



## REPORT TO CITY COUNCIL

**DATE:** NOVEMBER 8, 2017

**TO:** HONORABLE MAYOR AND MEMBERS OF THE CITY COUNCIL

**FROM:** GREG RAMIREZ, CITY MANAGER 

**BY:** RAMIRO ADEVA, PUBLIC WORKS DIRECTOR/CITY ENGINEER 

**SUBJECT:** APPROVE 100% DESIGN PLANS, AND AUTHORIZATION TO SEEK BIDS FOR THE ROADSIDE DRIVE BRIDGE WIDENING PROJECT; NIB 17-04

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Roadside Drive is classified as a Collector Street in the City's General Plan. The General Plan defines collector streets as "streets that are designed to distribute traffic from higher classified arterial streets to local access streets and adjacent properties."

Due to the narrowness of the two-lane Roadside Bridge in comparison to the width of Roadside Drive, the bridge deck was classified as functionally obsolete and was therefore eligible to receive federal funds under the Highway Bridge Program (HBP). In addition, toll credits were permitted to be used as the non-federal matching share to ensure this project was fully funded for both design and construction. In June 2012, the City entered into an Agreement with Willdan Engineering to provide final design plans, specifications, and estimates (PS&E) for the project construction.

With the recent completion of the PS&E phase, staff is requesting the City Council approve the 100% design plans, as well as authorizing staff to seek bids for the Roadside Drive Bridge Widening Project; NIB 17-04. The scope of work consists of widening the existing bridge from 30 feet to 42 feet in width; adding a sidewalk on the south side of Roadside Drive (west of the bridge), and installing landscape and lighting improvements. A retaining wall and fill would be required to raise the grade to accommodate the proposed sidewalk.

As with all California Department of Transportation (Caltrans) projects, a notice to proceed must be received before each phase of work can begin. Staff is prepared to advertise the project and is expected to receive Caltrans' approval of our *Request for Authorization (RFA) to Proceed with Construction* (also known as the "E-76" form) this month. The request is being made of the City Council at this time to avoid any delays in implementing the advertisement for the construction phase. Staff will bring back a recommendation to the City Council to award the project immediately after confirming the lowest responsive bidder. The engineer's estimate for construction is approximately \$2 million, and it is anticipated to take approximately 8 to 12 months to complete.

Staff will utilize multiple communication outlets to keep local residents, businesses, and general commuters apprised of what is occurring during the construction phase of this project.

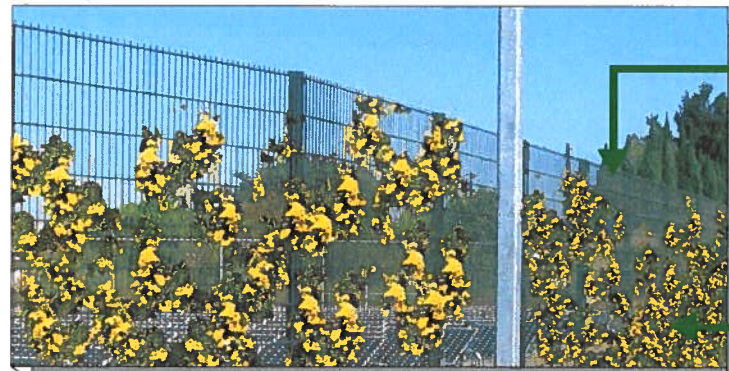
## **RECOMMENDATION**

Staff respectfully recommends the City Council:

1. Approve the 100% Design Plans; and
2. Authorize staff to seek bids for the Roadside Bridge Widening Project; NIB 17-04.

Attachments:   Concept Exhibit  
                      100% Design Plan Set





GREEN SCREEN



OMEGA FENCE SYSTEM

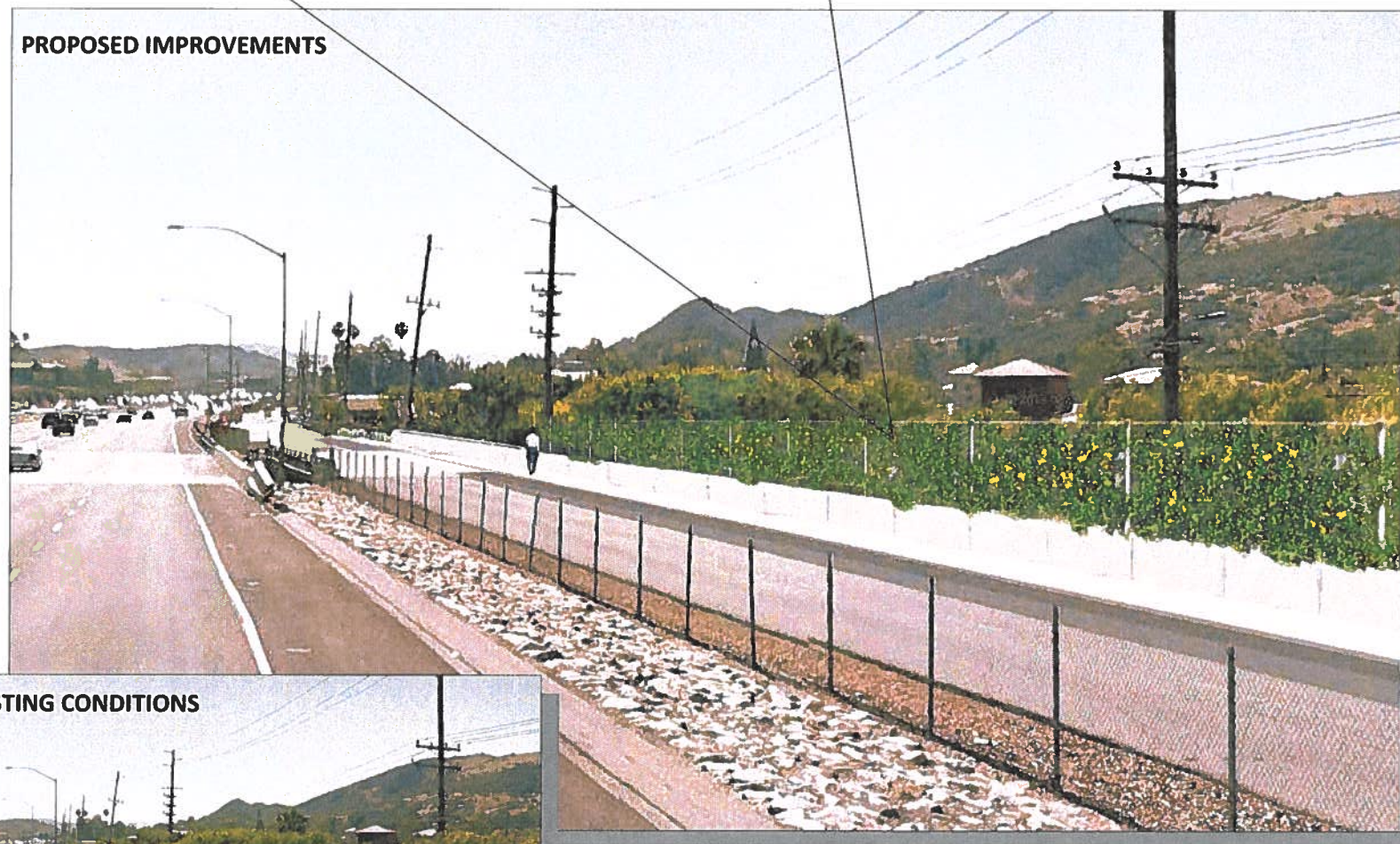


YELLOW TRUMPET VINE

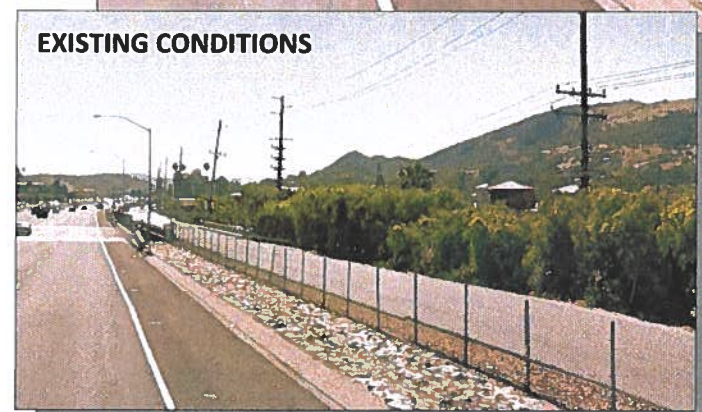
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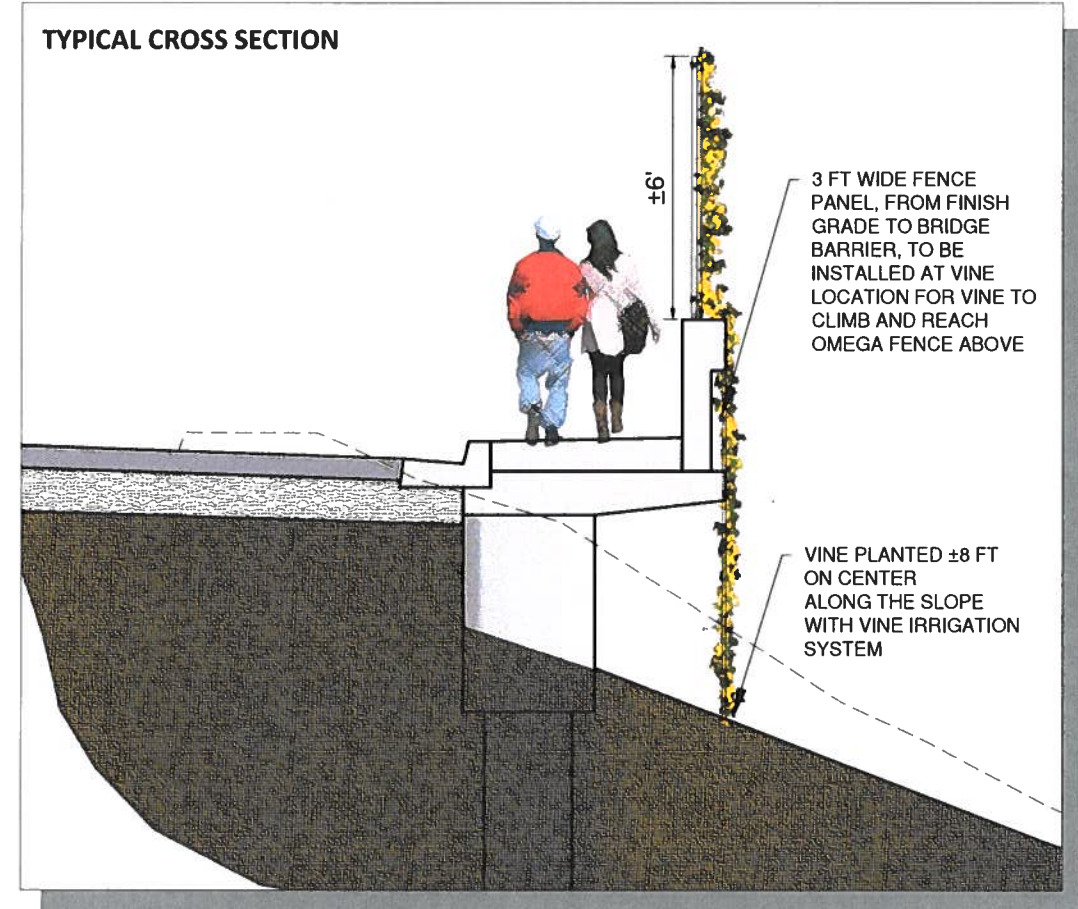
BOSTON IVY



PROPOSED IMPROVEMENTS



EXISTING CONDITIONS

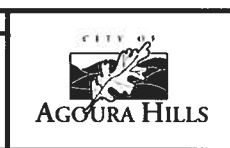


REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY: \_\_\_\_\_  
 PROJECT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

CITY OF AGOURA HILLS APPROVAL

REVIEWED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 RAMIRO ADEVA  
 CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_  
 66865 9/30/18  
 RCE NO. EXP DATE



CITY OF AGOURA HILLS  
 ROADSIDE DRIVE BRIDGE WIDENING  
 CONCEPT EXHIBIT  
 SHEET 1 OF 22



**GRADING NOTES**

- ALL GRADING SHALL BE IN ACCORDANCE WITH ARTICLE 8 OF THE AGOURA HILLS MUNICIPAL CODE.
- A PRE-CONSTRUCTION CONFERENCE OF ALL INTERESTED PARTIES SHALL BE HELD PRIOR TO ANY CONSTRUCTION. THIS SHALL INCLUDE ALL APPROPRIATE CITY STAFF.
- ALL EXPORT MATERIAL SHALL BE DELIVERED TO A SITE APPROVED BY THE CITY.
- ALL GEOLOGIC AND SOIL RECOMMENDATIONS IMPOSED BY THE CONSULTANT OR CONTAINED IN THE CONSULTANT SOILS AND GEOLOGIC REPORT ARE TO BE COMPLIED WITH AND ARE HEREBY MADE AN INTEGRAL PART OF THE GRADING SPECIFICATIONS AND NOTES.
- ANY CHANGES IN THE WORK HEREON SHALL BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.
- THE PERMITTEE SHALL EMPLOY A REGISTERED CIVIL ENGINEER TO PROVIDE CONSTANT ON-SITE GRADING SUPERVISION TO ASSURE COMPLIANCE WITH THE APPROVED PLANS AND A SOILS ENGINEER TO PROVIDE CONSTANT SOILS INSPECTION IN ACCORDANCE WITH THE AGOURA HILLS MUNICIPAL CODE.
- REPORTS REQUIRED:
  - ROUGH GRADING REPORT. PRIOR TO THE CONSTRUCTION OF ANY STRUCTURE, A ROUGH GRADING REPORT MUST BE SUBMITTED TO THE BUILDING OFFICIAL, STATING THAT ALL ROUGH GRADING HAS BEEN COMPLETED PER THE APPROVED GRADING PLANS.
  - FINAL GRADING REPORT. PRIOR TO THE FINALIZATION OF ANY GRADING PROJECT, A FINAL GRADING REPORT MUST BE SUBMITTED TO THE BUILDING OFFICIAL FOR APPROVAL. THE REPORT SHALL BE BY THE ENGINEER OF RECORD, STATING THAT ALL GRADING, LOT DRAINAGE AND DRAINAGE FACILITIES HAVE BEEN COMPLETED, AND THE SLOPE PLANTING AND IRRIGATION SYSTEMS HAVE BEEN INSTALLED IN CONFORMANCE WITH THE APPROVED PLANS AND REQUIREMENTS OF THE CITY OF AGOURA HILLS.
  - AN AS-BUILT SOILS REPORT SHALL BE SUBMITTED TO THE CITY FOR REVIEW. THIS REPORT, PREPARED BY THE GEOTECHNICAL CONSULTANT, MUST INCLUDE DOCUMENTATION OF ANY FOUNDATION INSPECTIONS, THE RESULTS OF ALL COMPACTION TESTS, AS WELL AS A MAP DEPICTING THE LIMITS OF FILL, LOCATIONS OF ALL DENSITY TESTS, OUTLINE AND ELEVATIONS OF ALL REMOVAL BOTTOMS, KEYWAY LOCATIONS AND BOTTOM ELEVATIONS, LOCATIONS OF ALL SUBDRAINS AND FLOWLINE ELEVATIONS, AND LOCATION AND ELEVATION OF ALL RETAINING WALL BACKDRAINS AND OUTLETS. GEOLOGIC CONDITIONS EXPOSED DURING GRADING MUST BE DEPICTED ON AN AS-BUILT GEOLOGIC MAP.
  - TESTS SHALL BE PERFORMED PRIOR TO POURING FOOTINGS AND SLABS TO DETERMINE THE EXPANSION INDEX OF THE SUPPORTING SOILS. IF THE EXPANSION INDEX IS GREATER THAN 130, FOUNDATION AND SLAB PLANS SHOULD BE REVISED ACCORDINGLY.
  - EXCAVATIONS SHALL BE MADE IN COMPLIANCE WITH CAL/OSHA REGULATIONS.
  - A COPY OF THE GRADING PERMIT AND GRADING PLANS SHALL BE AVAILABLE ON-SITE AT ALL TIMES.
  - ALL CONSTRUCTION ACTIVITY SHALL BE CONFINED TO THE HOURS OF 7:00 AM TO 7:00 PM, MONDAY THROUGH FRIDAY, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. NO CONSTRUCTION SHALL BE PERMITTED ON GOVERNMENT-OBSERVED HOLIDAYS.

# ROADSIDE DRIVE BRIDGE WIDENING AGOURA HILLS, CALIFORNIA

PROGRESS PLOT  
NOT FOR CONSTRUCTION

INDEX OF DRAWINGS	
SHEET NO.	DESCRIPTION
1	TITLE
2	TYPICAL SECTIONS 1
3	LAYOUT 1
4	LAYOUT 2
5	STORM DRAIN PLAN & PROFILE
6-8	STORM DRAIN DETAILS 1
9	UTILITY PLAN
10	WATER RELOCATION PLAN
11	LANDSCAPE PLAN
12	CONSTRUCTION DETAILS 1 & 2
13	STREET LIGHTING LAYOUT
14	TRAFFIC CONTROL PLAN
15	GENERAL PLAN
16	DECK CONTOURS
17	FOUNDATION PLAN
18	ABUTMENT 1 LAYOUT
19	ABUTMENT 5 LAYOUT
20	ABUTMENT DETAILS NO. 1
21	ABUTMENT DETAILS NO. 2
22	BENT LAYOUT
23	BENT DETAILS NO. 1
24	COLUMN CASING - STEEL
25	SLAB REINFORCEMENT DETAILS NO. 1
26	SLAB REINFORCEMENT DETAILS NO. 2
27	UTILITY RELOCATION DETAILS NO. 1
28	RETAINING WALL LAYOUT
29	RETAINING WALL DETAILS NO. 1
30	RETAINING WALL DETAILS NO. 2
31	LOG OF TEST BORINGS

**ABBREVIATIONS**

- |                         |                            |
|-------------------------|----------------------------|
| AC - ASPHALTIC CONCRETE | HP - HIGH POINT            |
| BF - BOTTOM OF FOOTING  | INV - INVERT               |
| CB - CATCH BASIN        | NG - NATURAL GROUND        |
| CF - CURB FACE          | NTS - NOT TO SCALE         |
| C - CENTERLINE          | PL - PROPERTY LINE         |
| CLF - CHAIN LINK FENCE  | POB - POINT OF BEGINNING   |
| CO - CLEAN OUT          | SDMH - STORM DRAIN MANHOLE |
| DB - DEBRIS BASIN       | SMH - SEWER MANHOLE        |
| D/L - DAYLIGHT          | SS - SANITARY SEWER        |
| EG - EDGE OF GUTTER     | TB - TOP OF BERM           |
| EP - EDGE OF PAVEMENT   | TC - TOP OF CURB           |
| FF - FINISHED FLOOR     | TF - TOP OF FOOTING        |
| FG - FINISHED GRADE     | TG - TOP OF GRATE          |
| FH - FIRE HYDRANT       | TW - TOP OF WALL           |
| FL - FLOWLINE           | TYP - TYPICAL              |
| FS - FINISH SURFACE     | WM - WATER METER           |
| HC RMP - HANDICAP RAMP  | WV - WATER VALVE           |

**LEGEND**

- |                    |   |               |
|--------------------|---|---------------|
| ROW                | - | ---           |
| CHAIN LINK FENCE   | - | —•—•—•—•—     |
| WROUGHT IRON FENCE | - | —••—••—••—••— |
| SAWCUT             | - | -----         |
| DAYLIGHT           | - | —+—+—+—+—     |
| SLOPE              | - | — —           |

**BENCHMARK:**

DESCRIPTION: BM NO. LACBM No. 10004 (MALIBU QUAD)  
 ROB M TAG IN W CB 2' N/O BCR @ NW COR KANAN RD & AGOURA RD.  
 BASIS OF BEARING: CALIFORNIA STATE PLANE ZONE 5, NAD 1983 (2007 EPOCH)  
 ELEVATION: 877.40  
 SURVEY DATE: 7/24/2012

**RECORD DRAWING STATEMENT**

I, \_\_\_\_\_, HEREBY CERTIFY, BASED ON MY FIELD OBSERVATION AND INFORMATION PROVIDED BY THE OWNER AND GENERAL CONTRACTOR, THAT THE WORK ON SHEET NOS. \_\_\_\_\_ THROUGH \_\_\_\_\_, MARKED AS "RECORD DRAWING" HAS BEEN CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS, SPECIFICATIONS, REVISIONS, CHANGE ORDERS, AND FIELD CHANGES.

REGISTERED CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_ RCE NO. \_\_\_\_\_ EXP. DATE \_\_\_\_\_

**OWNER**

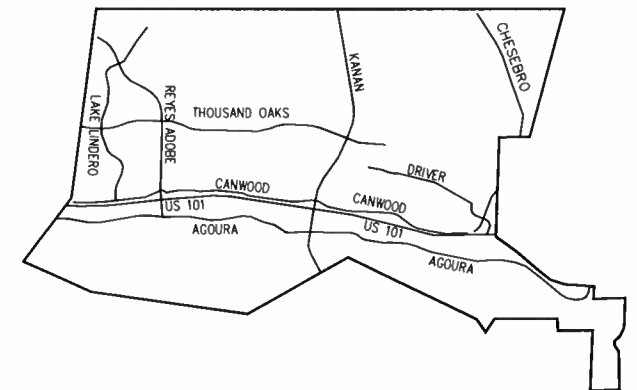
NAME: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 REPRESENTATIVE: \_\_\_\_\_  
 TELEPHONE: \_\_\_\_\_

**CIVIL ENGINEER**

NAME: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 REPRESENTATIVE: \_\_\_\_\_  
 TELEPHONE: \_\_\_\_\_

**GEOTECHNICAL ENGINEER**

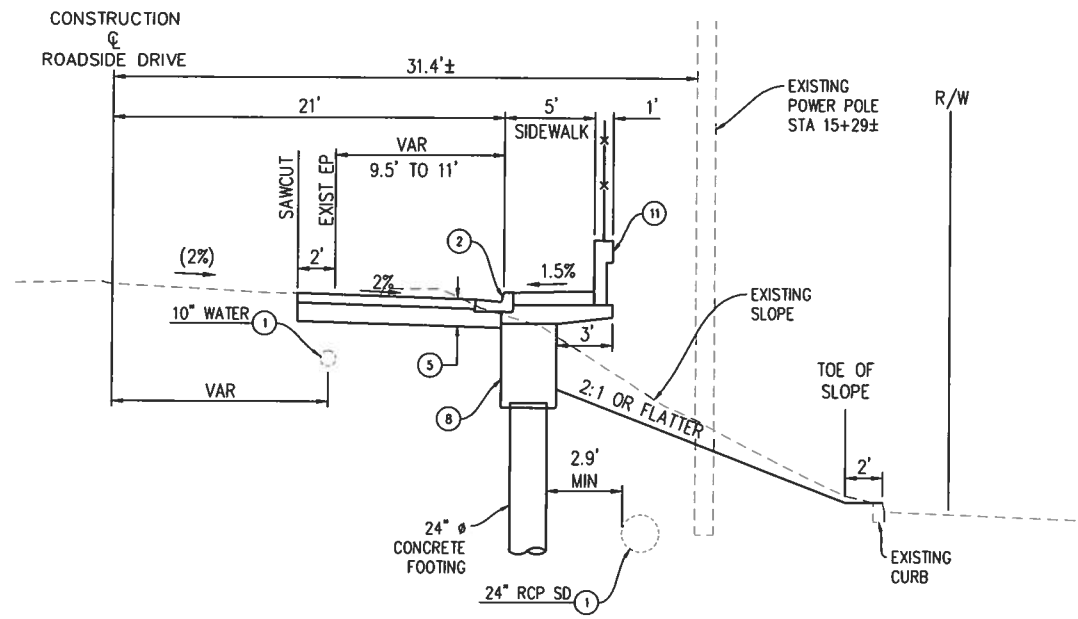
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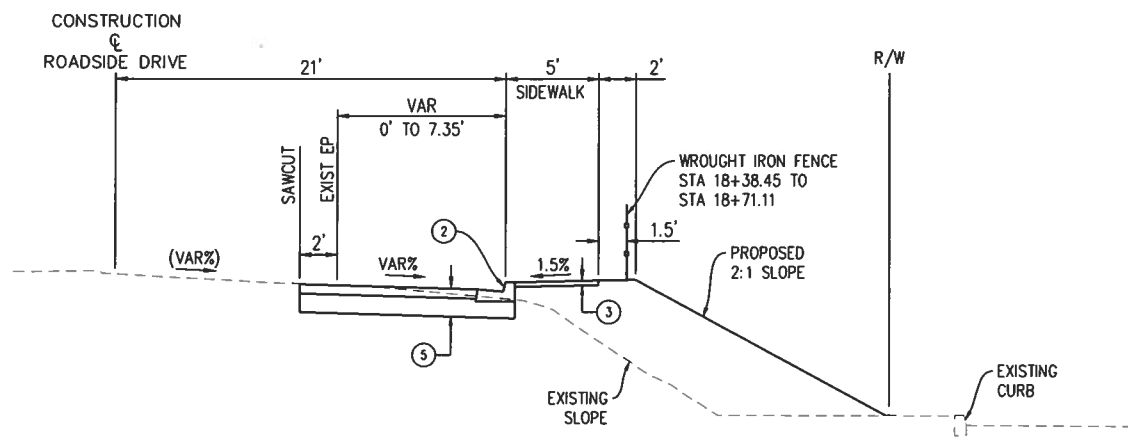
**VICINITY MAP**



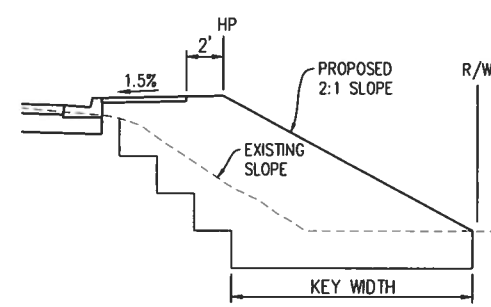
REVISION #				SYMBOL				DESCRIPTION OF CHANGE				APPROVED		DATE		PREPARED BY:		CITY OF AGOURA HILLS APPROVAL						CITY OF AGOURA HILLS ROADSIDE DRIVE BRIDGE WIDENING TITLE SHEET SHEET <u>1</u> OF <u>31</u>			
PROJECT ENGINEER		DATE		REVIEWED BY		DATE		RAMIRO ADEVA		DATE		66865		9/30/18		RCE NO.		EXP DATE		AGOURA HILLS							



**TYPICAL SECTION**  
SCALE: 1"=5'  
STA 14+41.57 TO STA 17+19.01

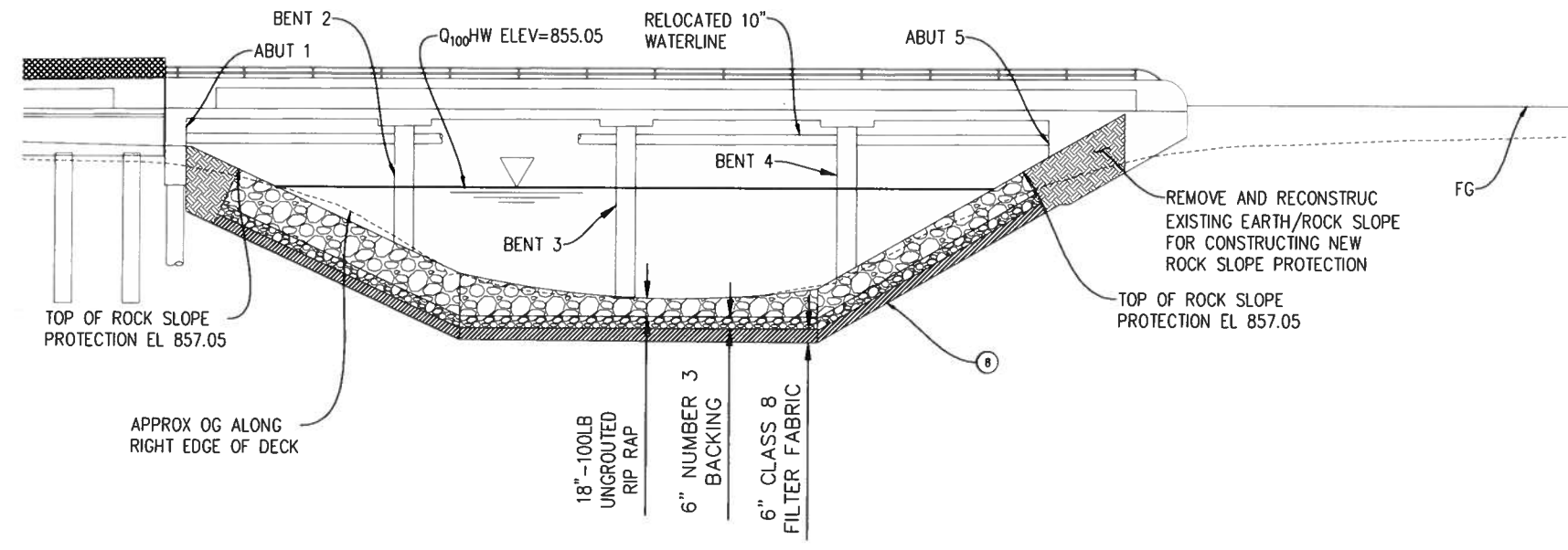


**TYPICAL SECTION**  
SCALE: 1"=5'  
STA 14+13.02 TO STA 14+54.68  
STA 18+24.92 TO STA 20+27.12



**TYPICAL BENCHING DETAIL**  
SCALE: 1"=5'

**BENCHING NOTE:**  
MINIMUM 15 FEET WIDE KEY AT THE TOE, FILL SHOULD BE BENCHING INTO NATIVE SOILS TO EXPOSE COMPETENT MATERIAL (MINIMUM 2 FEET BENCHES) AS IT IS PLACED HORIZONTALLY AND COMPACTED. SLOPE SHOULD BE BACKROLLED FOR COMPACTION OR IT MAY BE OVERBUILT AND TRIMMED BACK TO DESIGN GRADE. THE NEED FOR SUBDRAIN AT BACK OF KEY SHOULD BE DETERMINED BY DESIGN ENGINEER DURING CONSTRUCTION.



