

```

*****
Station   Invert    Depth    Water    Q    Vel    Vel    Energy    Super    Critical    Flow Top    Height/    Base Wt    No Wth
- - - - -   Elev    (FT)    Elev    (CFS)  (FPS)  Head    Grd.El.    Elev    Depth    Width    Dia.-FT    or I.D.    ZL
L/Elem    Ch Slope
*****
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

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WATER SURFACE PROFILE LISTING
 LINE A-B HYDRAULIC MODEL - ORIGINAL TRIBUTARIES
 FN:LINEABORIGINAL.WSW

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

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*****
Station  | Invert  | Depth  | Water  | Q       | Vel    | Vel   | Energy | Super | Critical | Flow Top | Height/ | Base Wt |   | No Wth
          | Elev    | (FT)   | Elev   | (CFS)  | (FPS) | Head  | Grd.El. | Elev  | Depth   | Width   | Dia.-FT | or I.D. | ZL | Prs/Pip
L/Elem   | Ch Slope |         |         |         |         | SF Ave | HF      | SE Dpth | Froude N | Norm Dp | "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 -----|
    
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WATER SURFACE PROFILE LISTING
 LINE A-B HYDRAULIC MODEL - ORIGINAL TRIBUTARIES
 FN:LINEABORIGINAL.WSW

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

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*****
Station  | Invert  | Depth  | Water  | Q      | Vel    | Vel    | Energy | Super | Critical | Flow Top | Height/ | Base Wt |   | No Wth
          | Elev    | (FT)   | Elev   | (CFS)  | (FPS)  | Head   | Grd.El. | Elev  | Depth   | Width   | Dia.-FT | or I.D. | ZL | 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 -----|
    
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WATER SURFACE PROFILE LISTING
 LINE A-B HYDRAULIC MODEL - ORIGINAL TRIBUTARIES
 FN:LINEABORIGINAL.WSW

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

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
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
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									

FILE: LINEABREVISED.WSW
 Date: 1-28-2020 Time: 2:52:36

LINEABREVISED.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)	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	6	0			.000									
CD	4	6	0			.000									
CD	7	6	0			.000									
CD	8	4	1			1.500									
CD	2	4	1			2.000									
CD	3	4	1			2.500									
CD	6	4	1			3.000									
CD	9	4	2			2.000									

FILE:
 Date: 1-28-2020 Time: 2:52:36

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 POINTS	X(1), Y(1)	X(2), Y(2)	X(3), Y(3)	X(4), Y(4)	X(5), Y(5)	X(6)
CODE	NO		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	1.670 8.000				
PTS	4	8	1.000 5.330	1.000 1.670	1.670 1.670	1.000 7.330	1.000 8.000	
1.670	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 1.670	1.000 8.330	1.000 9.000	
1.670	9.000	6.330	8.330 7.000	1.670 7.000				
PTS								

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-B HYDRAULIC MODEL - REVISED TRIBUTARIES
 FN:LINEABREVISED.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
				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
ANGLE	ANG PT	MAN H		1263.330	1427.730	1	.013
.000	.000	1					.000
ELEMENT NO	7 IS A	JUNCTION	U/S DATA	STATION	INVERT	SECT	RADIUS
INVERT-4	PHI 3	PHI 4		1263.330	1427.740	1	.013
						3	0
						0	.013
						Q3	21.100
						Q4	.000
						INVERT-3	1428.810

.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

.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	*	*	*						
ANGLE	ANG PT	MAN H	U/S DATA	STATION	INVERT	SECT		N			RADIUS	
.000	.000	0		3116.470	1434.030	4		.013			.000	
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
.000	45.000	.000		3116.470	1434.040	4	2	0	.013	48.000	.000	1434.620
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	*	*	*						
ANGLE	ANG PT	MAN H	U/S DATA	STATION	INVERT	SECT		N			RADIUS	
.000	.000	1		3271.370	1434.490	4		.013			.000	
ELEMENT NO	19	IS A	SYSTEM HEADWORKS						*			
			U/S DATA	STATION	INVERT	SECT					W S ELEV	
				3271.370	1434.490	4					1434.490	

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
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

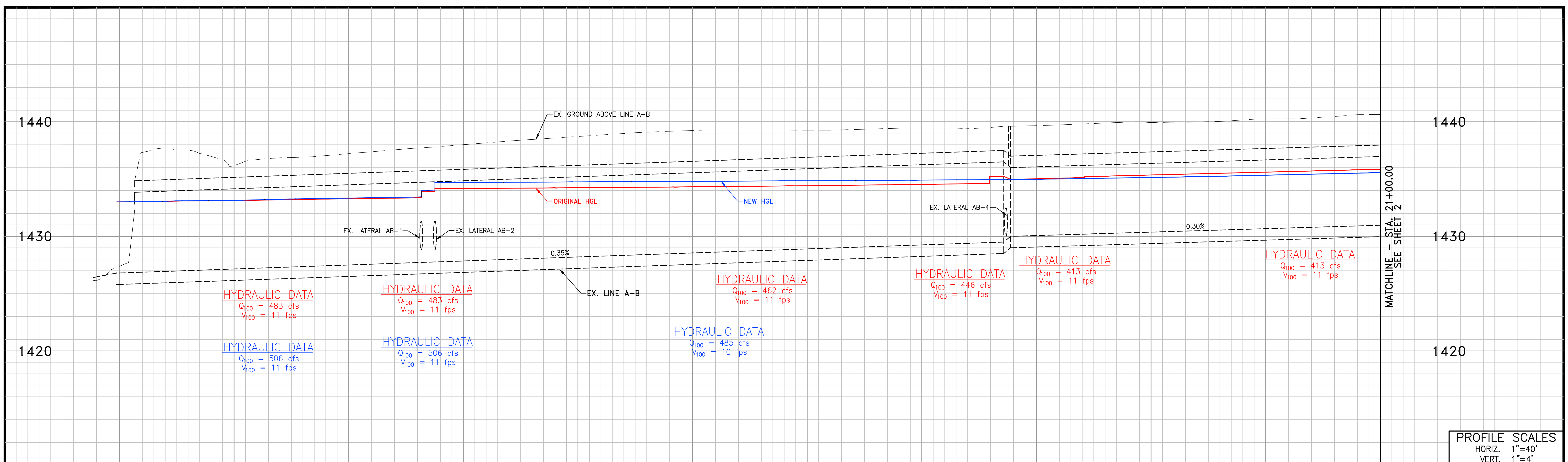
WATER SURFACE PROFILE LISTING
LINE A-B HYDRAULIC MODEL - REVISED TRIBUTARIES
FN:LINEABREVISED.WSW

Date: 1-28-2020 Time: 2:52:38

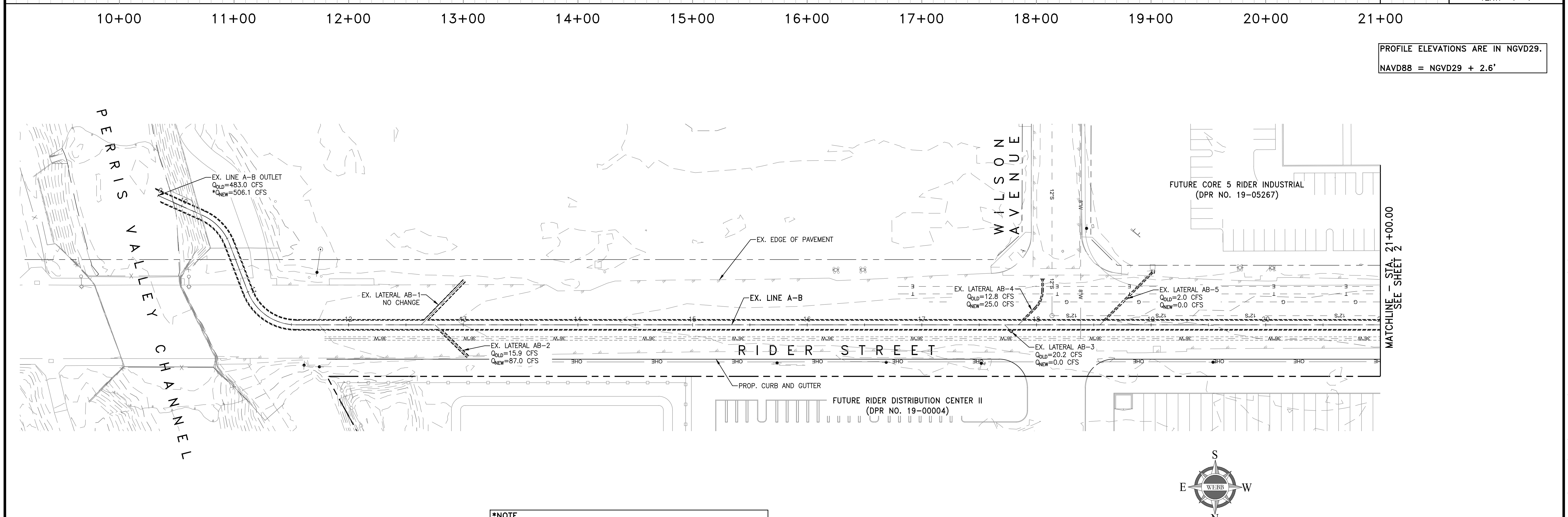
Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
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


```

*****
Station | Invert | Depth | Water | Q | Vel | Vel | Energy | Super | Critical | Flow Top | Height/ | Base Wt | | No Wth
      | Elev   | (FT)  | Elev  | (CFS) | (FPS) | Head | Grd.El. | Elev  | Depth  | Width  | Dia.-FT | or I.D. | ZL | Prs/Pip
L/Elem | Ch Slope | | | | | SF Ave | HF | SE Dpth | Froude N | Norm Dp | "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 | | 0 .0
      | | | | | | | | | | | | | | | | |
JUNCT STR | .0000 | | | | | | | | | | | | | | | | |
      | | | | | | | | | | | | | | | | |
      |----- 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 | | 0 .0
      | | | | | | | | | | | | | | | | |
154.900 | .0029 | | | | | | | | | | | | | | | | |
3271.370 | 1434.490 | 5.228 | 1439.718 | 282.00 | 8.27 | 1.06 | 1440.78 | .00 | 3.76 | 5.66 | | | 4 | | 0 .0
      | | | | | | | | | | | | | | | | |
    
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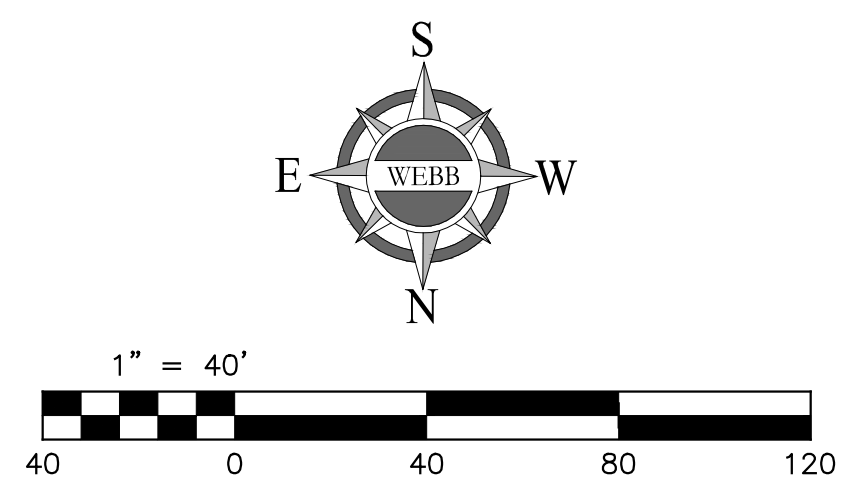


PROFILE ELEVATIONS ARE IN NGVD29.
NAVD88 = NGVD29 + 2.6'



***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.

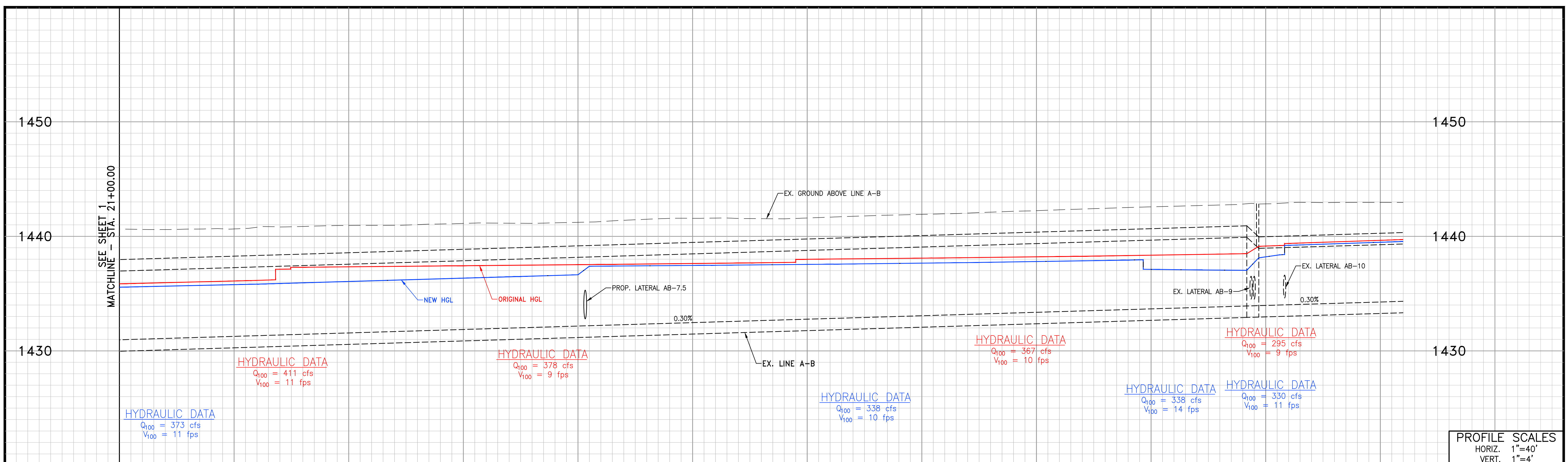
LINE A-B PLAN AND PROFILE



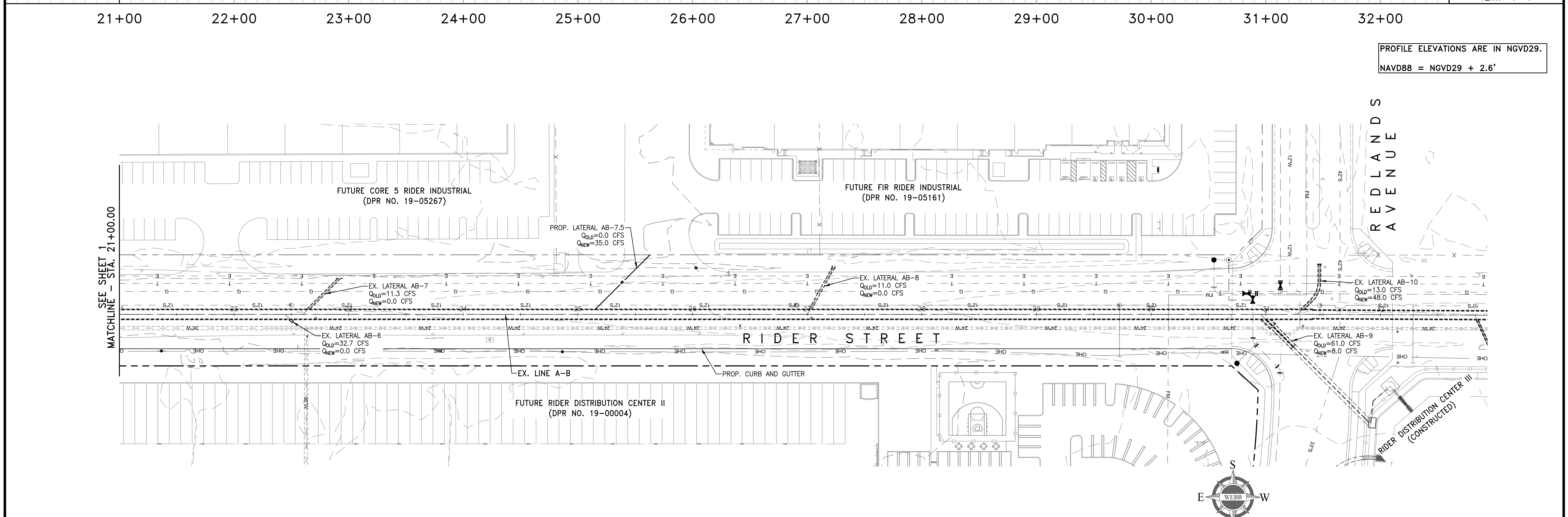
ALBERT A. WEBB ASSOCIATES ENGINEERING CONSULTANTS
3788 McCRAY STREET
RIVERSIDE, CA. 92506
PH. (951) 686-1070
FAX (951) 788-1256

W.O. SHEET
1
OF 2 SHEETS

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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

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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

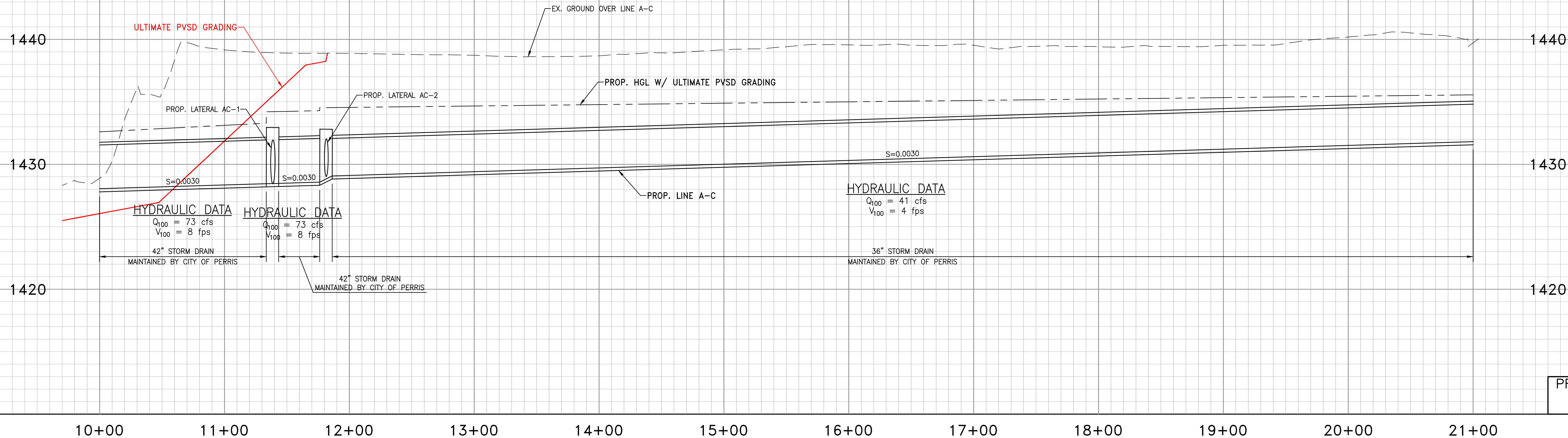
ELEMENT NO	1 IS A	SYSTEM OUTLET	U/S DATA	STATION	INVERT	SECT						W S ELEV
				1000.000	1428.040	1						1432.600
ELEMENT NO	2 IS A	REACH	U/S DATA	STATION	INVERT	SECT				N		RADIUS
ANGLE	ANG PT	MAN H		1133.470	1428.440	1				.013		.000
.000	.000	0										
ELEMENT NO	3 IS A	JUNCTION					*	*	*	*		*
INVERT-4	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

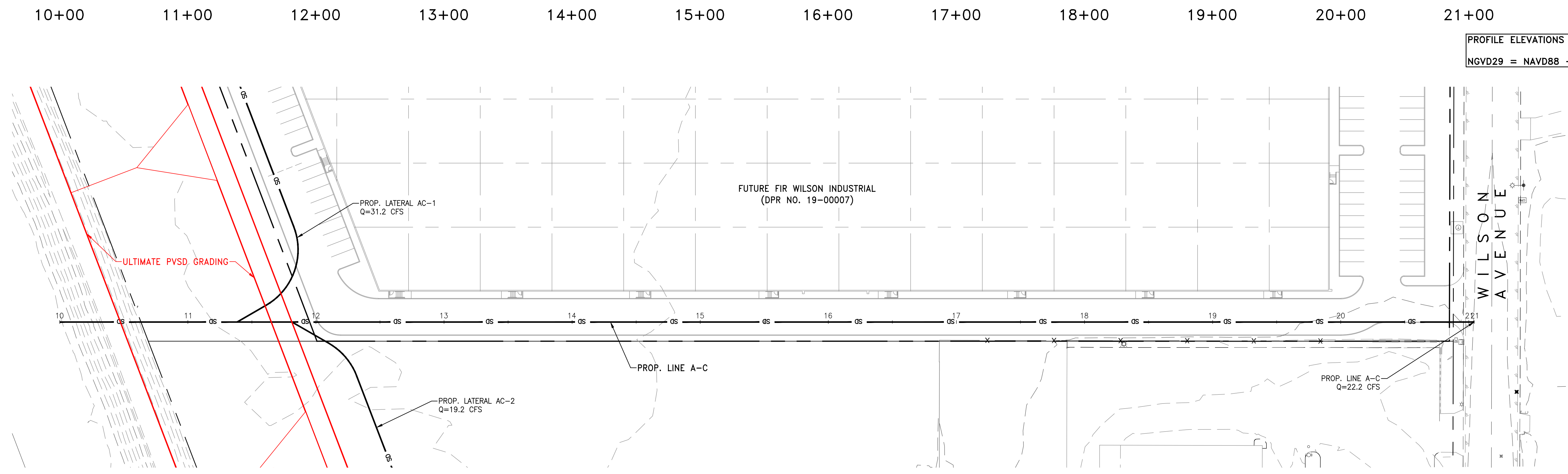
LINEAC.EDT

WATER SURFACE PROFILE - ELEMENT CARD LISTING

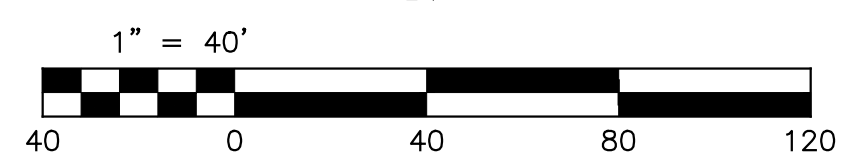
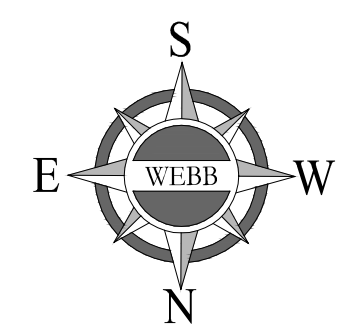


PROFILE SCALES
 HORIZ. 1"=40'
 VERT. 1"=4'

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



LINE A-C PLAN AND PROFILE



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

W.O. SHEET
 1
 OF 2 SHEETS

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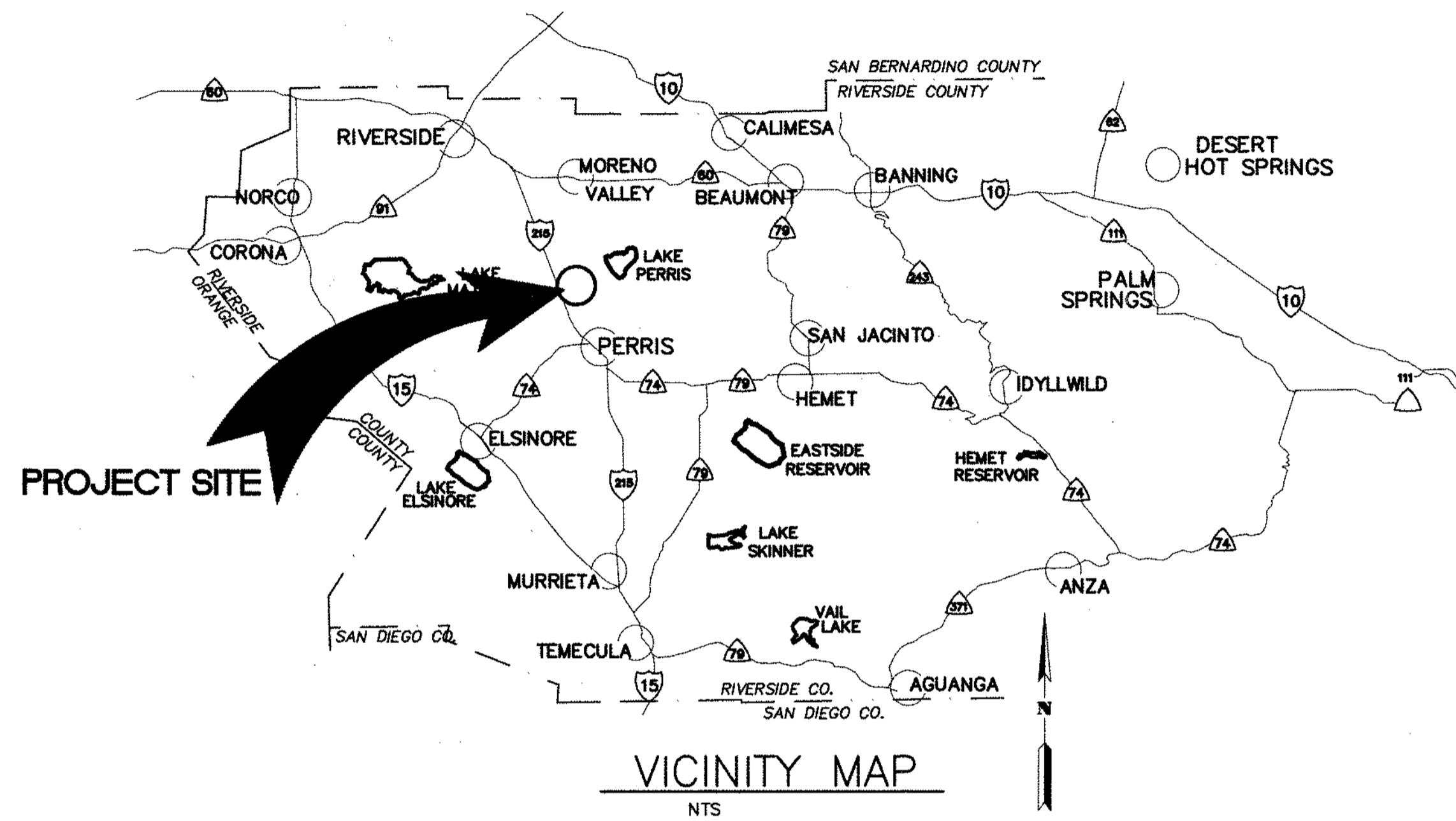
Appendix D: Line A-B As-Built Plans

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

INDEX

SHEET NO.:

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



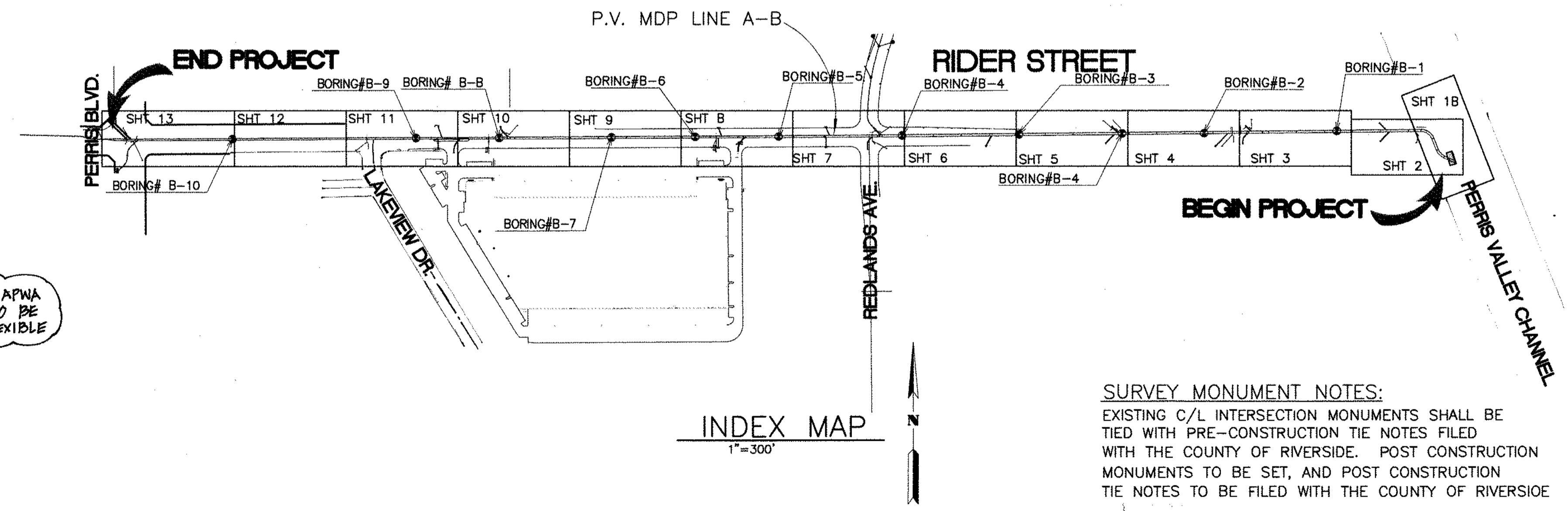
THE ULTIMATE H.C.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION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

LEGEND:

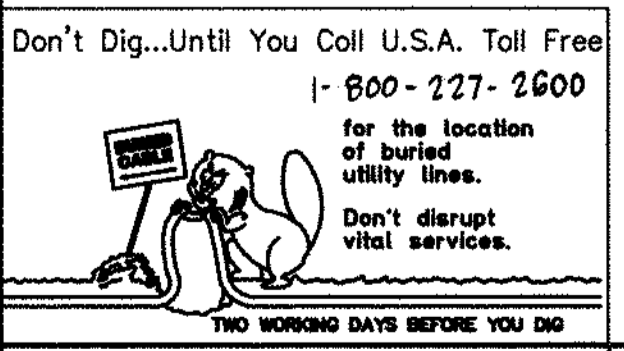
R	—PROPERTY LINE	F.P.	—FINISHED PAVEMENT
R/W	—RIGHT OF WAY	S.F.O.W	—SOUTH FACE OF WALL
CL	—CENTERLINE	N.F.O.W	—NORTH FACE OF WALL
T.C.	—TOP OF CURB	E.F.O.W	—EAST FACE OF WALL
F.L.	—FLOW LINE	W.F.O.W	—WEST FACE OF WALL
F.S.	—FINISH SURFACE	T.P.	—TOP OF PIPE
H.P.	—HIGH POINT	(0.00)	—EXISTING ELEVATION
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.	—ACCRETION BASE	EMH	—EOLSON 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.
- URING ROUGH GRADING 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 AREAS 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 RO, USE JOINT SEALANT PER APWA STD PLAN 390.0 ALL PRE-CAST RO 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) 72.43 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 GRUPE TO 0.0018, ADDED MH, ADDED NEW 10" B. CHANNELS 42' WAT TO 24' WAT, ADDED EX UTILITIES, RELOCATE UTILITIES, REV. 2D.	H.I.A.	2/23/16	OK	2/23/16
2	CHANGED CLP RO TO PRE-CAST RO PER APWA 390.0	H.I.A.	2/23/16	OK	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
Sevda K. Agayan Date: 11/18/14
HAIDOOK I. AGHAJAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

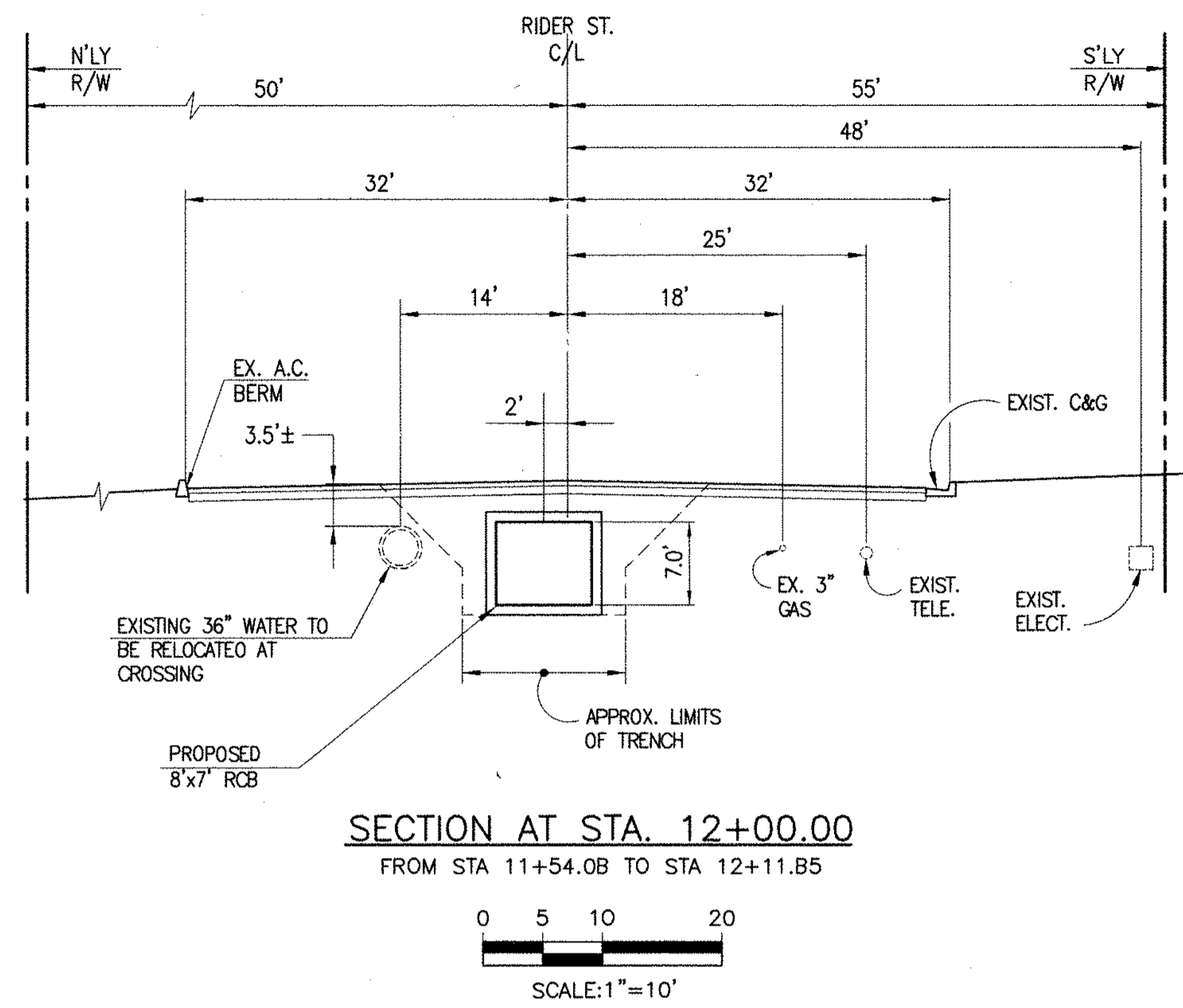
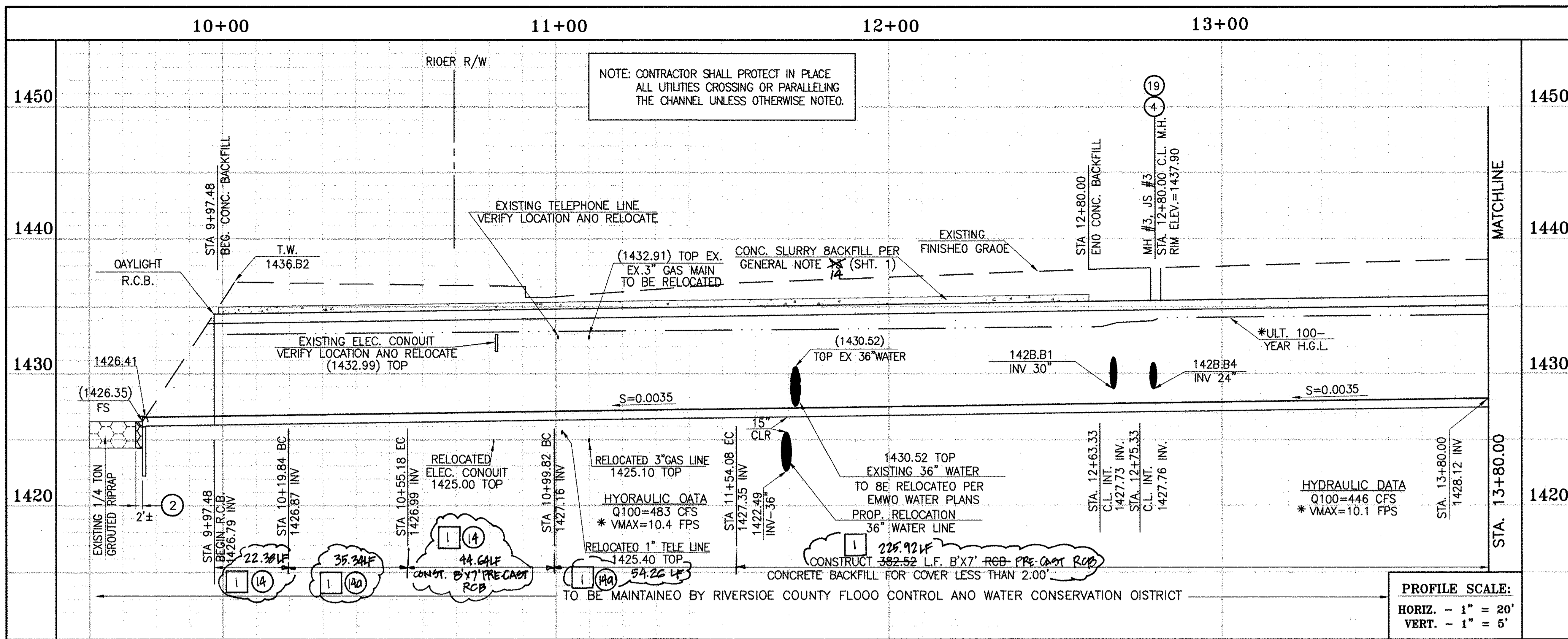
RECOMMENDED FOR APPROVAL BY: *Mark A. Willey* PLANNING ENGINEER DATE: 1/20/2015

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

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

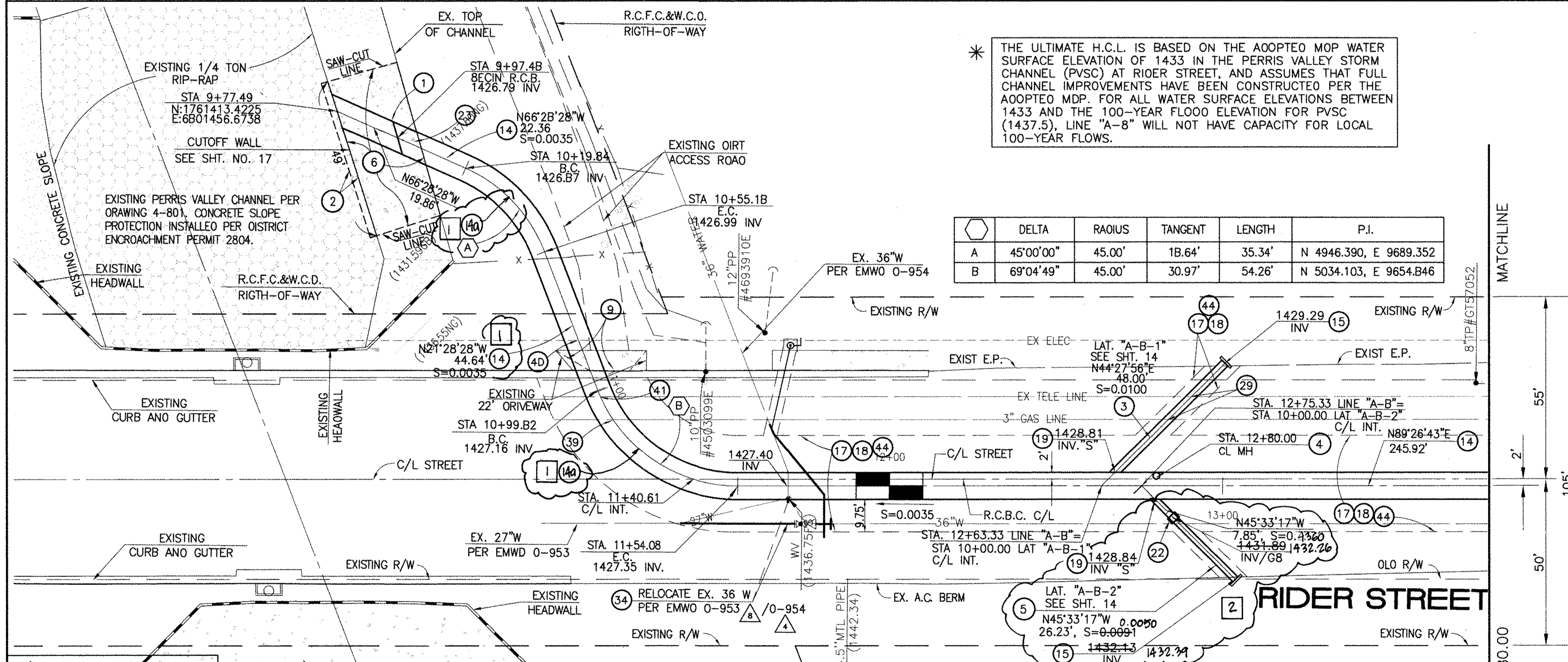
PERRIS VALLEY MDP LINE "A-B"

CITY OF PERRIS FILE NO. PB-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-LOAD 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-LOAD 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 8' 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 1B. SEE SEPARATE PAVING PLAN.
- 14 CONSTRUCT 8'x7' PRE-CAST RCB PER APWA STD PLAN 390-0 SEE JOINT SEALANT NOTE ON SHT. 1



* 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 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.

