

**WARNING:** ALL INDIVIDUALS INTERESTED IN BIDDING ON THIS PROJECT MUST OBTAIN THE FINAL PLANS AND SPECIFICATIONS FROM THE DEPARTMENT MANAGING THE PROJECT OR AS OTHERWISE STATED IN THE ADVERTISEMENT FOR BIDS FOR THE PROJECT. DO NOT USE THE PLANS AND SPECIFICATIONS POSTED ON THE CLERK OF THE BOARD'S WEBSITE FOR BIDDING ON THIS PROJECT.

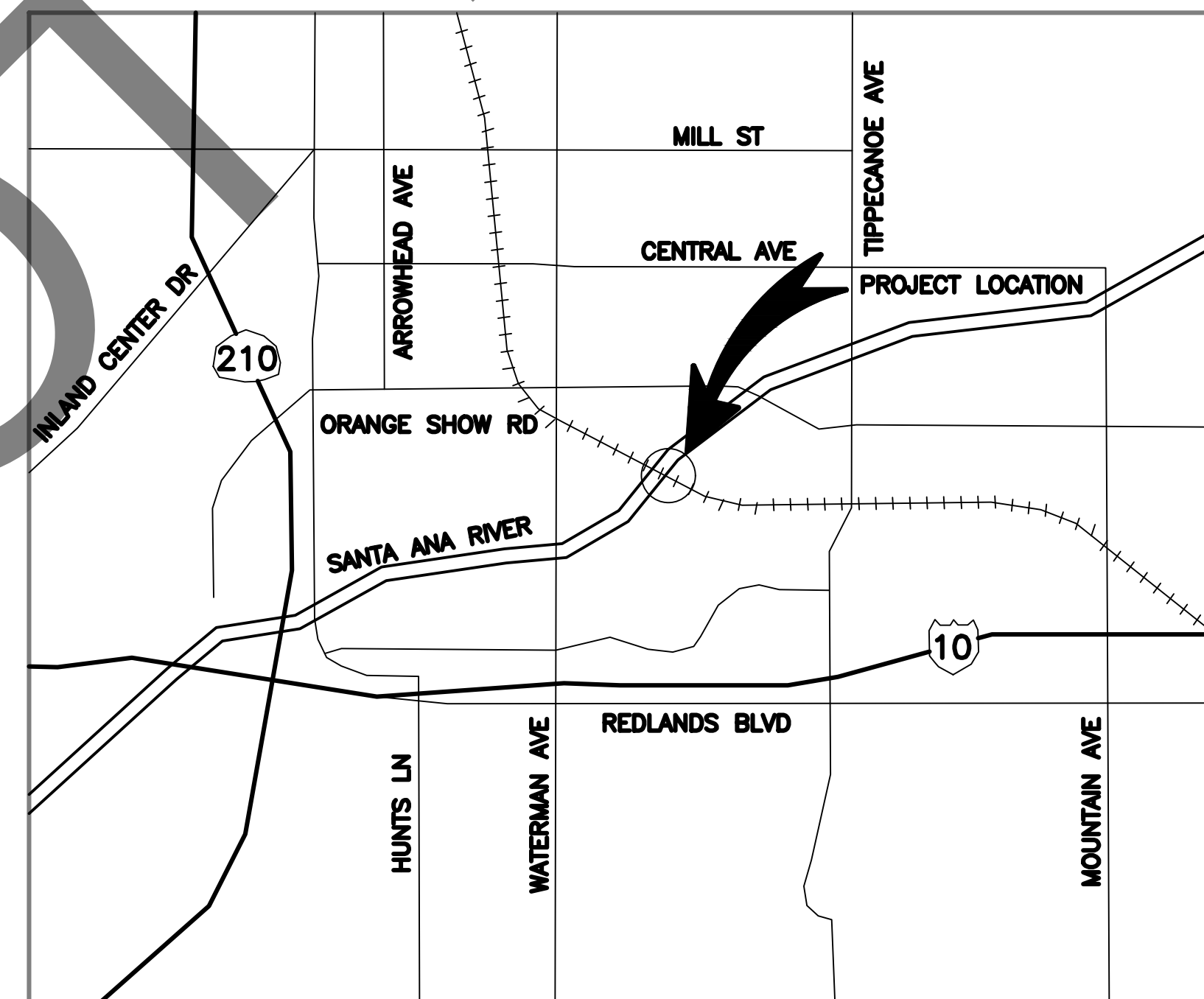
# SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS



## REGIONAL PARKS DEPARTMENT PLANS FOR CONSTRUCTION ON MISSION ZANJA - PEDESTRIAN BRIDGE WITHIN THE LIMITS OF SANTA ANA RIVER TRAIL PHASE III CITY OF SAN BERNARDINO AREA

WORK ORDER NO. H13463

LENGTH = 0.17 MILES



LOCATION MAP

NOT TO SCALE

SAN BERNARDINO COUNTY

APPROVED BY:

*Noel Castillo*  
NOEL CASTILLO, P.E., DIRECTOR OF PUBLIC WORKS R.C.E. 78044

7/25/24

DATE

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		
FIELD CHANGES		SHT. NO.	TOT. SHT'S.
		1	10

INDEX OF SHEETS

- 1 TITLE SHEET
- 2 PROJECT NOTES, LEGENDS, INDEX MAP, INDEX OF SHEETS
- 3 DETAIL SHEET
- 4 PLAN AND PROFILE
- 5 SECTION SHEET
- 6 SIGNING AND STRIPING PLAN
- 7 BRIDGE REFERENCE DETAIL
- 8-10 STRUCTURAL SHEET

TO BE SUPPLEMENTED BY THE FOLLOWING  
CALTRANS STANDARD PLANS DATED 2023:

B3-7A

TO BE SUPPLEMENTED BY THE FOLLOWING  
SCRRA METROLINK ENGINEERING STANDARDS:

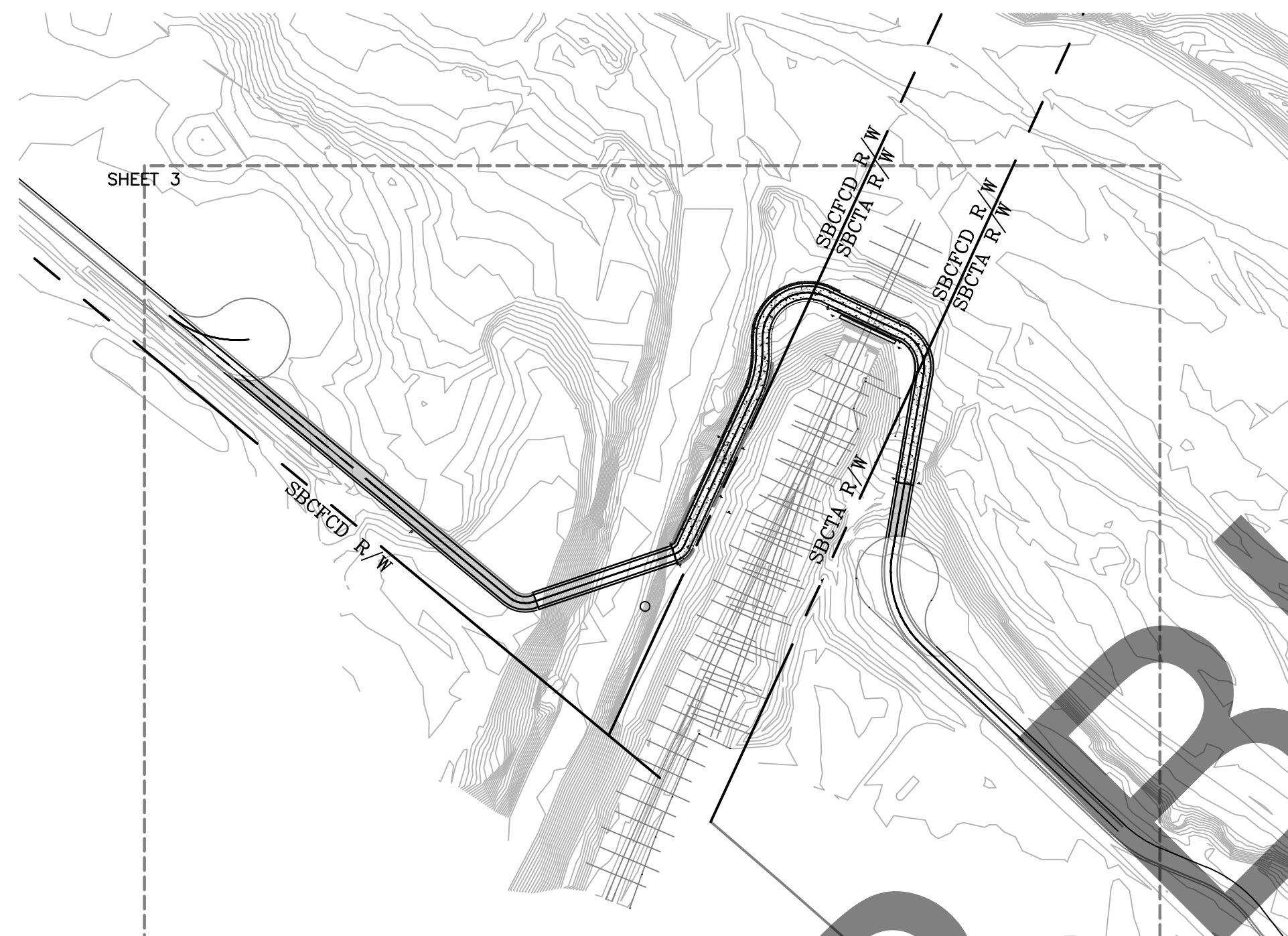
ES5105  
ES5214-01

TO BE SUPPLEMENTED BY THE FOLLOWING  
CA MUTCD 2014:

2C-5	2C-13(CA)	9B-1	9B-2(CA)
9B-2	9B-3	9B-4	9C-2
9C-1	CR30A		

TO BE SUPPLEMENTED BY THE FOLLOWING  
SAN BERNARDINO COUNTY STANDARDS:

303B



INDEX MAP

ABBREVIATIONS LEGEND:

- AC = ASPHALT CONCRETE
- AP = ANGLE POINT
- AVE = AVENUE
- BEG = BEGINNING
- BOF = BOTTOM OF FOOTING
- BCR = BEGIN CURB RETURN
- BPR = BEGIN PAVEMENT RETURN
- C&G = CURB AND GUTTER
- CL = CENTER LINE
- CLF = CHAIN LINK FENCE
- DR = DRIVE
- DW = DRIVEWAY
- DWG = DRAWING
- ECR = END OF CURB RETURN
- EG = EXISTING GRADE
- EL = ELEVATION
- EP = EDGE OF PAVEMENT
- EPR = END OF PAVEMENT RETURN
- EXIST = EXISTING
- FCD = FLOOD CONTROL DISTRICT
- FG = FINISHED GRADE
- FH = FIRE HYDRANT
- FL = FLOW LINE
- GW = GUY WIRE
- H = HEIGHT
- LT = LEFT
- MAX = MAXIMUM
- MB = MAILBOX
- MIN = MINIMUM
- NTS = NOT TO SCALE
- PEC = PERMIT TO ENTER AND CONSTRUCT
- PI = POINT OF INTERSECTION
- PL = PROPERTY LINE
- PP = POWER POLE
- RT = RIGHT
- RR = RAILROAD
- RSP = ROCK SLOPE PROTECTION
- R/W = RIGHT OF WAY
- SBC = SAN BERNARDINO COUNTY
- SHT = SHEET
- SS = STREET SIGN
- ST = STREET
- STA = STATION
- STD = STANDARD
- SUR = SURVEY
- SDWK = SIDEWALK
- TC = TOP OF CURB
- THK = THICKNESS
- W = WIDTH

CONSTRUCTION LEGEND

- NATURAL GROUND
- PCC PAVEMENT
- PLACE (0.30' THK) HMA OVER (0.35' THK) AB.
- ROCK SLOPE PROTECTION
- RETAINING WALL

CONSTRUCTION NOTES:

- 1 CONSTRUCT TYPE 6A WALL PER CALTRANS STANDARD PLAN B3-7B
- 2 PLACE (0.5' THK) PCC PAVEMENT.
- 3 PLACE (0.30' THK) HMA OVER (0.35' THK) CLASS 2 AGGREGATE BASE
- 4 PLACE 1' GRADED DIRT SHOULDER
- 5 PLACE 2' GRADED DIRT SHOULDER
- 6 REMOVE AND DISPOSE OF EXISTING TREE
- 7 INSTALL CR30A SIGN OR SIMILAR AS REQUIRED BY RAILROAD ALONG FENCE
- 8 INSTALL NO TRESPASSING SIGNS PER ES5214-01
- 9 INSTALL FENCING PER SCRRA ES5105 TYPE A
- 10 PLACE R.S.P. (1/4 TON METHOD A) PER DETAIL ON SHEET 3
- 11 PLACE FILTER FABRIC PER DETAIL ON SHEET 3
- 12 INSTALL WARNING SIGN PER THE CA MUTCD 2014, FIGURE 9B-1, FIGURE 9B-3 AND 2C-1
- 13 PAINT 4" SOLID WHITE EDGE LINE AS SHOWN ON PLAN
- 14 PAINT 4" BROKEN YELLOW LINE PER THE CA MUTCD 2014, FIGURE 9C-2
- 15 PAINT 4" SOLID YELLOW LINE PER THE CA MUTCD 2014, FIGURE 9C-2

THIS PROJECT REQUIRES A CONTRACTOR'S LICENSE  
CLASS "A"

GENERAL NOTES

U. THE FACT THAT ANY UTILITY FACILITY IS SHOWN OR NOT SHOWN UPON THE PLANS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY UNDER SECTION 5-1.36 C "NON-HIGHWAY FACILITIES" OF THE CALTRANS STANDARD SPECIFICATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY, PURSUANT THERETO, TO ASCERTAIN THE LOCATION OF ANY UTILITY FACILITY WHICH MAY BE SUBJECT TO DAMAGE BY REASON OF THE CONTRACTOR'S OPERATIONS.

1. ALL STATIONING NOTES ON PLAN REFER TO THE CL IMP XXXXX ROAD OR SIDE STREET.
2. DIMENSIONS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE CALTRANS STANDARD SPECIFICATIONS.
3. ALL PAVEMENT WIDTH DIMENSIONS SHOWN ON THE PLANS ARE TO THE EDGE OF PAVEMENT OR TO THE TOP OF CURB, UNLESS OTHERWISE NOTED.
4. TRANSITIONS AND WARPING SHALL BE AS SHOWN AND AS DETERMINED BY THE ENGINEER.
5. ASPHALT CONCRETE OVERLAYS SHALL BE FEATHERED TO MEET EXISTING AS SHOWN ON THE PLANS OR AS DETERMINED BY THE ENGINEER.
6. ALL TREES & VEGETATION OUTSIDE THE LIMITS OF EXCAVATION AND EMBANKMENT SLOPE LINES, SHALL BE PROTECTED IN PLACE.

BASIS OF BEARINGS:

BEARINGS AND COORDINATES ARE CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE 5, NAD83, EPOCH 1992.88.

Vertical Datum = NGVD 29

NOT FOR BIDDING

DATE	
APPR.	
REVISIONS	
MARK	
DATE	
APPR.	
REVISIONS	
MARK	

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">MARK</td> <td style="width: 50%;">CHANGES</td> </tr> <tr> <td>NO CHANGES</td> <td></td> </tr> </table>	MARK	CHANGES	NO CHANGES		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">RESIDENT ENGINEER</td> <td style="width: 50%;">DATE</td> </tr> <tr> <td></td> <td></td> </tr> </table>	RESIDENT ENGINEER	DATE		
MARK	CHANGES								
NO CHANGES									
RESIDENT ENGINEER	DATE								
FIELD CHANGES									

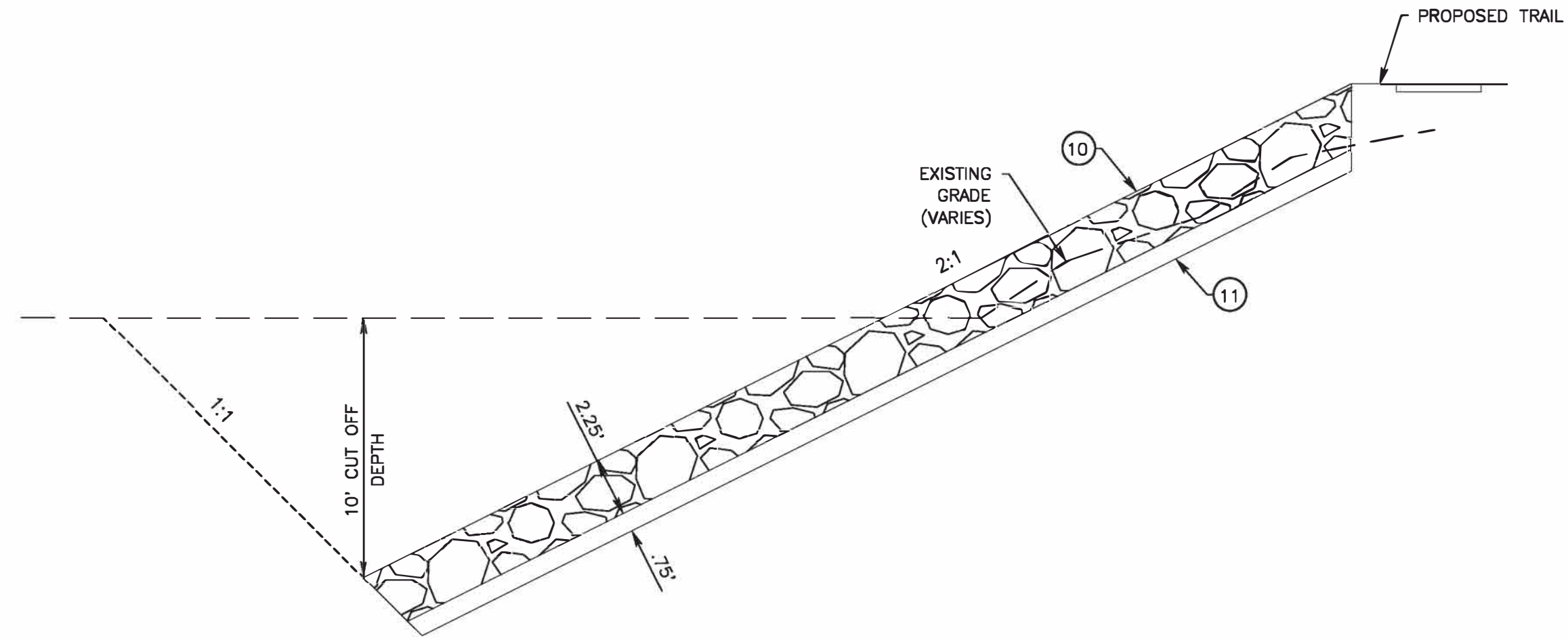
SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY: Dj/JHC	DRAWN BY: DJ	CHECKED BY: LL/JHC	RECOMMENDED BY: Chris Nguyen, P.E. ENGINEERING MANAGER
APPROVED BY: LEI LI, P.E. SUPERVISING ENGINEER			DATE: 7/23/24 DATE: 7/25/2024 DATE: 7/25/2024 DATE: 7/25/2024

SANTA ANA RIVER TRAIL PHASE III-MISSION ZANJA NEW ALIGNMENT NOTES AND LEGEND				
J.L. REF. J.L. 10766	W.O. NO. H13463	PLAN SCALE PER PLAN	SHT. NO. 2	TOT. SHT'S. 10





CONSTRUCTION NOTES:	
10	PLACE R.S.P. (1/4 TON METHOD A) PER DETAIL ON THIS SHEET
11	PLACE FILTER FABRIC PER DETAIL ON THIS SHEET



