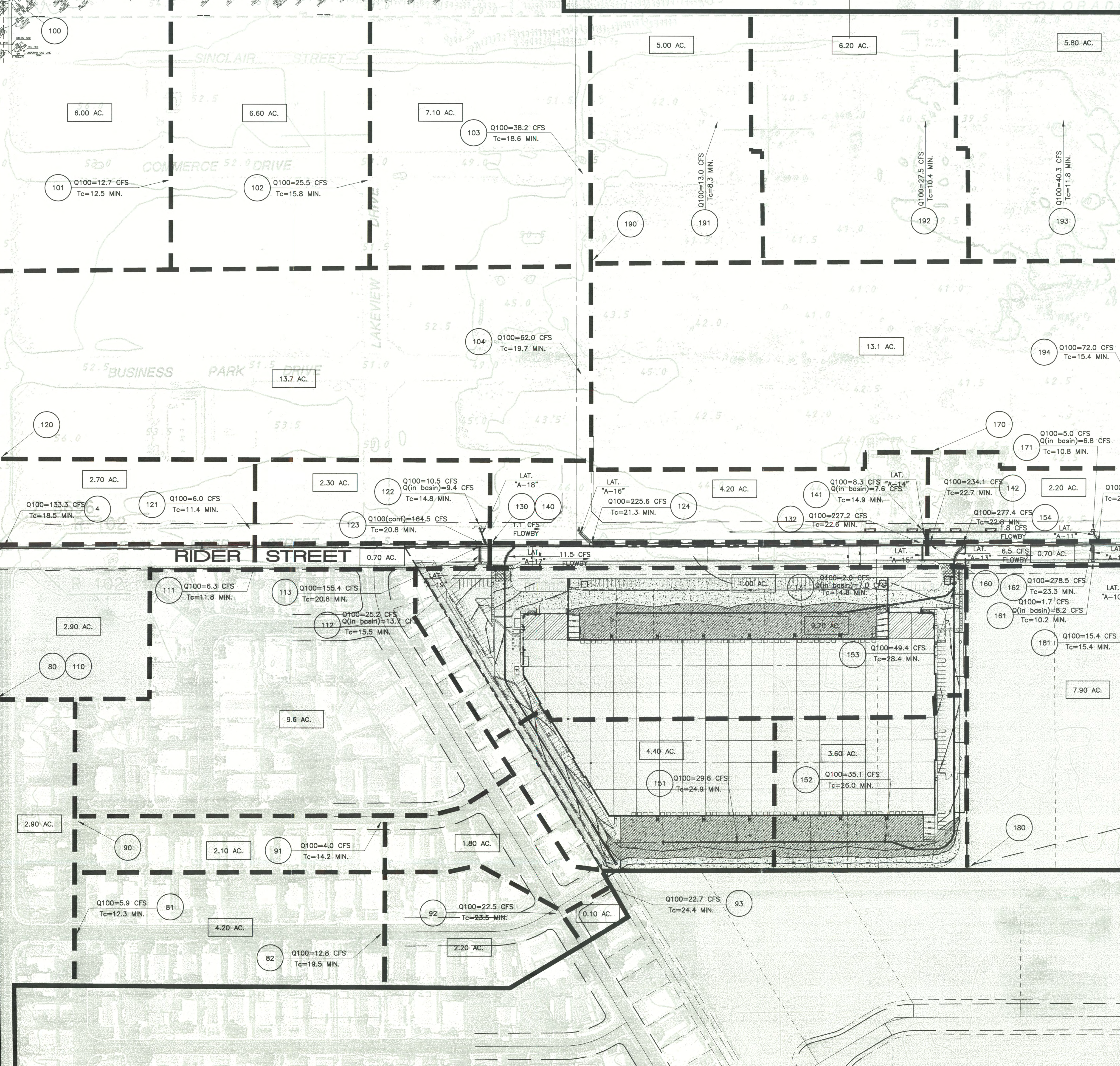
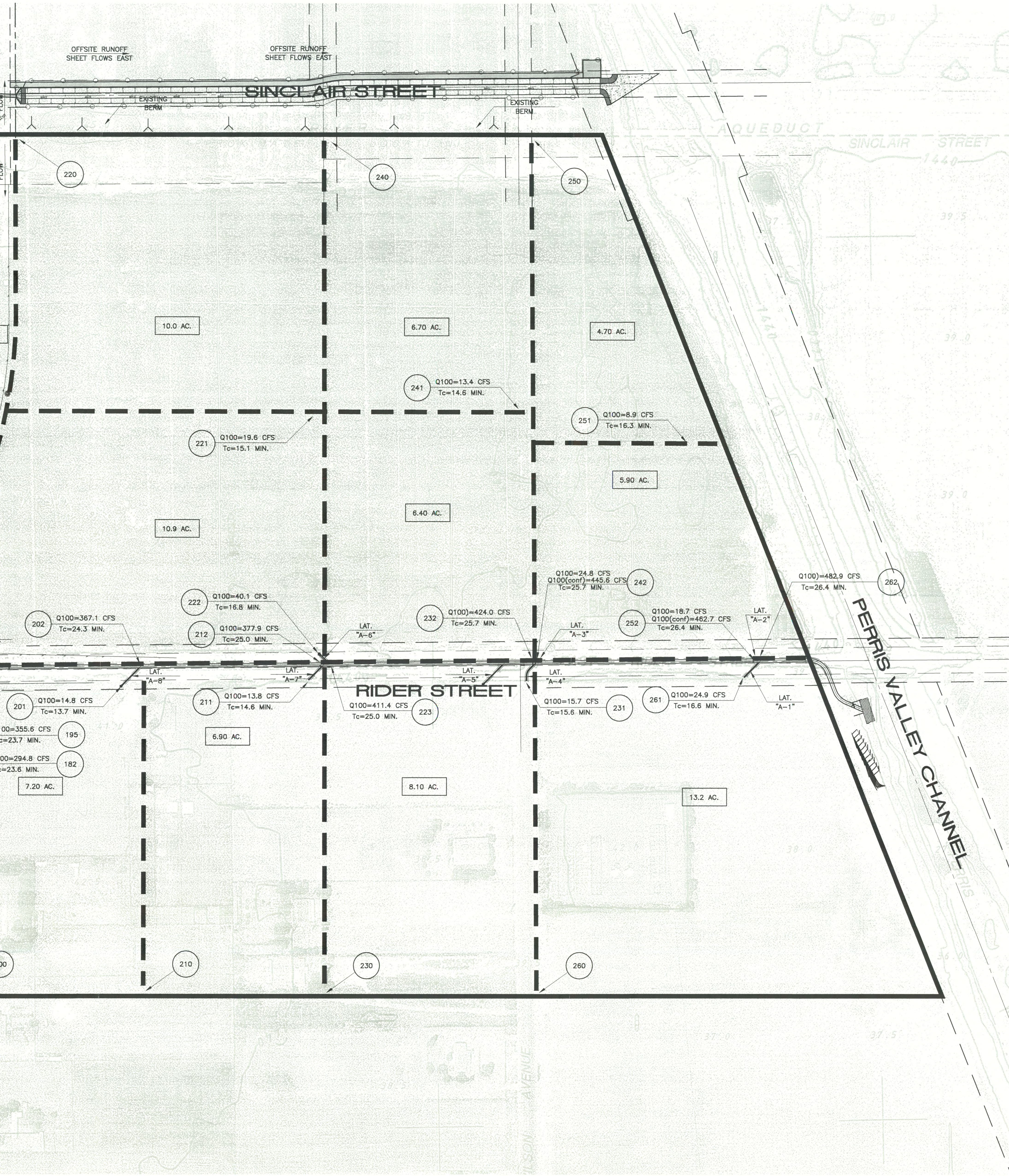


SEE PERRIS VALLEY HYDROLOGY FOR LATERAL H-1

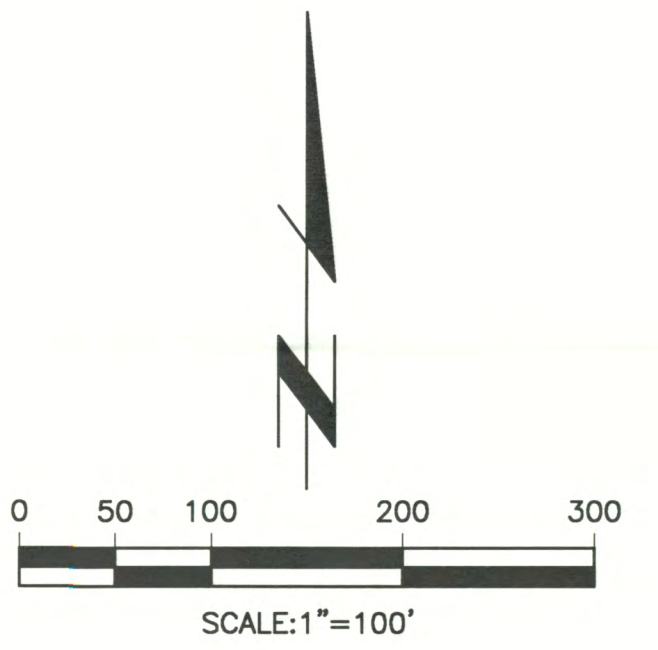
PERRIS BLVD.

REDLANDS AVENUE





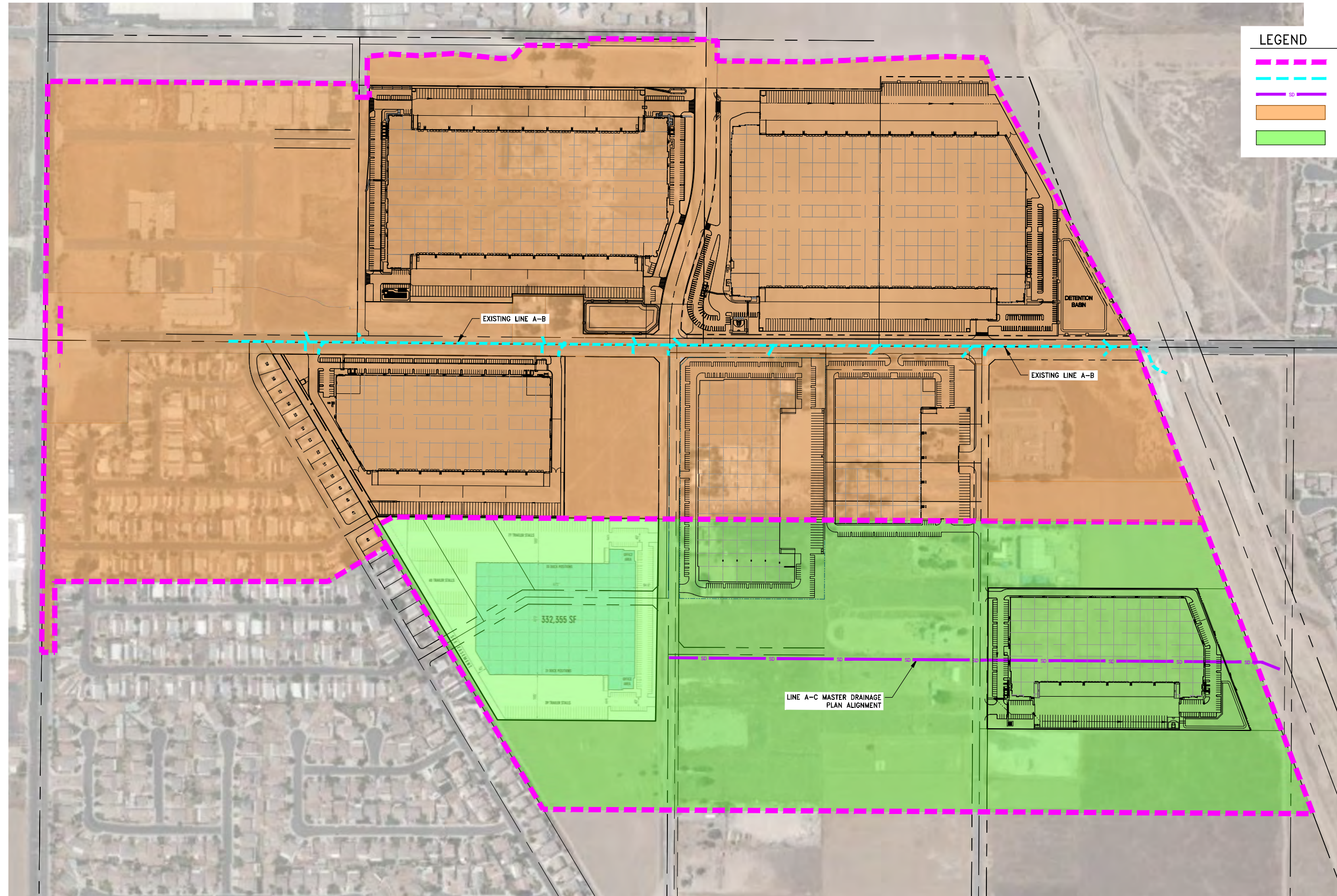
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	PROJECT BOUNDARY
	SUBAREA BOUNDARY
	SUBAREA AREA
	NODE NUMBER
	ANTICIPATED PONDING AREA



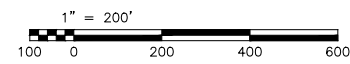
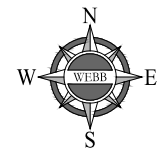
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CITY OF PERRIS PUBLIC WORKS DEPARTMENT	
HYDROLOGY MAP PROPOSED CONDITIONS PERRIS VALLEY MDP LINE A-B (RIDER ST.)	
Designed by _____ Date _____ Checked by _____ Date _____	Approved by _____ Date _____ Public Works Director R.C.E. 28129
Sheet 2 of 2 Sheets	2702 / 2 OF 2 SHEET

Thienes Engineering, Inc.
 CIVIL ENGINEERING • LAND SURVEYING
 14348 FIRESTONE BOULEVARD
 LA MIRADA, CALIFORNIA 90638
 PH: (714) 521-4811 FAX: (714) 521-4173



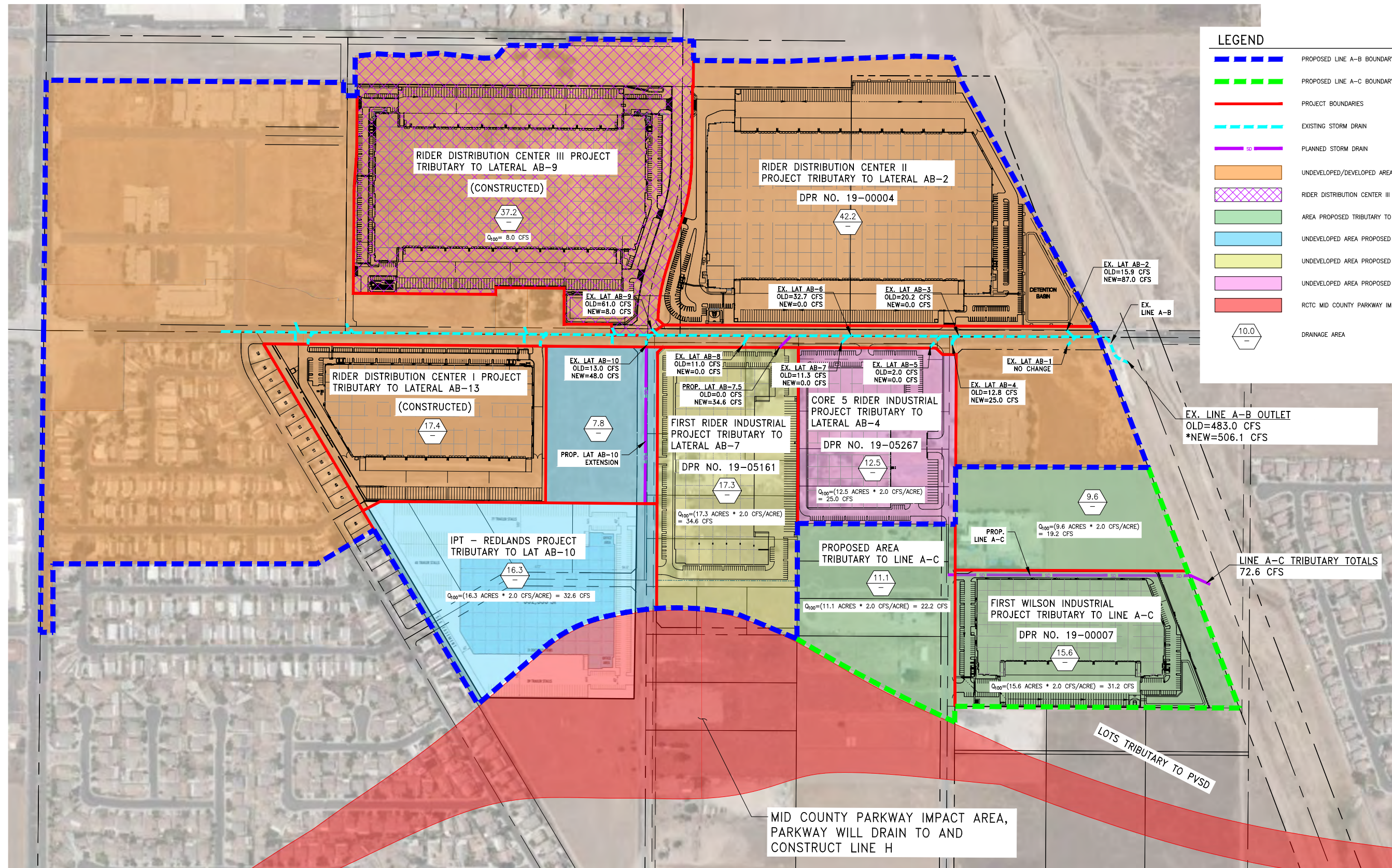
LEGEND	
	ORIGINAL LINE A-B, LINE A-C BOUNDARY
	EXISTING STORM DRAIN
	PLANNED STORM DRAIN
	UNDEVELOPED/DEVELOPED AREA CURRENTLY TRIBUTARY TO LINE A-B
	UNDEVELOPED/DEVELOPED AREA CURRENTLY TRIBUTARY TO LINE A-C



CITY OF PERRIS		
LINE A-B, LINE A-C ORIGINAL TRIBUTARIES		
SCALE: AS SHOWN	ALBERT A. WEBB ASSOCIATES ENGINEERING CONSULTANTS 3788 MCCRAY STREET RIVERSIDE CA 92506 PH. (951) 686-1070 FAX (951) 788-1256	W.O. 18-0305
DATE: 1/30/20		SHEET 1
DESIGNED: TSW		OF 2 SHEETS
CHECKED: DJA		DWG. NO.
PLN CK REF:		
F.B.		

PERRY

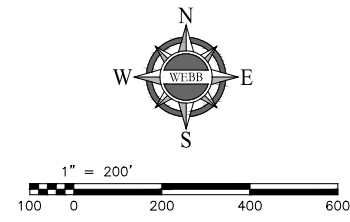
G:\2018\18-0305\DRAINAGE\PHOTO\DWG FOLDER\LINEAB_LINEAC_TRIBUTARIES.DWG 1/29/2020 6:09:16 PM



LEGEND

- - - PROPOSED LINE A-B BOUNDARY
- - - PROPOSED LINE A-C BOUNDARY
- - - PROJECT BOUNDARIES
- - - EXISTING STORM DRAIN
- - - PLANNED STORM DRAIN
- UNDEVELOPED/DEVELOPED AREA CURRENTLY TRIBUTARY TO LINE A-B
- RIDER DISTRIBUTION CENTER III - MITIGATES FLOWS FROM 72 CFS TO 8 CFS
- AREA PROPOSED TRIBUTARY TO LINE A-C
- UNDEVELOPED AREA PROPOSED TRIBUTARY TO LATERAL AB-10
- UNDEVELOPED AREA PROPOSED TRIBUTARY TO LATERAL AB-7
- UNDEVELOPED AREA PROPOSED TRIBUTARY TO LATERAL AB-4
- RCTC MID COUNTY PARKWAY IMPACT AREA
- 10.0 DRAINAGE AREA

***NOTE**
 NEW OUTLET FLOWRATE IS GREATER THAN OLD OUTLET FLOWRATE BECAUSE OF AREA-YIELD FLOW REALLOCATION METHOD. THIS WAS DONE TO BE MORE CONSERVATIVE IN THE REVISED HYDRAULIC MODEL EVALUATION. THE AREA-YIELD METHOD IS MORE CONSERVATIVE BECAUSE IT IGNORES STREAM CONFLUENCES WHICH CAN LOWER THE TRIBUTARY FLOWRATES.



CITY OF PERRIS

LINE A-B, LINE A-C
 PROPOSED TRIBUTARIES

SCALE: AS SHOWN	ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS	W.O. 18-0305
DATE: 1/30/20		3788 McCRAY STREET	SHEET 2
DESIGNED: TSW		RIVERSIDE CA 92506	OF 2 SHEETS
CHECKED: DJA		PH. (951) 686-1070	DWG. NO.
PLN CK REF:		FAX (951) 788-1256	

G:\2018\18-0305\DRAINAGE\PHOTO\DRAINAGE\LINEAC_TRIBUTARIES.DWG 1/29/2020 6:09:16 PM

**Appendix B: Line A-B Original and Revised Hydraulics,
Plan and Profile**

FILE: LINEABORIGINAL.WSW
 Date: 1-27-2020 Time:10:17:39

LINEABORIGINAL.EDT
 W S P G W - EDIT LISTING - Version 14.06

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD Y(6)	SECT Y(7)	CHN Y(8)	NO OF Y(9)	AVE PIER Y(10)	HEIGHT 1	BASE	ZL	ZR	INV	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)
CODE	NO	TYPE	PIER/PIP	WIDTH	DIAMETER	WIDTH			DROP					
CD	2	4	1		2.000									
CD	3	4	1		2.500									
CD	6	4	1		3.000									
CD	8	4	1		1.500									
CD	9	4	1		3.500									
CD	1	6	0		.000									
CD	4	6	0		.000									
CD	5	6	0		.000									
CD	6	6	0		.000									
CD	7	6	0		.000									

FILE:
 Date: 1-27-2020 Time:10:17:39

W S P G W - EDIT LISTING - Version 14.06

WATER SURFACE PROFILE - CROSS SECTION POINT LISTING

CARD , Y(6)	SECT X(7)	NO OF Y(7)	X(1), Y(1)	X(2), Y(2)	X(3), Y(3)	X(4), Y(4)	X(5), Y(5)	X(6)
CODE X(N+1), Y(N+1)	NO	POINTS X(35), Y(35)	X(8), Y(8)	X(9), Y(9)	X(10), Y(10)	X(11), Y(11)	X(N), Y(N)	
PTS	1	8	1.000 7.330	1.000 1.670	1.670 1.670	1.000 8.330	1.000 9.000	
1.670	9.000	7.330	8.330 8.000					
PTS	4	8	1.000 5.330	1.000 1.670	1.670 1.000	7.330 1.000	8.000	
1.670	8.000	5.330	7.330 6.000					
PTS	5	8	1.000 4.830	1.000 1.670	1.670 1.000	7.330 1.000	8.000	
1.670	8.000	4.830	7.330 5.500					
PTS	6	8	1.000 4.420	1.000 1.580	1.580 1.000	6.420 1.000	7.000	
1.580	7.000	4.420	6.420 5.000					
PTS	7	8	1.000 6.330	1.000 1.670	1.670 1.000	8.330 1.000	9.000	
1.670	9.000	6.330	8.330 7.000					
PTS			1.670 7.000					

W S P G W

PAGE NO 1

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

LINE A-B HYDRAULIC MODEL - ORIGINAL TRIBUTARIES

HEADING LINE NO 2 IS -

FN:LINEABORIGINAL.WSW

HEADING LINE NO 3 IS -

W S P G W

PAGE NO 2

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO	1 IS A	SYSTEM OUTLET	U/S DATA	STATION	INVERT	SECT	W S ELEV
				997.600	1426.790	1	1433.000
ELEMENT NO	2 IS A	REACH	U/S DATA	STATION	INVERT	SECT	RADIUS
ANGLE	ANG PT	MAN H		1019.840	1426.870	1	.013
.000	.000	0					.000
ELEMENT NO	3 IS A	REACH	U/S DATA	STATION	INVERT	SECT	RADIUS
ANGLE	ANG PT	MAN H		1055.180	1426.990	1	.014
45.000	.000	0					44.996
ELEMENT NO	4 IS A	REACH	U/S DATA	STATION	INVERT	SECT	RADIUS
ANGLE	ANG PT	MAN H		1099.820	1427.160	1	.013
.000	.000	0					.000
ELEMENT NO	5 IS A	REACH	U/S DATA	STATION	INVERT	SECT	RADIUS
ANGLE	ANG PT	MAN H		1154.080	1427.350	1	.014
-69.080	.000	0					45.004
ELEMENT NO	6 IS A	REACH	U/S DATA	STATION	INVERT	SECT	RADIUS

LINEABORIGINAL.EDT

ANGLE ANG PT MAN H 1263.330 1427.730 1 .013 .000
 .000 .000 1
 ELEMENT NO 7 IS A JUNCTION * * * * *
 U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3
 INVERT-4 PHI 3 PHI 4 1263.330 1427.740 1 3 0 .013 21.100 .000 1428.810
 .000 -45.000 .000
 RADIUS
 ANGLE .000

REMARKS: EXISTING TRIBUTARY TO LATERAL AB-1

ELEMENT NO 8 IS A REACH * * *
 U/S DATA STATION INVERT SECT N RADIUS
 ANGLE ANG PT MAN H 1275.330 1427.760 1 .013 .000
 .000 .000 0
 ELEMENT NO 9 IS A JUNCTION * * * * *
 U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3
 INVERT-4 PHI 3 PHI 4 1275.330 1427.770 1 2 0 .013 15.900 .000 1428.840
 .000 45.000 .000
 RADIUS
 ANGLE .000

W S P G W

PAGE NO 3

REMARKS: EXISTING TRIBUTARY TO LATERAL AB-2 WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 10 IS A REACH * * *
 U/S DATA STATION INVERT SECT N RADIUS
 ANGLE ANG PT MAN H 1758.820 1429.460 1 .013 .000
 .000 .000 0
 ELEMENT NO 11 IS A JUNCTION * * * * *
 U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3
 INVERT-4 PHI 3 PHI 4 1758.820 1429.470 1 3 0 .013 20.200 .000 1430.540
 .000 45.000 .000
 RADIUS
 ANGLE .000

REMARKS: EXISTING TRIBUTARY TO LATERAL AB-3

ELEMENT NO 12 IS A REACH * * *
 U/S DATA STATION INVERT SECT N RADIUS
 ANGLE ANG PT MAN H 1771.510 1429.500 1 .013 .000
 .000 .000 1
 ELEMENT NO 13 IS A JUNCTION * * * * *
 U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3
 INVERT-4 PHI 3 PHI 4 1777.510 1430.000 7 2 0 .013 12.800 .000 1430.000
 .000 -45.000 .000
 RADIUS
 ANGLE .000

REMARKS: EXISTING TRIBUTARY TO LATERAL AB-4

ELEMENT NO 14 IS A REACH * * *
 U/S DATA STATION INVERT SECT N RADIUS
 ANGLE ANG PT MAN H 1841.890 1430.190 7 .013 .000
 .000 .000 0
 ELEMENT NO 15 IS A JUNCTION * * * * *
 U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3
 INVERT-4 PHI 3 PHI 4 1841.890 1430.200 7 8 0 .013 2.000 .000 1431.690

Program Package Serial Number: 1585

Date: 1-27-2020 Time:10:17:40

WATER SURFACE PROFILE LISTING

LINE A-B HYDRAULIC MODEL - ORIGINAL TRIBUTARIES

FN:LINEABORIGINAL.WSW

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
I/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
997.600	1426.790	6.210	1433.000	483.00	9.81	1.49	1434.49	.00	4.89	8.00		1		0 .0
22.240	.0036					.0022	.05	6.21	.70	5.090	.013			IR-COV
1019.840	1426.870	6.148	1433.018	483.00	9.91	1.53	1434.54	.31	4.89	8.00		1		0 .0
35.340	.0034					.0026	.09	6.46	.71	5.512	.014			IR-COV
1055.180	1426.990	6.092	1433.082	483.00	10.00	1.55	1434.64	.00	4.89	8.00		1		0 .0
44.640	.0038					.0023	.10	6.09	.72	4.978	.013			IR-COV
1099.820	1427.160	5.951	1433.111	483.00	10.24	1.63	1434.74	.33	4.89	8.00		1		0 .0
54.260	.0035					.0028	.15	6.28	.74	5.447	.014			IR-COV
1154.080	1427.350	5.869	1433.219	483.00	10.39	1.67	1434.89	.00	4.89	8.00		1		0 .0
109.250	.0035					.0025	.27	5.87	.76	5.155	.013			IR-COV
1263.330	1427.730	5.631	1433.361	483.00	10.83	1.82	1435.18	.00	4.89	8.00		1		0 .0
JUNCT STR	.0000					.0020	.00	5.63	.81		.013			IR-COV
----- WARNING - Junction Analysis - Irregular Channel -----														
1263.330	1427.740	6.144	1433.884	461.90	9.48	1.40	1435.28	.00	4.75	8.00		1		0 .0
12.000	.0017					.0020	.02	6.14	.68	6.729	.013			IR-COV
1275.330	1427.760	6.152	1433.912	461.90	9.47	1.39	1435.31	.00	4.75	8.00		1		0 .0
JUNCT STR	.0000					.0017	.00	6.15	.68		.013			IR-COV
----- WARNING - Junction Analysis - Irregular Channel -----														

Program Package Serial Number: 1585

Date: 1-27-2020 Time:10:17:40

WATER SURFACE PROFILE LISTING

LINE A-B HYDRAULIC MODEL - ORIGINAL TRIBUTARIES

FN:LINEABORIGINAL.WSW

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Width	Top Dia.	Height/FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
I/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch	
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1275.330	1427.770	6.385	1434.155	446.00	8.81	1.20	1435.36	.00	4.64	7.89			1		0 .0
104.973	.0035					.0017	.18	6.39	.61	4.839	.013				IR-COV
1380.303	1428.137	6.090	1434.227	446.00	9.24	1.33	1435.55	.00	4.64	8.00			1		0 .0
103.418	.0035					.0019	.20	6.09	.66	4.839	.013				IR-COV
1483.721	1428.498	5.809	1434.307	446.00	9.69	1.46	1435.77	.00	4.64	8.00			1		0 .0
104.189	.0035					.0022	.23	5.81	.71	4.839	.013				IR-COV
1587.911	1428.863	5.541	1434.404	446.00	10.16	1.60	1436.01	.00	4.64	8.00			1		0 .0
108.172	.0035					.0025	.27	5.54	.76	4.839	.013				IR-COV
1696.083	1429.241	5.286	1434.527	446.00	10.66	1.76	1436.29	.00	4.64	8.00			1		0 .0
62.737	.0035					.0028	.17	5.29	.82	4.839	.013				IR-COV
1758.820	1429.460	5.156	1434.616	446.00	10.93	1.86	1436.47	.00	4.64	8.00			1		0 .0
JUNCT STR	.0000					.0020	.00	5.16	.85		.013				IR-COV
----- WARNING - Junction Analysis - Irregular Channel -----															
1758.820	1429.470	5.745	1435.215	425.80	9.36	1.36	1436.57	.00	4.50	8.00			1		0 .0
12.690	.0024					.0020	.03	5.75	.69	5.428	.013				IR-COV

Program Package Serial Number: 1585

Date: 1-27-2020 Time:10:17:40

WATER SURFACE PROFILE LISTING

LINE A-B HYDRAULIC MODEL - ORIGINAL TRIBUTARIES

FN:LINEABORIGINAL.WSW

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope				SF Ave	HF	SE Dpth	Froude N	"N"	X-Fall	ZR	Type Ch		
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1771.510	1429.500	5.738	1435.238	425.80	9.37	1.36	1436.60	.00	4.50	8.00	1			0 .0
JUNCT STR	.0833				.0021		.01	5.74	.69		.013			IR-COV
----- WARNING - Junction Analysis - Irregular Channel -----														
1777.510	1430.000	4.966	1434.966	413.00	10.51	1.72	1436.68	.00	4.41	8.00	7			0 .0
64.380	.0030				.0028		.18	4.97	.84	4.869	.013			IR-COV
1841.890	1430.190	4.939	1435.129	413.00	10.57	1.74	1436.86	.00	4.41	8.00	7			0 .0
JUNCT STR	.0000				.0027		.00	4.94	.84		.013			IR-COV
----- WARNING - Junction Analysis - Irregular Channel -----														
1841.890	1430.200	5.010	1435.210	411.00	10.37	1.67	1436.88	.00	4.40	8.00	7			0 .0
372.403	.0030				.0027		1.01	5.01	.82	4.824	.013			IR-COV
2214.293	1431.314	4.824	1436.138	411.00	10.78	1.80	1437.94	.00	4.40	8.00	7			0 .0
21.917	.0030				.0030		.07	4.82	.87	4.824	.013			IR-COV
2236.210	1431.380	4.824	1436.204	411.00	10.78	1.80	1438.01	.00	4.40	8.00	7			0 .0
JUNCT STR	.0000				.0017		.00	4.82	.87		.013			IR-COV
----- WARNING - Junction Analysis - Irregular Channel -----														

Program Package Serial Number: 1585

Date: 1-27-2020 Time:10:17:40

WATER SURFACE PROFILE LISTING

LINE A-B HYDRAULIC MODEL - ORIGINAL TRIBUTARIES

FN:LINEABORIGINAL.WSW

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Width	Top Dia.	Height/FT or I.D.	Base Wt	No Wth Prs/Pip	
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch	
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
2236.210	1431.390	5.733	1437.123	378.30	8.36	1.09	1438.21	.00	4.17	7.19		7	0	.0	
13.200	.0023				.0017	.02		5.73	.59	5.029	.013			IR-COV	
2249.410	1431.420	5.721	1437.141	378.30	8.38	1.09	1438.23	.00	4.17	7.22		7	0	.0	
JUNCT STR	.0000				.0015	.00		5.72	.59		.013			IR-COV	
----- WARNING - Junction Analysis - Irregular Channel -----															
2249.410	1431.430	5.862	1437.292	367.00	7.95	.98	1438.27	.00	4.08	6.94		7	0	.0	
145.077	.0030				.0015	.22		5.86	.54	4.436	.013			IR-COV	
2394.487	1431.861	5.565	1437.426	367.00	8.34	1.08	1438.51	.00	4.08	7.53		7	0	.0	
129.256	.0030				.0017	.22		5.57	.61	4.436	.013			IR-COV	
2523.743	1432.246	5.302	1437.548	367.00	8.74	1.19	1438.73	.00	4.08	8.00		7	0	.0	
127.201	.0030				.0019	.24		5.30	.67	4.436	.013			IR-COV	
2650.944	1432.624	5.058	1437.682	367.00	9.17	1.31	1438.99	.00	4.08	8.00		7	0	.0	
39.056	.0030				.0021	.08		5.06	.72	4.436	.013			IR-COV	
2690.000	1432.740	4.989	1437.729	367.00	9.30	1.34	1439.07	.00	4.08	8.00		7	0	.0	
JUNCT STR	.0000				.0018	.00		4.99	.74		.013			IR-COV	
----- WARNING - Junction Analysis - Irregular Channel -----															

Program Package Serial Number: 1585

Date: 1-27-2020 Time:10:17:40

WATER SURFACE PROFILE LISTING

LINE A-B HYDRAULIC MODEL - ORIGINAL TRIBUTARIES

FN:LINEABORIGINAL.WSW

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Width	Top Dia.	Height/FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch	
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
2690.000	1432.750	5.237	1437.987	356.00	8.59	1.15	1439.13	.00	4.00	8.00			7		0 .0
119.113	.0030				.0018		.22	5.24	.67	4.321	.013				IR-COV
2809.113	1433.107	4.995	1438.102	356.00	9.01	1.26	1439.36	.00	4.00	8.00			7		0 .0
127.524	.0030				.0020		.26	5.00	.71	4.321	.013				IR-COV
2936.636	1433.490	4.765	1438.255	356.00	9.45	1.39	1439.64	.00	4.00	8.00			7		0 .0
146.853	.0030				.0023		.34	4.77	.77	4.321	.013				IR-COV
3083.490	1433.930	4.553	1438.483	356.00	9.90	1.52	1440.00	.00	4.00	8.00			7		0 .0
JUNCT STR	.0029				.0033		.03	4.55	.82		.013				IR-COV
----- WARNING - Junction Analysis - Irregular Channel -----															
3093.930	1433.960	5.172	1439.132	295.00	8.65	1.16	1440.29	.00	3.87	5.66			4		0 .0
22.540	.0031				.0033		.07	5.17	.62	4.244	.013				IR-COV
3116.470	1434.030	5.176	1439.206	295.00	8.65	1.16	1440.37	.00	3.87	5.66			4		0 .0
JUNCT STR	.0000				.0030		.00	5.18	.62		.013				IR-COV
----- WARNING - Junction Analysis - Irregular Channel -----															
3116.470	1434.040	5.331	1439.371	282.00	8.27	1.06	1440.43	.00	3.76	5.66			4		0 .0
154.900	.0029				.0030		.46	5.33	.59	4.208	.013				IR-COV

LINEABREVISED.WSW

T1 LINE A-B HYDRAULIC MODEL - REVISED TRIBUTARIES
T2 FN:LINEABREVISED.WSW

SO	997.6001426.790	1				1433.000							
R	1019.8401426.870	1	.013				.000	.000	0				
R	1055.1801426.990	1	.014				45.000	.000	0				
R	1099.8201427.160	1	.013				.000	.000	0				
R	1154.0801427.350	1	.014				-69.080	.000	0				
R	1263.3301427.730	1	.013				.000	.000	1				
JX	1263.3301427.740	1	3	.013	21.100	1428.810	-45.0		0.000				
REM	TRIBUTARY TO LATERAL AB-1												
R	1275.3301427.760	1	.013				.000	.000	0				
JX	1275.3301427.770	1	2	.013	87.000	1428.840	45.0		0.000				
REM	REVISED TRIBUTARY TO LATERAL AB-2 FROM RIDER II DISTRIBUTION CENTER,												
REM	NO DISCHARGE FROM LATERAL AB-3 AND AB-6												
R	1771.5101429.500	1	.013				.000	.000	1				
JX	1777.5101430.000	7	2	.013	25.000	1430.000	-45.0		0.000				
REM	REVISED TRIBUTARY TO LATERAL AB-4 FROM CORE 5 RIDER INDUSTRIAL,												
REM	NO DISCHARGE FROM LATERAL AB-5 AND AB-7												
R	2500.0001432.170	7	.013				.000	.000	0				
JX	2510.0001432.180	7	2	.013	35.000	1432.800	-45.0		0.000				
REM	TRIBUTARY TO LATERAL AB-7.5 AND TOTAL RUNOFF FROM FIRST RIDER INDUSTRIAL PROJECT,												
REM	NO DISCHARGE FROM LATERAL AB-8												
R	3083.4901433.930	7	.013				.000	.000	1				
JX	3093.9301433.960	4	9	.013	8.000	1434.520	45.0		0.000				
REM	THE FLOW RATE FOR LATERAL AB-9 HAS BEEN CHANGED TO ACCOUNT FOR PUMPED FLOW LEAVING RIDER 3 SITE												
R	3116.4701434.030	4	.013				.000	.000	0				
JX	3116.4701434.040	4	2	.013	48.000	1434.620	45.0		0.000				
REM	REVISED TRIBUTARY TO LATERAL AB-10 FROM AREA BETWEEN RIDER I DISTRIBUTION CENTER AND												
REM	PROPOSED MID-COUNTY-PARKWAY IMPACT AREA												
R	3271.3701434.490	4	.013				.000	.000	1				
SH	3271.3701434.490	4				1434.490							
CD	1	6	0	.000	.00	.00	.00	.00	.00	.00	.00	.00	.00
CD	4	6	0	.000	.00	.00	.00	.00	.00	.00	.00	.00	.00
CD	7	6	0	.000	.00	.00	.00	.00	.00	.00	.00	.00	.00
CD	8	4	1	.000	1.500	.000	.000	.000	.00				
CD	2	4	1	.000	2.000	.000	.000	.000	.00				
CD	3	4	1	.000	2.500	.000	.000	.000	.00				
CD	6	4	1	.000	3.000	.000	.000	.000	.00				
CD	9	4	2	.000	2.000	.000	.000	.000	.00				
PTS	1	8	1.000	7.330	1.000	1.670	1.670	1.000	8.330	1.000	9.000	1.670	
PTS			9.000	7.330	8.330	8.000	1.670	8.000					
PTS	4	8	1.000	5.330	1.000	1.670	1.670	1.000	7.330	1.000	8.000	1.670	
PTS			8.000	5.330	7.330	6.000	1.670	6.000					
PTS	7	8	1.000	6.330	1.000	1.670	1.670	1.000	8.330	1.000	9.000	1.670	
PTS			9.000	6.330	8.330	7.000	1.670	7.000					
Q			282.000	.0									

.000 -45.000 .000 RADIUS
 ANGLE .000
 .000
 REMARKS: TRIBUTARY TO LATERAL AB-1
 ELEMENT NO 8 IS A REACH * * *
 U/S DATA STATION INVERT SECT N RADIUS
 ANGLE ANG PT MAN H 1275.330 1427.760 1 .013 .000
 .000 .000 0
 ELEMENT NO 9 IS A JUNCTION * * * * *
 U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3
 INVERT-4 PHI 3 PHI 4 1275.330 1427.770 1 2 0 .013 87.000 .000 1428.840
 .000 45.000 .000 RADIUS
 ANGLE .000

W S P G W

PAGE NO 3

WATER SURFACE PROFILE - ELEMENT CARD LISTING

REMARKS: REVISED TRIBUTARY TO LATERAL AB-2 FROM RIDER II DISTRIBUTION CENTER,
 REMARKS: NO DISCHARGE FROM LATERAL AB-3 AND AB-6
 ELEMENT NO 10 IS A REACH * * *
 U/S DATA STATION INVERT SECT N RADIUS
 ANGLE ANG PT MAN H 1771.510 1429.500 1 .013 .000
 .000 .000 1
 ELEMENT NO 11 IS A JUNCTION * * * * *
 U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3
 INVERT-4 PHI 3 PHI 4 1777.510 1430.000 7 2 0 .013 25.000 .000 1430.000
 .000 -45.000 .000 RADIUS
 ANGLE .000
 .000
 REMARKS: REVISED TRIBUTARY TO LATERAL AB-4 FROM CORE 5 RIDER INDUSTRIAL,
 REMARKS: NO DISCHARGE FROM LATERAL AB-5 AND AB-7
 ELEMENT NO 12 IS A REACH * * *
 U/S DATA STATION INVERT SECT N RADIUS
 ANGLE ANG PT MAN H 2500.000 1432.170 7 .013 .000
 .000 .000 0
 ELEMENT NO 13 IS A JUNCTION * * * * *
 U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3
 INVERT-4 PHI 3 PHI 4 2510.000 1432.180 7 2 0 .013 35.000 .000 1432.800
 .000 -45.000 .000 RADIUS
 ANGLE .000
 .000
 REMARKS: TRIBUTARY TO LATERAL AB-7.5 AND TOTAL RUNOFF FROM FIRST RIDER INDUSTRIAL PROJECT,
 REMARKS: NO DISCHARGE FROM LATERAL AB-8

W S P G W

PAGE NO 4

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 14 IS A REACH * * *
 U/S DATA STATION INVERT SECT N RADIUS
 ANGLE ANG PT MAN H 3083.490 1433.930 7 .013 .000
 .000 .000 1
 ELEMENT NO 15 IS A JUNCTION * * * * *
 U/S DATA STATION INVERT SECT LAT-1 LAT-2 N Q3 Q4 INVERT-3
 INVERT-4 PHI 3 PHI 4

LINEABREVISED.EDT

.000	45.000	.000	3093.930	1433.960	4	9	0	.013	8.000	.000	1434.520	
ANGLE											RADIUS	
											.000	
REMARKS: THE FLOW RATE FOR LATERAL AB-9 HAS BEEN CHANGED TO ACCOUNT FOR PUMPED FLOW LEAVING RIDER 3												
SITE												
ELEMENT NO	16	IS A	REACH	*	*	*						
			U/S DATA	STATION	INVERT	SECT		N			RADIUS	
ANGLE	ANG PT	MAN H		3116.470	1434.030	4		.013			.000	
.000	.000	0										
ELEMENT NO	17	IS A	JUNCTION	*	*	*	*		*		*	
	*											
INVERT-4	PHI 3	PHI 4	U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3
				3116.470	1434.040	4	2	0	.013	48.000	.000	1434.620
.000	45.000	.000										
ANGLE											RADIUS	
											.000	
REMARKS: REVISED TRIBUTARY TO LATERAL AB-10 FROM AREA BETWEEN RIDER I DISTRIBUTION CENTER AND												
REMARKS: PROPOSED MID-COUNTY-PARKWAY IMPACT AREA												
ELEMENT NO	18	IS A	REACH	*	*	*						
			U/S DATA	STATION	INVERT	SECT			N		RADIUS	
ANGLE	ANG PT	MAN H		3271.370	1434.490	4			.013		.000	
.000	.000	1										
ELEMENT NO	19	IS A	SYSTEM HEADWORKS	*		*				*		
			U/S DATA	STATION	INVERT	SECT					W S ELEV	
				3271.370	1434.490	4					1434.490	