	DELTA	RAIUS	TANGENT	LENGTH	P.I.
A	45°00'00"	45.00'	18.64'	35.34'	N 4946.390, E 9689.352
B	69°04'49"	45.00'	30.97'	54.26'	N 5034.103, E 9654.846

LEGEND:

1 REVISION SYMBOL AND NUMBER PER EMWO REQUIREMENT (TYPICAL TO ALL SHEETS)

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. 24-31"
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 2/1) 43 FT. WEST OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE) MARKED R-100 D.I.M.R. IN TOP OF CONC. POST FLUSH W/ GROUND ELEVATION = 1474.674' (DMD 1829)

REVISIONS	ENGINEER	RCFC/	DESIGNED BY:	APPROVED BY:
1 CHANGED SLOPE TO 0.0035, ADDED MH, ADDED NEW 10% CHANGED 40' LAT TO 24' LAT, ADDED EX UTILITIES, RELOCATED UTILITIES, REVISED SP. <td>H.I.A. 2/3/14</td> <td>J.S.</td> <td>B.W.</td> <td>H.I.A.</td>	H.I.A. 2/3/14	J.S.	B.W.	H.I.A.
2 CHANGED C.P. RIB TO PRE-CAST RIB PER APWA 390-0	H.I.A. 2/3/14	J.S.	ET	H.I.A.

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

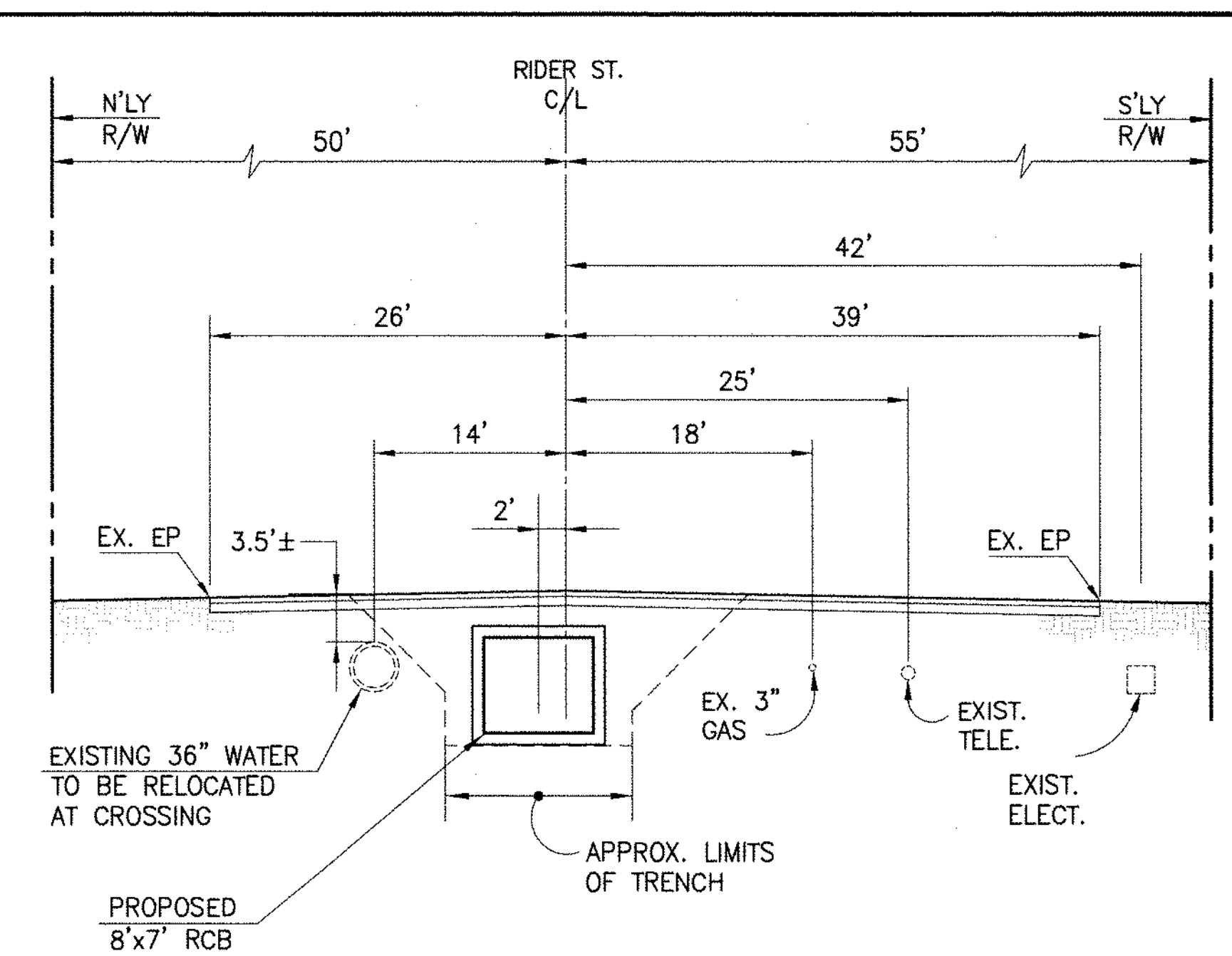
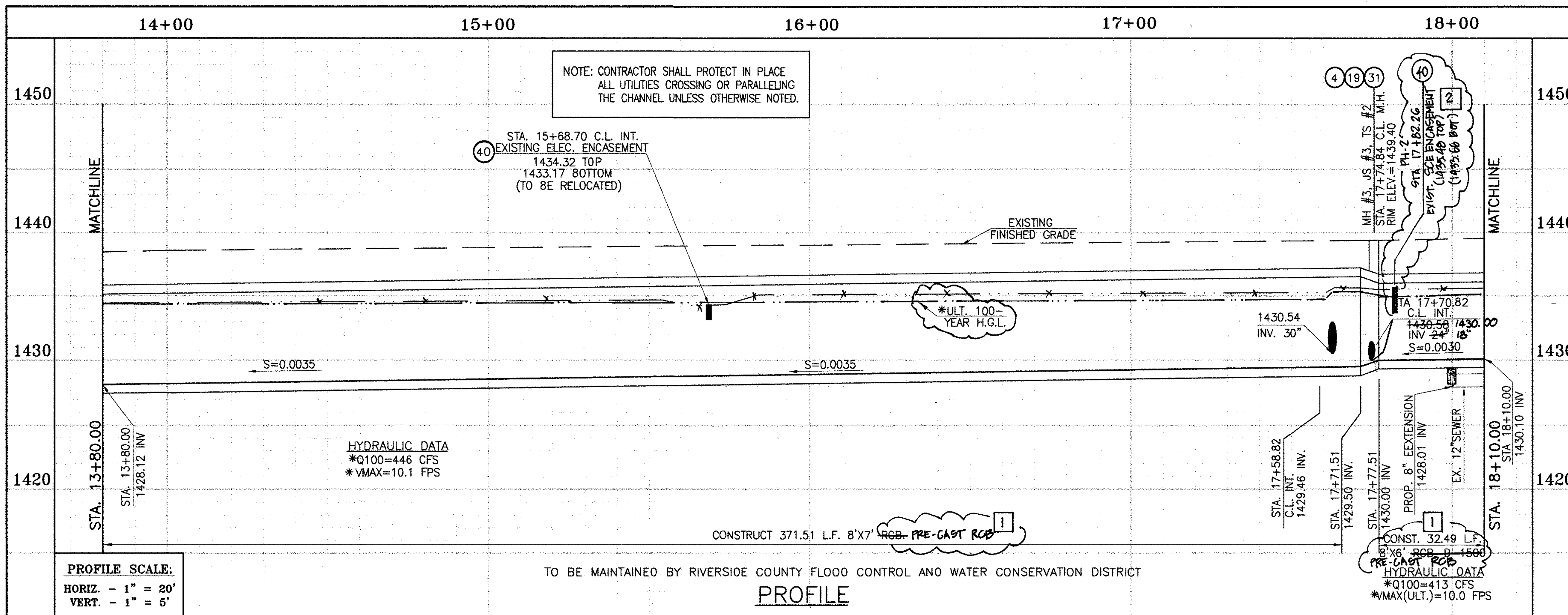
PERRIS VALLEY MDP LINE "A-B"
FROM STA. 9+97.48 TO STA. 13+80

CITY OF PERRIS FILE NO. P8-1013

PROJECT NO. 4-0-00537

DRAWING NO. 4-1063

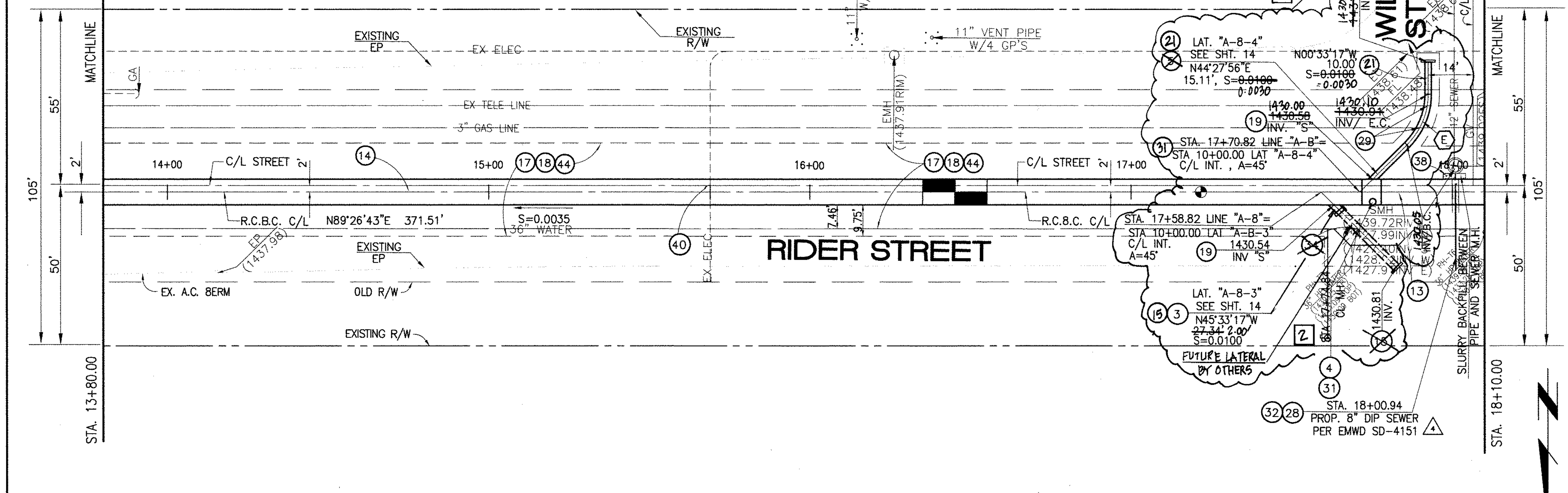
SHEET NO. 2 OF 18



* 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.

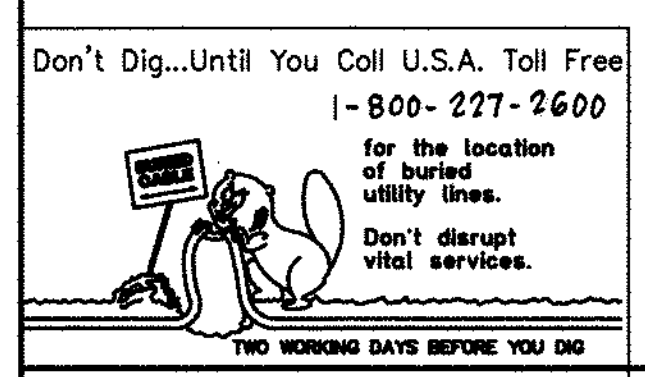
CAUTION:
PROPOSED WORK IS IN PROXIMITY OF HIGH PRESSURE GAS LINES

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



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 PRE-CAST RCB PER CALTRANS STD 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 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. STD. DWG. JS228.
- 28 CONSTRUCT SEWER PROTECTION PER R.C.F.C.&W.C.O. STD. DWG. M807.
- 29 PROTECT IN PLACE EXISTING UTILITIES.
- 31 CONSTRUCT MODIFIED TRANSITION STRUCTURE NO.2 PER R.C.F.C.&W.C.O. 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.
- 21 CONSTRUCT 18" R.C.P., D-LOAD PER PLAN.



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 HWY. 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-102 D.W.R. IN TOP OF CONC. POST FLUSH W/
GROUND
ELEVATION = 1476.674' (MVD 1829)

REVISIONS	ENGINEER	RCFC/	DESIGNED BY:	APPROVED BY:
2 CHANGED SLOPE TO 0.0035, ADDED MH, ADDED NEW DIP'S, CHANGED A2' LAT TO 24' LAT, ADDED EX. UTILITIES, RELOCATE UTILITIES, REVISED S-D. <td>H.A.</td> <td>2/3/16</td> <td>BW</td> <td>THIENES ENGINEERING, INC.</td>	H.A.	2/3/16	BW	THIENES ENGINEERING, INC.
1 CHANGED C.P. RCB TO PRE-CAST RCB PER PLAN 3900	H.A.	2/3/16	ET	HAIDOOK I. AGHAIAN

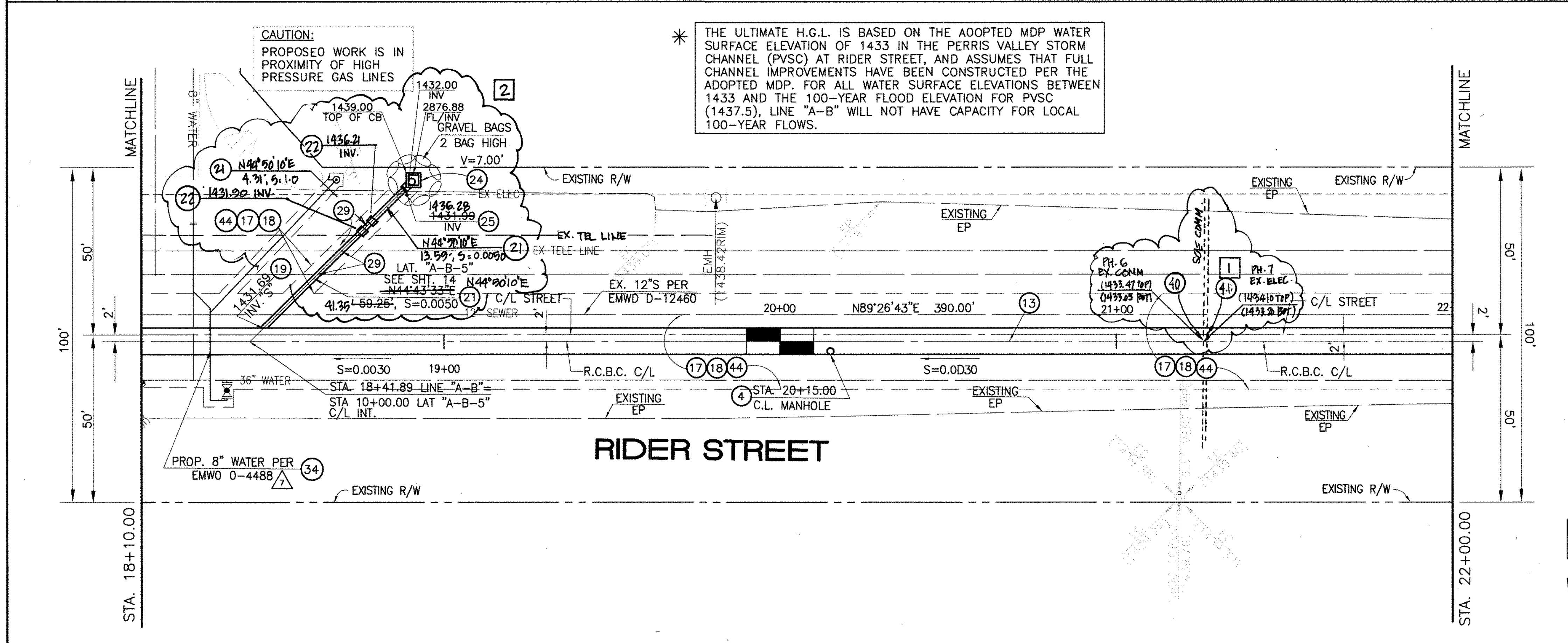
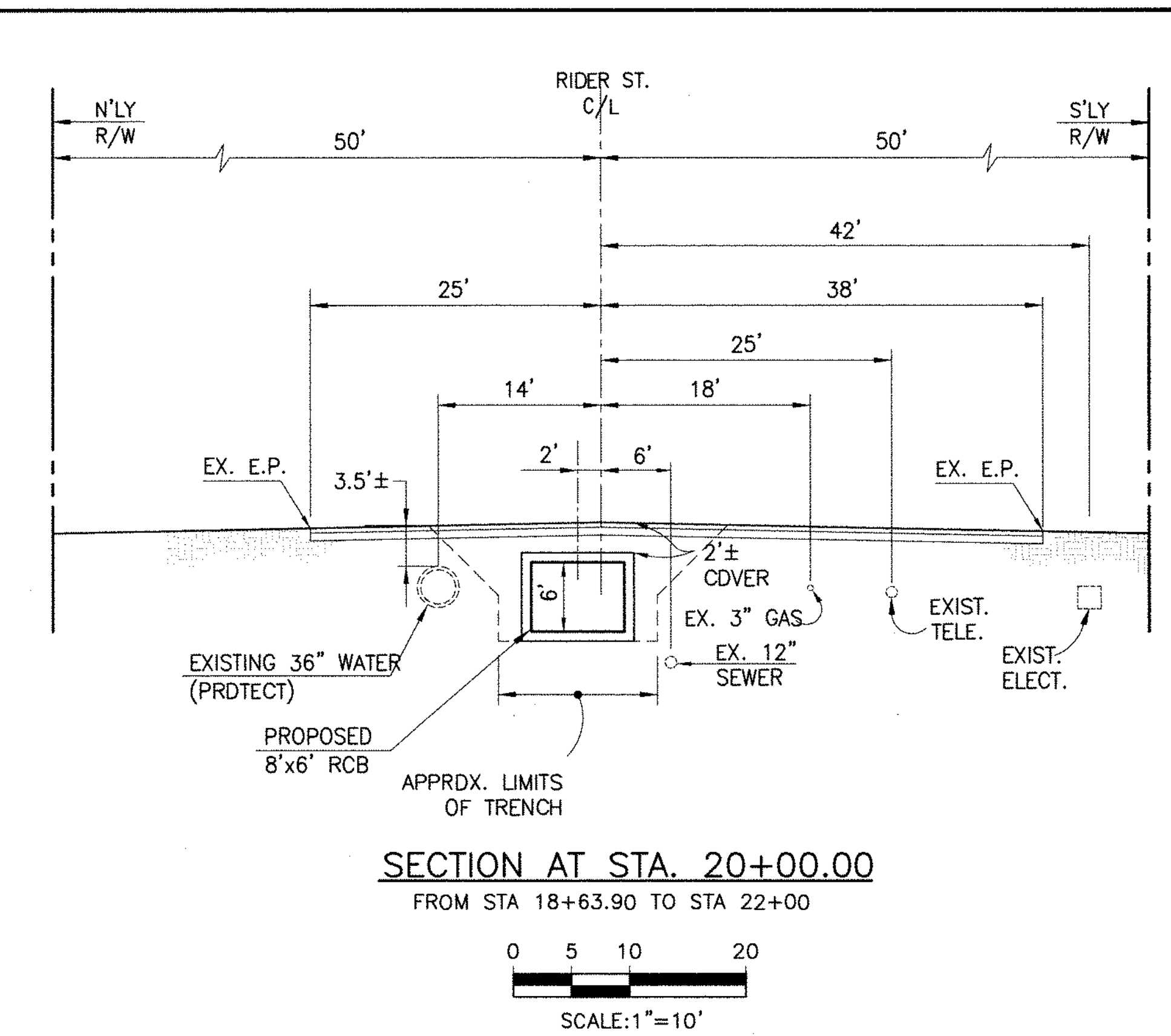
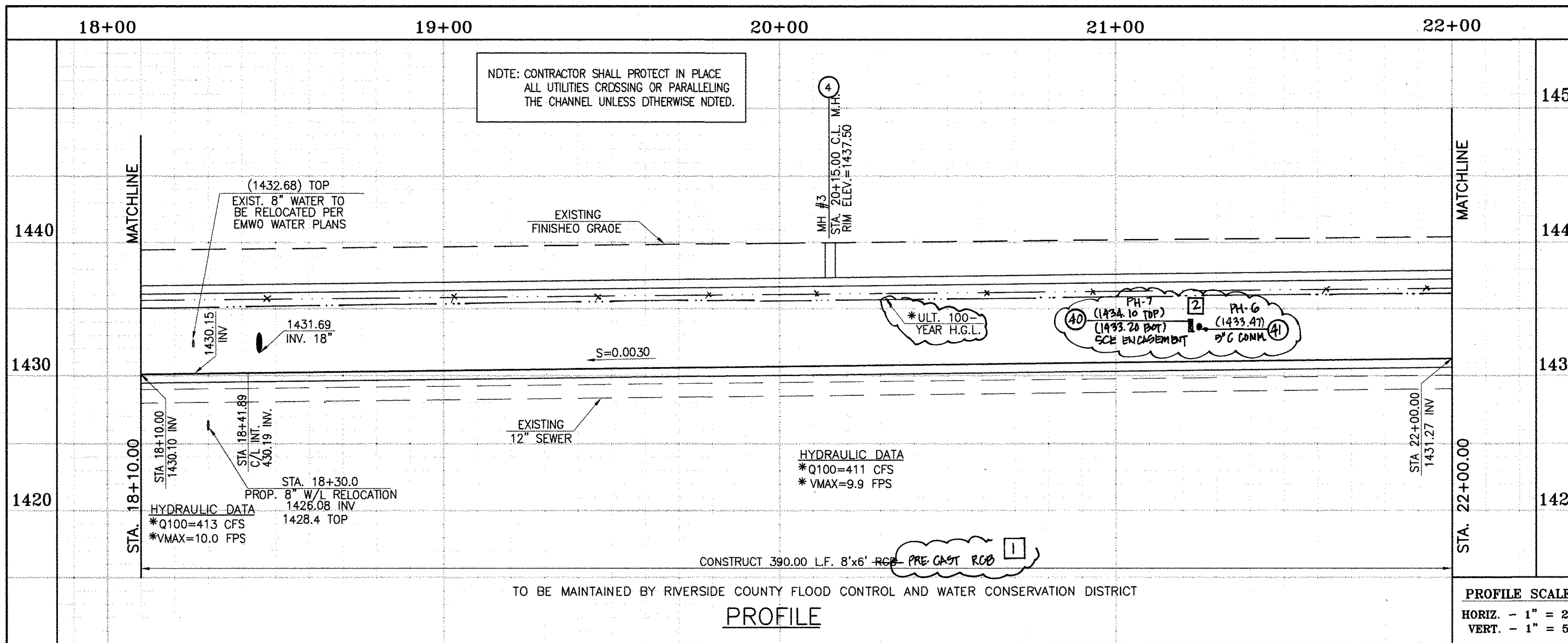
DESIGNED BY: BW
DRAWN BY: ET
DATE DRAWN:
APPROVED BY: THIENES ENGINEERING, INC.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH: (714) 521-4811 FAX: (714) 521-4173
Date: 11/18/14
HAIDOOK I. AGHAIAN R.C.E. NO. 43293

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 DWG. MH253
 - 13 CONSTRUCT 8' X 6' RCB PER CALTRANS STD PLAN NO. 688 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 STANDARO ON SHT. NO. 18, MODIFIED TO ACCOMMOADATE 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. DWG. JS228.
 - 21 CONSTRUCT 18" R.C.P. 0-LOAD PER SHEET #14.
 - 24 CONSTRUCT CONCRETE ORDP INLET PER R.C.F.C.&W.C.O. STO DWG. CB110
 - 25 CONSTRUCT SPECIAL CONNECTION PER R.C.F.C.&W.C.O. STO DWG. CB109
 - 29 PROTECT IN PLACE EXISTING UTILITIES.
 - 34 RELOCATE EXISTING WATER LINE PER E.M.W.O. PLANS.
 - 44 SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STO. ON SHEET 18. SEE SEPARATE PAVING PLANS.
 - 22 CONSTRUCT CONCRETE COLLAR PER R.C.F.C.&W.C.O. STD DWG M803.
 - 40 RELOCATE EXISTING ELECTRICAL LINE.
 - 41 RELOCATE EXISTING TELEPHONE LINE.

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BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. 74-31"
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 HWY. CO. FLOOD CONTROL CHANNEL (PERRIS LATERAL) AT 43 FT. WEST OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF CONCRETE BRIDGE BARRIER. (TOP OF BRIDGE) MARKED R-102 D.W.R. IN TOP OF CONC. POST FLUSH W/ GROUND ELEVATION = 1474.874' (MVD 1929)

REVISIONS	ENGINEER	RCFC/	DESIGNED BY:	APPROVED BY:
2	CHANGED SLOPE TO 0.0030 ADDED MH, DOORID NEW 10'S, CHANGED 42" LAT TO 24" LAT, ADDED EX UTILITIES, RELOCATE UTILITIES, REV. S.D.	H.I.A. 2/9/16	ET	THIENES ENGINEERING, INC.
1	CHANGED CLP RCB TO PRE-CAST RCB PER PLAN 390-0	H.I.A. 2/9/16	ET	THIENES ENGINEERING, INC.

DESIGNED BY: **ET**
 DRAWN BY: **ET**
 DATE DRAWN: **2/9/16**

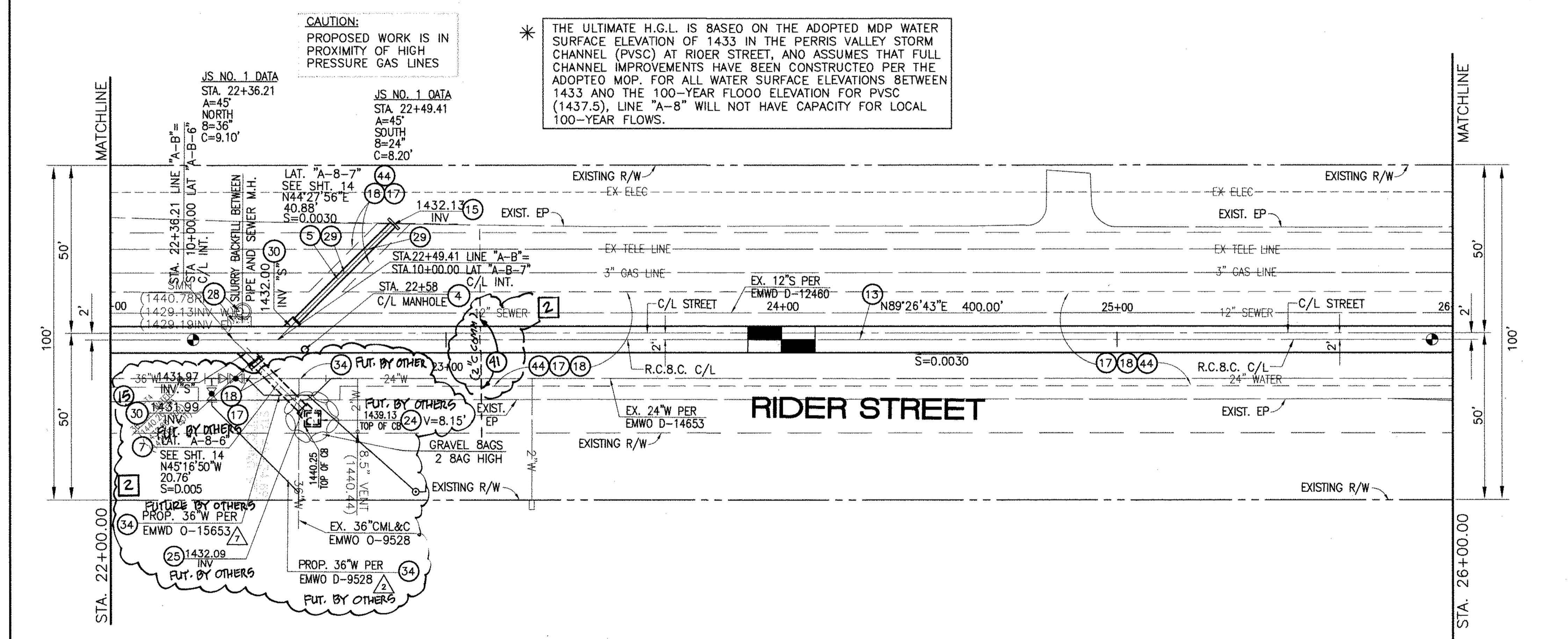
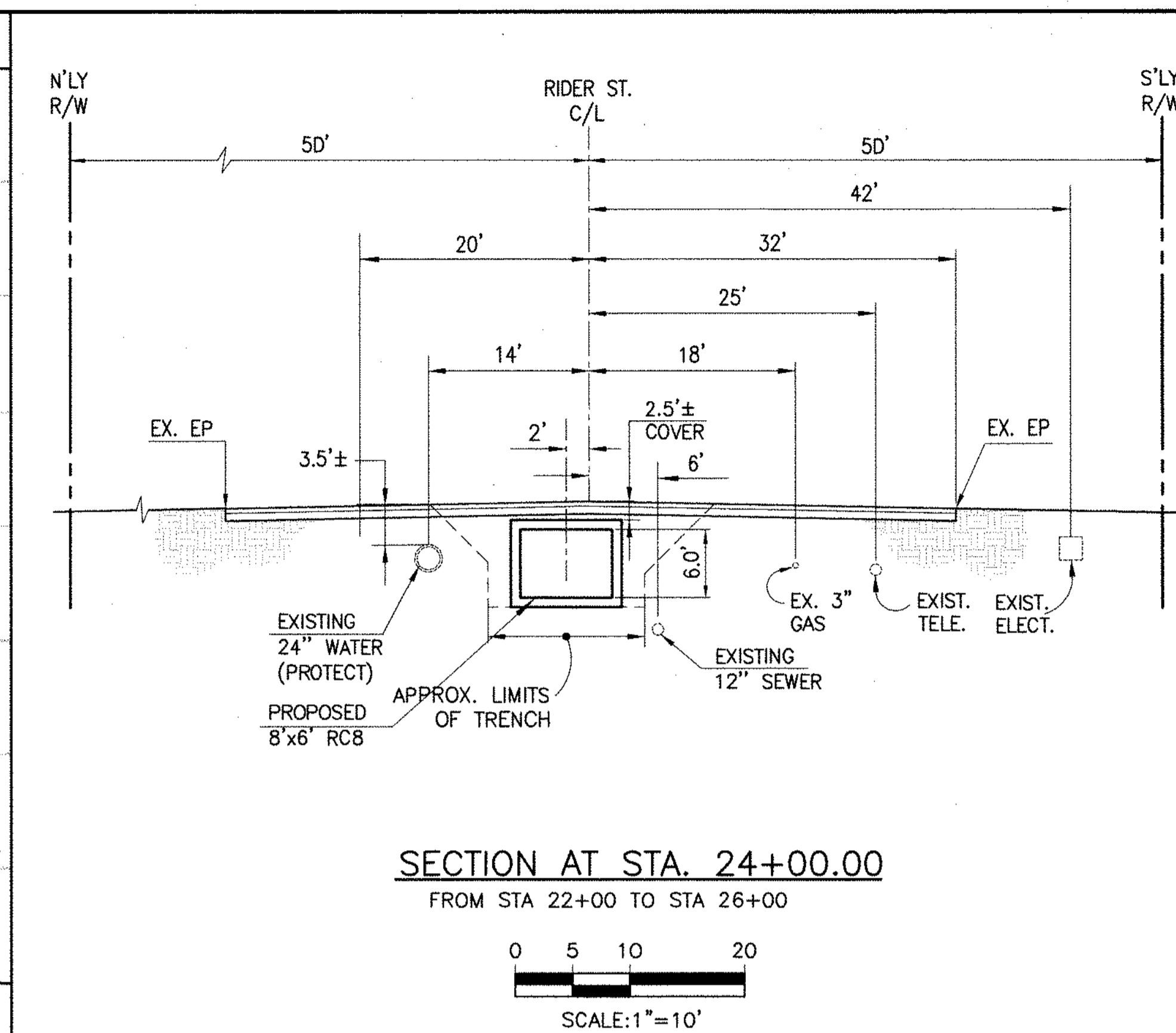
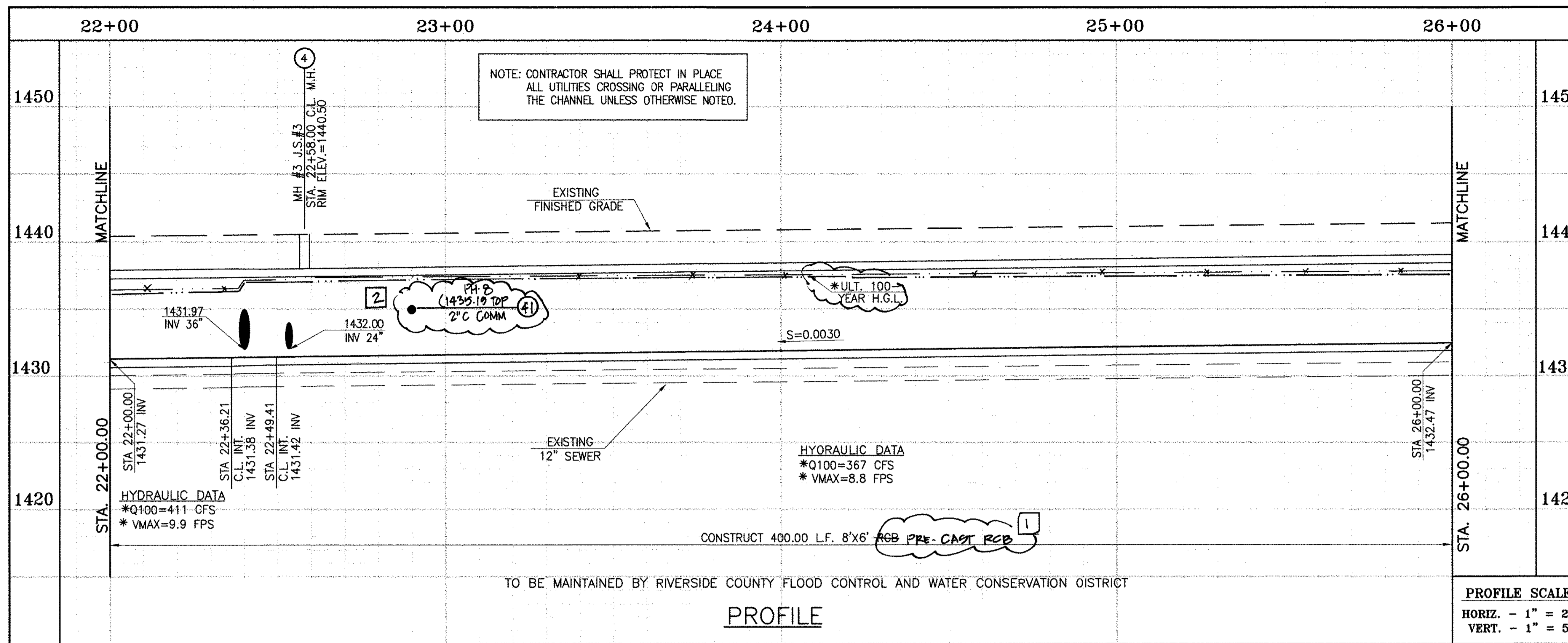
APPROVED BY: **THIENES ENGINEERING, INC.**
 CIVIL ENGINEERING & LAND SURVEYING
 14349 FIRESTONE BOULEVARD
 LA MIRADA, CALIFORNIA 90638
 PH. (714) 521-4811 FAX (714) 521-4173
Haidook Aglan Date: 11/18/14
 HAIDOOK I. AGHAIAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY: **Allen**
 DATE: 1/24/2015
 APPROVED BY: **Mark H. Wills**
 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-LOAO PER PLAN.
 - 7 CONSTRUCT 36" R.C.P., 0-LOAO PER PLAN.
 - 13 CONSTRUCT 8' X 6' RCB PER APNA STD PLAN 390.0 OR APPROVED EQUAL. SEE JOINT GEALANT NOTE ON SHT. 1.
 - 15 CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C.&W.C.O. STD. OWG. M816.
 - 17 SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
 - 18 UTILITY TRENCH AND SURFACE REPAIR PER CITY STANOARO ON SHT. NO. 18, MODIFIED TO ACCOMMOADATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2.0'.
 - 24 CONSTRUCT CONCRETE DROP INLET PER R.C.F.C.&W.C.O. STO. OWG. CB110 W=3.50'
 - 25 CONSTRUCT SPECIAL CONNECTION PER R.C.F.C.&W.C.O. STO. OWG. CB109
 - 28 CONSTRUCT SEWER PROTECTION PER R.C.F.C.&W.C.O. STO. DWG. M807. 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. STO. 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 STO. ON SHEET 18. SEE SEPARATE PAVING PLANS.
 - 41 RELOCATE EXISTING TELEPHONE LINE.

