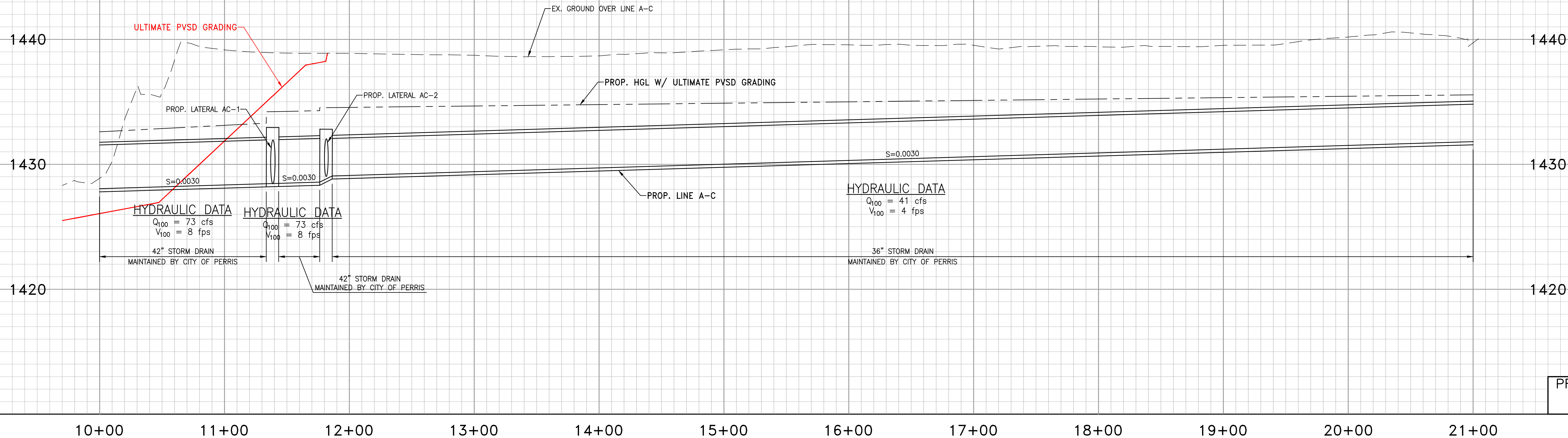


PAGE NO 3

LINEAC.EDT

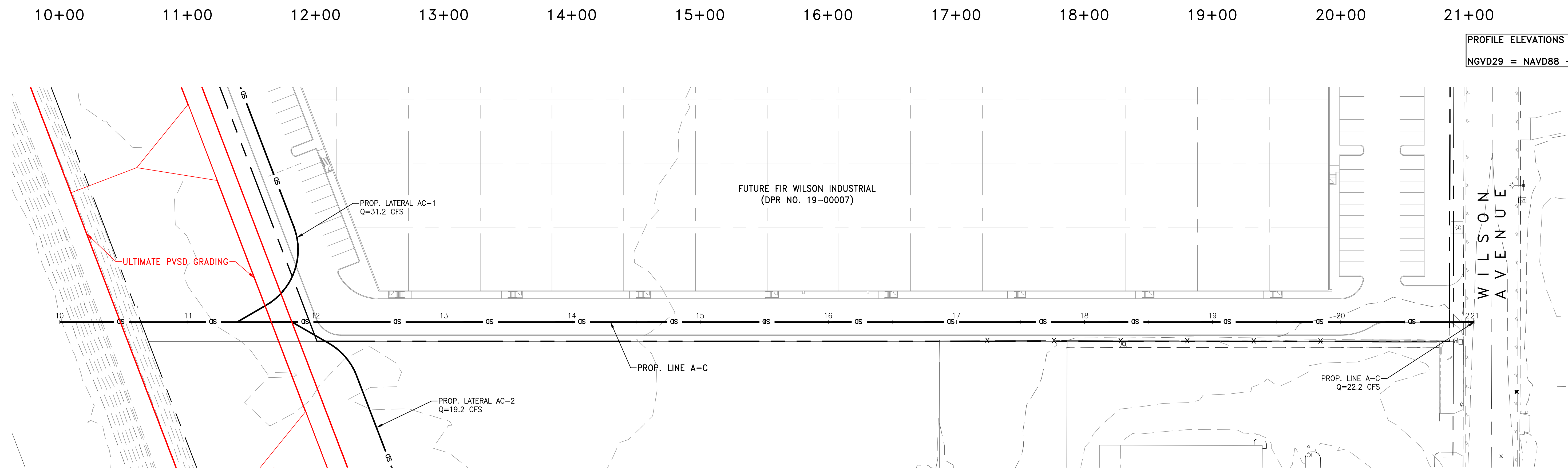
WATER SURFACE PROFILE - ELEMENT CARD LISTING



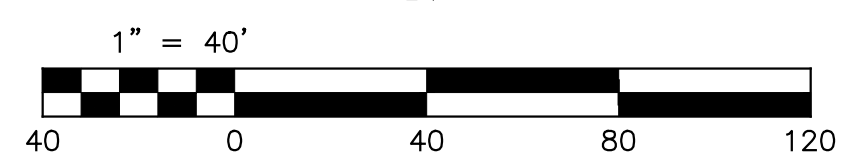
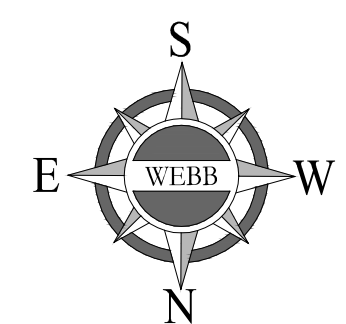


PROFILE SCALES  
 HORIZ. 1"=40'  
 VERT. 1"=4'

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

G:\2018\18-0305\DRAINAGE\PHD\DWG FOLDER\LINEAC\_Memo\_PLANPROFILE.DWG 2/12/2020 10:48:30 AM

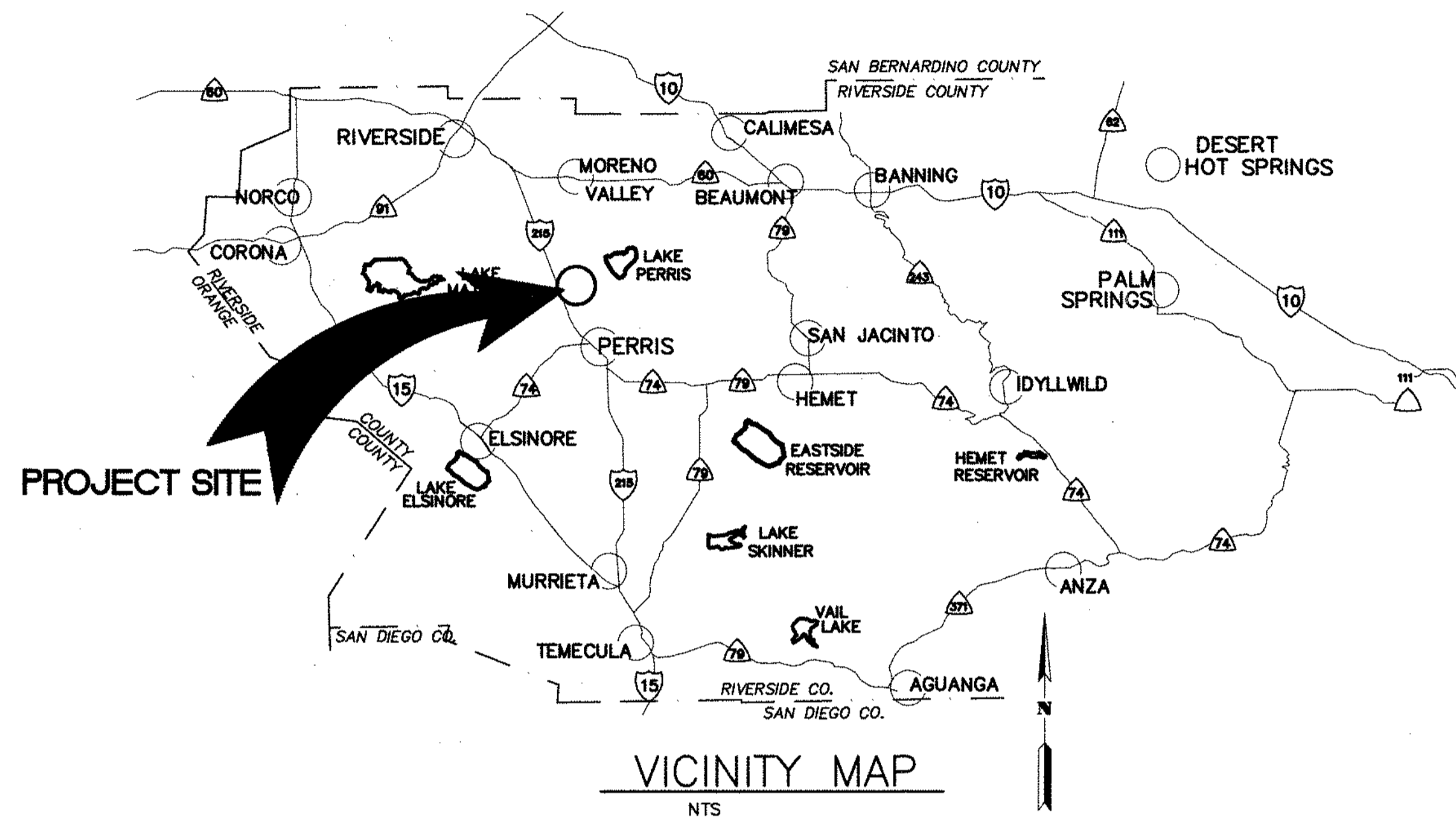
**Appendix D: Line A-B As-Built Plans**

# RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

## INDEX

SHEET NO.:

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



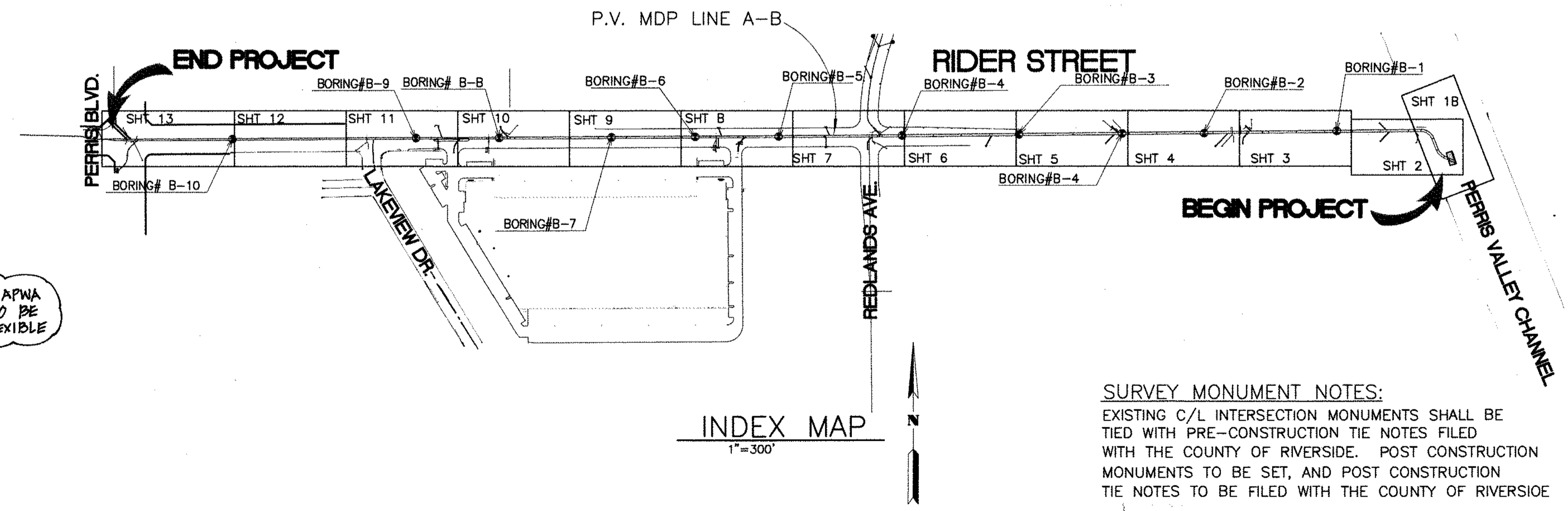
THE ULTIMATE H.C.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION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

### LEGEND:

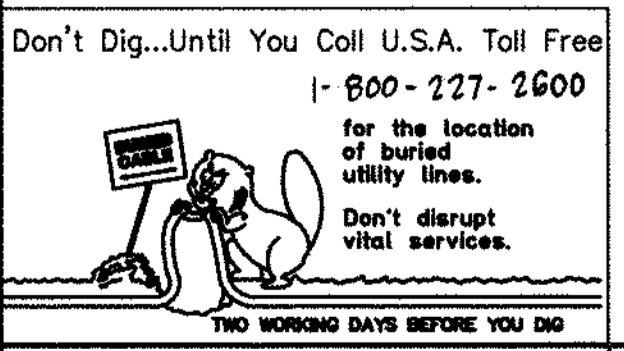
R	—PROPERTY LINE	F.P.	—FINISHED PAVEMENT
R/W	—RIGHT OF WAY	S.F.O.W	—SOUTH FACE OF WALL
CL	—CENTERLINE	N.F.O.W	—NORTH FACE OF WALL
T.C.	—TOP OF CURB	E.F.O.W	—EAST FACE OF WALL
F.L.	—FLOW LINE	W.F.O.W	—WEST FACE OF WALL
F.S.	—FINISH SURFACE	T.P.	—TOP OF PIPE
H.P.	—HIGH POINT	(0.00)	—EXISTING ELEVATION
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 CRADING OPERATIONS AND PRIOR TO CONSTRUCTION OF PERMANENT DRAINAGE STRUCTURES, TEMPORARY DRAINAGE CONTROL SHOULD BE PROVIDED TO PREVENT PONDING WATER AND DAMAGE TO ADJACENT PROPERTIES.
- APPROVAL OF THESE PLANS BY THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT DOES NOT RELIEVE THE DEVELOPER'S ENGINEER OF RESPONSIBILITY FOR THE ENGINEERING DESIGN. IF FIELD CHANGES ARE REQUIRED, IT WILL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER TO MAKE THE NECESSARY CORRECTIONS.
- THE CONTRACTOR OR DEVELOPER SHALL SECURE ALL REQUIRED ENCROACHMENT AND/OR STATE AND FEDERAL REGULATORY PERMITS PRIOR TO THE COMMENCEMENT OF ANY WORK.
- THE CONCRETE COATING ON THE INSIDE OF ALL REINFORCED CONCRETE PIPES MUST BE INCREASED TO PROVIDE A MINIMUM OF 1-1/2 INCHES OVER THE REINFORCING AND INCREASED TO A MINIMUM OF 3-1/2 INCHES OVER REINFORCING FOR BOX CULVERT, WHEN DESIGN VELOCITIES EXCEED 20 FEET PER SECOND. THE CONCRETE DESIGN STRENGTH IN THESE REACHES SHALL BE F'c=5,000 PSI FOR VELOCITIES EXCEEDING 20 FEET PER SECOND AND F'c=6,000 PSI FOR VELOCITIES EXCEEDING 30 FEET PER SECOND.
- CONSTRUCTION JOINTS FOR CALTRANS STANDARD REINFORCED CONCRETE BOX SHALL BE PLACED ACCORDING TO RCFC&WCD STANDARD DRAWING NO. BOX 401.



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



BENCH MARK  
COUNTY OF RIVERSIDE BENCHMARK NO. "M-31"  
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB LOCATED AT THE CROSSING OF PERRIS BLVD. AND RIV. CO. FLOOD CONTROL CHANNEL (PERRIS LATERAL) 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 1828)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE
1	CHANGED CLP ROB TO PRE-CAST ROB PER APWA 390.0	H.I.A.	2/23/16	OK	2/23/16
2	NEW 10" B. CHANNELS 42' WAT TO 24' WAT, ADDED	H.I.A.	2/23/16	OK	2/23/16
3	EX. UTILITIES, RELOCATE UTILITIES, REV. 2D.	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  
*Seidman K. Agayan* Date: 11/18/14  
HAIDOOK I. AGHAJAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

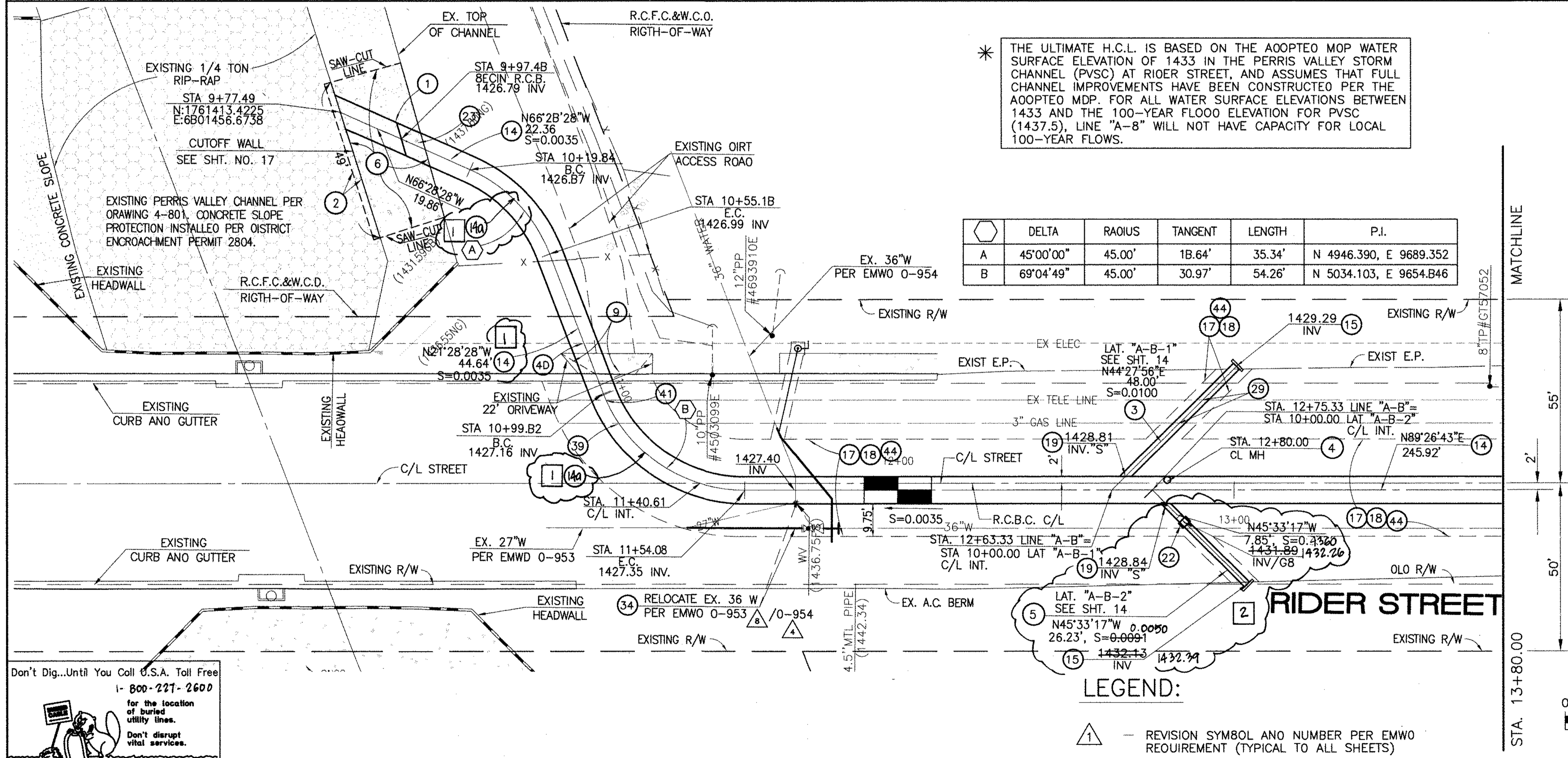
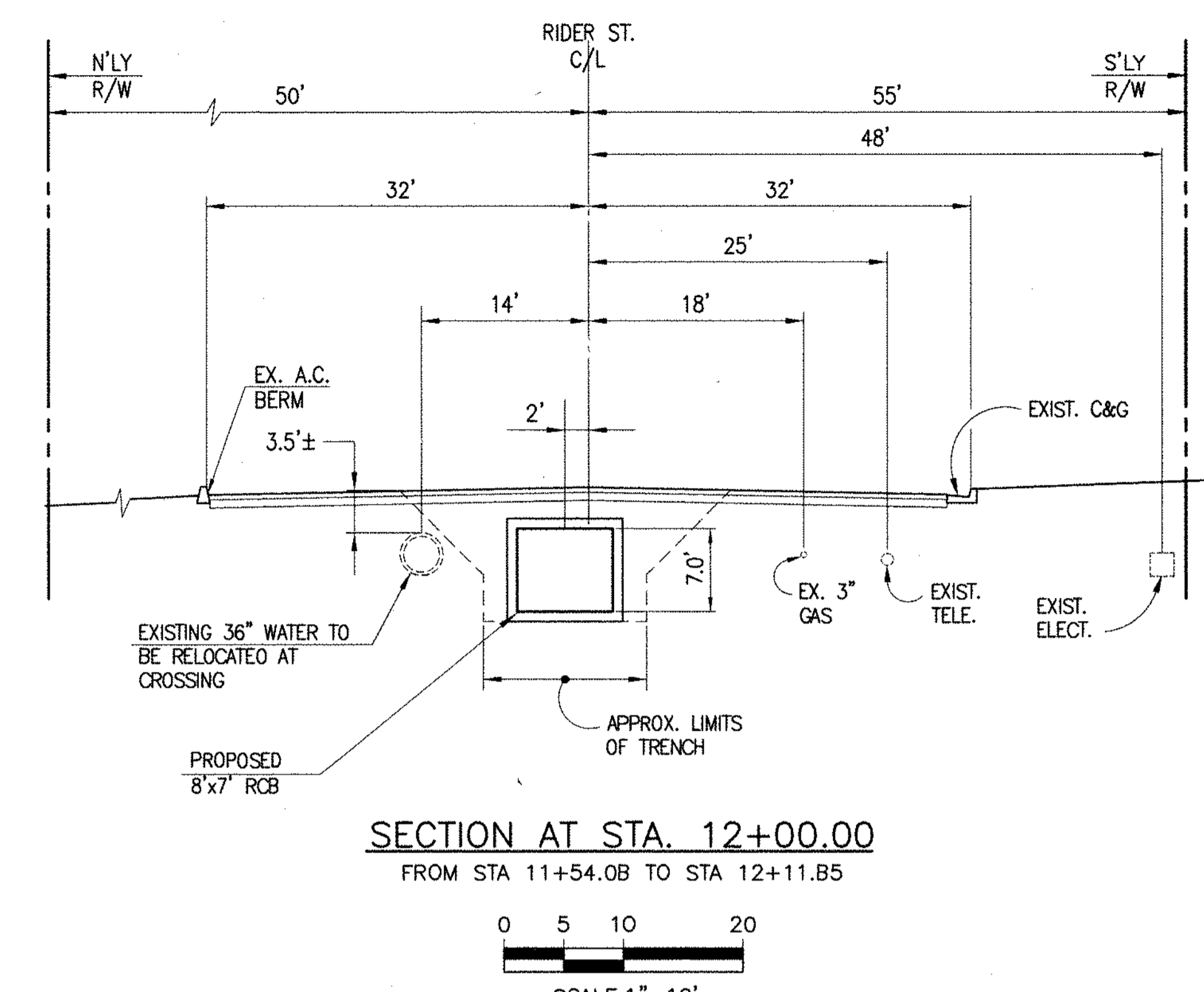
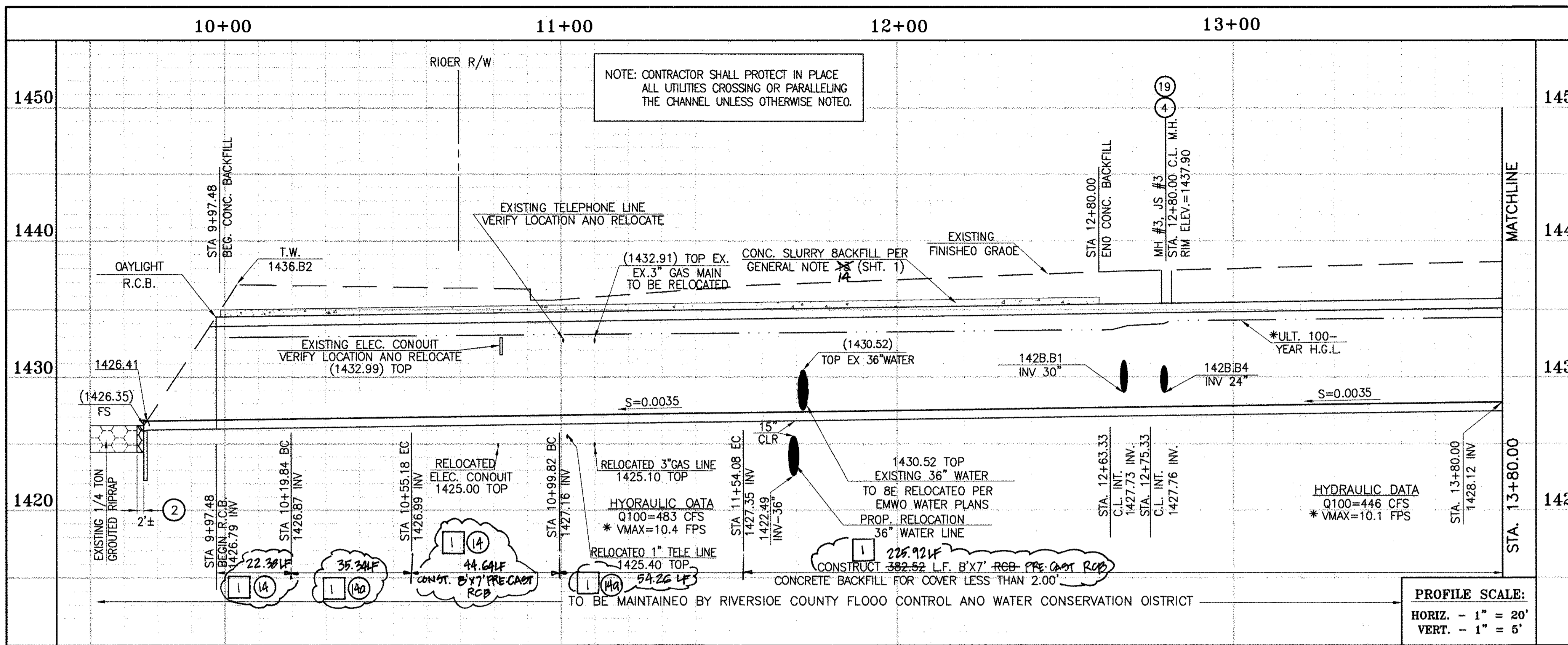
RECOMMENDED FOR APPROVAL BY: *Mark A. Willey*  
PLANNING ENGINEER  
DATE: 1/20/2015

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

CITY OF PERRIS APPROVED BY: *[Signature]*  
CITY ENGINEER  
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:**
- 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.
  - REMOVE AND REPLACE APPROXIMATELY 2' WIDE 1/4 TON GROUDED RIPRAP, MATCH EXISTING THICKNESS.
  - CONSTRUCT 30" R.C.P. 0-LOAD PER PLAN.
  - CONSTRUCT MANHOLE NO. 3 PER R.C.F.C.&W.C.O. STO OWC. MH253
  - CONSTRUCT 24" R.C.P. 0-LOAD PER PLAN.
  - 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.
  - REMOVE AND REPLACE APPROACH EXISTING DRIVEWAY (SEE SHEET NO. 1B).
  - CONSTRUCT 8' x 7' RCB PER CALTRANS STD PLAN NO. OBO. 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'
  - CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C.&W.C.D. STO. OWG. MB16
  - SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
  - 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'.
  - CONSTRUCT JUNCTION STRUCTURE NO. 3 PER R.C.F.C.&W.C.O. STD. OWG. JS228.
  - CONSTRUCT CONCRETE COLLAR PER R.C.F.C.&W.C.O. STO OWG. MB03.
  - CONSTRUCT SLOPE PROTECTION BARRIER PER A.P.W.A. STO. PLAN NO. 360-0.
  - PROTECT IN PLACE EXISTING UTILITY
  - RELOCATE EXISTING WATER LINE PER E.M.W.O. PLANS.
  - RELOCATE EXISTING GAS LINE.
  - RELOCATE EXISTING ELECTRICAL LINE.
  - RELOCATE EXISTING TELEPHONE LINE.
  - SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 1B. SEE SEPARATE PAVING PLAN.
  - CONSTRUCT 8'x7' PRE-CAST RCB PER APWA STD PLAN 390-0 SEE JOINT SEALANT NOTE ON SHT. 1

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
1	CHANGED SLOPE TO 0.0035, ADDED MH, ADDED NEW 10" CHANGED 40" LAT TO 24" LAT, ADDED EX UTILITIES, RELOCATED UTILITIES, REVISED SP.	H.I.A.	2/3/14	J.S.	2/3/14
2	CHANGED C.P. RCB TO PRE-CAST RCB PER APWA 390-0	H.I.A.	2/3/14	J.S.	2/3/14

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

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

REGISTERED PROFESSIONAL ENGINEER  
HAIDOOK I. AGHAJAN  
R.C.E. NO. 43293  
Exp. 3-31-18  
CIVIL  
STATE OF CALIFORNIA

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

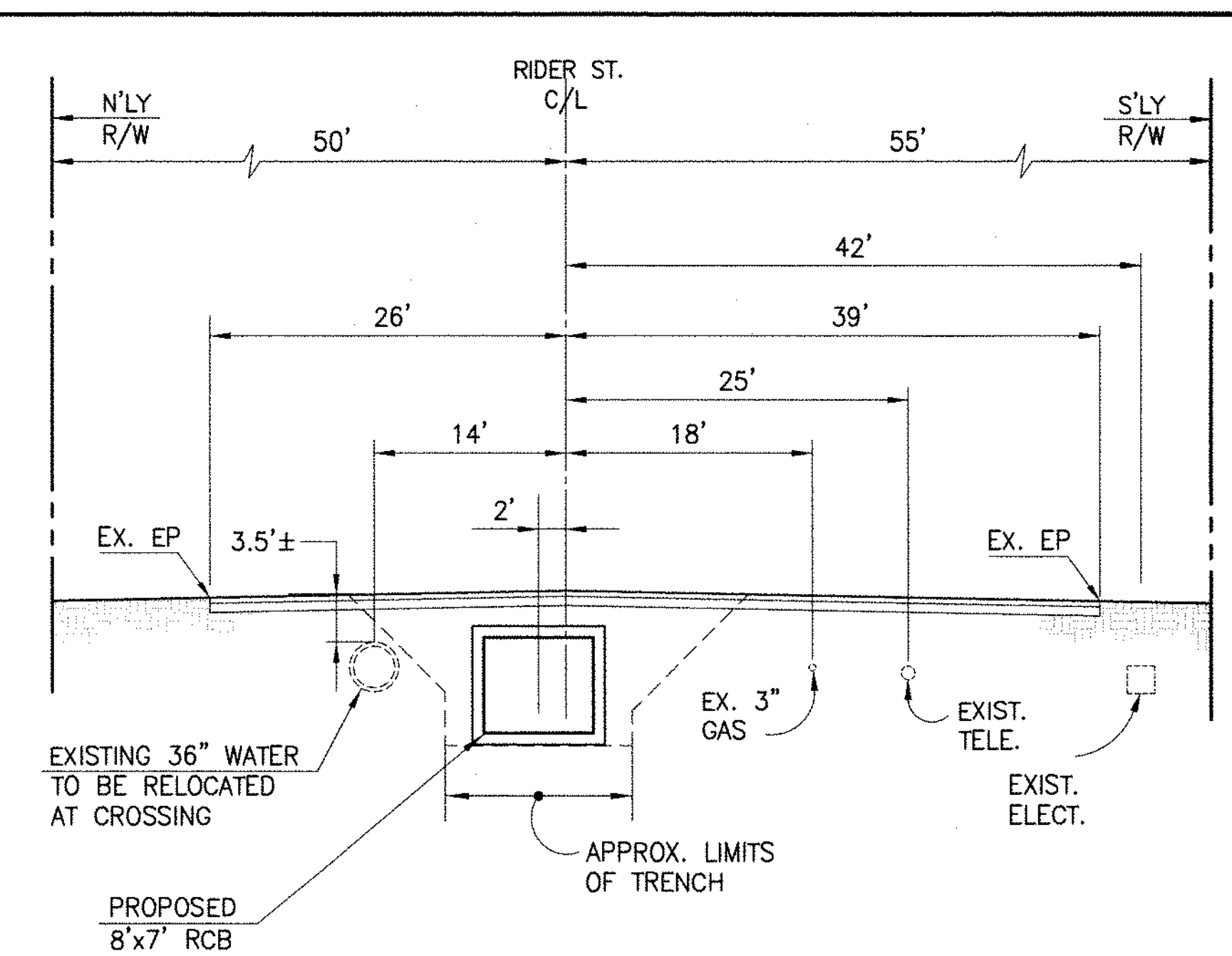
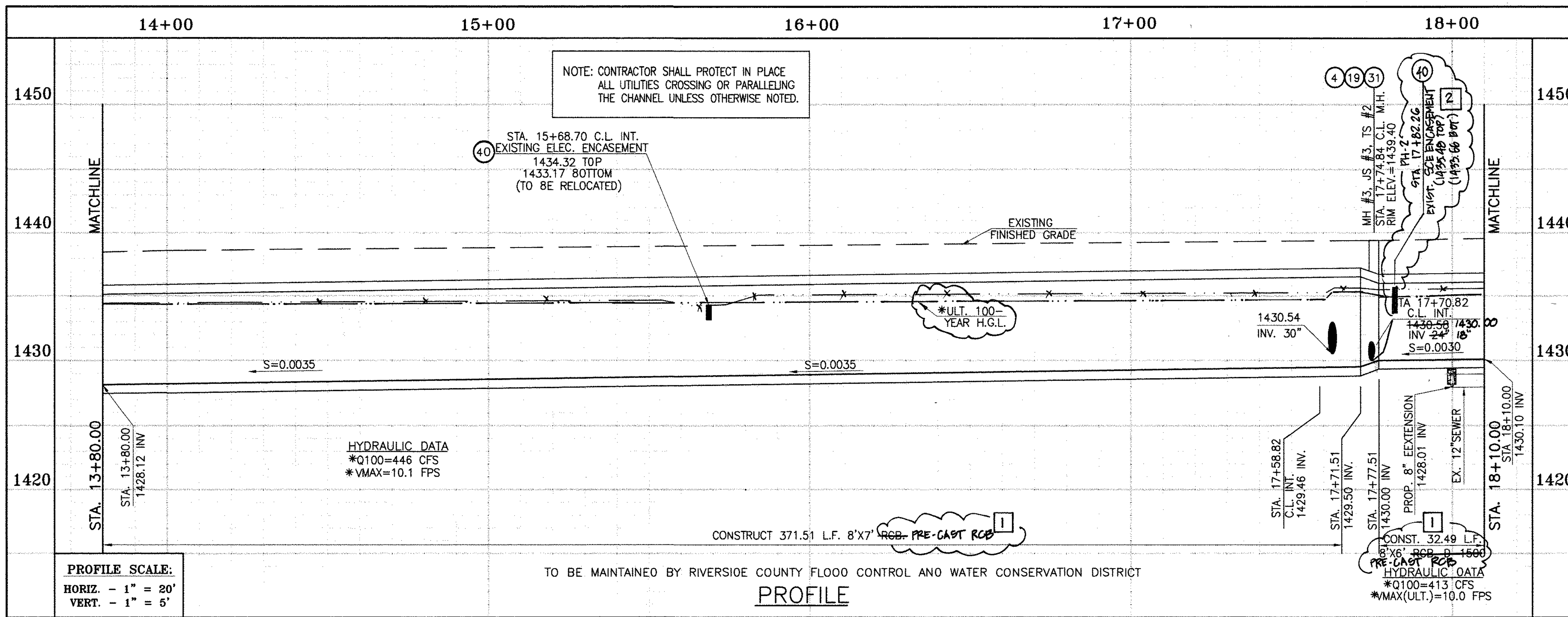
RECOMMENDED FOR APPROVAL BY: **[Signature]**  
DATE: **1/20/2015**

