

## GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:	AASHTO LRFD Bridge Design Specifications, 8th Edition and Caltrans Amendments, dated April 2019
	AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges (2009)
SEISMIC DESIGN:	Caltrans Seismic Design Criteria (SDC), Version 2.0, April 2019.
DEAD LOAD:	Includes 35 psf for future wearing surface.
LIVE LOAD:	H10 design maintenance vehicle Pedestrian 90 psf
SEISMIC LOAD:	See "SITE SPECIFIC ACCELERATION RESPONSE SPECTRUM"
REINFORCED CONCRETE:	$f_y = 60,000$ psi (ASTM A706, Grade 60) $f'_c = 4,000$ psi $n = 8$
PRESTRESSED CONCRETE:	See "PRESTRESSING NOTES" on "PRESTRESSED SLAB GIRDER DETAILS" Sheet for concrete compressive strength.
STRUCTURAL STEEL:	Steel Pipe Piles: ASTM A252, $f_y = 45$ ksi
MISCELLANEOUS METAL:	Corrugated Steel Pipe: ASTM A760 Steel Plates: ASTM A36, $f_y = 36$ ksi Bolts: ASTM A307 Stainless Steel Pipe: ASTM A312, Type 316L
WELDING:	Miscellaneous Metal: AWS D1.1 (2015), Electrodes - $F_u = 70$ ksi Bar Reinforcement: AWS D1.4 (2018), Electrodes - $F_u = 90$ ksi Stainless Steel: AWS D1.6 (2017), Electrodes - $F_u = 70$ ksi
CONSTRUCTION:	Standard Specifications for Public Works Construction (2018) Standard Specifications - State of California Department of Transportation (2018)

## CONCRETE AND REINFORCING STEEL

- Concrete shall cure by keeping continuously wet for 7 days or by use of an approved curing compound.
- All forms shall be constructed so as to maintain the required position and shape during and after placing of concrete and be sufficiently tight to prevent the leakage of concrete.
- All reinforcing steel shall be new steel deformed bars and shall conform to ASTM A706, Grade 60,  $f_y = 60,000$  psi.
- Dimensions to reinforcing bars are to the center of the bar with the exception of concrete cover for reinforcing bars which is to be shown as clear distance.
- Concrete cover for reinforcing bars shall conform to AASHTO LRFD Specifications unless noted otherwise.
- All exposed edges of concrete members shall be rounded or beveled.
- Detailing, fabrication, and erection of reinforcing bars shall conform to American Concrete Institute Detailing Manual (ACI-315), latest edition.
- Bars shall be clean and free of rust, kinks, other irregularities, grease, or other material likely to impair bond. Bends shall be cold formed.
- Prior to placing concrete, reinforcing steel and embedded items shall be well secured in position.
- All reinforcing steel shall be accurately and securely tied in place.
- All reinforcement bends, hooks, and offsets shall comply with AASHTO LRFD Specifications unless noted otherwise.
- Unless otherwise shown on the Plans or approved by the Engineer, splices in adjacent reinforcing bars at any particular section shall be staggered.

## GENERAL CONSTRUCTION NOTES

- American Society for Testing and Materials (ASTM) designations refer to the latest editions of ASTM standards.
- The Contractor shall not stockpile construction materials and excavated soil on the bridge deck.
- The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.
- The Contractor shall protect existing utilities in place and notify all affected utility agencies prior to construction.
- Miscellaneous metal and hardware not embedded in concrete and exposed to air or water shall be galvanized unless specified otherwise.
- All steel parts to be galvanized shall be galvanized after fabrication.
- All signing, striping, and pavement markings shall be installed, relocated, or removed in accordance to California Manual on Uniform Traffic Control Devices (MUTCD), latest edition.
- Contractor to provide for dewatering of excavations from either surface water, ground water, or seepage.
- Contact William Man of the Agency's Geotechnical and Materials Engineering Division two weeks prior to any pile driving or excavation operations at (626) 458-4923.
- Adjacent piles shall not be constructed at the same time.
- Portions of existing chain link fence conflicting with the bridge shall be removed. After construction of the bridge is completed, the chain link fence shall be reconstructed per SPPWC 600-3 so that the maximum horizontal opening between the fence and the bridge is 3 inches.

## INDEX TO STANDARD PLANS

California Department of Transportation (Caltrans) Standard Plans, 2018	
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL
Standard Plans for Public Works Construction, 2012 (SPPWC)	
600-3	CHAIN LINK FENCE AND GATES
606-4	METAL HAND RAILINGS

Substructure design based on the following Geotechnical Report:

"Marvin Braude Beach Trail Gap Closure Project Geotechnical Investigation for Proposed Bridge Will Rogers State Beach, City of Los Angeles" and all subsequent addenda and memoranda prepared by Geotechnical and Materials Engineering Division  
Dated: October 24, 2018

All fill material and compaction techniques shall be in accordance with the above-referenced geotechnical report. All fills shall be compacted to at least 90% of the maximum dry unit weight as determined by the ASTM D method of compaction.

