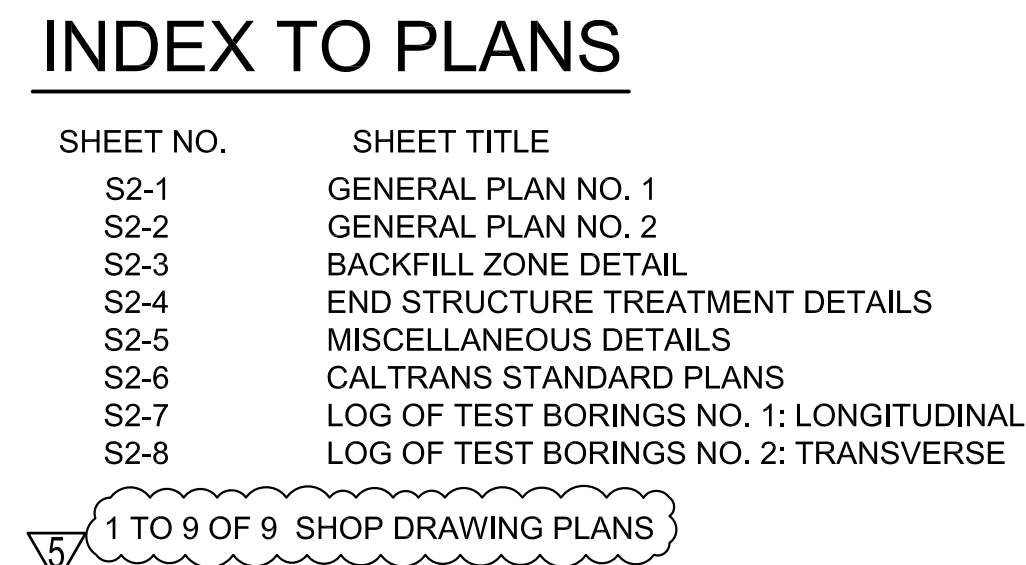
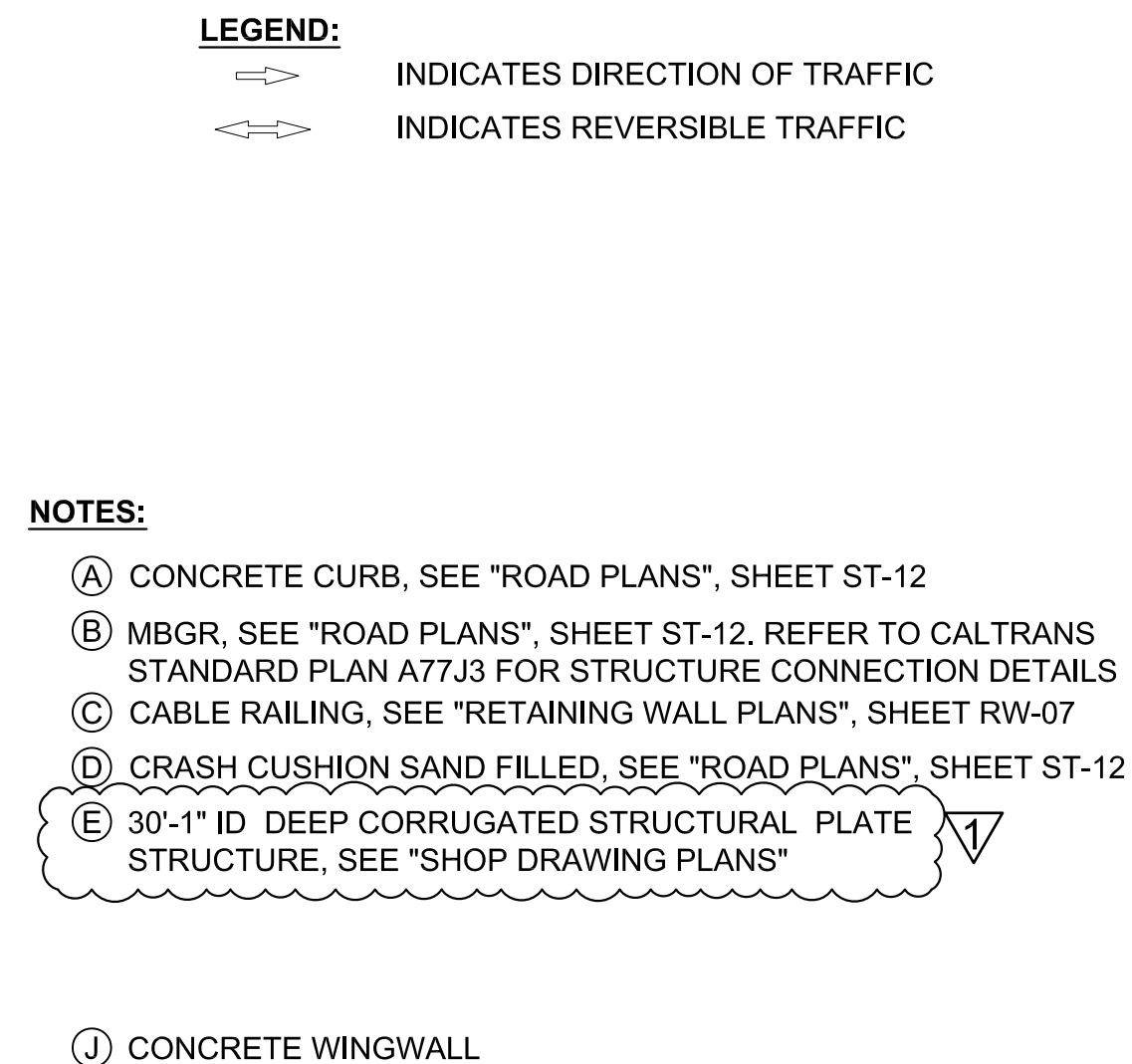
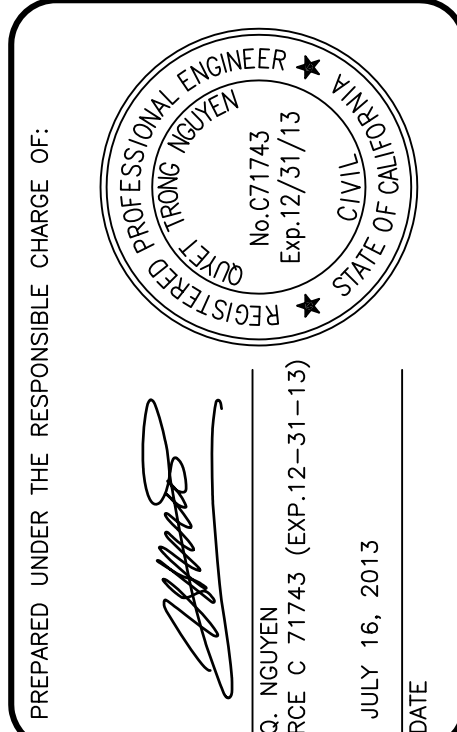




- NOTES:**
1. FOR "TYPICAL SECTION" AND "GENERAL NOTES" SEE SHEET S2-2.
 2. FOR ROADWAY CURVE DATA, SEE "ROAD PLANS".
 3. REFER TO "EL" SHEETS FOR LIGHTING REQUIREMENTS.

AS-BUILT
RE/SR: K. TRAN
Date: 01/21/2017

MARK	DESCRIPTION	DATE	APPR.
☒	RECORDED DRAWING	1-21-17	ON
☒	ADDED NOTE	1-30-15	ON
☒	ADJUSTED DIMENSION	1-30-15	ON
☒	CHANGED STRUCTURE TYPE	1-30-15	ON



 TENG Engineers Inc. 10370 HENET STREET, Suite 230 RIVERSIDE, CA 92503 Tel: (951) 667-1005	DESIGNED BY:	
	Q/N	
	DRAWN BY:	CHECKED BY:
	N/L	J/P
	DRAWING CODE:	
JOB NO. 11017		
PLOT DATE: 11/06/2017		
SCALE: AS SHOWN		

A PATA AVENUE GAP CLOSURE
BRIDGE NO. 2

GENERAL PLAN
NO. 1

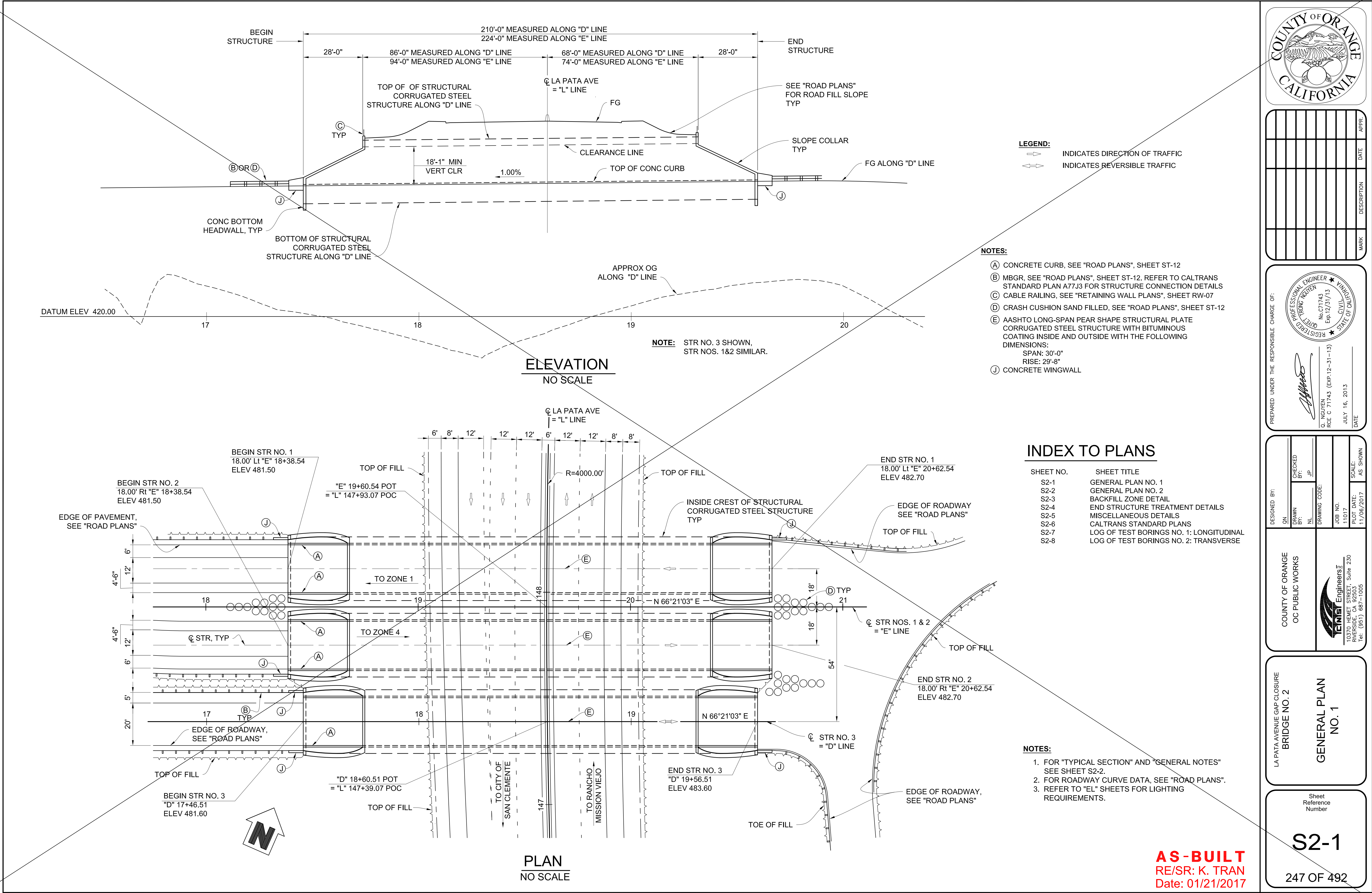
Sheet
Reference
Number

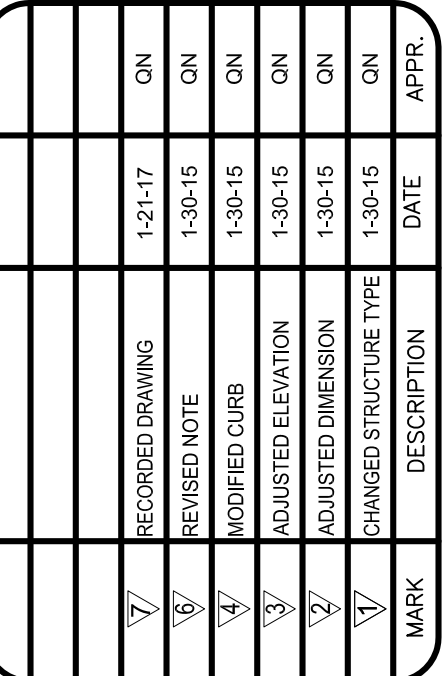
S2-1R1

247R1OF 492

CONTRACT CHANGE ORDER NO. 18

\\11017\la Pata Ave Gao Closure\Construction Supports\As-built\Bridae No. 2\as built 20150217 - Coov\S2-1 2 - General Plan dwg. | aout: General Plan. Nov 06 2017 3:11am





PREPARED UNDER THE RESPONSIBLE CHARGE OF:



Q. NGUYEN
P.R.C. # 71743 (EXP. 12-31-13)

JULY 16, 2013

DATE

REGISTERED PROFESSIONAL
COURT REPORTER
No. C71743
Exp. 12/31/13
★ CIVIL
STATE OF CALIFORNIA

COUNTY OF ORANGE
OC PUBLIC WORKS



T&E Engineers^{INC}
10370 HEMET STREET, Suite 230
RIVERSIDE, CA 92503
Tel. (951) 687-1005

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NL _____		JP _____	
DRAWING CODE: _____			
JOB NO. 11017		SCALE: AS SHOWN	
PLOT DATE: 11/08/2017		AS SHOWN	

LA PATA AVENUE GAP CLOSURE
BRIDGE NO. 2

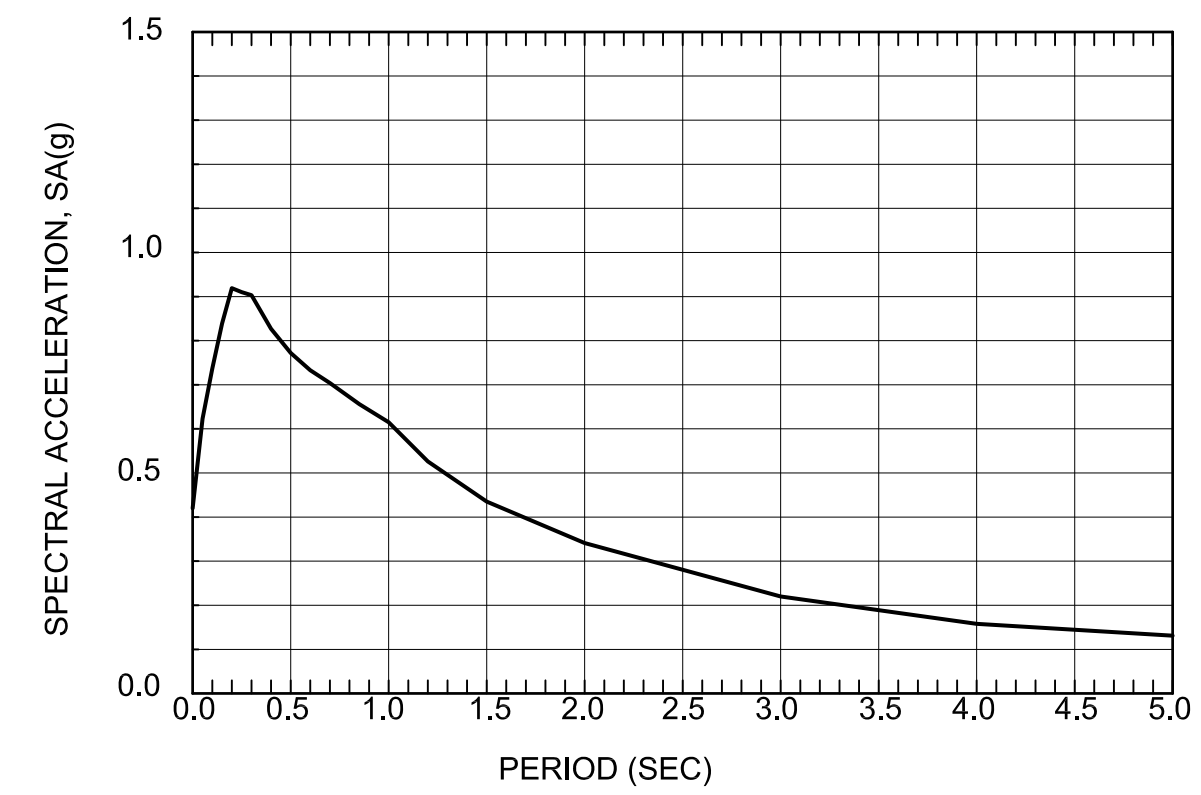
GENERAL PLAN
NO. 2

Sheet
Reference
Number

S2-2R1

248R1 OF 492

DESIGN:	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SIXTH EDITION WITH CALIFORNIA AMENDMENTS, PREFACE DATED JANUARY 2014.	6
SOIL:	G = 140 pcf	
SEISMIC LOADING:	SOIL PROFILE: TYPE D SHEAR WAVE VELOCITY V_{S30} = 270 m/s MOMENT MAGNITUDE: 7.2 MAX PEAK GROUND ACCELERATION: 0.42g	

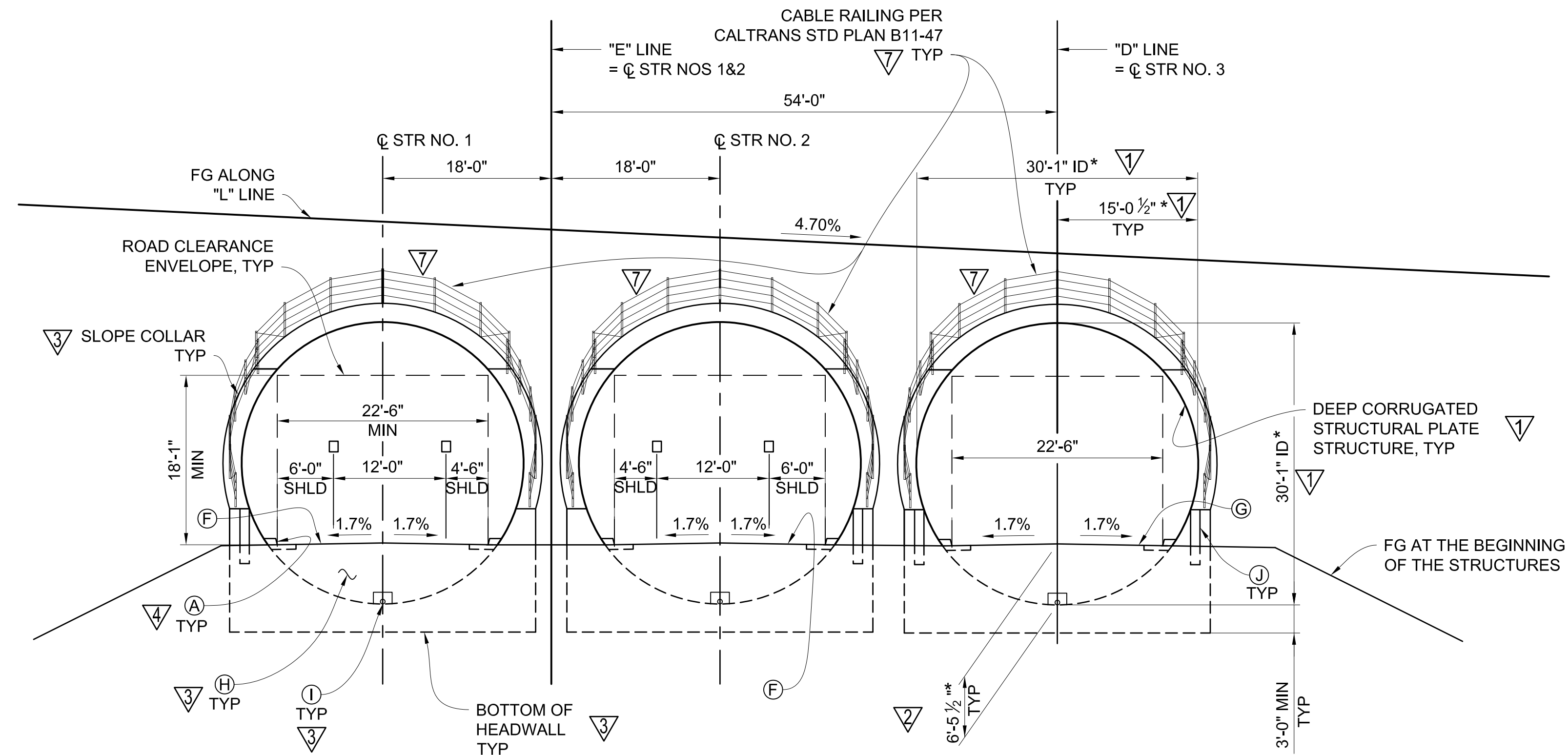


REINFORCED
CONCRETE:

$f_y = 60 \text{ ksi}$
 $f'_c = 3.6 \text{ ksi}$
 $n = 8$

STRUCTURAL
STEEL PLATE:

15" X 5 1/2" CORRUGATIONS
 fy = 44 ksi ASTM A 761
 SEE "SHOP DRAWING PLANS"



$$1'' = 10'$$

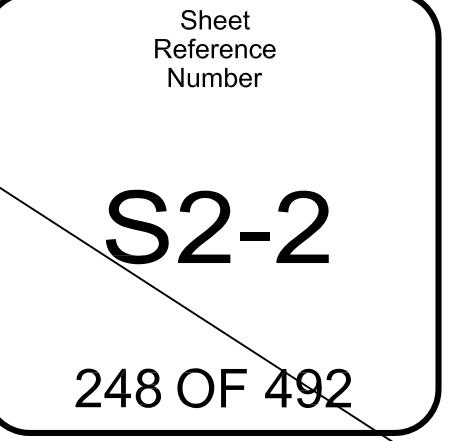
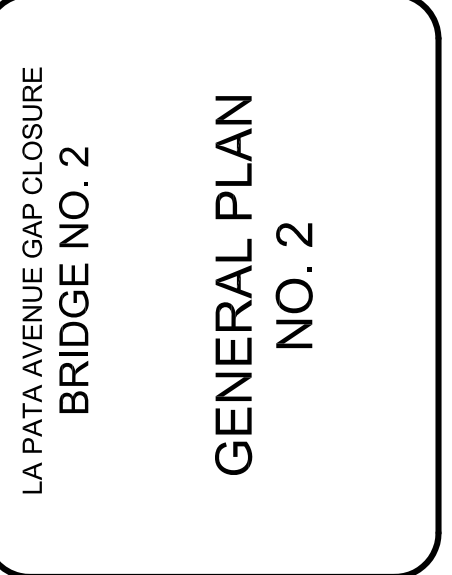
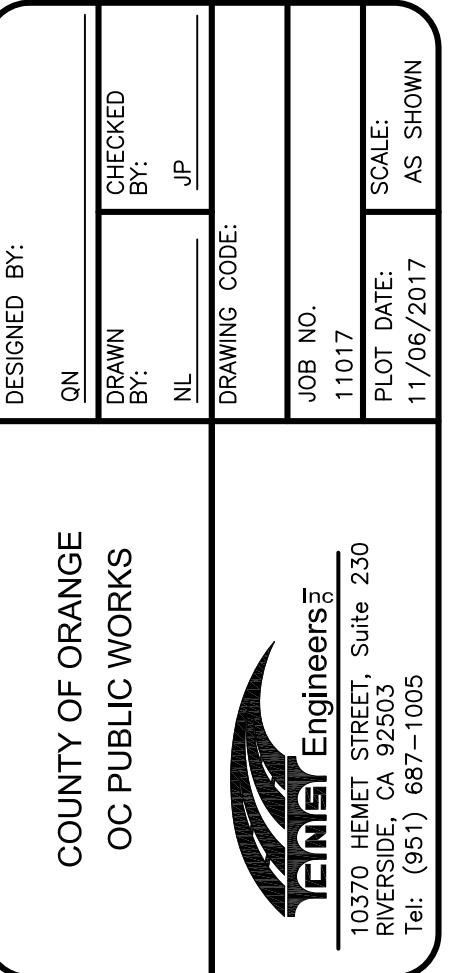
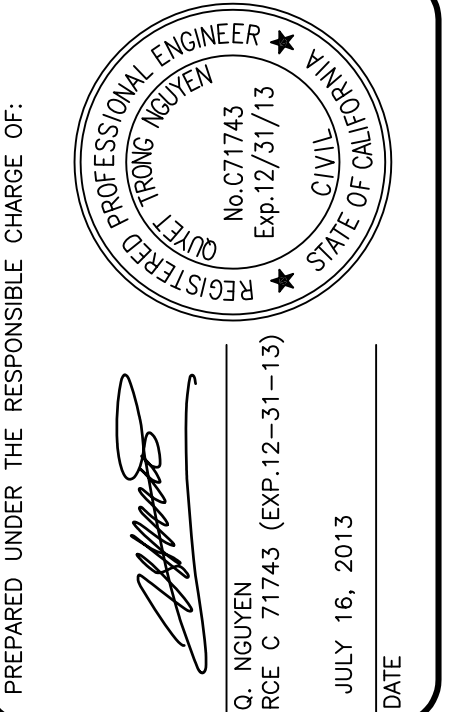
* DIMENSIONS TO THE INSIDE CREST OF DEEP CORRUGATED STRUCTURAL PLATE STRUCTURE

□ SINGLE WHITE EDGE STRIPE, SEE "STRIPING PLANS"

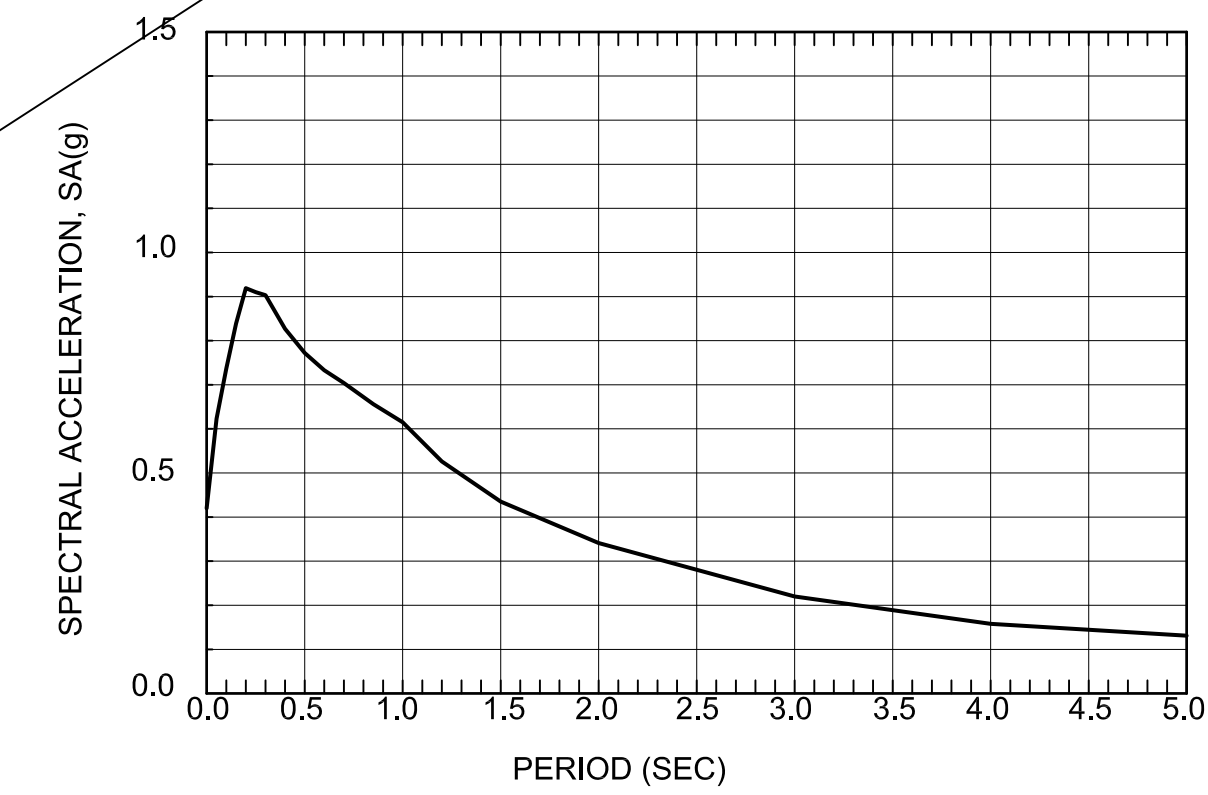
- (A) CONCRETE CURB, SEE "ROAD PLANS", SHEET ST-12
- (F) PAVED SURFACING, SEE "ROAD PLANS", SHEET ST-12
- (G) AB SURFACING, SEE "ROAD PLANS", SHEET ST-12
- (H) ROADWAY FILL(CLEAN/NON-CORROSIVE) MATERIAL
- (I) 6" PERFORATED PIPE SUBDRAIN, SEE SHEET S2-5
- (J) CONCRETE WINGWALL

AS-BUILT
RE/SR: K. TRAN
Date: 01/21/2017

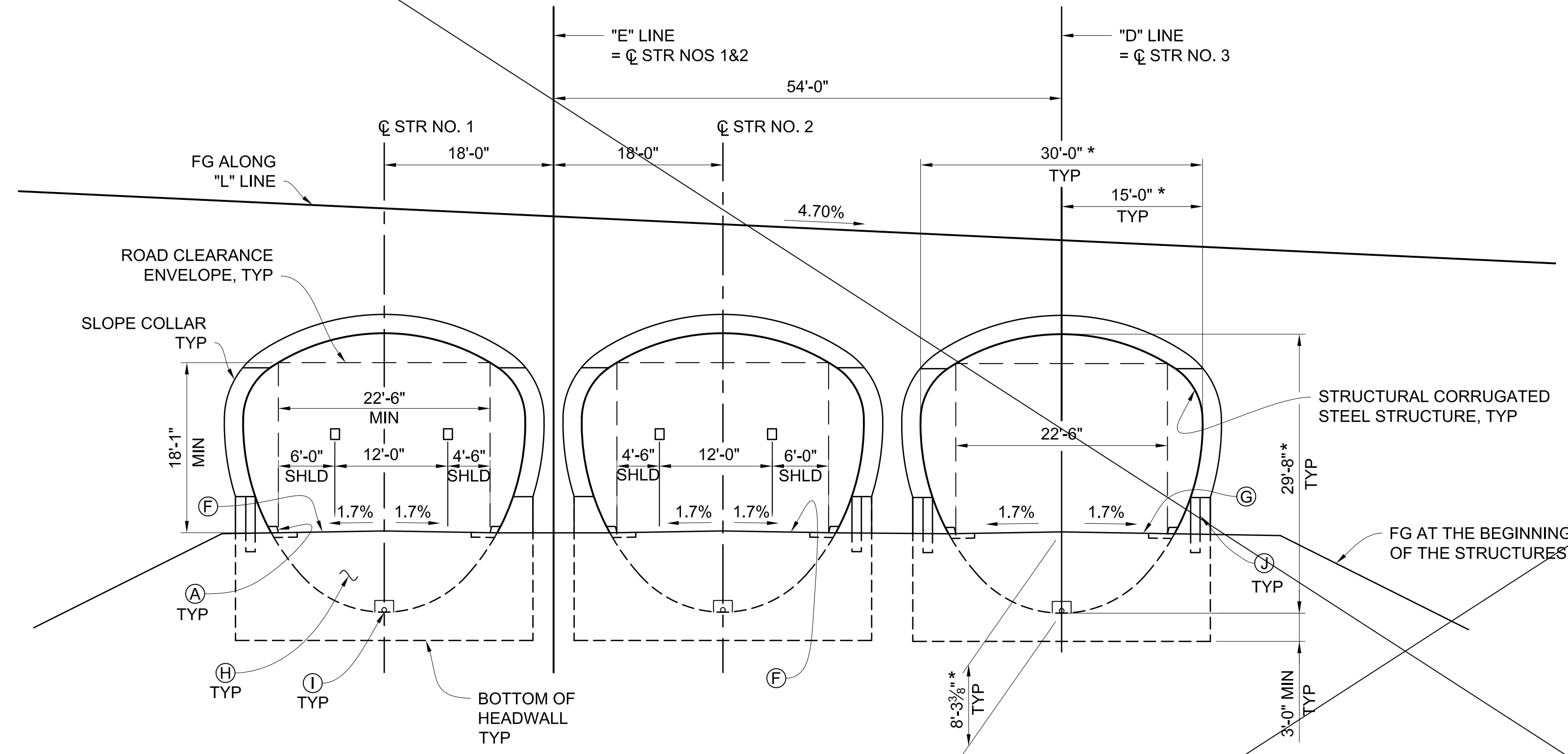
\\11017 La Pata Ave Gap Closure Supports\As-builts\Bridge No. 2\as built 20150217 - Copy\S2-1_2 - General Plan.dwg, Layout: Typical Section, Nov 06 2017 3:11pm



DESIGN:	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FOURTH EDITION WITH CALIFORNIA AMENDMENTS, PREFACE DATED NOVEMBER 2011.
SOIL:	G = 140 pcf
SEISMIC LOADING:	SOIL PROFILE: TYPE D SHEAR WAVE VELOCITY $V_{30} = 270$ m/s MOMENT MAGNITUDE: 7.2 MAX PEAK GROUND ACCELERATION: 0.42g



REINFORCED CONCRETE:	$f_y = 60$ ksi $f'_c = 3.6$ ksi $n = 8$
STRUCTURAL STEEL PLATE:	6" x 2" ANNULAR CORRUGATIONS $f_y = 33$ ksi ASTM A 761 GAGE 1 INCLUDING GALVANIZATION



TYPICAL - SECTION

1" = 10'

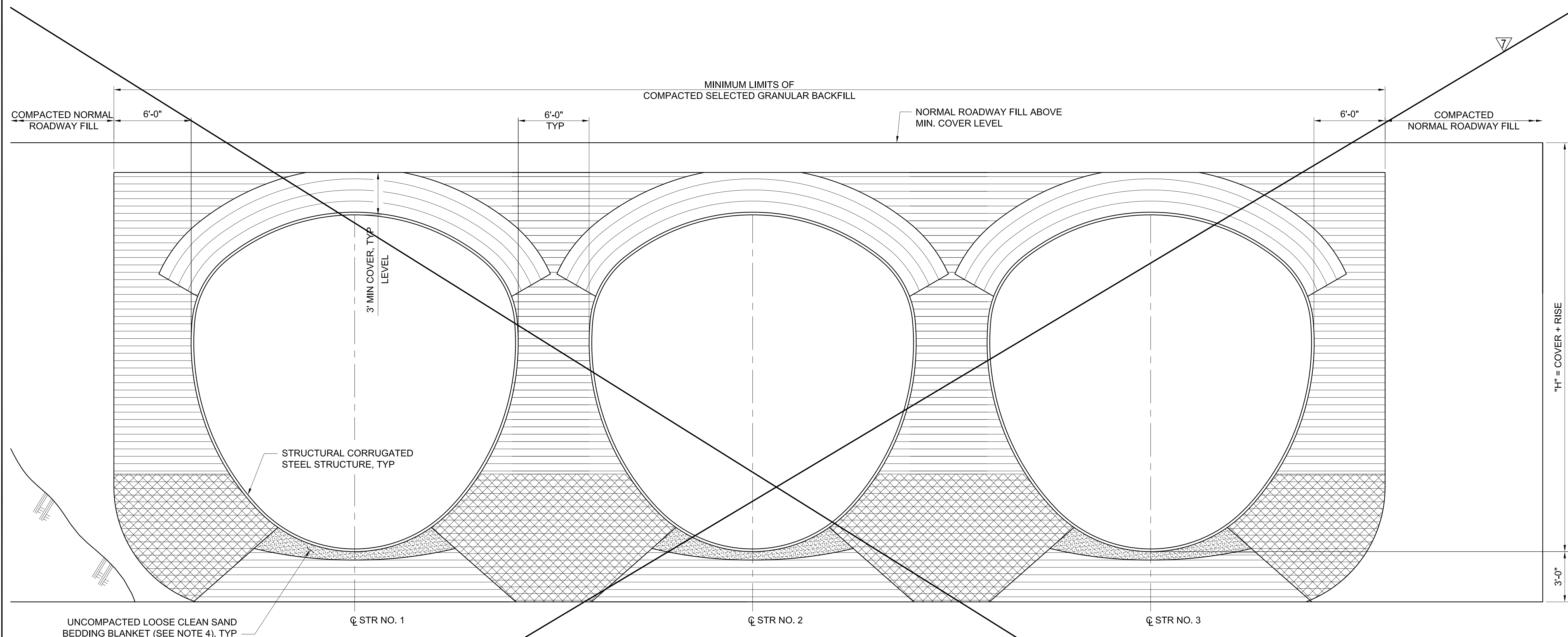
* DIMENSIONS TO THE INSIDE CREST OF
STRUCTURAL CORRUGATED STEEL STRUCTURE

☐ SINGLE WHITE EDGE STRIPE, SEE "STRIPING PLANS"

- (A) CONCRETE CURB, SEE "ROAD PLANS", SHEET ST-12
- (F) PAVED SURFACING, SEE "ROAD PLANS", SHEET ST-12
- (G) AB SURFACING, SEE "ROAD PLANS", SHEET ST-12
- (H) ROADWAY FILL(CLEAN/NON-CORROSIVE) MATERIAL
- (I) 6" PERFORATED PIPE SUBDRAIN, SEE SHEET S2-5
- (J) CONCRETE WINGWALL

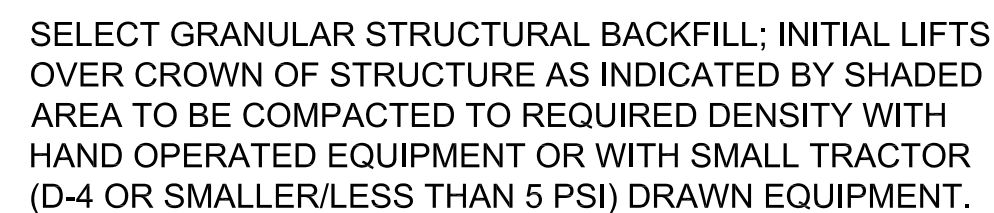
AS-BUILT
RE/SR: K. TRAN
Date: 01/21/2017

5 NOTE:
SEE "SHOP DRAWING PLANS - SHEET 8 OF 9" FOR
REPLACEMENT DETAILS



SECTION

- SELECT GRANULAR STRUCTURAL BACKFILL; CRITICAL BACKFILL
ZONE. PRESSURE ON SOIL GREATEST HERE.



~~ADDITIONAL BACKFILL NOTES:~~

SATISFACTORY BACKFILL MATERIAL, PROPER PLACEMENT, AND COMPACTION ARE KEY FACTORS IN OBTAINING MAXIMUM STRENGTH AND STABILITY.

THE BACKFILL MATERIAL SHOULD BE FREE OF ROCKS, FROZEN LUMPS, AND FOREIGN MATERIAL THAT COULD CAUSE HARD SPOTS OR DECOMPOSE TO CREATE VOIDS. BACKFILL MATERIAL SHOULD BE WELL GRADED GRANULAR MATERIAL THAT MEETS THE REQUIREMENTS OF AASHTO M-145 FOR SOIL CLASSIFICATIONS A-1, A-2-4, A-2-5 MAXIMUM PARTICLE SIZE SHALL NOT EXCEED 3 INCHES.

~~BACKFILL MUST BE REPLACED SYMMETRICALLY ON EACH SIDE OF THE STRUCTURE
IN 6" LOOSE LIFTS. EACH LIFT IS TO BE COMPACTED TO A MINIMUM OF 90% DENSITY
PER AASHTO T-180 MODIFIED PROCTOR TEST.~~

~~A HIGH PERCENTAGE OF SILT OR FINE SAND IN THE NATIVE SOILS SUGGESTS THE NEED FOR A WELL GRADED GRANULAR BACKFILL MATERIAL TO PREVENT SOIL MIGRATION.~~

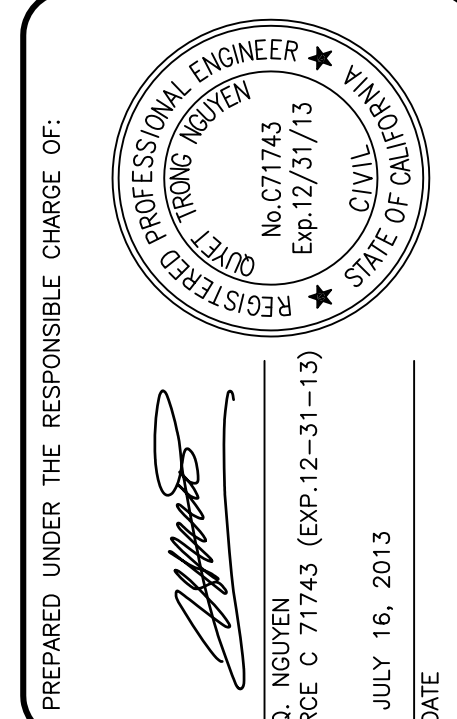
~~DURING BACKFILL, ONLY SMALL TRACKED VEHICLES (D-4 OR SMALLER) SHOULD BE NEAR THE STRUCTURE AS FILL PROGRESSES ABOVE THE CROWN AND TO THE FINISHED GRADE.~~

NOTES:

1. ALL SELECT GRANULAR BACKFILL TO BE PLACED IN A BALANCED FASHION IN THIN LIFTS (LOOSE TYPICALLY) AND COMPACTED TO 90 PERCENT DENSITY PER AASHTO T-180.
2. COMPLETE AND REGULAR MONITORING OF THE PEAR IS NECESSARY DURING ALL BACKFILLING STEPS.
3. PREVENT EXCESSIVE DISTORTION OF SHAPE AS NECESSARY BY VARYING COMPACTION METHODS AND EQUIPMENT.
4. SHAPED BED FOR A MINIMUM WIDTH OF TOP RADIUS/2. MINIMUM BEDDING THICKNESS IS 12 INCHES.