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

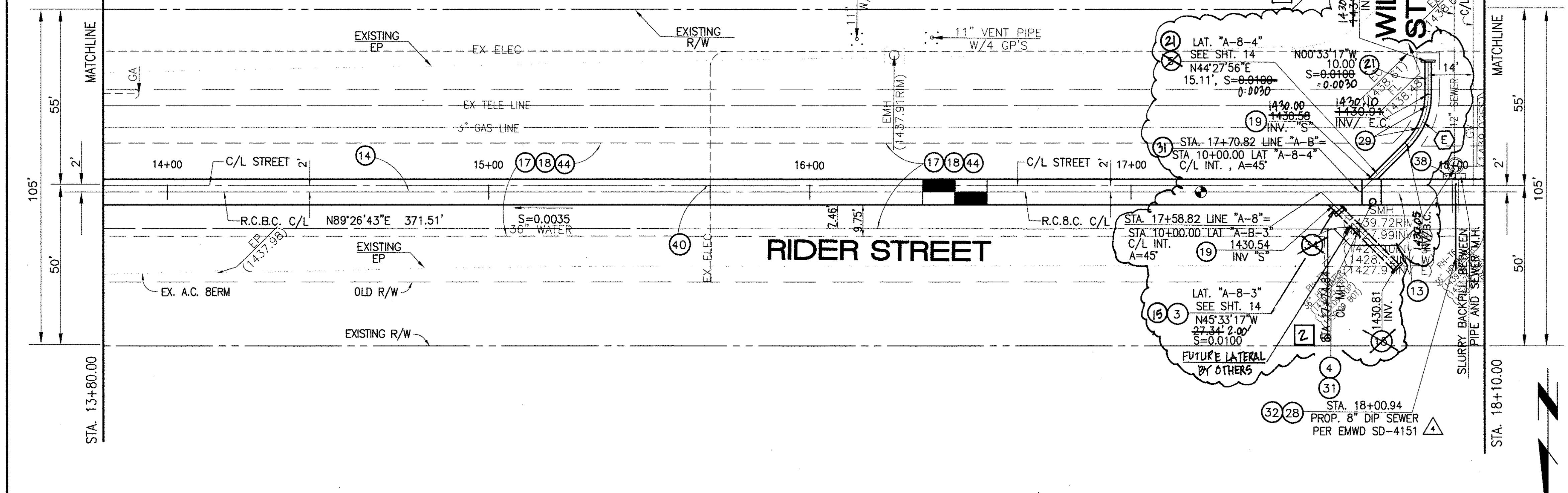
PROJECT NO. **4-0-00537**  
DRAWING NO. **4-1063**  
SHEET NO. **2 OF 18**



\* 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.

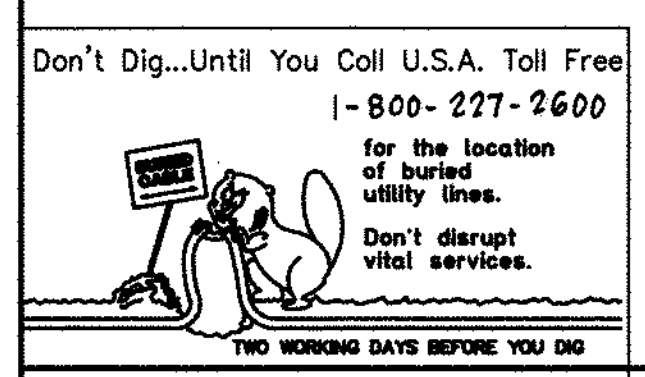
CAUTION:  
PROPOSED WORK IS IN PROXIMITY OF HIGH PRESSURE GAS LINES

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:**

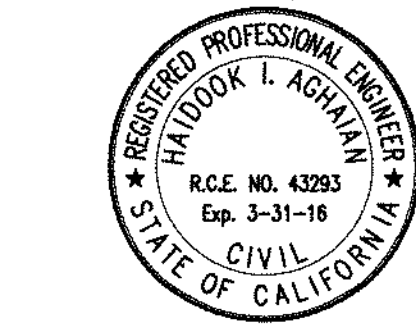
- 3) CONSTRUCT 30" R.C.P., 0-LOAD PER PLAN.
- 4) CONSTRUCT MANHOLE NO. 3 PER R.C.F.C.&W.C.D. STD DWG. MH253
- 5) CONSTRUCT 24" R.C.P., 0-LOAD PER PLAN.
- 13) CONSTRUCT 8' X 6' RCB PER CALTRANS STD PLAN NO. D80 OR APPROVED EQUAL. PRE-CAST RCB PER PLAN 3900 OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHT. 1.
- 14) CONSTRUCT 8' X 7' RCB PER CALTRANS STD PLAN NO. D80 OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHT. 1.
- 15) CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C.&W.C.D. STD DWG. M816.
- 17) SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
- 18) UTILITY TRENCH AND 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. OWG. JS228.
- 28) CONSTRUCT SEWER PROTECTION PER R.C.F.C.&W.C.O. STD. OWG. 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.	H.A.	2/3/16	2/23/16
1	CHANGED C.P. RCB TO PRE-CAST RCB PER PLAN 3900	H.A.	2/3/16	2/23/16

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

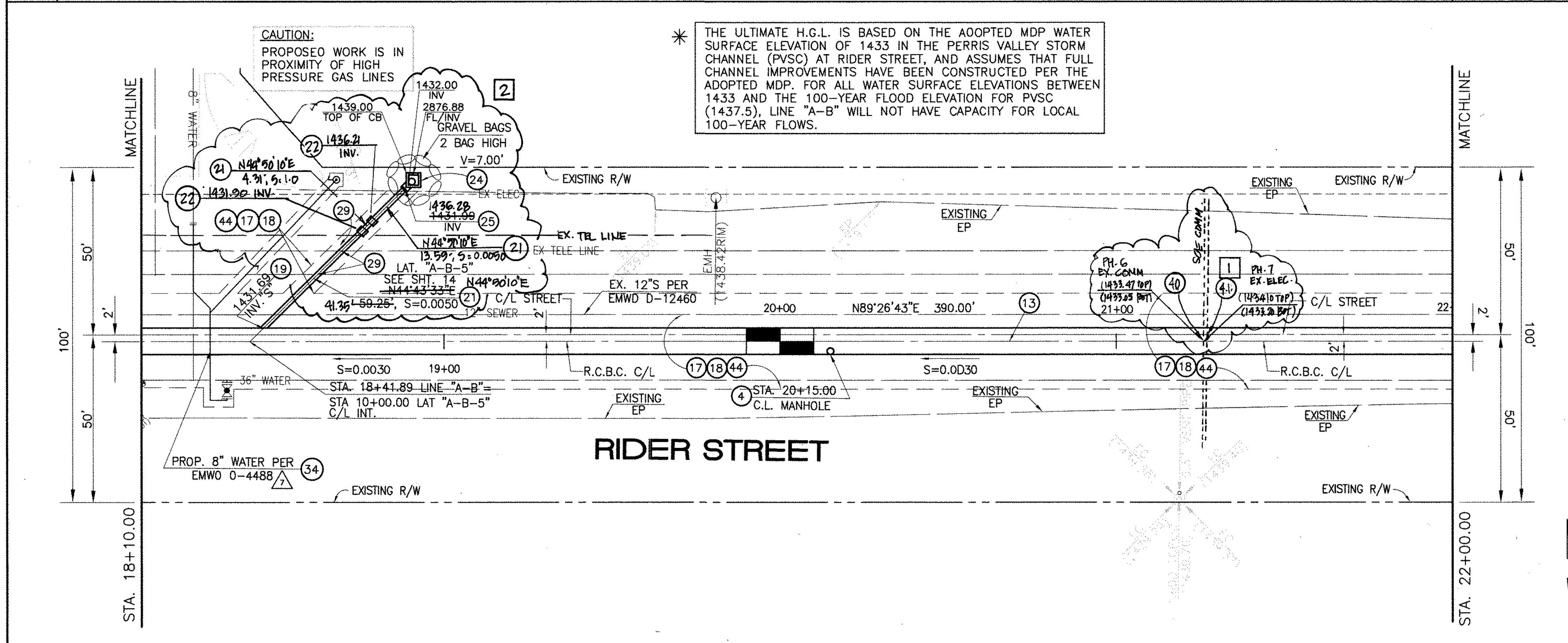
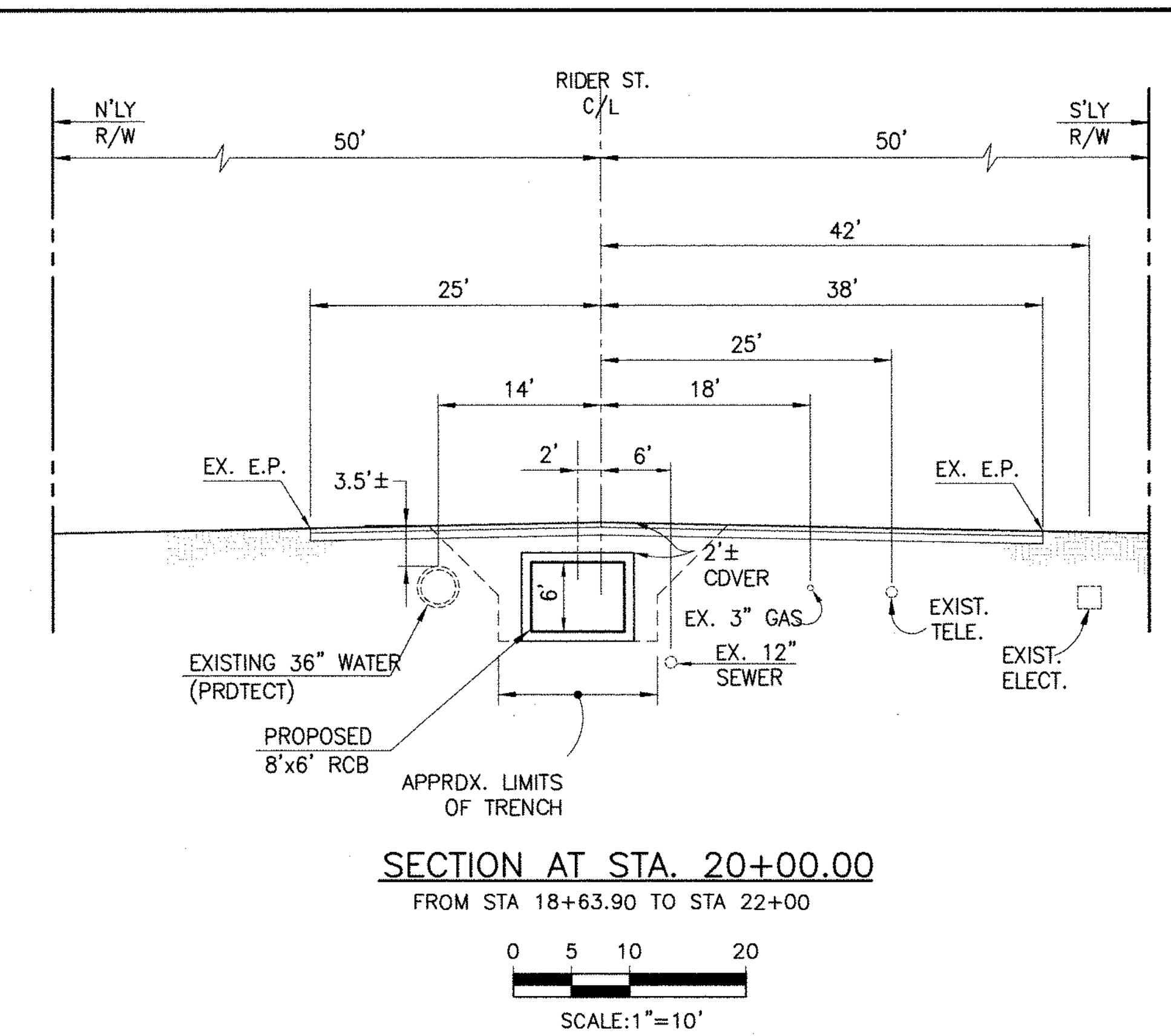
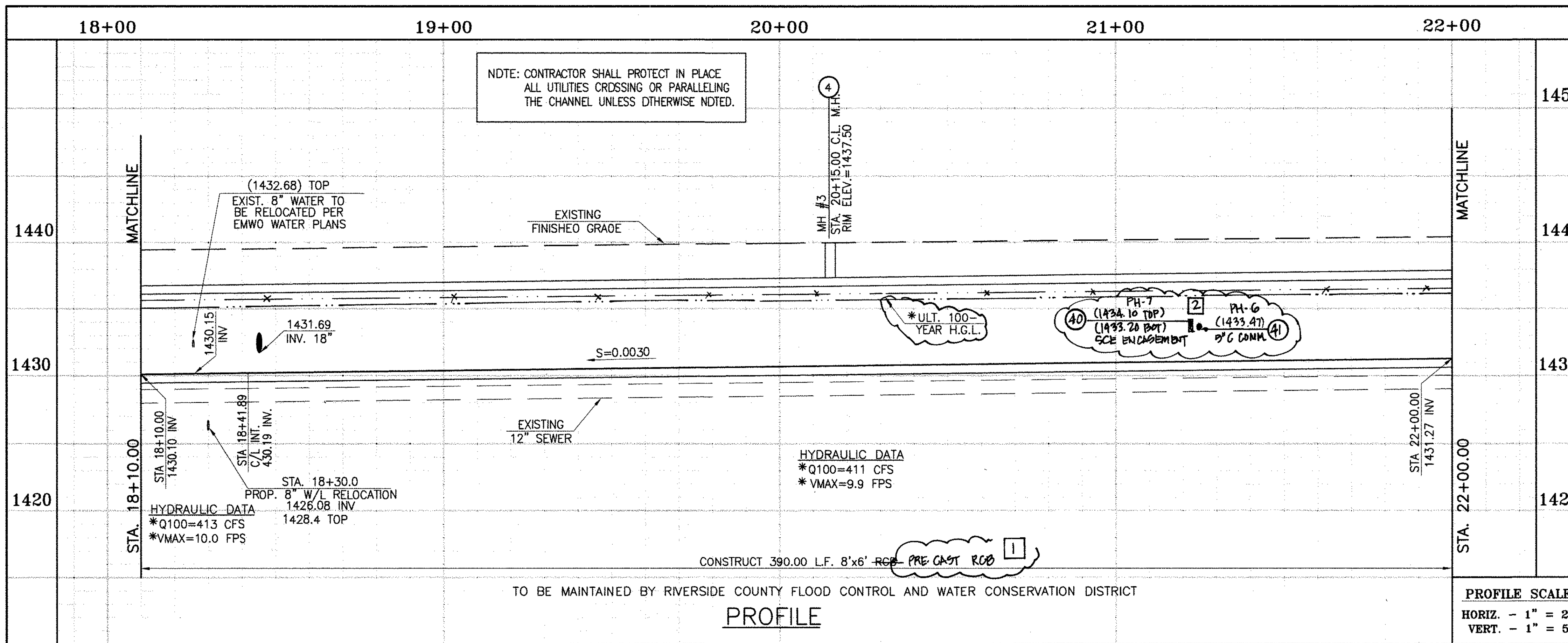


RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT  
RECOMMENDED FOR APPROVAL BY: [Signature]  
APPROVED BY: Mark H. Wilke  
DATE: 1/20/2015

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

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

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



- STORM DRAIN CONSTRUCTION NOTES:**
- ④ CONSTRUCT MANHOLE NO. 3 PER R.C.F.C.&W.C.O. STO DWG. MH253
  - ①⑬ 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 STANDARD ON SHT. NO. 18, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2.0'.
  - ⑲ CONSTRUCT JUNCTION STRUCTURE NO. 3 PER R.C.F.C.&W.C.O. STO. DWG. JS228.
  - ⑳ CONSTRUCT 18" R.C.P. 0-LOAD PER SHEET #14.
  - ㉑ CONSTRUCT CONCRETE ORDP INLET PER R.C.F.C.&W.C.O. STO DWG. CB110
  - ㉒ CONSTRUCT SPECIAL CONNECTION PER R.C.F.C.&W.C.O. STO DWG. CB109
  - ㉓ PROTECT IN PLACE EXISTING UTILITIES.
  - ㉔ RELOCATE EXISTING WATER LINE PER E.M.W.O. PLANS.
  - ㉕ SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STO. ON SHEET 18. SEE SEPARATE PAVING PLANS.
  - ㉖ CONSTRUCT CONCRETE COLLAR PER R.C.F.C.&W.C.O. STD DWG. MB03.
  - ㉗ RELOCATE EXISTING ELECTRICAL LINE.
  - ㉘ RELOCATE EXISTING TELEPHONE LINE.

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

**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, 17.43 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 0.0015 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:  
APPROVED BY: **THIENES ENGINEERING, INC.**  
CIVIL ENGINEERING • LAND SURVEYING  
14349 FIRESTONE BOULEVARD  
LA MIRADA, CALIFORNIA 90638  
PH: (714) 521-4811 FAX: (714) 521-4173  
Date: 11/18/14  
HAIDOOK I. AGHAIAN RCE NO. 43293

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT  
RECOMMENDED FOR APPROVAL BY: **Mark H. Willis**  
DATE: 1/20/2015  
APPROVED BY: **Mark H. Willis**  
DATE: 1/20/2015

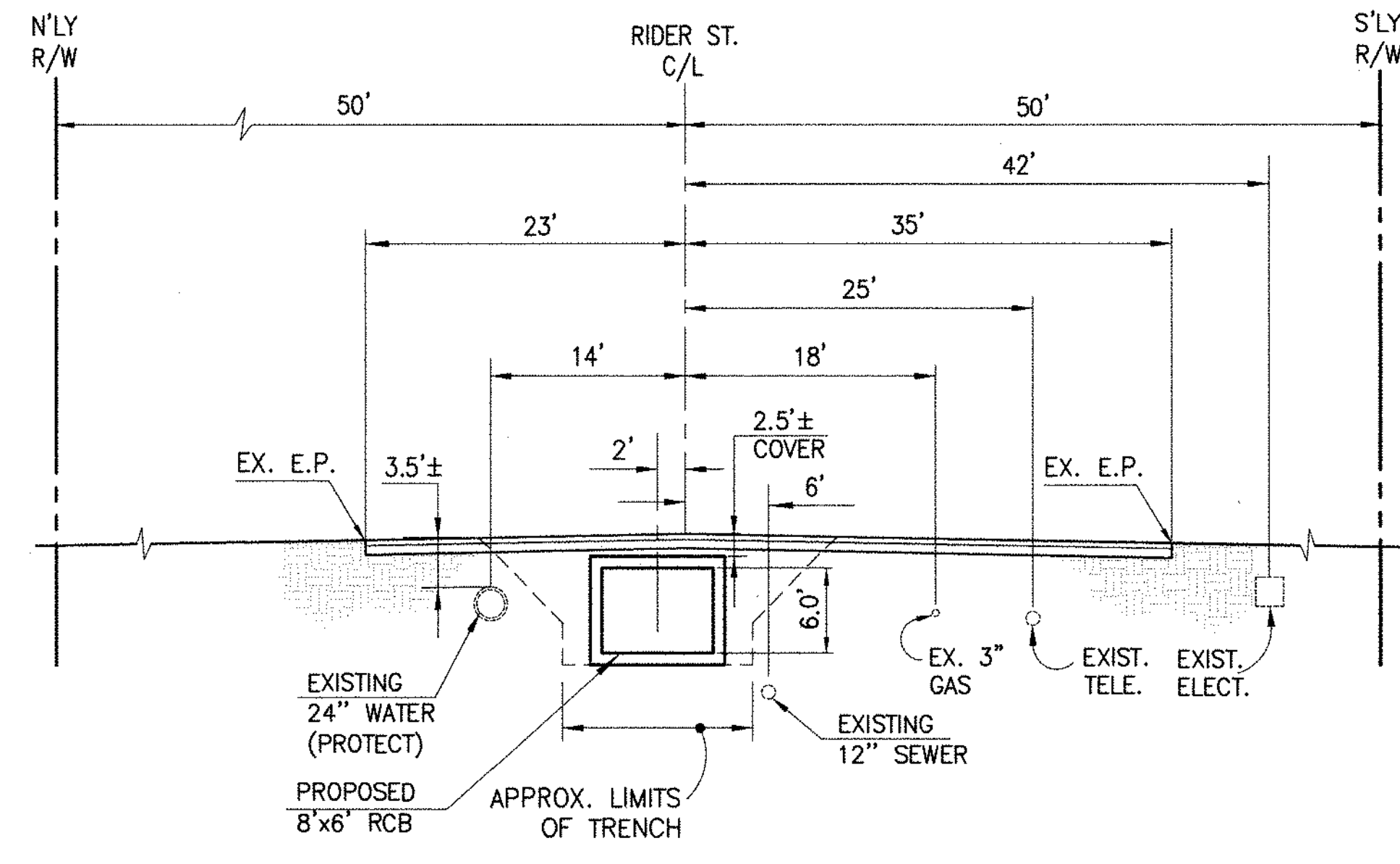
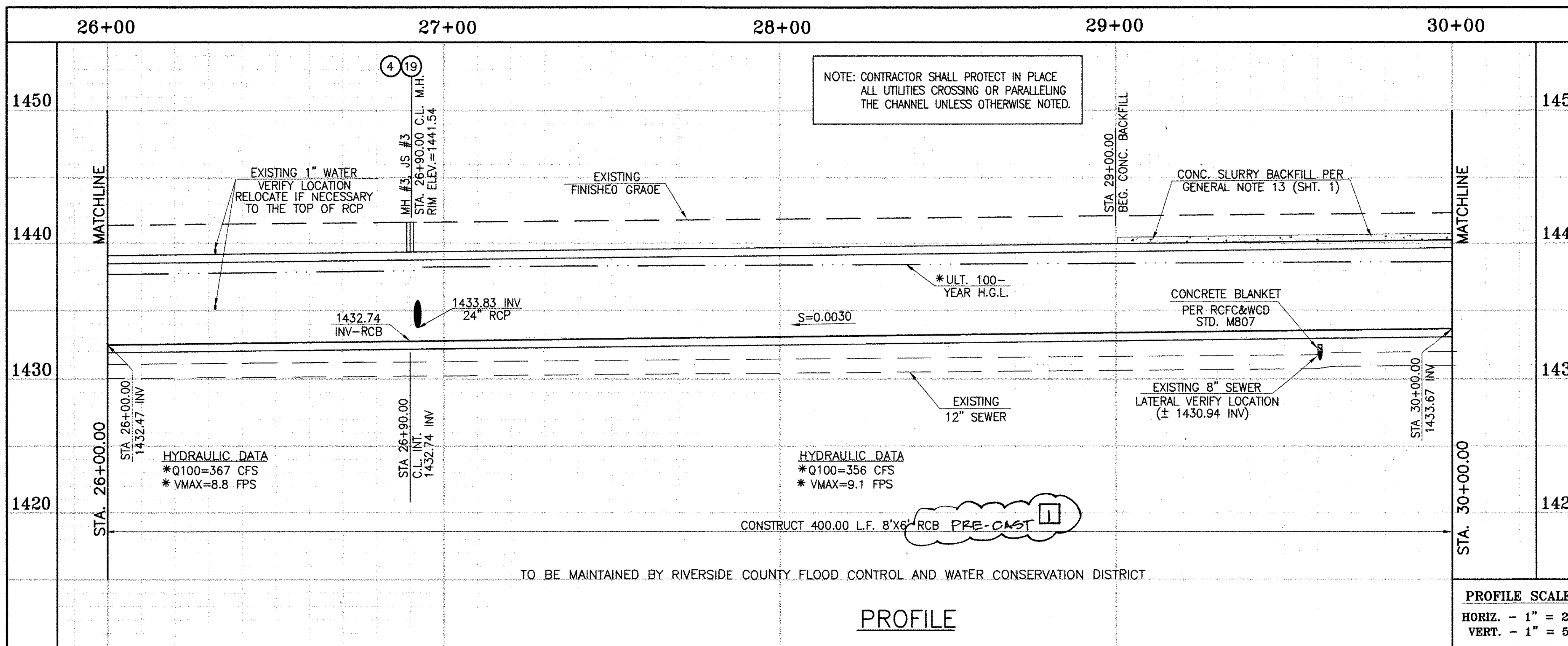
CITY OF PERRIS  
APPROVED BY: **Mark H. Willis**  
DATE: 12-15-14

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

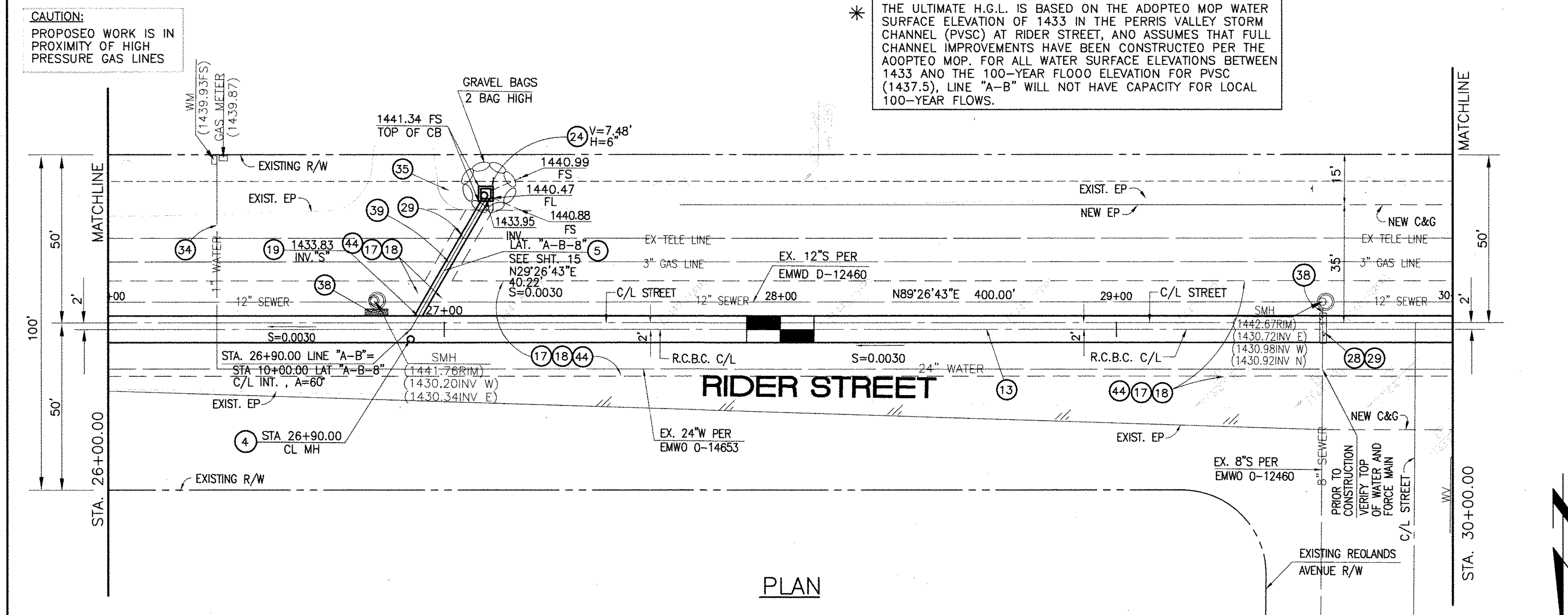






SECTION AT STA. 28+00.00  
FROM STA 26+00 TO STA 29+62.72

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 17.
  - 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

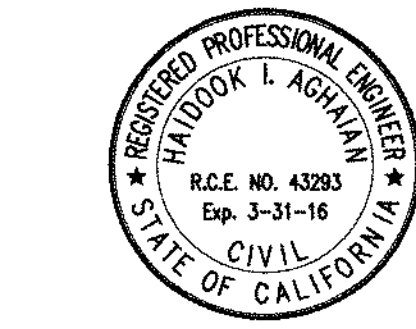
**BENCH MARK**  
COUNTY OF RIVERSIDE BENCHMARK NO. "M-31"  
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB LOCATED AT THE CROSSING OF PERRIS BLVD. AND INV. CO. FLOOD CONTROL CHANNEL, PERRIS LATERAL "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