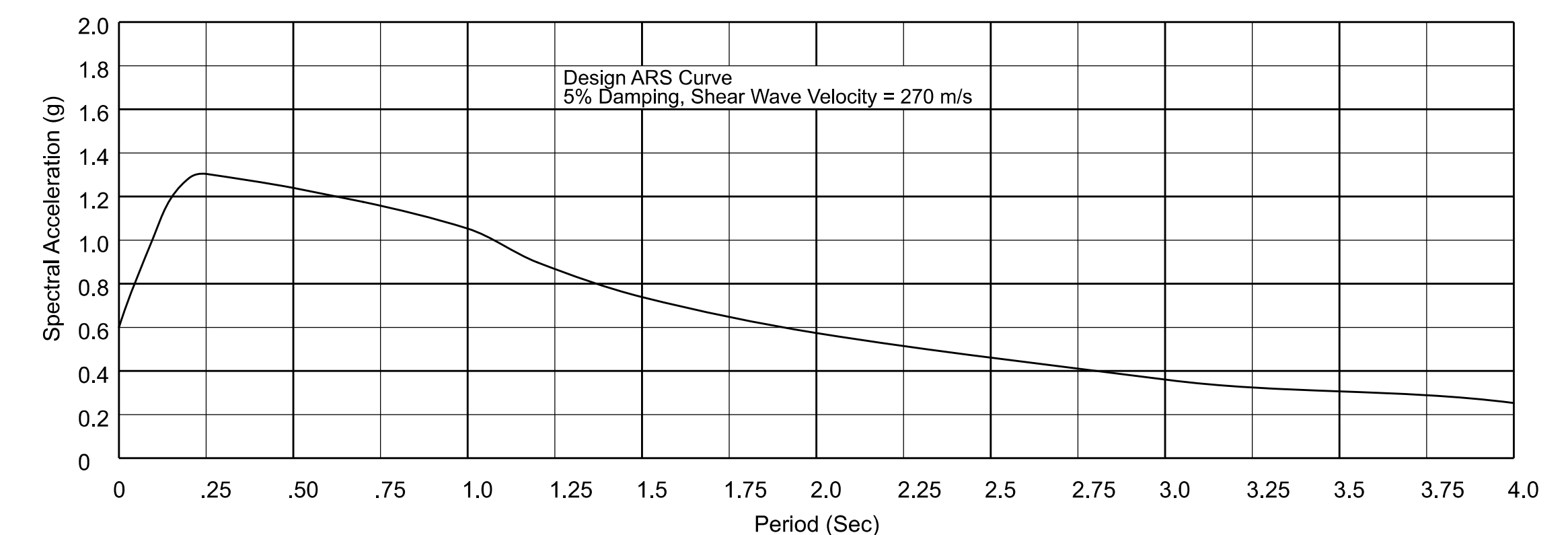
Groundwater level anticipation high in the subject area. Flooding should not be permitted.

Comply with the installation procedures as stated in Section 305 of the Standard Specifications for Public Works Construction.

### PILE DATA TABLE

LOCATION	PILE TYPE	MAXIMUM ALLOWABLE LOAD PER PILE*		CUT-OFF ELEV (ft)	MINIMUM EMBEDMENT DEPTH (ft)	SPECIFIED TIP ELEVATION (ft)
		COMPRESSION (k)	TENSION (k)			
ABUT 1	24" CISS	213	82	10.17	21.5	-23.50
ABUT 2	24" CISS	213	82	10.74	21.5	-23.50

\*Includes increased allowable load for temporary loads



## SITE SPECIFIC ACCELERATION RESPONSE SPECTRUM

CADD PROJECT FILE NAME: RDC0015071 - Marvin Braude Beach Trail Bikeway Bridge.dgn  
 CHECKER: A. WONG  
 DESIGNER: T. KAWAKATSU  
 DRAFTER: N. TORRES