Don't Dig...Until You Call U.S.A. Toll Free
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BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. 24-31
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 2), 43 FT. WEST OF CENTERLINE OF PERRIS BLVD. AND 43 FT. EAST OF CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE) MARKED R-102 D.W.R. IN TOP OF CONC. POST FLUSH W/ ELEVATION = 1474.674' (DWD 1828)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE
2	CHANNEL SLOPE TO 0.0015, ADDED MH, ADDED NEW 10'S CHANNEL 4'x12' TO 24' W/ ADDED BX.	H.A.	2/9/16	JL	2/12/16
1	UTILITIES, RELOCATING UTILITIES, REV. S.D.	H.A.	2/11/16	JL	2/12/16
1	CHANGED CLP RCB TO PRE-CAST RCB PER PLAN 390.0	H.A.	2/11/16	JL	2/12/16

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
RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

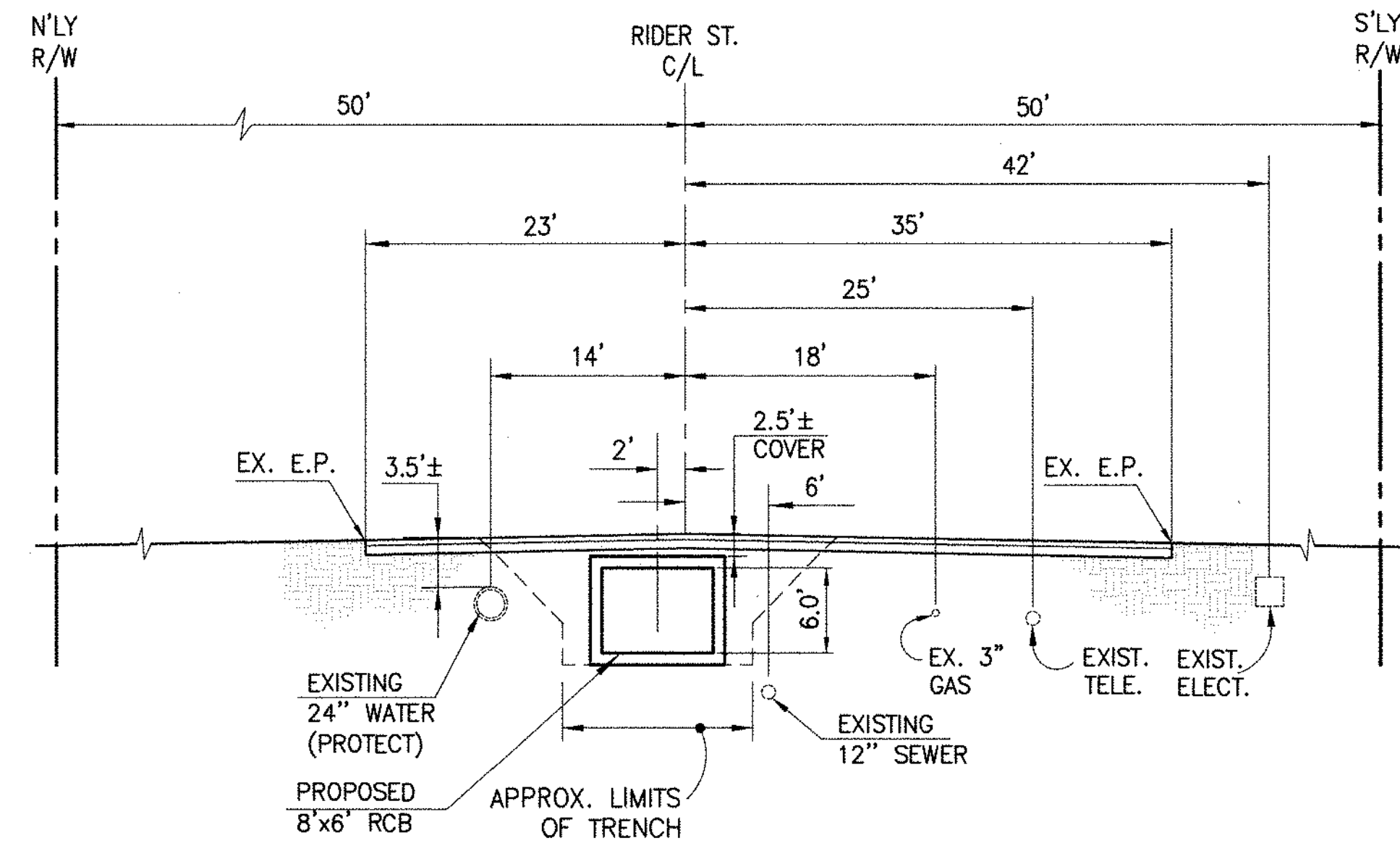
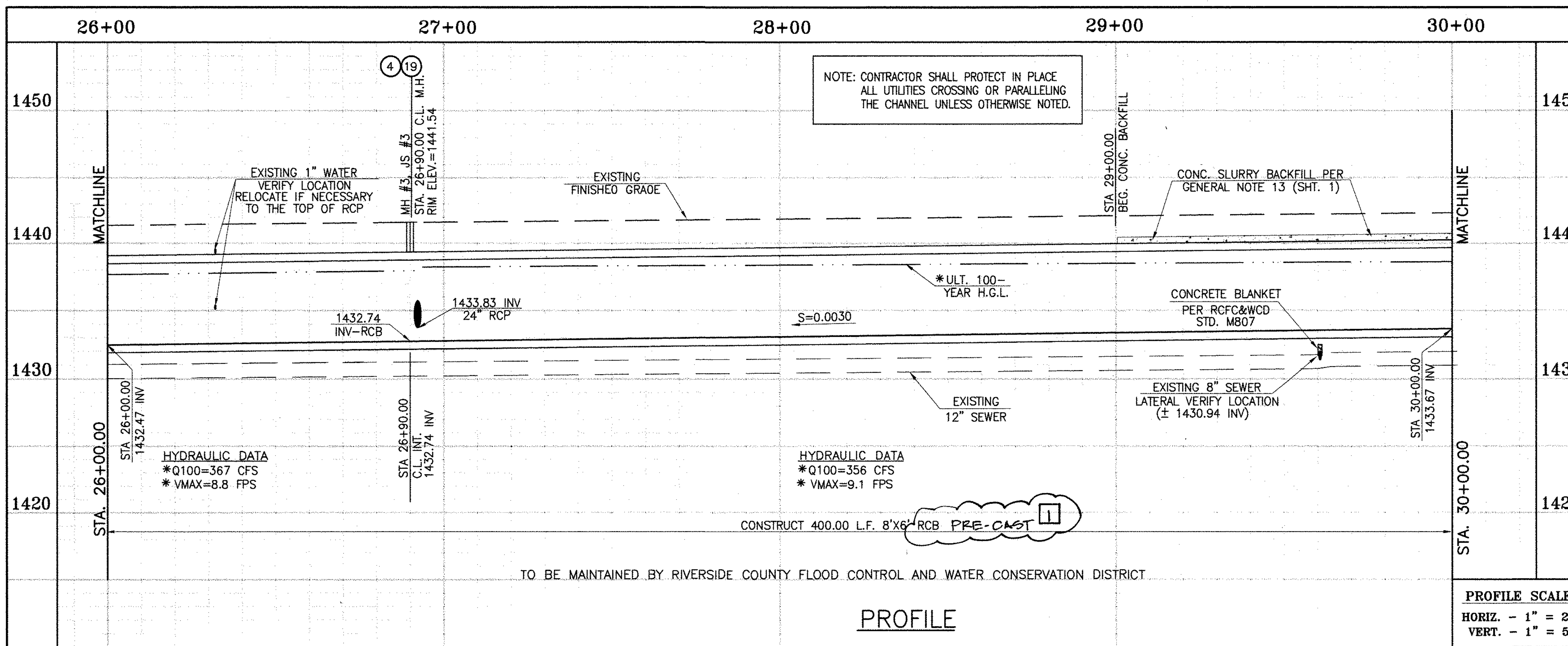
RECOMMENDED FOR APPROVAL BY: [Signature]
DATE: 4/24/2015

APPROVED BY: Mark H. Wills
DATE: 1/20/2015

CITY OF PERRIS
APPROVED BY: [Signature]
DATE: 12-18-14

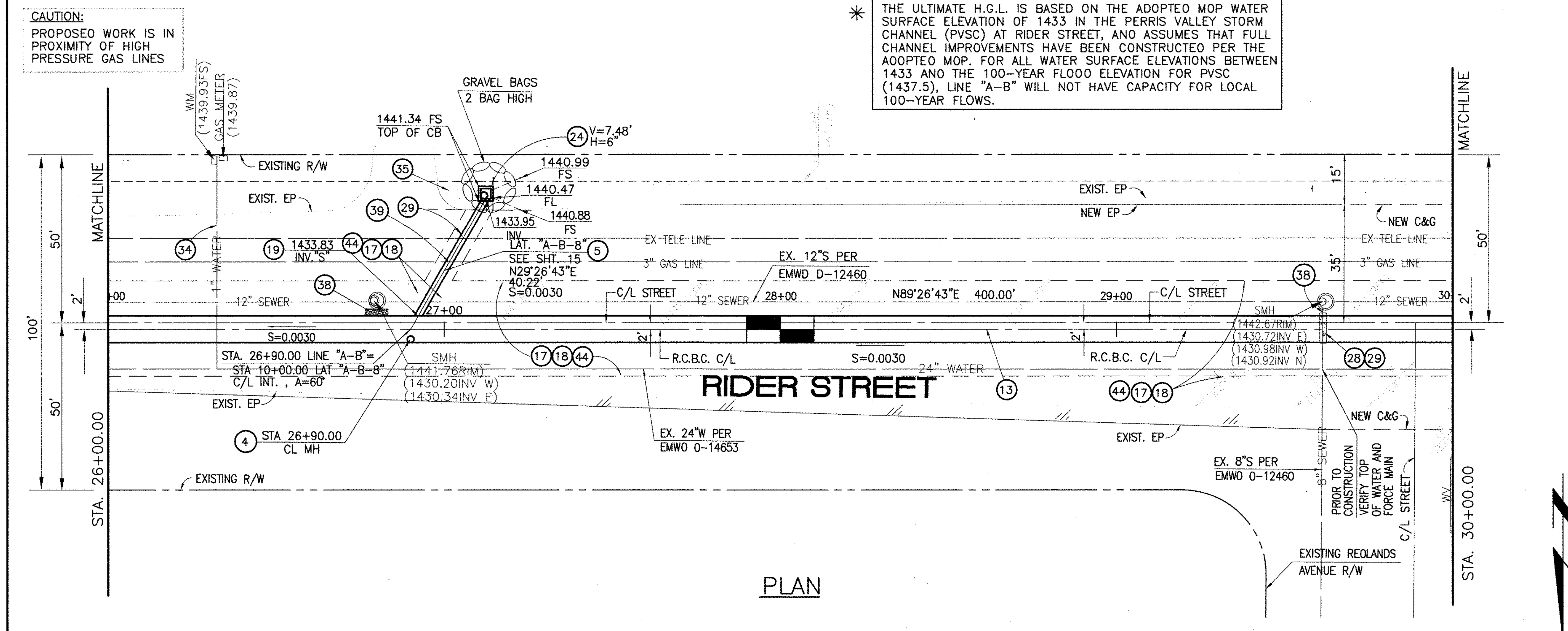
PERRIS VALLEY MDP
LINE "A-B"
FROM STA. 22+00 TO STA. 26+00

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 18.
 - 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

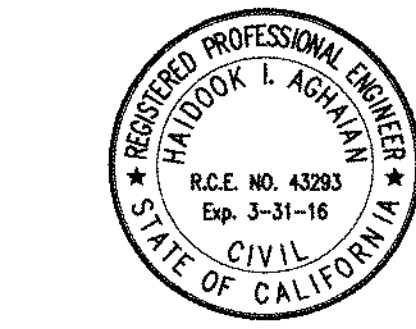
BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. "M-31"
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB LOCATED AT THE CROSSING OF PERRIS BLVD. AND INV. CO. FLOOD CONTROL CHANNEL, PERRIS LATERAL "A", 43 FT. WEST OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF CONCRETE BRIDGE BARRIER. (EDGE OF BRIDGE) MARKED R-102 D.W.R. IN TOP OF CONC. POST FLUSH W/ GROUND ELEVATION = 1476.874' (NVD 1928)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE
1	CHANGED C.P. RCB TO PRE-CAST RCB PER PLAN 390-0	H.I.A.	7/5	7/5	7/5/16

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

Handwritten Signature
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

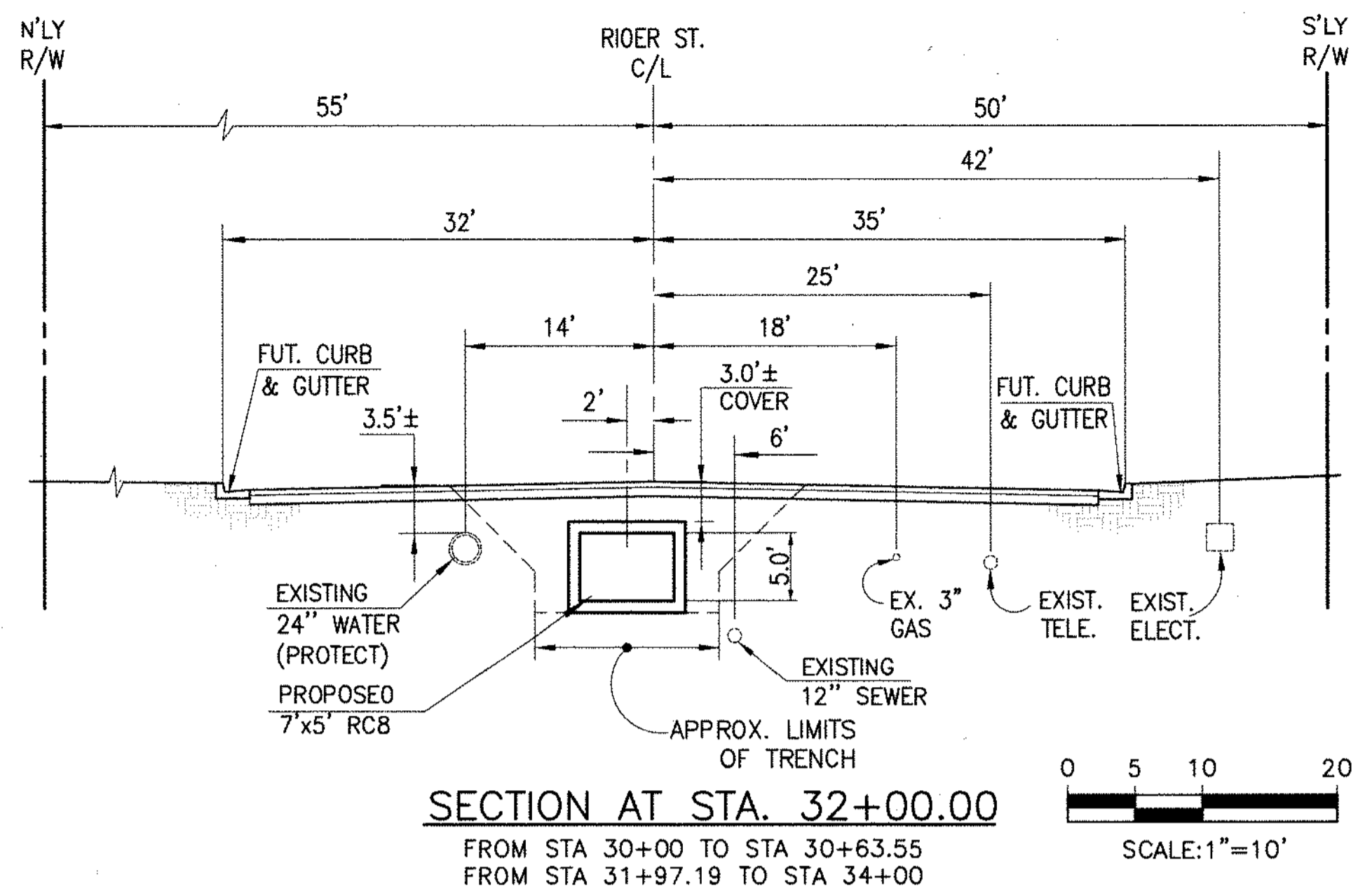
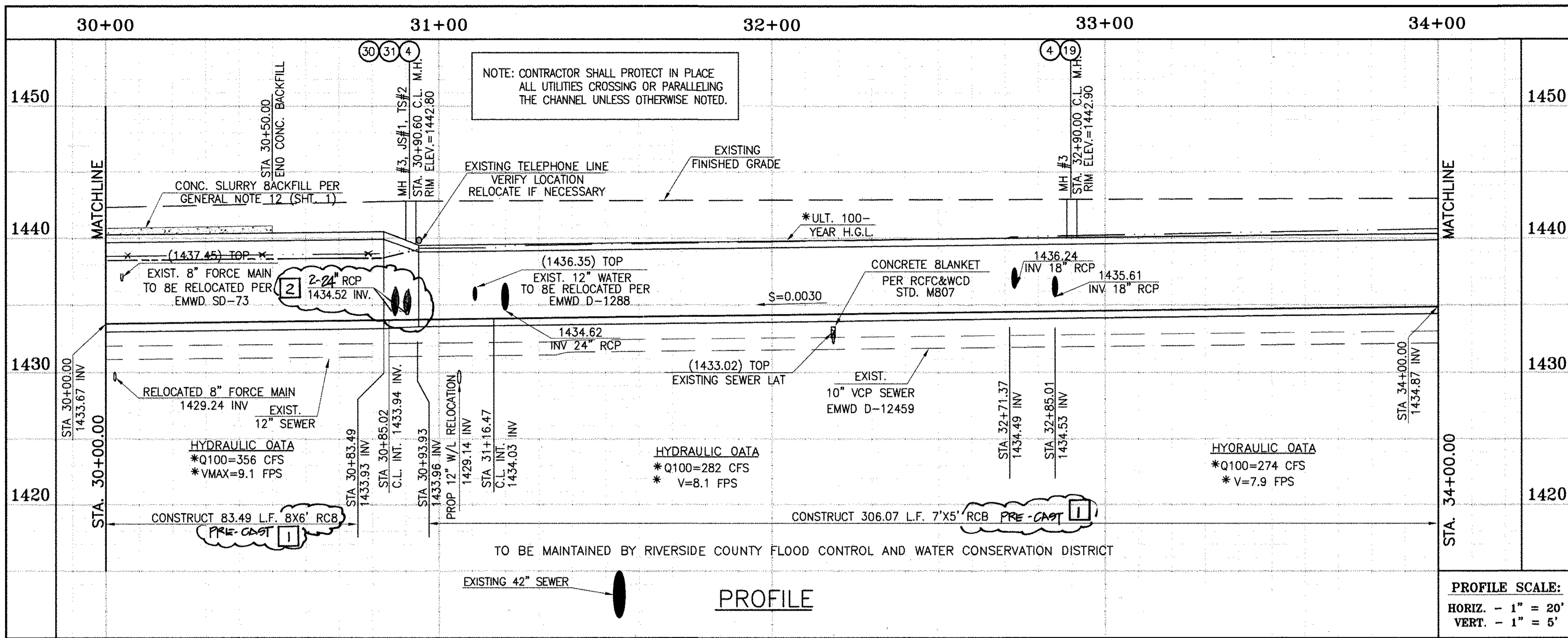
APPROVED BY: *[Signature]*
DATE: 1/20/2015

CITY OF PERRIS APPROVED BY: *[Signature]*
DATE: 1-15-14

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

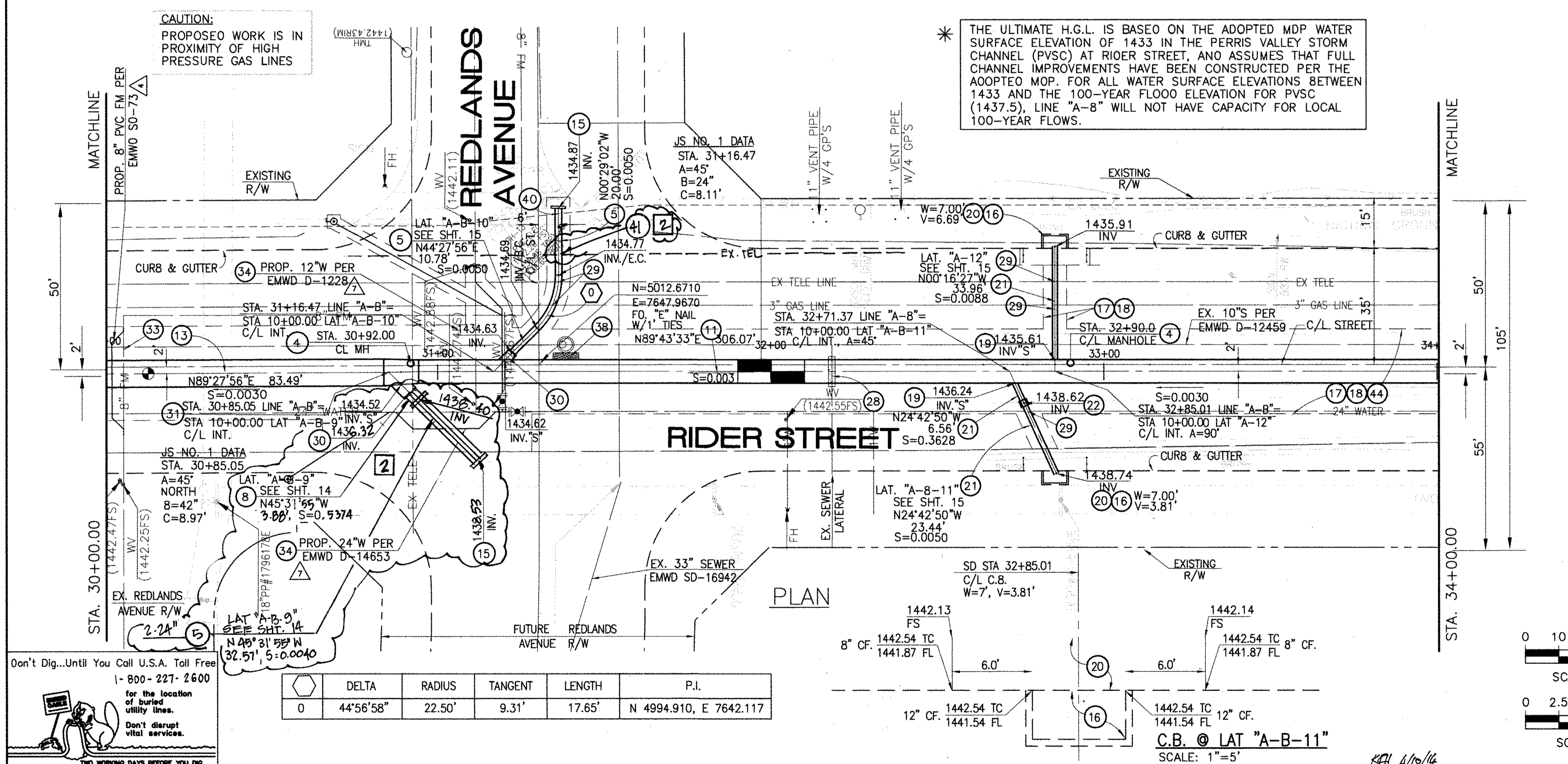
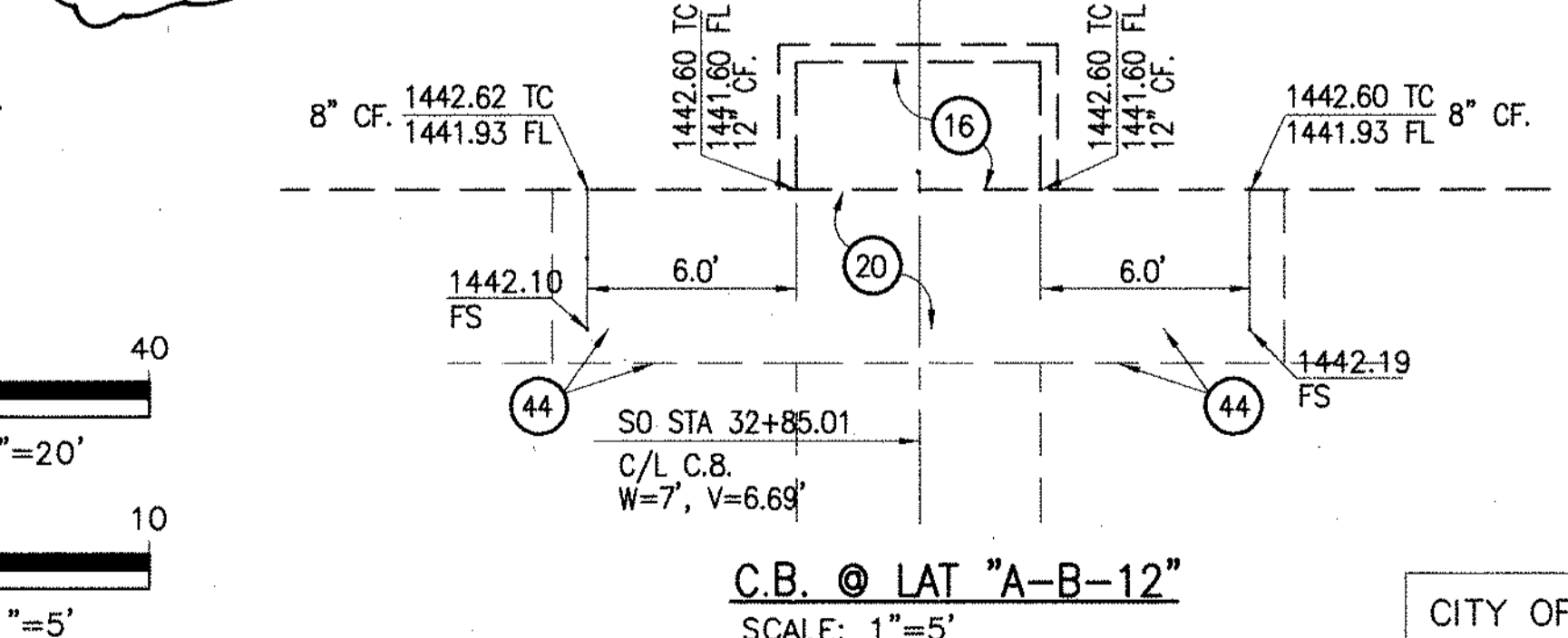
CITY OF PERRIS FILE NO. P8-1013

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. O-LOAD PER PLAN.
- 11 CONSTRUCT 7' X 5' RCB PER CALTRANS STD. PLAN NO. 688 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. 688 OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHT. 1.
- 15 CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C.&W.C.D. STD. DWG. MB16.
- 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

DELTA	RADIUS	TANGENT	LENGTH	P.I.
0	44°56'58"	22.50'	9.31'	17.65'

DESIGNED BY: **EW**
 DRAWN BY: **ET**
 DATE DRAWN: **11/10/14**

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: 11/10/14 RCE NO. 43293

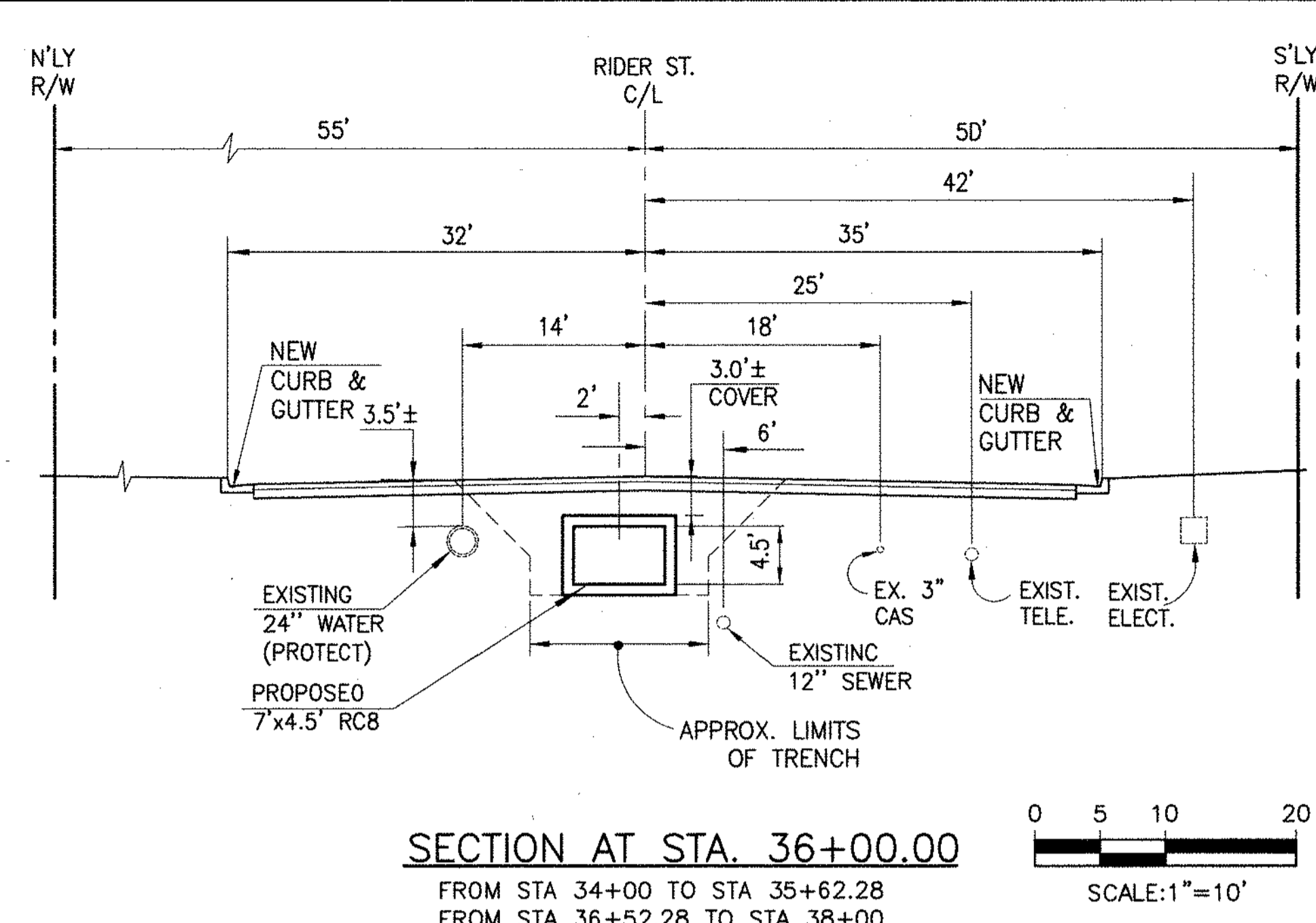
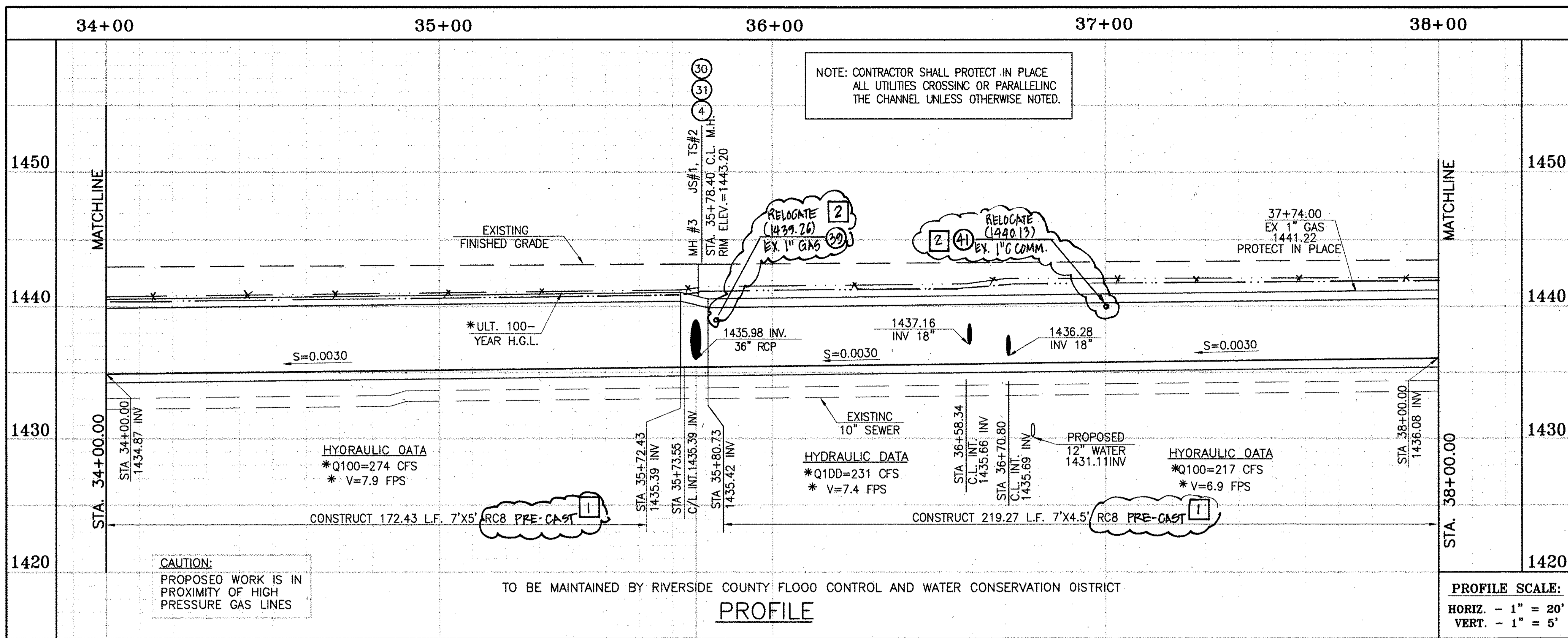
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY: *[Signature]*
 DATE: 1/20/2015

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

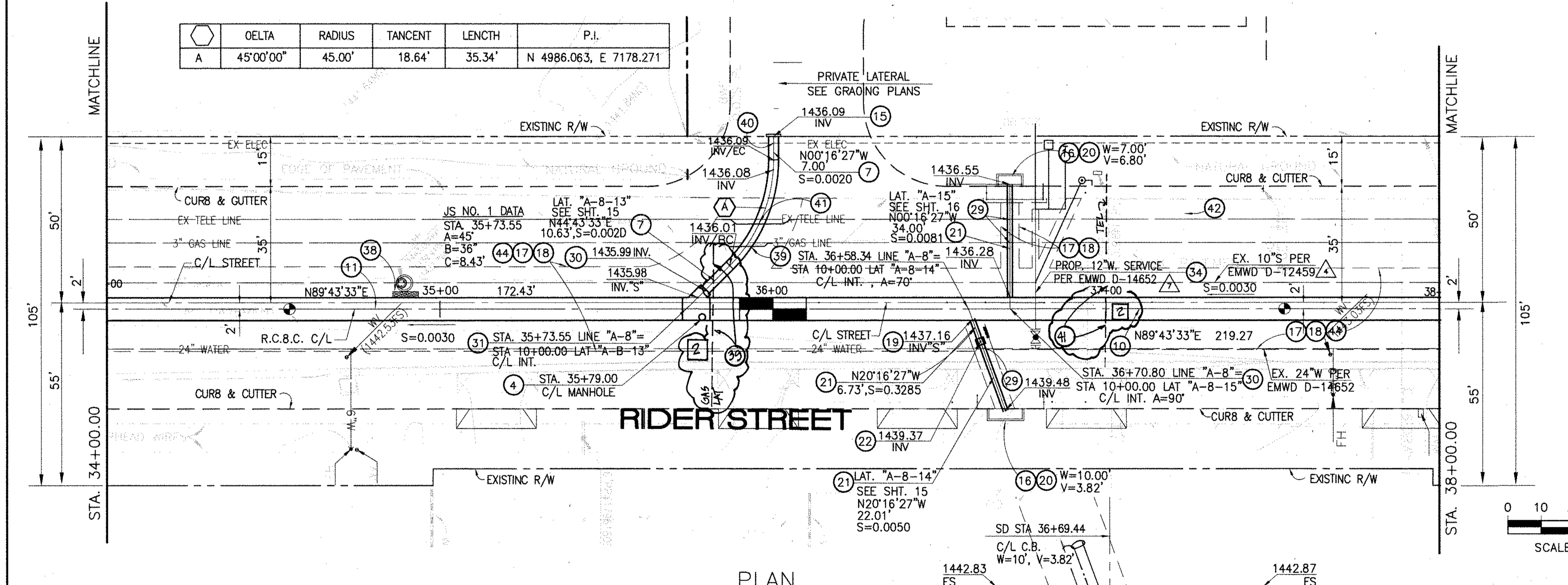
CITY OF PERRIS
 APPROVED BY: *[Signature]*
 DATE: 2-15-14

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' PRE-CAST RC8 PER CALTRANS STD PLAN 800 OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHT. 1. PRE-CAST RC8 ALPHA STD PLAN 390-0
 - 11 CONSTRUCT 7' x 5' RC8 PER CALTRANS STD PLAN 800 OR APPROVED EQUAL. SEE JOINT SEALANT ON SHT. 1. PRE-CAST RC8 ALPHA STD PLAN 390-0
 - 15 CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C.&W.C.D. STD DWC. M816.
 - 16 CONSTRUCT CATCH BASIN NO.1 PER R.C.F.C.&W.C.D. STD. DWC. C8100
 - 17 SAWCUT AND REMOVE EXISTING AC. 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. 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. M803.
 - 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.