**DETAIL A**  
NTS

**CONSTRUCTION NOTES**

- ① PROTECT IN PLACE
- ② CONSTRUCT A2-6 CURB AND GUTTER PER SPPWC STD PLAN 120-2
- ③ CONSTRUCT 4" THICK CONCRETE SIDEWALK PER SPPWC 112-2
- ④ CONSTRUCT CROSS GUTTER PER SPPWC 122-2
- ⑤ CONSTRUCT 6.5-INCH THICK AC OVER 14.5-INCH THICK AB; SEE TYPICAL SECTIONS ON SHEET 2
- ⑥ RELOCATE
- ⑦ REMOVE
- ⑧ CONSTRUCT RETAINING WALL AND SIDEWALK BARRIER TYPE 73; CALTRANS STD PLAN RSP B11-58. SEE RETAINING WALL PLAN SH
- ⑨ CONSTRUCT MODIFIED CURB RAMP PER DETAILS AND TYPE AS SHOWN ON SHEET 11
- ⑩ RELOCATE AND REPLACE ASSEMBLY PER DETAIL ON SHEET 10
- ⑪ CONSTRUCT CONCRETE BARRIER TYPE 732SW PER CALTRANS STD PLAN RSP B11-58. SEE RETAINING WALL PLAN SHEET 25
- ⑫ ADJUST TO GRADE

**PROGRESS PLOT  
NOT FOR CONSTRUCTION**

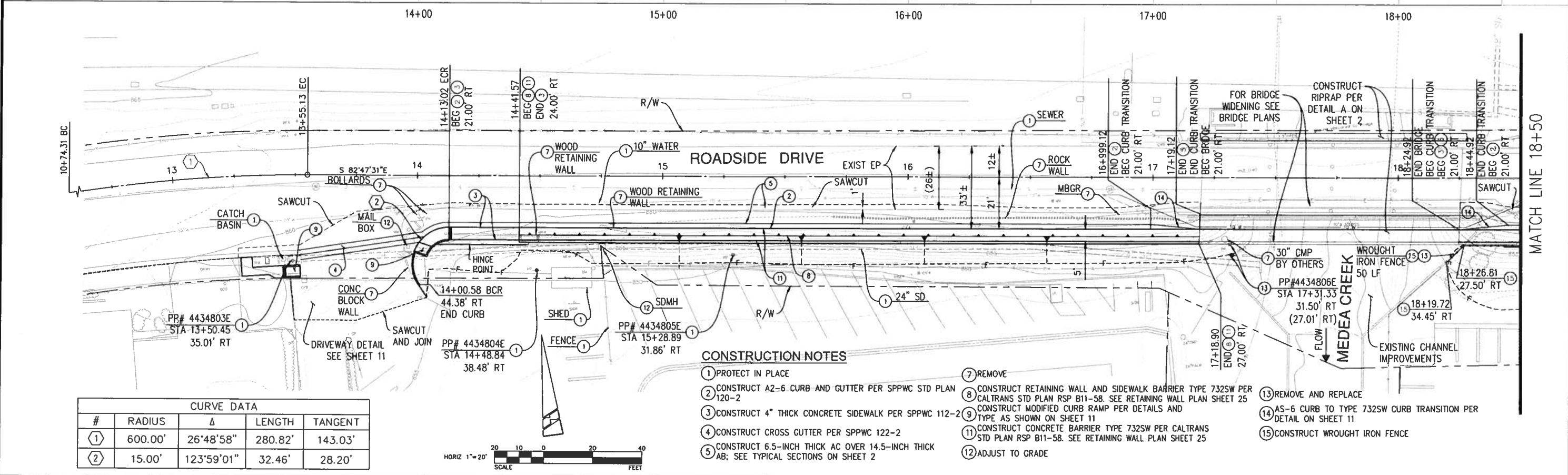
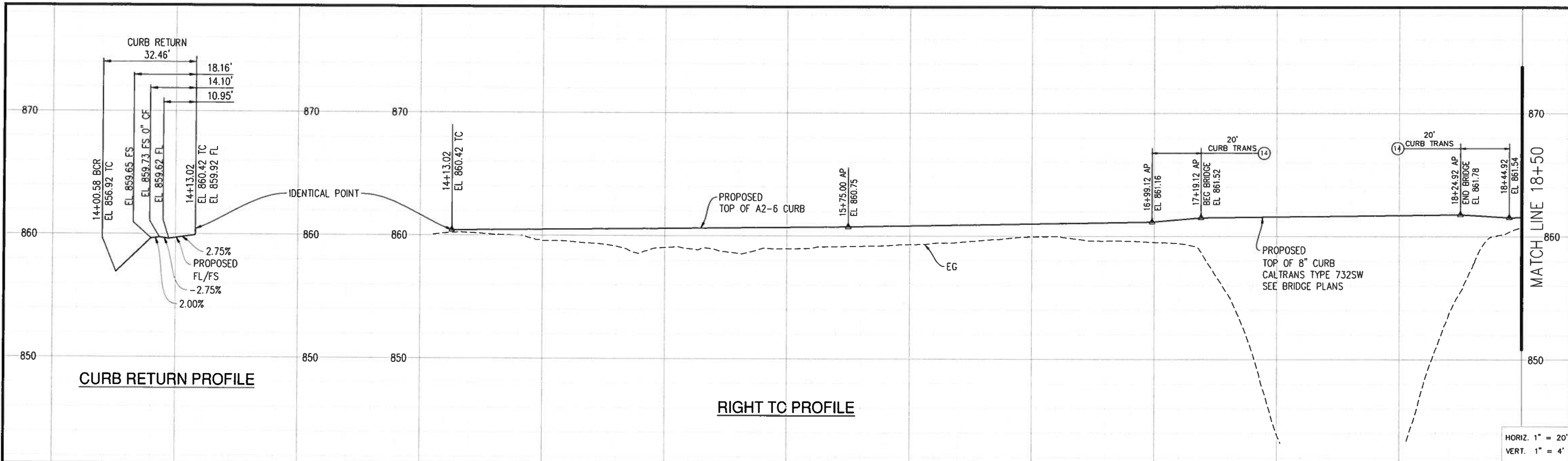
REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY: \_\_\_\_\_  
PROJECT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

CITY OF AGOURA HILLS APPROVAL  
REVIEWED BY \_\_\_\_\_ DATE \_\_\_\_\_  
RAMIRO ADEVA  
CITY ENGINEER



CITY OF AGOURA HILLS  
ROADSIDE DRIVE BRIDGE WIDENING  
TYPICAL SECTIONS  
SHEET 2 OF 31



CURVE DATA				
#	RADIUS	Δ	LENGTH	TANGENT
①	600.00'	26°48'58"	280.82'	143.03'
②	15.00'	123°59'01"	32.46'	28.20'

**CONSTRUCTION NOTES**

- ① PROTECT IN PLACE
- ② CONSTRUCT A2-6 CURB AND GUTTER PER SPPWC STD PLAN 120-2
- ③ CONSTRUCT 4" THICK CONCRETE SIDEWALK PER SPPWC 112-2
- ④ CONSTRUCT CROSS GUTTER PER SPPWC 122-2
- ⑤ CONSTRUCT 6.5-INCH THICK AC OVER 14.5-INCH THICK AB; SEE TYPICAL SECTIONS ON SHEET 2
- ⑥ ADJUST TO GRADE
- ⑦ REMOVE
- ⑧ CONSTRUCT RETAINING WALL AND SIDEWALK BARRIER TYPE 732SW PER CALTRANS STD PLAN RSP B11-58. SEE RETAINING WALL PLAN SHEET 25
- ⑨ CONSTRUCT MODIFIED CURB RAMP PER DETAILS AND TYPE AS SHOWN ON SHEET 11
- ⑩ CONSTRUCT CONCRETE BARRIER TYPE 732SW PER CALTRANS STD PLAN RSP B11-58. SEE RETAINING WALL PLAN SHEET 25
- ⑪ REMOVE AND REPLACE
- ⑫ AS-6 CURB TO TYPE 732SW CURB TRANSITION PER DETAIL ON SHEET 11
- ⑬ CONSTRUCT WROUGHT IRON FENCE

REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE	PROJECT ENGINEER	DATE	REVIEWED BY

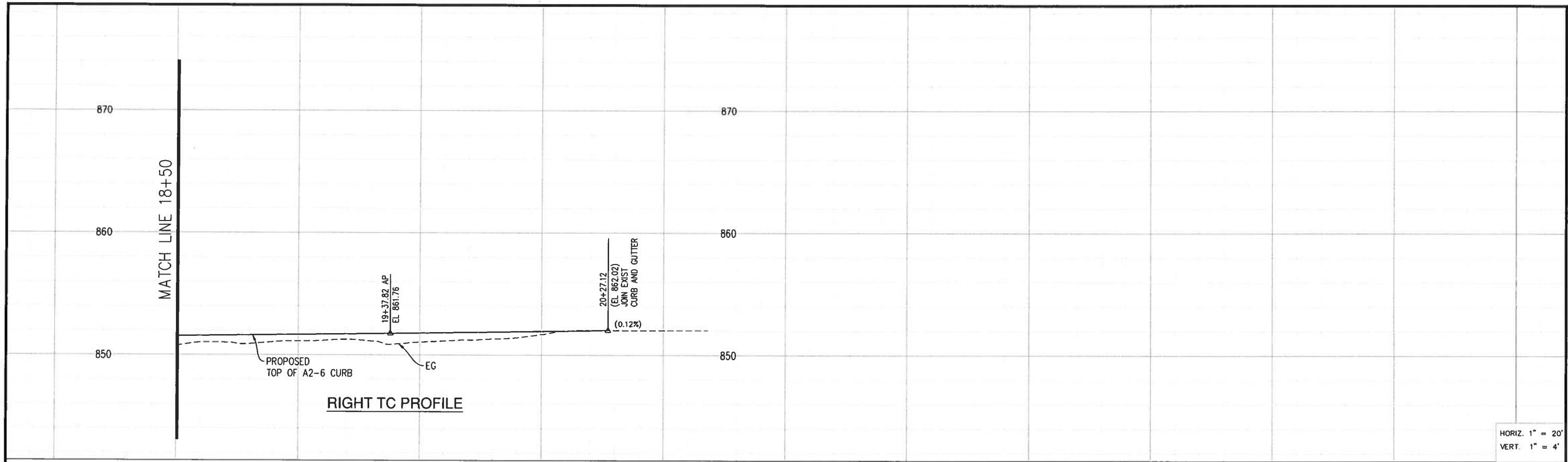
PREPARED BY:

CITY OF AGOURA HILLS APPROVAL

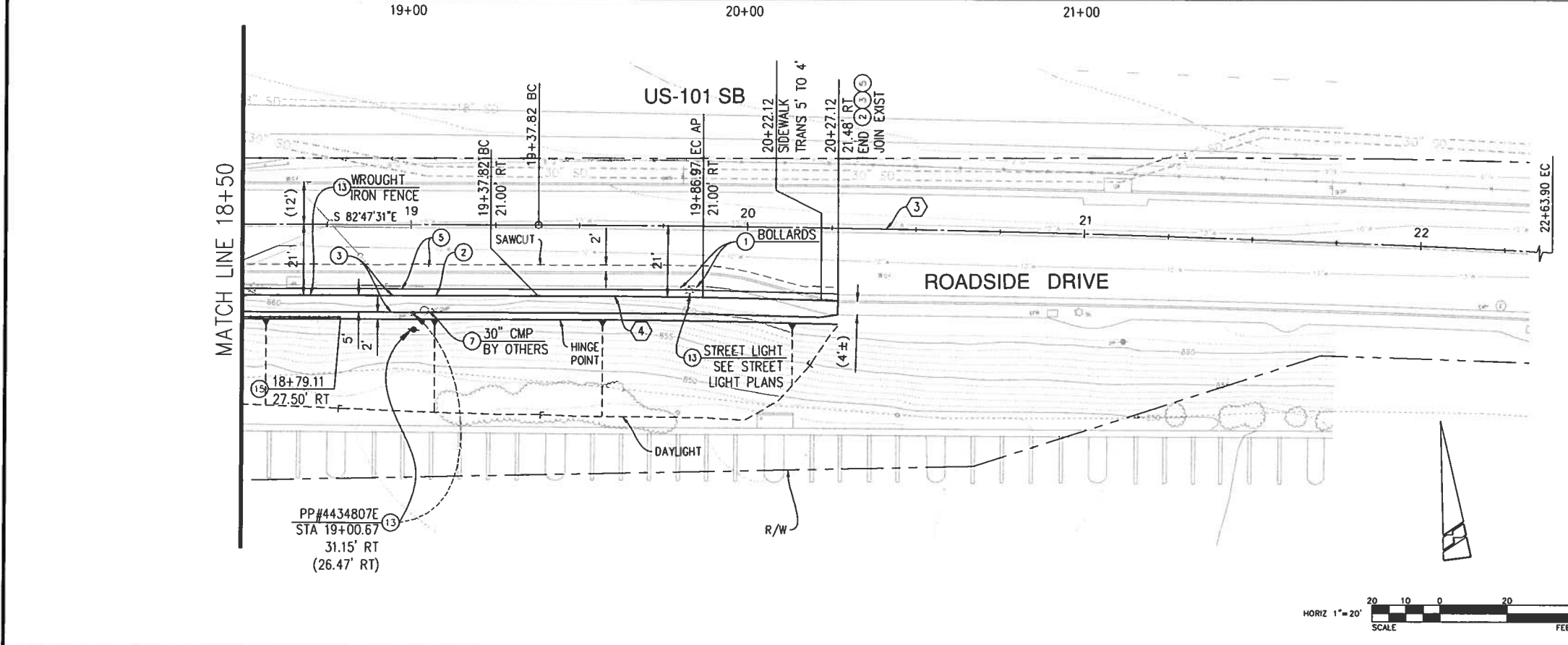
**CITY OF AGOURA HILLS**

ROADSIDE DRIVE BRIDGE WIDENING LAYOUT 1

SHEET 3 OF 31



HORIZ. 1" = 20'  
VERT. 1" = 4'



CURVE DATA				
#	RADIUS	Δ	LENGTH	TANGENT
3	6000.00'	3°06'50"	326.08'	163.08'
4	5979.00'	0°28'10"	489.80'	24.49'

**CONSTRUCTION NOTES**

- 1 PROTECT IN PLACE
- 2 CONSTRUCT A2-6 CURB AND GUTTER PER SPPWC STD PLAN 120-2
- 3 CONSTRUCT 4" THICK CONCRETE SIDEWALK PER SPPWC 112-2
- 5 CONSTRUCT 6.5-INCH THICK AC OVER 14.5-INCH THICK AB; SEE TYPICAL SECTIONS ON SHEET 2
- 7 REMOVE
- 13 REMOVE AND REPLACE



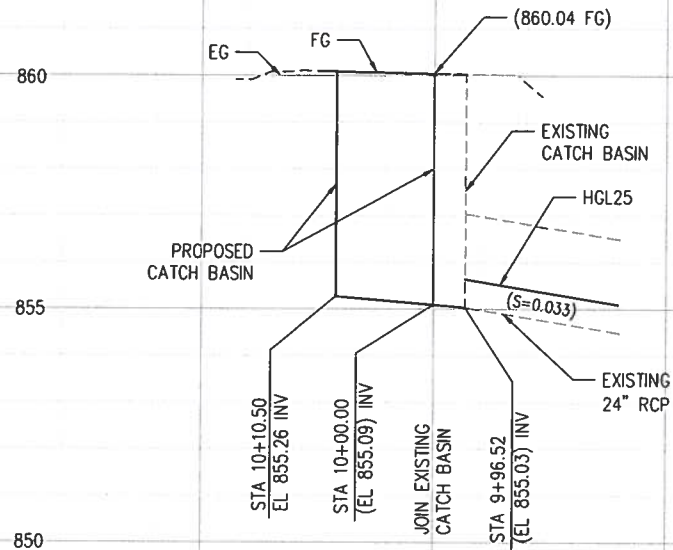
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PREPARED BY:								CITY OF AGOURA HILLS APPROVAL											
PROJECT ENGINEER				DATE				REVIEWED BY				DATE							
								RAMIRO ADEVA				66865 9/30/18							
								CITY ENGINEER				RCE NO. EXP DATE							



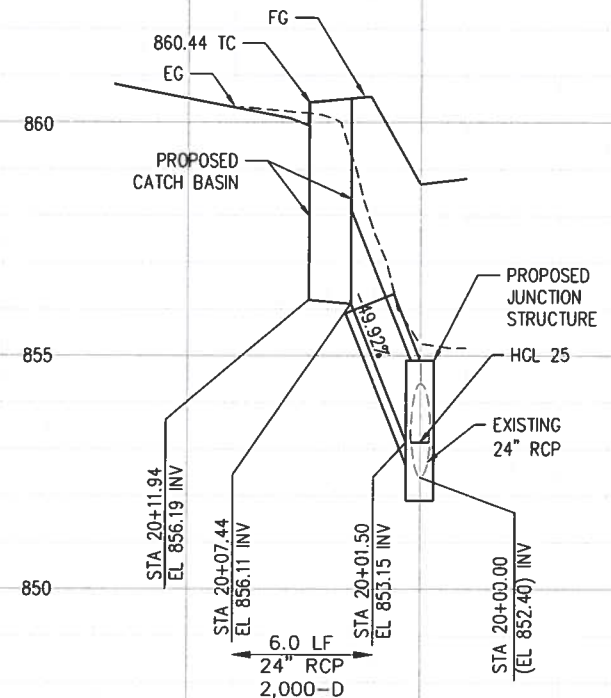
CITY OF AGOURA HILLS  
ROADSIDE DRIVE BRIDGE WIDENING  
LAYOUT 2

SHEET 4 OF 31

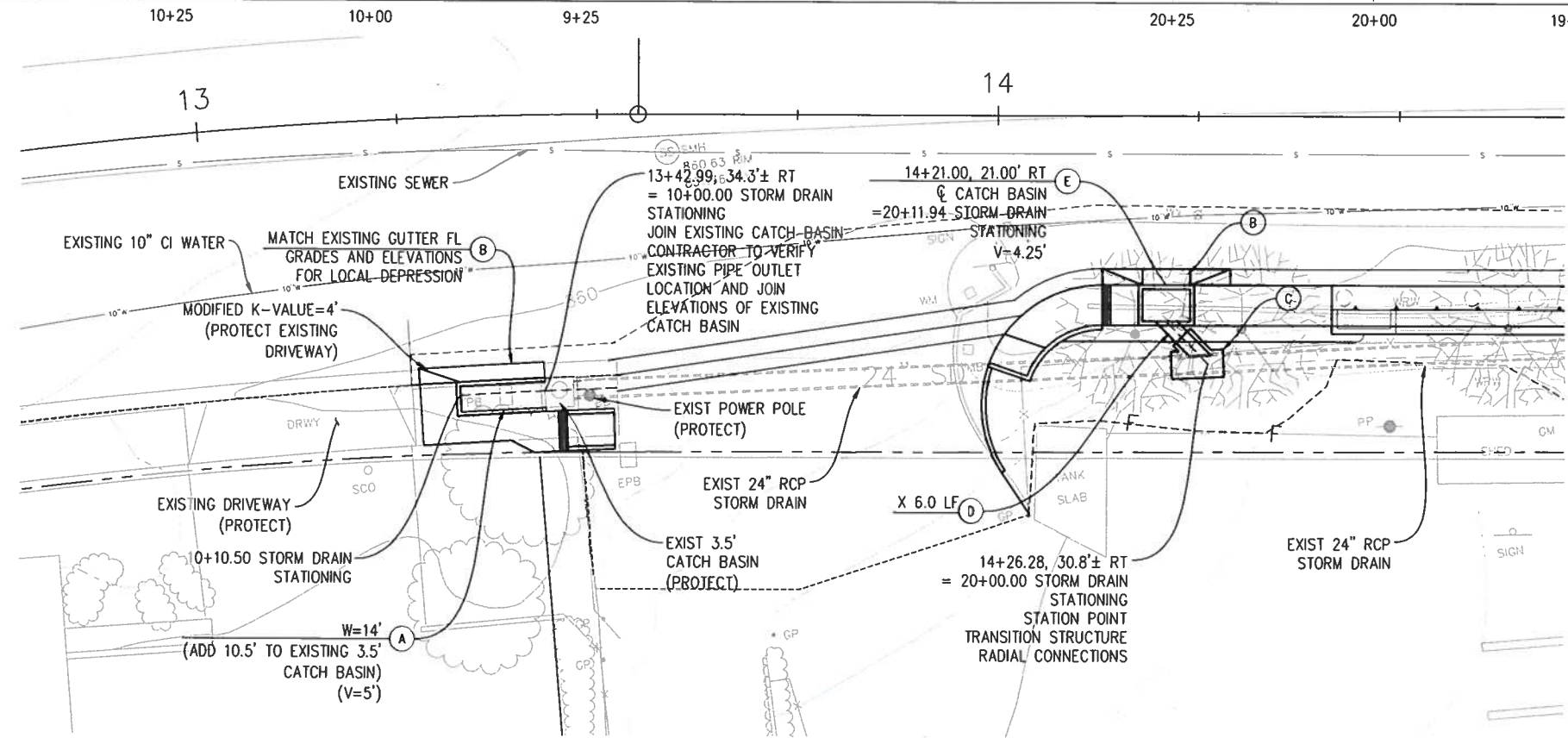
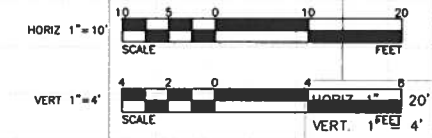
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WESTERLY CATCH BASIN  
AT STATION 13+37.40



EASTERLY FILTERRA CATCH BASIN  
AT STATION 14+21.00



CONSTRUCTION NOTES

- (A) CONSTRUCT MODIFIED CURB OPENING CATCH BASIN PER SPPWC STD 300-3 (JOIN SIDE OF EXISTING CATCH BASIN AND LENGTHEN TO SPECIFIED 'W' AS SHOWN ON PLANS) WITH UNITED STORM WATER, INC. CPS UNIT OR APPROVED EQUAL (SEE DRAINAGE DETAILS)
- (B) CONSTRUCT 2" LOCAL DEPRESSION CASE 'E' PER SPPWC STD 313-3 (K=5' UNLESS OTHERWISE SHOWN ON PLANS)
- (C) CONSTRUCT TRANSITION STRUCTURE PIPE TO PIPE PER SPPWC STD 340-2 A=45', B=2', C=3.35', D1=2', D2=2' (PIPE ENTERS RADIALLY)
- (D) INSTALL 24" RCP (2,000-D)
- (E) CONSTRUCT CURB OPENING CATCH BASIN PER SPPWC STD 300-3 (W=6') WITH UNITED STORM WATER, INC. CPS UNIT OR APPROVED EQUAL (SEE DRAINAGE DETAILS)



REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY:	CITY OF AGOURA HILLS APPROVAL			
PROJECT ENGINEER	DATE	REVIEWED BY	DATE	RAMIRO ADEVA CITY ENGINEER
				66865 9/30/18 RCE NO. EXP DATE

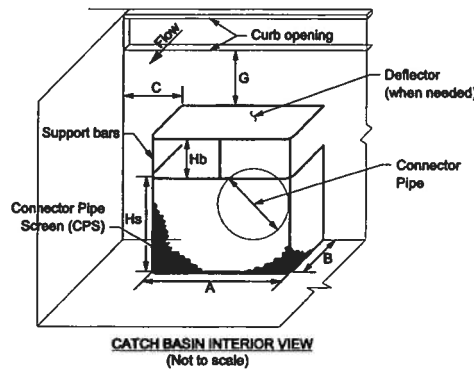


CITY OF AGOURA HILLS  
ROADSIDE DRIVE BRIDGE WIDENING  
STORM DRAIN PLAN AND PROFILE  
SHEET 5 OF 31

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COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS  
APPENDIX A-1: CPS CONFIGURATION

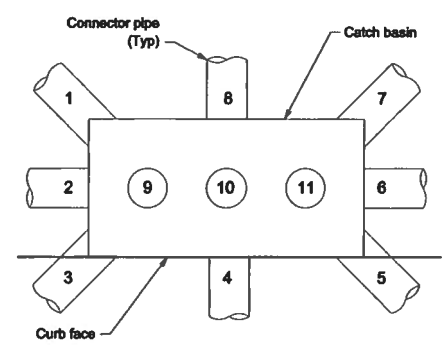


- CPS Length  $L = A + 2B$   
 CPS Height  $H_s$   
 Bypass Height  $H_b$   
 Minimum Wall Clearance  $C = 4$  inches  
 Minimum Interior Spacing  $B = 10$  inches  
 Minimum Distance from Street Flow Line  $G$

- NOTES**
- The CPS shown above is for illustrative purposes only. The catch basin connector pipe location and the shape and design of the CPS may deviate from the above example.
  - For L, Hs, Hb, and G values see attached CPS sizing Table 1.

Revised 07/21/2010

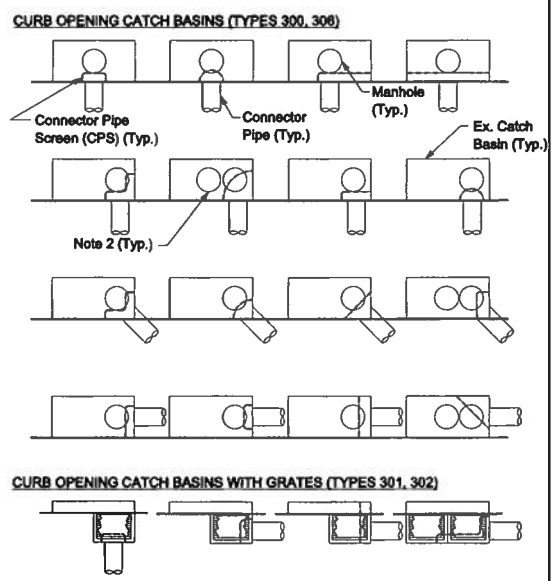
COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS  
APPENDIX A-4: CONNECTOR PIPE LOCATION KEY



- NOTE**
- This illustration shall be used to identify the location of a catch basin's connector pipe. The number chosen shall be that which most nearly represents the actual location of the connector pipe.

Revised 07/21/2010

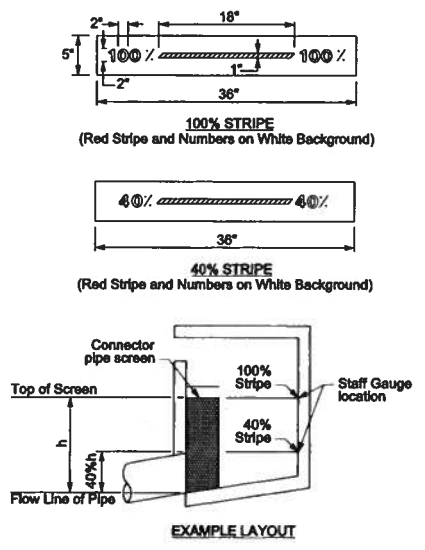
COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS  
APPENDIX A-3: EXAMPLE CPS LAYOUTS



- NOTES:**
- The CPS configurations shown above are for illustrative purposes only. This is not a comprehensive list.
  - When the CPS unit encroaches more than 4 inches into the manhole opening, the Contractor shall install a Removable CPS unit per Attachment A, CPS Requirements, Item 6.

Revised 07/21/2010

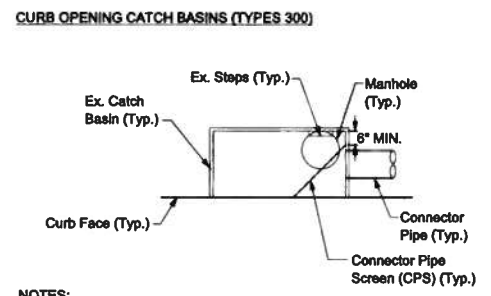
COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS  
APPENDIX A-2: STAFF GAUGE



- "THE PAINT TYPE AND SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT FOR REVIEW AND APPROVAL PRIOR TO USE."**
- The Contractor shall paint a staff gauge as shown on an externally visible interior wall of each catch basin.
  - The Contractor shall paint red stripes and numbers on white background labeling 40% and 100% screen height as shown above.
  - Surfaces must be clean, dry and free from all contaminants including rust that may impair adhesion.

Revised 07/21/2010

COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS  
APPENDIX A-3: EXAMPLE CPS LAYOUTS (CONT.)



- NOTES:**
- The CPS configurations shown above are for illustrative purposes only. This is not a comprehensive list.
  - The CPS unit shall not encroach more than 4 inches into the manhole opening.

Revised 09/09/2010

(PCFL 201202558)

TABLE 1  
CPS SIZING TABLE FOR CBs IN NON-SUMP CONDITIONS WITH NO ARS

V-depth (ft)	CB Width (ft)	Bypass Height $H_b$ (in)	Screen Height $H_s$ (in)	Screen Length L (ft)	G (in)
3.0	3.5	8	14	3.0	6
	7			4.0	
	10			5.0	
	14			6.0	
	21			8.0	
3.5	3.5	10	16	3.0	8
	7			4.0	
	10			5.0	
	14			6.0	
	21			8.0	
4.0	3.5	12	20	3.0	8
	7			4.0	
	10			5.0	
	14			6.0	
	21			7.0	
4.5 or greater	3.5	12	22	3.0	10 or greater
	7			4.0	
	10			5.0	
	14			6.0	
	21			7.0	
	28			8.0	

for CBs with v-depth less than 3 feet, contact the District for  $H_b$ ,  $H_s$ , L, and G values.

LA COUNTY  
CONNECTOR PIPE SCREEN DETAILS  
NTS

REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY:  
PROJECT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

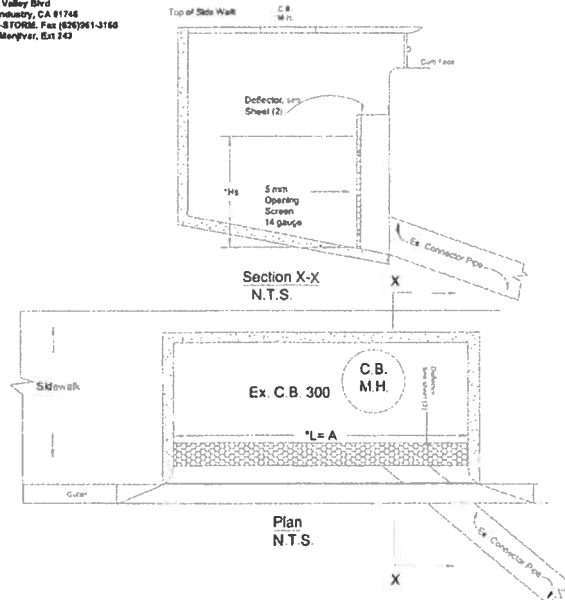
CITY OF AGOURA HILLS APPROVAL  
REVIEWED BY \_\_\_\_\_ DATE \_\_\_\_\_  
RAMIRO ADEVA  
CITY ENGINEER



CITY OF AGOURA HILLS  
ROADSIDE DRIVE BRIDGE WIDENING  
STORM DRAIN DETAILS  
SHEET 6 OF 31



14000 E Valley Blvd  
City of Industry, CA 91746  
(877) 71-STORM, Fax (626)961-3166  
Ramon Menjivar, Ext 243



\* See Appendix A-1 and CPS sizing Tables 1 & 2

United Storm Water, Inc.  
14000 E Valley Blvd  
City of Industry, CA 91746  
(877) 71-STORM, Fax (626)961-3166  
Ramon Menjivar, Ext 243

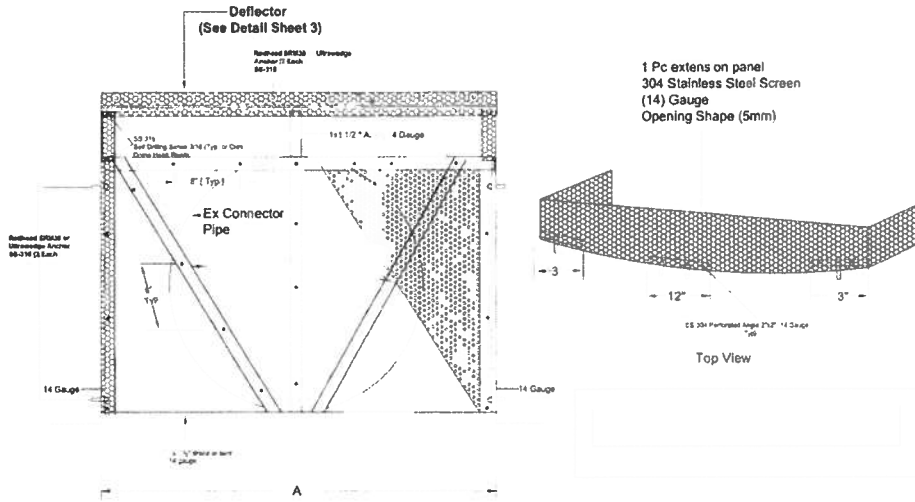
United Storm Water, Inc.  
14000 E Valley Blvd  
City of Industry, CA 91746

County of Los Angeles

W:\00000002  
7-1-2012  
Not to Scale



14000 E Valley Blvd  
City of Industry, CA 91746  
(877) 71-STORM, Fax (626) 961 3166  
Ramon Menjivar Ext 243



United Storm Water, Inc.  
14000 E Valley Blvd  
City of Industry, CA 91746  
(877) 71-STORM, Fax (626)961-3166  
Ramon Menjivar, Ext 243

Storm W  
Valley  
City of Industry, CA 91746

County

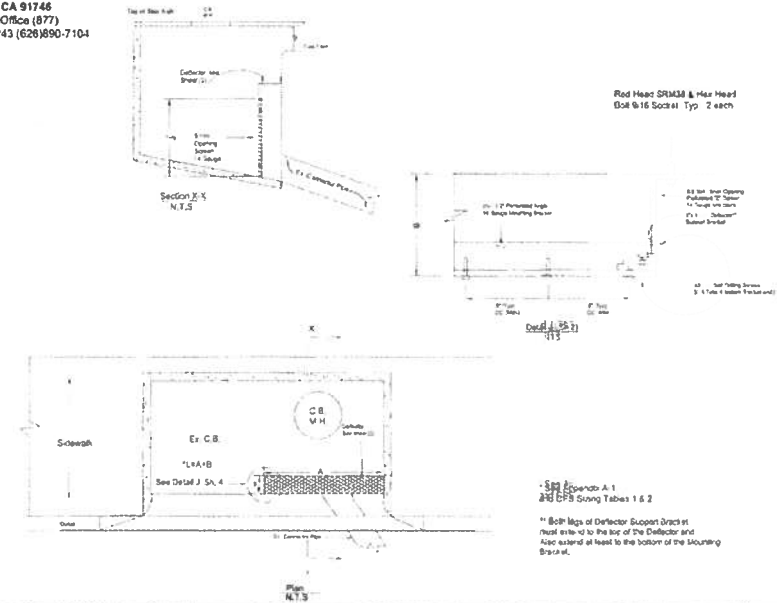
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8-20-2012  
Not to Scale

**United Storm Water, Inc. Connector Pipe Screen Installation Instructions:**

1. Bring the CPS unit into the catch basin and set in front of outlet hole. The unit has 3 components, deflector, (2) 'Z' panels, and the front screen, depending on the size of the catch basin opening. Establish a definite location for your first 'Z' Panel and then mark your holes for drilling. Do the same for your second Panel.
2. Remove the CPS unit from the installation wall. Drill 3/8" x 4" holes where you marked. Make sure to drill straight into the catch basin wall to avoid mounting difficulties.
3. Hammer 3/8" x 3.75" stainless steel anchor bolts into the holes.
4. After all of the anchor bolts are hammered into place, attach the 'Z' panels.
5. Deflector device, measure and cut a length of deflector stock same length as CPS unit. Make cuts using a compact grinder. Be sure to 'grind smooth' any sharp edges. Place deflector on wall in catch basin and establish a definite location for the deflector, directly above the CPS device. Next, mark and drill 3/8"x3.75" holes.
6. Hammer 3/8"x3.75" stainless steel anchor bolts into the holes.
7. After all of the anchor bolts are hammered into place, attach the deflector onto the anchor bolts and securely tighten.
8. Scribe and cut the bottom of the front panel to conform to the catch basin bottom surface, then attach the front panel to the 'Z' panels using the self tapping screws provided.
9. Attach deflector support bracket (1" x 1 1/2" perforated angle) behind 1" lip of deflector to top corners of CPS device. Secure with self tapping screws provided.
10. Only when CPS unit is wider than 30", 1"x1" angles need to be install from top corner of the CPS unit to bottom Center Support Bracket, secure with self tapping screws provided.
11. Install front screen of the CPS unit; tighten all bolts and screws to assure a tight fit.



