

ORANGE COUNTY SURVEYOR SURVEY NOTES

WORK ORDER NUMBER EV03193
SURVEY FILE NUMBER 1213PW-OP002
SURVEY COMPLETED AUGUST 2012

ALIGNMENT INDEX BOOK & PAGE
SURVEY NOTES PAGE 1 OF 19

PROJECT NAME SAN DIEGO CREEK CHANNEL (C05) BASIN 1, BASIN 2, & BASIN 3.
SURVEY LIMITS SEE BELOW
THOMAS BROTHERS PAGE 889 G2, H2, J1, PAGE 860 A7, A8.
PURPOSE OF SURVEY SCOUR STUDY OF SEDIMENT ACCUMULATION
EF21268 1213PW-OP0001 Sta. 34+00 to Sta 135+00
EV03193 1213PW-OP0002 Sta. 136+00 to Sta 156+00

SURVEY NOTE PAGE INDEX

SURVEY EQUIPMENT

VICINTY MAP	2	LEICIA TCRA1203Plus Total Station
SUMMARY & COORDINATE REPORT	3-6	Sokkia GSR 2700 ISX GPS Rover
CONTROL	7-13	CARLSON SURVEYOR + DATA COLLECTOR
LEVEL RUNS	14-19	LEICA NA3003 LEVEL

HORIZONTAL DATUM

VERTICAL DATUM

<i>NAD83 OCS 1990 adjustment</i>	<i>NGVD29 1995 OCS adjustment</i>
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HORIZONTAL CONTROL POINTS

VERTICAL CONTROL POINTS

1. Pt # 13 STA 32+00 X 180 RT	1. OCSBM 3FF-6-77
2. Pt # 34 STA 72+00 X 180 RT	2. OCSBM 3FF-11-99
3. Pt # 68 STA 133+78.70 EC X 180 RT	

REFERENCES / REMARKS

<u>OCS unindexed Survey Notes file 910PW-OP540011, DATED 9-28-09.</u>

PERSONNEL

FOSTER	P.C.
ELGENSON	INST.
BARRIE	R.C.
BAUCKE	SURV. I I I

THIS SURVEY WAS PERFORMED
UNDER MY SUPERVISION.

THIS SURVEY WAS PERFORMED
UNDER MY DIRECTION.

WADE D. WEAVER L.S. 4337
SENIOR LAND SURVEYOR

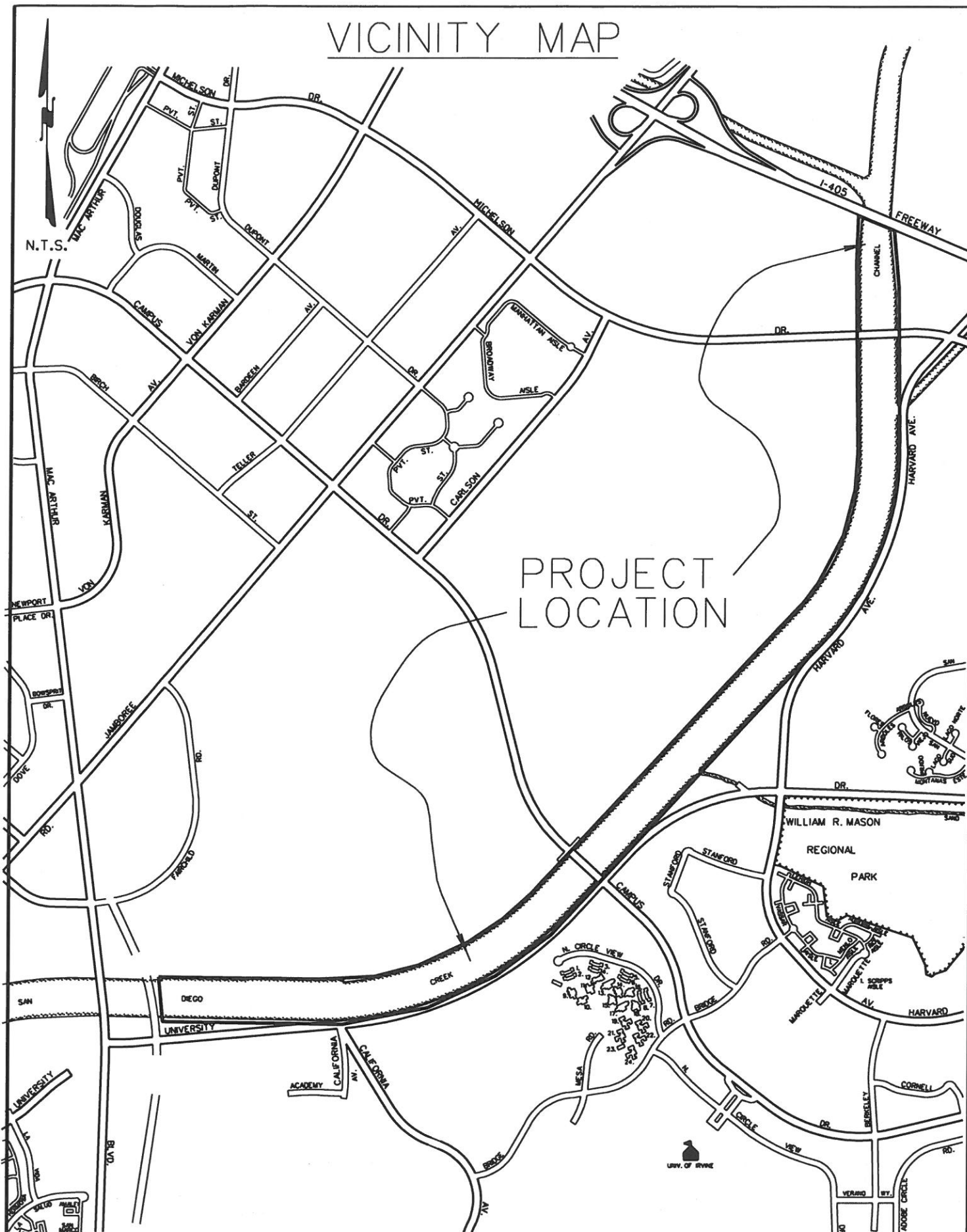
DATE: _____

IAN R. FOSTER
SURVEY PARTY CHIEF

DATE:



VICINITY MAP



DRAWN BY: RE

CHECKED BY: IRF

SURVEY SUMMARY

SURVEY SUMMARY

This survey was performed using a Sokkia GSR 2700 ISX GPS Rover in conjunction with the OCRTN network and base station "TRAK" to position set control and hubs. A localization was accomplished using 13, 24, 34, 45, 66 and 68 per the San Diego Creek Basin - Scour Study Map. These values are shown on the map and listed in this coordinate summary. All points fit together well rendering a horizontal residual of 0.05'.

Localization Points

Pt ID	Northing	Easting	Station & Offset
13	2184255.11	6071909.92	STA 32+00 X 180 RT
24	2184264.79	6073936.56	STA 52+00 X 180 RT
34	2185150.96	6075813.77	STA 72+00 X 180 RT
45	2186622.31	6077190.94	STA 92+00 X 177 RT
55	2188089.47	6078549.79	STA 112+00 X 177 RT
68	2190184.01	6079380.75	STA 133+78.70 EC X 180 RT

Existing Scour Control

Pt ID	Northing	Easting	Pt ID	Northing	Easting
13	2184255.11	6071909.92	45	2186622.31	6077190.94
14	2184251.61	6072109.90	46	2186786.78	6077306.23
15	2184248.09	6072309.81	47	2186915.75	6077462.78
16	2184244.63	6072509.78	48	2187062.44	6077598.61
17	2184241.14	6072709.72	49	2187209.08	6077734.48
18	2184237.67	6072909.75	50	2187355.85	6077870.37
19	2184234.14	6073109.75	51	2187502.57	6078006.27
20	2184230.63	6073309.73	52	2187649.28	6078142.04
21	2184229.45	6073373.41	53	2187796.05	6078278.06
22	2184231.99	6073516.74	54	2187942.77	6078413.90
23	2184243.10	6073748.86	55	2188089.47	6078549.79
24	2184264.79	6073936.56	56	2188187.37	6078640.44
25	2184301.89	6074143.92	57	2188239.78	6078687.72
26	2184350.30	6074348.95	58	2188403.64	6078824.94
27	2184409.82	6074551.05	59	2188580.95	6078944.08
28	2184482.28	6074748.88	60	2188761.10	6079058.90
29	2184566.46	6074942.05	61	2188765.24	6079051.94
30	2184661.97	6075129.76	62	2188957.16	6079146.31
31	2184768.45	6075311.57	63	2189155.87	6079224.68
32	2184885.18	6075486.37	64	2189359.92	6079288.50
33	2185013.08	6075654.50	65	2189568.08	6079336.35
34	2185150.96	6075813.77	66	2189780.06	6079363.29
35	2185296.78	6075965.81	67	2189993.10	6079381.66
36	2185361.49	6076027.32	68	2190184.01	6079380.75
37	2185446.48	6076104.66	69	2190205.28	6079379.84
38	2185589.11	6076244.95	70	2190304.92	6079380.91
39	2185809.23	6076448.75			
40	2185882.45	6076516.66			
41	2186037.39	6076645.17			
42	2186178.16	6076784.95			
43	2186329.48	6076918.39			
44	2186475.49	6077055.08			

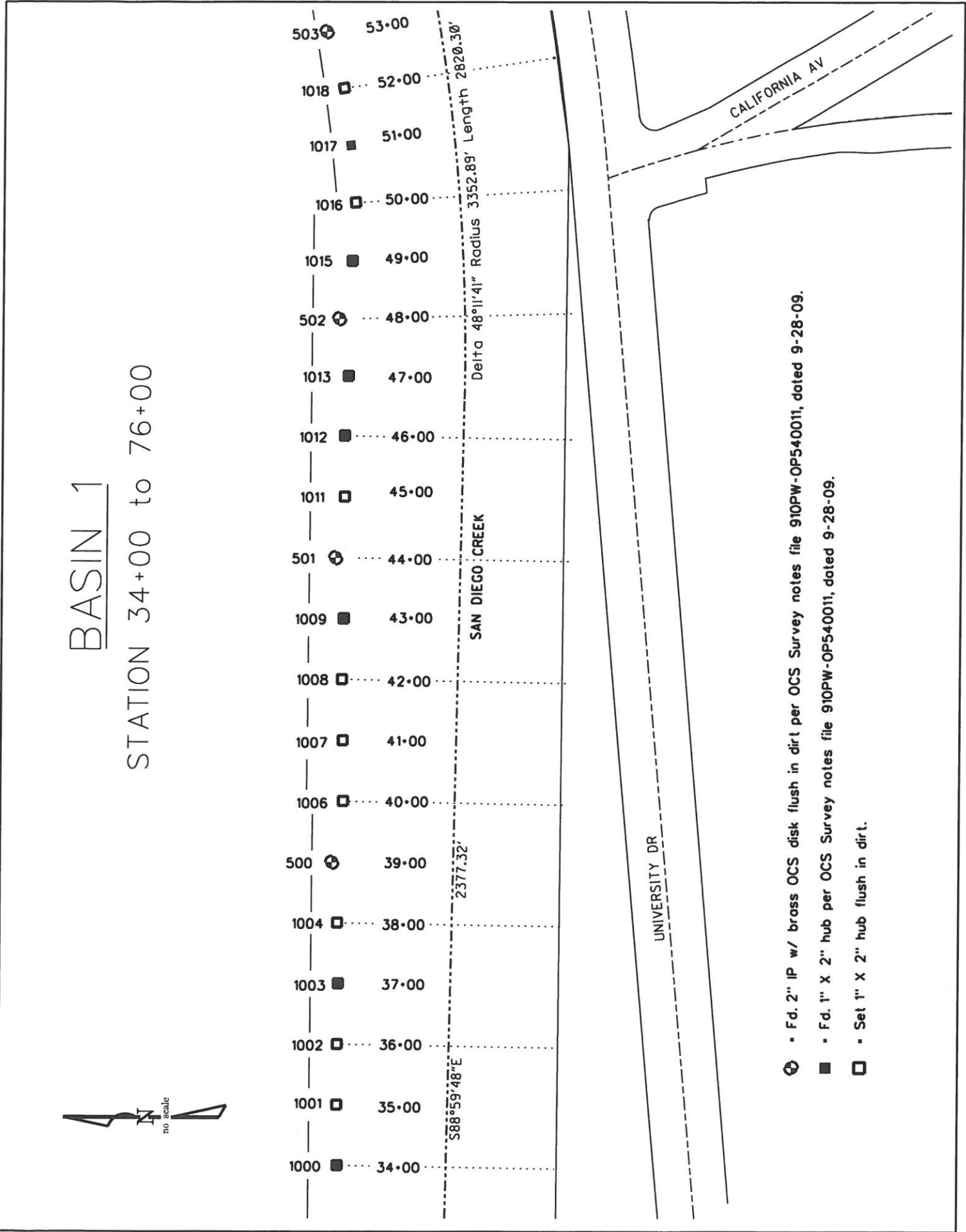
Horizontal Datum: NAD83 1990 OCS adjustment

