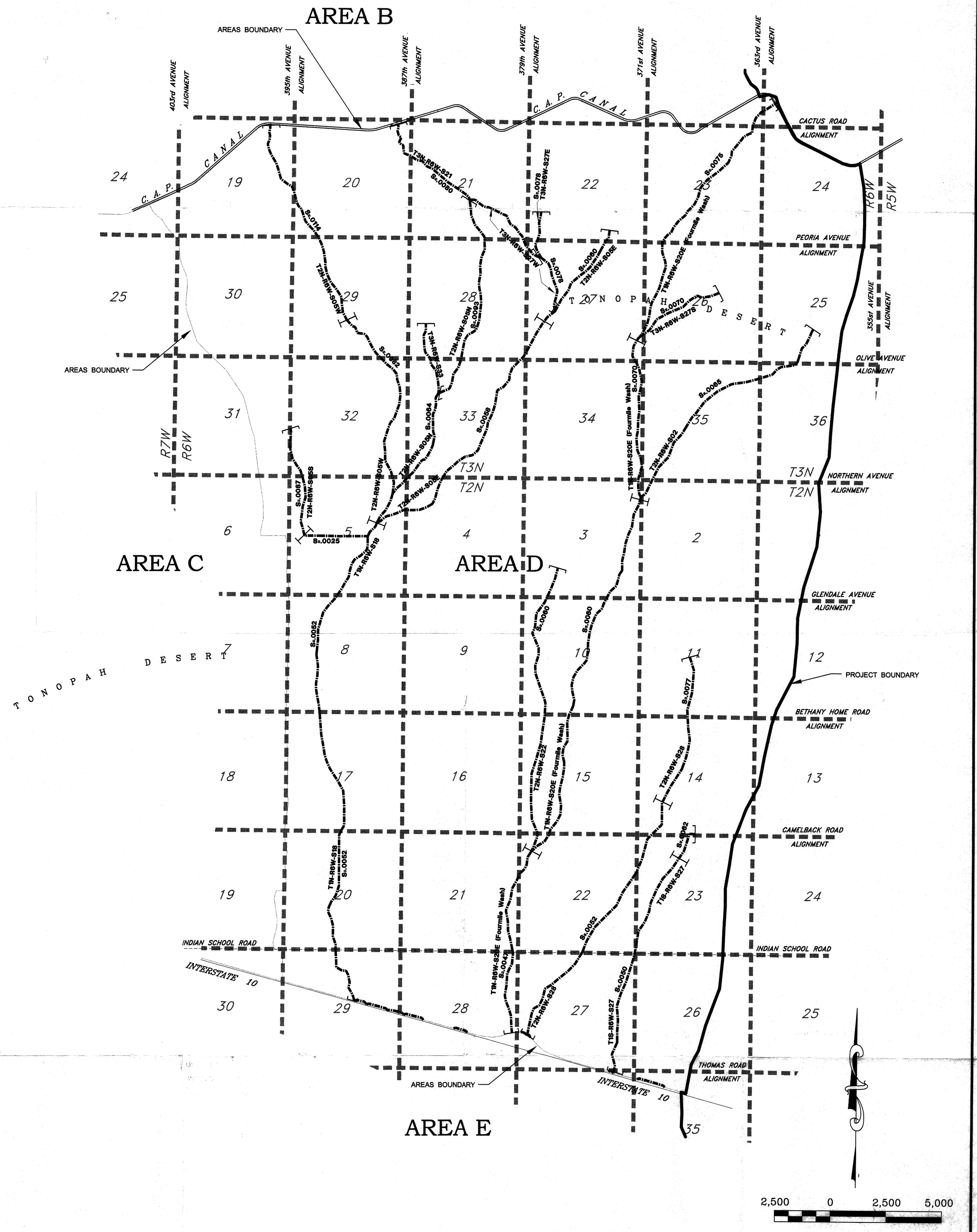
AREA C
WASH SLOPE SUMMARY
PLATE 5.1C



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T2N-R8W-S02W	WASH I.D. LABEL
13	SECTION LINE and NUMBER
	AREAS BOUNDARY
	PROJECT BOUNDARY