14000 E Valley Blvd  
City of Industry, CA 91746  
Ramon Menjivar, Office (877)  
71-STORM, Ext 243 (626)960-7104



\* See Appendix A-1 and CPS Sizing Tables 1 & 2

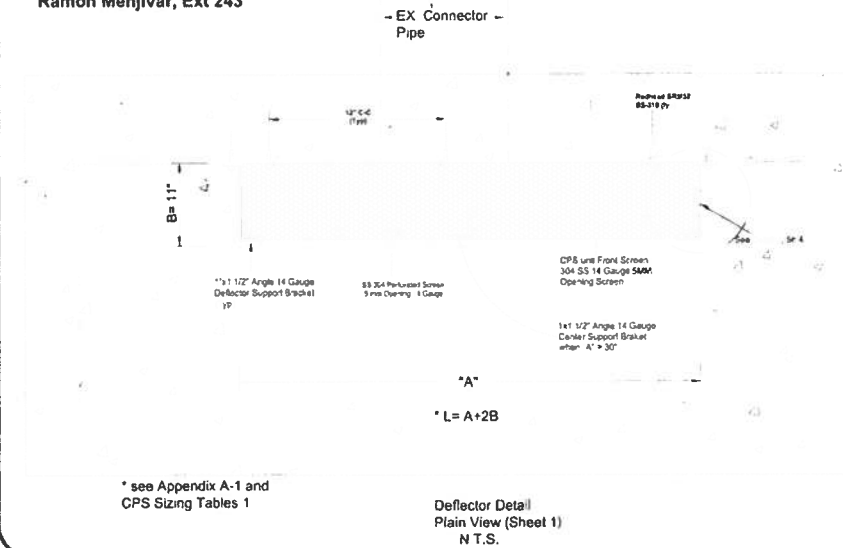
United Storm Water, Inc.  
14000 E Valley Blvd  
City of Industry, CA 91746  
(877) 71-STORM, Fax (626)961-3166  
Ramon Menjivar, Ext 243

United Storm Water, Inc.  
14000 E Valley Blvd  
City of Industry, CA 91746

County of Los Angeles

W:\00000002  
7-1-2012  
Not to Scale

UNITED STORM WATER, Inc  
14000 E Valley Blvd  
City of Industry, CA 91746  
(877)71-storm, Fax (626)961-3166  
Ramon Menjivar, Ext 243



\* see Appendix A-1 and CPS Sizing Tables 1

United Storm Water, Inc.  
14000 E Valley Blvd  
City of Industry, CA 91746  
(877) 71-STORM, Fax (626)961-3166  
Ramon Menjivar, Ext 243

Storm Water  
14000 E Valley Blvd  
City of Industry, CA 91746

County of

W:\00000002  
7-1-2012  
Not to Scale

**Preventative Maintenance:**

Maintenance crews should regularly check catch basins and establish a maintenance schedule based on the level of debris collected. Some areas will require more frequent cleaning than others. Catch basins should be cleared of debris to allow for water to freely flow through the screen. Pressure-washing the unit may additionally benefit but is not necessary.

**Yearly Maintenance Schedule:**

Visual Inspection:

1. Build-up debris and foreign object debris can hinder the unit's operation. Remove any visible debris that may be on, in front of, and nearby the unit.
2. Look for any visible signs of vandalism or damage that may compromise the unit's ability to properly function. Attempted vandalism and slight damage should be inspected closely to ensure no future damage may result.

**Replacement Schedule:**

All components on United Storm Water Connector Pipe Screen are made from 304 stainless steel. Unless the unit is somehow damaged, e.g., vandalism, etc., no scheduled replacement is required. United Storm Water, Inc. should be notified if a replacement is required.

**Tools Required:**

For removal of United Storm Water Connector Pipe Screen, use a 9/16" socket wrench to remove the anchor bolt nuts. A socket extension may be needed for hard to reach areas.

**Disassembly and Reassembly:**

For removal of United Storm Water Connector Pipe Screen, use a 9/16" socket wrench to remove the anchor bolt nuts. A socket extension may be needed for hard to reach areas. Carefully remove the unit once all anchor bolt nuts have been removed. Realign the unit on the anchor bolts and securely tighten anchor bolt nuts for reassembly.

For removal of the Deflector United Storm Water Connector Pipe Screen, use a 9/16" socket wrench to remove the anchor bolt nuts. Realign the bypass section and tighten the screws for reassembly.

UNITED STORM WATER, INC.  
CONNECTOR PIPE SCREEN DETAILS  
NTS

REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY: \_\_\_\_\_

PROJECT ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_

CITY OF AGOURA HILLS APPROVAL

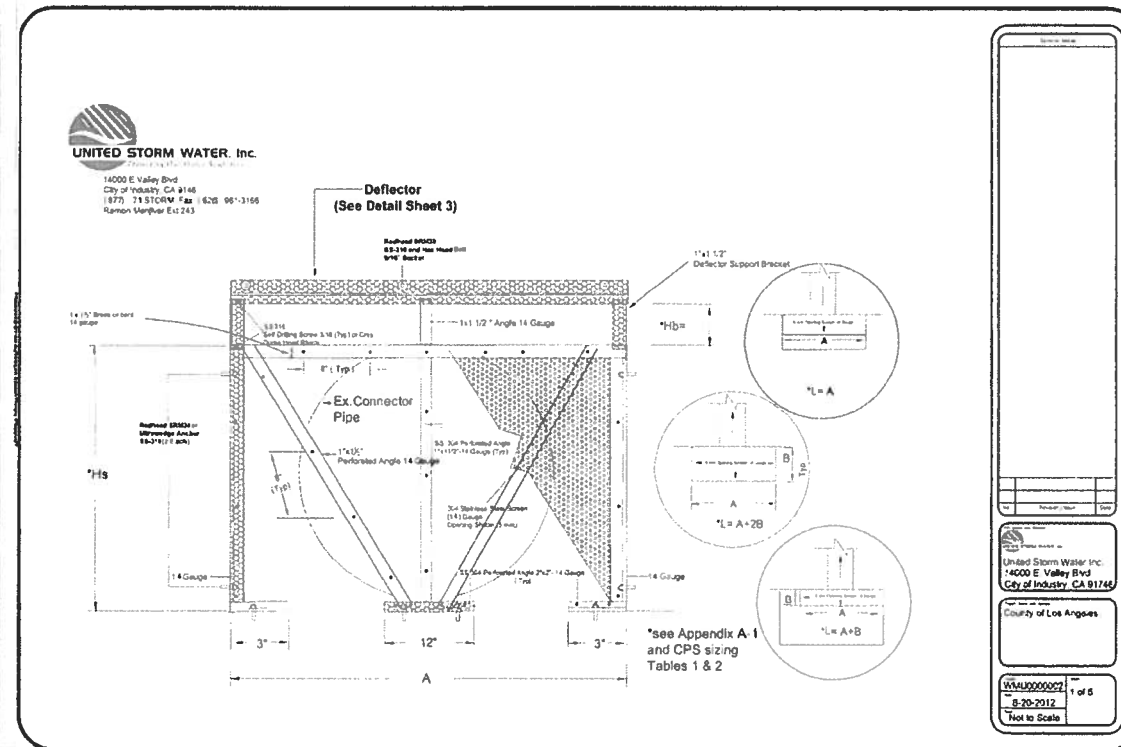
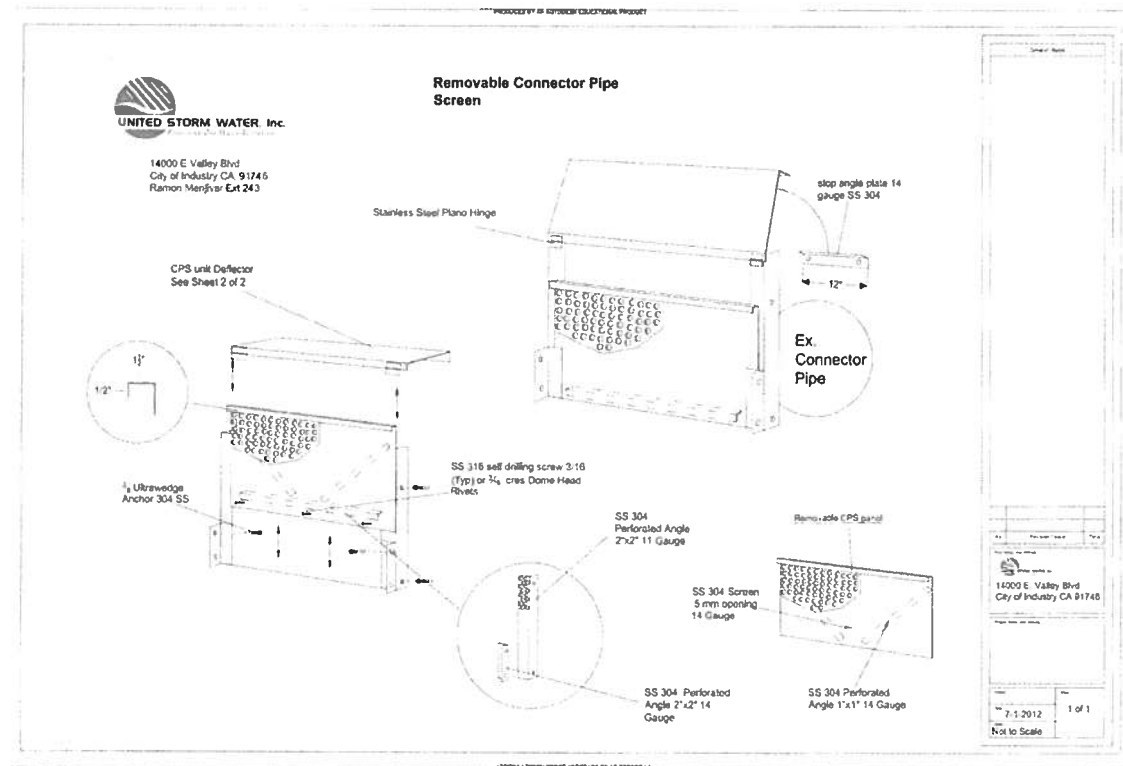
REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

RAMIRO ADEVA  
CITY ENGINEER


66865 9/30/18  
RCE NO. EXP DATE



CITY OF AGOURA HILLS  
ROADSIDE DRIVE BRIDGE WIDENING  
STORM DRAIN DETAILS  
SHEET 7 OF 31

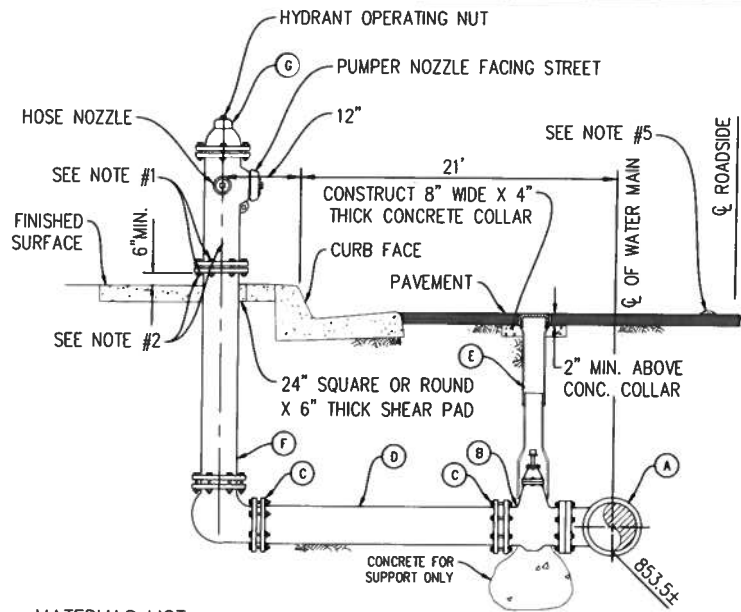


UNITED STORM WATER, INC.  
CONNECTOR PIPE SCREEN DETAILS  
NTS

					PREPARED BY:	CITY OF AGOURA HILLS APPROVAL				CITY OF AGOURA HILLS ROADSIDE DRIVE BRIDGE WIDENING STORM DRAIN DETAILS SHEET 8 OF 31
REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE	PROJECT ENGINEER	DATE	REVIEWED BY	DATE		
									66865 RCE NO. 9/30/18 EXP DATE	





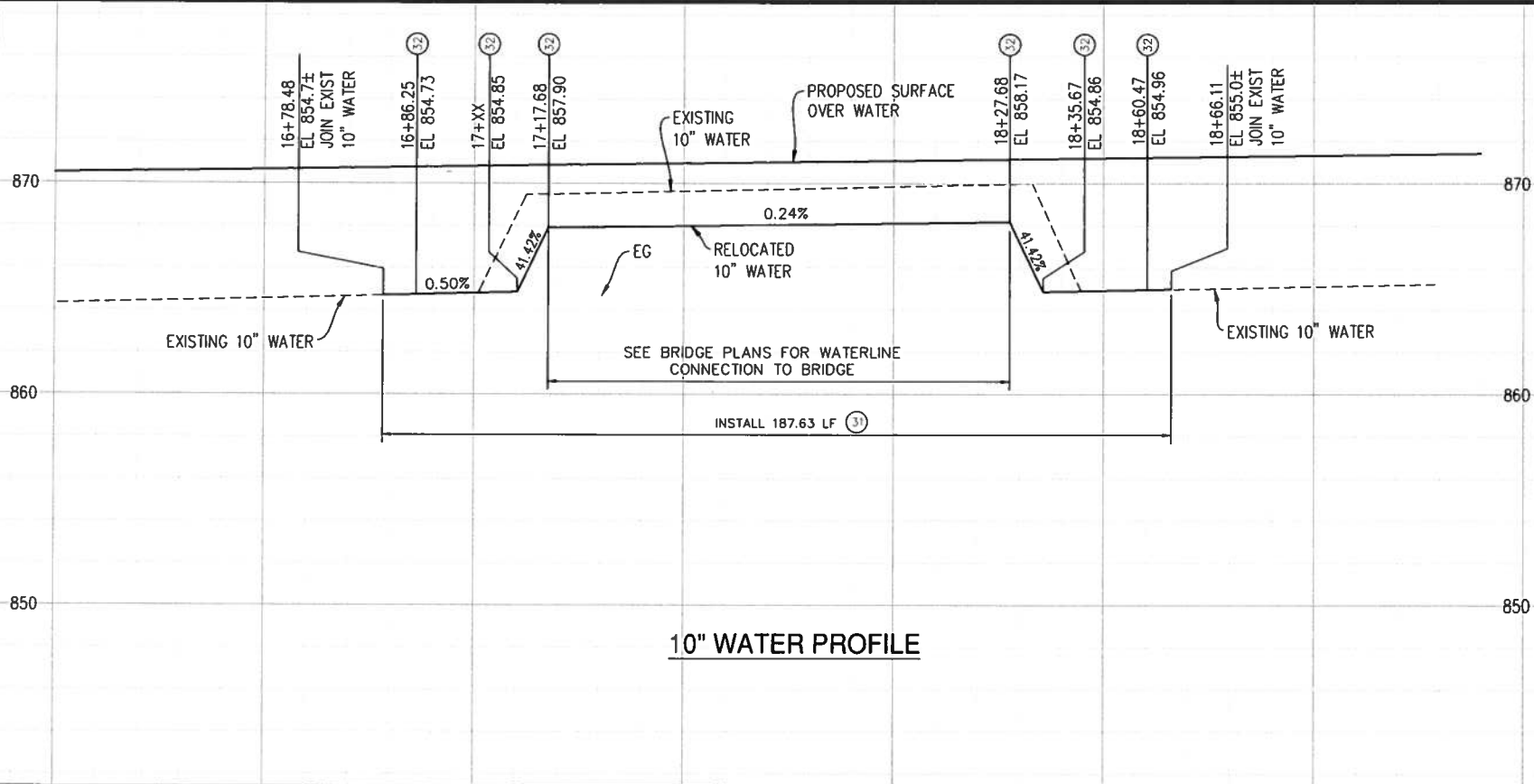


**MATERIALS LIST**

(A)	SIZE X 6" FLG. TEE.
(B)	6" FLG. X FLG. GATE VALVE (CLOW RW, MUELLER RS OR APPROVED EQUAL).
(C)	FLG. X MJ ADAPTERS RESTRAINED
(D)	6" CL-250 DUCTILE IRON PIPE UNLESS OTHERWISE INDICATED.
(E)	VALVE EXTENSION BOX. SEE DETAIL 6 SHEET 13
(F)	6" CL-150 DUCTILE IRON DRY BARREL BURY, MUELLER MODEL A421 SUPER CENTURION 250 OR APPROVED EQUAL. INSTALL PER MANUFACTURERS INSTRUCTIONS.
(G)	DRY BARREL FIRE HYDRANT (MUELLER A421 SUPER CENTURION 250 OR APPROVED EQUAL)

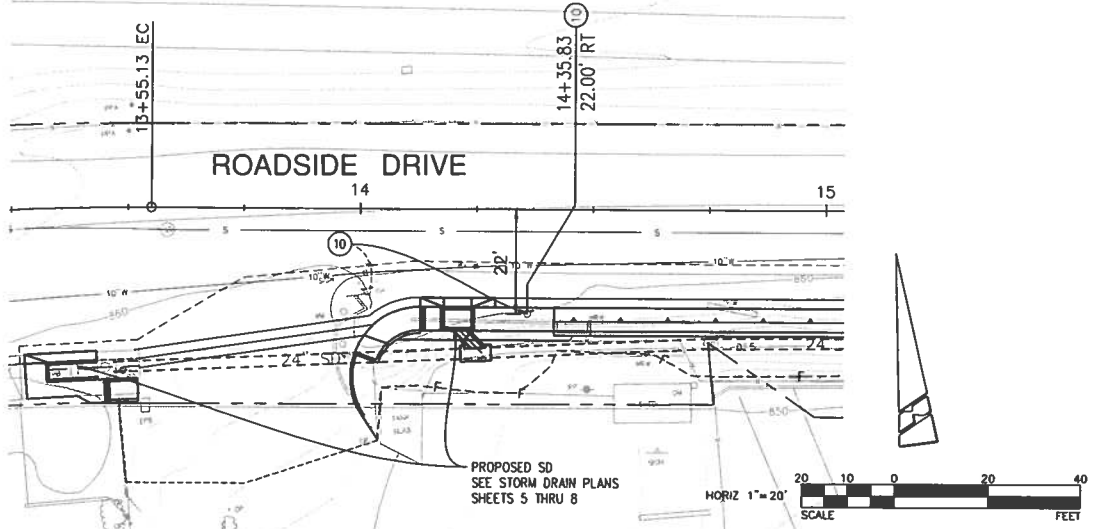
- NOTES:**
- BOLTS MUST BE BREAKAWAY BOLTS WITH NUTS TURNED UP AND FILLED WITH SILICON. INSTALL BREAKAWAY SPOOL.
  - APPLY APPROVED COATING TO ALL BOLTS AND NUTS PER SPECIFICATIONS.
  - APPLY APPROVED COATING TO FIRE HYDRANT PER SPECIFICATIONS. COLOR SHALL BE APPROVED BY OWNER'S REPRESENTATIVE.
  - PIPE AND FITTINGS SHALL BE WRAPPED IN 8 MIL PLASTIC FILM.
  - BLUE RAISE MARKER SHALL BE SUPPLIED AND INSTALLED PER UNIFORM FIRE CODE SECTION 901.4.3.

**HYDRANT CONNECTION DETAIL**  
NTS

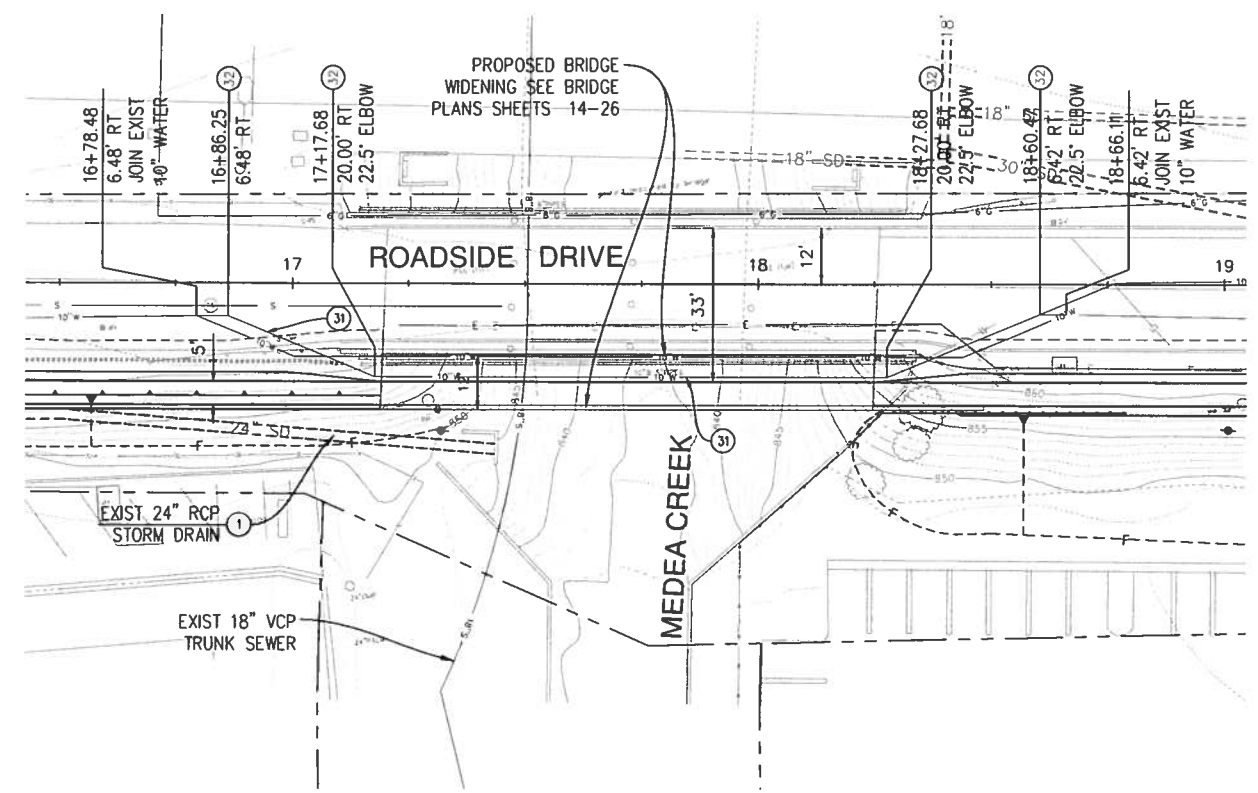


**10" WATER PROFILE**

HORIZ. 1" = 20'  
VERT. 1" = 4'



**FIRE HYDRANT RELOCATION PLAN**



**CONSTRUCTION NOTES**

- PROTECT IN PLACE
- RELOCATE AND REPLACE ASSEMBLY PER DETAIL ON SHEET 10
- INSTALL 10-INCH DIA DI WATERLINE
- 10-INCH DIA 22.5' DI ELBOW

HORIZ 1" = 20'  
SCALE  
FEET

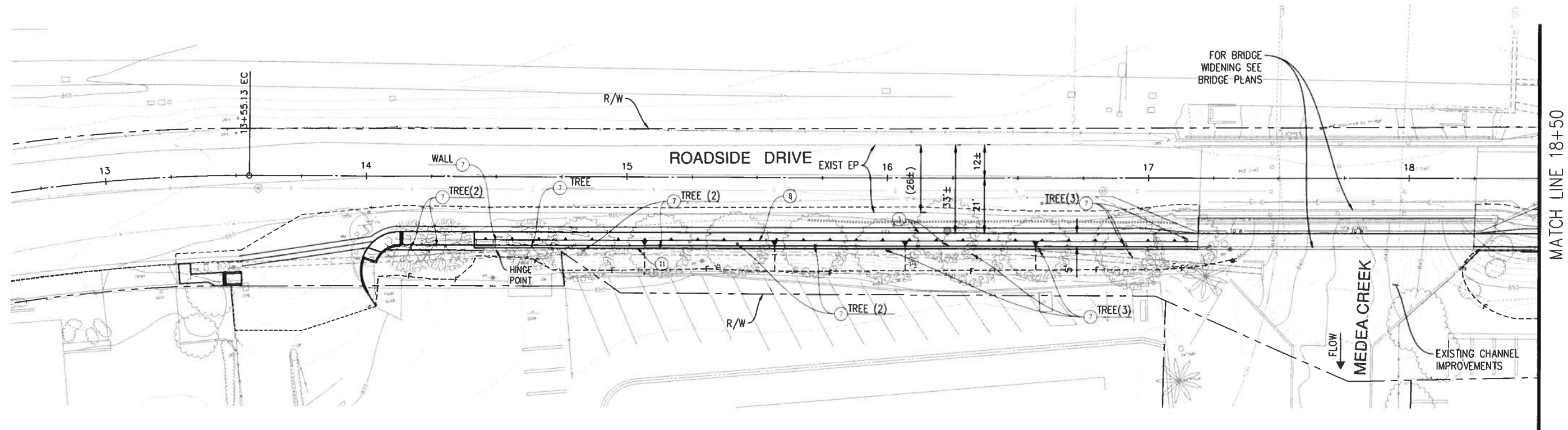
REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY:  
PROJECT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

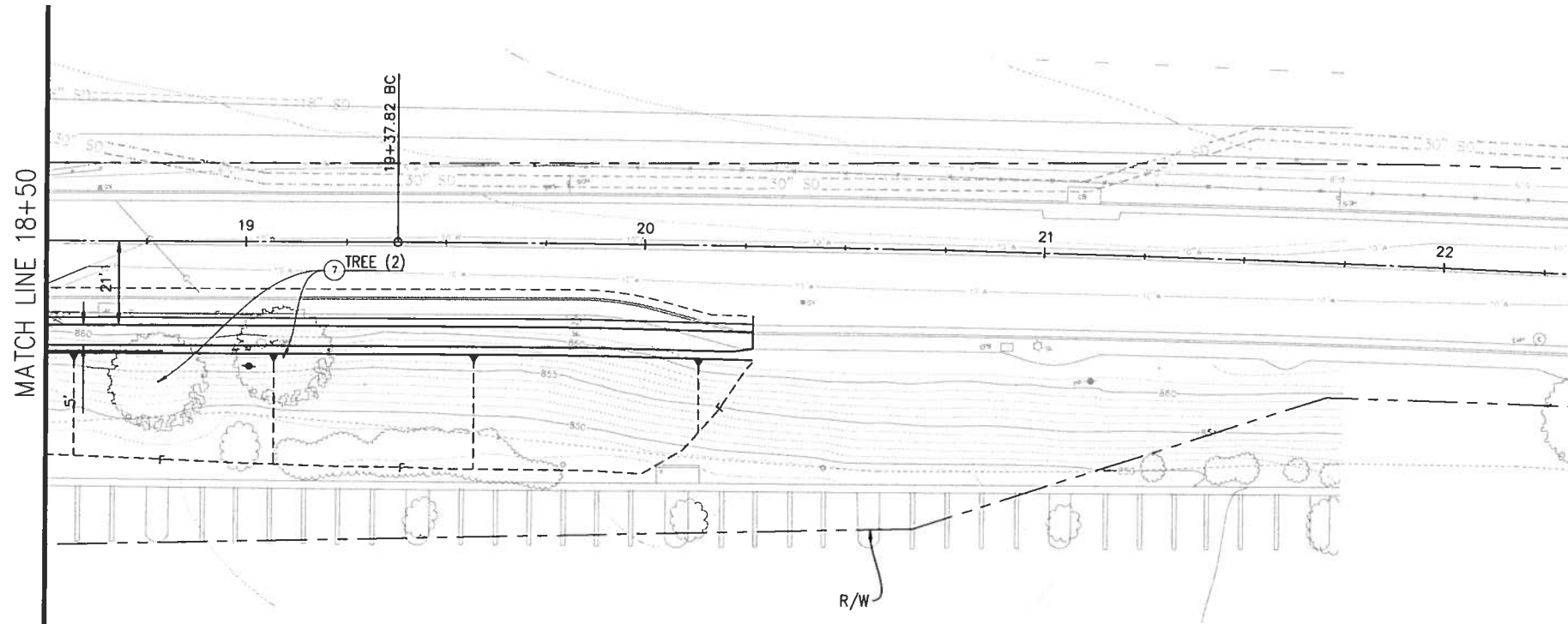
CITY OF AGOURA HILLS APPROVAL  
REVIEWED BY \_\_\_\_\_ DATE \_\_\_\_\_  
RAMIRO ADEVA  
CITY ENGINEER



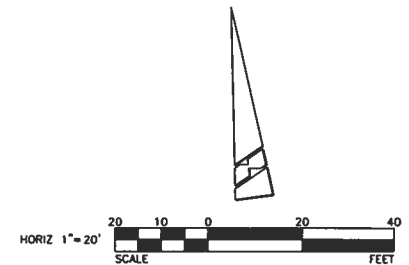
CITY OF AGOURA HILLS  
ROADSIDE DRIVE BRIDGE WIDENING  
WATERLINE RELOCATION  
SHEET 10 OF 31




MATCH LINE 18+50



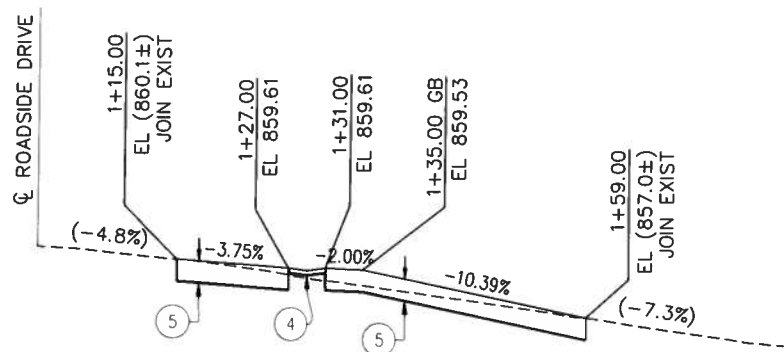
MATCH LINE 18+50



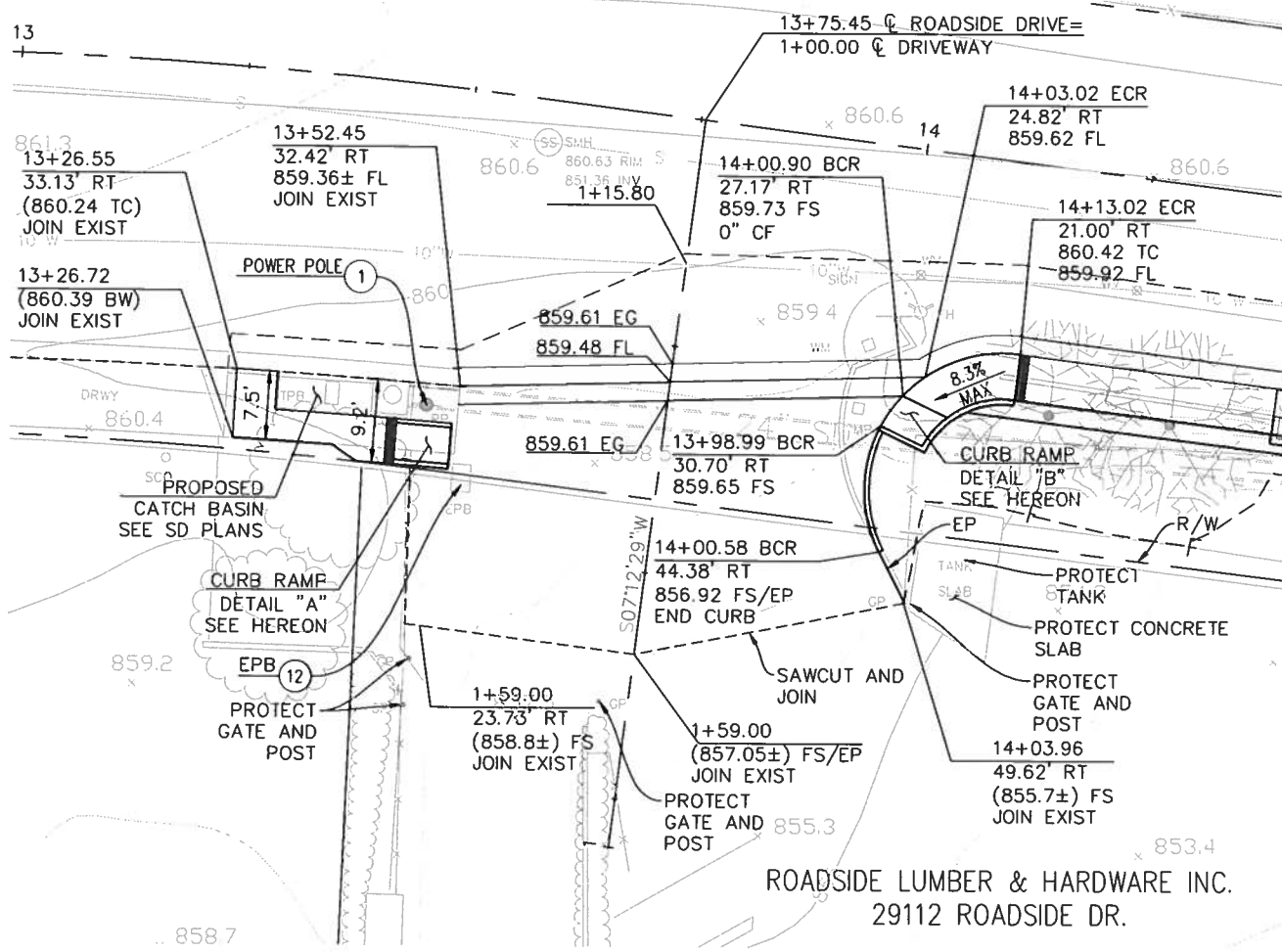
					PREPARED BY:		CITY OF AGOURA HILLS APPROVAL		
					PROJECT ENGINEER	DATE	REVIEWED BY	DATE	RAMIRO ADEVA CITY ENGINEER
							66865 9/30/18 RCE NO. EXP DATE		