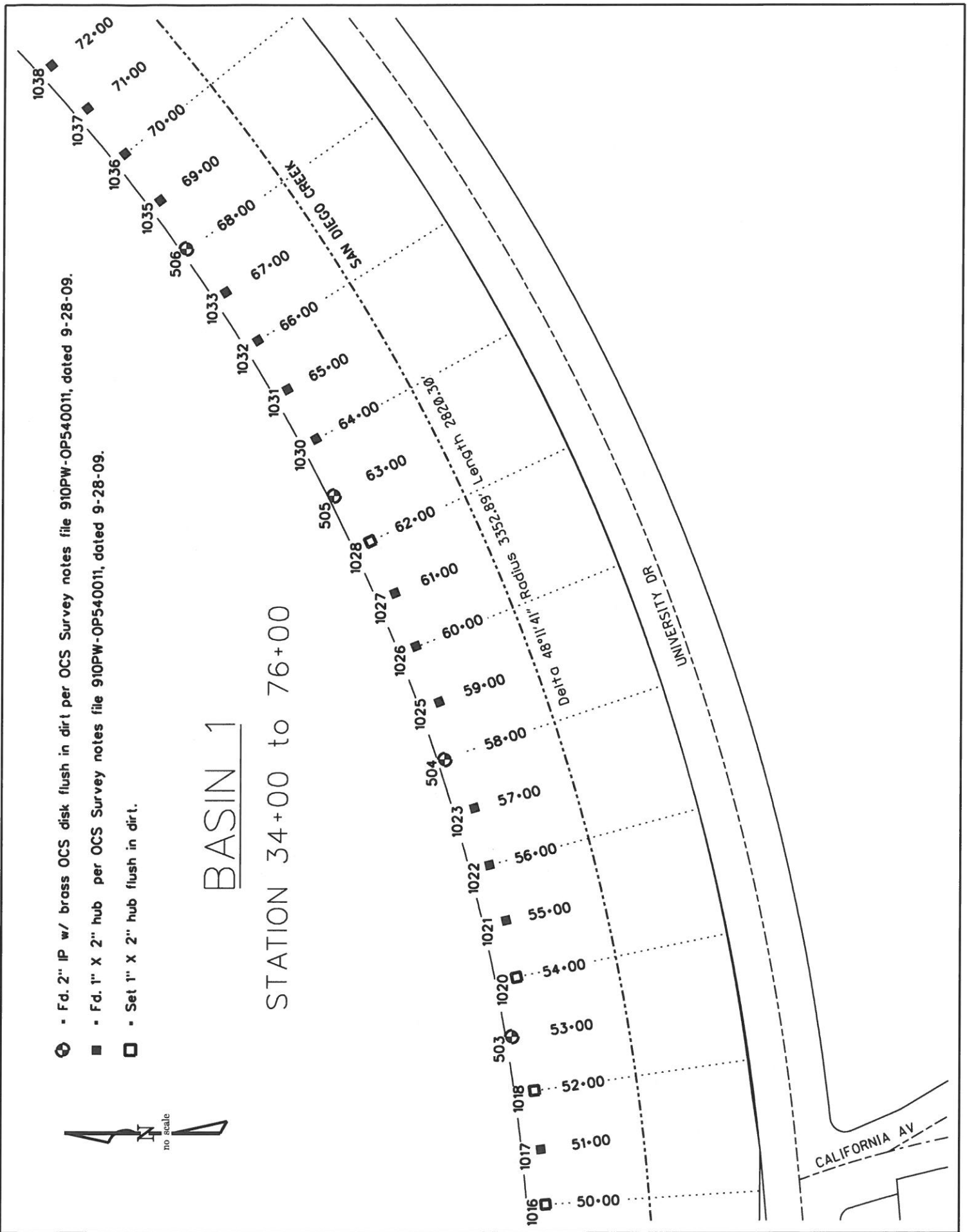
Vertical Datum: NGVD29 1995 adjustment

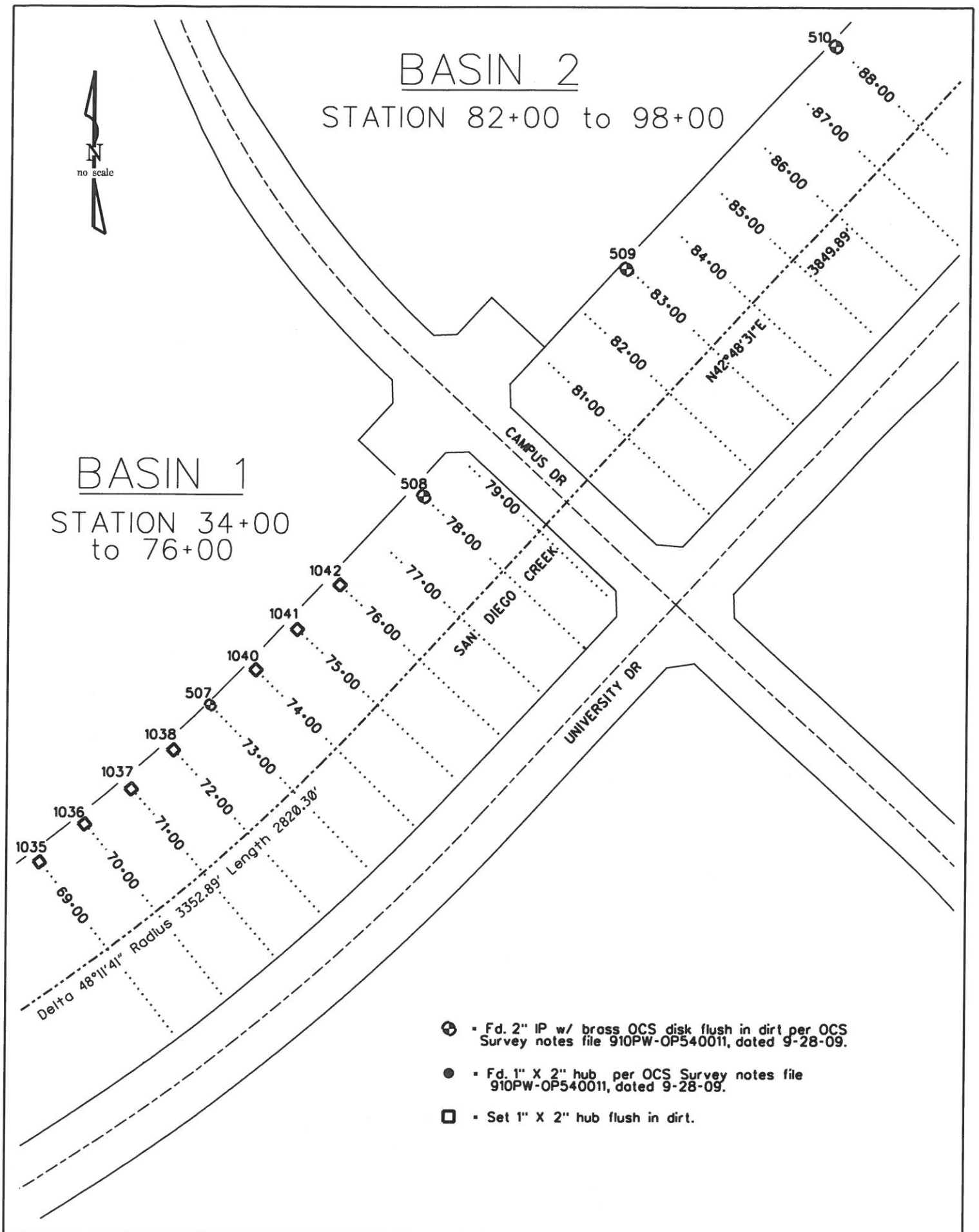
See Monument Summary Sheets 17-18 for values & descriptions

Fd. Hubs From 2009				1048	2186201.65	6076319.62	24.78
Pt ID	Northing	Easting	Elev.	1049	2186275.20	6076387.54	25.08
				1050	2186348.04	6076455.85	25.64
				1051	2186422.05	6076523.09	25.64
1000	2184611.78	6072115.58	20.25	1052	2186494.37	6076592.06	25.59
1001	2184613.21	6072215.64	21.09	1053	2186567.54	6076660.34	25.87
+1002	2184612.79	6072315.56	21.45	1054	2186641.12	6076728.13	25.87
1003	2184611.77	6072415.63	21.75	1055	2186713.91	6076796.69	25.95
+1004	2184613.89	6072515.56	22.76	1056	2186786.77	6076864.99	25.92
1005	2184608.59	6072615.58	21.62	1057	2186860.51	6076932.68	26.23
+1006	2184605.60	6072715.56	21.11	1058	2186933.56	6077000.88	26.01
+1007	2184606.89	6072815.55	22.54	1059	2187007.65	6077068.01	25.61
+1008	2184608.72	6072915.66	23.44	1060	2187081.33	6077135.77	25.96
1009	2184606.61	6073015.63	23.97	1061	2187154.67	6077203.84	26.45