AS-BUILT
RE/SR: K. TRAN
Date: 01/21/2017

CONTRACT CHANGE ORDER NO. 18

[illegible]

COUNTY OF ORANGE OC PUBLIC WORKS	 Tensar Engineering 10370 HEMET STREET, Suite 230 IRVINE, CA 92606 (949) 261-9800 FAX (949) 261-9805 E-MAIL: info@tensar.com	DESIGNED BY:	Q/N
		DRAWN BY:	CHECKED BY:
		N/L	J/P
		DRAWING CODE:	
		JOB NO.	11017
		PLOT DATE:	11/05/07
		SCALE:	AS SHOWN

A PATA AVENUE GAP CLOSURE

BACKFILL ZONE DETAIL

Sheet
Reference
Number

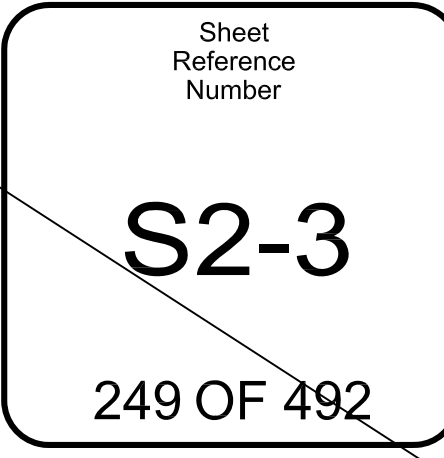
S2-3R1

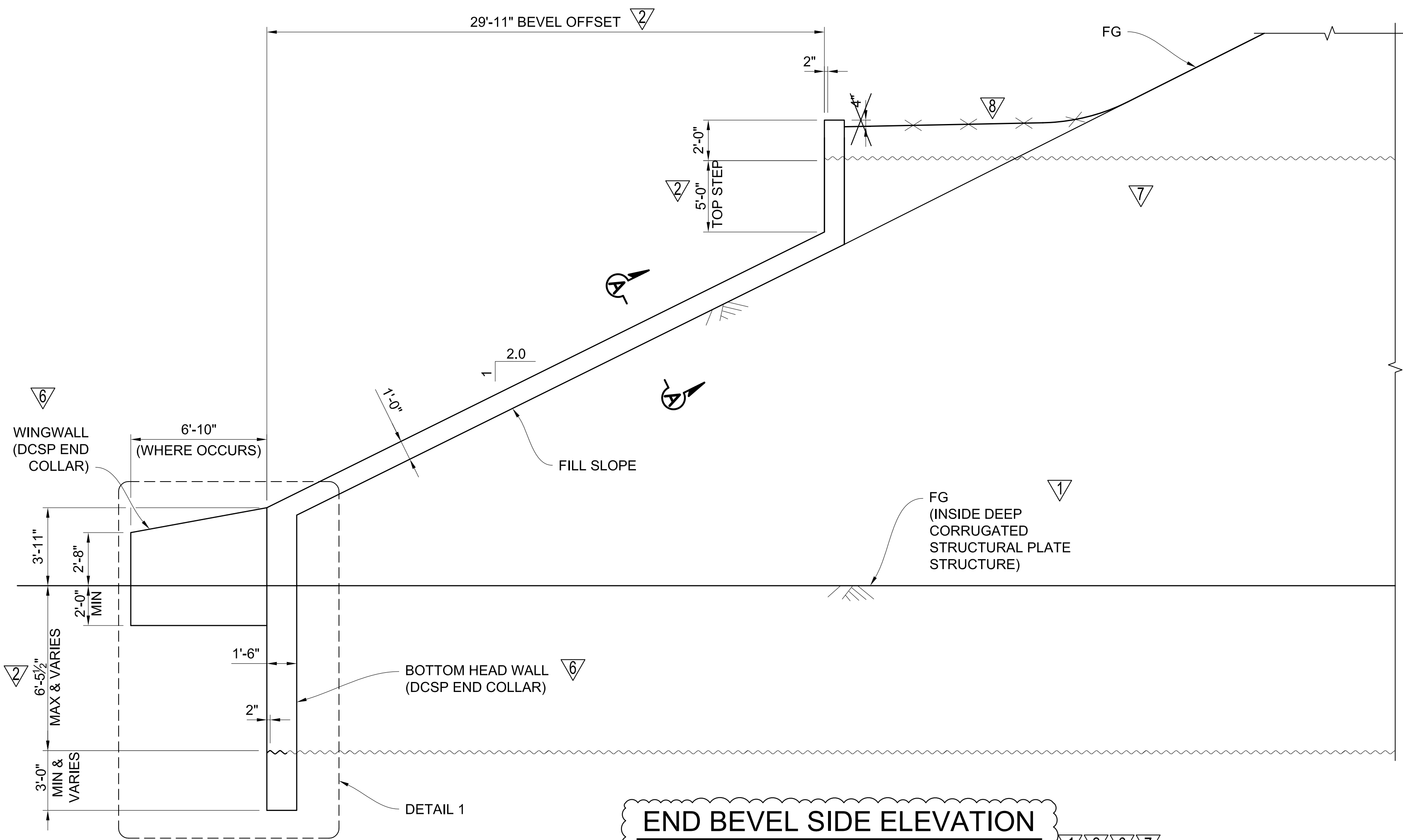
249R1 OF 492



DURING BACKFILL, ONLY SMALL TRACKED VEHICLES (D-4 OR SMALLER) SHOULD BE NEAR THE STRUCTURE AS FILL PROGRESSES ABOVE THE CROWN AND TO THE FINISHED GRADE.

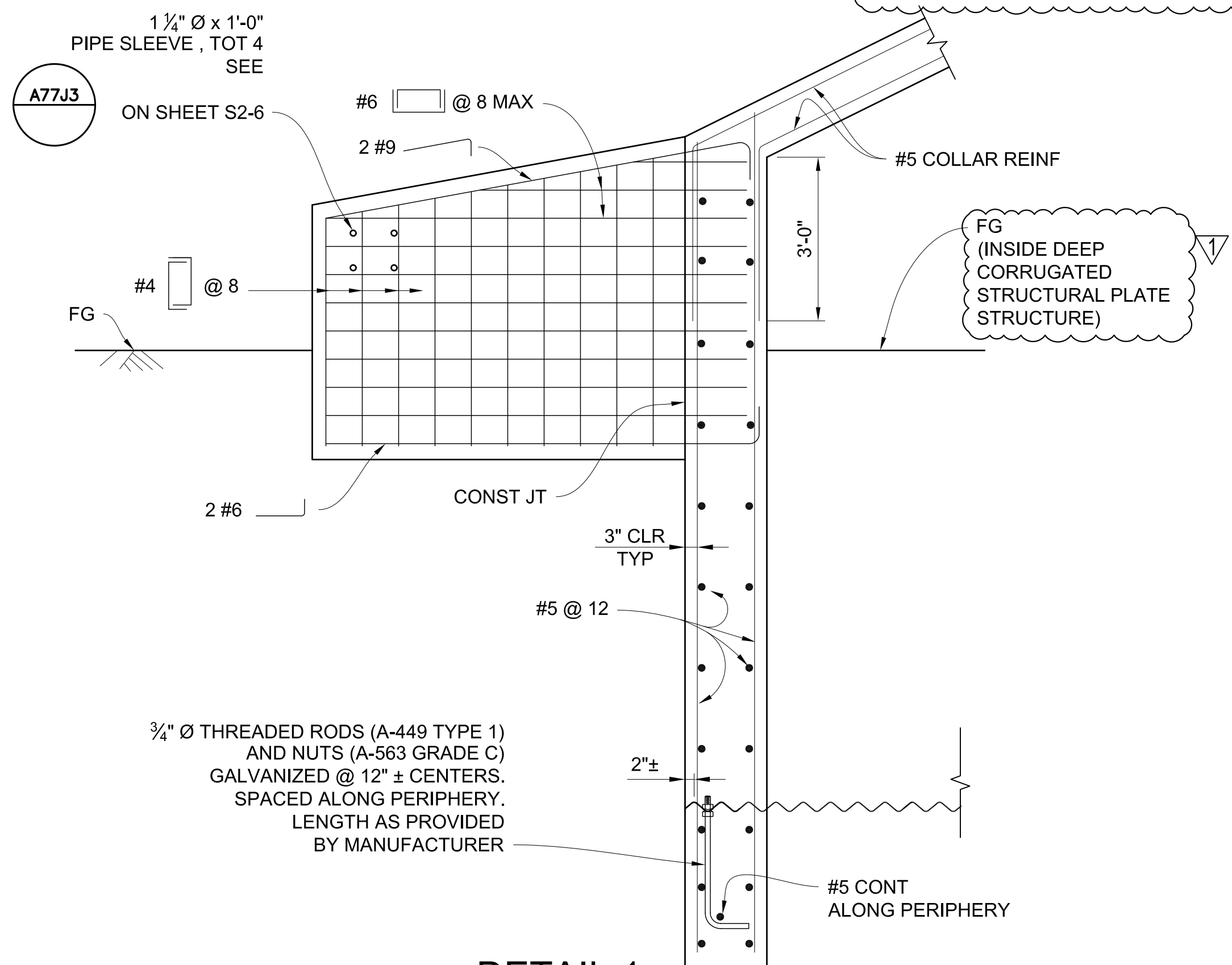
- AS-BUILT**
RE/SR: K. TRAN
Date: 01/21/2017





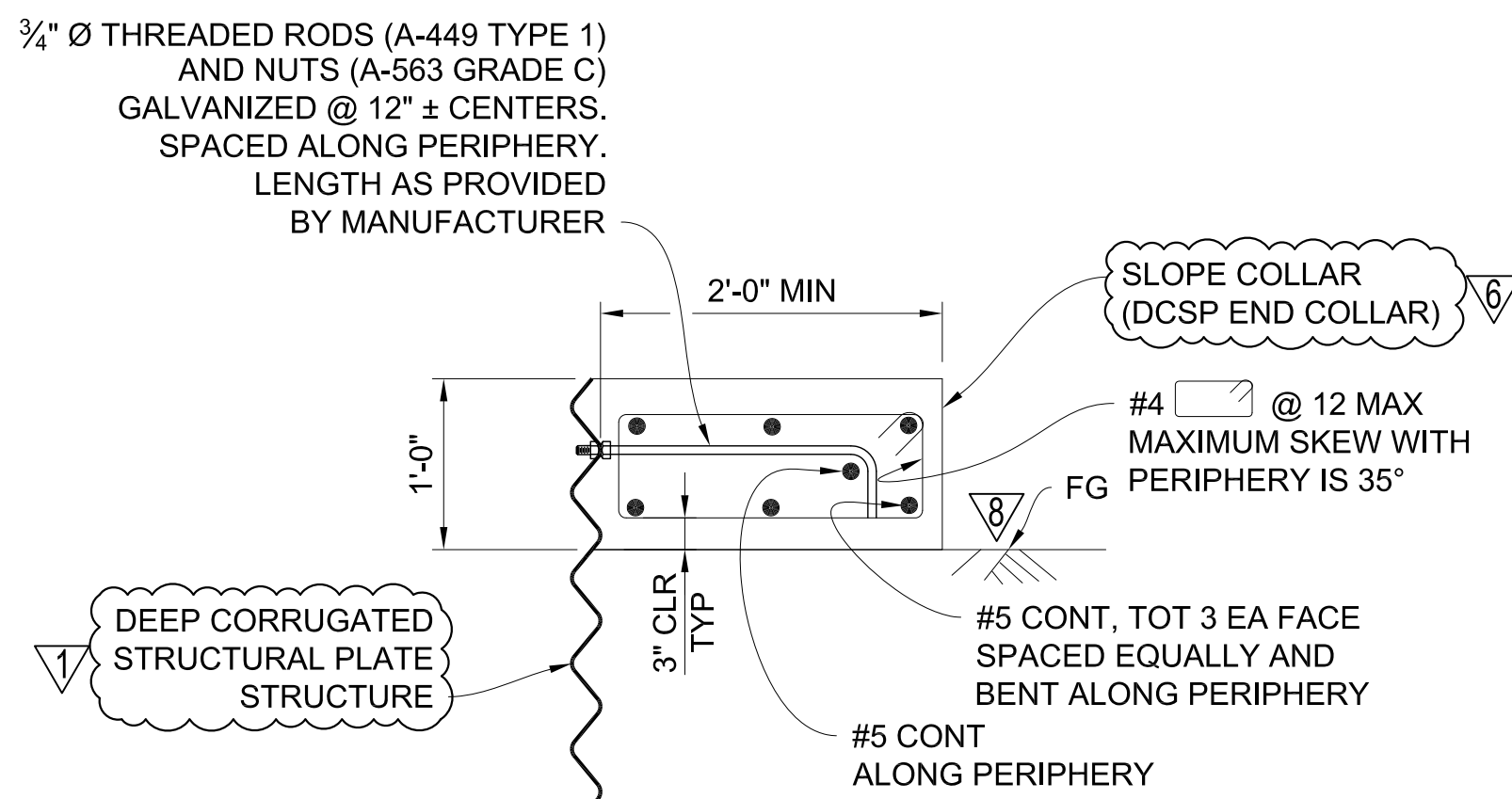
END BEVEL SIDE ELEVATION

NO SCALE



DETAIL 1

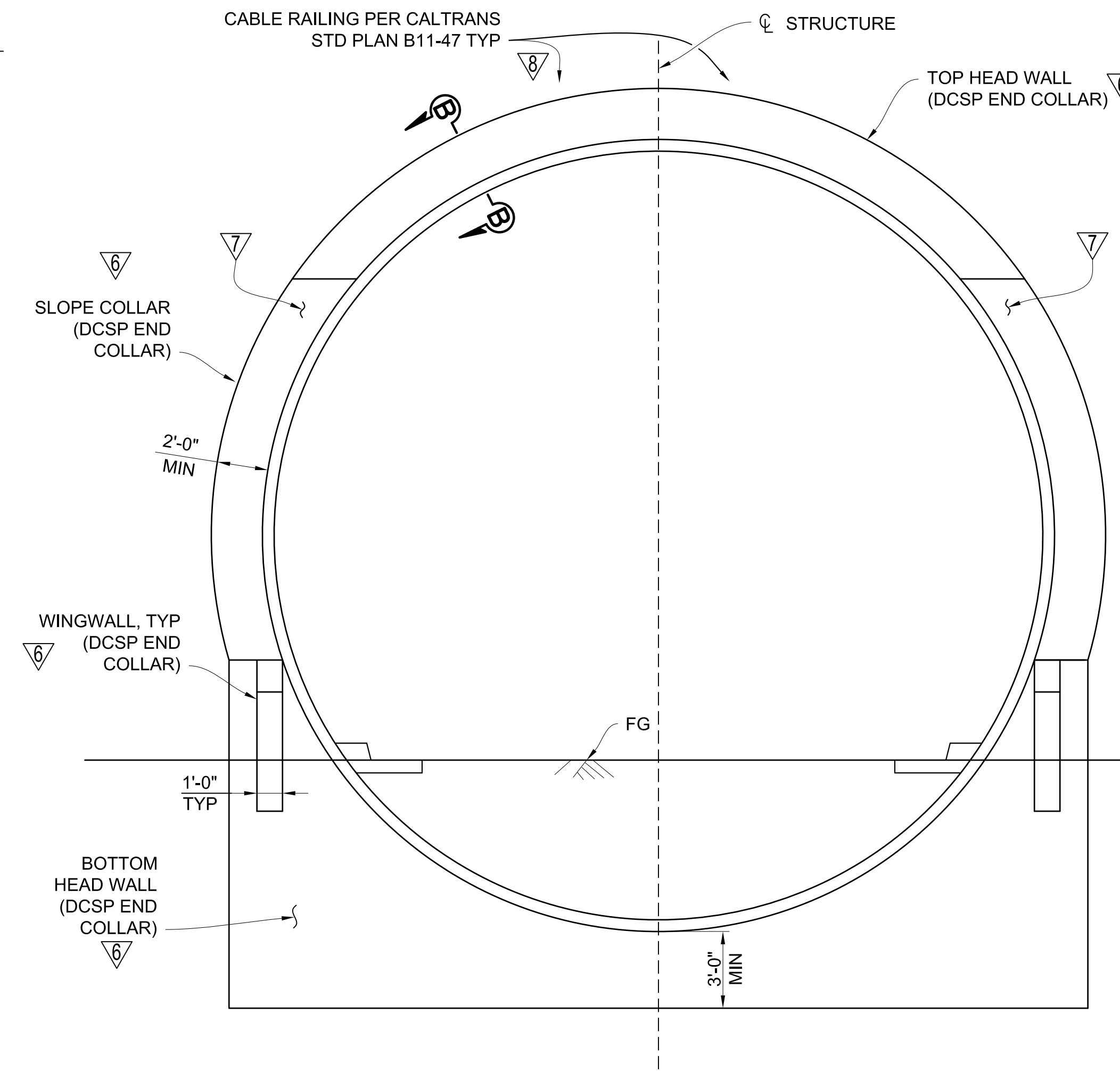
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SECTION A-A

NO SCALE

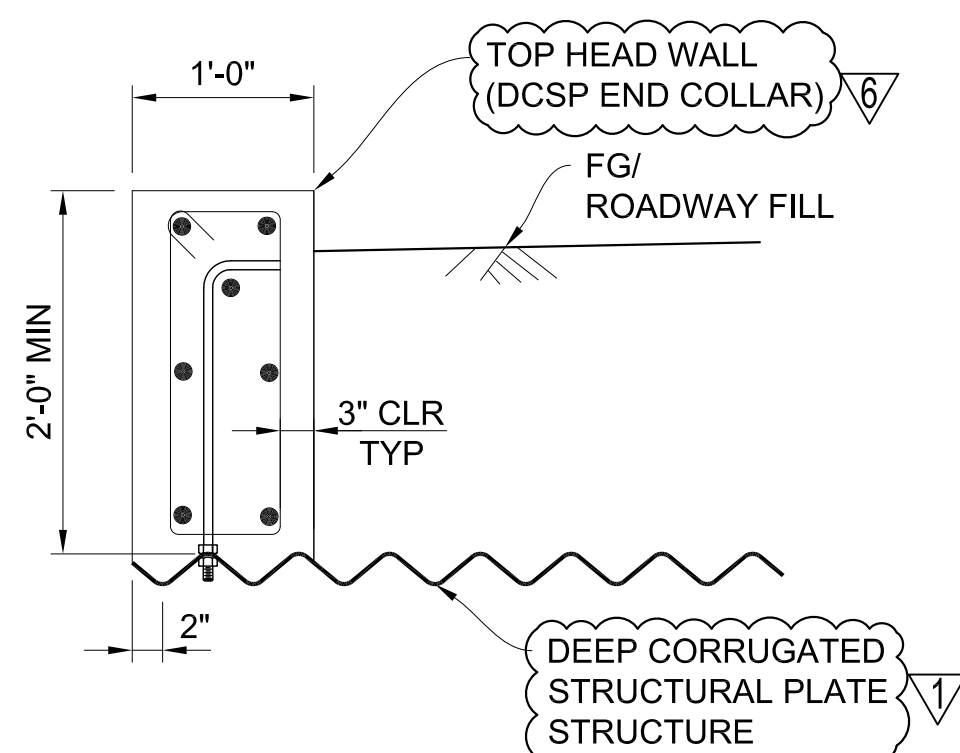
NOTE:
THE STRUCTURE END TREATMENT DETAILS ON THIS SHEET ARE COPIED AND MODIFIED FROM CALTRANS STANDARD PLANS A77J3 AND B14-1 FOR BIDDING PURPOSE, THE CONTRACTOR SHALL PROVIDE THE STRUCTURE END TREATMENT DETAILS WITH SUPPORTING CALCULATIONS BASED ON THE ACTUAL STRUCTURAL CORRUGATED STEEL MATERIAL USED IN THE PROJECT.



STRUCTURE END ELEVATION

1/4" = 1'-0"

NOTE: STR NO. 3 SHOWN, OTHERS SIMILAR.



SECTION B-B

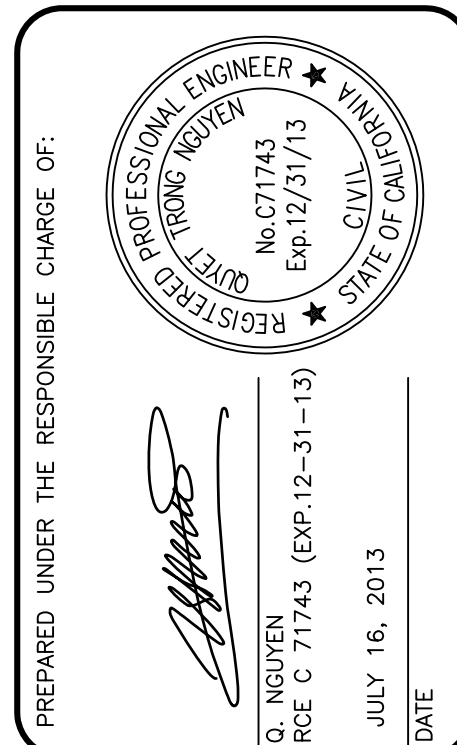
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NOTE: FOR INFORMATION NOT SHOWN, SEE SECTION A-A.