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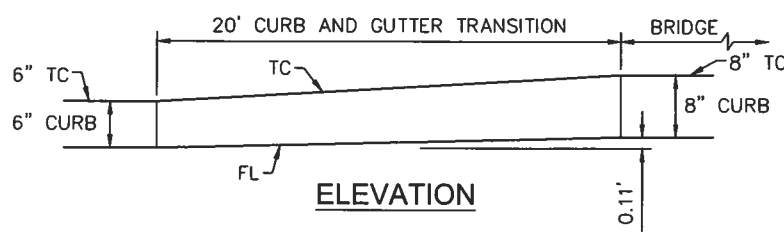




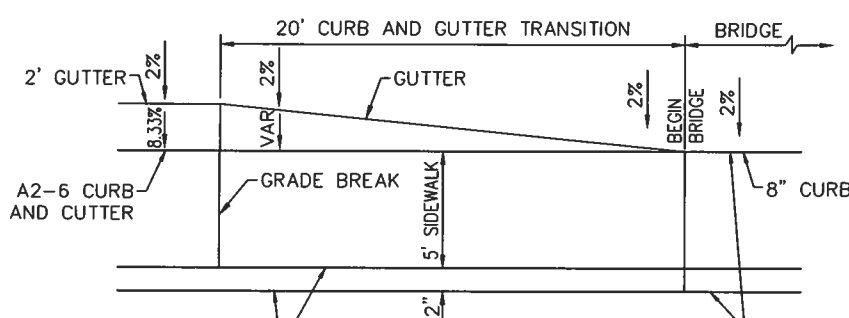
**DRIVEWAY PROFILE**  
SCALE: HORIZ 1"=10'  
VERT 1"=5'



**DRIVEWAY PLAN**  
SCALE: 1"=10'



**ELEVATION**

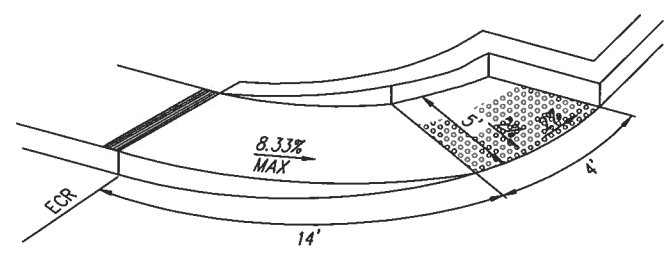


**PLAN**

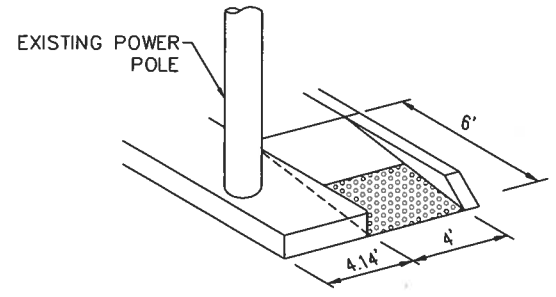
MODIFIED TYPE 26 BRIDGE RAIL PER CALTRANS STANDARD B11-54

TYPE 26 BRIDGE RAIL AND TYPE H CURB PER CALTRANS STD. B11-54

**SPPWC TYPE A2-6 CURB AND GUTTER TRANSITION TO 8" CURB AT BRIDGE**  
NO SCALE



**CURB RAMP DETAIL "B" SPPWC STD PLAN CASE B TYPE 1 [MOD]**  
NO SCALE



**CURB RAMP DETAIL "A" CASE D TYPE 2 [MOD]**  
NO SCALE

**CONSTRUCTION NOTES**

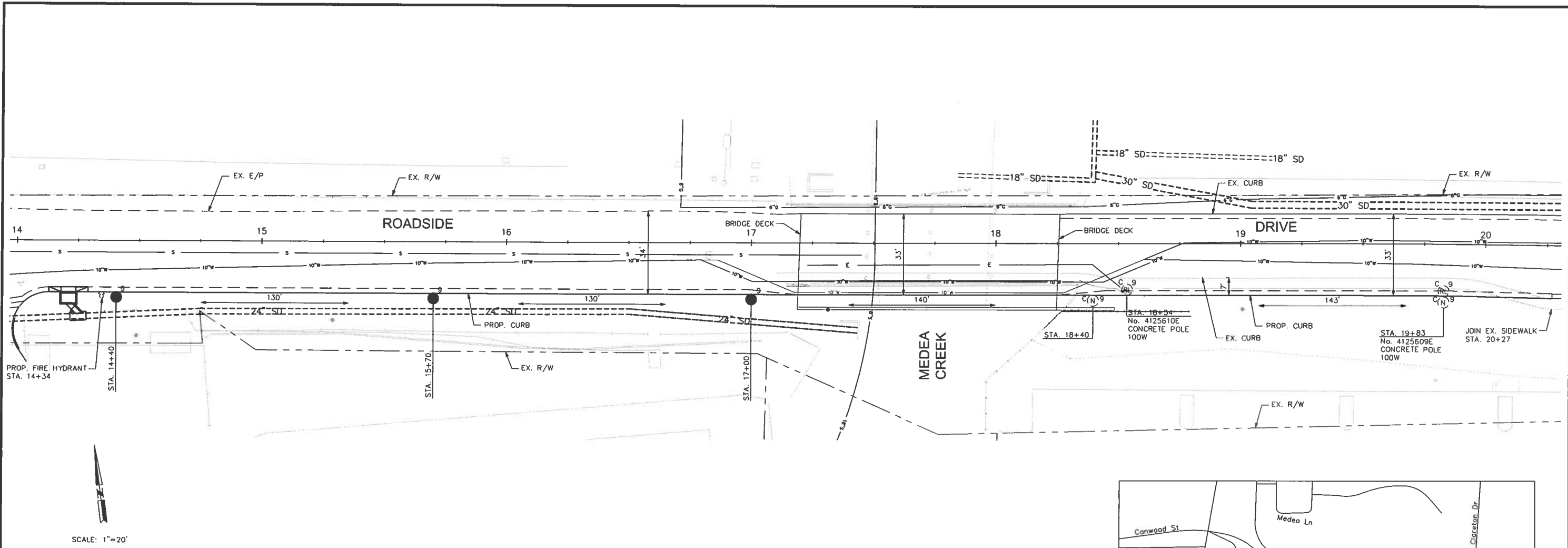
- ① PROTECT IN PLACE
- ④ CONSTRUCT CROSS GUTTER PER SPPWC 122-2
- ⑤ CONSTRUCT 6.5-INCH THICK AC OVER 14.5-INCH THICK AB; SEE TYPICAL SECTIONS ON SHEET 2
- ⑫ ADJUST TO GRADE

PREPARED BY:  
PROJECT ENGINEER DATE

CITY OF AGOURA HILLS APPROVAL  
REVIEWED BY DATE  
RAMIRO ADEVA CITY ENGINEER DATE 66865 9/30/18 RCE NO. EXP DATE



CITY OF AGOURA HILLS  
ROADSIDE DRIVE BRIDGE WIDENING  
CONSTRUCTION DETAILS 1  
SHEET 12 OF 31



SCALE: 1"=20'

**STREET LIGHTING GENERAL NOTES:**

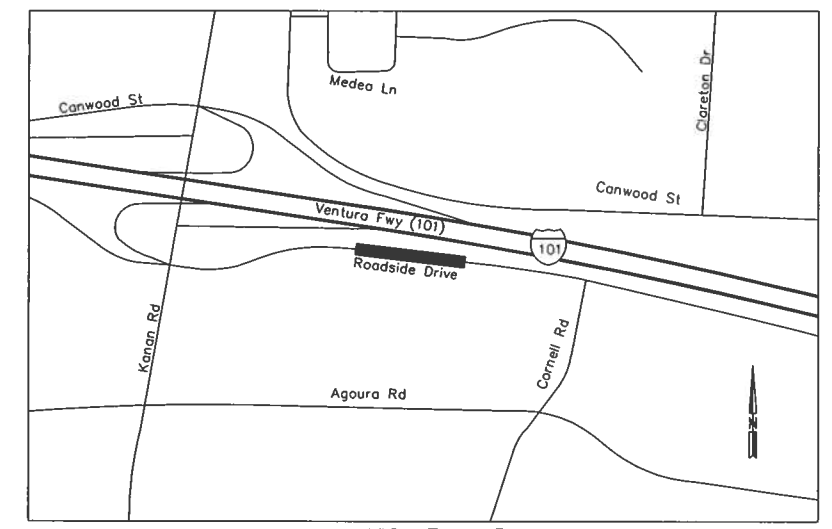
1. THIS STREET LIGHTING LAYOUT EXPIRES TWO YEARS AFTER THE LATEST DATE OF APPROVAL.
2. THE LOCATION OF A STREET LIGHT MAY ONLY BE ADJUSTED UP TO 10 FEET, ONLY TO AVOID AN OBSTRUCTION SUCH AS A CATCH BASIN, DRIVEWAY, ETC. ANY DEVIATION EXCEEDING 10 FEET MUST HAVE THE APPROVAL OF THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS, STREET LIGHTING SECTION. IF SUCH APPROVAL IS NOT OBTAINED, THE LIGHTS PROPOSED BY THIS PLAN WILL NOT BE ACCEPTED BY COUNTY LIGHTING MAINTENANCE DISTRICT.
3. A REVISED STREET LIGHTING LAYOUT SHALL BE SUBMITTED FOR ANY CHANGES IN THE MAP, SUCH AS STREET ALIGNMENT, LOT OR PARCEL SIZES, BOUNDARIES, ETC.
4. THE STREET LIGHT POLES SHALL BE AMERON TYPE 1-C1 SERIES OR AGENCY APPROVED EQUAL.
5. ALL STREET LIGHT WIRING SHALL BE UNDERGROUND.
6. ON STREETS WHERE THE SIDEWALK AND CURB ARE GREATER THAN 5 1/2 FEET IN WIDTH, THE MAST ARMS AND BRACKETS SHALL BE PERPENDICULAR TO THE CURB FACE. THE STREET LIGHTING ELECTROLUER STANDARDS SHALL BE PLACED 24" FROM THE CURB FACE. USE A 4-FOOT LONG MAST ARM FOR 100 WATT LAMPS AND 6-FOOT LONG MAST ARM FOR OTHER WATTAGE, UNLESS OTHERWISE SPECIFIED.
7. ON STREETS WHERE THE SIDEWALK AND CURB ARE LESS THAN OR EQUAL TO 5 1/2 FEET IN WIDTH, THE STREET LIGHTING ELECTROLUER STANDARDS AND PULL BOXES SHALL BE PLACED OUTSIDE OF THE SIDEWALK AREA UNLESS OTHERWISE SPECIFIED. USE AN 8-FOOT LONG MAST ARM FOR ALL WATTAGE, UNLESS OTHERWISE SPECIFIED.
8. ALL LIGHTS SHOWN ON THIS LAYOUT SHALL BE ENERGIZED PRIOR TO ACCEPTANCE OF THE LIGHTING SYSTEM TO A COUNTY LIGHTING DISTRICT.
9. EXISTING STREET LIGHTING SYSTEMS SHALL REMAIN IN OPERATION DURING ANY MODIFICATION. ANY PROPOSED TEMPORARY STREET LIGHTING SYSTEM MUST BE APPROVED BY THE LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS.
10. FIVE-FOOT CLEARANCE TO BE MAINTAINED FROM FIRE HYDRANT.
11. FOUR-FOOT CLEARANCE TO BE MAINTAINED FROM TOP OF SLOPE AT COMMERCIAL DRIVEWAY, AND 2 FOOT CLEARANCE FROM RESIDENTIAL DRIVEWAY.

**DESIGN GUIDELINES**

FOR 9,500 LUMEN LAMPS, THE POLE SPACING IS BASED ON 0.4 FOOTCANDLES, FOR "LOCAL RESIDENTIAL" STREETS. THE LUMINAIRE SHALL HAVE A 25 FOOT MOUNTING HEIGHT, SHALL BE (A.N.S.I.-I.E.S.) MEDIUM FULL-CUTOFF (FLAT GLASS), TYPE III, AND EQUIPPED WITH A 100 WATT HIGH PRESSURE SODIUM VAPOR LAMP.

**LEGEND**

- 3 - ●<sup>9</sup> PROPOSED 9,500 LUMEN (100 WATT) H.P.S.V. LAMPS ON CONCRETE POLES.
- EXISTING STREET LIGHT. TYPE OF POLE, SIZE OF LAMP, AND POLE NUMBER AS INDICATED.
- 2 - (RL)<sup>9</sup> EXISTING 9,500 LUMEN LIGHT ON CONCRETE POLE TO BE RELOCATED.
- 2 - (N)<sup>9</sup> NEW LOCATION OF RELOCATED LIGHT.



VICINITY MAP  
N.T.S.

L-004-2015

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS		
APPROVAL FOR STREET LIGHT INSTALLATION BY THE SOUTHERN CALIFORNIA EDISON COMPANY		
BY	RCE NO.	DATE



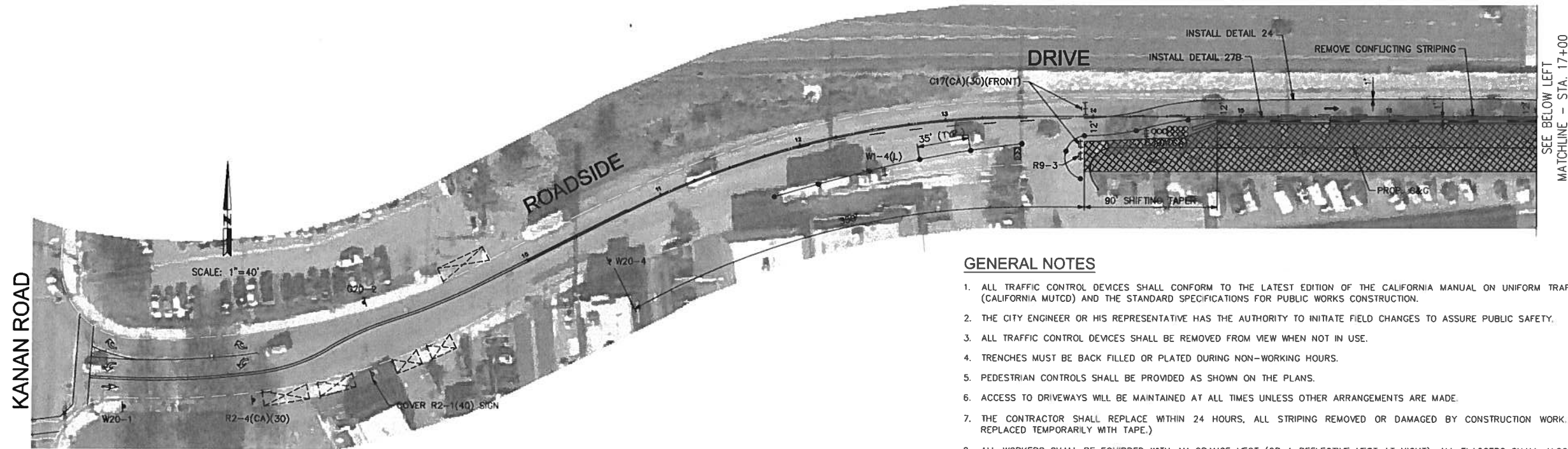
REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY:  
*Vanessa Munoz*  
PROJECT ENGINEER  
1/12/15  
DATE

CLMD 10032  
T.G. 558-A6  
CITY OF AGOURA HILLS APPROVAL  
REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
RAMIRO ADEVA  
CITY ENGINEER  
66865 9/30/18  
RCE NO. EXP DATE

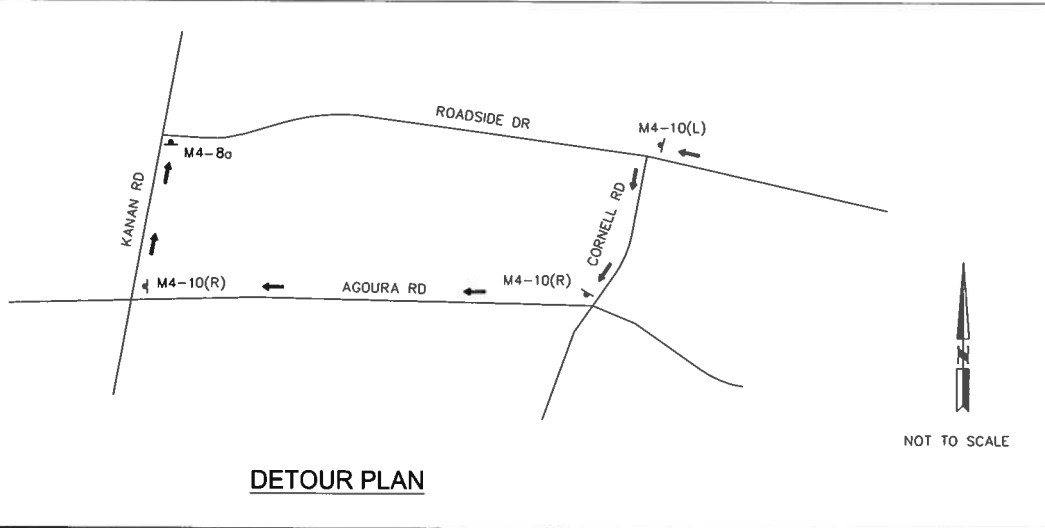
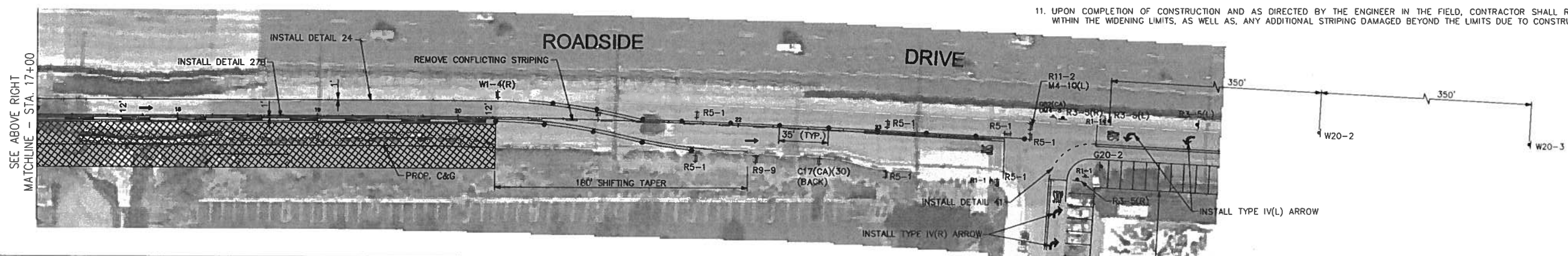


CITY OF AGOURA HILLS  
ROADSIDE DRIVE BRIDGE WIDENING  
STREET LIGHTING LAYOUT  
SHEET 13 OF 31



**GENERAL NOTES**

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CALIFORNIA MUTCD) AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
2. THE CITY ENGINEER OR HIS REPRESENTATIVE HAS THE AUTHORITY TO INITIATE FIELD CHANGES TO ASSURE PUBLIC SAFETY.
3. ALL TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM VIEW WHEN NOT IN USE.
4. TRENCHES MUST BE BACK FILLED OR PLATED DURING NON-WORKING HOURS.
5. PEDESTRIAN CONTROLS SHALL BE PROVIDED AS SHOWN ON THE PLANS.
6. ACCESS TO DRIVEWAYS WILL BE MAINTAINED AT ALL TIMES UNLESS OTHER ARRANGEMENTS ARE MADE.
7. THE CONTRACTOR SHALL REPLACE WITHIN 24 HOURS, ALL STRIPING REMOVED OR DAMAGED BY CONSTRUCTION WORK. (STRIPING MAY BE REPLACED TEMPORARILY WITH TAPE.)
8. ALL WORKERS SHALL BE EQUIPPED WITH AN ORANGE VEST (OR A REFLECTIVE VEST AT NIGHT), ALL FLAGGERS SHALL ALSO BE EQUIPPED WITH A HARD HAT, C28 "STOP/SLOW" PADDLE AND SHALL BE TRAINED IN THE PROPER FUNDAMENTALS OF FLAGGING TRAFFIC.
9. THE CONTRACTOR SHALL MAINTAIN ALL TRAFFIC CONTROL DEVICES 24 HOURS PER DAY AND 7 DAYS PER WEEK.
10. A MINIMUM OF TWELVE (12) FOOT TRAVEL LANES MUST BE MAINTAINED UNLESS OTHERWISE APPROVED BY THE DEPARTMENT OF PUBLIC WORKS.
11. UPON COMPLETION OF CONSTRUCTION AND AS DIRECTED BY THE ENGINEER IN THE FIELD, CONTRACTOR SHALL REPAINT ALL EXISTING STRIPING WITHIN THE WIDENING LIMITS, AS WELL AS, ANY ADDITIONAL STRIPING DAMAGED BEYOND THE LIMITS DUE TO CONSTRUCTION ACTIVITIES.



**LEGEND**

- WORK AREA
- TYPE II BARRICADE WITH SIGN
- TYPE III BARRICADE WITH SIGN
- TEMPORARY SIGN (AS NOTED ON PLAN)
- REFLECTORIZED PORTABLE DELINEATOR
- DIRECTION OF TRAVEL (NOT A PHYSICAL INSTALLATION)
- FLASHING ARROW SIGN (FAS)
- TEMPORARY CRASH CUSHION, SAND FILLED ARRAY 'U11', UNLESS OTHERWISE NOTED
- TEMPORARY K-RAIL

REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY:		CITY OF AGOURA HILLS APPROVAL	
PROJECT ENGINEER	DATE	REVIEWED BY	DATE
		RAMIRO ADEVA	66865 9/30/18
		CITY ENGINEER	RCE NO. EXP DATE




**CITY OF AGOURA HILLS  
ROADSIDE DRIVE BRIDGE WIDENING  
TRAFFIC CONTROL PLAN**

SHEET 14 OF 31

\\vgf-arhng-nas\Engineering\101448 Roadside Bridge Widening\7000-Roadway n EOE\703-Plans\pl-TCP01.dwg - 3/14/2017 2:22 PM



**LEGEND**

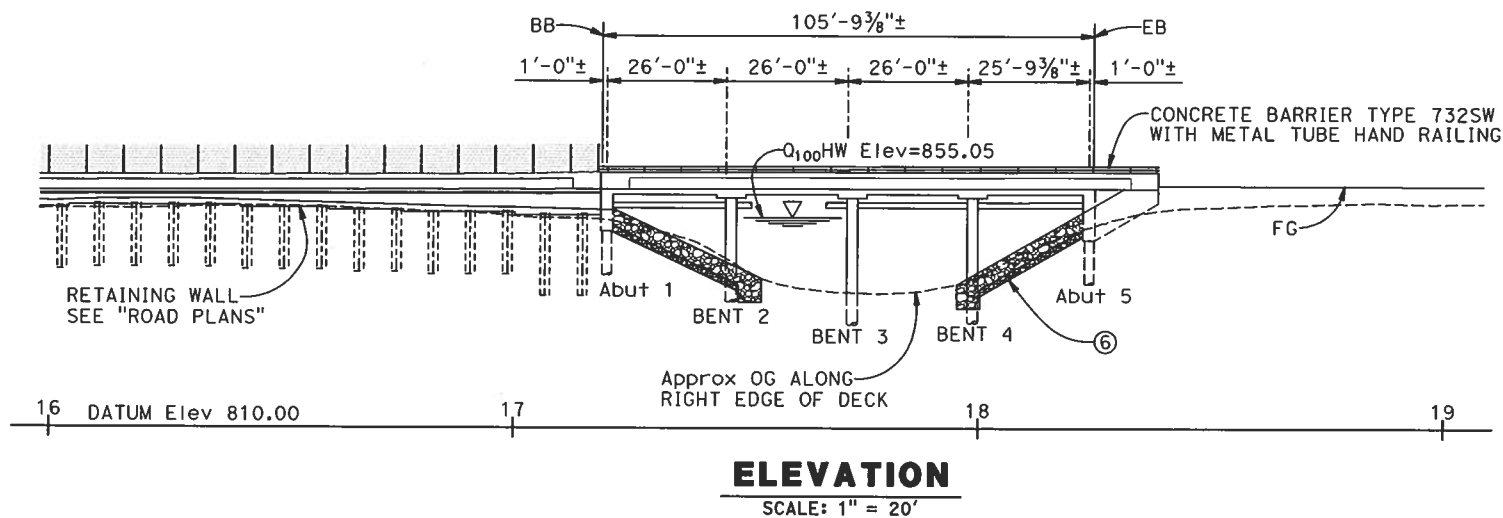
- Denotes Existing Structure
- \_\_\_\_\_ Denotes Proposed Structure
-  Denotes Bridge Removal (Portion)

**NOTES**

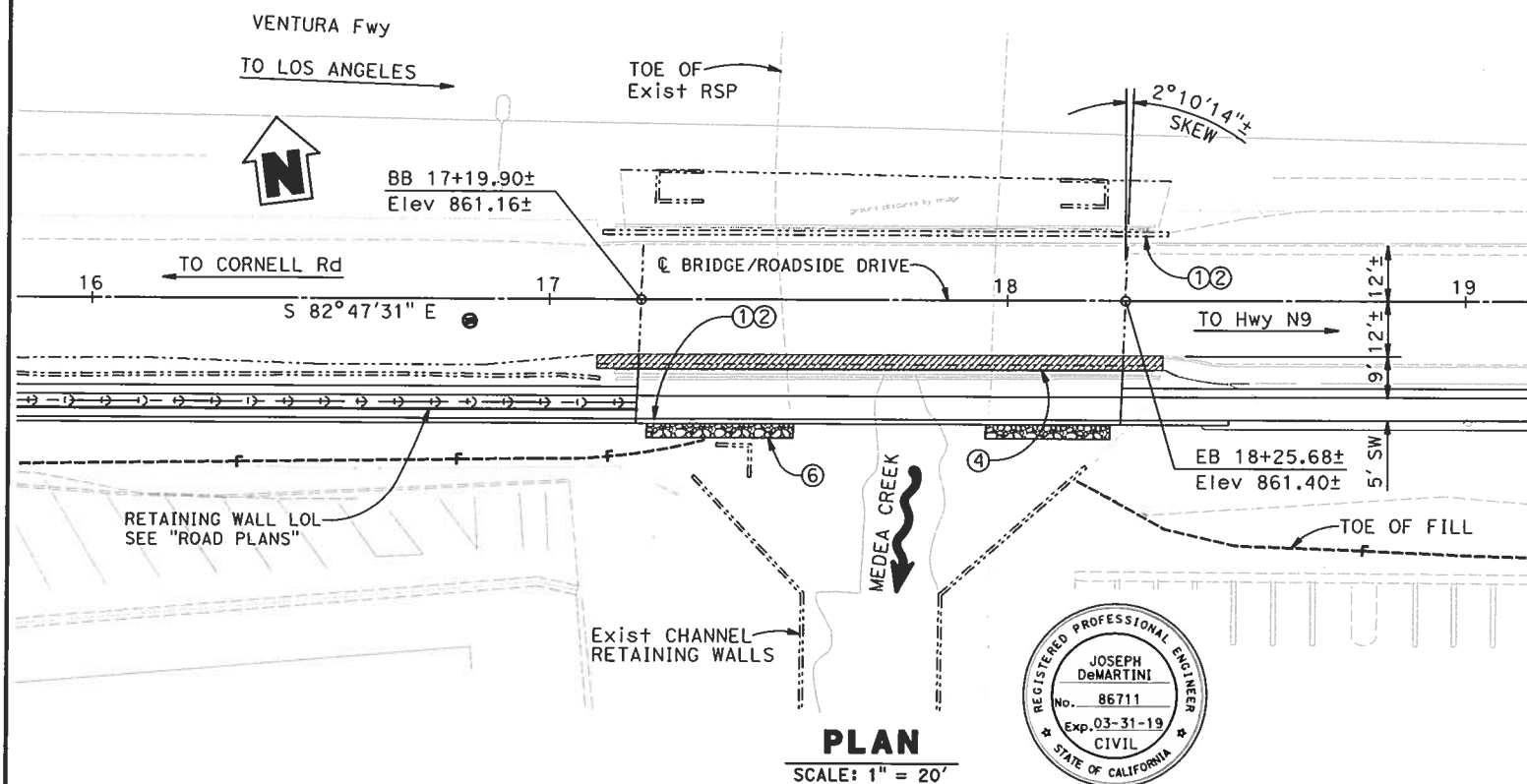
- ① PAINT "MEDEA CREEK BRIDGE".
- ② PAINT "BR NO. 56C0290".
- ③ REMOVE CONCRETE RAILING AND METAL HANDRAIL.
- ④ REFINISH BRIDGE DECK.
- ⑤ MATCH EXISTING DECK SLOPE
- ⑥ 1/4 TON RSP WITH NO. 2 BACKING.
- ⑦ Temp RAILING (TYPE K) DURING CONSTRUCTION