1010	2184605.46	6073115.56	24.82	1062	2187228.20	6077271.54	25.53
+1011	2184606.26	6073215.69	25.57	1063	2187301.84	6077339.02	26.40
1012	2184606.75	6073315.76	25.04	1064	2187373.00	6077409.36	26.63
1013	2184601.46	6073413.57	25.21	1065	2187446.82	6077476.75	27.10
1014	2184602.43	6073507.75	27.35	1066	2187520.50	6077544.78	27.45
1015	2184596.41	6073602.51	24.79	1067	2187597.97	6077607.99	26.93
+1016	2184591.27	6073697.72	20.83	1068	2187668.26	6077679.28	26.99
1017	2184600.59	6073792.19	20.58	1069	2187741.86	6077747.10	27.08
+1018	2184611.11	6073886.43	20.04	1070	2187811.71	6077818.71	27.43
1019	2184626.05	6073980.15	20.33	1071	2187886.08	6077885.60	27.65
+1020	2184643.57	6074073.54	21.19	1072	2187960.59	6077952.30	27.83
1021	2184663.38	6074166.49	20.26	1073	2188035.80	6078018.37	27.97
1022	2184686.64	6074258.45	20.80	1074	2188107.96	6078087.57	28.19
1023	2184714.42	6074349.23	20.99	1075	2188181.83	6078155.05	28.18
1024	2184744.59	6074439.15	21.84	1076	2188256.55	6078221.60	27.62
1025	2184778.82	6074527.62	22.43	1077	2188329.02	6078290.48	27.44