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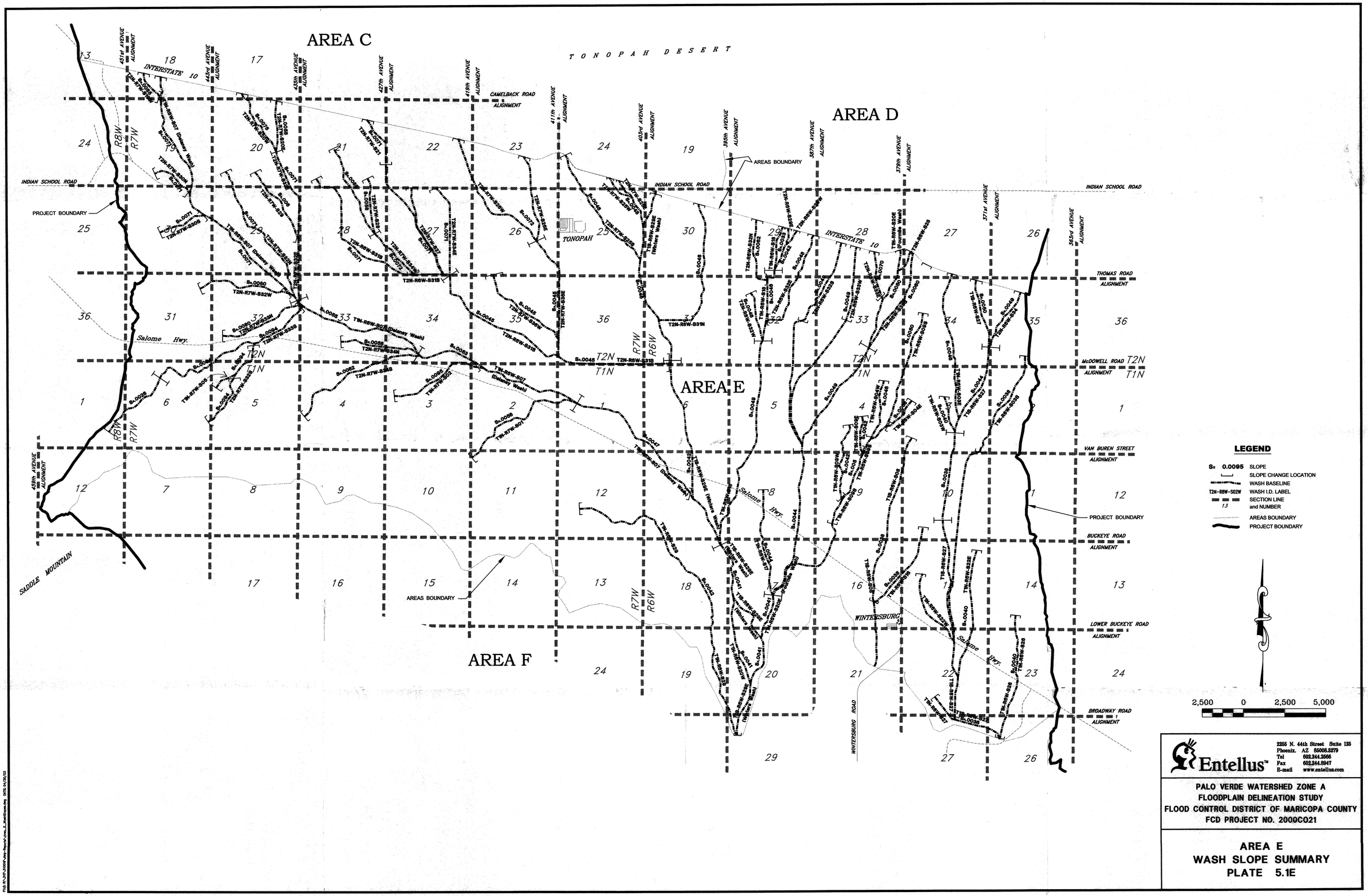
AREA D
WASH SLOPE SUMMARY
PLATE 5.1D