ROCK SLOPE PROTECTION DETAIL  
N.T.S

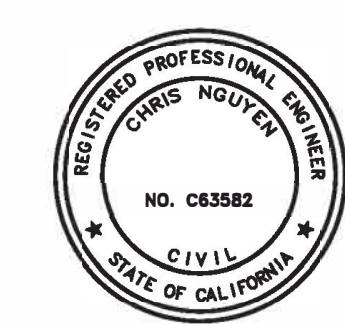
NOT FOR BID

MARK	REVISIONS	APPR.	DATE

MARK	REVISIONS	APPR.	DATE

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

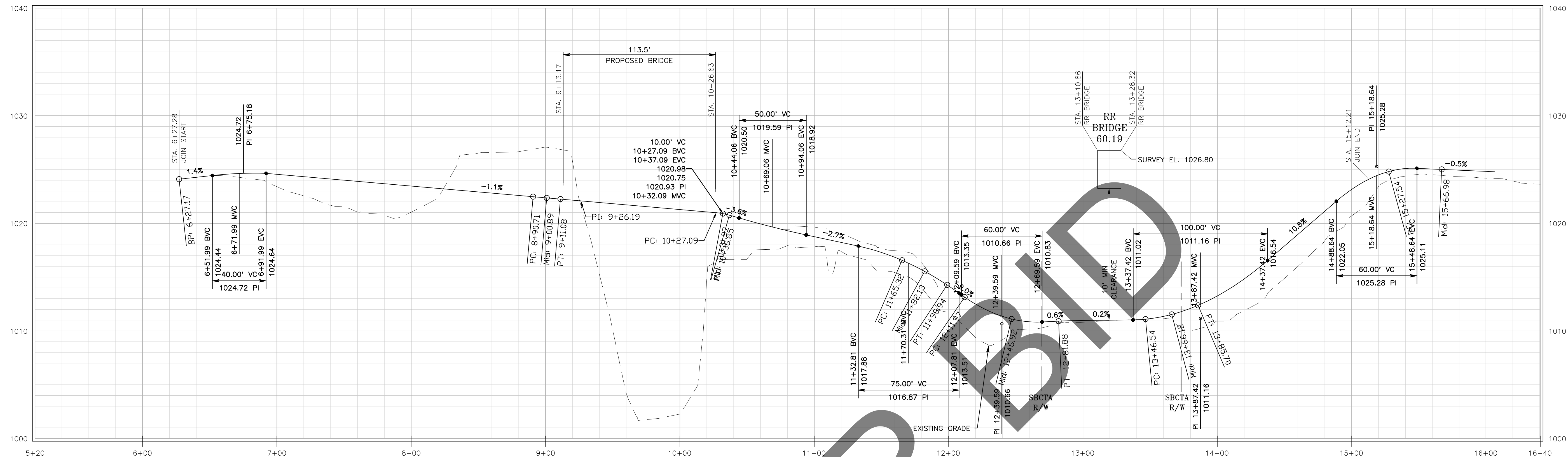
FIELD CHANGES



SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY: DJ/JHC	DRAWN BY: DJ	CHECKED BY: LL/JHC	RECOMMENDED BY: Chris Nguyen, P.E. ENGINEERING MANAGER 7/23/24 DATE
APPROVED BY: Lei Li, P.E. SUPERVISING ENGINEER 7/25/2024 DATE		APPROVED BY: Merwat N. Marwal, P.E. DEPUTY DIRECTOR 7/25/2024 DATE	

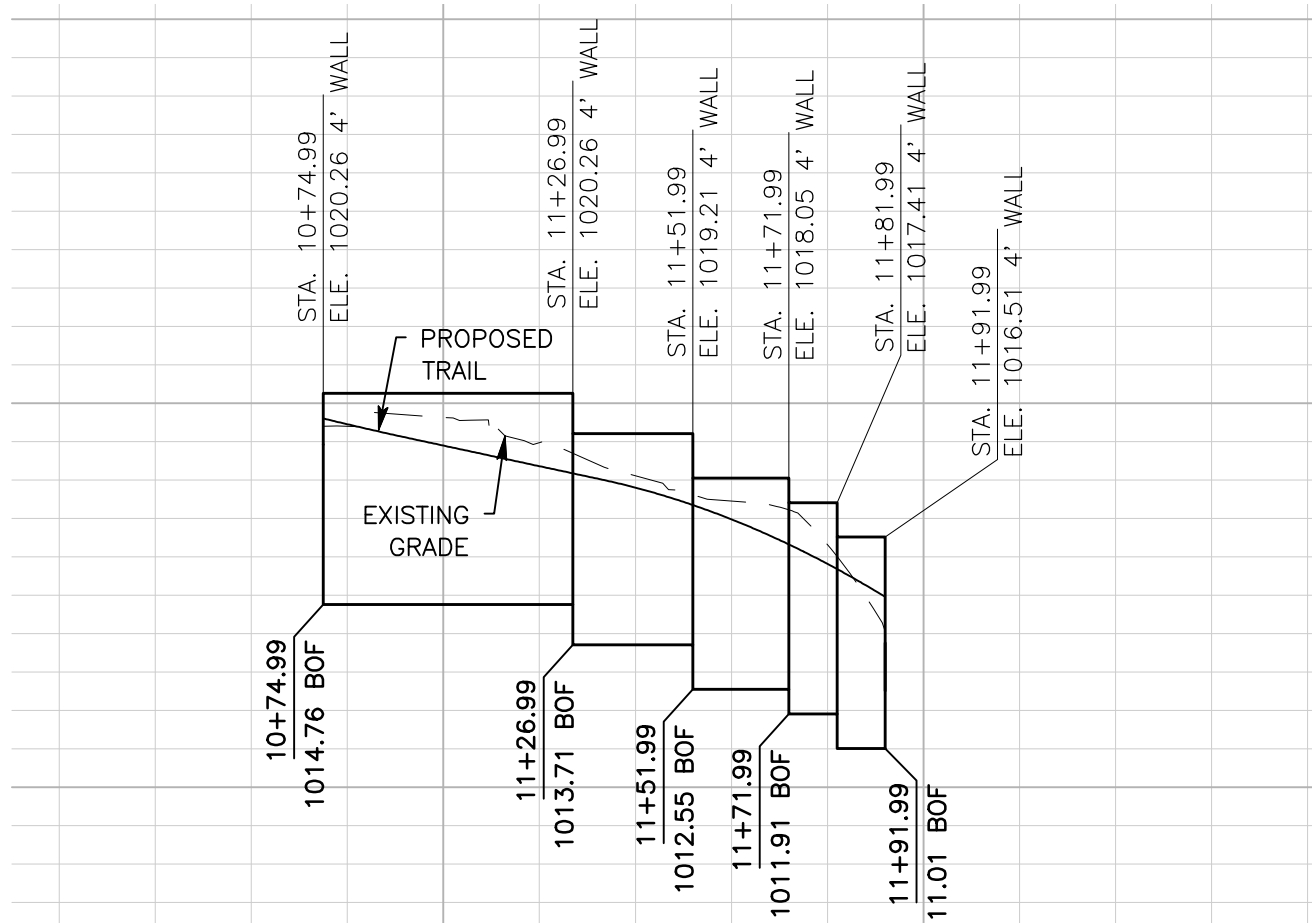
SANTA ANA RIVER TRAIL PHASE III—MISSION ZANJA NEW ALIGNMENT DETAIL SHEET				
J.L. REF. J.L. 10766	W.O. NO. H13463	PLAN SCALE PER PLAN	SHT. NO. 3	TOT. SHT'S. 10





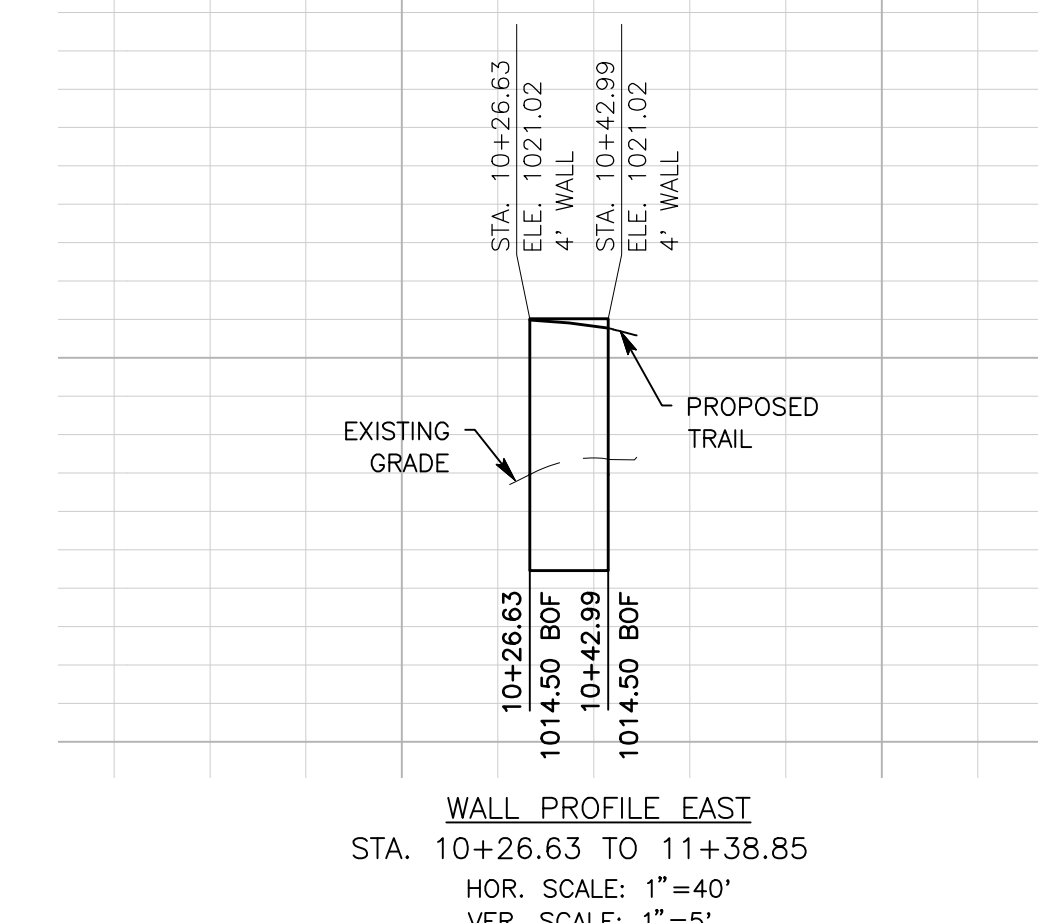
**PROFILE VIEW**

NEW CL  
HOR. SCALE: 1"=40'  
VER. SCALE: 1"=5'

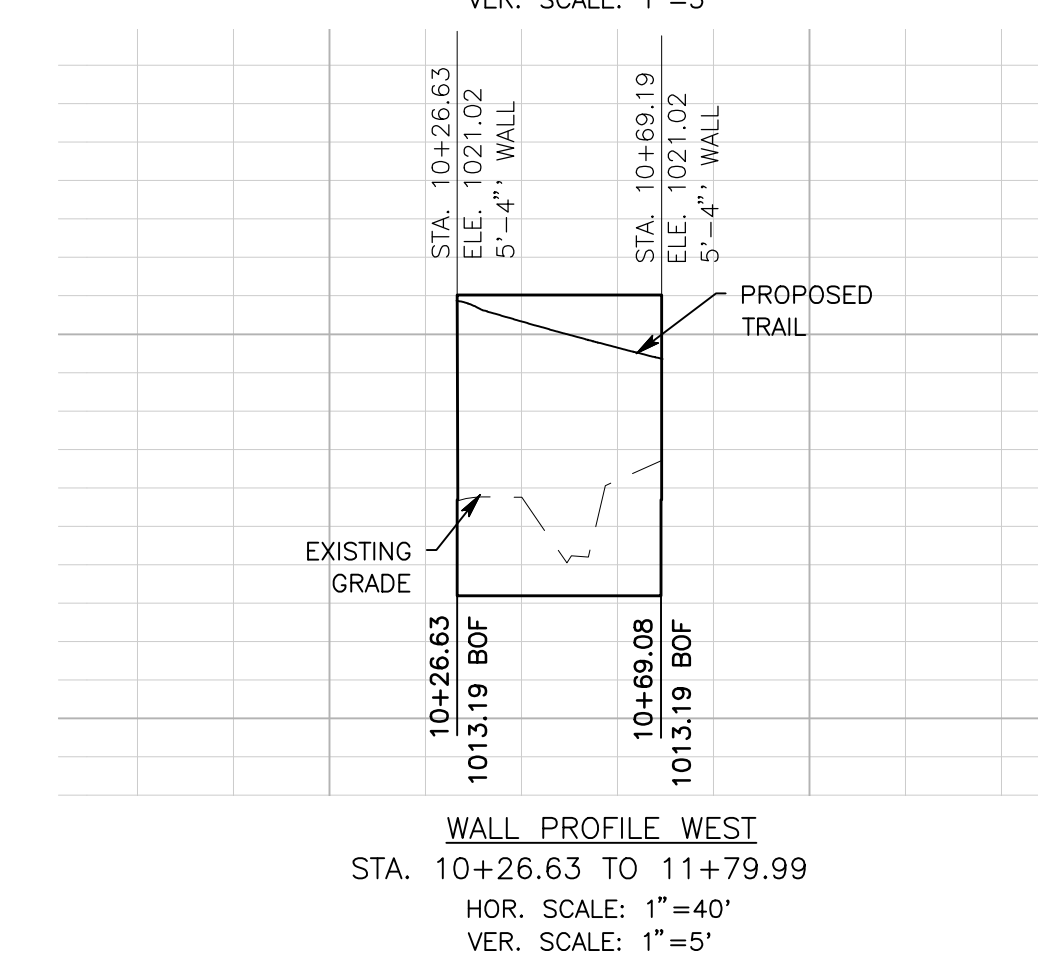


**WALL PROFILE**  
STA. 10+74.99 TO 11+91.98  
HOR. SCALE: 1"=40'  
VER. SCALE: 1"=5'

- CONSTRUCTION NOTES:**
- 1 CONSTRUCT TYPE 6A WALL PER CALTRANS STANDARD PLAN B3-7A
  - 2 PLACE (0.5" THK) PCC PAVEMENT.
  - 3 PLACE (0.30" THK) HMA OVER (0.35" THK) CLASS 2 AGGREGATE BASE
  - 4 PLACE 1" GRADED DIRT SHOULDER
  - 5 PLACE 2" GRADED DIRT SHOULDER
  - 6 REMOVE AND DISPOSE OF EXISTING TREE
  - 7 INSTALL FENCING PER SCRR A ES5105 TYPE A
  - 8 PLACE R.S.P. (1/4 TON METHOD A) PER DETAIL ON SHEET 3



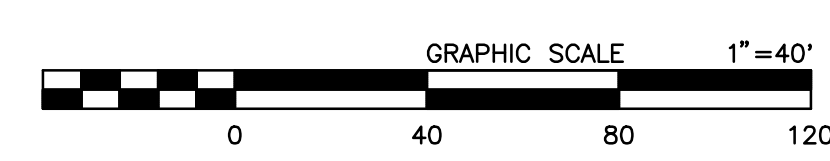
**WALL PROFILE EAST**  
STA. 10+26.63 TO 11+38.85  
HOR. SCALE: 1"=40'  
VER. SCALE: 1"=5'



**WALL PROFILE WEST**  
STA. 10+26.63 TO 11+79.99  
HOR. SCALE: 1"=40'  
VER. SCALE: 1"=5'

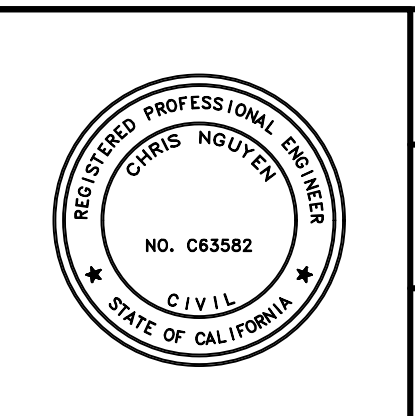
**CURVE TABLE - ALIGNMENTS**

CURVE	RADIUS	LENGTH	DELTA
C1	12.00'	9.75'	46°34'28"
C2	80.00'	33.62'	24°04'52"
C3	35.00'	69.91'	114°26'55"
C4	30.00'	39.17'	74°48'22"
C5	20.00'	20.36'	58°20'12"



MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

**FIELD CHANGES**



**SAN BERNARDINO COUNTY  
DEPARTMENT OF PUBLIC WORKS**

DESIGNED BY: Dj/JHC	DRAWN BY: DJ	CHECKED BY: LL/JHC	RECOMMENDED BY: Chris Nguyen, P.E. ENGINEERING MANAGER
DATE: 7/25/2024			DATE: 7/23/24

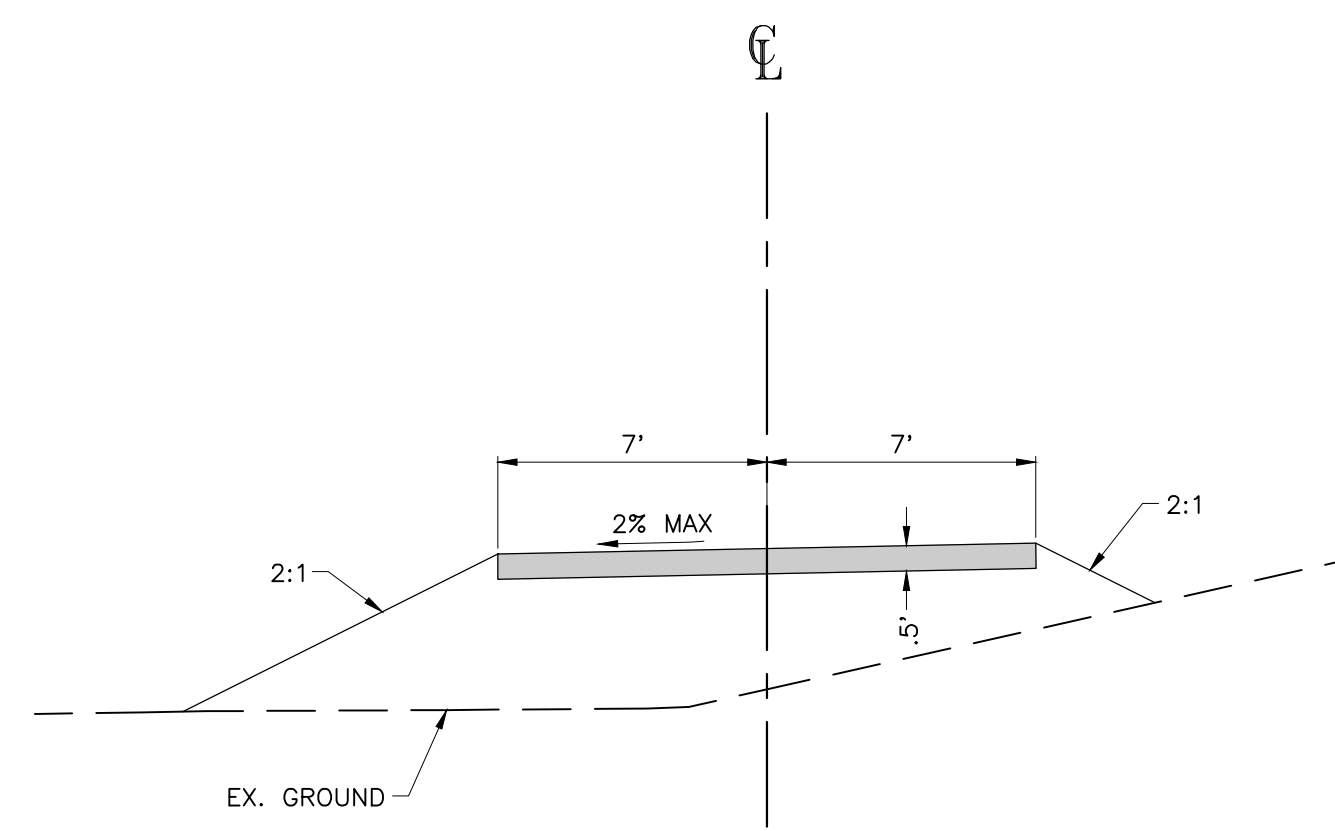
APPROVED BY:  
Leu Li, P.E.  
SUPERVISING ENGINEER