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WATER SURFACE PROFILE LISTING

LINE A-B HYDRAULIC MODEL - REVISED TRIBUTARIES

FN:LINEABREVISED.WSW

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Width	Top Dia.	Height/FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
I/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch	
997.600	1426.790	6.210	1433.000	506.10	10.28	1.64	1434.64	.00	5.05	8.00			1		0 .0
22.240	.0036				.0024		.05	6.21	.73	5.277	.013				IR-COV
1019.840	1426.870	6.153	1433.023	506.10	10.38	1.67	1434.69	.34	5.05	8.00			1		0 .0
35.340	.0034				.0028		.10	6.49	.74	5.717	.014				IR-COV
1055.180	1426.990	6.109	1433.099	506.10	10.45	1.70	1434.80	.00	5.05	8.00			1		0 .0
44.640	.0038				.0025		.11	6.11	.75	5.160	.013				IR-COV
1099.820	1427.160	5.976	1433.136	506.10	10.69	1.77	1434.91	.36	5.05	8.00			1		0 .0
54.260	.0035				.0030		.16	6.34	.77	5.650	.014				IR-COV
1154.080	1427.350	5.917	1433.267	506.10	10.79	1.81	1435.08	.00	5.05	8.00			1		0 .0
109.250	.0035				.0027		.29	5.92	.79	5.345	.013				IR-COV
1263.330	1427.730	5.708	1433.438	506.10	11.19	1.95	1435.38	.00	5.05	8.00			1		0 .0
JUNCT STR	.0000				.0021		.00	5.71	.83		.013				IR-COV
----- WARNING - Junction Analysis - Irregular Channel -----															
1263.330	1427.740	6.263	1434.003	485.00	9.77	1.48	1435.48	.00	4.91	8.00			1		0 .0
12.000	.0017				.0021		.03	6.26	.69	7.000	.013				IR-COV
1275.330	1427.760	6.274	1434.034	485.00	9.75	1.48	1435.51	.00	4.91	8.00			1		0 .0
JUNCT STR	.0000				.0012		.00	6.27	.69		.013				IR-COV
----- WARNING - Junction Analysis - Irregular Channel -----															

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WATER SURFACE PROFILE LISTING

LINE A-B HYDRAULIC MODEL - REVISED TRIBUTARIES

FN:LINEABREVISED.WSW

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Width	Top Dia.	Height/FT or I.D.	Base Wt	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1275.330	1427.770	6.913	1434.683	398.00	7.30	.83	1435.51	.00	4.31	6.83		1		0 .0
120.346	.0035					.0012	.14	6.91	.46	4.441	.013			IR-COV
1395.676	1428.190	6.560	1434.750	398.00	7.66	.91	1435.66	.00	4.31	7.54		1		0 .0
103.079	.0035					.0013	.13	6.56	.51	4.441	.013			IR-COV
1498.755	1428.549	6.251	1434.800	398.00	8.03	1.00	1435.80	.00	4.31	8.00		1		0 .0
96.802	.0035					.0014	.14	6.25	.57	4.441	.013			IR-COV
1595.557	1428.886	5.962	1434.849	398.00	8.42	1.10	1435.95	.00	4.31	8.00		1		0 .0
93.881	.0035					.0016	.15	5.96	.61	4.441	.013			IR-COV
1689.438	1429.214	5.687	1434.901	398.00	8.83	1.21	1436.11	.00	4.31	8.00		1		0 .0
82.072	.0035					.0018	.15	5.69	.66	4.441	.013			IR-COV
1771.510	1429.500	5.452	1434.953	398.00	9.22	1.32	1436.27	.00	4.31	8.00		1		0 .0
JUNCT STR	.0833					.0020	.01	5.45	.70		.013			IR-COV
----- WARNING - Junction Analysis - Irregular Channel -----														
1777.510	1430.000	4.942	1434.942	373.00	9.54	1.41	1436.36	.00	4.13	8.00		7		0 .0
161.308	.0030					.0023	.37	4.94	.76	4.474	.013			IR-COV

Program Package Serial Number: 1585

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WATER SURFACE PROFILE LISTING

LINE A-B HYDRAULIC MODEL - REVISED TRIBUTARIES

FN:LINEABREVISED.WSW

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Width	Top Dia.	Height/FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch	
1938.818	1430.484	4.714	1435.199	373.00	10.01	1.56	1436.75	.00	4.13	8.00			7		0 .0
281.505	.0030					.0026	.74	4.71	.82	4.474	.013				IR-COV
2220.323	1431.330	4.498	1435.828	373.00	10.50	1.71	1437.54	.00	4.13	8.00			7		0 .0
227.137	.0030					.0030	.67	4.50	.88	4.474	.013				IR-COV
2447.460	1432.012	4.474	1436.486	373.00	10.55	1.73	1438.22	.00	4.13	8.00			7		0 .0
52.540	.0030					.0030	.16	4.47	.88	4.474	.013				IR-COV
2500.000	1432.170	4.474	1436.644	373.00	10.55	1.73	1438.37	.00	4.13	8.00			7		0 .0
JUNCT STR	.0010					.0017	.02	4.47	.88		.013				IR-COV
----- WARNING - Junction Analysis - Irregular Channel -----															
2510.000	1432.180	5.209	1437.389	338.00	8.20	1.04	1438.43	.00	3.87	8.00			7		0 .0
105.844	.0031					.0017	.18	5.21	.64	4.129	.013				IR-COV
2615.844	1432.503	4.968	1437.471	338.00	8.60	1.15	1438.62	.00	3.87	8.00			7		0 .0
107.234	.0031					.0019	.20	4.97	.68	4.129	.013				IR-COV
2723.078	1432.830	4.740	1437.570	338.00	9.02	1.26	1438.83	.00	3.87	8.00			7		0 .0
115.552	.0031					.0021	.24	4.74	.73	4.129	.013				IR-COV
2838.630	1433.183	4.522	1437.705	338.00	9.46	1.39	1439.09	.00	3.87	8.00			7		0 .0
139.380	.0031					.0024	.33	4.52	.79	4.129	.013				IR-COV

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WATER SURFACE PROFILE LISTING

LINE A-B HYDRAULIC MODEL - REVISED TRIBUTARIES

FN:LINEABREVISED.WSW

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip	
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch	
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
2978.010	1433.608	4.314	1437.922	338.00	9.92	1.53	1439.45	.00	3.87	8.00		7		0 .0	
15.157	.0031					.0027	.04	4.31	.85	4.129	.013			IR-COV	
2993.167	1433.655	4.300	1437.954	338.00	9.96	1.54	1439.49	.00	3.87	8.00		7		0 .0	
HYDRAULIC JUMP															
2993.167	1433.655	3.467	1437.122	338.00	12.39	2.38	1439.50	.00	3.87	8.00		7		0 .0	
14.318	.0031					.0050	.07	3.47	1.18	4.129	.013			IR-COV	
3007.486	1433.698	3.408	1437.106	338.00	12.60	2.47	1439.57	.00	3.87	8.00		7		0 .0	
37.368	.0031					.0055	.20	3.41	1.21	4.129	.013			IR-COV	
3044.853	1433.812	3.252	1437.064	338.00	13.22	2.71	1439.78	.00	3.87	8.00		7		0 .0	
38.637	.0031					.0062	.24	3.25	1.30	4.129	.013			IR-COV	
3083.490	1433.930	3.104	1437.034	338.00	13.86	2.98	1440.02	.00	3.87	8.00		7		0 .0	
JUNCT STR	.0029					.0054	.06	3.10	1.40		.013			IR-COV	
----- WARNING - Junction Analysis - Irregular Channel -----															
3093.930	1433.960	4.166	1438.126	330.00	11.49	2.05	1440.18	.00	4.17	7.00		4		0 .0	
18.333	.0031					.0036	.07	4.17	1.00	4.698	.013			IR-COV	
3112.263	1434.017	4.366	1438.383	330.00	10.96	1.86	1440.25	.00	4.17	6.93		4		0 .0	
4.207	.0031					.0036	.02	4.37	.93	4.698	.013			IR-COV	

Program Package Serial Number: 1585

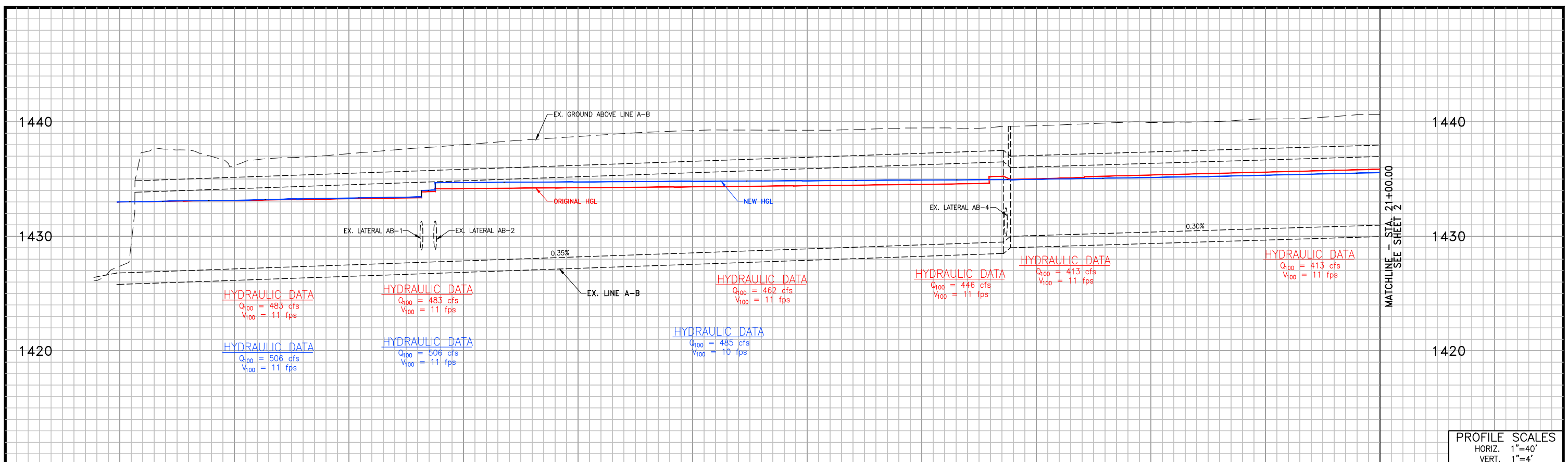
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WATER SURFACE PROFILE LISTING

LINE A-B HYDRAULIC MODEL - REVISED TRIBUTARIES

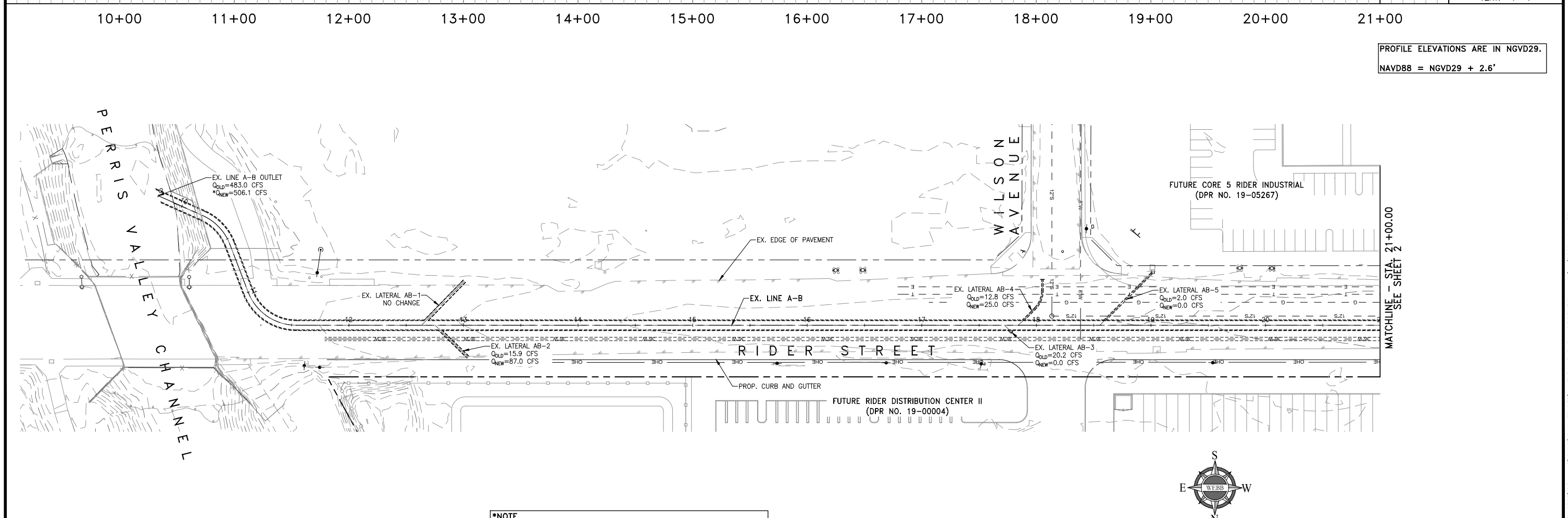
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Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Width	Top Dia.	Height or I.D.	Base Wt	ZL	No Wth Prs/Pip
L/Elem	Ch Slope				SF Ave	HF	SE Dpth	Froude N	"N"	X-Fall	ZR	Type Ch			
3116.470	1434.030	4.380	1438.410	330.00	10.92	1.85	1440.26	.00	4.17	6.90	4	4	0	0	.0
JUNCT STR	.0000				.0030	.00	4.38	.92	.013						IR-COV
----- WARNING - Junction Analysis - Irregular Channel -----															
3116.470	1434.040	5.161	1439.201	282.00	8.27	1.06	1440.26	.00	3.76	5.66	4	4	0	0	.0
154.900	.0029				.0030	.46	5.16	.59	.013	4.208					IR-COV
3271.370	1434.490	5.228	1439.718	282.00	8.27	1.06	1440.78	.00	3.76	5.66	4	4	0	0	.0



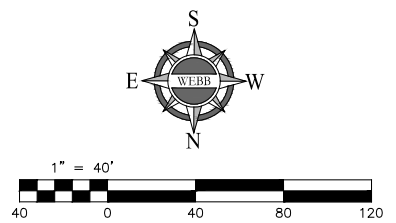
PROFILE SCALES
 HORIZ. 1"=40'
 VERT. 1"=4'

PROFILE ELEVATIONS ARE IN NGVD29.
 NAVD88 = NGVD29 + 2.6'



***NOTE**
 NEW OUTLET FLOWRATE IS GREATER THAN OLD OUTLET FLOWRATE BECAUSE OF AREA-YIELD FLOW REALLOCATION METHOD. THIS WAS DONE TO BE MORE CONSERVATIVE IN THE REVISED HYDRAULIC MODEL EVALUATION. THE AREA-YIELD METHOD IS MORE CONSERVATIVE BECAUSE IT IGNORES STREAM CONFLUENCES WHICH CAN LOWER THE TRIBUTARY FLOWRATES.

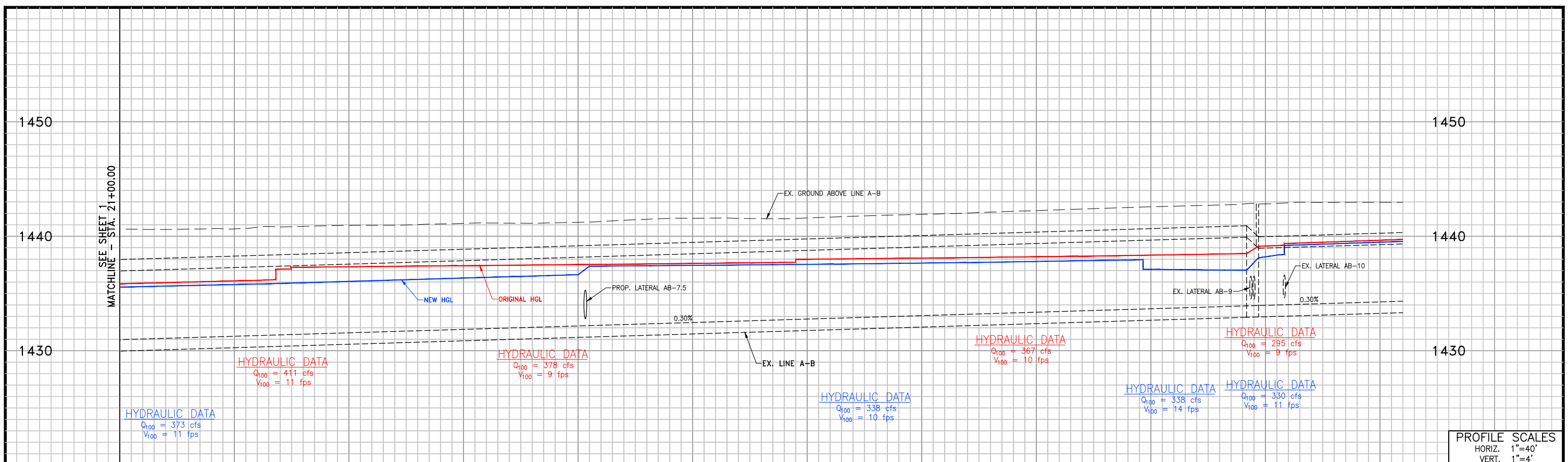
LINE A-B PLAN AND PROFILE



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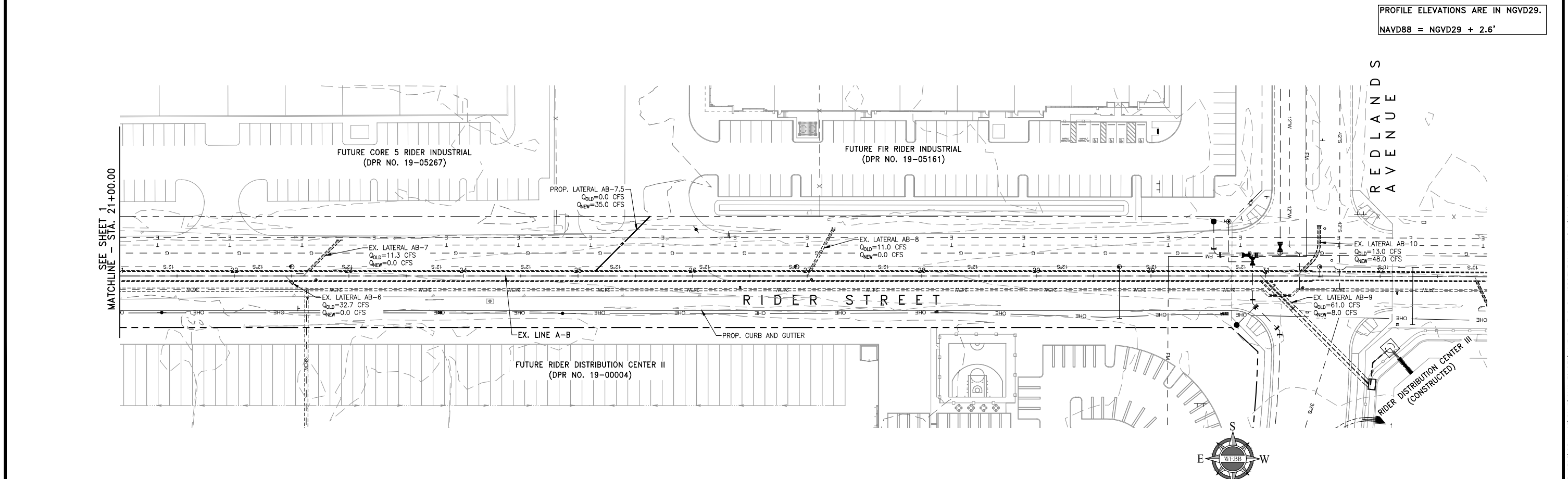
W.O. SHEET
 1
 OF 2 SHEETS

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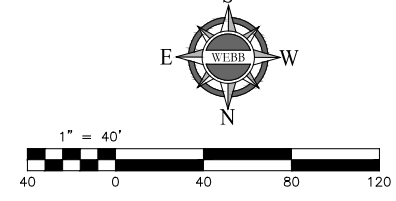


21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00

PROFILE ELEVATIONS ARE IN NGVD29.
 NAVD88 = NGVD29 + 2.6'



LINE A-B PLAN AND PROFILE



ALBERT A. WEBB ASSOCIATES ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE, CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	W.O. SHEET 2
	OF 2 SHEETS

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Appendix C: Line A-C Hydraulics, Plan and Profile

T1 LINE A-C HYDRAULIC MODEL										
T2 FN:LINEAC.WSW										
SO	1000.000	1428.040	1					1432.600		
R	1133.470	1428.440	1		.013				.000	.000
JX	1133.470	1428.440	1	1	.013	31.200		1428.440	-30.0	0.000
R	1143.470	1428.480	1		.013				.000	.000
R	1176.300	1428.570	1		.013				.000	.000
JX	1176.300	1428.570	2	2	.013	19.200		1428.570	30.0	0.000
R	1186.300	1429.070	2		.013				.000	.000
R	2100.000	1431.810	2		.013				.000	.000
SH	2100.000	1431.810	2					1431.810		1
CD	1	4	1		.000	3.500	.000	.000	.000	.00
CD	2	4	1		.000	3.000	.000	.000	.000	.00
CD	3	4	1		.000	2.500	.000	.000	.000	.00
Q		22.200			.0					

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD Y(6)	SECT Y(7)	CHN Y(8)	NO Y(9)	OF Y(10)	AVE PIER	HEIGHT 1	BASE	ZL	ZR	INV	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)
CODE	NO	TYPE	PIER/PIP	WIDTH	DIAMETER	WIDTH				DROP					
CD	1	4	1		3.500										
CD	2	4	1		3.000										
CD	3	4	1		2.500										

W S P G W

PAGE NO 1

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -
HEADING LINE NO 2 IS -
HEADING LINE NO 3 IS -

LINE A-C HYDRAULIC MODEL
FN:LINEAC.WSW

W S P G W

PAGE NO 2

WATER SURFACE PROFILE - ELEMENT CARD LISTING

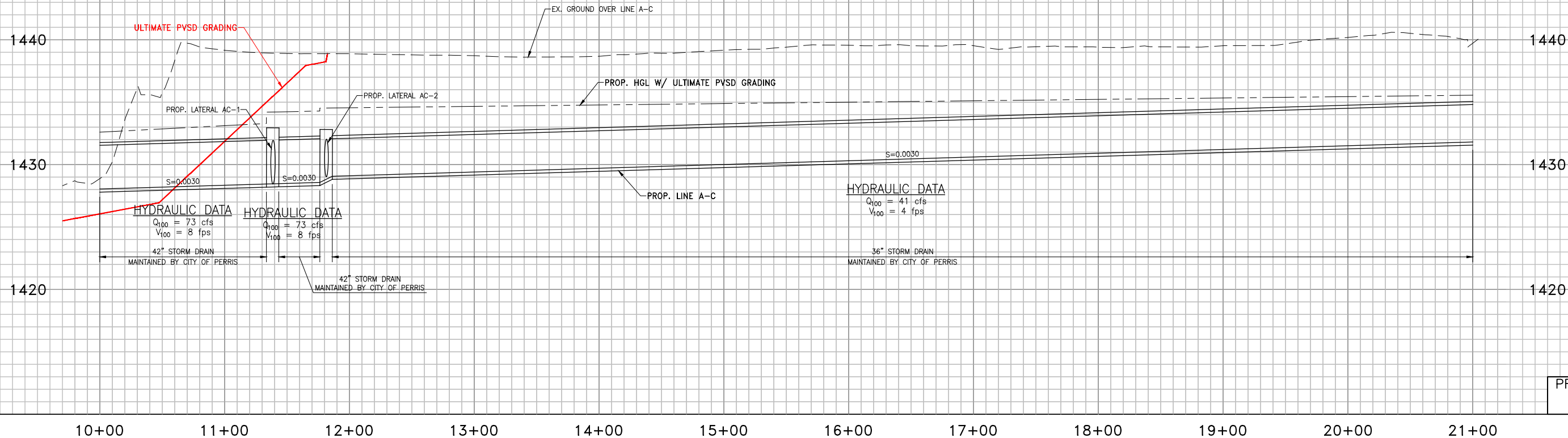
ELEMENT NO	1 IS A	SYSTEM OUTLET	U/S DATA	STATION	INVERT	SECT						W S ELEV
				1000.000	1428.040	1						1432.600
ELEMENT NO	2 IS A	REACH	U/S DATA	STATION	INVERT	SECT				N		RADIUS
ANGLE	ANG PT	MAN H		1133.470	1428.440	1				.013		.000
.000	.000	0										
ELEMENT NO	3 IS A	JUNCTION					*	*	*	*		*
INVERT-4	PHI 3	PHI 4	U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3
.000	-30.000	.000		1133.470	1428.440	1	1	0	.013	31.200	.000	1428.440
												RADIUS
ANGLE												.000
.000												
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING												
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING												
ELEMENT NO	4 IS A	REACH	U/S DATA	STATION	INVERT	SECT				N		RADIUS
ANGLE	ANG PT	MAN H		1143.470	1428.480	1				.013		.000
.000	.000	0										
ELEMENT NO	5 IS A	REACH	U/S DATA	STATION	INVERT	SECT				N		RADIUS
ANGLE	ANG PT	MAN H		1176.300	1428.570	1				.013		.000
.000	.000	1										
ELEMENT NO	6 IS A	JUNCTION					*	*	*	*		*
INVERT-4	PHI 3	PHI 4	U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3
.000	30.000	.000		1176.300	1428.570	2	2	0	.013	19.200	.000	1428.570
												RADIUS
ANGLE												.000
.000												
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING												
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING												
ELEMENT NO	7 IS A	REACH	U/S DATA	STATION	INVERT	SECT				N		RADIUS
ANGLE	ANG PT	MAN H		1186.300	1429.070	2				.013		.000
.000	.000	0										
ELEMENT NO	8 IS A	REACH	U/S DATA	STATION	INVERT	SECT				N		RADIUS
ANGLE	ANG PT	MAN H		2100.000	1431.810	2				.013		.000
.000	.000	1										
ELEMENT NO	9 IS A	SYSTEM HEADWORKS	U/S DATA	STATION	INVERT	SECT					*	W S ELEV
				2100.000	1431.810	2						1431.810

W S P G W

PAGE NO 3

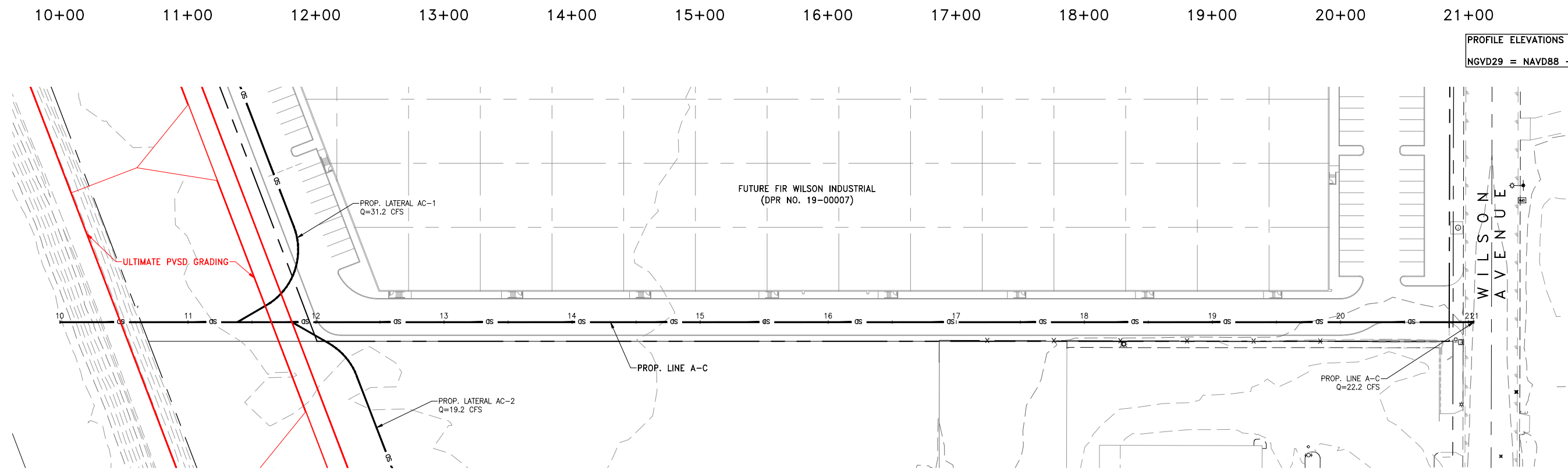
LINEAC.EDT

WATER SURFACE PROFILE - ELEMENT CARD LISTING

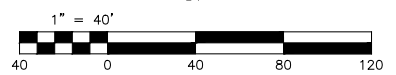


PROFILE SCALES
 HORIZ. 1"=40'
 VERT. 1"=4'

PROFILE ELEVATIONS ARE IN NAVD88.
 NGVD29 = NAVD88 - 2.6'



LINE A-C PLAN AND PROFILE



ALBERT A. WEBB ASSOCIATES
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 FAX (951) 788-1256

W.O. SHEET
 1
 OF 2 SHEETS

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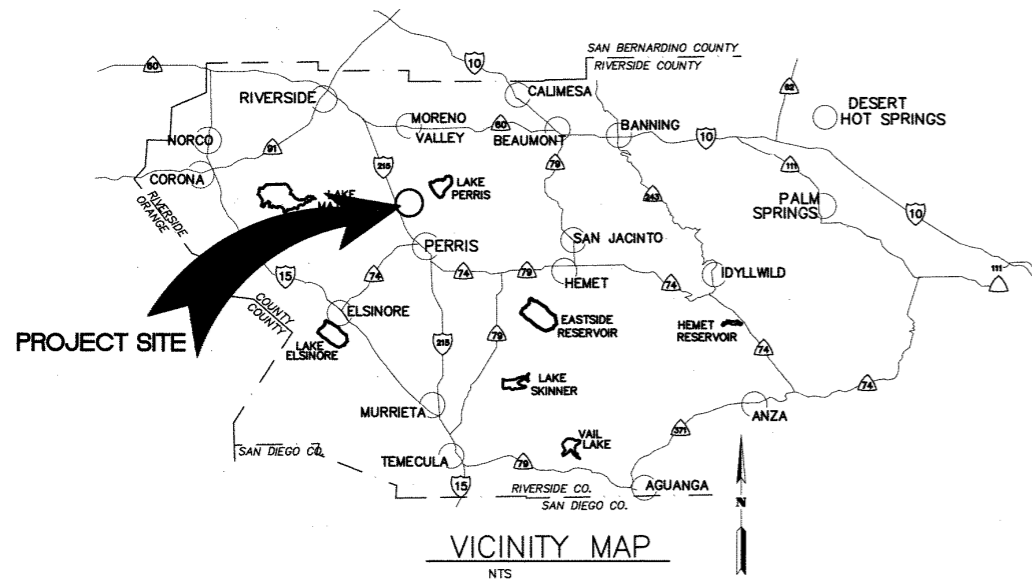
Appendix D: Line A-B As-Built Plans

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

INDEX

SHEET NO.:

TITLE SHEET	1
PLAN & PROFILES	2-13
LATERAL PROFILES	14-17
DETAILS	18



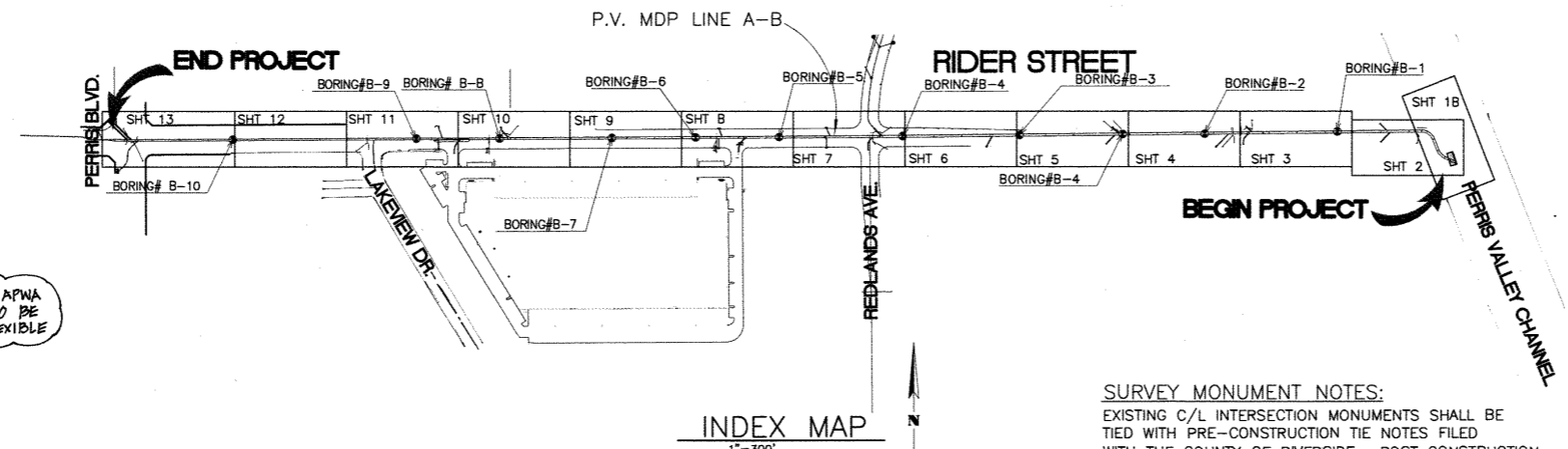
THE ULTIMATE H.C.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION FOR PVSC (1437.5), LINE "A-B" WILL NOT HAVE CAPACITY FOR LOCAL 100-YEAR FLOWS.

LEGEND:

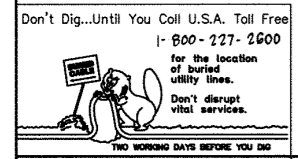
R	PROPERTY LINE	F.P.	FINISHED PAVEMENT
R/W	RIGHT OF WAY	S.F.O.W	SOUTH FACE OF WALL
CL	CENTERLINE	N.F.O.W	NORTH FACE OF WALL
T.C.	TOP OF CURB	E.F.O.W	EAST FACE OF WALL
F.L.	FLOW LINE	W.F.O.W	WEST FACE OF WALL
F.S.	FINISH SURFACE	T.P.	TOP OF PIPE
H.P.	HIGH POINT	(0.00)	EXISTING ELEVATION
F.F.	FINISH FLOOR	B.O.W.	BOTTOM OF WALL
R.C.P.	REINFORCED CONCRETE PIPE	T.C.	TOP OF CRATE
INV.	INVERT	N.C.	NATURAL GRADE
S =	SLOPE	TOP	TOP OF SLOPE
F.G.	FINISH GRADE	TOE	TOE OF SLOPE
S.D.	STORM DRAIN	E.P.	EDGE OF PAVEMENT
ST.LT.	STREET LIGHT	A.C.	ASPHALT CONCRETE
G.B.	GRADE BREAK	C.L.F.	CHAIN LINK FENCE
H.P.	HIGH POINT	CONC.	CONCRETE
E.C.	EDGE OF CONCRETE	PKWY DRAIN	PARKWAY DRAIN
C.A.	GUY ANCHOR	EXIST.	EXISTING
A.B.	ACCRETATE BASE	EMH	EOISON MANHOLE
F.H.	FIRE HYDRANT	M.H.	MANHOLE
P.P.	POWER POLE	T.B.	TOP OF BERM
C.B.	CATCH BASIN	E.T.W.	EDGE OF TRAVELWAY
R =	RATE OF GRADE	B.W.	BACK OF WALK
B.C.R.	BEGIN OF CURB RETURN	TC-TX	TOP OF CURB@DRIVEWAY
E.C.R.	END OF CURB RETURN	TC-BX	BOT. OF CURB@DRIVEWAY
L.P.	LOW POINT	⊙	BORING LOCATION
T.O.P.	TOP OF PIPE	⚠	REVISION SYMBOL AND NUMBER PER EMWD REQUIREMENT
B.O.P.	BOTTOM OF PIPE	1	RCFC & WCD REVISION
R	RATE OF GRADE		
T.F.	TOP OF FOOTING		
T.W.	TOP OF WALL		
S.F.	SQUARE FEET		
C.F.	CURB FACE		

GENERAL NOTES

- THE CONTRACTOR SHALL CONSTRUCT THE FLOOD CONTROL IMPROVEMENTS SHOWN ON THE DRAWINGS IN CONFORMANCE WITH THE REQUIREMENTS OF THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT'S M.O.U. STANDARD SPECIFICATIONS DATED JUNE 24, 2008, AND RCFC&WCD STANDARD MANUAL. FOR THE LATEST DRAWINGS OF THE STANDARD MANUAL, PLEASE REFER TO THE "PUBLICATIONS AND RECORDS" PAGE FOUND ON THE DISTRICT'S WEBSITE.
- CONTACT THE ENCROACHMENT PERMIT ENGINEER AT 951.955.1266 IF AN ENCROACHMENT PERMIT IS REQUIRED FROM RIVERSIDE COUNTY FLOOD CONTROL. AFTER THE PERMIT IS ISSUED THE DISTRICT MUST BE NOTIFIED ONE WEEK PRIOR TO CONSTRUCTION.
- CONTACT CONTRACT ADMINISTRATION AT 951.955.1288 IF CONSTRUCTION INSPECTION WILL BE PERFORMED BY RIVERSIDE COUNTY FLOOD CONTROL. THE DISTRICT MUST BE NOTIFIED TWENTY DAYS (2D) PRIOR TO CONSTRUCTION.
- ALL STATIONING REFERS TO CENTERLINE OF CONSTRUCTION UNLESS OTHERWISE NOTED.
- STATIONING FOR LATERALS AND CONNECTOR PIPE REFER TO THE CENTERLINE INTERSECTION STATIONS.
- FORTY-EIGHT HOURS BEFORE EXCAVATION, CALL UNDERGROUND SERVICE ALERT 1.800.227.2600.
- ALL ELEVATIONS SHOWN ARE IN FEET AND DECIMALS THEREOF BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD 1929).
- ALL COORDINATES ARE SHOWN IN FEET AND DECIMALS THEREOF BASED ON THE NORTH AMERICAN DATUM (NAD 83), CALIFORNIA COORDINATE SYSTEM (CCS), ZONE 6 AND EPOCH 2011.00.
- ALL CROSS SECTIONS ARE TAKEN LOOKING DOWNSTREAM.
- ELEVATIONS OF UTILITIES ARE APPROXIMATE UNLESS OTHERWISE NOTED.
- UNLESS OTHERWISE SPECIFIED, MINIMUM STREET RECONSTRUCTION SHALL BE 4" TYPE "B" HOT MIX ASPHALT OVER 6" CLASS 2 AGGREGATE BASE OR AS SPECIFIED BY THE ENGINEER.
- OPENINGS RESULTING FROM THE CUTTING OR PARTIAL REMOVAL OF EXISTING CULVERTS, PIPES OR SIMILAR STRUCTURES TO BE ABANDONED SHALL BE SEALED WITH 6" OF CLASS "B" CONCRETE.
- PIPE CONNECTED TO THE MAINLINE PIPE SHALL CONFORM TO JUNCTION STRUCTURE NO. 4 (JS 229) UNLESS OTHERWISE NOTED.
- PIPE BEDDING SHALL CONFORM TO RCFC&WCD STD. OWC. NO. M815 EXCEPT FOR COVER < 2 FEET. FOR COVER < 2 FEET, CONCRETE SLURRY (2000 PSI - 2 SACK) SHALL BE USED. THE ENTIRE TRENCH SHALL BE SLURRY EXTENDING 4 INCHES MINIMUM AND 12 INCHES MAXIMUM ABOVE THE TOP OF THE PIPE.
- BH-1 INDICATES SOIL BORING LOCATIONS BASED ON THE SOILS REPORT DATED 11-19-2009. LOCATIONS SHOWN ARE APPROXIMATE.
- "V" IS THE DEPTH OF CATCH BASINS MEASURED FROM THE TOP OF CURB TO INVERT OF CONNECTOR PIPE.
- CATCH BASINS SHALL BE LOCATED SO THAT LOCAL DEPRESSION SHALL BEGIN AT EXISTING CURB RETURN JOINT, UNLESS OTHERWISE SPECIFIED.
- ALL CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS AND OTHER EXISTING IMPROVEMENTS TO BE RECONSTRUCTED IN KIND AND AT THE SAME ELEVATION AND LOCATION AS THE EXISTING IMPROVEMENTS UNLESS OTHERWISE NOTED.
- STANDARD DRAWINGS CALLED FOR ON THE PLAN AND PROFILE SHALL CONFORM TO DISTRICT STANDARD DRAWINGS UNLESS NOTED OTHERWISE.
- THE CONTRACTOR IS REQUIRED TO CALL ALL UTILITY AGENCIES REGARDING TEMPORARY SHORING AND SUPPORT REQUIREMENTS FOR THE VARIOUS UTILITY LINES SHOWN ON THESE PLANS.
- OURING ROUGH CRADING OPERATIONS AND PRIOR TO CONSTRUCTION OF PERMANENT DRAINAGE STRUCTURES, TEMPORARY DRAINAGE CONTROL SHOULD BE PROVIDED TO PREVENT PONDING WATER AND DAMAGE TO ADJACENT PROPERTIES.
- APPROVAL OF THESE PLANS BY THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT DOES NOT RELIEVE THE DEVELOPER'S ENGINEER OF RESPONSIBILITY FOR THE ENGINEERING DESIGN. IF FIELD CHANGES ARE REQUIRED, IT WILL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER TO MAKE THE NECESSARY CORRECTIONS.
- THE CONTRACTOR OR DEVELOPER SHALL SECURE ALL REQUIRED ENCROACHMENT AND/OR STATE AND FEDERAL REGULATORY PERMITS PRIOR TO THE COMMENCEMENT OF ANY WORK.
- THE CONCRETE COATING ON THE INSIDE OF ALL REINFORCED CONCRETE PIPES MUST BE INCREASED TO PROVIDE A MINIMUM OF 1-1/2 INCHES OVER THE REINFORCING AND INCREASED TO A MINIMUM OF 3-1/2 INCHES OVER REINFORCING FOR BOX CULVERT, WHEN DESIGN VELOCITIES EXCEED 20 FEET PER SECOND. THE CONCRETE DESIGN STRENGTH IN THESE REACHES SHALL BE F'c=5,000 PSI FOR VELOCITIES EXCEEDING 20 FEET PER SECOND AND F'c=6,000 PSI FOR VELOCITIES EXCEEDING 30 FEET PER SECOND.
- CONSTRUCTION JOINTS FOR CALTRANS STANDARD REINFORCED CONCRETE BOX SHALL BE PLACED ACCORDING TO RCFC&WCD STANDARD DRAWING NO. BOX 401.



NOTE:
FOR PRE-CAST ROB, USE JOINT SEALANT PER APWA STD PLAN 390.0 ALL PRE-CAST ROB JOINTS TO BE SEALED WITH RUBBER BASED PRE-FORMED FLEXIBLE JOINT SEALANT AND CEMENT MORTAR.



BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. "M-31"
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK
MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER
OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB
LOCATED AT THE CROSSING OF PERRIS BLVD. AND RIV. CO.
FLOOD CONTROL CHANNEL, PERRIS LATERAL 17, 43 FT. WEST
OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF
CONCRETE BRIDGE BARRIER. (EDGE OF BRIDGE)
MARKED R-102 D.W.R. IN TOP OF CONC. POST FLUSH W/
GROUND
ELEVATION = 1474.874' (MVD 1929)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE
1	CHANGED CLP ROB TO PRE-CAST ROB PER APWA 390.0	H.I.A.	2/19/16	OK	2/23/16
2	NEW 10" CHANNELED 42" DIA TO 24" DIA, ADDED	H.I.A.	2/19/16	OK	2/23/16
3	EX. UTILITIES 6, RELOCATE UTILITIES, REV. 00.	H.I.A.	2/19/16	OK	2/23/16

DESIGNED BY: **BN**
DRAWN BY: **ET**
DATE DRAWN:

APPROVED BY:
Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH: (714) 521-4811 FAX: (714) 521-4173
Haideok I. Aghayan Date: 11/18/14
HAIDOOK I. AGHAJAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY: *Mark A. Willey* PLANNING ENGINEER DATE: 1/20/2015

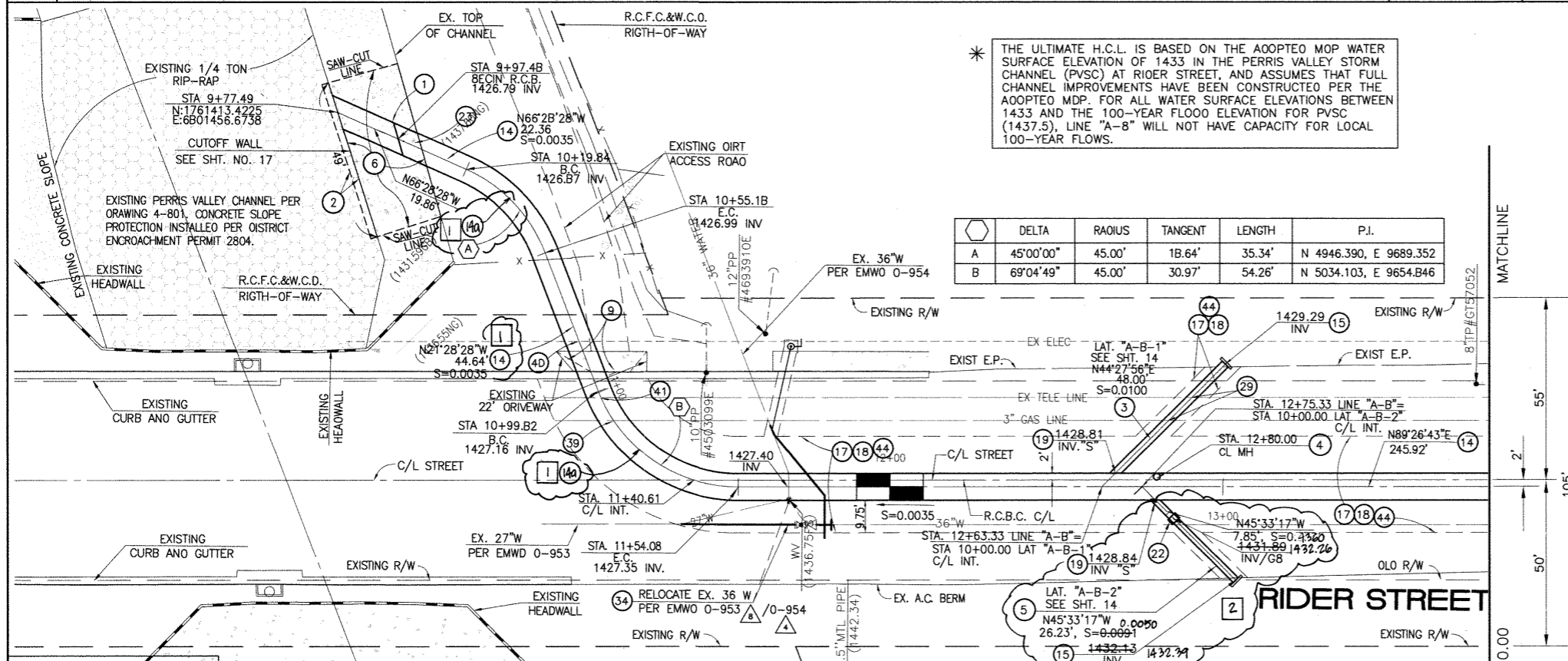
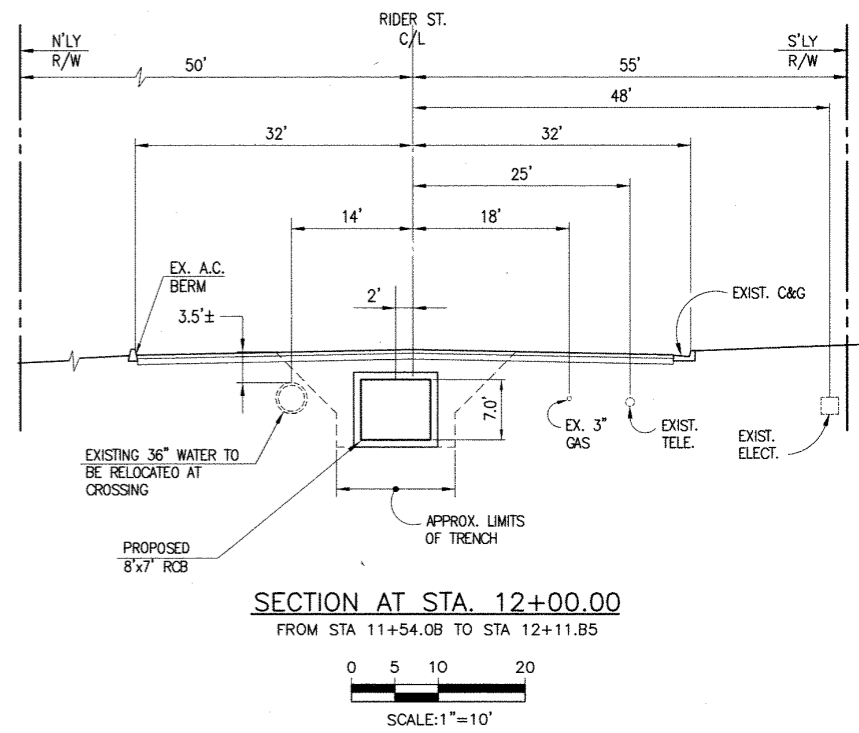
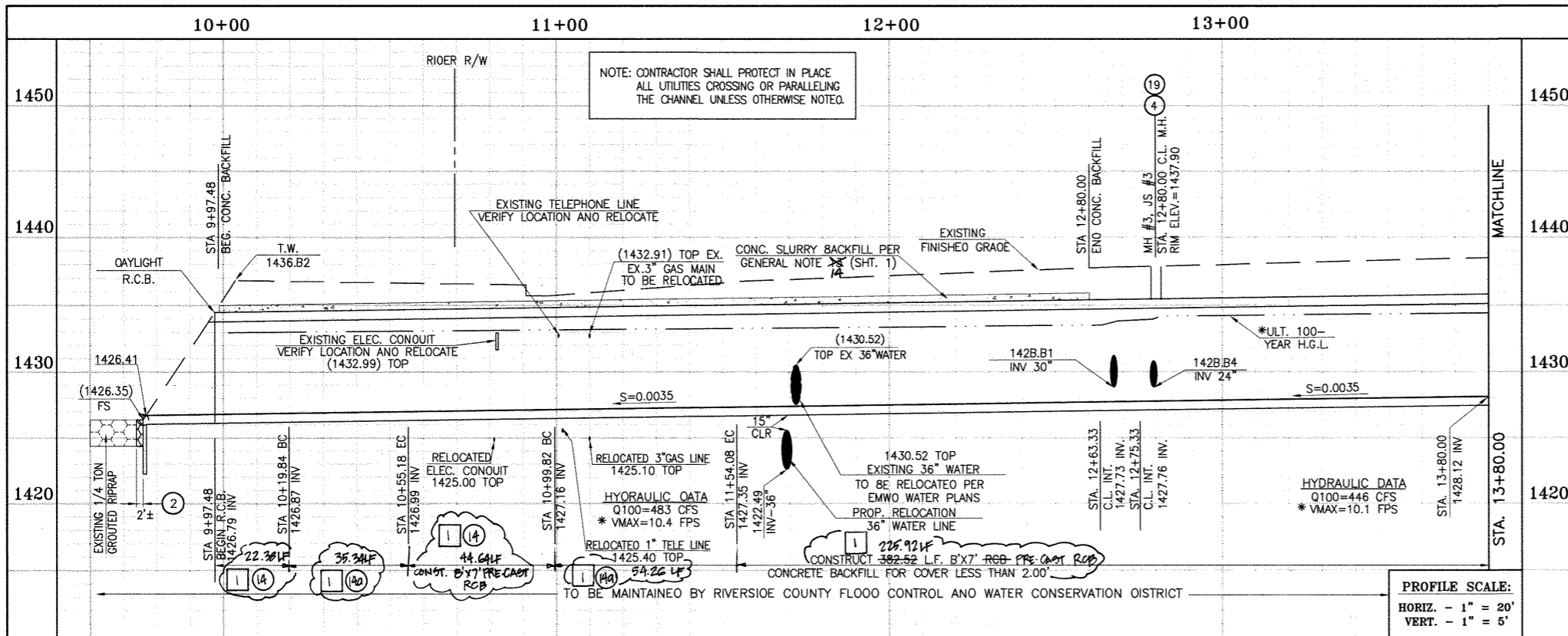
APPROVED BY: *William D. Smith* CHIEF ENGINEER DATE: 1/20/15

CITY OF PERRIS APPROVED BY: *[Signature]* DATE: 12-15-14

PERRIS VALLEY MDP LINE "A-B"

MS 94

CITY OF PERRIS FILE NO. P8-1013
PROJECT NO. 4-0-00537
DRAWING NO. 4-1063
SHEET NO. 1 OF 18



STORM DRAIN CONSTRUCTION NOTES:

- 1 DAYLIGHT R.C.B. ROOF PARALLEL TO TOP OF SLOPE. TAPER DOWN R.C.B. SIDEWALLS WITH SLOPE FACE. SEE DETAILS ON SHT. NO. 1B.
- 2 REMOVE AND REPLACE APPROXIMATELY 2' WIDE 1/4 TON GROUDED RIPRAP, MATCH EXISTING THICKNESS.
- 3 CONSTRUCT 30" R.C.P. 0-LOAO PER PLAN.
- 4 CONSTRUCT MANHOLE NO. 3 PER R.C.F.C.&W.C.O. STO OWC. MH253
- 5 CONSTRUCT 24" R.C.P. 0-LOAO PER PLAN.
- 6 SAWCUT AND REMOVE EXISTING CONCRETE SLOPE. SALVAGE 30" MINIMUM LONGITUDINAL AND/OR TRANSVERSE REBAR FROM EXISTING SLOPE PROTECTION AT ALL SAWCUT LOCATIONS. SPLICE SALVAGED REBAR TO NEW CONCRETE REINFORCING PER CURRENT ACI CODE. REPLACEMENT CONCRETE TO MATCH EXISTING THICKNESS, OR MINIMUM 6" THICK, WHICHEVER IS GREATER WITH #4 BARS @ 18" ON CENTER EACH WAY.
- 9 REMOVE AND REPLACE APPROACH EXISTING DRIVEWAY (SEE SHEET NO. 1B).
- 14 CONSTRUCT B' x 7' RCB PER CALTRANS STD PLAN NO. 080. ON 45' RADIUS CURVED SECTIONS, INSIDE WALL (41' RADIUS) MUST BE SMOOTH CURVED AND OUTSIDE WALL (49' RADIUS) MUST HAVE MAXIMUM WALL CHORD LENGTH OF 8.0'
- 15 CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C.&W.C.D. STO. OWG. MB16
- 17 SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
- 18 UTILITY TRENCH AND SURFACE REPAIR PER CITY STANDARD ON SHT. NO. 1B, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2.0'.
- 19 CONSTRUCT JUNCTION STRUCTURE NO. 3 PER R.C.F.C.&W.C.O. STD. OWG. JS228.
- 22 CONSTRUCT CONCRETE COLLAR PER R.C.F.C.&W.C.O. STO OWG. MB03.
- 23 CONSTRUCT SLOPE PROTECTION BARRIER PER A.P.W.A. STO. PLAN NO. 360-0.
- 29 PROTECT IN PLACE EXISTING UTILITY
- 34 RELOCATE EXISTING WATER LINE PER E.M.W.O. PLANS.
- 39 RELOCATE EXISTING GAS LINE.
- 40 RELOCATE EXISTING ELECTRICAL LINE.
- 41 RELOCATE EXISTING TELEPHONE LINE.
- 44 SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18. SEE SEPARATE PAVING PLAN.
- 14 CONSTRUCT B'x7' PRE-CAST RCB PER APWA STD PLAN 390-0 SEE JOINT SEALANT NOTE ON SHT. 1



BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. 24-31
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM BOLT
MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER
OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB
LOCATED AT THE CROSSING OF PERRIS BLVD. AND RIV. CO.
FLOOD CONTROL CHANNEL PERRIS LATERAL. N. 43 FT. WEST
OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF
CONCRETE BRIDGE BARRIER. (EDGE OF BRIDGE)
MARKED M-102 0.10' IN TOP OF CONC. POST FLUSH W/
GROUND
ELEVATION = 1474.874' (MVD 1828)

REVISIONS	ENGINEER	RCFC/	DESIGNED BY:	APPROVED BY:
2	CHANGED SLOPE TO 0.0035, ADDED MH, ADDED NEW D'S CHANGED 40' LAT TO 20' LAT, ADDED EX. UTILITIES, RELOCATE UTILITIES, REVISED SP.	H.I.A.	2/3/14	2/2/14
1	CHANGED C.L.P. RCB TO PRE-CAST RCB PER MVA 790	H.P.A.	2/3/14	2/2/14

DESIGNED BY: **BN**
DRAWN BY: **ET**
DATE DRAWN: **2/2/14**

APPROVED BY: **Thienes Engineering, Inc.**
CIVIL ENGINEERING & LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH: (714) 521-4811 FAX: (714) 521-4173

DATE: **11/18/14**
HAIDOOK I. AGHAIAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY: **[Signature]**
DATE: **1/20/2015**

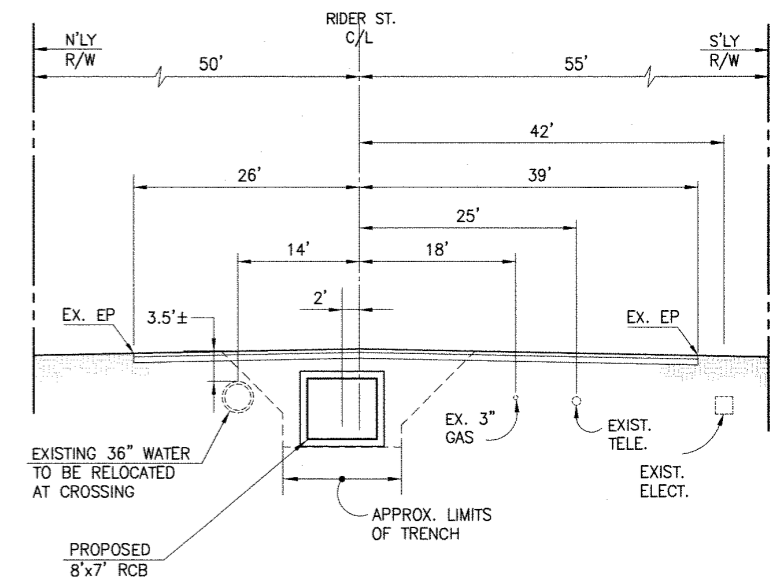
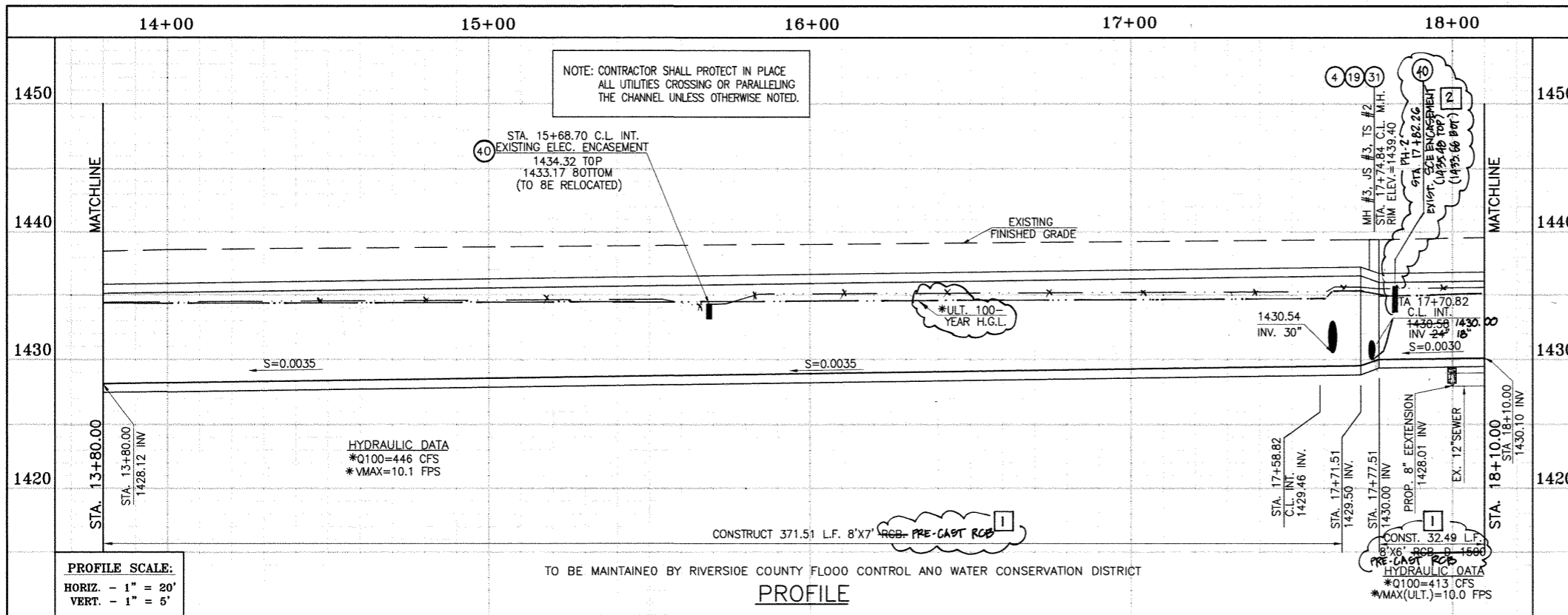
APPROVED BY: **Mark H. Willis**
DATE: **1/20/2015**

CITY OF PERRIS
APPROVED BY: **[Signature]**
DATE: **12-15-14**

**PERRIS VALLEY MDP
LINE "A-B"**

FROM STA. 9+97.48 TO STA. 13+80

CITY OF PERRIS FILE NO. P8-1013	PROJECT NO. 4-0-00537
	DRAWING NO. 4-1063
	SHEET NO. 2 OF 18



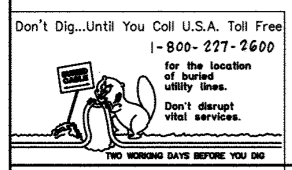
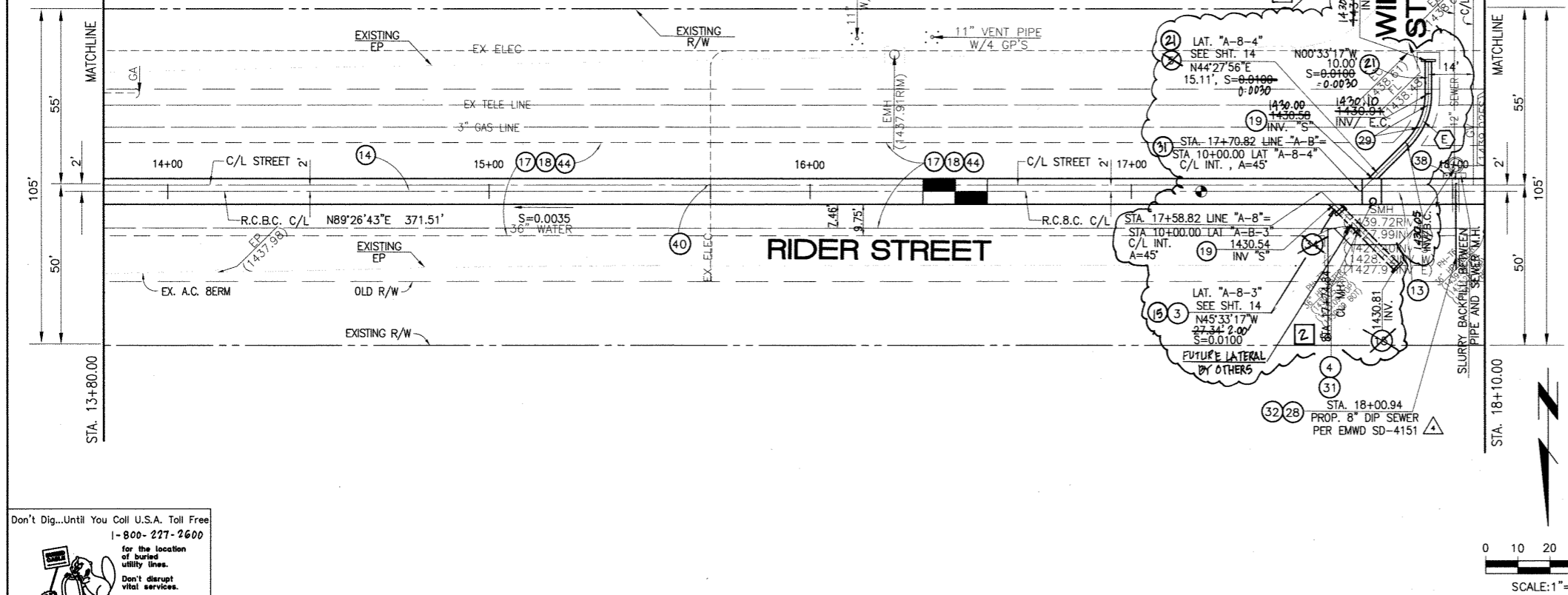
* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION FOR PVSC (1437.5), LINE "A-B" WILL NOT HAVE CAPACITY FOR LOCAL 100-YEAR FLOWS.

STORM DRAIN CONSTRUCTION NOTES:

- 3) CONSTRUCT 30" R.C.P., 0-LOAD PER PLAN.
- 4) CONSTRUCT MANHOLE NO. 3 PER R.C.F.C.&W.C.D. STD DWG. MH253
- 5) CONSTRUCT 24" R.C.P., 0-LOAD PER PLAN.
- 13) CONSTRUCT 8' X 6' RCB PER CALTRANS STD PLAN NO. D80 OR APPROVED EQUAL. PRE-CAST RCB PER PLAN 3900 OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHT. 1.
- 14) CONSTRUCT 8' X 7' RCB PER CALTRANS STD PLAN NO. D80 OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHT. 1.
- 15) CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C.&W.C.D. STD DWG. M816.
- 17) SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
- 18) UTILITY TRENCH AND ACCOMMODATE REPAIR PER CITY STANDARD ON SHT. NO. 18, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2.0'.
- 19) CONSTRUCT JUNCTION STRUCTURE NO. 3 PER R.C.F.C.&W.C.D. STD. OWG. JS228.
- 28) CONSTRUCT SEWER PROTECTION PER R.C.F.C.&W.C.D. STD. OWG. M807.
- 29) PROTECT IN PLACE EXISTING UTILITIES.
- 31) CONSTRUCT MODIFIED TRANSITION STRUCTURE NO.2 PER R.C.F.C.&W.C.D. STD. DWG. TS302.
- 32) INSTALL 8" OIP SEWER. ENCASED WITH 2500 PSI CONCRETE PER CALTRANS STD PLAN NO. 080.
- 34) RELOCATE EXISTING WATER LINE PER EMWO PLANS (36" WATER LINE).
- 38) SLURRY BACKFILL BETWEEN RCB AND MANHOLE.
- 40) RELOCATE EXISTING ELECTRICAL LINE.
- 44) SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18.
- 2) CONSTRUCT 18" R.C.P., D-LOAD PER PLAN.

CAUTION:
PROPOSED WORK IS IN PROXIMITY OF HIGH PRESSURE GAS LINES

DELTA	RADIUS	TANGENT	LENGTH	P.I.
E 45°01'13"	22.50'	9.32'	17.68'	N 5006.356, E 8986.091



BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. "M-31"
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB LOCATED AT THE CROSSING OF PERRIS BLVD. AND INV. CO. FLOOD CONTROL CHANNEL (PERRIS LATERAL) 27.43 FT. WEST OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE) MARKED R-102 D.W.R. IN TOP OF CONC. POST FLUSH W/ GROUND ELEVATION = 1436.824' (MWD 1828)

REVISIONS	ENGINEER	RCFC/	DESIGNED BY:	APPROVED BY:
2) CHANGED SLOPE TO 0.0035, ADDED MH, ADDED NEW D'S, CHANGED 42" LAT TO 24" LAT, ADDED EX. UTILITIES, RELOCATE UTILITIES, REVISED S.D.	H.A.	2/3/16	BW	THIENES ENGINEERING, INC.
1) CHANGED O.P. RCB TO PRE-CAST RCB PER PLAN 3900	H.A.	2/3/16	ET	HAIDOOK I. AGHAIAN

DESIGNED BY: BW
DRAWN BY: ET
DATE DRAWN: 1/20/2015

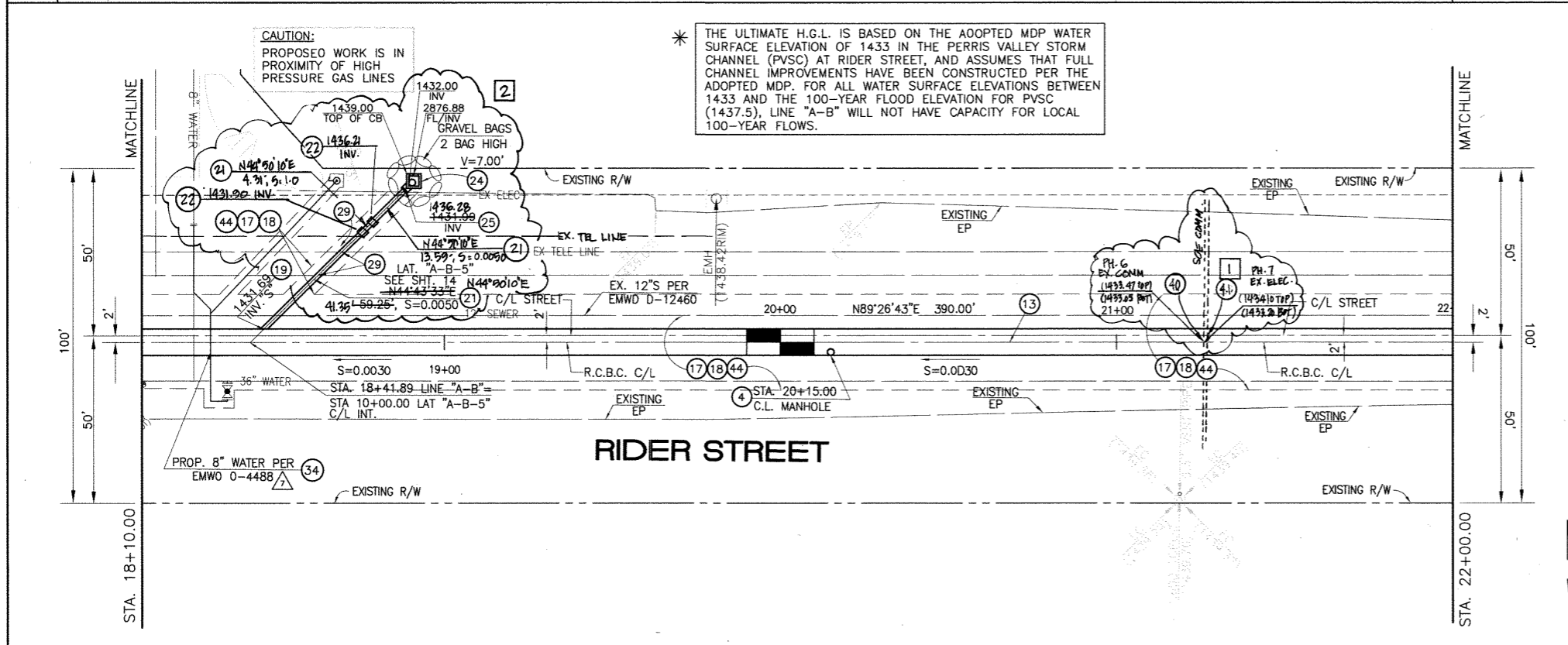
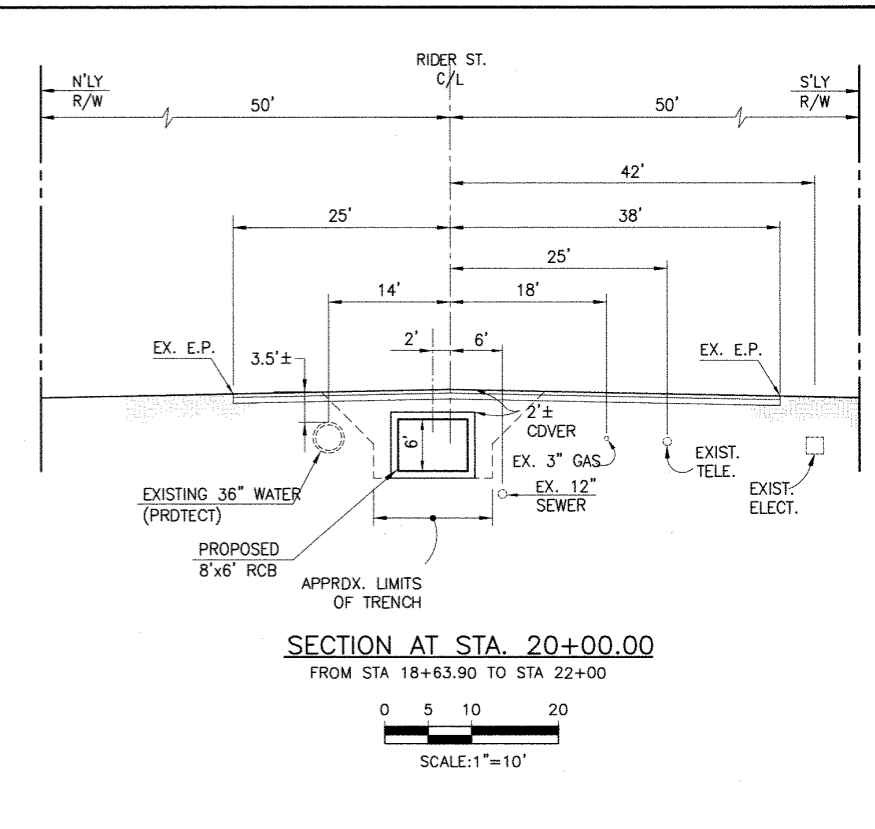
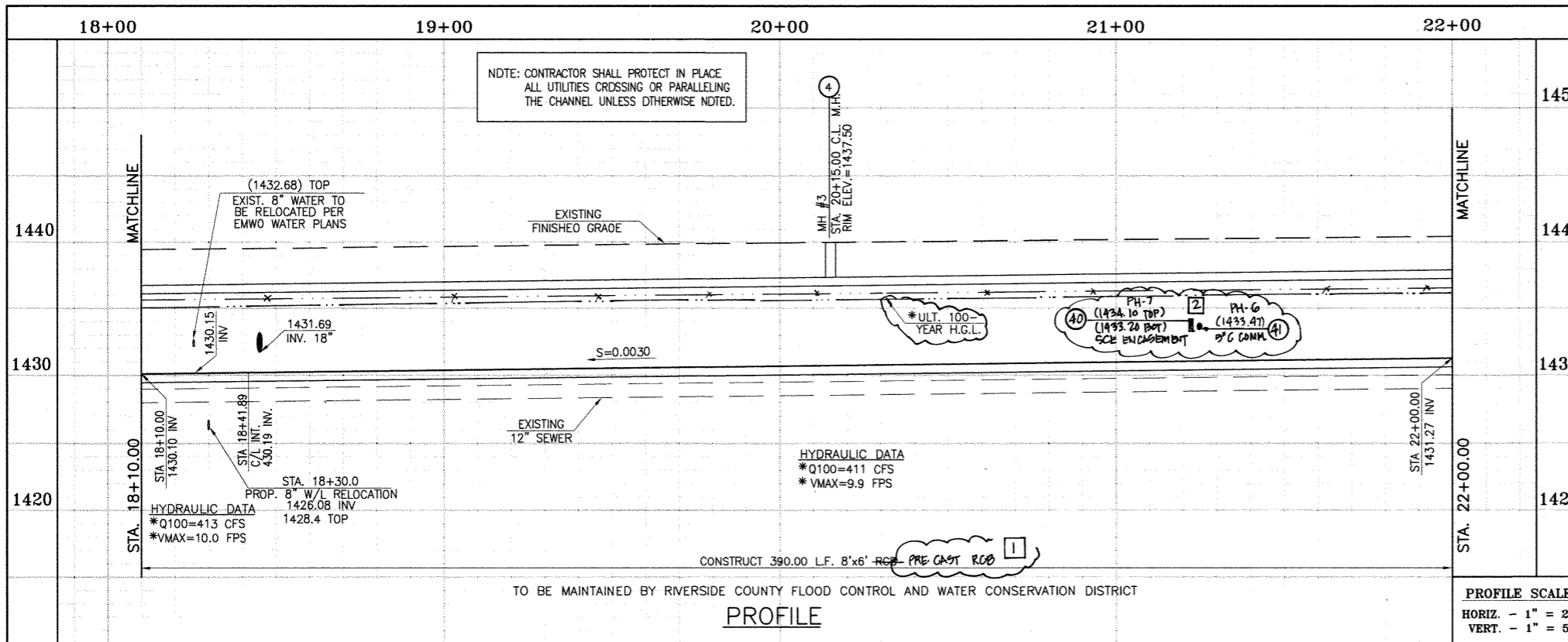
APPROVED BY: **Thienes Engineering, Inc.**
CIVIL ENGINEERING - LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH: (714) 521-4811 FAX: (714) 521-4173
Date: 11/18/14
HAIDOOK I. AGHAIAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: [Signature]
APPROVED BY: Mark H. Wilke
DATE: 1/20/2015

CITY OF PERRIS APPROVED BY: [Signature]
DATE: 12-15-14

PERRIS VALLEY MDP
LINE "A-B"
FROM STA. 13+80 TO STA. 18+10

CITY OF PERRIS FILE NO. P8-1013
PROJECT NO. 4-0-00537
DRAWING NO. 4-1063
SHEET NO. 3 OF 18



- STORM DRAIN CONSTRUCTION NOTES:**
- ④ CONSTRUCT MANHOLE NO. 3 PER R.C.F.C.&W.C.O. STO OWG. MH253
 - ①⑬ CONSTRUCT 8' X 6' RCB PER CALTRANS STD PLAN 390-0 OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHT. 1.
 - ⑰ SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
 - ⑱ UTILITY TRENCH AND SURFACE REPAIR PER CITY STANDARD ON SHT. NO. 18, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2.0'.
 - ⑲ CONSTRUCT JUNCTION STRUCTURE NO. 3 PER R.C.F.C.&W.C.O. STO. OWG. JS228.
 - ⑳ CONSTRUCT 18" R.C.P. 0-LOAD PER SHEET #14.
 - ㉑ CONSTRUCT CONCRETE ORDP INLET PER R.C.F.C.&W.C.O. STO DWG. CB110
 - ㉒ CONSTRUCT SPECIAL CONNECTION PER R.C.F.C.&W.C.O. STO OWG. CB109
 - ㉓ PROTECT IN PLACE EXISTING UTILITIES.
 - ㉔ RELOCATE EXISTING WATER LINE PER E.M.W.O. PLANS.
 - ㉕ SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18. SEE SEPARATE PAVING PLANS.
 - ㉖ CONSTRUCT CONCRETE COLLAR PER R.C.F.C.&W.C.O. STD DWG. M803.
 - ㉗ RELOCATE EXISTING ELECTRICAL LINE.
 - ㉘ RELOCATE EXISTING TELEPHONE LINE.



Don't Dig...Until You Call U.S.A. Toll Free
1-800-227-2600
for the location of buried utility lines.
Don't disrupt vital services.
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS	ENGINEER	RCFC/
② CHANGED SLOPE TO 0.0030, ADDED MH, DROPPED NEW 10'S, CHANGED 42" LAT TO 24" LAT, ADDED EX. UTILITIES, RELOCATE UTILITIES, REV. S.D.	H.I.A. 2/9/16	0/6 2/23/16
① CHANGED CLP RCB TO PRE-CAST RCB PER PLAN 390-0	H.I.A. 2/9/16	0/6 2/23/16

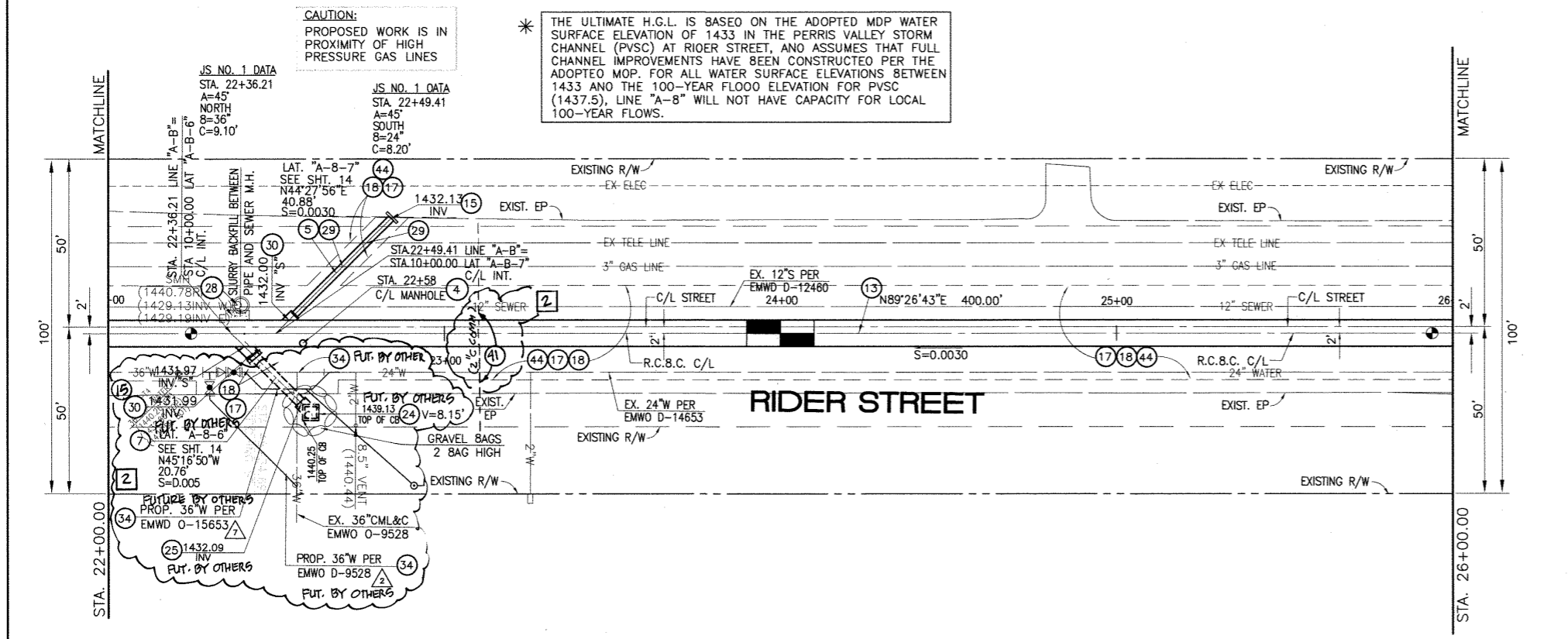
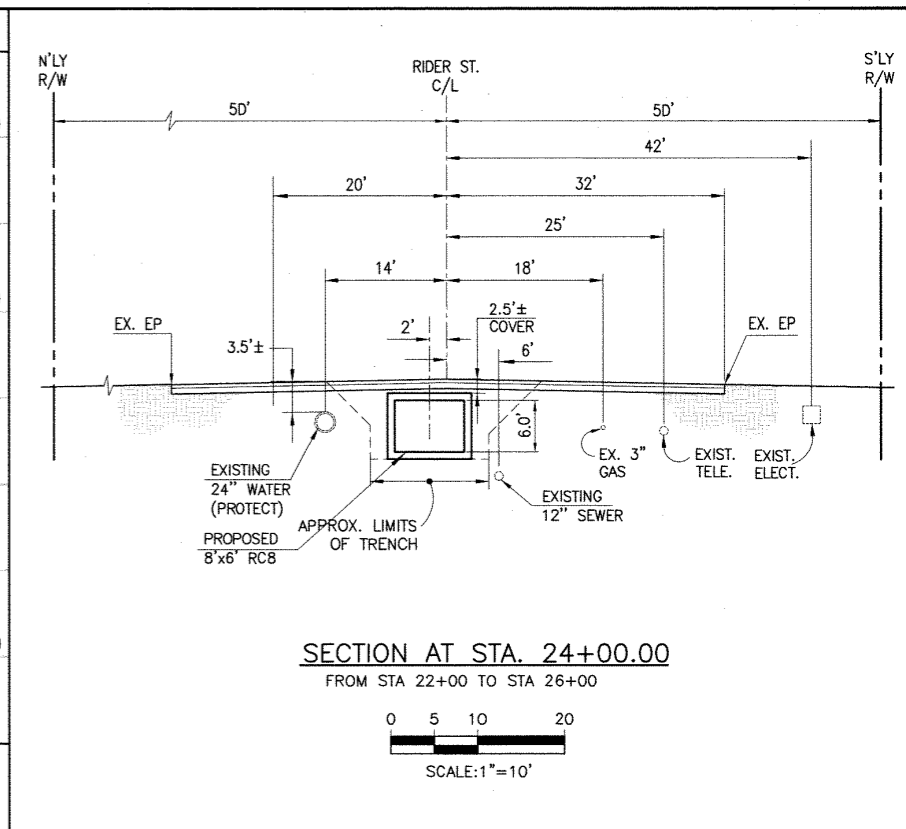
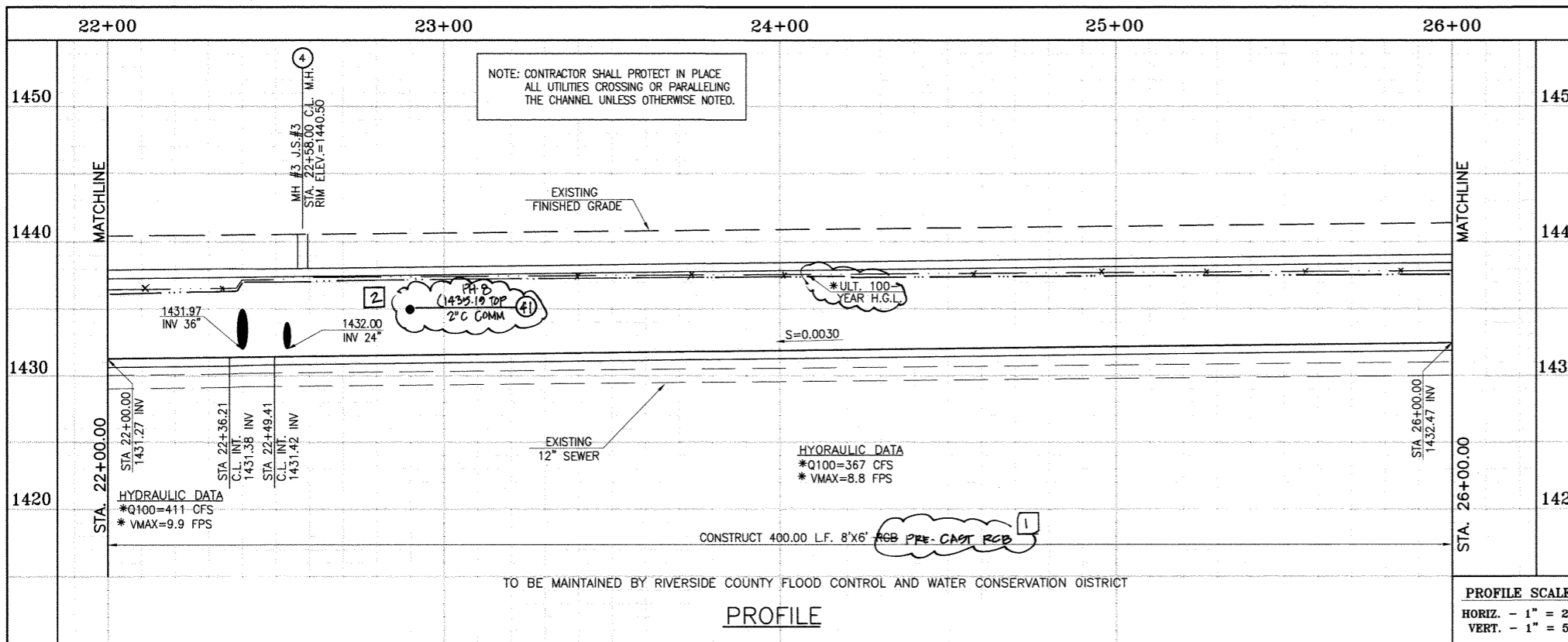
DESIGNED BY: **BN**
DRAWN BY: **ET**
DATE DRAWN:
APPROVED BY: **Thienes Engineering, Inc.**
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH: (714) 521-4811 FAX: (714) 521-4173
Haidook Aglu Date: 11/18/14
HAIDOOK I. AGHAJAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: **[Signature]**
APPROVED BY: **Mark H. Wills**
DATE: 1/24/2015 DATE: 1/20/2015

CITY OF PERRIS APPROVED BY: **[Signature]**
DATE: 12-15-14

PERRIS VALLEY MDP LINE "A-B"
FROM STA. 18+10 TO STA. 22+00

CITY OF PERRIS FILE NO. P8-1013
PROJECT NO. 4-0-00537
DRAWING NO. 4-1063
SHEET NO. 4 OF 18



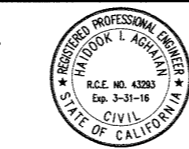
- STORM DRAIN CONSTRUCTION NOTES:**
- 4 CONSTRUCT MANHOLE NO. 3 PER R.C.F.C.&W.C.D. STD OWG. MH253
 - 5 CONSTRUCT 24" R.C.P. 0-LOAD PER PLAN.
 - 7 CONSTRUCT 36" R.C.P. 0-LOAD PER PLAN.
 - 13 CONSTRUCT 8' X 6' R.C.P. PER APWA STD PLAN 390-0 OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHT. 1.
 - 15 CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C.&W.C.O. STD OWG. MB16.
 - 17 SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
 - 18 UTILITY TRENCH AND SURFACE REPAIR PER CITY STANDARD ON SHT. NO. 18, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2.0'.
 - 24 CONSTRUCT CONCRETE DROP INLET PER R.C.F.C.&W.C.O. STD OWG. CB110 W=3.50'
 - 25 CONSTRUCT SPECIAL CONNECTION PER R.C.F.C.&W.C.O. STD OWG. CB109
 - 28 CONSTRUCT SEWER PROTECTION PER R.C.F.C.&W.C.O. STD. DWG. MB07. OR CONCRETE ENCASUREMENT NO. 2 PER EMWD STD. NO. S8-157.
 - 29 PROTECT IN PLACE EXISTING UTILITIES.
 - 30 CONSTRUCT JUNCTION STRUCTURE NO.1 PER R.C.F.C.&W.C.O. STD. OWG. JS226.
 - 34 RELOCATE EXISTING WATER LINE PER E.M.W.O. PLANS.
 - 44 SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18, SEE SEPARATE PAVING PLANS.
 - 41 RELOCATE EXISTING TELEPHONE LINE.