FILE: R:_3100_dwg-Reports\Area_D_WashSlopes.dwg DATE: 04/30/03



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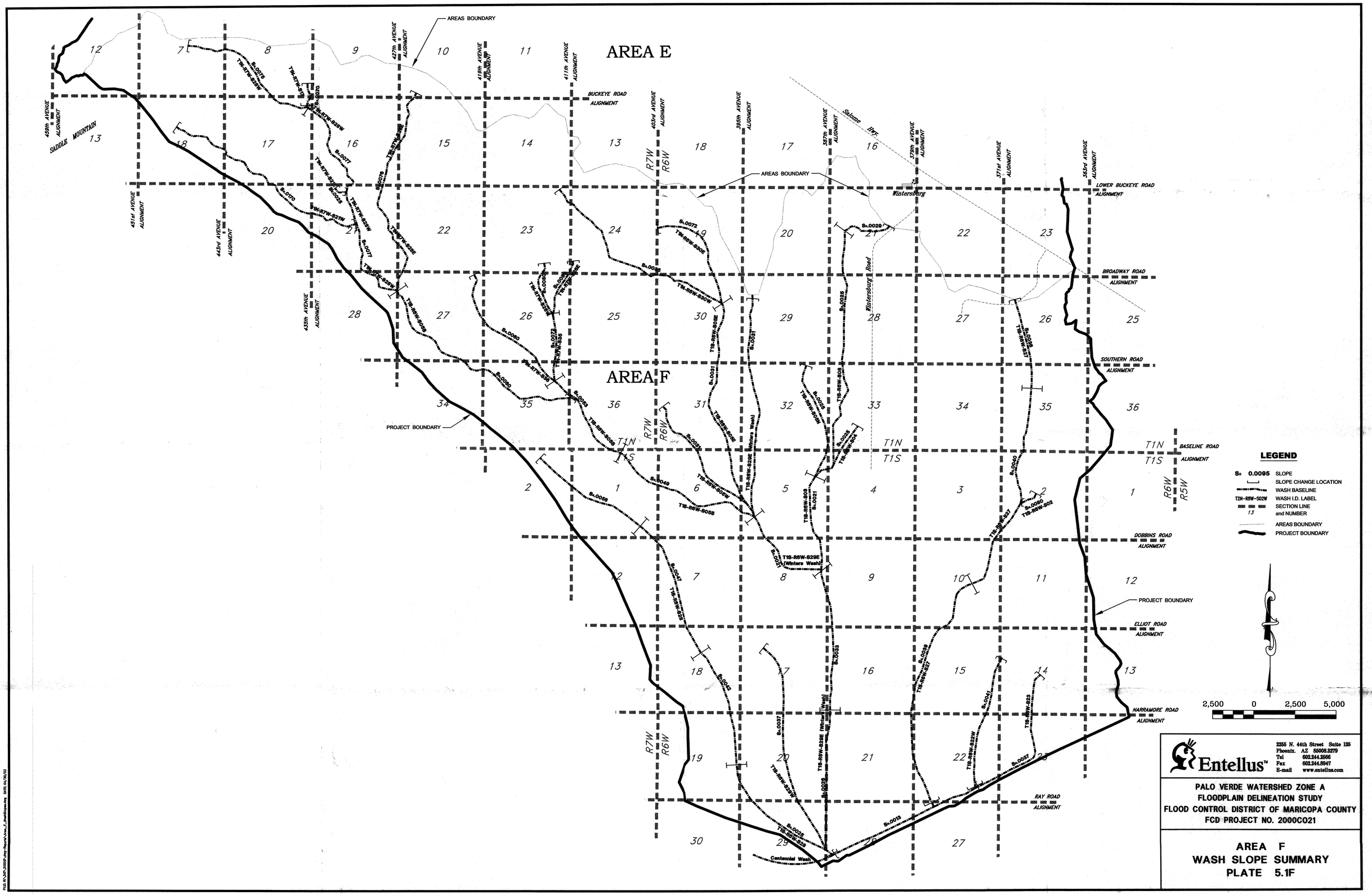
AREA E
WASH SLOPE SUMMARY
PLATE 5.1E



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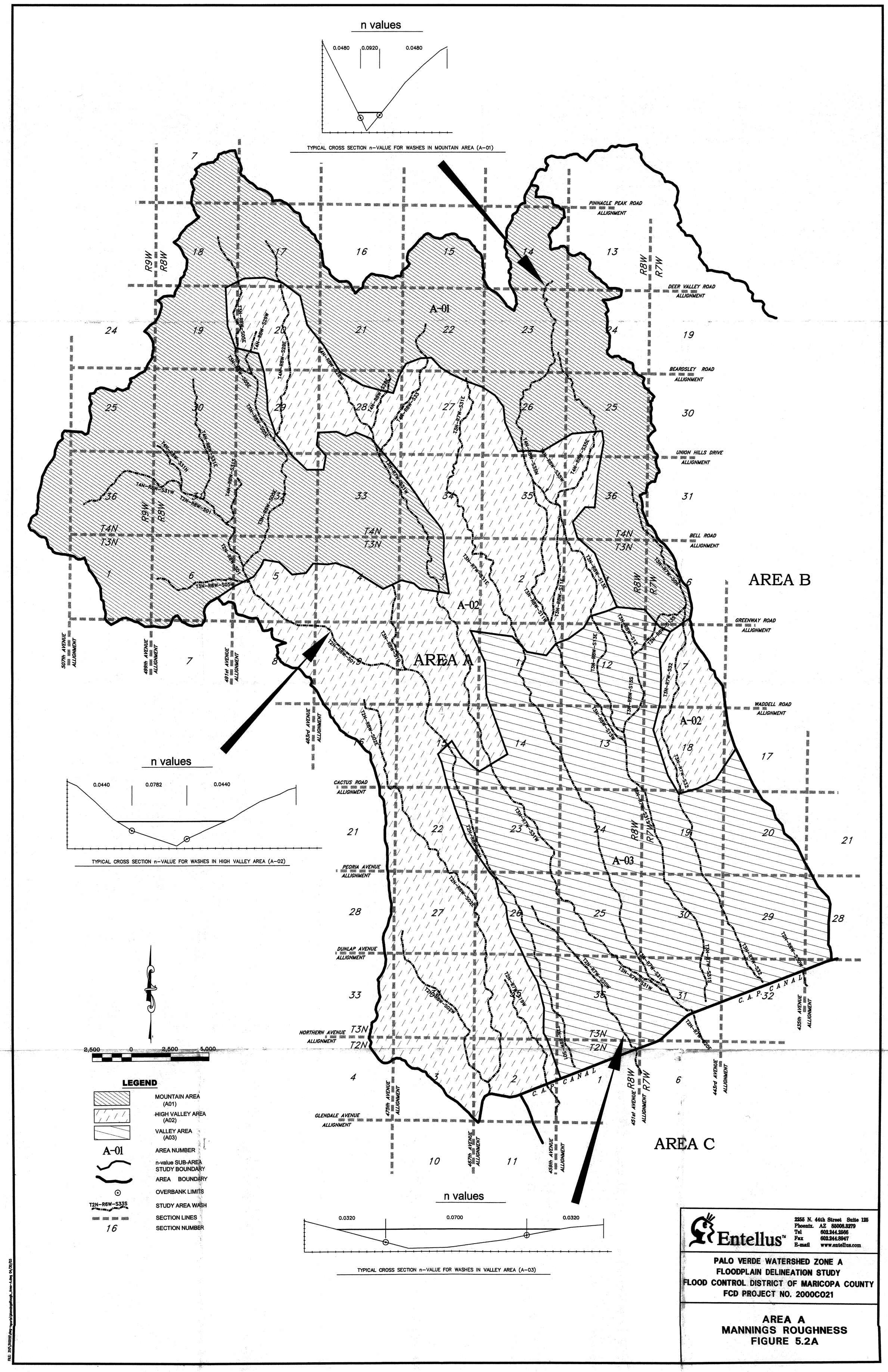
AREA F
WASH SLOPE SUMMARY
PLATE 5.1F