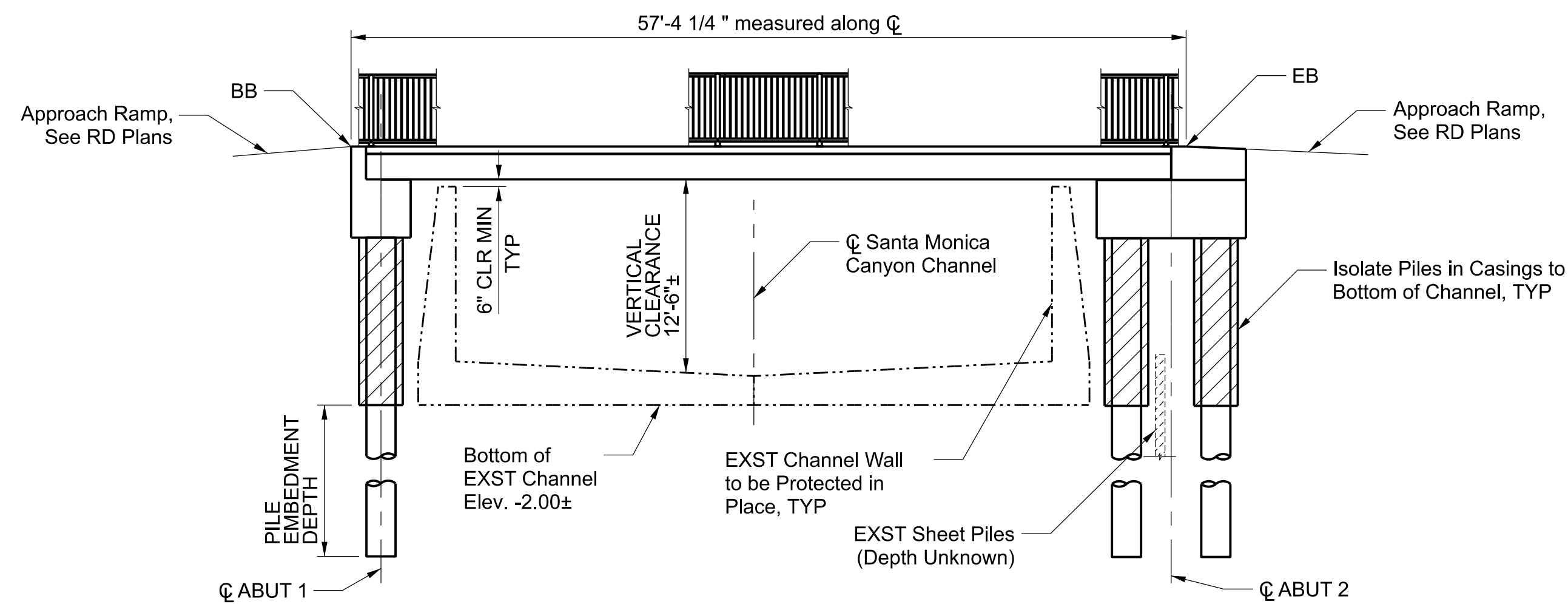
LOS ANGELES COUNTY PUBLIC WORKS			<b>MARVIN BRAUDE BEACH TRAIL GAP CLOSURE BIKEWAY BRIDGE</b> PROJECT ID NO. RDC0015071 NOTES AND REFERENCES							
REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>DATE</th> <th>MARK</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>			DATE	MARK	DESCRIPTION				 PROJECT ENGINEER	DWG PB630026 BR. NO. 4294
DATE	MARK	DESCRIPTION								