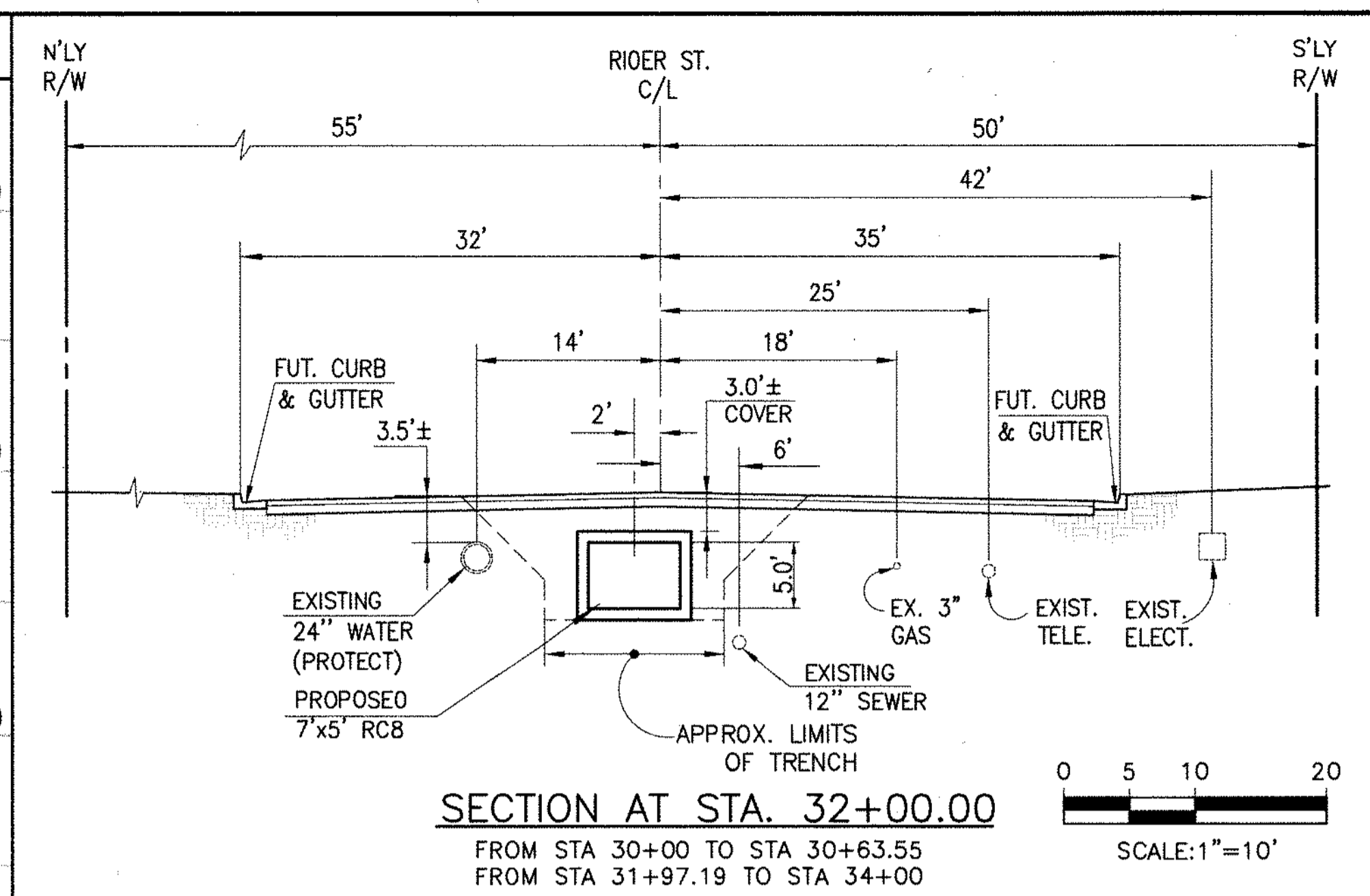
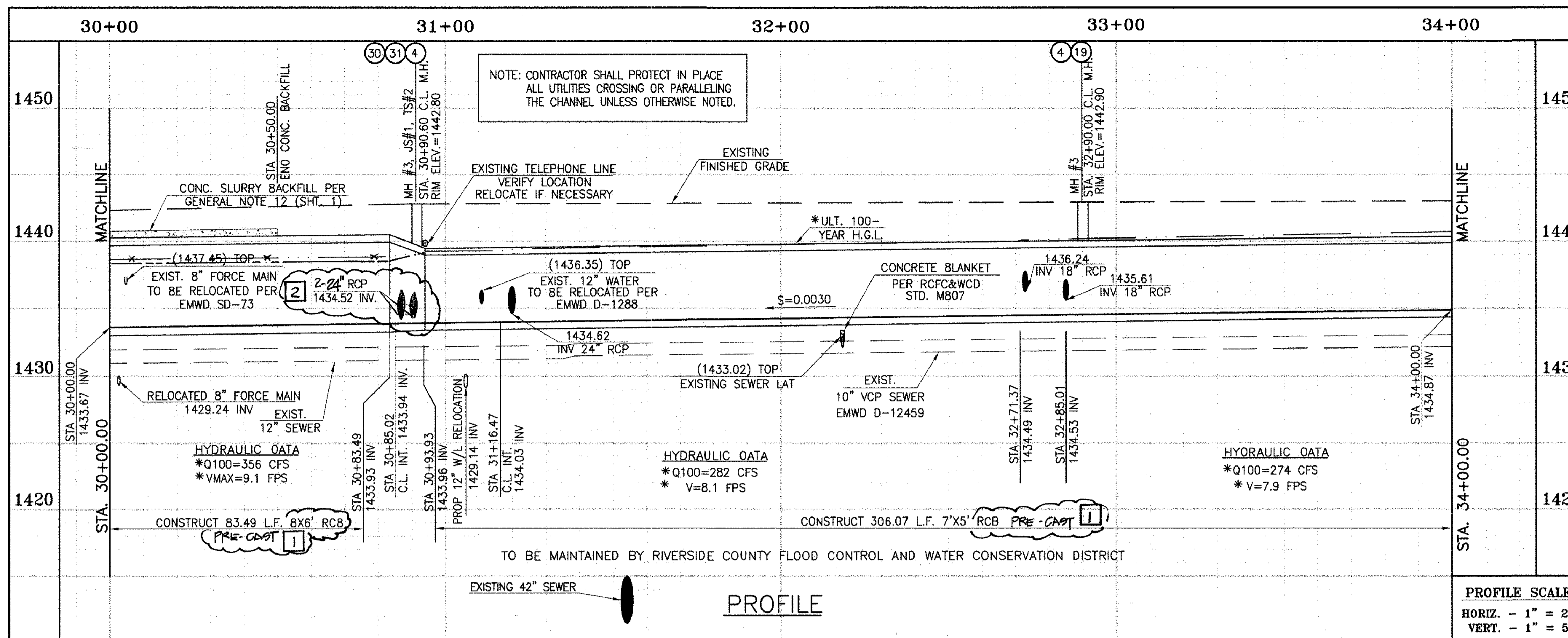
APPROVED BY: *[Signature]*  
DATE: 1/20/2015

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

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

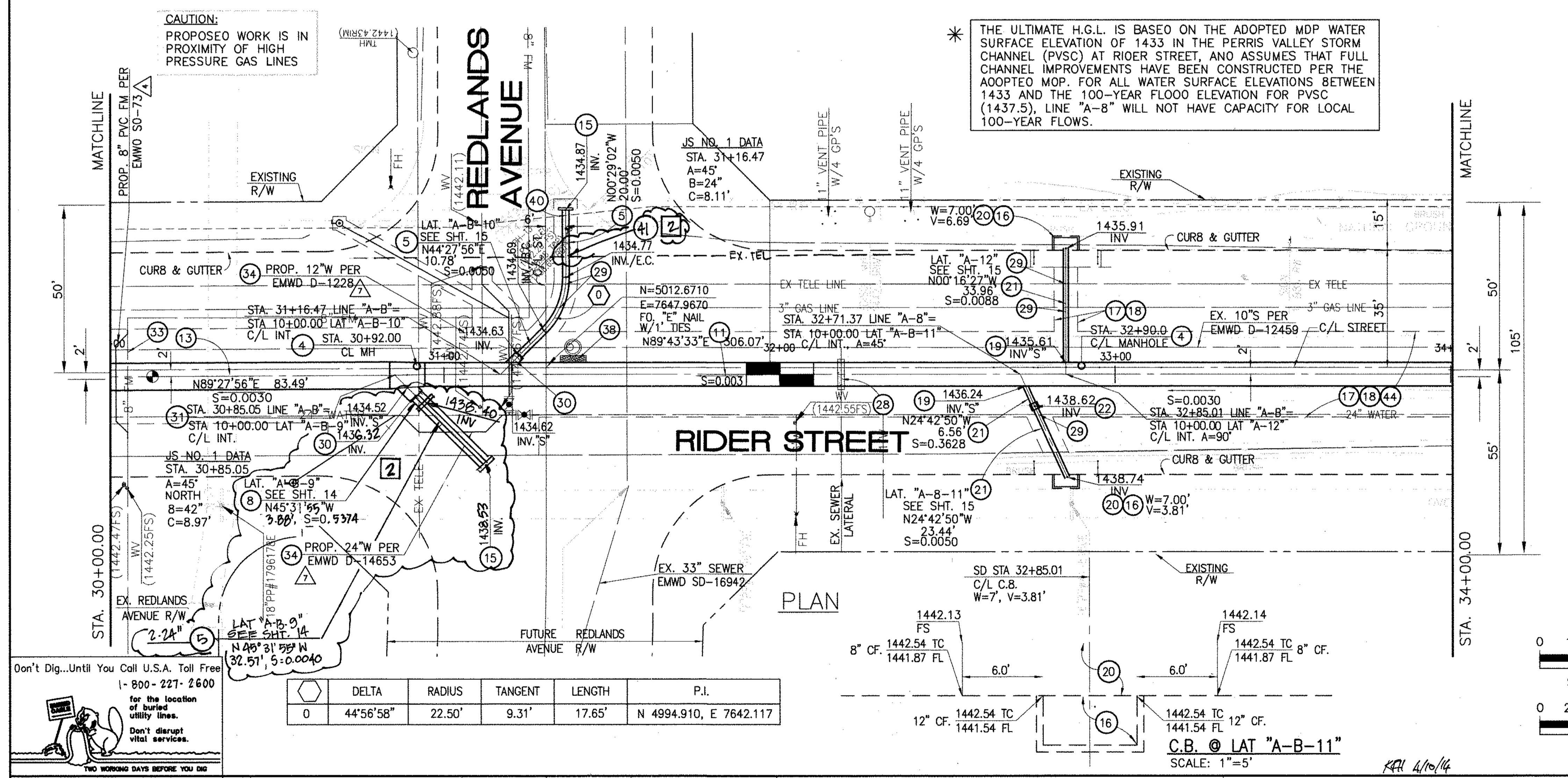
CITY OF PERRIS FILE NO. P8-1013

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' PRE-CAST RCP MANHOLE PER STD. PLAN 3900 SEE JOINT SEALANT NOTE ON SHT. 1 PRE-CAST RCP STD PLAN 3900
  - 13 CONSTRUCT 8' X 6' RCB PER CALTRANS STD PLAN NO. 888 OR APPROVED EQUAL SEE JOINT SEALANT NOTE ON SHT. 1.
  - 15 CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C.&W.C.D. STD DWG. M816.
  - 16 CONSTRUCT CATCH BASIN NO.1 PER R.C.F.C.&W.C.D. STD. DWG. CB100
  - 17 SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
  - 18 UTILITY TRENCH AND SURFACE REPAIR PER CITY STANDARD ON SHT. NO. 18, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2.0'.
  - 19 CONSTRUCT JUNCTION STRUCTURE NO.3 PER R.C.F.C.&W.C.D. STD. DWG. JS228.
  - 20 CONSTRUCT LOCAL DEPRESSION NO. 2 CASE "B" PER R.C.F.C.&W.C.D. STD. DWG. L0201.
  - 21 CONSTRUCT 18" R.C.P. D-LOAD PER PLAN.
  - 22 CONSTRUCT CONCRETE COLLAR PER R.C.F.C.&W.C.D. STD DWG. M803.
  - 28 CONSTRUCT SEWER PROTECTION PER R.C.F.C.&W.C.D. STD. DWG. M807.
  - 29 PROTECT IN PLACE EXISTING UTILITIES.
  - 30 CONSTRUCT JUNCTION STRUCTURE NO.1 PER R.C.F.C.&W.C.D. STD. DWG. JS226.
  - 31 CONSTRUCT TRANSITION STRUCTURE NO.2 PER R.C.F.C.&W.C.D. STD. DWG. TS302.
  - 33 RELOCATE EXISTING SEWER LATERALS PER E.M.W.D. PLANS.
  - 34 RELOCATE EXISTING WATER LINE PER E.M.W.D. PLANS.
  - 38 SLURRY BACKFILL BETWEEN RCB AND MANHOLE.
  - 40 RELOCATE EXISTING ELECTRICAL LINE.
  - 44 SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18. SEE SEPARATE PAVING PLANS.
- 2 41 RELOCATE EXISTING TELEPHONE LINE



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

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 SUBURBAN NEAR FACE OF CURB  
LOCATED AT THE CROSSING OF PERRIS BLVD AND RIV. CO.  
FLOOD CONTROL CHANNEL (PERRIS LATERAL) 4.5 FT. WEST  
OF CENTERLINE OF PERRIS BLVD AND 4.5 FT. EAST OF  
CONCRETE BRIDGE BARRIERS (EDGE OF BRIDGE)  
MARKED R-102 D.W.R. IN TOP OF CONC. POST FLUSH W/  
GROUND  
ELEVATION = 1474.674' (MWD 1828)

REVISIONS	ENGINEER	RCFC/	DESIGNED BY:	APPROVED BY:
2	CHANGED SLOPE TO 0.0019, ADDED MH.		BW	
1	ADDED 12" CHANGED 22" LAT TO 12" LAT, ADDED BEHINDING, RELOCATE UTILITIES, REV. S.D.		ET	
1	CHANGED C.L.P. RCB TO PRE-CAST RCP PER APPROV. STD. PLAN			

DESIGNED BY: BW  
DRAWN BY: ET  
DATE DRAWN: 1/10/14

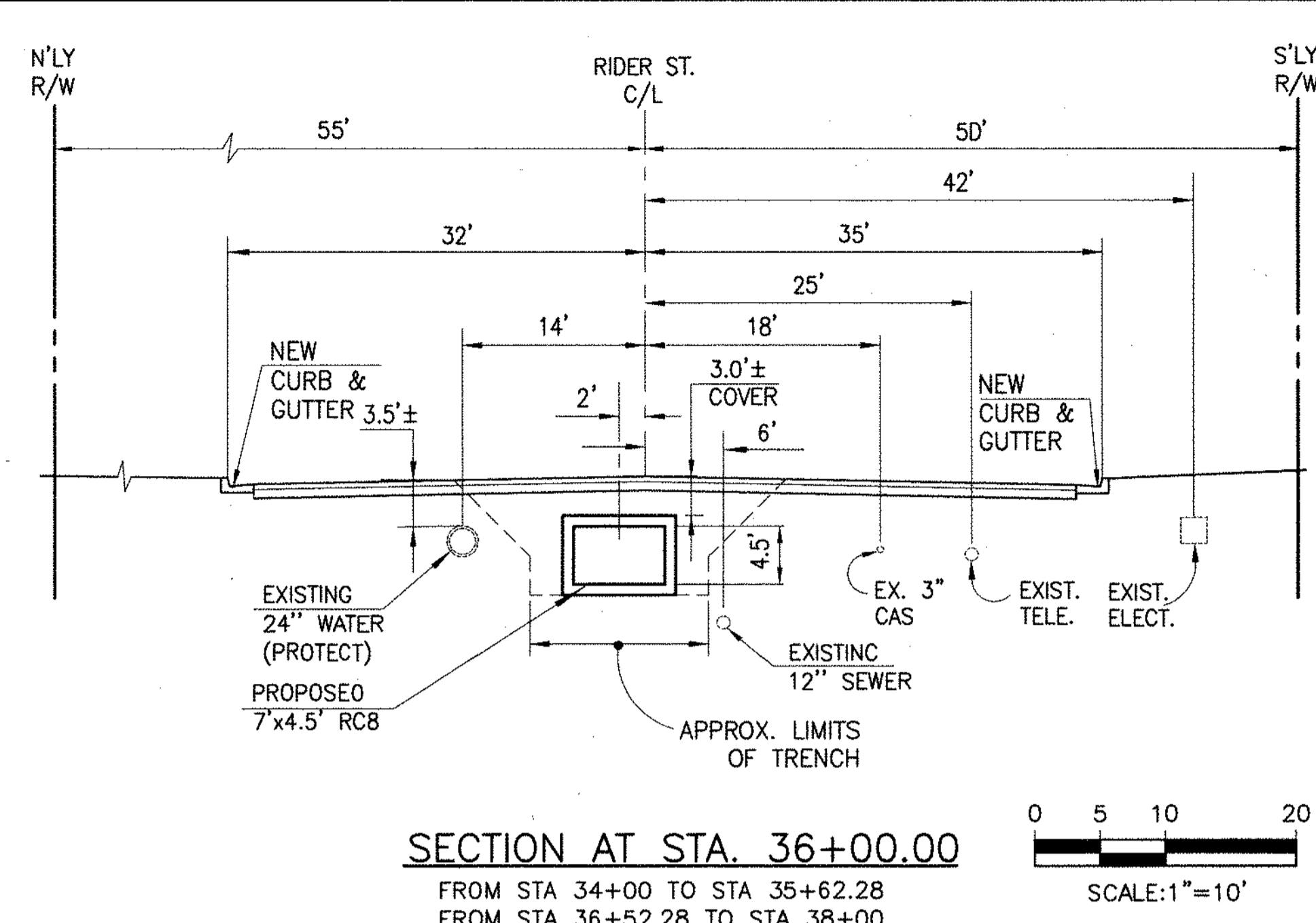
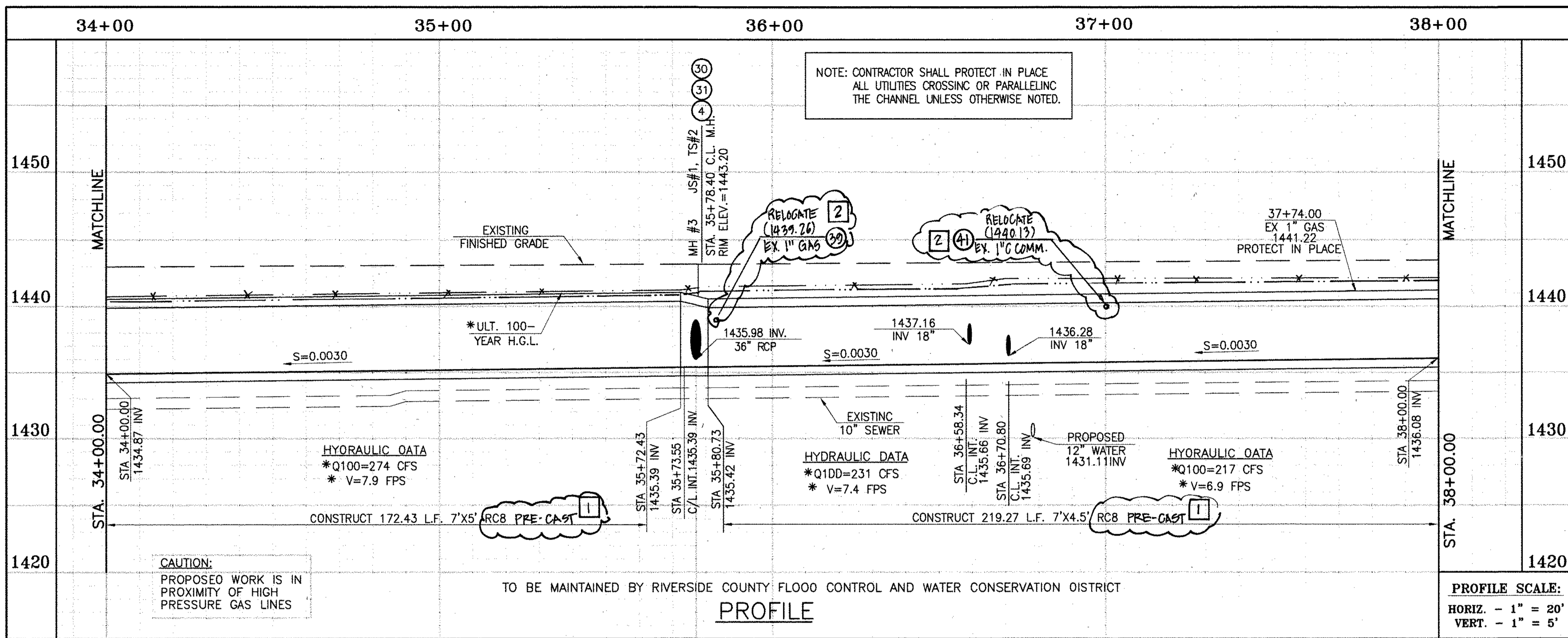
APPROVED BY: *Thienes Engineering, Inc.*  
CIVIL ENGINEERING • LAND SURVEYING  
14349 FIRESTONE BOULEVARD  
LA MIRADA, CALIFORNIA 90638  
PH: (714) 521-4811 FAX: (714) 521-4173  
Date: 1/10/14  
RCE NO. 43293

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

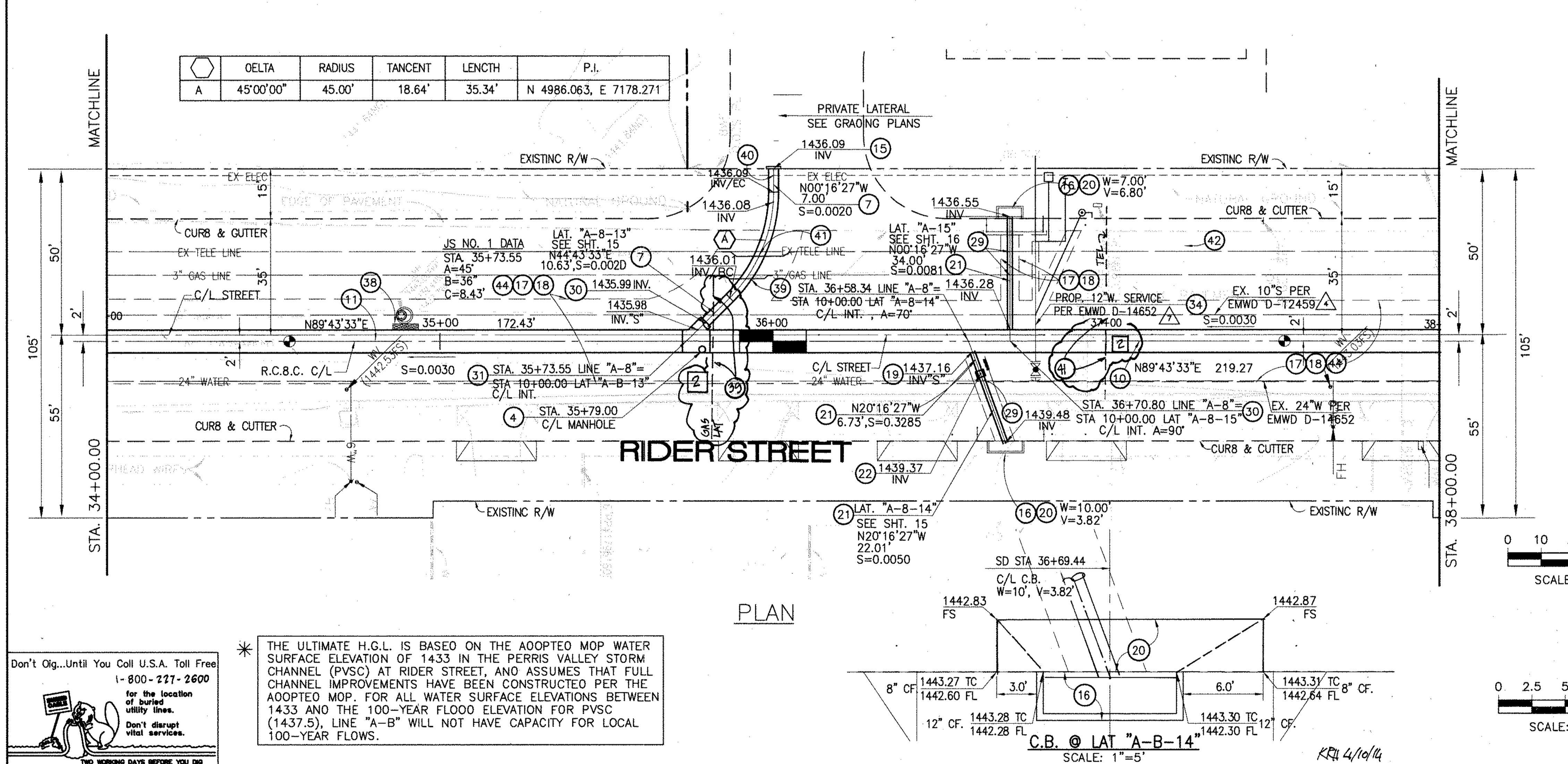
CITY OF PERRIS  
APPROVED BY: *[Signature]*  
DATE: 2-15-14

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 RCB PER CALTRANS STD PLAN 800 OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHT. 1. PRE-CAST RCB ALPHA STD PLAN 390-0
  - 11 CONSTRUCT 7' x 5' RCB PER CALTRANS STD PLAN 800 OR APPROVED EQUAL. SEE JOINT SEALANT ON SHT. 1. PRE-CAST RCB 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 RCB AND MANHOLE.
  - 39 RELOCATE EXISTING GAS LINE.
  - 40 RELOCATE EXISTING ELECTRICAL LINE.
  - 41 RELOCATE EXISTING TELEPHONE LINE.
  - 42 INSTALL NEW SEWER LATERAL PER E.M.W.D. PLANS.
  - 44 SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18. SEE SEPARATE PAVING PLANS.



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

Don't Dig...Until You Call U.S.A. Toll Free 1-800-277-2600 for the location of buried utility lines. Don't disrupt vital services. 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 0.0030, ADDED MH ADDED			BW	
10'S CHANGED 42' LAT TO 24' LAT, ADDED EX			ET	
UTILITIES, RELOCATE UTILITIES, REV. S.D.	H.I.A.	2/6/16		
CHANGED C.L.P. RCB TO PRE-CAST RCB PER CALTRANS	H.I.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

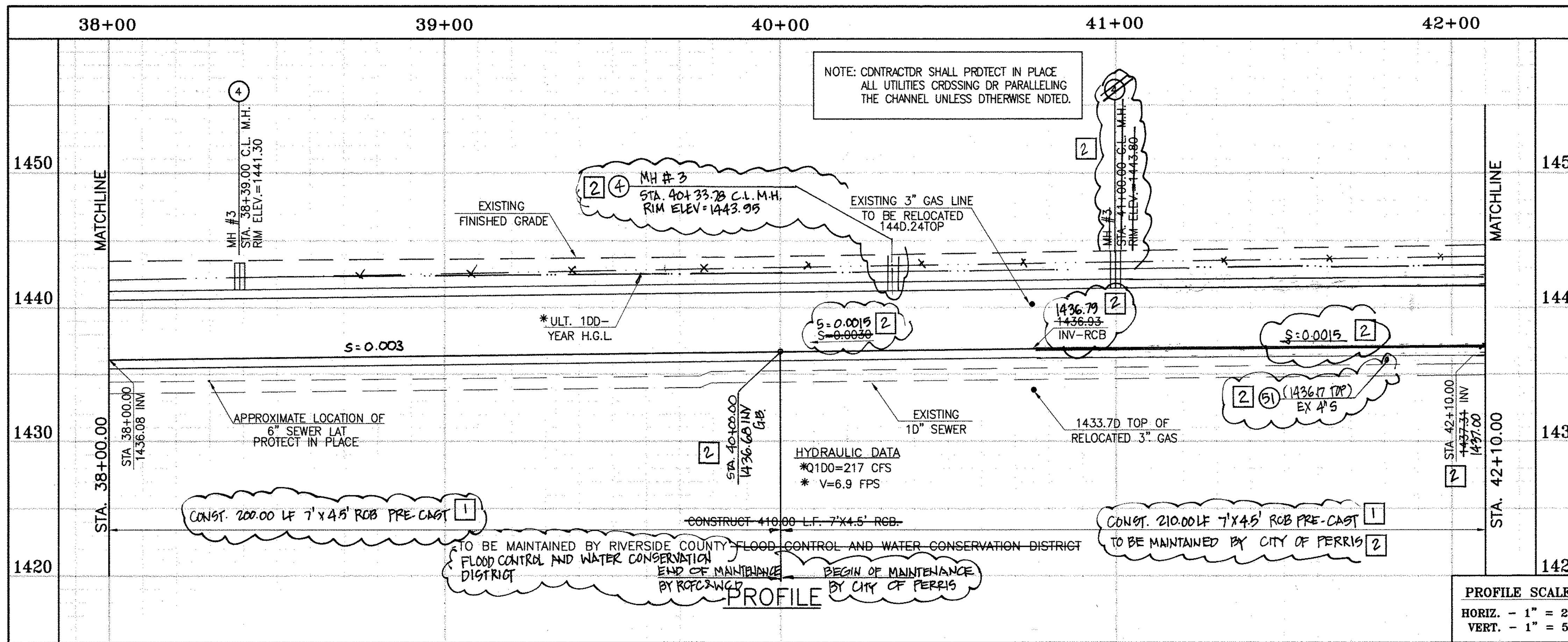
APPROVED BY: [Signature]  
DATE: 1/20/15

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

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

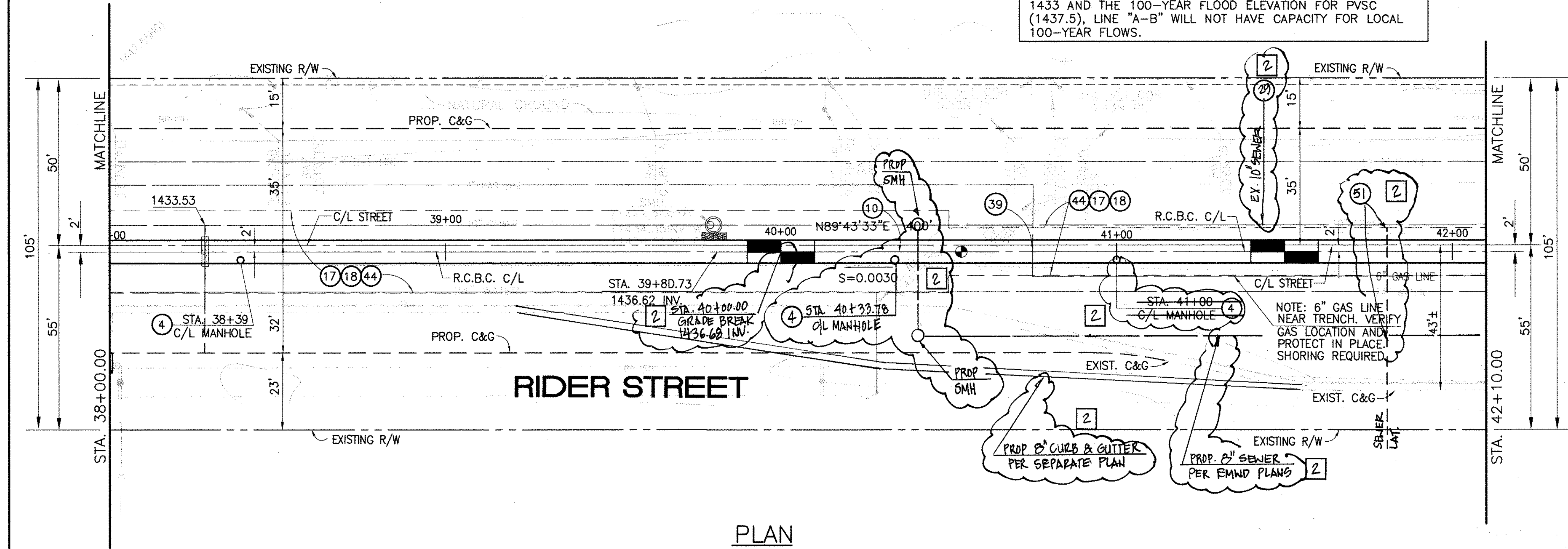
CITY OF PERRIS  
FILE NO. P8-1013

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.