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

* 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. 74-31
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) 27.43 FT. WEST OF CENTERLINE OF PERRIS BLVD. AND 43 FT. EAST OF CONCRETE BRIDGE MARKERS (EDGE OF BRIDGE) MARKED R-102 D.I.M.R. IN TOP OF CONC. POST FLUSH W/ BRIDGE ELEVATION = 1474.674' (MWD 1828)

REVISIONS	ENGINEER	RCFC/	DESIGNED BY:	APPROVED BY:
12 CHANGED SLOPE TO 0.005, ADDED MH ADDED			BW	
10'S CHANGED 42' LAT TO 24' LAT, ADDED EX			ET	
UTILITIES, RELOCATE UTILITIES, REV. S.D.	H.L.A	2/6/16		
CHANGED C.L.P. RC8 TO PRE-CAST RC8 PER CALTRANS	H.L.A	2/6/16		

THIENES ENGINEERING, INC.
CIVIL ENGINEERING & LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH: (714) 921-4811 FAX: (714) 921-4173

DATE: 11/18/14
RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY: [Signature]
DATE: 1/20/15

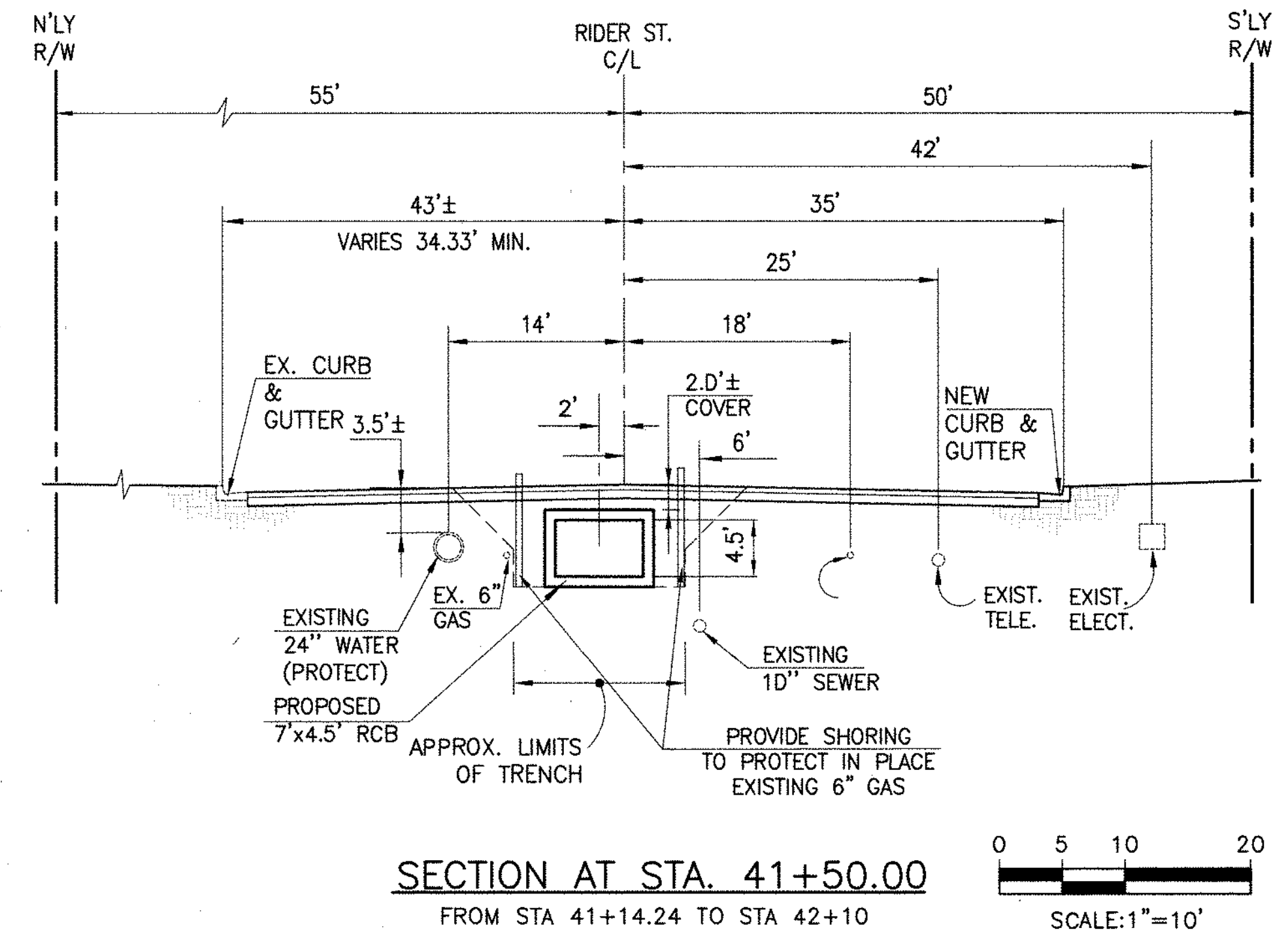
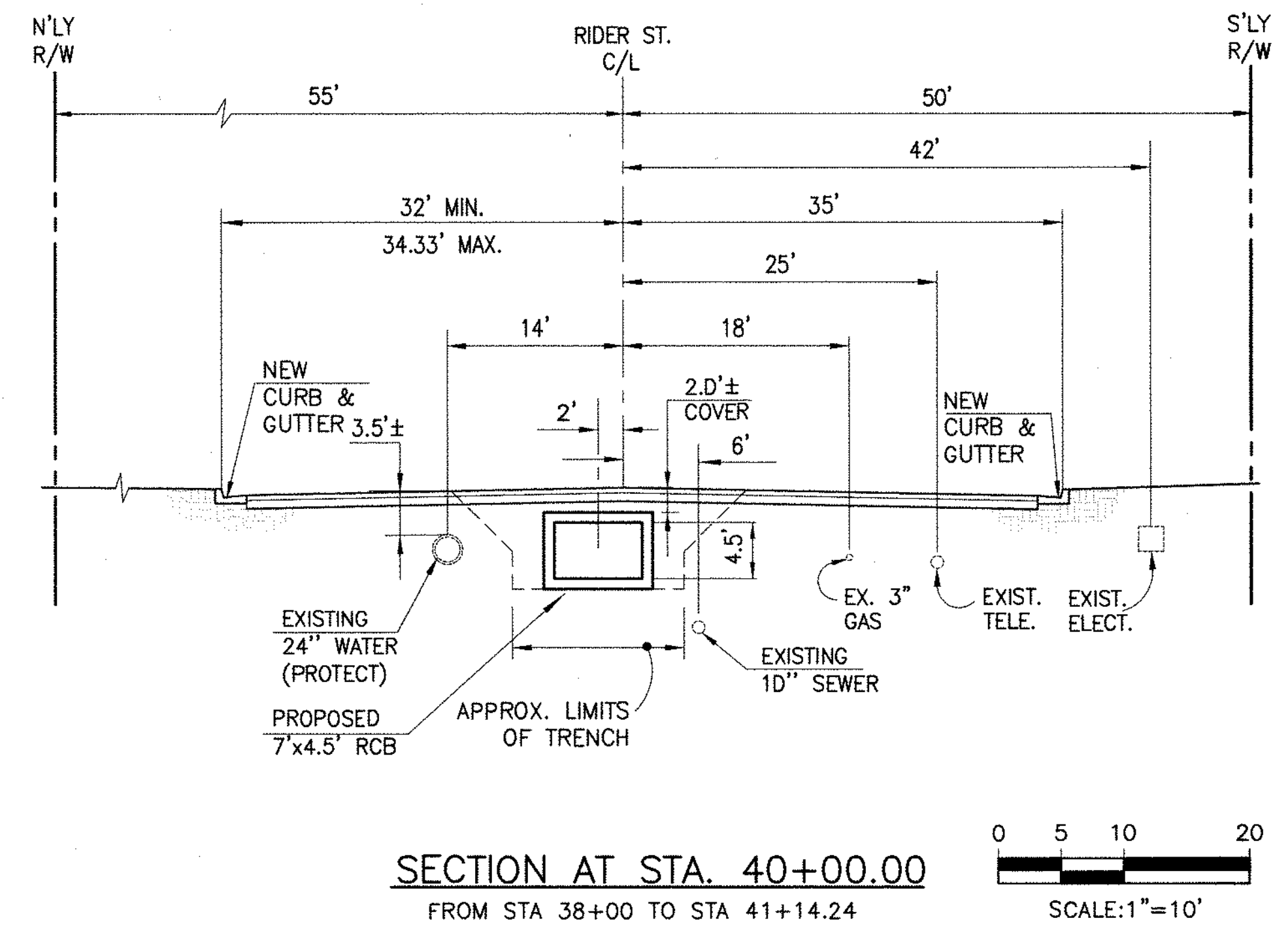
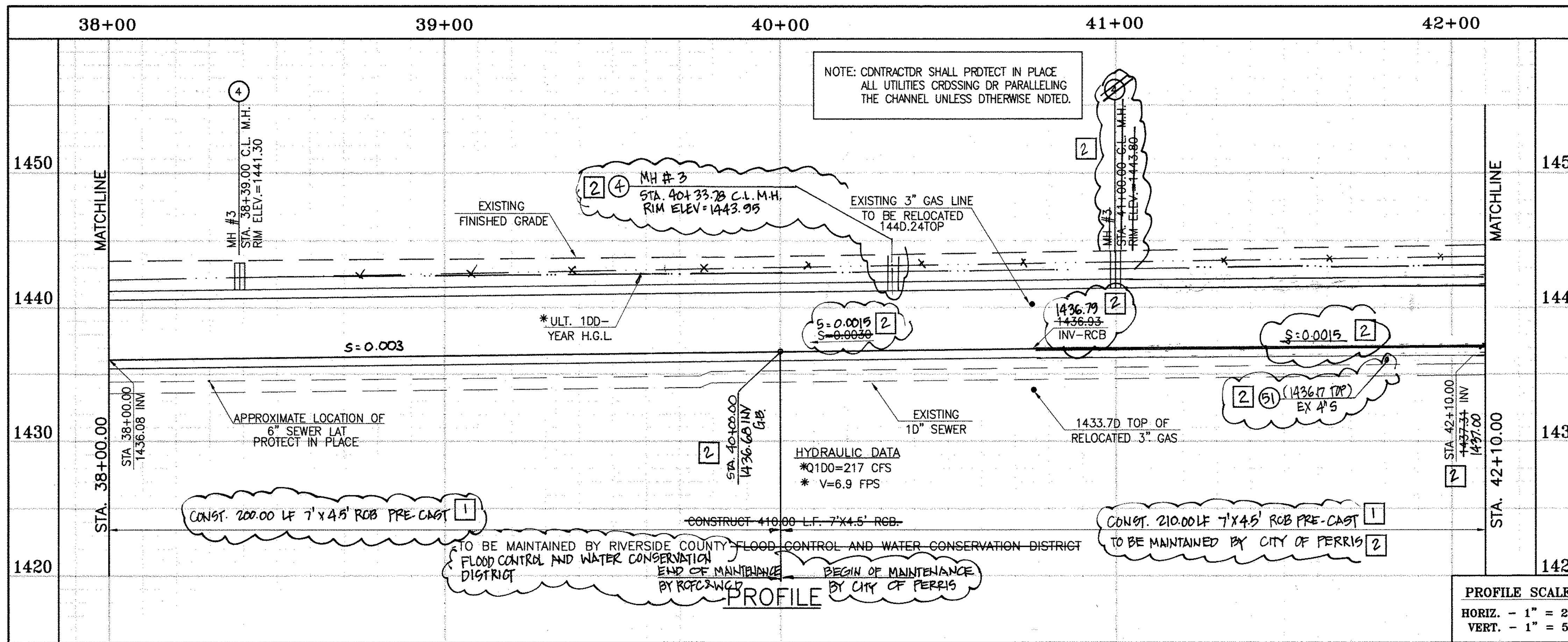
APPROVED BY: [Signature]
DATE: 1/20/15

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

PERRIS VALLEY MDP
LINE "A-B"
FROM STA. 34+00 TO STA. 38+00

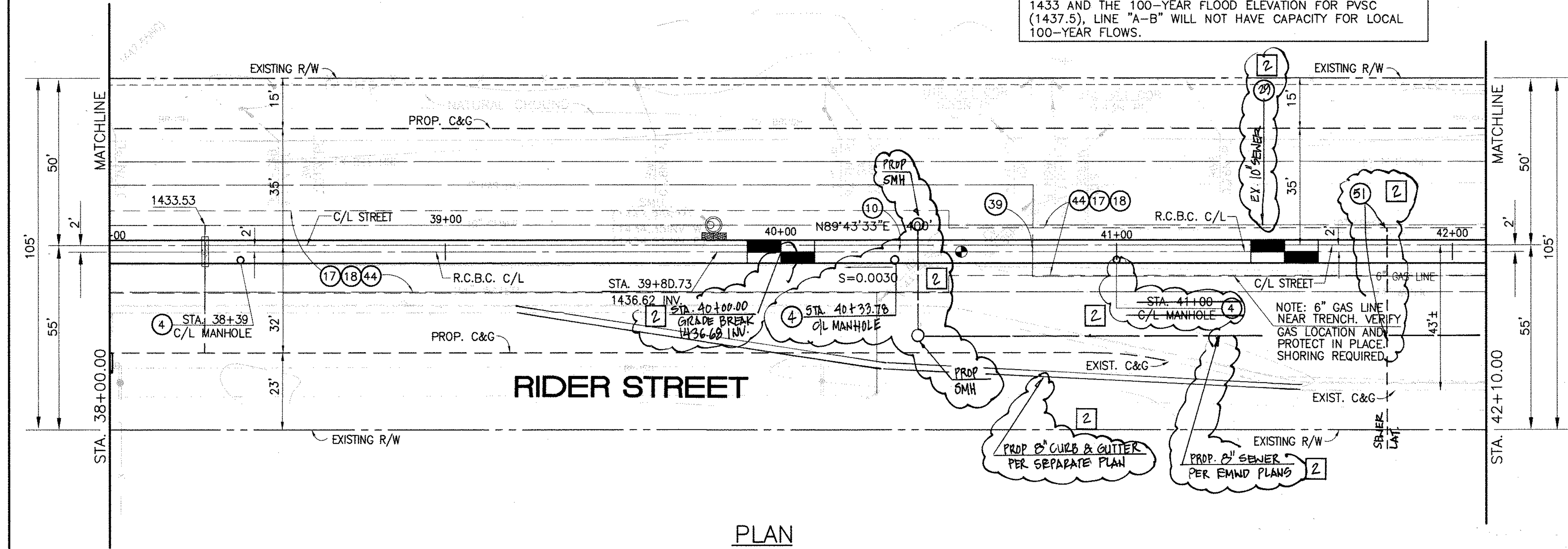
CITY OF PERRIS
FILE NO. P8-1013

PROJECT NO. 4-0-00537
DRAWING NO. 4-1063
SHEET NO. 8 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 #3 PER R.C.F.C. & W.C.D. STD. DWG. MH253.
 - ⑩ CONSTRUCT 7' X 4.5' RCB PER CALTRANS STD PLAN 390-0 OR APPROVED EQUAL. PRE-CAST RCB PER APNA STD PLAN 390-0. 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'.
 - ⑳ 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.
 - ⑤② REMOVE EXISTING SEWER LATERALS PER EMWD PLANS.



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 HWY. CO. FLOOD CONTROL CHANNEL (PERRIS LATERAL "A"), 4.5 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 = 1476.674' (MWD 1829)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE
②	CHANGED SLOPE TO 0.003, ADDED MH, MOVED NEW 10'S CHANGED 2" LAT TO 2" LAT ADDED EX. UTILITIES, RELOCATED UTILITIES, REV. S.D.	H.I.A.	2/3/14	O/S	2/23/14
①	CHANGED C.T.P. RCB TO PRE-CAST RCB PER APNA STD PLAN 390-0	H.I.A.	2/3/14	O/S	2/23/14

DESIGNED BY: **BW**
DRAWN BY: **ET**
DATE DRAWN:

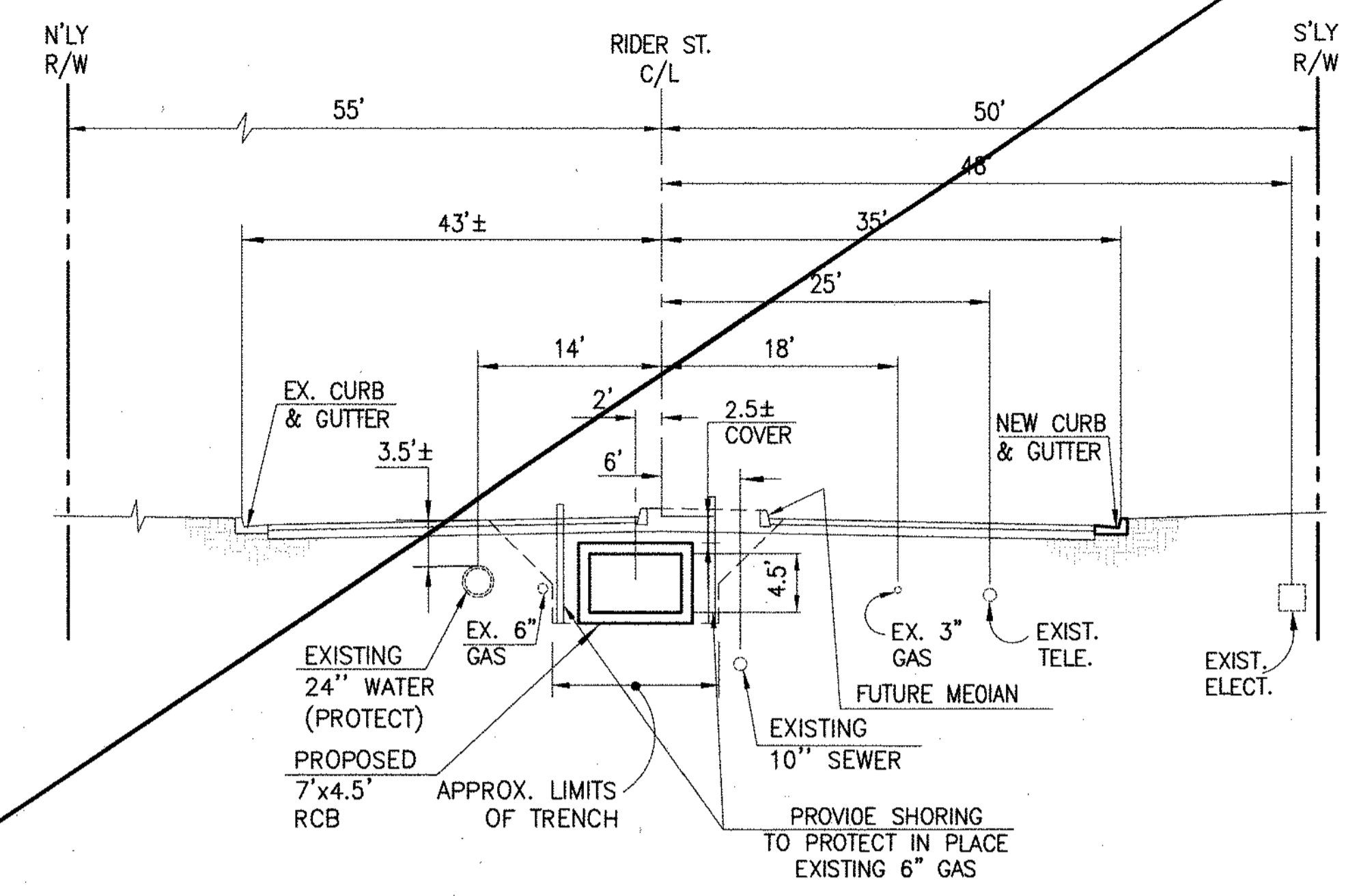
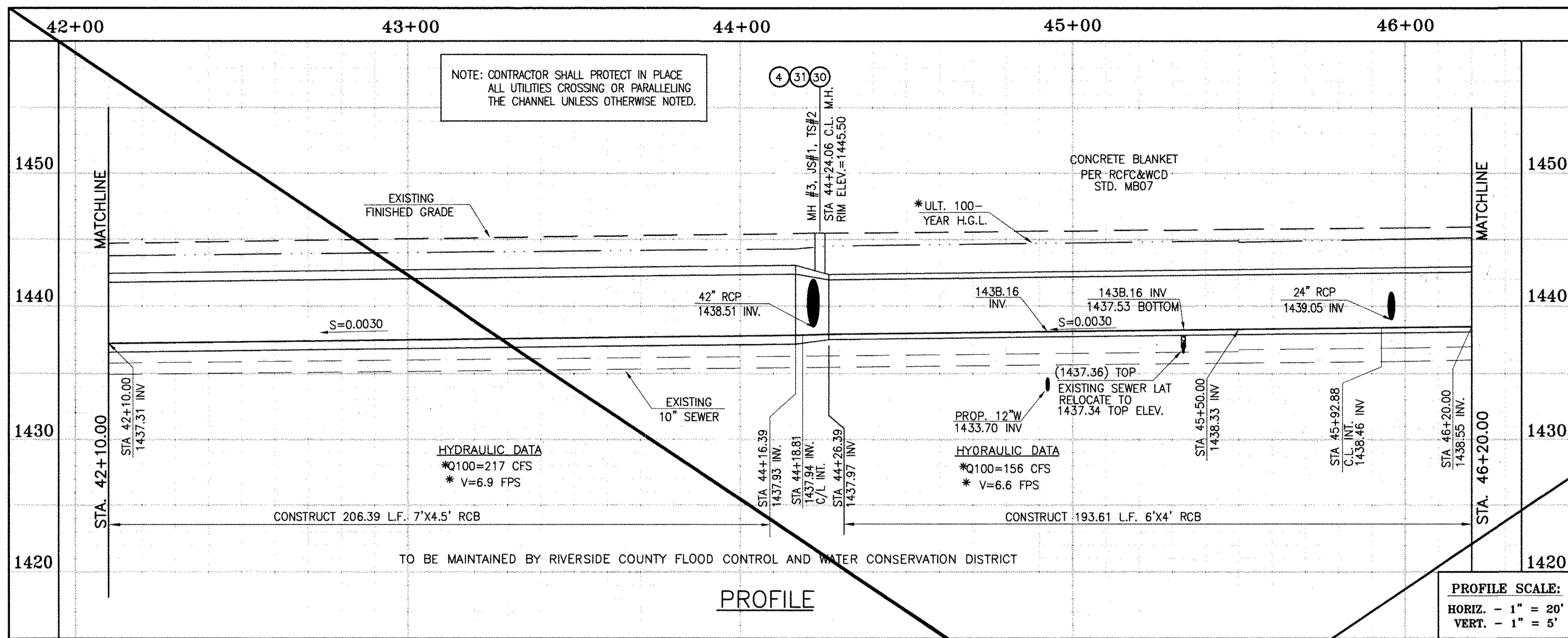
APPROVED BY: **Thienes Engineering, Inc.**
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH. (714) 521-4811 FAX (714) 521-4173
Date: 11/18/14
HAIDOOK I. AGHAJANI R.C.E. NO. 43293

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

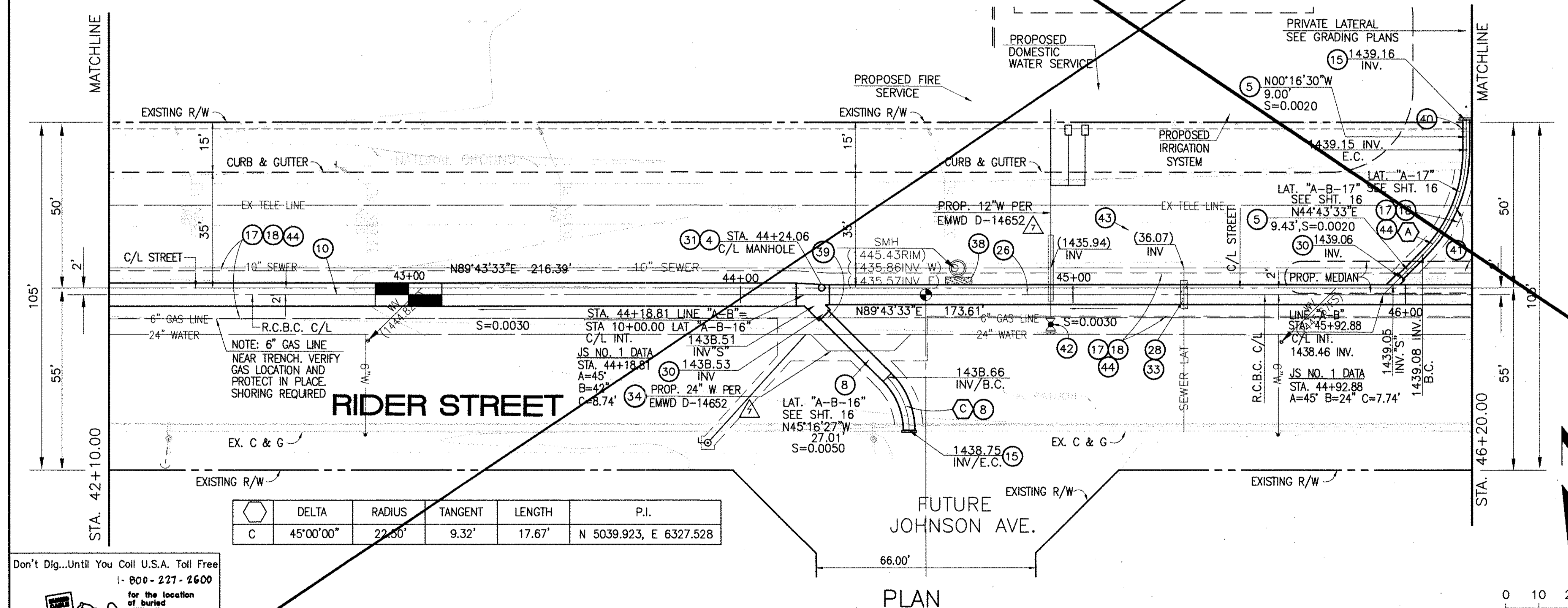


* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MDP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION 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.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. M816.
- ⑰ SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
- ⑱ UTILITY TRENCH AND SURFACE REPAIR PER CITY STANDARD ON SHIT. NO. 1B, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2.0'.
- ⑳ CONSTRUCT 6' x 4' RCB PER CALTRANS STD PLAN NO. DBO. OR APPROVED EQUAL.
- ㉔ 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.
- ㉜ RELOCATE EXISTING 6" SEWER LAT. PER E.M.W.O. PLANS
- ㉝ RELOCATE EXISTING WATER LINE PER E.M.W.D. PLANS.
- ㉞ SLURRY BACKFILL BETWEEN RCB AND MANHOLE.
- ㉟ RELOCATE EXISTING GAS LINE.
- ㊱ RELOCATE EXISTING ELECTRICAL LINE.
- ㊲ RELOCATE EXISTING TELEPHONE LINE.
- ㊳ CONSTRUCT PROPOSED 12" WATER MAIN, PER E.M.W.D. PLANS.
- ㊴ CONSTRUCT PROPOSED 6" SEWER LATERAL, PER E.M.W.D. PLANS.
- ㊵ SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STO. ON SHEET 18. SEE SEPARATE PAVING PLANS.



Δ	DELTA	RADIUS	TANGENT	LENGTH	P.I.
C	45°00'00"	22.50'	9.32'	17.67'	N 5039.923, E 6327.528

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. 24-31" COUNTY OF RIVERSIDE BENCHMARK 1/4" ALUMINUM DISK MARKED M-31, LOCATED FLUSH TO THE SOUTH WEST CORNER OF BRIDGE ON TOP OF SLOPE NEAR FACE OF CURB LOCATED AT THE CROSSING OF PERRIS BLVD AND RIV. CO. FLOOD CONTROL CHANNEL (PERRIS LATERAL 7'), 43 FT. WEST OF CENTERLINE PERRIS BLVD AND 43 FT. EAST OF CONCRETE BULKHEAD BARRIER (EDGE OF BRIDGE) MARKED BY 102 D.W.A. IN TOP OF CONC. POST FLUSH W/ GROUND ELEVATION = 1474.674' (MVD 1829)

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
Date: 11/18/14 RCE NO. 43293

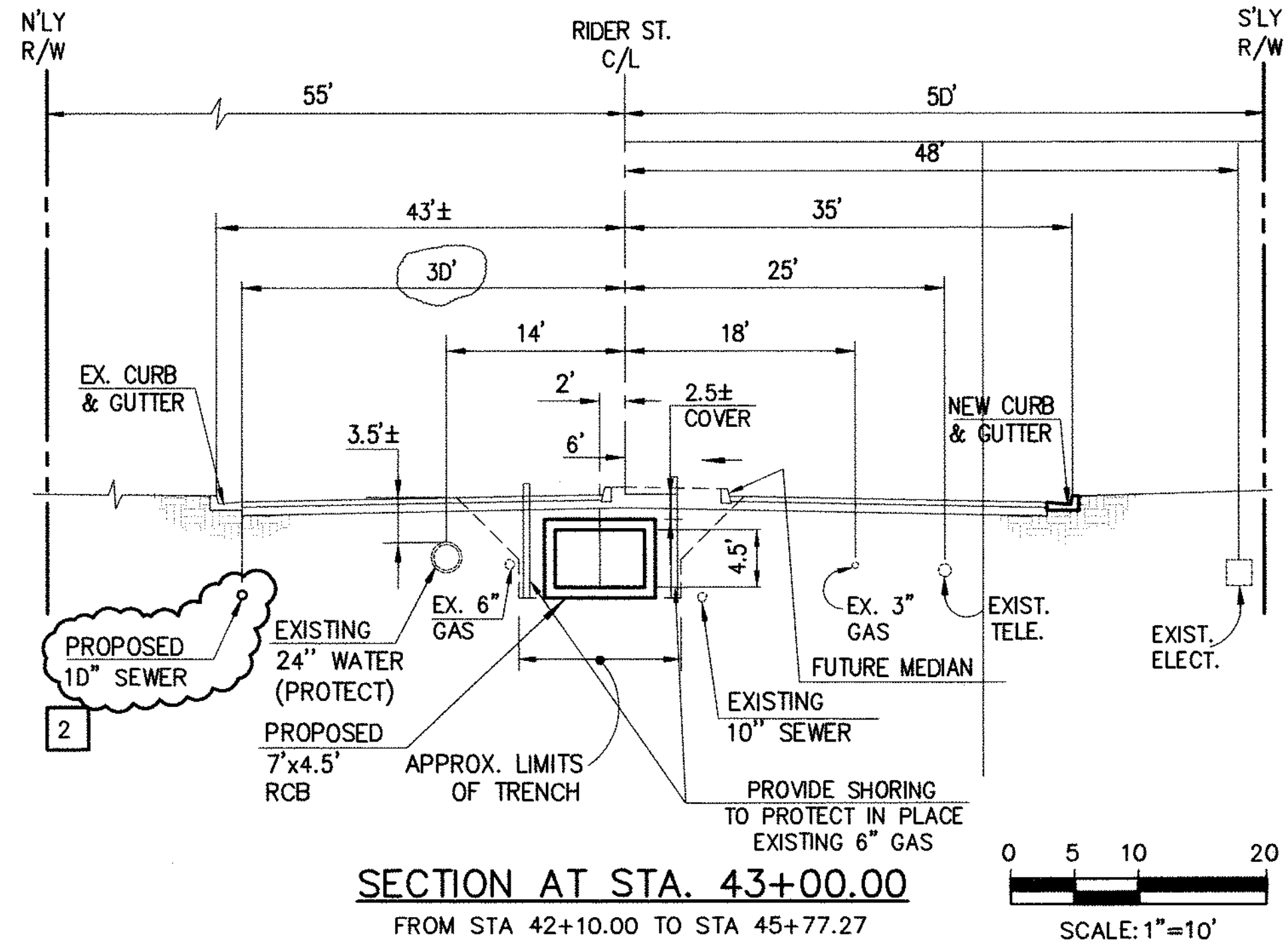
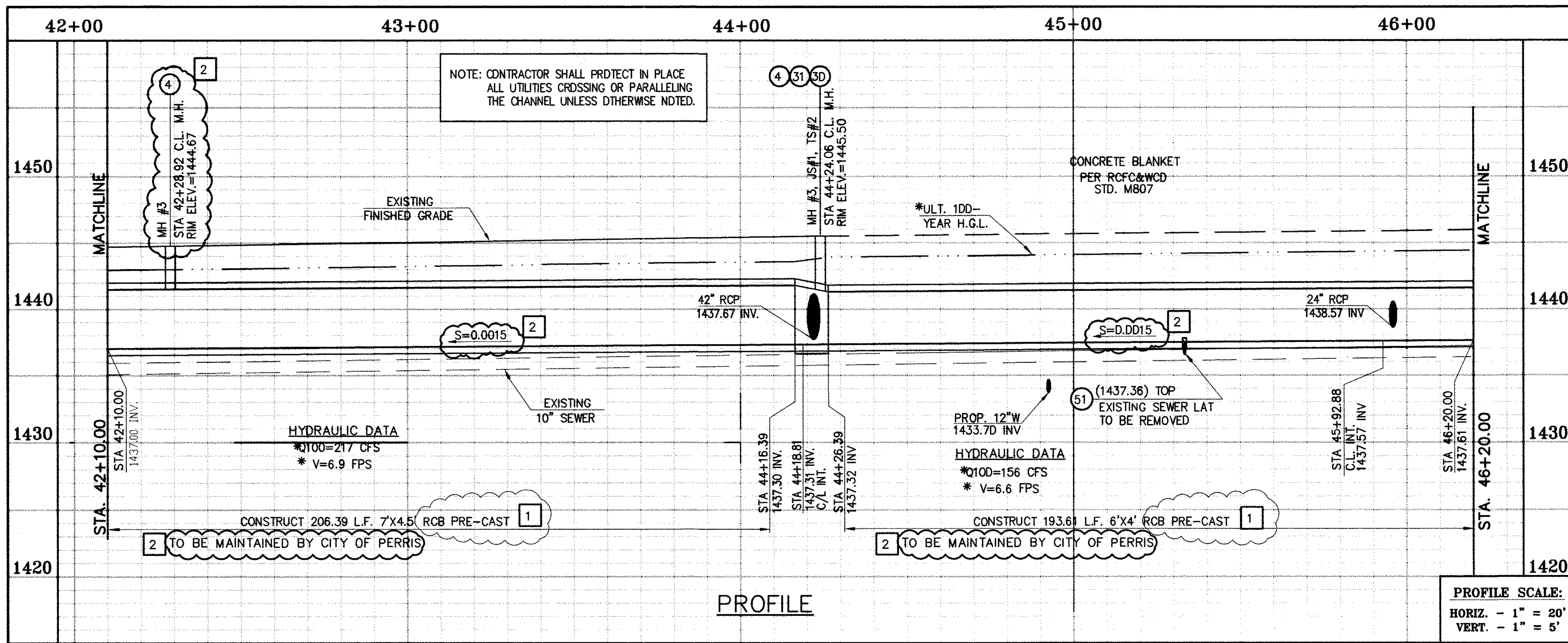
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: *[Signature]*
DATE: 1/20/2015

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

CITY OF PERRIS APPROVED BY: *[Signature]*
DATE: 1-15-14

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. 4-1063
SHEET NO. 10 OF 18

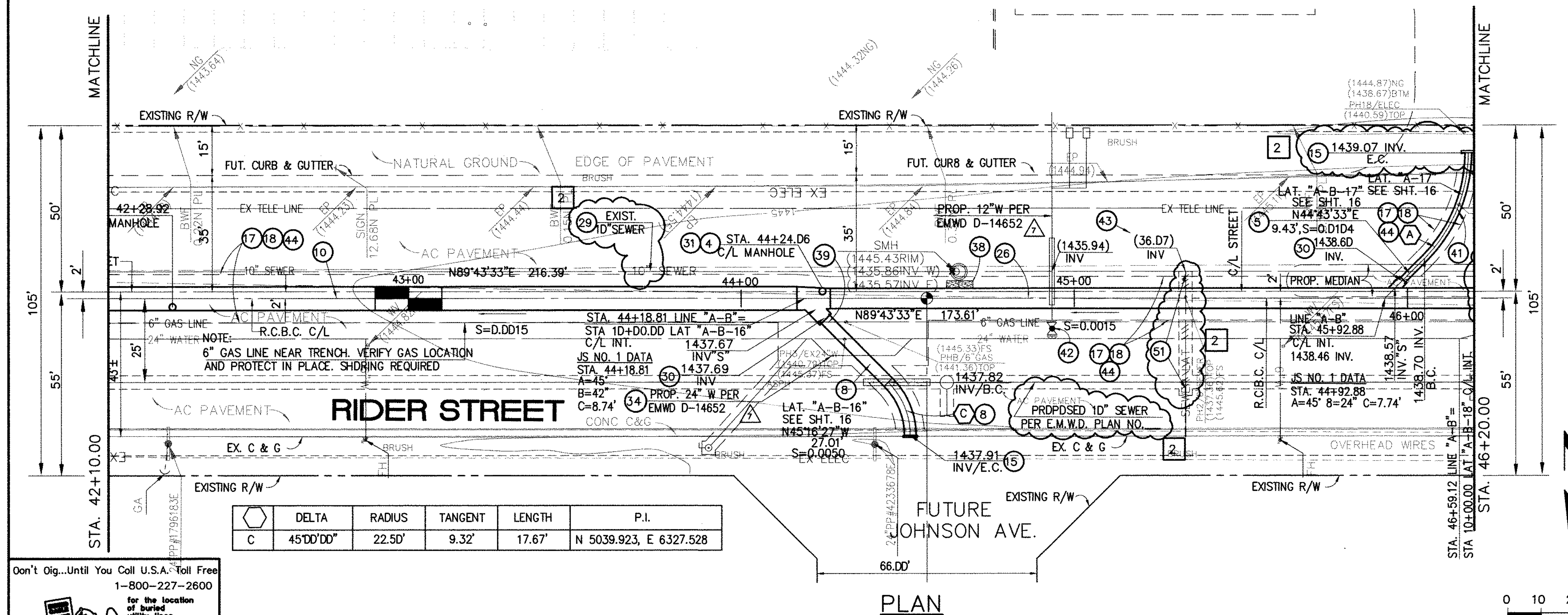


* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION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

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'
- ⑲ CONSTRUCT 6' X 4' PRE-CAST RCB APWA STD PLAN 39D-D OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHEET #1.
- ⑳ CONSTRUCT SEWER PROTECTION PER R.C.F.C.&W.C.D. STD. DWG. M8D7.
- ㉑ PROTECT IN PLACE EXISTING UTILITIES
- ㉒ CONSTRUCT JUNCTION STRUCTURE NO.1 PER R.C.F.C.&W.C.D. STD. DWG. JS226.
- ㉓ CONSTRUCT TRANSITION STRUCTURE NO. 2 PER R.C.F.C.&W.C.D. STD. DWG. TS320.
- ㉔ RELOCATE EXISTING 6" SEWER LAT. PER E.M.W.D. PLANS
- ㉕ RELOCATE EXISTING WATER LINE PER E.M.W.D. PLANS.
- ㉖ SLURRY BACKFILL BETWEEN RCB AND MANHOLE.
- ㉗ RELOCATE EXISTING GAS LINE.
- ㉘ RELOCATE EXISTING ELECTRICAL LINE.
- ㉙ RELOCATE EXISTING TELEPHONE LINE.
- ㉚ CONSTRUCT PROPOSED 12" WATER MAIN, PER E.M.W.D. PLANS.
- ㉛ CONSTRUCT PROPOSED 6" SEWER LATERAL, PER E.M.W.D. PLANS.
- ㉜ SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18. SEE SEPARATE PAVING PLANS.
- ㉝ REMOVE EXISTING SEWER LATERALS PER E.M.W.D. PLANS.