**INDEX TO PLANS**

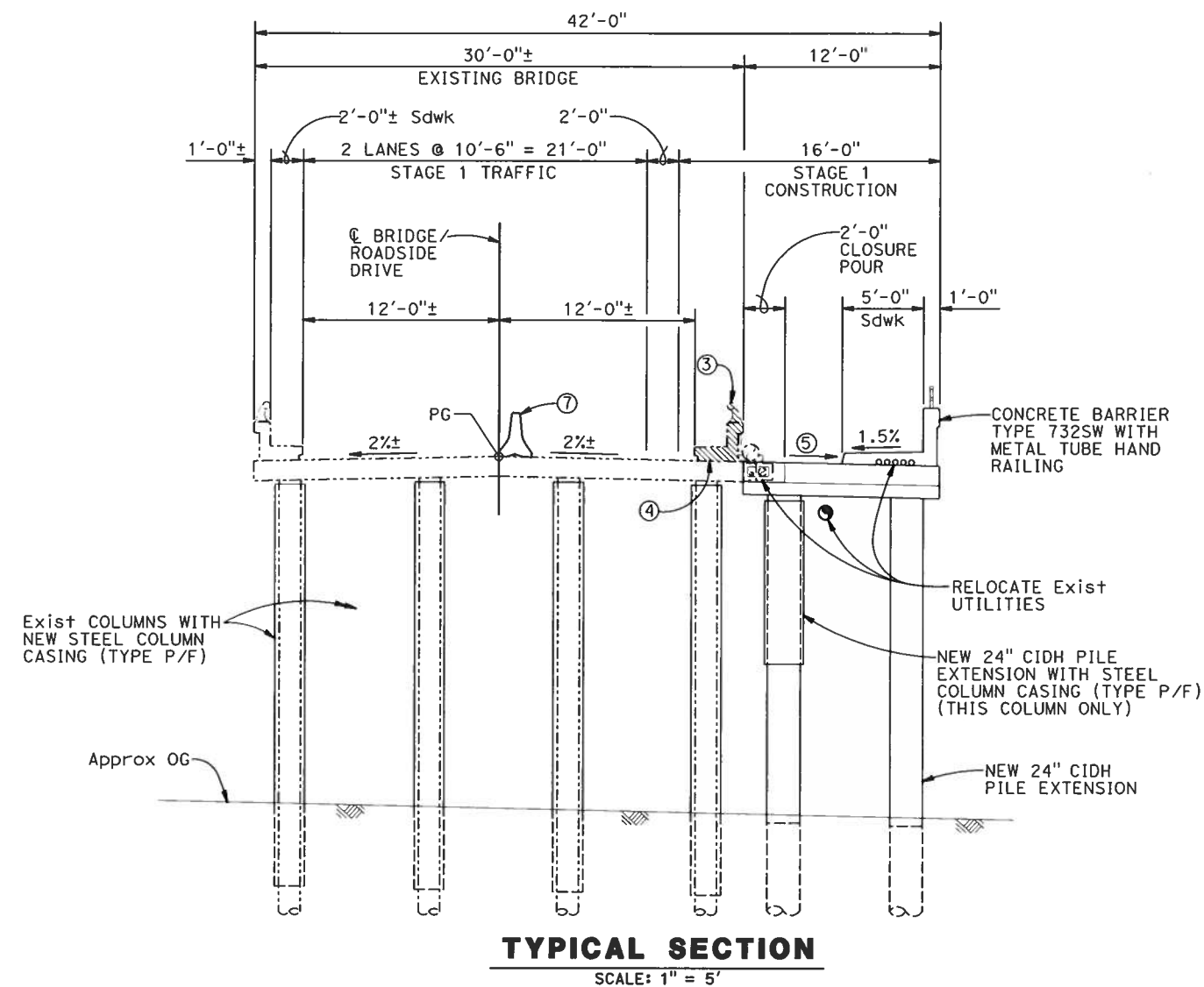
SHEET No.	TITLE
1	GENERAL PLAN
2	DECK CONTOURS
3	FOUNDATION PLAN
4	ABUTMENT 1 LAYOUT
5	ABUTMENT 5 LAYOUT
6	ABUTMENT DETAILS NO. 1
7	ABUTMENT DETAILS NO. 2
8	BENT LAYOUT
9	BENT DETAILS NO. 1
10	COLUMN CASING - STEEL
11	SLAB REINFORCEMENT DETAILS NO. 1
12	SLAB REINFORCEMENT DETAILS NO. 2
13	UTILITY RELOCATION DETAILS NO. 1
14	RETAINING WALL LAYOUT
15	RETAINING WALL DETAILS NO. 1
16	RETAINING WALL DETAILS NO. 2
17	LOG OF TEST BORINGS




**ELEVATION**  
SCALE: 1" = 20'



**PLAN**  
SCALE: 1" = 20'



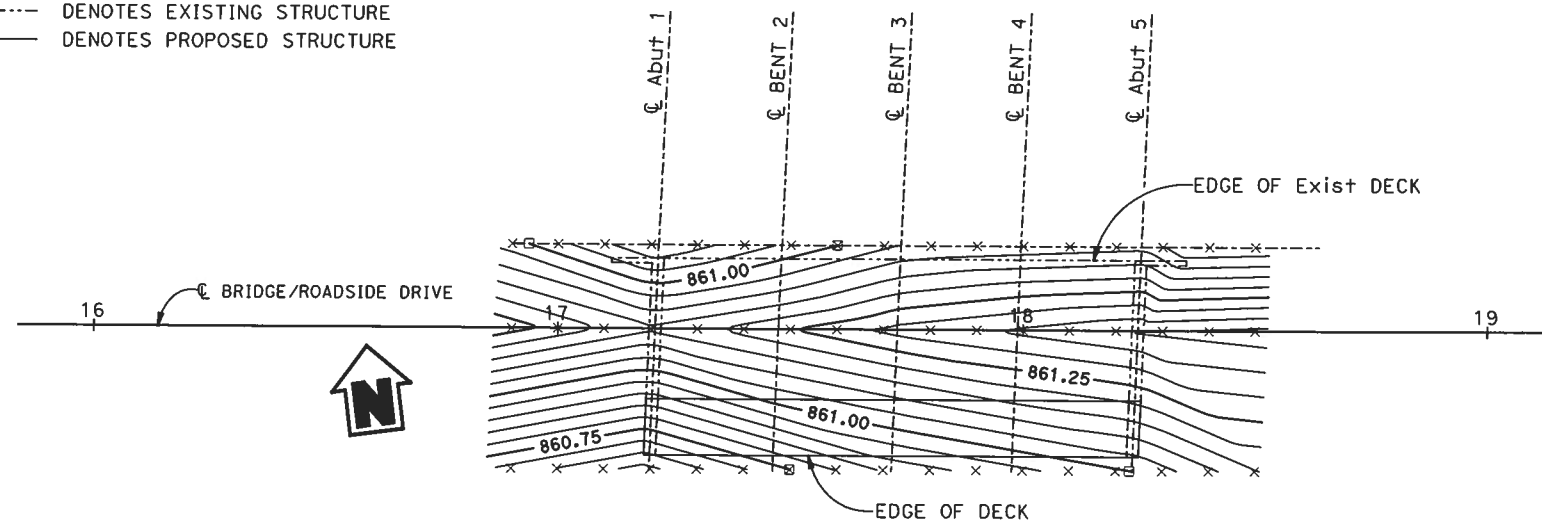
**TYPICAL SECTION**  
SCALE: 1" = 5'

PREPARED BY:				CITY OF AGOURA HILLS APPROVAL			
JOSEPH DeMARTINI PROJECT ENGINEER							
REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE	REVIEWED BY	DATE	DATE
					RAMIRO ADEVA CITY ENGINEER		66865 9/30/18 RCE NO. EXP DATE

CITY OF AGOURA HILLS  
ROADSIDE DRIVE BRIDGE WIDENING  
GENERAL PLAN  
SHEET 15 OF 31

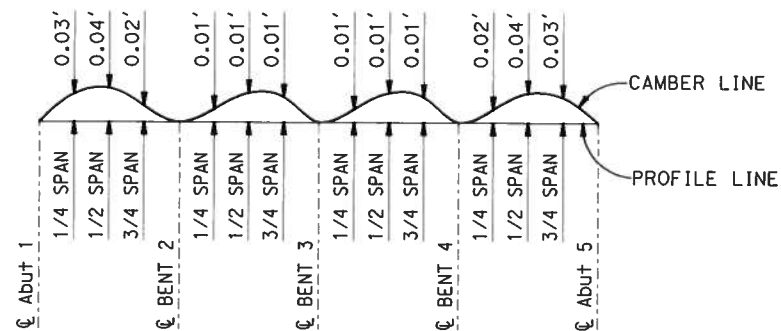
**LEGEND**

- DENOTES EXISTING STRUCTURE
- \_\_\_\_\_ DENOTES PROPOSED STRUCTURE



**DECK CONTOURS**

SCALE: 1" = 20'



**CAMBER DIAGRAM**

NO SCALE

NOTE: DOES NOT INCLUDE ALLOWANCE FOR FALSEWORK SETTLEMENT.

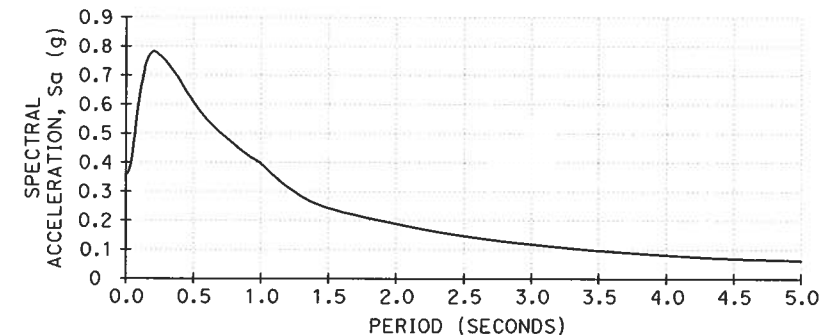
**APPROXIMATE QUANTITIES**

ITEM CODE	ITEM DESCRIPTION	QUANTITY	UNIT
153226	REFINISH BRIDGE DECK	3174	SF
157560	BRIDGE REMOVAL (PORTION)	1	LS
192003	STRUCTURE EXCAVATION (BRIDGE)	39	CY
193003	STRUCTURE BACKFILL (BRIDGE)	15	CY
490601	16" CAST-IN-DRILLED-HOLE CONCRETE PILE	39	LF
490603	24" CAST-IN-DRILLED-HOLE CONCRETE PILE	618	LF
510053	STRUCTURAL CONCRETE, BRIDGE	90	CY
511106	DRILL AND BOND DOWEL	130	LF
519101	JOINT SEAL (TYPE A)	7	LF
520102	BAR REINFORCING STEEL (BRIDGE)	42,800	LB
520120	HEADED BAR REINFORCEMENT	48	EA
598001	ANTI-GRAFFITI COATING	525	SF
600152	COLUMN CASING WITH P/F	1,790	LB
721013	ROCK SLOPE PROTECTION (1/4 TON, METHOD B)	150	CY
721028	ROCK SLOPE PROTECTION (NO. 2, METHOD B)	40	CY
833088	TUBULAR HANDRAILING	140	LF
839727	CONCRETE BARRIER (TYPE 732SW MODIFIED)	140	LF
	FURNISH AND INSTALL 10" WATER MAIN (BRIDGE)	110	LF

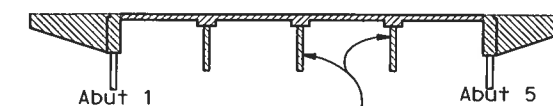
- NOTES:**
1. Contour indicate top of deck elevation.
  2. □ Indicates even 0.25 foot contours.
  3. × Indicates 10' intervals measured along "B" Line.
  4. Contour interval = 0.05'
  5. Contours do not include allowances for camber or falsework settlement.

**GENERAL NOTES  
LOAD AND RESISTANCE FACTOR DESIGN**

- DESIGN :** AASHTO LRFD Bridge Design Specifications, 4th Edition and with Caltrans Amendments, preface dated September 2010; except Type 215 Metal Tube Bridge Railing.
- SEISMIC DESIGN:** Caltrans Seismic Design Criteria (SDC), Version 1.6 dated November 2010.
- DEAD LOAD:** Includes 35 psf for future wearing surface.
- LIVE LOADING:** HL93 and permit design load.
- SEISMIC LOADING:** Soil Profile: Moment Magnitude: Peak Ground Acceleration = 0.36 g
- REINFORCED CONCRETE:**  $f_y = 60$  ksi  
 $f'_c = 4.0$  ksi (Superstructure)  
 $f'_c = 3.5$  ksi (Substructure)



**ACCELERATION RESPONSE SPECTRUM CURVE**



- Reinf Conc PILE EXTENSIONS AT BENTS, Typ
- ▨ STRUCTURAL CONCRETE BRIDGE 3.5 ksi AT 28 DAYS
  - ▨ STRUCTURAL CONCRETE BRIDGE 4 ksi AT 28 DAYS

**CONCRETE STRENGTH AND TYPE LIMITS**

NO SCALE



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				JOSEPH DeMARTINI PROJECT ENGINEER							
REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE	DATE	REVIEWED BY	DATE	DATE	DATE	66865 RCE NO.	9/30/18 EXP DATE

CITY OF AGOURA HILLS  
ROADSIDE DRIVE BRIDGE WIDENING  
DECK CONTOURS

SHEET 16 OF 31

**BENCH MARK**

LACBM No. 10004 (MALIBU QUAD)  
 ELEV=877.40 (NAVD '88, 2008 ADJ.)  
 RDBM TAG IN W CB 2' N/O BCR @  
 NW COR KANAN RD & AGOURA RD.

**BASIS OF BEARING**

CALIFORNIA STATE PLANE ZONE 5,  
 NAD 1983 (2007 EPOCH)

**HYDROLOGIC SUMMARY**

DRAINAGE AREA SQ MI UNKNOWN				
	DESIGN FLOOD	BASE FLOOD	OVERTOPPING FLOOD	RECORD FLOOD
FREQUENCY, YEARS	50	100	NA	NA
DISCHARGE CUBIC ft/sec.	NA	7,200	NA	NA
WATER SURFACE ELEVATION AT BRIDGE	NA	855.05	NA	NA

NOTE:  
 Flood Plain Data is based upon information available when the plans were prepared and are shown to meet Federal requirements.

Hydrologic information, (discharge) was supplied by FEMA effective model and approved hydrology upstream of this project.

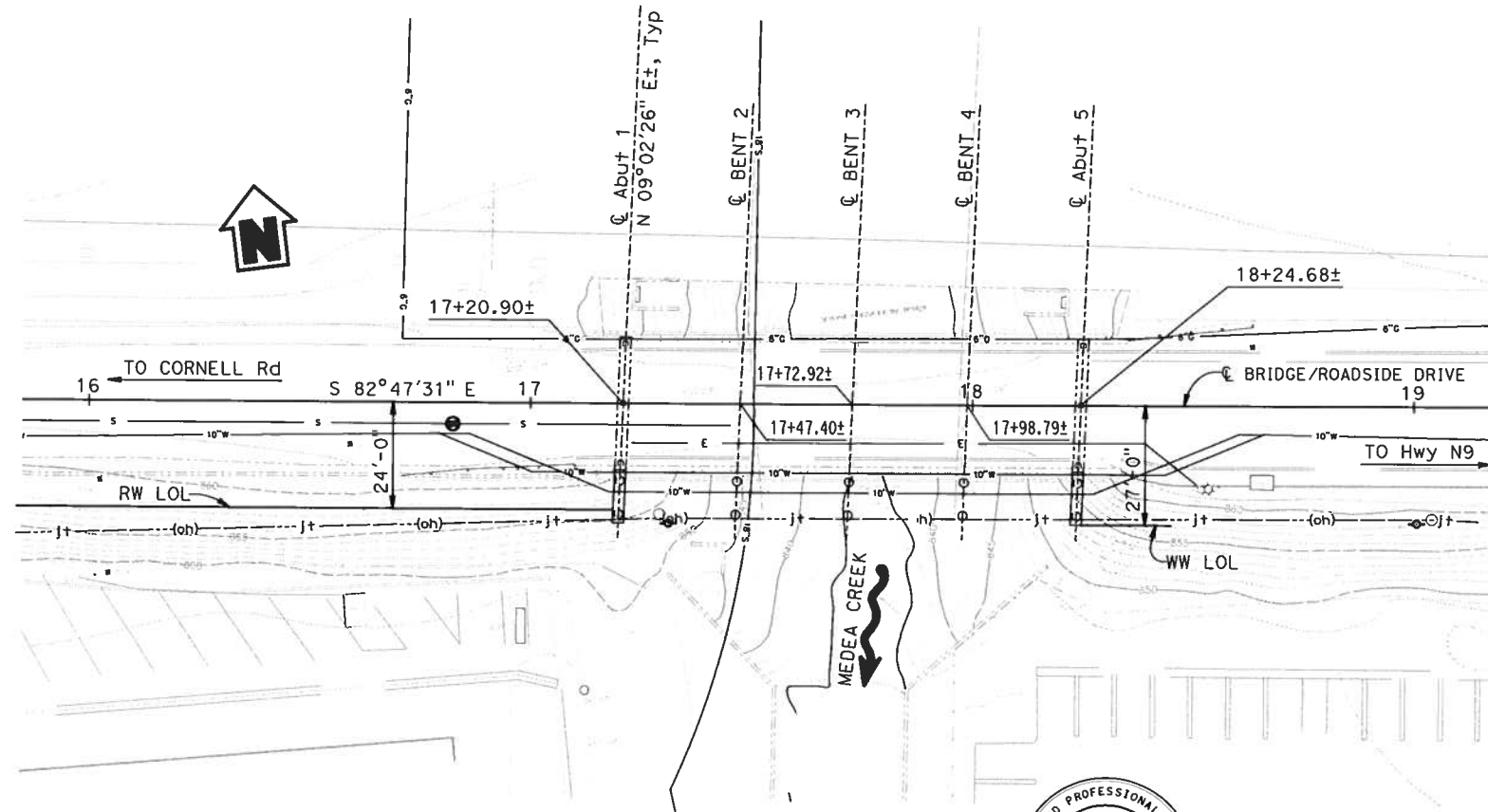
The accuracy of said information is not warranted by the Designer and interested or affected parties should make their own investigation.

**LEGEND**

- DENOTES EXISTING STRUCTURE
- DENOTES PROPOSED STRUCTURE
- o DENOTES EXISTING PILES
- o DENOTES CLASS 90 OR CLASS 140 PILES

**NOTES**

1. Utility relocation not shown. Utilities in conflict with piles will be relocated for bridge construction.



**PLAN**  
 SCALE: 1" = 20'



**PILE DATA TABLE**

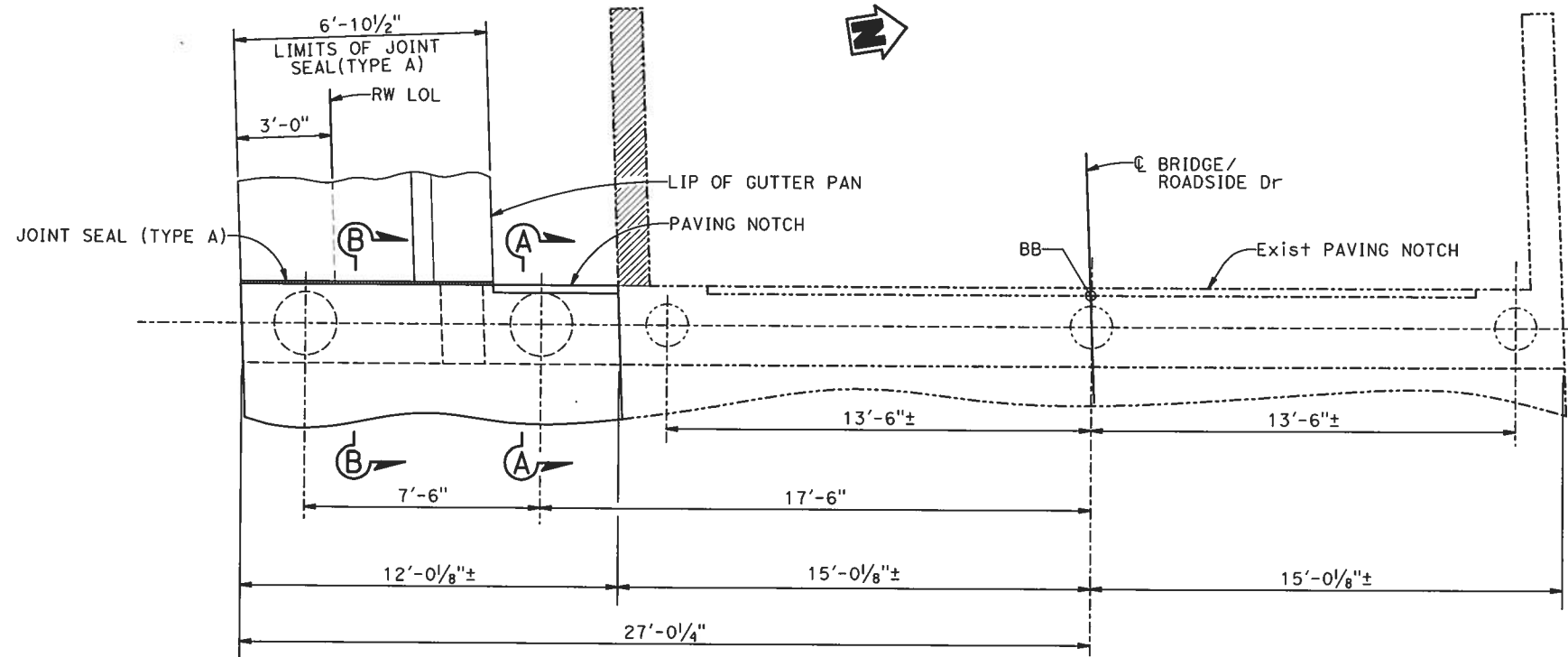
LOCATION	PILE TYPE	DESIGN LOADING (SERVICE)	NOMINAL RESISTANCE		BOTTOM OF FOOTING ELEVATION (FEET)	DESIGN TIP ELEV* (FEET)	SPECIFIED TIP ELEV (FEET)
			COMPRESSION	TENSION			
Abut 1	24" CIDH (CLASS 90)	90 kips	180 kips	90 kips	854.0±	817.0 (1)	815.0
Abut 5	16" CIDH (CLASS 90)	90 kips	180 kips	90 kips	854.0±	830.0 (1)	830.0
Abut 5	24" CIDH (CLASS 90)	90 kips	180 kips	90 kips	854.0±	830.0 (1)	830.0
BENTS 2, 3 & 4	24" CIDH (CLASS 140)	140 kips	280 kips	140 kips	830.0±	793.0 (1)	790.0

\* DESIGN TIP ELEVATION IS CONTROLLED BY THE FOLLOWING DEMANDS:  
 (1) COMPRESSION, (2) TENSION, (3) LATERAL LOADS, (4) SETTLEMENT

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				JOSEPH DeMARTINI PROJECT ENGINEER							
				DATE		REVIEWED BY		DATE		CITY OF AGOURA HILLS ROADSIDE DRIVE BRIDGE WIDENING FOUNDATION PLAN SHEET 17 OF 31	
REVISION #				SYMBOL		DESCRIPTION OF CHANGE		APPROVED		DATE	

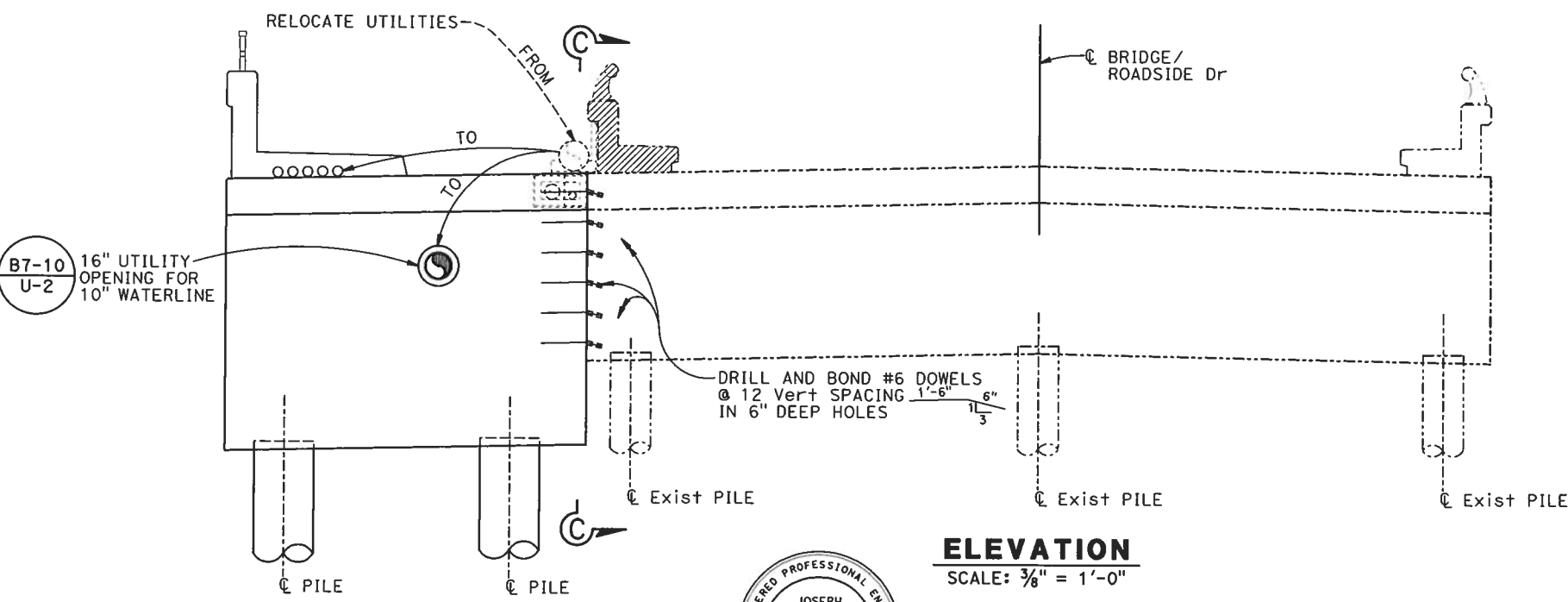
\\p1-ndp-001\agourahills\00448 roadsides bridge widening\000-roadway & util\003-plan\00448-0-BRIDGE.dwg - 12/11/2015 10:22 AM





Note: Dimensions are measured along  $\phi$  of abutment.

**PLAN**  
SCALE:  $\frac{3}{8}'' = 1'-0''$  (B0-1)

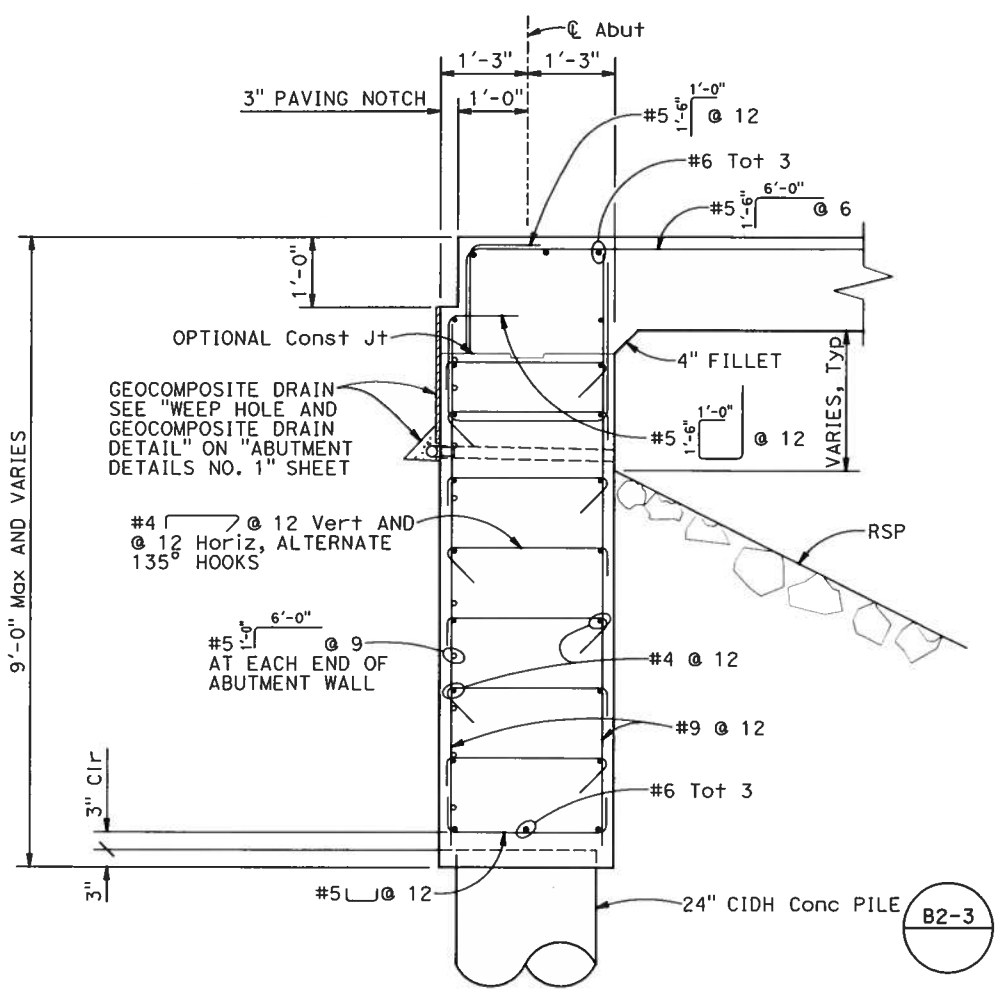


**ELEVATION**  
SCALE:  $\frac{3}{8}'' = 1'-0''$

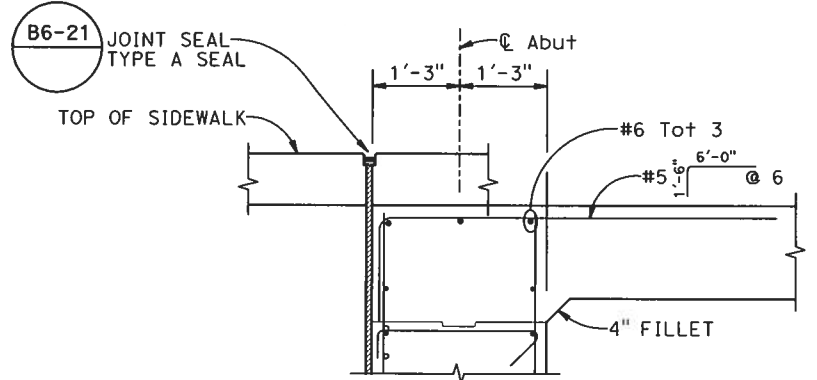


**NOTES**  
1. For SECTION C-C, see "ABUTMENT DETAILS NO. 1" sheet.

**LEGEND**  
 - - - - - Denotes Existing Structure  
 ——— Denotes Proposed Structure  
 [Hatched Box] Denotes Bridge Removal (Portion)



**SECTION A-A**  
SCALE:  $\frac{3}{4}'' = 1'-0''$



**SECTION B-B**  
SCALE:  $\frac{3}{4}'' = 1'-0''$

NOTE: FOR DETAILS NOT SHOWN, SEE "SECTION A-A"

REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY:  
JOSEPH DeMARTINI  
PROJECT ENGINEER

CITY OF AGOURA HILLS APPROVAL

REVIEWED BY: RAMIRO ADEVA  
CITY ENGINEER

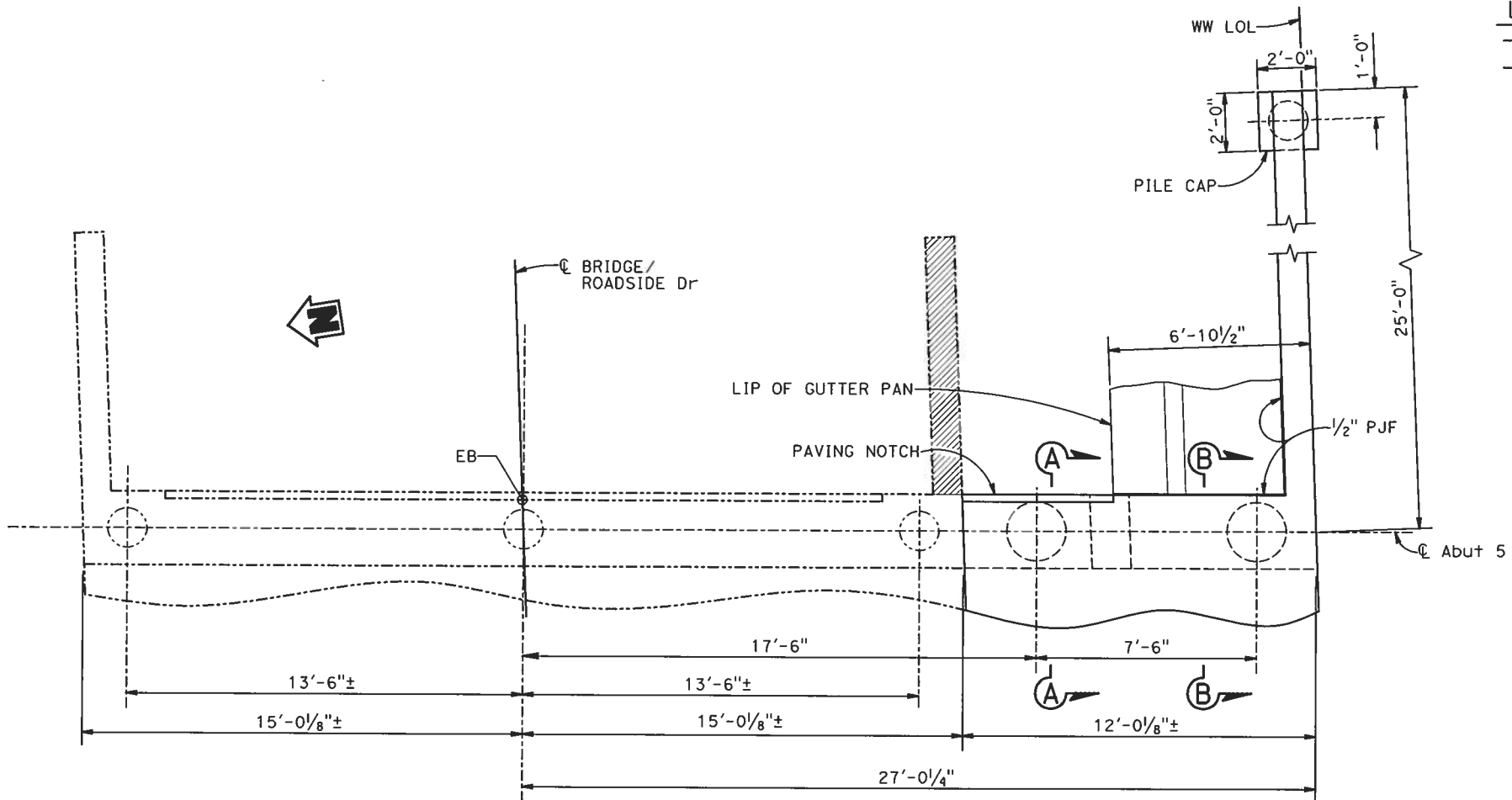
DATE: 9/30/18  
RCE NO. 66865



CITY OF AGOURA HILLS  
ROADSIDE DRIVE BRIDGE WIDENING  
ABUTMENT 1 LAYOUT

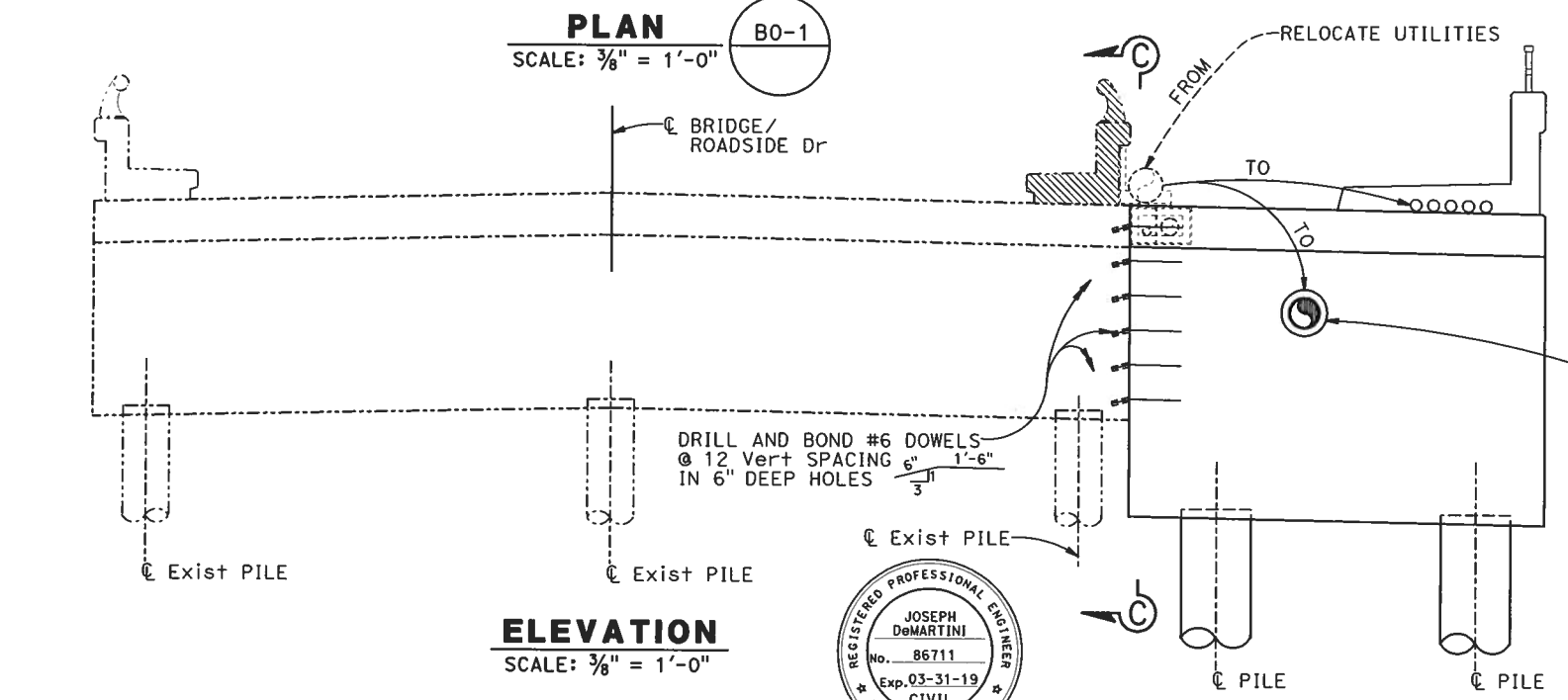
SHEET 18 OF 31

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Note: Dimensions are measured along  $\text{C}$  of abutment.