AS-BUILT
RE/SR: K. TRAN
Date: 01/21/2017



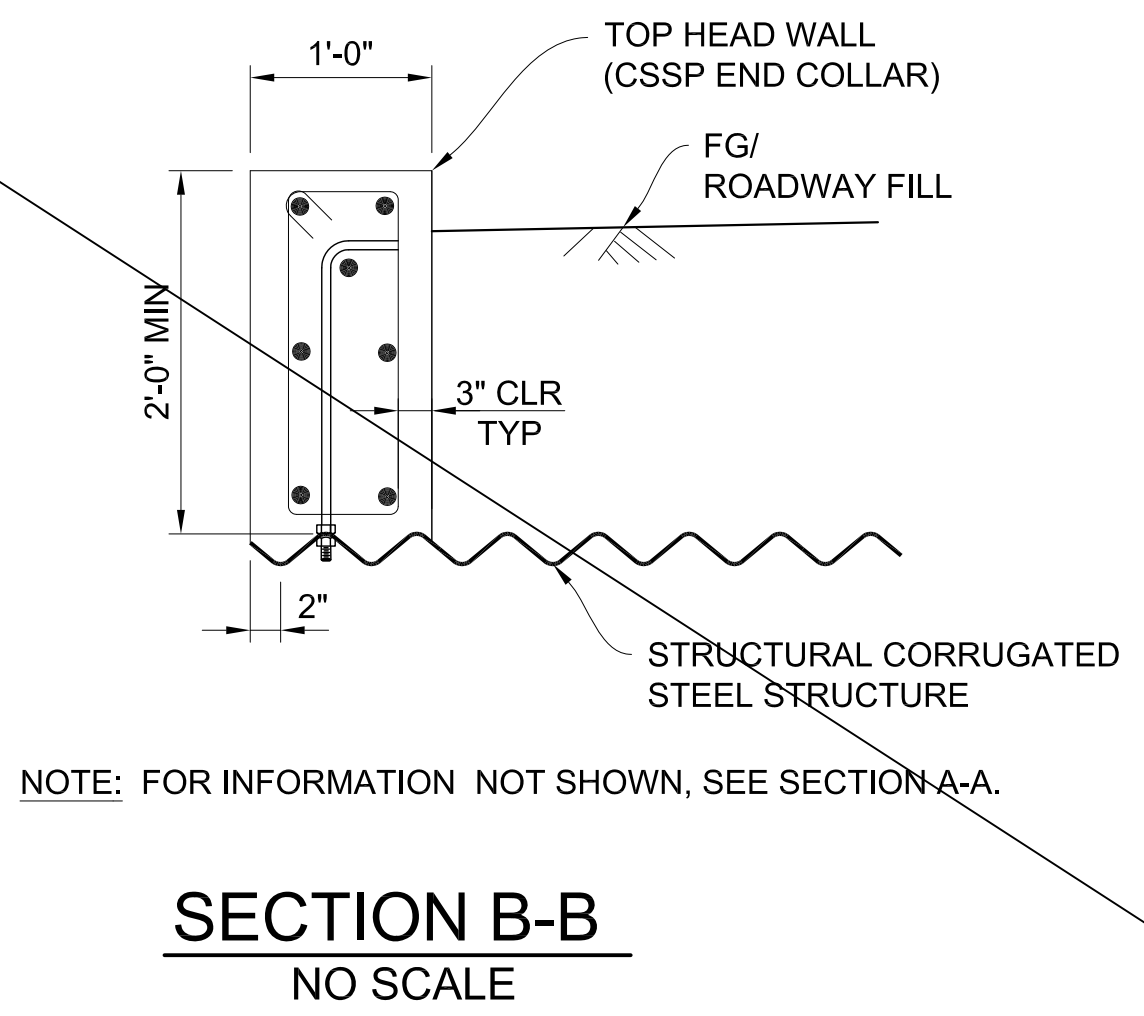
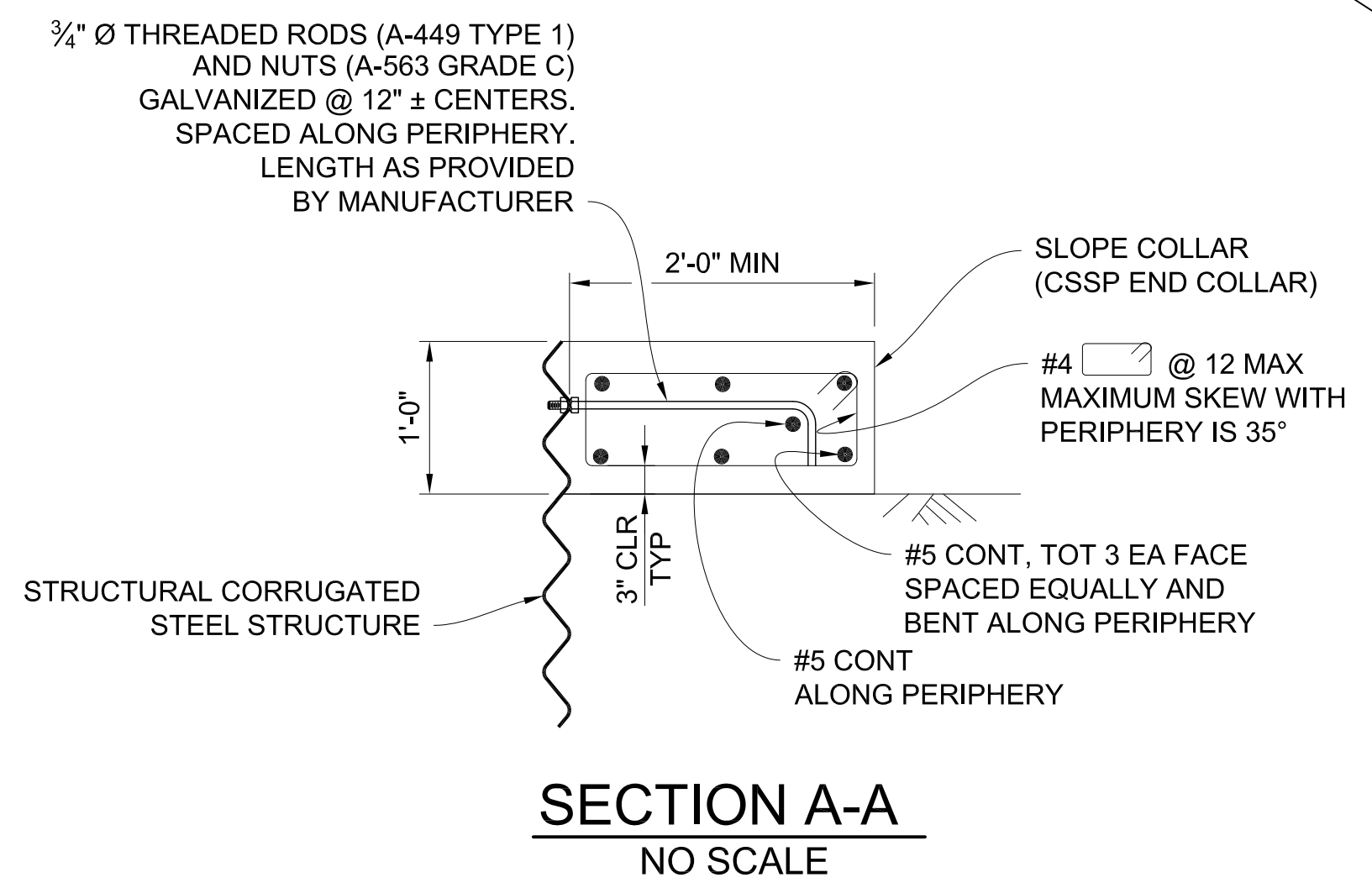
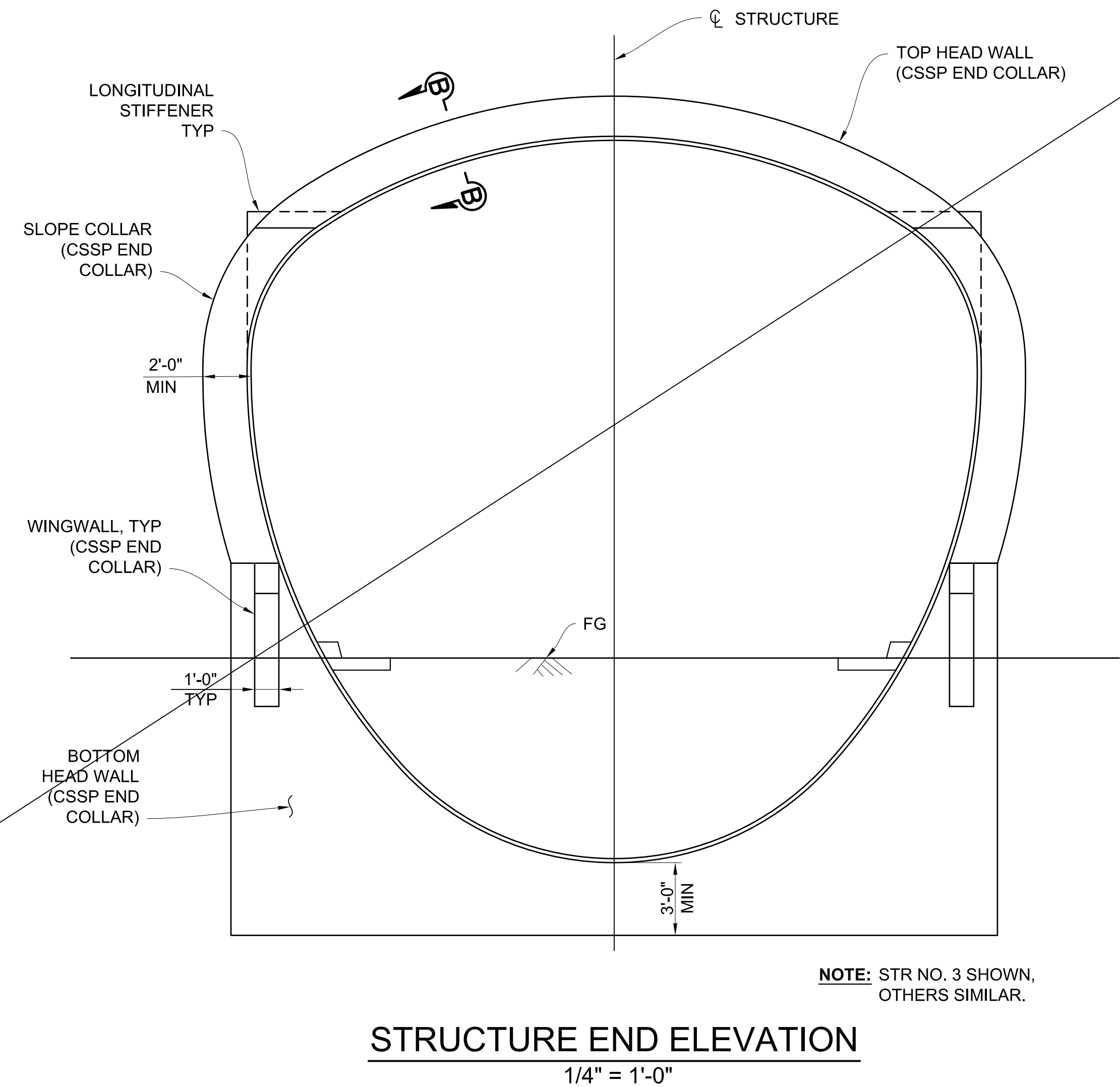
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1-21-17	1-30-15	1-30-15	1-30-15	1-30-15			
ON	ON	ON	ON	ON			



DESIGNED BY:	CHECKED BY:	DRAWING CODE:	JOB NO.	SCALE:	AS SHOWN
ON	JP		11017	11/06/2017	
DRAWN BY:	NL				
COUNTY OF ORANGE OC PUBLIC WORKS					

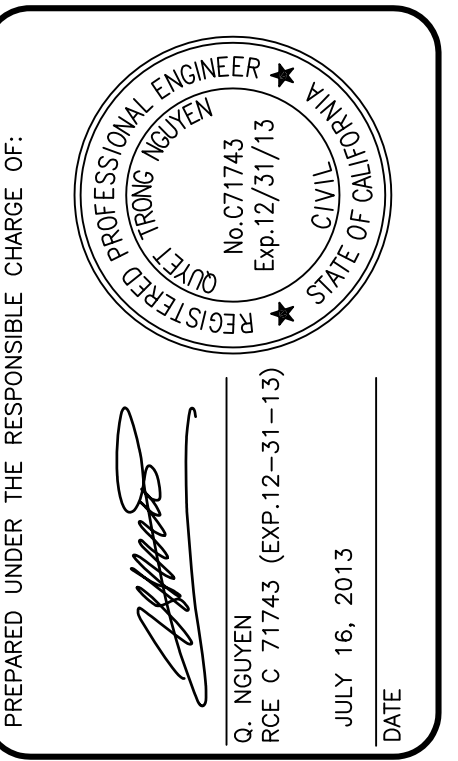
LA PATA AVENUE GAP CLOSURE BRIDGE NO. 2	STRUCTURE END TREATMENT DETAILS
--	------------------------------------

Sheet Reference Number
S2-4R1
250R1 OF 492



AS-BUILT
RE/SR: K. TRAN
Date: 01/21/2017

NOTE:
THE STRUCTURE END TREATMENT DETAILS ON THIS SHEET ARE COPIED AND MODIFIED FROM CALTRANS STANDARD PLANS A77J3 AND B14-1 FOR BIDDING PURPOSE, THE CONTRACTOR SHALL PROVIDE THE STRUCTURE END TREATMENT DETAILS WITH SUPPORTING CALCULATIONS BASED ON THE ACTUAL STRUCTURAL CORRUGATED STEEL MATERIAL USED IN THE PROJECT.

[illegible]

COUNTY OF ORANGE OC PUBLIC WORKS	 10370 HEWITT STREET, Suite 230 RIVERSIDE, CA 92503 Tel: (951) 687-1005	DESIGNED BY:	Q/N _____
		DRAWN BY:	CHECKED BY:
		NL _____	J/P _____
		DRAWING CODE:	
		JOB NO:	11017
		PLOT DATE:	SCALE:
		11/06/2017	AS SHOWN

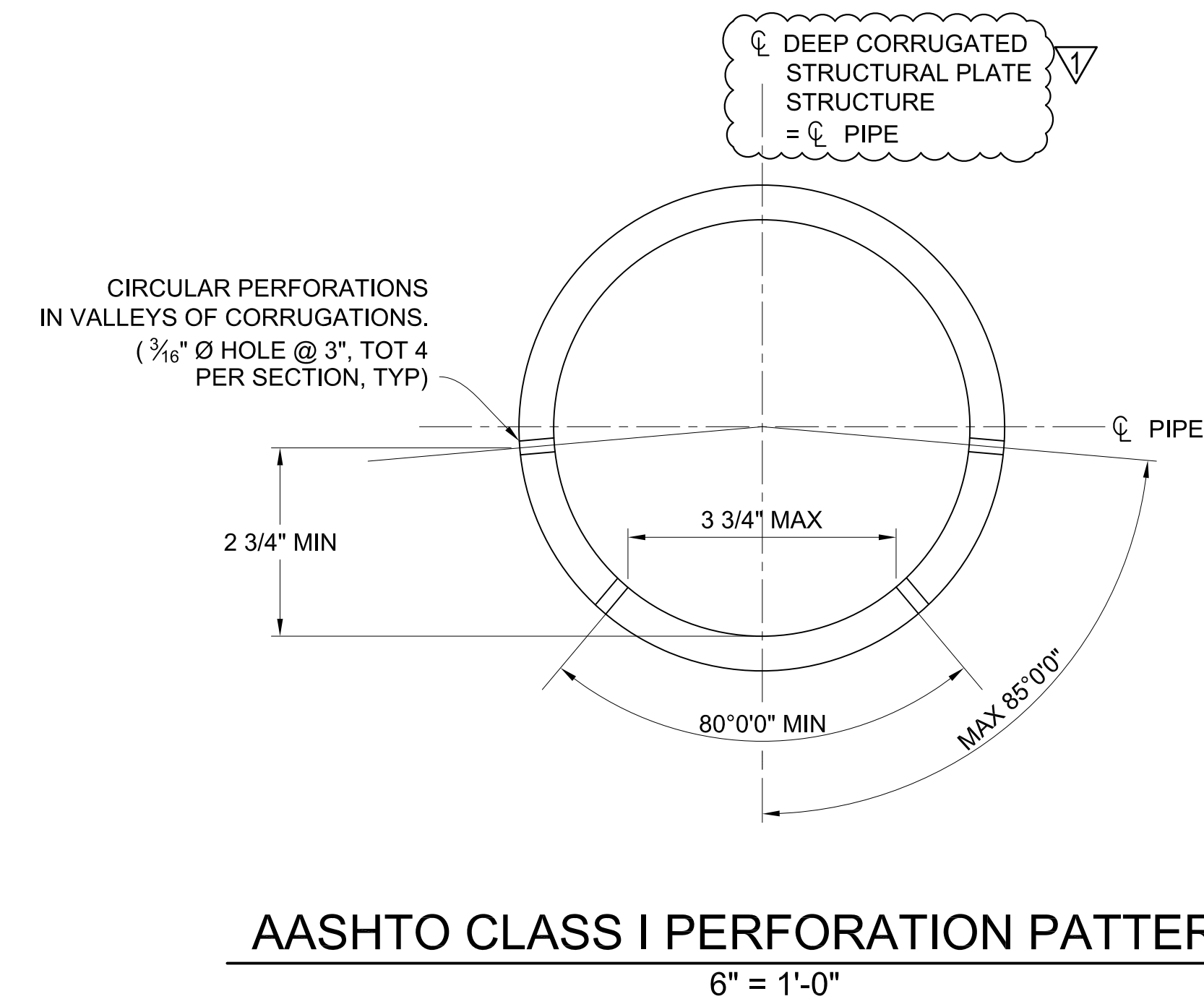
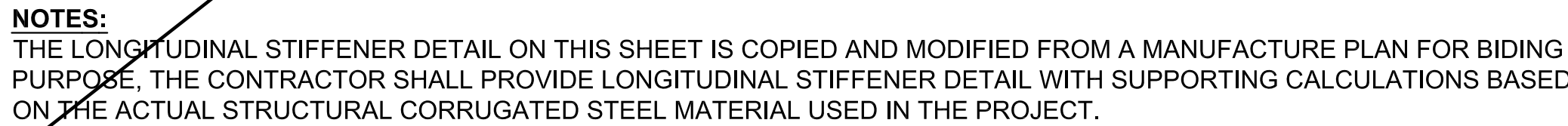
LA PATA AVENUE GAP CLOSURE
BRIDGE NO. 2

STRUCTURE END
TREATMENT DETAILS

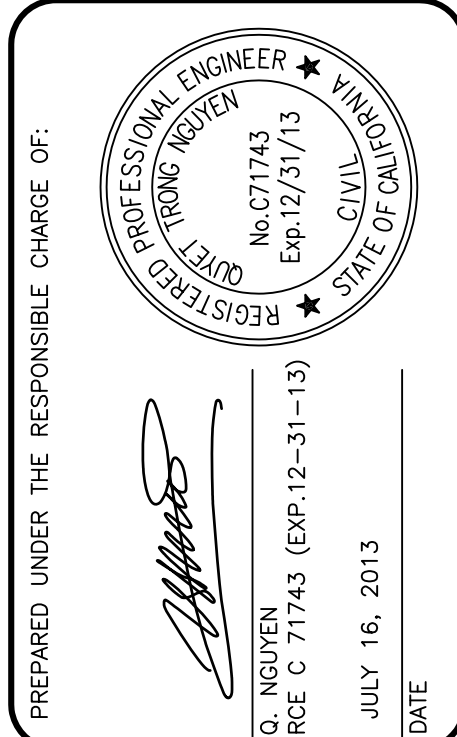
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Reference
Number

S2-4

250 OF 492



AS-BUILT
RE/SR: K. TRAN
Date: 01/21/2017

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COUNTY OF ORANGE OC PUBLIC WORKS	DESIGNED BY:			
	ON			
	DRAWN BY:	CHECKED BY:		
	NL	JP		
	DRAWING CODE:			
	JOB NO.	11017		
	SCALE:	AS SHOWN		
	PLOT DATE:	11/06/2017		