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



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. 74-31
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK
MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER
OF BRIDGE ON TOP OF ROCKY HILLS 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 R-102 D.I.M.R. IN TOP OF CONC. POST FLUSH W/
GROUND
ELEVATION = 1474.674' (NAVD 1929)

REVISIONS	ENGINEER	RCFC/	DESIGNED BY:	
2	H.L.A.	2/28/16	2/6	2/27/16
1	H.L.A.	2/28/16	2/6	2/27/16

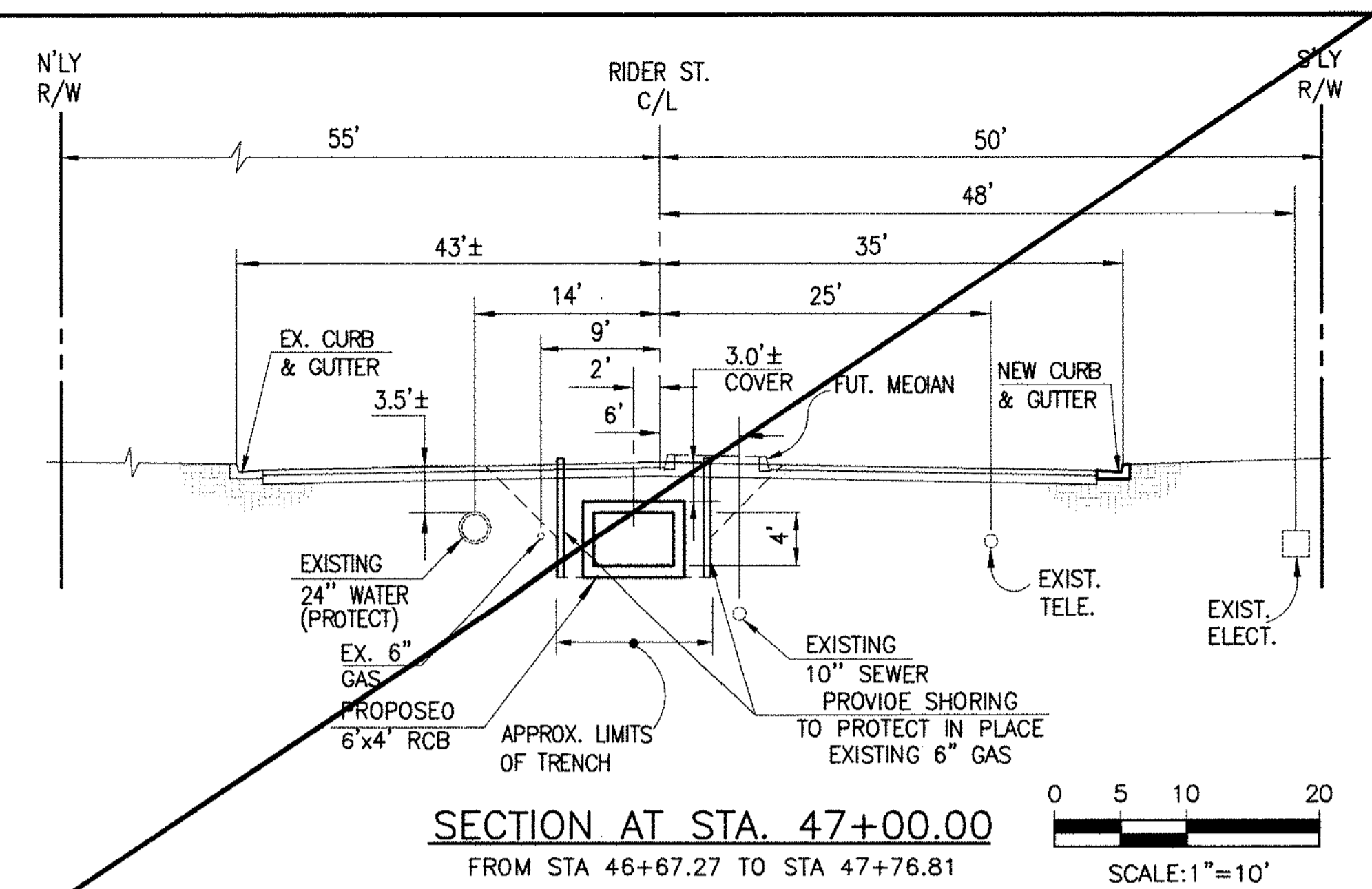
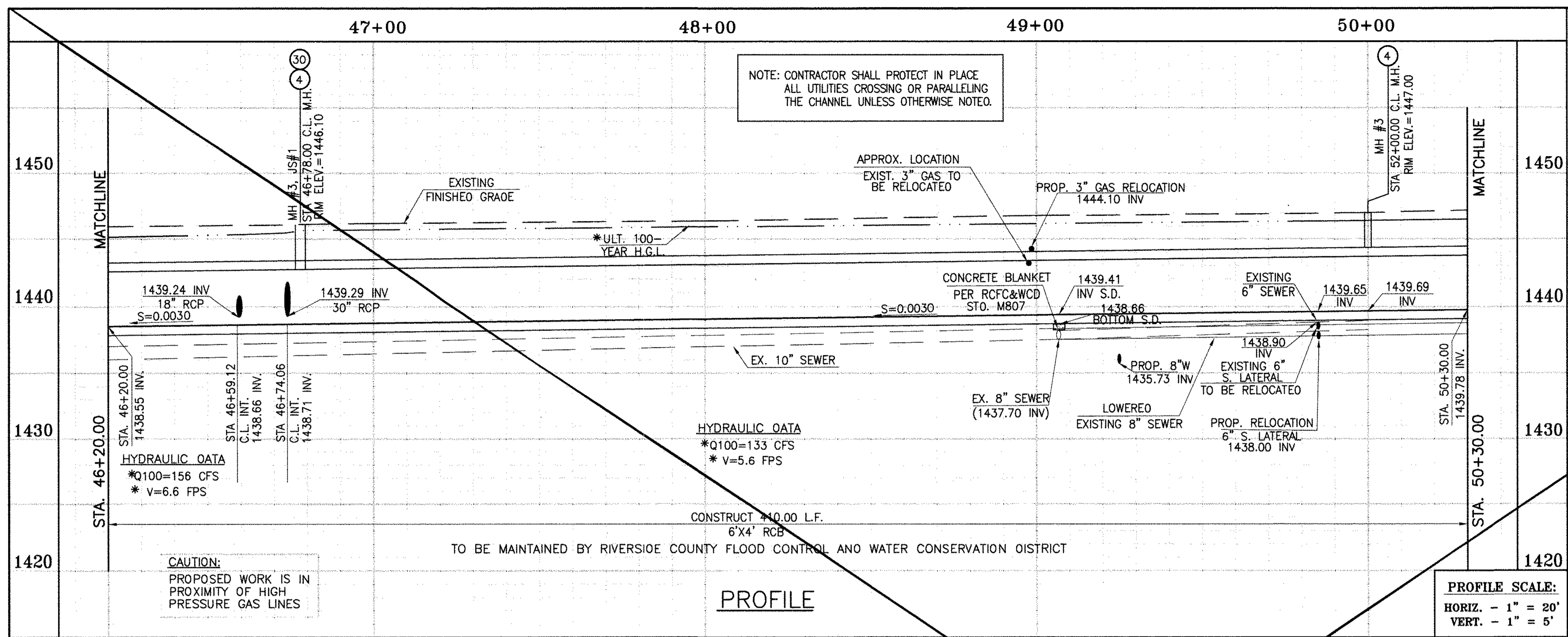
APPROVED BY:
Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH: (714) 521-4811 FAX: (714) 521-4173
Date: 2/11/16
RCE NO. 43293

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"
FROM STA. 42+10 TO STA. 46+20

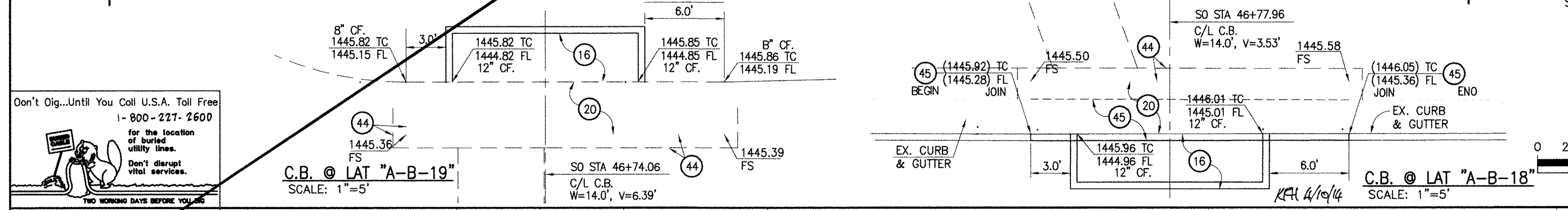
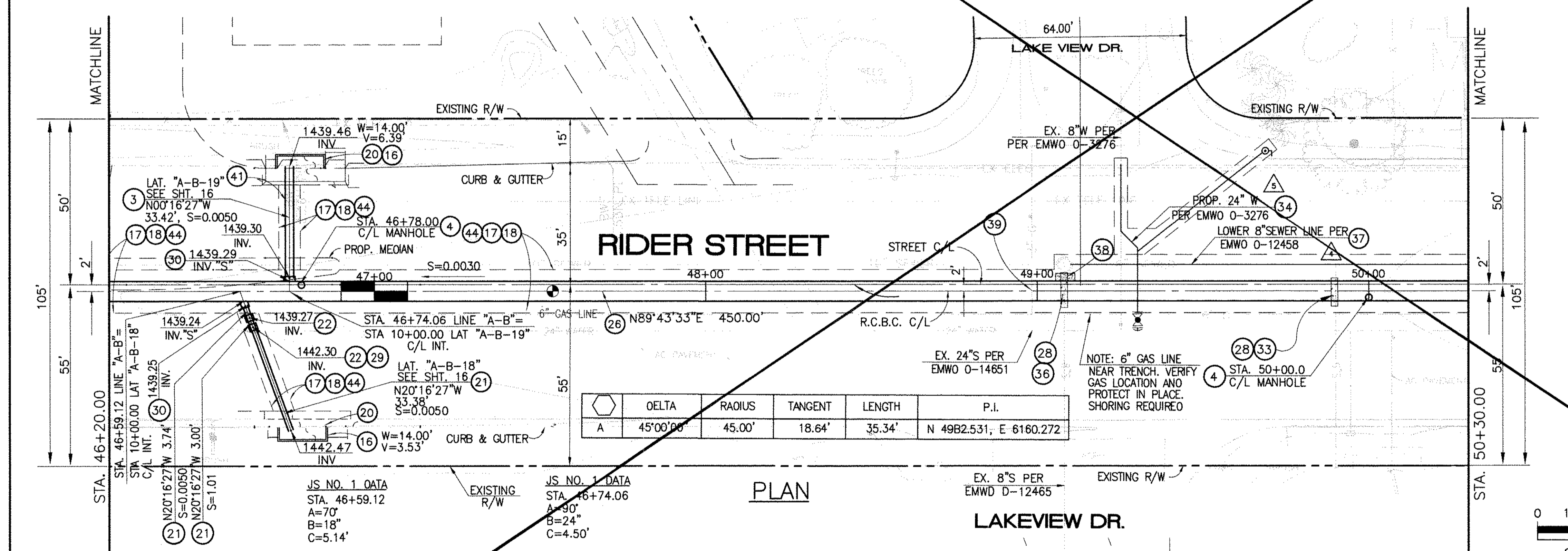
CITY OF PERRIS
FILE NO. P8-1013
PROJECT NO. 4-0-00537
DRAWING NO. 4-1063
SHEET NO. 10A OF 18



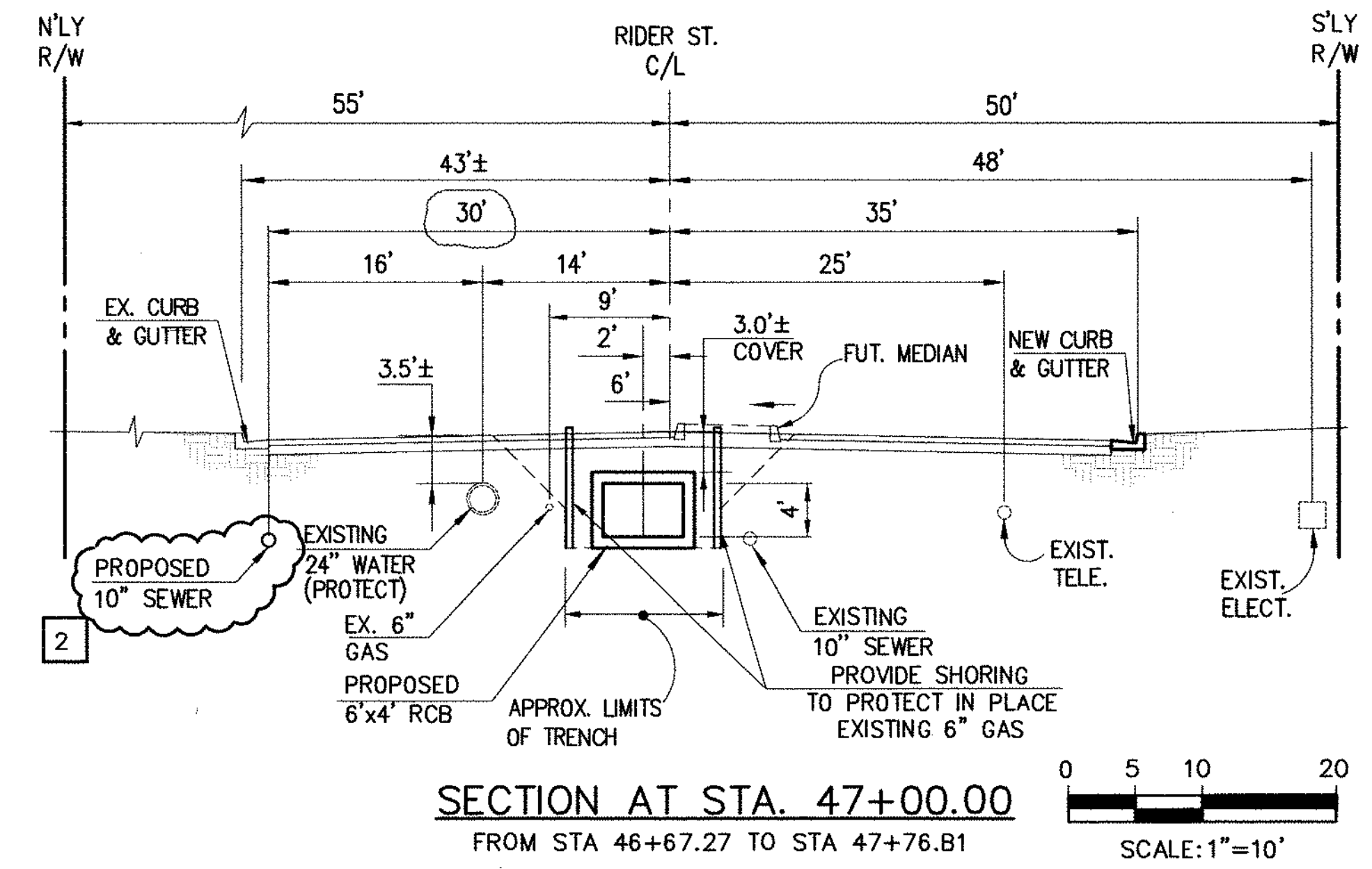
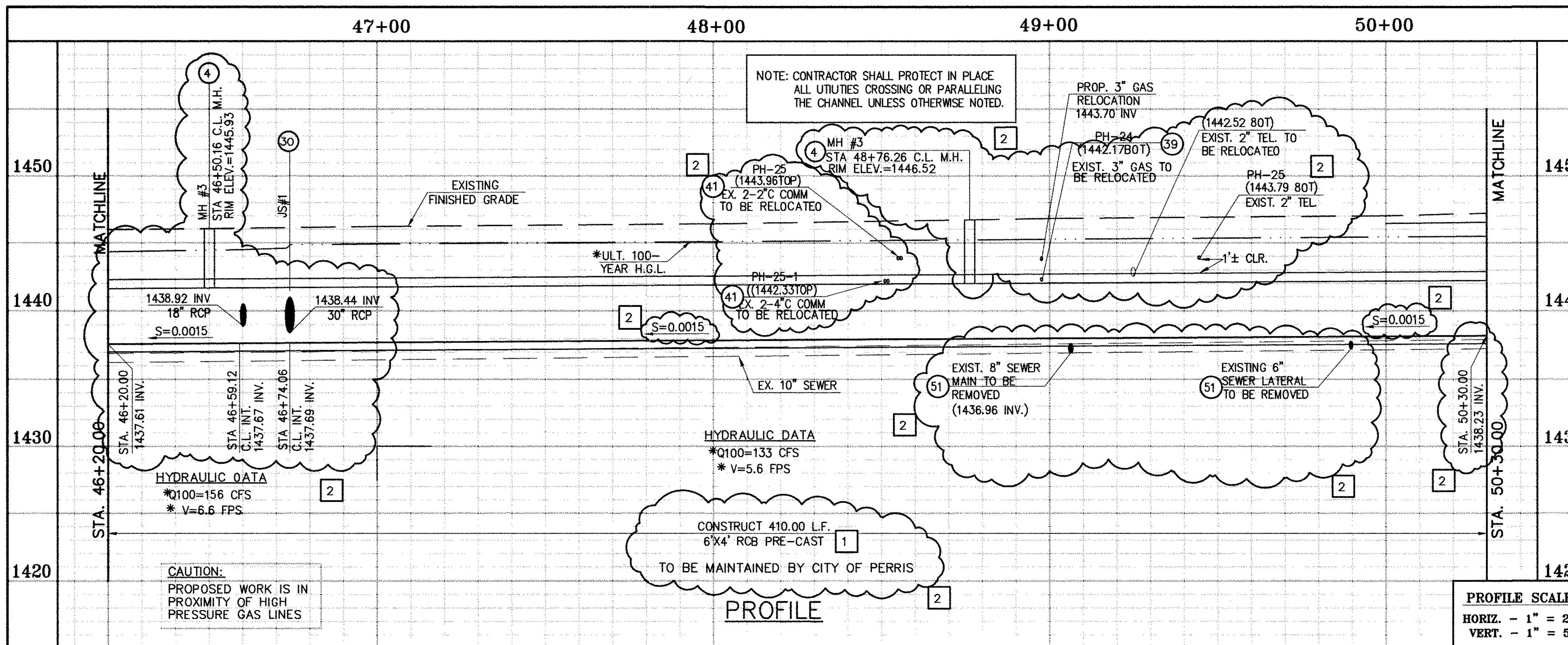
* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION 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.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.



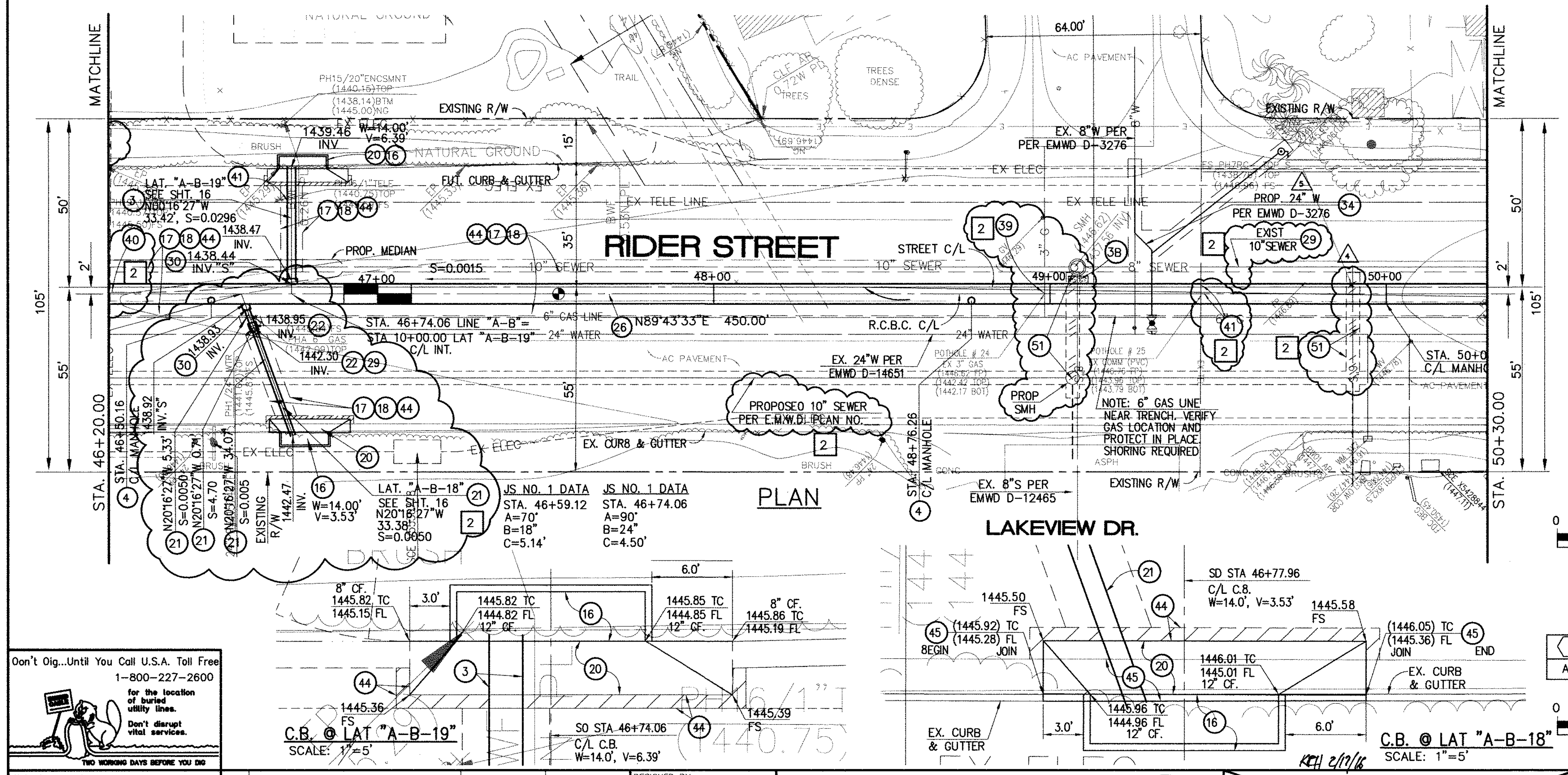
<p>Don't Dig...Until You Call U.S.A. Toll Free 1-800-271-2600</p> <p>for the location of buried utility lines. Don't disrupt vital services.</p> <p>TWO WORKING DAYS BEFORE YOU DIG</p>		<p>REVISIONS</p> <p>SUPERSEDED BY SHEET 11A</p>		<p>ENGINEER</p> <p>H.L.A. 2/22/16</p>		<p>DESIGNED BY</p> <p>BW</p>		<p>APPROVED BY</p> <p>THIENES ENGINEERING, INC.</p>		<p>RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT</p>		<p>CITY OF PERRIS</p>		<p>PERRIS VALLEY MDP</p>		<p>CITY OF PERRIS</p>	
<p>BENCH MARK</p> <p>COUNTY OF RIVERSIDE BENCHMARK NO. 74-31</p> <p>LOCATED AT THE CROSSING OF PERRIS BLVD. AND HWY. 90. FLOOD CONTROL CHANNEL (PERRIS LATERAL) 7' X 43 FT. WEST OF CENTERLINE OF PERRIS BLVD. AND 43 FT. EAST OF CENTERLINE OF HWY. 90. (EDGE OF BRIDGE) MARKED BY 102 D.I.M.R. IN TOP OF CONC. POST FLUSH W/ GROUND.</p> <p>ELEVATION = 1474.674' (MWD 1929)</p>		<p>DATE DRAWN</p> <p>11/18/14</p>		<p>DATE</p> <p>1/20/2015</p>		<p>DATE</p> <p>1/20/2015</p>		<p>DATE</p> <p>12-15-14</p>		<p>DATE</p> <p>12-15-14</p>		<p>DATE</p> <p>12-15-14</p>		<p>DATE</p> <p>12-15-14</p>		<p>DATE</p> <p>12-15-14</p>	
<p>PROJECT NO.</p> <p>4-0-00537</p>		<p>DRAWING NO.</p> <p>4-1063</p>		<p>SHEET NO.</p> <p>11 OF 18</p>		<p>PROJECT NO.</p> <p>4-0-00537</p>		<p>DRAWING NO.</p> <p>4-1063</p>		<p>SHEET NO.</p> <p>11 OF 18</p>		<p>PROJECT NO.</p> <p>4-0-00537</p>		<p>DRAWING NO.</p> <p>4-1063</p>		<p>SHEET NO.</p> <p>11 OF 18</p>	



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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. 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.D. STD. OWG. 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. OWG. 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.



DELTA	RAIUS	TANGENT	LENGTH	P.I.	
A	45'00"00"	45.00'	18.64'	35.34'	N 4982.531, E 6160.272

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/	DESIGNED BY:
2	H.I.A. 2/25/16	J/L	4-2/16
1	H.I.A. 2/25/16	J/L	2/1/16

APPROVED BY: **Thienes Engineering, Inc.**
CIVIL ENGINEERING - LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90639
PH: (714) 521-4811 FAX: (714) 521-4173

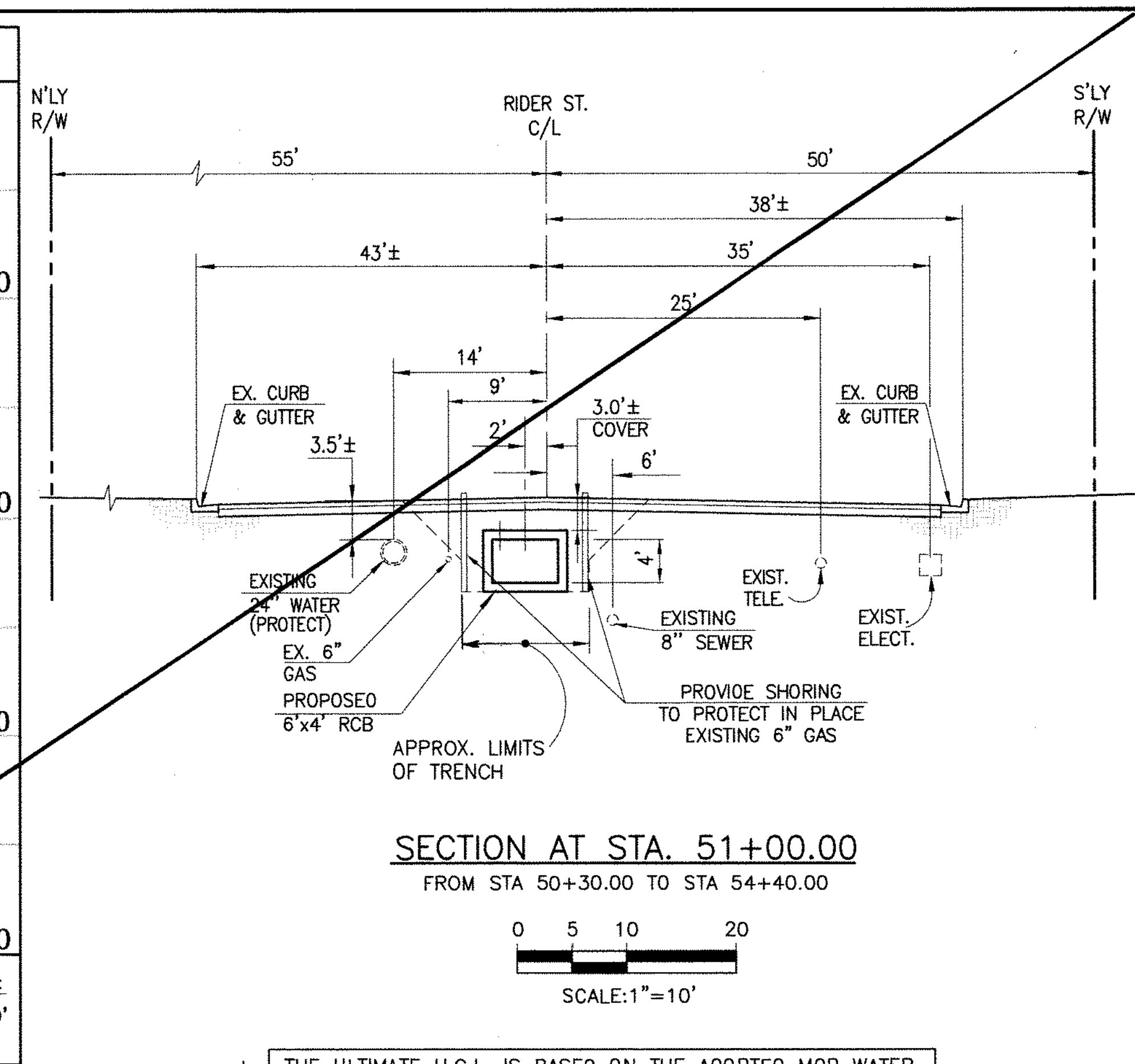
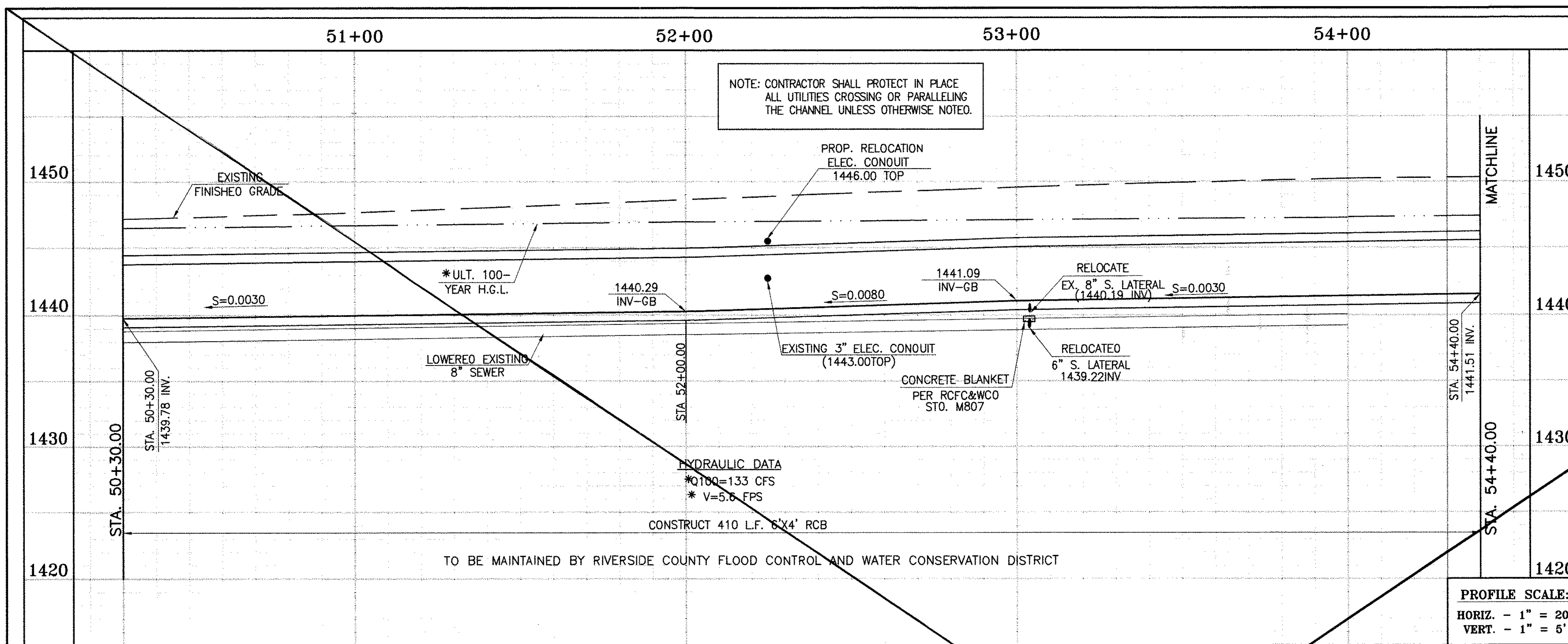
HAIDOOK L. AGHAJIAN Date: 2/1/16 RCE NO. 43293

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

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

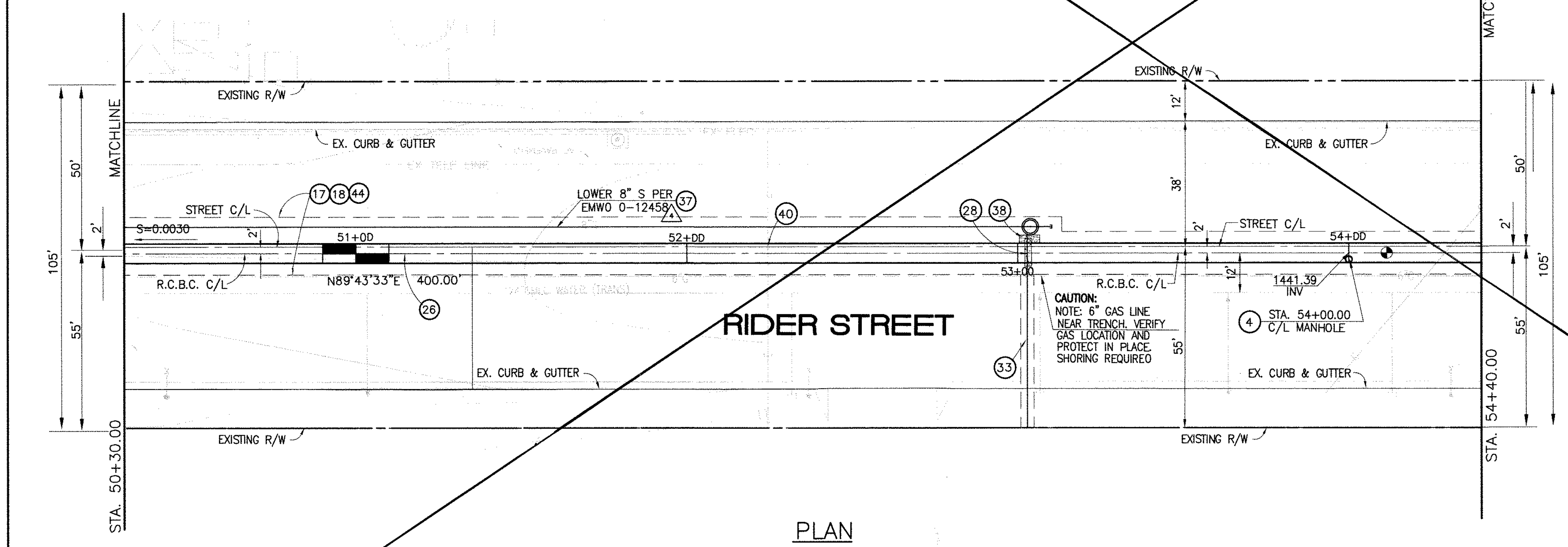
PERRIS VALLEY MDP
LINE "A-B"
FROM STA. 46+20 TO STA. 50+30

CITY OF PERRIS
FILE NO. P8-1013
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 (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.O. STO. OWG. 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' 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.
- 33 RELOCATE EXISTING 6" SEWER LATERAL PER E.M.W.O. PLANS.
- 37 LOWER EXISTING 8" SEWER MAIN 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 STO. ON SHEET 18. SEE SEPARATE PAVING PLANS.



BENCH MARK
 COUNTY OF RIVERSIDE BENCHMARK NO. 24-31
 COUNTY OF RIVERSIDE BENCHMARK 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) 7.2' 43 FT. WEST OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF CONCRETE GUIDE BARRIERS (EDGE OF BRIDGE) MARKED BY 100 D.I.R. IN TOP OF CONC. POST FLUSH W/ GROUND
 ELEVATION = 1476.874' (NAD 1983)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE
	REVISIONS				
	SUPERSEDED BY SHEET 12A				

DESIGNED BY: DN
 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

Handwritten signature: Haidook I. Aghaian
 Date: 11/18/14
 RCE NO. 43293

REGISTERED PROFESSIONAL ENGINEER
 HAI DOOK I. AGHAIAN
 R.C.E. NO. 43293
 Exp. 3-31-16
 STATE OF CALIFORNIA

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

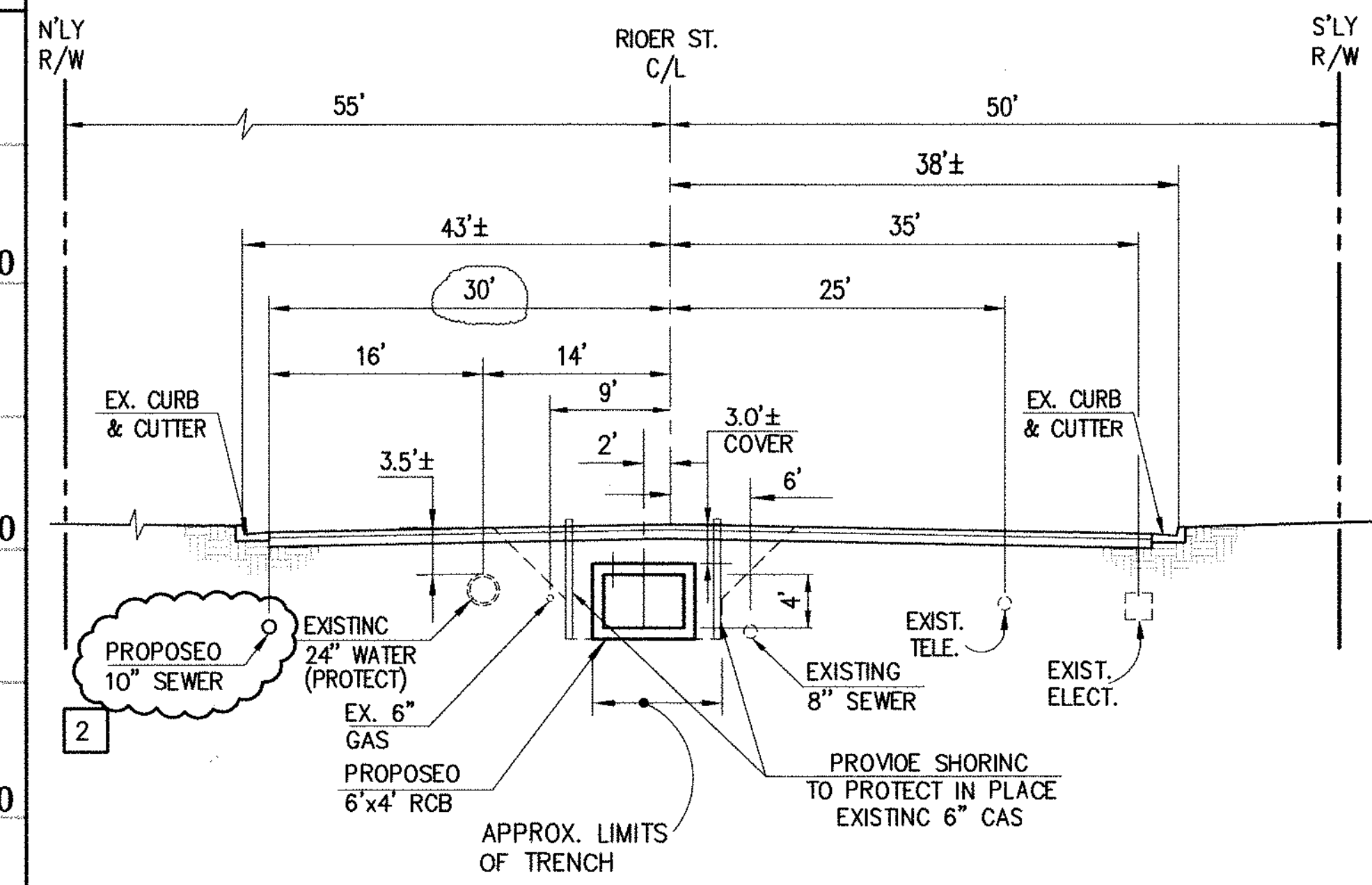
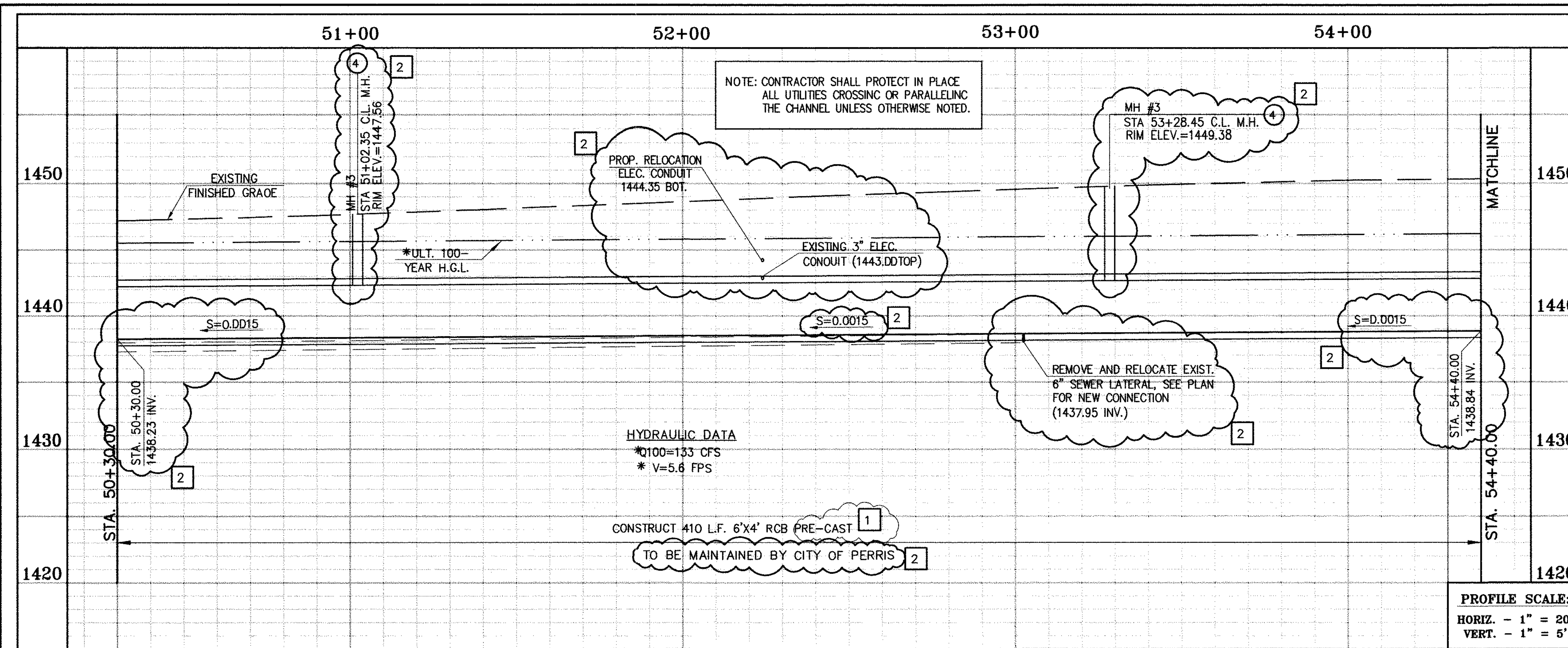
RECOMMENDED FOR APPROVAL BY: *Handwritten signature*
 DATE: 1/20/2015