**PLAN**  
SCALE:  $\frac{3}{8}'' = 1'-0''$  (B0-1)

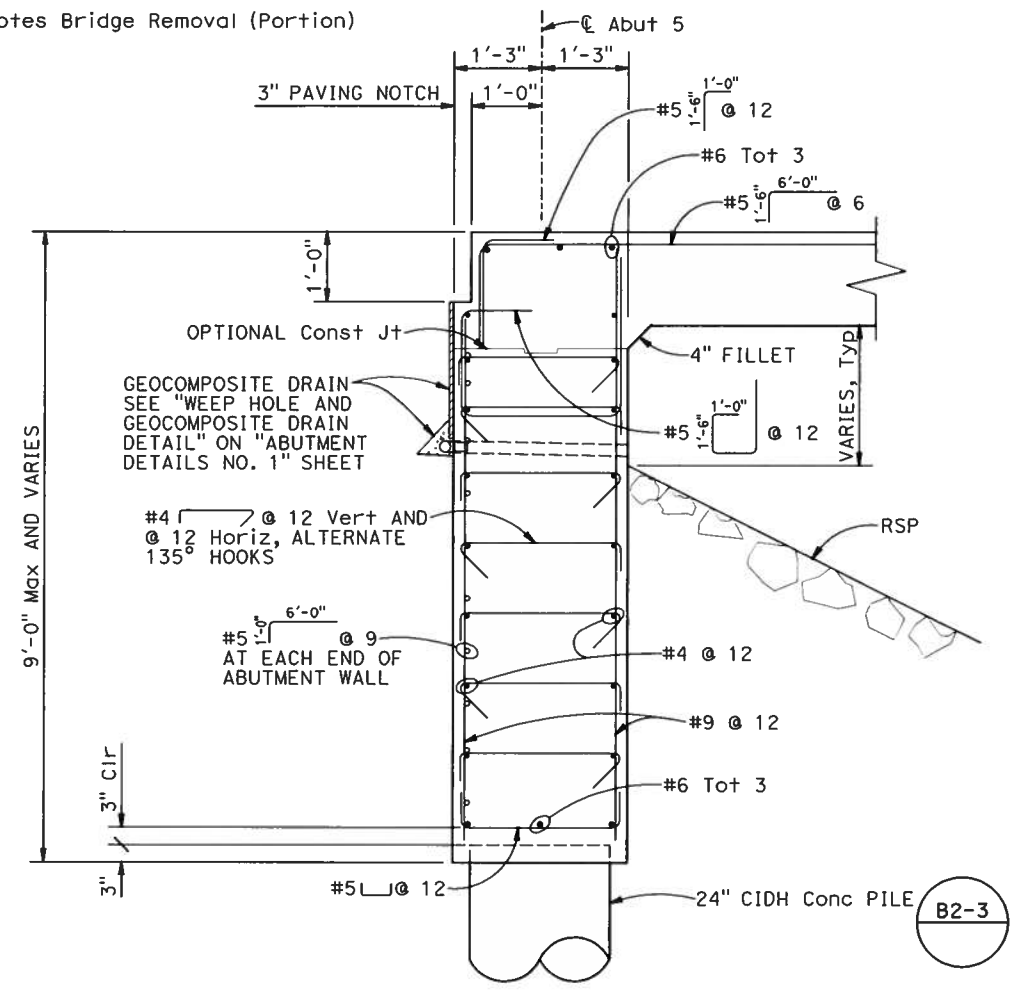


**ELEVATION**  
SCALE:  $\frac{3}{8}'' = 1'-0''$

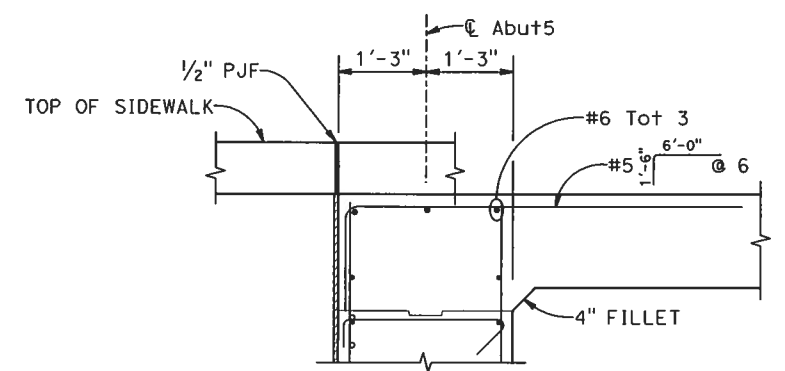


**LEGEND**

- Denotes Existing Structure
- Denotes Proposed Structure
- ▨ Denotes Bridge Removal (Portion)



**SECTION A-A**  
SCALE:  $\frac{3}{4}'' = 1'-0''$



NOTE: FOR DETAILS NOT SHOWN, SEE "SECTION A-A"  
**SECTION B-B**  
SCALE:  $\frac{3}{4}'' = 1'-0''$

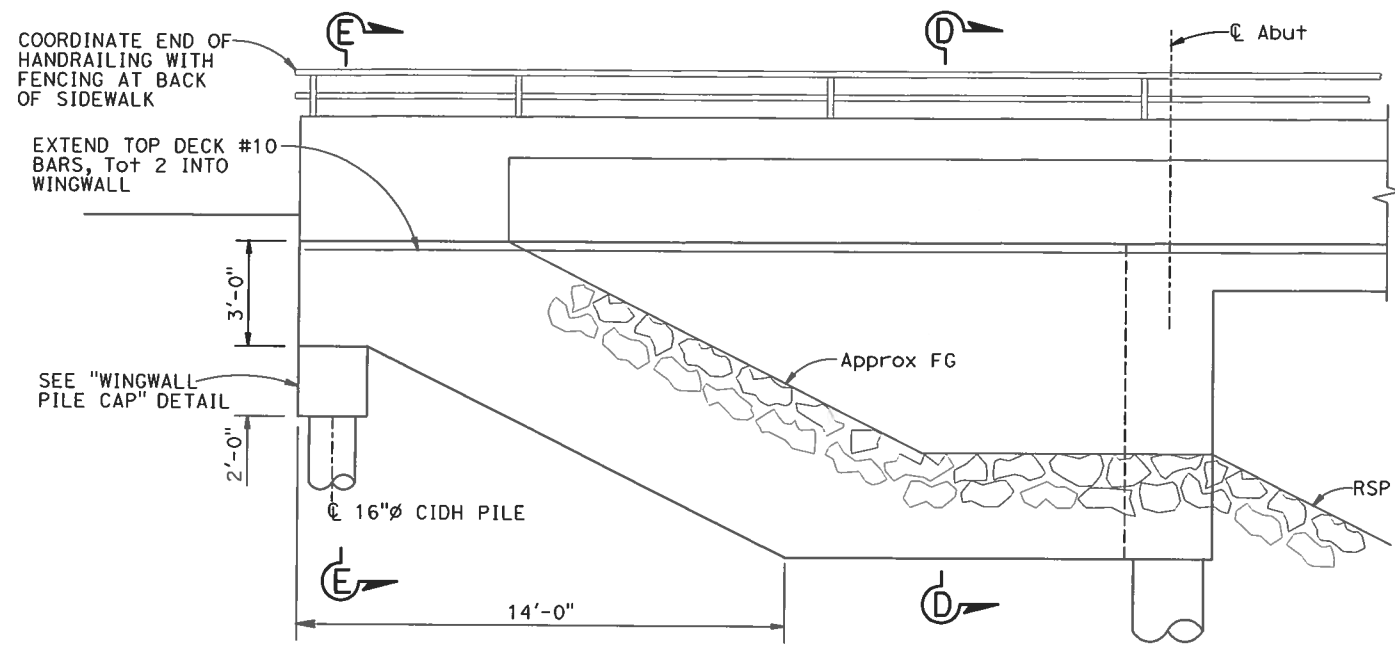
**NOTES**

- 1.
  2. For SECTION C-C, see "ABUTMENT DETAILS NO. 1" sheet.
- For WINGWALL ELEVATION, see "ABUTMENT DETAILS NO. 1" sheet.

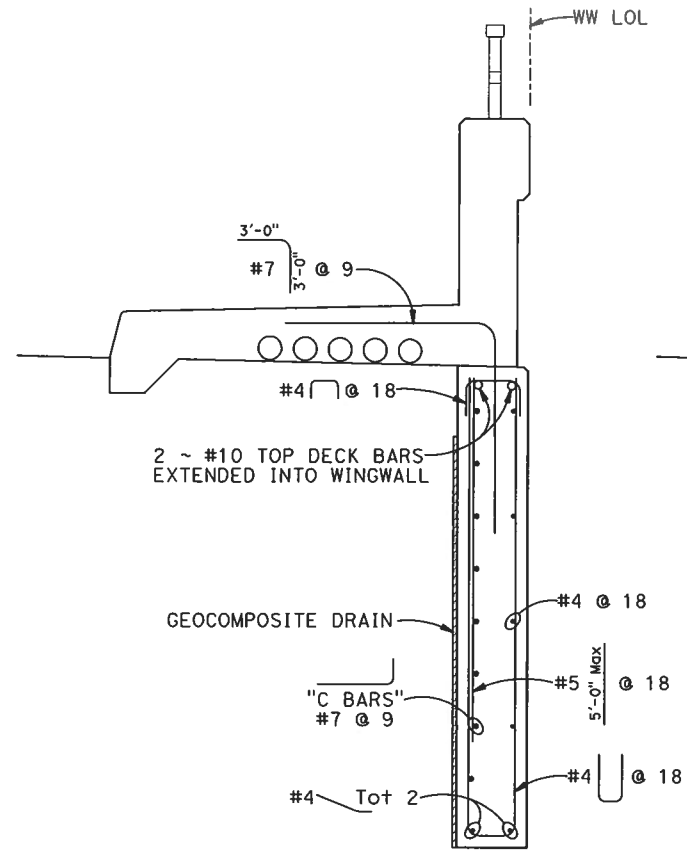
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PREPARED BY:										CITY OF AGOURA HILLS APPROVAL														
JOSEPH DeMARTINI PROJECT ENGINEER										RAMIRO ADEVA CITY ENGINEER														
DATE										DATE														
66865 9/30/18 RCE NO. EXP DATE										AGOURA HILLS														
CITY OF AGOURA HILLS ROADSIDE DRIVE BRIDGE WIDENING ABUTMENT 5 LAYOUT															SHEET 19 OF 31									

**LEGEND**

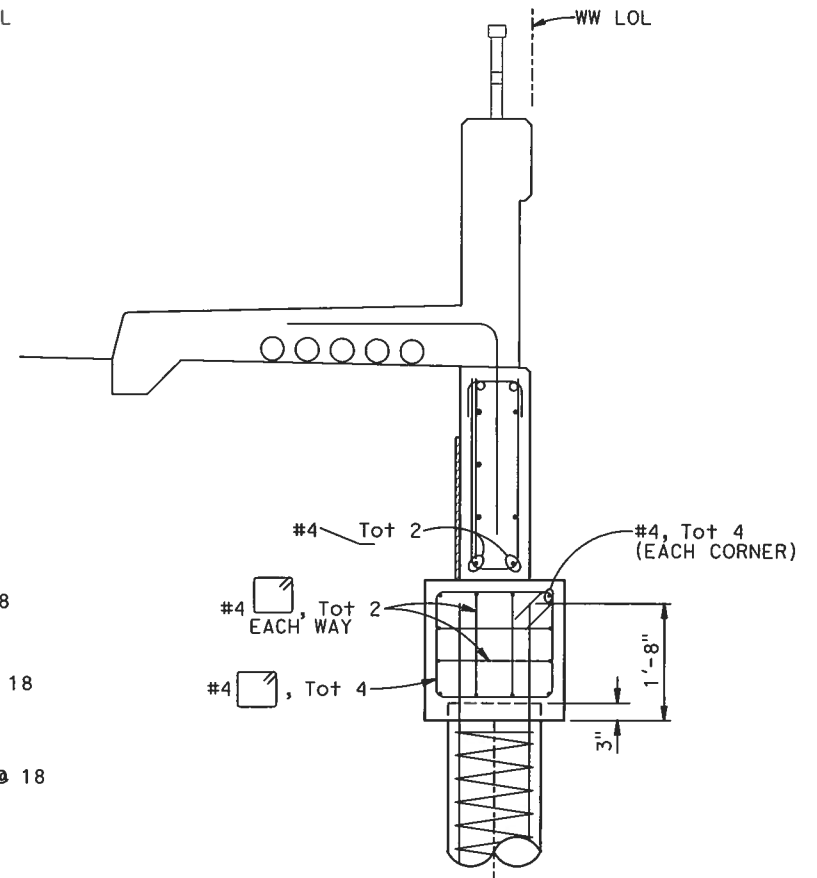
- Denotes Existing Structure
- \_\_\_\_\_ Denotes Proposed Structure
- ▨ Denotes Bridge Removal (Portion)



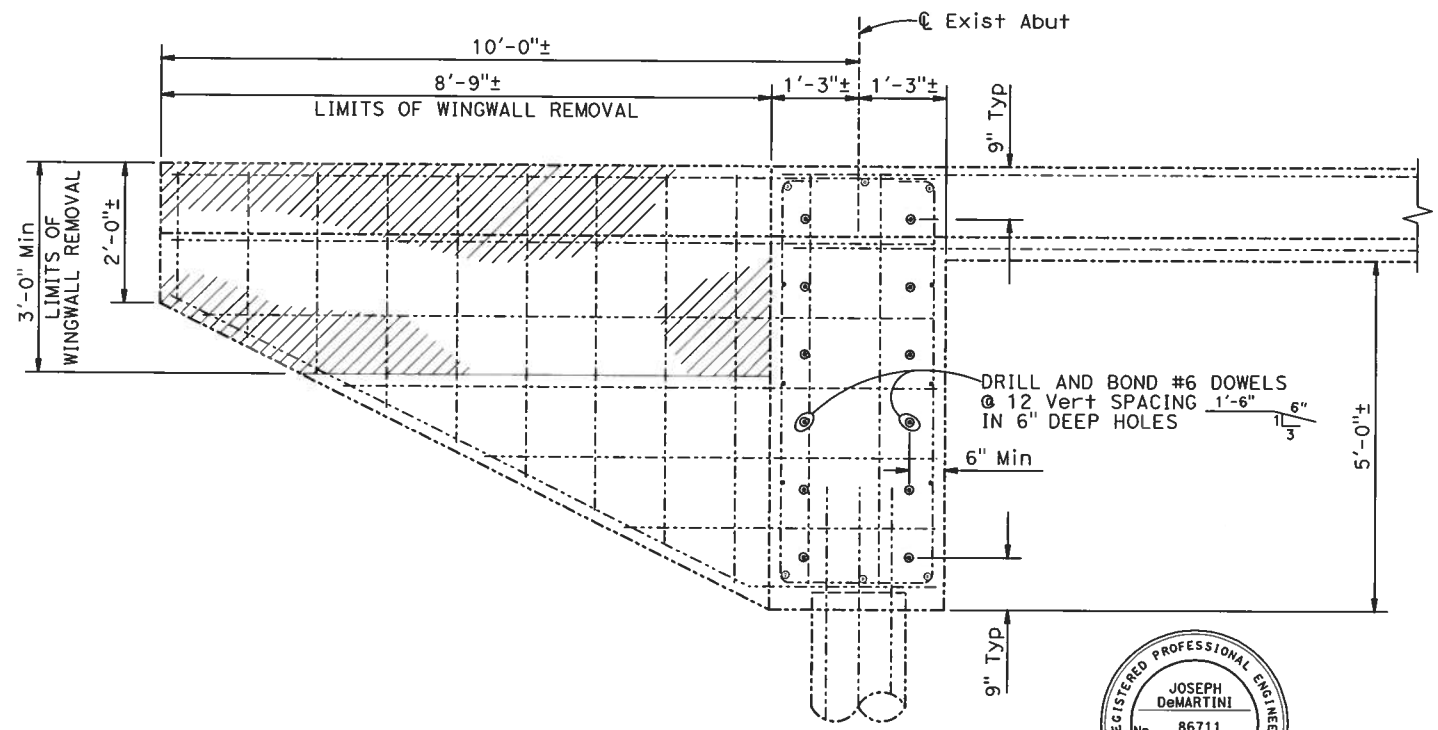
**WINGWALL ELEVATION**  
SCALE: 3/8" = 1'-0"



**SECTION D-D**  
SCALE: 3/4" = 1'-0"



**SECTION E-E**  
SCALE: 3/4" = 1'-0"



**SECTION C-C**  
SCALE: 3/4" = 1'-0"



REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY:  
JOSEPH DeMARTINI  
PROJECT ENGINEER

REVIEWED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_

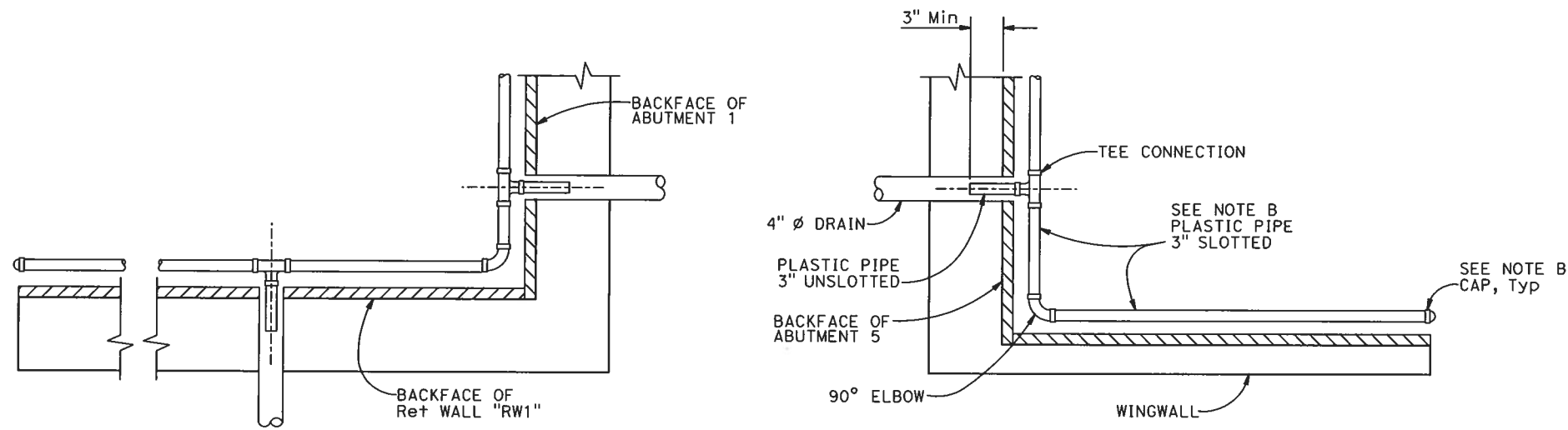
CITY OF AGOURA HILLS APPROVAL  
RAMIRO ADEVA  
CITY ENGINEER



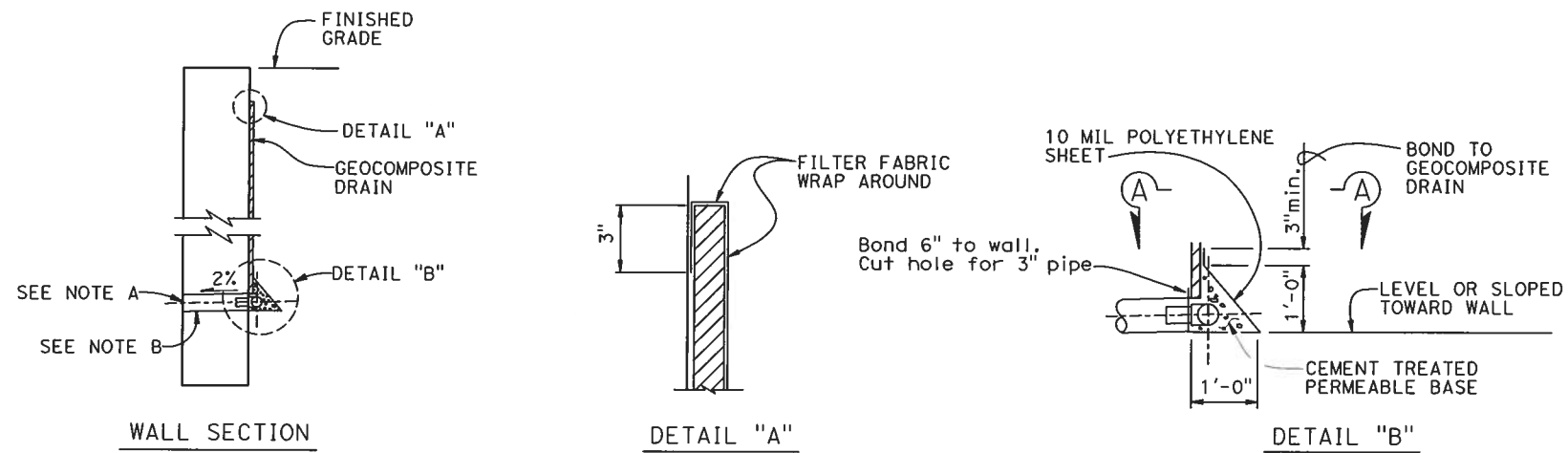
CITY OF AGOURA HILLS  
ROADSIDE DRIVE BRIDGE WIDENING  
ABUTMENT DETAILS NO. 1  
SHEET 20 OF 31

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**DRAINAGE PLAN**



**WEEP HOLE AND GEOCOMPOSITE DRAIN DETAIL**

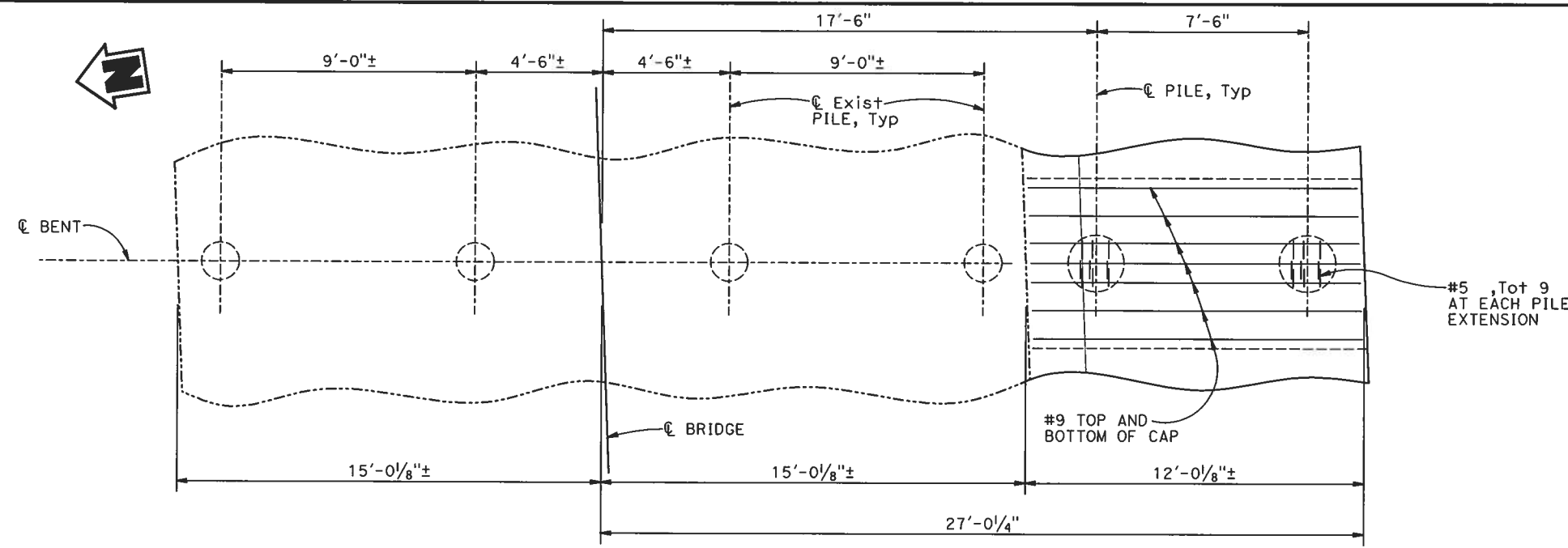
**NOTES:**

- A. 4" Ø drains at sag points and at 25' Max center to center. Exposed wall drains shall be located 3"± above finished grade.
- B. Geocomposite drain, cement treated permeable base, and 3" Ø slotted plastic pipe continuous behind abutment. Cap ends of pipe. Provide "Tee" connection at each 4" Ø drain.
- C. Connect the low end of plastic pipe to the main outlet pipe as applicable.



					PREPARED BY:		CITY OF AGOURA HILLS APPROVAL					
					JOSEPH DeMARTINI							CITY OF AGOURA HILLS ROADSIDE DRIVE BRIDGE WIDENING ABUTMENT DETAILS NO. 2 SHEET 21 OF 31
					PROJECT ENGINEER		DATE		REVIEWED BY			
REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE					RAMIRO ADEVA	DATE	66865	9/30/18
									CITY ENGINEER		RCE NO.	EXP DATE

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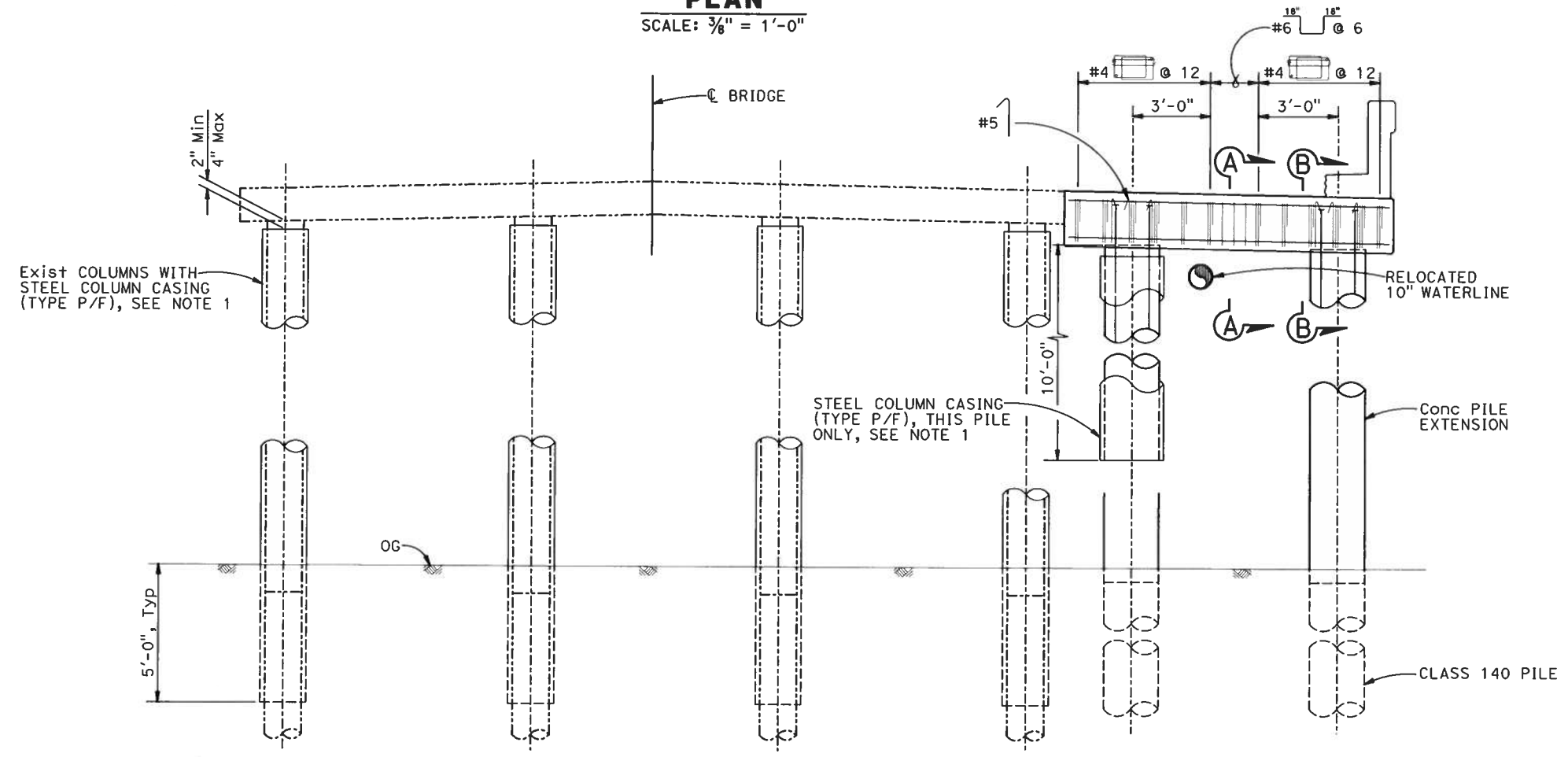


Note: Dimensions are measured along CL of bent.