BB 20+19.21  
Elev. 16.00

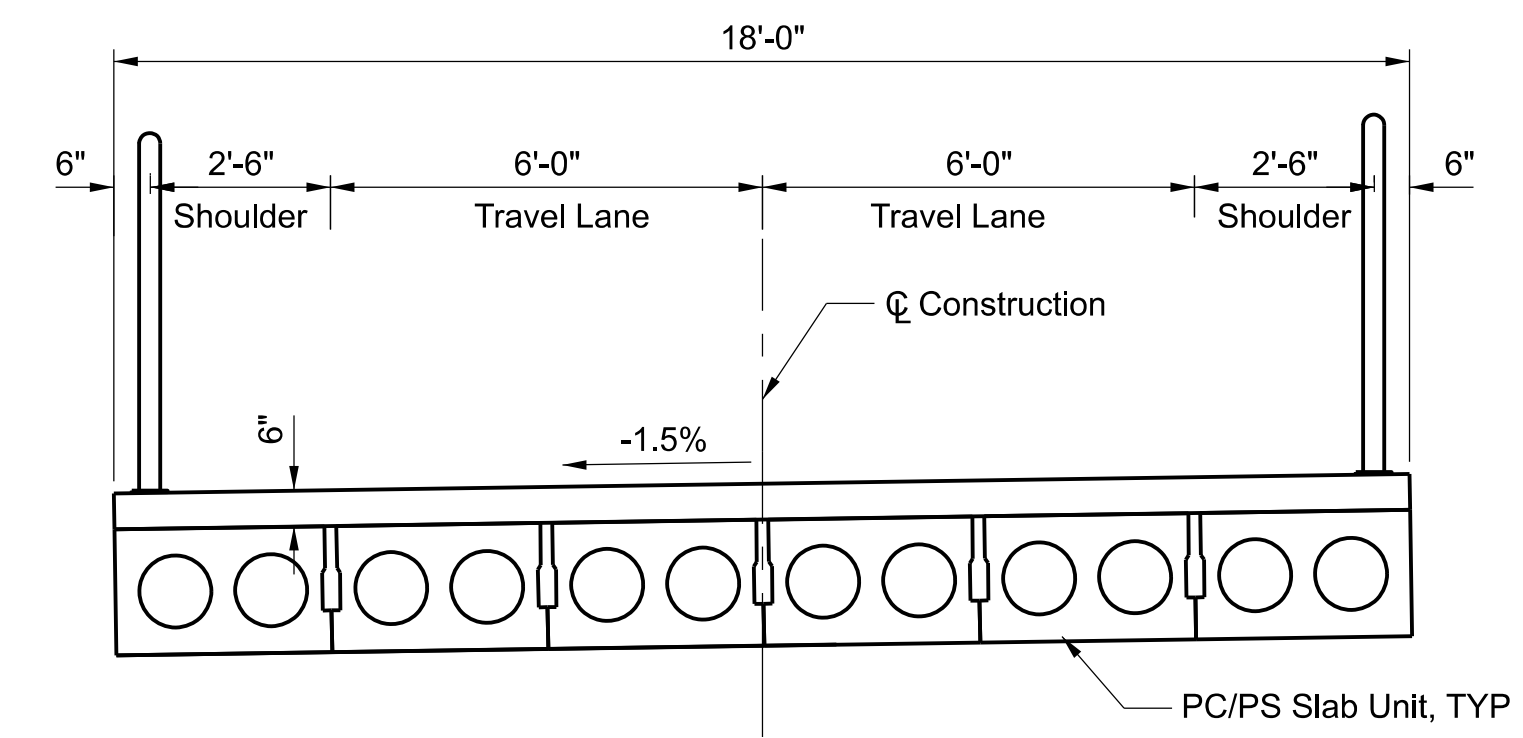
-1.0%

EB 20+76.57  
Elev. 16.57

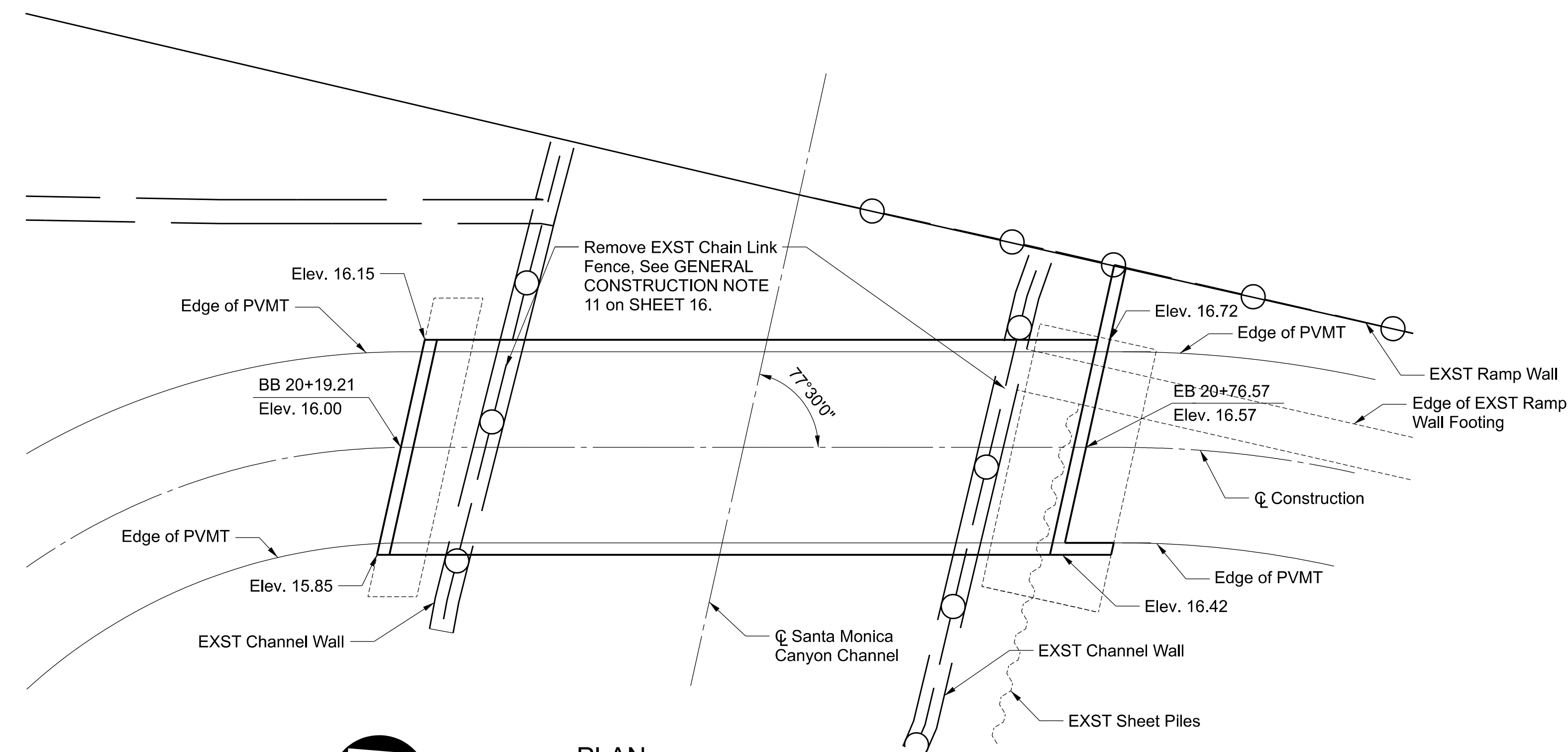
**PROFILE**  
SCALE: 1/8" = 1'-0"



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



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



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



CADD PROJECT FILE NAME: RDC0015071 - Marvin Braude Beach Trail Bikeway Bridge.dgn  
 CHECKER: A. WONG  
 DESIGNER: T. KAWAKATSU  
 DRAFTER: N. TORRES