APPROVED BY: *Handwritten signature: Mark A. Willk*
 DATE: 1/20/2015

CITY OF PERRIS APPROVED BY:
Handwritten signature
 DATE: 12-15-14

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. 12 OF 18

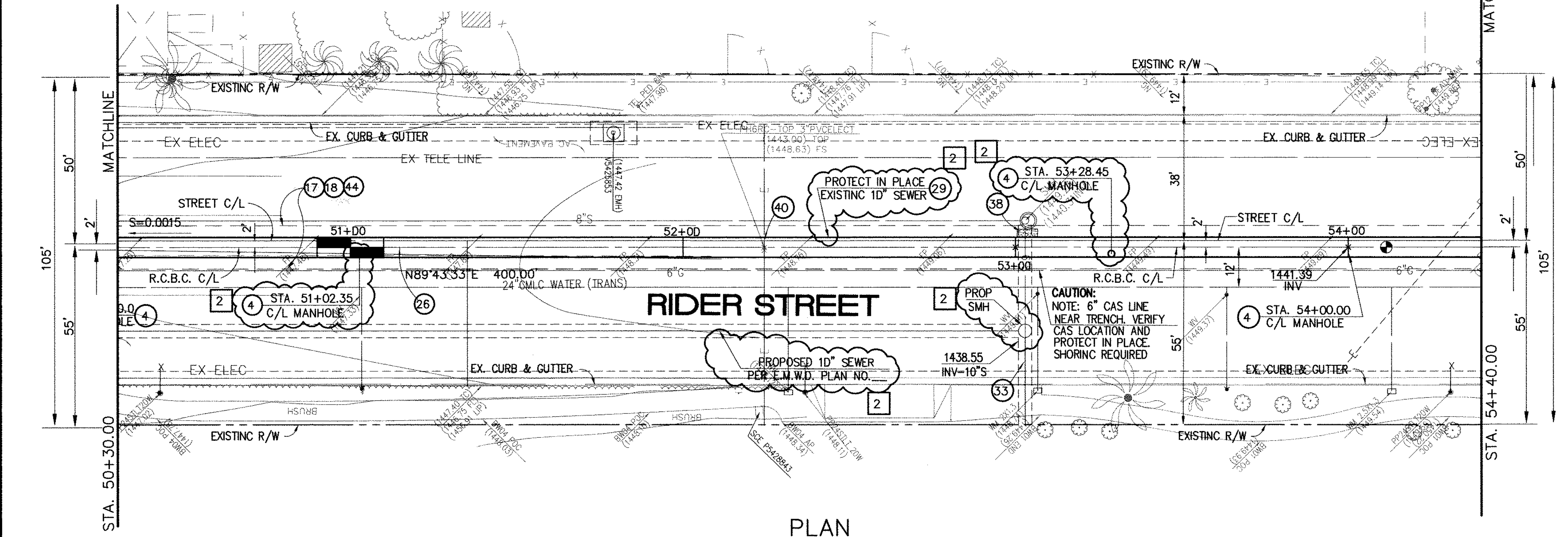


SECTION AT STA. 51+00.00
FROM STA 50+30.00 TO STA 54+40.00

0 5 10 20
SCALE: 1"=10'

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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 APPROVE 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. "A-31"
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK
MARKED "A-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-31" IN TOP OF CONC. POST FLUSH W/
GROUND
ELEVATION = 1474.674' (DAVID 1928)

REVISIONS	ENGINEER	RCFC/	DESIGNED BY:
2	H.I.A.	2/25/16	2/25/16
1	H.I.A.	2/25/16	2/25/16

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: _____ APPROVED BY: _____

DATE: _____ DATE: _____

CITY OF PERRIS APPROVED BY:

RECOMMENDED: _____ DATE: _____

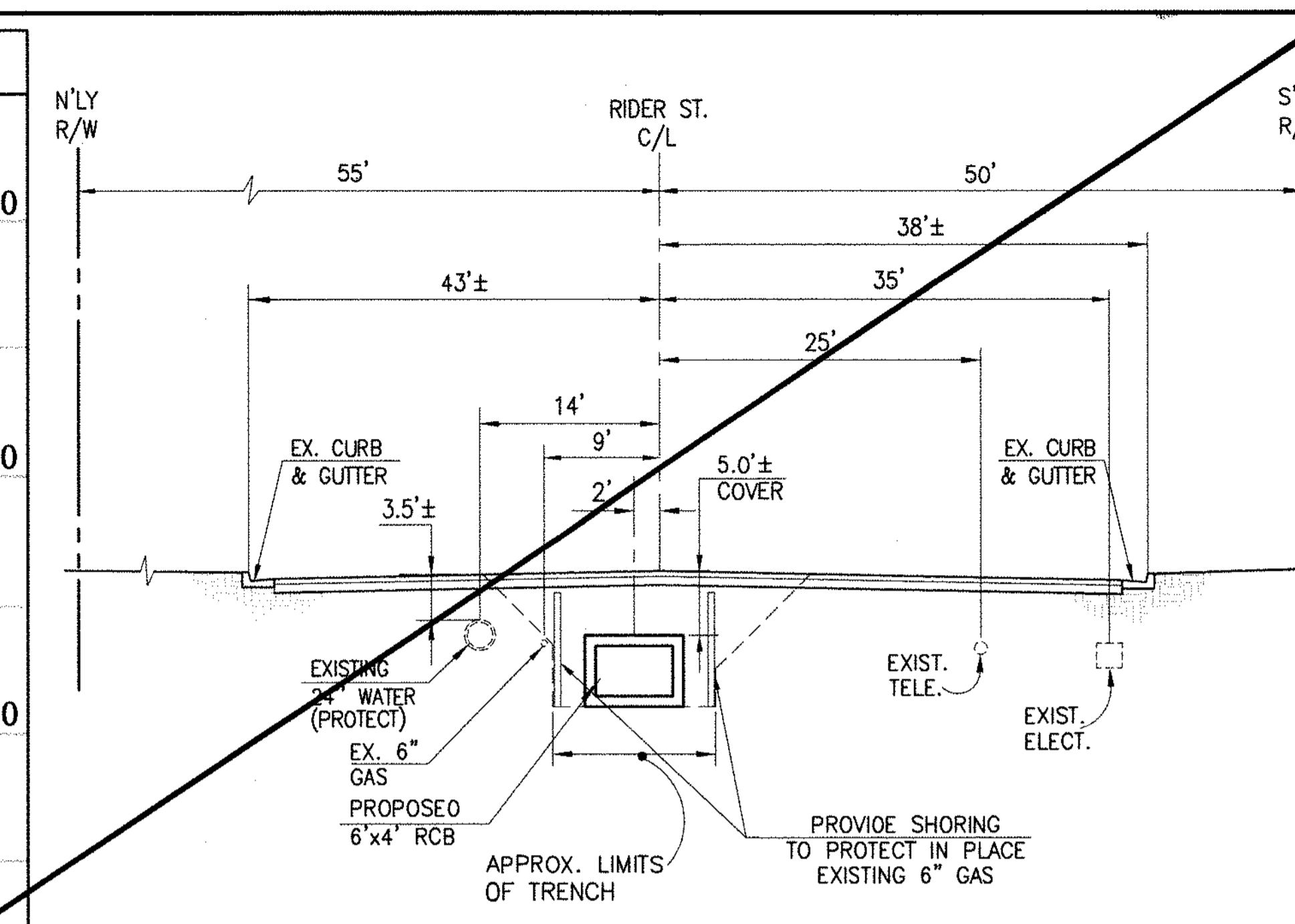
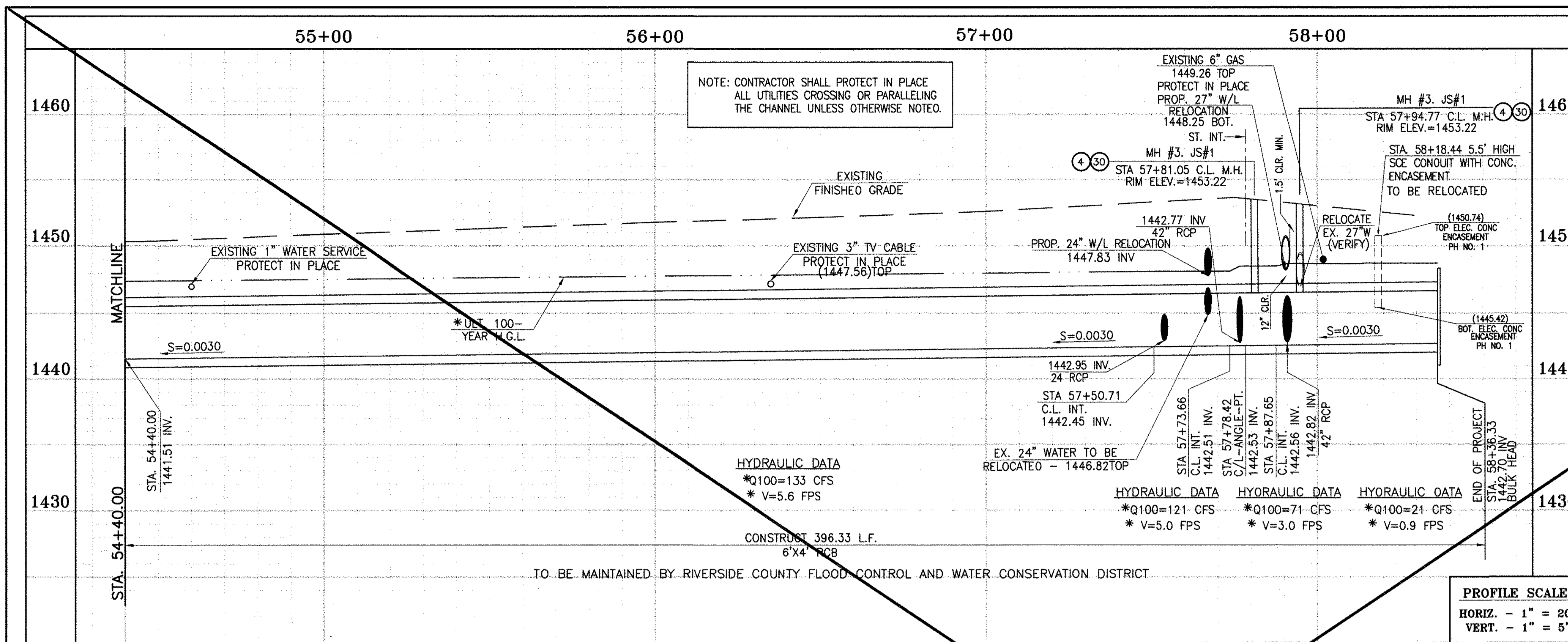
PERRIS VALLEY MDP
LINE "A-B"
FROM STA. 50+30 TO STA. 54+40

CITY OF PERRIS
FILE NO. P8-1013

PROJECT NO.
4-0-00537

DRAWING NO.
4-1063

SHEET NO.
12A OF 18

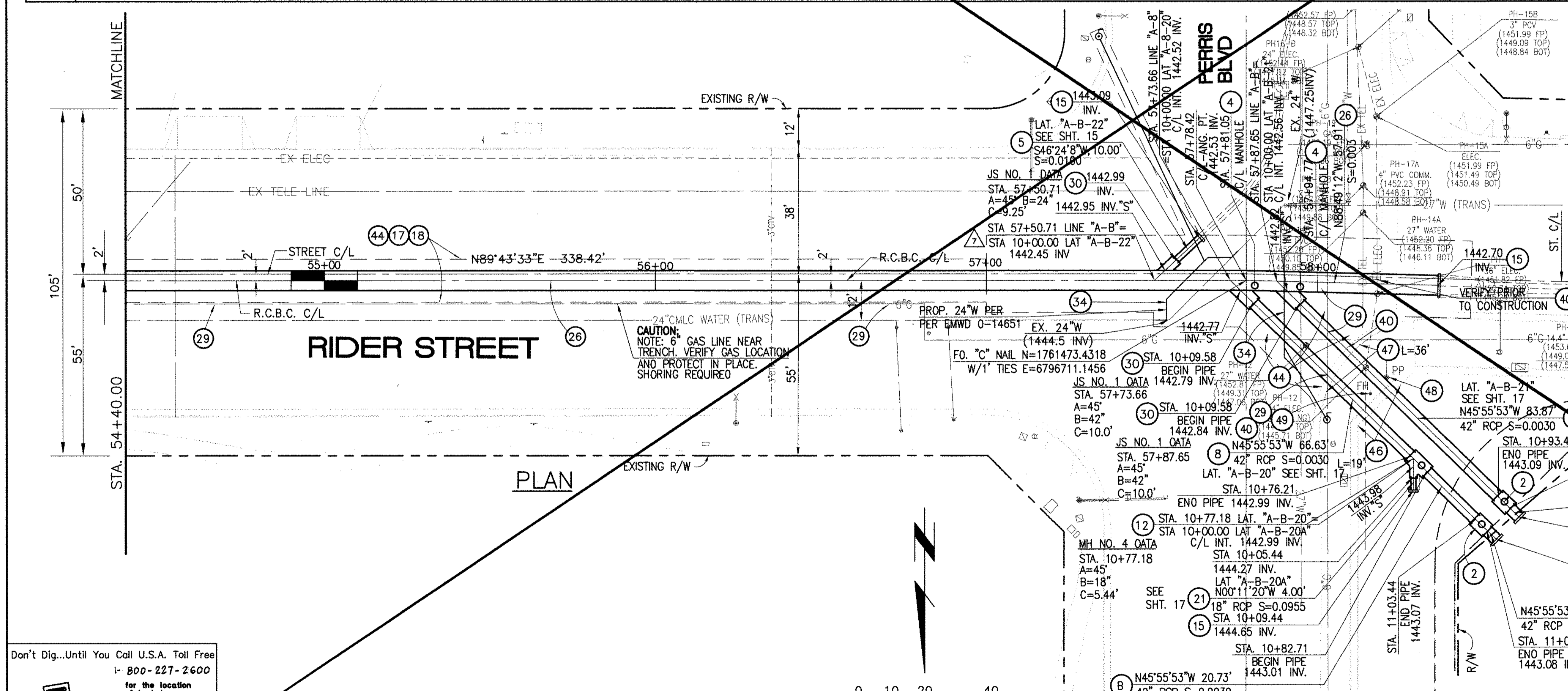


SECTION AT STA. 55+00.00
FROM STA 54+40.00 TO STA 58+36.36

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:**
- 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 STANDARD 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. OBO 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
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
	REVISIONS				
	SUPERSEDED BY SHEET 13A				

DESIGNED BY: BW
DRAWN BY: ET
DATE DRAWN:

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

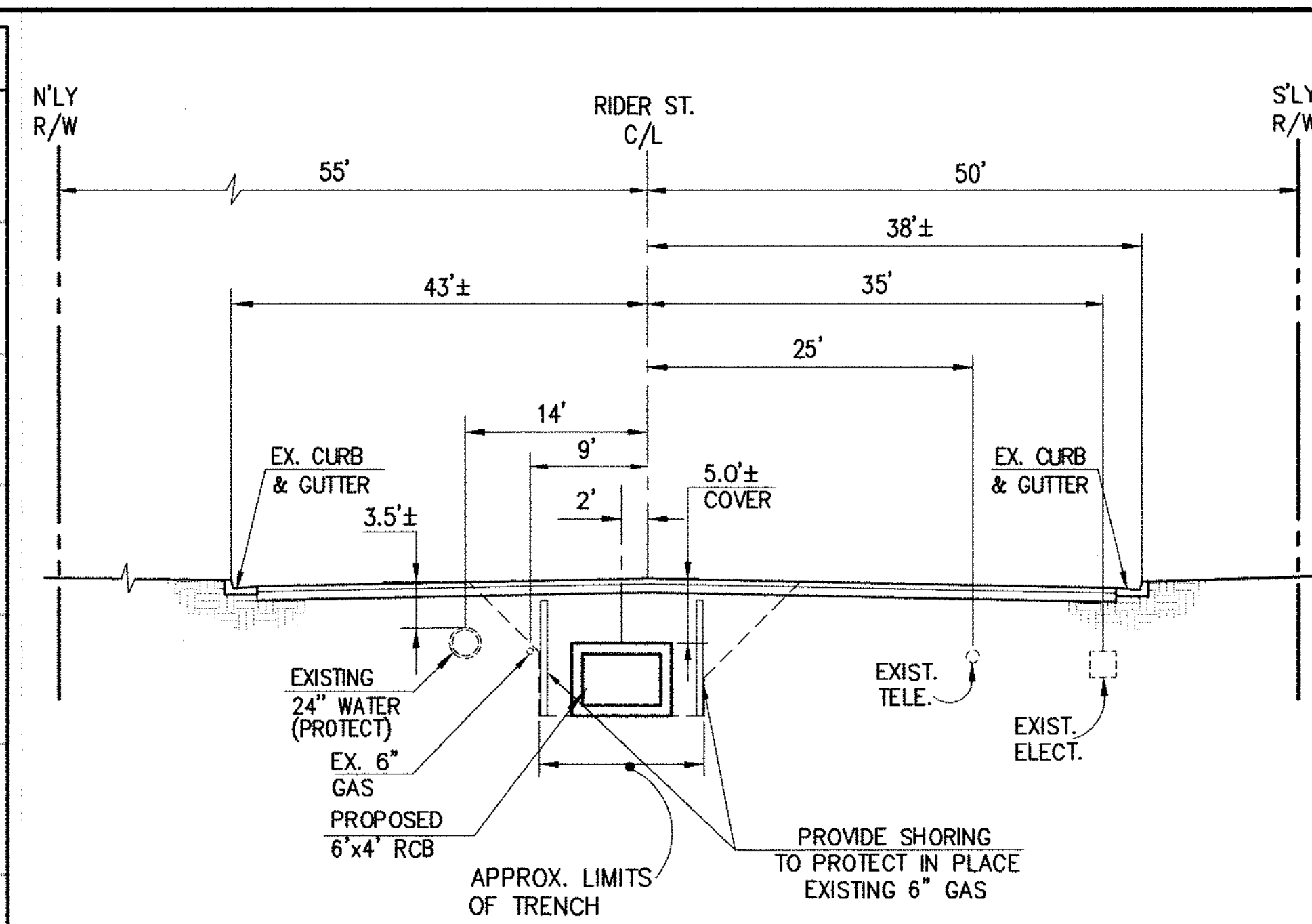
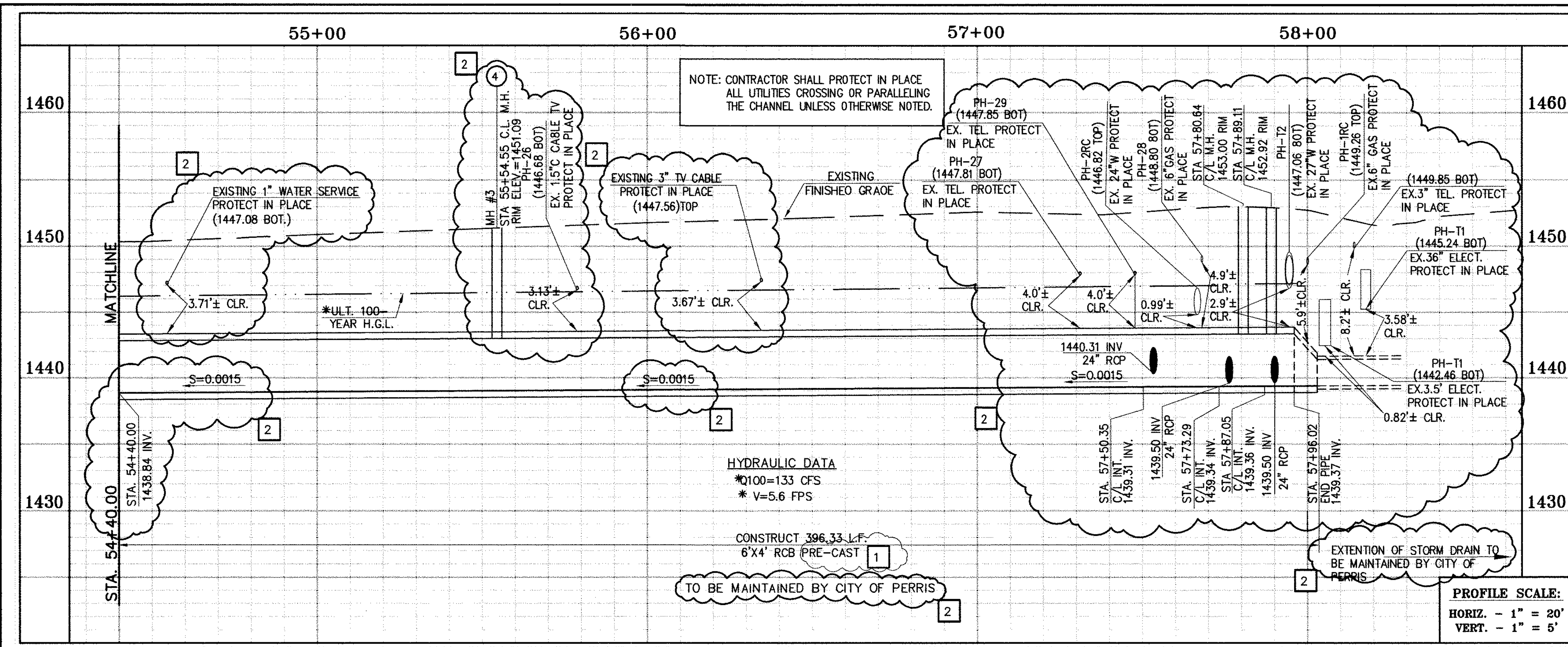
APPROVED BY: *[Signature]*
DATE: 1/20/2015

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

CITY OF PERRIS
FILE NO. P8-1013

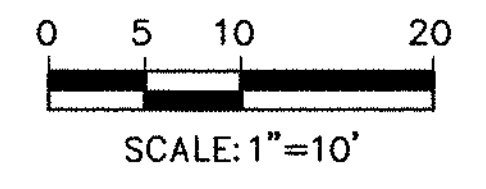
PERRIS VALLEY MDP
LINE "A-B"
FROM STA. 54+40 TO STA. 58+36

PROJECT NO. 4-0-00537
DRAWING NO. 4-1063
SHEET NO. 13 OF 18

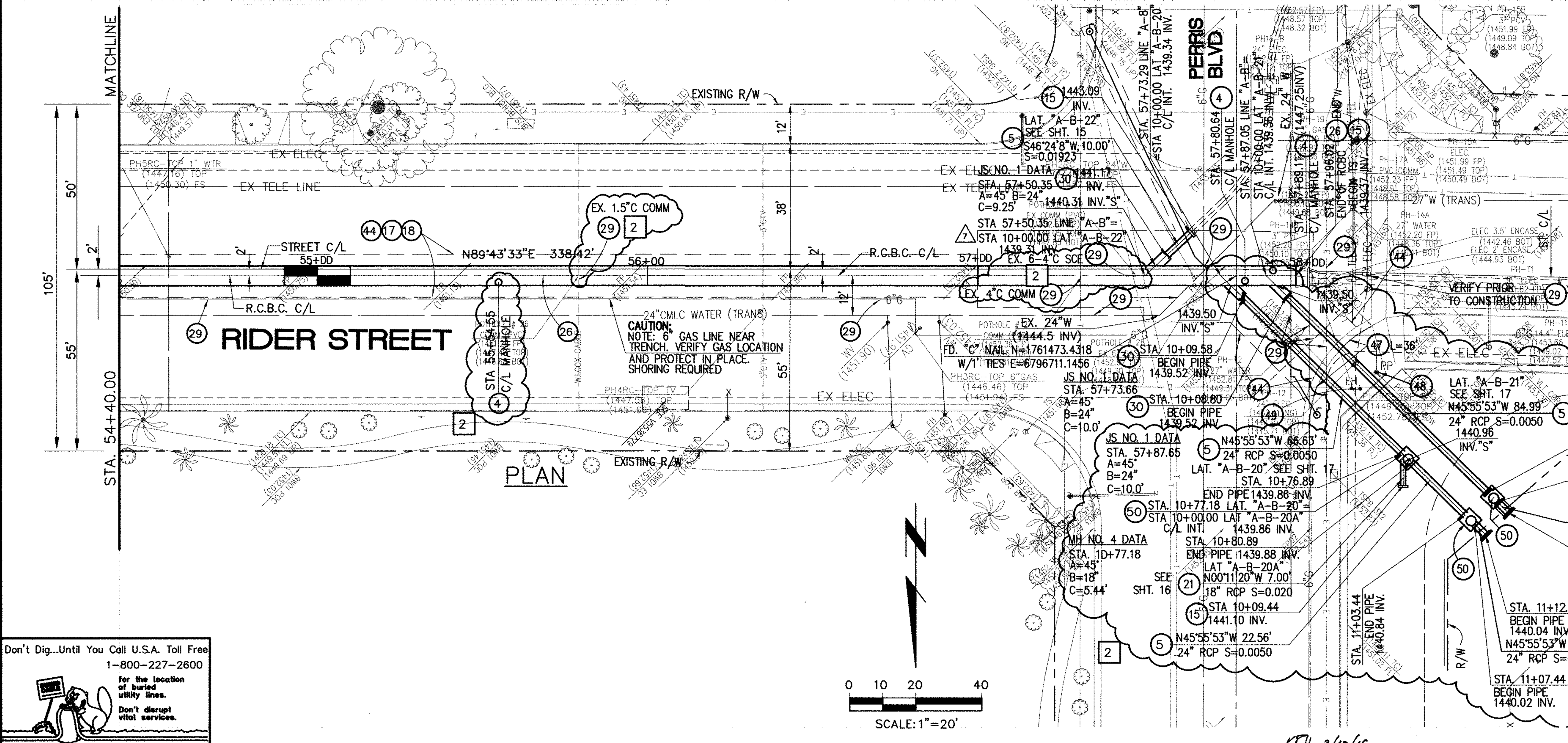


SECTION AT STA. 55+00.00
FROM STA 54+40.00 TO STA 58+36.36

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



* 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. "26-31"
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK
MARKED "M-31", LOCATED FLUSH AT THE SOUTHWEST CORNER
OF BRIDGE ON TOP OF OVERPASS 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 R-102 D.W.R. IN TOP OF CONC. POST FLUSH W/
GROUND
ELEVATION = 1474.674' (NAD 1983)

REVISIONS	ENGINEER	RCFC/	DESIGNED BY:
2	H.L.A. 2/29/16	O.V.	2/17/16
1	H.L.A. 2/25/16	O.V.	2/22/16

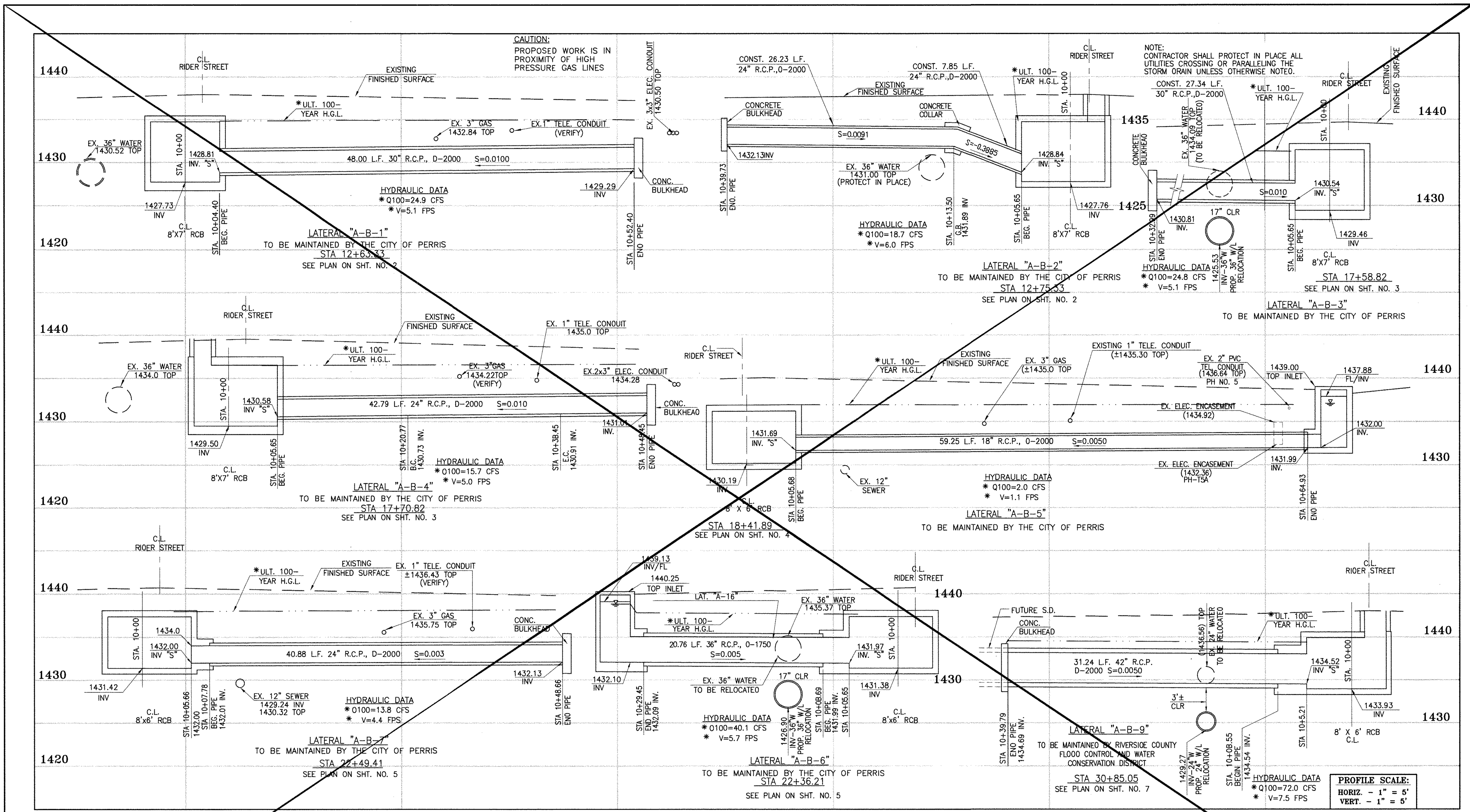
APPROVED BY:
Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH: (714) 821-4811 FAX: (714) 821-4173
Date: 2/11/16
RCE NO. 43293

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"
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.
13A OF 18



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

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. 24-31
COUNTY OF RIVERSIDE BENCHMARK NO. 1/4" ALUMINUM DISK
MARKED M-31, LOCATED FLUSH TO THE SOUTH WEST CORNER
OF BRIDGE ON TOP OF CROWN NEAR FACE OF CURB
LOCATED AT THE CROSSING OF PERRIS BLVD. AND RIV. CO.
FLOOD CONTROL CHANNEL (PERRIS LATERAL 2), 43 FT. WEST
OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF
CONCRETE BRIDGE BARRIERS (EDGE OF BRIDGE)
MARKED BY 100 D.W.R. IN TOP OF CONC. POST FLUSH W/
GROUND
ELEVATION = 1474.674' (MWD 1829)

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

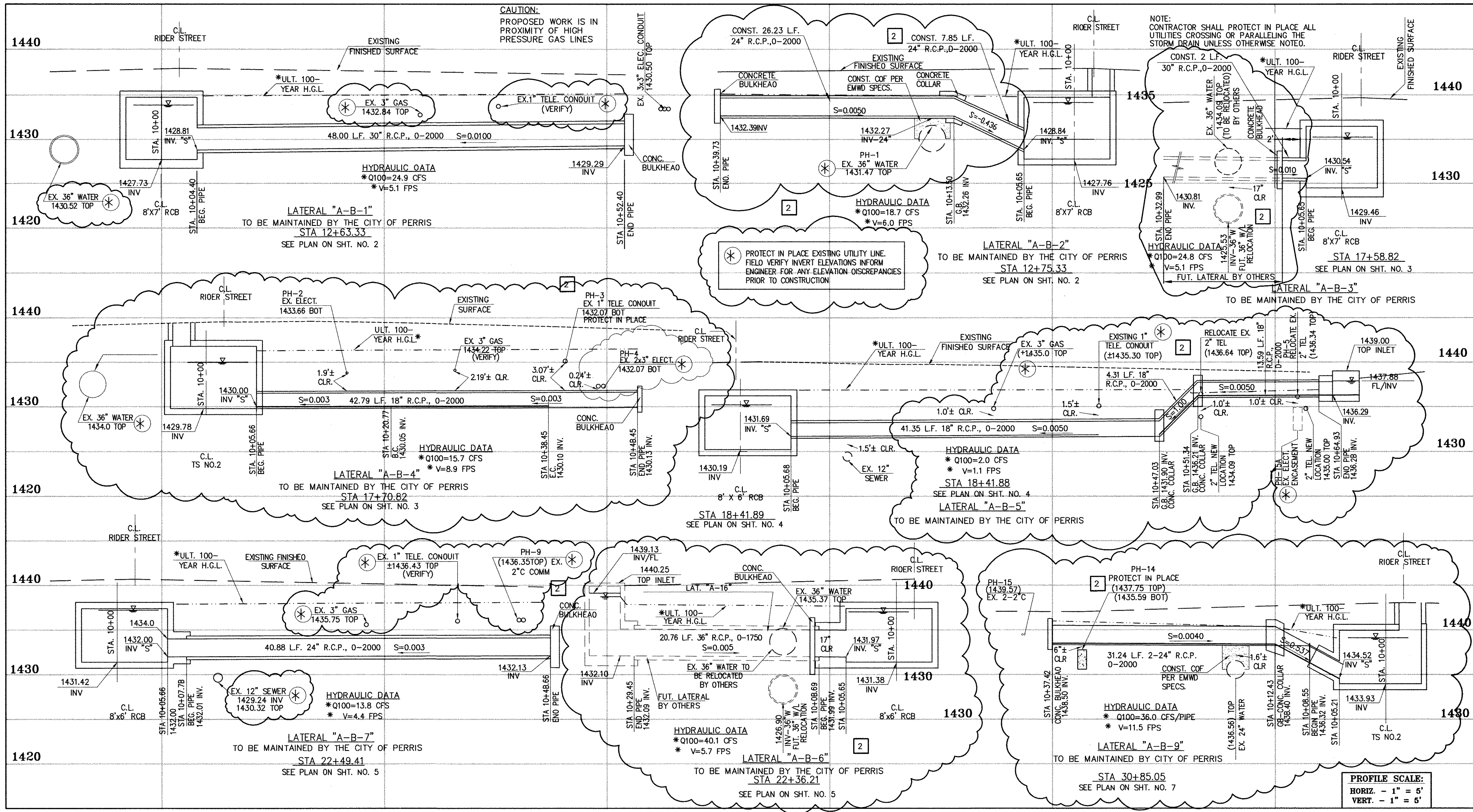
DESIGNED BY: **BW**
DRAWN BY: **ET**
DATE DRAWN:
APPROVED BY: **THIENES ENGINEERING, INC.**
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH. (714) 521-4811 FAX (714) 521-4173
Date: 11/18/14
RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: **[Signature]**
DATE: 4/2/15
APPROVED BY: **[Signature]**
DATE: 1/20/2015

CITY OF PERRIS
APPROVED BY: **[Signature]**
DATE: 2-15-14

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



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

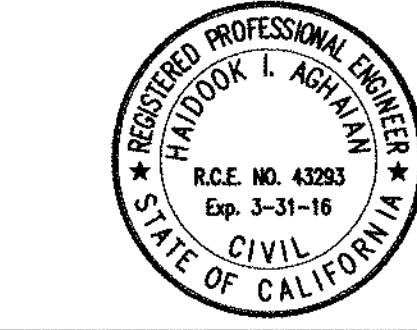
CAUTION:
PROPOSED WORK IS IN PROXIMITY OF HIGH PRESSURE GAS LINES

* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED 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. "21-31"
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK
MARKED "21-31", 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 R-102 D.W.R. IN TOP OF CONC. POST FLUSH W/
GROUND
ELEVATION = 1474.674' (MAY 1929)

REVISIONS	ENGINEER	RCFC/	DESIGNED BY:
2	H.A.	2/25/16	2/25/16
1	H.A.	2/25/16	2/25/16

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
RCE NO. 43293

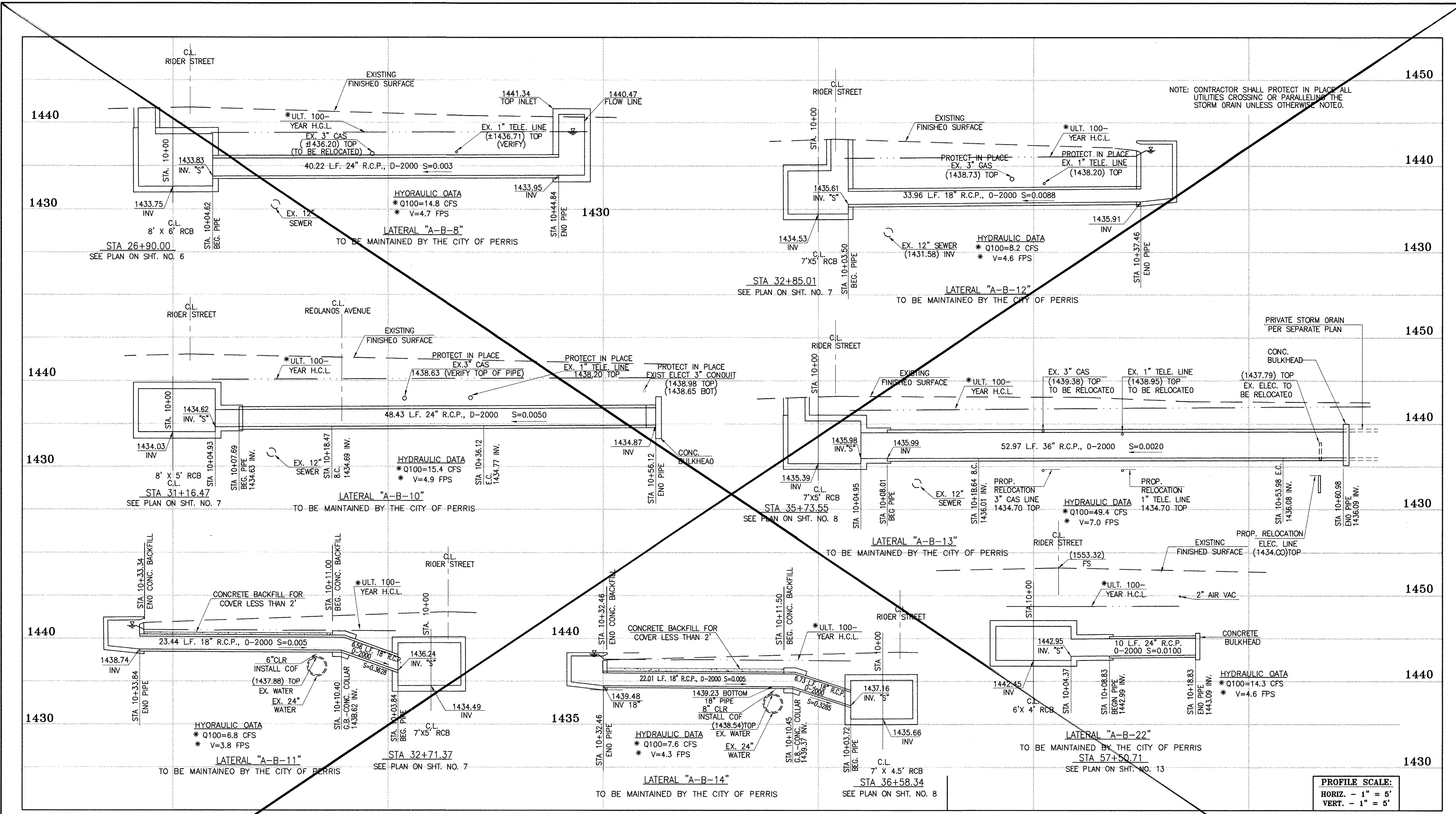


RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: _____
APPROVED BY: _____
DATE: _____ DATE: _____

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. 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 RIOER 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" ALLUMINUM 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" 4.3 FT. WEST
 OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF
 CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE)
 MARKED "M-31" DISK IN TOP OF CONC. POST FLUSH W/
 GRADE
 ELEVATION = 1474.674' (NAD 1983)