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 #7, 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' (MVD 1829)

REVISIONS	ENGINEER	RCFC/	DESIGNED BY:	APPROVED BY:	
2	CHANGED SLOPE TO 0.0030, ADDED MH, MOVED NEW 10" CHANGED 2" LAT TO 2" LAT, ADDED EX. UTILITIES, RELOCATED UTILITIES, REV. S.B.	H.I.A.	2/3/14	0/6	2/23/14
1	CHANGED C.T.P. RCB TO PRE-CAST RCB PER PLAN 390-0	H.I.A.	2/3/14	0/6	2/23/14

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

DATE: 11/18/14  
HAIDOOK I. AGHAJANI R.C.E. NO. 43293

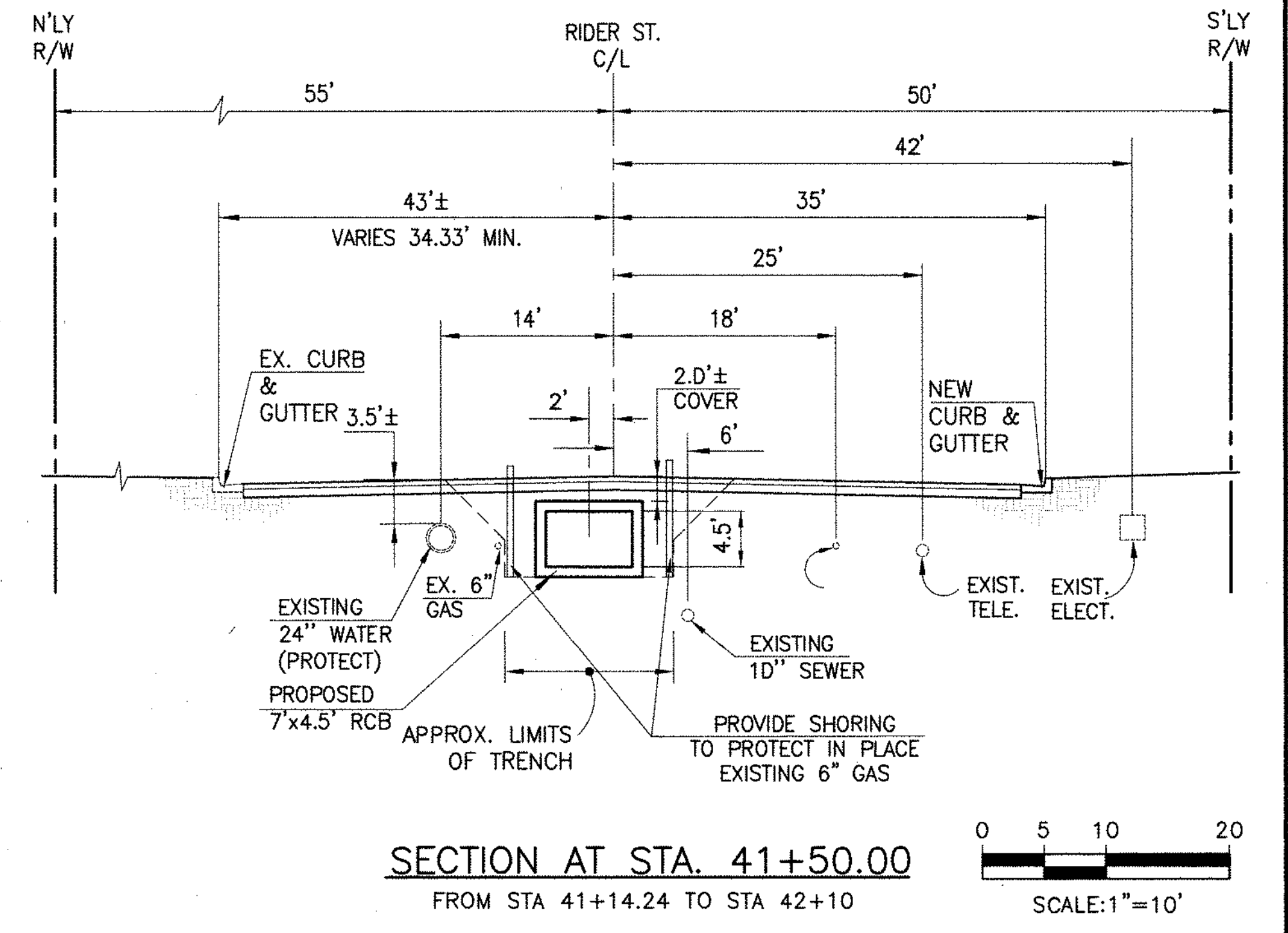
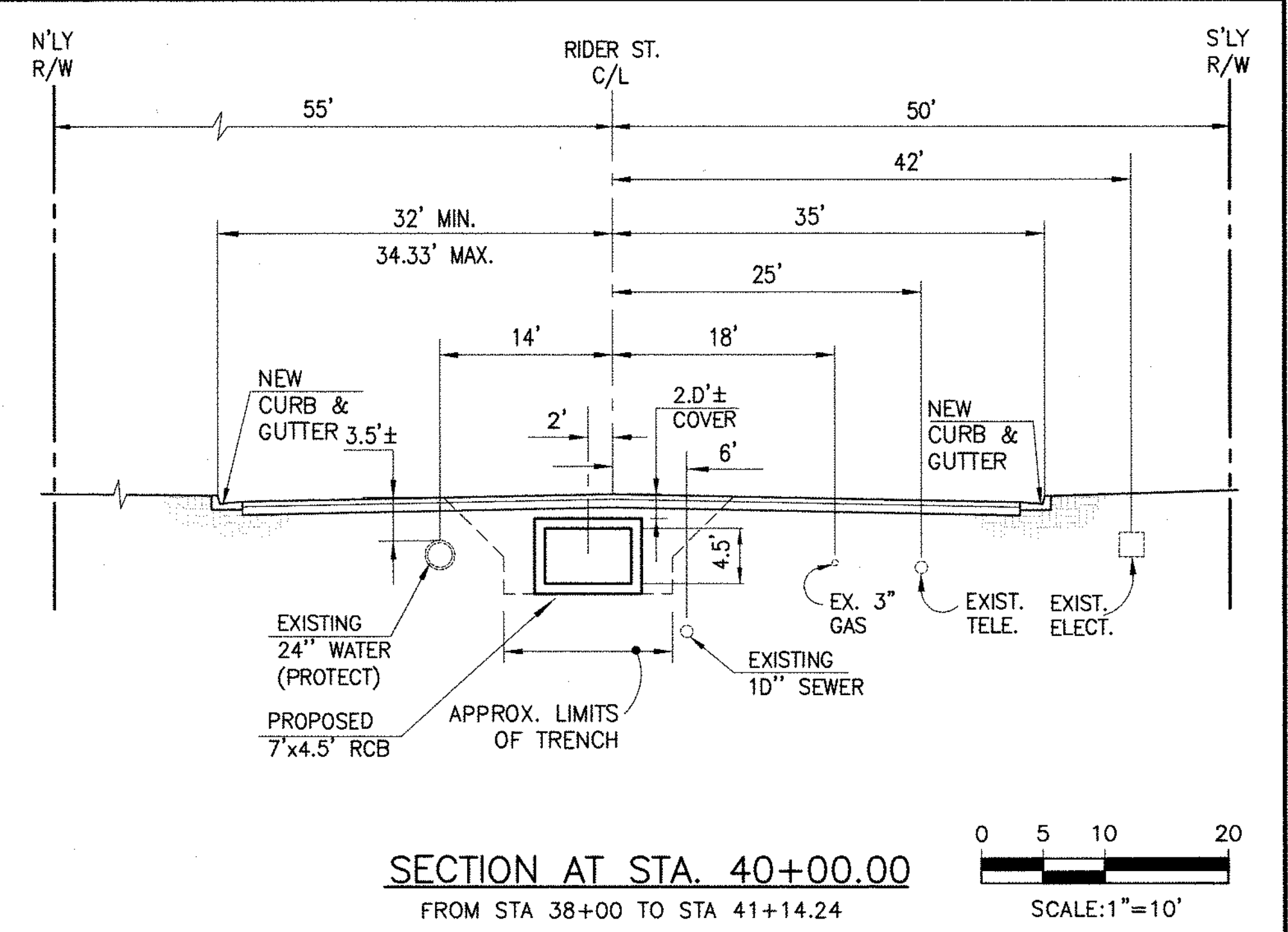
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY: [Signature]  
APPROVED BY: [Signature]  
DATE: 1/24/2015 DATE: 1/20/2015

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

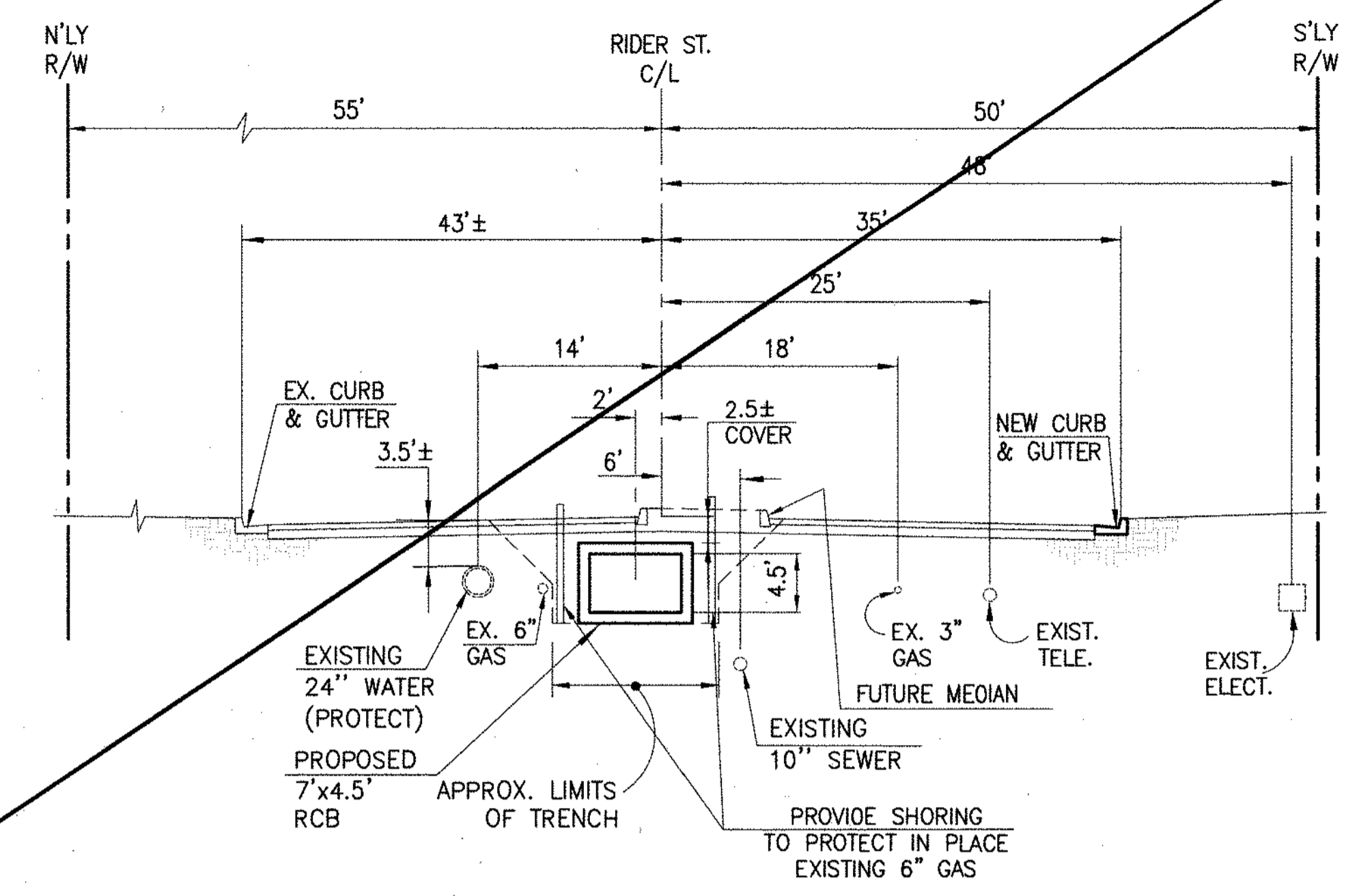
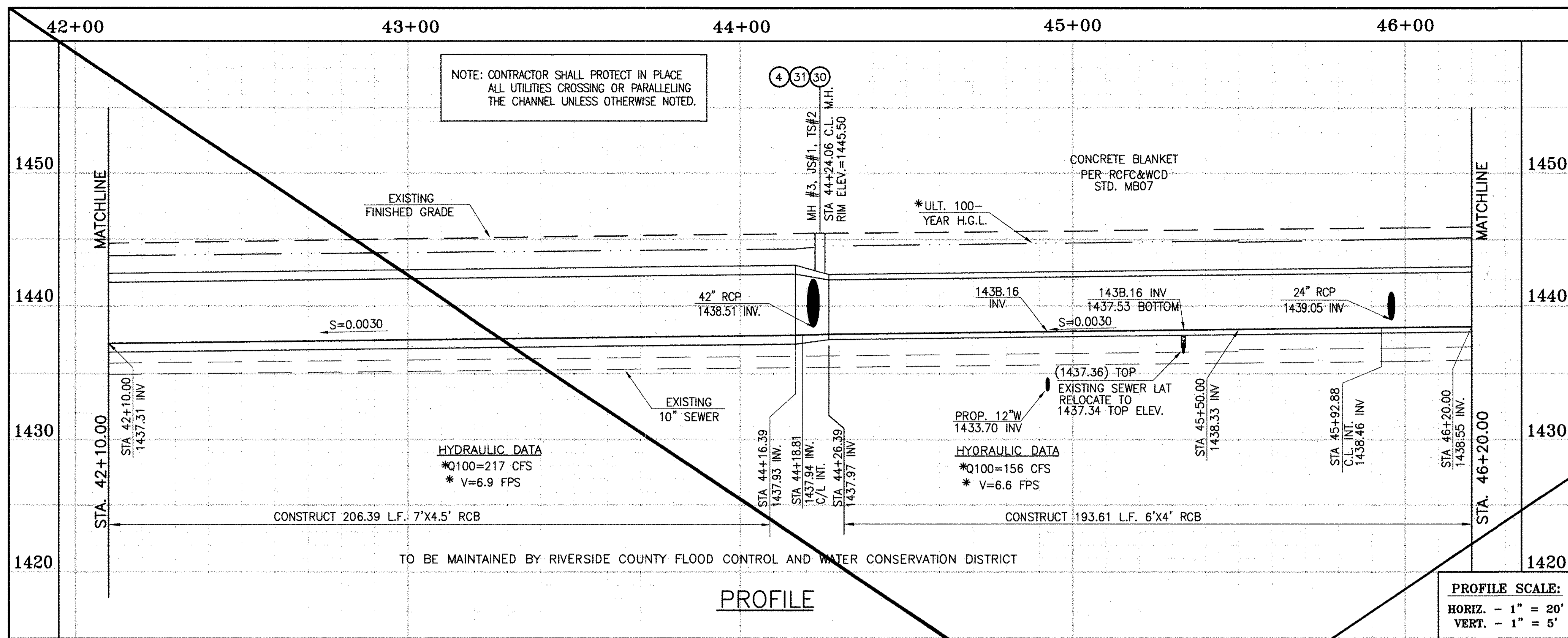
PERRIS VALLEY MDP LINE "A-B"  
FROM STA. 38+00 TO STA. 42+00

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



**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. SEE JOINT SEALANT NOTE ON SHT. 1.
- 17 SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
- 18 UTILITY TRENCH AND SURFACE REPAIR PER CITY STANDARD ON SHT. NO. 18, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2.0'.
- 28 CONSTRUCT SEWER PROTECTION PER R.C.F.C. & W.C.D. STD. DWG. M8D7.
- 44 SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18. SEE SEPARATE PAVING PLANS.
- 51 PROTECT IN PLACE EXISTING UTILITIES.
- 51 REMOVE EXISTING SENER LATERALS PER EMWD PLANS

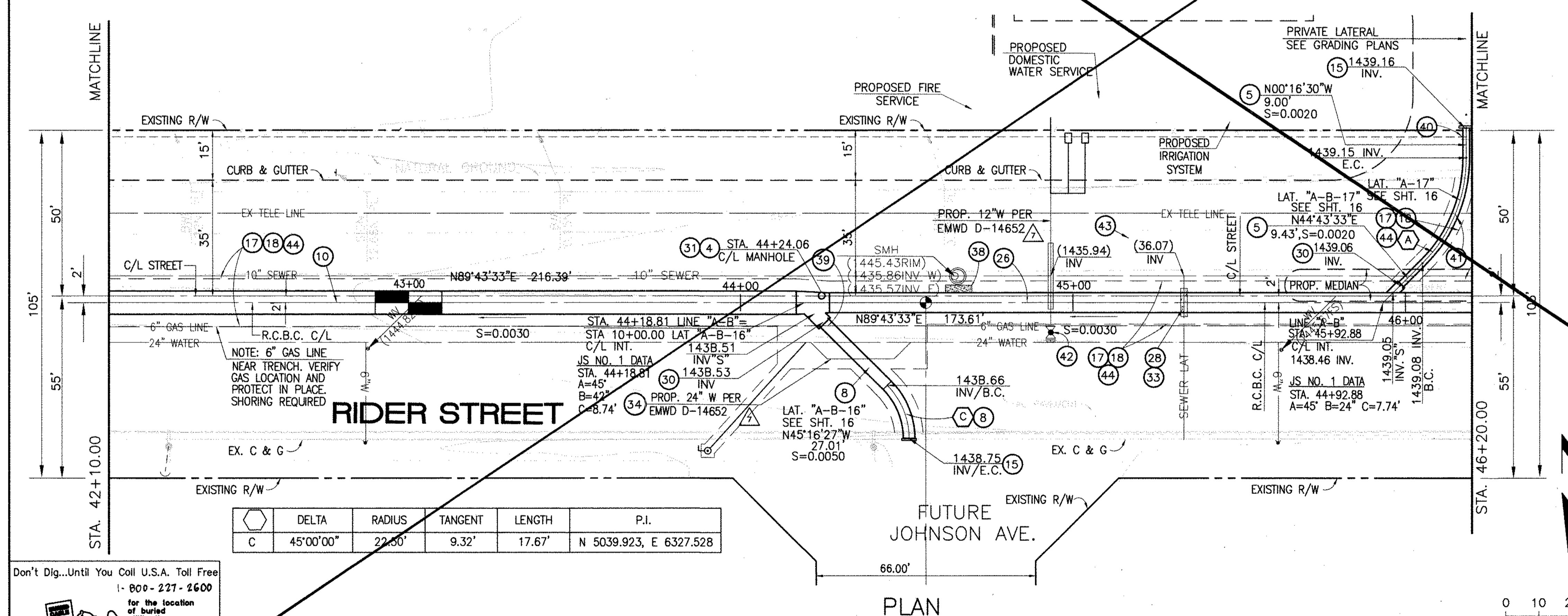


SECTION AT STA. 43+00.00  
FROM STA 42+10.00 TO STA 45+77.27

0 5 10 20  
SCALE: 1"=10'

**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 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.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'.
- (26) CONSTRUCT 6' X 4' RCB PER CALTRANS STD PLAN NO. DBO. OR APPROVED EQUAL.
- (28) CONSTRUCT SEWER PROTECTION PER R.C.F.C.&W.C.O. STO. OWG. M807.
- (30) CONSTRUCT JUNCTION STRUCTURE NO.1 PER R.C.F.C.&W.C.D. STD. DWG. JS226.
- (31) CONSTRUCT TRANSITION STRUCTURE NO. 2 PER R.C.F.C.&W.C.D. STD. DWG. TS302.
- (33) RELOCATE EXISTING 6" SEWER LAT. PER E.M.W.O. PLANS
- (34) RELOCATE EXISTING WATER LINE PER E.M.W.D. PLANS.
- (38) SLURRY BACKFILL BETWEEN RCB AND MANHOLE.
- (39) RELOCATE EXISTING GAS LINE.
- (40) RELOCATE EXISTING ELECTRICAL LINE.
- (41) RELOCATE EXISTING TELEPHONE LINE.
- (42) CONSTRUCT PROPOSED 12" WATER MAIN, PER E.M.W.D. PLANS.
- (43) CONSTRUCT PROPOSED 6" SEWER LATERAL, PER E.M.W.D. PLANS.
- (44) SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STO. 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

**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 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 BRIDGE BARRIER, EDGE OF BRIDGE  
MARKED BY 102 D.W.A. IN TOP OF CONC. POST FLUSH W/  
GROUND  
ELEVATION = 1474.674' (MWD 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

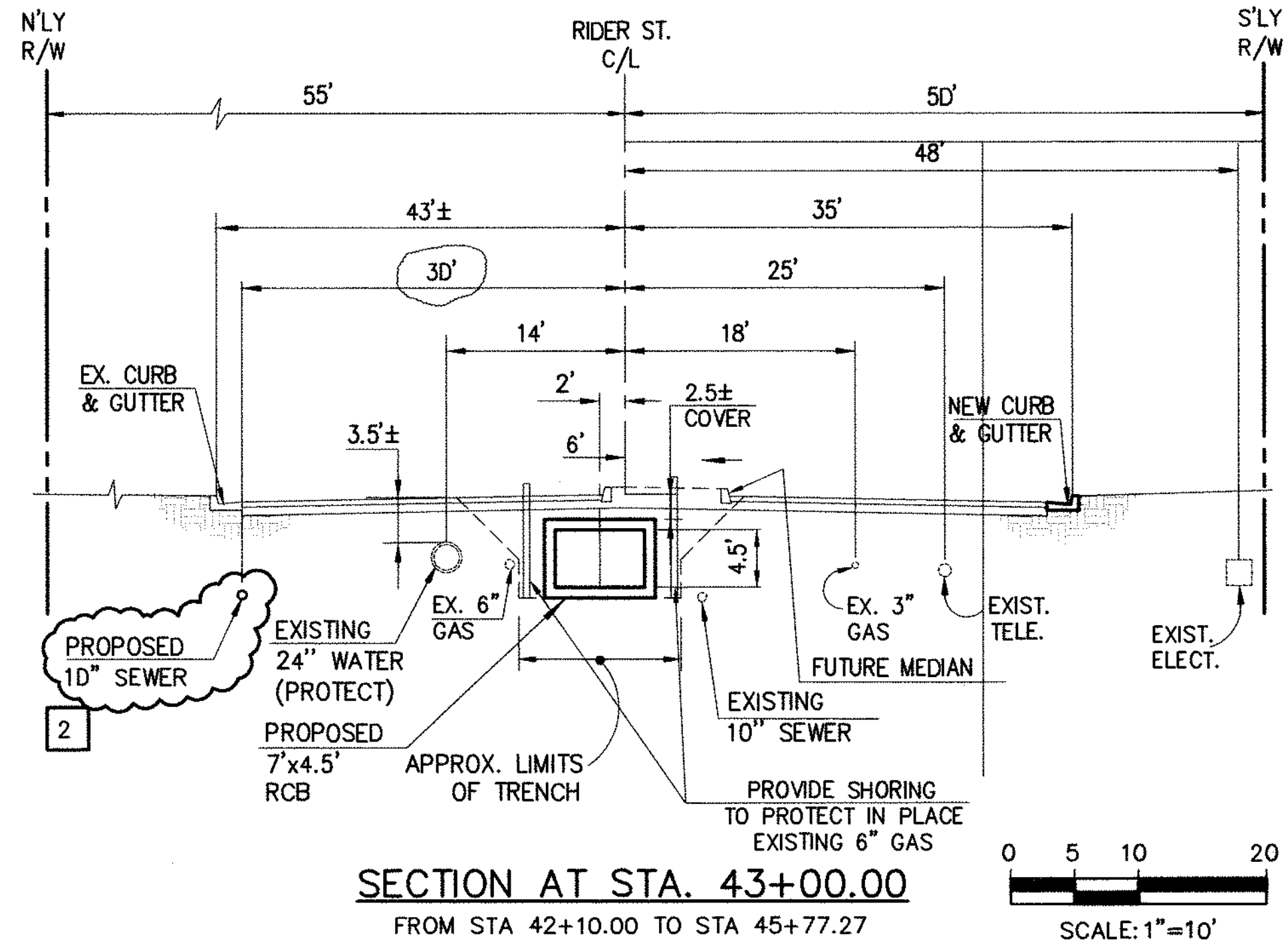
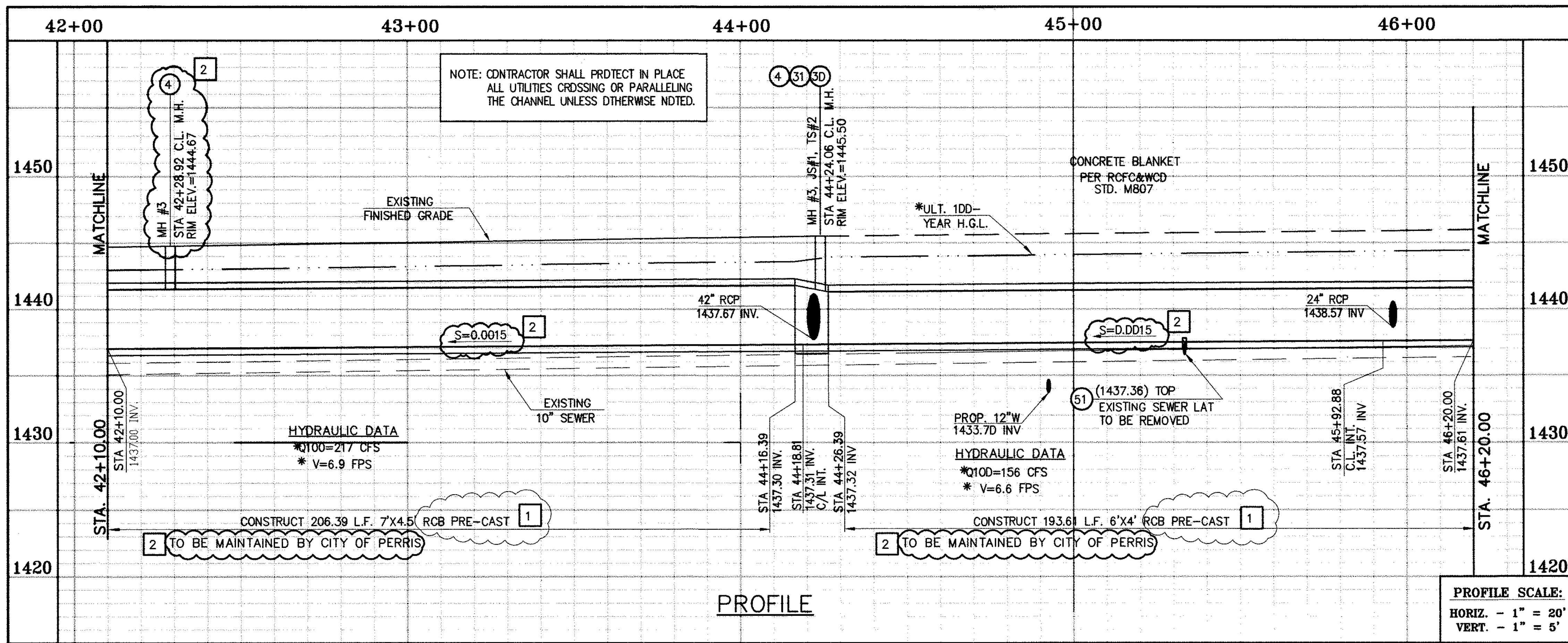
RECOMMENDED FOR APPROVAL BY: *[Signature]*  
DATE: 1/20/2015

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

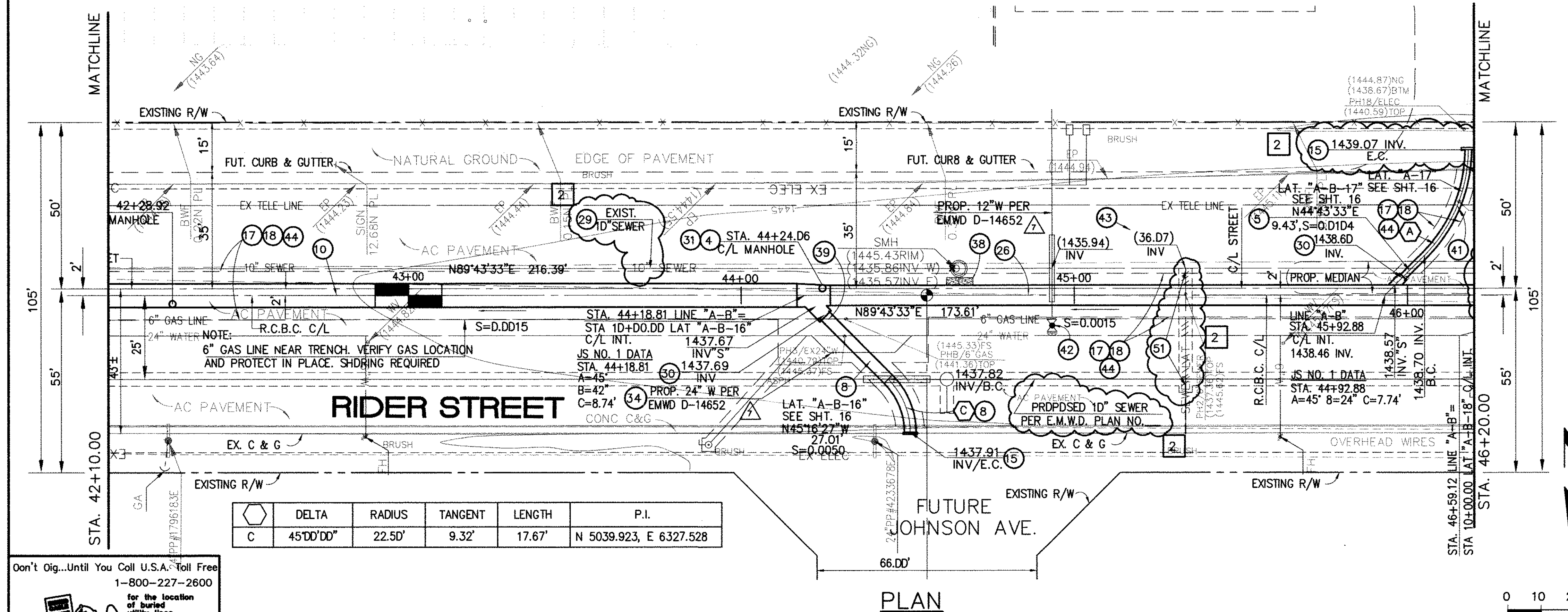


\* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION 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'
- ⑳ CONSTRUCT 6' X 4' PRE-CAST RCB APWA STD PLAN 39D-D OR APPROVED EQUAL. SEE JOINT SEALANT NOTE ON SHEET #1.
- ㉒ CONSTRUCT SEWER PROTECTION PER R.C.F.C.&W.C.D. STD. DWG. M8D7.
- ㉔ PROTECT IN PLACE EXISTING UTILITIES
- ㉖ CONSTRUCT JUNCTION STRUCTURE NO.1 PER R.C.F.C.&W.C.D. STD. DWG. JS226.
- ㉘ CONSTRUCT TRANSITION STRUCTURE NO. 2 PER R.C.F.C.&W.C.D. STD. DWG. TS320.
- ㉚ RELOCATE EXISTING 6" SEWER LAT. PER E.M.W.D. PLANS
- ㉜ 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.
- ㊳ RELOCATE EXISTING TELEPHONE LINE.
- ㊵ CONSTRUCT PROPOSED 12" WATER MAIN, PER E.M.W.D. PLANS.
- ㊷ CONSTRUCT PROPOSED 6" SEWER LATERAL, PER E.M.W.D. PLANS.
- ㊹ SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18. SEE SEPARATE PAVING PLANS.
- ㊻ REMOVE EXISTING SEWER LATERALS PER E.M.W.D. PLANS.

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



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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	2/15/16

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: \_\_\_\_\_

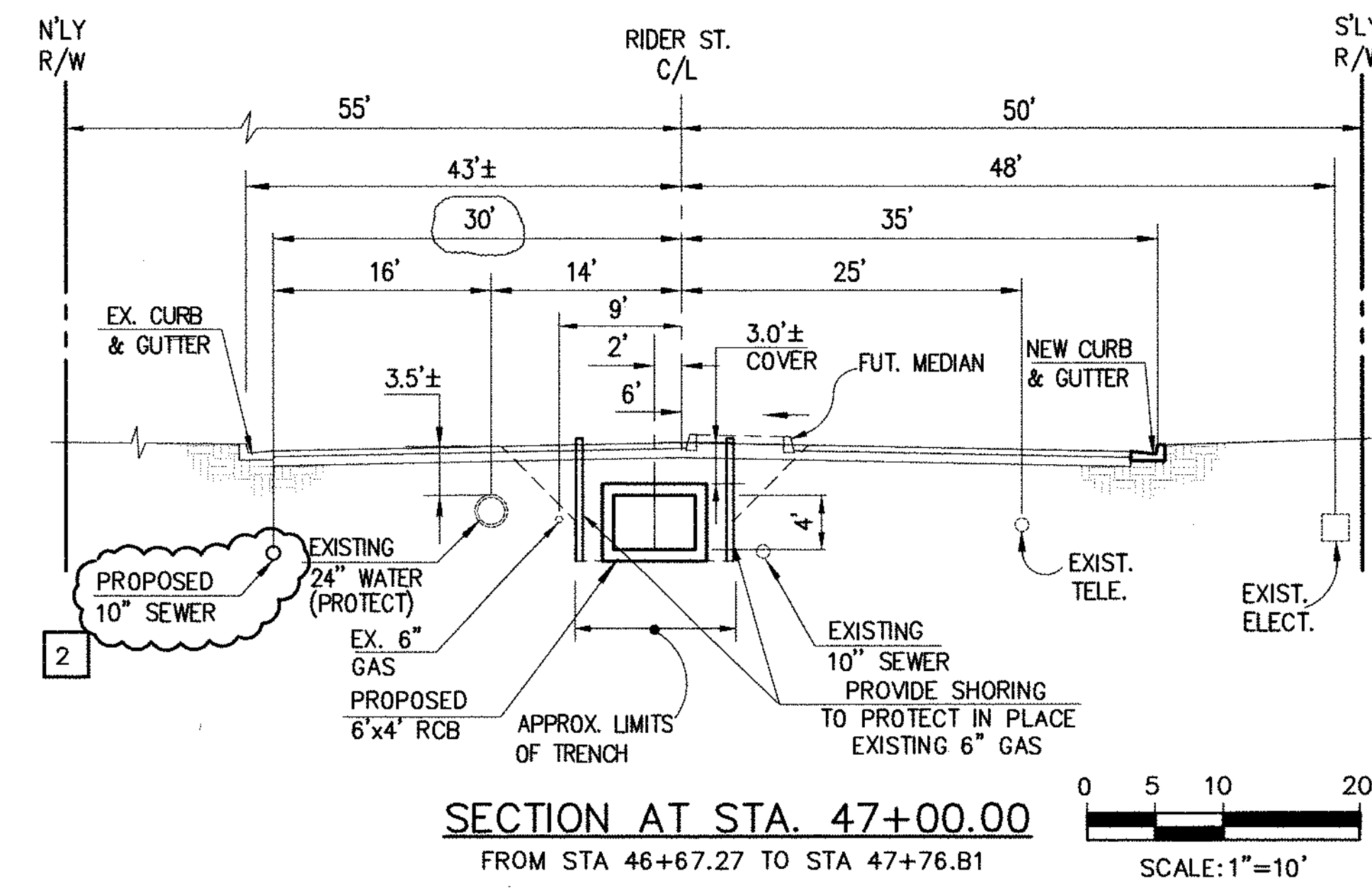
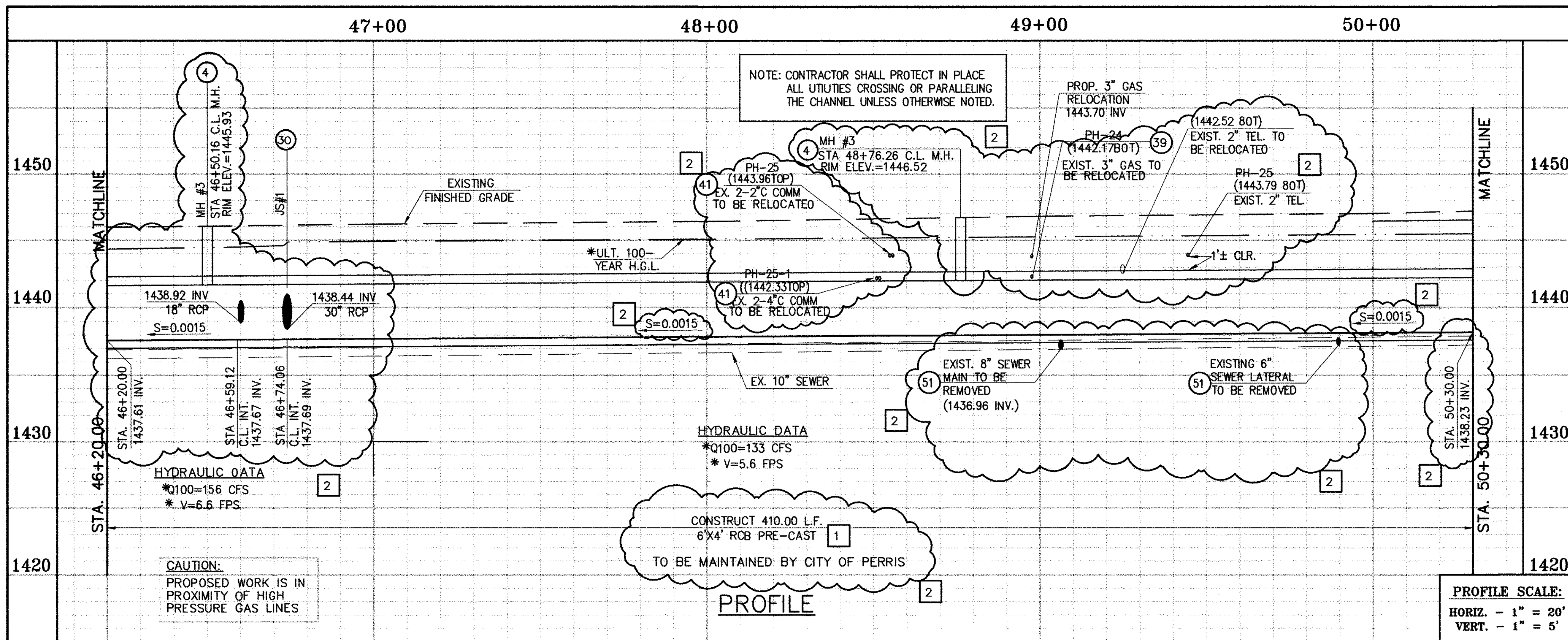
CITY OF PERRIS  
APPROVED BY: \_\_\_\_\_  
DATE: 2-9-16