Horizontal Datum: NAD83 1990 OCS adjustment
Vertical Datum: NGVD29 1995 adjustment
Found Scour Control From 2009 Survey.







BASIN 3
STATION 100+00
to 135+00

BASIN 2
STATION 82+00
to 98+00

511

512

513

4031/

96.00
00
N42°48'31"E

UNIVERSITY DR

• F.d. 2" IP w/ brass OCS disk flush in dirt per OCS Survey notes file 910PW-OP540011, dated 9-28-09.

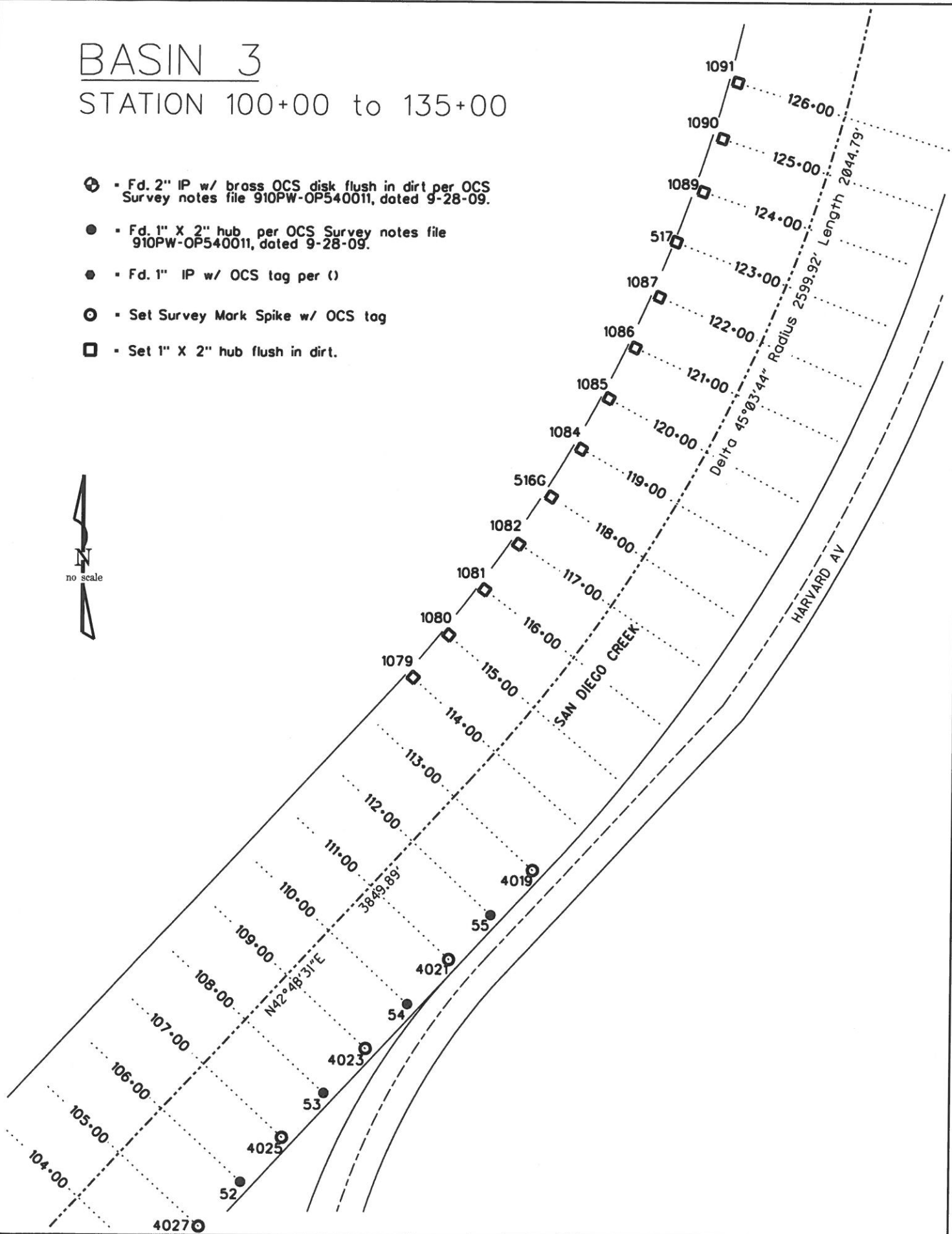
- ▪ Fd. 1" X 2" hub per OCS Survey notes file 910PW-OP540011, dated 9-28-09.

- Set 1" X 2" hub flush in dirt.