DATE: 7/25/2024

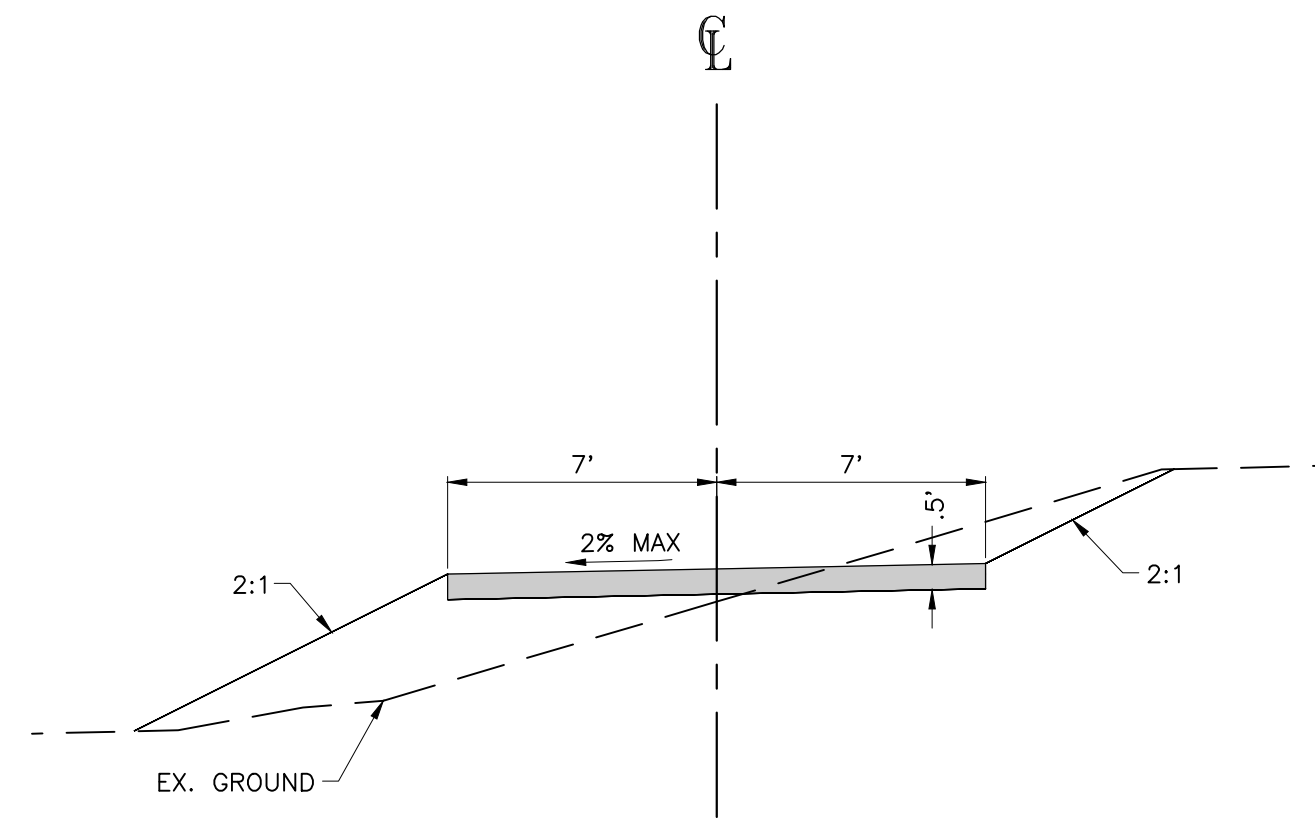
**SANTA ANA RIVER TRAIL  
PHASE III-MISSION ZANJA  
NEW ALIGNMENT  
PLAN AND PROFILE**

J.L. REF. J.L. 10766	W.O. NO. H13463	PLAN SCALE PER PLAN	SHT. NO. 4	TOT. SHT'S. 10
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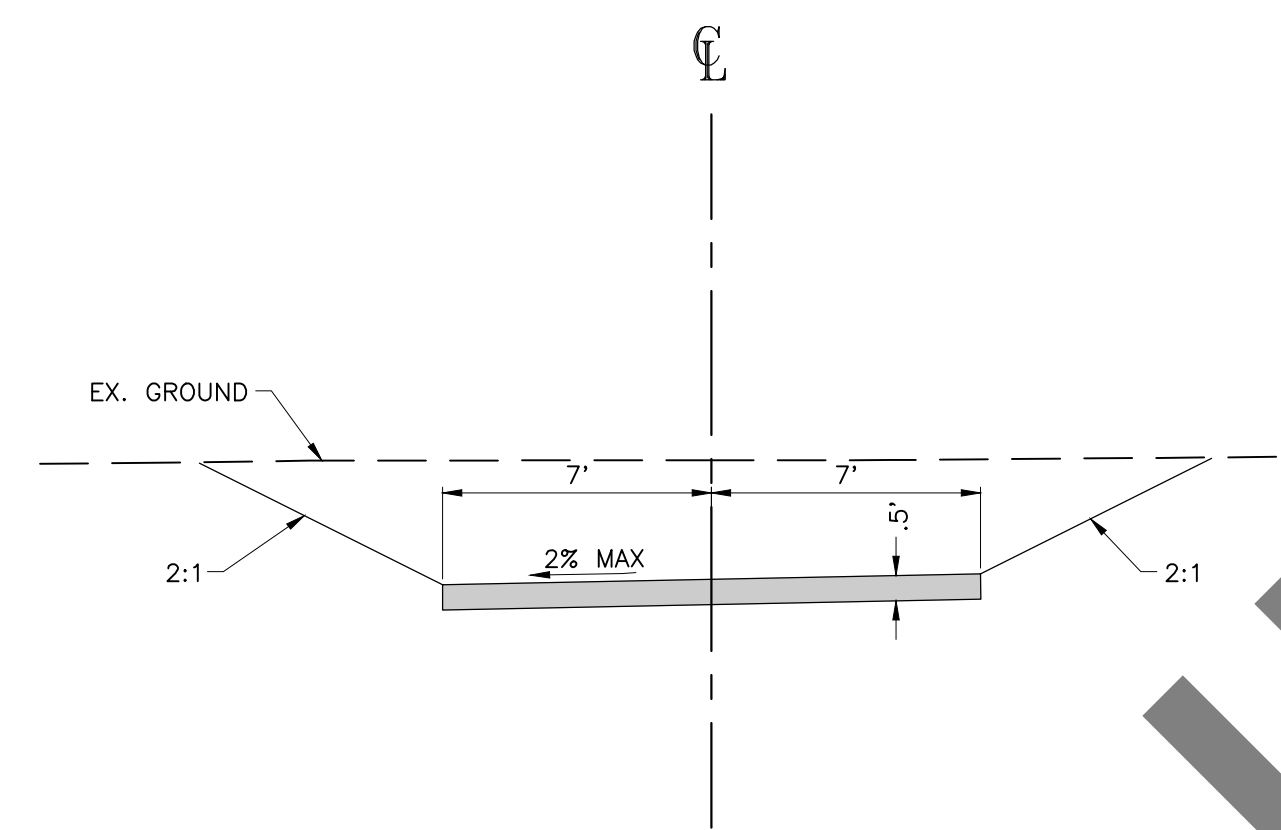




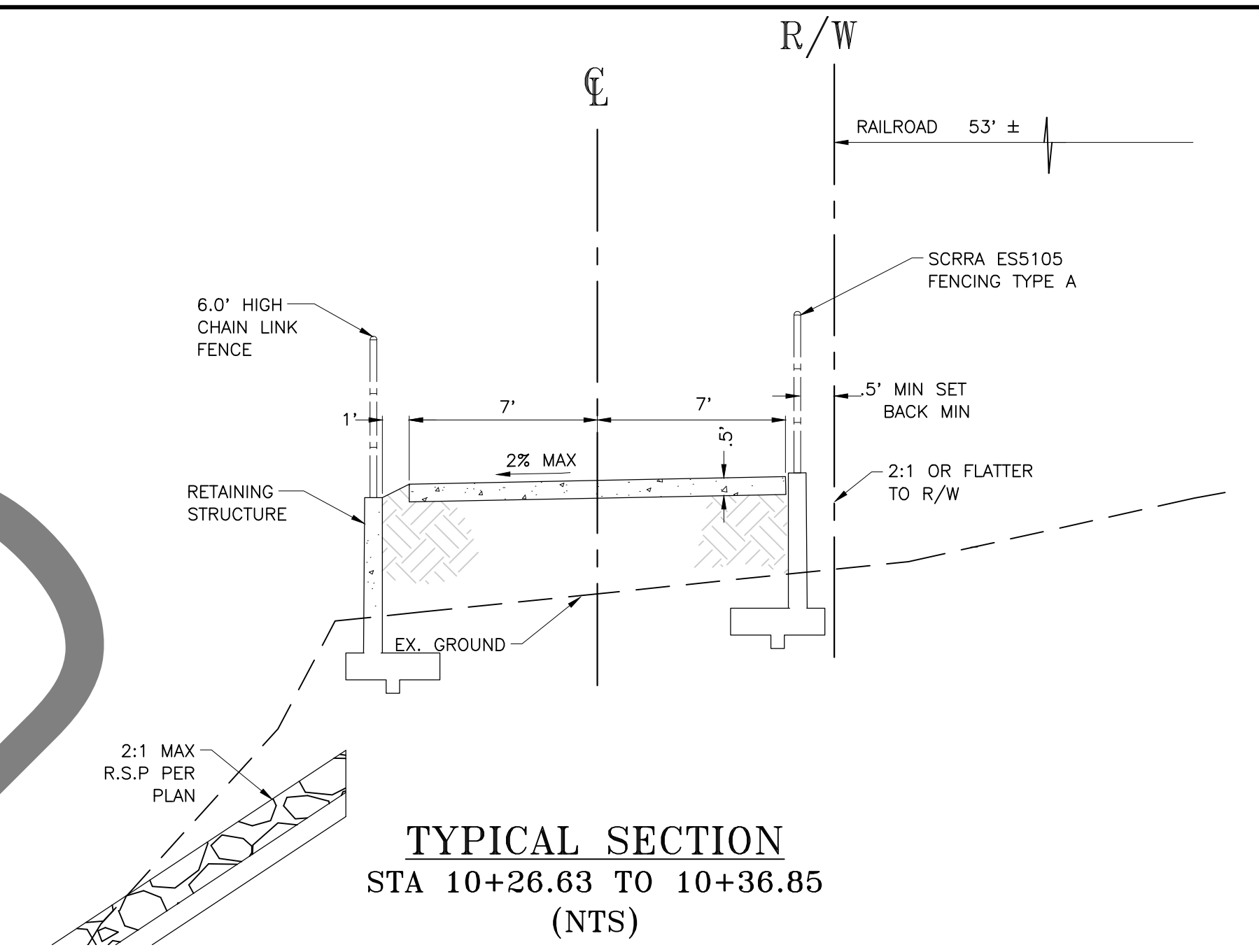
**TYPICAL SECTION**  
STA 6+27.28 TO 8+07.82  
(NTS)



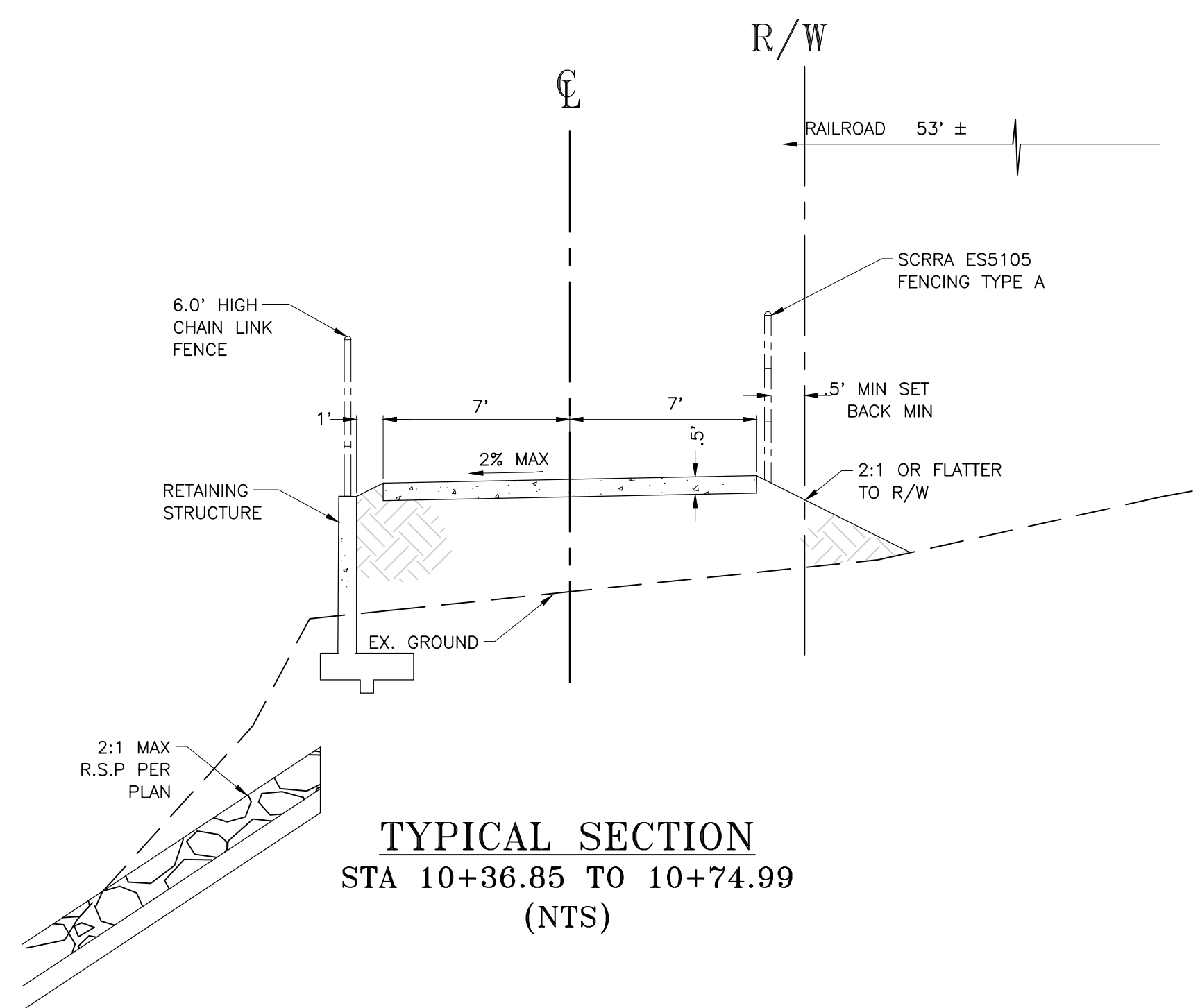
**TYPICAL SECTION**  
STA 8+07.82 TO 8+30.00  
(NTS)



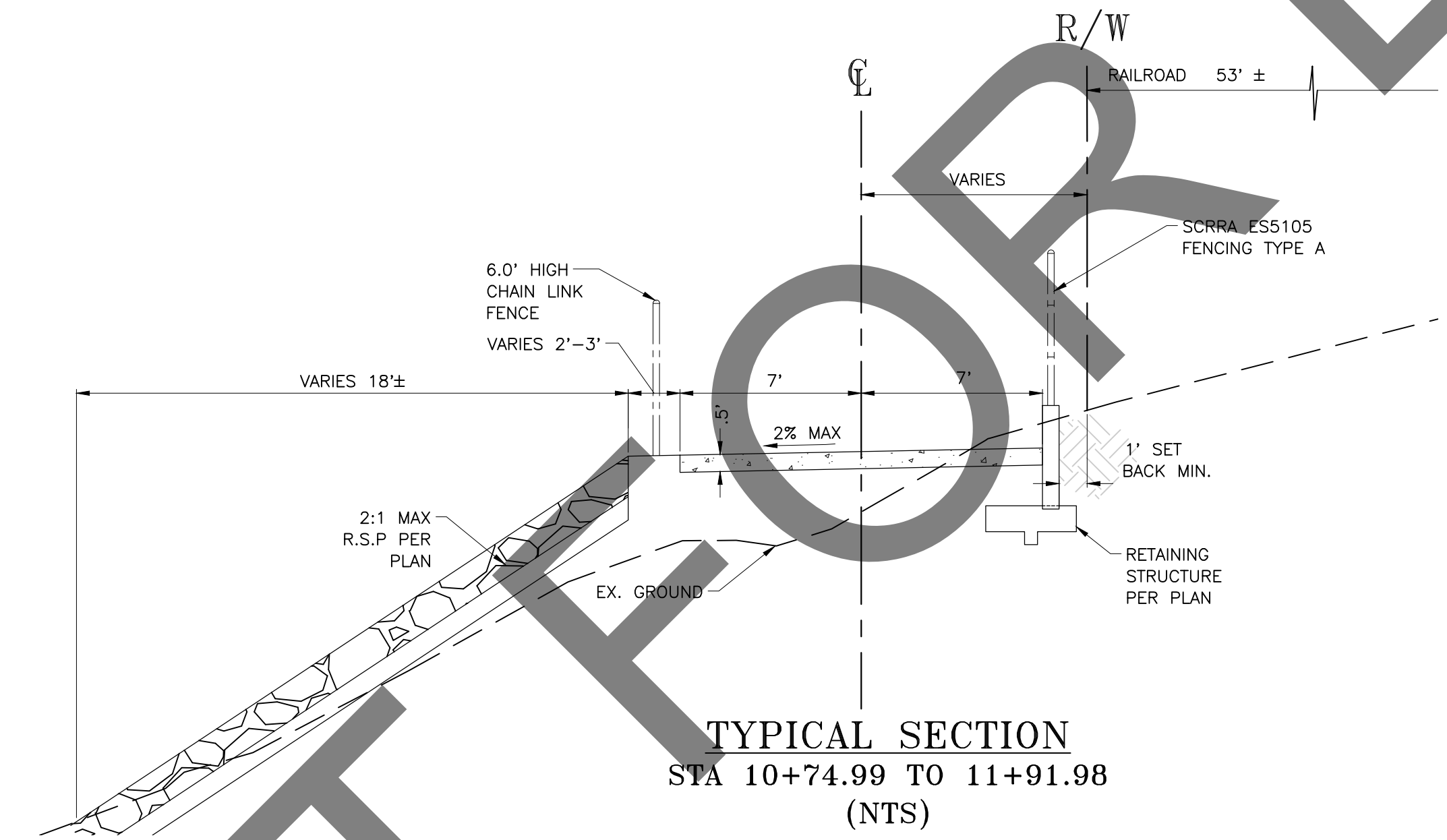
**TYPICAL SECTION**  
STA 8+30.00 TO 9+13.17  
(NTS)



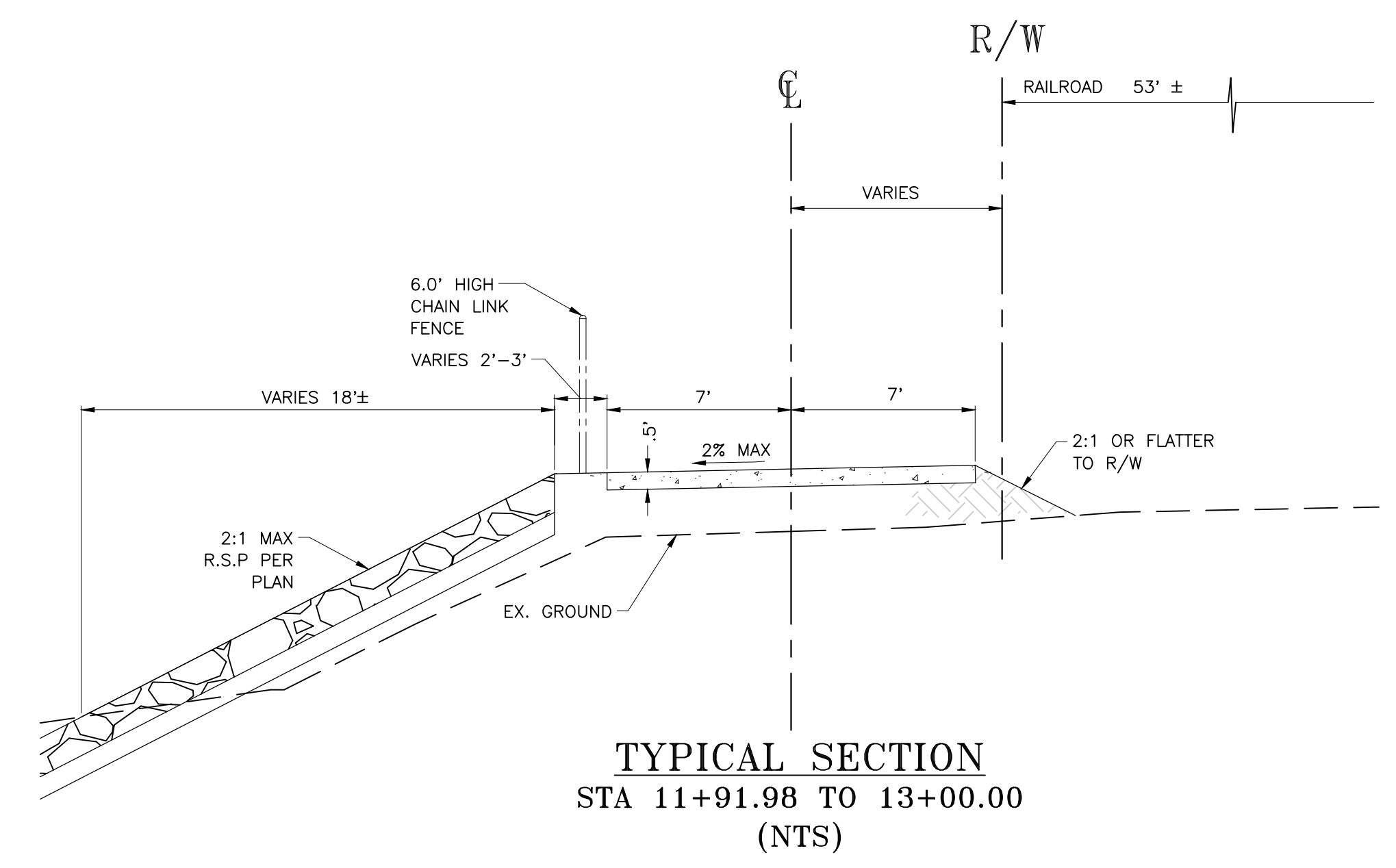
**TYPICAL SECTION**  
STA 10+26.63 TO 10+36.85  
(NTS)