LA PATA AVENUE GAP CLOSURE

LA PATA AVENUE GAP CLOSURE
BRIDGE NO. 2

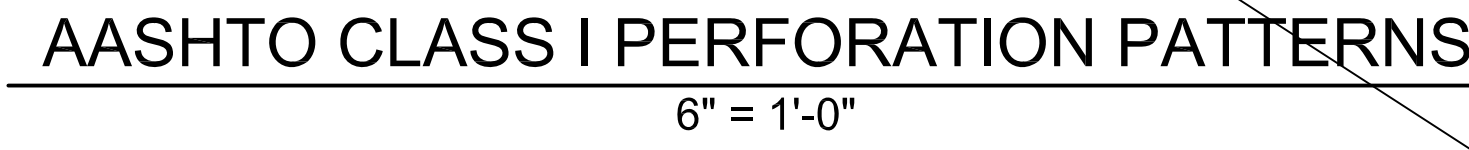
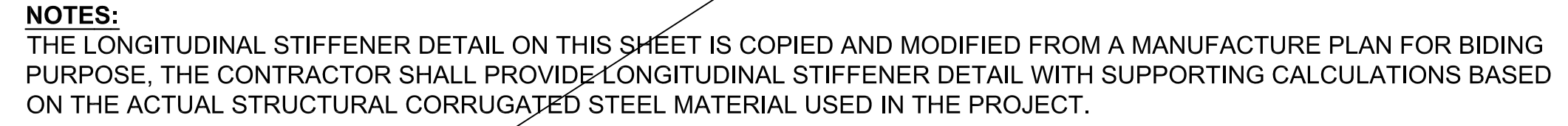
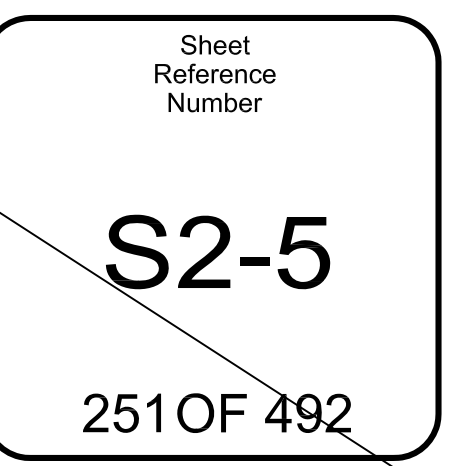
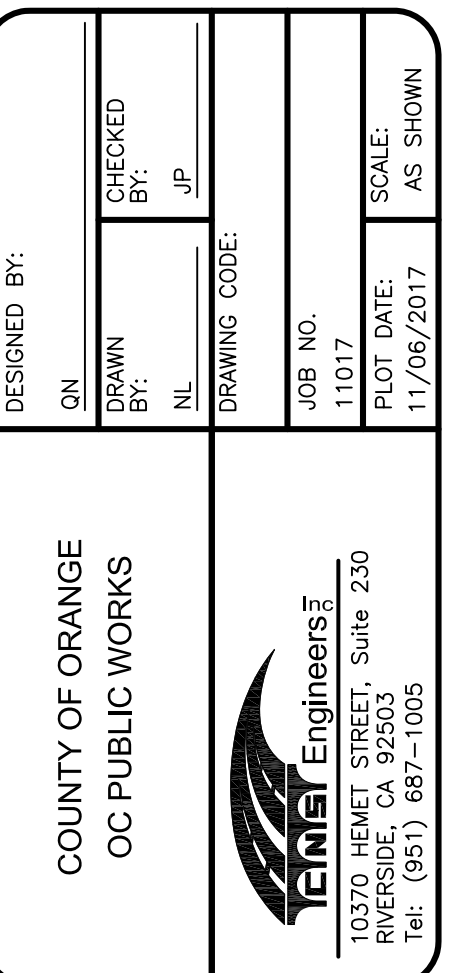
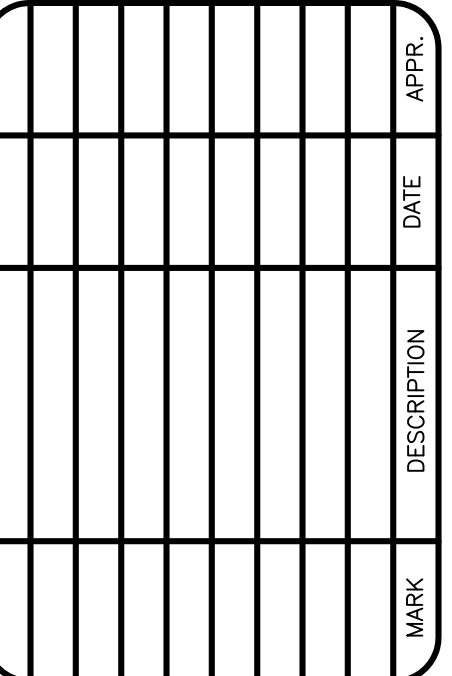
MISCELLANEOUS
DETAILS

Sheet
Reference
Number

S2-5R1

251R1 OF 492

[illegible]



AS-BUILT
RE/SR: K. TRAN
Date: 01/21/2017

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SAVERIO SICILIANO

JULY 12, 2013

DATE

DRAWN BY:	SS	CHECKED BY:	SS
	SLB		SS
DRAWING CODE:			
JOB NO.			
HG1315-2B			
PLOT DATE:		SCALE:	
MARCH 29, 2013		AS SHOWN	

Geosyntec  **consultants**

2100 MAIN STREET, SUITE 150
HUNTINGTON BEACH, CALIFORNIA 92648 USA
PHONE: 714.969.0800

BRIDGE NO. 2

LOG OF TEST BORING
No. 1: LONGITUDINAL

Sheet
Reference
Number

S2-7

253 OF 492

CNTECH[®]

ENGINEERED SOLUTIONS LLC

BRIDGECOR PLATE

SAN CLEMENTE, CA

447263-INDEX	
PAGE NUMBER	PAGE TITLE
	COVER SHEET
1	PROFILES/SHAPES
2-4	PLATE LAYOUTS
5-9	DETAILS

THE UNDERSIGNED HEREBY APPROVES THE ATTACHED (9) PAGES.

CUSTOMER

DATE

GALVANIZED STEEL STRUCTURAL PLATE SPECIFICATIONS

SCOPE

THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE GALVANIZED STEEL STRUCTURAL PLATE STRUCTURE DETAILED IN THE PLANS.

MATERIALS

THE GALVANIZED STEEL STRUCTURAL PLATE STRUCTURE SHALL CONSIST OF PLATES AND APPURTENANT ITEMS AS SHOWN ON THE PLANS AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 167/ASTM A 761. ALL MANUFACTURING PROCESSES INCLUDING CORRUGATING, PUNCHING, CURVING AND GALVANIZING SHALL BE PERFORMED WITHIN THE UNITED STATES USING RAW MATERIALS MADE IN THE UNITED STATES. ASSEMBLY BOLTS AND NUTS SHALL BE GALVANIZED AND MEET THE PROVISIONS OF ASTM A 449, TYPE 1, AND ASTM A-563, GRADE C, RESPECTIVELY.

ASSEMBLY

THE STRUCTURE SHALL BE ASSEMBLED IN ACCORDANCE WITH THE SHOP DRAWINGS PROVIDED BY THE MANUFACTURER AND PER THE MANUFACTURER'S RECOMMENDATIONS. BOLTS SHALL BE TIGHTENED USING AN APPLIED TORQUE OF BETWEEN 100 AND 300 FT.-LBS.

INSTALLATION

THE STRUCTURE SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS, THE MANUFACTURER'S RECOMMENDATIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26 (DIVISION II).

BACKFILL

THE STRUCTURE SHALL BE BACKFILLED USING CLEAN WELL GRADED GRANULAR MATERIAL THAT MEETS THE REQUIREMENTS OF AASHTO M 145 FOR SOIL CLASSIFICATION A-1, A-2-4, A-2-5 AND A-3. BACKFILL MUST BE PLACED SYMMETRICALLY ON EACH SIDE OF THE STRUCTURE IN 6 TO 8 INCH LIFTS. EACH LIFT SHALL BE COMPACTED TO A MINIMUM OF 90 PERCENT DENSITY PER AASHTO T-180.

NOTE

CONSTRUCTION LOADS THAT EXCEED HIGHWAY LOAD LIMITS ARE NOT ALLOWED ON THE STRUCTURE WITHOUT APPROVAL FROM THE ENGINEER.

CNS ENGINEERS, INC.

- ☒ Approved ☐ Approved as Corrected
☐ Rejected ☐ Revise and Resubmit
☐ Submit Specified Item

This review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections or comments made on the shop drawings during this review do not relieve contractor from compliance with the requirements of the plans and specifications. Approval of a specific item shall not include approval of an assembly of which the item is a component. Contractor is responsible for: dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work of all trades; and for performing all work in a safe and satisfactory manner.

Date 3/23/2015 By

(10 sheets)

AS-BUILT

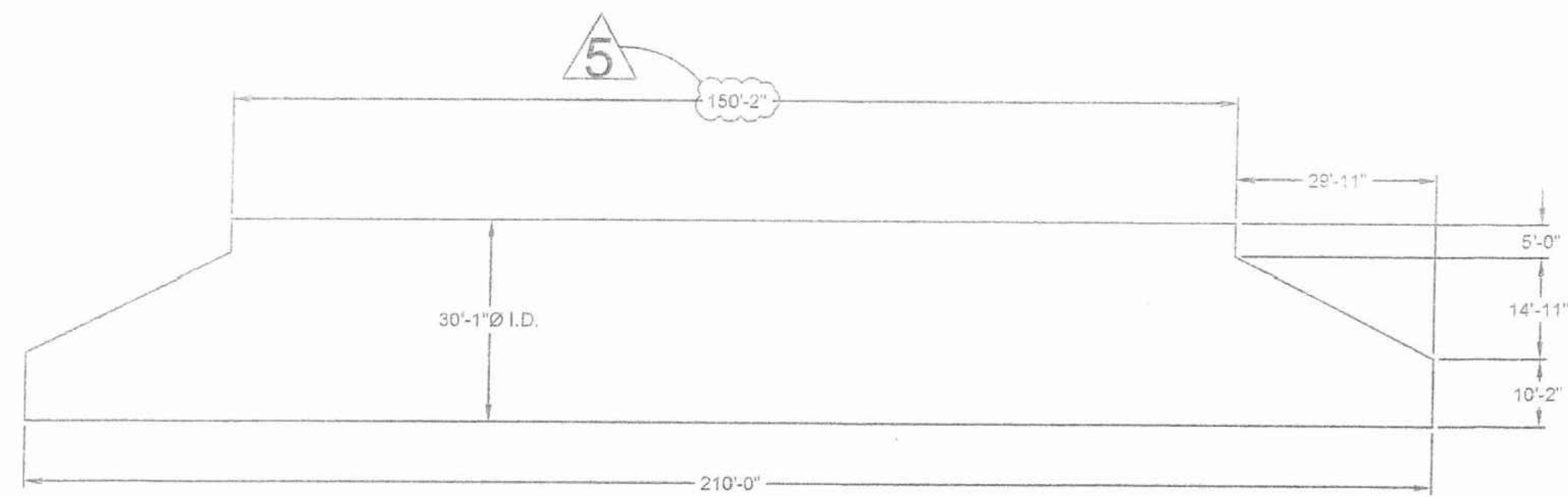
AS-BUILT
RE/SR: K. TRAN
Date: 01/21/2017



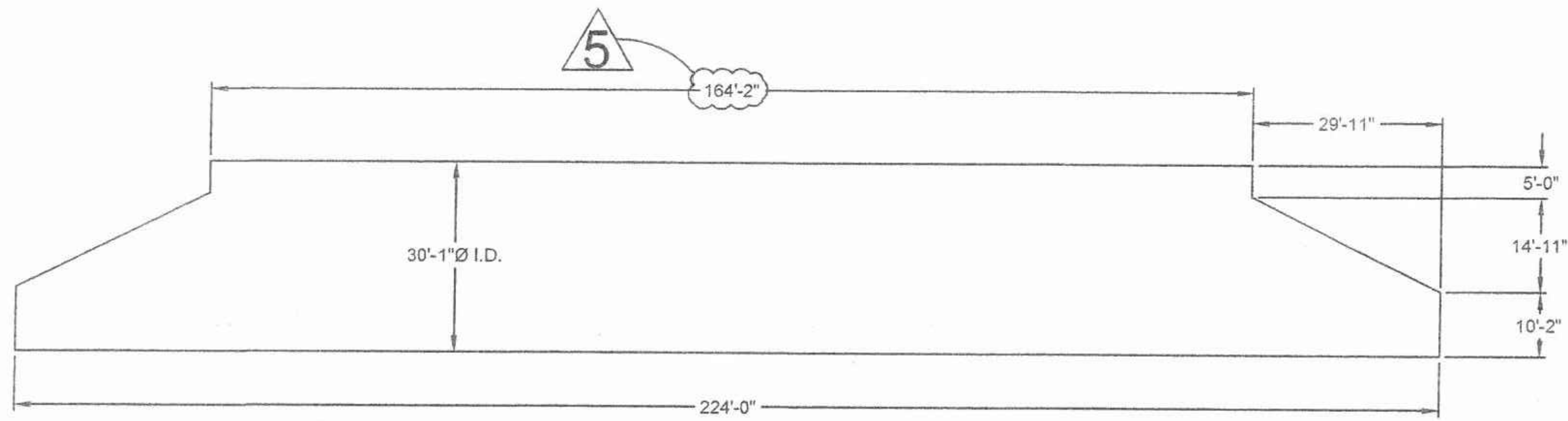
PRE-447263-001-BCORR-PRE-F-PROFILE END PLAN LINE WORK DWG

CONTECH PROJECT ID # 447263

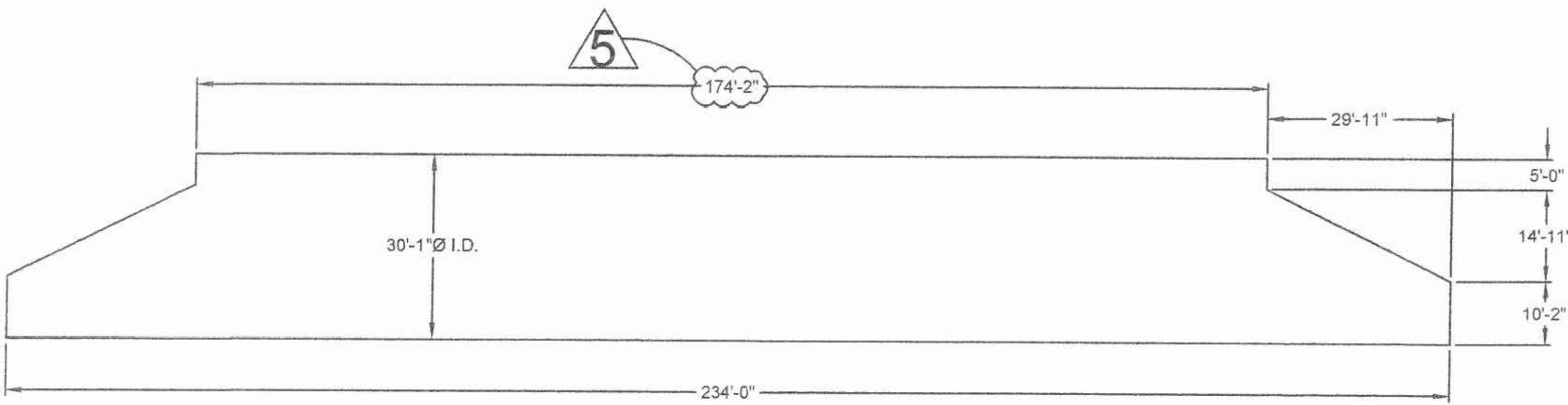
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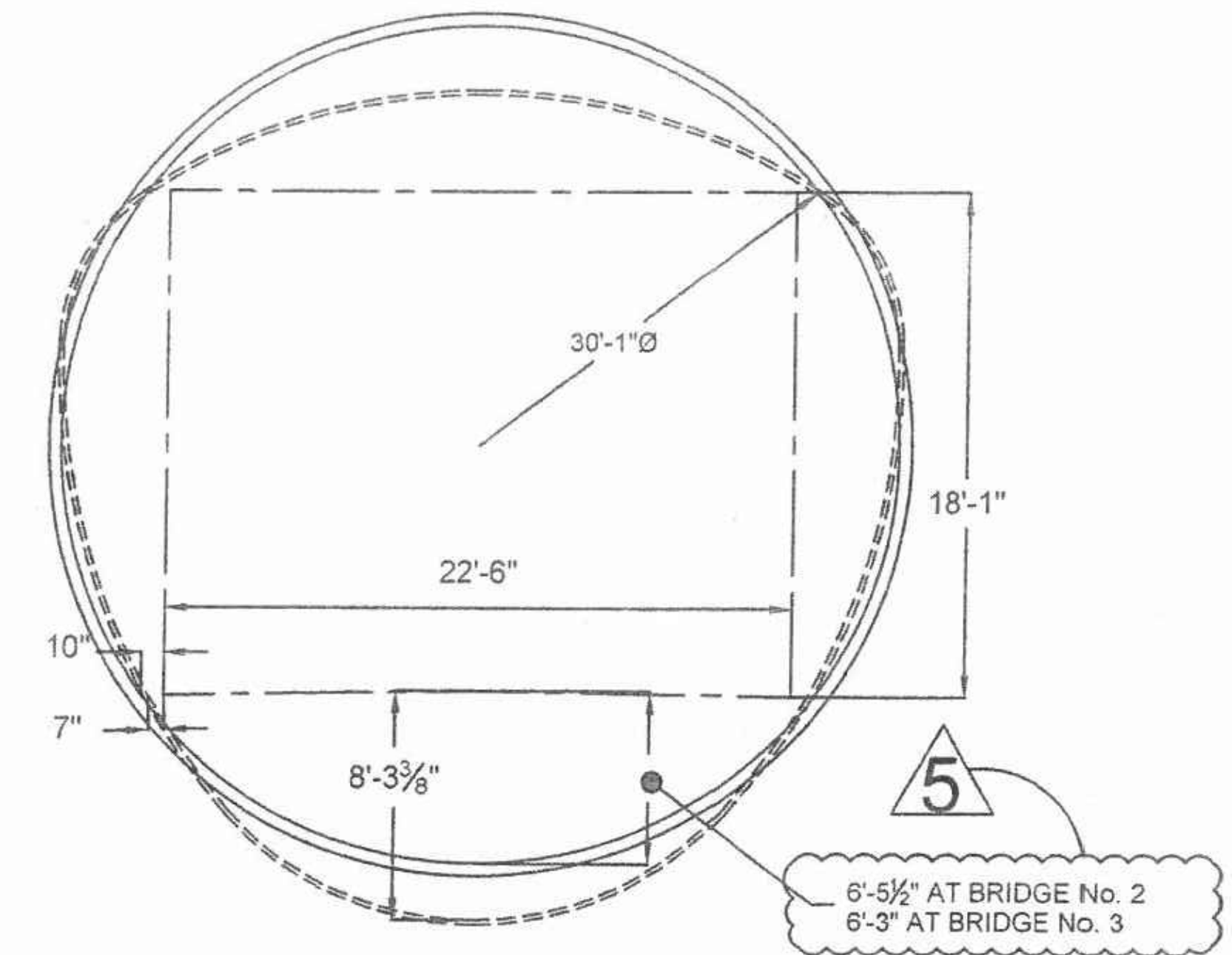
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SCALE: 1" = 30'-0"



PROFILE #2 (QTY. OF 2)
SCALE: 1" = 30'-0"



PROFILE #3 (QTY. OF 2)
SCALE: 1" = 30'-0"



APPROX AREA = 711.6 SQ. FT.
PLATE MAKE UP: 8 @ 9 S
TOTAL = 72 S

NOTES:

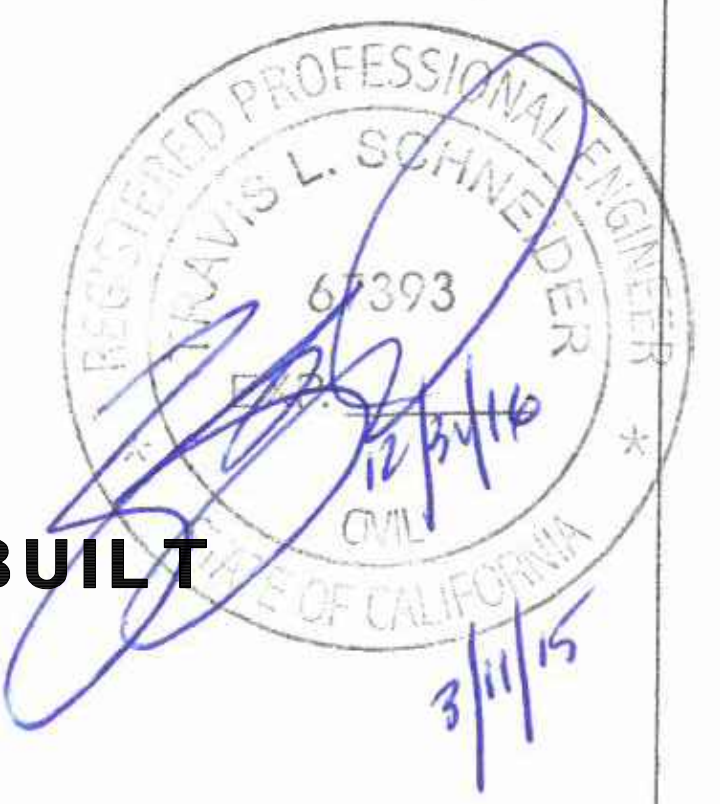
- 1) MEASUREMENTS ARE TO THE INSIDE CRESTS OF THE CORRUGATIONS.
- 2) DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
- 3) CIRCUMFERENTIAL PLATE LENGTHS ARE IN TERMS OF S = 16 INCHES.