DATE	MARK	DESCRIPTION
4/11/22	▲	ENTIRE SHEET REV.
REVISIONS		

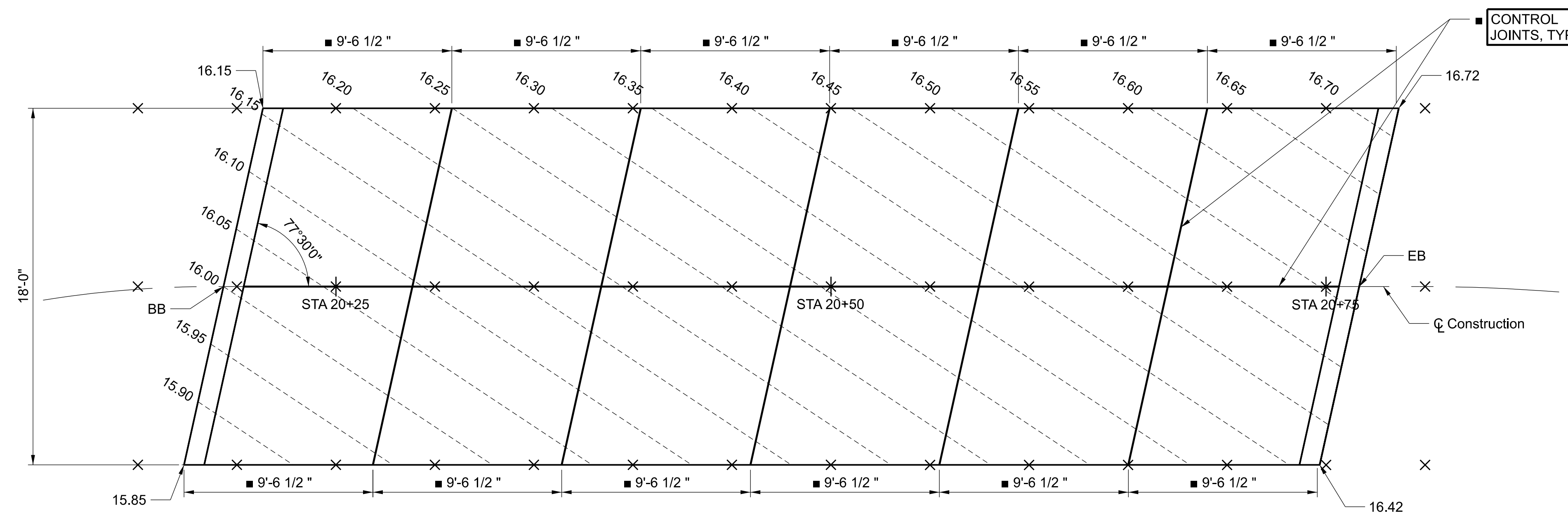


PROJECT ENGINEER  
Takanori Kawakatsu  
DATE: 2/21/2020

LOS ANGELES COUNTY PUBLIC WORKS

**MARVIN BRAUDE BEACH TRAIL**  
GAP CLOSURE  
BIKEWAY BRIDGE  
PROJECT ID NO. RDC0015071  
GENERAL PLAN

DWG PB630026 PH086766 SHEET 17 OF 26  
BR. NO. 4294



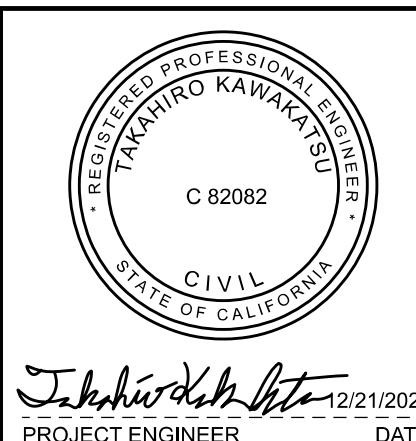
**DECK CONTOUR PLAN**  
1/4" = 1'-0"



- NOTES:
1. Contours do not include camber.
  2. Contours shown are top of concrete deck elevations.
  3. Contour interval = 0.05'.
- X Denotes 5' intervals along Construction Centerline.

DRAFTER: N. TORRES  
 DESIGNER: T. KAWAKATSU  
 CHECKER: A. WONG  
 CADD PROJECT FILE NAME: RDC0015071 - Marvin Braude Beach Trail Bikeway Bridge.dgn

DATE	MARK	DESCRIPTION
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REVISIONS		