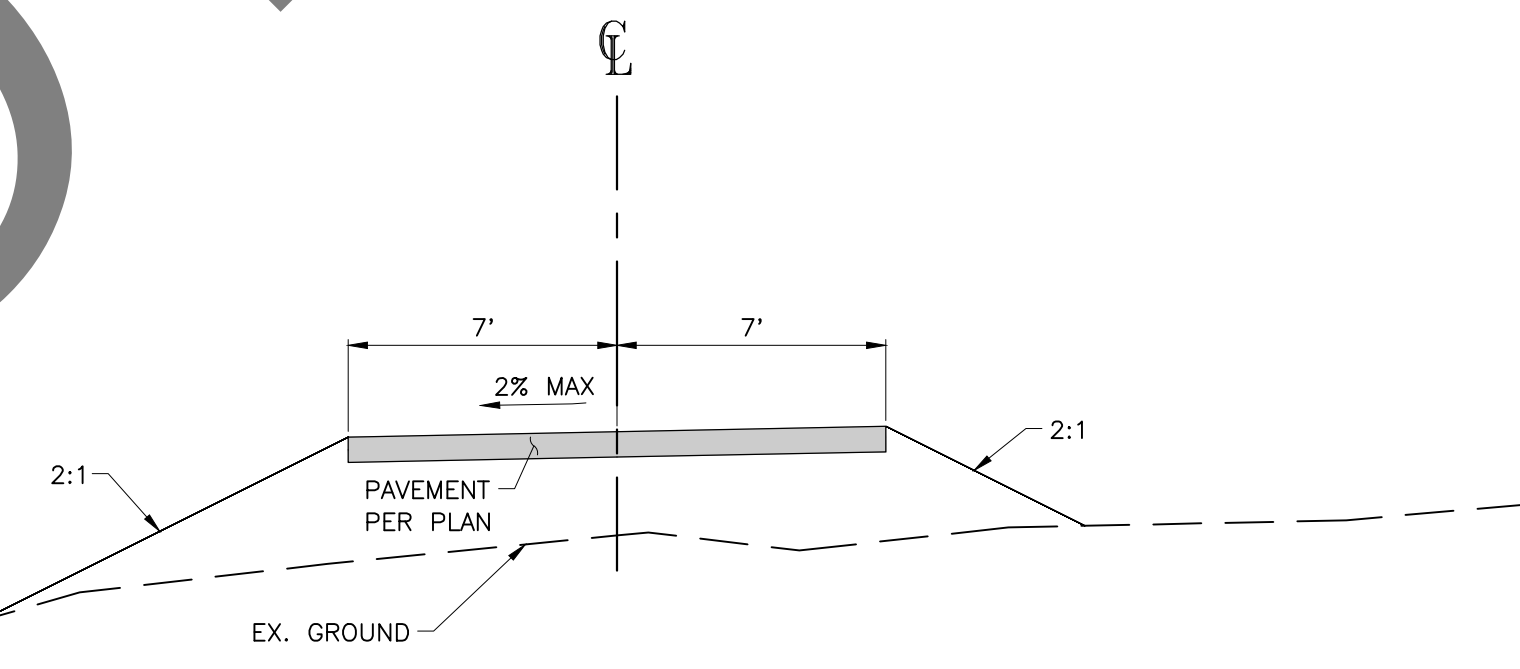
**TYPICAL SECTION**  
STA 10+36.85 TO 10+74.99  
(NTS)



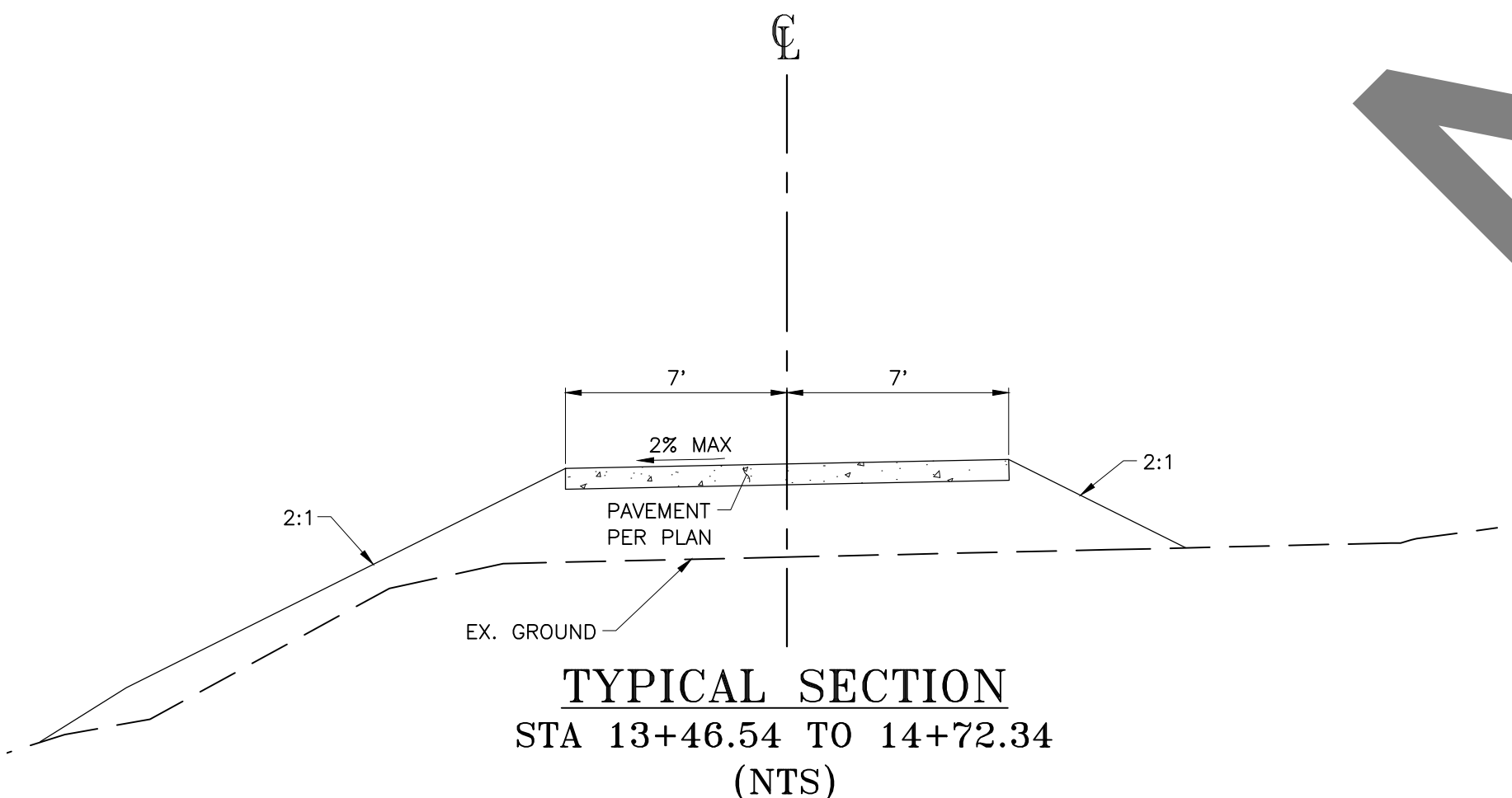
**TYPICAL SECTION**  
STA 10+74.99 TO 11+91.98  
(NTS)



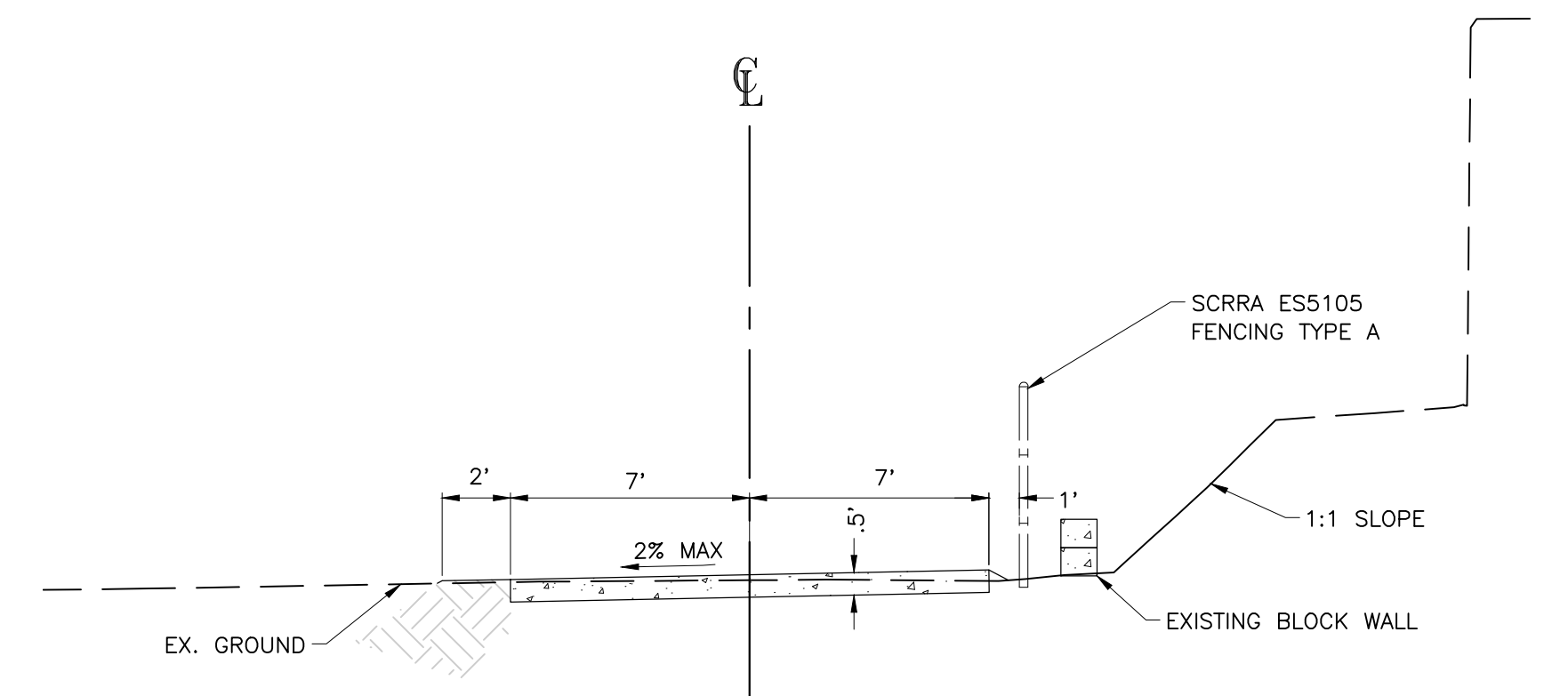
**TYPICAL SECTION**  
STA 11+91.98 TO 13+00.00  
(NTS)



**TYPICAL SECTION**  
STA 14+72.34 TO 15+13.96  
(NTS)



**TYPICAL SECTION**  
STA 13+46.54 TO 14+72.34  
(NTS)



**SECTION A**  
UNDER THE BRIDGE  
(NTS)

NOT FOR BID

REVISIONS	DATE	APPR.

REVISIONS	DATE	APPR.

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		
FIELD CHANGES			



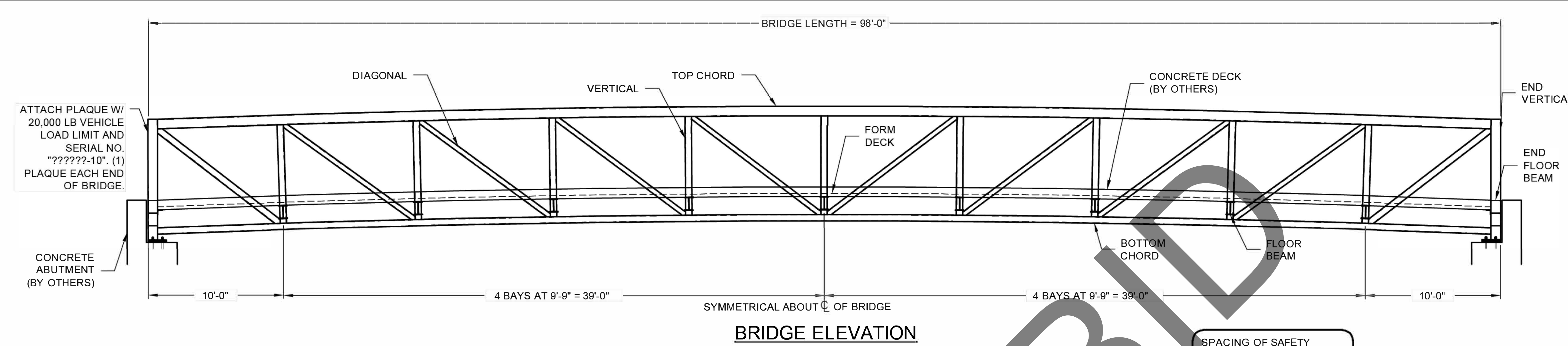
SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY:	DRAWN BY:	CHECKED BY:	RECOMMENDED BY:
Dj/JHC	DJ	LL/JHC	Chris Nguyen, P.E. ENGINEERING MANAGER
			7/23/24 DATE
APPROVED BY:		APPROVED BY:	
Lei Li, P.E. SUPERVISING ENGINEER		Mervat N. Ghail, P.E. DEPUTY DIRECTOR	
	7/25/2024 DATE		7/25/24 DATE

SANTA ANA RIVER TRAIL PHASE III—MISSION ZANJA NEW ALIGNMENT SECTION SHEET				
J.L. REF.	W.O. NO.	PLAN SCALE	SHT. NO.	TOT. SHT'S.
J.L. 10766	H13463	PER PLAN	5	10







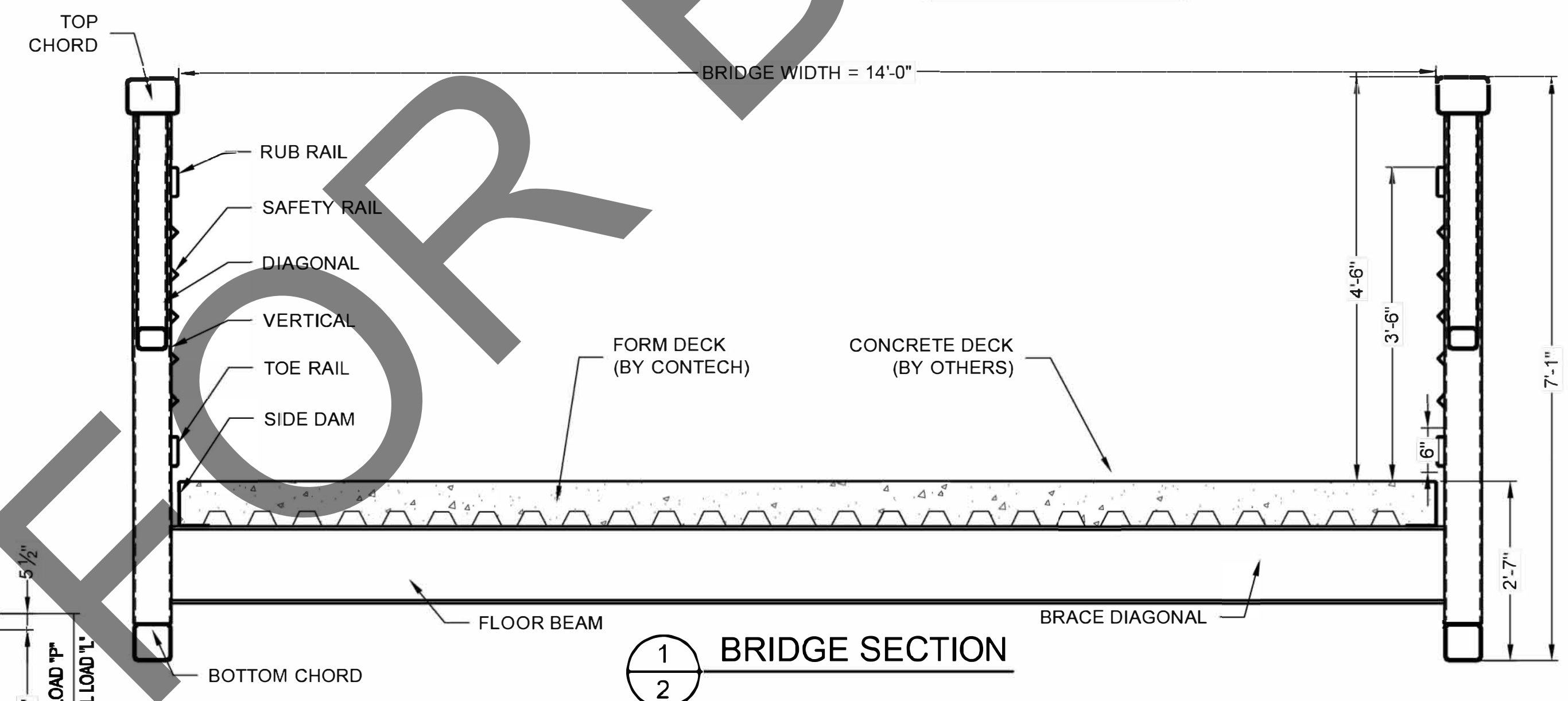
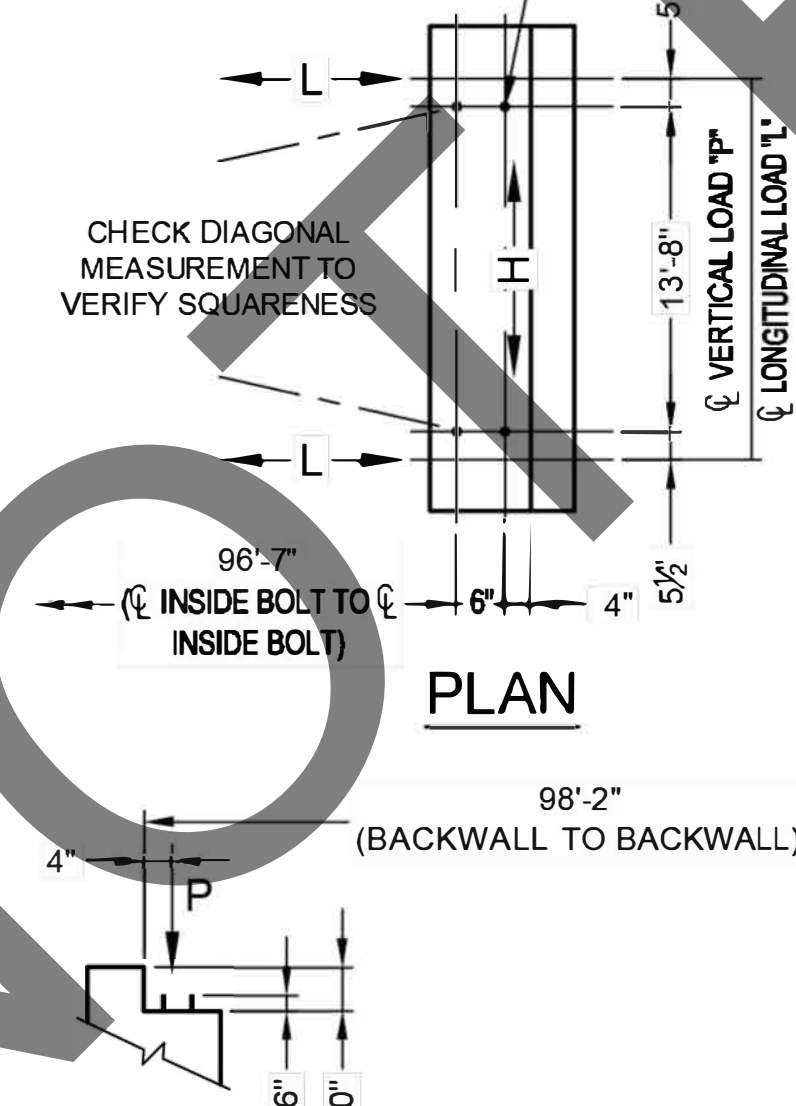