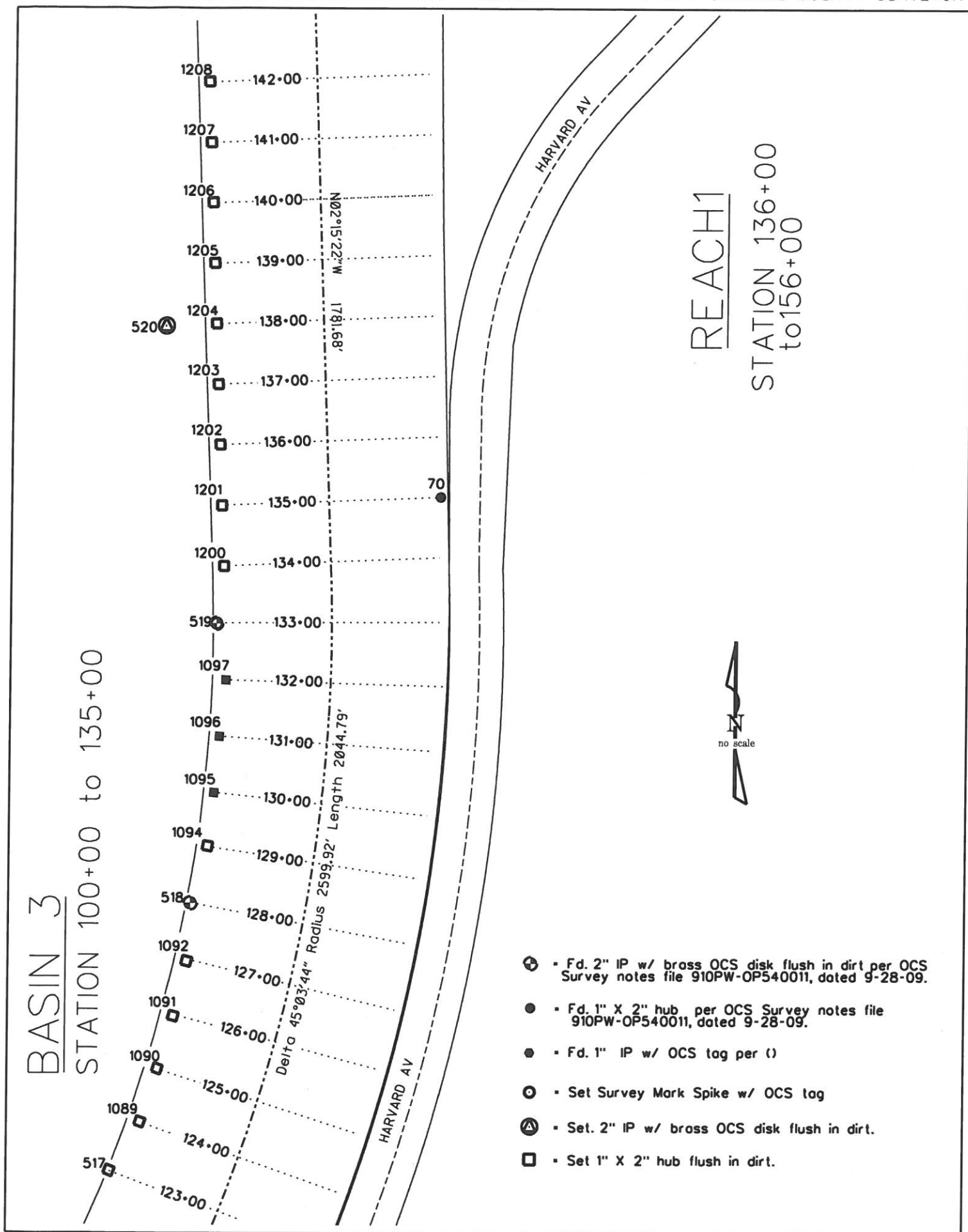
- Set Survey Mark Spike w/ OCS tag

STATION 100+00 to 135+00

-



CHECKED BY: IRF





- ❑ ▪ Set 1" X 2" hub flush in dirt.

STATION 136+00
to 156+00

no scale

Project : 8-23-12 SAN DIEGO CREEK BASIN 1, Generated: 08/27/2012 at 06:43:16, Level Line: 8-23-12 Line 001						
Pt Name	Back	Intmtd.	Fore	Elev.	Record Elev.	Description
3FF-7-77				23.56	[23.561]	Fd. 3-3/4" O.C.S. BENCHMARK stamped "3FF-7-77" set in concrete catch basin per O.C.S. Vertical Control Data Sheet. Year leveled 1991.
3FF-7-77	5.17					
1			5.59	23.15		TP 1
1	5.04					
2			5.96	22.23		TP 2
2	4.20					
3			4.75	21.67		TP 3
3	3.45					
4			4.59	20.53		TP 4
4	4.13					
5			3.12	21.54		TP 5
5	3.43					
3100		4.02		20.95		31+00, NOT A PART OF THIS SURVEY
3100						
6			9.15	15.82		TP 6
6	10.22					
3400		5.77		20.27		34+00/1000
3500		5.11		20.93		35+00/1001
3600		4.59		21.45		36+00/1002
3700		4.27		21.77		37+00/1003
3800		3.28		22.76		38+00/1004
7			2.97	23.06		TP 7
7	4.95					
500		6.41		21.61		39+00/500, per (1).
4000		6.90		21.11		40+00/1006
4100		5.48		22.54		41+00/1007
4200		4.57		23.44		42+00/1008
4300		4.08		23.94		43+00/1009
501			3.11	24.91		44+00/501, per (1).
501	5.39					
4500		5.00		25.29		45+00/1011
4600		5.37		24.92		46+00/1012
4700		5.07		25.22		47+00/1013
502			3.20	27.09		48+00/502, per (1).
502	1.50					
4900		3.77		24.81		49+00/1015
5000		7.76		20.83		50+00/1016
5100		8.09		20.50		51+00/1017
5100			8.09	20.50		51+00/1017
5100	5.25					
5200		5.70		20.04		52+00/1018
503			5.41	20.33		53+00/503, per (1).
503	5.75					
5400		4.88		21.19		54+00/1020
5500		5.78		20.30		55+00/1021
5600		5.25		20.83		56+00/1022
5700		5.03		21.05		57+00/1023
504			4.34	21.73		58+00/504, per (1).
504	5.88					
5900		5.10		22.51		59+00/1025
6000		5.54		22.07		60+00/1026
6100		5.40		22.21		61+00/1027
6200		5.24		22.37		62+00/1028
505			5.22	22.39		63+00/505, per (1).
505	5.76					
6400		5.77		22.38		64+00/1030
6400						