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



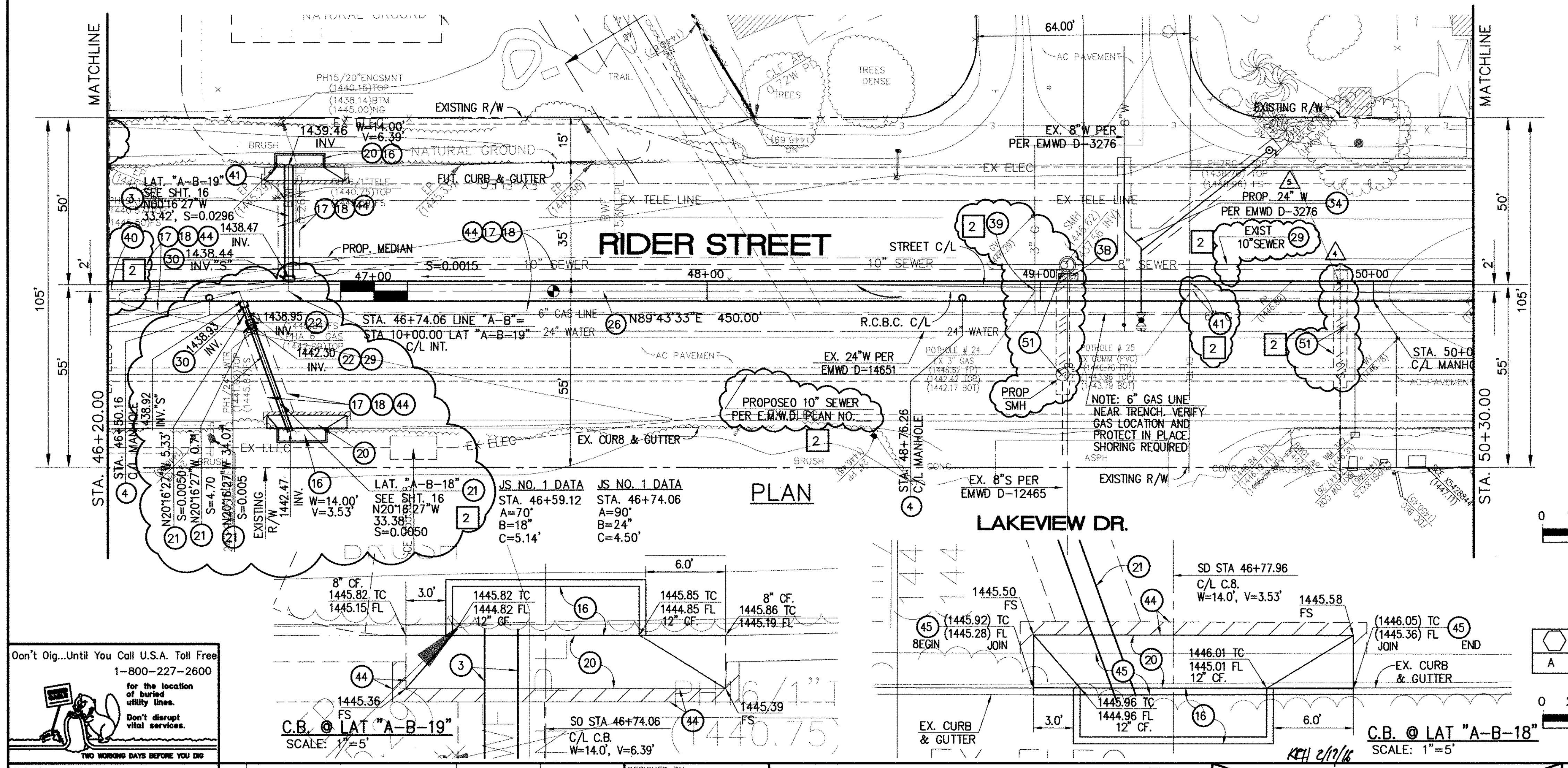




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**STORM DRAIN CONSTRUCTION NOTES:**

- 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

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 1-800-227-2600

for the location of buried utility lines.  
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 TWO WORKING DAYS BEFORE YOU DIG

**BENCH MARK**  
 COUNTY OF RIVERSIDE BENCHMARK NO. "A-B-19"  
 COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK  
 MARKED "A-B-19" LOCATED AT THE SOUTH WEST 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/  
 ELEVATION = 1476.674' (NAVD 1929)

REVISIONS	ENGINEER	RCFC/	DESIGNED BY:
2	H.I.A.	2/25/16	2/6
1	H.I.A.	2/25/16	2/6

**APPROVED BY:**  
**Thienes Engineering, Inc.**  
 CIVIL ENGINEERING - LAND SURVEYING  
 14349 FIRESTONE BOULEVARD  
 LA MIRADA, CALIFORNIA 90639  
 PH: (714) 521-6811 FAX: (714) 521-4173

**HAIDOOK I. AGHAJAN** 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

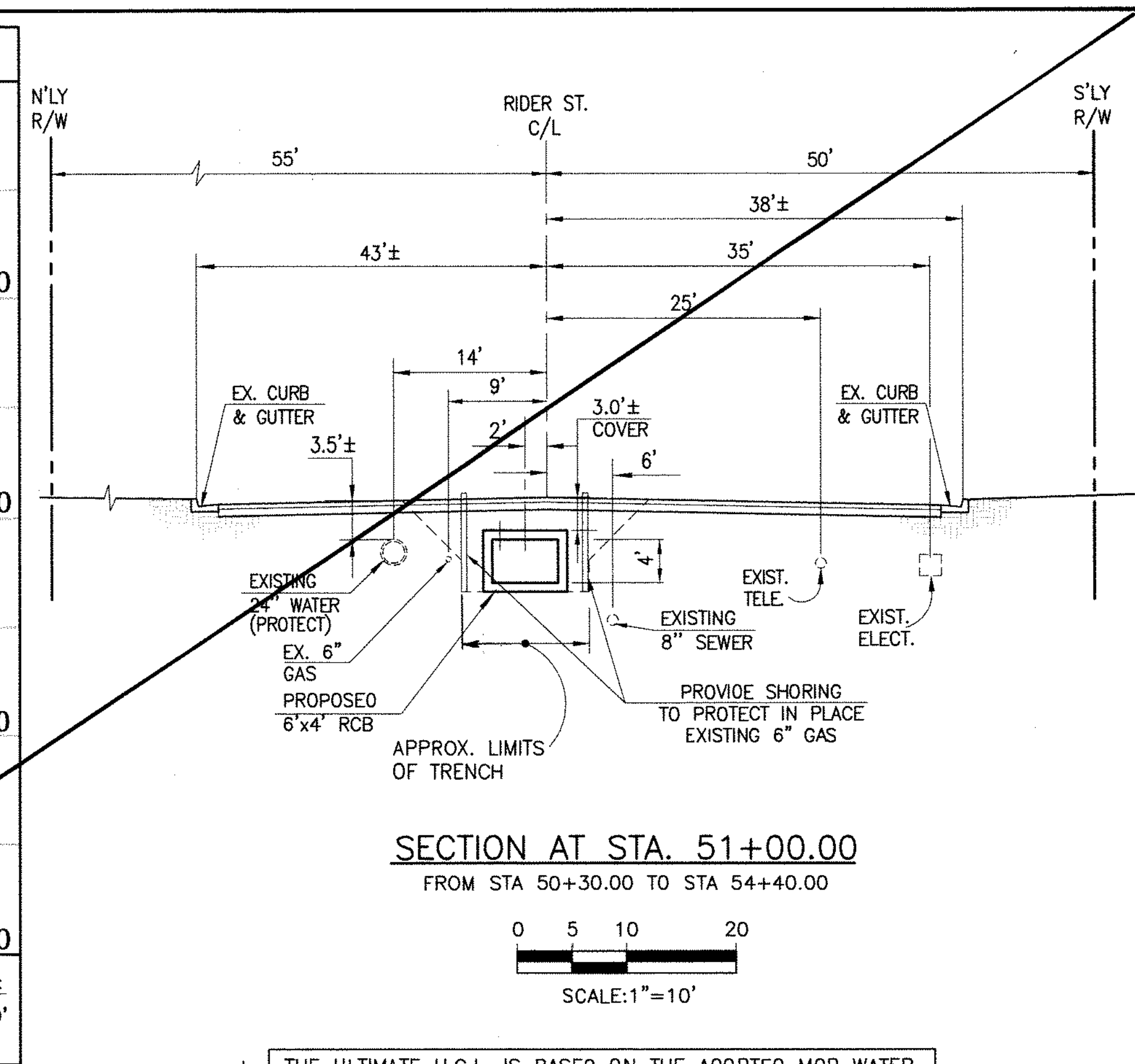
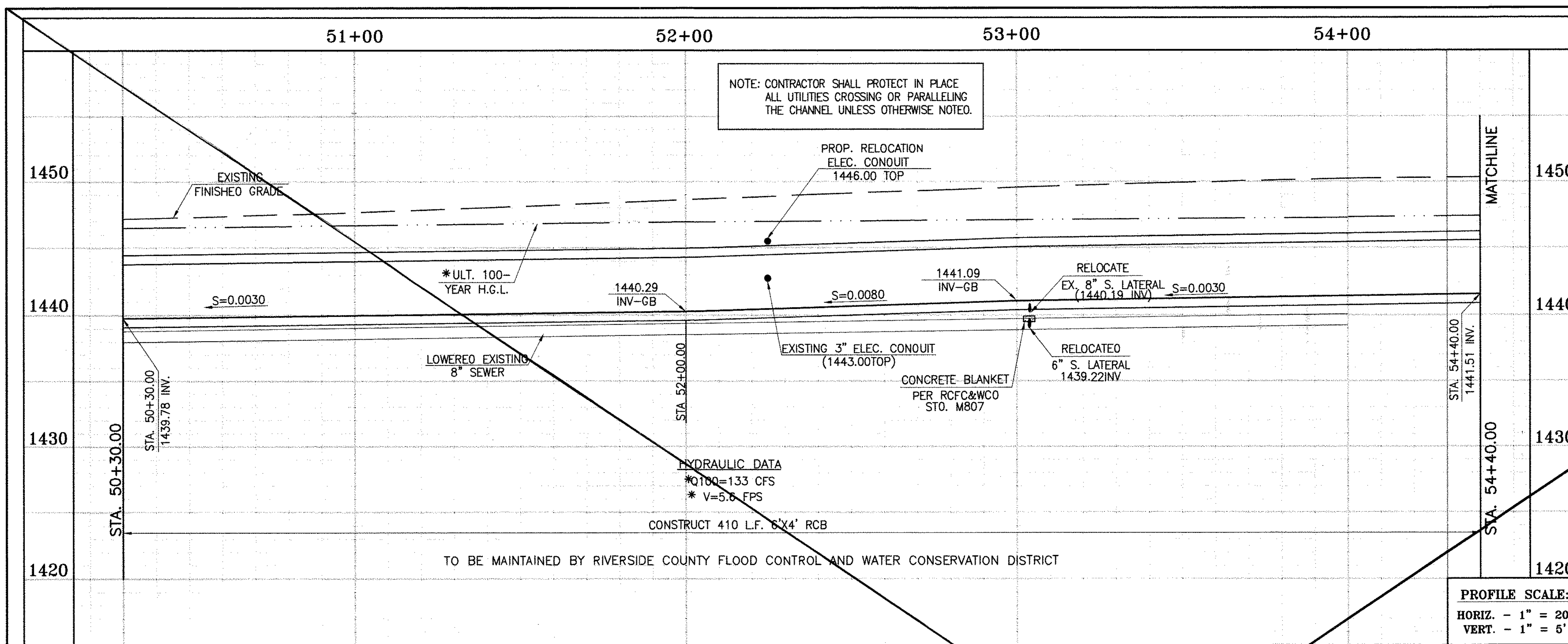
**PERRIS VALLEY MDP**  
**LINE "A-B"**  
 FROM STA. 46+20 TO STA. 50+30

**CITY OF PERRIS**  
 FILE NO. P8-1013

PROJECT NO.  
**4-0-00537**

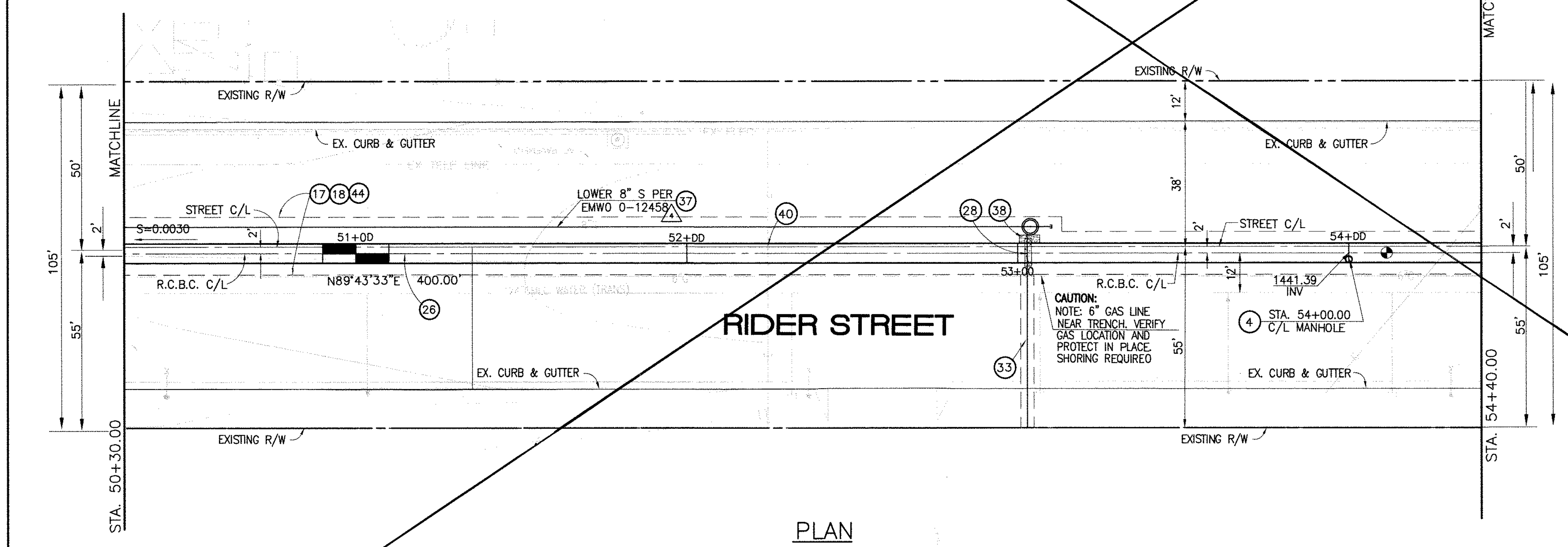
DRAWING NO.  
**4-1063**

SHEET NO.  
**11A** OF **18**



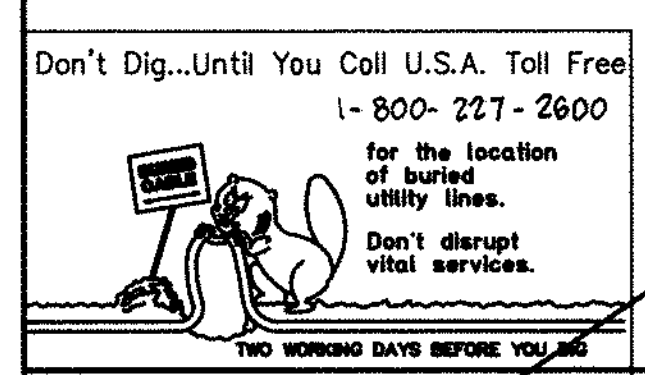
\* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION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

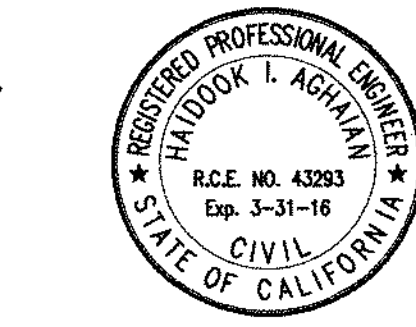
- ④ CONSTRUCT MANHOLE NO. 3 PER R.C.F.C.&W.C.O. STO. OWG. MH253
- ⑩ SAWCUT AND REMOVE EXISTING A.C. PAVEMENT.
- ⑪ UTILITY TRENCH AND SURFACE REPAIR PER CITY STANDARD ON SHT. NO. 18, MODIFIED TO ACCOMMODATE SLURRY BACKFILL WHERE BOX COVER IS LESS THAN 2.0'.
- ⑫ CONSTRUCT 6' X 4' RCB PER CALTRANS STO. PLAN NO. 080 OR APPROVED EQUAL.
- ⑬ CONSTRUCT SEWER PROTECTION PER R.C.F.C.&W.C.O. STO. OWG. M807.
- ⑭ RELOCATE EXISTING 6" SEWER LATERAL PER E.M.W.O. PLANS.
- ⑮ LOWER EXISTING 8" SEWER MAIN PER E.M.W.O. PLANS.
- ⑯ SLURRY BACKFILL BETWEEN RCB AND MANHOLE.
- ⑰ RELOCATE EXISTING GAS LINE.
- ⑱ RELOCATE EXISTING ELECTRICAL LINE.
- ⑲ 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 BRIDGE BARRIER (EDGE OF BRIDGE) MARKED BY 102 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  
**Haideck I. Aghaian** Date: 11/18/14  
RCE NO. 43293

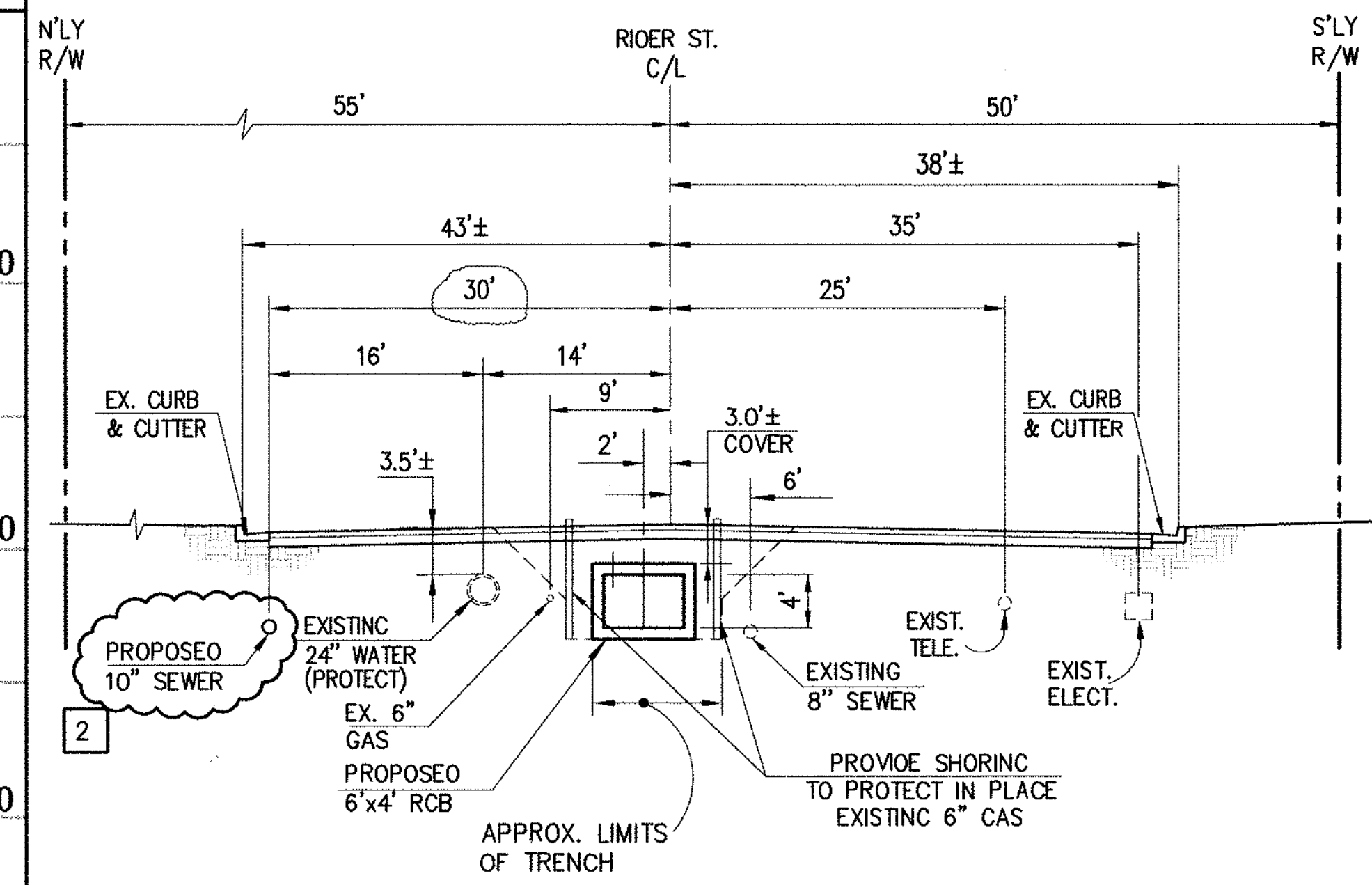
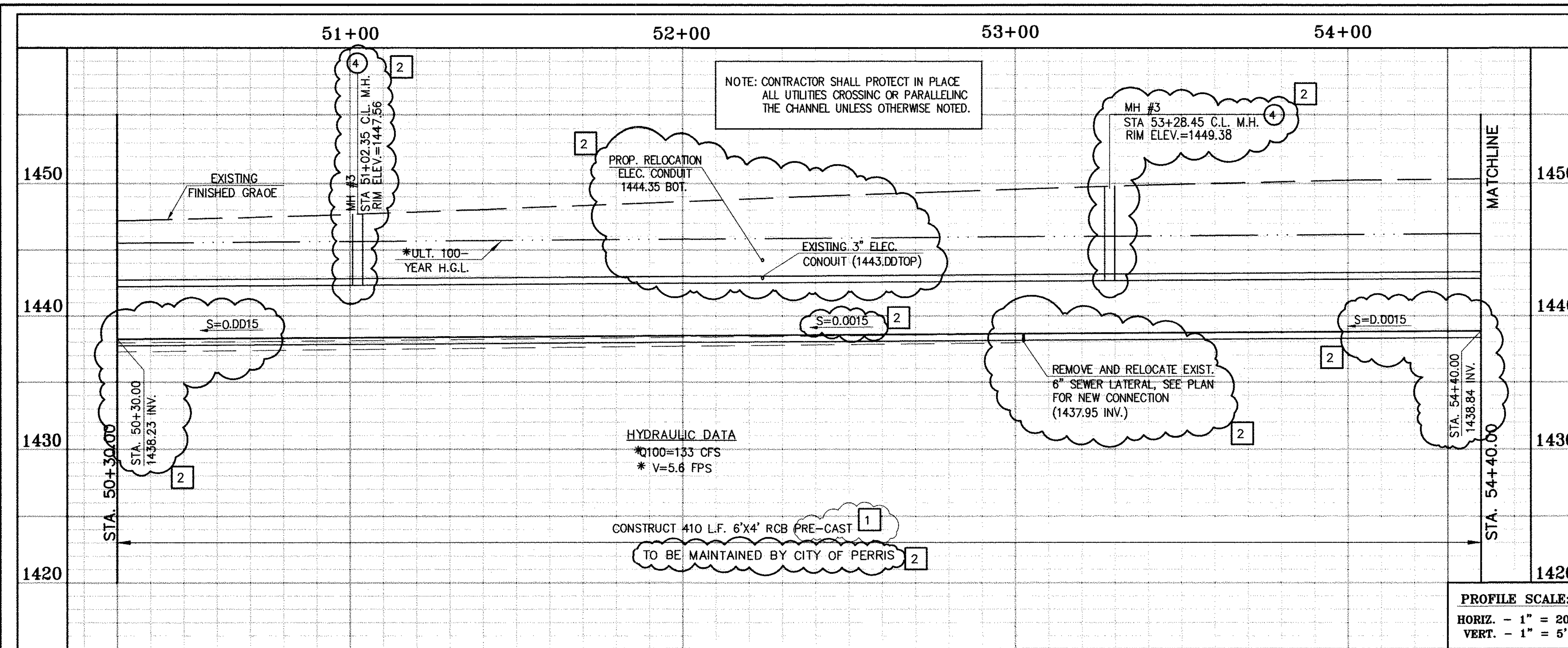


RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT  
RECOMMENDED FOR APPROVAL BY: **[Signature]**  
DATE: 1/20/2015  
APPROVED BY: **Mark A. Willk**  
DATE: 1/20/2015

CITY OF PERRIS APPROVED BY: **[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

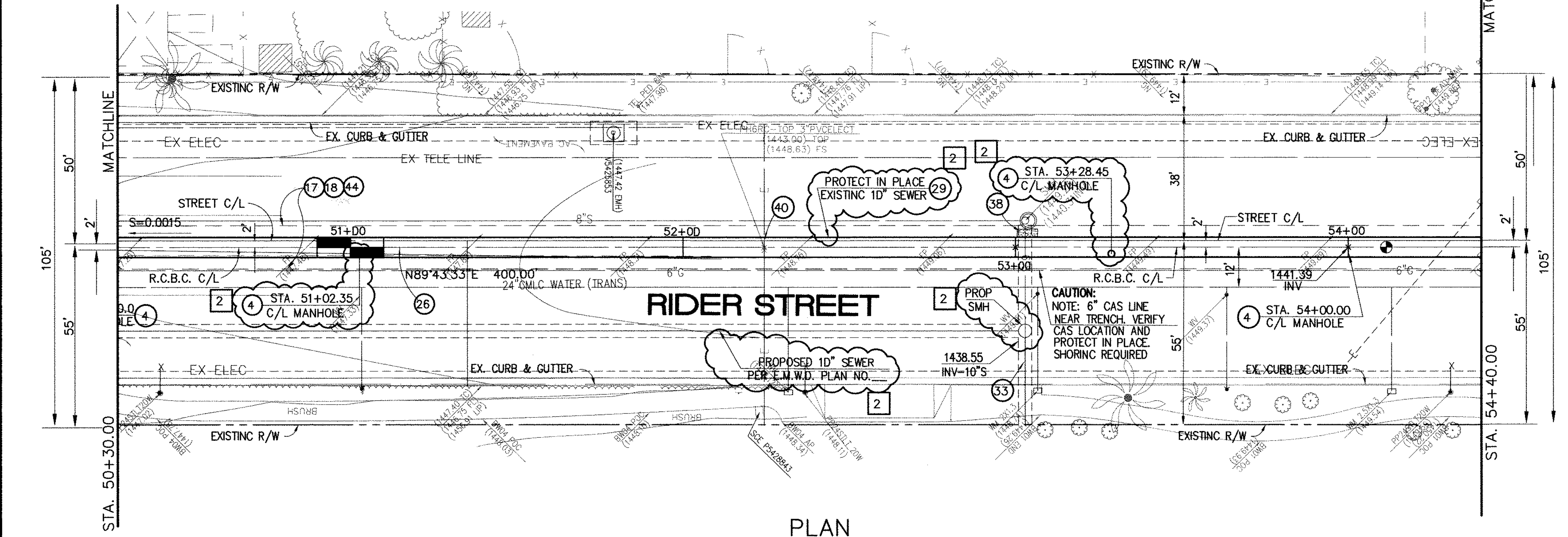


**SECTION AT STA. 51+00.00**  
FROM STA 50+30.00 TO STA 54+40.00

0 5 10 20  
SCALE: 1"=10'

\* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIVER 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. 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

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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 "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.W.R. IN TOP OF CONC. POST FLUSH W/  
GROUND ELEVATION = 1474.674' (DAVID 1928)

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

DESIGNED BY: [Signature]  
DRAWN BY: [Signature]  
DATE DRAWN: [Signature]

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

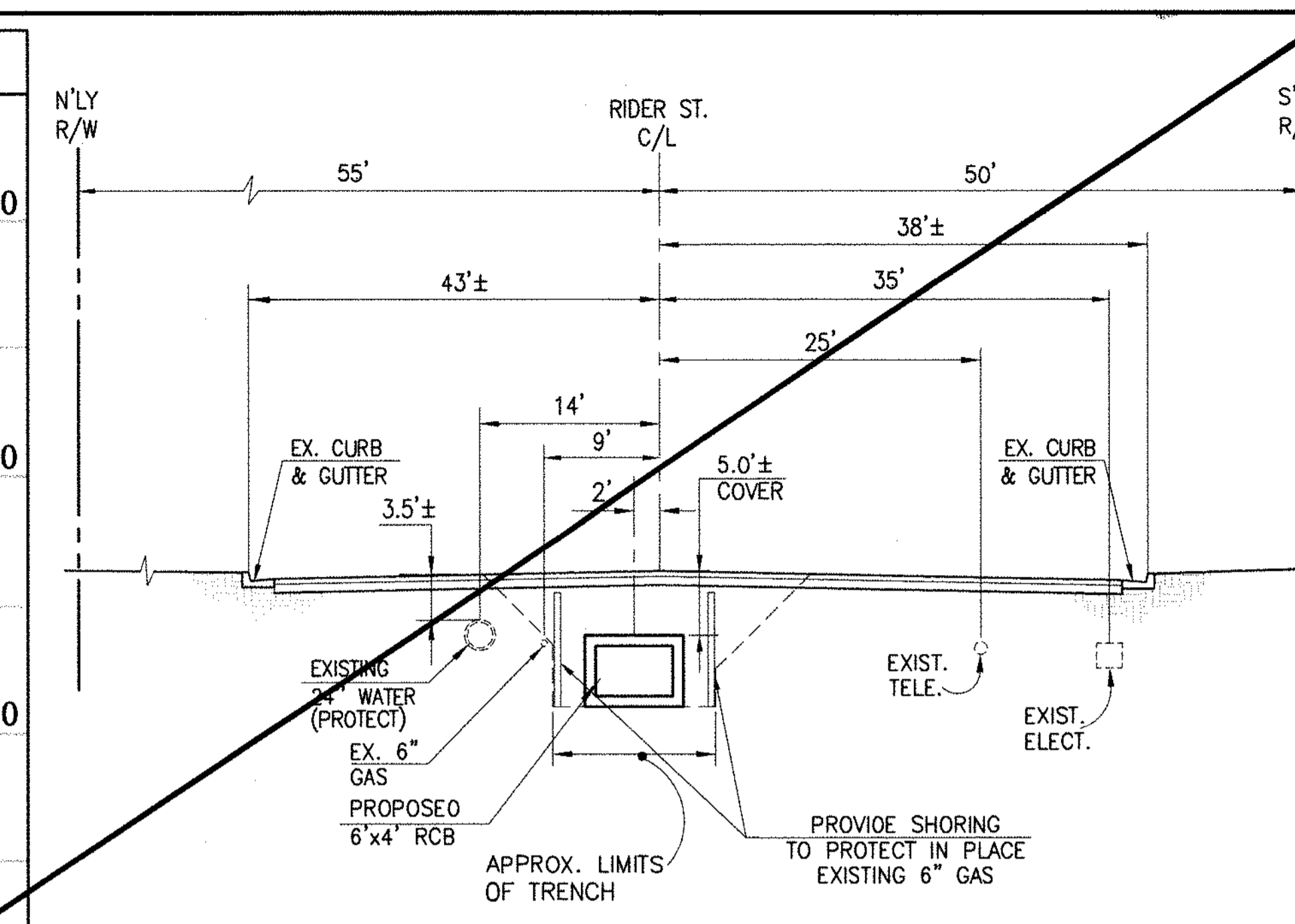
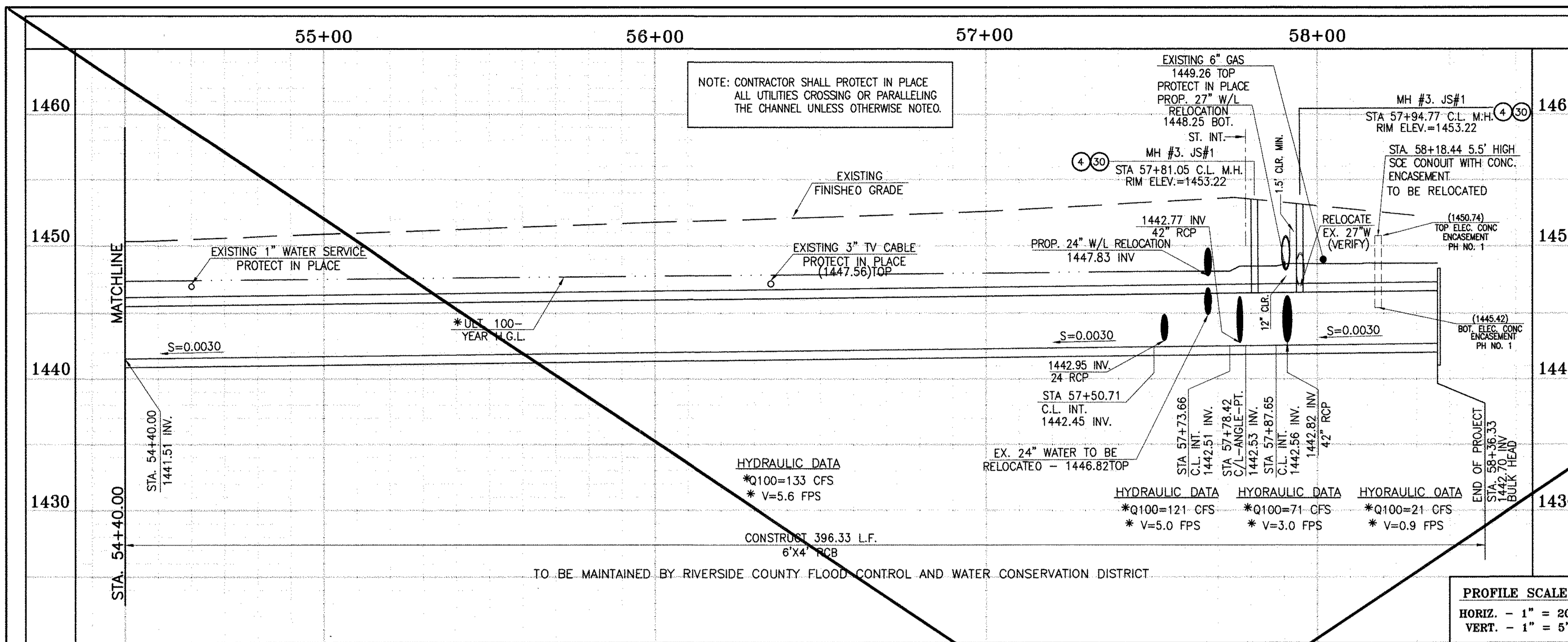
REGISTERED PROFESSIONAL ENGINEER  
HAIDOOK I. AGHAJAN  
R.C.E. NO. 43293  
Exp. 3-31-16  
STATE OF CALIFORNIA