**GENERAL NOTES**

- DESIGN STRESSES ARE IN ACCORDANCE WITH "STANDARD SPECIFICATION FOR HIGHWAY BRIDGES" & "GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES" BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) 2009.
- BRIDGE MEMBERS ARE FABRICATED FROM HIGH STRENGTH, LOW ALLOY, ENHANCED ATMOSPHERIC CORROSION RESISTANT ASTM A847 COLD-FORMED WELDED SQUARE AND RECTANGULAR TUBING, AND ASTM A588, ASTM A606, OR ASTM A242 PLATE AND STRUCTURAL SHAPES (Fy=50,000 PSI).
- CONCRETE DECK: GALVANIZED FORM DECK SUPPLIED BY CONTECH. CONCRETE, REINFORCING, AND EXPANSION MATERIAL SUPPLIED BY OTHERS. SEE CONCRETE DECK SHEET.
- THE GAS METAL ARC WELDING PROCESS OR FLUX CORED ARC WELDING PROCESS WILL BE USED. WELDING TO BE IN ACCORDANCE WITH AWS D1.1.
- ALL TOP AND BOTTOM CHORD SHOP SPLICES TO BE COMPLETE PENETRATION TYPE WELDS. WELD BETWEEN TOP CHORD AND END VERTICAL SHALL BE AS DETAILED.
- UNLESS OTHERWISE NOTED, WELDED CONNECTIONS SHALL BE FILLET WELDS (OR HAVE THE EFFECTIVE THROAT OF A FILLET WELD) OF A SIZE EQUAL TO THE THICKNESS OF THE LIGHTEST GAGE MEMBER IN THE CONNECTION. WELDS SHALL BE APPLIED AS FOLLOWS:
  - A. BOTH ENDS OF VERTICALS, DIAGONALS, AND FLOOR BEAMS SHALL BE WELDED ALL AROUND.
  - B. BRACE DIAGONALS WILL BE WELDED ALL AROUND.
  - C. MISCELLANEOUS NON-STRUCTURAL MEMBERS WILL BE STITCH WELDED TO THEIR SUPPORTING MEMBERS.
- BRIDGE DESIGN WAS ONLY BASED ON COMBINATIONS OF THE FOLLOWING LOADS WHICH WILL PRODUCE MAXIMUM CRITICAL MEMBER STRESSES.
  - A. 90 PSF UNIFORM LIVE LOADING ON THE FULL DECK AREA OR ONE 20,000 LB VEHICLE LOAD. THE LOAD SHALL BE DISTRIBUTED AS A FOUR-WHEEL VEHICLE WITH 80% OF THE LOAD ON THE REAR WHEELS. THE WHEEL TRACK WIDTH OF THE VEHICLE SHALL BE 6'-0" AND THE WHEEL BASE SHALL BE 14'-0". THE VEHICLE SHALL BE POSITIONED SO AS TO PRODUCE THE MAXIMUM STRESSES IN EACH MEMBER, INCLUDING DECKING.
  - B. 35 PSF WIND LOAD ON THE FULL HEIGHT OF THE BRIDGE, AS IF ENCLOSED.
  - C. 20 PSF UPWARD FORCE APPLIED AT THE WINDWARD QUARTER POINT OF THE TRANSVERSE BRIDGE WIDTH (AASHTO 3.15.3).
- CLEANING: ALL EXPOSED SURFACES OF STEEL SHALL BE CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SURFACES PREPARATION SPECIFICATIONS NO. 7 BRUSH-OFF BLAST CLEANING, SSPC-SP7-LATEST EDITION.
- MINIMUM MATERIAL THICKNESS OF 1/4" ON ALL STRUCTURAL MEMBERS.

SHOP NOTE: MIDBAY SUPPORTS ARE REQUIRED FOR THE SAFETY SYSTEM. USE FLT 1 x 1/2.

(8) Ø3/4" ASTM F1554 GRADE 55 GALV. ANCHOR RODS W/(2) NUTS AND (1) 2 1/2" O.D. WASHER EACH. (BY OTHERS)



COMBINE REACTIONS AS PER LOCAL OR GOVERNING BUILDING CODES AS REQUIRED

BRIDGE REACTIONS	* DOWNWARD LOAD - UPWARD LOAD		
	P (LBS)	H (LBS)	L (LBS)
DEAD LOAD ②	31,900		
UNIFORM LIVE LOAD	30,900		
VEHICLE LOAD	12,500		
WIND UPLIFT 20 PSF	-7,400		
WIND LEeward 20 PSF	-2,900		
WIND	±3,200	13,100	
THERMAL ②			4,500

"P" - VERTICAL LOAD EACH BASE PLATE (4 PER BRIDGE)  
 "H" - HORIZONTAL LOAD EACH FOOTING (2 PER BRIDGE)  
 "L" - LONGITUDINAL LOAD EACH BASE PLATE (4 PER BRIDGE)

- ① BRIDGE LIFTING WEIGHT: 38,700 LBS
- ② BRIDGE FINAL WEIGHT: 102,900 LBS
- ① DOES NOT INCLUDE CONCRETE WEIGHT
- ② INCLUDES CONCRETE WEIGHT

CONTECH  
PROPOSAL  
DRAWING



The design and information shown on this drawing is provided as a service to the project owner, engineer or contractor. Neither the drawing, nor any part thereof, shall be used for any purpose other than that for which it was prepared. The user of this drawing shall be responsible for obtaining any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are discovered, the contractor shall be responsible for reevaluation of the design. Contech shall not be responsible for reevaluation of the design. Contech shall not be responsible for reevaluation of the design. Contech shall not be responsible for reevaluation of the design. Contech shall not be responsible for reevaluation of the design.

MARK	REVISION DESCRIPTION	DATE	BY

**98'-0" X 14'-0"**  
**SANTA ANA RIVER TRAIL**  
**PHASE III PEDESTRIAN BRIDGE**  
**SAN BERNARDINO COUNTY, CA**

**CONTECH**  
 ENGINEERED SOLUTIONS LLC  
 WWW.CONTECHSOL.COM  
 8801 State Highway 28 North, Alhambra, CA 91808  
 626-320-2047 320-545-4128 320-596-3148 FAX

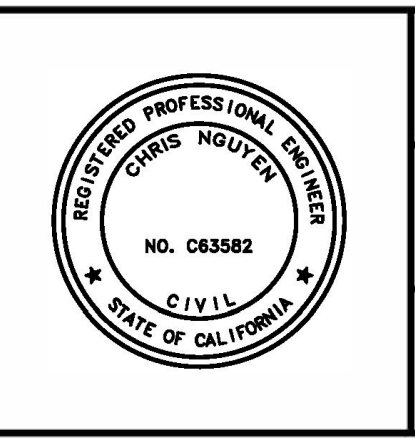
**EXPRESS TRUSS**  
 CONTINENTAL BRIDGE

DATE: 9/6/2023  
 DESIGNED: XXX DRAWN: XXX  
 CHECKED: XXX APPROVED: XXX  
 PROJECT No.: 743659 SEQUENCE No.: 010  
 SHEET: 1 OF 1

FOR REFERENCE ONLY

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

FIELD CHANGES



SAN BERNARDINO COUNTY  
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY:	DRAWN BY:	CHECKED BY:	RECOMMENDED BY:
DJ/JHC	DJ	LL/JHC	Chris Nguyen, P.E. ENGINEERING MANAGER

DATE: 7/23/24

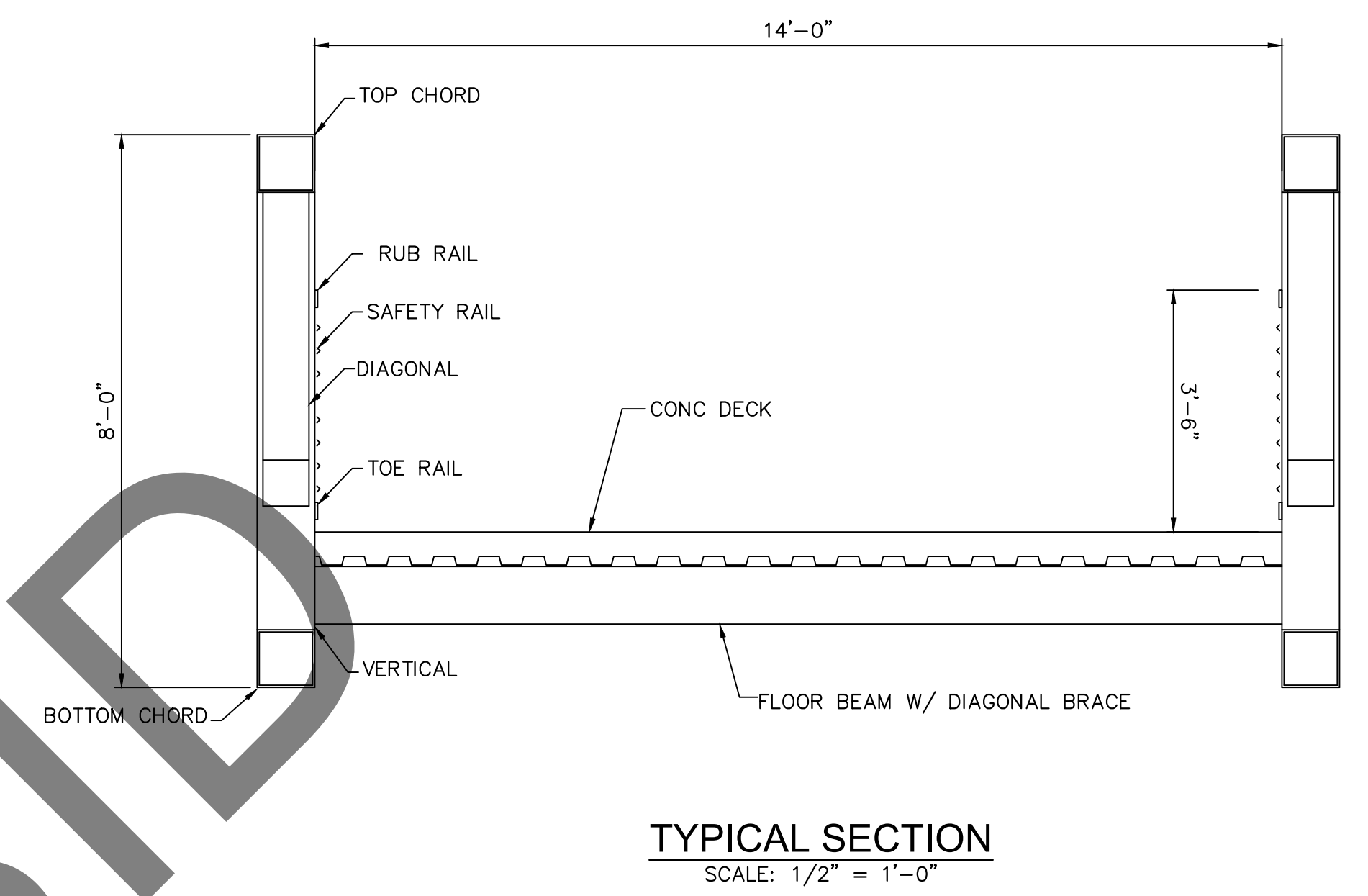
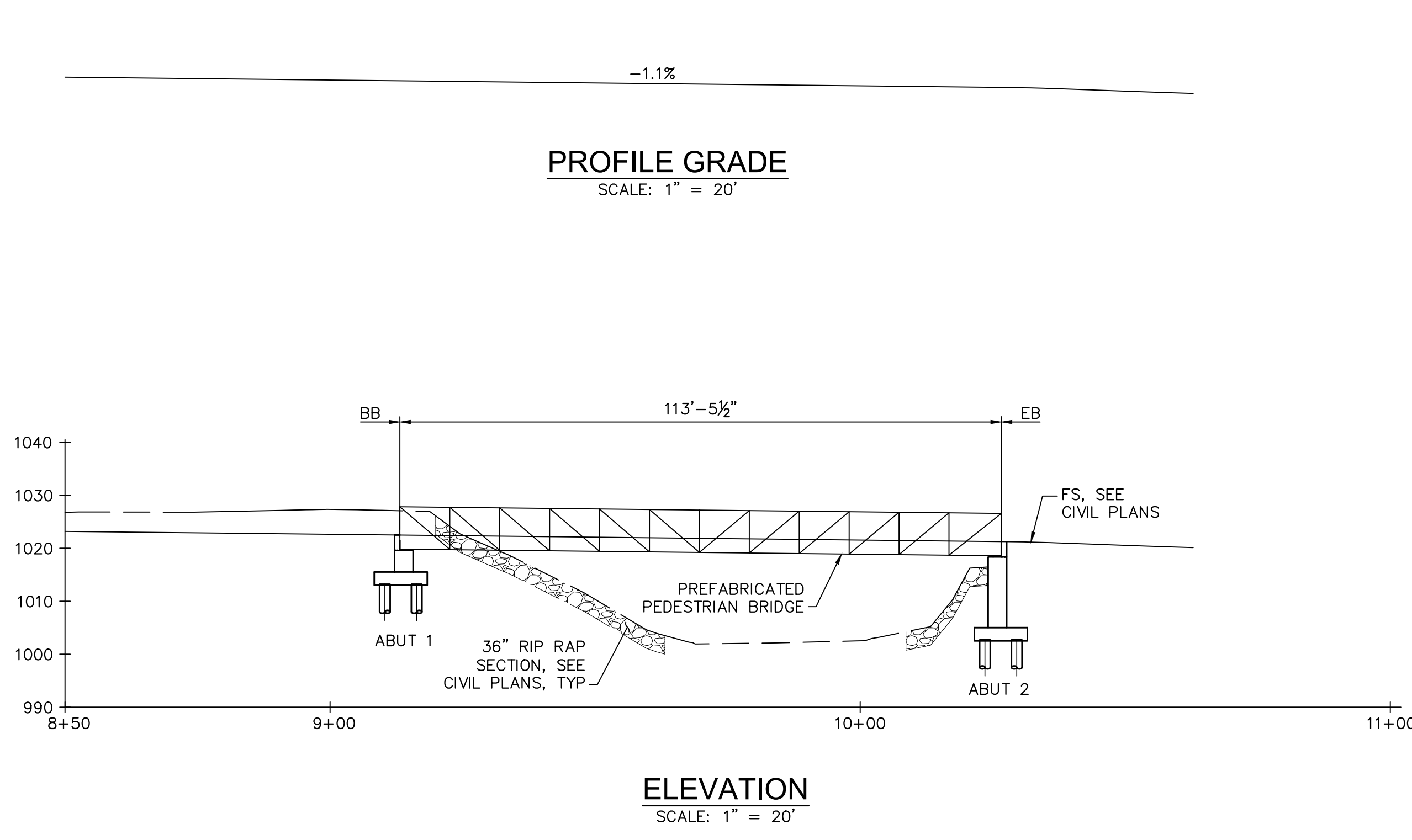
APPROVED BY:	DATE:
LEI LI, P.E. SUPERVISING ENGINEER	7/25/2024

DATE: 7/25/24

**SANTA ANA RIVER TRAIL**  
**PHASE III—MISSION ZANJA**  
**NEW ALIGNMENT**  
 BRIDGE REFERENCE DETAIL

J.L. REF.	W.O. NO.	PLAN SCALE	SHT. NO.	TOT. SHT'S.
J.L. 10766	H13463	PER PLAN	7	10





**INDEX TO PLANS**

S-1 BRIDGE GENERAL PLAN  
S-2 BRIDGE FOUNDATION PLAN  
S-3 TYPICAL BRIDGE NOTES AND DETAILS

**NOTICE TO CONTRACTOR:**

CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND SHALL REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK AND BEFORE ORDERING OR FABRICATING MATERIAL.

ELEVATIONS AT BEGIN BRIDGE AND END BRIDGE ARE AT THE TOP OF CONCRETE BACKWALL AND MAY BE ADJUSTED TO MATCH TOP OF FABRICATED STEEL TRUSS DECK AS APPROVED BY THE ENGINEER.

BRIDGE REACTIONS			
	P (LBS)	H (LBS)	L (LBS)
DEAD LOAD	38,900		
UNIFORM LIVE LOAD	35,800		
VEHICLE LOAD	12,600		
WIND UPLIFT (20psf)	-11,700		
WIND	±5,200	19,300	
THERMAL			5,500

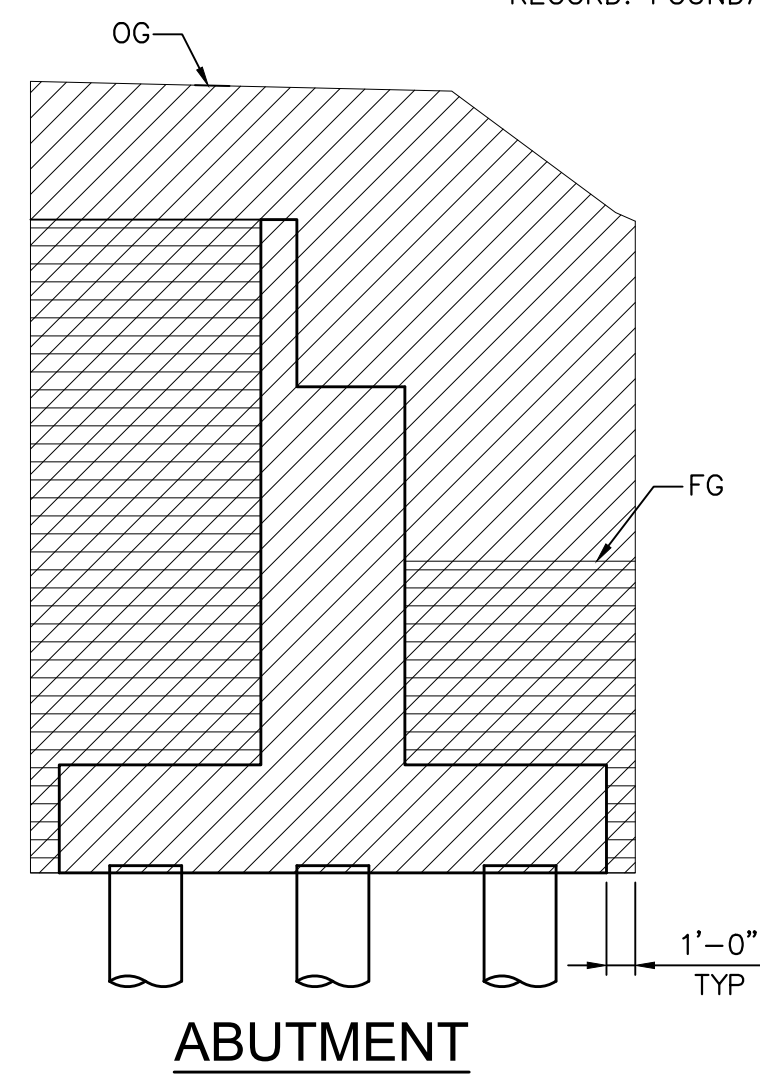
\*P AND L LOADS ARE PER BEARING PLATE, H LOAD IS PER ABUTMENT

\*\*IF BRIDGE REACTIONS LOADS DIFFER FROM ABOVE, CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD. FOUNDATION REDESIGN MAY BE REQUIRED.