FILE: R:\JOB\2000F\Hydro\Report\Vol1\Plates\Plate 5.1F_Area F.dwg DATE: 04/26/03



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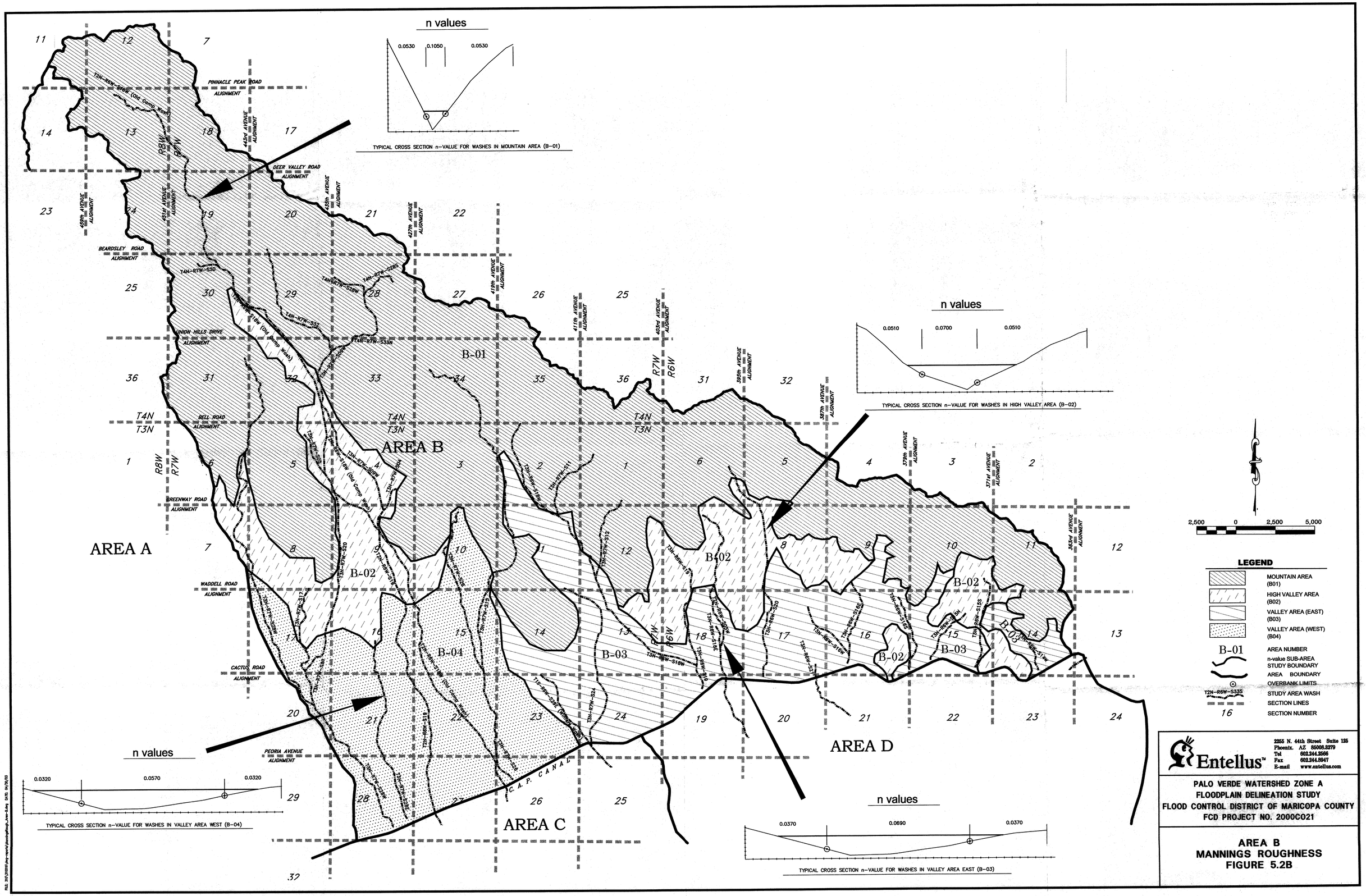
AREA A
MANNINGS ROUGHNESS
FIGURE 5.2A