5 ACTUAL ELEVATIONS TO BE VERIFIED AND STAKED BY ORANGE COUNTY SURVEY PRIOR TO INSTALLATIONS.

30'-1"Ø BRIDGECOR ROUND PIPE
SCALE: 1" = 10'-0"

AS-BUILT
RE/SR: K. TRAN
Date: 01/21/2017

AS-BUILT



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4	1/29/2015	ADD. BACKFILL ZONE DETAIL.	SCC
3	1/7/2015	REVISED PLATE LAYOUT AND NOTATIONS	SCC
2	12/9/2014	REVISED NOTES	SCC
1	12/8/2014	REVISED PROFILES/ELEVATIONS	SCC

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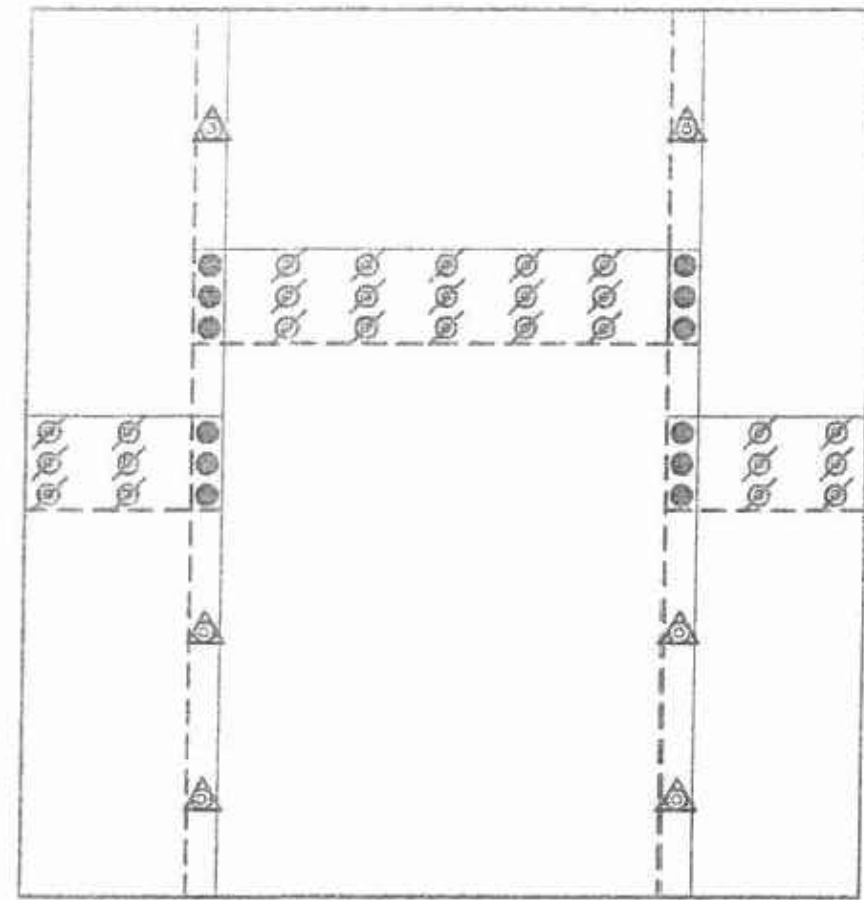
LA PATA AVENUE GAP

SAN CLEMENTE, CA

PRE-447263-001-BCORR-PRE-F-PROFILE END PLAN LINE WORK DWG

PROJECT No.	SEQ. No.	DATE
447263	001	11/6/2014
DESIGNED:	DRAWN:	
XXX	SCC	
CHECKED:	APPROVED:	
SRT	XXX	
SHEET NO.	1	OF 9

1:MERLINPROJECTIVE\47263-001-BCORR-PRE-F-PROFILE END PLAN LINE WORK DWG.DWG 2/24/2015 10:14 AM



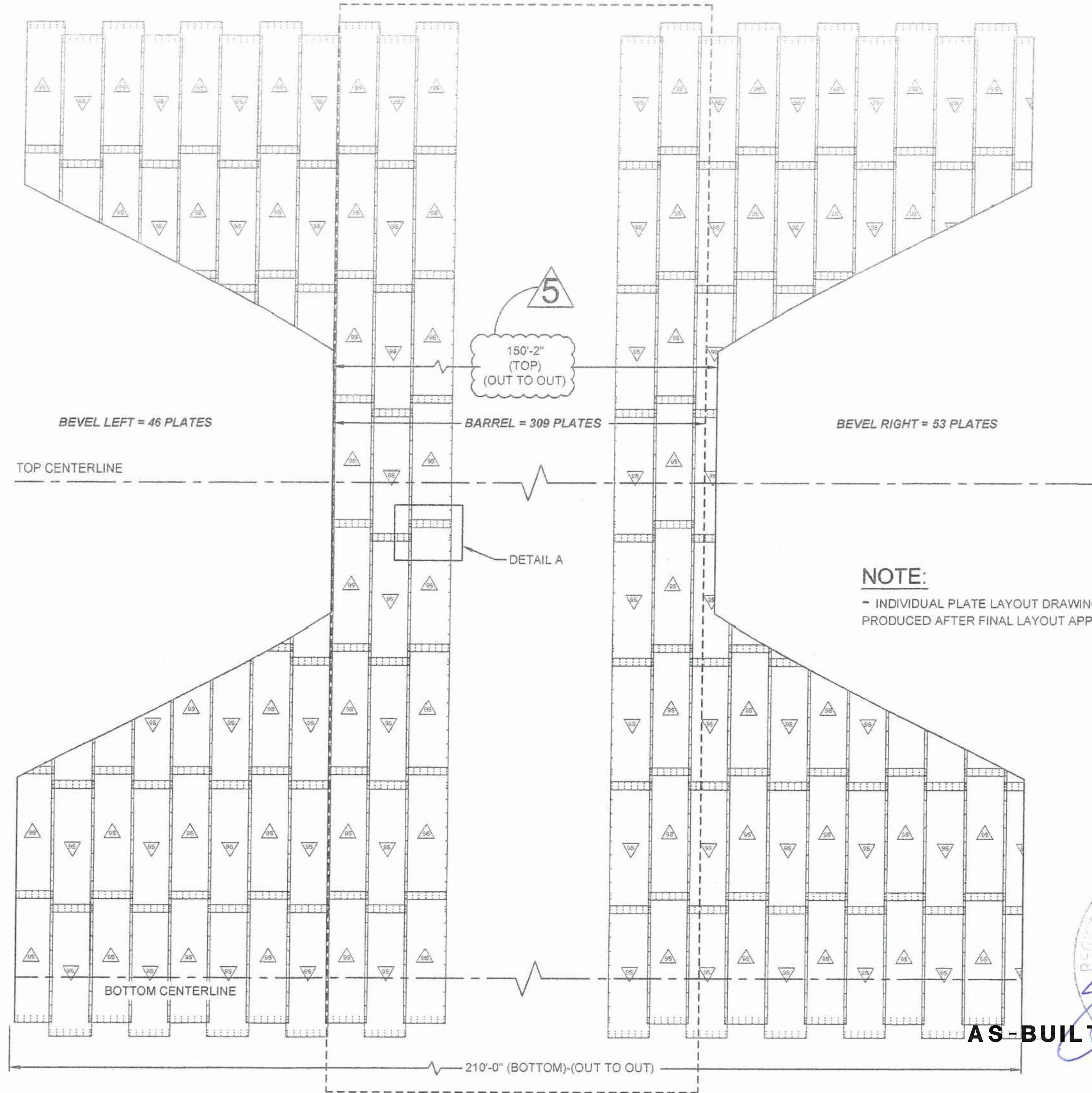
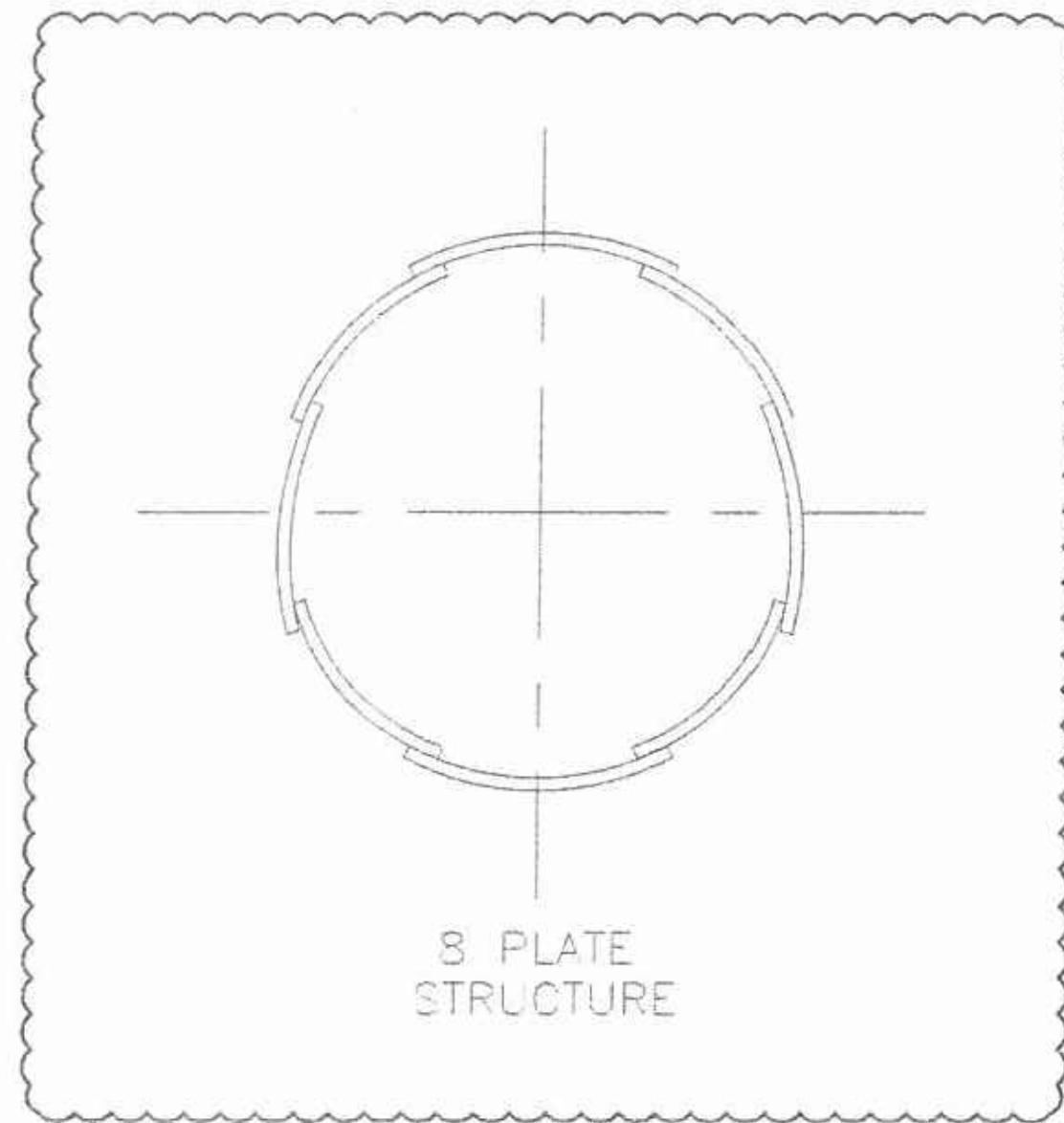
DETAIL "A"
SCALE: N.T.S.

LEGEND: (TYPICAL FOR ALL LOCATIONS)

Ø = LONGITUDINAL-INTERNAL 1 3/4" LONG BOLT

● = 3-PLATE LAP JOINT 3" LONG

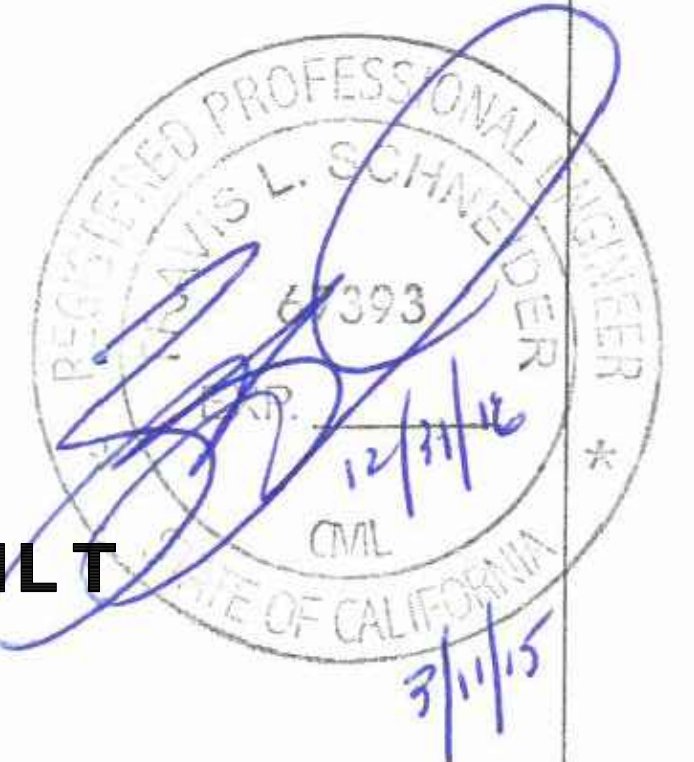
△ = CIRCUMFERENTIAL 2" LONG



NOTE:

INDIVIDUAL PLATE LAYOUT DRAWINGS TO BE PRODUCED AFTER FINAL LAYOUT APPROVAL.

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Date: 01/21/2017



(PROFILE #1) BRIDGECOR 30'-1"Ø ROUND PLATE LAYOUT (INSIDE VIEW) SCALE: N.T.S. PRE-447263-001-BCORR-PRE-F-PROFILE END PLAN LINE WORK DWG

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4	1/29/2015	ADD. BACKFILL ZONE DETAIL.	SCC
3	1/7/2015	REVISED PLATE LAYOUT AND NOTATIONS	SCC
2	12/9/2014	REVISED NOTES	SCC
1	12/8/2014	REVISED PROFILES/ELEVATIONS	SCC

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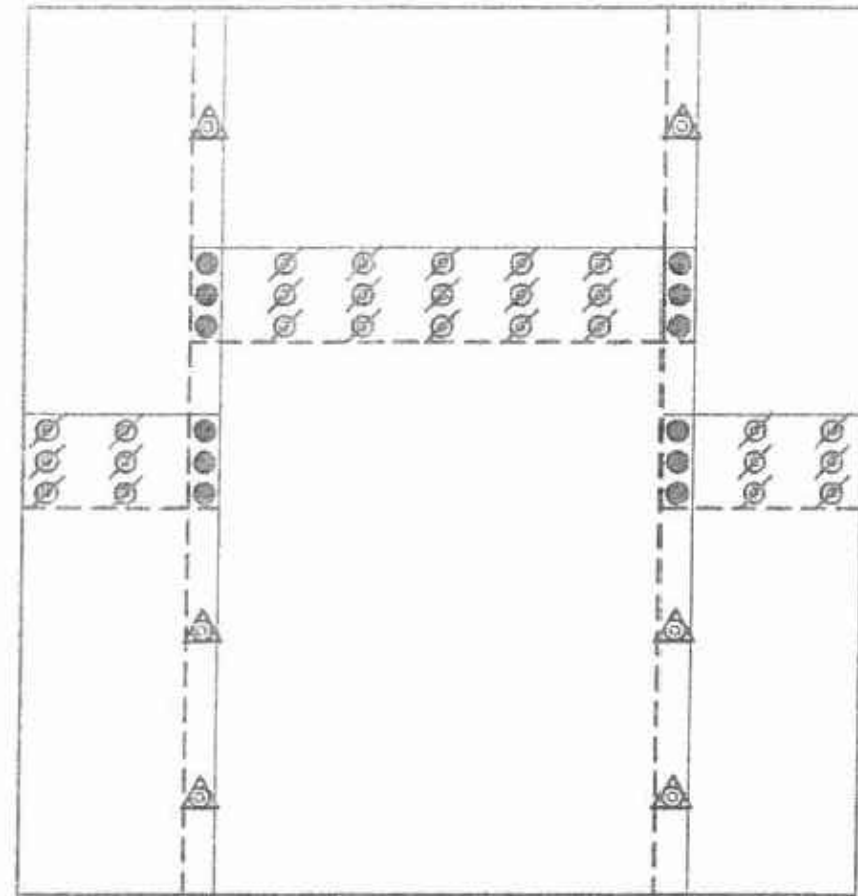
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PROJECT No:	SEQ. No:	DATE:
447263	001	11/6/2014
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SHEET NO:	2	OF 9

1:MERLINPROJECT\ACTIVE\NEW\47263\47263-1-SUPERSANDRAWINGS\PROFILES\PRE-447263-001-BCORR-PRE-F-PROFILE END PLAN LINE WORK DWG.DWG 2/24/2015 10:15 AM



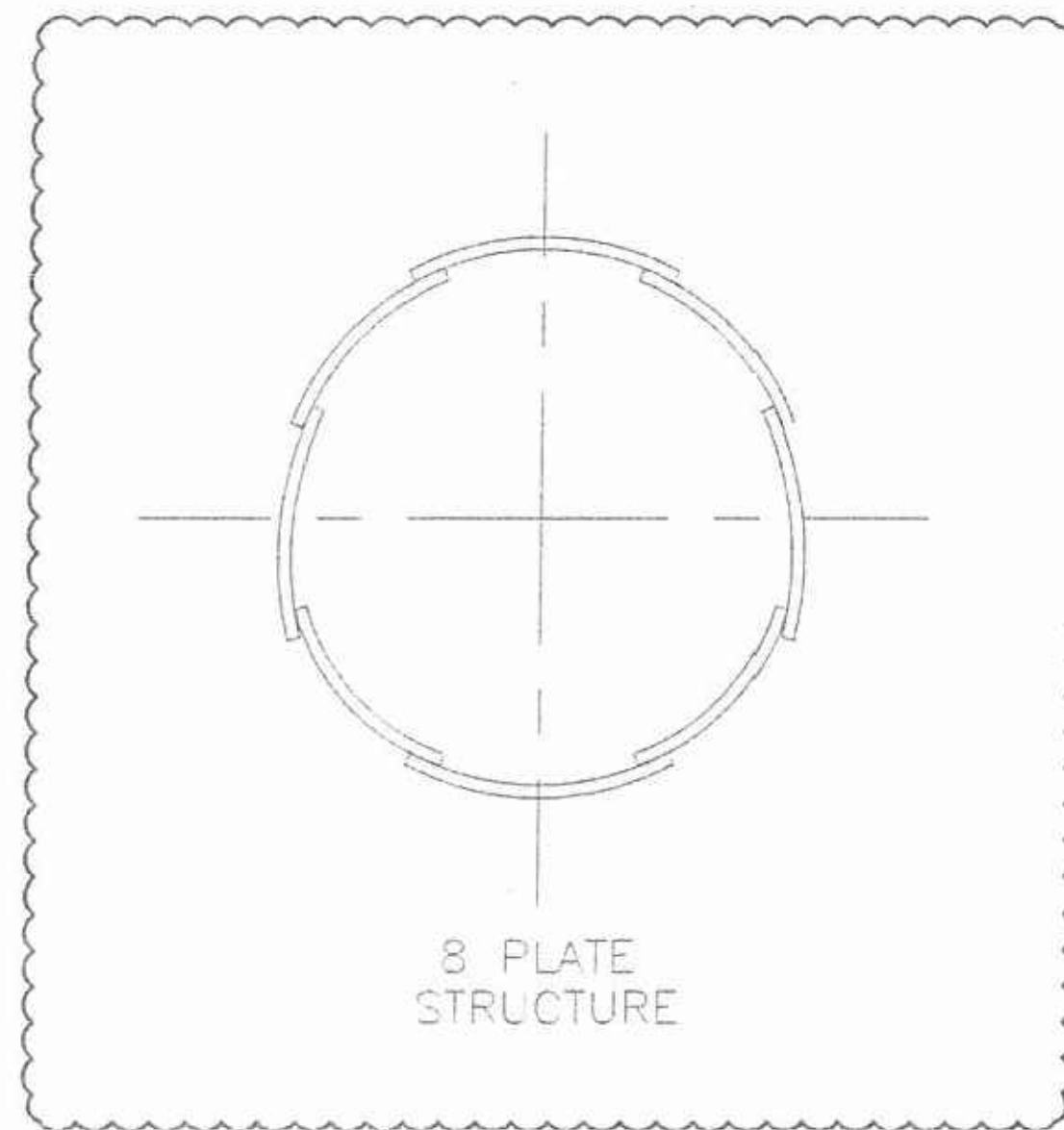
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LEGEND: (TYPICAL FOR ALL LOCATIONS)