- GENERAL NOTES:**
- ALL WORK SHALL COMPLY WITH THE CALIFORNIA BUILDING CODE, 2022 EDITION.
  - ALL WORK SHALL COMPLY WITH PROJECT SOIL REPORT PREPARED BY: TWINING, INC. PROJECT NO. 230057.3 SEPTEMBER 5, 2023
  - STEEL TRUSS BRIDGE IS PREFABRICATED, SEE SPECS ON SHEET S-3.
  - SEE CIVIL PLAN SHEETS FOR BRIDGE LAYOUT AND PROFILE.
  - ALL ANCHOR BOLTS SHALL BE GALVANIZED HEAVY HEX HEAD ASTM F 1554 GR105 UNLESS NOTED OTHERWISE.
  - ALL STRUCTURAL STEEL SHALL BE SELF-WEATHERING AND ATMOSPHERIC CORROSION RESISTANT.
  - PREFABRICATED BRIDGE CONNECTIONS SHALL BE 'FIXED' AT ONE ABUTMENT AND 'EXPANSION' AT ONE ABUTMENT WITH SLOTTED HOLES AND TEFLON SHEET. 'FIXED' BRIDGE CONNECTION SHALL BE AT ABUTMENT 1.
  - SPECIAL INSPECTION IS REQUIRED ON ALL STEEL, CONCRETE, AND FOUNDATION CONSTRUCTION IN ACCORDANCE WITH CHAPTER 17 OF THE CALIFORNIA BUILDING CODE, 2022 EDITION.
  - ALL FIELD WELDING SHALL BE DONE BY CERTIFIED WELDERS AND CONTINUOUSLY INSPECTED BY A LICENSED INSPECTOR APPROVED BY THE COUNTY OF SAN BERNARDINO.
  - SEE CIVIL PLANS FOR RETAINING WALL LAYOUTS AND DETAILS.
  - FOR PREFABRICATED BRIDGE REQUIREMENTS AND NOTES, SEE SHEET S-3.

- DESIGN CRITERIA**
- BRIDGE LOADING PER AASHTO:**
- AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, DECEMBER 2009  
CONCENTRATED LIVE LOAD: 10,000 LB  
UNIFORM LIVE LOAD: 90 PSF  
SEISMIC DESIGN PER CALTRANS:  
SPECTRAL ACCELERATION = 1.071g  
SITE CLASS = D

- DESIGN STRESSES:**
- CONCRETE STRENGTH:  $f'_c = 4,500$  PSI  
REINFORCING STEEL: (GRADE 60) 60,000 PSI  
STRUCTURAL STEEL:  
 $f_y = 50$  KSI (PLATES)  
 $f_y = 46$  KSI (HSS SECTIONS)  
 $f_y = 50$  KSI (WIDE FLANGE SECTIONS)

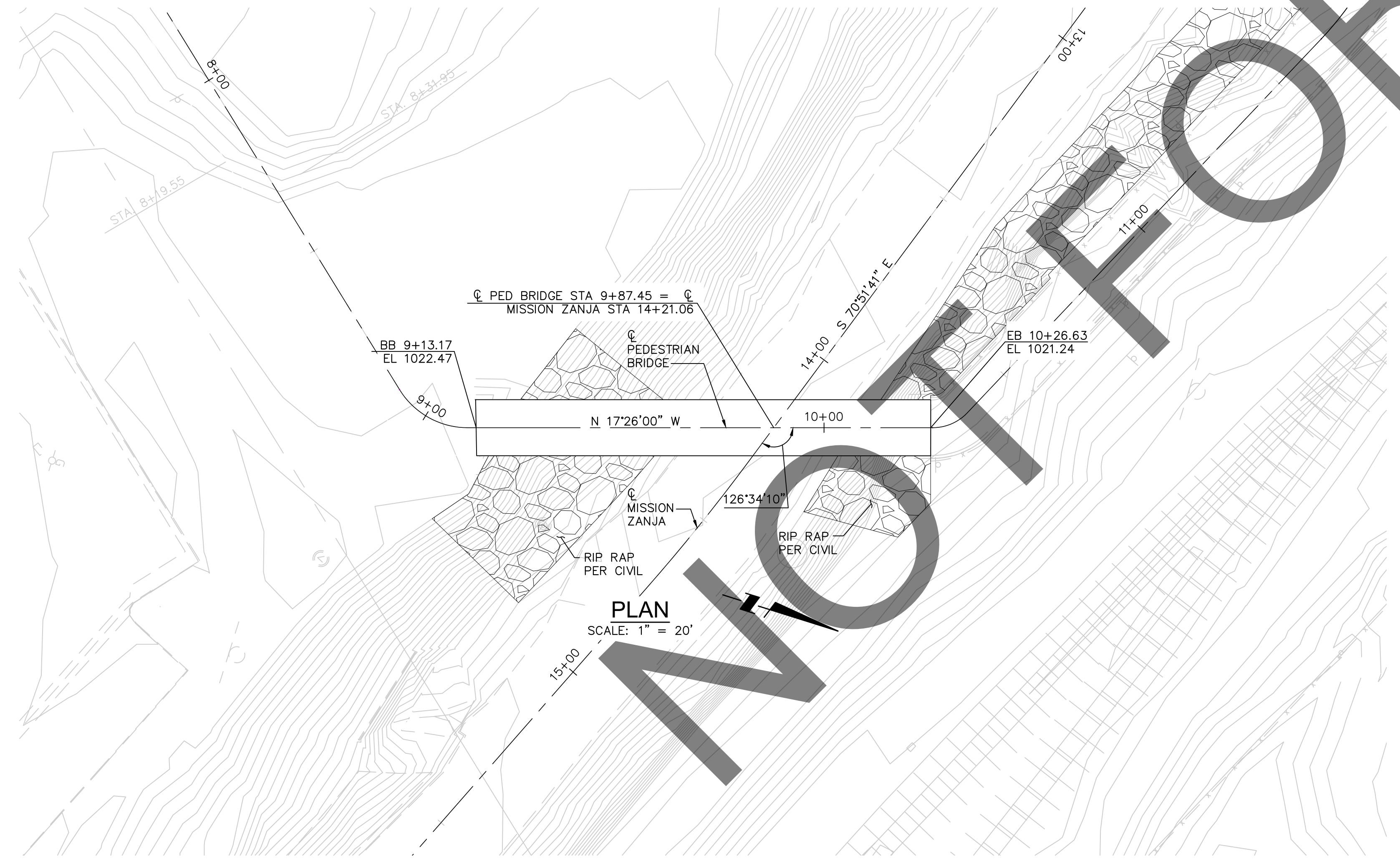


**LEGEND:**

STRUCTURE EXCAVATION (BRIDGE)

STRUCTURE BACKFILL (BRIDGE)

**LIMITS OF PAYMENT FOR STRUCTURE EXCAVATION AND BACKFILL BRIDGE**  
NO SCALE



MARK	REVISIONS	DATE	APPR.

**CDA CHO DESIGN ASSOCIATES, INC.**  
3601 W. MACARTHUR BLVD, #903  
SANTA ANA, CA 92704  
PHONE: (714) 427-0681

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

FIELD CHANGES

SAN BERNARDINO COUNTY  
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: CC CC WC

RECOMMENDED BY: Chris Nguyen, P.E. ENGINEERING MANAGER 07/29/2024

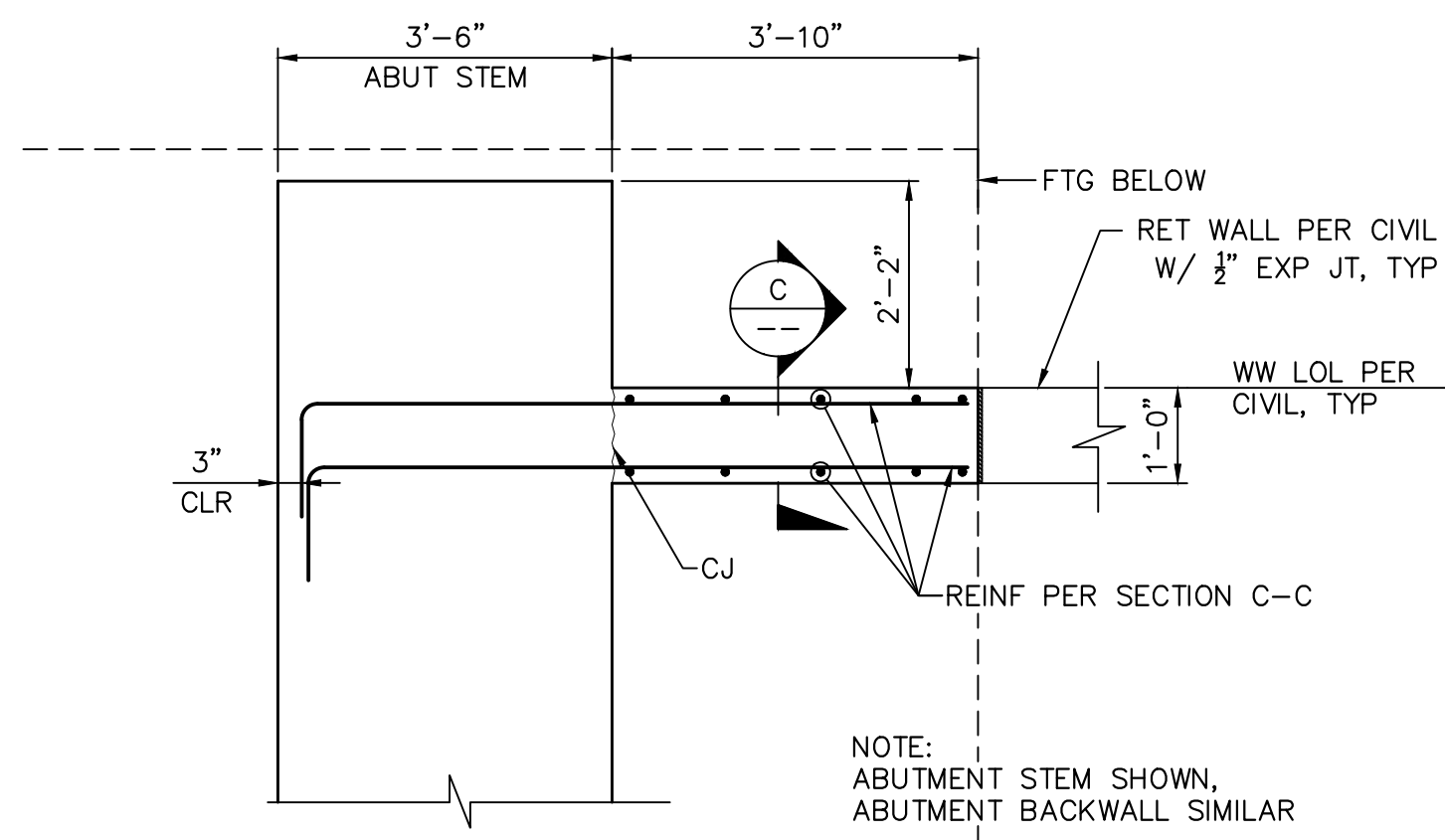
APPROVED BY: LEI LI, P.E. SUPERVISING ENGINEER 07/29/2024

DATE: 07/29/2024

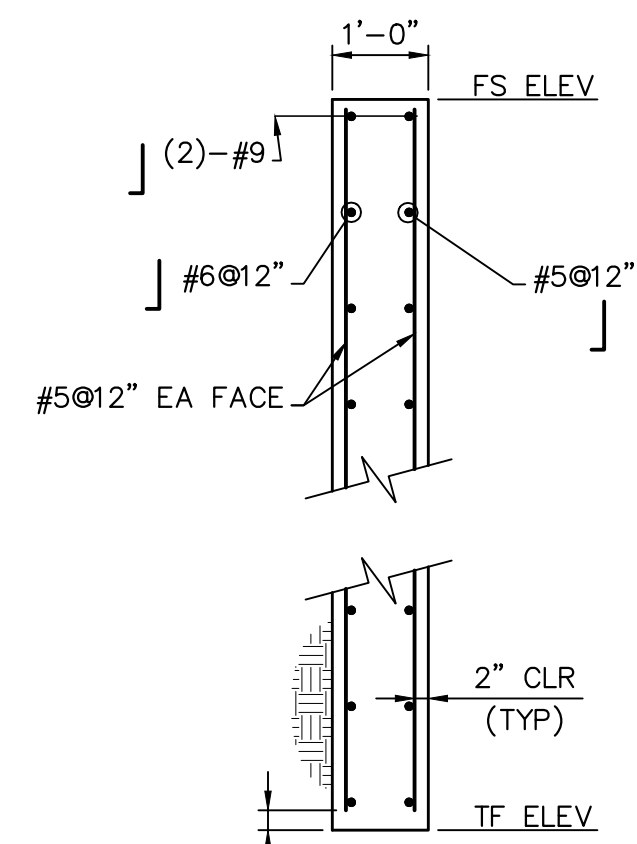
SANTA ANA RIVER TRAIL  
PHASE III-MISSION ZANJA  
NEW ALIGNMENT  
BRIDGE GENERAL PLAN

J.L. REF.	W.O. NO.	PLAN SCALE	SHT. NO.	TOT. SHT'S.
J.L. 10766	H13463	PER PLAN	8	10

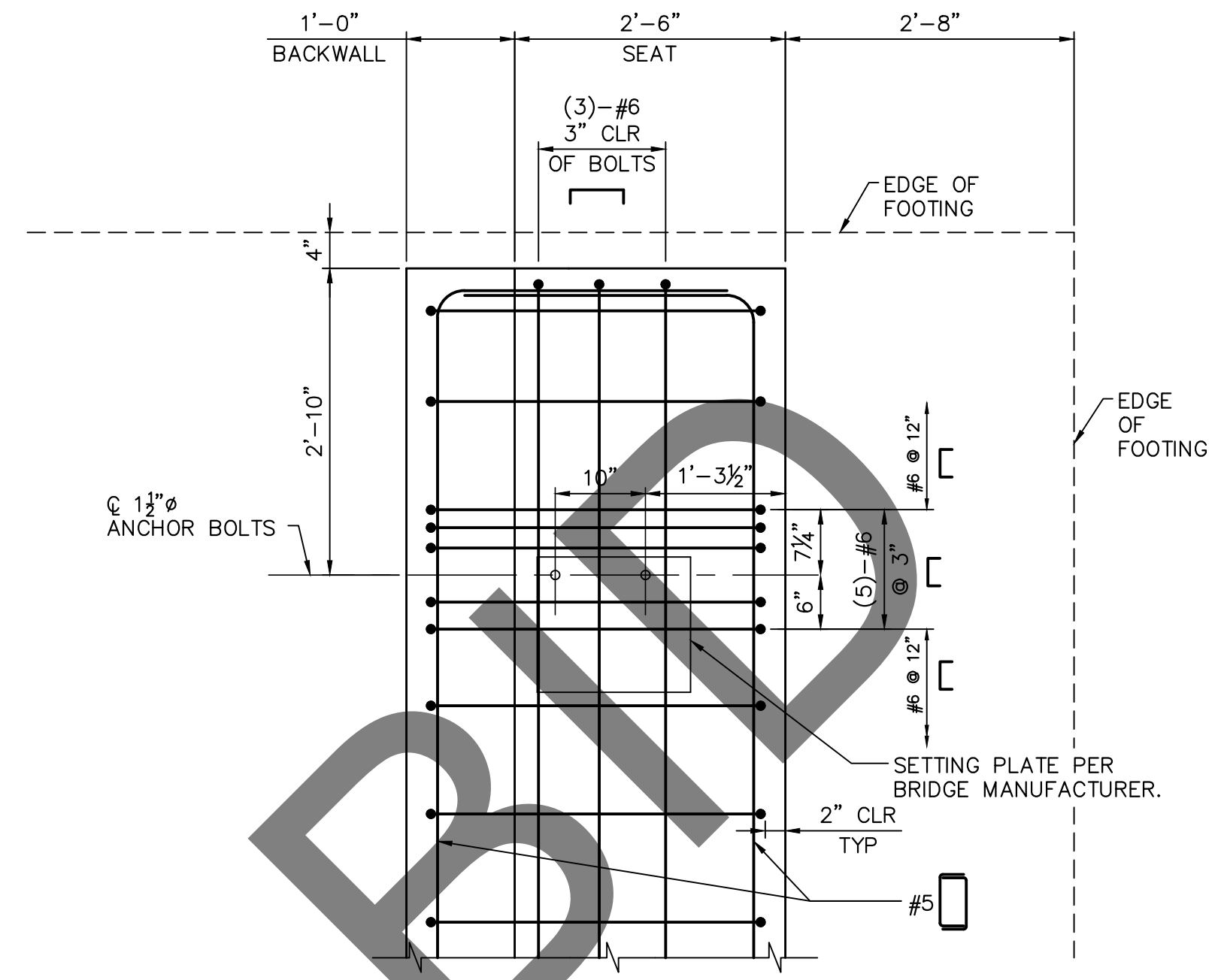




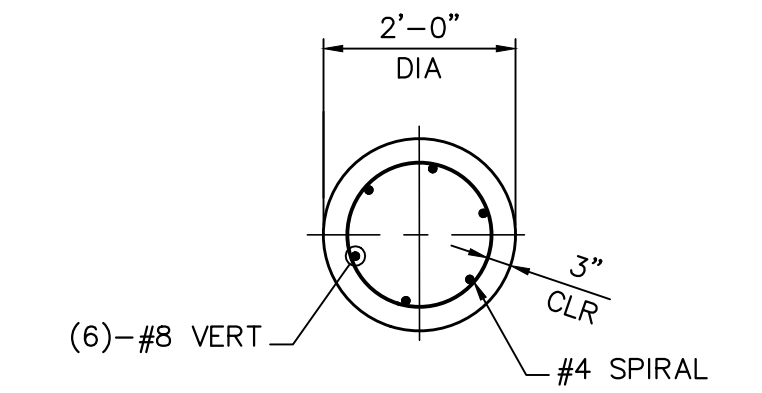
**3 WINGWALL CONNECTION DETAIL**  
SCALE: 1/2" = 1'-0"



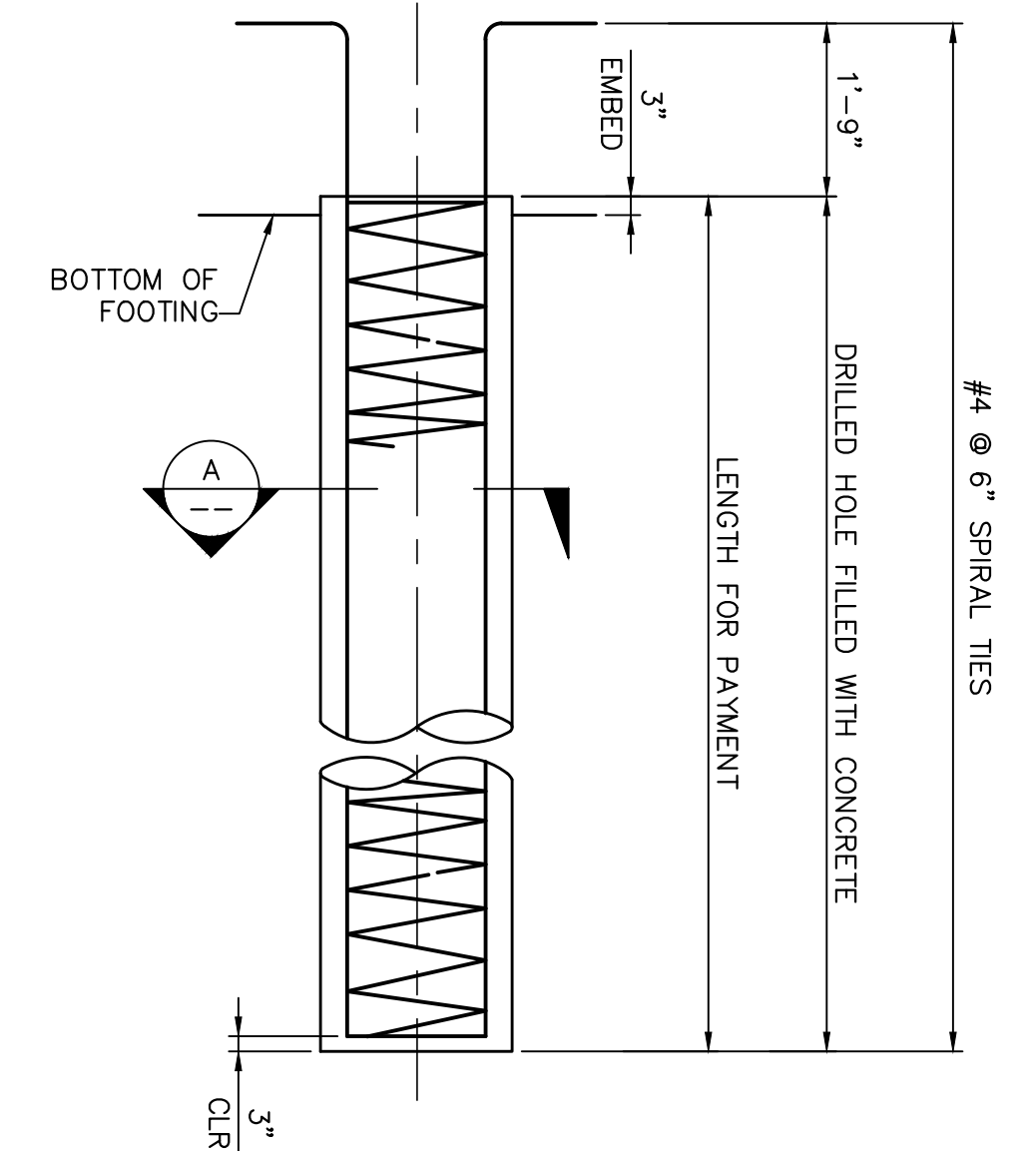
**SECTION C-C**  
SCALE: 1/2" = 1'-0"