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

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

**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

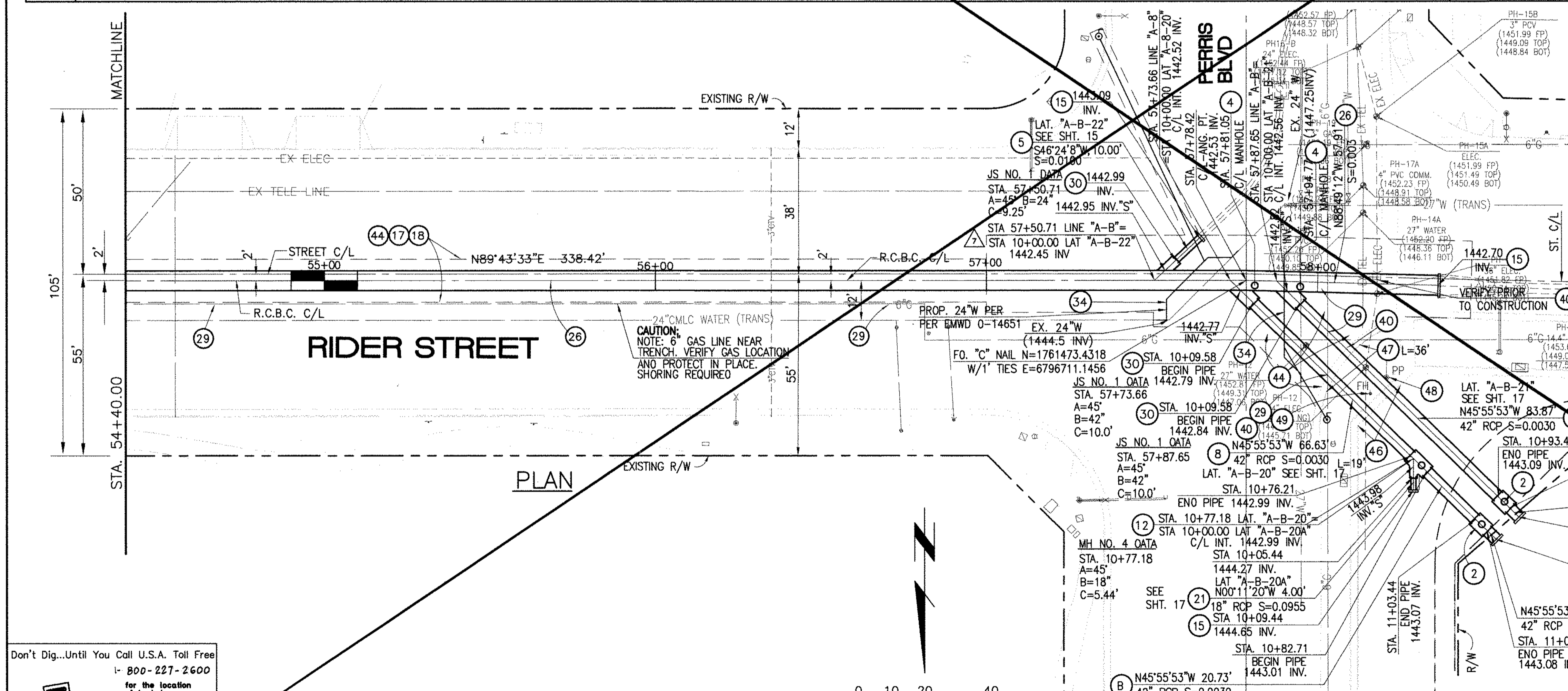


**SECTION AT STA. 55+00.00**  
FROM STA 54+40.00 TO STA 58+36.36

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.
  - 12) CONSTRUCT 42" R.C.P. 0-LOAD PER PLAN.
  - 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. 18, 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.
  - 46) SAWCUT, REMOVE AND REPLACE A.C. PAVEMENT SURFACE REPAIR PER CITY STD. ON SHEET 18.
  - 47) SAWCUT, REMOVE AND REPLACE EXISTING 2"± WIDE CONCRETE GUTTER, LENGTH PER PLAN.
  - 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: **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

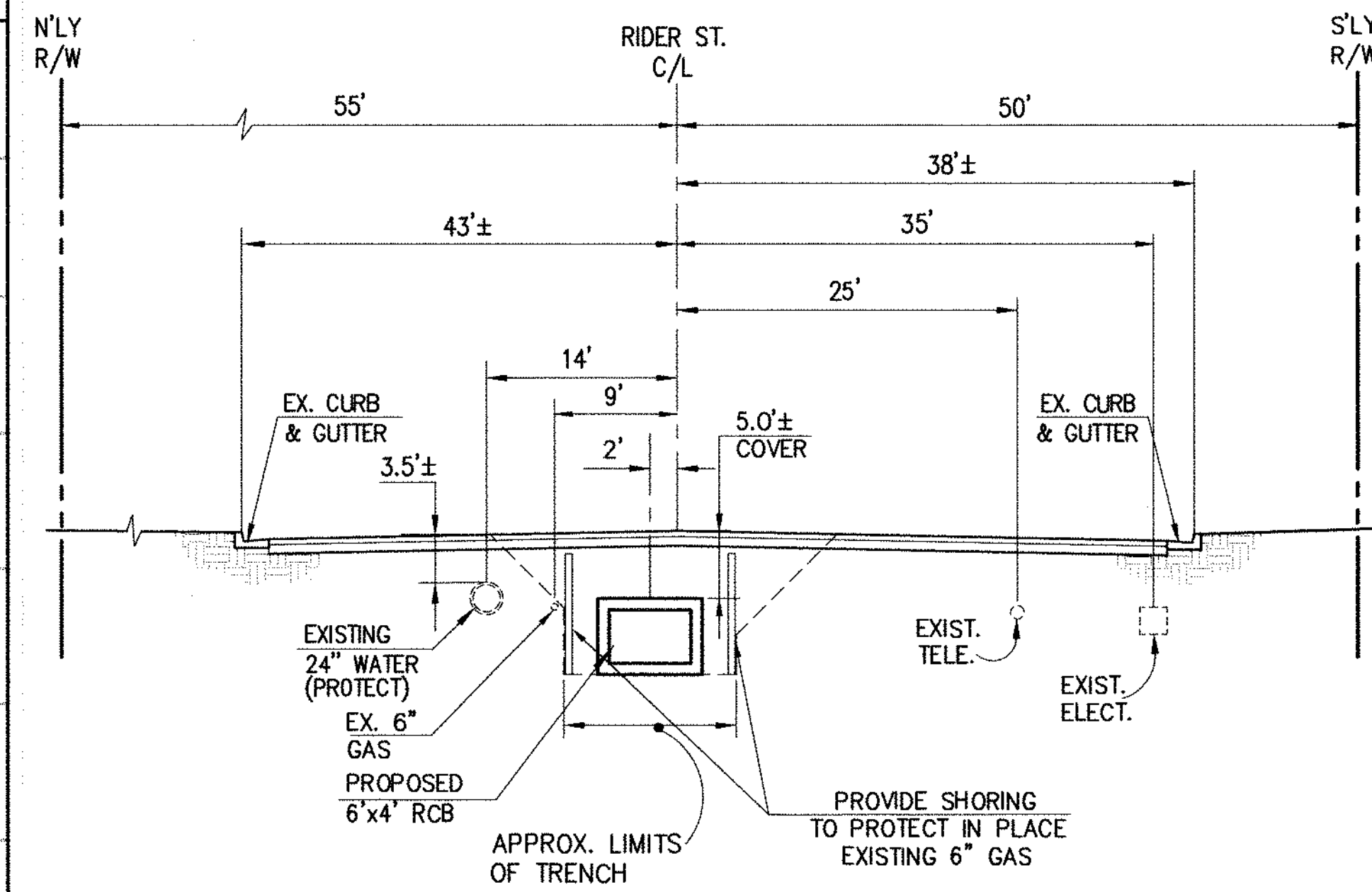
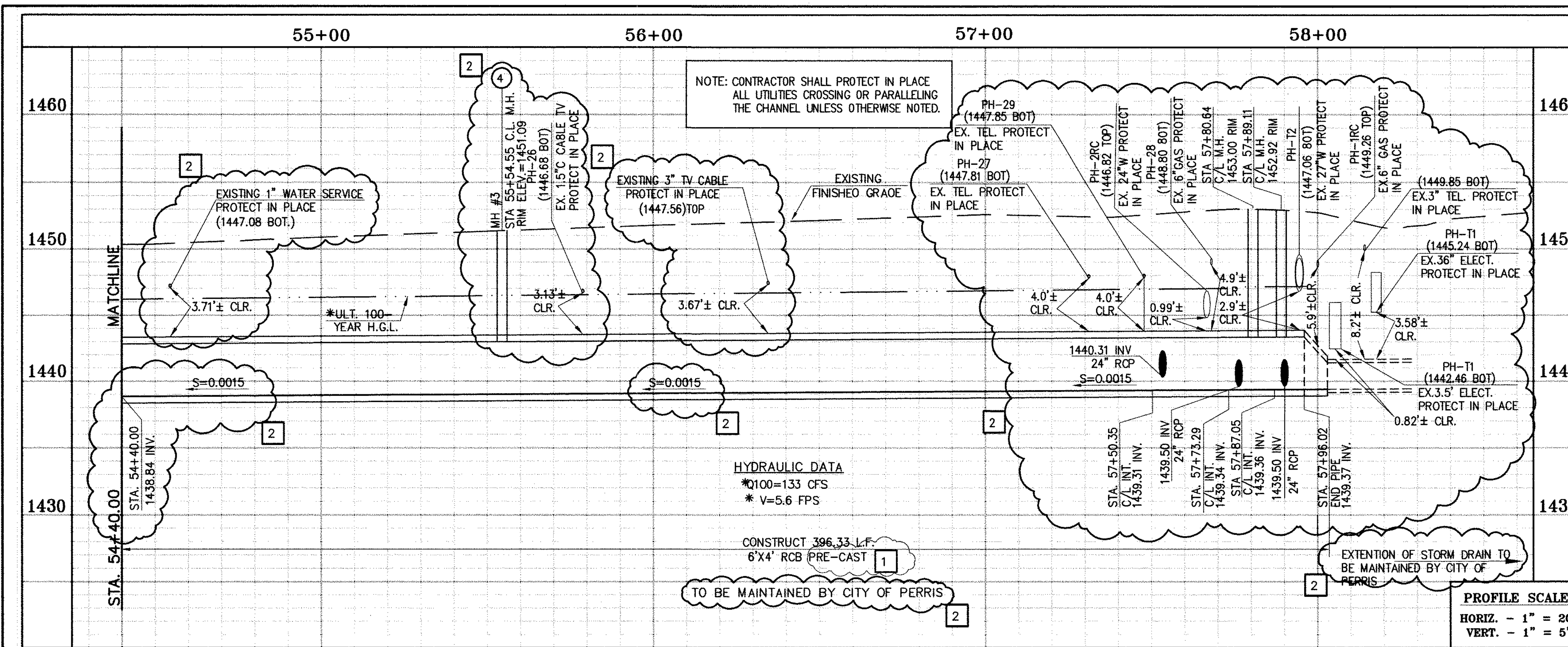
APPROVED BY: [Signature]  
DATE: 1/20/2015

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

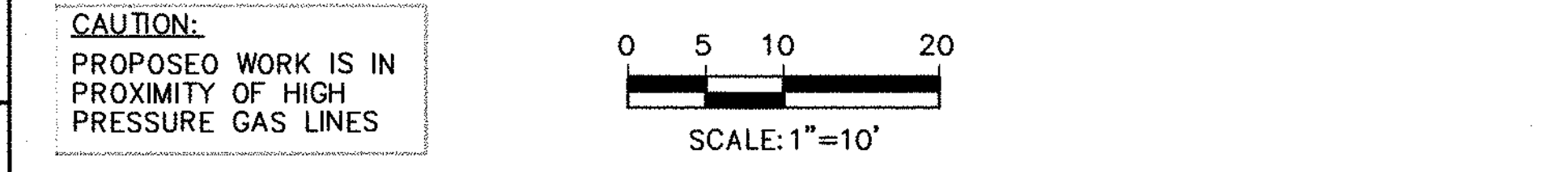
CITY OF PERRIS  
FILE NO. P8-1013

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

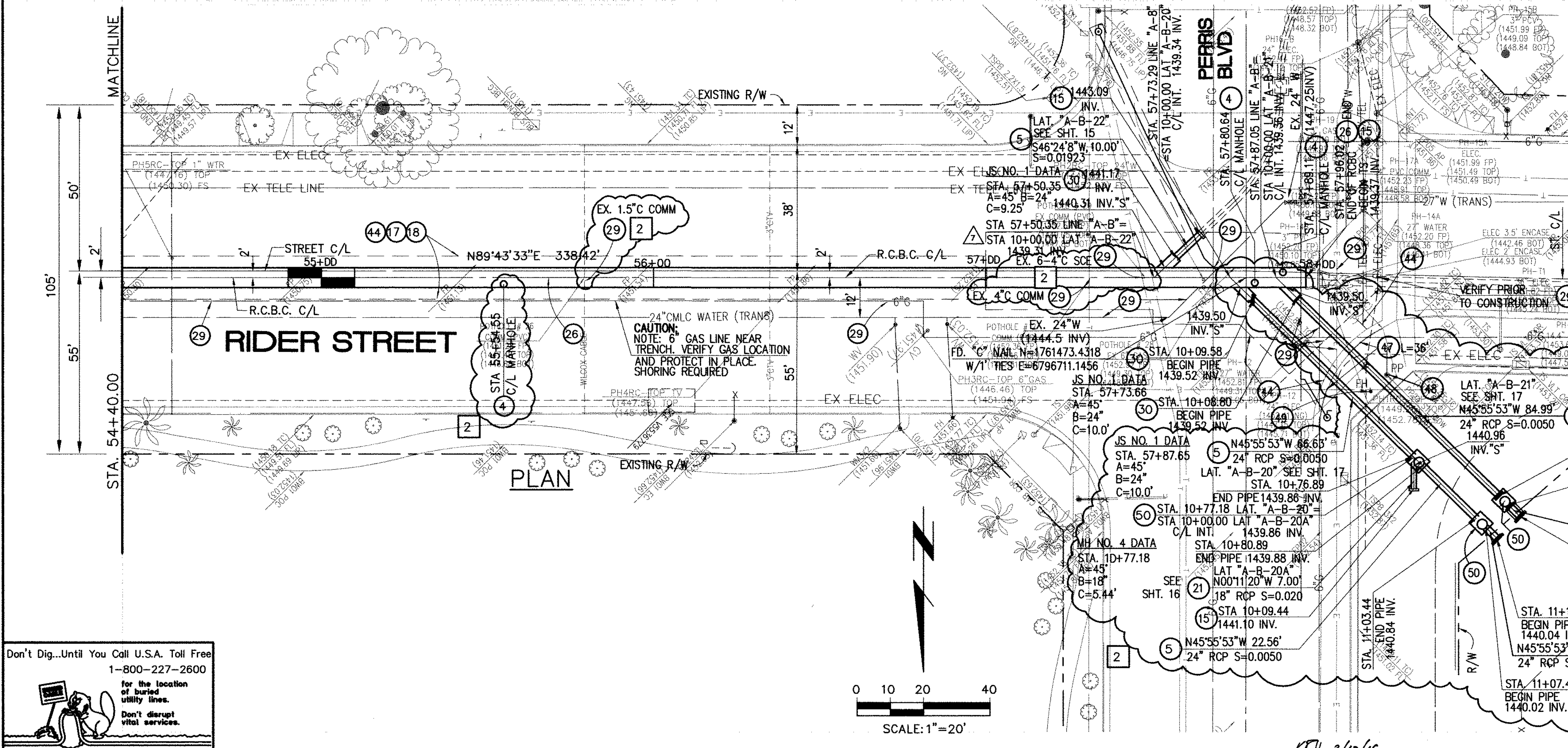
PROJECT NO. 4-0-00537  
DRAWING NO. 4-1063  
SHEET NO. 13 OF 18



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



\* 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.  
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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 LARVAL "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 = 1474.874' (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

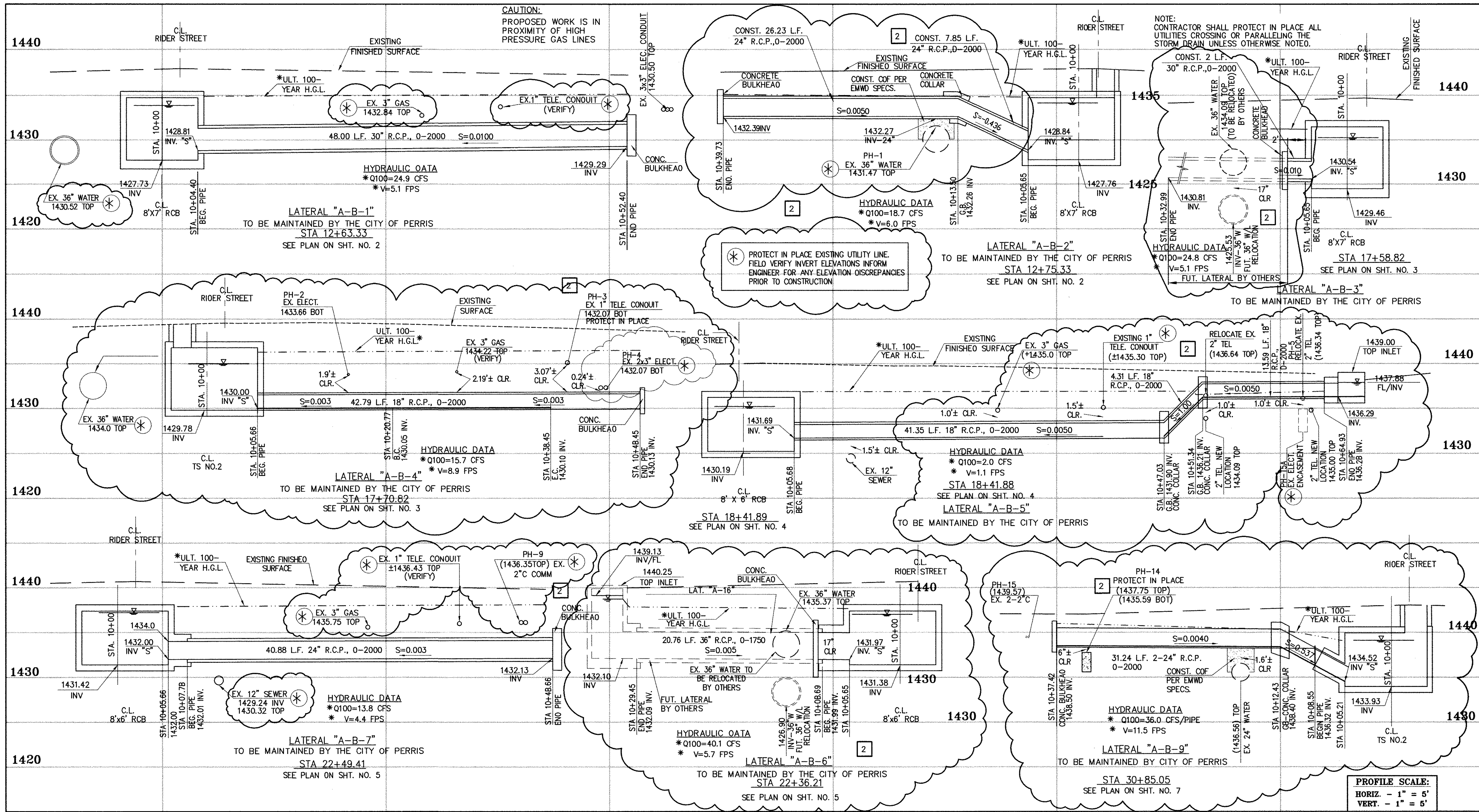
APPROVED BY:  
**Thienes Engineering, Inc.**  
CIVIL ENGINEERING • LAND SURVEYING  
14349 FIRESTONE BOULEVARD  
LA MIRADA, CALIFORNIA 90639  
PH: (714) 821-4811 FAX: (714) 821-4173  
Date: 2/11/16  
RCE NO. 43293

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





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

for the location of buried utility lines.  
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**CAUTION:**  
PROPOSED WORK IS IN PROXIMITY OF HIGH PRESSURE GAS LINES

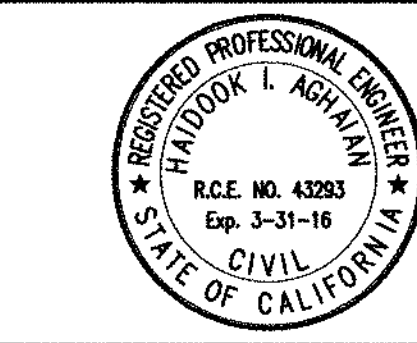
\* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIDER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MOP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION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

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

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

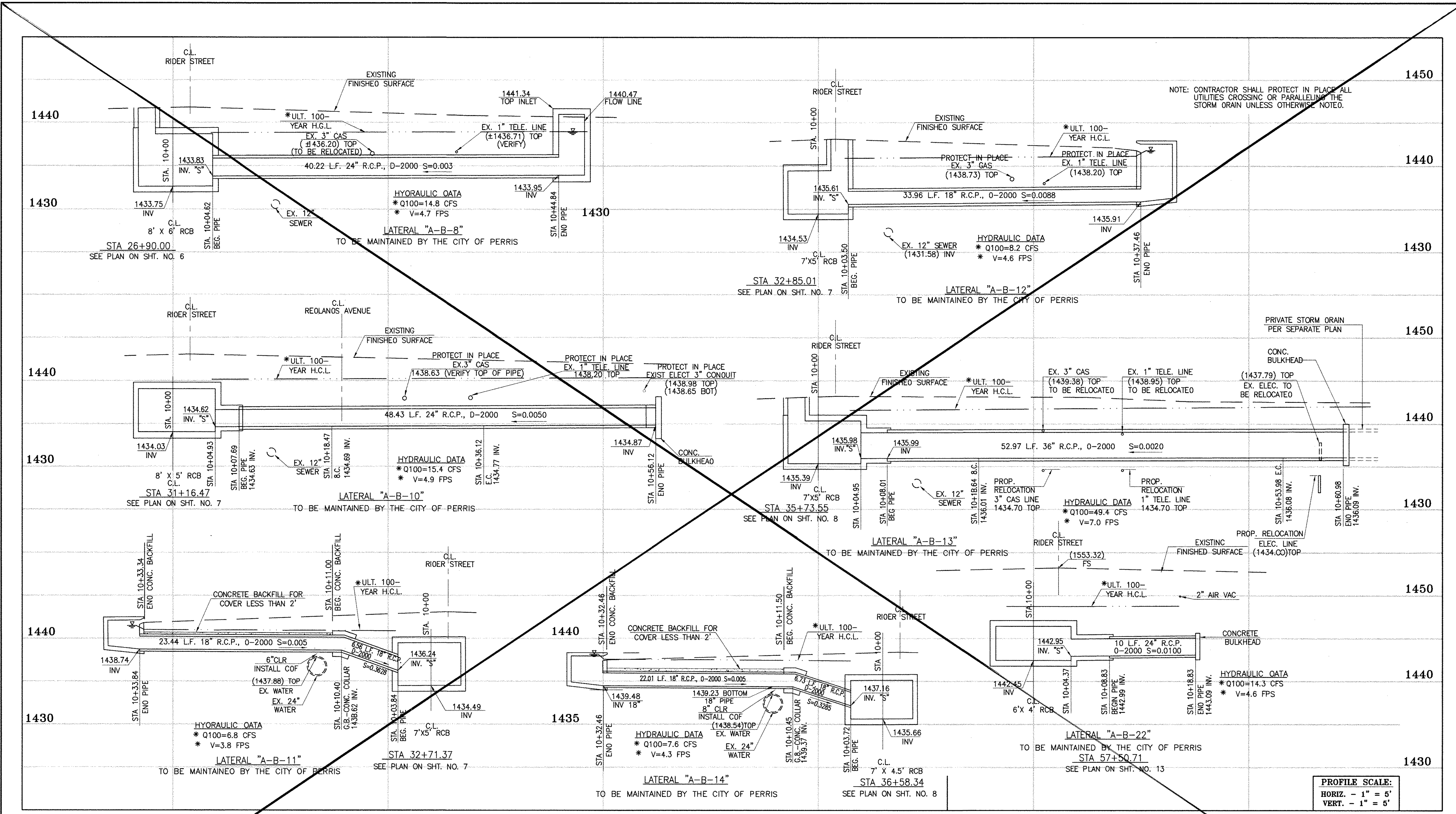
PERRIS VALLEY MDP  
LINE "A-B"

CITY OF PERRIS  
FILE NO. P8-1013

PROJECT NO.  
4-0-00537

DRAWING NO.  
4-1063

SHEET NO.  
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: **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

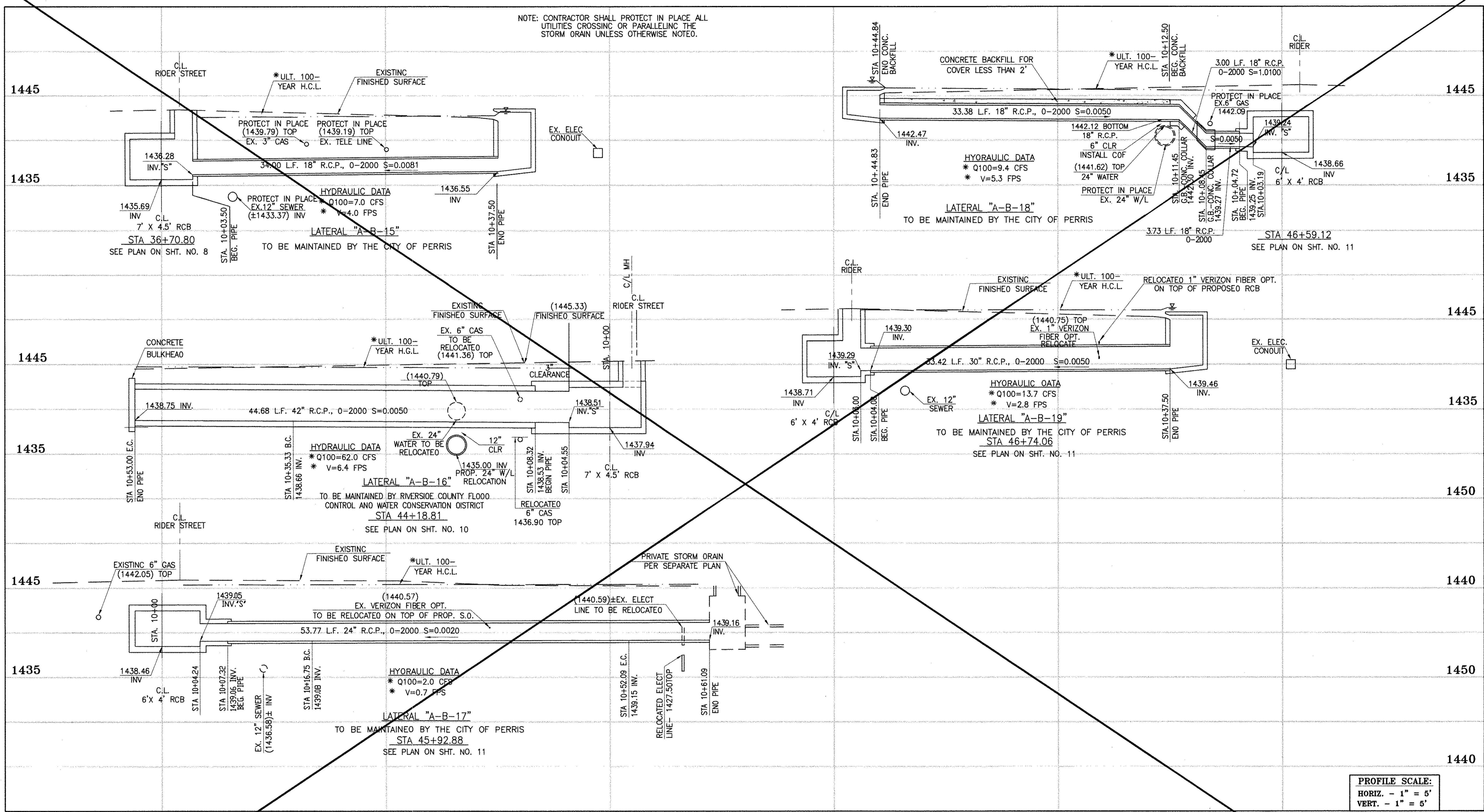
PERRIS VALLEY MDP LINE "A-B"

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.



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 7.0' ± FT. WEST OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE) MARKED BY 102 D.W.R. IN TOP OF CONC. POST FLUSH W/ 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 RCE NO. 43293

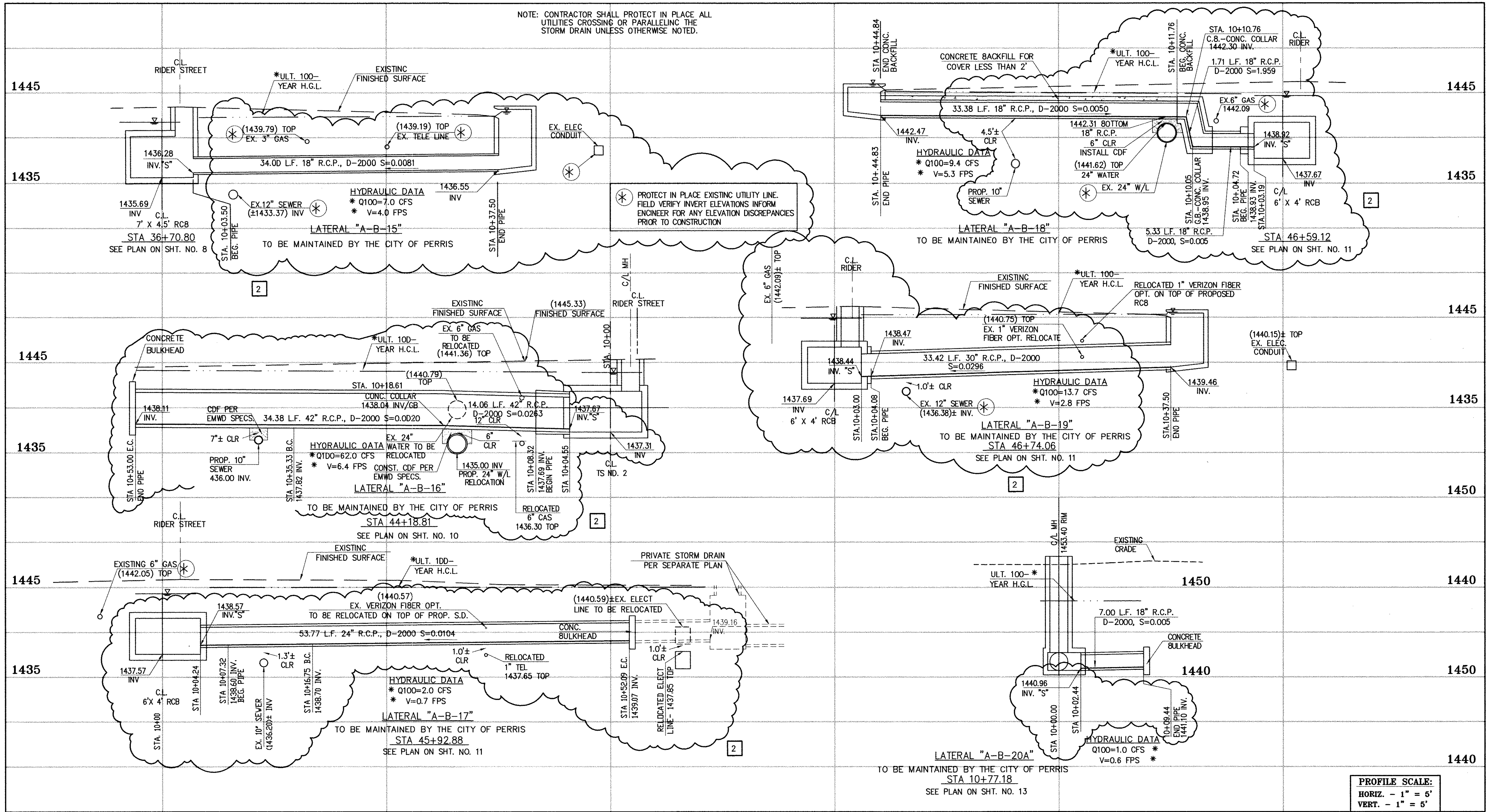
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT  
 RECOMMENDED FOR APPROVAL BY: **[Signature]** DATE: 1/20/2015  
 APPROVED BY: **[Signature]** DATE: 1/20/2015

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.