Don't Dig...Until You Call U.S.A. Toll Free
1-800-277-2600
for the location of buried utility lines.
Don't disrupt vital services.
TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. 34-31
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK
MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER
OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB
LOCATED AT THE CROSSING OF PERRIS BLVD. AND RIVER CO.
FLOOD CONTROL CHANNEL, PERRIS LATERAL, N.E. 43 FT. WEST
OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF
CONCRETE BRIDGE BARRIER. (EDGE OF BRIDGE)
MARKED M-102 0.100' W/ TOP OF CONC. POST FLUSH W/
GROUND
ELEVATION = 1474.874' (NVD 1829)

REVISIONS	ENGINEER	RCFC/
2 CHANGED SLOPE TO 0.0030, ADDED MH, ADDED NEW TOPS CHANGED 42" DIA TO 24" DIA, ADDED EX.	H.A.	2/3/16
1 UTILITIES, RELOCATE UTILITIES PER S.D. CHANGED CLIP ROB TO PRE-CAST ROB PER APWA 390-0	H.A.	2/3/16

DESIGNED BY: BW
DRAWN BY: ET
DATE DRAWN:
APPROVED BY: Thienes Engineering, Inc.
CIVIL ENGINEERING - LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH.(714)521-4811 FAX(714)521-4173
Date: 11/18/14
HAIDOOK I. AGHAIAN RCE NO. 43293

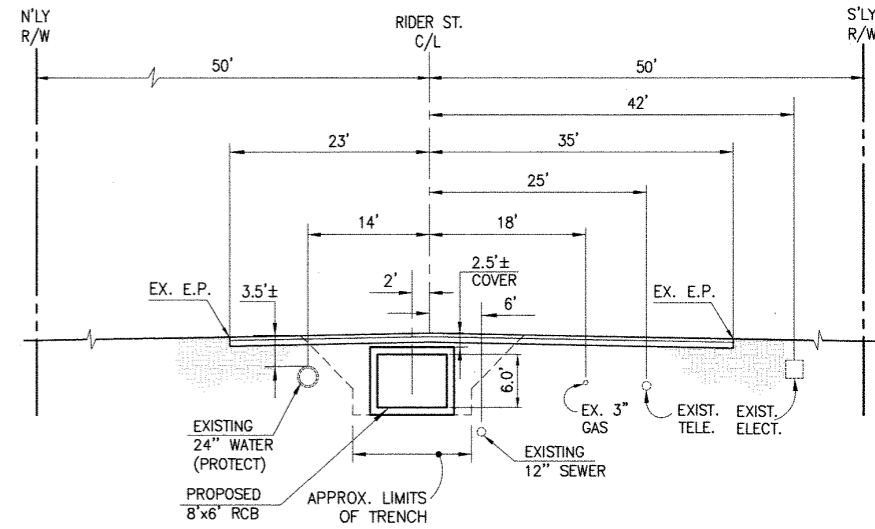
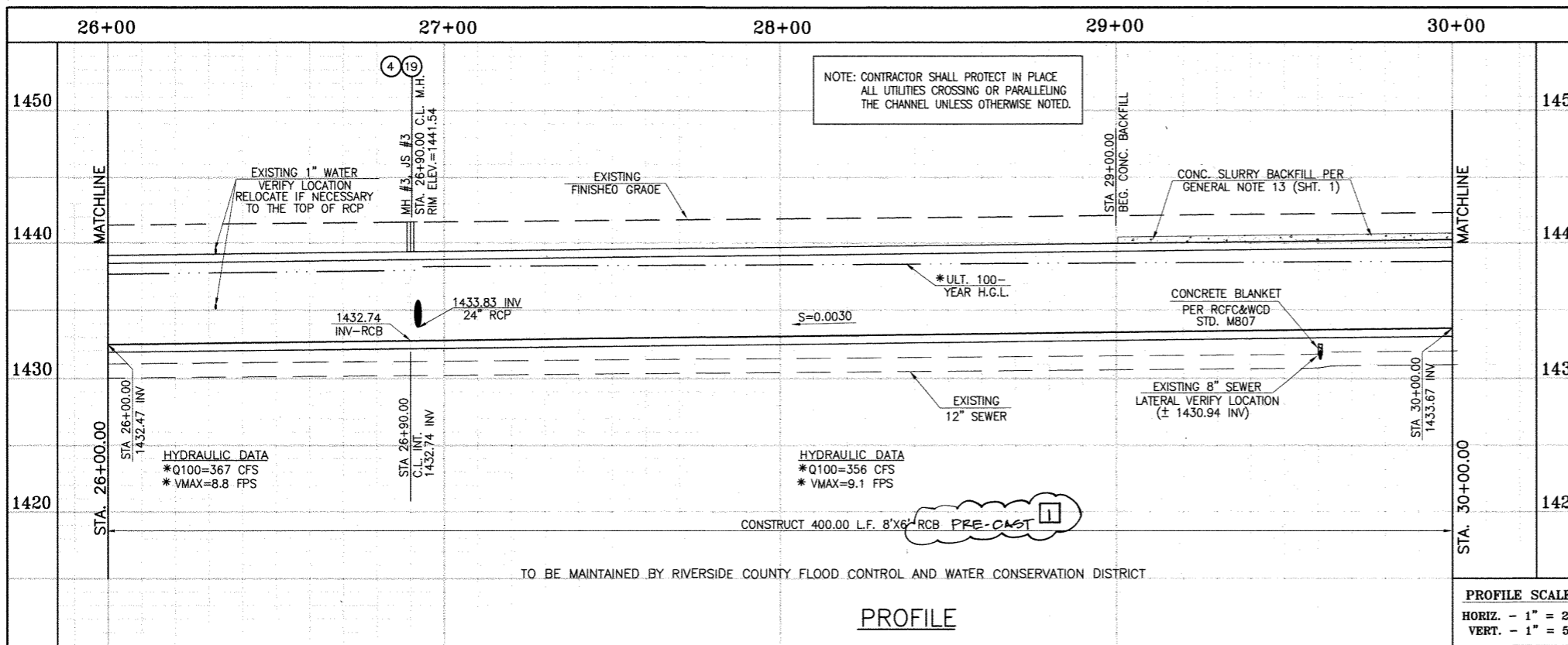


RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: [Signature]
APPROVED BY: Mark A. Wille
DATE: 4/24/2015 DATE: 1/20/2015

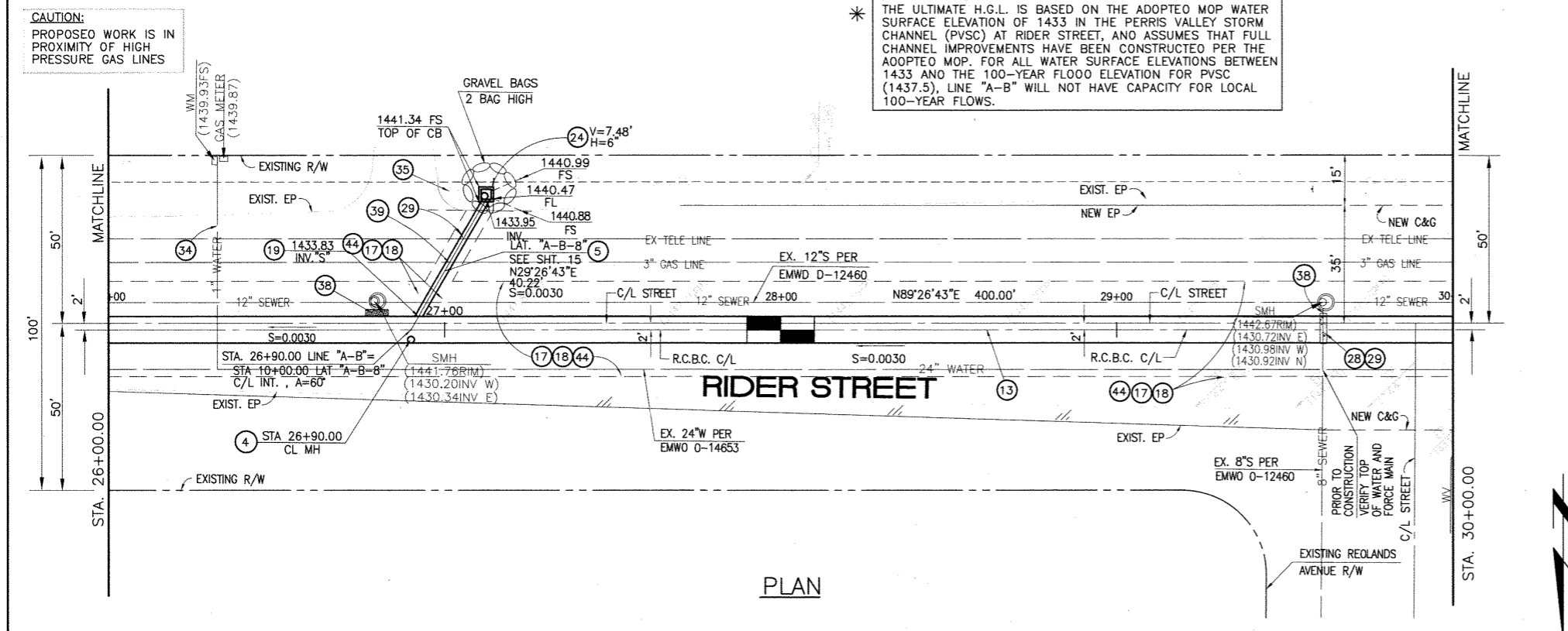
CITY OF PERRIS APPROVED BY: [Signature]
DATE: 12-15-14

PERRIS VALLEY MDP LINE "A-B"
FROM STA. 22+00 TO STA. 26+00

CITY OF PERRIS
FILE NO. P8-1013
PROJECT NO. 4-0-00537
DRAWING NO. 4-1063
SHEET NO. 5 OF 18



SECTION AT STA. 28+00.00
FROM STA 26+00 TO STA 29+62.72
SCALE: 1"=10'



- STORM DRAIN CONSTRUCTION NOTES:**
- 4 CONSTRUCT MANHOLE NO. 3 PER R.C.F.C.&W.C.D. STD DWG. MH253
 - 5 CONSTRUCT 24" R.C.P. 0-LOAD PER PLAN.
 - 13 CONSTRUCT 8' X 6' RCB PER CALTRANS STD PLAN NO. D80 OR APPROVED EQUAL SEE JOINT SEALANT NOTE ON SHEET 1
 - 17 SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
 - 18 UTILITY TRENCH AND SURFACE REPAIR PER CITY STANDARD ON SHT. NO. 18, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2.0'.
 - 19 CONSTRUCT JUNCTION STRUCTURE NO.3 PER R.C.F.C.&W.C.D. STD. DWG. JS228.
 - 24 CONSTRUCT CONCRETE DROP INLET PER R.C.F.C.&W.C.D. STD DWG. CB110
 - 28 CONSTRUCT SEWER PROTECTION PER R.C.F.C.&W.C.D. STD. DWG. M807.
 - 29 PROTECT IN PLACE EXISTING UTILITIES.
 - 34 RELOCATE EXISTING WATER LINE PER E.M.W.O. PLANS.
 - 35 CONSTRUCT 4" THICK AC PAVEMENT OVER NATIVE.
 - 38 SLURRY BACKFILL BETWEEN RCB AND MANHOLE.
 - 39 RELOCATE EXISTING GAS LINE.
 - 44 SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18. SEE SEPARATE PAVING PLANS.

Don't Dig...Until You Call U.S.A. Toll Free
1-800-227-2600
for the location of buried utility lines.
Don't disrupt vital services.
TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. 31-31
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB LOCATED AT THE CROSSING OF PERRIS BLVD. AND RIVER CO. FLOOD CONTROL CHANNEL (PERRIS LATERAL 'A'), 43 FT. WEST OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF CONCRETE BRIDGE BARRIER. (EDGE OF BRIDGE) MARKED A-102 D.W.G. IN TOP OF CONC. POST FLUSH W/ GROUND ELEVATION = 1476.874' (MVD 1829)

REVISIONS	ENGINEER	RCFC/	DESIGNED BY:	APPROVED BY:
1	H.L.A.	J.S.	ET	Haidook I. Aghaian
2				

DESIGNED BY: **ET**
DRAWN BY: **ET**
DATE DRAWN: **11/18/14**

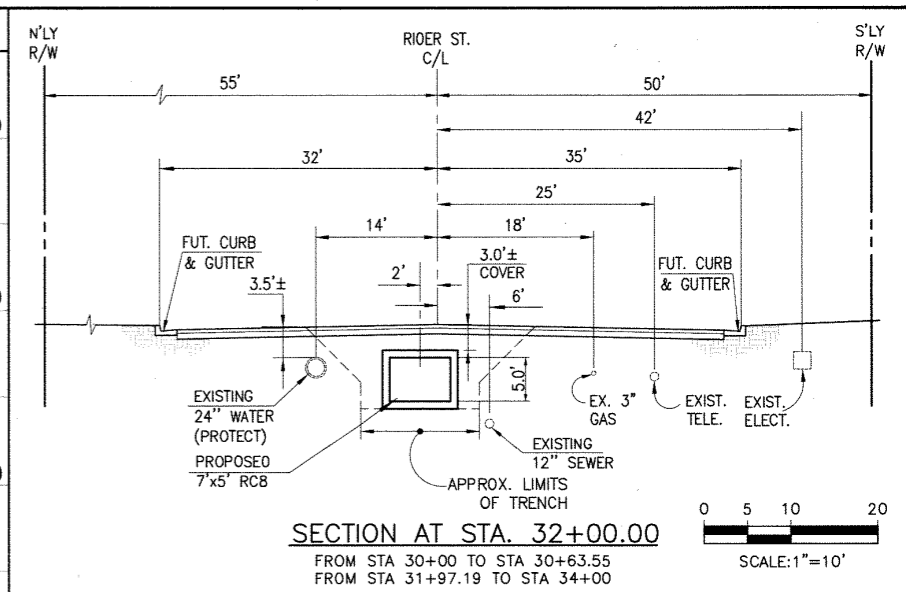
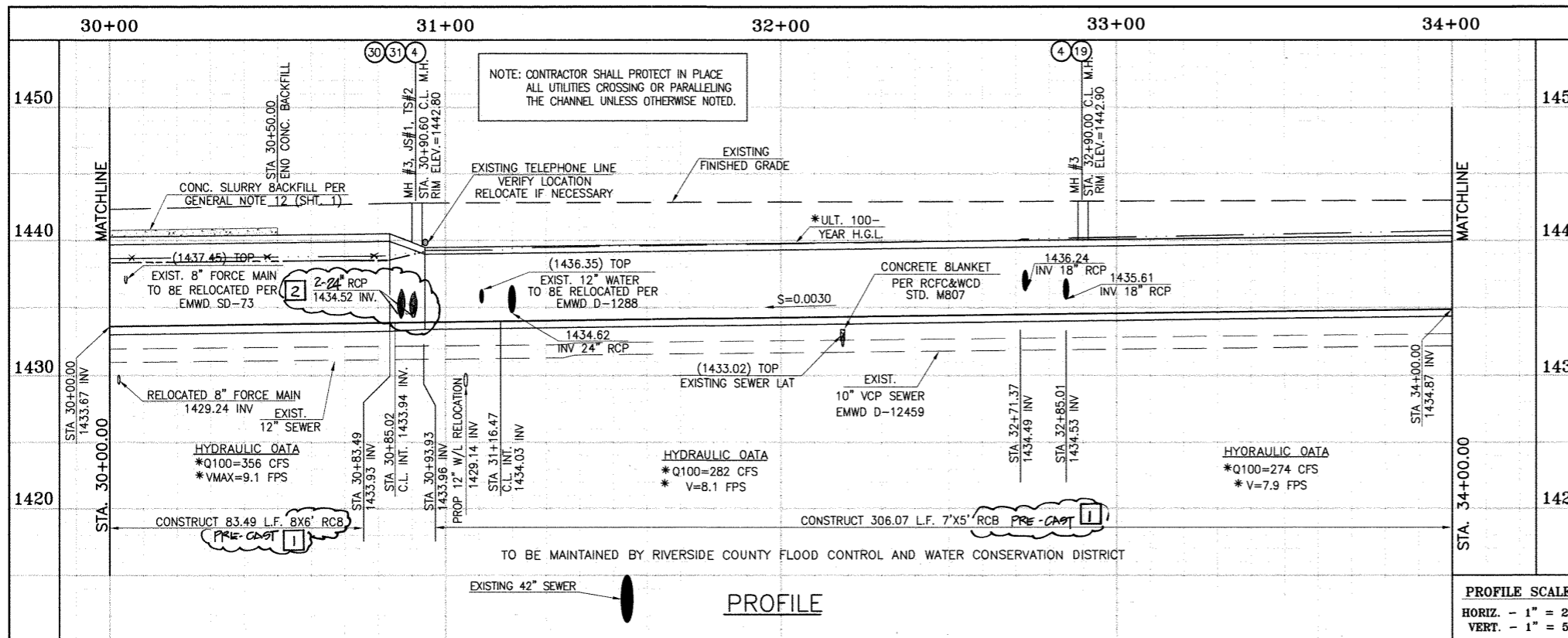
APPROVED BY: **Thienes Engineering, Inc.**
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH (714) 521-4811 FAX (714) 521-4173
Date: 11/18/14
HAIDOOK I. AGHAIAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: *[Signature]*
APPROVED BY: *[Signature]*
DATE: 1/22/2015

CITY OF PERRIS APPROVED BY: *[Signature]*
CITY ENGINEER
DATE: 1-15-15

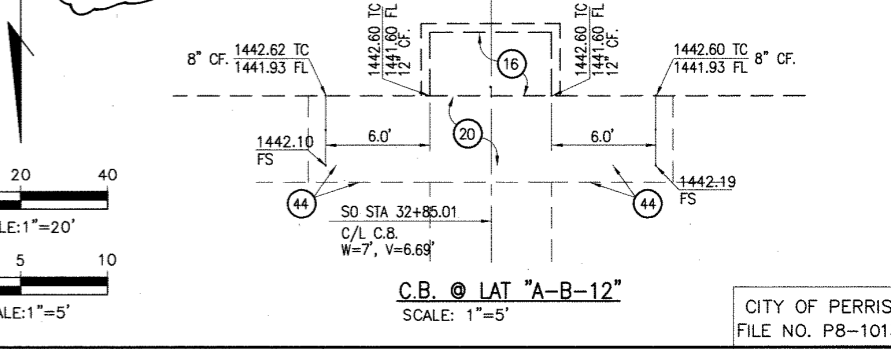
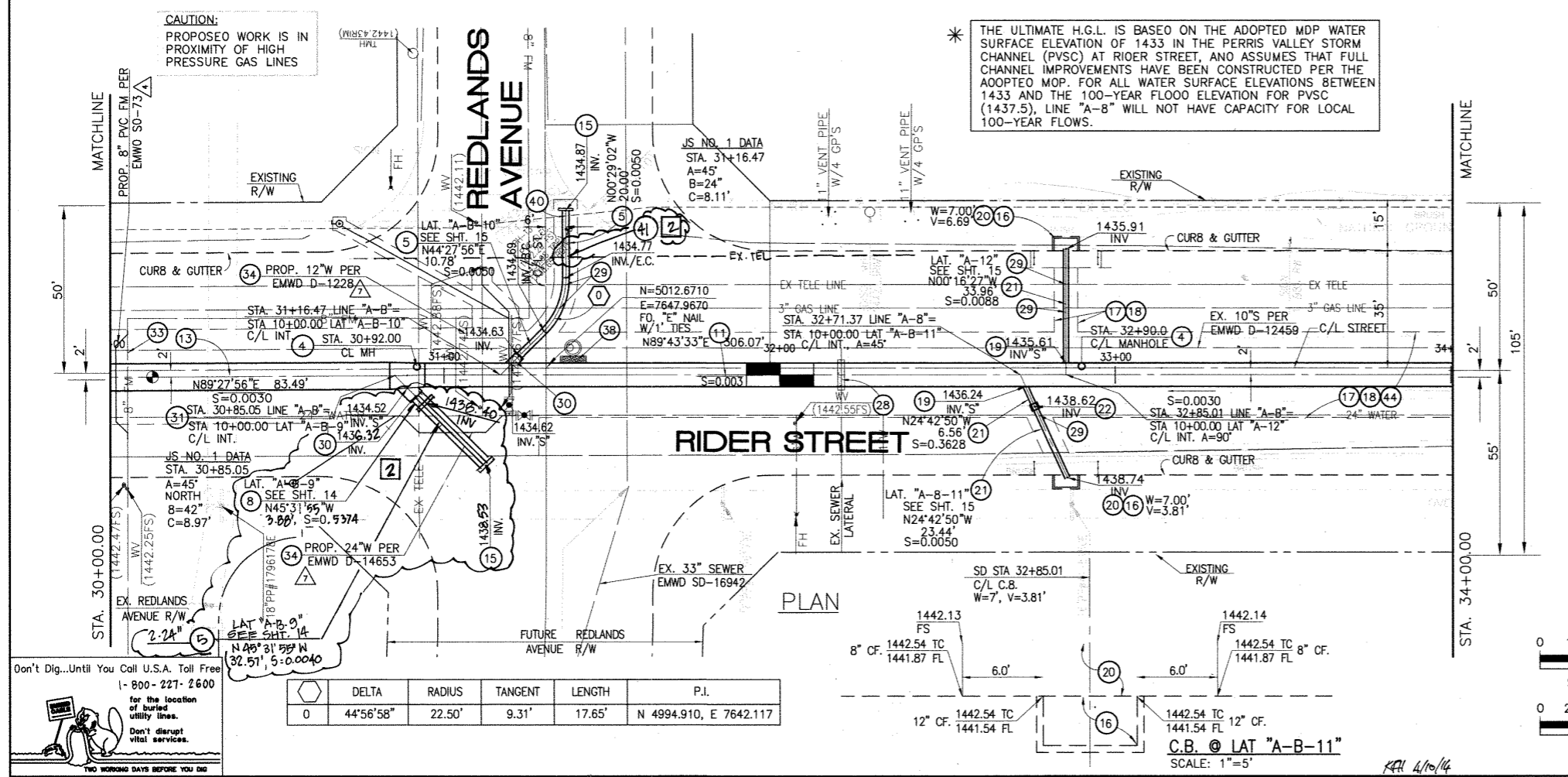
PERRIS VALLEY MDP LINE "A-B"
FROM STA. 26+00 TO STA. 30+00

CITY OF PERRIS FILE NO. P8-1013
PROJECT NO. 4-0-00537
DRAWING NO. 4-1063
SHEET NO. 6 OF 18



STORM DRAIN CONSTRUCTION NOTES:

- 4 CONSTRUCT MANHOLE NO. 3 PER R.C.F.C.&W.C.D. STD. DWG. MH253
- 5 CONSTRUCT 24" R.C.P. D-LOAD PER PLAN.
- 8 CONSTRUCT 42" R.C.P. D-LOAD PER PLAN.
- 11 CONSTRUCT 7' X 5' RCB PER CALTRANS STD. PLAN NO. 080 OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHT. 1 PRE-CAST RCB STD. PLAN 3900
- 13 CONSTRUCT 8' X 6' RCB PER CALTRANS STD. PLAN NO. 080 OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHT. 1.
- 15 CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C.&W.C.D. STD. DWG. M816.
- 16 CONSTRUCT CATCH BASIN NO.1 PER R.C.F.C.&W.C.D. STD. DWG. CB100
- 17 SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
- 18 UTILITY TRENCH AND SURFACE REPAIR PER CITY STANDARD ON SHT. NO. 18, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2.0'.
- 19 CONSTRUCT JUNCTION STRUCTURE NO.3 PER R.C.F.C.&W.C.D. STD. DWG. JS228.
- 20 CONSTRUCT LOCAL DEPRESSION NO. 2 CASE "B" PER R.C.F.C.&W.C.D. STD. DWG. L0201.
- 21 CONSTRUCT 18" R.C.P. D-LOAD PER PLAN.
- 22 CONSTRUCT CONCRETE COLLAR PER R.C.F.C.&W.C.D. STD. DWG. M803.
- 28 CONSTRUCT SEWER PROTECTION PER R.C.F.C.&W.C.D. STD. DWG. M807.
- 29 PROTECT IN PLACE EXISTING UTILITIES.
- 30 CONSTRUCT JUNCTION STRUCTURE NO.1 PER R.C.F.C.&W.C.D. STD. DWG. JS226.
- 31 CONSTRUCT TRANSITION STRUCTURE NO.2 PER R.C.F.C.&W.C.D. STD. DWG. TS302.
- 33 RELOCATE EXISTING SEWER LATERALS PER E.M.W.D. PLANS.
- 34 RELOCATE EXISTING WATER LINE PER E.M.W.D. PLANS.
- 38 SLURRY BACKFILL BETWEEN RCB AND MANHOLE.
- 40 RELOCATE EXISTING ELECTRICAL LINE.
- 44 SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18. SEE SEPARATE PAVING PLANS.



Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services. TWO WORKING DAYS BEFORE YOU DIG

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE
2	CHANGED SLOPE TO 0.0030 ADDED MH.				
1	CHANGED C.P. RCB TO PRE-CAST RCB PER R.C.F.C.&W.C.D. STD. PLAN 3900				

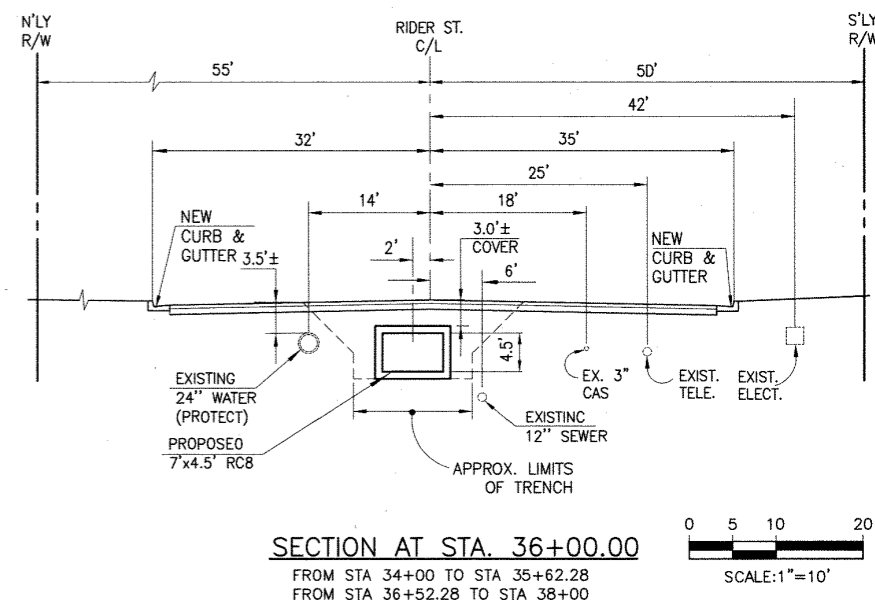
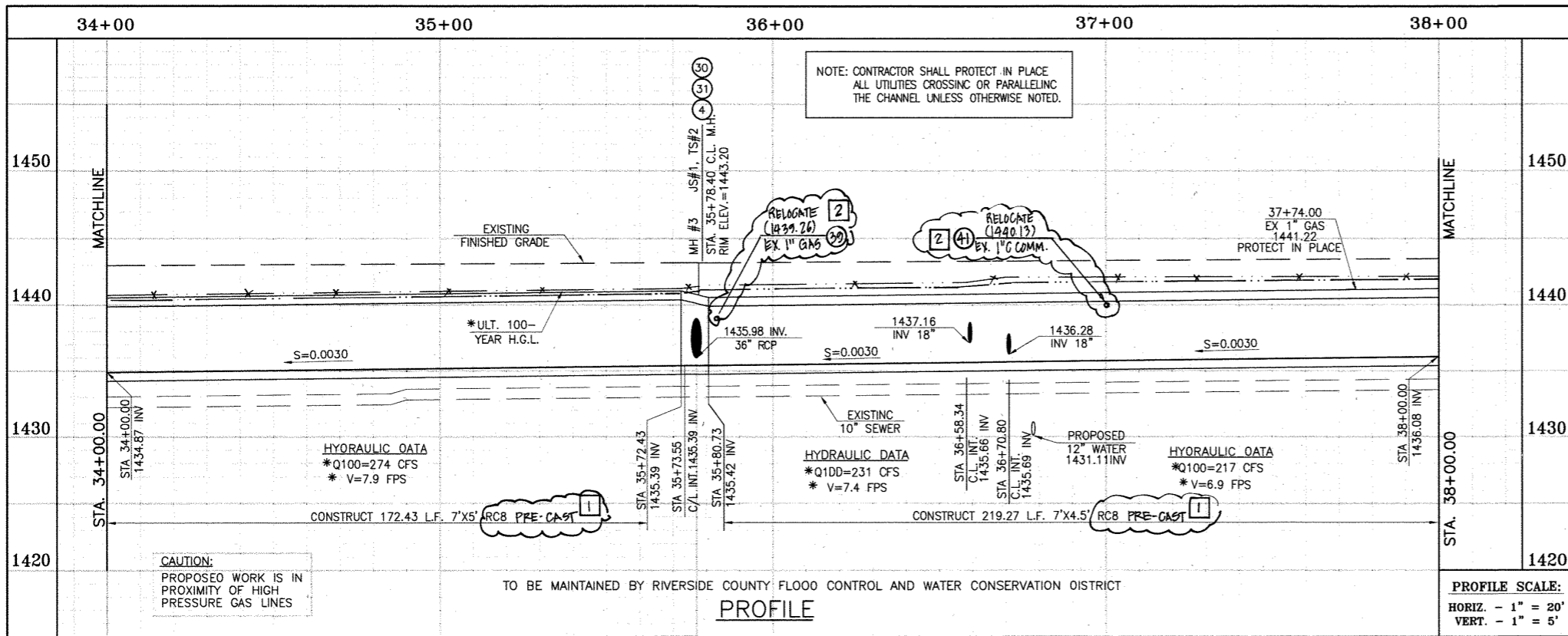
DESIGNED BY: BW
 DRAWN BY: ET
 DATE DRAWN:
 APPROVED BY: Thienes Engineering, Inc.
 CIVIL ENGINEERING & LAND SURVEYING
 14349 FIRESTONE BOULEVARD
 LA MIRADA, CALIFORNIA 90638
 PH: (714) 521-4811 FAX: (714) 521-4173
 HAIQOOK I. AGHAIAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY: [Signature]
 APPROVED BY: [Signature]
 DATE: 1/24/2015

CITY OF PERRIS APPROVED BY: [Signature]
 DATE: 12-15-14

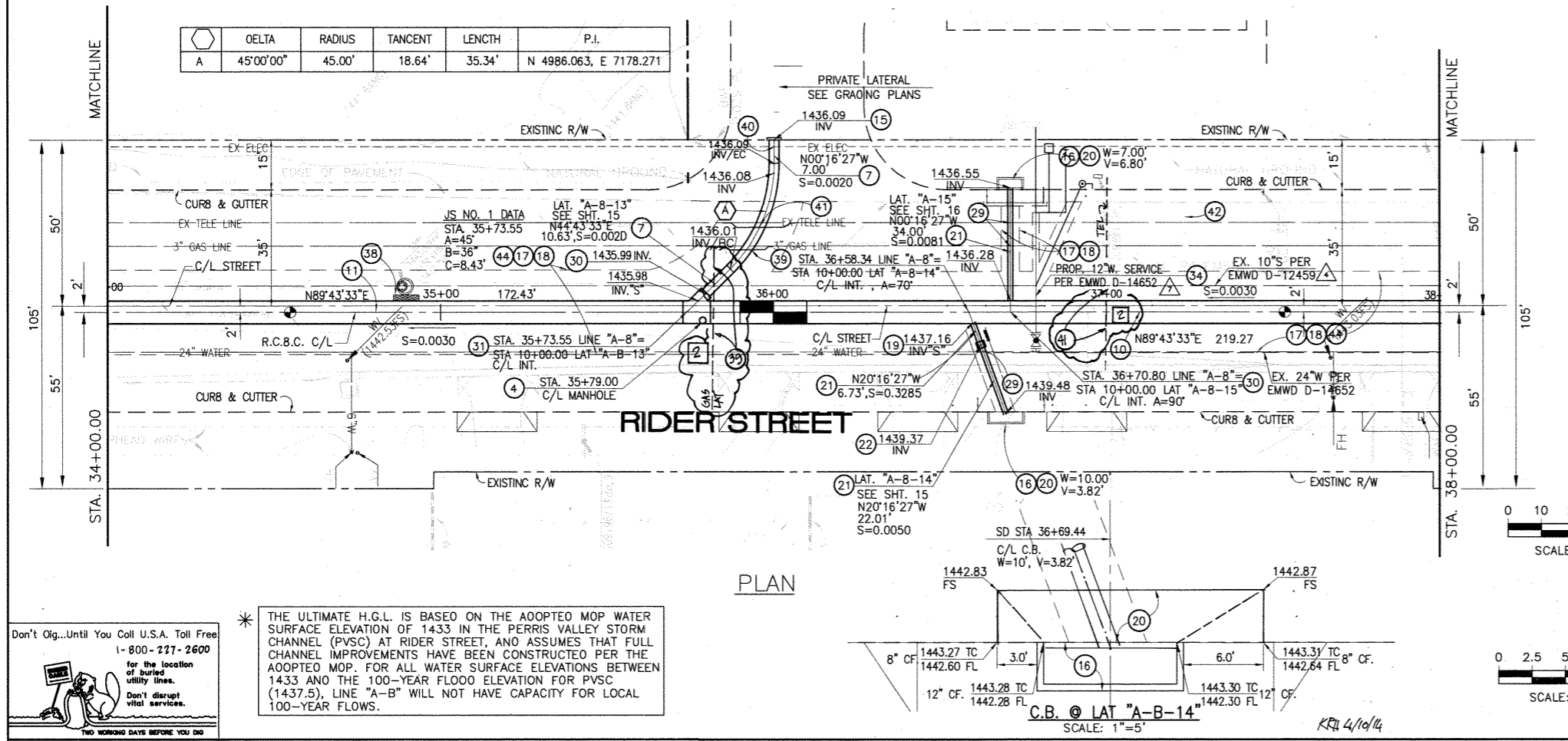
PERRIS VALLEY MDP LINE "A-B"
 FROM STA. 30+00 TO STA. 34+00

CITY OF PERRIS FILE NO. P8-1013
 PROJECT NO. 4-0-00537
 DRAWING NO. 4-1063
 SHEET NO. 7 OF 18



STORM DRAIN CONSTRUCTION NOTES:

- 4 CONSTRUCT MANHOLE NO. 3 PER R.C.F.C.&W.C.D. STD DWC. MH253
- 7 CONSTRUCT 36" R.C.P. D-LOAD PER PLAN.
- 10 CONSTRUCT 7' x 4.5' PER CALTRANS STD PLAN 800 OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHT. 1.
- 11 CONSTRUCT 7' x 5' RC8 PER CALTRANS STD PLAN 800 OR APPROVED EQUAL. SEE JOINT SEALANT ON SHT. 1.
- 15 CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C.&W.C.D. STD DWC. MB16.
- 16 CONSTRUCT CATCH BASIN NO.1 PER R.C.F.C.&W.C.D. STD. DWC. CB100
- 17 SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
- 18 UTILITY TRENCH AND SURFACE REPAIR PER CITY STANDARD ON SHT. NO. 18, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE 80X COVER IS LESS THAN 2.0'.
- 19 CONSTRUCT JUNCTION STRUCTURE NO. 3 PER R.C.F.C.&W.C.D. STD. DWC. JS228.
- 20 CONSTRUCT LOCAL DEPRESSION #2 CASE "B" PER R.C.F.C.&W.C.D. STD. DWC. LD201.
- 21 CONSTRUCT 18" R.C.P. D-LOAD PER PLAN.
- 22 CONSTRUCT CONCRETE COLLAR PER R.C.F.C.&W.C.D. STD DWC. MB03.
- 29 PROTECT IN PLACE EXISTING UTILITIES.
- 30 CONSTRUCT JUNCTION STRUCTURE NO. 1 PER R.C.F.C.&W.C.D. STD. DWC. JS226.
- 31 CONSTRUCT TRANSITION STRUCTURE NO. 2 PER R.C.F.C.&W.C.D. STD. DWC. TS302.
- 34 RELOCATE EXISTING WATER LINE PER E.M.W.D. PLANS.
- 38 SLURRY BACKFILL BETWEEN RC8 AND MANHOLE.
- 39 RELOCATE EXISTING GAS LINE.
- 40 RELOCATE EXISTING ELECTRICAL LINE.
- 41 RELOCATE EXISTING TELEPHONE LINE.
- 42 INSTALL NEW SEWER LATERAL PER E.M.W.D. PLANS.
- 44 SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18. SEE SEPARATE PAVING PLANS.



DELTA	RADIUS	TANGENT	LENGTH	P.I.	
A	45'00"00"	45.00'	18.64'	35.34'	N 4986.063, E 7178.271

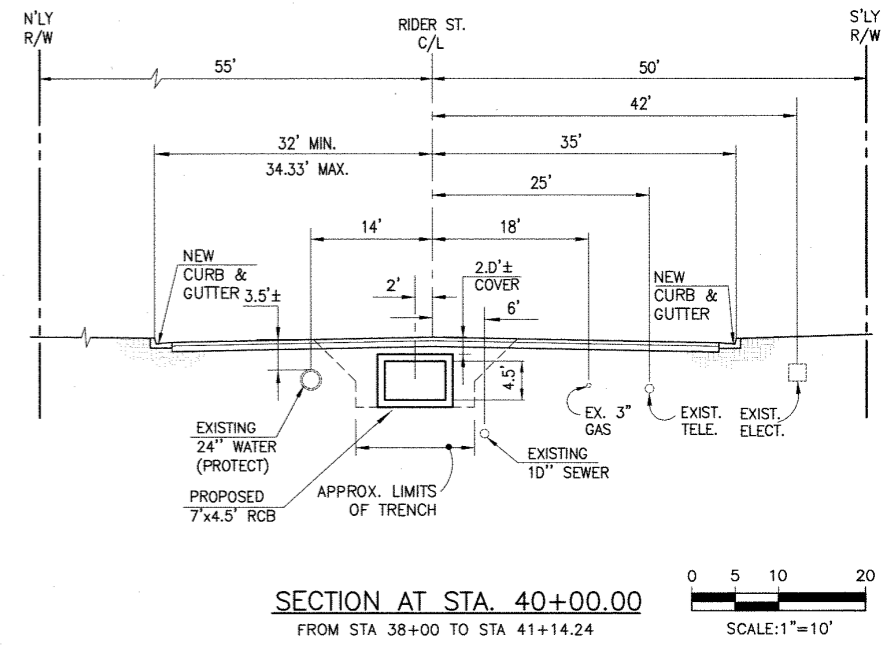
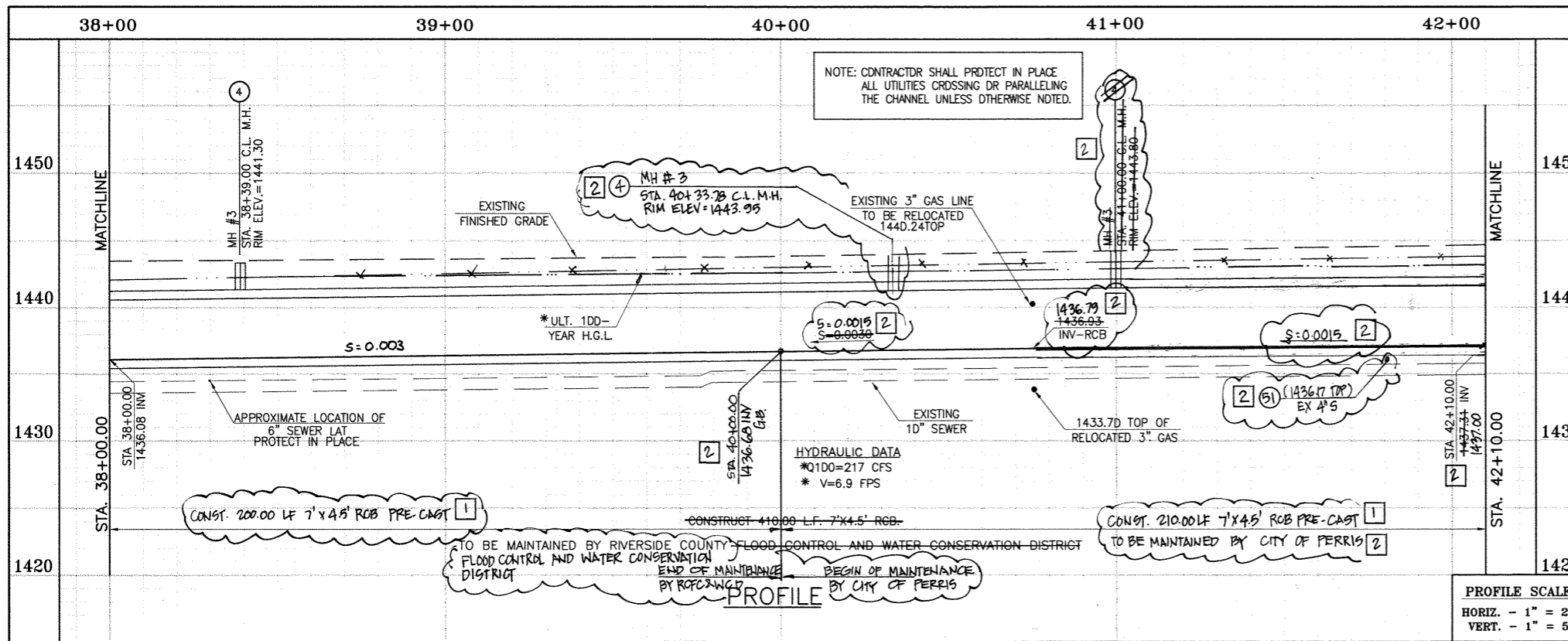
Don't Dig...Until You Call U.S.A. Toll Free
1-800-277-2600

for the location of buried utility lines.
Don't disrupt vital services.