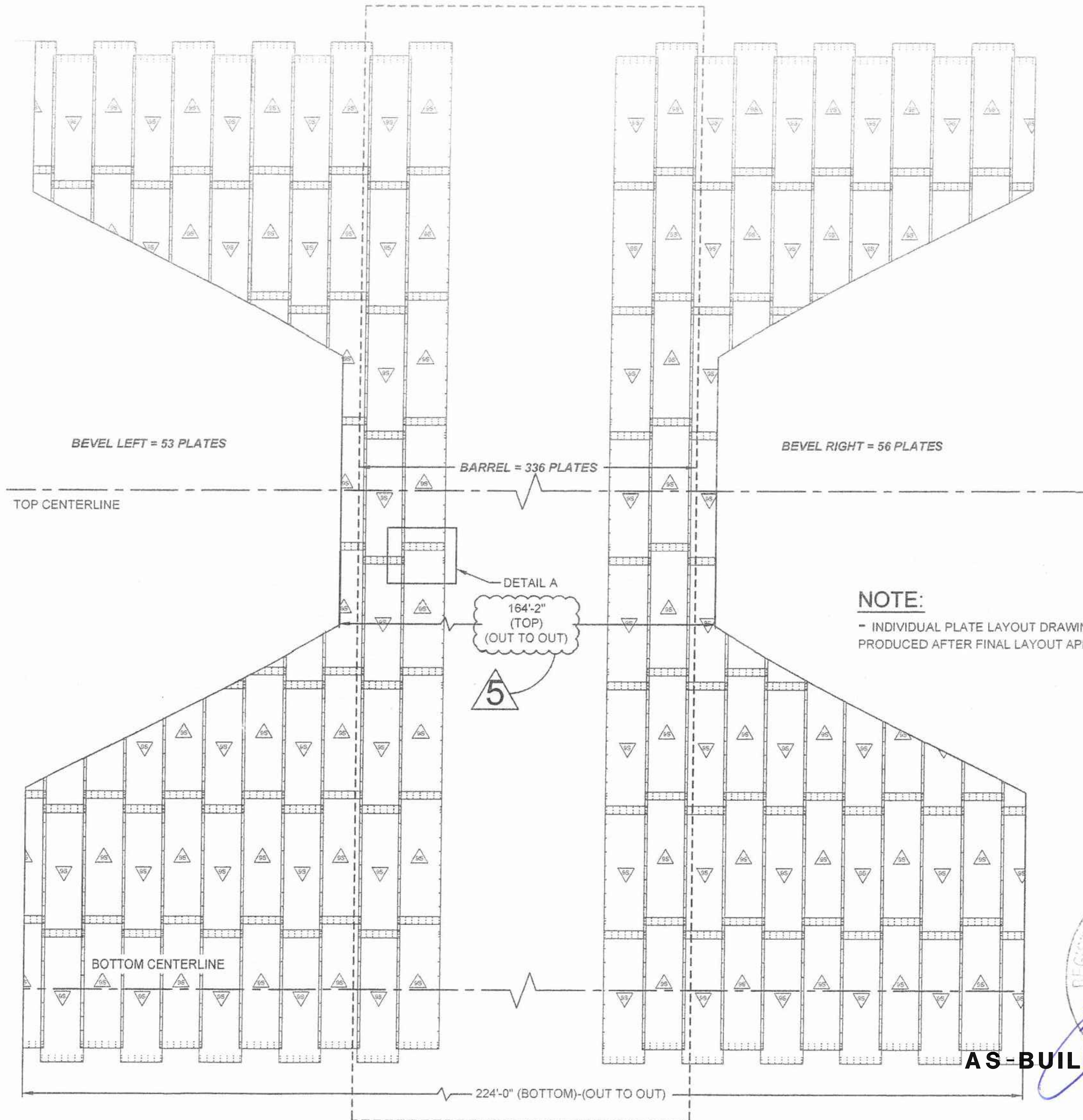
Ø = LONGITUDINAL-INTERNAL 1 3/4" LONG BOLT

● = 3-PLATE LAP JOINT 3" LONG

△ = CIRCUMFERENTIAL 2" LONG



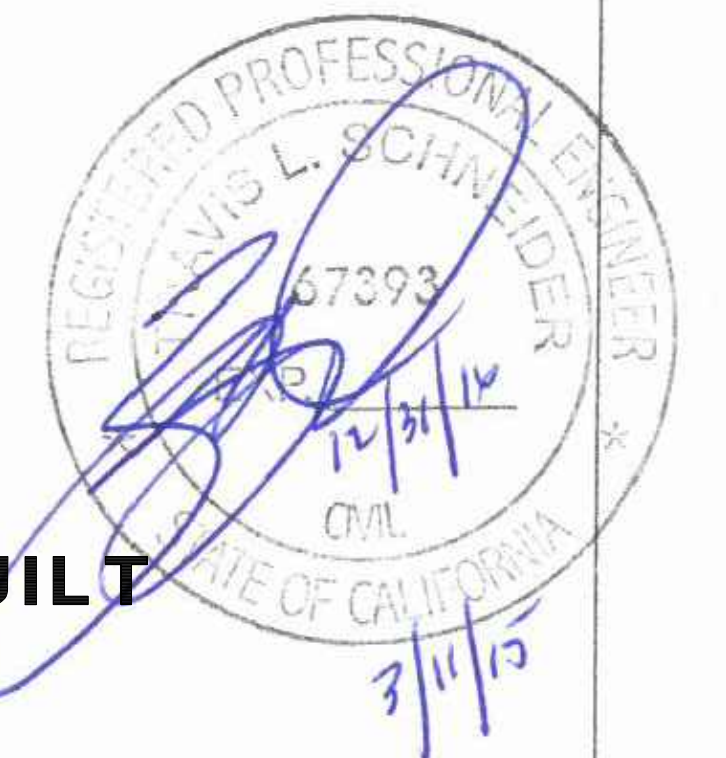
5



NOTE:

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Date: 01/21/2017



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(PROFILE #2) BRIDGECOR 30'-1"Ø ROUND PLATE LAYOUT (INSIDE VIEW)

SCALE: N.T.S. PRE-447263-001-BCORR-PRE-F-PROFILE END PLAN LINE WORK DWG

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4	1/29/2015	ADD. BACKFILL ZONE DETAIL.	SCC
3	1/7/2015	REVISED PLATE LAYOUT AND NOTATIONS	SCC
2	12/9/2014	REVISED NOTES	SCC
1	12/8/2014	REVISED PROFILES/ELEVATIONS	SCC

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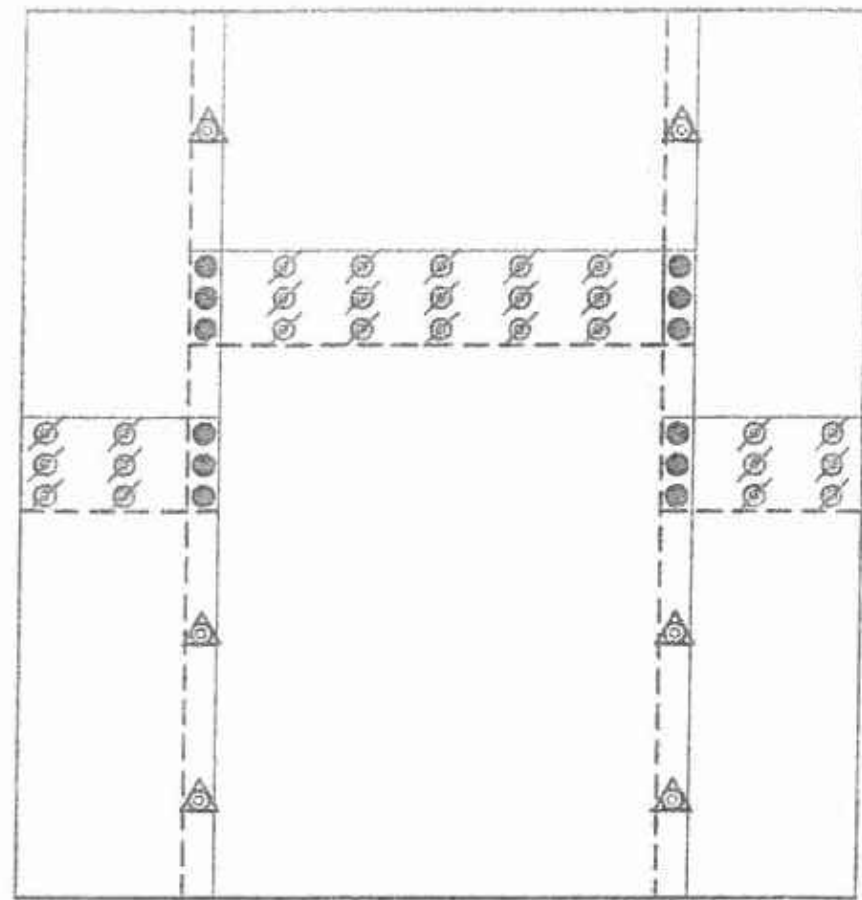
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PROJECT No:	SEQ No:	DATE:
447263	001	11/6/2014
DESIGNED:	DRAWN:	
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SRT	XXX	
SHEET NO:	3	OF 9

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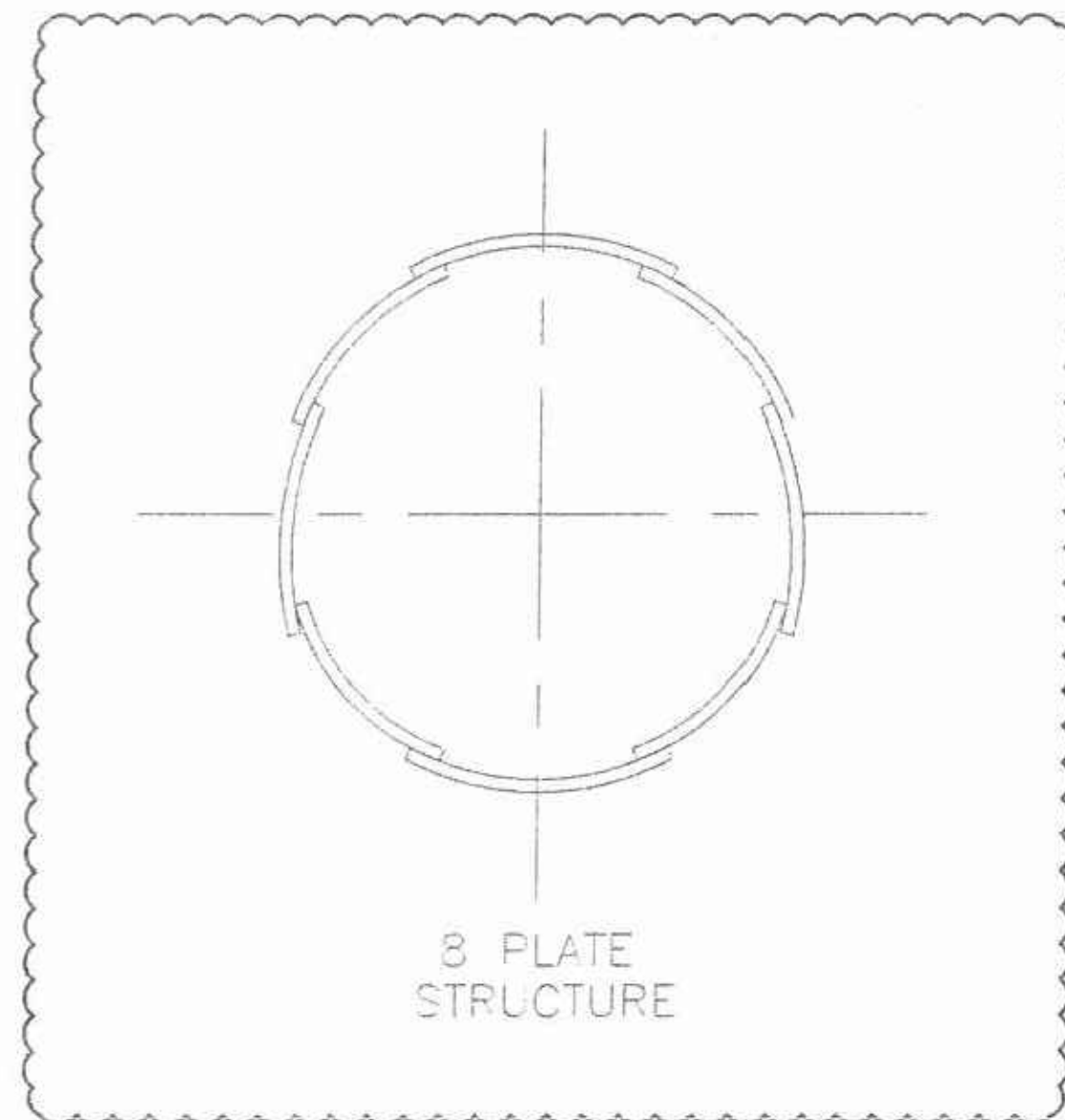
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SCALE: N.T.S.

LEGEND: (TYPICAL FOR ALL LOCATIONS)

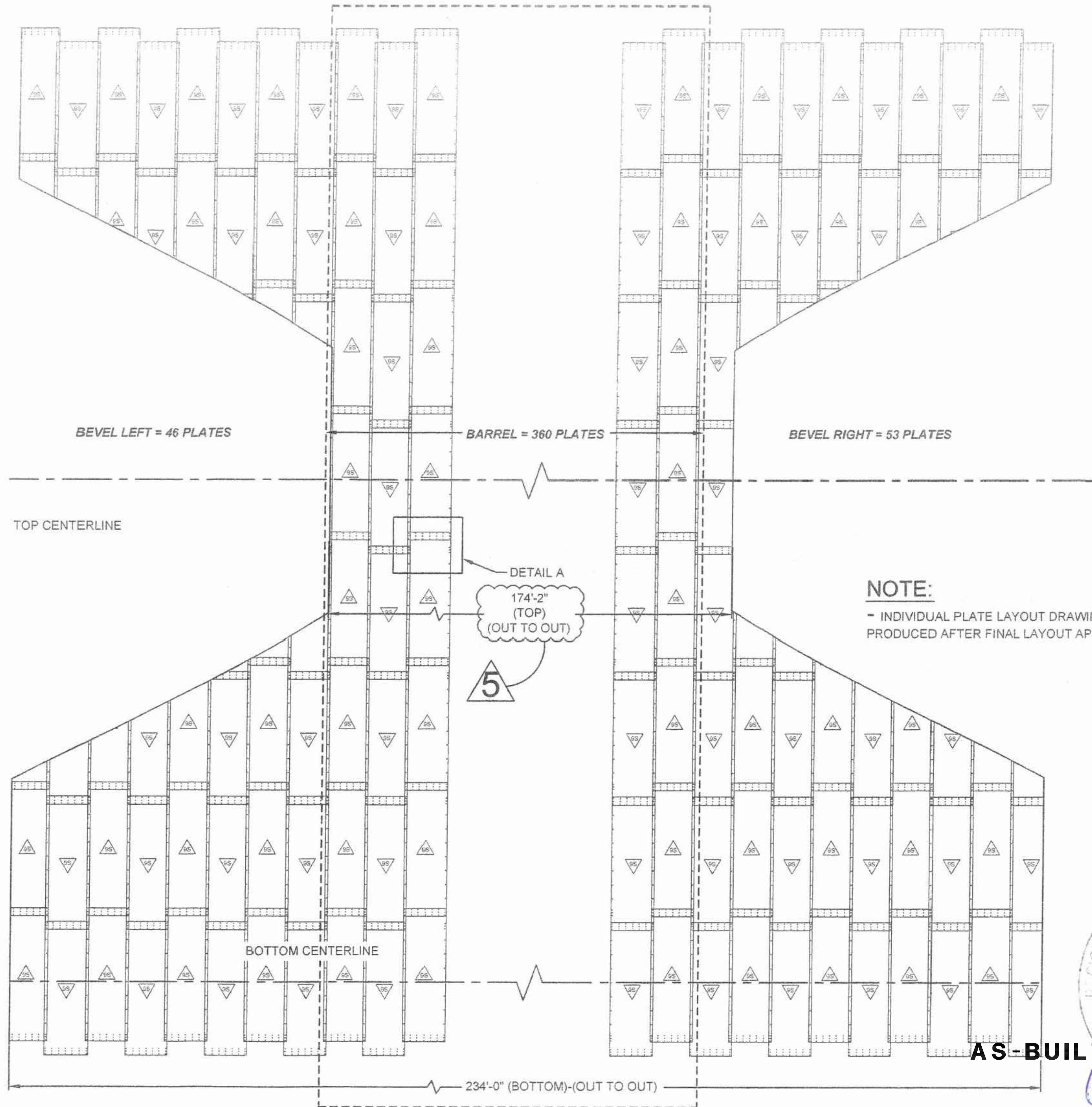
Ø = LONGITUDINAL-INTERNAL 1 3/4" LONG BOLT

● = 3-PLATE LAP JOINT 3" LONG

△ = CIRCUMFERENTIAL 2" LONG



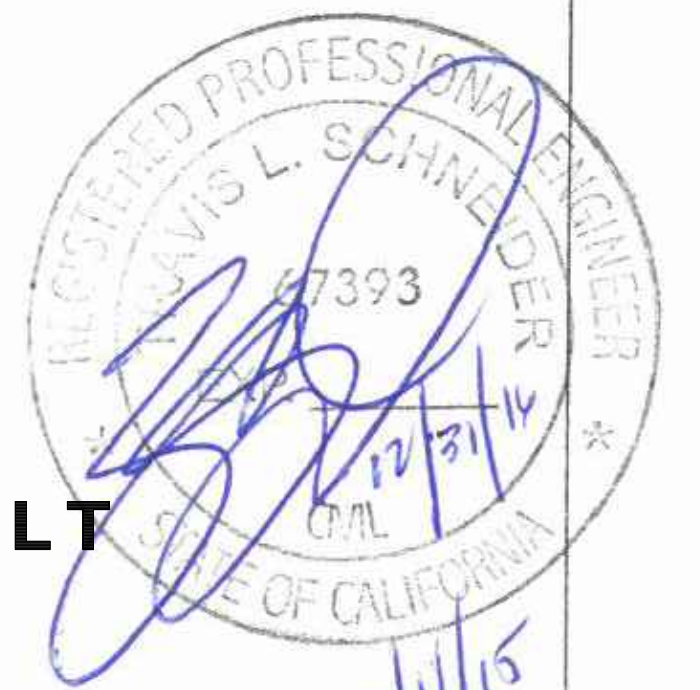
5



NOTE:

- INDIVIDUAL PLATE LAYOUT DRAWINGS TO BE PRODUCED AFTER FINAL LAYOUT APPROVAL.

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Date: 01/21/2017



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(PROFILE #3) BRIDGECOR 30'-1"Ø ROUND PLATE LAYOUT (INSIDE VIEW) SCALE: N.T.S. PRE-447263-001-BCORR-PRE-F-PROFILE END PLAN LINE WORK DWG

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4	1/29/2015	ADD. BACKFILL ZONE DETAIL	SCC
3	1/7/2015	REVISED PLATE LAYOUT AND NOTATIONS	SCC
2	12/9/2014	REVISED NOTES	SCC
1	12/8/2014	REVISED PROFILES/ELEVATIONS	SCC

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SAN CLEMENTE, CA

PROJECT No.: 447263	SEQ No.: 001	DATE: 11/6/2014
DESIGNED: XXX	DRAWN: SCC	
CHECKED: SRT	APPROVED: XXX	
SHEET NO.: 4	OF 9	

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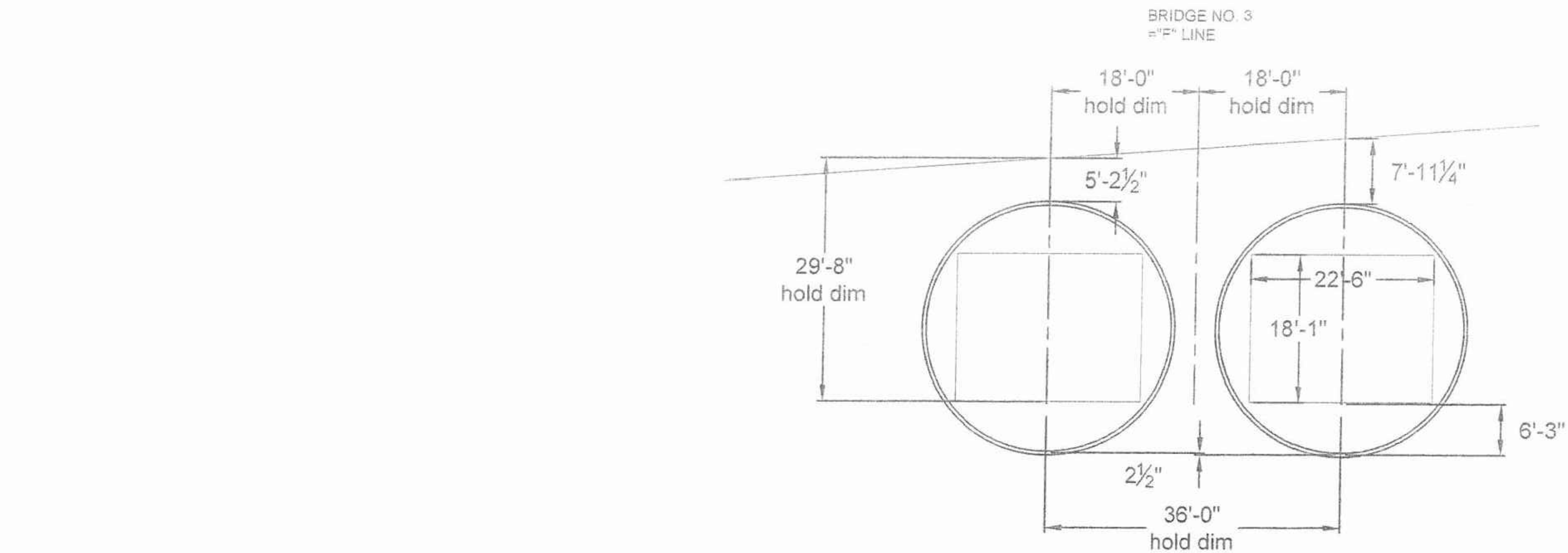
MARK	DATE	REVISION DESCRIPTION	BY
5	2/24/2015	REVISIONS PER EOR COMMENTS	SCC
4	1/29/2015	ADD. BACKFILL ZONE DETAIL	SCC
3	1/7/2015	REVISED PLATE LAYOUT AND NOTATIONS	SCC
2	12/9/2014	REVISED NOTES	SCC
1	12/8/2014	REVISED PROFILES/ELEVATIONS	SCC