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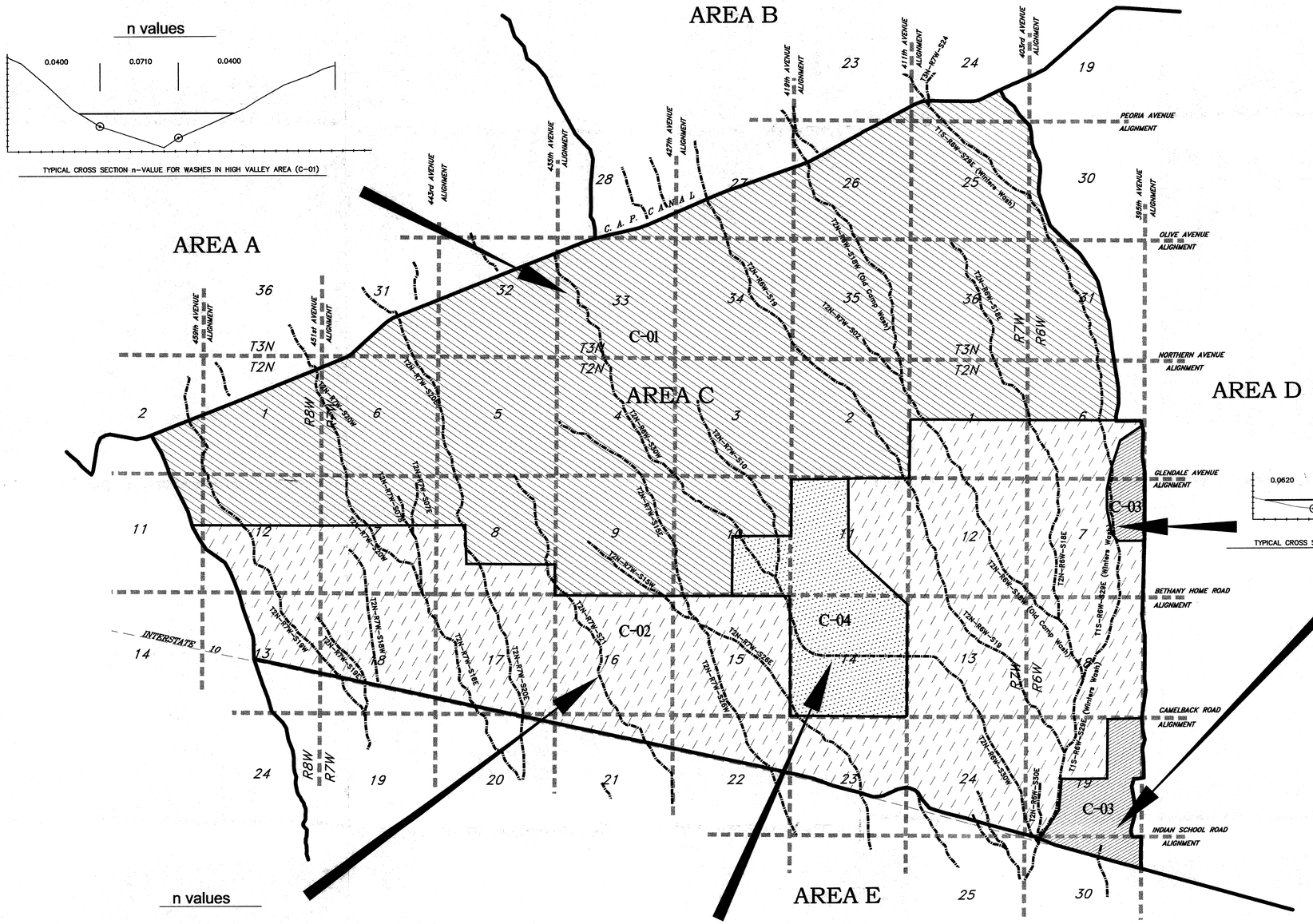
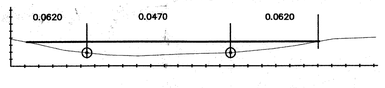
AREA B
MANNINGS ROUGHNESS
FIGURE 5.2B



n values

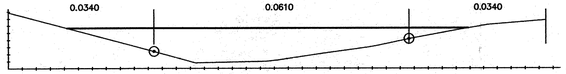
TYPICAL CROSS SECTION n-VALUE FOR WASHES IN HIGH VALLEY AREA (C-01)

n values



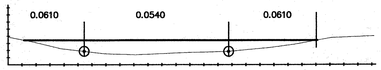
TYPICAL CROSS SECTION n-VALUE FOR WASHES IN IRRIGATION AREA EAST (C-03)

n values

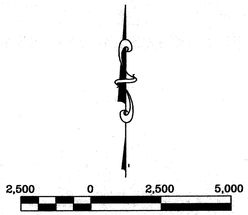


TYPICAL CROSS SECTION n-VALUE FOR WASHES IN VALLEY AREA (C-02)

n values



TYPICAL CROSS SECTION n-VALUE FOR WASHES IN IRRIGATION AREA WEST (C-04)