**4 TYPICAL ABUTMENT ANCHOR REINFORCING**  
SCALE: 3/4" = 1'-0"



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

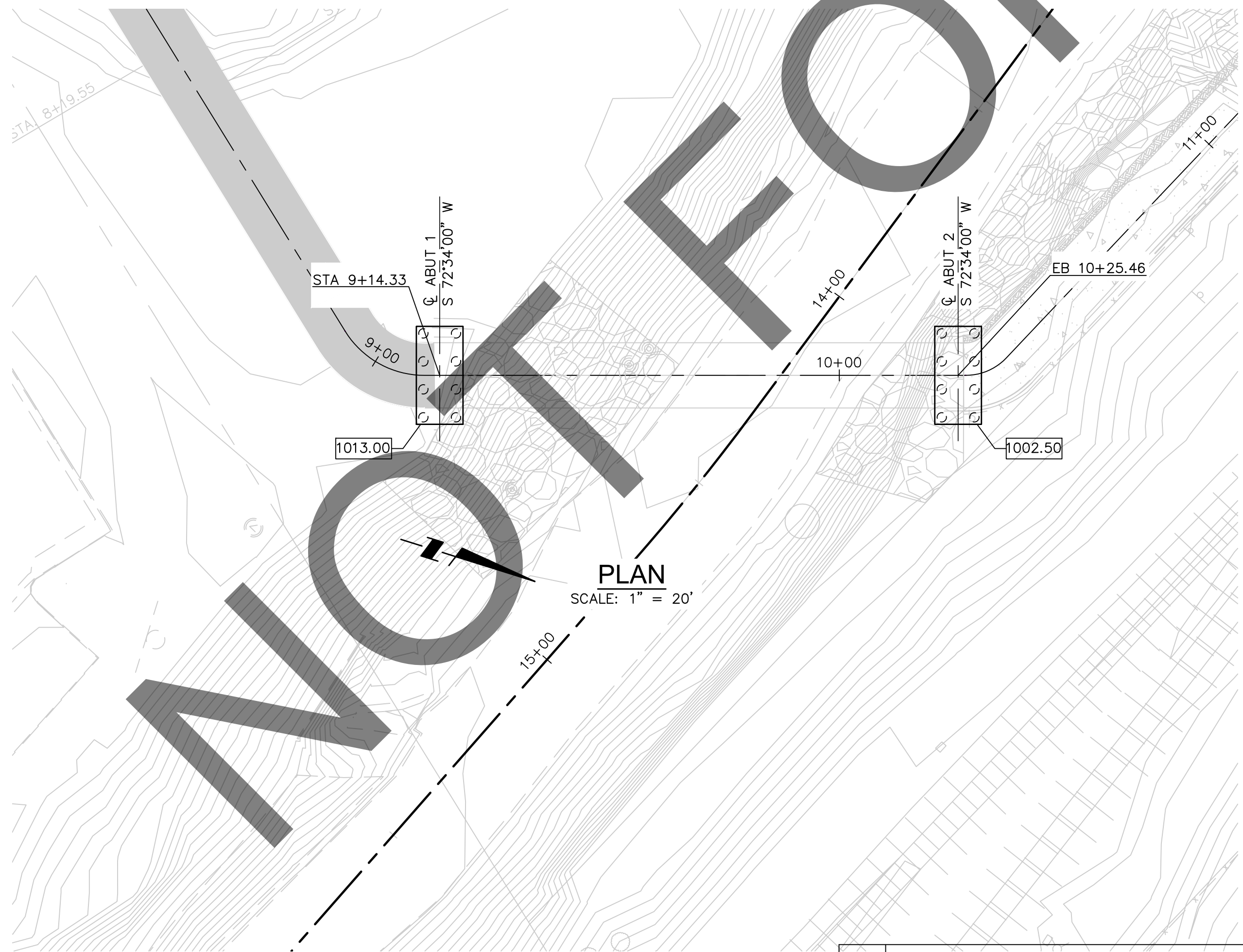


**2 CIDH PILE DETAIL**  
SCALE: 1/2" = 1'-0"

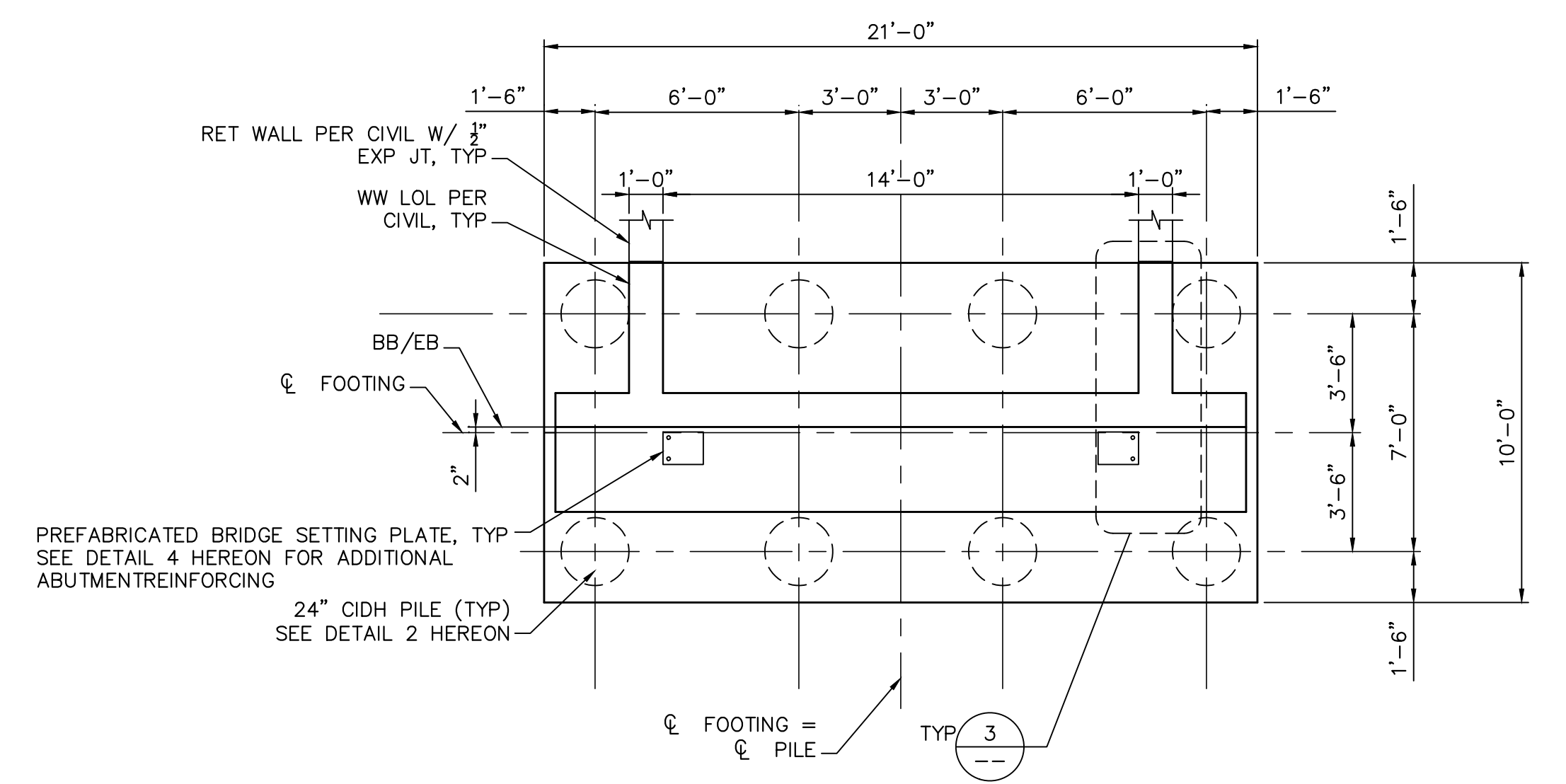
LOCATION	PILE TYPE	NOMINAL RESISTANCE		DESIGN TIP ELEVATIONS	SPECIFIED TIP ELEVATIONS
		COMPRESSION	TENSION		
ABUT 1	24" DIA CIDH	320 kip	213 kip	972.00	972.00
ABUT 2	24" DIA CIDH	320 kip	213 kip	961.50	961.00

- NOTES:**
- SEE GENERAL PLAN FOR GENERAL NOTES AND DESIGN CRITERIA.
  - FOR PILE LAYOUT SEE DETAIL 1 HEREON.

- LEGEND:**
- XXX.XX BOTTOM OF FOOTING ELEVATION
  - CIDH PILE



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



**1 ABUTMENT FOOTING PLAN**  
SCALE: 1/4" = 1'-0"

MARK	REVISIONS	DATE

**CDA CHO DESIGN ASSOCIATES, INC.**  
3601 W. MACARTHUR BLVD, #903  
SANTA ANA, CA 92704  
PHONE: (714) 427-0681

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

FIELD CHANGES

SAN BERNARDINO COUNTY  
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: CC CC WC  
RECOMMENDED BY: *Chris Nguyen* 07/29/2024  
CHRIS NGUYEN, P.E. ENGINEERING MANAGER  
APPROVED BY: *Levi Li* 07/29/2024  
LEI LI, P.E. SUPERVISING ENGINEER DEPUTY DIRECTOR

SANTA ANA RIVER TRAIL  
PHASE III-MISSION ZANJA  
NEW ALIGNMENT  
BRIDGE FOUNDATION PLAN

J.L. REF.	W.O. NO.	PLAN SCALE	SHT. NO.	TOT. SHT'S.
J.L. 10766	H13463	PER PLAN	9	10



**PREFABRICATED STEEL BRIDGE SPECIFICATIONS:**

**REQUIREMENTS:**

PREFABRICATED STEEL PEDESTRIAN BRIDGE SHALL BE A FULLY ENGINEERED, CLEAR SPAN BRIDGE CONFORMING TO THE DIMENSIONS AND LAYOUT SHOWN ON THE PLANS.

QUALIFIED SUPPLIERS. PROPOSED SUPPLIERS SHALL HAVE AT LEAST TEN (10) YEARS OF EXPERIENCE DESIGNING AND FABRICATING THESE TYPES OF STRUCTURES AND A MINIMUM OF TEN (10) SUCCESSFUL BRIDGE PROJECTS, OF SIMILAR CONSTRUCTION, EACH OF WHICH HAS BEEN IN SERVICE AT LEAST SEVEN (7) YEARS. LIST THE LOCATION, BRIDGE SIZE, OWNER, AND A CONTACT FOR REFERENCE FOR EACH PROJECT.

THE ENGINEER WILL EVALUATE AND VERIFY THE ACCURACY OF THE SUBMITTAL PRIOR TO BID. IF THE ENGINEER DETERMINES THAT THE QUALIFYING CRITERIA HAVE NOT BEEN MET, THE CONTRACTOR'S PROPOSED SUPPLIER SHALL BE REJECTED. THE ENGINEER'S DECISION SHALL BE FINAL.

THE MANUFACTURER'S REPRESENTATIVE IS TO ATTEND THE PROJECT PRE-BID AND/OR PRE-CONSTRUCTION MEETING.

THE CONTRACTOR SHALL PROVIDE THE FOLLOWING DOCUMENTATION WITH THE BID:

- a) PRODUCT LITERATURE
- b) RELATED DOCUMENTATION TO INCLUDE:
  1. REPRESENTATIVE DESIGN CALCULATIONS
  2. REPRESENTATIVE DRAWINGS
  3. SPICING AND ERECTION PROCEDURES
  4. WARRANTY INFORMATION
  5. INSPECTION AND MAINTENANCE PROCEDURES
  6. AISC SHOP CERTIFICATION
  7. AWS CERTIFIED FABRICATOR CERTIFICATION
  8. WELDER QUALIFICATIONS
  9. EVIDENCE OF 2 CERTIFIED WELD INSPECTORS (CW'S) ON STAFF

**GENERAL FEATURES OF DESIGN:**

- a) BRIDGE SYSTEM TYPE

BRIDGE SHALL BE DESIGNED AS A PRATT TRUSS, OR EQUAL, THAT HAS ONE DIAGONAL PER TRUSS PANEL AND PLUMB END VERTICAL MEMBERS. INTERIOR VERTICAL MEMBERS SHALL BE PERPENDICULAR TO THE CHORD FACES.

- 1) BRIDGE SHALL BE DESIGNED UTILIZING AN H-SECTION CONFIGURATION WHERE THE FLOOR BEAMS ARE PLACED UP INSIDE THE TRUSSES AND ATTACHED TO THE TRUSS VERTICALS.
- 2) THE BRIDGE MANUFACTURER SHALL DETERMINE THE DISTANCE FROM THE TOP OF THE DECK TO THE TOP AND BOTTOM TRUSS MEMBERS BASED UPON STRUCTURAL AND/OR SHIPPING REQUIREMENTS.
- 3) THE TOP OF THE TOP CHORD SHALL NOT BE LESS THAN 48 INCHES ABOVE THE DECK (MEASURED FROM THE HIGH POINT OF THE RIDING SURFACE) ON BIKE PATH STRUCTURES.

- b) MEMBER COMPONENTS

ALL MEMBERS OF THE VERTICAL TRUSSES (TOP AND BOTTOM CHORDS, VERTICALS, AND DIAGONALS) SHALL BE FABRICATED FROM SQUARE AND/OR RECTANGULAR STRUCTURAL STEEL TUBING. OTHER STRUCTURAL MEMBERS AND BRACING SHALL BE FABRICATED FROM STRUCTURAL STEEL SHAPES OR SQUARE AND RECTANGULAR STRUCTURAL STEEL TUBING.

UNLESS THE FLOOR AND FASTENINGS ARE SPECIFICALLY DESIGNED TO PROVIDE ADEQUATE LATERAL SUPPORT TO THE TOP FLANGE OF OPEN SHAPE STRINGERS (W-SHAPES OR CHANNELS), A MINIMUM OF ONE STIFFENER SHALL BE PROVIDED IN EACH STRINGER AT EVERY FLOOR BEAM LOCATION.

- c) ATTACHMENTS

- 1) SAFETY RAILS - HORIZONTAL SYSTEM

SAFETY RAILS SHALL CONSIST ONLY OF HORIZONTAL STEEL TUBES. HORIZONTAL TUBE SAFETY RAILS SHALL BE PLACED ON THE STRUCTURE UP TO A MINIMUM HEIGHT OF 3'-6" ABOVE THE DECK SURFACE. STEEL TUBING SHALL BE PLACED SO AS TO PREVENT A 4" SPHERE FROM PASSING THROUGH THE TRUSS UP TO 3'-6" AND AN 8" SPHERE FROM 3'-6" TO 4'-6" ABOVE DECK SURFACE. SAFETY RAILS SHALL BE PLACED ON THE INSIDE OF THE STRUCTURE. SAFETY RAILS PLACED ON THE INSIDE OF THE TRUSS, FLUSH WITH INTERIOR VERTICALS AND SHALL HAVE THEIR ENDS SEALED AND GROUND SMOOTH SO AS TO PRODUCE NO SHARP EDGES.

THE SAFETY RAIL SYSTEM SHALL BE DESIGNED FOR AN INFILL LOADING OF 200 POUNDS, APPLIED HORIZONTALLY AT RIGHT ANGLES, TO A ONE SQUARE FOOT AREA AT ANY POINT IN THE SYSTEM.

- 2) TOE RAIL

THE BRIDGE SHALL BE SUPPLIED WITH A STEEL CHANNEL TOE RAIL WITH RADIUS EDGES MOUNTED TO THE INSIDE FACE OF BOTH TRUSSES. THE TOE RAIL SHALL BE A MINIMUM OF 4" HIGH. TOE RAIL SHALL BE WELDED TO THE TRUSS MEMBERS AT A HEIGHT ADEQUATE TO PROVIDE A 2" GAP BETWEEN THE BOTTOM OF THE RAIL AND THE TOP OF THE DECK.

- 3) RUB RAILS

THE BRIDGE SHALL BE SUPPLIED WITH A STEEL CHANNEL RUB RAIL WITH RADIUS EDGES. THE STEEL CHANNEL SHALL BE A MINIMUM OF 4" HIGH. ENDS OF EACH PIECE SHALL HAVE THEIR ENDS SEALED AND GROUND SMOOTH SO AS TO PRODUCE NO SHARP EDGES.

RUB RAILS SHALL BE WELDED FLUSH TO THE INSIDE FACE OF THE BRIDGE TRUSS VERTICALS AT EACH SUPPORT LOCATION.

THE TOP OF THE RUB RAIL SHALL BE 3'-6" ABOVE THE TOP OF THE DECK (MEASURED AT THE OUTSIDE EDGE OF THE DECK).

- d) CAMBER

THE BRIDGE SHALL HAVE A VERTICAL CAMBER DIMENSION AT MID-SPAN EQUAL TO 100% OF THE FULL DEAD LOAD DEFLECTION PLUS 1% OF THE FULL LENGTH OF THE BRIDGE.

**MATERIALS:**

UNPAINTED WEATHERING STEEL:

BRIDGES SHALL BE FABRICATED FROM HIGH STRENGTH, LOW ALLOY, ATMOSPHERIC CORROSION RESISTANT ASTM A847 COLD FORMED WELDED SQUARE AND RECTANGULAR TUBING AND/OR ASTM A588, OR ASTM A242, ASTM A606 PLATE AND STRUCTURAL STEEL SHAPES (FY = 50,000 PSI). THE MINIMUM CORROSION INDEX OF ATMOSPHERIC CORROSION RESISTANT STEEL, AS DETERMINED IN ACCORDANCE WITH ASTM G101, SHALL BE 6.0.

DECKING:

THE BRIDGE SHALL BE FURNISHED WITH EDGE DECK SUPPORTS AND A STAY-IN-PLACE GALVANIZED STEEL FORM DECK SUITABLE FOR PLACING A REINFORCED LIGHTWEIGHT CONCRETE SLAB. THE FORM DECK SHALL BE DESIGNED TO CARRY THE DEAD LOAD OF THE WET CONCRETE, WEIGHT OF THE FORM DECKING, PLUS A CONSTRUCTION LOAD OF 20 PSF UNIFORM LOAD OR A 145 POUND CONCENTRATED LOAD ON A 1-0 WIDE SECTION OF DECK. EDGE SUPPORT DEFLECTIONS ARE LIMITED TO 1/180 OF THE SPAN OR 3/4, WHICHEVER IS LESS.