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 F05

Pt Name	Back	Intmtd.	Fore	Elev.	Record Elev.	Description
6500		5.48		22.67		65+00/1031
6500						
6600		5.51		22.64		66+00/1032
6600						
6700		5.27		22.88		67+00/1033
6700						
506			5.26	22.90		68+00/506, per (1).
506	5.95					
6900		5.68		23.16		69+00/1035
7000		5.18		23.67		70+00/1036
7100		5.43		23.41		71+00/1037
7200		5.18		23.66		72+00/1038
507			5.65	23.20		73+00/507, per (1).
507	6.28					
7400		6.05		23.43		74+00/1040
7500		5.51		23.97		75+00/1041
7600		5.57		23.91		76+00/1042
508			6.51	22.97		77+00/508, per (1).
508	11.44					
8			2.37	32.04		TP 8
8	6.56					
9			5.97	32.62		TP 9
9	5.04					
3FF-6-77			5.20	32.46	[32.481]	Fd. 3-3/4" O.C.S. BENCHMARK stamped "3FF-6-77" set in concrete catch basin per O.C.S. Vertical Control Data Sheet. Year leveled 1991.
Project : 9-4-12 SAN DIEGO CREEK BASIN 2, Generated: 09/05/2012 at 06:24:23, Level Line: 9-4-12 Line 001						
Pt Name	Back		Fore	Elev.	Record Elev.	Description
3FF-6-77					[32.481]	Fd. 3-3/4" O.C.S. BENCHMARK stamped "3FF-6-77" set in concrete catch basin per O.C.S. Vertical Control Data Sheet. Year leveled 1991.
3FF-6-77	4.7112					
1			3.8256	33.367		TP 1
1	2.8918					
2			9.8667	26.392		TP 2
2	3.6792					
3			4.4676	25.603		TP 3
3	4.6895					
509			5.5817	24.711		83+00/509, per (1).
509	6.2133					
4			4.3194	26.605		TP 4
4	4.5199					
510			5.3186	25.806		88+00/510, per (1).
510	5.5949					
5			4.2437	27.157		TP 5
5	4.7294					
511			5.8479	26.039		93+00/511, per (1).
511	5.538					
6			4.2581	27.319		TP 6
6	4.6769					
512			5.4446	26.551		103+00/512, per (1).
512	5.3897					
7			4.874	27.067		TP 7
7	4.7549					
8			4.9851	26.837		TP 8
8	4.5143					
9			4.7632	26.588		TP 9
9	4.1509					
10			5.1215	25.617		TP 10
10	10.936					

San Diego Creek
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Pt Name	Back	Intmdt.	Fore	Elev.	Record Elev.	Description
11			3.9234	32.63		TP 11
11	4.4867					
3FF-6-77			4.6439	32.472	[32.481]	Fd. 3-3/4" O.C.S. BENCHMARK stamped "3FF-6-77" set in concrete catch basin per O.C.S. Vertical Control Data Sheet. Year leveled 1991.

Project : 9-5-12 SAN DIEGO CREEK BASIN 2, Generated: 09/06/2012 at 06:53:39, Level Line: 9-5-12. Line 002

Pt Name	Back	Intmdt.	Fore	Elev.	Record Elev.	Description
512				26.551	[26.551]	Leveled per this survey level run 9-4-12 Line 001, per (1).
512	6.2837					
513			5.8631	26.972		513
513	5.8635					
512			6.279	26.556		Leveled per this survey level run 9-4-12 Line 001, per (1).
512	5.2065					
511			5.7196	26.043		Leveled per this survey level run 9-4-12 Line 001, per (1).

Project : 8-15-12 SAN DIEGO CREEK BASIN 3

Pt Name	Back	Intmdt.	Fore	Elev.	Record Elev.						
520				30.77		138+00/520 Set. 2" IP with OCS Brass Disk stamped "ORANGE COUNTY SURVEYOR" per this survey.					
520	5.1919										
521			4.7482	31.214		143+00/521 Set. 2" IP with OCS Brass Disk stamped "ORANGE COUNTY SURVEYOR" per this survey.					
521	5.1561										
1			12.4828	23.887		TP 1					
1	0.531										
79			0.244	24.174		79 Fd. 1" IP, no ref., leveled per this survey.					
79	0.2423										
2			0.5289	23.887		TP 2					
2	12.2289										
TBM		4.8374		31.279		TBM JM, Set ink + on AC berm, per this survey.					
521			4.897	31.219		143+00/521 Set. 2" IP with OCS Brass Disk stamped "ORANGE COUNTY SURVEYOR" per this survey.					
521	4.4988										
520			4.9372	30.781		138+00/520 Set. 2" IP with OCS Brass Disk stamped "ORANGE COUNTY SURVEYOR" per this survey.					