LEGEND

- HIGH VALLEY AREA (C01)
- VALLEY AREA (C02)
- IRRIGATION AREA (EAST) (C03)
- IRRIGATION AREA (WEST) (C04)
- C-01 AREA NUMBER
- n-value SUB-AREA STUDY BOUNDARY
- AREA BOUNDARY
- OVERBANK LIMITS
- T2N-R6W-S33S STUDY AREA WASH
- SECTION LINES
- 16 SECTION NUMBER

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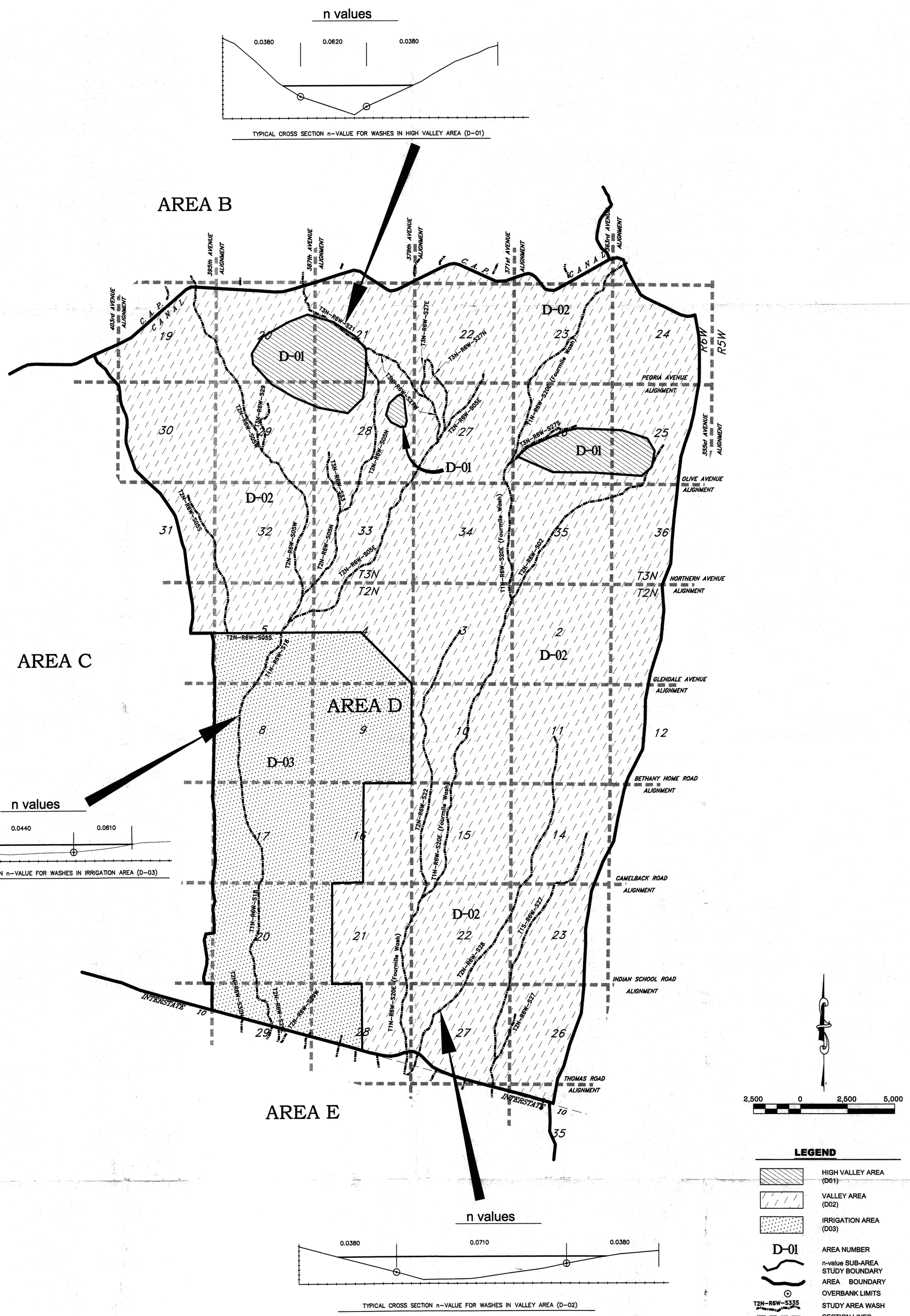
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FCD PROJECT NO. 2000C021