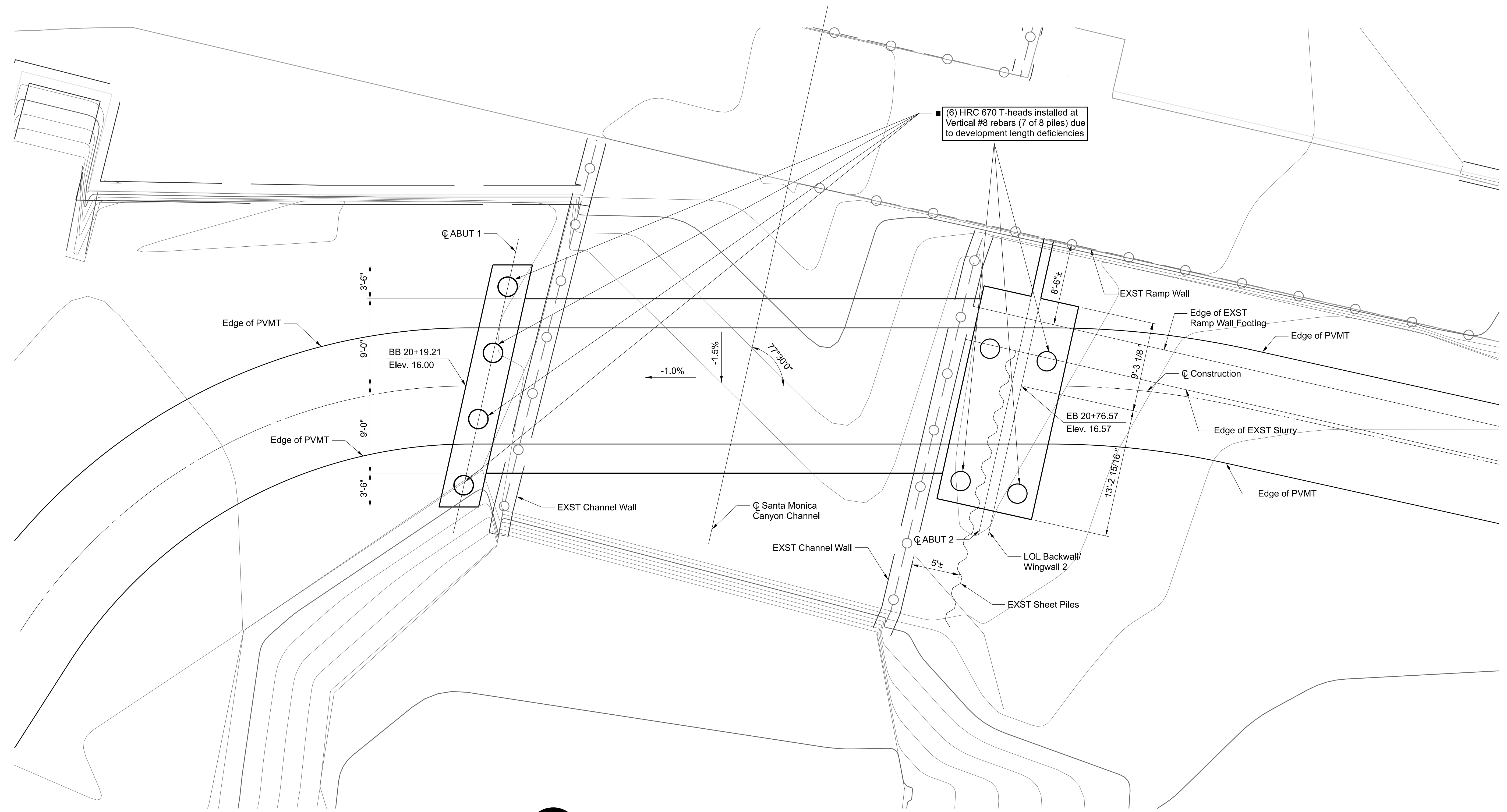


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**MARVIN BRAUDE BEACH TRAIL**  
GAP CLOSURE  
BIKEWAY BRIDGE  
PROJECT ID NO. RDC0015071  
DECK CONTOUR PLAN

SHEET 18 OF 26

DRAFTER: N. TORRES  
 DESIGNER: T. KAWAKATSU  
 CHECKER: A. WONG  
 CADD PROJECT FILE NAME: RDC0015071 - Marvin Braude Beach Trail Bikeway Bridge.dgn