**PLAN**  
SCALE: 3/8" = 1'-0"

**LEGEND**  
 - - - - - Denotes Existing Structure  
 \_\_\_\_\_ Denotes Proposed Structure

**NOTES**  
 1. For Steel Column Casing (Type P/F) details not shown see "COLUMN CASING - STEEL" sheet.  
 2. For Section A-A and Section B-B see "BENT DETAILS NO. 1" SHEET.



**ELEVATION**  
SCALE: 3/8" = 1'-0"

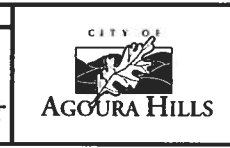


REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY:  
 JOSEPH DeMARTINI  
 PROJECT ENGINEER

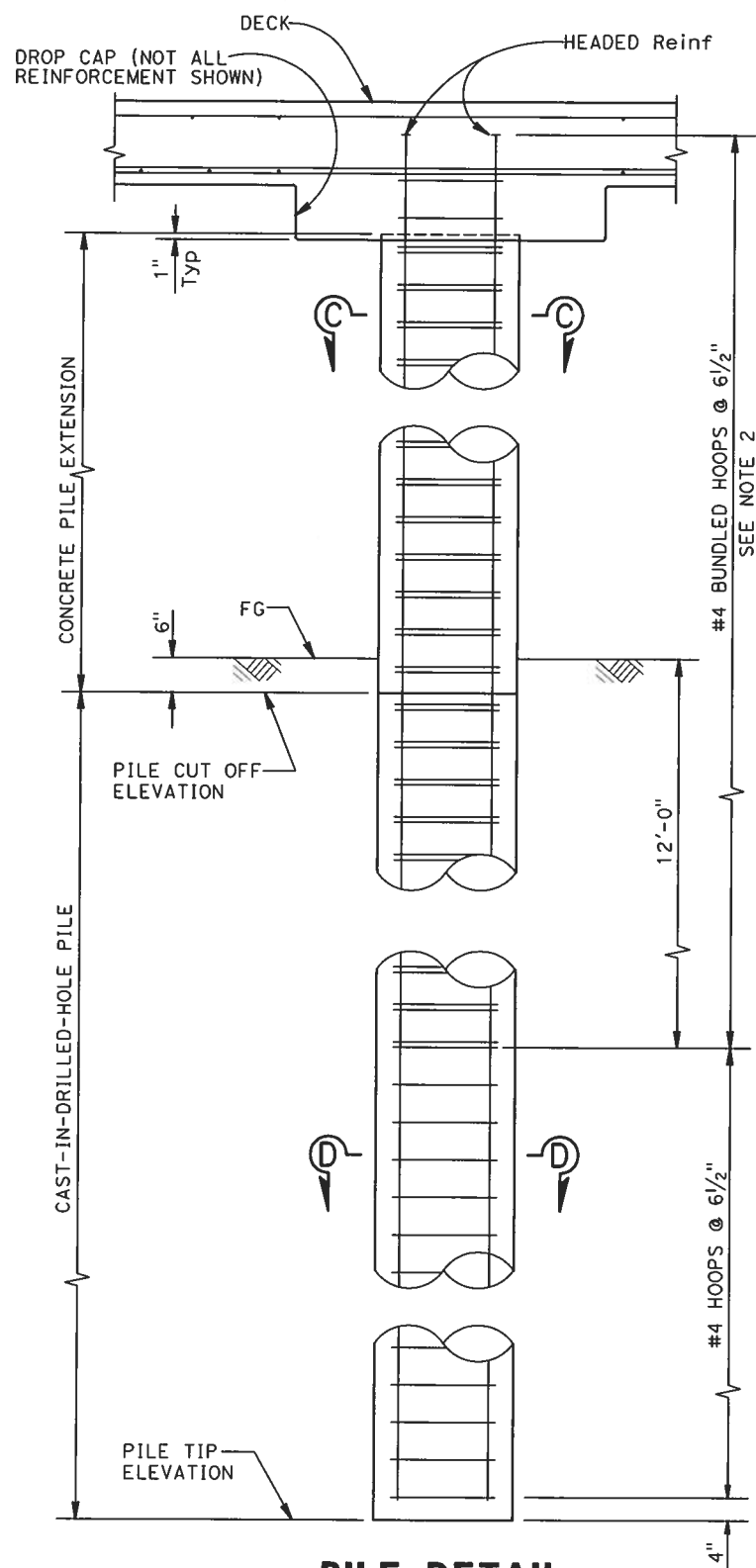
CITY OF AGOURA HILLS APPROVAL

REVIEWED BY	DATE	RAMIRO ADEVA CITY ENGINEER	DATE	66865 RCE NO.	9/30/18 EXP DATE
-------------	------	-------------------------------	------	------------------	---------------------



CITY OF AGOURA HILLS  
 ROADSIDE DRIVE BRIDGE WIDENING  
 BENT LAYOUT  
 SHEET 22 OF 31

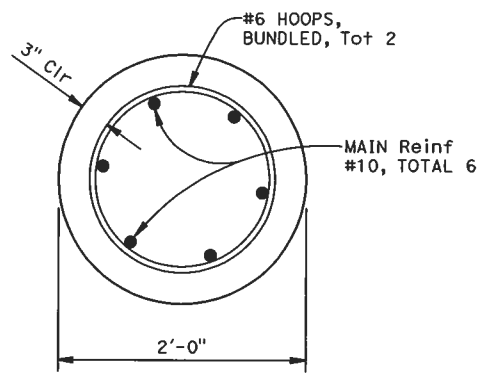
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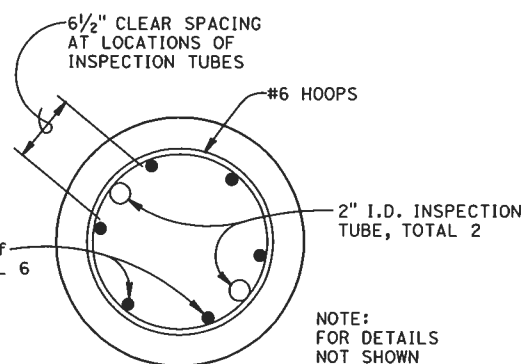
**PILE DETAIL**  
SCALE: 3/4" = 1'-0"

**NOTES:**

1. Design service level loading is 200 kips or less.
2. No splices allowed in main reinforcing within this zone or within 12 inches below finished grade.
3. All hoops shall be Ultimate Butt Spliced.
4. Aggregate must be 1 inch maximum combined grading.



**SECTION C-C**  
SCALE: 1 1/2" = 1'-0"

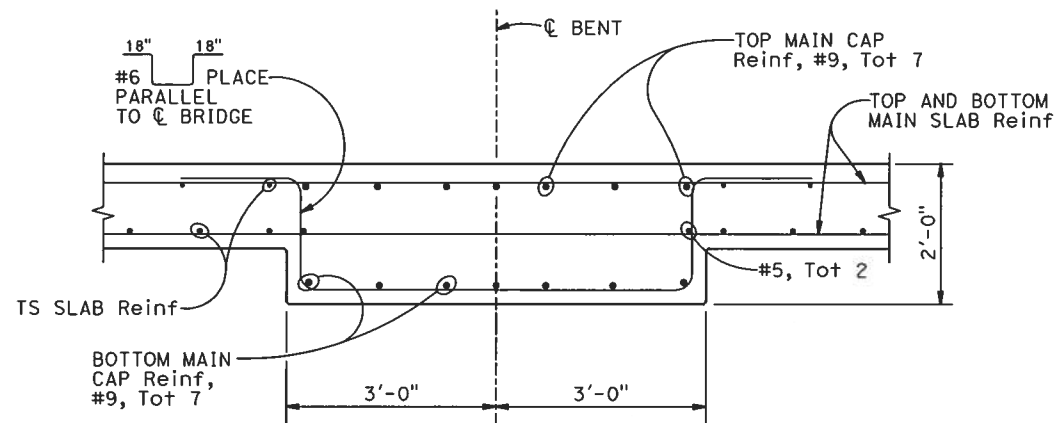


**SECTION D-D**  
SCALE: 1 1/2" = 1'-0"

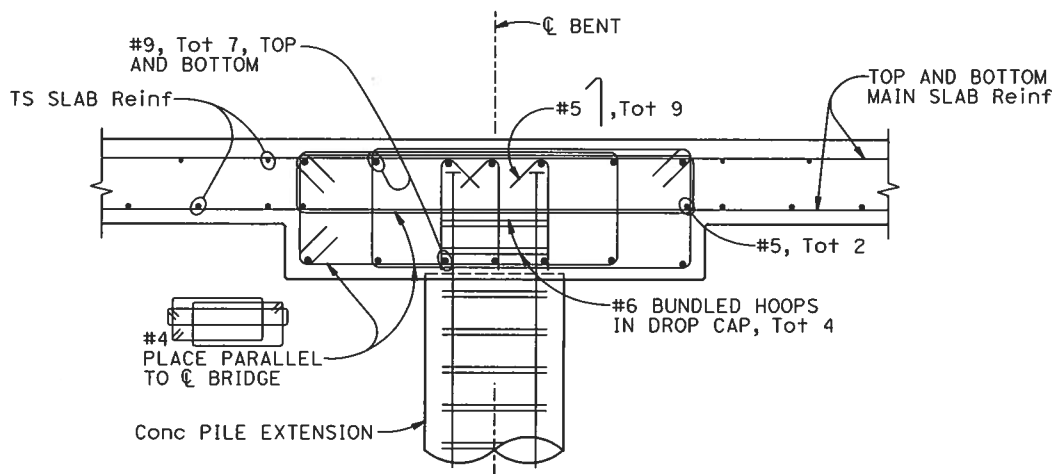


**LEGEND**

- Denotes Existing Structure
- Denotes Proposed Structure



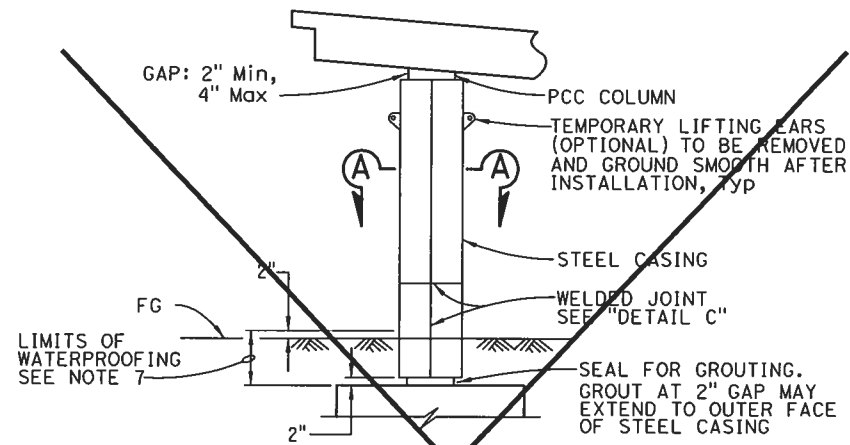
**SECTION A-A**  
SCALE: 3/4" = 1'-0"



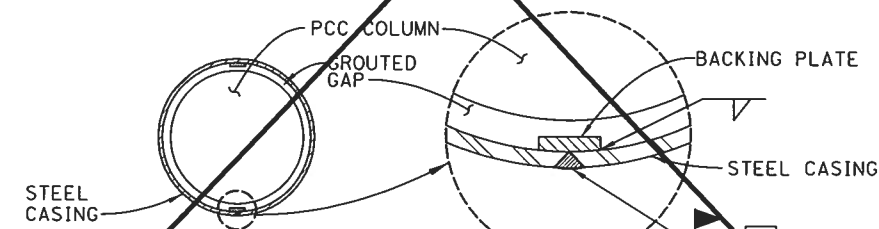
**SECTION B-B**  
SCALE: 3/4" = 1'-0"

					CITY OF AGOURA HILLS APPROVAL				CITY OF AGOURA HILLS ROADSIDE DRIVE BRIDGE WIDENING BENT DETAILS NO. 1 SHEET 23 OF 31
PREPARED BY: JOSEPH DeMARTINI PROJECT ENGINEER					REVIEWED BY: RAMIRO ADEVA CITY ENGINEER	DATE: 9/30/18	RCE NO. 66865 EXP DATE 9/30/18		
REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE					

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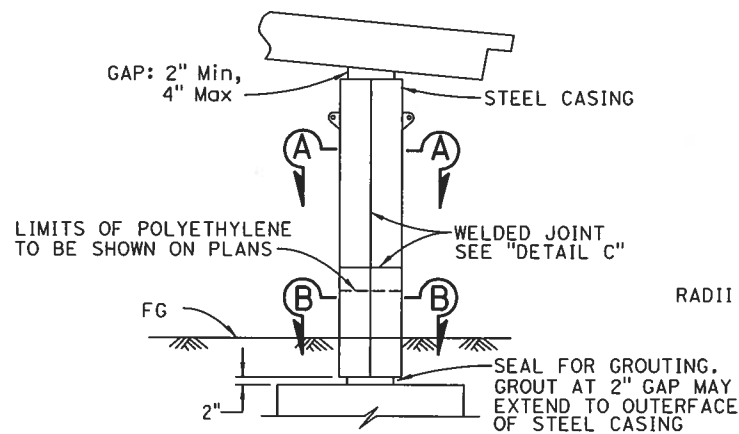


**CLASS F COLUMN**

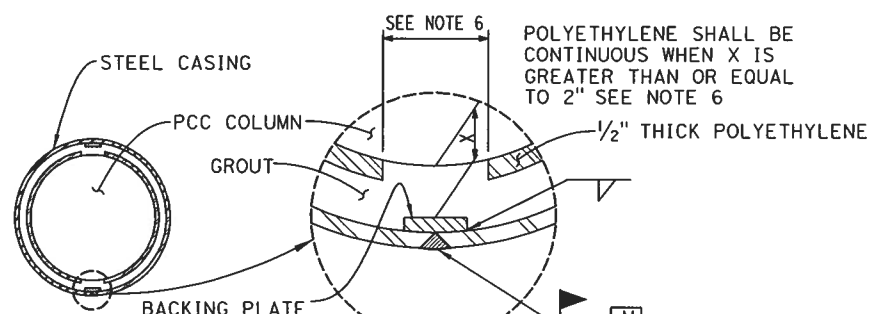


**SECTION A-A**

MINIMUM INSIDE DIAMETER OF STEEL CASING = 1/2" GREATER THAN NOMINAL COLUMN DIAMETER FOR CLASS F AND 2 1/2" FOR CLASS P/F

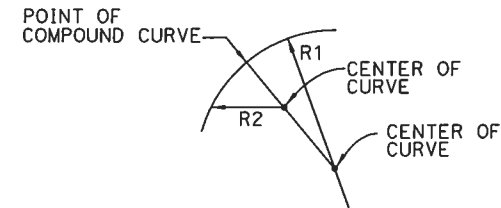


**CLASS P/F COLUMN**



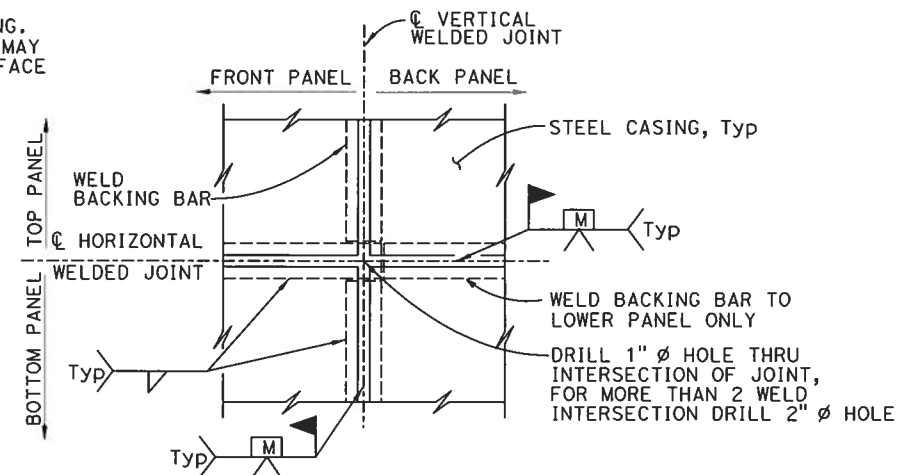
**SECTION B-B**

MINIMUM INSIDE DIAMETER OF STEEL CASING = 2 1/2" GREATER THAN NOMINAL COLUMN DIAMETER FOR CLASS P/F



**ELLIPTICAL CASING DETAIL CLASS F AND P/F COLUMN**

RADII R1 AND R2 TO BE DETERMINED BY THE CONTRACTOR SUBJECT TO THE APPROVAL OF THE ENGINEER



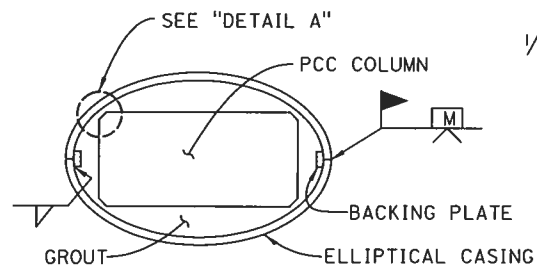
**(TWO WELD INTERSECTION JOINT)**

**DETAIL C**

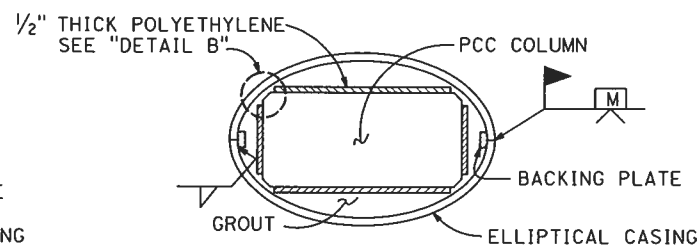
**NOTES:**

1. For varying thickness, steel casing inside surface to remain flush. Minimum clearance from PCC column to casing shall be maintained
2. Appropriate injection nozzles to be provided on casing, but removed and ground flush following completion of grouting operation
3. All voids between steel casing and polyethylene (Class P/F), and steel casing and PCC column (Class F) to be filled with grout
4. Location and number of vertical and horizontal welds to be determined by the Contractor and subject to the approval of the Engineer. The location of casing welds are for illustration. No skip welds allowed
5. Circular steel casing to be 1/4" thick minimum for casings with a 4'-4" diameter or less; all other steel casings to be 3/8" thick unless noted differently on contract plans. Backing plates to be the same thickness as casing up to maximum 3/8" thick
6. Contractor shall remove 12" polyethylene strip behind backing plate if backing plate is closer than 2" from face of column
7. Waterproof limits for steel casings. Typical for Class "F" and "P/F"
8. For pipe extensions, opening shall be no more than 1/4" greater than the pipe extension diameter. For other openings, the opening diameter to be determined by the Engineer

**ROUND COLUMN**

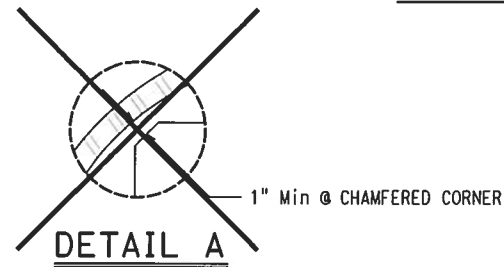


**SECTION A-A**

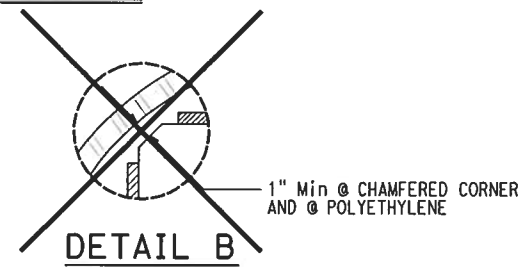


**SECTION B-B**

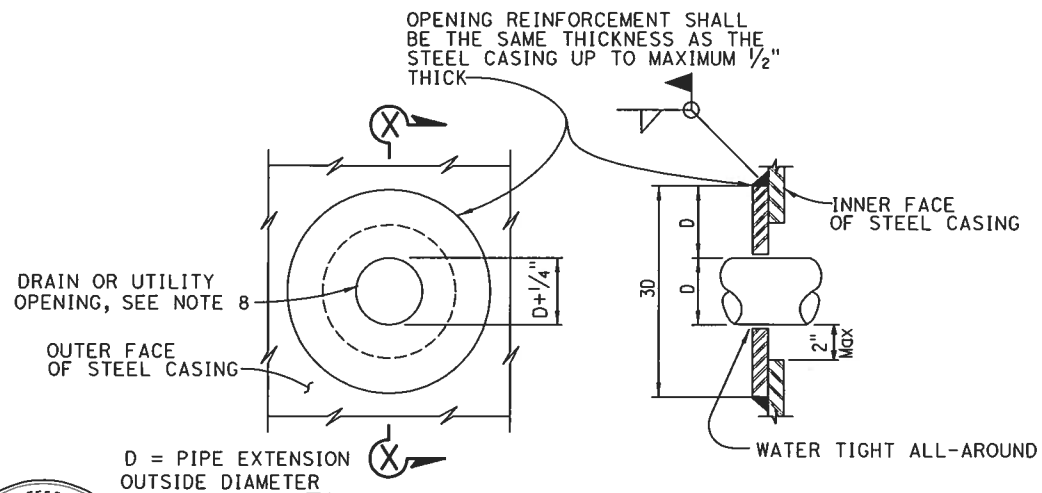
**RECTANGULAR COLUMN**



**DETAIL A**



**DETAIL B**

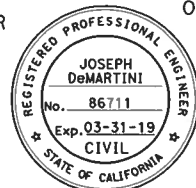


**ELEVATION**

**SECTION X-X**

**CASING OPENING**

NOTE: OPENING REINFORCEMENT REQUIRED FOR DRAIN OR UTILITY OPENINGS LARGER THAN 4"



PREPARED BY:

JOSEPH DeMARTINI  
PROJECT ENGINEER

DATE

CITY OF AGOURA HILLS APPROVAL

REVIEWED BY

DATE

RAMIRO ADEVA  
CITY ENGINEER

DATE

66865 9/30/18  
RCE NO. EXP DATE



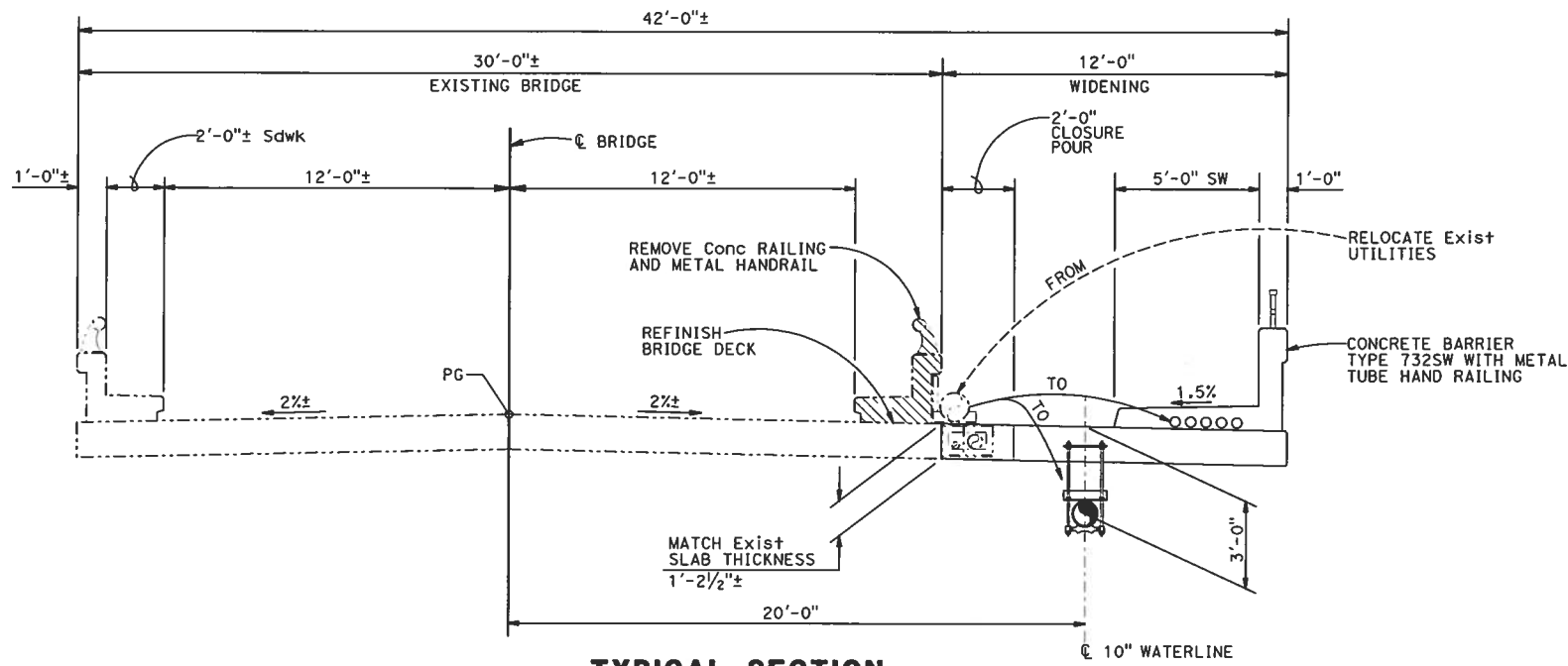
CITY OF AGOURA HILLS  
ROADSIDE DRIVE BRIDGE WIDENING  
COLUMN CASING - STEEL

SHEET 24 OF 31

NO SCALE

REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE





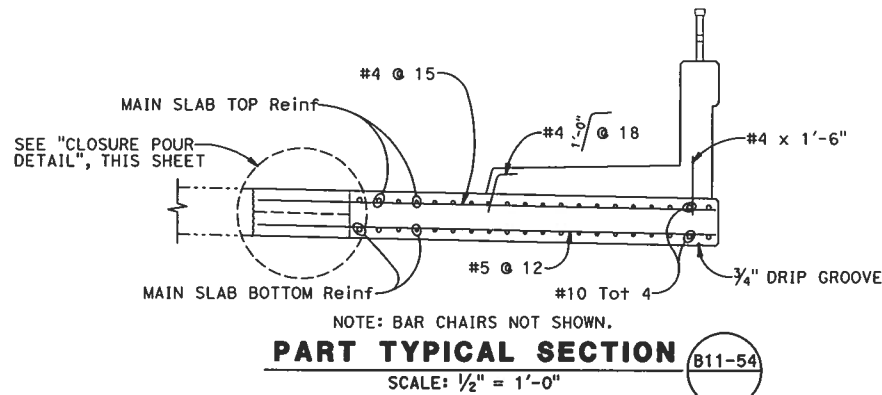
**TYPICAL SECTION**  
SCALE: 3/8" = 1'-0"

**LEGEND**

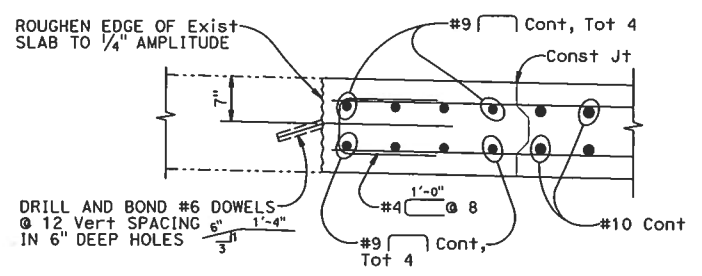
- Denotes Existing Structure
- Denotes Proposed Structure

**NOTES**

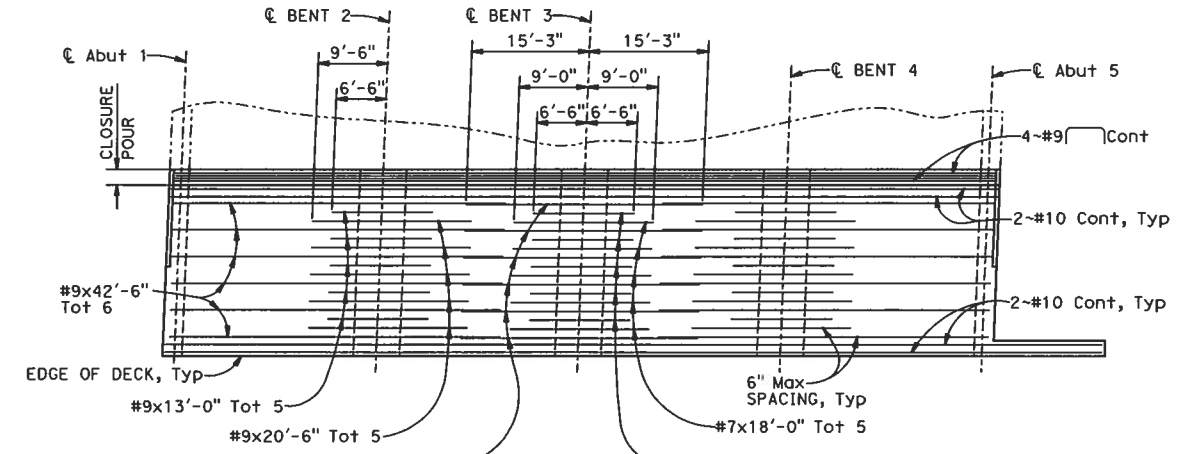
- FOR SLAB REINFORCING DETAILS NOT SHOWN SEE "SLAB REINFORCEMENT DETAILS NO. 2" SHEET.