AREA C
MANNINGS ROUGHNESS
FIGURE 5.2C



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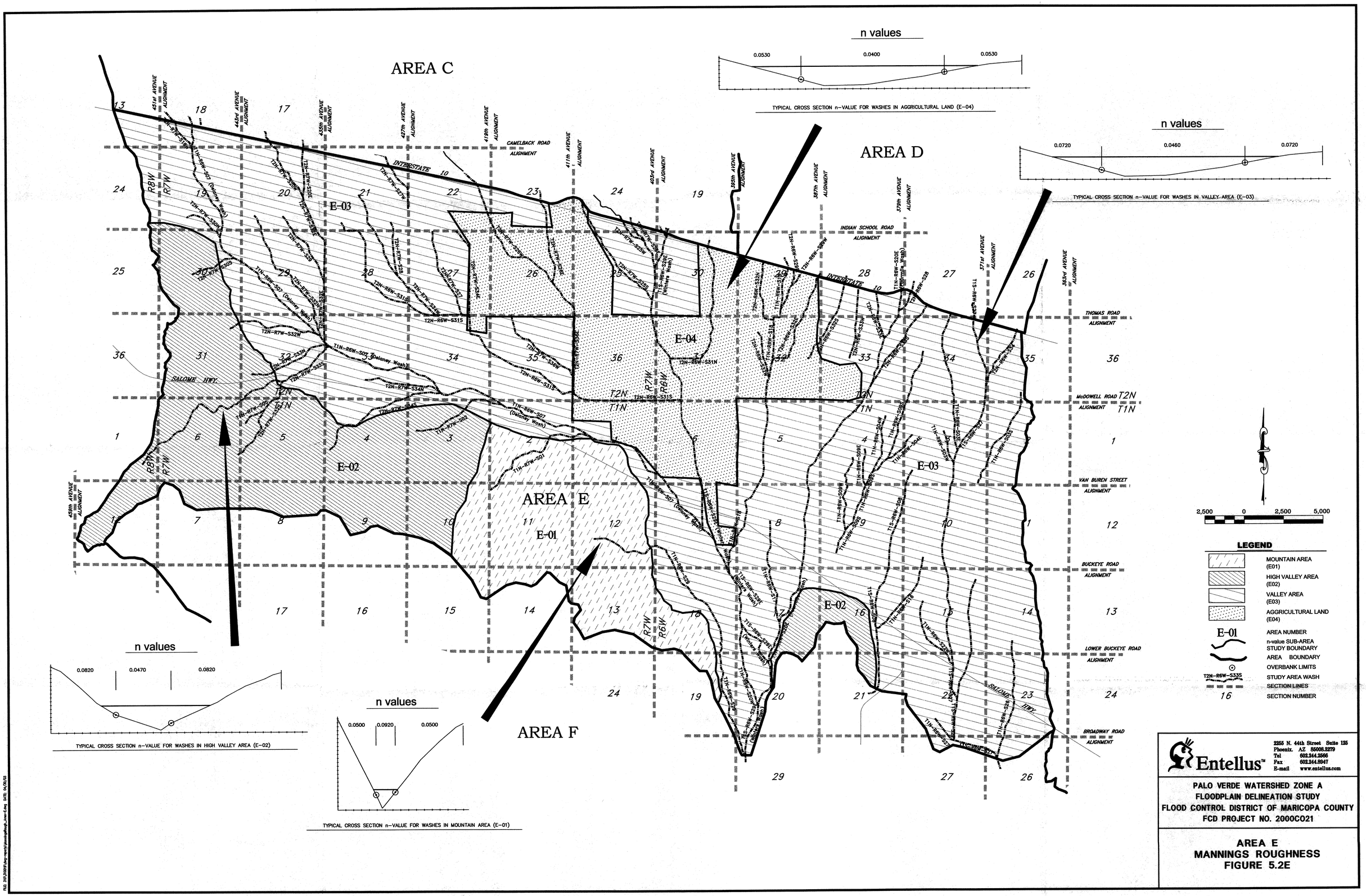
AREA D
MANNINGS ROUGHNESS
FIGURE 5.2D