**FOUNDATION PLAN**  
SCALE: 3/16" = 1'-0"

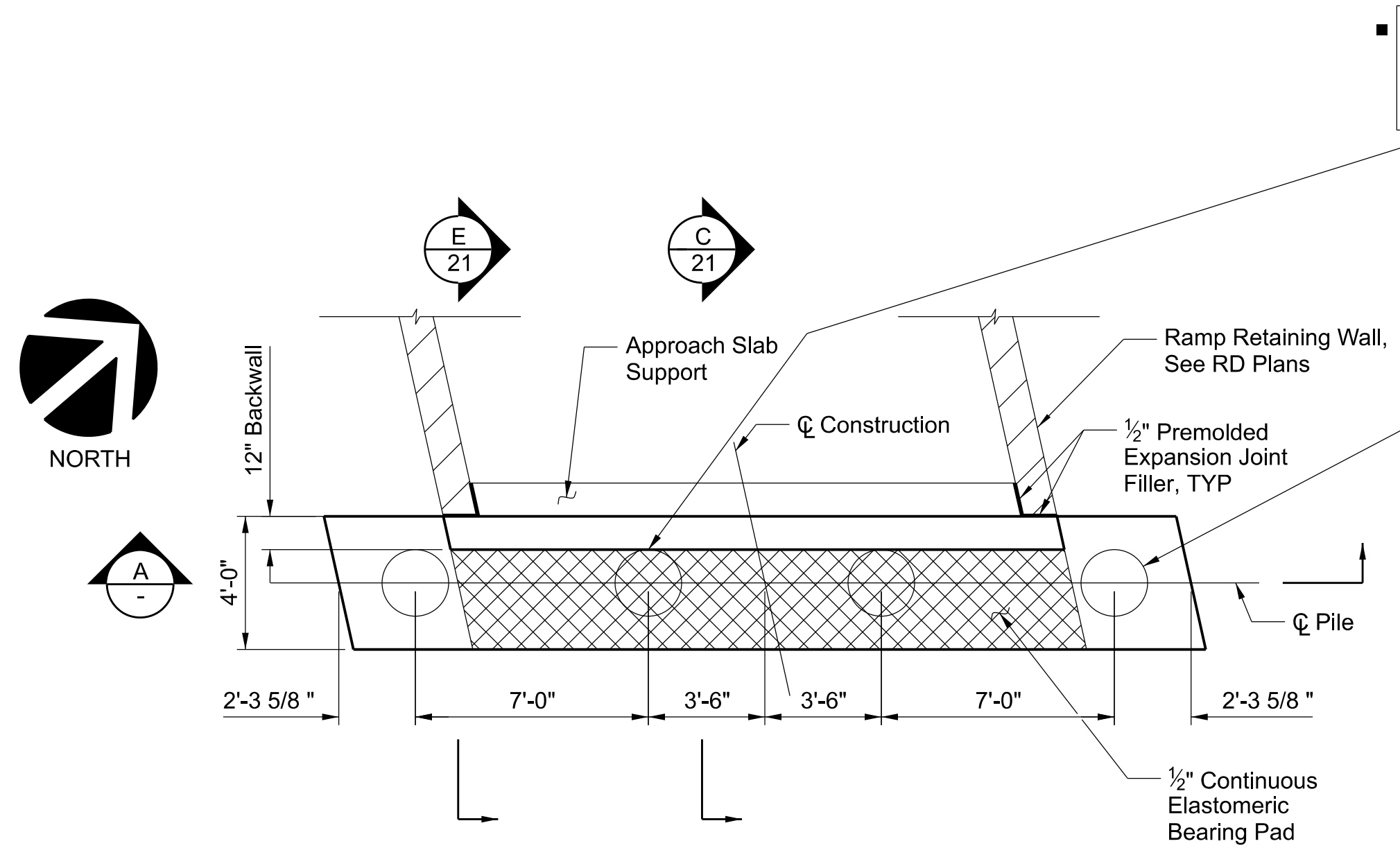
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REVISIONS		



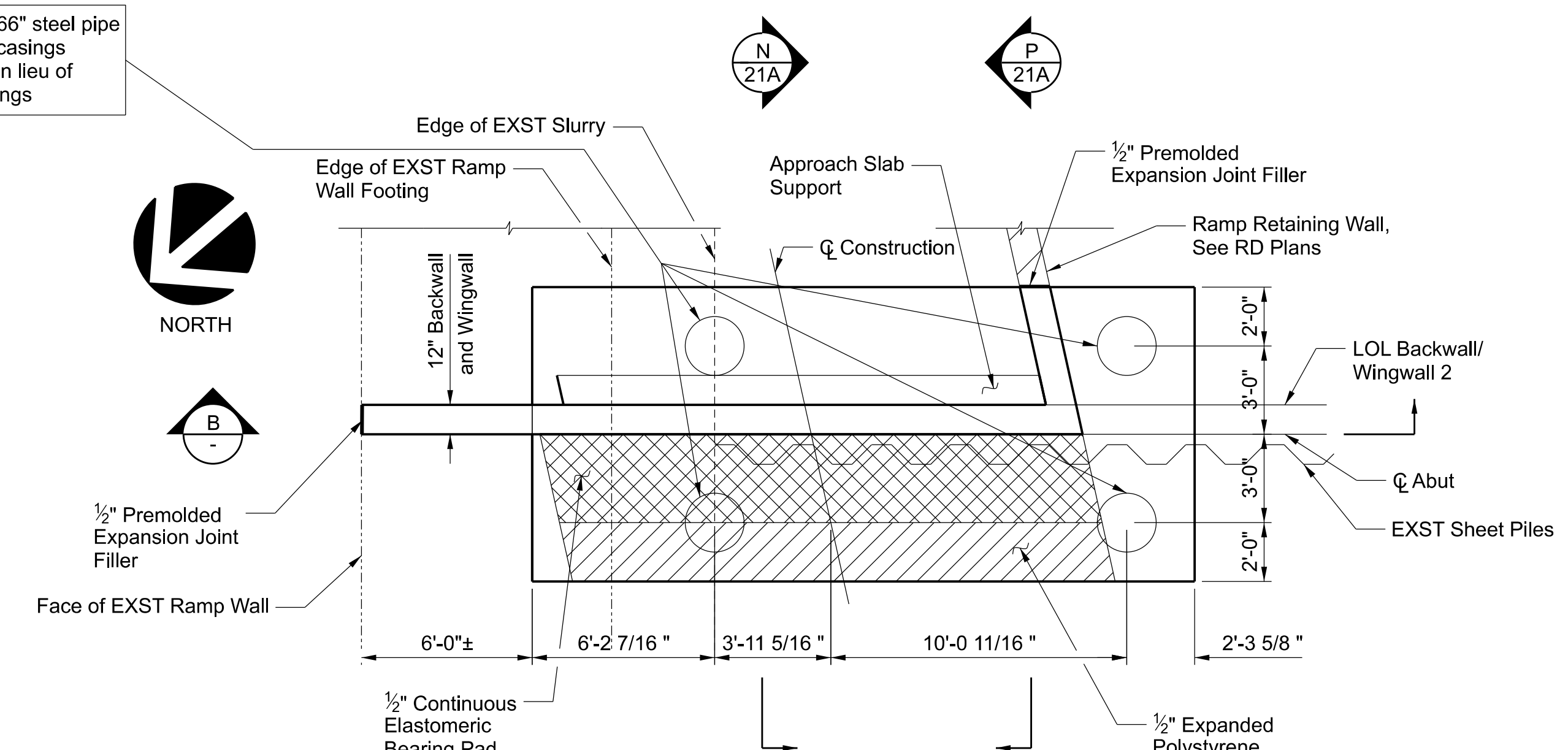
LOS ANGELES COUNTY PUBLIC WORKS  
**MARVIN BRAUDE BEACH TRAIL**  
 GAP CLOSURE  
 BIKEWAY BRIDGE  
 PROJECT ID NO. RDC0015071  
 FOUNDATION PLAN