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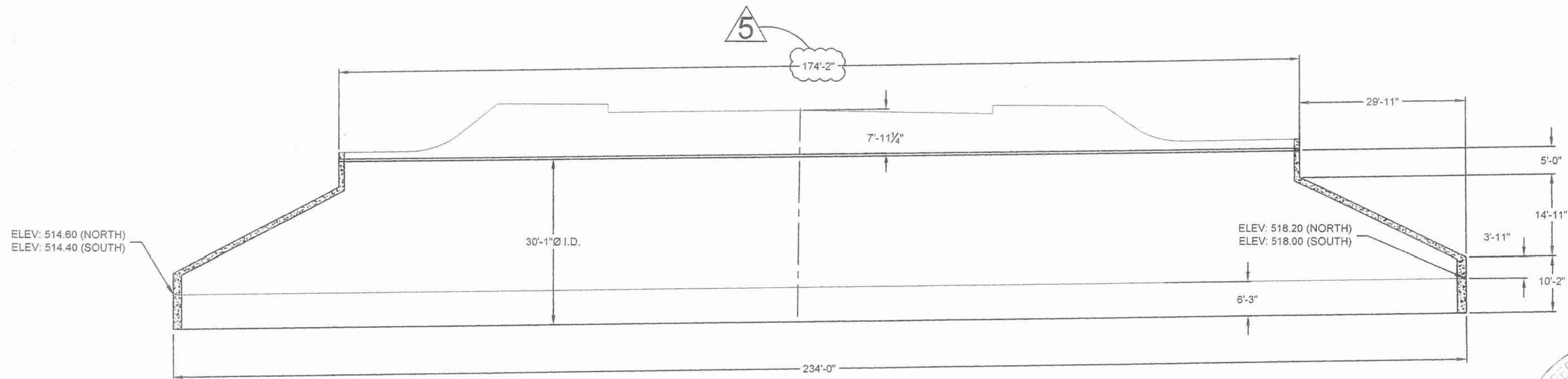
LA PATA AVENUE GAP
SAN CLEMENTE, CA

PROJECT No.	SEQ. No.	DATE
447263	001	11/6/2014
DESIGNED:	XXX	SCC
CHECKED:	SRT	APPROVED: XXX
SHEET NO.	5	OF 9



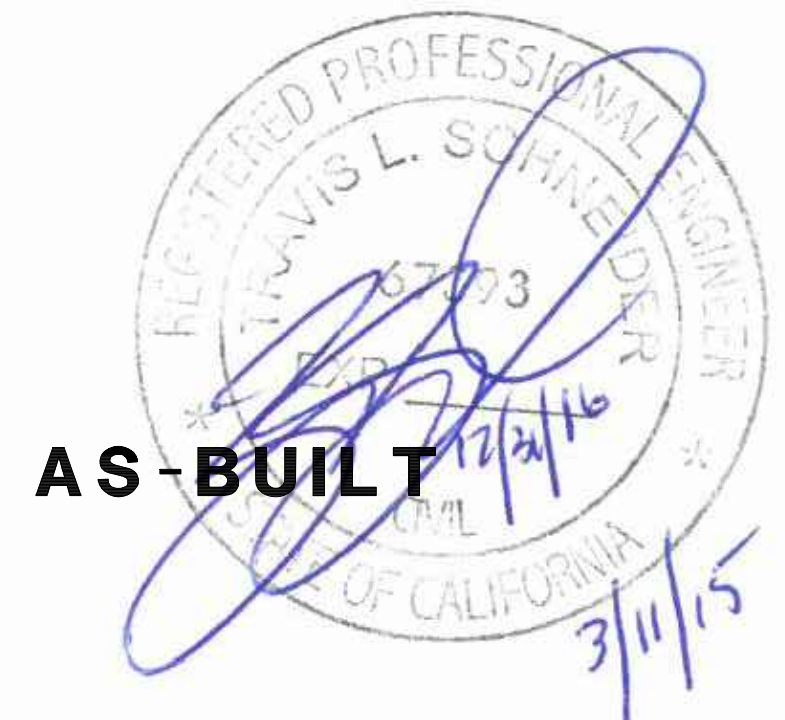
NOTES:

- 1) FOR DETAILS NOT SHOWN, SEE CONTRACT PLAN SHEET 255.
- 2) ADJUST CONCRETE HEADWALL, COLLAR, WINGWALLS, CURBS, ROADWAY FILL, PERFORATED PIPE DRAIN AND OTHER ELEMENTS NOT SHOWN TO FIT THE DCSP STRUCTURE.
- 3) FOR DETAILS OF CONCRETE COLLAR AND HEADWALL, SEE SHEET 257.
- 4) CONSTRUCTION SEQUENCING TO BE COVERED IN PRECONSTRUCTION MEETINGS.
- 5) ROADWAY ELEVATIONS FOR THE SOUTHERLY OPERATIONS EQUIPMENT ACCESS ROAD ARE FROM PLAN SHEET ST-34.



PROFILE STA 126+15.34 (XS-37)
SCALE: 1" = 20'-0"

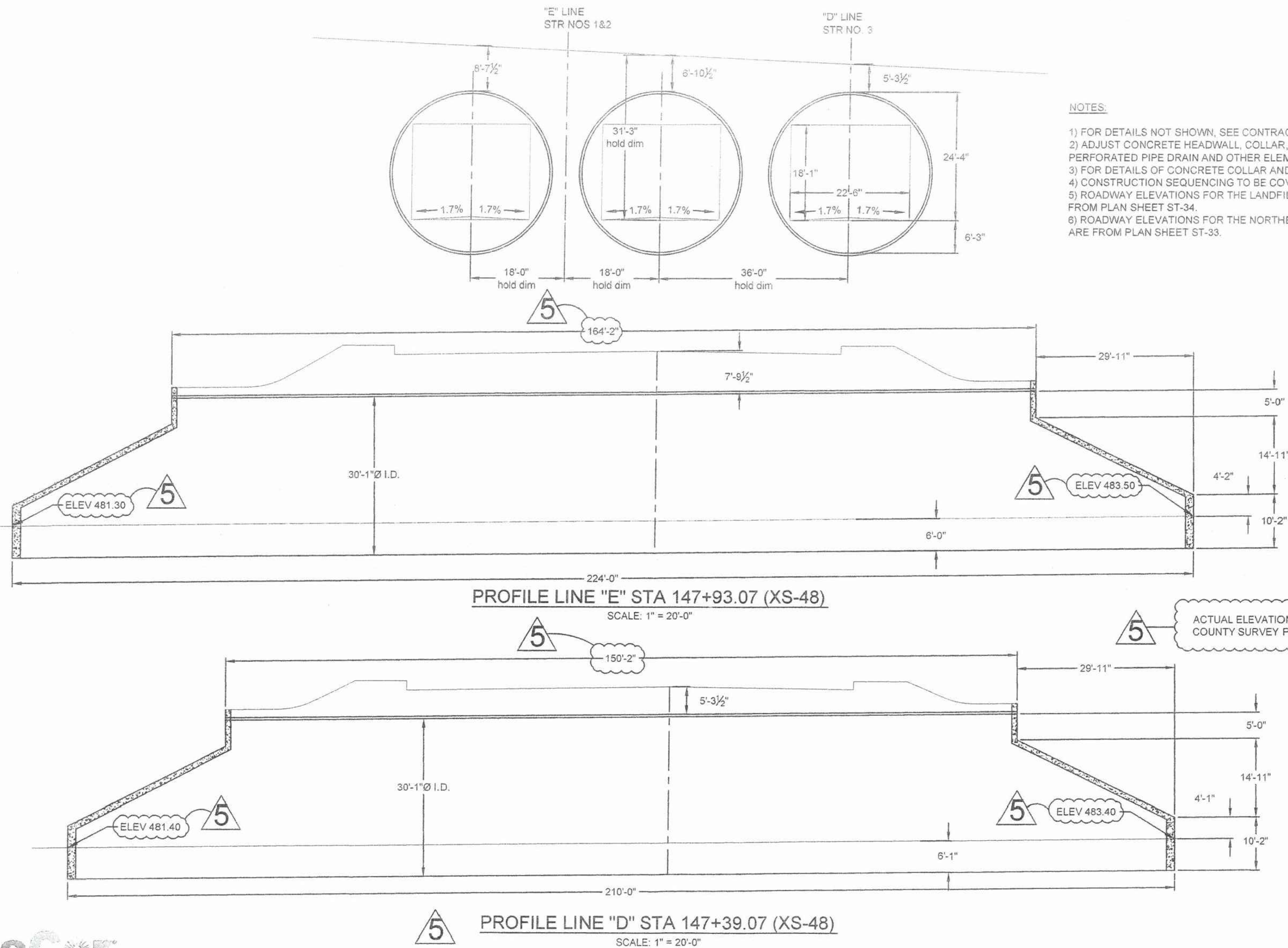
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RE/SR: K. TRAN
Date: 01/21/2017



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PRE-447263-001-BCORR-PRE-F-PROFILE END PLAN LINE WORK DWG

1:WATERLINE PROJECT/ACT/VIEW/47200/447203/447203-1-SUPERSPANDRAVING/50/PROPOSAL/47203-001-BCORR-PRE-F-PROFILE END PLAN LINE WORK DWG.DWG 2/24/2015 10:15 AM



NOTES:

- 1) FOR DETAILS NOT SHOWN, SEE CONTRACT PLAN SHEET 248.
- 2) ADJUST CONCRETE HEADWALL, COLLAR, WINGWALLS, CURBS, ROADWAY FILL, PERFORATED PIPE DRAIN AND OTHER ELEMENTS NOT SHOWN TO FIT THE DCSP STRUCTURE.
- 3) FOR DETAILS OF CONCRETE COLLAR AND HEADWALL, SEE SHEET 250.
- 4) CONSTRUCTION SEQUENCING TO BE COVERED IN PRECONSTRUCTION MEETINGS.
- 5) ROADWAY ELEVATIONS FOR THE LANDFILL AND REFUSE TRUCK ACCESS ROAD ARE FROM PLAN SHEET ST-34.
- 6) ROADWAY ELEVATIONS FOR THE NORTHERLY OPERATIONS EQUIPMENT ACCESS ROAD ARE FROM PLAN SHEET ST-33.

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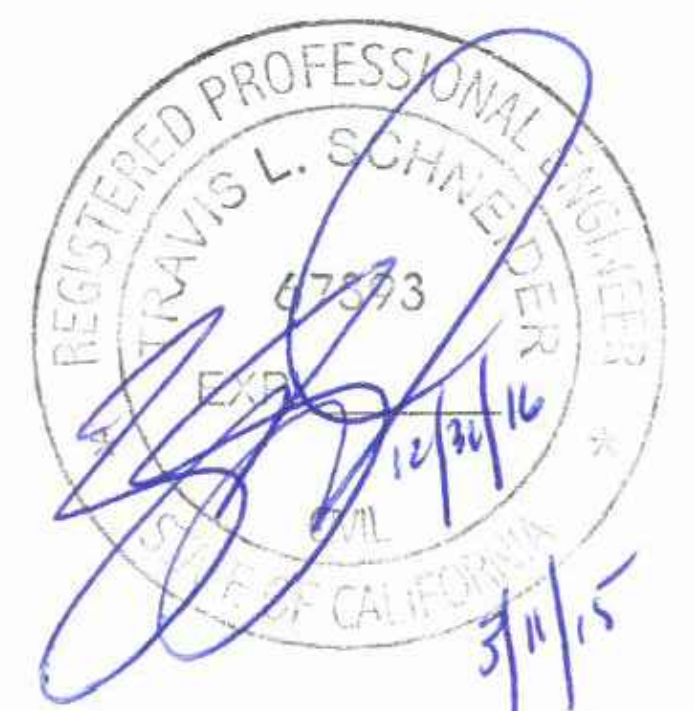
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4	1/29/2015	ADD. BACKFILL ZONE DETAIL.	SCC
3	1/7/2015	REVISED PLATE LAYOUT AND NOTATIONS	SCC
2	12/9/2014	REVISED NOTES	SCC
1	12/8/2014	REVISED PROFILES/ELEVATIONS	SCC

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PROJECT No.	447263	SEQ. No.	001	DATE:	11/6/2014
DESIGNED:	XXX	DRAWN:	SCC	CHECKED:	SRT
CHECKED:	SRT	APPROVED:	XXX	SHEET NO:	6 OF 9

SPECIFICATIONS FOR MANUFACTURE AND INSTALLATION OF CONTECH BRIDGECOR ROUND STRUCTURE

I - GENERAL

1.0 STANDARDS AND DEFINITIONS

- 1.1 STANDARDS - All standards refer to latest edition unless otherwise noted.
- 1.1.1 ASTM A-761 "Corrugated Steel Structural Plate, Zinc Coated for Field-Bolted Pipe, Pipe-Arches and Arches" (AASHTO Designation M-167).
- 1.1.2 AASHTO LRFD Design Specification for Highway Bridges - Section 12.
- 1.1.3 AASHTO LRFD Construction Specification for Highway Bridges - Section 26.
- 1.2 DEFINITIONS
- 1.2.1 Engineer - In these specifications the word "Engineer" shall mean the Engineer of Record or Owner's designated engineering representative.
- 1.2.2 Manufacturer - In these specifications the word "Manufacturer" shall mean CONTECH Engineered Solutions, LLC 800-338-1122
- 1.2.3 Contractor - In these specifications the word "Contractor" shall mean the firm or corporation undertaking the execution of any installation work under the terms of these specifications.
- 1.2.4 Approved - In these specifications the word "approved" shall refer to the approval of the Engineer or his designated representative.
- 1.2.5 As Directed - In these specifications the words "as directed" shall refer to the directions to the Contractor from the Owner or his designated representative.

2.0 GENERAL CONDITIONS

- 2.1 The Contractor shall furnish all labor, material and equipment and perform all work and services except those set out and furnished by the Owner, necessary to complete in a satisfactory manner the site preparation, excavation, filling, compaction, grading as shown on the plans and as described herein. This work shall consist of all mobilization clearing and grubbing, stripping, removal of existing material unless otherwise stated, preparation of the land to be filled, filling of the land, spreading and compaction of the fill, and all subsidiary work necessary to complete the grading of the cut and fill areas to conform with the lines, grades, slopes, and specifications. This work is to be accomplished under the observation of the Owner or his designated representative.
- 2.2 Prior to bidding the work, the Contractor shall examine, investigate and inspect the construction site as to the nature and location of the work, and the general and local conditions at the construction site, including without limitation, the character of surface or subsurface conditions and obstacles to be encountered on and around the construction site and shall make such additional investigation as he may deem necessary for the planning and proper execution of the work.
- If conditions other than those indicated are discovered by the Contractor, the Owner shall be notified immediately. The material which the Contractor believes to be a changed condition shall not be disturbed so that the owner can investigate the condition.
- 2.3 The construction shall be performed under the direction of the Engineer.
- 2.4 All aspects of the structure design and site layout including foundations, backfill, end treatments and necessary scour consideration shall be performed by the Engineer.
- Any installation guidance provided herein shall be endorsed by the Engineer or superseded by the Engineer's plans and specifications.

II - CONTECH BRIDGECOR ROUND PIPE STRUCTURE

1.0 GENERAL

- 1.1 Manufacturer shall fabricate the Round Pipe as shown on the plans. Fabrication shall conform to the requirements of ASTM A-761 and shall consist of plates, fasteners, and appurtenant items.
- Plate thickness, end treatment and type of invert and foundation shall be as indicated on the plans. All manufacturing processes including corrugating, punching, curving and required galvanizing shall be performed within the United States of America.
- 1.2 The contractor shall verify all field dimensions and conditions prior to ordering materials.

2.0 DIMENSIONS

- 2.1 The proposed structure shall be a CONTECH BRIDGECOR (72) with the following dimensions:
- Span (Diameter): 30'-1"
- Gage: 8
- 2.2 All plan dimensions on the contract drawings are measured in a true horizontal plan unless otherwise noted.

3.0 ASSEMBLY AND INSTALLATION

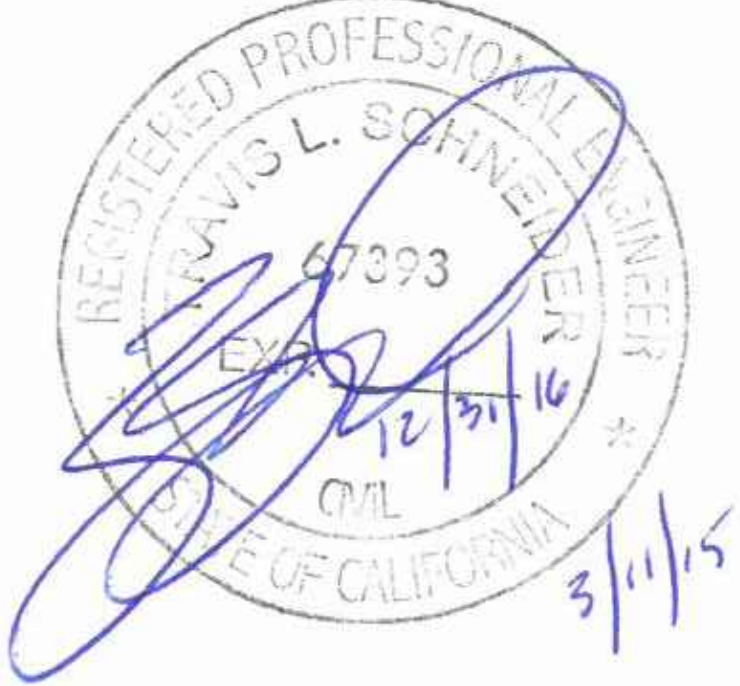
- 3.1 Bolts and nuts shall conform to the requirements of ASTM A-449. The CONTECH BRIDGECOR Round Pipe shall be assembled in accordance with the plate layout drawings provided by the manufacturer and per the manufacturer's recommendations.
- Bolts shall be tightened using an applied torque of between 100 and 300 ft.-lbs.
- 3.2 The 72S Round Pipe shall be installed in accordance with the plans and specifications, special provisions, the manufacturer's recommendations, and AASHTO LRFD Specification for Highway Bridges - Section 26.
- 3.3 Trench excavation shall be made in embankment material that is structurally adequate. The trench width shall be shown on the plans. Poor quality in situ embankment material must be removed and replaced with suitable backfill as directed by the Engineer.
- 3.4 Bedding preparation is critical to both structure performance and service life. The bed should be constructed to uniform line and grade to avoid distortions that may create undesirable stresses in the structure and/or rapid deterioration of the roadway. The bed should be free of rock formations, protruding stones, frozen lumps, roots, and other foreign matter that may cause unequal settlement.
- 3.5 Adequate soil bearing capacity or strength shall be provided to the Engineer. Foundation details shall be provided by the Engineer.
- 3.6 The structure shall be assembled in accordance with the Manufacturer's instructions. All plates shall be unloading and handled with reasonable care. Plates shall not be rolled or dragged over gravel rock and shall be prevented from striking rock or other hard objects during placement in trench or on bedding.
- The structure shell shall be assembled on the invert starting at the outlet end. Circumferential seams shall be installed with the plate laps shingled downstream as viewed from the inside of the structure.
- The structure shall be backfilled using clean well graded granular material that meets the requirements of AASHTO M-145 for soil classifications A-1.
- Backfill must be placed symmetrically on each side of the structure in 6 to 8 inch loose lifts. Each lift shall be compacted to a minimum of 90 percent density per AASHTO T-180
- 3.7 Construction loads that exceed highway load limits are not allowed to cross the structure without approval from the Engineer.
- Normal highway traffic is not allowed to cross the structure until the structure has been backfilled and paved. If the road is unpaved, cover allowance to accommodate rutting shall be as directed by the Engineer.



GROUP CLASSIFICATION	A-1-a	A-1-b
Sieve Analysis Percent Passing		
No. 10 (2.000 mm)	50 max.	----
No. 40 (0.425 mm)	30 max.	50 max.
No. 100 (0.150 mm)	----	----
No. 200 (0.075 mm)	15 max.	25 max.
Atterberg Limits for Fraction Passing No., 40 (0.425 mm)		
Liquid Limits	----	----
Plasticity Index	6 max.	6 max.
Usual Materials	Stone Fragment, Gravel and Sand	

NOTE: Atterberg Limits are modified to provide material that are primarily granular
* Fine beach sands, windblown sands, stream deposited sands, etc., exhibiting fine, rounded particles excluded.

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RE/SR: K. TRAN
Date: 01/21/2017



PRE-447263-001-BCORR-PRE-F-PROFILE END PLAN LINE WORK DWG

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3	1/7/2015	REVISED PLATE LAYOUT AND NOTATIONS	SCC
2	12/9/2014	REVISED NOTES	SCC
1	12/8/2014	REVISED PROFILES/ELEVATIONS	SCC

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PROJECT No. 447263	SEQ. No. 001	DATE 11/6/2014
DESIGNED: XXX	DRAWN: SCC	
CHECKED: SRT	APPROVED: XXX	
SHEET NO. 9	OF 9	