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

\* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MOP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT 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.

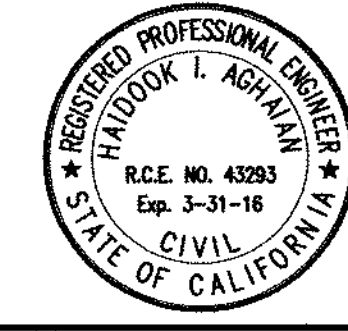


**CAUTION:**  
PROPOSED WORK IS IN PROXIMITY OF HIGH PRESSURE GAS LINES

**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

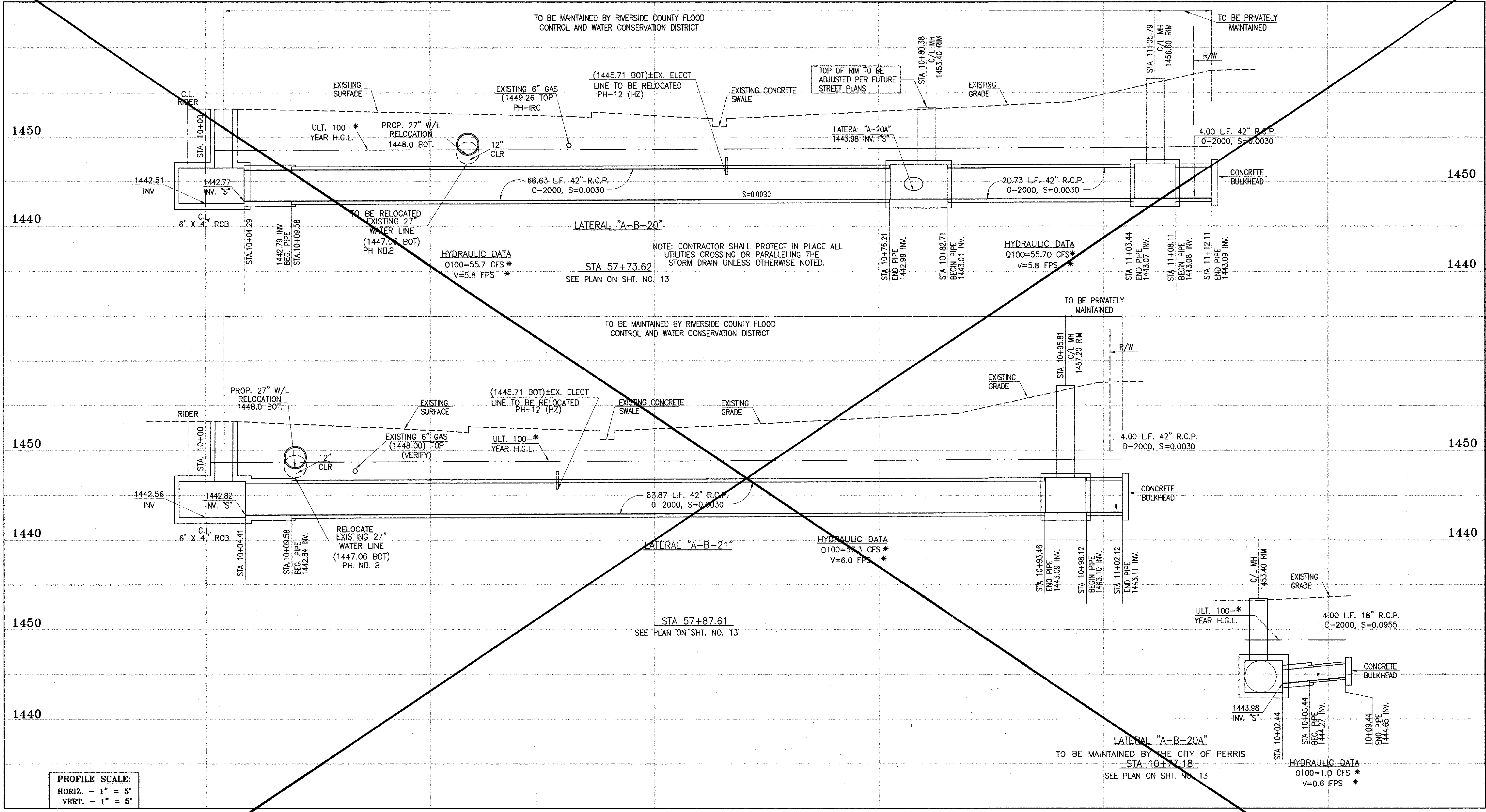


RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT  
RECOMMENDED FOR APPROVAL BY: \_\_\_\_\_ APPROVED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_ DATE: \_\_\_\_\_

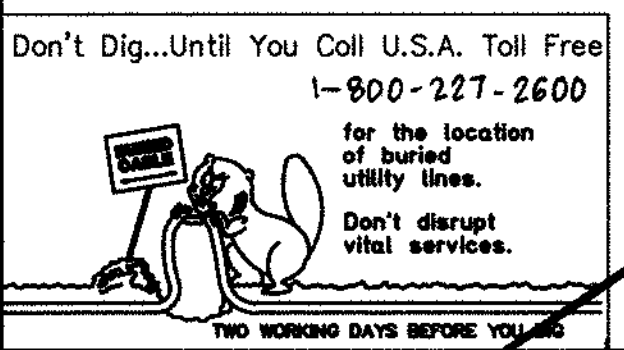
CITY OF PERRIS APPROVED BY: \_\_\_\_\_  
DATE: 2-9-16

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. 174\* 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 73.41 FT. WEST OF CENTERLINE OF PERRIS BLVD. AND 4.5 FT. EAST OF CONCRETE BRIDGE BARRIER (EDGE OF BRIDGE) MARKED 102 D.W.R. IN TOP OF CONC. POST FLUSH W/ GROUND ELEVATION = 1474.874' (NAD 1929)

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

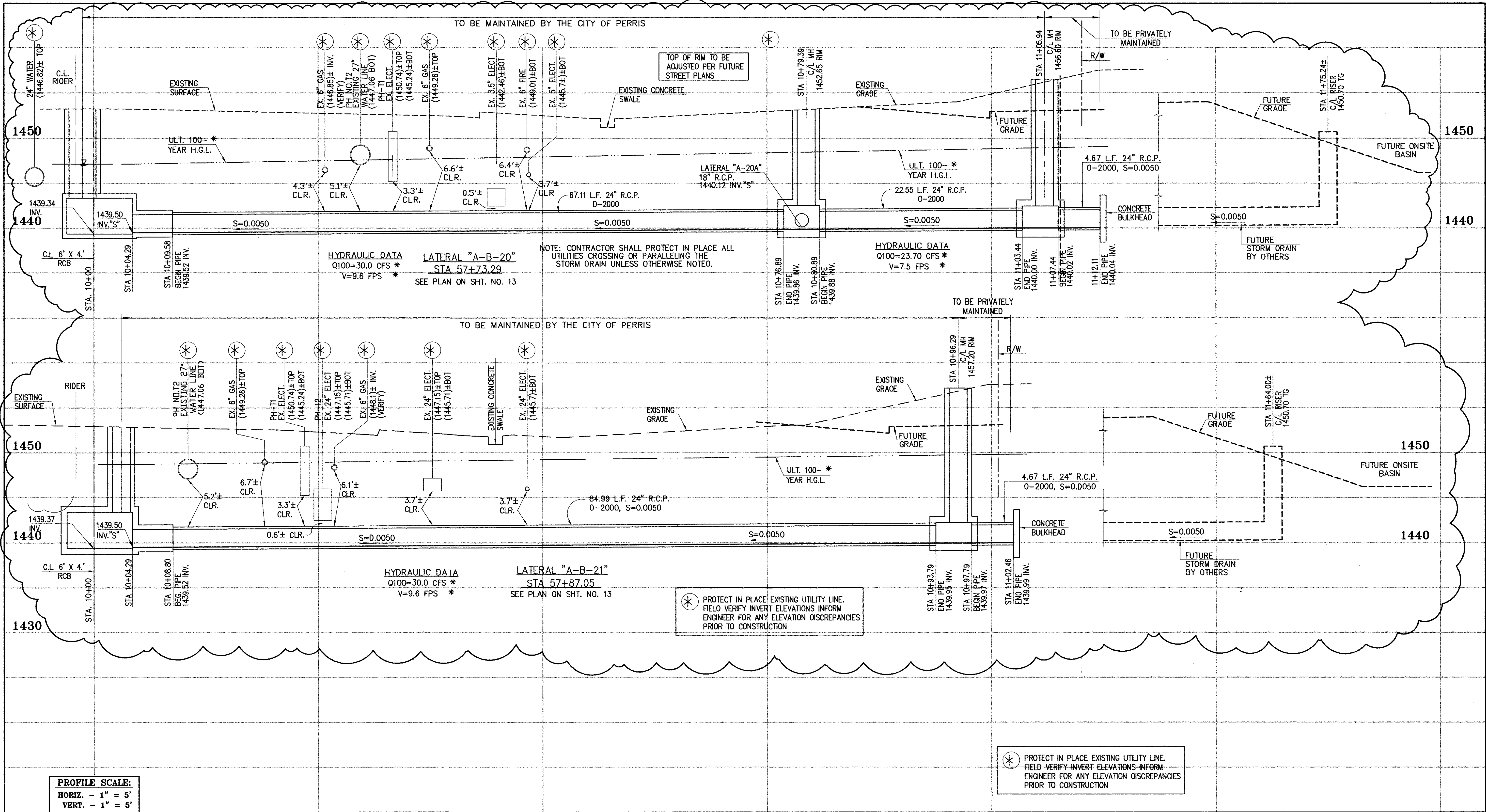
DESIGNED BY: **BW**  
 DRAWN BY: **ET**  
 DATE DRAWN:  
 APPROVED BY: **HAIDOOK L. AGHAJAN**  
**Thienes Engineering, Inc.**  
 CIVIL ENGINEERING - LAND SURVEYING  
 14349 FIRESTONE BOULEVARD  
 LA MIRADA, CALIFORNIA 90638  
 PH. (714) 521-4811, FAX (714) 521-4173  
 Date: 11/18/14  
 HAIDOOK L. AGHAJAN 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

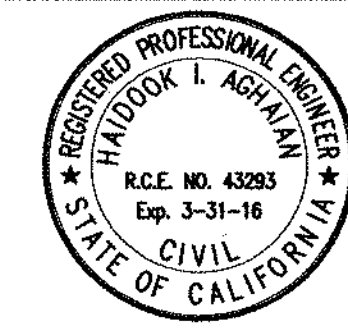
\* THE ULTIMATE H.G.L. IS BASED ON THE ADOPTED MDP WATER SURFACE ELEVATION OF 1433 IN THE PERRIS VALLEY STORM CHANNEL (PVSC) AT RIGER STREET, AND ASSUMES THAT FULL CHANNEL IMPROVEMENTS HAVE BEEN CONSTRUCTED PER THE ADOPTED MDP. FOR ALL WATER SURFACE ELEVATIONS BETWEEN 1433 AND THE 100-YEAR FLOOD ELEVATION 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	RL	2/25/16
1	ADDED EX. UTILITIES, RELOCATE UTILITIES, REVISED SD	H.A.	2/25/16	RL	2/25/16
1	CHANGED CAST IN PLACE RCB TO PRE-CAST RCB PER APWA 390-0	H.A.	2/25/16	RL	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

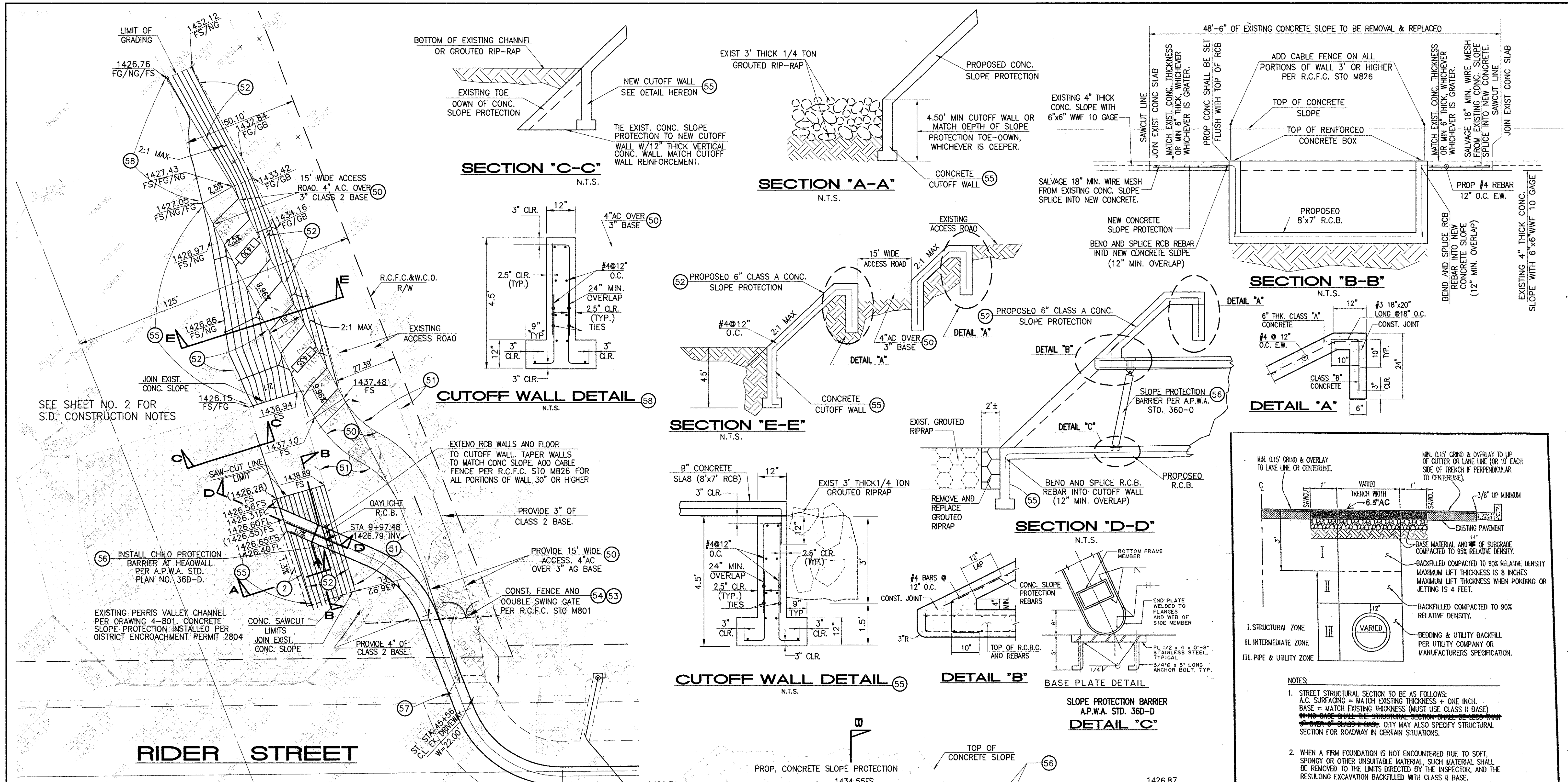


RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT  
 RECOMMENDED FOR APPROVAL BY: \_\_\_\_\_  
 APPROVED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

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

PERRIS VALLEY MDP LINE "A-B"

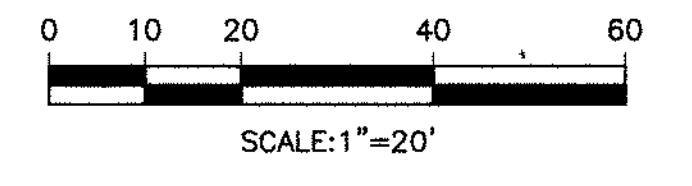
CITY OF PERRIS  
 FILE NO. P8-1013  
 PROJECT NO. 4-0-00537  
 DRAWING NO. 4-1063  
 SHEET NO. 17A OF 18



**STORM DRAIN CONSTRUCTION NOTES:**

- ② REMOVE AND REPLACE APPROXIMATELY 2' WIDE 1/4 TON GROUDED RIPRAP, MATCH EXISTING THICKNESS.
- ⑤① CONSTRUCT 4" AC OVER 3" AGGREGATE BASE, CLASS 2.
- ⑤② INSTALL 3" AGGREGATE BASE, CLASS 2.
- ⑤③ CONSTRUCT 6" THK. CONCRETE SLOPE PROTECTION PER DETAIL ON THIS SHEET.
- ⑤④ CONSTRUCT FENCE AND DOUBLE SWING GATE PER R.C.F.C. STO. M801.
- ⑤⑤ REMOVE EXISTING FENCE AND GATE.
- ⑤⑥ CONSTRUCT CUTOFF WALL PER DETAIL ON THIS SHEET.
- ⑤⑦ INSTALL SLOPE PROTECTION BARRIER PER APWA STD. PLAN 360.
- ⑤⑧ RECONSTRUCT EXISTING DRIVEWAY APPROACH.
- ⑤⑨ CONSTRUCT CUTOFF WALL PER DETAIL ON THIS SHEET.

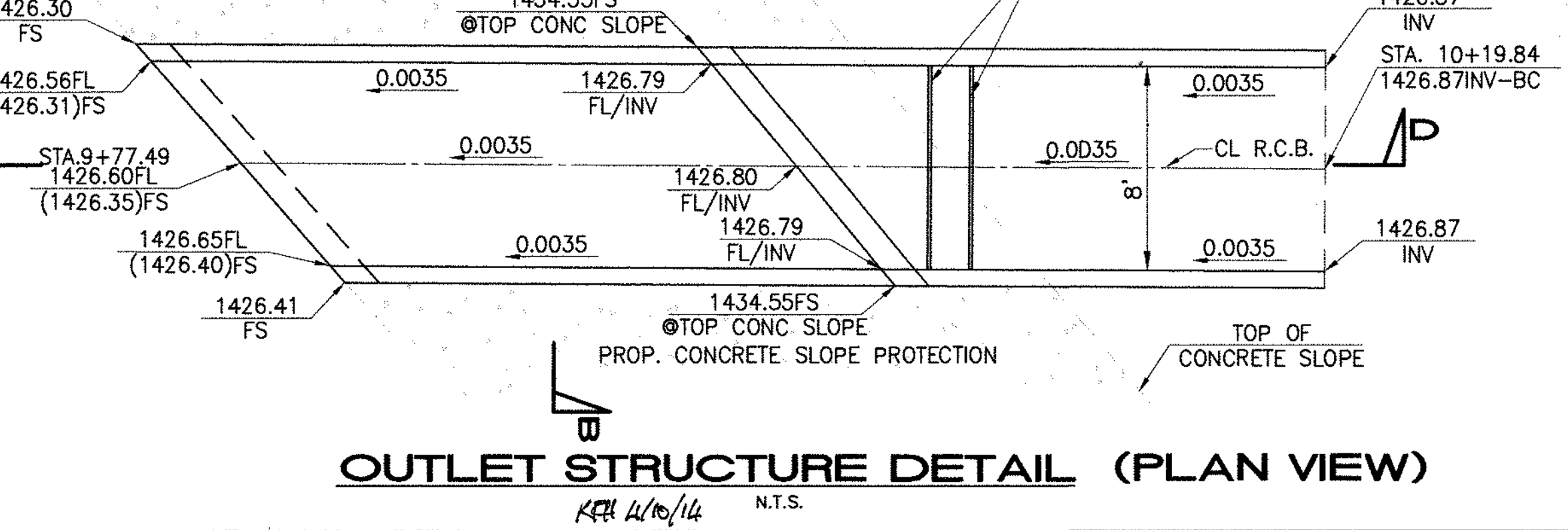
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**BENCH MARK**  
COUNTY OF RIVERSIDE BENCHMARK NO. "M-31"  
COUNTY OF RIVERSIDE BENCHMARK - 3 1/4" ALUMINUM DISK MARKED M-31, LOCATED FLUSH AT THE SOUTH WEST CORNER OF BRIDGE ON TOP OF SIDEWALK NEAR FACE OF CURB LOCATED AT THE CROSSING OF PERRIS BLVD. AND INV. CO. FLOOD CONTROL CHANNEL, PERMS 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 = 1474.874' (MVD 1829)

REF.	DESCRIPTION	APPR.	DATE	APPR.	DATE

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



HAIDOOK I. AGHAJAN  
RCE NO. 43293  
Date: 11/18/14

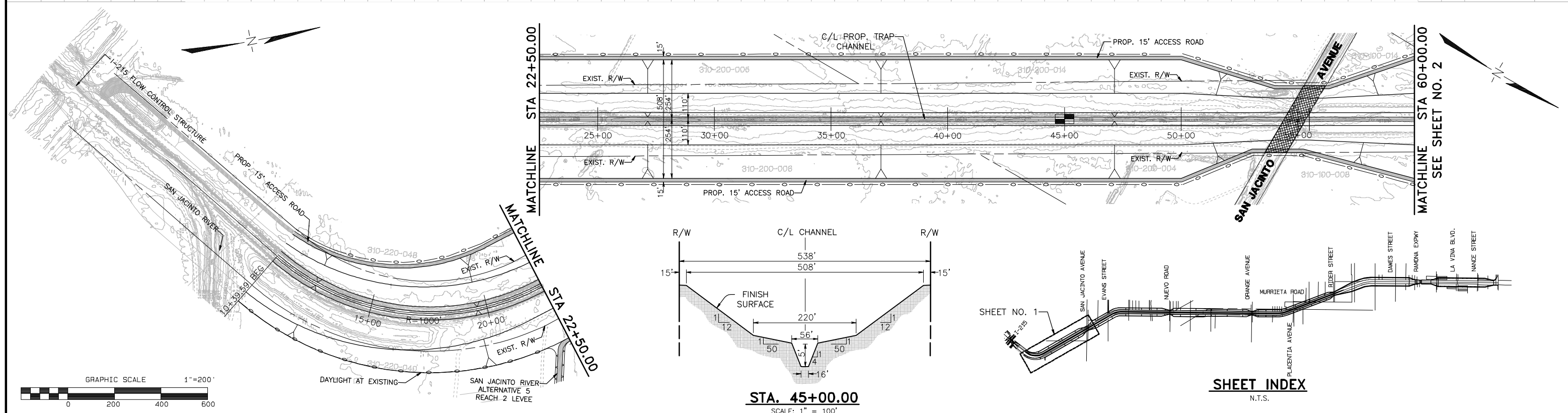
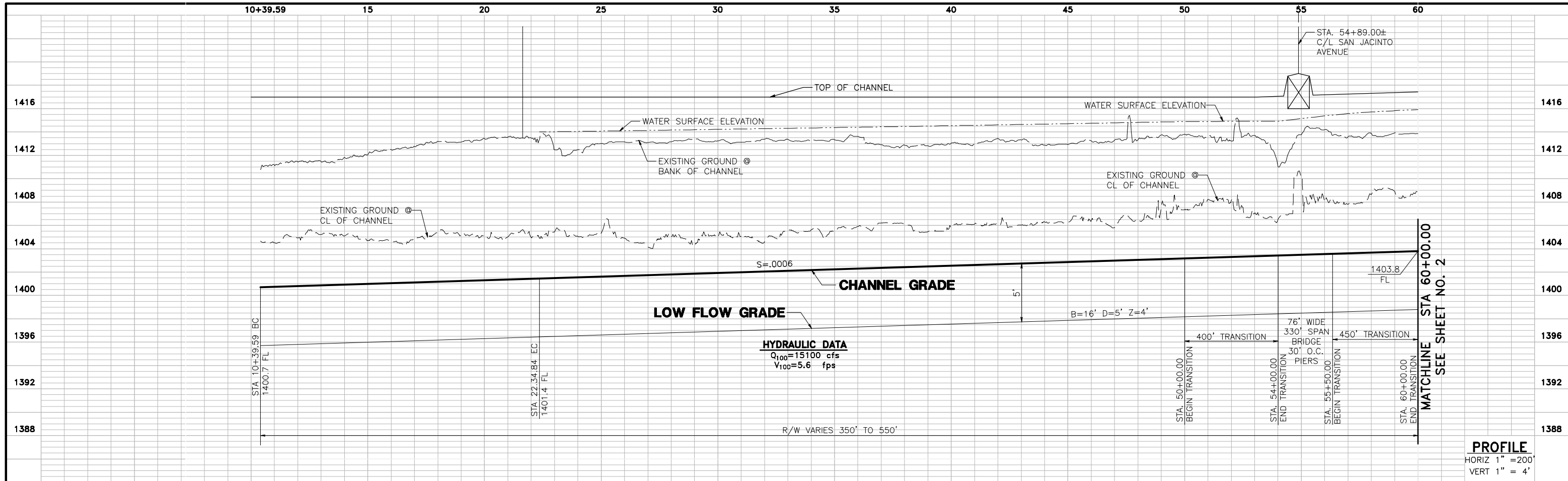
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT  
RECOMMENDED FOR APPROVAL BY: **[Signature]**  
DATE: **1/20/15**  
APPROVED BY: **[Signature]**  
DATE: **1/20/2015**

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

**CITY OF PERRIS**  
CITY STANDARD UTILITY TRENCH SURFACE REPAIR  
APPROVED BY: **[Signature]** DATE: **2-12-16**  
SCALE: NONE  
STD. NO. N/A

**TRENCH AND SURFACE REPAIR DETAIL**  
CITY OF PERRIS  
PROJECT NO. 4-0-00537  
DRAWING NO. 4-1063  
SHEET NO. 18 OF 18

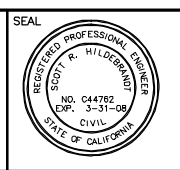
**Appendix E: Ultimate Perris Valley Storm Drain Channel Plans**



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# PERRIS VALLEY STORM DRAIN ALTERNATIVE 5



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

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

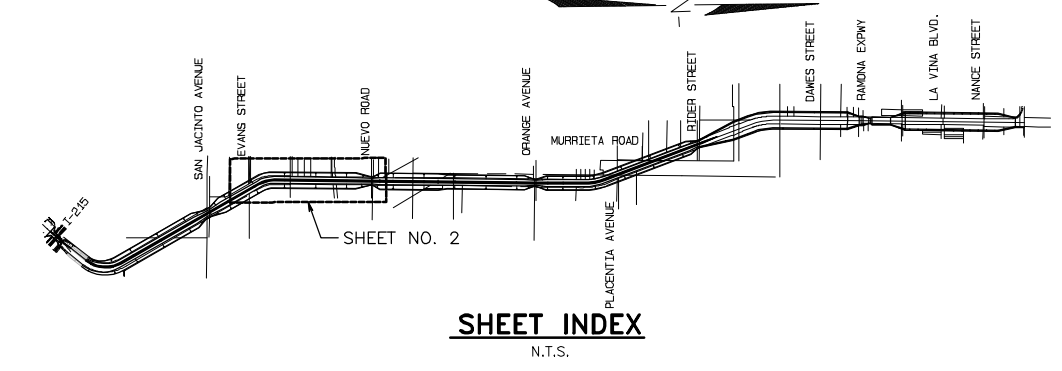
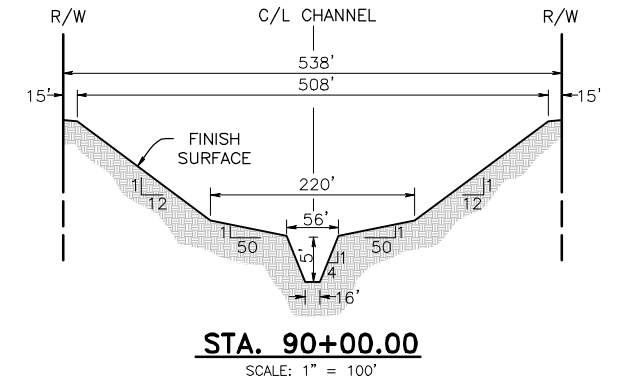
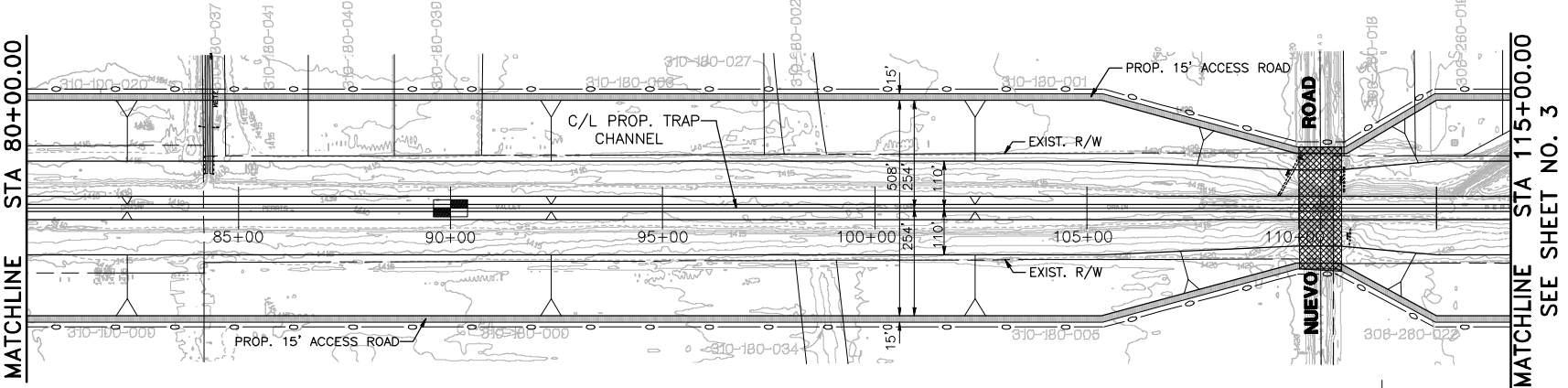
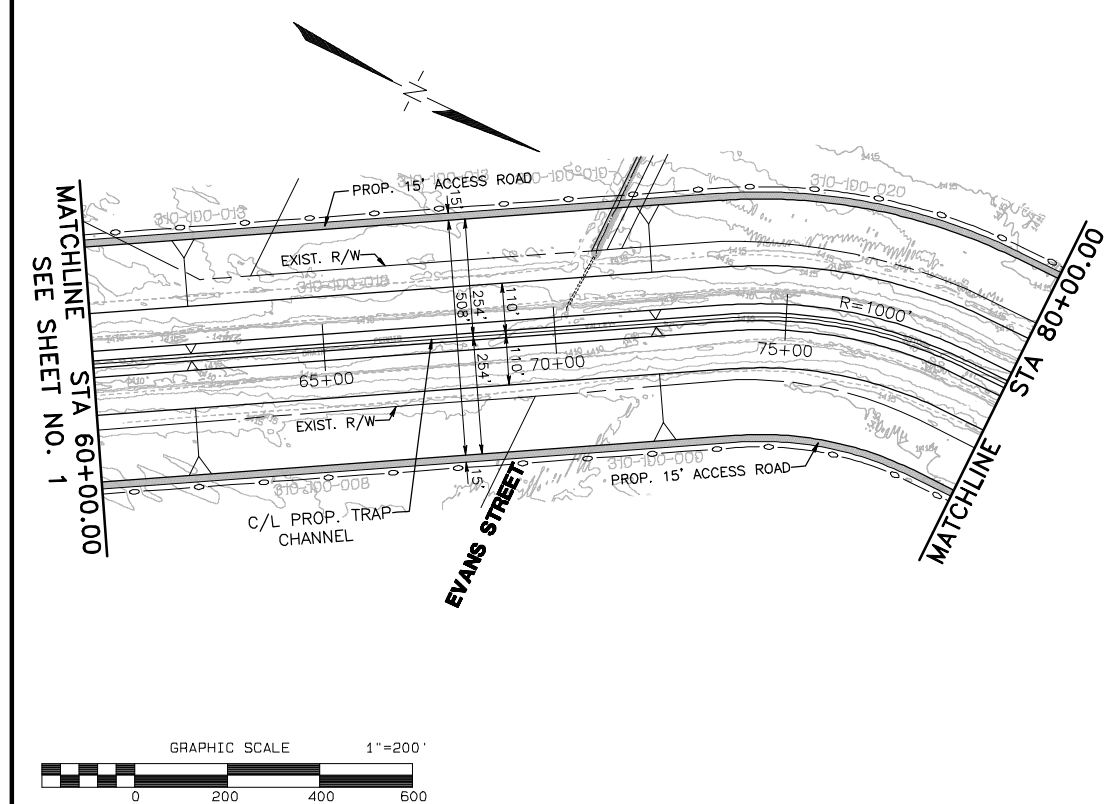
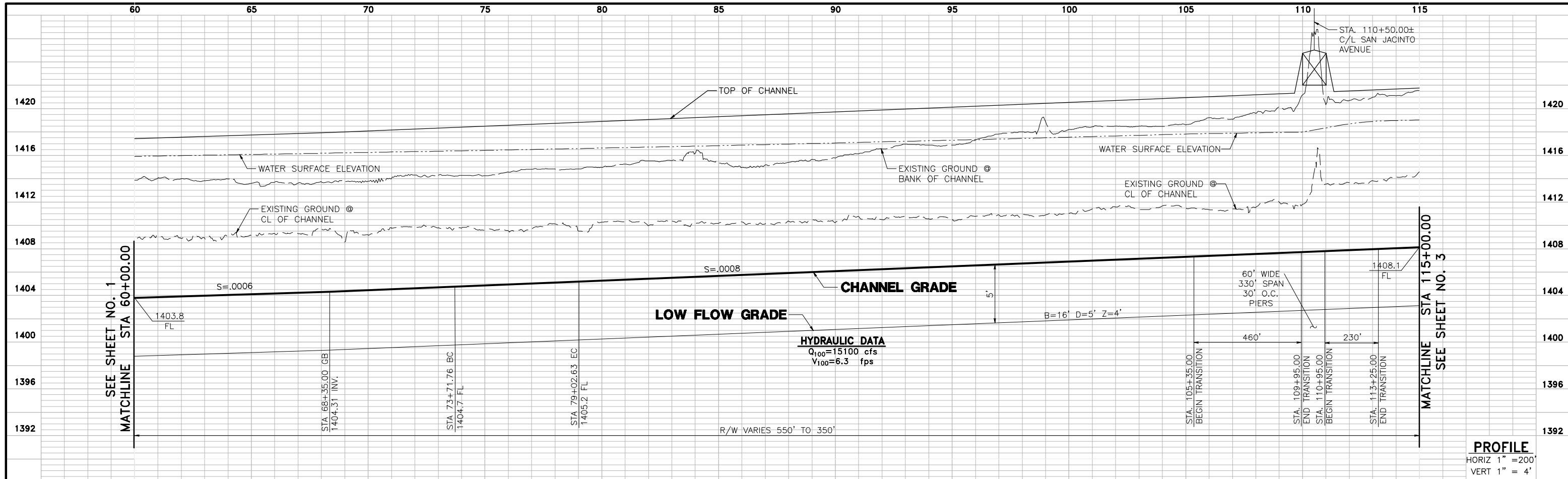
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 DRAWN BY: D.V.A.J.  
 CHECKED BY: SRH