THE FORM DECK SHALL BE EITHER SMOOTH OR COMPOSITE. COMPOSITE DECKING SHALL NOT BE USED AS REINFORCING WHEN DESIGNING FOR VEHICULAR WHEEL LOADS. THE FORM DECK MATERIAL SHALL BE SUPPLIED IN ACCORDANCE WITH ASTM A653 AND GALVANIZED TO A MINIMUM G90 COATING WEIGHT. THE DECK SLAB SHALL BE CONSTRUCTED USING LIGHT WEIGHT CONCRETE (104-110 PCF) WITH A MINIMUM 28-DAY STRENGTH OF 2,500 PSI.

**SUBMITTALS:**

THE CONTRACTOR SHALL SUBMIT THE FOLLOWING FOR APPROVAL PRIOR TO THE START OF WORK OR FABRICATION OF MATERIALS:

DRAWINGS: SCHEMATIC DRAWINGS AND DIAGRAMS SHALL BE SUBMITTED FOR REVIEW. ALL RELATIVE DESIGN INFORMATION SUCH AS MEMBER SIZES, BRIDGE REACTIONS, AND GENERAL NOTES SHALL BE CLEARLY SPECIFIED ON THE DRAWINGS. DRAWINGS SHALL HAVE CROSS REFERENCED DETAILS AND SHEET NUMBERS. ALL DRAWINGS SHALL BE SIGNED AND SEALED BY A CALIFORNIA REGISTERED CIVIL OR STRUCTURAL ENGINEER.

STRUCTURAL CALCULATIONS: STRUCTURAL CALCULATIONS FOR THE BRIDGE SUPERSTRUCTURE SHALL BE SUBMITTED BY THE BRIDGE MANUFACTURER AND REVIEWED BY THE APPROVING ENGINEER. ALL CALCULATIONS SHALL BE SIGNED AND SEALED BY A CALIFORNIA REGISTERED CIVIL OR STRUCTURAL ENGINEER. THE CALCULATIONS SHALL INCLUDE ALL DESIGN INFORMATION NECESSARY TO DETERMINE THE STRUCTURAL ADEQUACY OF THE BRIDGE. THE CALCULATIONS SHALL INCLUDE THE FOLLOWING:

- a) ALL AASHTO LRFD CHECKS FOR AXIAL, BENDING AND SHEAR FORCES IN THE CRITICAL MEMBER OF EACH TRUSS MEMBER TYPE (I.E. TOP CHORD, BOTTOM CHORD, FLOOR BEAM, VERTICAL, ETC.). BRIDGE SHALL BE DESIGNED FOR THE SITE SPECIFIC SEISMIC HAZARDS.
- b) CHECKS FOR THE CRITICAL CONNECTION FAILURE MODES FOR EACH TRUSS MEMBER TYPE (I.E. VERTICAL, DIAGONAL, FLOOR BEAM, ETC.). SPECIAL ATTENTION SHALL BE GIVEN TO ALL WELDED TUBE ON TUBE CONNECTIONS.
- c) ALL BOLTED SPLICE CONNECTIONS.
- d) MAIN TRUSS DEFLECTION CHECKS.
- e) U-FRAME STIFFNESS CHECKS (USED TO DETERMINE K FACTORS FOR OUT-OF-PLANE BUCKLING OF THE TOP CHORD).
- f) DECK DESIGN.  
NOTE: THE ANALYSIS AND DESIGN OF TRIANGULATED TRUSS BRIDGES SHALL ACCOUNT FOR MOMENTS INDUCED IN MEMBERS DUE TO JOINT FIXITY WHERE APPLICABLE. MOMENTS DUE TO BOTH TRUSS DEFLECTION AND JOINT ECCENTRICITY SHALL BE CONSIDERED.

WELDER CERTIFICATIONS AND PROCEDURES IN COMPLIANCE WITH AWS STANDARD QUALIFICATION TESTS.

WELDING AND WELD PROCEDURE QUALIFICATION TESTS SHALL CONFORM TO THE PROVISIONS OF ANSI/AWS D1.1 "STRUCTURAL WELDING CODE", LATEST EDITION. FILLER METAL SHALL BE IN ACCORDANCE WITH THE APPLICABLE AWS FILLER METAL SPECIFICATION. FOR EXPOSED, BARE, UNPAINTED APPLICATIONS OF CORROSION RESISTANT STEELS (I.E. ASTM A588 AND A847), THE FILLER METAL SHALL BE IN ACCORDANCE WITH AWS D1.1

WELDERS, WELDERS SHALL BE PROPERLY CERTIFIED, EACH OF WHOM SHALL SUBMIT CERTIFICATION OF SATISFACTORILY PASSING AWS STANDARD QUALIFICATION TESTS FOR ALL POSITIONS WITH UNLIMITED THICKNESS OF BASE METAL, HAVE A MINIMUM OF 6 MONTHS EXPERIENCE IN WELDING TUBULAR STRUCTURES AND HAVE DEMONSTRATED THE ABILITY TO MAKE UNIFORM SOUND WELDS OF THE TYPE REQUIRED.

CERTIFIED MILL TEST REPORT FOR ALL STRUCTURAL STEEL.

**FABRICATION:**

GENERAL REQUIREMENTS

- a) DRAIN HOLES. WHEN THE COLLECTION OF WATER INSIDE A STRUCTURAL TUBE IS A POSSIBILITY, EITHER DURING CONSTRUCTION OR DURING SERVICE, THE TUBE SHALL BE PROVIDED WITH A DRAIN HOLE AT ITS LOWEST POINT TO LET WATER OUT.
- b) WELDS. SPECIAL ATTENTION SHALL BE GIVEN TO DEVELOPING SUFFICIENT WELD THROATS ON TUBULAR MEMBERS. FILLET WELD DETAILS SHALL BE IN ACCORDANCE WITH AWS D1.1, SECTION 3.9.2, UNLESS DETERMINED OTHERWISE BY TESTING, THE LOSS FACTOR "Z" FOR HEEL WELDS SHALL BE IN ACCORDANCE WITH AWS TABLE 2.9. FILLET WELDS WHICH RUN ONTO THE RADIUS OF A TUBE SHALL BE BUILT UP TO OBTAIN THE FULL THROAT THICKNESS. THE MAXIMUM ROOT OPENINGS OF FILLET WELDS SHALL NOT EXCEED 3/16" IN CONFORMANCE WITH AWS D1.1, SECTION 5.22. WELD SIZE OR EFFECTIVE THROAT DIMENSIONS SHALL BE INCREASED IN ACCORDANCE WITH THIS SAME SECTION WHEN APPLICABLE (I.E. FIT-UP GAPS > 1/16").
- c) QUALITY CERTIFICATION. BRIDGE SHALL BE FABRICATED BY A FABRICATOR WHO IS CURRENTLY CERTIFIED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION TO HAVE THE PERSONNEL, ORGANIZATION, EXPERIENCE, CAPABILITY, AND COMMITMENT TO PRODUCE FABRICATED STRUCTURAL STEEL FOR THE CATEGORY INTERMEDIATE "MAJOR STEEL BRIDGES" AS SET FORTH IN THE AISC CERTIFICATION PROGRAM WITH FRACTURE CRITICAL ENDORSEMENT. BRIDGE FABRICATOR SHALL ALSO BE CURRENTLY CERTIFIED BY THE AMERICAN WELDING SOCIETY (AWS) AS AN AWS CERTIFIED FABRICATOR. QUALITY CONTROL SHALL BE IN ACCORDANCE WITH PROCEDURES OUTLINED FOR AISC CERTIFICATION. FABRICATOR SHALL SUBMIT CERTIFICATE OF COMPLIANCE STATING THAT THE BRIDGE CONFORMS WITH THE APPROVED SHOP DRAWINGS, CALCULATIONS AND SPECIFICATIONS.
- d) WELD TESTING. ALL WELD TESTING SHALL BE DONE BY A PERSON QUALIFIED IN ACCORDANCE WITH ASNT SNT-TC-1A. ALL FULL PENETRATION WELDS IN THE CHORDS ARE TO BE ULTRASONICALLY TESTED IN ACCORDANCE WITH AWS SPECIFICATIONS. ALL FILLET AND PARTIAL PENETRATION GROOVE WELDS SHALL BE 100 PERCENT VISUALLY INSPECTED WITH 10 PERCENT ALSO BEING MAGNETIC PARTICLE TESTED IN ACCORDANCE WITH AWS SPECIFICATIONS. A WRITTEN TESTING REPORT SHALL BE SUBMITTED UPON COMPLETION.

**FINISHING:**

BLAST CLEANING

- a) BARE APPLICATIONS OF ENHANCED CORROSION RESISTANT STEELS.

ALL BLAST CLEANING SHALL BE DONE IN A DEDICATED OSHA APPROVED INDOOR FACILITY. BLAST OPERATIONS SHALL USE BEST MANAGEMENT PRACTICES AND EXERCISE ENVIRONMENTALLY FRIENDLY BLAST MEDIA RECOVERY SYSTEMS.

TO AID IN PROVIDING A UNIFORMLY "WEATHERED" APPEARANCE, ALL EXPOSED SURFACES OF STEEL SHALL BE BLAST CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATIONS NO. 7 BRUSH-OFF BLAST CLEANING, SSPC-SP7 LATEST EDITION.

EXPOSED SURFACES OF STEEL SHALL BE DEFINED AS THOSE SURFACES SEEN FROM THE DECK AND FROM OUTSIDE OF THE STRUCTURE. STRINGERS, FLOOR BEAMS, LOWER BRACE DIAGONALS AND THE INSIDE FACE OF THE TRUSS BELOW DECK AND BOTTOM FACE OF THE BOTTOM CHORD NEED NOT BE BLASTED.

**DELIVERY AND ERECTION:**

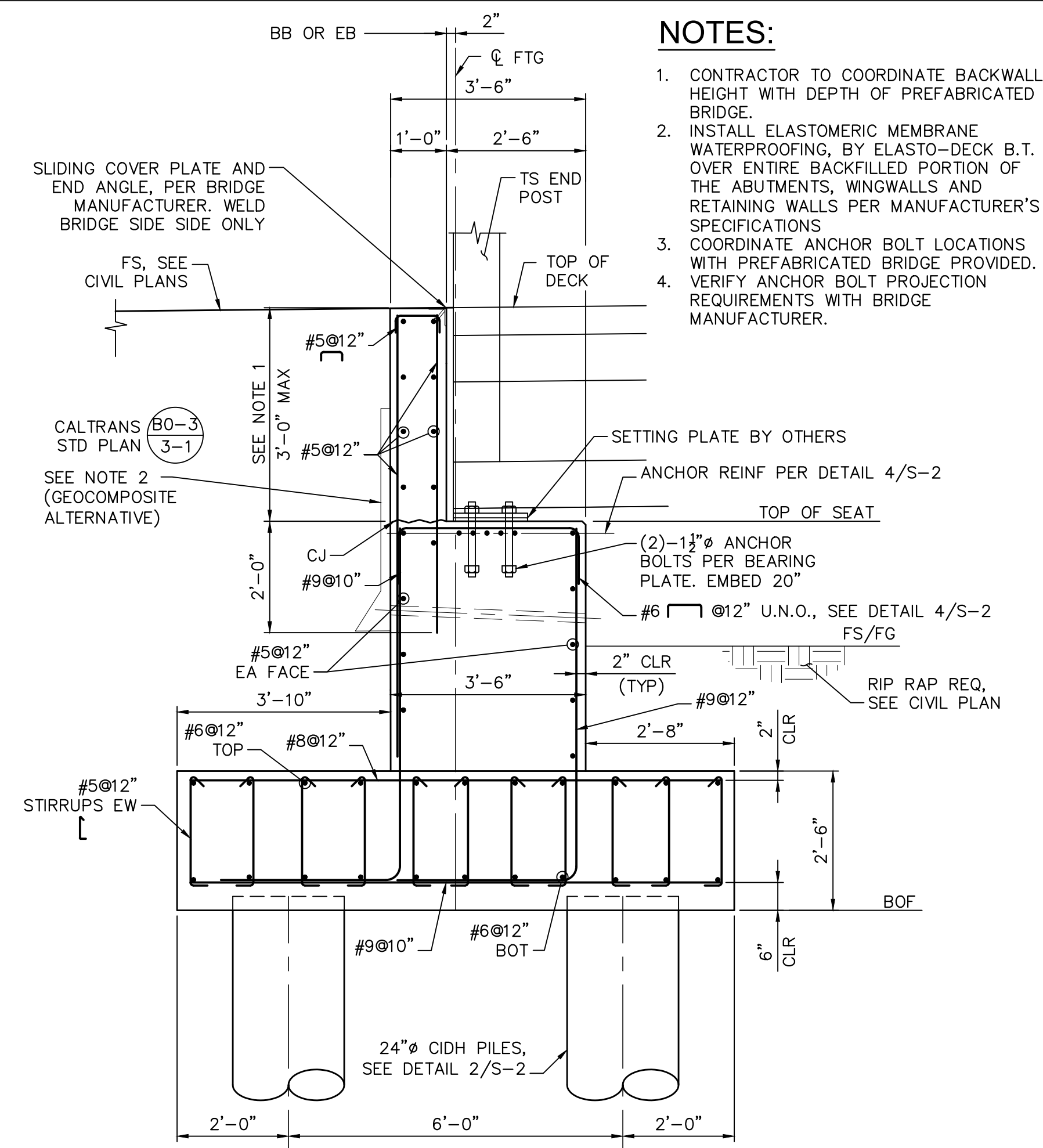
DELIVERY IS MADE TO A LOCATION NEAREST THE SITE WHICH IS EASILY ACCESSIBLE TO NORMAL OVER-THE-ROAD TRACTOR/TRAILER EQUIPMENT. ALL TRUCKS DELIVERING BRIDGE MATERIALS WILL NEED TO BE UNLOADED AT THE TIME OF ARRIVAL.

THE MANUFACTURER WILL PROVIDE DETAILED, WRITTEN INSTRUCTION IN THE PROPER LIFTING PROCEDURES AND SPICING PROCEDURES.

CHORD SPLICES SHALL HAVE LOOSE SPLICE PLATES THAT ARE INSERTED INTO THE TUBULAR CHORD MEMBERS. THE SPLICE PLATES SHALL HAVE A SPLICE NUT RETENTION DEVICE CONSISTING OF A CAPTURE PLATE(S) WITH HEXAGONAL HOLES HELD IN PLACE BY EITHER AN ANGLE ON EACH SIDE OF THE CAPTURE PLATE(S) OR C CHANNEL(S). TACK WELDING OF SPLICE NUTS TO SPLICE PLATES IS NOT ACCEPTABLE UNLESS AN APPROVED WELD PROCEDURE SPECIFICATION (WPS) CAN BE PROVIDED. THE SECTIONS ARE THEN BOLTED TOGETHER BY BOLTING THROUGH THE WALL OF THE TUBE, NUT CAPTURE ASSEMBLY AND NUT.

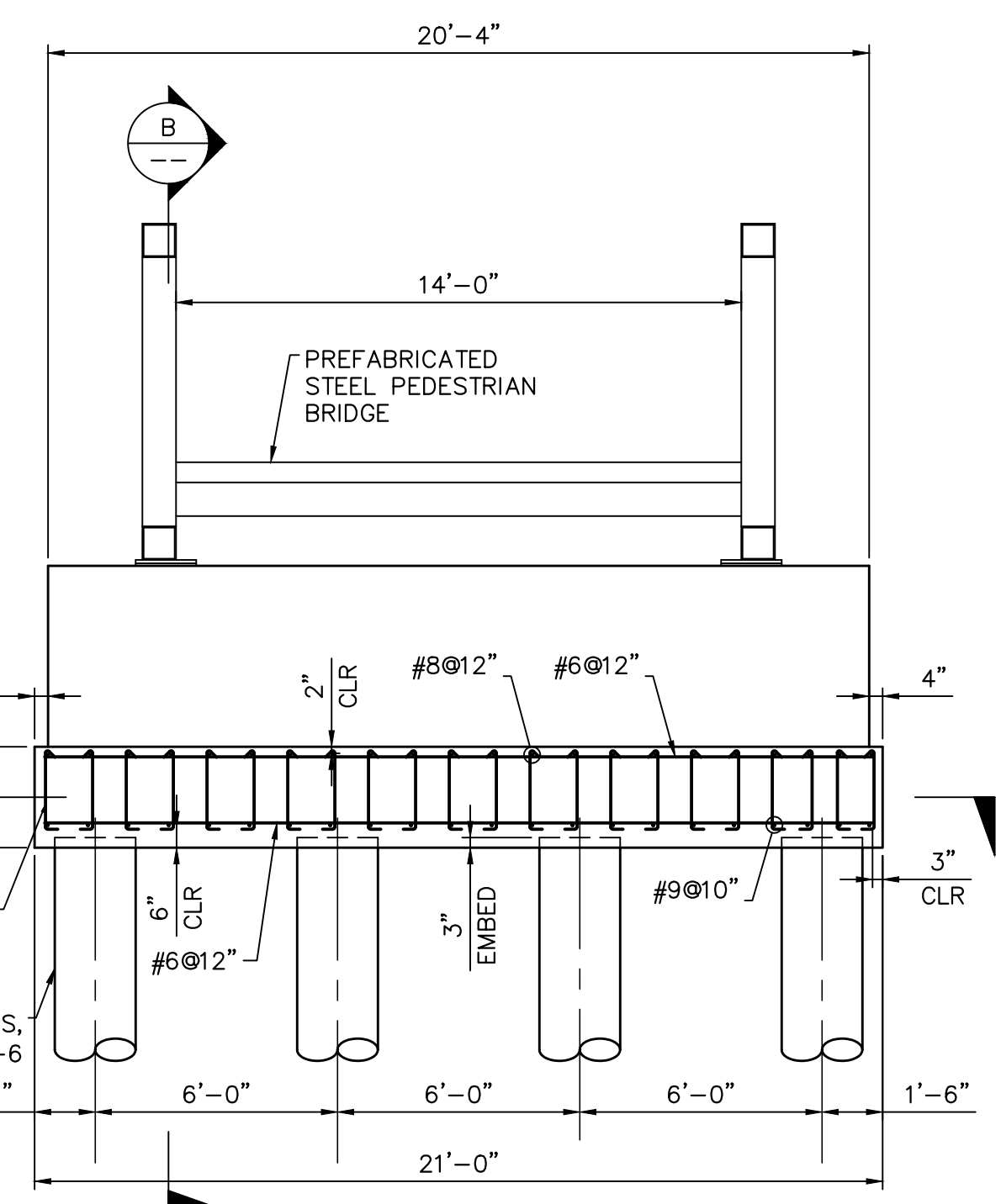
THE BRIDGE MANUFACTURER SHALL PROVIDE WRITTEN INSPECTION AND MAINTENANCE PROCEDURES TO BE FOLLOWED BY THE CITY.

BRIDGE BEARINGS SHALL CONSIST OF A STEEL SETTING PLATE PLACED ON THE ABUTMENT AND THE BRIDGE BEARING PLATE WHICH IS WELDED TO THE BRIDGE STRUCTURE. ONE END OF THE BRIDGE WILL BE FIXED AND WILL HAVE FULLY TIGHTENED NUTS ON THE ANCHOR BOLTS. THE EXPANSION END WILL HAVE FINGER TIGHT ONLY NUTS TO ALLOW MOVEMENT UNDER THERMAL EXPANSION OR CONTRACTION. BOTH ENDS OF BRIDGE SHALL HAVE SLOTTED HOLES TO FACILITATE INSTALLATION TOLERANCE.



**TYPICAL ABUTMENT SECTION B-B**

SCALE: 1/2" = 1'-0"



**ABUTMENT 1 ELEVATION A-A**

SCALE: 1/4" = 1'-0"

**NOTE:**  
ABUTMENT 1 SHOWN,  
ABUTMENT 2 SIMILAR

S-3

DATE			
APPR.			
REVISIONS			
MARK			
DATE			
APPR.			
REVISIONS			
MARK			

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

FIELD CHANGES



SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY:	RECOMMENDED BY:	DATE	
CC	CC	WC	07/29/2024
LEI LI, P.E. SUPERVISING ENGINEER	CHRIS NGUYEN, P.E. ENGINEERING MANAGER	DATE	
07/29/2024	07/29/2024	DATE	
	MERVAT M. MIKHAL, P.E. DEPUTY DIRECTOR	DATE	

SANTA ANA RIVER TRAIL PHASE III-MISSION ZANJA NEW ALIGNMENT				
TYPICAL BRIDGE NOTES AND DETAILS				
J.L. REF.	W.O. NO.	PLAN SCALE	SHT. NO.	TOT. SHT'S.
J.L. 10766	H13463	PER PLAN	10	10