Project : 8-17-12 SAN DIEGO CREEK BASIN 3

Pt Name	Back	Intmdt.	Fore	Elev.	Record Elev.						
TBM				31.279		TBM JM, Set ink + on AC berm, per this survey.					
TBM	4.8351										
1			4.8338	31.28		TP 1					
JM	4.4802										
75			4.8317	30.929		75					
75	4.7004										
73			5.0836	30.546		73					
73	5.1711										
72			4.5342	31.183		72					
72	6.0566										
300			3.4534	33.786		300					
300	4.766										
71			7.0557	31.496		71					
71	7.6005										
2			5.3112	33.785		TP 2					
TP	3.4397										
TP			6.0427	31.182		72					
TP	4.594										
TBM			4.4996	31.277		TBM JM, Set ink + on AC berm, per this survey.					

San Diego Creek
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Pt Name	Back	Intmdt.	Fore	Elev.	Record Elev.	Description
Project : 8-29-12 SAN DIEGO CREEK BASIN 3, Generated: 30/08/2012 at 14:28:12, Level Line: 8-29-12 Line 001						
Pt Name	Back	Intmdt.	Fore	Elev.	Record Elev.	Description
71				31.496	[31.496]	PT. 71 PER MORENO LEVEL RUN 8-17-12
71	4.5081					
1			5.5905	30.414		TP 1
1	5.1997					
2			5.5416	30.072		TP 2
2	3.7546					
3			4.7347	29.092		TP 3
3	5.2738					
4			5.0625	29.303		TP 4
4	4.7162					
5			5.9846	28.035		TP 5
5	5.1565					
113		4.7083		28.483		113+00/4019
112			5.5293	27.662		112+00/55
112	4.8875					
111		4.3603		28.189		111+00/4021
110			5.3644	27.185		110+00/54
110	6.0792					
109		5.0235		28.241		109+00/4023
108			5.5871	27.677		108+00/53
108	5.6664					
107		4.9062		28.437		107+00/4025
106			6.0123	27.331		106+00/52
106	5.4332					
105		4.7648		28		105+00/4027
6			5.3714	27.393		TP 6
6	4.4277					
7			4.5915	27.229		TP 7
7	4.7856					
8			5.9609	26.054		TP 8
8	1.6499					
9			8.875	18.829		TP 9
9	2.7754					
10			6.0564	15.548		TP 10
10	6.9993					
11			1.9218	20.625		TP 11
11	8.5078					
12			3.0295	26.104		TP 12
12	5.3579					
13			5.2741	26.187		TP 13
13	5.0121					
14			5.1091	26.09		TP 14
14	4.9101					
15			4.8362	26.164		TP 15
15	4.3549					
16			1.079	29.44		TP 16
16	6.5213					
3FF-6-77			3.509	32.453	[32.481]	Fd. 3-3/4" O.C.S. BENCHMARK stamped "3FF-6-77" set in concrete catch basin per O.C.S. Vertical Control Data Sheet. Year leveled 1990.
Project : 9-27-12 SAN DIEGO CREEK BASIN 3, Generated: 10/01/2012 at 10:50:36, Level Line: 9-27-12 Line 001						
Pt Name	Back		Fore	Elev.	Record Elev.	Description
4027				28.000	[28.000]	Leveled per this survey level run 8-29-2012 Line 001.

Pt Name	Back	Intmdt.	Fore	Elev.	Record Elev.	Description
4027	4.3182					
4031			5.4457	26.873		4031
4031	5.4362					
4027			4.3106	27.998	[28.000]	Leveled per this survey level run 8-29-2012 Line 001.
4027	4.8027					
4025			4.3577	28.443	[28.437]	Leveled per this survey level run 8-29-2012 Line 001.

Project : 8-29-12 SAN DIEGO CREEK BASIN 3, Generated: 30/08/2012 at 14:28:48, Level Line: 8-29-12 Line 002

Pt Name	Back	Intmdt.	Fore	Elev.	Record Elev.	Description
519				31.54	[31.54]	Per (1).
519	5.385					
132		5.715		31.21		132+00
131		5.5437		31.381		131+00
130		4.9362		31.989		130+00
129		6.0994		30.826		129+00
518			6.3499	30.575		128+00/518, per (1).
518	5.6305					
127		5.3453		30.86		127+00
126		5.1531		31.053		126+00
125		5.2364		30.969		125+00
124		5.7067		30.499		124+00
517			6.1511	30.055		123+00/517, per (1).
517	4.6874					
122		4.7738		29.968		122+00
121		4.8921		29.85		121+00
120		5.6964		29.046		120+00
119		5.8589		28.883		119+00
119						
516			5.8165	28.926		118+00/516
516	5.1279					
117		5.2147		28.839		117+00
116		5.989		28.064		116+00
115		6.8653		27.188		115+00
114			6.5294	27.524		114+00
114	6.527					
516			5.1315	28.919		113+00/516
516	5.9536					
517			4.8155	30.058		517 TP
517	6.2996					
518			5.7823	30.575	[30.57]	518

Project : 7-31-12 SAN DIEGO CREEK BASIN Sta. 135+00 to Sta. 156+00, Generated: 08/07/2012 at 13:22:20, Level Line: 8-7-12 Line 002

Pt Name	Back	Intmdt.	Fore	Elev.	Record Elev.	Description
519					[31.54]	Fd. 2" IP with OCS Brass Disk stamped "ORANGE COUNTY SURVEYOR" per (1).
519	4.9608					
134		4.9409		31.56		134+00/1200
135			4.3745	32.126		135+00/1201
135	5.3499					
136		5.1466		32.33		136+00/1202
1			3.9037	33.573		TP 1
1	4.4759					
137		4.6511		33.397		137+00/1203
138		7.487		30.561		138+00/1204
520			7.2831	30.765		138+00/520 2" IP
520	4.8388					
139		5.6224		29.982		139+00/1205
140			5.2835	30.321		140+00/1206