NO WORKING DAYS BEFORE YOU DIG

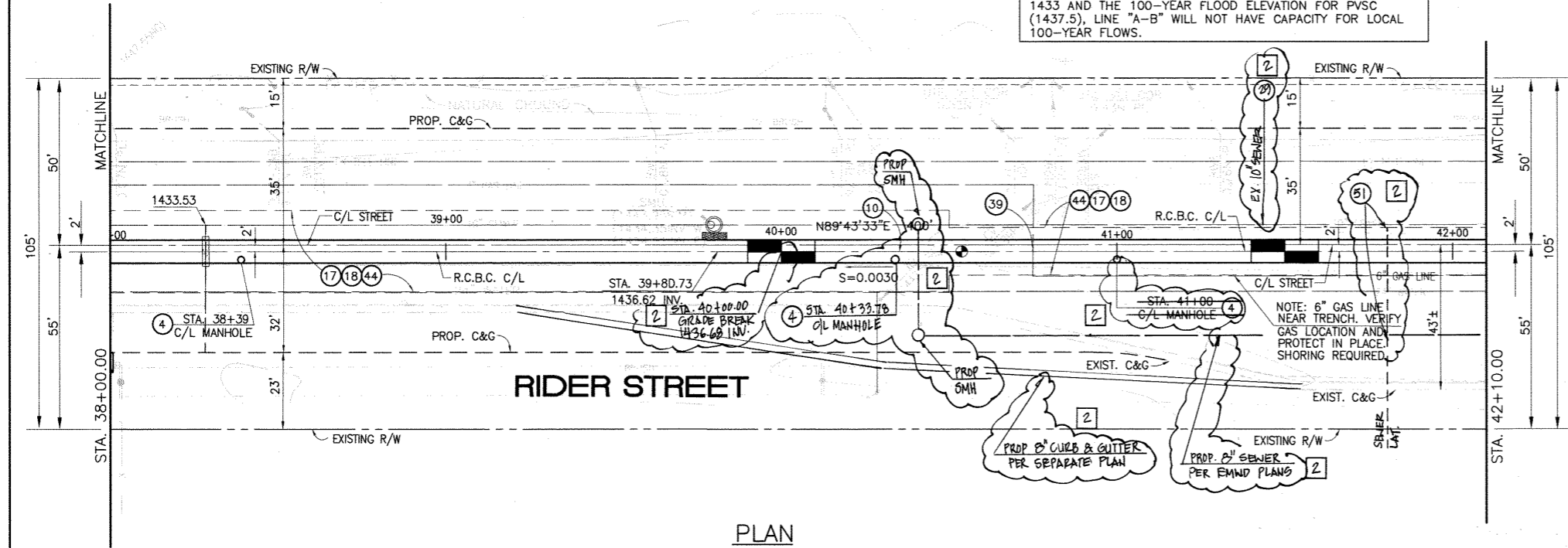
* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION FOR PVSC (1437.5), LINE "A-B" WILL NOT HAVE CAPACITY FOR LOCAL 100-YEAR FLOWS.

BENCH MARK COUNTY OF RIVERSIDE BENCHMARK NO. 34-31 COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB LOCATED AT THE CROSSING OF PERRIS BLVD. AND INV. CO. FLOOD CONTROL CHANNEL (PERRIS LATERAL) 47.43 FT. WEST OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF CONCRETE BRIDGE BARRIER. (EDGE OF BRIDGE) MARKED R-102 D.I.R. IN TOP OF CONC. POST FLUSH W/ GROUND ELEVATION = 1474.874' (MVD 1828)	REVISIONS 2 CHANGED SLOPE TO 0.005, ADDED MH, ADDED 16'S, CHANGED 42' LAT TO 24' LAT, ADDED EX. UTILITIES, RELOCATE UTILITIES, REV. S.D. 1 CHANGED C.I.P. RC8 TO PRE-CAST RC8 PER R.C.F.C.&W.C.D. PLAN 300-0	ENGINEER H.I.A. 2/1/16 H.I.A. 2/1/14	RCFC/ 2/5/14 2/5/14	DESIGNED BY: DW DRAWN BY: ET DATE DRAWN: 11/18/14	APPROVED BY: Thienes Engineering, Inc. CIVIL ENGINEERING & LAND SURVEYING 14349 FIRESTONE BOULEVARD LA MIRADA, CALIFORNIA 90638 PH (714) 521-4811 FAX (714) 521-4173 HAIDOOK I. AGHAJAN RCE NO. 43293	RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT RECOMMENDED FOR APPROVAL BY: DATE: 1/20/15 APPROVED BY: DATE: 1/20/15	CITY OF PERRIS APPROVED BY: DATE: 12-15-14	PERRIS VALLEY MDP LINE "A-B" FROM STA. 34+00 TO STA. 38+00	PROJECT NO. 4-0-00537 DRAWING NO. 4-1063 SHEET NO. 8 OF 18
	CITY OF PERRIS FILE NO. P8-1013								



CAUTION:
PROPOSED WORK IS IN PROXIMITY OF HIGH PRESSURE GAS LINES

* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MDP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MDP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION FOR PVSC (1437.5), LINE "A-B" WILL NOT HAVE CAPACITY FOR LOCAL 100-YEAR FLOWS.



STORM DRAIN CONSTRUCTION NOTES:

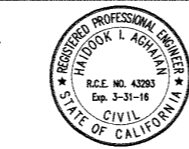
- 4 CONSTRUCT MANHOLE #3 PER R.C.F.C.&W.C.D. STD. DWG. MH253.
- 10 CONSTRUCT 7' X 4.5' RCB PER CALTRANS STD PLAN 300-0 OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHT. 1.
- 17 SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
- 18 UTILITY TRENCH AND SURFACE REPAIR PER CITY STANDARD ON SHT. NO. 18, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2.0'.
- 28 CONSTRUCT SEWER PROTECTION PER R.C.F.C.&W.C.D. STD. DWG. M8D7.
- 44 SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18. SEE SEPARATE PAVING PLANS.
- 51 PROTECT IN PLACE EXISTING UTILITIES.
- 51 REMOVE EXISTING SEWER LATERALS PER EMWD PLANS



BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. 31-31*
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK
MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER
OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB
LOCATED AT THE CROSSING OF PERRIS BLVD. AND 100' CO.
FLOOD CONTROL CHANNEL, PERRIS LATERAL #7, 43 FT. WEST
OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF
CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE)
MARKED M-102 D.W.P. IN TOP OF CONC. POST FLUSH W/
GROUND
ELEVATION = 1474.674' (MVD 1829)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE
2	CHANGED SLOPE TO 0.0030, ADDED MH, NOTED NEW UTILITIES, RELocate UTILITIES, REV. 5.0	H.L.A.	2/3/16	O/G	2/23/16
11	CHANGED C.L.P. RCB TO PRE-CAST RCB PER PLAN 300-0	H.L.A.	2/3/16	O/G	2/23/16

DESIGNED BY: **BW**
DRAWN BY: **ET**
DATE DRAWN:
APPROVED BY: **Thienes Engineering, Inc.**
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH: (714) 521-4811 FAX: (714) 521-4173
Date: 11/18/14
HAIDOOK I. AGHAJAN R.C.E. NO. 43293

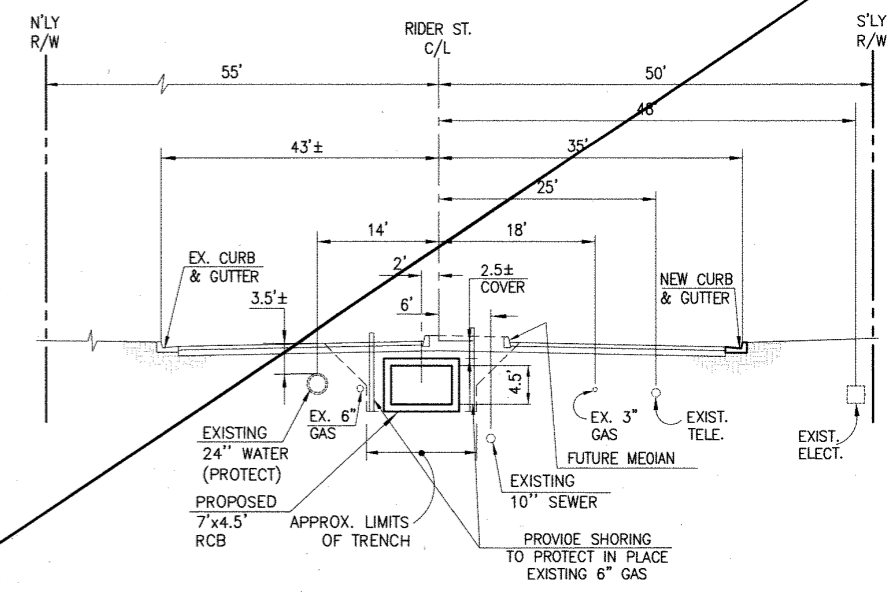
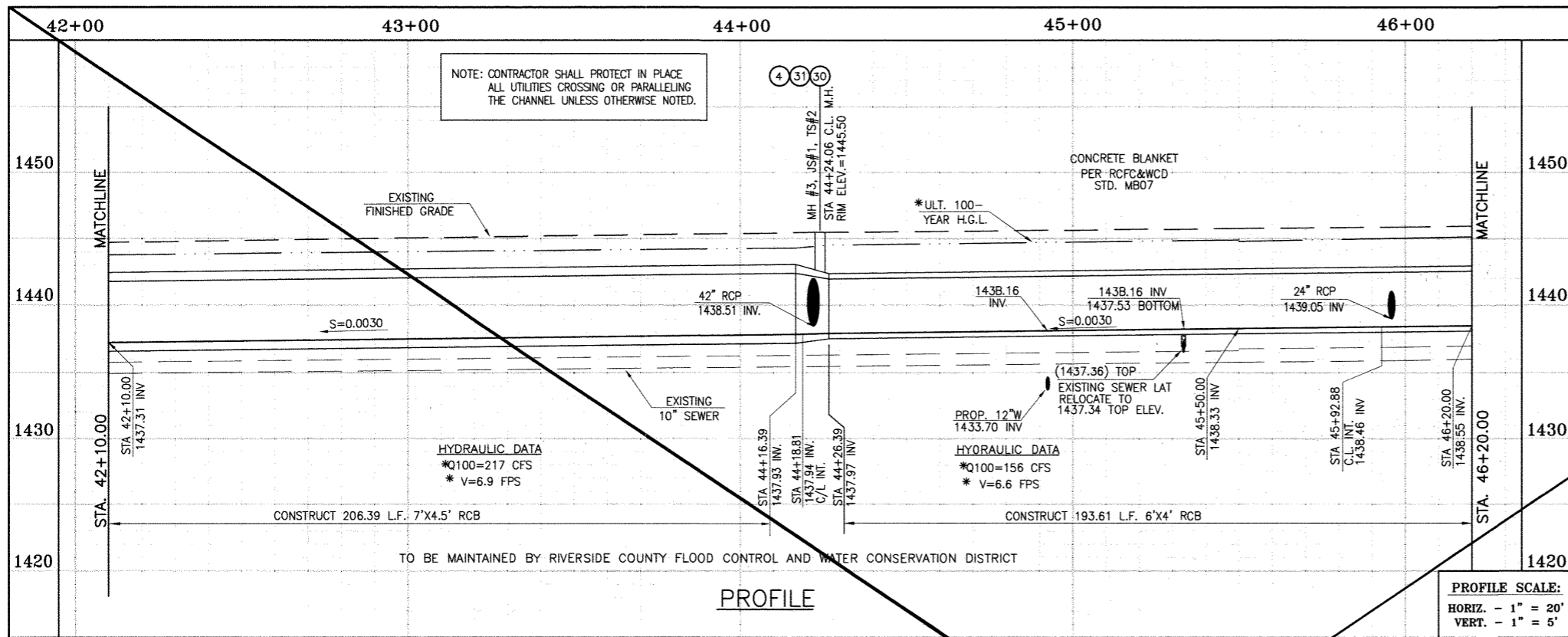


RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: [Signature]
APPROVED BY: [Signature]
DATE: 1/24/2015 DATE: 1/20/2015

CITY OF PERRIS
APPROVED BY: [Signature]
CITY ENGINEER
DATE: 12-15-14

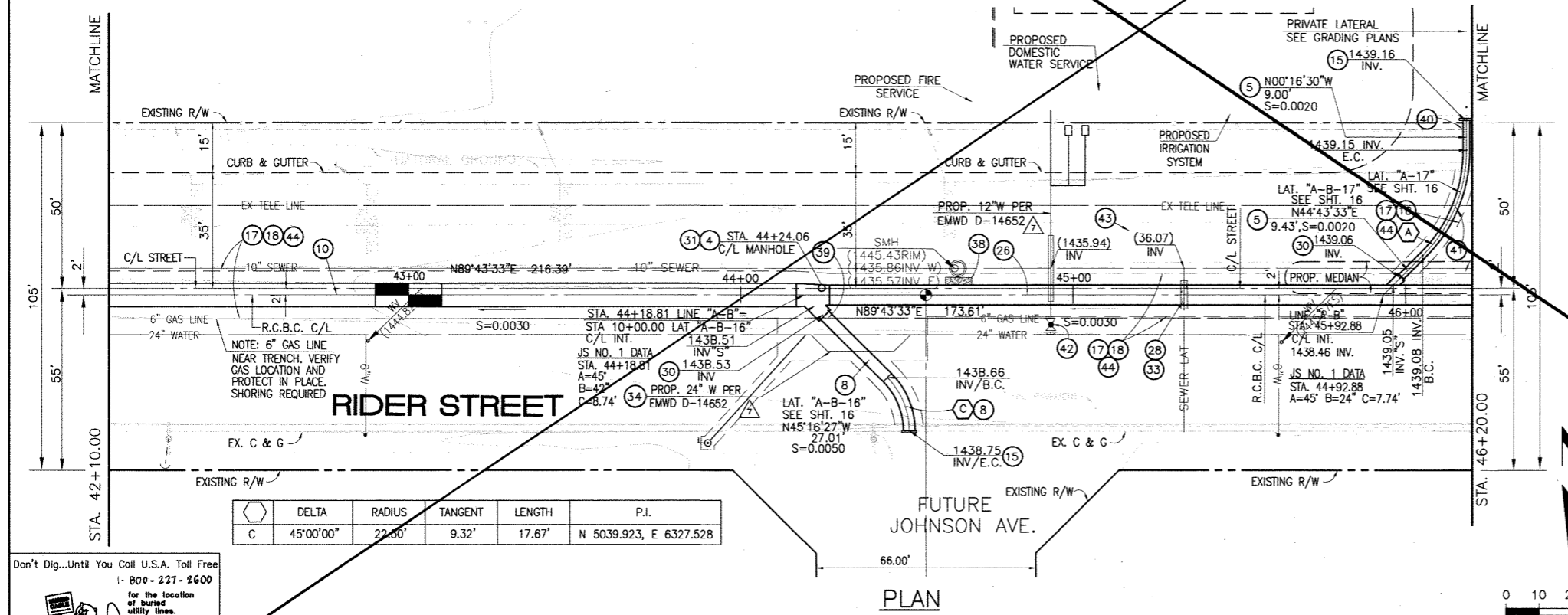
PERRIS VALLEY MDP
LINE "A-B"
FROM STA. 38+00 TO STA. 42+00

CITY OF PERRIS
FILE NO. P8-1013
PROJECT NO. 4-0-00537
DRAWING NO. 4-1063
SHEET NO. 9 OF 18



CAUTION:
PROPOSED WORK IS IN PROXIMITY OF HIGH PRESSURE GAS LINES

* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MDP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MDP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION FOR PVSC (1437.5), LINE "A-B" WILL NOT HAVE CAPACITY FOR LOCAL 100-YEAR FLOWS.



STORM DRAIN CONSTRUCTION NOTES:

- 4) CONSTRUCT MANHOLE NO. 3 PER R.C.F.C.&W.C.O. STO OWG. MH253
- 5) CONSTRUCT 24" R.C.P. D-LOAD PER PLAN.
- 7) CONSTRUCT 36" R.C.P. D-LOAD PER PLAN.
- 8) CONSTRUCT 42" R.C.P. D-LOAD PER PLAN.
- 10) CONSTRUCT 7' x 4.5' RCB PER CALTRANS STO PLAN NO. DBO OR APPROVED EQUAL.
- 15) CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C.&W.C.O. STO OWG. MB16.
- 17) SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
- 18) UTILITY TRENCH AND SURFACE REPAIR PER CITY STANDARD ON SHT. NO. 18, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2.0'.
- 26) CONSTRUCT 6' x 4' RCB PER CALTRANS STD PLAN NO. DBO. OR APPROVED EQUAL.
- 28) CONSTRUCT SEWER PROTECTION PER R.C.F.C.&W.C.O. STO. OWG. M807.
- 30) CONSTRUCT JUNCTION STRUCTURE NO.1 PER R.C.F.C.&W.C.D. STD. DWG. JS226.
- 31) CONSTRUCT TRANSITION STRUCTURE NO. 2 PER R.C.F.C.&W.C.D. STD. DWG. TS302.
- 33) RELOCATE EXISTING 6" SEWER LAT. PER E.M.W.O. PLANES
- 34) RELOCATE EXISTING WATER LINE PER E.M.W.D. PLANS.
- 38) SLURRY BACKFILL BETWEEN RCB AND MANHOLE.
- 39) RELOCATE EXISTING GAS LINE.
- 40) RELOCATE EXISTING ELECTRICAL LINE.
- 41) RELOCATE EXISTING TELEPHONE LINE.
- 42) CONSTRUCT PROPOSED 12" WATER MAIN, PER E.M.W.D. PLANS.
- 43) CONSTRUCT PROPOSED 6" SEWER LATERAL, PER E.M.W.D. PLANS.
- 44) SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18. SEE SEPARATE PAVING PLANS.



BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. 74-31*
COUNTY OF RIVERSIDE BENCHMARK NO. 74-31* ALUMINUM DISK
MARKED M-31, LOCATED FLUSH TO THE SOUTH WEST CORNER
OF BRIDGE ON TOP OF SEWER NEAR FACE OF CURB
LOCATED AT THE CROSSING OF PERRIS BLVD. AND 100' CO.
FLOOD CONTROL CHANNEL (PERRIS LATERAL) AT 43 FT. WEST
OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF
CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE)
MARKED SURFACE D.W.G. IN TOP OF CONC. POST FLUSH W/
GRAVEL
ELEVATION = 1476.674' (NVD 1929)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE
	REVISIONS				
	SHEET SUPERSEDED BY 10A				

DESIGNED BY: BW
DRAWN BY: ET
DATE DRAWN:

APPROVED BY: **Thienes Engineering, Inc.**
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH. (714) 521-4811 FAX (714) 521-4173

HAIDOOK I. AGHAJAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

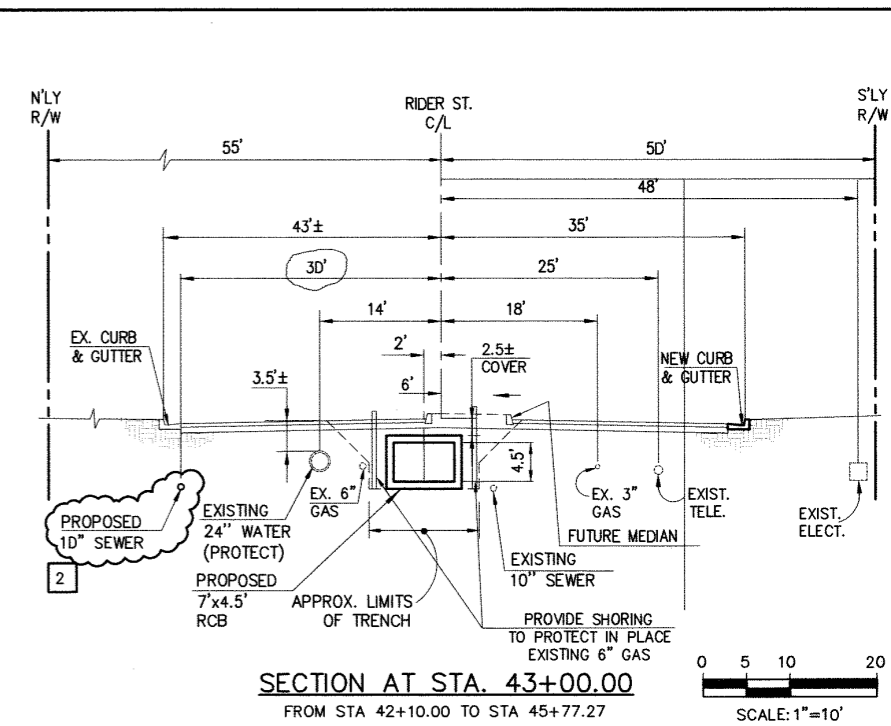
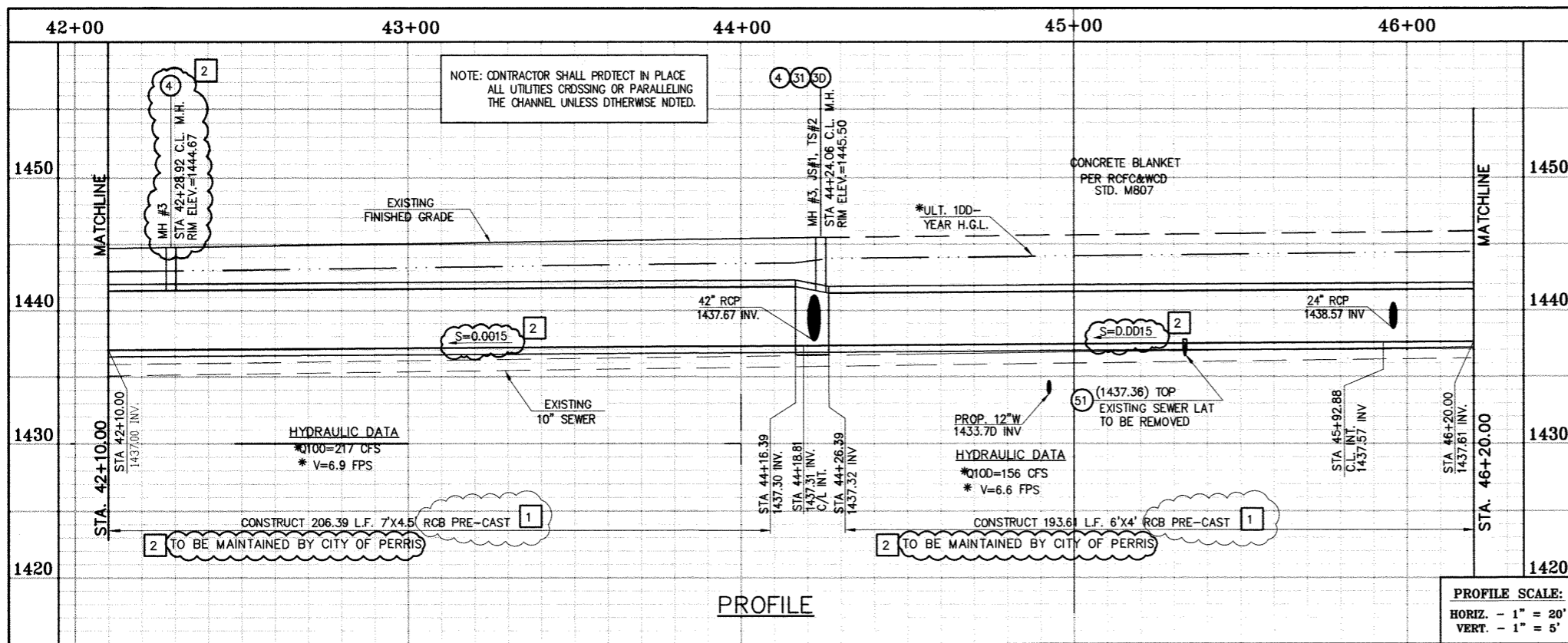
RECOMMENDED FOR APPROVAL BY: [Signature]
DATE: 1/20/2015

APPROVED BY: [Signature]
DATE: 1/20/2015

CITY OF PERRIS APPROVED BY: [Signature]
DATE: 12-15-14

PERRIS VALLEY MDP LINE "A-B"
FROM STA. 42+10 TO STA. 46+20

CITY OF PERRIS FILE NO. P8-1013
PROJECT NO. 4-0-00537
DRAWING NO. 41063
SHEET NO. 10 OF 18

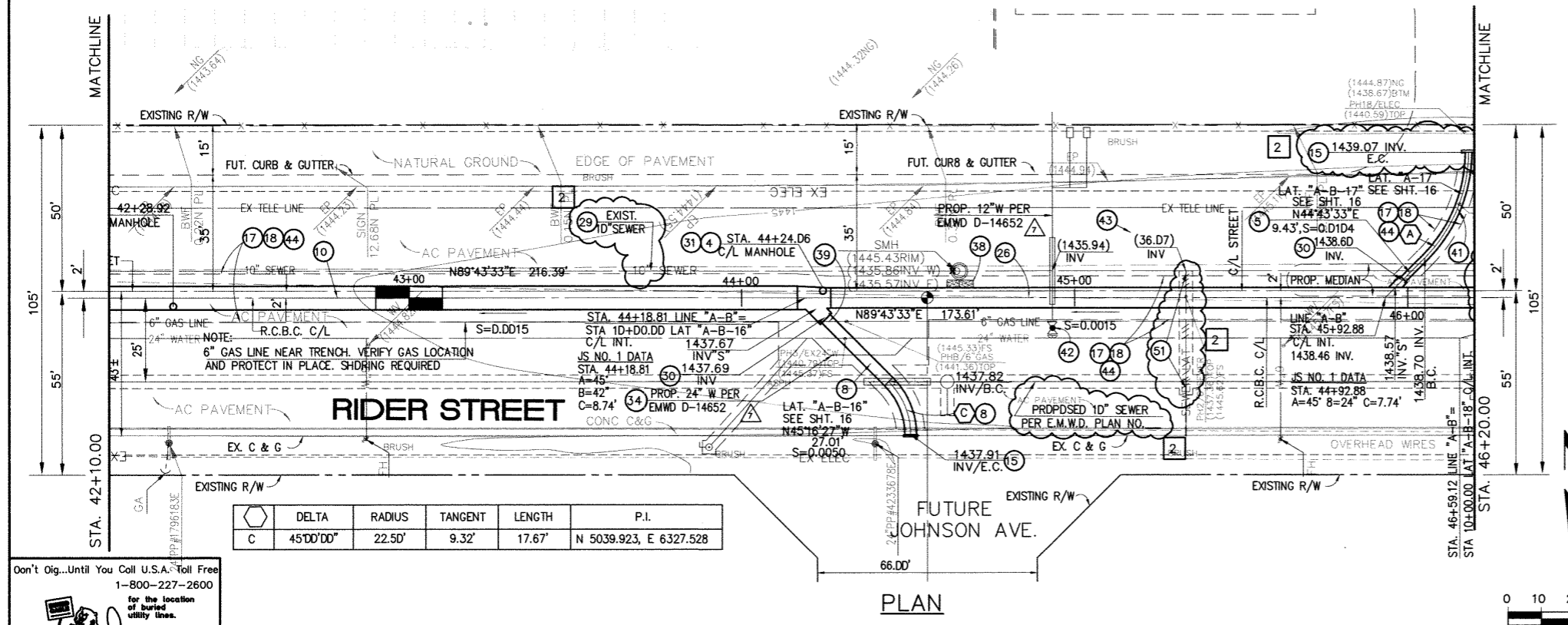


* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION FOR PVSC (1437.5), LINE "A-B" WILL NOT HAVE CAPACITY FOR LOCAL 100-YEAR FLOWS.

CAUTION:
PROPOSED WORK IS IN PROXIMITY OF HIGH PRESSURE GAS LINES

STORM DRAIN CONSTRUCTION NOTES:

- 4 CONSTRUCT MANHOLE NO. 3 PER R.C.F.C.&W.C.D. STD DWG. MH253
- 5 CONSTRUCT 24" R.C.P, D-LOAD PER PLAN.
- 7 CONSTRUCT 36" R.C.P, D-LOAD PER PLAN.
- 8 CONSTRUCT 42" R.C.P, D-LOAD PER PLAN.
- 10 CONSTRUCT 7' X 4.5' PRE-CAST RCB APWA STD PLAN 39D-D OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHEET #1.
- 15 CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C.&W.C.D. STD DWG. M816.
- 17 SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
- 18 UTILITY TRENCH AND SURFACE REPAIR PER CITY STANDARD ON SHT. NO. 18, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2'-0"
- 26 CONSTRUCT 6' X 4' PRE-CAST RCB APWA STD PLAN 39D-D OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHEET #1.
- 28 CONSTRUCT SEWER PROTECTION PER R.C.F.C.&W.C.D. STD. DWG. M8D7.
- 29 PROTECT IN PLACE EXISTING UTILITIES
- 30 CONSTRUCT JUNCTION STRUCTURE NO.1 PER R.C.F.C.&W.C.D. STD. DWG. JS226.
- 31 CONSTRUCT TRANSITION STRUCTURE NO. 2 PER R.C.F.C.&W.C.D. STD. DWG. TS302.
- 33 RELOCATE EXISTING 6" SEWER LAT. PER E.M.W.D. PLANS
- 34 RELOCATE EXISTING WATER LINE PER E.M.W.D. PLANS.
- 36 SLURRY BACKFILL BETWEEN RCB AND MANHOLE.
- 39 RELOCATE EXISTING GAS LINE.
- 40 RELOCATE EXISTING ELECTRICAL LINE.
- 41 RELOCATE EXISTING TELEPHONE LINE.
- 42 CONSTRUCT PROPOSED 12" WATER MAIN, PER E.M.W.D. PLANS.
- 43 CONSTRUCT PROPOSED 6" SEWER LATERAL, PER E.M.W.D. PLANS.
- 44 SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18. SEE SEPARATE PAVING PLANS.
- 51 REMOVE EXISTING SEWER LATERALS PER E.M.W.D. PLANS.



Don't Dig...Until You Call U.S.A. Toll Free
1-800-227-2600
for the location of buried utility lines.
Don't disrupt vital services.
TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. "A-31"
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK
MARKED M-35, LOCATED FLUSH AT THE SOUTH WEST CORNER
OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB
LOCATED AT THE CROSSING OF PERRIS BLVD. AND INV. CO.
FLOOD CONTROL CHANNEL, PERRIS LAKE. 74.3 4.5 FT. WEST
OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF
CONCRETE BRIDGE BARRIER. (EDGE OF BRIDGE)
MARKED A-102 D.W.R. IN TOP OF CONC. POST FLUSH W/
GROUND
ELEVATION = 1474.674' (NAVD 1829)

REVISIONS	ENGINEER	RCFC/	DESIGNED BY:
2	H.I.A.	2/17/16	2/17/16
1	H.I.A.	2/17/16	2/17/16

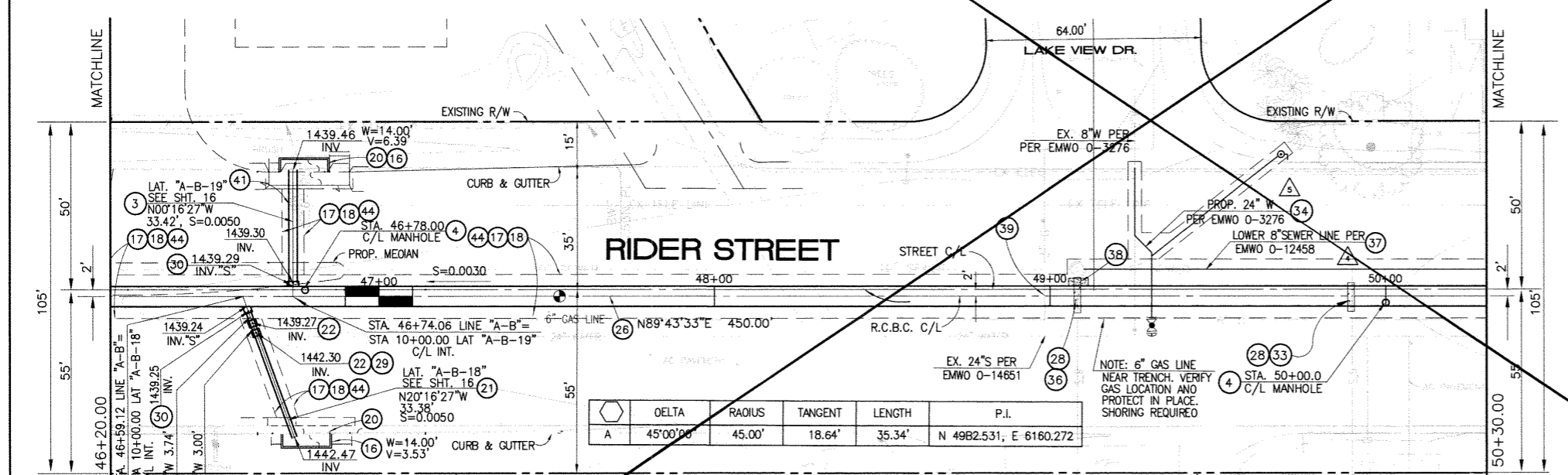
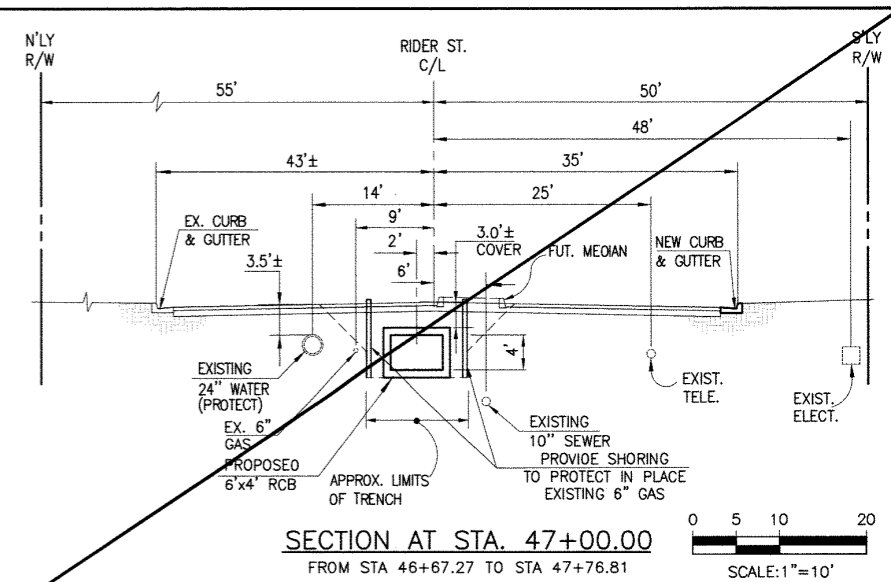
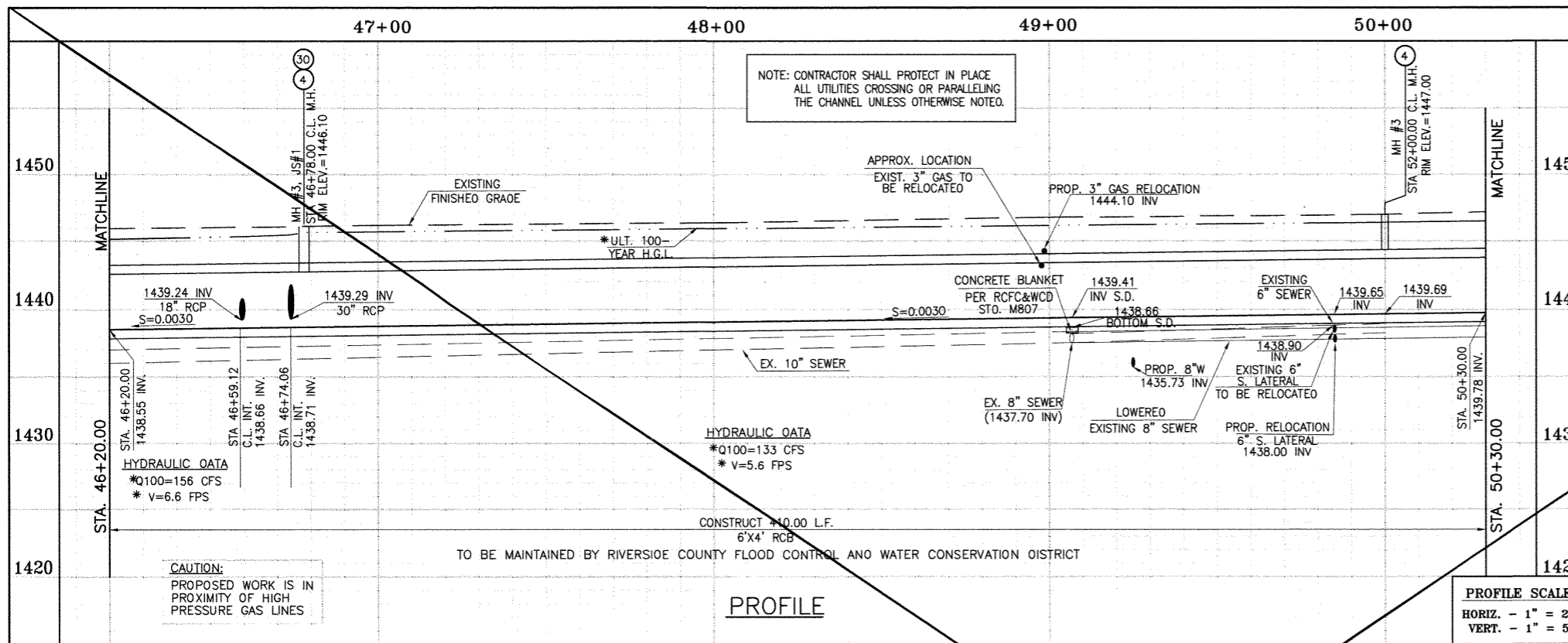
DESIGNED BY:
DRAWN BY:
DATE DRAWN:
Thienes Engineering, Inc.
CIVIL ENGINEERING - LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH. (714) 521-4811 FAX (714) 521-4173
Date: 2/1/16
HAIDOOK I. AGHAIAN RCE NO. 43293

APPROVED BY:
HAIDOOK I. AGHAIAN
PROFESSIONAL ENGINEER
CIVIL
STATE OF CALIFORNIA
RCE NO. 43293
Exp. 3-31-16

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY:
APPROVED BY:
DATE:
DATE:

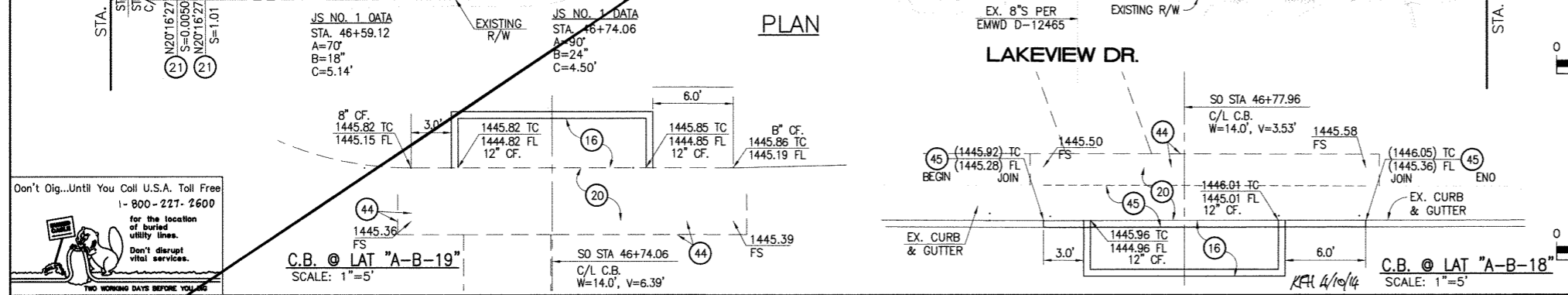
CITY OF PERRIS APPROVED BY:
PERRIS VALLEY MDP LINE "A-B"
FROM STA. 42+10 TO STA. 46+20

CITY OF PERRIS
FILE NO. PB-1013
PROJECT NO. 4-0-00537
DRAWING NO. 4-1063
SHEET NO. 10A OF 18



STORM DRAIN CONSTRUCTION NOTES:

- 3) CONSTRUCT 30" R.C.P., 0-LOAD PER PLAN.
- 4) CONSTRUCT MANHOLE NO.3 PER R.C.F.C.&W.C.O. STO OWG. MH253
- 16) CONSTRUCT CATCH BASIN NO.1 PER R.C.F.C.&W.C.O. STO. OWG. CB100
- 17) SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
- 18) UTILITY TRENCH AND SURFACE REPAIR PER CITY STANDARD ON SHT. NO. 18, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2.0'.
- 20) CONSTRUCT LOCAL DEPRESSION NO. 2 CASE "B" PER R.C.F.C.&W.C.O. STO. OWG. L0201.
- 21) CONSTRUCT 18" R.C.P., 0-LOAD PER PLAN.
- 22) CONSTRUCT CONCRETE COLLAR PER R.C.F.C.&W.C.O. STO OWG. M803.
- 26) CONSTRUCT 6' X 4' RCB PER CALTRANS STO PLAN NO. 080. OR APPROVED EQUAL.
- 28) CONSTRUCT SEWER PROTECTION PER R.C.F.C.&W.C.O. STO. OWG. M807.
- 29) PROTECT IN PLACE EXISTING UTILITY
- 30) CONSTRUCT JUNCTION STRUCTURE NO.1 PER R.C.F.C.&W.C.O. STO. OWG. JS226.
- 33) RELOCATE EXISTING SEWER LATERALS PER E.M.W.O. PLANS.
- 34) RELOCATE EXISTING WATER LINE PER E.M.W.O. PLANS.
- 36) INSTALL NEW SEWER LATERAL PER E.M.W.O. PLANS.
- 37) LOWER EXISTING SEWER MAIN PER E.M.W.O. PLANS.
- 38) SLURRY BACKFILL BETWEEN RCB AND MANHOLE.
- 39) RELOCATE EXISTING GAS LINE.
- 41) RELOCATE EXISTING TELEPHONE LINE.
- 44) SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STO. ON SHEET 18. SEE SEPARATE PAVING PLANS.
- 45) REMOVE EXISTING CONCRETE CURB AND GUTTER.