FILE: 310\310016\dwg-reports\Manningsrough_Area-D.dwg Date: 04/29/03



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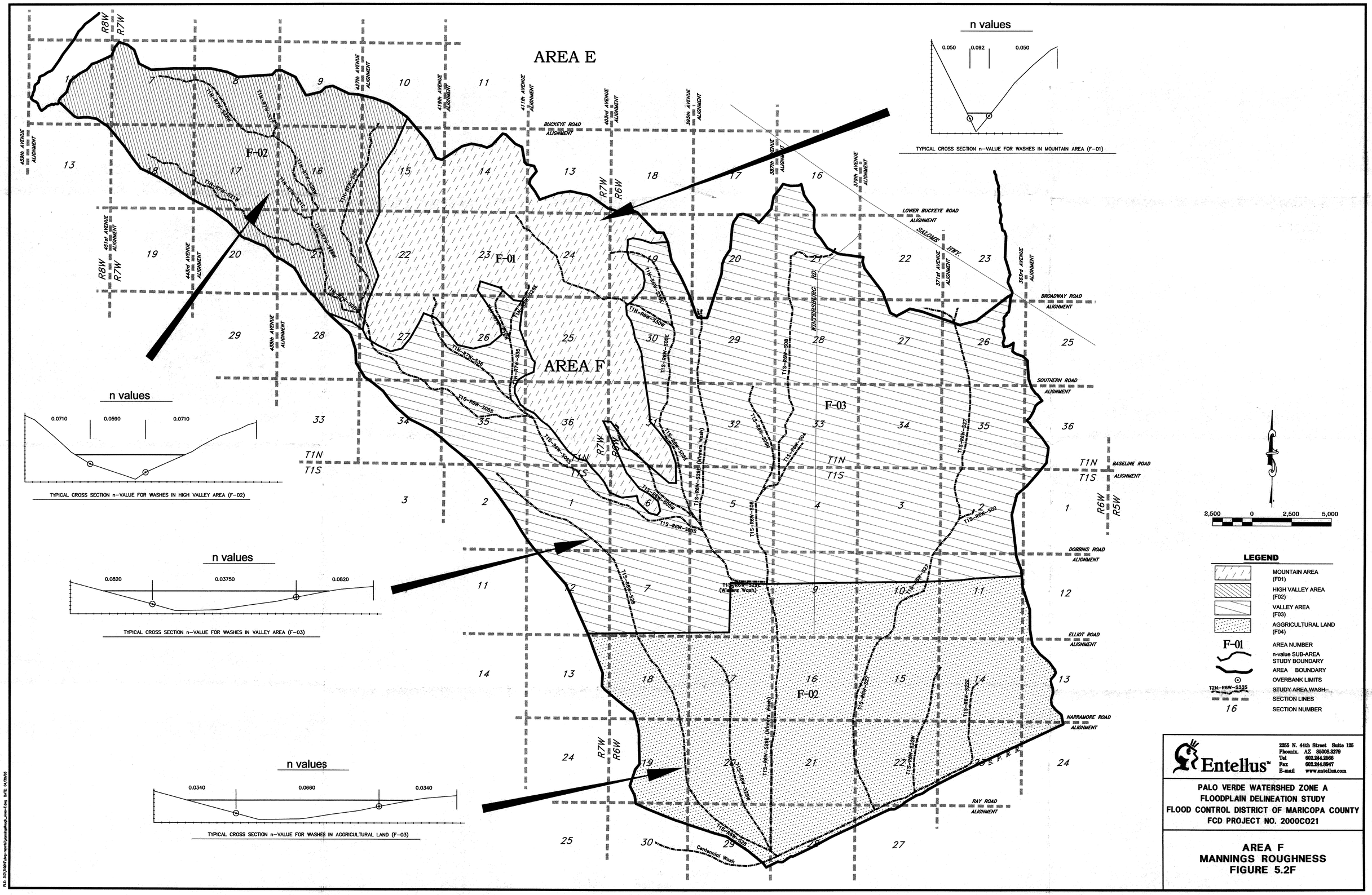
FCD PROJECT NO. 2000C021

AREA E
MANNINGS ROUGHNESS
FIGURE 5.2E


AREA E
AREA F
F-01
F-02
F-03
n values
0.050
0.092
0.050
TYPICAL CROSS SECTION n-VALUE FOR WASHES IN MOUNTAIN AREA (F-01)
n values
0.0710
0.0590
0.0710
TYPICAL CROSS SECTION n-VALUE FOR WASHES IN HIGH VALLEY AREA (F-02)
n values
0.0820
0.03750
0.0820
TYPICAL CROSS SECTION n-VALUE FOR WASHES IN VALLEY AREA (F-03)
n values
0.0340
0.0660
0.0340
TYPICAL CROSS SECTION n-VALUE FOR WASHES IN AGGRICULTURAL LAND (F-03)
BUCKEYE ROAD ALIGNMENT
LOWER BUCKEYE ROAD ALIGNMENT
SALOME HWY.
BROADWAY ROAD ALIGNMENT
SOUTHERN ROAD ALIGNMENT
BASELINE ROAD ALIGNMENT
DOBBINS ROAD ALIGNMENT
ELLIOT ROAD ALIGNMENT
NARRAMORE ROAD ALIGNMENT
RAY ROAD ALIGNMENT
WINTERSBURG RD.
S.P.R.R.
Centennial Wash
(Wilmore Wash)
(Winters Wash)
2,500 0 2,500 5,000
LEGEND
MOUNTAIN AREA (F01)
HIGH VALLEY AREA (F02)
VALLEY AREA (F03)
AGGRICULTURAL LAND (F04)
F-01 AREA NUMBER
n-value SUB-AREA STUDY BOUNDARY
AREA BOUNDARY
OVERBANK LIMITS
T2N-R6W-S33S STUDY AREA WASH
SECTION LINES
16 SECTION NUMBER
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FCD PROJECT NO. 2000CO21
AREA F
MANNINGS ROUGHNESS
FIGURE 5.2F