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

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





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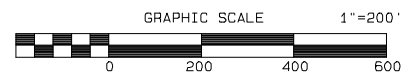
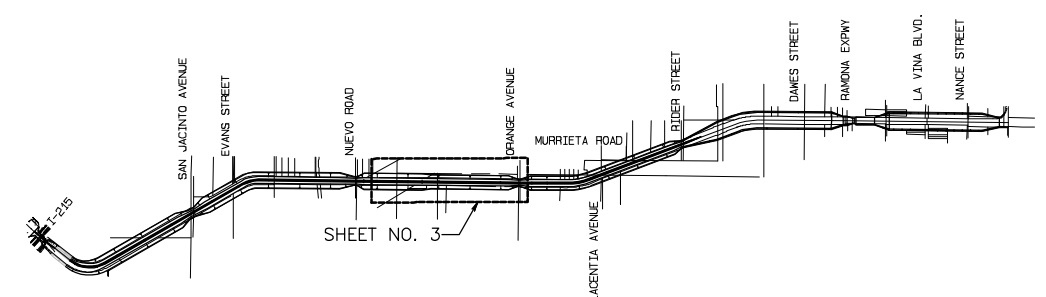
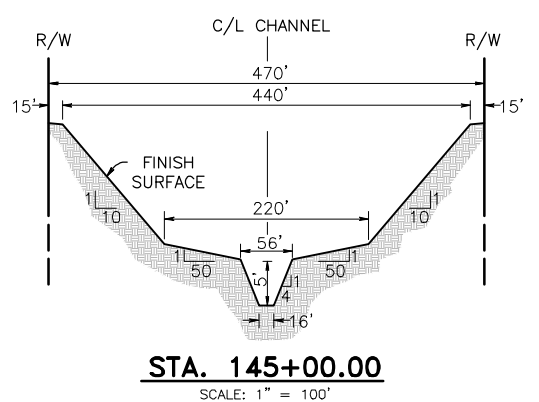
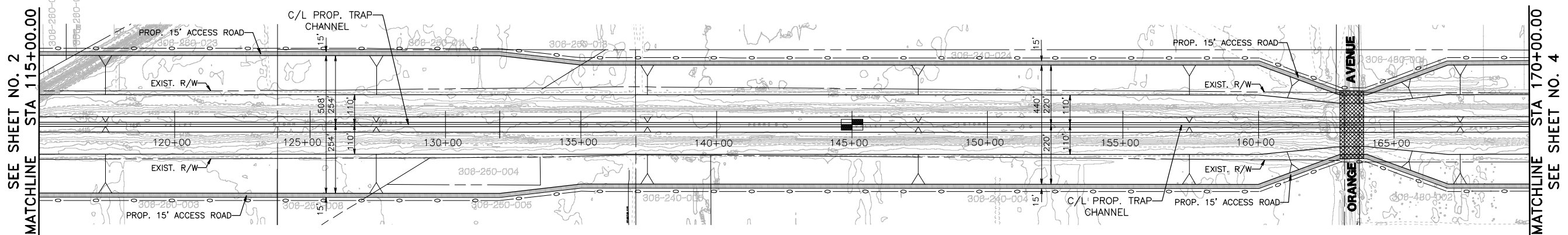
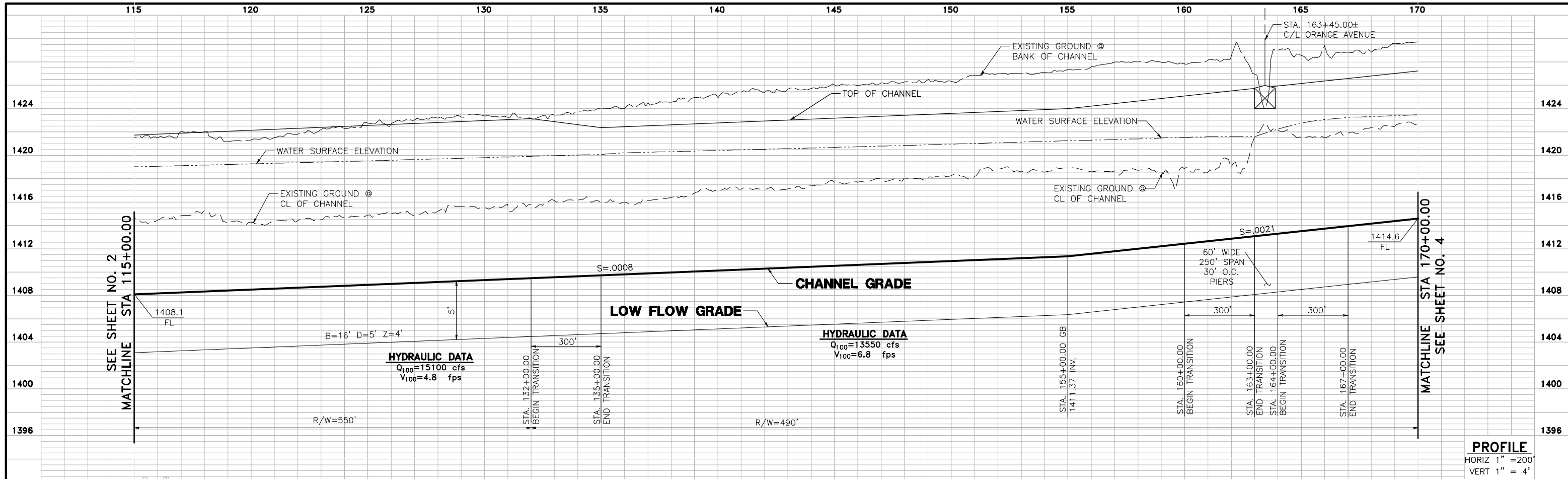
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**PRELIMINARY PROFILE**  
**PERRIS VALLEY STORM DRAIN**  
**ALTERNATIVE 5**

PROJECT NO. 03-0461  
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 SHEET NO. 2 OF 6



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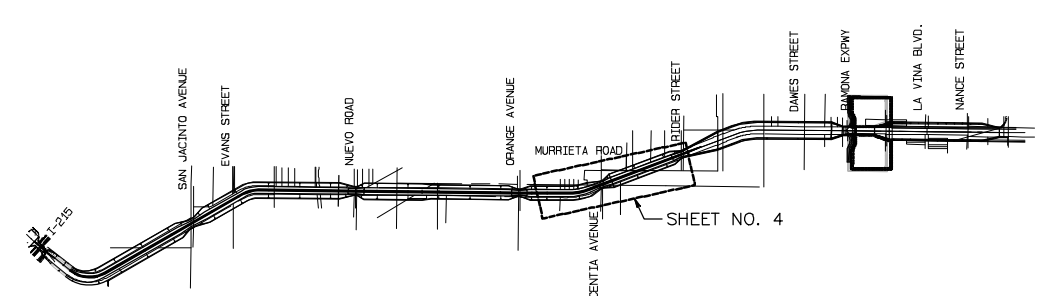
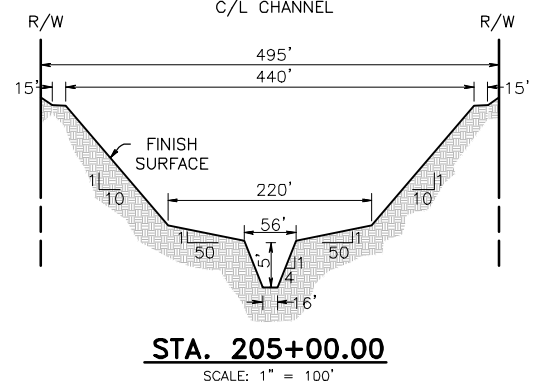
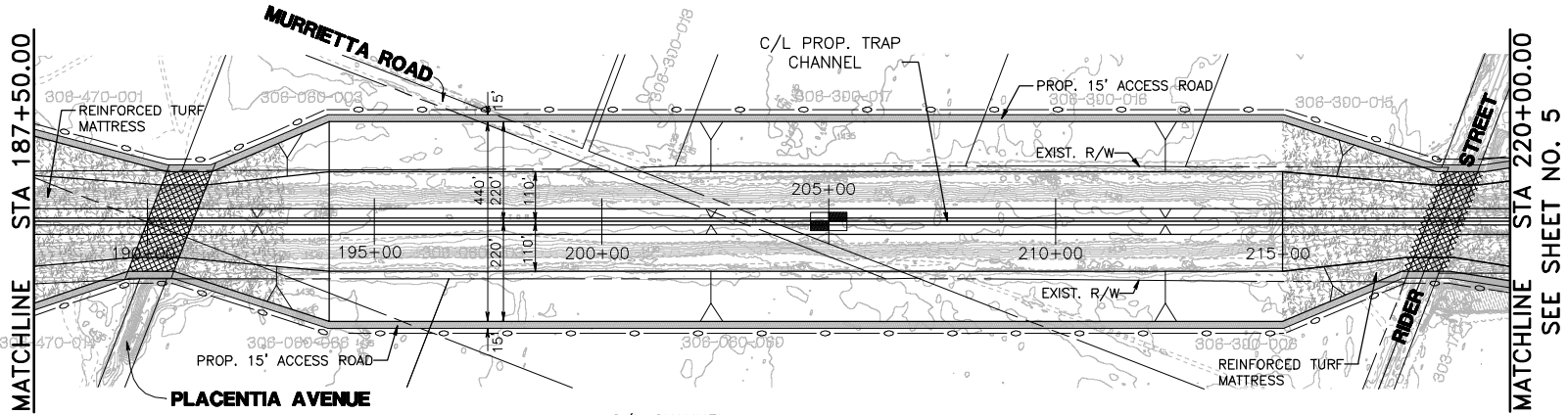
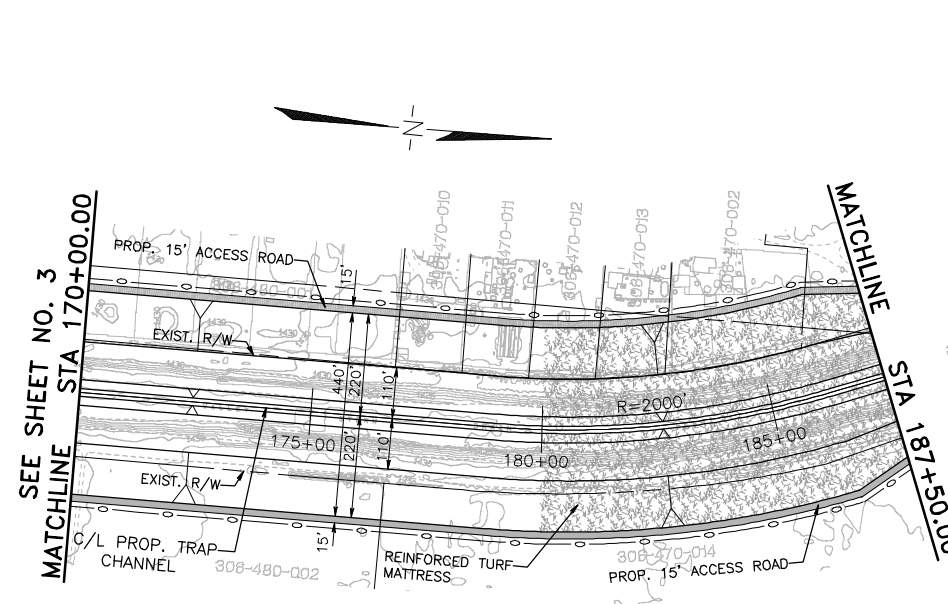
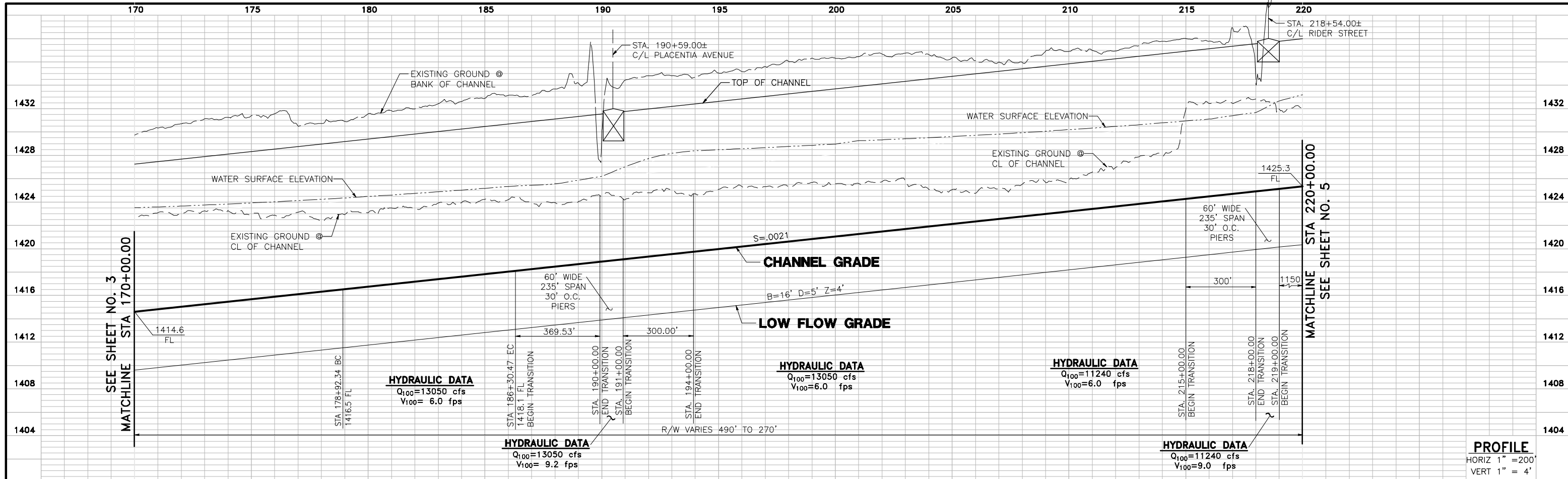
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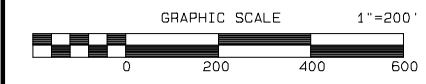
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 PERRIS VALLEY STORM DRAIN  
 ALTERNATIVE 5**

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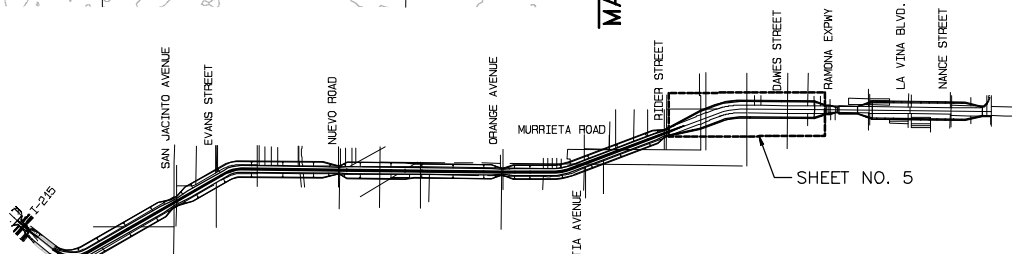
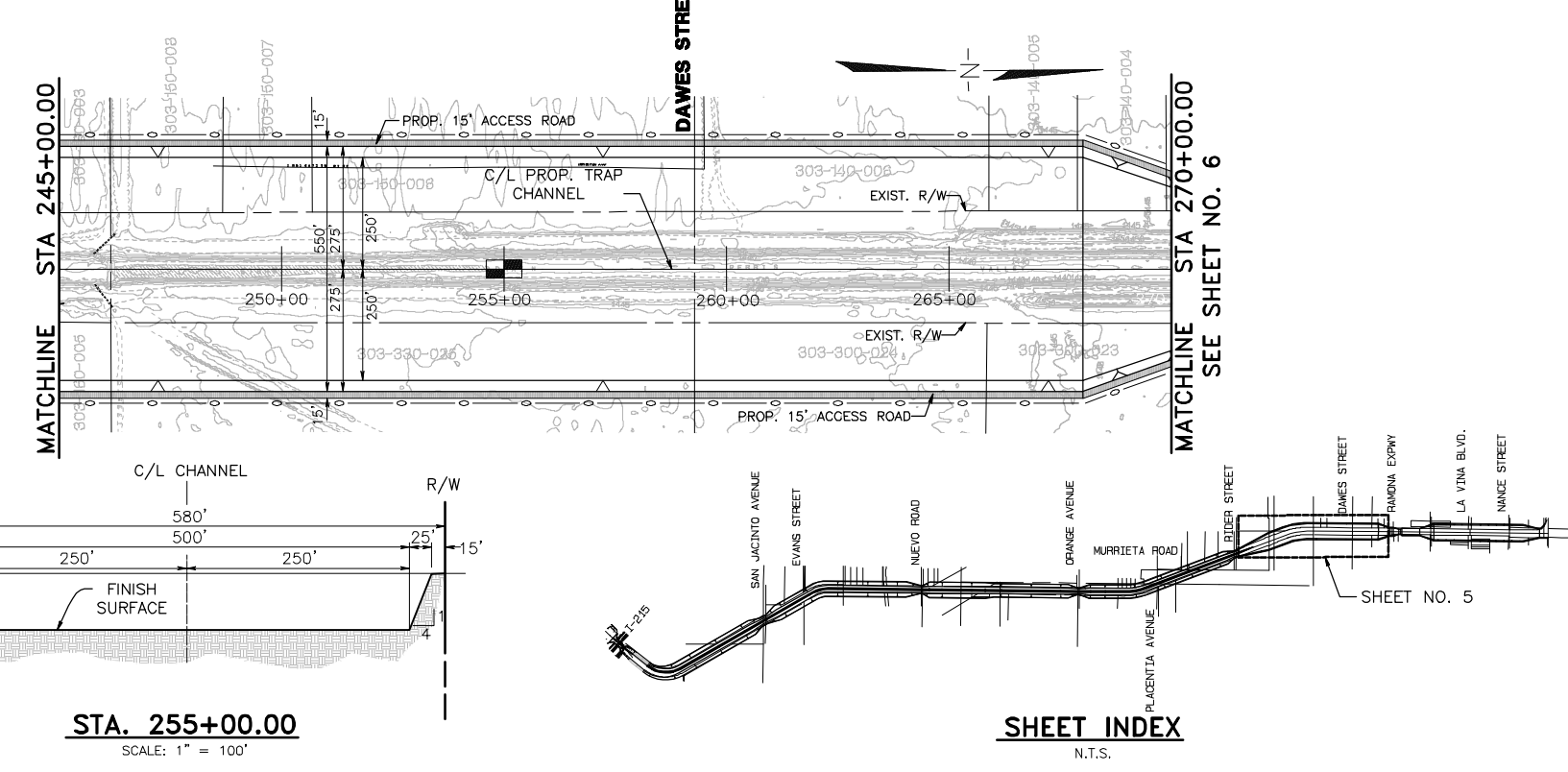
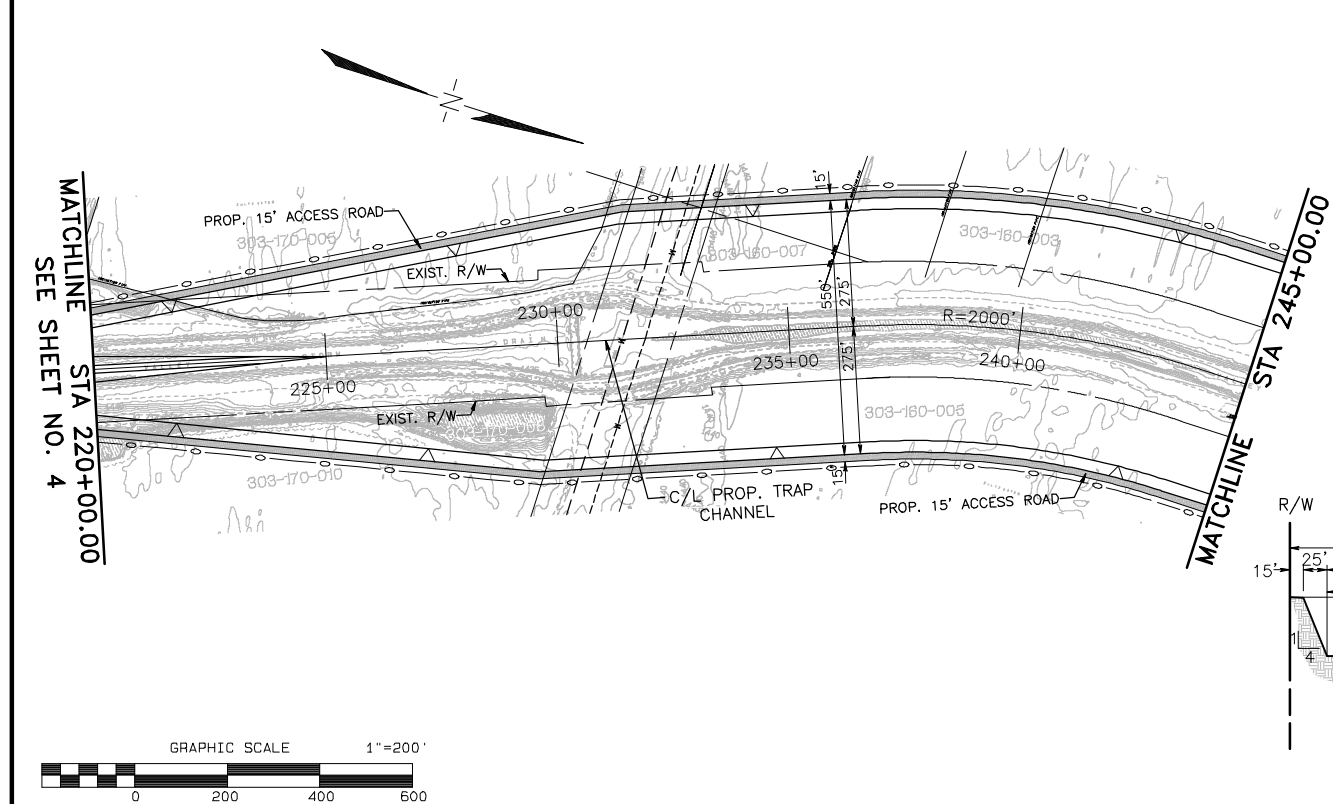
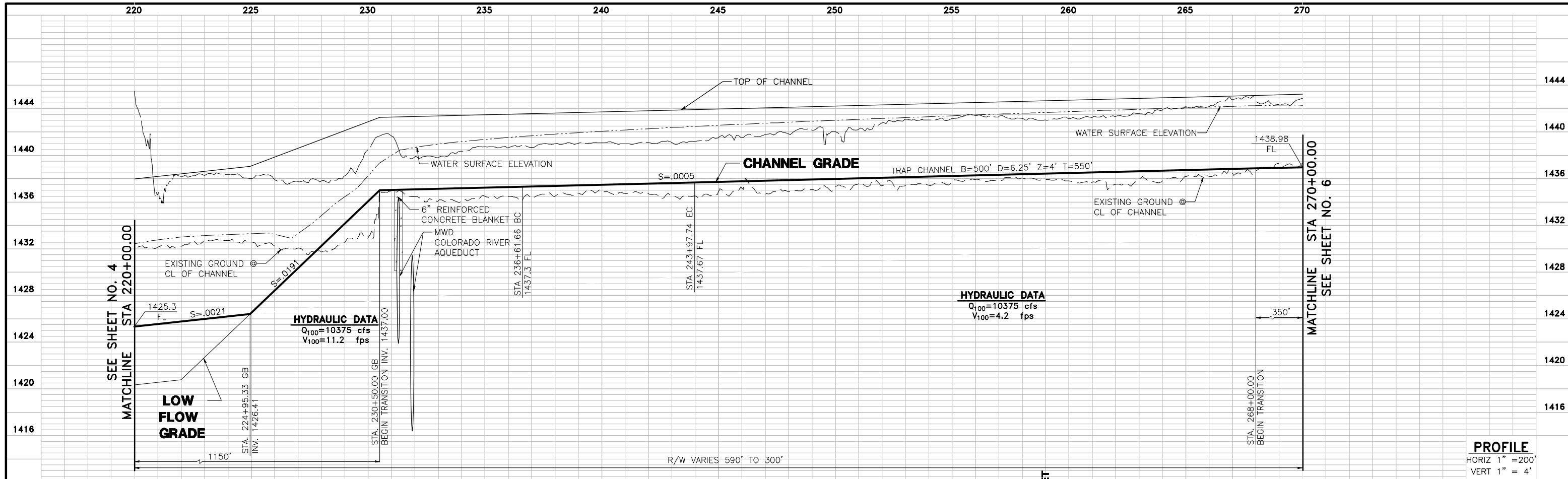
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**PRELIMINARY PROFILE  
 PERRIS VALLEY STORM DRAIN  
 ALTERNATIVE 5**

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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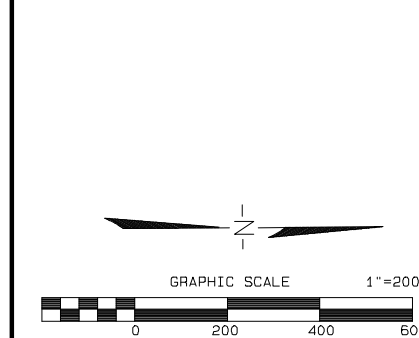
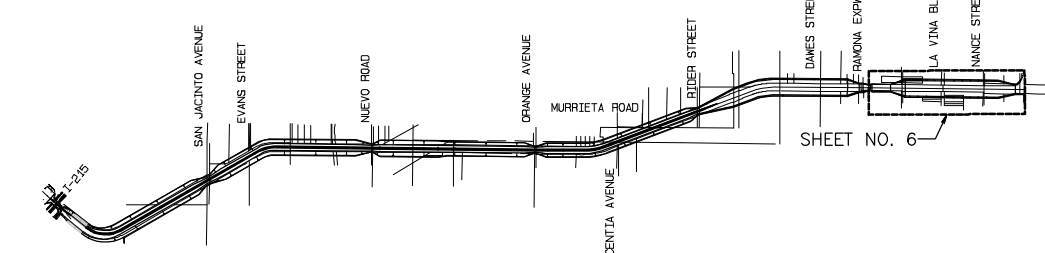
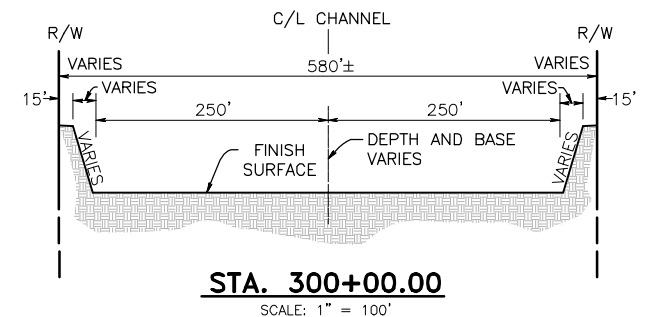
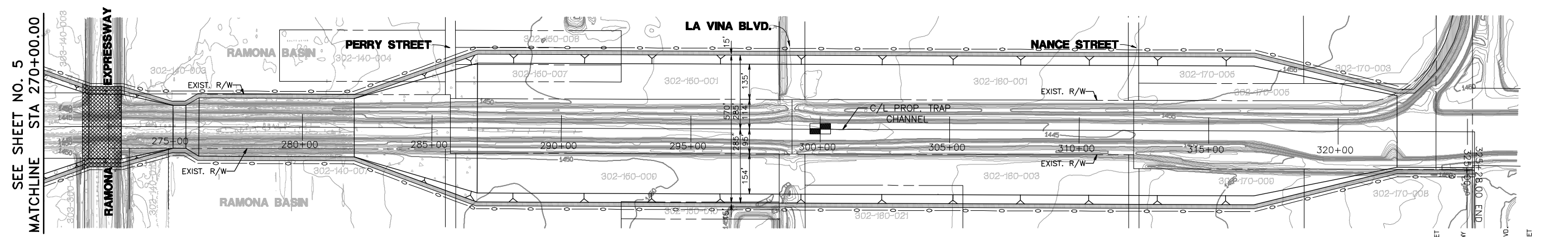
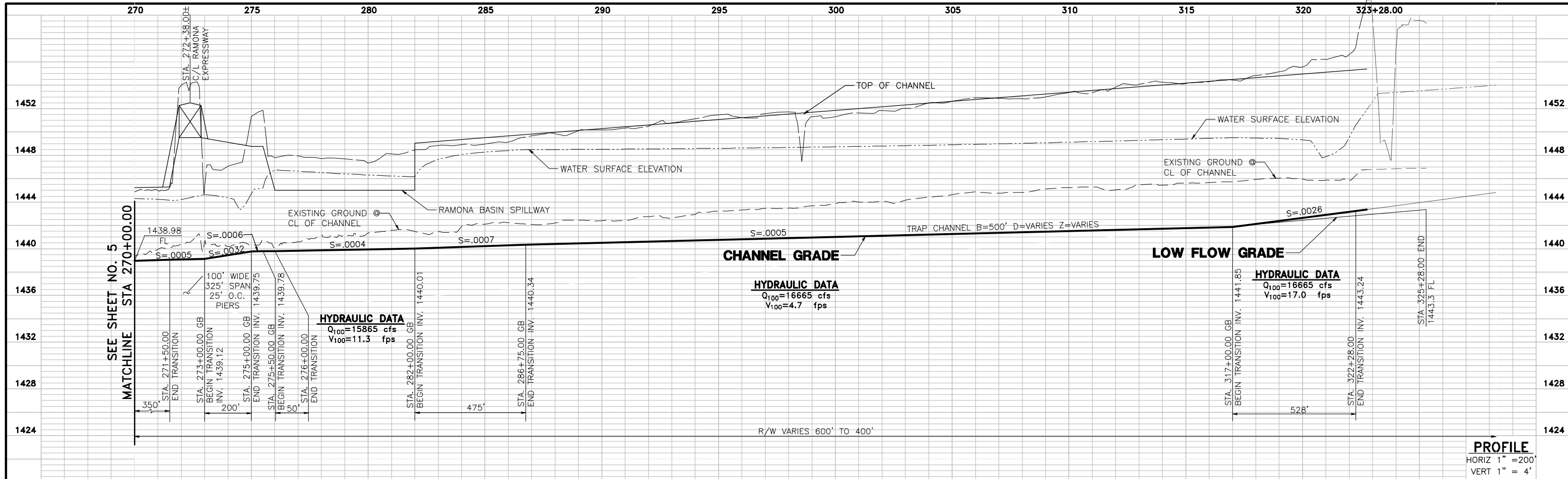
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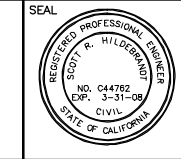
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**PERRIS VALLEY STORM DRAIN ALTERNATIVE 5**

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



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

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

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

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