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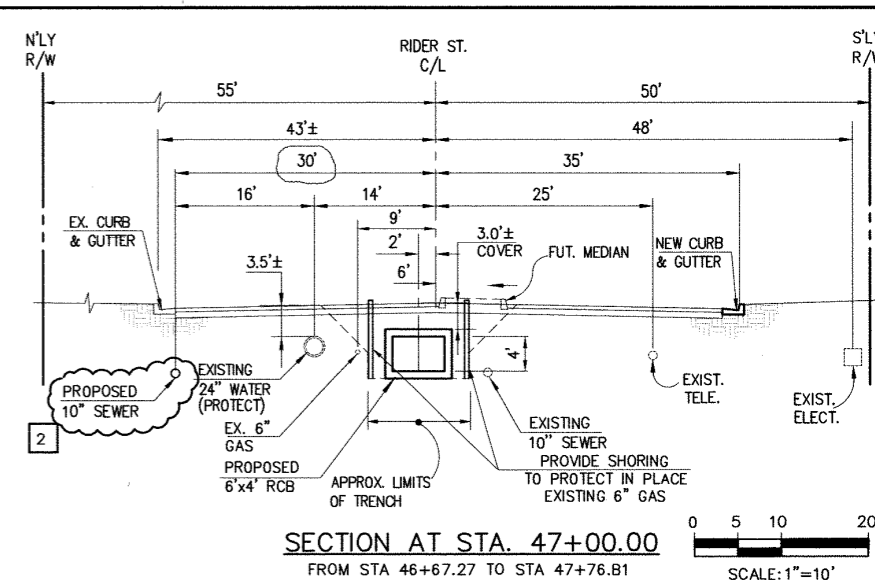
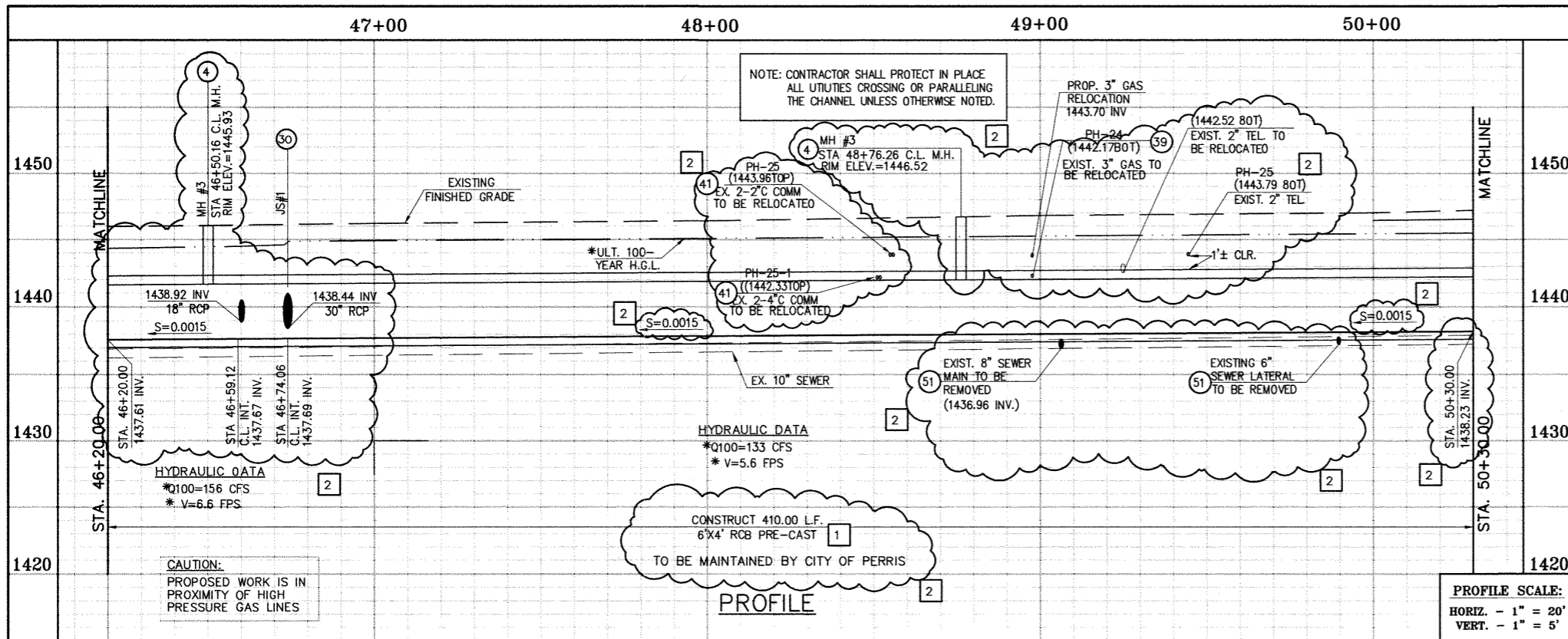
BENCH MARK COUNTY OF RIVERSIDE BENCHMARK NO. 70-31

DESIGNED BY: BW	APPROVED BY: [Signature]	RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	CITY OF PERRIS APPROVED BY: [Signature]	PERRIS VALLEY MDP LINE "A-B"	CITY OF PERRIS FILE NO. P8-1013
DRAWN BY: ET	DATE: 11/18/14	RECOMMENDED FOR APPROVAL BY: [Signature]	DATE: 12/15/14	PROJECT NO. 4-0-00537	PROJECT NO. 4-0-00537
DATE DRAWN:	DATE: 1/20/2015	DATE: 1/20/2015	DATE: 12-15-14	DRAWING NO. 4-1063	DRAWING NO. 4-1063
DESCRIPTION	APPR. DATE	APPR. DATE	DATE	SHEET NO. 11 OF 18	SHEET NO. 11 OF 18

THIENES ENGINEERING, INC. CIVIL ENGINEERING & LAND SURVEYING 14349 FIRESTONE BOULEVARD LA MIRADA, CALIFORNIA 90638

REGISTERED PROFESSIONAL ENGINEER HAIDOOK I. AGHAJAN R.C.E. NO. 43293 Exp. 3-31-16 STATE OF CALIFORNIA

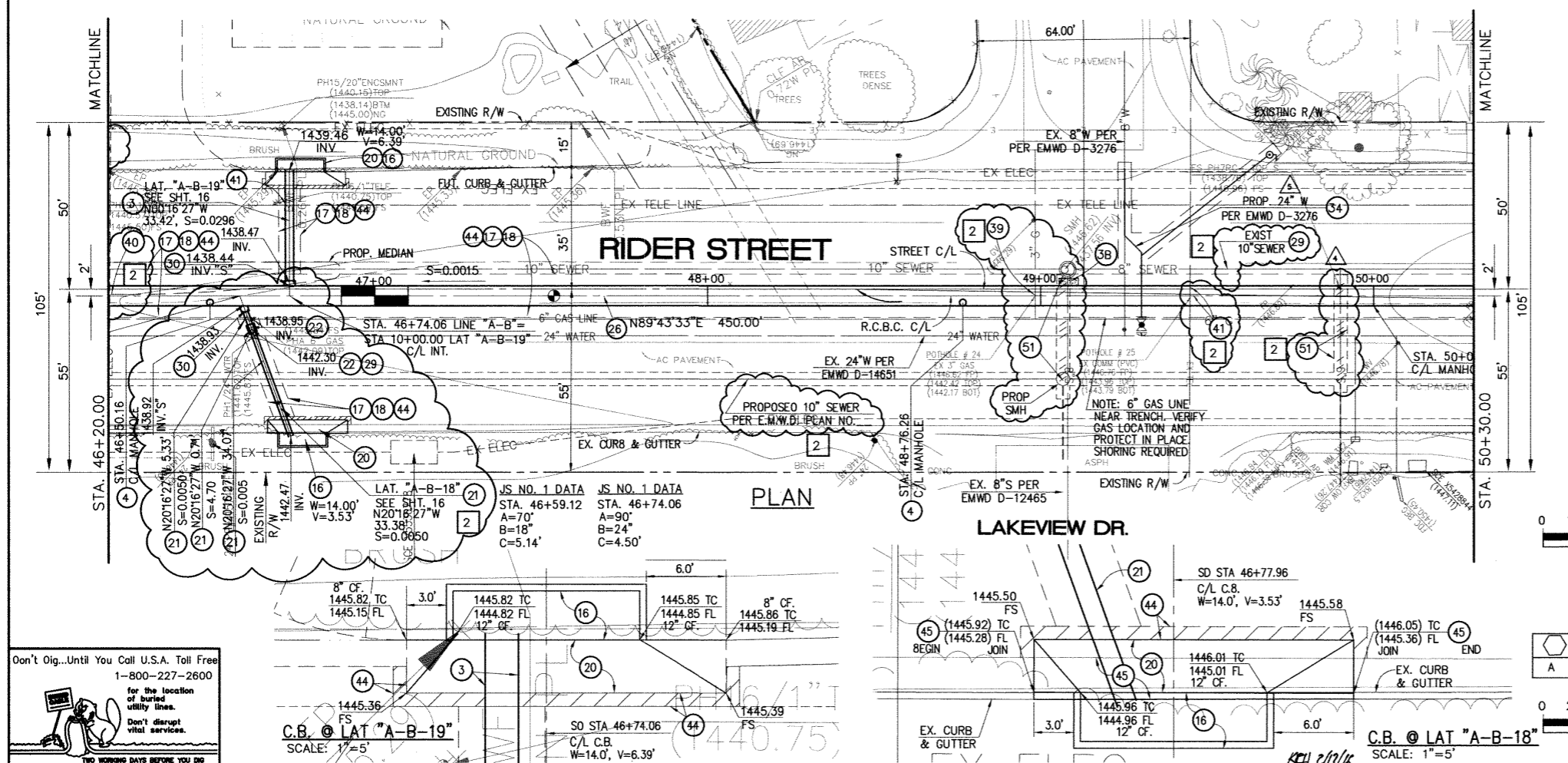
FROM STA. 46+20 TO STA. 50+30



* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION FOR PVSC (1437.5), LINE "A-B" WILL NOT HAVE CAPACITY FOR LOCAL 100-YEAR FLOWS.

STORM DRAIN CONSTRUCTION NOTES:

- 3) CONSTRUCT 30" R.C.P., D-LOAD PER PLAN.
- 4) CONSTRUCT MANHOLE NO.3 PER R.C.F.C.&W.C.D. STD DWG. MH253
- 16) CONSTRUCT CATCH BASIN NO.1 PER R.C.F.C.&W.C.O. STD. DWG. CB100
- 17) SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
- 18) UTILITY TRENCH AND SURFACE REPAIR PER CITY STANDARD ON SH. NO. 18, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2.0'.
- 20) CONSTRUCT LOCAL DEPRESSION NO. 2 CASE "B" PER R.C.F.C.&W.C.D. STD. DWG. LD201.
- 21) CONSTRUCT 18" R.C.P., D-LOAD PER PLAN.
- 22) CONSTRUCT CONCRETE COLLAR PER R.C.F.C.&W.C.D. STD DWG. M803.
- 26) CONSTRUCT 6' X 4' PRE-CAST RCB APWA STD PLAN 390-0 OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHEET #1.
- 28) CONSTRUCT SEWER PROTECTION PER R.C.F.C.&W.C.O. STD. DWG. M807.
- 29) PROTECT IN PLACE EXISTING UTILITY
- 30) CONSTRUCT JUNCTION STRUCTURE NO.1 PER R.C.F.C.&W.C.D. STD. DWG. JS226.
- 33) RELOCATE EXISTING SEWER LATERALS PER E.M.W.D. PLANS.
- 34) RELOCATE EXISTING WATER LINE PER E.M.W.D. PLANS.
- 36) INSTALL NEW SEWER LATERAL PER E.M.W.D. PLANS.
- 37) LOWER EXISTING SEWER MAIN PER E.M.W.D. PLANS.
- 38) SLURRY BACKFILL BETWEEN RCB AND MANHOLE.
- 39) RELOCATE EXISTING GAS LINE.
- 41) RELOCATE EXISTING TELEPHONE LINE.
- 44) SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18. SEE SEPARATE PAVING PLANS.
- 45) REMOVE EXISTING CONCRETE CURB AND GUTTER.
- 51) REMOVE EXISTING SEWER LATERALS PER E.M.W.D. PLANS.



Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services. TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. "M-31"
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB LOCATED AT THE CROSSING OF PERRIS BLVD. AND RIV. CO. FLOOD CONTROL CHANNEL, PERRIS LATERAL, 7'3" 43 FT. WEST OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF CONCRETE BRIDGE BARRIER. (EDGE OF BRIDGE) MARKED R-102 BLK. IN TOP OF CONC. POST FLUSH W/ GROUND ELEVATION = 1474.874' (NAVD 1828)

REVISIONS	ENGINEER	RCFC/	DESIGNED BY:
2	H.I.A.	2/29/16	J.S.
1	H.L.A.	2/25/16	J.S.

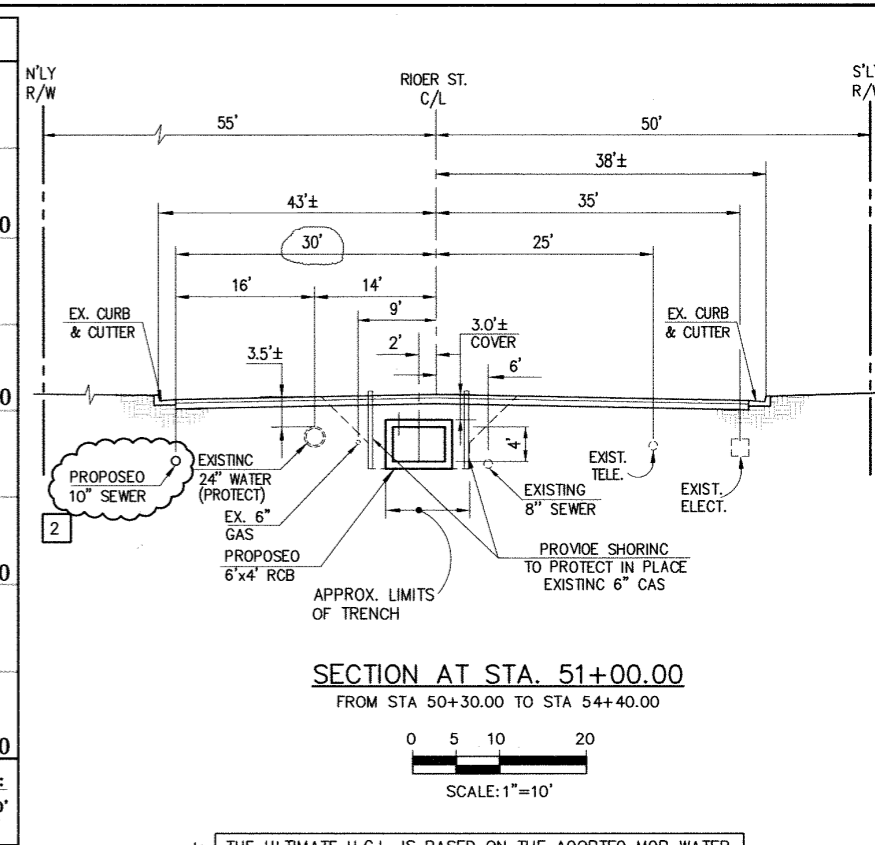
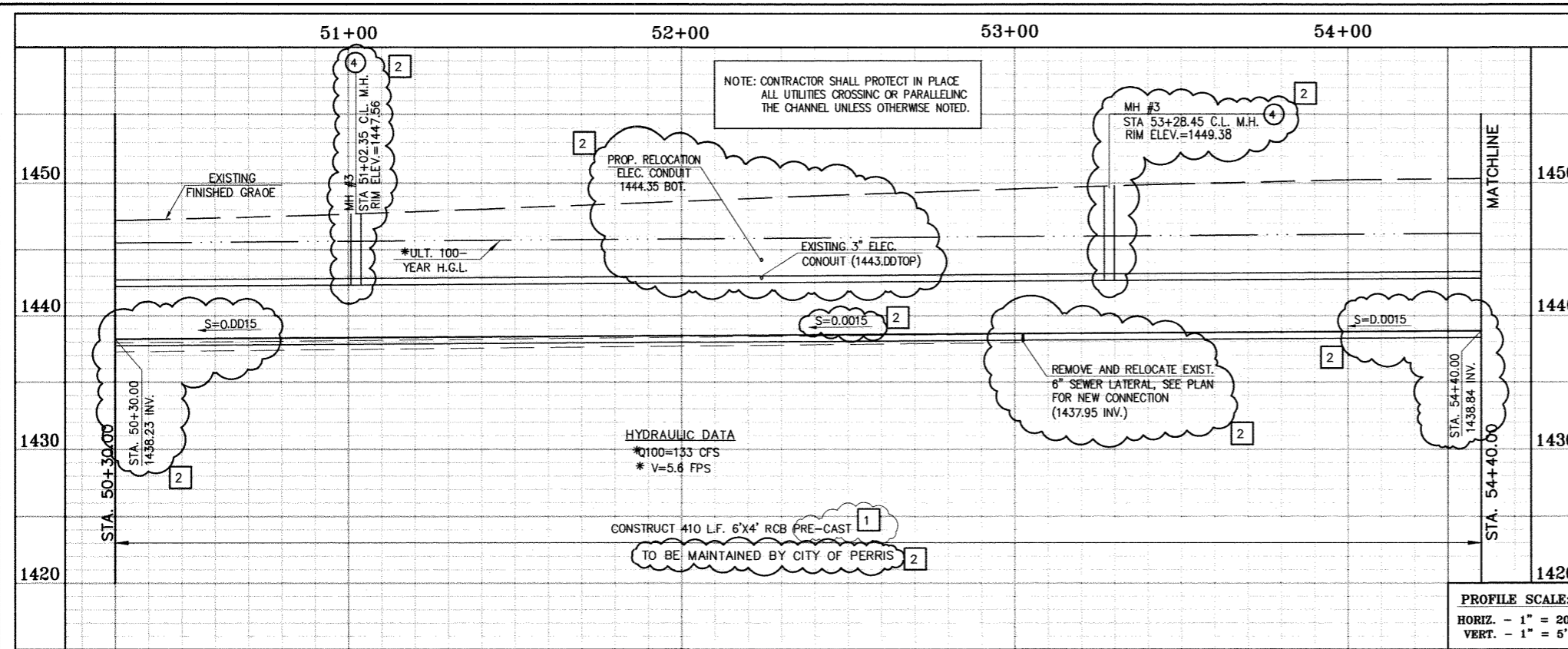
Thienes Engineering, Inc.
CIVIL ENGINEERING - LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH: (714) 521-4811 FAX: (714) 521-4173
Date: 2/1/16
HAIDOOK I. AGHAIAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: [Signature]
APPROVED BY: [Signature]
DATE: [Blank] DATE: [Blank]

CITY OF PERRIS APPROVED BY: [Signature]
DATE: 2-9-16
RECOMMENDED DATE: [Blank]

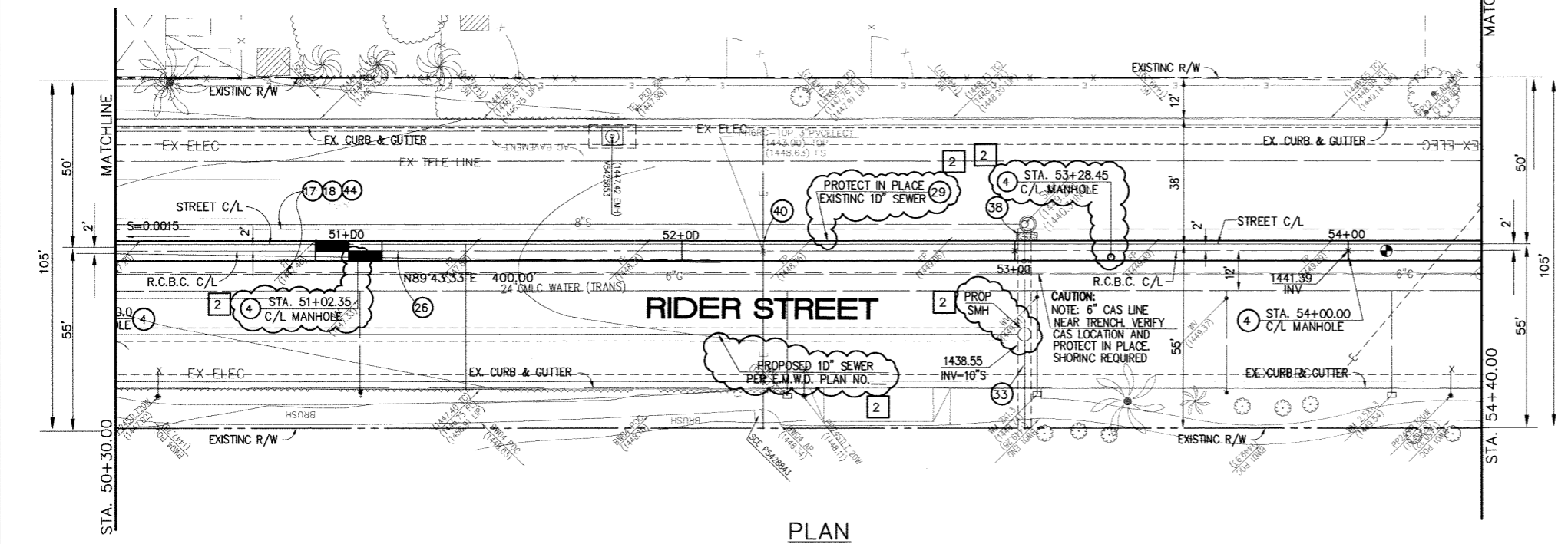
PERRIS VALLEY MDP
LINE "A-B"
FROM STA. 46+20 TO STA. 50+30

PROJECT NO. 4-0-00537
DRAWING NO. 4-1063
SHEET NO. 11A OF 18



* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION FOR PVC (1437.5), LINE "A-B" WILL NOT HAVE CAPACITY FOR LOCAL 100-YEAR FLOWS.

CAUTION:
PROPOSED WORK IS IN PROXIMITY OF HIGH PRESSURE GAS LINES



STORM DRAIN CONSTRUCTION NOTES:

- 4) CONSTRUCT MANHOLE NO. 3 PER R.C.F.C.&W.C.O. STD DWC. MH253
- 17) SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
- 18) UTILITY TRENCH AND SURFACE REPAIR PER CITY STANDARD ON SHT. NO. 18, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2'-0".
- 26) CONSTRUCT 6' X 4' PRE-CAST RCB APWA STD PLAN 390-0 OR APPROVED EQUAL SEE JOINT SEALANT NOTE ON SHEET #1.
- 28) CONSTRUCT SEWER PROTECTION PER R.C.F.C.&W.C.O. STD. OWG. M807.
- 29) PROTECT IN PLACE EXISTING UTILITY
- 33) RELOCATE EXISTING 6" SEWER LATERAL PER E.M.W.O. PLANS.
- 38) SLURRY BACKFILL BETWEEN RCB AND MANHOLE.
- 39) RELOCATE EXISTING GAS LINE.
- 40) RELOCATE EXISTING ELECTRICAL LINE.
- 44) SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18. SEE SEPARATE PAVING PLANS.

Don't Dig...Until You Call U.S.A. Toll Free
1-800-227-2600
for the location of buried utility lines.
Don't disrupt vital services.
TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. "W-31"
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK
MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER
OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB
LOCATED AT THE CROSSING OF PERRIS BLVD. AND RIV. CO.
FLOOD CONTROL CHANNEL, PERRIS LATERAL "A", 43 FT. WEST
OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF
CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE)
MARKED A-102 D.W.R. IN TOP OF CONC. POST FLUSH W/
GROUND
ELEVATION = 1474.874' (NAVD 1829)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE
2	CHANGED SLOPE TO 0.0015, ADDED MH, ADDED NEW 10'S, CHANGED 42" LAT TO 24" LAT	H.I.A	2/20/16	J.R.	2/21/16
1	ADDED EX. UTILITIES, RELOCATE UTILITIES, REVISED SD	H.I.A	2/23/16	J.R.	2/23/16
1	CHANGED CAST IN PLACE RCB TO PRE-CAST RCB PER APWA 390-0				

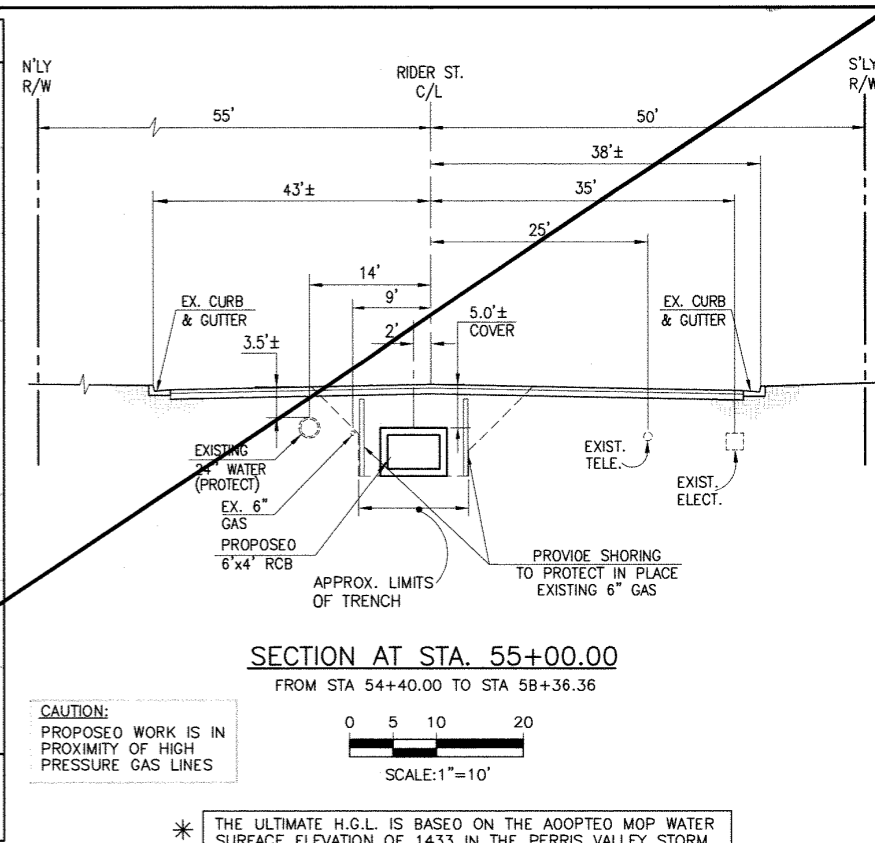
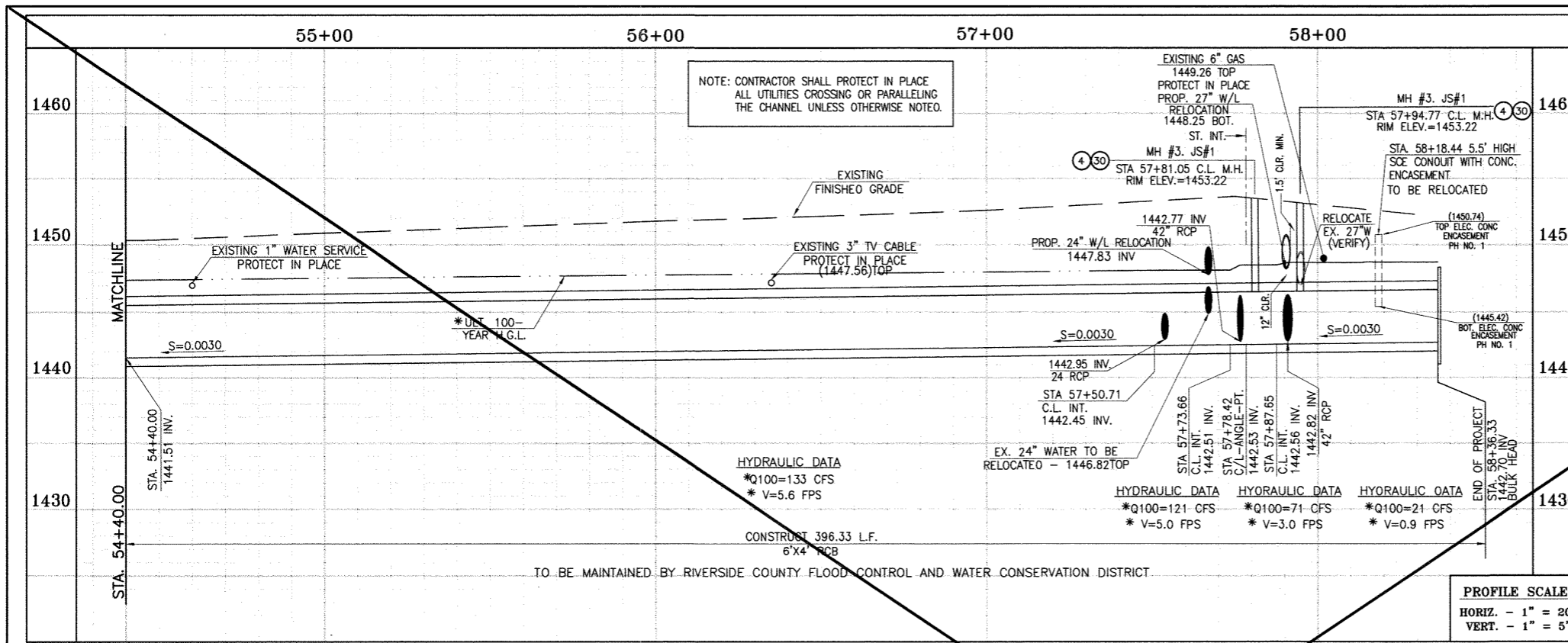
DESIGNED BY: **Thienes Engineering, Inc.**
CIVIL ENGINEERING & LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH. (714)521-4811 FAX (714)521-4173
Date: 2/1/16
HAIDOOK I. AGHAIAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: [Signature]
APPROVED BY: [Signature]
DATE: [Blank] DATE: [Blank]

CITY OF PERRIS APPROVED BY: [Signature]
CITY ENGINEER DATE: 2-9-16
RECOMMENDED DATE: [Blank]

PERRIS VALLEY MDP LINE "A-B"
FROM STA. 50+30 TO STA. 54+40

CITY OF PERRIS FILE NO. P8-1013
PROJECT NO. 4-0-00537
DRAWING NO. 4-1063
SHEET NO. 12A OF 18

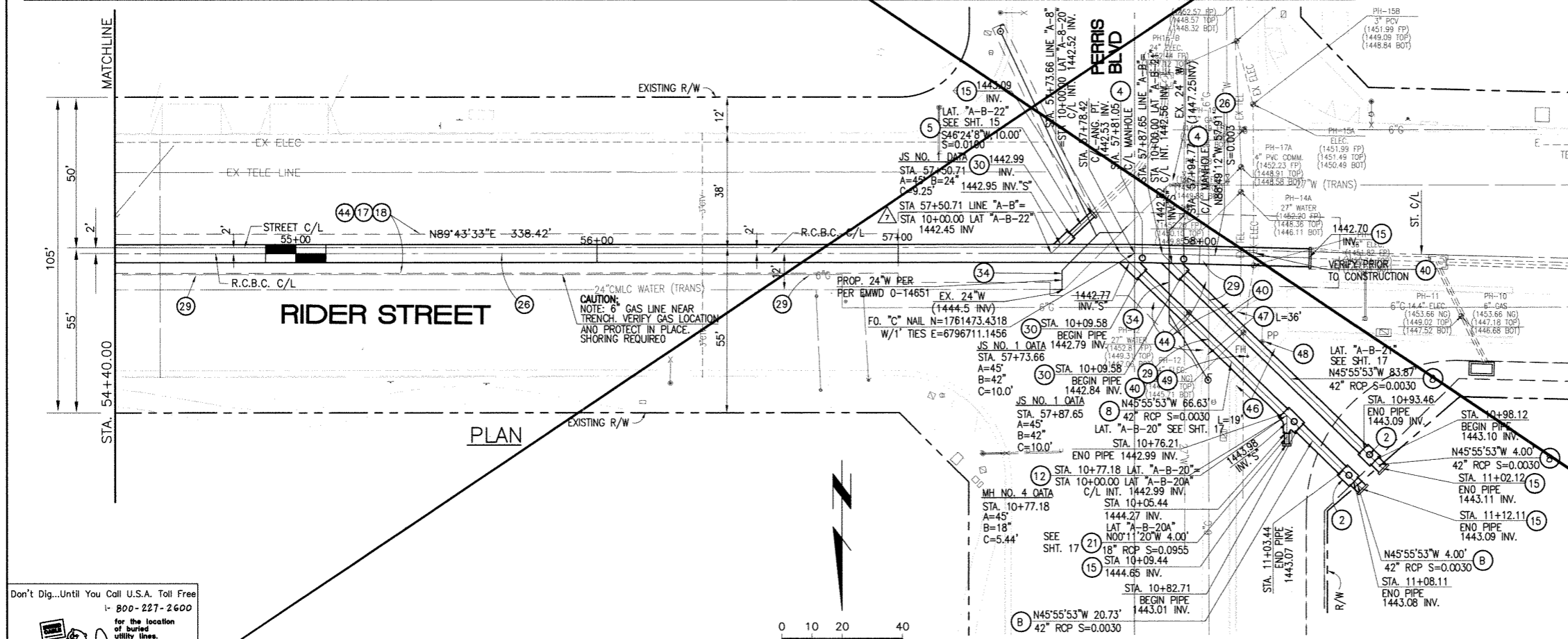


CAUTION:
PROPOSED WORK IS IN
PROXIMITY OF HIGH
PRESSURE GAS LINES

SECTION AT STA. 55+00.00
FROM STA 54+40.00 TO STA 58+36.36

0 5 10 20
SCALE: 1" = 10'

* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION FOR PVSC (1437.5), LINE "A-B" WILL NOT HAVE CAPACITY FOR LOCAL 100-YEAR FLOWS.



STORM DRAIN CONSTRUCTION NOTES:

- 2) CONSTRUCT MANHOLE #2 PER R.C.F.C.&W.C.O. STO DWG. MH252
- 4) CONSTRUCT MANHOLE #3 PER R.C.F.C.&W.C.O. STO DWG. MH253
- 5) CONSTRUCT 24" R.C.P., 0-LOAD PER PLAN.
- 8) CONSTRUCT 42" R.C.P., 0-LOAD PER PLAN.
- 12) CONSTRUCT MANHOLE #4 PER R.C.F.C.&W.C.O. STO DWG. MH254
- 15) CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C.&W.C.O. STO DWG. MB16.
- 17) SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
- 18) UTILITY TRENCH AND SURFACE REPAIR PER CITY STANOARD ON SHT. NO. 1B, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2.0'.
- 21) CONSTRUCT 18" R.C.P., 0-LOAD PER PLAN.
- 26) CONSTRUCT 6' X 4' RCB PER CALTRANS STO. PLAN NO. 0B0 OR APPROVED EQUAL.
- 29) PROTECT IN PLACE EXISTING UTILITIES.
- 30) CONSTRUCT JUNCTION STRUCTURE NO. 1 PER R.C.F.C.&W.C.O. STO. DWG. JS226.
- 34) RELOCATE EXISTING WATER LINE PER E.M.W.O. PLANS.
- 40) RELOCATE EXISTING ELECTRICAL LINE.
- 44) SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18.
- 46) SAWCUT, REMOVE AND REPLACE EXISTING 2"± WIDE CONCRETE GUTTER, LENGTH PER PLAN.
- 47) SAWCUT, REMOVE AND REPLACE EXISTING CONCRETE CURB & GUTTER, LENGTH PER PLAN. SEE SEPARATE PAVING PLANS.
- 48) EXISTING POWER POLE TO BE RELOCATED BY OTHERS.
- 49) EXISTING FIRE HYDRANT TO BE RELOCATED BY OTHERS.

Don't Dig...Until You Call U.S.A. Toll Free
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for the location of buried utility lines.
Don't disrupt vital services.
THE WORKING DAYS BEFORE YOU DIG

BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. "W-31"
COUNTY OF RIVERSIDE BENCHMARK "1.4" ALUMINUM BOX
MARKED W-31, LOCATED FLUSH IN THE SOUTH WEST CORNER
OF BRIDGE ON TOP OF SANDY NEAR FACE OF CURB
LOCATED AT THE CROSSING OF PERRIS BLVD. AND RIVER CO.
FLOOD CONTROL CHANNEL (PERRIS LATERAL "A"), 43 FT. WEST
OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF
CONCRETE BRIDGE BARRIER. (EDGE OF BRIDGE)
MARKED 1002 D.W.R. IN TOP OF CONC. POST FLUSH W/
GROUND
ELEVATION = 1474.874' (MVD 1829)

REV.	DESCRIPTION	APPR.	DATE	APPR.	DATE
1	SUPERSEDED BY SHEET 13A	H.I.A.	2/25/16	J.P.	2/25/16

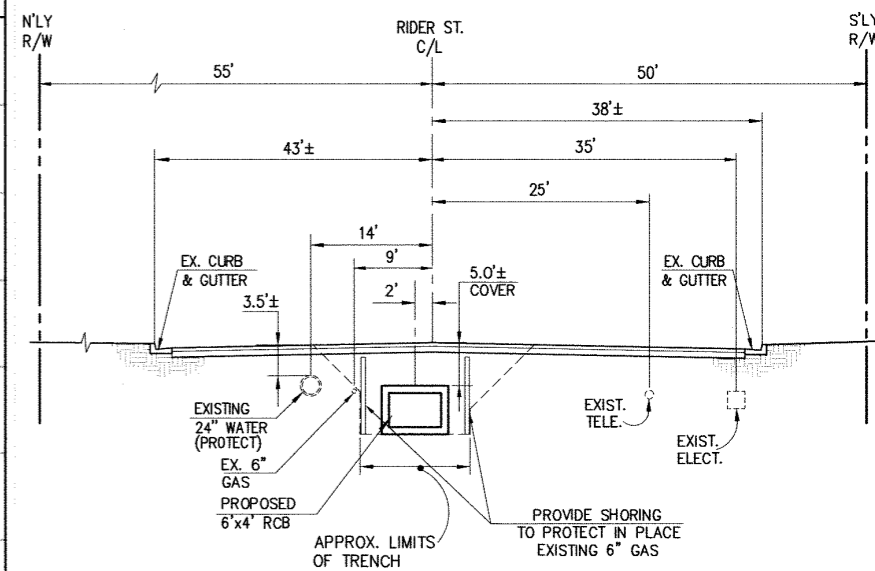
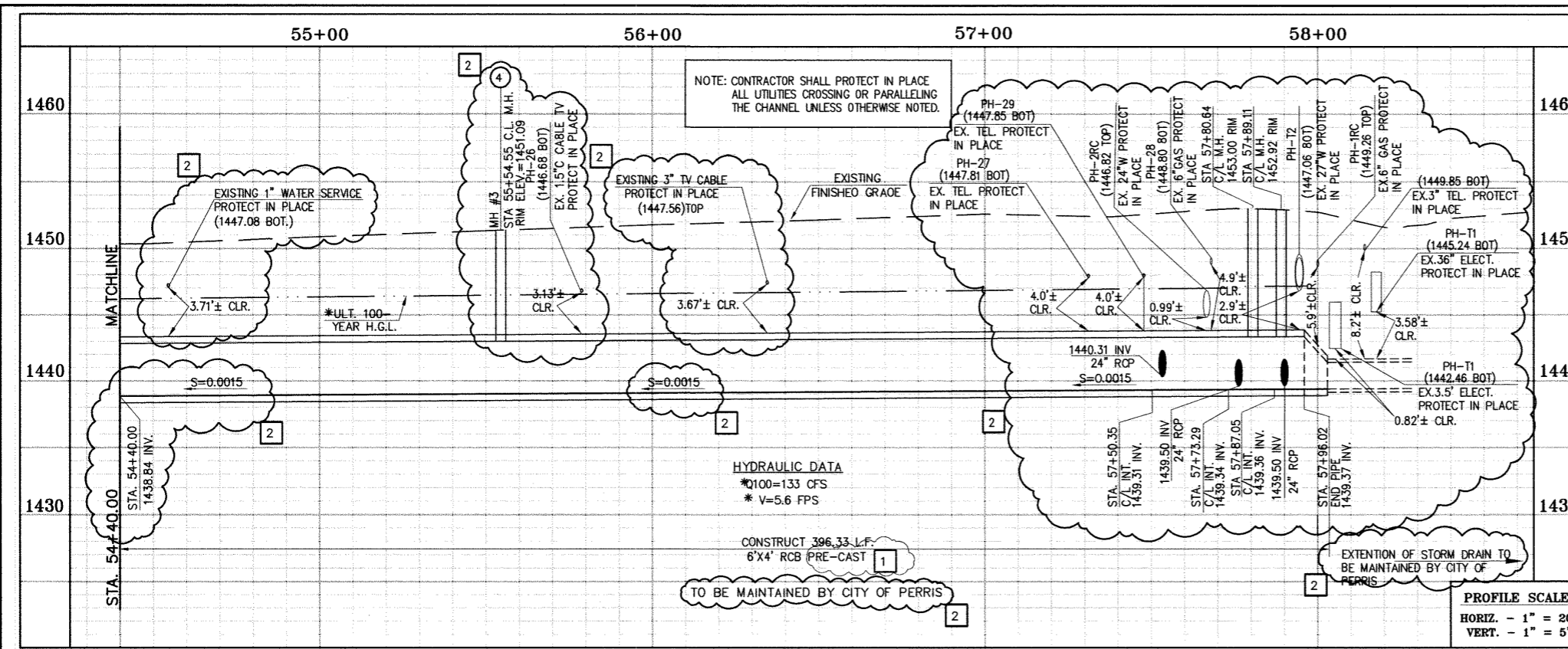
DESIGNED BY: BW
DRAWN BY: ET
DATE DRAWN:
APPROVED BY: **Thienes Engineering, Inc.**
CIVIL ENGINEERING & LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH: (714)521-4811 FAX: (714)521-4173
Date: 11/18/14
HAIDOOK I. AGHAIAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: [Signature]
DATE: 1/20/2015
APPROVED BY: [Signature]
DATE: 1/20/2015

CITY OF PERRIS
APPROVED BY: [Signature]
DATE: 12-15-14

PERRIS VALLEY MDP
LINE "A-B"
FROM STA. 54+40 TO STA. 58+36

CITY OF PERRIS
FILE NO. P8-1013
PROJECT NO. 4-0-00537
DRAWING NO. 4-1063
SHEET NO. 13 of 18

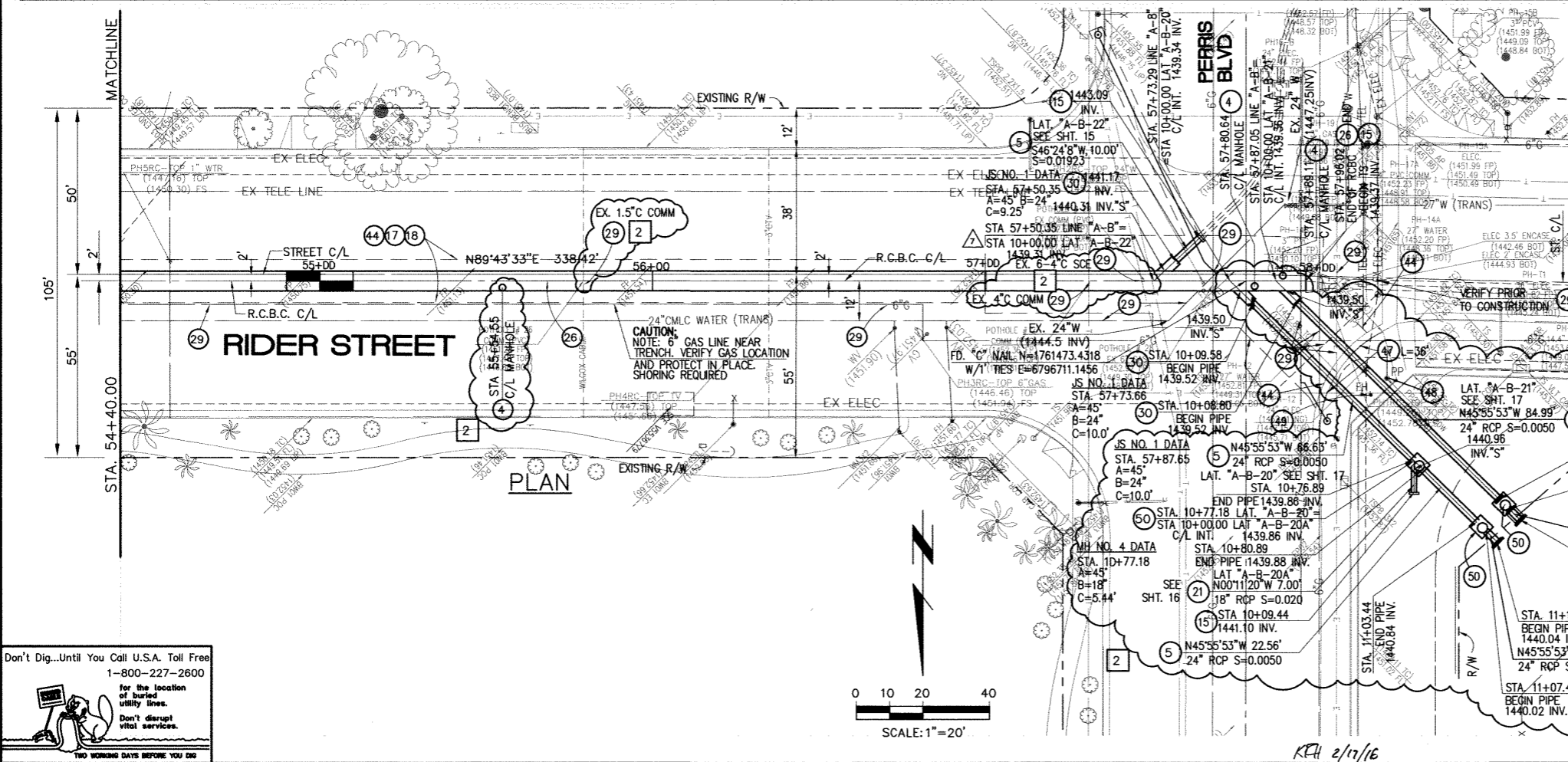


SECTION AT STA. 55+00.00
FROM STA 54+40.00 TO STA 58+36.36

CAUTION:
PROPOSED WORK IS IN PROXIMITY OF HIGH PRESSURE GAS LINES

SCALE: 1"=10'

* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION FOR PVSC (1437.5), LINE "A-B" WILL NOT HAVE CAPACITY FOR LOCAL 100-YEAR FLOWS.