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

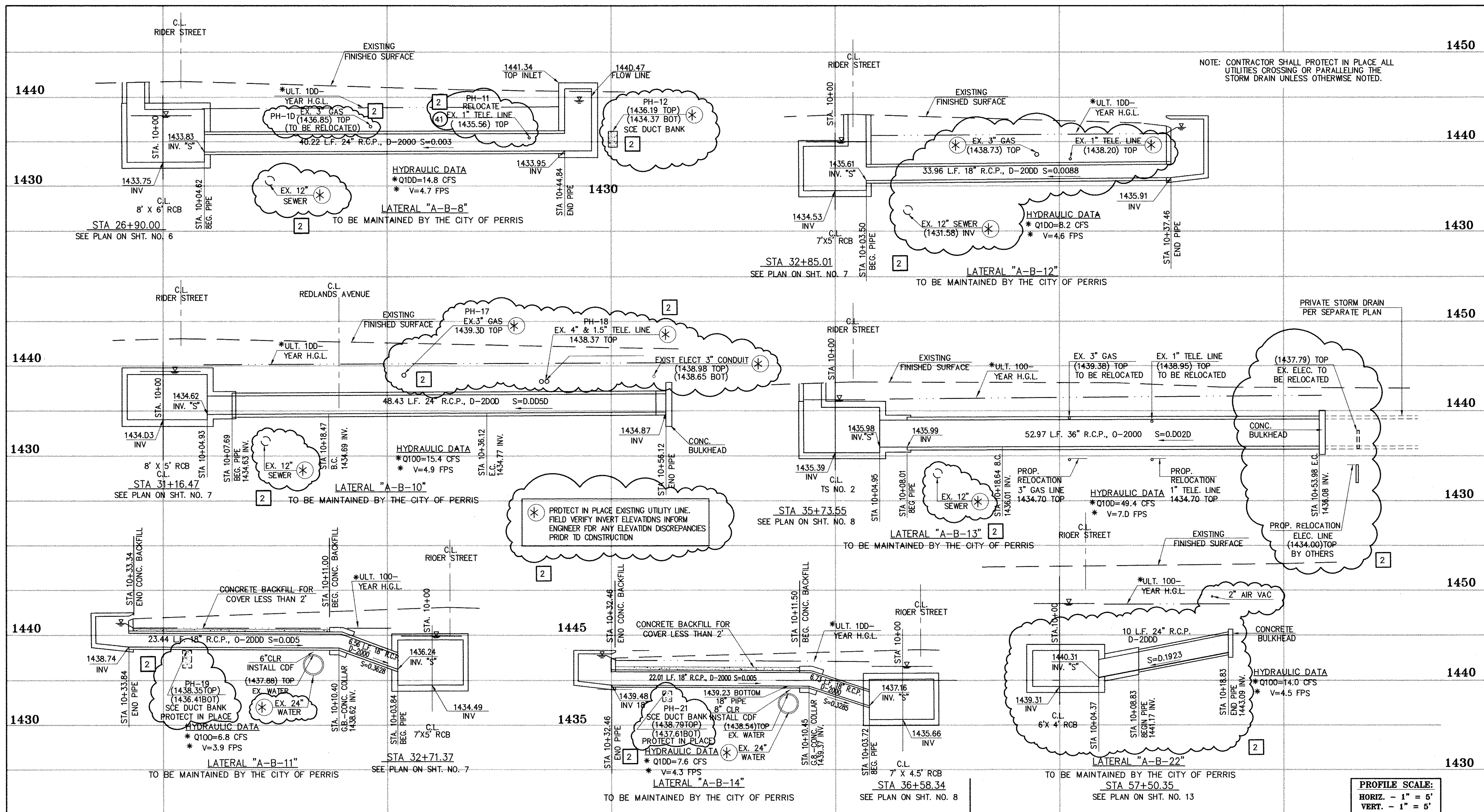
DESIGNED BY: BW
 DRAWN BY: ET
 DATE DRAWN:
 APPROVED BY: **Tai Thienes Engineering, Inc.**
 CIVIL ENGINEERING • LAND SURVEYING
 14349 FIRESTONE BOULEVARD
 LA MIRADA, CALIFORNIA 90638
 PH. (714)521-4811 FAX (714)521-4173
 Haidook I. Aghaian Date: 11/18/14 RCE NO. 43293

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. P8-1013
 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

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:
 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. "14-31"
 COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK
 MARKED "M-31", LOCATED FLUSH AT THE SOUTH WEST CORNER
 OF BRIDGE ON TOP OF SOUTHERN HIGH 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 "R-102 D.M.R. IN TOP OF CONC. POST FLUSH W/
 GROUND ELEVATION = 1474.674" (NAVD 1929)

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

DESIGNED BY: **THIENES ENGINEERING, INC.**
 CIVIL ENGINEERING • LAND SURVEYING
 14349 FIRESTONE BOULEVARD
 LA MIRADA, CALIFORNIA 90638
 PH.(714)521-4811 FAX(714)521-4173

APPROVED BY: *Haidook I. Aghayan*
 HAIDOOK I. AGHAYAN RCE NO. 43293

DATE: 2/1/16

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY: _____
 APPROVED BY: _____

DATE: _____ DATE: _____

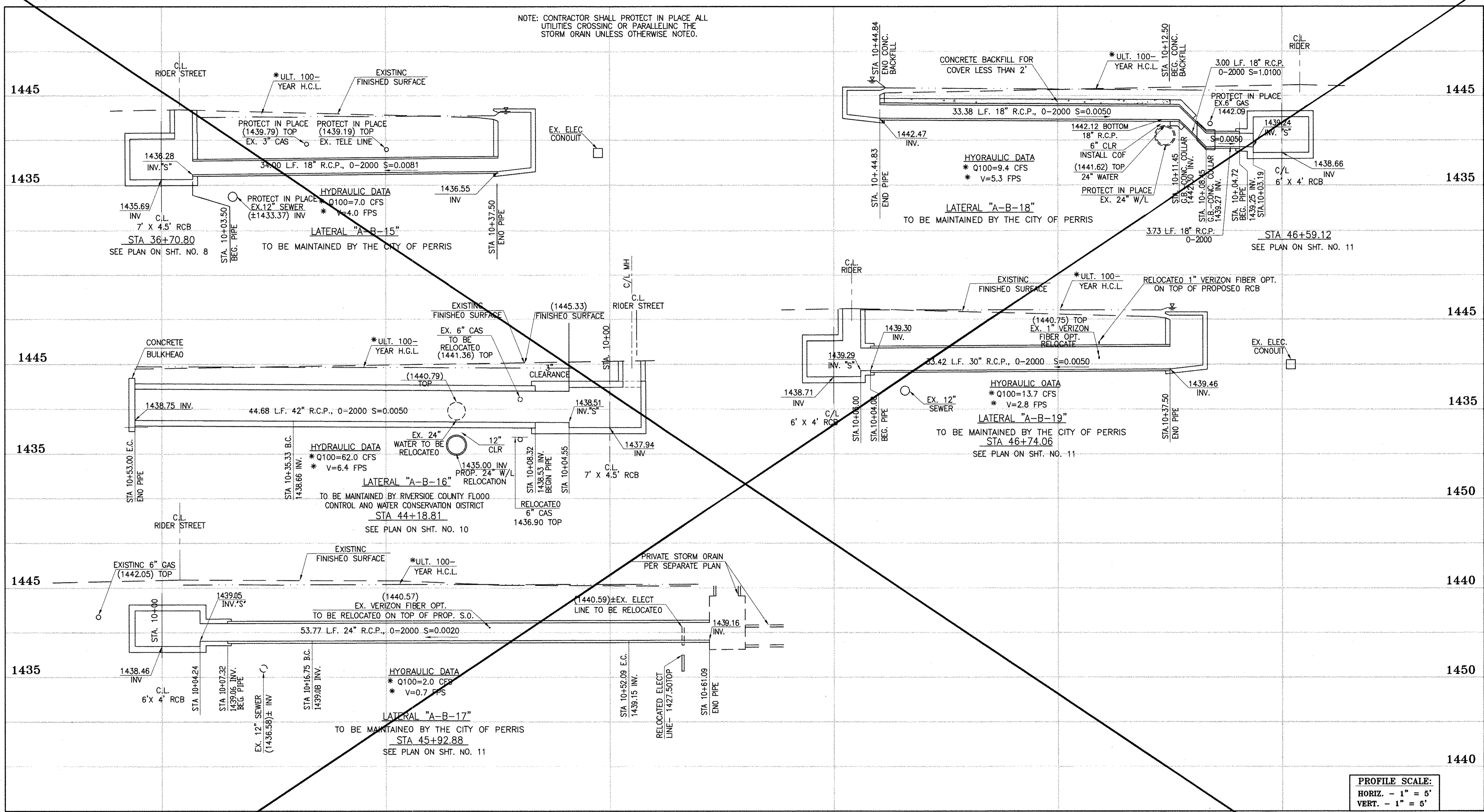
CITY OF PERRIS
 APPROVED BY: *[Signature]*
 DATE: 2-9-16

PERRIS VALLEY MDP
LINE "A-B"

CITY OF PERRIS
 FILE NO. P8-1013

PROJECT NO. 4-0-00537
 DRAWING NO. 4-1063
 SHEET NO. 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 OF RIVERSIDE BENCHMARK NO. 1/4" ALUMINUM DISK
 MARKED "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 7.9' 4.5' WEST
 OF CENTERLINE OF PERRIS BLVD. AND 4.5' EAST OF
 CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE)
 MARKED 1/102 D.W.R. IN TOP OF CONC. POST FLUSH W/
 GRADE
 ELEVATION = 1474.674' (NAD 1929)

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

DESIGNED BY: **ET**
 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. Aghaian Date: 11/18/14
 Haidook I. Aghaian RCE NO. 43293

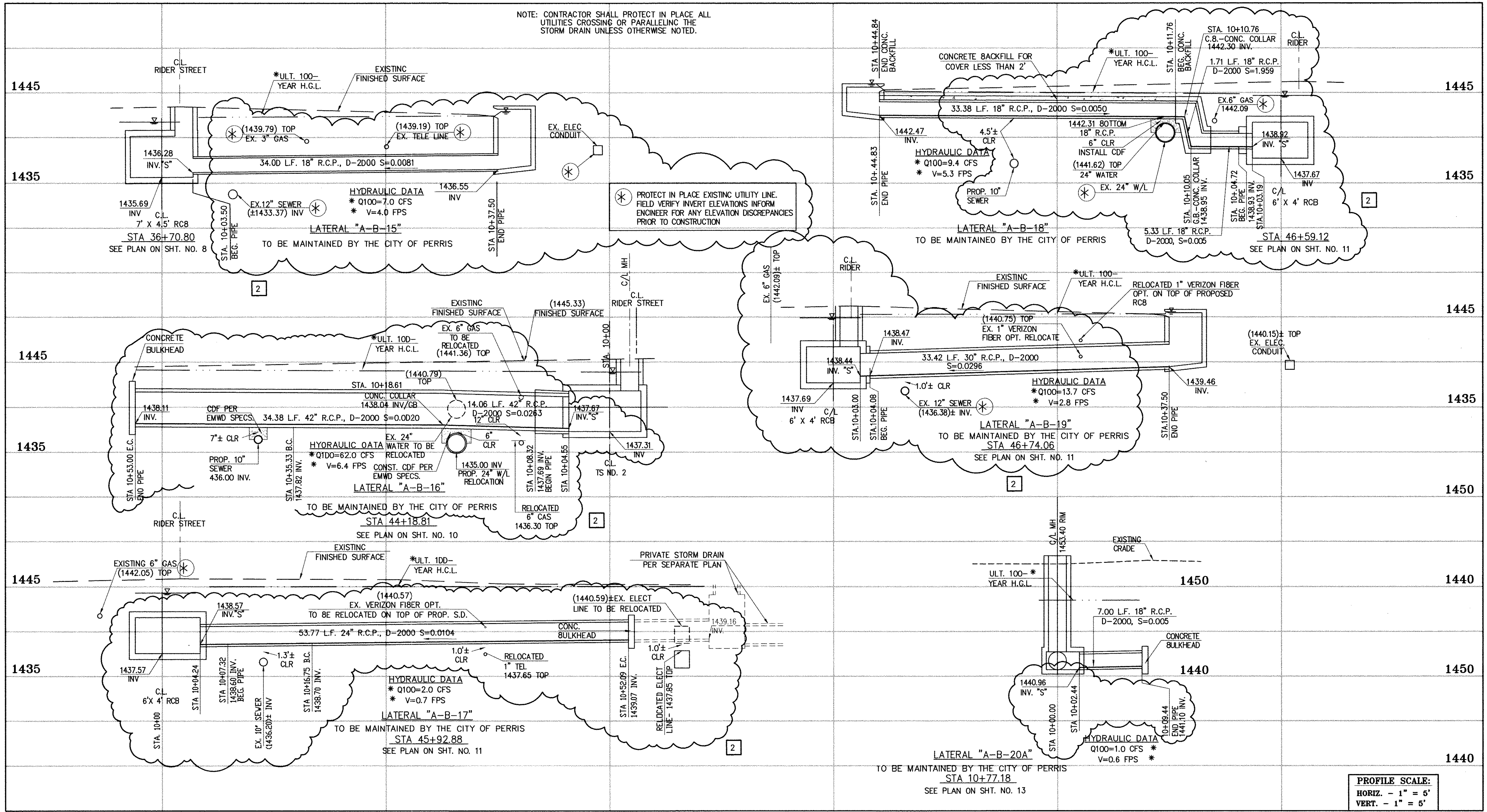
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY: *[Signature]* DATE: 1/20/2015
 APPROVED BY: *[Signature]* DATE: 1/20/2015

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

PERRIS VALLEY MDP LINE "A-B"

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.



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 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.

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

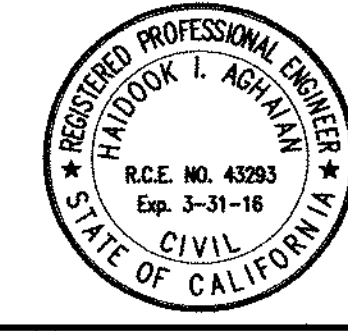


CAUTION:
PROPOSED WORK IS IN PROXIMITY OF HIGH PRESSURE GAS LINES

BENCH MARK
COUNTY OF RIVERSIDE BENCHMARK NO. 74-37
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 R-102 D.I.M.R. IN TOP OF CONC. POST FLUSH W/ GROUND ELEVATION = 1474.674' (NAD 1929)

NO.	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.L.A.	2/24/16	JL
1	CHANGED CAST IN PLACE RCB TO PRE-CAST RCB PER APWA 390-0	H.L.A.	2/25/16	JL

APPROVED BY:
THI 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

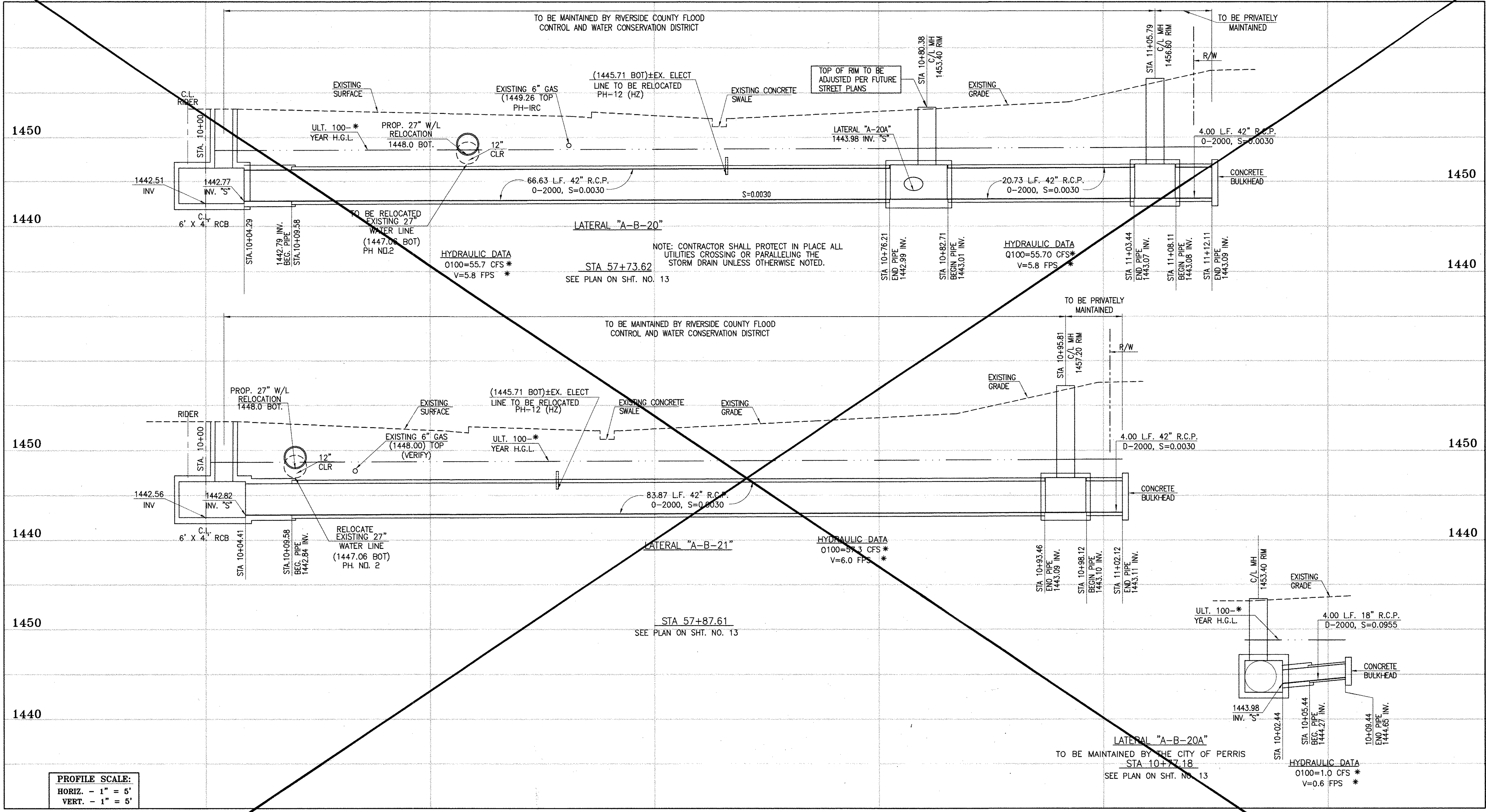


RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: _____ APPROVED BY: _____
DATE: _____ DATE: _____

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. 16A OF 18



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 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. 29-31*
 COUNTY OF RIVERSIDE BENCHMARK NO. 29-31* ALUMINUM DISK MARKED "31" LOCATED FLUSH IN THE SOUTH WEST CORNER OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB LOCATED AT THE CROSSING OF PERRIS BLVD. AND RR. CO. FLOOD CONTROL CHANNEL, PERRIS LATERAL 73.41 FT. WEST OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE) MARKED BY 1/2" D.W.R. IN TOP OF CONC. POST FLUSH W/ GROUND ELEVATION = 1474.874' (NAVD 1929)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE
	REVISIONS				
	SUPERSEDED BY SHEET 17A				

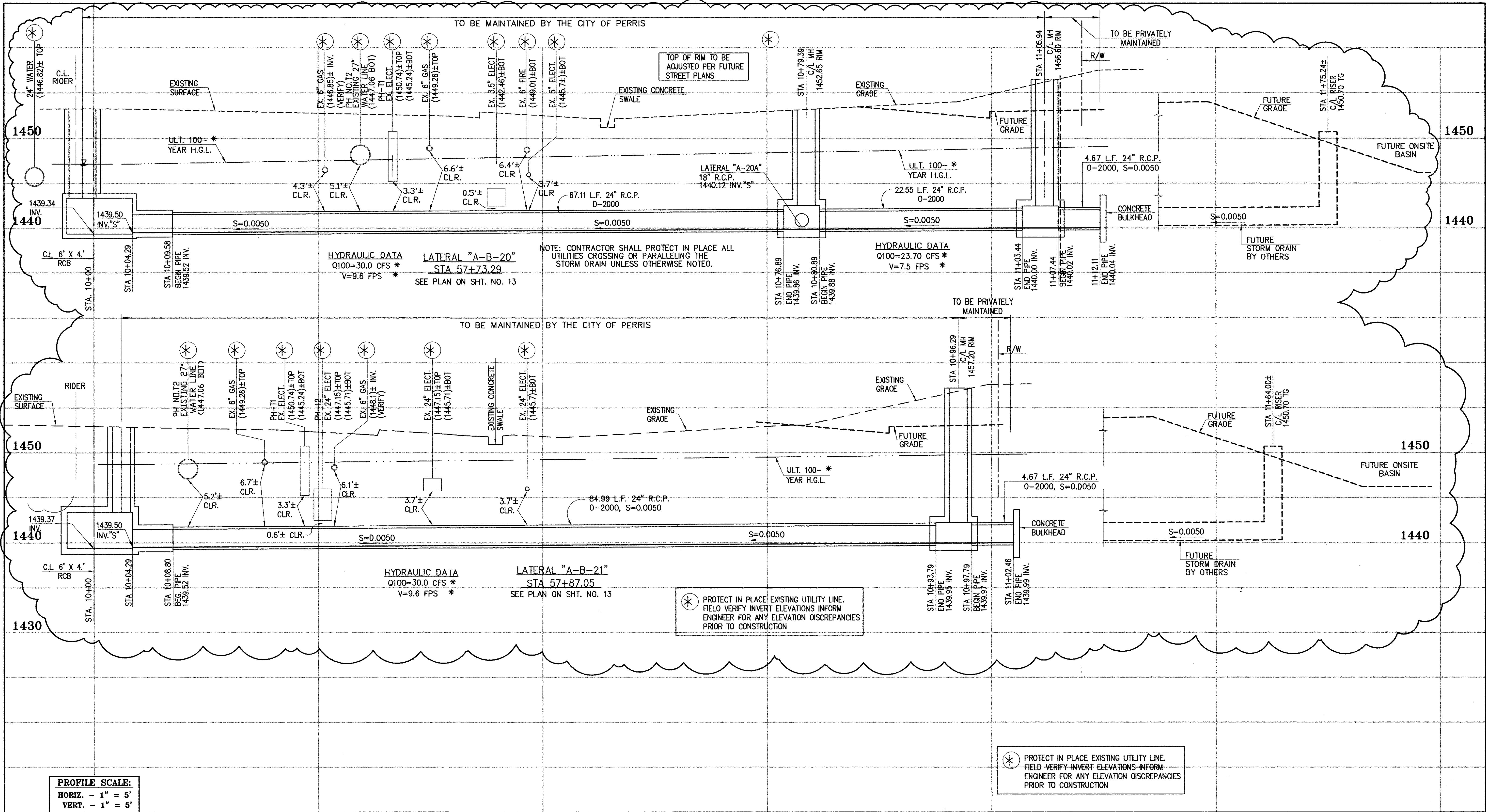
DESIGNED BY: **BW**
 DRAWN BY: **ET**
 DATE DRAWN:
 APPROVED BY: **Thienes Engineering, Inc.**
 CIVIL ENGINEERING - LAND SURVEYING
 14349 FIRESTONE BOULEVARD
 LA MIRADA, CALIFORNIA 90638
 PH. (714) 521-4811, FAX (714) 521-4173
 HAIDOOK L. AGHAJAN Date: 11/18/14 RCE NO. 43293

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. 17 OF 18



PROFILE SCALE:
 HORIZ. - 1" = 5'
 VERT. - 1" = 6'

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

⊛ 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

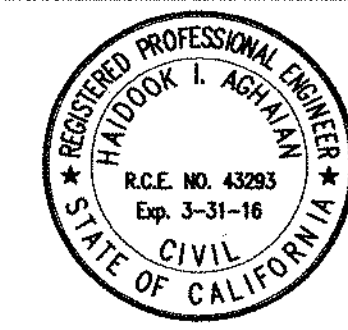
* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MDP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIGER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MDP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION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



BENCH MARK
 COUNTY OF RIVERSIDE BENCHMARK NO. 24-37
 COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK
 MARKED W-31, LOCATED FLUSH AT THE SOUTH WEST CORNER
 OF BRIDGE ON TOP OF SERRANA NEAR FACE OF CURB
 LOCATED AT THE CROSSING OF PERRIS BLVD. AND RIGER ST.
 FLOOD CONTROL CHANNEL (PERRIS LATERAL "A"), 43 FT. WEST
 OF CENTERLINE OF PERRIS BLVD. AND 43 FT. EAST OF
 CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE)
 MARKED R-102 D.M.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 4" LAT TO 24" LAT	H.A.	2/25/16	JL	2/25/16
1	ADDED EX. UTILITIES, RELOCATED UTILITIES, REVISED SD	H.A.	2/25/16	JL	2/25/16
1	CHANGED CAST IN PLACE RCB TO PRE-CAST RCB PER APWA 390-0	H.A.	2/25/16	JL	2/25/16

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
 RCE NO. 43293

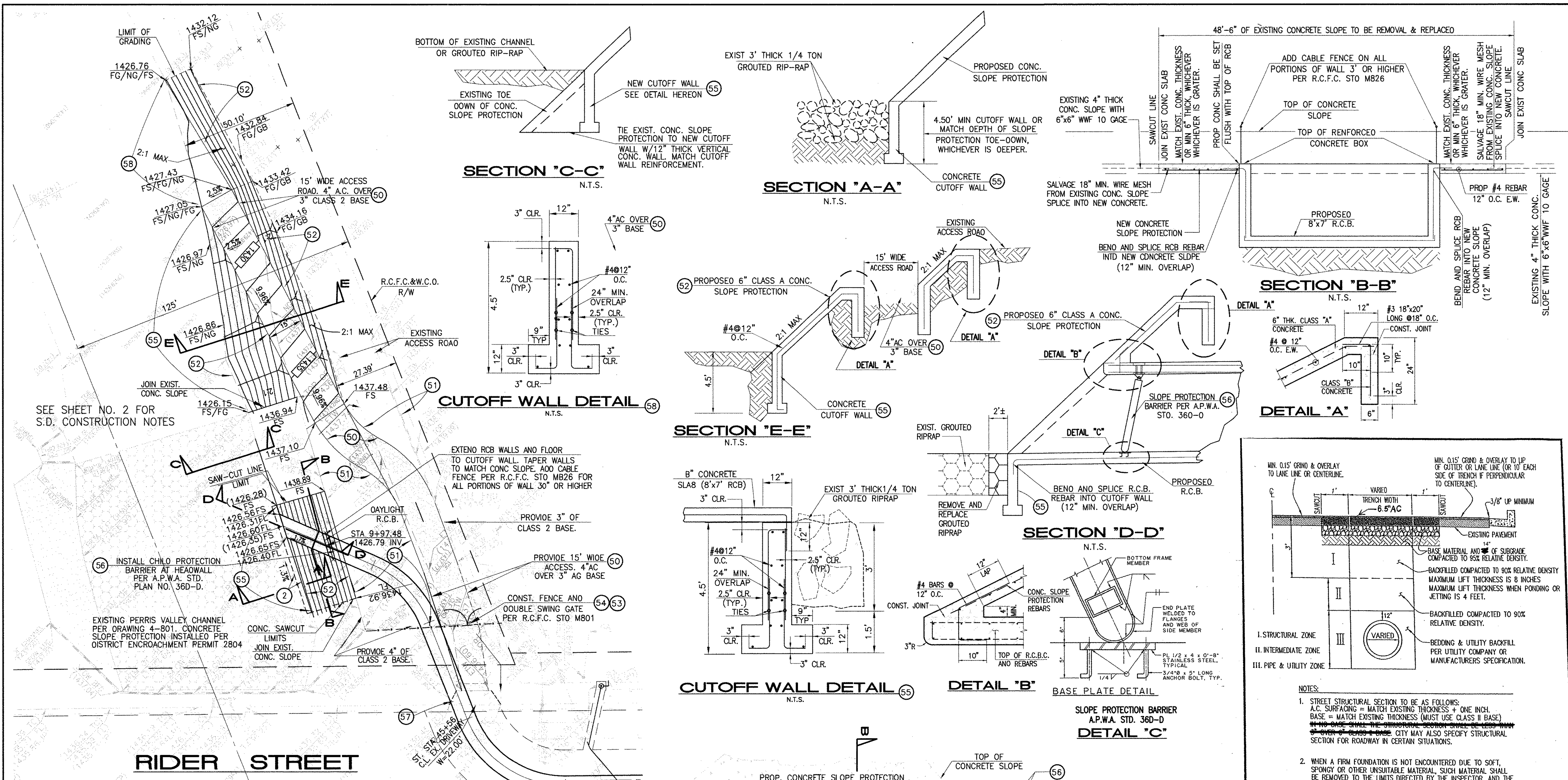


RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY: _____
 APPROVED BY: _____
 DATE: _____ DATE: _____

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

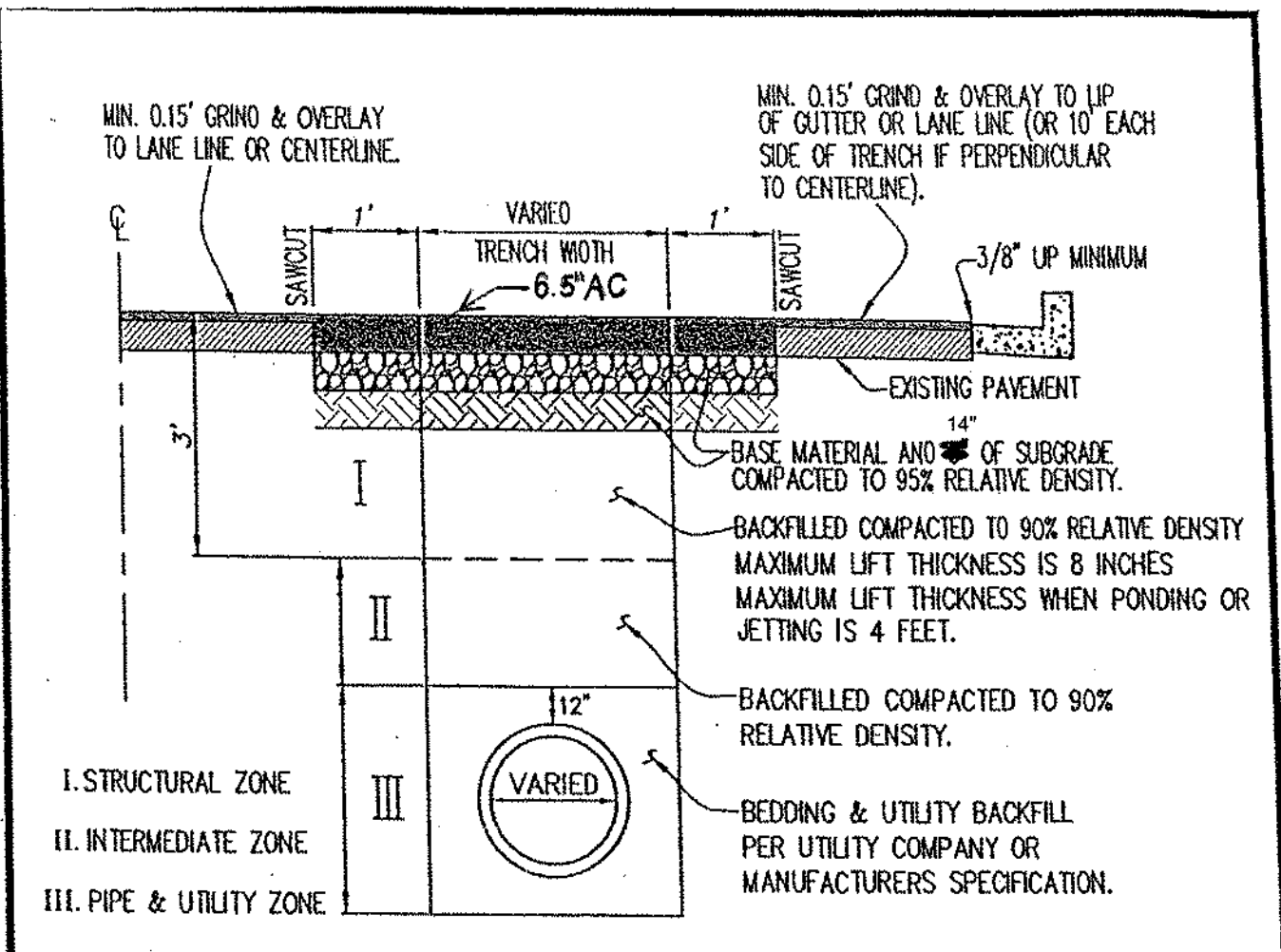
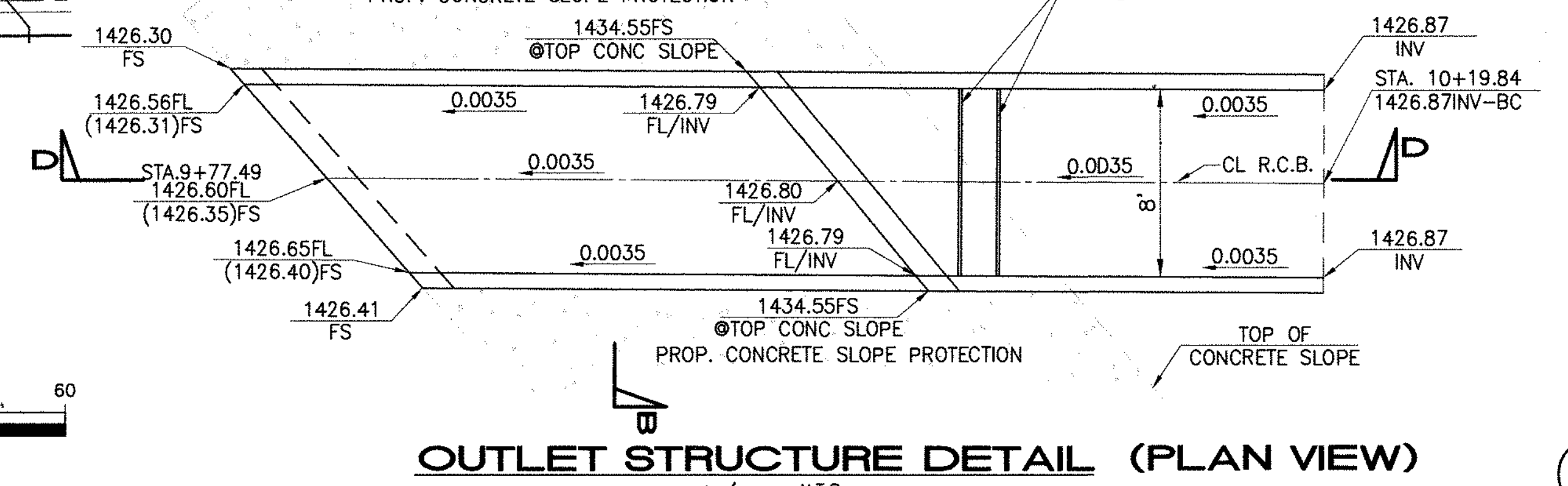
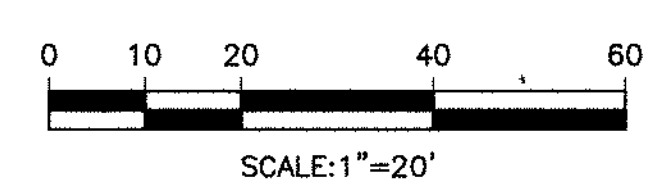
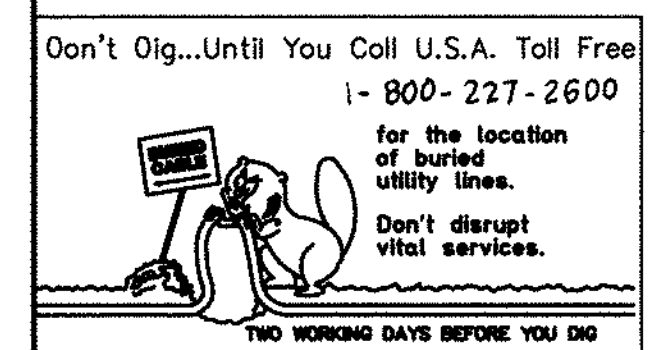


SEE SHEET NO. 2 FOR S.D. CONSTRUCTION NOTES

RIDER STREET

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. STO. 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.



NOTES:
 1. STREET STRUCTURAL SECTION TO BE AS FOLLOWS:
 A.C. SURFACING = MATCH EXISTING THICKNESS + ONE INCH.
 BASE = MATCH EXISTING THICKNESS (MUST USE CLASS II BASE)
 NO BASE SHALL BE STRUCTURAL SECTION SHALL BE LESS THAN 4" OVER 6" DEEP. CITY MAY ALSO SPECIFY STRUCTURAL SECTION FOR ROADWAY IN CERTAIN SITUATIONS.
 2. 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.
 3. CONTRACTOR TO PROVIDE INSPECTOR COPY OF COMPACTION REPORTS PRIOR TO PAVING.