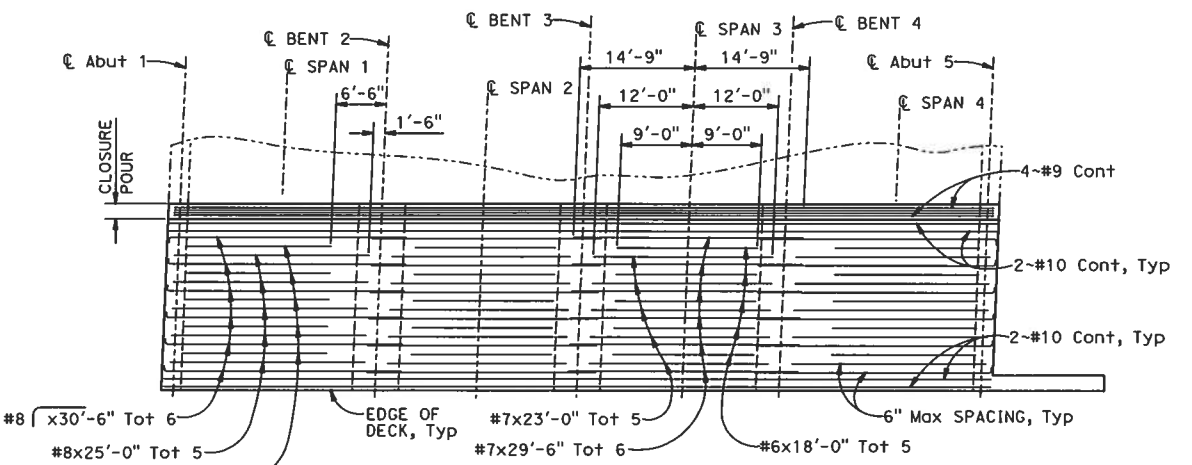
**PART TYPICAL SECTION**  
SCALE: 1/2" = 1'-0"



**CLOSURE POUR**  
SCALE: 1" = 1'-0"



**REINFORCEMENT - TOP OF SLAB**  
NO SCALE



**REINFORCEMENT - BOTTOM OF SLAB**  
NO SCALE

REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY:  
**JOSEPH DeMARTINI**  
PROJECT ENGINEER

DATE

CITY OF AGOURA HILLS APPROVAL

REVIEWED BY: **RAMIRO ADEVA**  
CITY ENGINEER

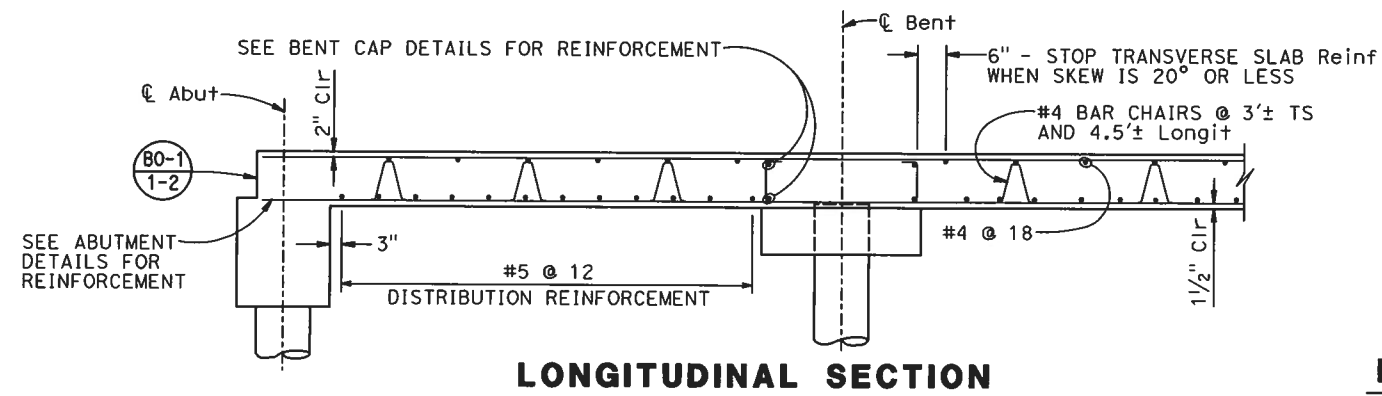
DATE: **9/30/18**

66865 RCE NO. EXP DATE

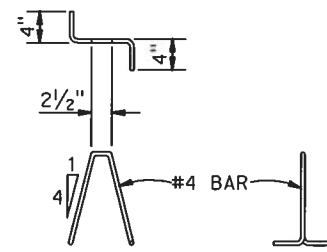


CITY OF AGOURA HILLS  
ROADSIDE DRIVE BRIDGE WIDENING  
SLAB REINFORCEMENT DETAILS NO. 1  
SHEET 25 OF 31

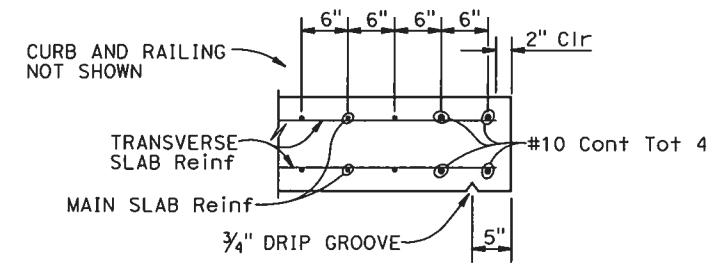
\\p01-wdmg-001\engineering\101446 roadsde bridge widening\2000-roadway & con\703-plan\101446-0-0215.dwg - 12/11/2016 10:22 AM



**LONGITUDINAL SECTION**



**BAR CHAIR DETAIL**



**EDGE OF SLAB DETAILS**

BAR SPLICE LENGTH								
BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
ALL BARS, EXCEPT TOP BARS IN SPANS OVER 24'	23"	28"	34"	43"	56"	71"	90"	110"
TOP BARS IN SPANS OVER 24'	23"	28"	34"	58"	74"	80"	115"	155"

**REINFORCEMENT NOTES:**

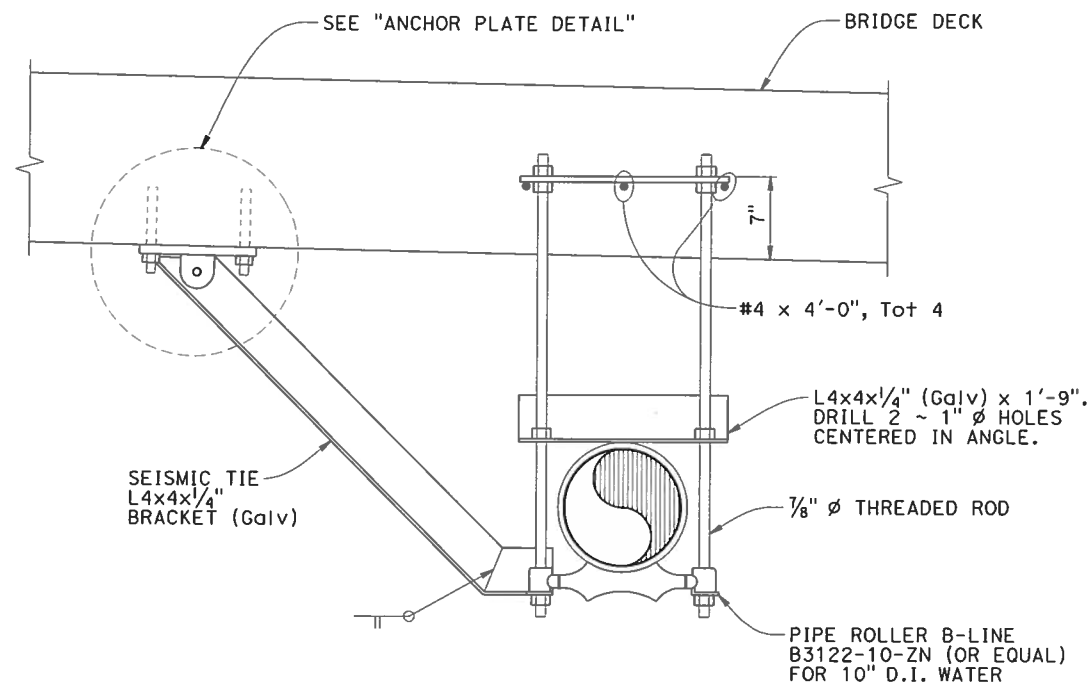
Splices in top main bars to be located near center of span.  
 Splices in bottom main bars to be located near bent.  
 Spacing of all transverse bars is measured along  $\ell$  roadway.



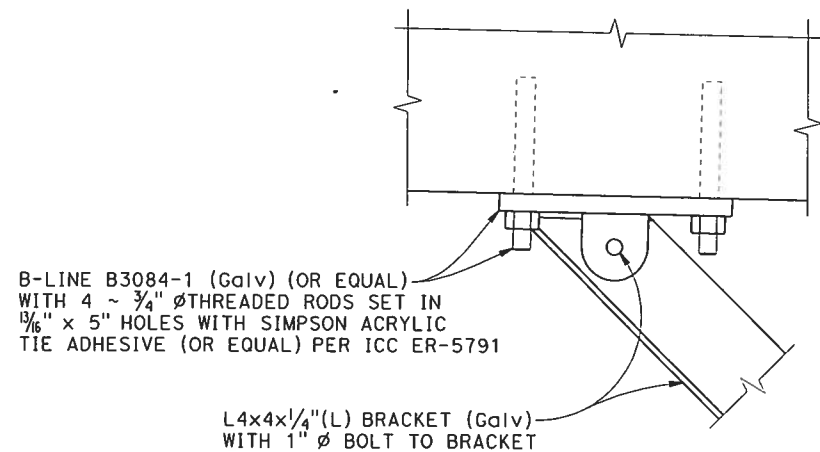
					PREPARED BY:	CITY OF AGOURA HILLS APPROVAL		
					JOSEPH DeMARTINI			
					PROJECT ENGINEER	DATE	REVIEWED BY	DATE
							RAMIRO ADEVA	
							CITY ENGINEER	
							66865	9/30/18
							RCE NO.	EXP DATE
REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE				



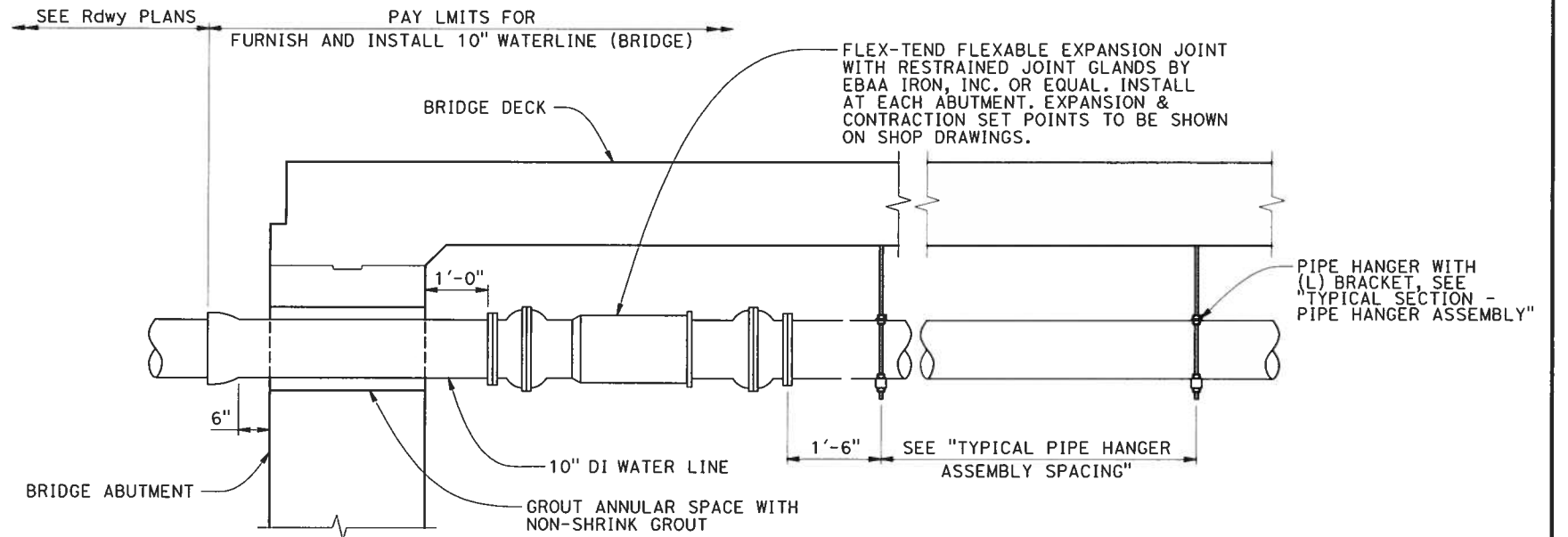
CITY OF AGOURA HILLS  
 ROADSIDE DRIVE BRIDGE WIDENING  
 SLAB REINFORCEMENT DETAILS NO. 2  
 SHEET 28 OF 31



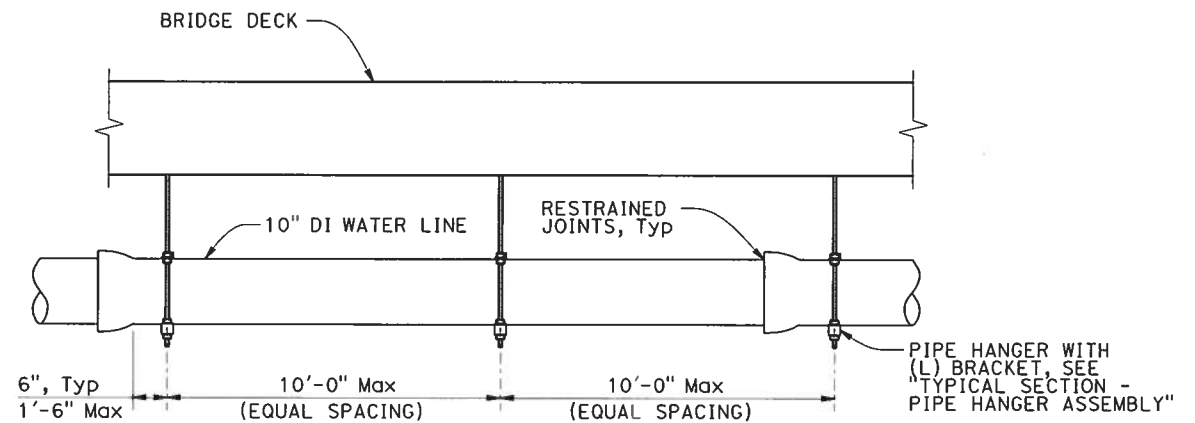
**TYPICAL SECTION - PIPE HANGER ASSEMBLY**  
SCALE: 1/2" = 1'-0"



**ANCHOR PLATE DETAIL**  
SCALE: 3" = 1'-0"



**PIPE INSTALLATION AT ABUTMENTS**  
SCALE: 3/4" = 1'-0"



- NOTES:
1. PROVIDE (L) BRACKET (SEISMIC TIE) TO BRIDGE SOFFIT AT EVERY OTHER VERTICAL HANGER (20'-0" Max SPACING) ON BELL END.
  2. FULLY EXTEND EACH PIPE JOINT AFTER THE RESTRAINING DEVICES ARE INSTALLED BUT PRIOR TO INSTALLING SUBSEQUENT SECTION OF PIPE.

**TYPICAL PIPE HANGER ASSEMBLY SPACING**  
NOT TO SCALE

					PREPARED BY:		CITY OF AGOURA HILLS APPROVAL					
					JOSEPH DeMARTINI PROJECT ENGINEER							
					DATE		REVIEWED BY		DATE		66865 9/30/18 RCE NO. EXP DATE	
REVISION #					SYMBOL		DESCRIPTION OF CHANGE		APPROVED		DATE	

CITY OF AGOURA HILLS  
ROADSIDE DRIVE BRIDGE WIDENING  
UTILITY DETAILS NO. 1

**LEGEND**

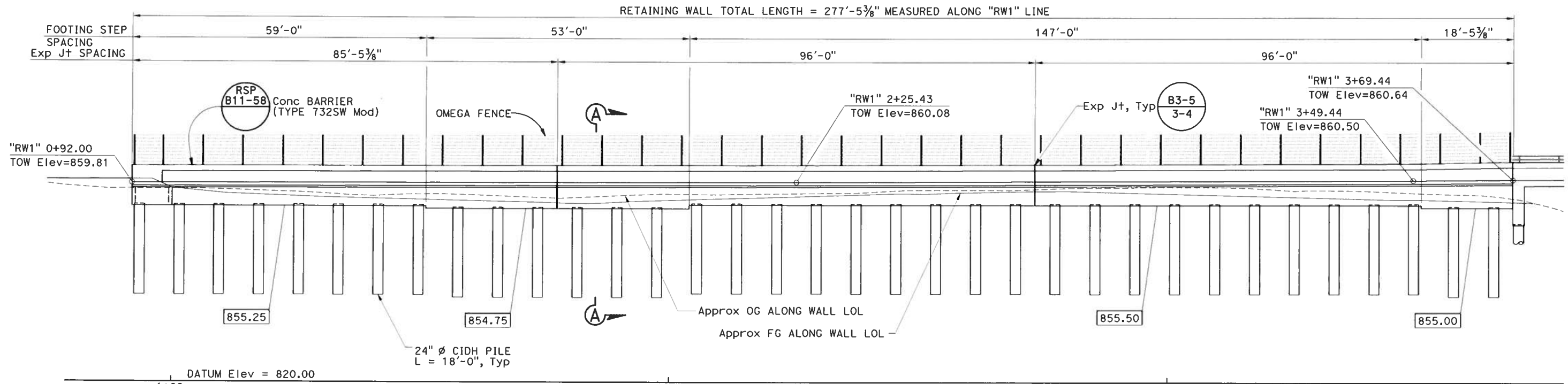
XX.XX DENOTES BOTTOM OF FOOTING ELEVATION

**NOTE:**

- FOR TYPICAL SECTION AND SECTION A-A, SEE "RETAINING WALL DETAILS NO. 1" SHEET.
- FOR CLOSURE WALL DETAILS, SEE "RETAINING WALL DETAILS NO. 2" SHEET.

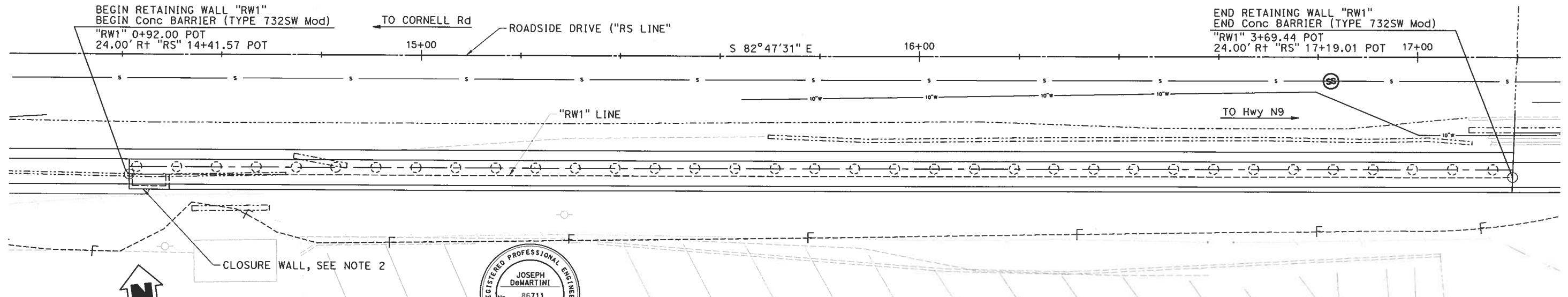
**APPROXIMATE QUANTITIES**

ITEM CODE	ITEM DESCRIPTION	QUANTITY	UNIT
192037	STRUCTURE EXCAVATION (RETAINING WALL)	151	CY
193013	STRUCTURE BACKFILL (RETAINING WALL)	54	CY
490603	24" CAST-IN-DRILLED-HOLE CONCRETE PILE	630	LF
510050	STRUCTURAL CONCRETE	204	CY
520101	BAR REINFORCING STEEL	44,944	LB
598001	ANTI-GRAFFITI COATING	2,359	SF
833088	TUBULAR HANDRAILING	278	LF
839727	CONCRETE BARRIER (TYPE 732SW MODIFIED)	278	LF



**ELEVATION**

SCALE: 1" = 10'



**PLAN**

SCALE: 1" = 10'



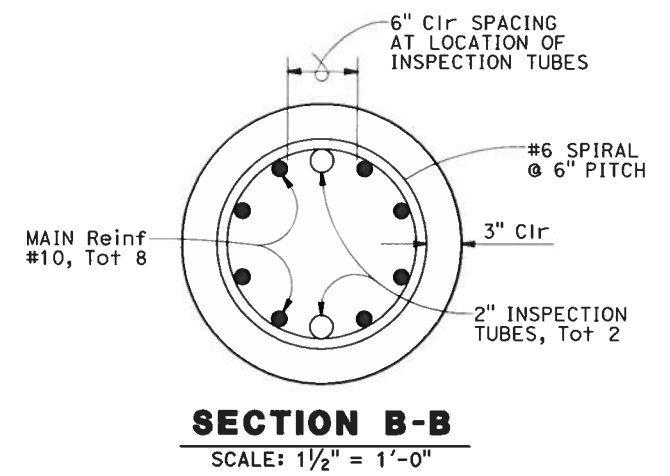
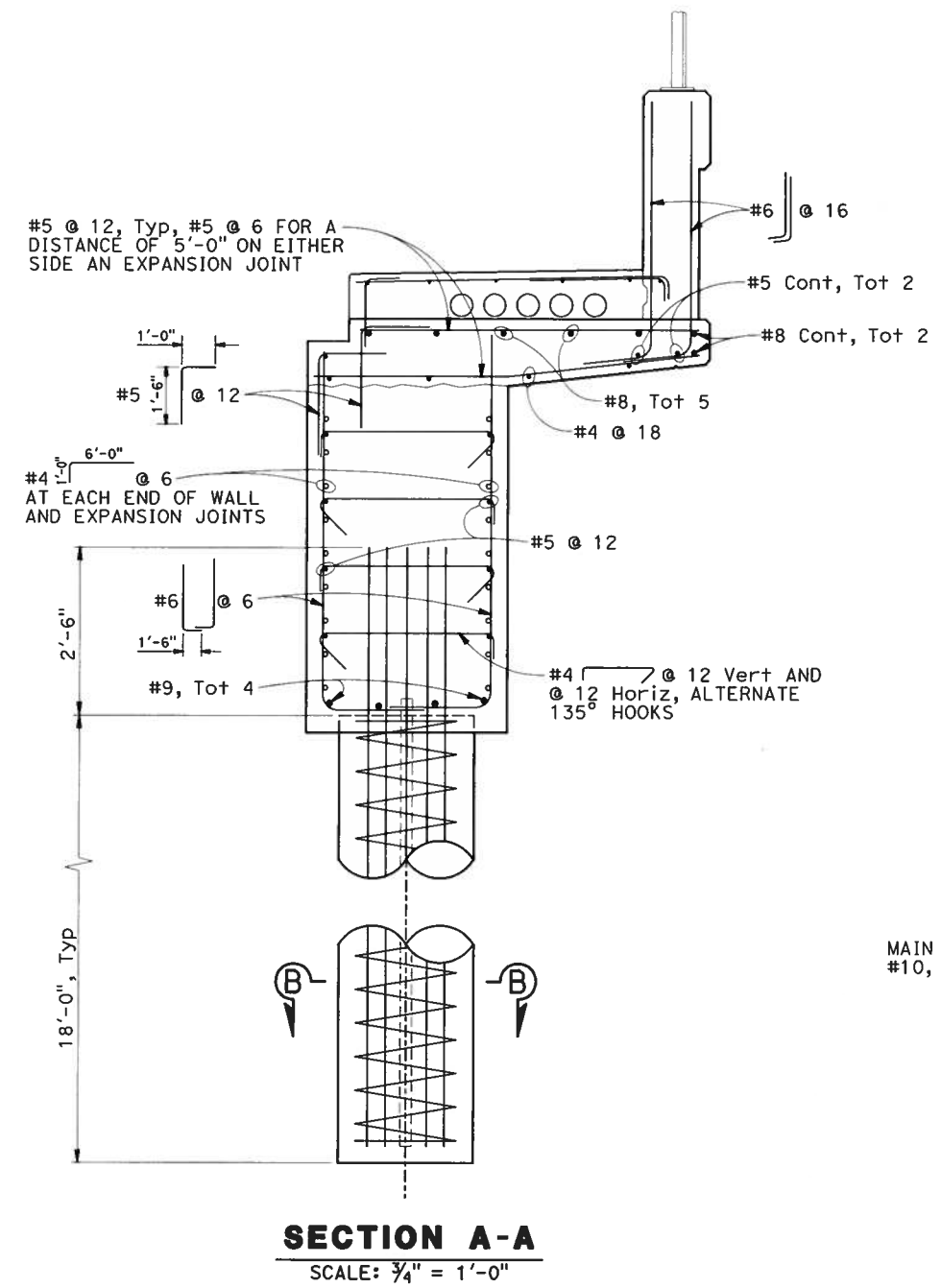
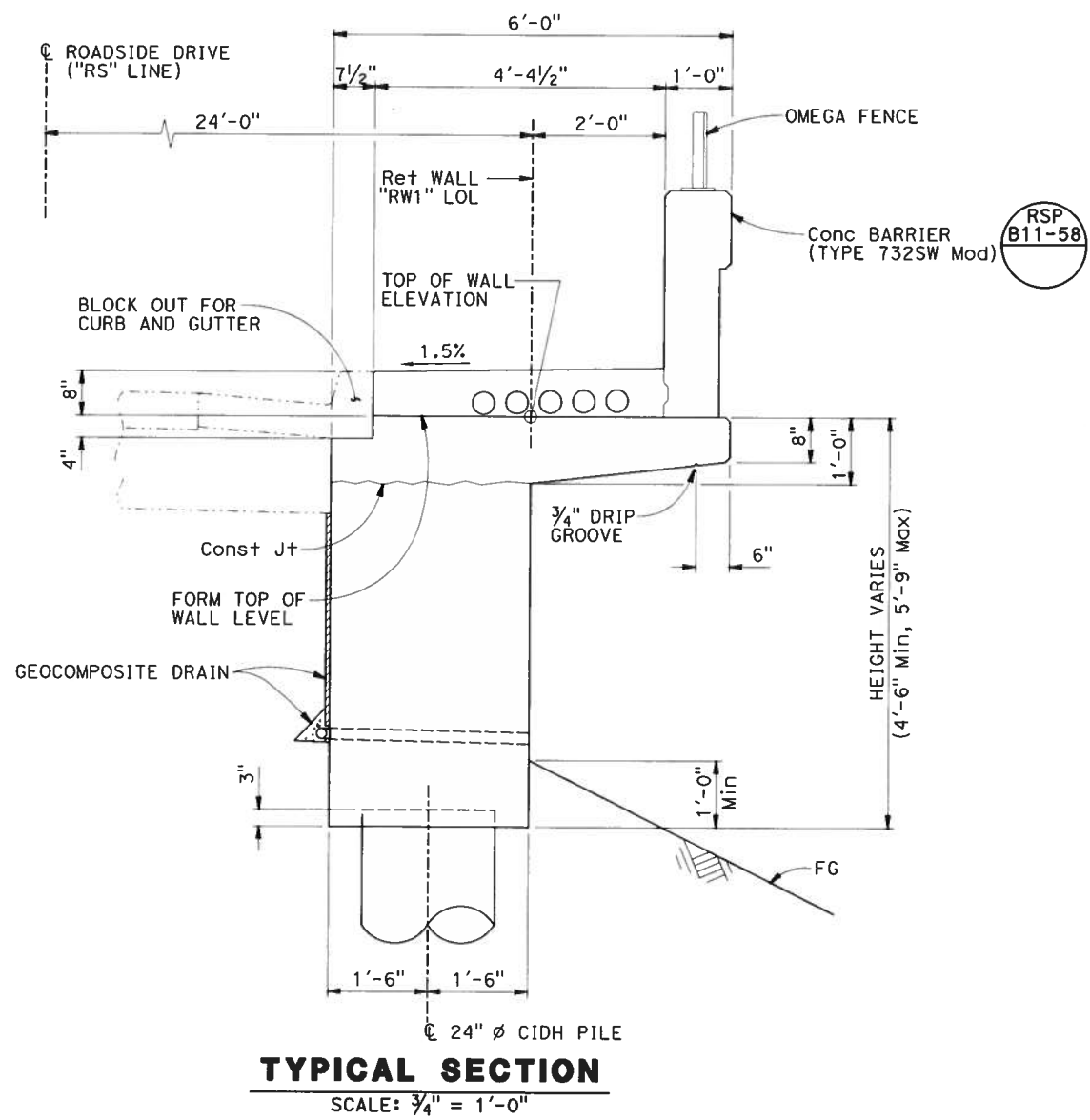
PREPARED BY: JOSEPH DeMARTINI PROJECT ENGINEER		DATE		CITY OF AGOURA HILLS APPROVAL		REVIEWED BY: RAMIRO ADEVA CITY ENGINEER		DATE		66865 9/30/18 RCE NO. EXP DATE	
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CITY OF AGOURA HILLS  
ROADSIDE DRIVE BRIDGE WIDENING  
RETAINING WALL "RW1" LAYOUT  
SHEET 28 OF 31

REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

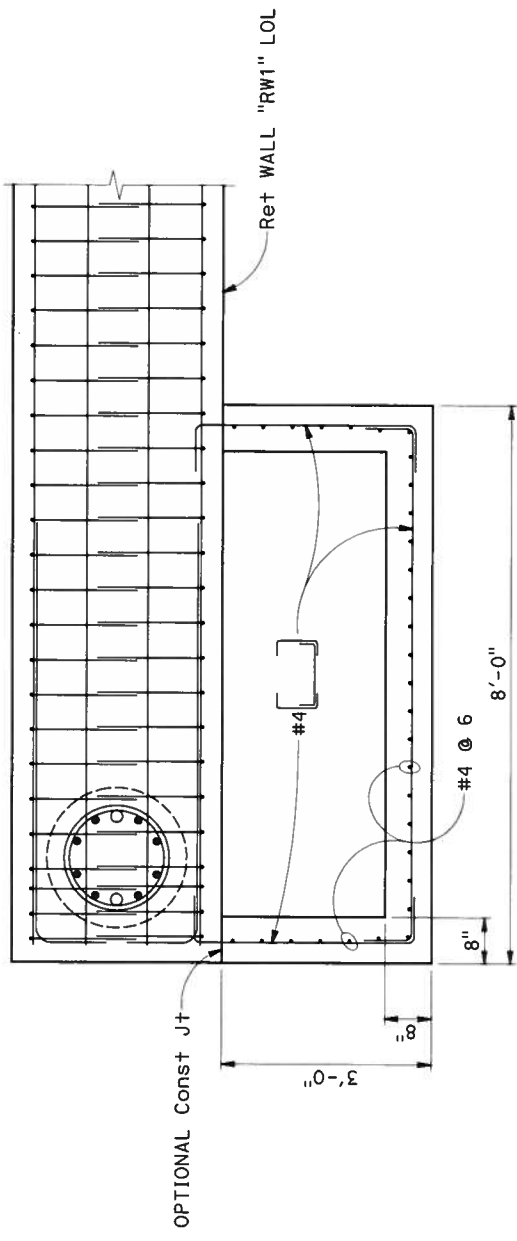




REVISION #					SYMBOL					DESCRIPTION OF CHANGE					APPROVED					DATE				
PREPARED BY:										CITY OF AGOURA HILLS APPROVAL														
JOSEPH DeMARTINI										RAMIRO ADEVA														
PROJECT ENGINEER										CITY ENGINEER														
DATE										DATE														
										66865 9/30/18														
										RCE NO. EXP DATE														



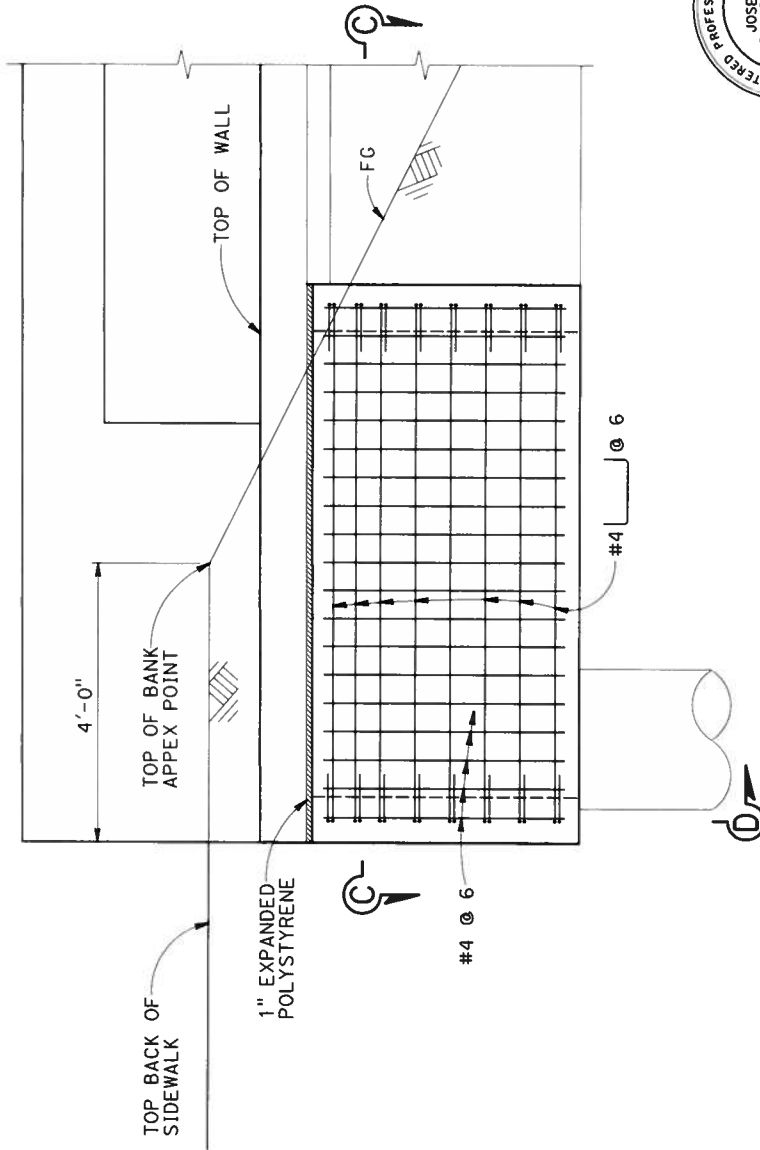
CITY OF AGOURA HILLS  
 ROADSIDE DRIVE BRIDGE WIDENING  
 RETAILING WALL DETAILS NO. 1  
 SHEET 20 OF 31



**SECTION C-C**

SCALE:  $\frac{3}{4}" = 1'-0"$

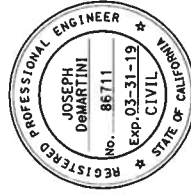
NOTE: OMEGA FENCING NOT SHOWN



**ELEVATION**

**CLOSURE WALL DETAIL**

SCALE:  $\frac{3}{4}" = 1'-0"$



PREPARED BY:

JOSEPH DeMARTINI  
PROJECT ENGINEER

DATE

APPROVED

DATE

DESCRIPTION OF CHANGE

REVISION #

SYMBOL

REVIEWED BY

DATE

CITY OF AGOURA HILLS APPROVAL

RAMRO ADVA  
CITY ENGINEER

DATE

RECEIVED

DATE

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REG. NO.

8/30/18  
EXP. DATE

CITY OF AGOURA HILLS  
ROADSIDE DRIVE BRIDGE WIDENING  
RETAINING WALL DETAILS NO. 2  
SHEET 30 OF 31



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