STORM DRAIN CONSTRUCTION NOTES

- 4 CONSTRUCT MANHOLE #3 PER R.C.F.C.&W.C.D. STD DWG. MH253
- 5 CONSTRUCT 24" R.C.P, D-LOAD PER PLAN.
- 8 CONSTRUCT 42" R.C.P, D-LOAD PER PLAN.
- 12 CONSTRUCT MANHOLE #4 PER R.C.F.C.&W.C.O. STD DWG. MH254
- 15 CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C.&W.C.D. STD DWG. M816.
- 17 SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
- 18 UTILITY TRENCH AND SURFACE REPAIR PER CITY STANDARD ON SHT. NO. 18, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2.0'.
- 21 CONSTRUCT 18" R.C.P, D-LOAD PER PLAN.
- 26 CONSTRUCT 6' X 4' PRE-CAST RCB APWA STD PLAN 390-0 OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHEET #1.
- 29 PROTECT IN PLACE EXISTING UTILITIES.
- 30 CONSTRUCT JUNCTION STRUCTURE NO. 1 PER R.C.F.C.&W.C.D. STD. DWG. JS226.
- 34 RELOCATE EXISTING WATER LINE PER E.M.W.D. PLANS.
- 40 RELOCATE EXISTING ELECTRICAL LINE.
- 44 SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18.
- 46 SAWCUT, REMOVE AND REPLACE EXISTING 2'± WIDE CONCRETE GUTTER, LENGTH PER PLAN.
- 47 SAWCUT, REMOVE AND REPLACE EXISTING CONCRETE CURB & GUTTER, LENGTH PER PLAN. SEE SEPARATE PAVING PLANS.
- 48 EXISTING POWER POLE TO BE RELOCATED BY OTHERS.
- 49 EXISTING FIRE HYDRANT TO BE RELOCATED BY OTHERS.
- 50 CONSTRUCT MANHOLE #1 PER R.C.F.C.&W.C.D. STD DWG. MH251

Don't Dig...Until You Call U.S.A. Toll Free
1-800-227-2600

for the location of buried utility lines.
Don't disrupt vital services.
TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. "M-31"
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK
MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER
OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB
LOCATED AT THE CROSSING OF PERRIS BLVD. AND RIV. CO.
FLOOD CONTROL CHANNEL, PERRIS VALLEY, 7.3' ± E. OF
CENTERLINE OF PERRIS BLVD. AND 4.5' ± E. EAST OF
CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE)
MARKED M-31 DISK IN TOP OF CONC. POST FLUSH W/
GROUND
ELEVATION = 1474.674' (NAVD 1929)

REF.	REVISIONS	ENGINEER	RCFC/	DESIGNED BY:
2	CHANGED SLOPE TO 0.0015, ADDED MH, ADDED NEW 10'S, CHANGED 42" LAT TO 24" LAT, ADDED EX. UTILITIES, RELOCATE UTILITIES, REVISED SD	H.I.A.	2/24/16	O/K
1	CHANGED CAST IN PLACE RCB TO PRE-CAST RCB PER APWA 390-0	H.I.A.	2/25/16	O/K

DESIGNED BY:
DRAWN BY:
DATE DRAWN:

APPROVED BY:
Thienes Engineering, Inc.
CIVIL ENGINEERING - LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH: (714) 521-4811 FAX: (714) 521-4173

HAIDOOK L. AGHAJAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY: _____ DATE: _____

APPROVED BY: _____ DATE: _____

CITY OF PERRIS APPROVED BY: _____ DATE: 2-9-16

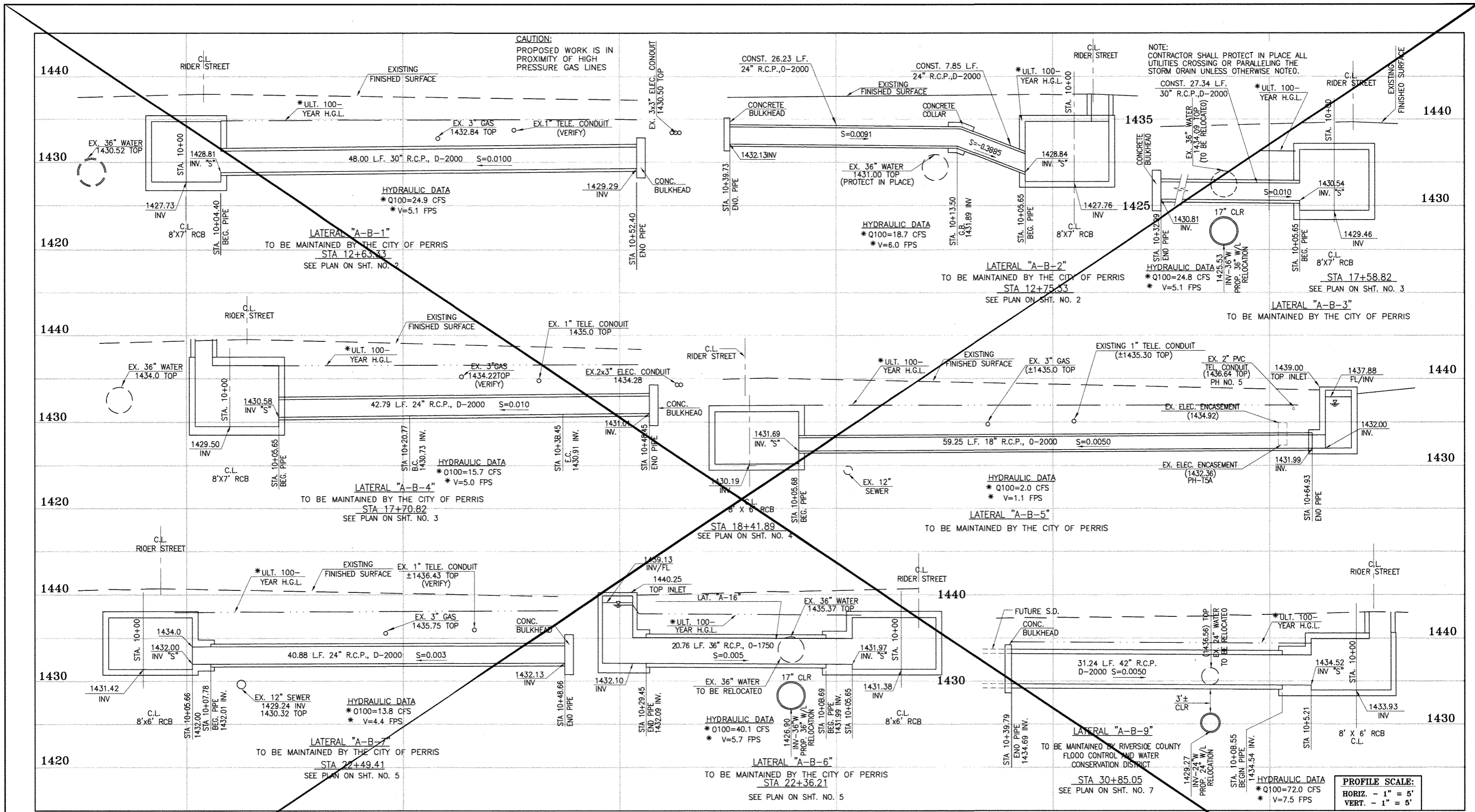
PERRIS VALLEY MDP LINE "A-B"
FROM STA. 54+40 TO STA. 58+36

CITY OF PERRIS
FILE NO. PB-1013

PROJECT NO.
4-0-00537

DRAWING NO.
4-1063

SHEET NO.
13A OF 18



Don't Dig...Until You Call U.S.A. Toll Free
1-800-227-2600
for the location of buried utility lines.
Don't disrupt vital services.
TWO WORKING DAYS BEFORE YOU DIG

CAUTION:
PROPOSED WORK IS IN PROXIMITY OF HIGH PRESSURE GAS LINES

* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MDP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MDP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION FOR PVSC (1437.5), LINE "A-B" WILL NOT HAVE CAPACITY FOR LOCAL 100-YEAR FLOWS.

BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. "M-31"
COUNTY OF RIVERSIDE BENCHMARK NO. "M-31" ALUMINUM DISK
MARKED "M-31" LOCATED FLUSH AT THE SOUTH WEST CORNER
OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB
LOCATED AT THE CROSSING OF PERRIS BLVD. AND INV. CO.
FLOOD CONTROL CHANNEL, PERRIS LATERAL "A", 41 FT. WEST
OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF
CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE)
MARKED SURFACE CURB IN TOP OF CONC. POST FLUSH W/
GROUND
ELEVATION = 1474.674' (NAD 1829)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE
	REVISIONS				
	SUPERSEDED BY SHEET 14A				

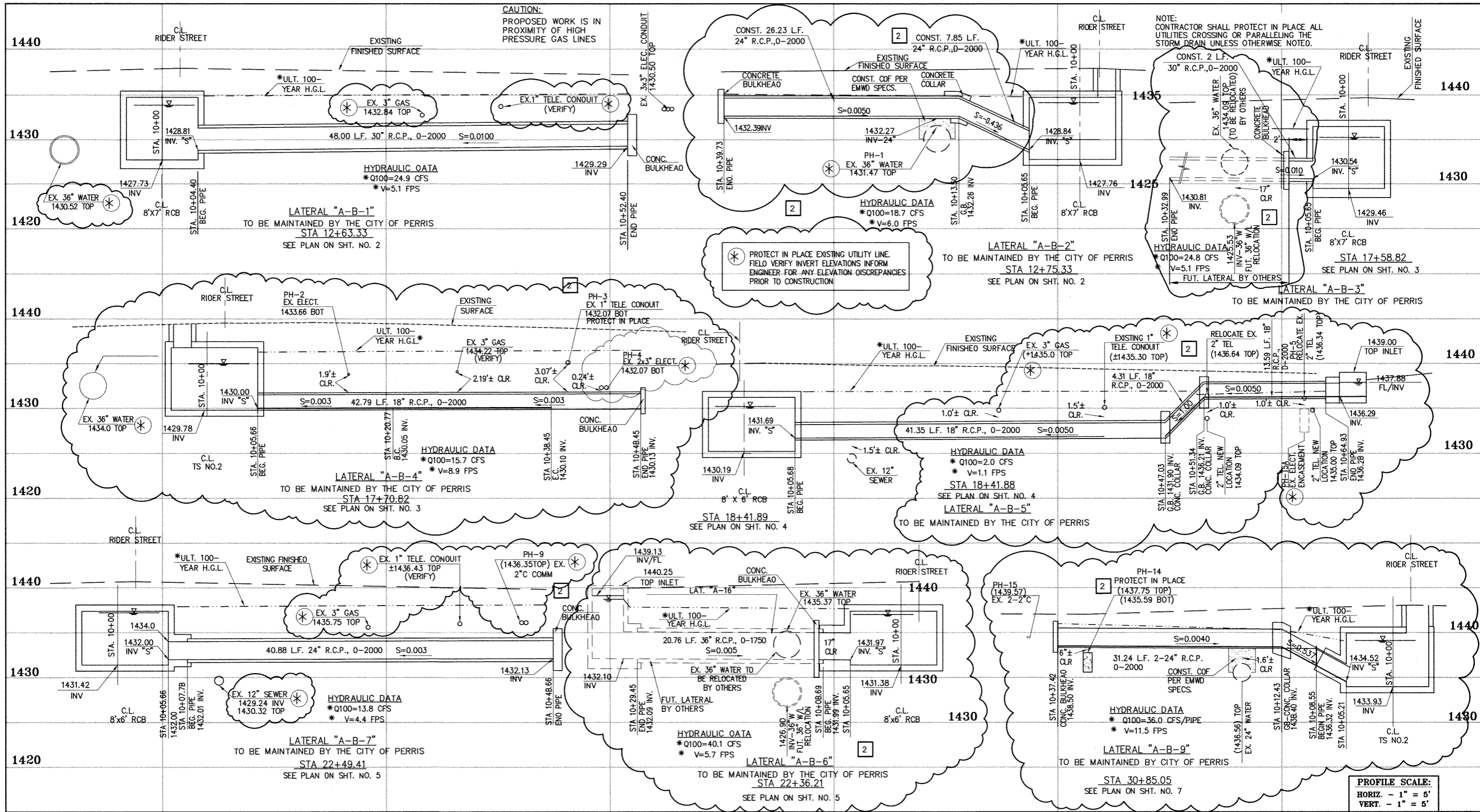
DESIGNED BY: BW
DRAWN BY: ET
DATE DRAWN:
APPROVED BY: **Thienes Engineering, Inc.**
CIVIL ENGINEERING & LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH: (714) 521-4811 FAX: (714) 521-4173
Date: 11/18/14
HAIDOOK I. AGHAJAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: [Signature]
DATE: 1/20/2015
APPROVED BY: Mark A. Wells
DATE: 1/20/2015

CITY OF PERRIS
APPROVED BY: [Signature]
DATE: 12-15-14

PERRIS VALLEY MDP
LINE "A-B"

CITY OF PERRIS
FILE NO. P8-1013
PROJECT NO. 4-0-00537
DRAWING NO. 4-1063
SHEET NO. 14 OF 18



CAUTION:
PROPOSED WORK IS IN PROXIMITY OF HIGH PRESSURE GAS LINES

* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MDP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION FOR PVSC (1437.5), LINE "A-B" WILL NOT HAVE CAPACITY FOR LOCAL 100-YEAR FLOWS.

BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. "M-31"
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK
MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER
OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB
LOCATED AT THE CROSSING OF PERRIS BLVD. AND INV. CO.
FLOOD CONTROL CHANNEL, PERRIS LATERAL "A", 43 FT. WEST
OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF
CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE)
MARKED R-102 I.W.R. IN TOP OF CONC. POST FLUSH W/
ELEVATION = 1474.874' (NAVD 1929)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE
2	CHANGED SLOPE TO 0.0015, ADDED MH, ADDED NEW 10" S, CHANGED 42' LAT TO 24' LAT	H.I.A.	2/25/16	O/S	2/25/16
1	ADDED EX. UTILITIES, RELOCATE UTILITIES, REVISED SD	H.I.A.	2/25/16	O/S	2/25/16
1	CHANGED CAST IN PLACE ROB TO PRE-CAST ROB PER APWA 390-0	H.I.A.	2/25/16	O/S	2/25/16

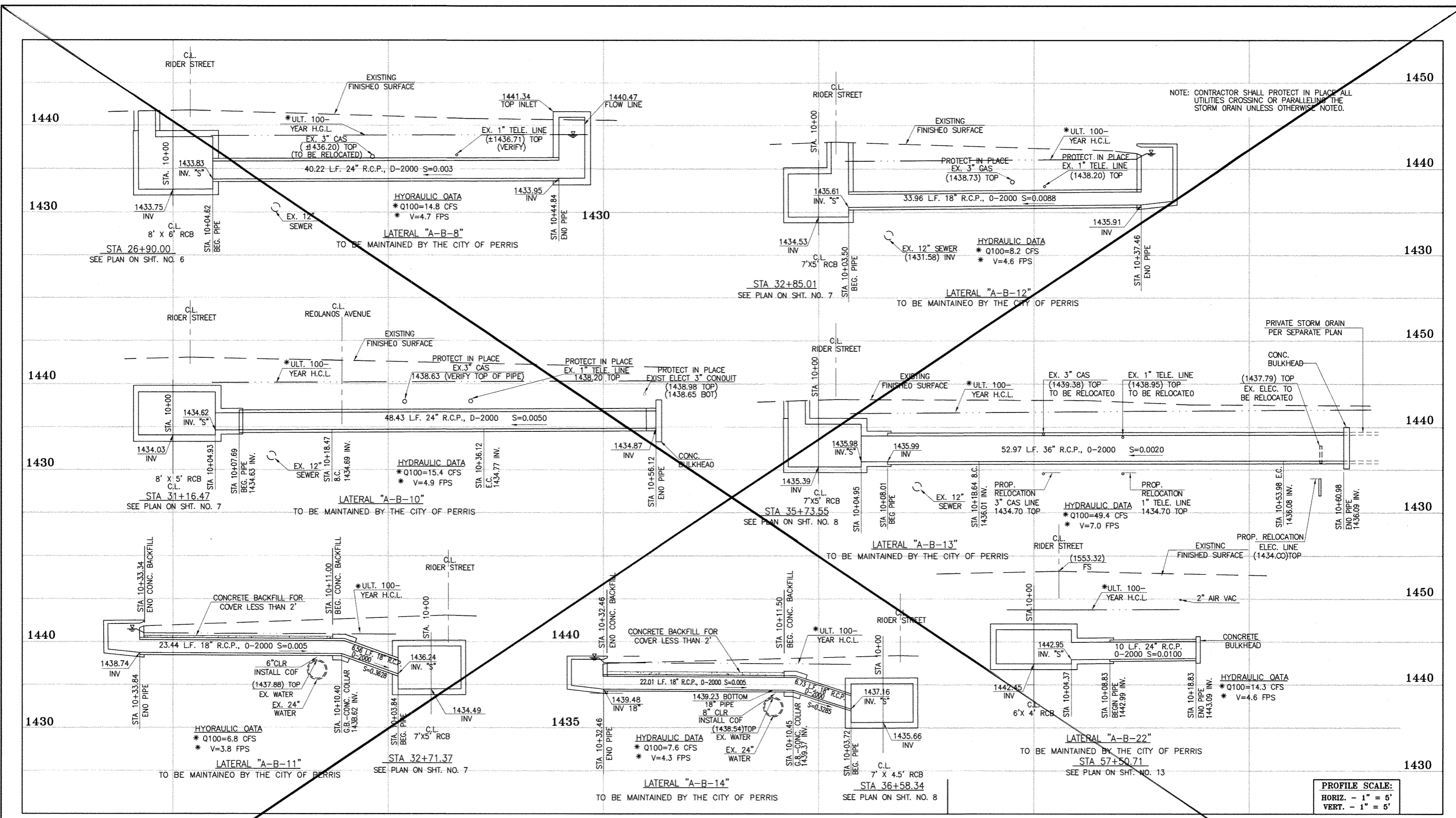
DESIGNED BY:
DRAWN BY:
DATE DRAWN:
APPROVED BY:
Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH: (714) 521-4811 FAX: (714) 521-4173
Date: 2/1/16
HAOOOK I. AGHAJAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY:
APPROVED BY:
DATE:
DATE:

CITY OF PERRIS APPROVED BY:
DATE: 2-9-16

PERRIS VALLEY MDP LINE "A-B"

CITY OF PERRIS
FILE NO. PB-1013
PROJECT NO. 4-0-00537
DRAWING NO. 4-1063
SHEET NO. 14A OF 18



NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES CROSSING OR PARALLELING THE STORM DRAIN UNLESS OTHERWISE NOTED.

PROFILE SCALE:
 HORIZ. - 1" = 5'
 VERT. - 1" = 5'



CAUTION:
 PROPOSED WORK IS IN PROXIMITY OF HIGH PRESSURE GAS LINES

* THE ULTIMATE H.C.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION FOR PVSC (1437.5), LINE "A-B" WILL NOT HAVE CAPACITY FOR LOCAL 100-YEAR FLOWS.

BENCH MARK
 COUNTY OF RIVERSIDE BENCHMARK NO. "M-31"
 COUNTY OF RIVERSIDE BENCHMARK "M-31" ALUMINUM BUSH
 MARKED "M-31" LOCATED FLUSH AT THE SOUTH WEST CORNER
 OF BRIDGE ON TOP OF SLOPE NEAR FACE OF CURB
 LOCATED AT THE CROSSING OF PERRIS BLVD. AND INV. CO.
 FLOOD CONTROL CHANNEL (PERRIS LATERAL "A"), 43 FT. WEST
 OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF
 CONCRETE BRIDGE BARRIER. (EDGE OF BRIDGE)
 MARKED "M-31" IN TOP OF CONC. POST FLUSH W/
 GRADE
 ELEVATION = 1474.674' (NAD 1983)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE
	REVISIONS				
	SUPERSEDED BY SHEET ISA				

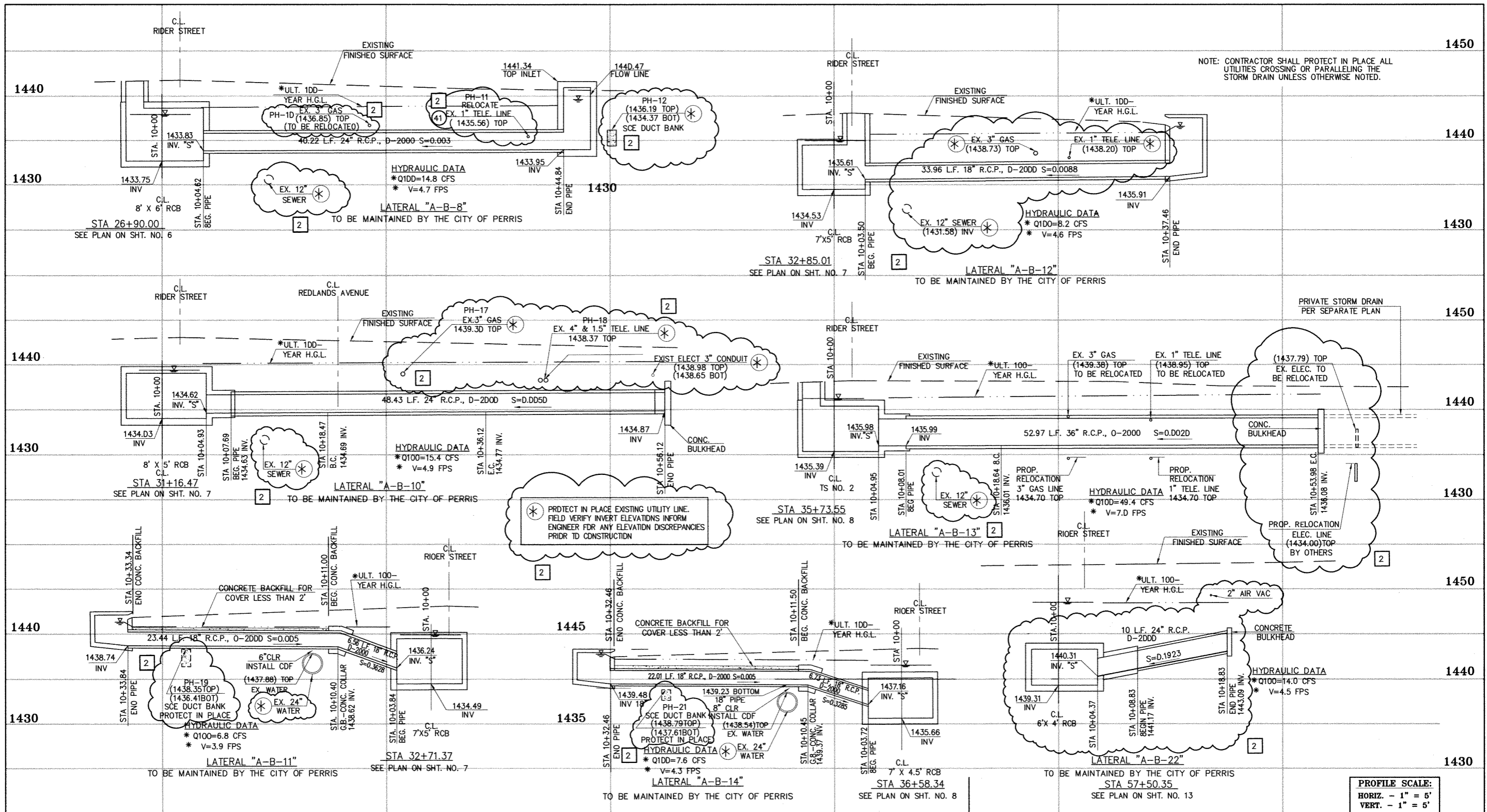
DESIGNED BY: BW
 DRAWN BY: ET
 DATE DRAWN:
 APPROVED BY: **Thienes Engineering, Inc.**
 CIVIL ENGINEERING & LAND SURVEYING
 14349 FIRESTONE BOULEVARD
 LA MIRADA, CALIFORNIA 90638
 PH. (714) 521-4811 FAX (714) 521-4173
 HADDOCK I. AGHAIAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY: [Signature]
 DATE: 1/20/2015
 APPROVED BY: [Signature]
 DATE: 1/20/2015

CITY OF PERRIS
 APPROVED BY: [Signature]
 DATE: 12-15-14

PERRIS VALLEY MDP
 LINE "A-B"

CITY OF PERRIS
 FILE NO. PB-1013
 PROJECT NO. 4-0-00537
 DRAWING NO. 4-1063
 SHEET NO. 15 OF 18



NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES CROSSING OR PARALLELING THE STORM DRAIN UNLESS OTHERWISE NOTED.

PROTECT IN PLACE EXISTING UTILITY LINE. FIELD VERIFY INVERT ELEVATIONS INFORM ENGINEER FOR ANY ELEVATION DISCREPANCIES PRIOR TO CONSTRUCTION

* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MDP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MDP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION FOR PVSC (1437.5), LINE "A-B" WILL NOT HAVE CAPACITY FOR LOCAL 100-YEAR FLOWS.



CAUTION:
PROPOSED WORK IS IN PROXIMITY OF HIGH PRESSURE GAS LINES

BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. "M-31"
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB LOCATED AT THE CROSSING OF PERRIS BLVD. AND RIV. CO. FLOOD CONTROL CHANNEL, PERRIS LATERAL "A-B" 43 FT. WEST OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE) MARKED M-102 B.M. IN TOP OF CONC. POST FLUSH W/ GROUND ELEVATION = 1474.874' (NAVD 1829)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE
2	CHANGED SLOPE TO 0.0015, ADDED MH, ADDED NEW 10" S, CHANGED 42' LAT TO 24' LAT	H.I.A.	2/25/16	[Signature]	2/25/16
1	ADDED EX. UTILITIES, RELOCATE UTILITIES, REVISED SD	H.I.A.	2/25/16	[Signature]	2/25/16
1	CHANGED CAST IN PLACE ROB TO PRE-CAST ROB PER APWA 390-0	H.I.A.	2/25/16	[Signature]	2/25/16

DESIGNED BY: [Signature]
DRAWN BY: [Signature]
DATE DRAWN: [Signature]
APPROVED BY: **Thienes Engineering, Inc.**
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90639
PH: (714) 521-4811 FAX: (714) 521-4173
Date: 2/1/16
HAIDOOK I. AGHAIAN RCE NO. 43293

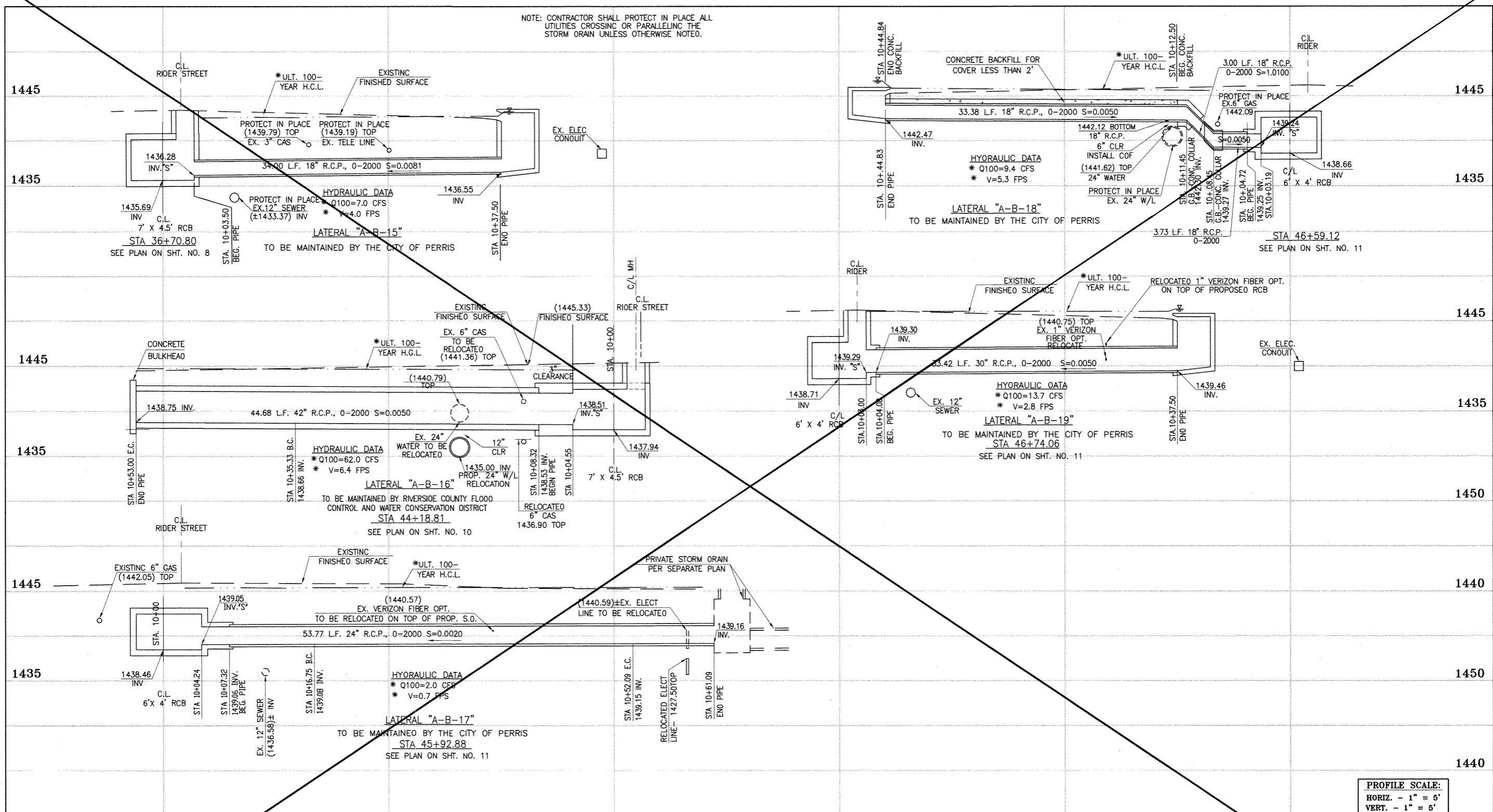
PROFESSIONAL ENGINEER
HAIDOOK I. AGHAIAN
RCE NO. 43293
Exp. 3-31-16
STATE OF CALIFORNIA

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: [Signature]
APPROVED BY: [Signature]
DATE: [Signature]

CITY OF PERRIS APPROVED BY: [Signature]
DATE: 2-9-16

CITY OF PERRIS
FILE NO. PB-1013
PROJECT NO. 4-0-00537
DRAWING NO. 4-1063
SHEET NO. 15A OF 18

NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES CROSSING OR PARALLELING THE STORM DRAIN UNLESS OTHERWISE NOTED.



PROFILE SCALE:
 HORIZ. - 1" = 5'
 VERT. - 1" = 5'



CAUTION:
 PROPOSED WORK IS IN PROXIMITY OF HIGH PRESSURE GAS LINES

* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION FOR PVSC (1437.5), LINE "A-B" WILL NOT HAVE CAPACITY FOR LOCAL 100-YEAR FLOWS.

BENCH MARK
 COUNTY OF RIVERSIDE BENCHMARK NO. 24-31*
 COUNTY RIVERSIDE BENCHMARK 1.14" ALUMINUM DISK
 MARKED M-31, LOCATED FLUSH TO THE SOUTH WEST CORNER
 OF BRIDGE ON TOP OF SANDY NEAR FACE OF CURB
 LOCATED AT THE CROSSING OF PERRIS BLVD. AND INV. CO.
 FLOOD CONTROL CHANNEL (PERRIS LATERAL "A"), 43 FT. WEST
 OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF
 CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE).
 MARKED BY 102 D.W.R. IN TOP OF CONC. POST FLUSH W/
 GROUND
 ELEVATION = 1474.674' (MVD 1820)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE
	REVISIONS				
	SUPERSEDED BY SHEET 16A				

DESIGNED BY: **DM**
 DRAWN BY: **ET**
 DATE DRAWN:

APPROVED BY: **Thienes Engineering, Inc.**
 CIVIL ENGINEERING & LAND SURVEYING
 14349 FIRESTONE BOULEVARD
 LA MIRADA, CALIFORNIA 90638
 PH. (714) 521-4811 FAX (714) 521-4173
 Date: 11/18/14
 RCE NO. 43293



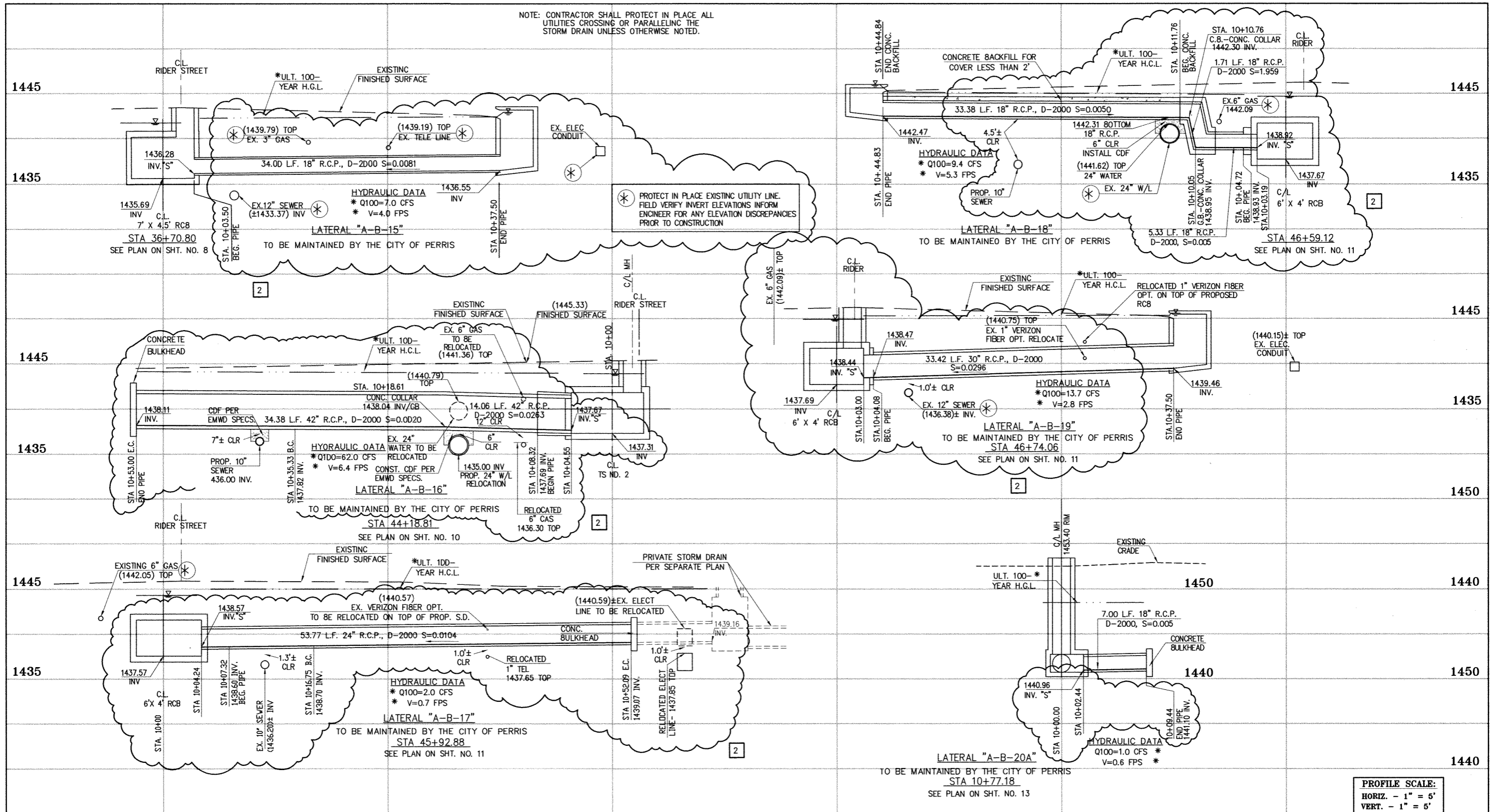
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY: **[Signature]**
 DATE: 1/20/15
 APPROVED BY: **[Signature]**
 DATE: 1/20/15

CITY OF PERRIS APPROVED BY: **[Signature]**
 DATE: 12-15-14

PERRIS VALLEY MDP LINE "A-B"

CITY OF PERRIS
 FILE NO. P8-1013
 PROJECT NO. 4-0-00537
 DRAWING NO. 4-1063
 SHEET NO. 16 OF 18

NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES CROSSING OR PARALLELING THE STORM DRAIN UNLESS OTHERWISE NOTED.



PROFILE SCALE:
HORIZ. - 1" = 5'
VERT. - 1" = 5'

* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIERER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION FOR PVSC (1437.5), LINE "A-B" WILL NOT HAVE CAPACITY FOR LOCAL 100-YEAR FLOWS.



CAUTION:
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BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. "M-31"
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB LOCATED AT THE CROSSING OF PERRIS BLVD. AND RIV. CO. FLOOD CONTROL CHANNEL (PERRIS LATERAL "A"), 43 FT. WEST OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE)
MARKED N-102 D.W.R. IN TOP OF CONC. POST FLUSH W/ GROUND
ELEVATION = 1474.674' (NAVD 1929)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE
2	CHANGED SLOPE TO 0.0015, ADDED MH, ADDED NEW 10" S, CHANGED 42" LAT TO 24" LAT	H.I.A.	2/24/16	J.B.	2/24/16
1	ADDED EX. UTILITIES, RELOCATE UTILITIES, REVISED SD	H.I.A.	2/25/16	J.B.	2/25/16
1	CHANGED CAST IN PLACE ROB TO PRE-CAST ROB PER APWA 390-0				

DESIGNED BY:
DRAWN BY:
DATE DRAWN:
APPROVED BY:
Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH: (714) 521-4811 FAX: (714) 521-4173
Date: 2/1/16
HAIDOOK I. AGHAIAN RCE NO. 43293



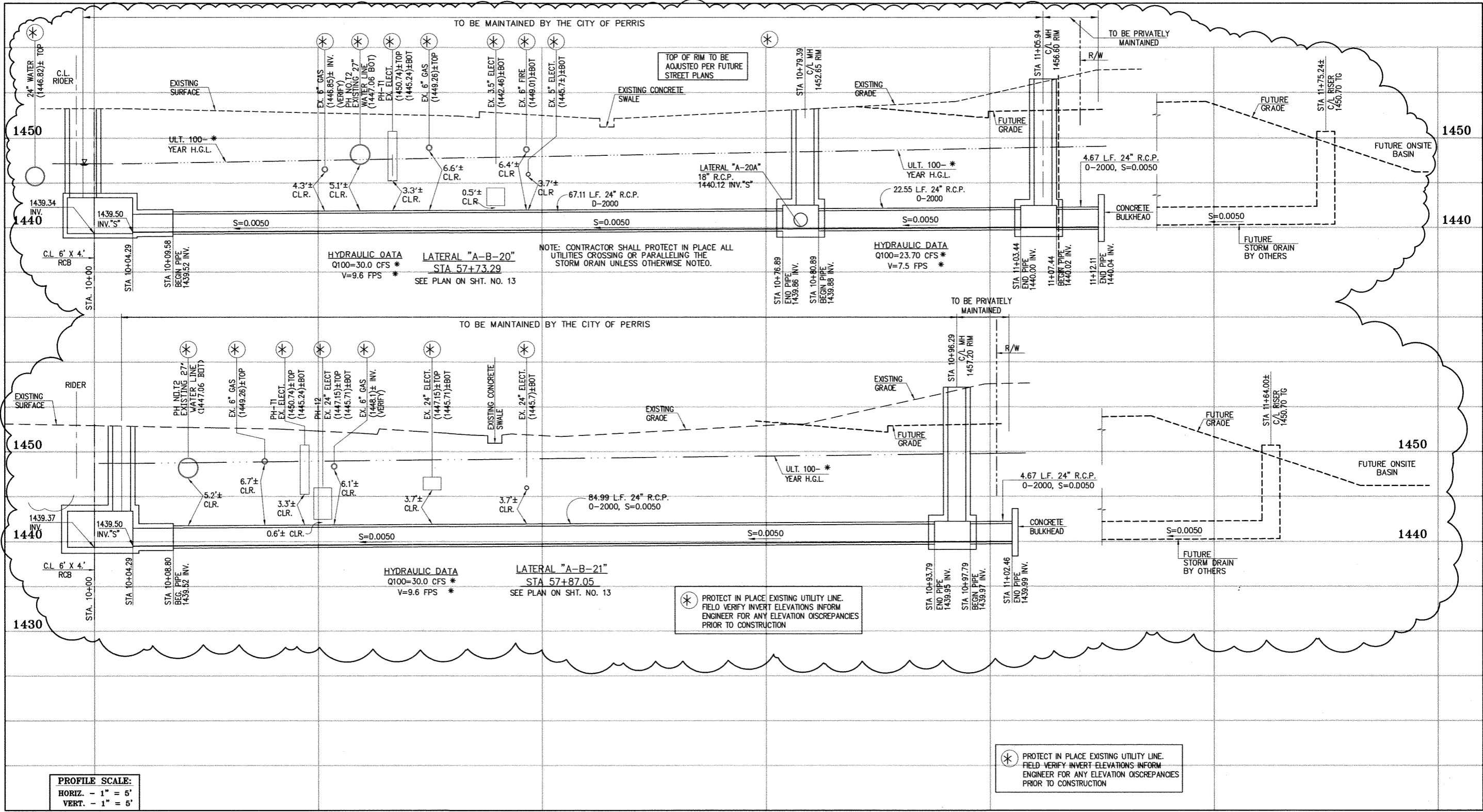
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: _____ DATE: _____
APPROVED BY: _____ DATE: _____

CITY OF PERRIS APPROVED BY:

DATE: 2-9-16

PERRIS VALLEY MDP
LINE "A-B"

CITY OF PERRIS
FILE NO. P8-1013
PROJECT NO. 4-0-00537
DRAWING NO. 4-1063
SHEET NO. 16A OF 18



HYDRAULIC DATA
 Q100=30.0 CFS *
 V=9.6 FPS *

LATERAL "A-B-20"
 STA 57+73.29
 SEE PLAN ON SHT. NO. 13

HYDRAULIC DATA
 Q100=23.70 CFS *
 V=7.5 FPS *

NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES CROSSING OR PARALLELING THE STORM DRAIN UNLESS OTHERWISE NOTED.