CITY OF PERRIS
 CITY STANDARD
 UTILITY TRENCH SURFACE REPAIR
 APPROVED BY: [Signature]
 CITY ENGINEER: [Signature] DATE: 7-12-16
 SCALE: NONE
 STD. NO. N/A

TRENCH AND SURFACE REPAIR DETAIL
 (18)
 PERRIS VALLEY MDP
 LINE "A-B"
 DETAILS
 CITY OF PERRIS
 PROJECT NO. 4-0-00537
 DRAWING NO. 4-1063
 SHEET NO. 18 OF 18

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE

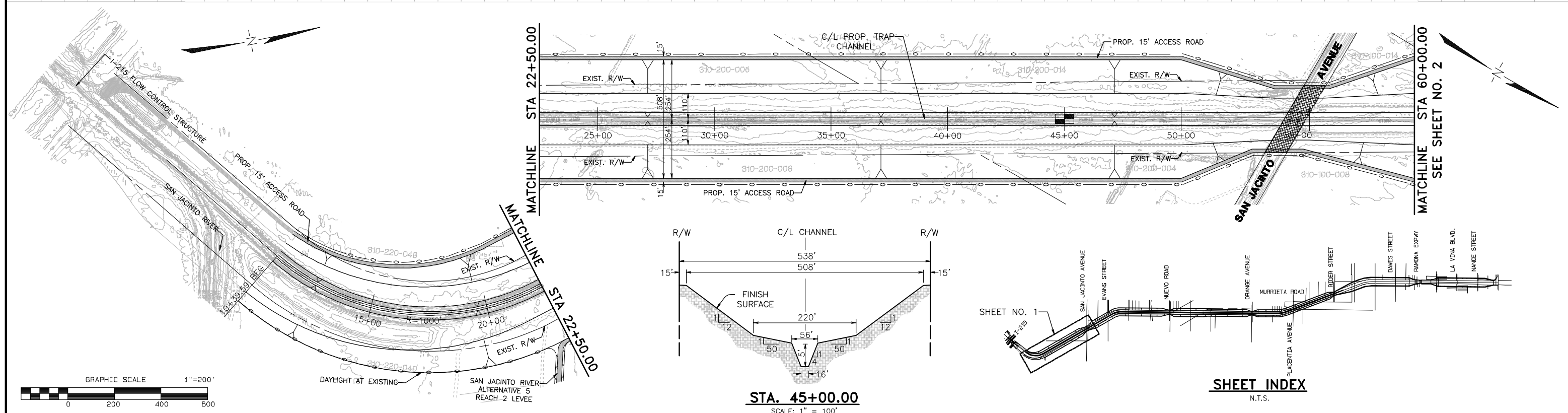
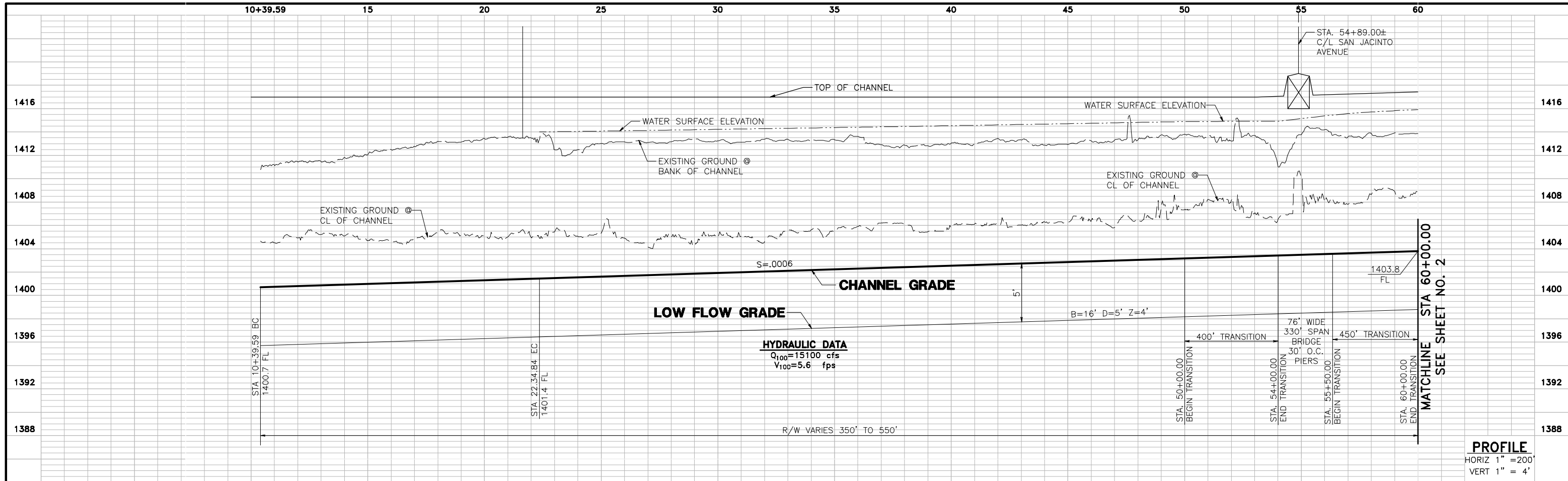
DESIGNED BY: **TH**
 DRAWN BY: **ET**
 DATE DRAWN:

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: 4/2/15
 APPROVED BY: [Signature]
 DATE: 1/2/2015

CITY OF PERRIS
 APPROVED BY: [Signature]
 CITY ENGINEER: [Signature] DATE: 2-15-14

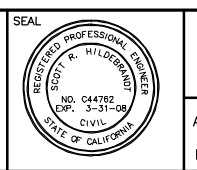
Appendix E: Ultimate Perris Valley Storm Drain Channel Plans



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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

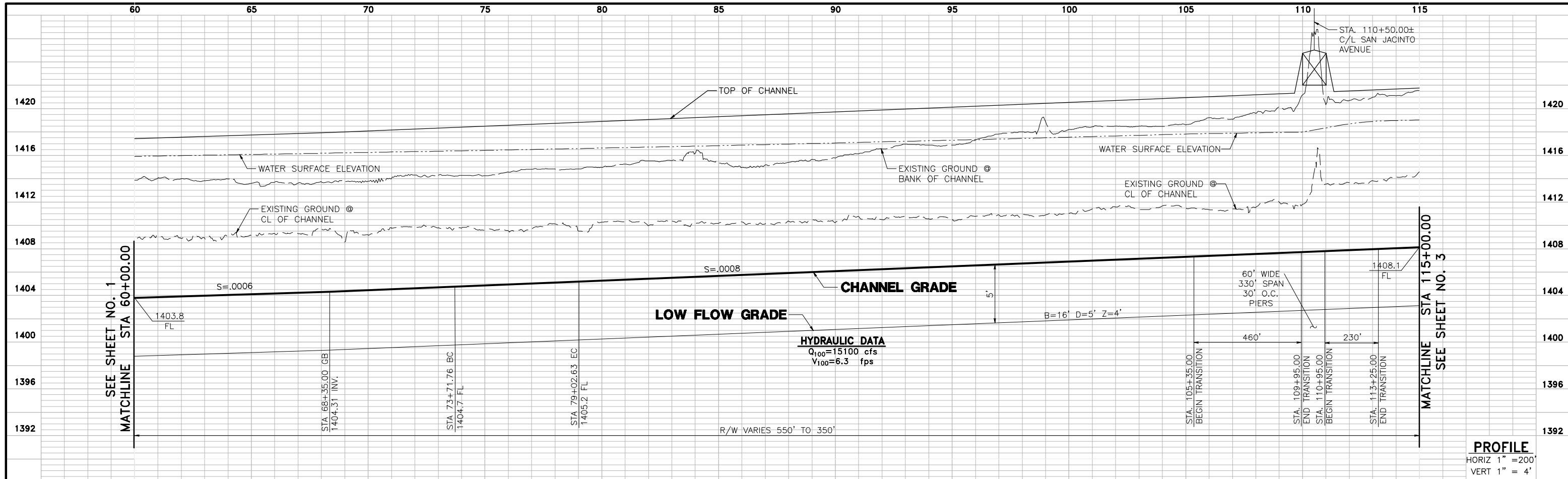
APPROVED BY: _____ DATE: _____
 R.C.E. NO. C44762 EXP. DATE: 3-31-08

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

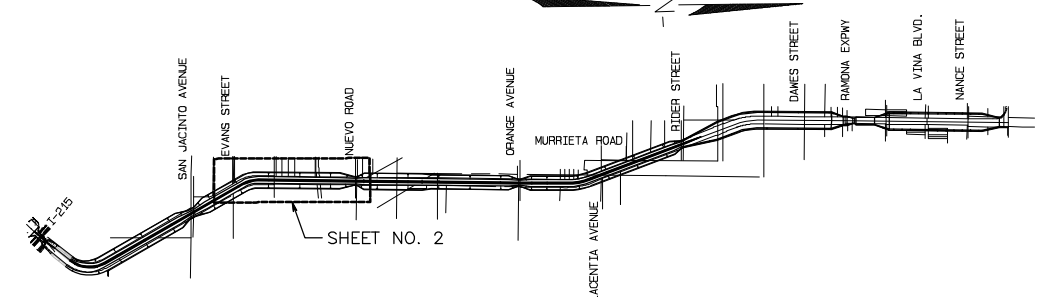
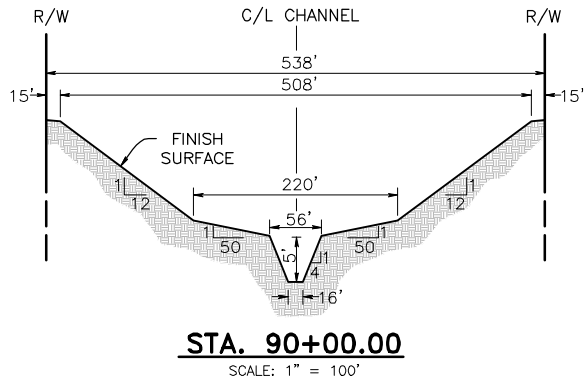
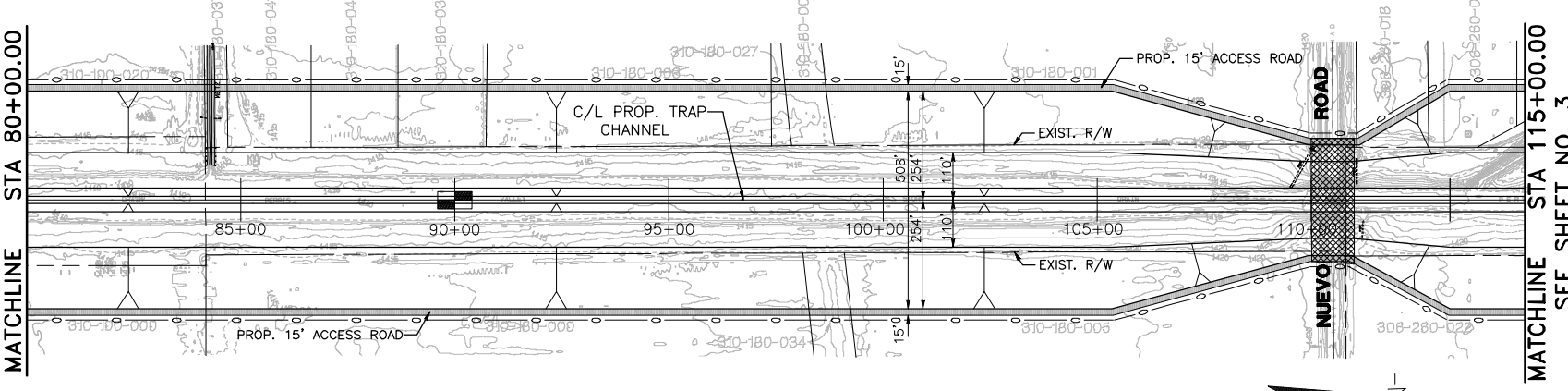
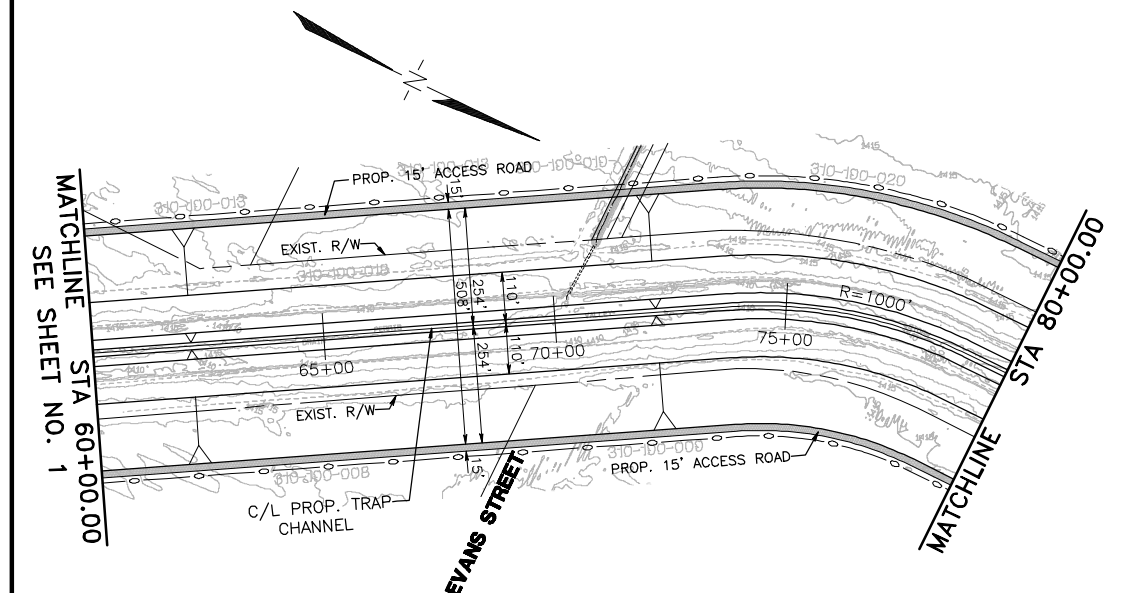
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PRELIMINARY PROFILE
PERRIS VALLEY STORM DRAIN
ALTERNATIVE 5

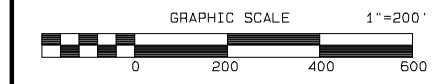
PROJECT NO. 03-0461
 DRAWING NO. ALTERNATIVE 5
 SHEET NO. 1 OF 6



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



SHEET INDEX
 N.T.S.



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PERRIS VALLEY STORM DRAIN ALTERNATIVE 5



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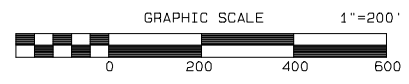
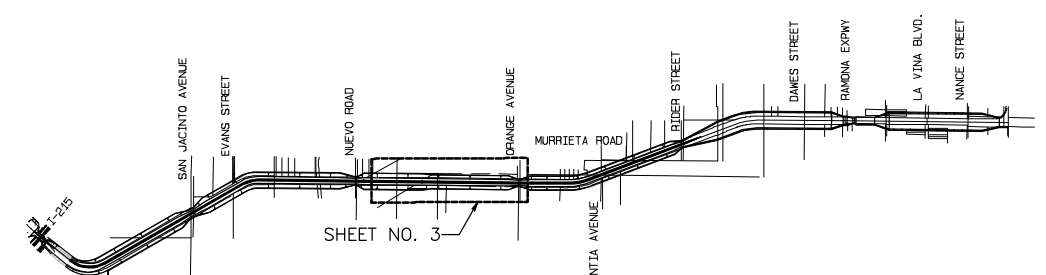
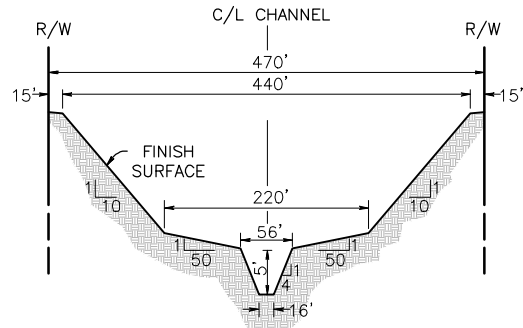
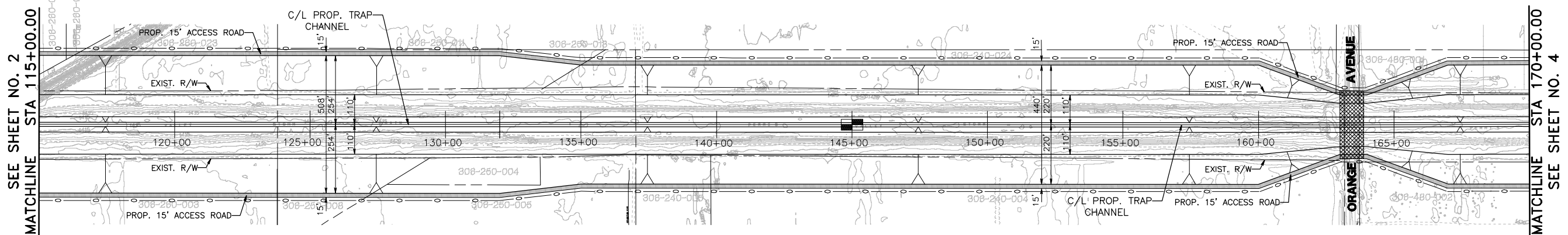
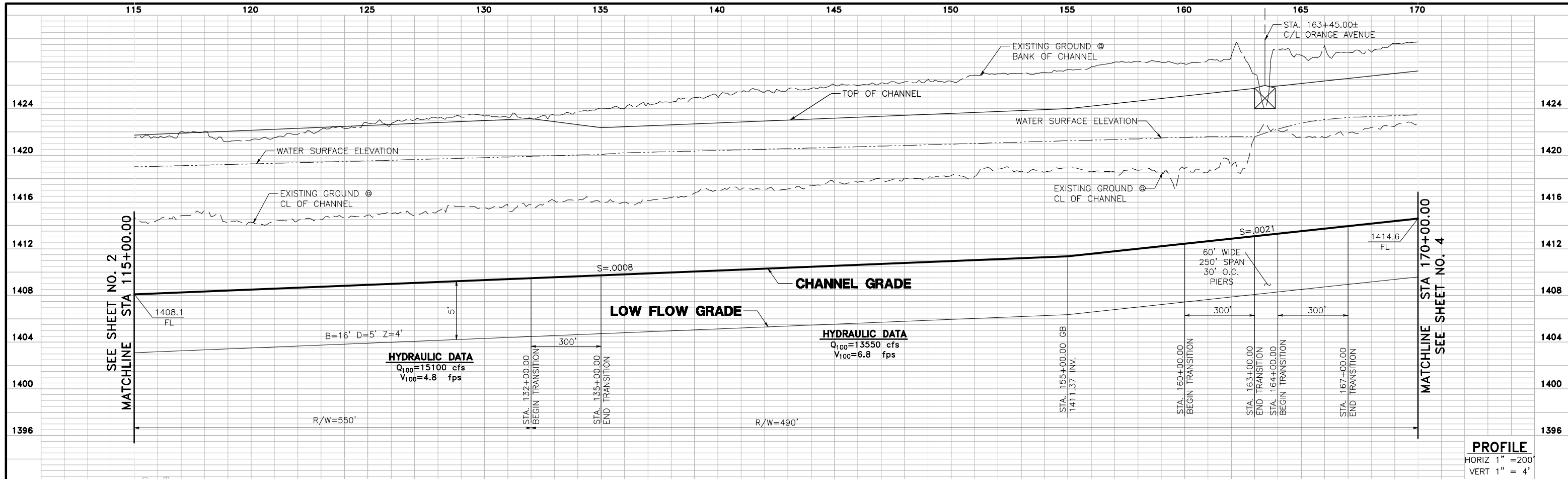
APPROVED BY: _____ DATE: _____
 R.C.E. NO. C44762 EXP. DATE: 3-31-08

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

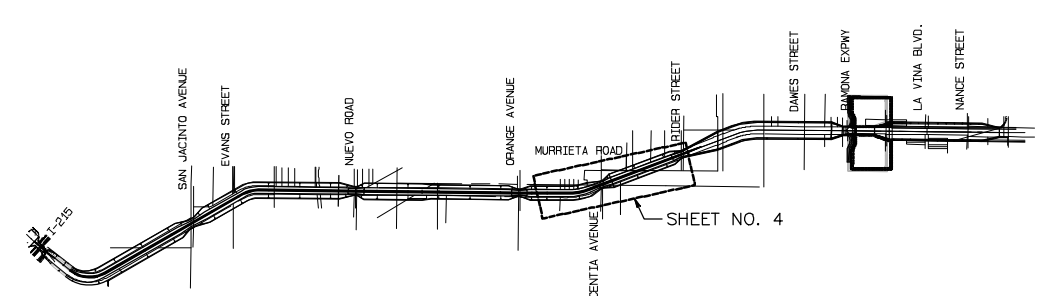
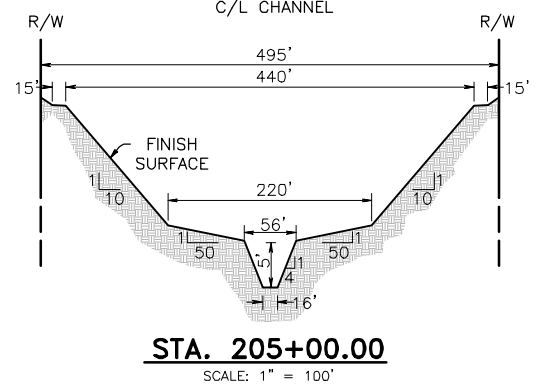
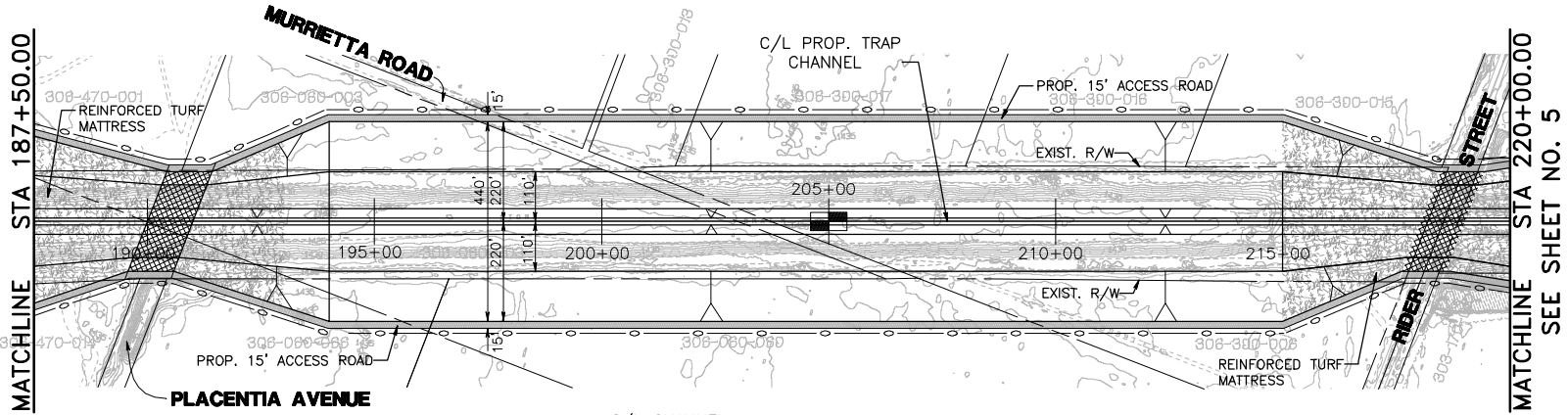
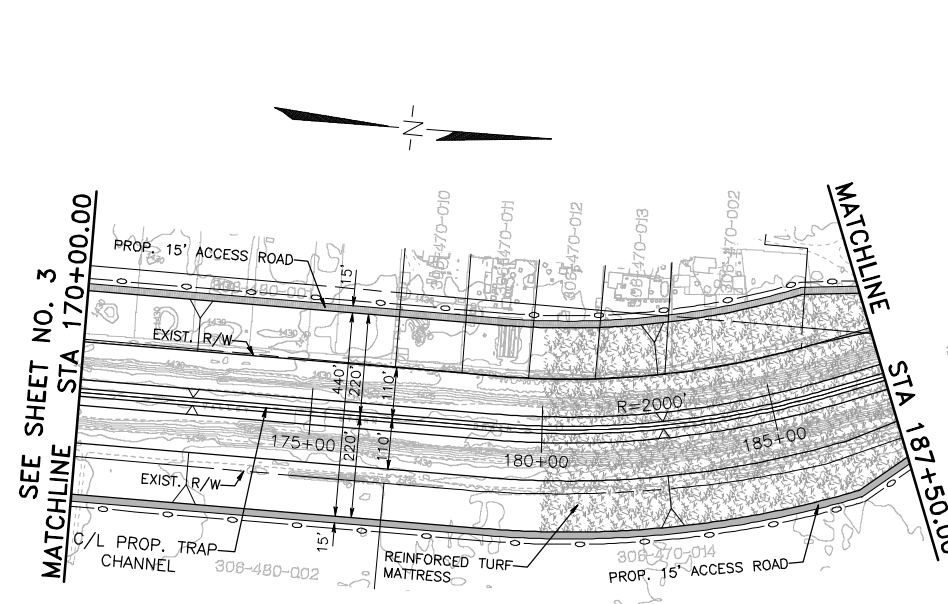
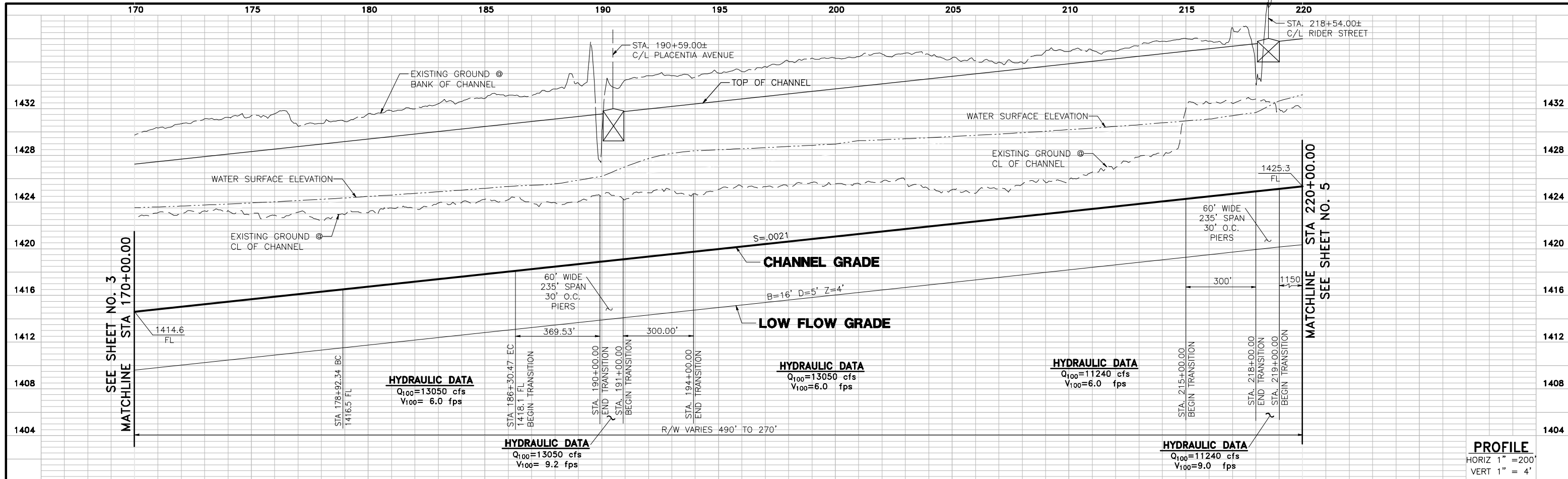
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DESIGNED BY: _____
 DRAWN BY: D.V.A.J.
 CHECKED BY: SRH

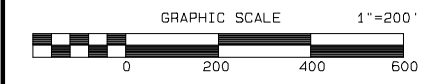
REVISIONS		
REF.	DESCRIPTION	APPR. DATE

**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



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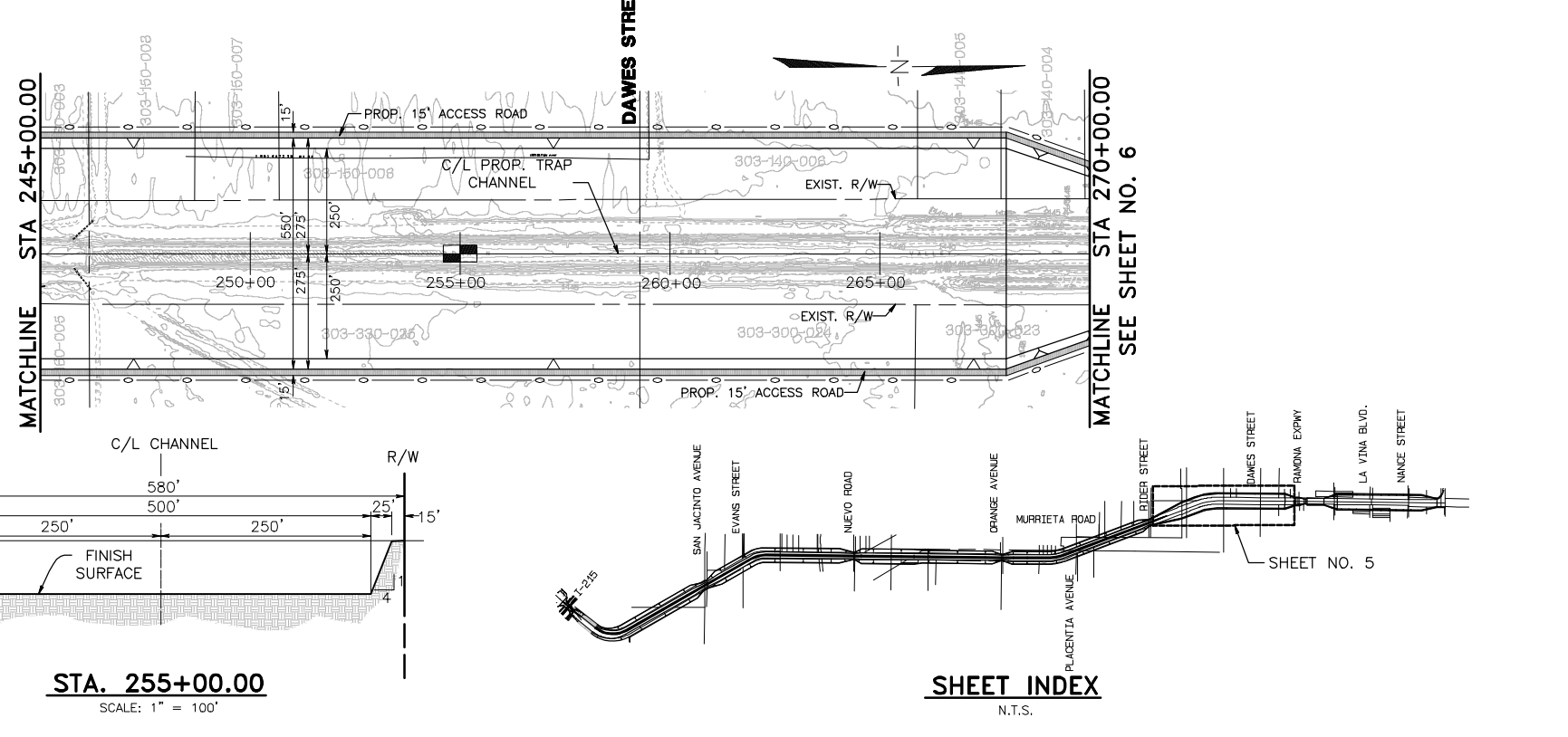
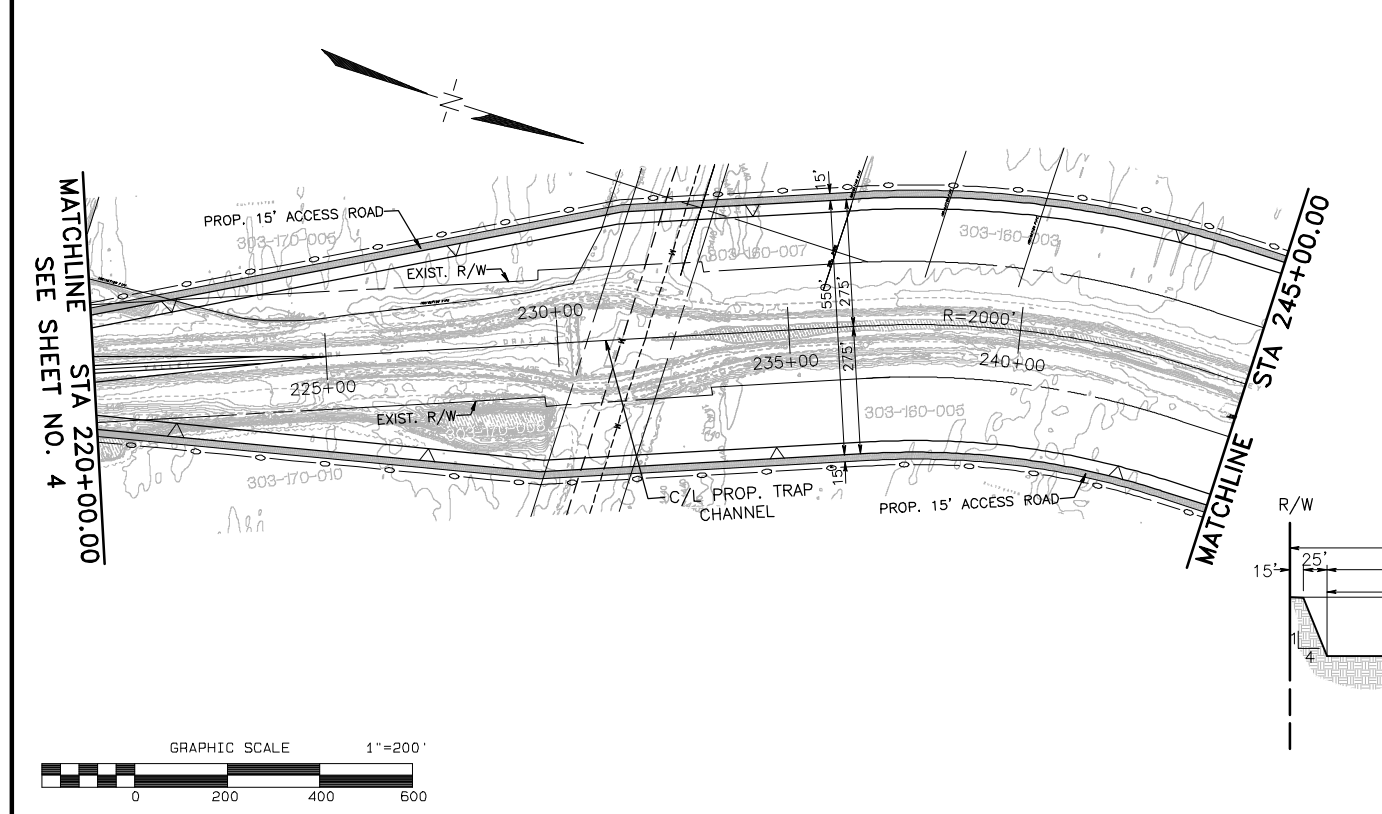
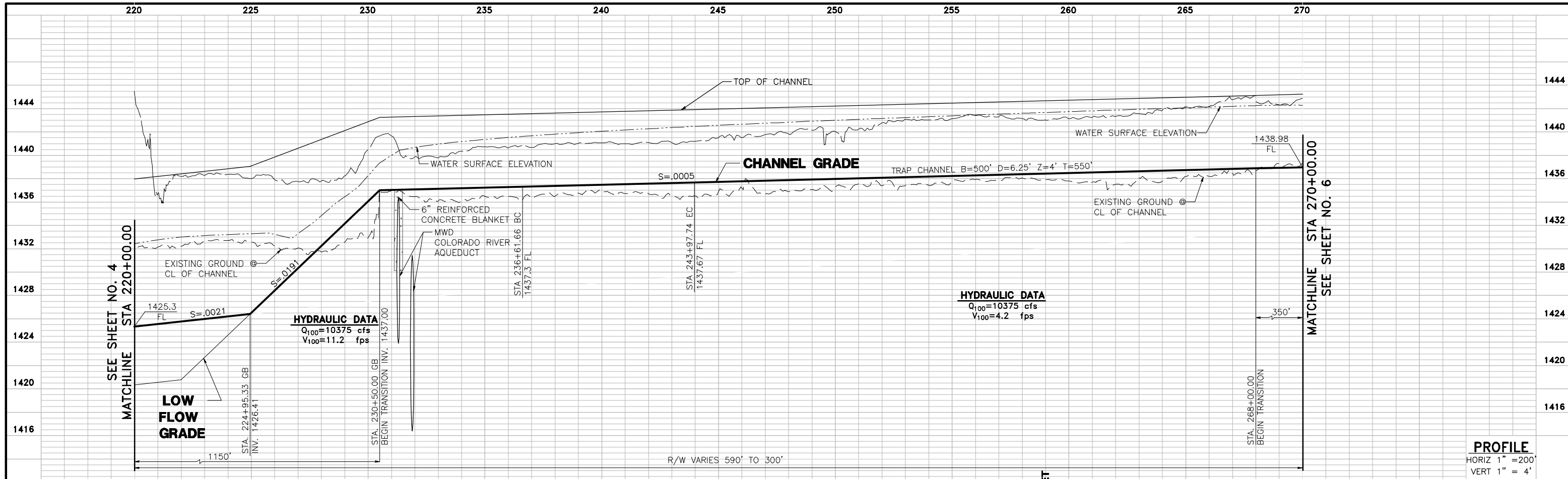
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 CHECKED BY: SRH

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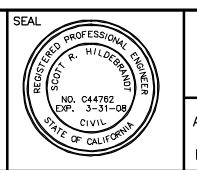
**PRELIMINARY PROFILE
 PERRIS VALLEY STORM DRAIN
 ALTERNATIVE 5**

PROJECT NO. 03-0461
 DRAWING NO. ALTERNATIVE 5
 SHEET NO. 4 OF 6



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PERRIS VALLEY STORM DRAIN ALTERNATIVE 5



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PH. (951) 686-1070 FAX (951) 788-1256

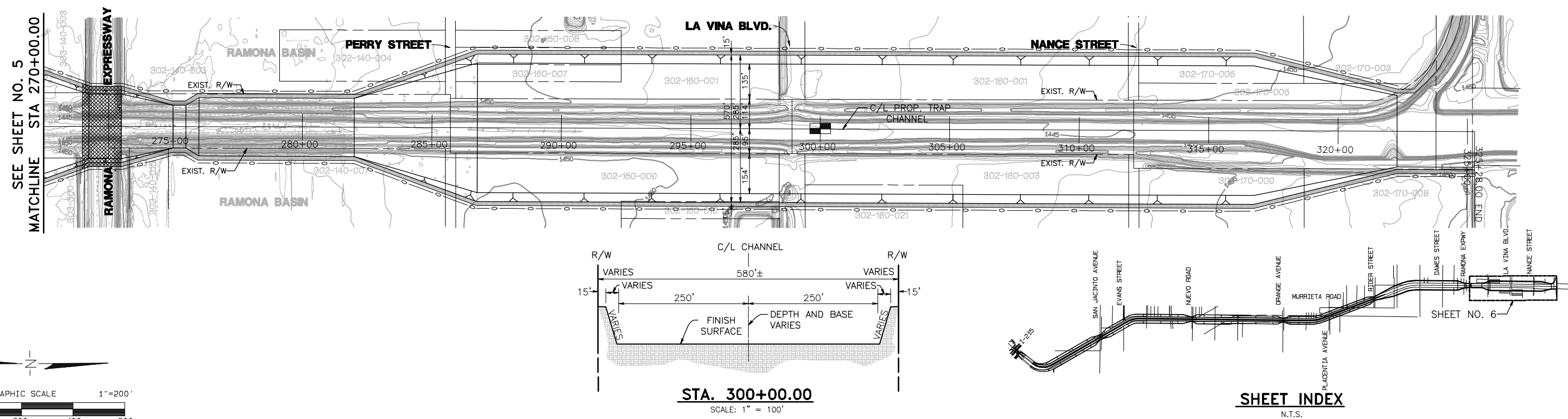
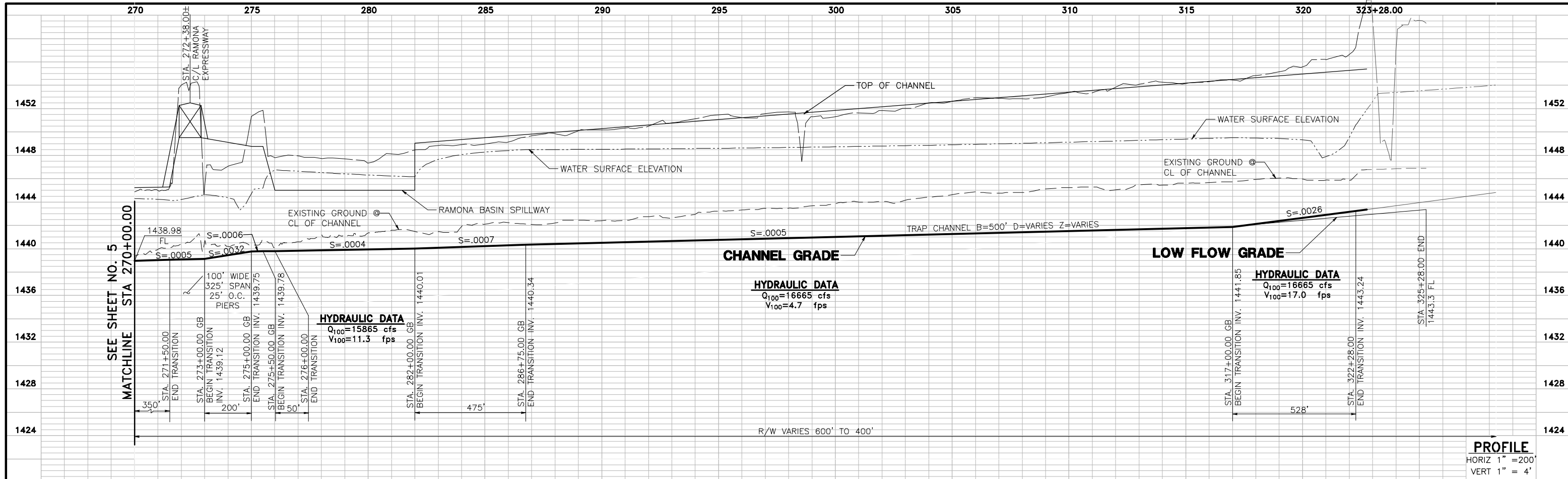
APPROVED BY: _____ DATE: _____
DESIGNED BY: _____
DRAWN BY: D.V.A.J.
CHECKED BY: SRH

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

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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PERRIS VALLEY STORM DRAIN ALTERNATIVE 5



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 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.
6 OF 6