⊗ PROTECT IN PLACE EXISTING UTILITY LINE. FIELD VERIFY INVERT ELEVATIONS INFORM ENGINEER FOR ANY ELEVATION DISCREPANCIES PRIOR TO CONSTRUCTION

⊗ PROTECT IN PLACE EXISTING UTILITY LINE. FIELD VERIFY INVERT ELEVATIONS INFORM ENGINEER FOR ANY ELEVATION DISCREPANCIES PRIOR TO CONSTRUCTION

PROFILE SCALE:
 HORIZ. - 1" = 5'
 VERT. - 1" = 5'

Don't Dig...Until You Call U.S.A. Toll Free
 1-800-227-2600
 for the location of buried utility lines.
 Don't disrupt vital services.
 TWO WORKING DAYS BEFORE YOU DIG

CAUTION:
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BENCH MARK
 COUNTY OF RIVERSIDE BENCHMARK NO. "M-31"
 COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK MARKED "31" LOCATED FLOSH AT THE SOUTH WEST CORNER OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB LOCATED AT THE CROSSING OF PERRIS BLVD. AND RIV. CO. FLOOD CONTROL CHANNEL, PERRIS LATERAL, 23' 43" FT. WEST OF CENTERLINE OF PERRIS BLVD. AND 4.5' FT. EAST OF CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE) MARKED "R-102" IN TOP OF CONC. POST FLOSH W/ CIRCULAR ELEVATION = 1474.874' (NAVD 1929)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE
2	CHANGED SLOPE TO 0.0015, ADDED MH, ADDED NEW 10" S, CHANGED 42" LAT TO 24" LAT, ADDED EX. UTILITIES, RELOCATE UTILITIES, REVISED SD	H.I.A.	2/25/16	076	2/25/16
1	CHANGED CAST IN PLACE ROZ TO PRE-CAST ROZ PER APWA 300-0	H.I.A.	2/25/16	076	2/25/16

DESIGNED BY:
 DRAWN BY:
 DATE DRAWN:

APPROVED BY:
Thienes Engineering, Inc.
 CIVIL ENGINEERING • LAND SURVEYING
 14349 FIRESTONE BOULEVARD
 LA MIRADA, CALIFORNIA 90638
 PH: (714) 521-4811 FAX: (714) 521-4173
 Date: 2/1/16
 HAIDOOK I. AGHAJAN RCE NO. 43293



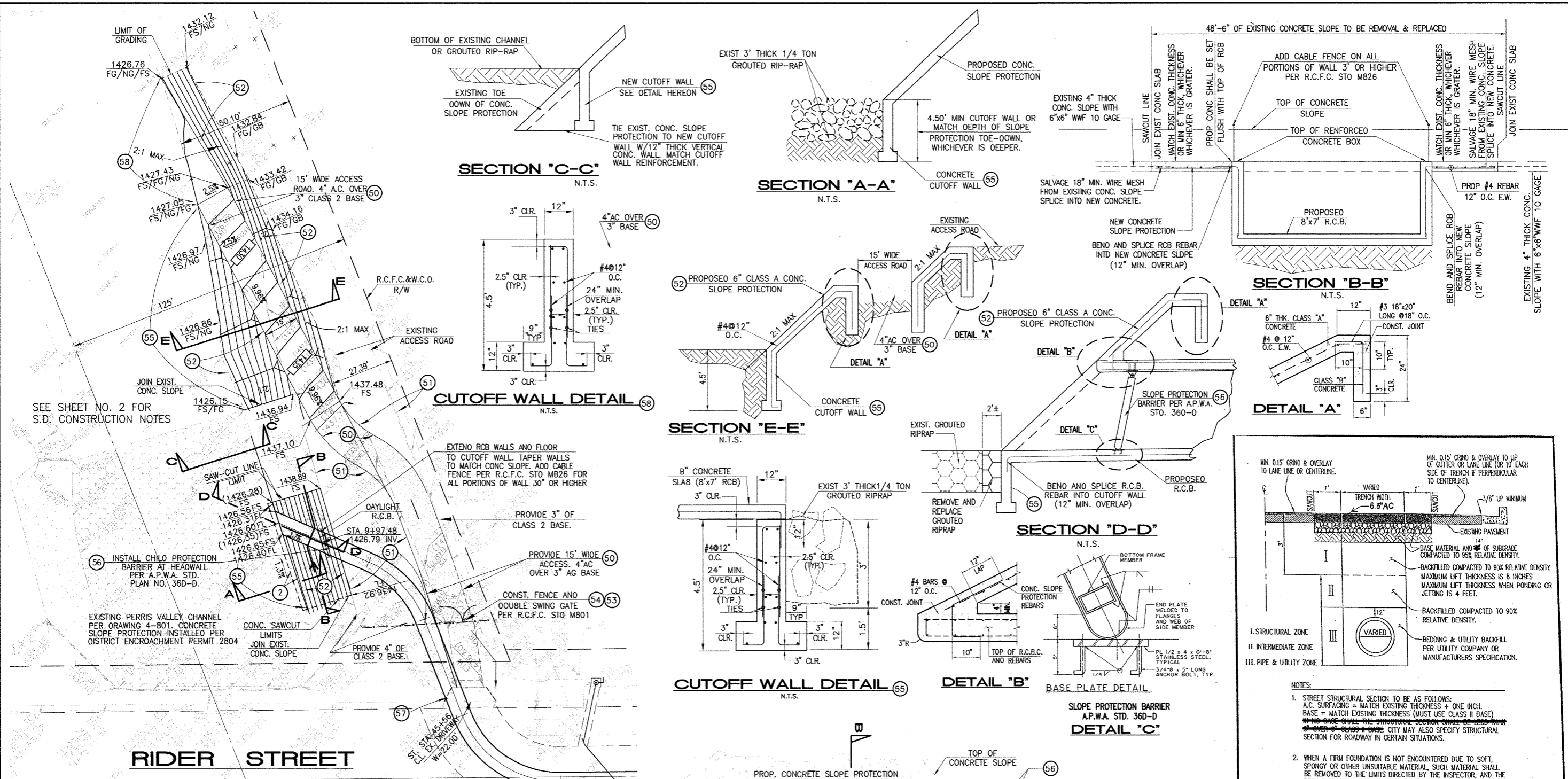
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY: _____
 APPROVED BY: _____
 DATE: _____ DATE: _____

CITY OF PERRIS APPROVED BY:

 DATE: 2-9-16

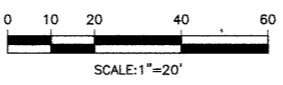
PERRIS VALLEY MDP
 LINE "A-B"

CITY OF PERRIS
 FILE NO. P8-1013
 PROJECT NO. 4-0-00537
 DRAWING NO. 4-1063
 SHEET NO. 17A OF 18



STORM DRAIN CONSTRUCTION NOTES:

- (2) REMOVE AND REPLACE APPROXIMATELY 2' WIDE 1/4 TON GROUDED RIPRAP, MATCH EXISTING THICKNESS.
- (50) CONSTRUCT 4" AC OVER 3" AGGREGATE BASE, CLASS 2.
- (51) INSTALL 3" AGGREGATE BASE, CLASS 2.
- (52) CONSTRUCT 6" THK. CONCRETE SLOPE PROTECTION PER DETAIL ON THIS SHEET.
- (53) CONSTRUCT FENCE AND DOUBLE SWING GATE PER R.C.F.O. STD. M801.
- (54) REMOVE EXISTING FENCE AND GATE.
- (55) CONSTRUCT CUTOFF WALL PER DETAIL ON THIS SHEET.
- (56) INSTALL SLOPE PROTECTION BARRIER PER APWA STD. PLAN 360.
- (57) RECONSTRUCT EXISTING DRIVEWAY APPROACH.
- (58) CONSTRUCT CUTOFF WALL PER DETAIL ON THIS SHEET.



Don't Dig...Until You Call U.S.A. Toll Free
1-800-227-2600

for the location of buried utility lines.
Don't disrupt vital services.
TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. "M-31"
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB LOCATED AT THE CROSSING OF PERRIS BLVD. AND 100' CO. FLOOD CONTROL CHANNEL, PERRIS LATERAL "A", 4.3 FT. WEST OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF CONCRETE BRIDGE BARRIER. (EDGE OF BRIDGE) MARKED R-100 D.W.R. IN TOP OF CONC. POST FLUSH W/ GROUND
ELEVATION = 1474.674' (MVD 1829)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE

DESIGNED BY: *ET*
DRAWN BY: *ET*
DATE DRAWN: *11/18/14*

APPROVED BY: *Thienes Engineering, Inc.*
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH: (714) 521-4811 FAX: (714) 521-4173
Date: 11/18/14
HAIDOOK I. AGHAJAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY: *[Signature]*
DATE: *4/20/15*

APPROVED BY: *[Signature]*
DATE: *4/20/2015*

CITY OF PERRIS APPROVED BY: *[Signature]*
DATE: *7-12-16*

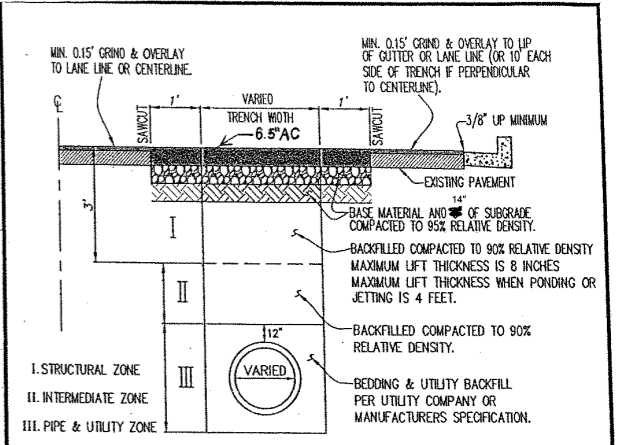
CITY OF PERRIS
UTILITY TRENCH SURFACE REPAIR

SCALE: NONE
STD. NO. N/A

TRENCH AND SURFACE REPAIR DETAIL

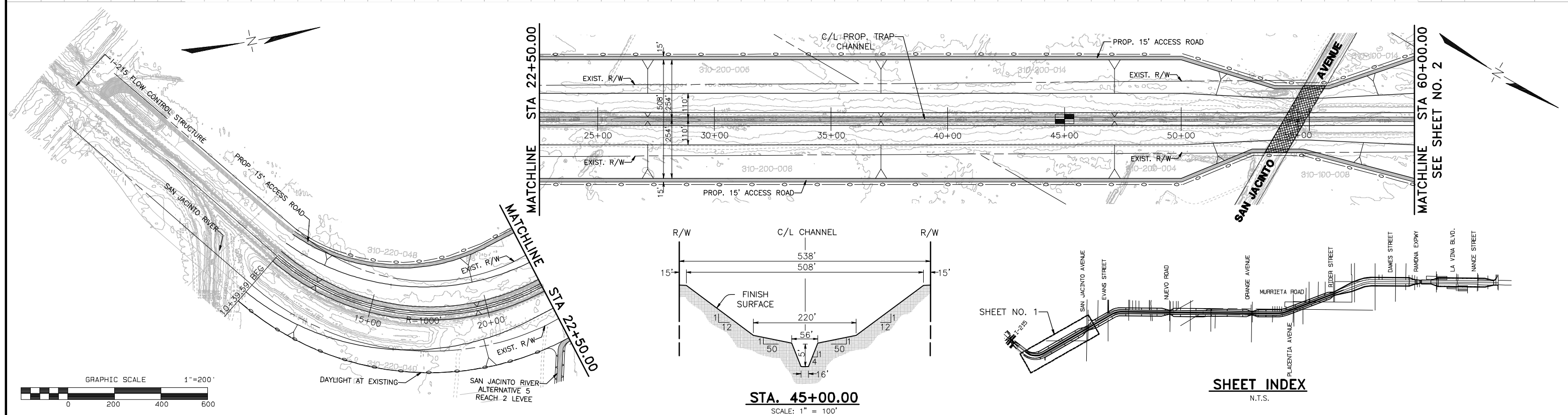
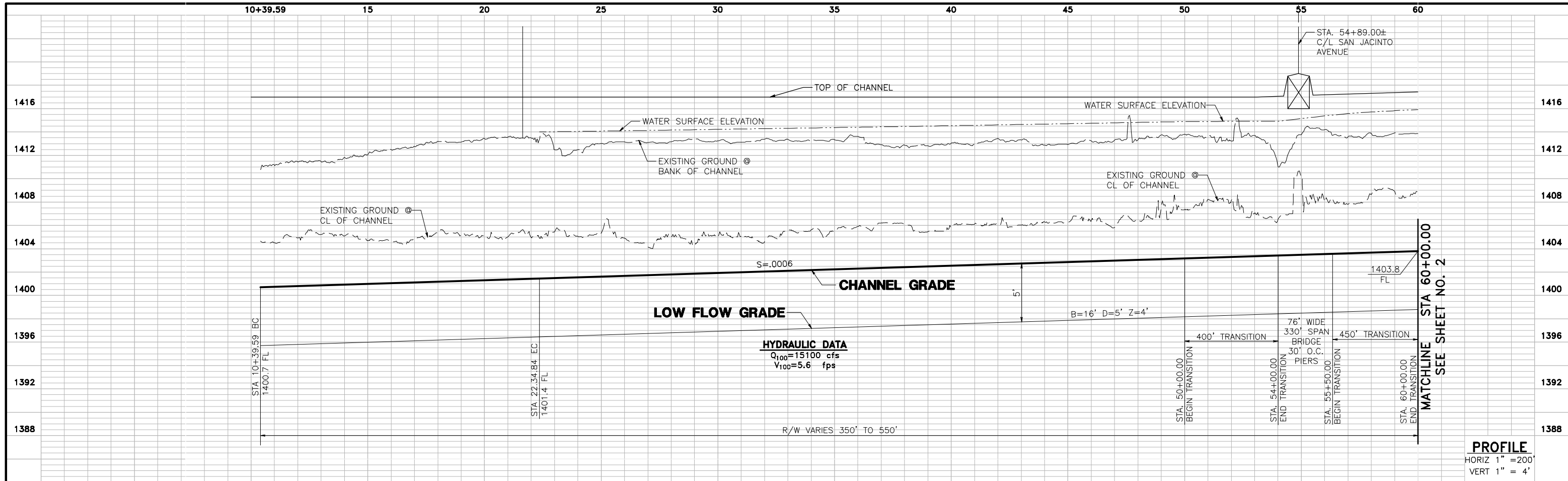
PERRIS VALLEY MDP LINE "A-B" DETAILS

PROJECT NO. 4-0-00537
DRAWING NO. 4-1063
SHEET NO. 18 OF 18



- NOTES:**
- STREET STRUCTURAL SECTION TO BE AS FOLLOWS:
A.C. SURFACING = MATCH EXISTING THICKNESS + ONE INCH.
BASE = MATCH EXISTING THICKNESS (MUST USE CLASS II BASE)
REINFORCEMENT = MATCH EXISTING THICKNESS (MUST USE CLASS II REBAR)
OVER OF CLASS II BASE CITY MAY ALSO SPECIFY STRUCTURAL SECTION FOR ROADWAY IN CERTAIN SITUATIONS.
 - WHEN A FIRM FOUNDATION IS NOT ENCOUNTERED DUE TO SOFT, SPONGY OR OTHER UNSUITABLE MATERIAL, SUCH MATERIAL SHALL BE REMOVED TO THE LIMITS DIRECTED BY THE INSPECTOR, AND THE RESULTING EXCAVATION BACKFILLED WITH CLASS II BASE.
 - CONTRACTOR TO PROVIDE INSPECTOR COPY OF COMPACTION REPORTS PRIOR TO PAVING.

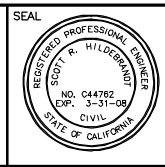
Appendix E: Ultimate Perris Valley Storm Drain Channel Plans



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UNDERGROUND SERVICE ALERT
 CALL: TOLL FREE
 1-800
 227-2600
 TWO WORKING DAYS BEFORE YOU DIG

PERRIS VALLEY STORM DRAIN ALTERNATIVE 5



ALBERT A. WEBB ASSOCIATES
 3788 McCRAY STREET, RIVERSIDE, CA 92506
 PH. (951) 686-1070 FAX (951) 788-1256

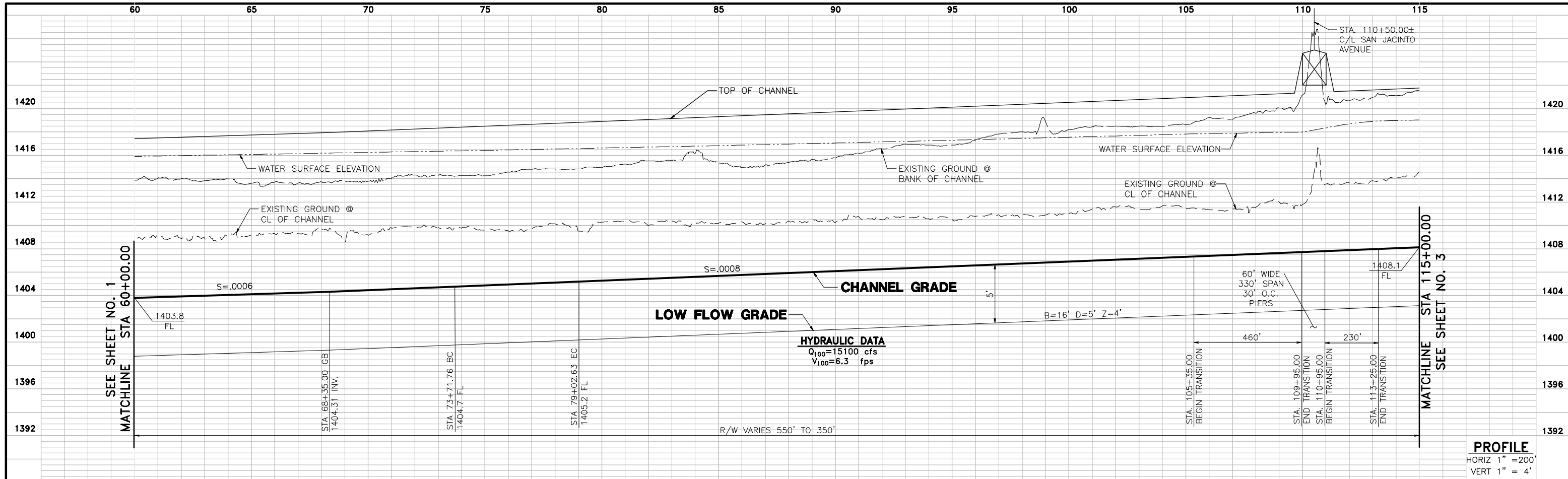
APPROVED BY: _____ DATE: _____
 R.C.E. NO. C44762 EXP. DATE: 3-31-08

DESIGNED BY: _____
 DRAWN BY: D.V.A.J.
 CHECKED BY: SRH

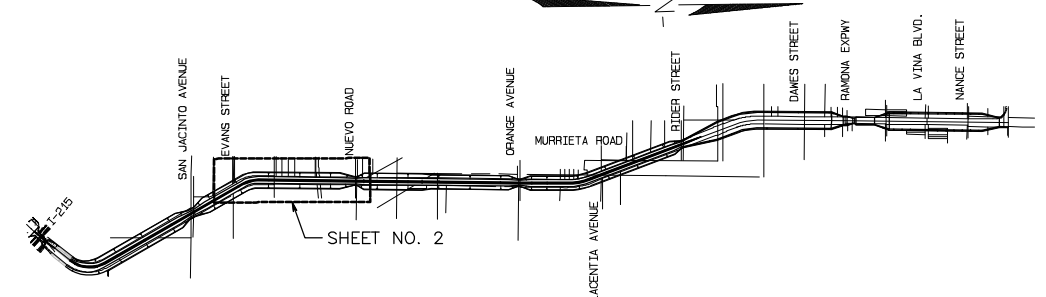
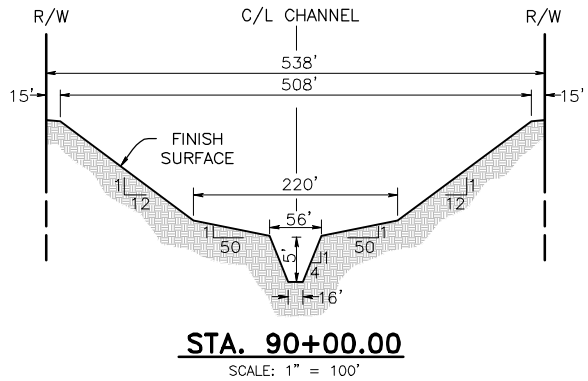
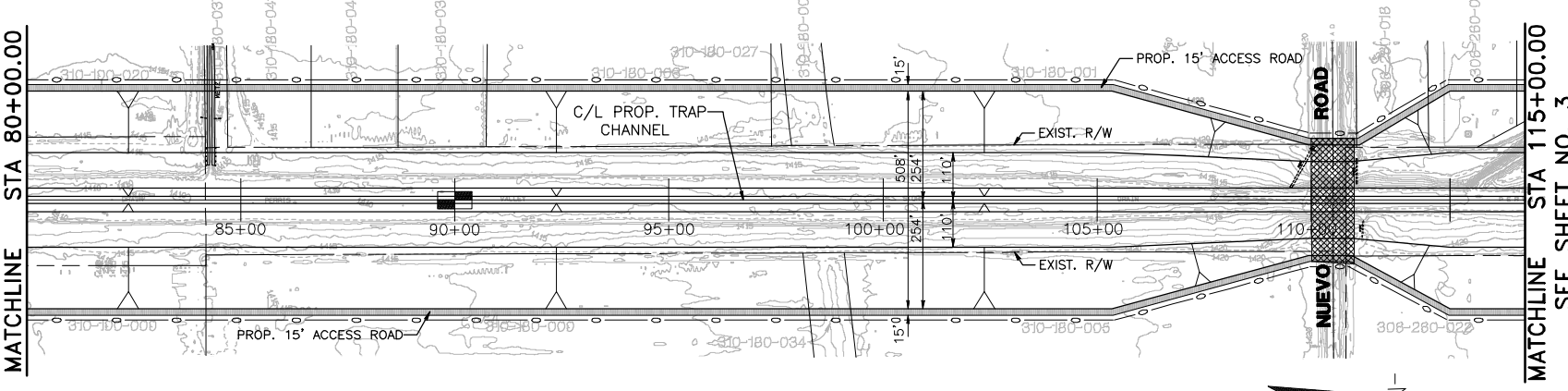
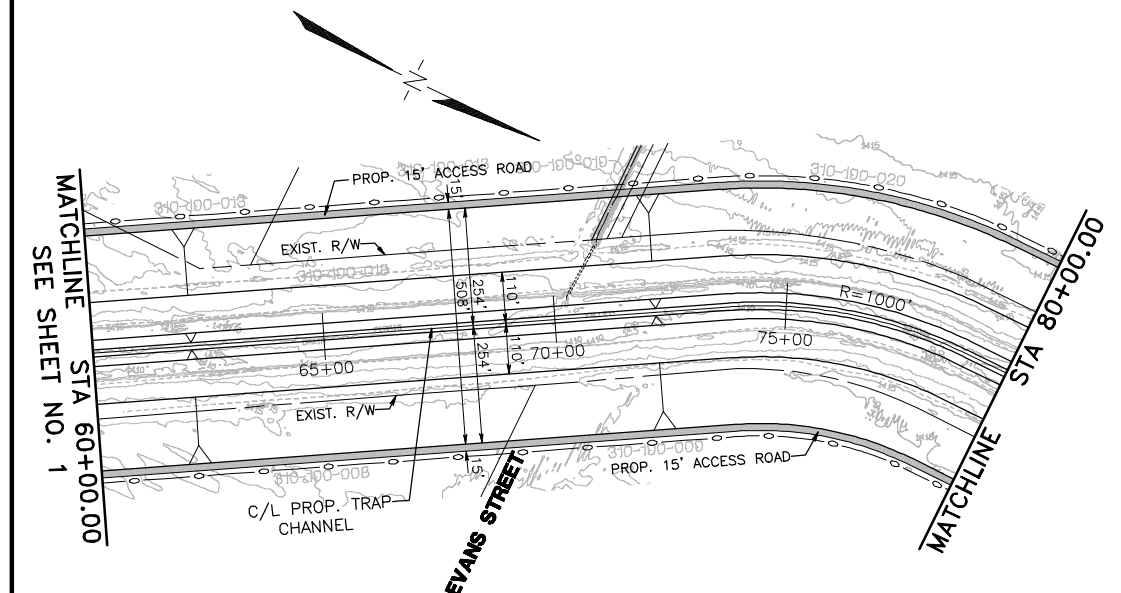
REVISIONS		
REF.	DESCRIPTION	APPR. DATE

PRELIMINARY PROFILE
PERRIS VALLEY STORM DRAIN
ALTERNATIVE 5

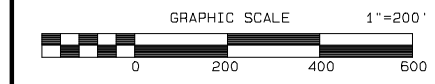
PROJECT NO. 03-0461
 DRAWING NO. ALTERNATIVE 5
 SHEET NO. 1 OF 6



PROFILE
 HORIZ 1" = 200'
 VERT 1" = 4'



SHEET INDEX
 N.T.S.



UNDERGROUND SERVICE ALERT
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 227-2600
 TWO WORKING DAYS BEFORE YOU DIG

PERRIS VALLEY STORM DRAIN ALTERNATIVE 5



ALBERT A. WEBB ASSOCIATES
 3788 McCray Street, Riverside, CA 92506
 PH. (951) 686-1070 FAX (951) 788-1256

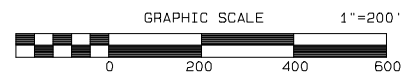
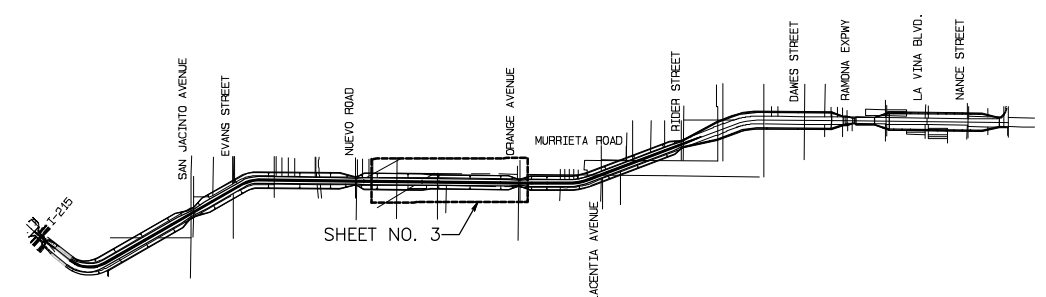
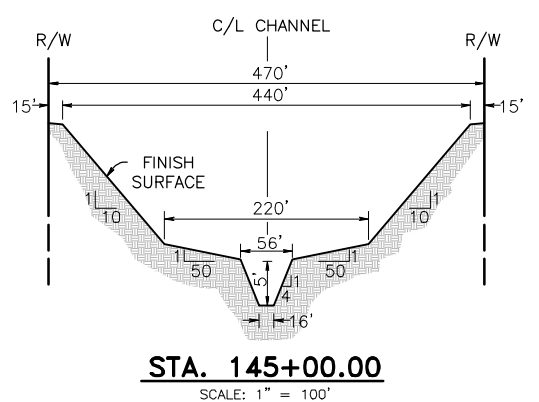
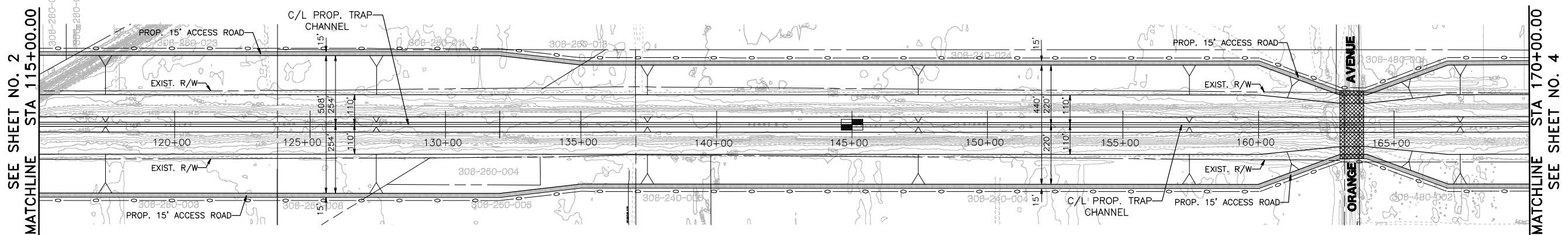
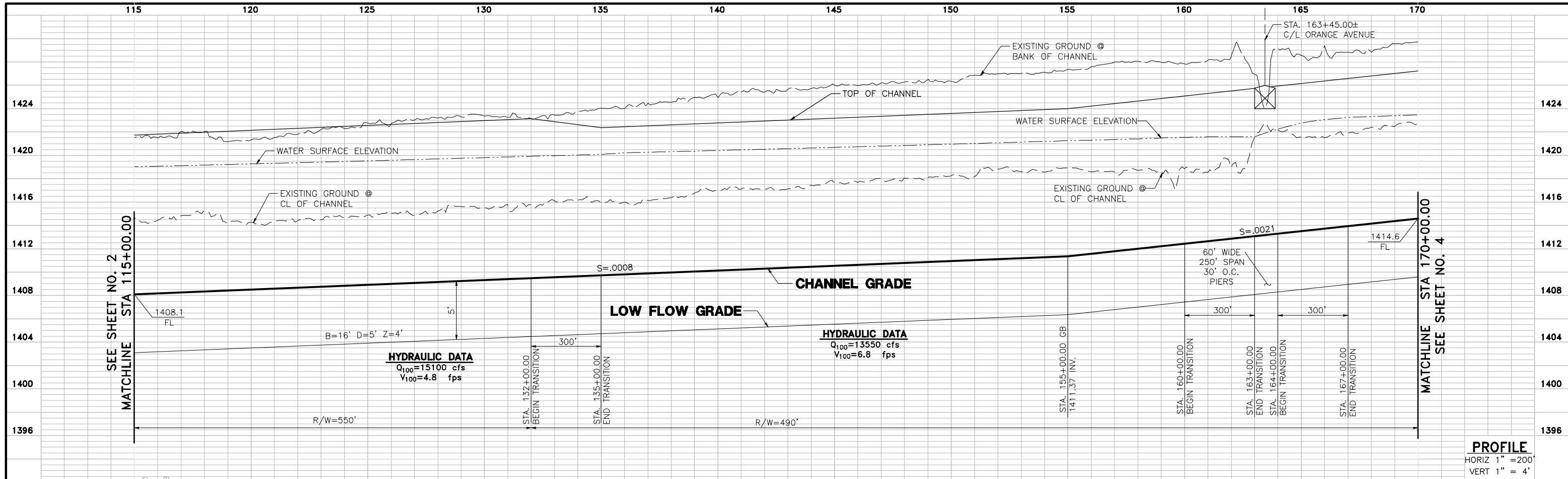
APPROVED BY: _____ DATE: _____
 R.C.E. NO. C44762 EXP. DATE: 3-31-08

DESIGNED BY: _____
 DRAWN BY: D.V.A.J.
 CHECKED BY: SRH

REVISIONS		
REF.	DESCRIPTION	APPR. DATE

PRELIMINARY PROFILE
PERRIS VALLEY STORM DRAIN ALTERNATIVE 5

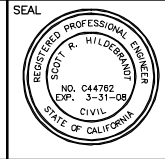
PROJECT NO. 03-0461
 DRAWING NO. ALTERNATIVE 5
 SHEET NO. 2 OF 6



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PERRIS VALLEY STORM DRAIN ALTERNATIVE 5



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 ENGINEERING CONSULTANTS
 3788 McCRAY STREET, RIVERSIDE, CA 92506
 PH. (951) 686-1070 FAX (951) 788-1256

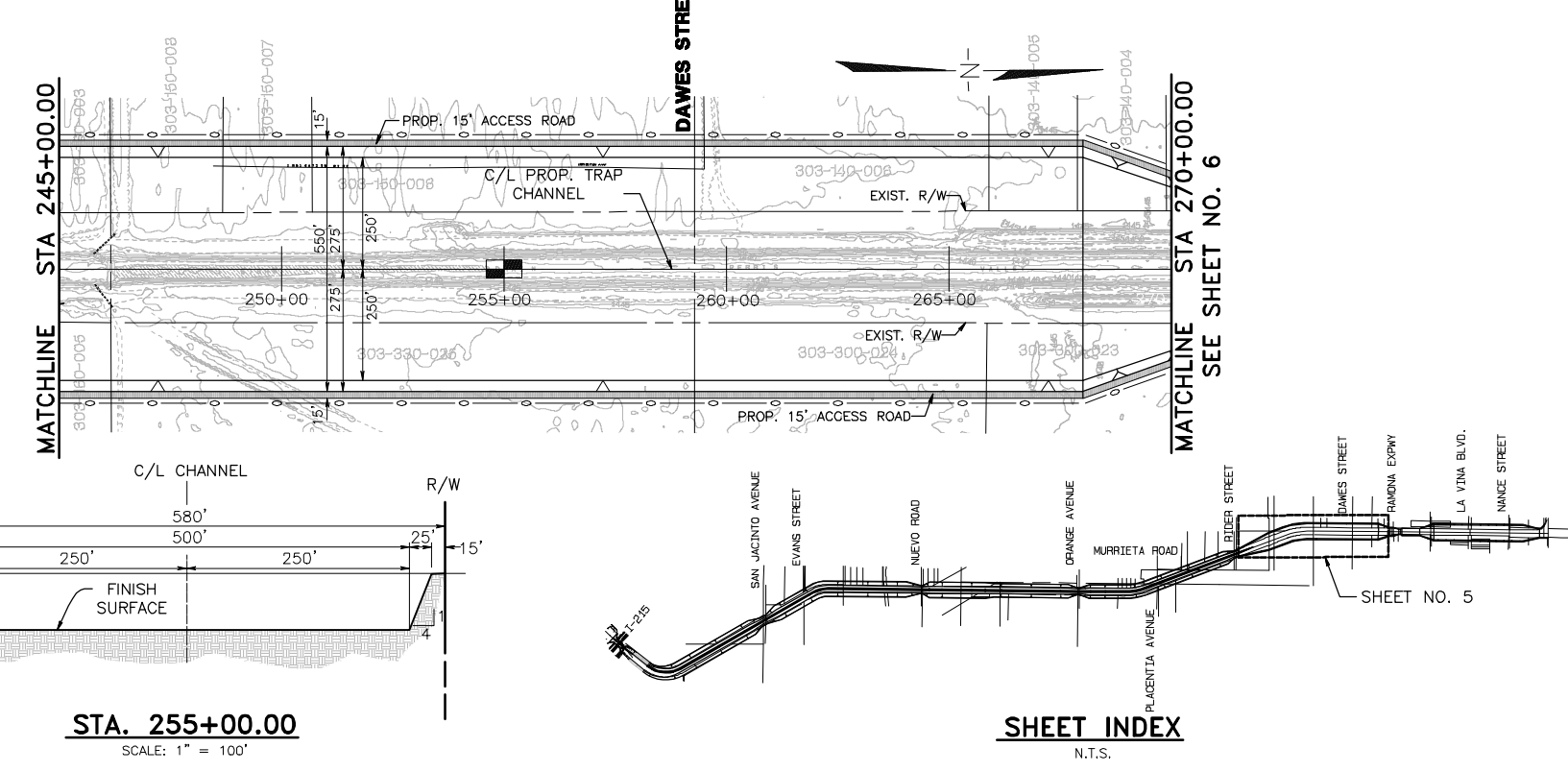
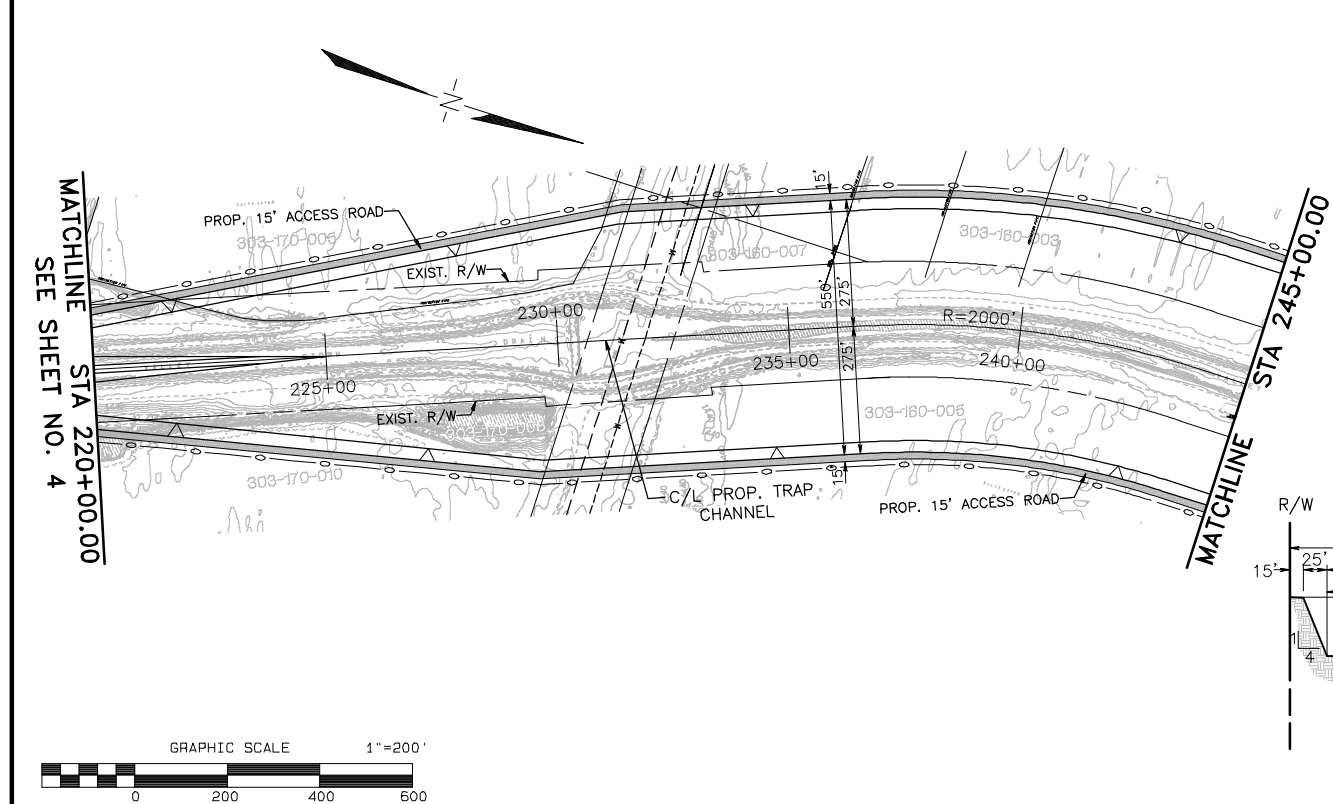
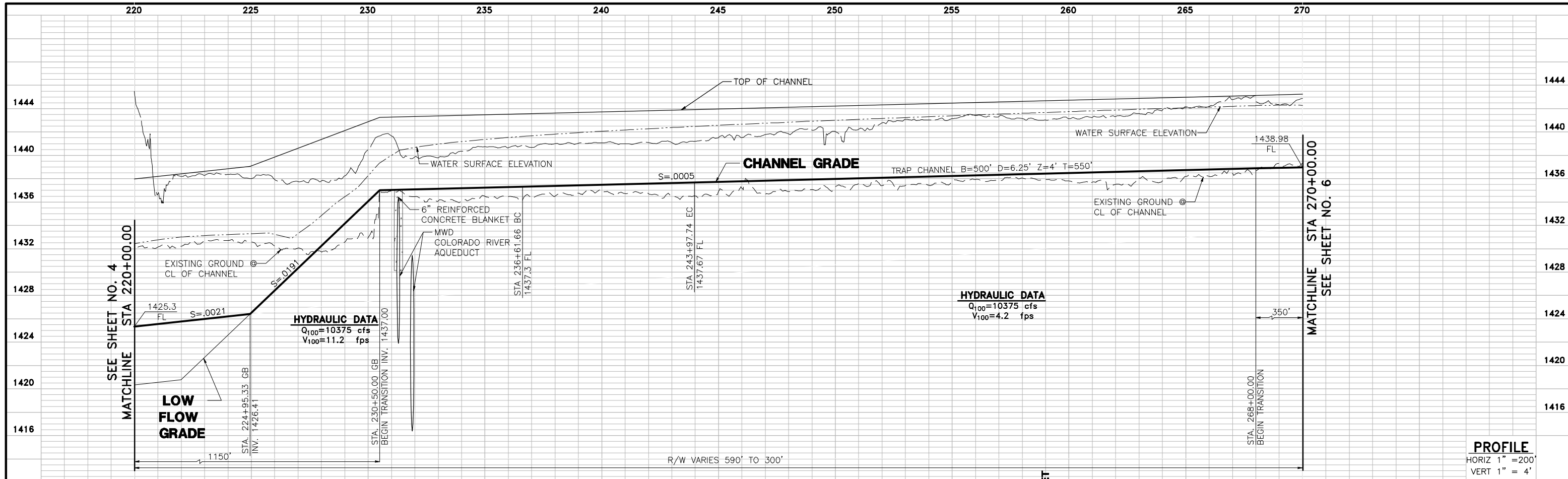
APPROVED BY: _____ DATE: _____
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DESIGNED BY: _____
 DRAWN BY: D.V.A.J.
 CHECKED BY: SRH

REVISIONS		
REF.	DESCRIPTION	APPR. DATE

**PRELIMINARY PROFILE
 PERRIS VALLEY STORM DRAIN
 ALTERNATIVE 5**

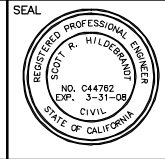
PROJECT NO. 03-0461
 DRAWING NO. ALTERNATIVE 5
 SHEET NO. 3 OF 6



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PERRIS VALLEY STORM DRAIN ALTERNATIVE 5



ALBERT A. WEBB ASSOCIATES
 3788 McCray Street, Riverside, CA 92506
 PH. (951) 686-1070 FAX (951) 788-1256

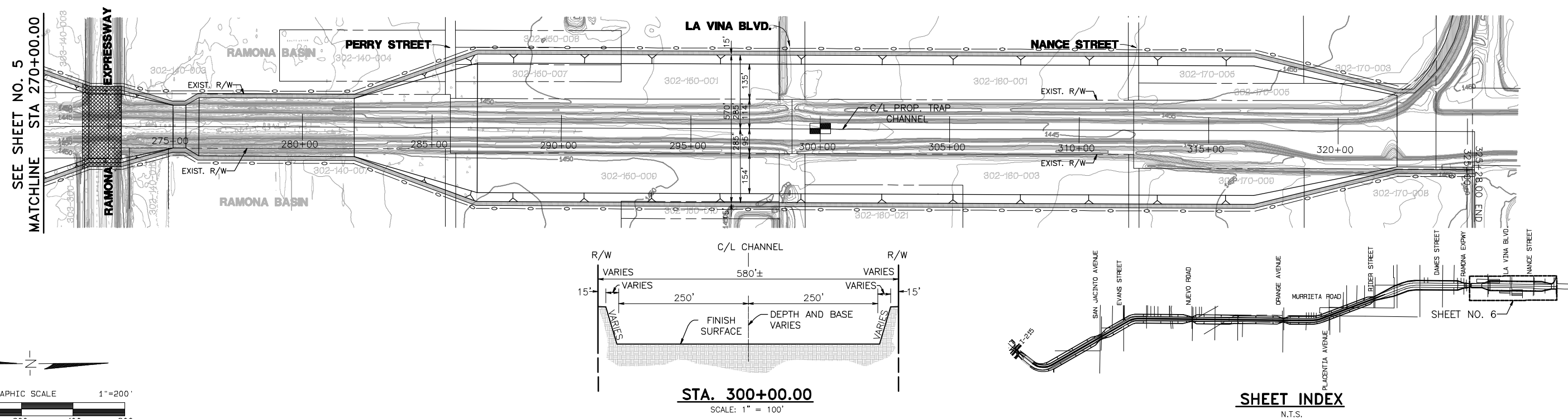
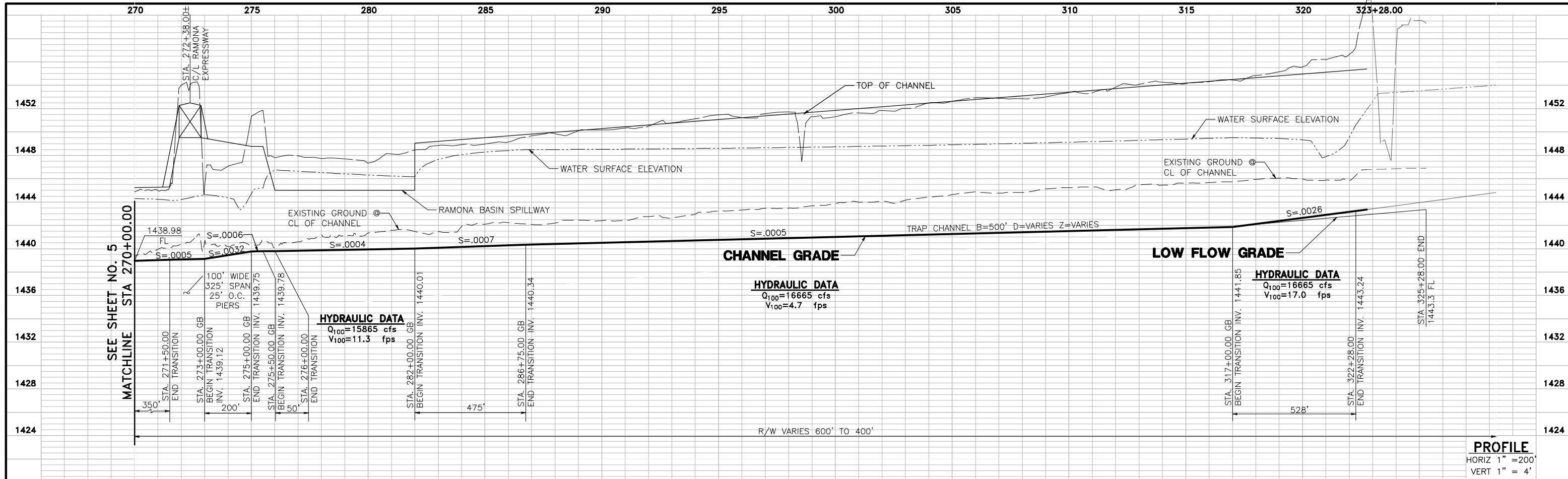
APPROVED BY: _____ DATE: _____
 R.C.E. NO. C44762 EXP. DATE: 3-31-08

DESIGNED BY: _____
 DRAWN BY: D.V.A.J.
 CHECKED BY: SRH

REVISIONS		
REF.	DESCRIPTION	APPR. DATE

PRELIMINARY PROFILE
PERRIS VALLEY STORM DRAIN
ALTERNATIVE 5

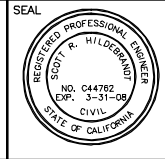
PROJECT NO. 03-0461
 DRAWING NO. ALTERNATIVE 5
 SHEET NO. 5 OF 6



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UNDERGROUND SERVICE ALERT
 CALL: TOLL FREE
 1-800
 227-2600
 TWO WORKING DAYS BEFORE YOU DIG

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 DRAWING NO. ALTERNATIVE 5
 SHEET NO. 6 OF 6