DWG PB630026  
 BR. NO. 4294

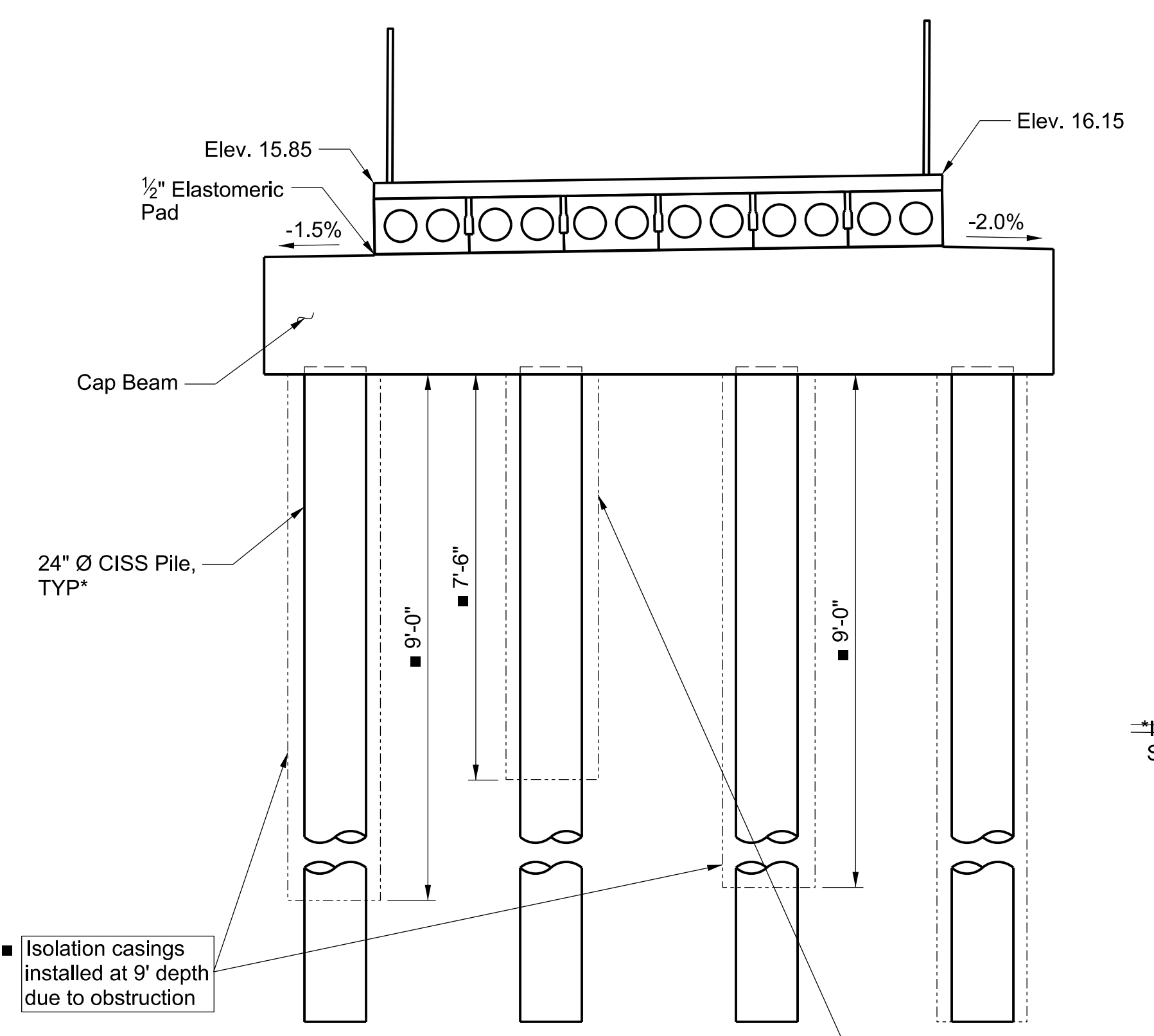
SHEET 19 OF 26  
**AS-BUILT DRAWINGS PLAN B**



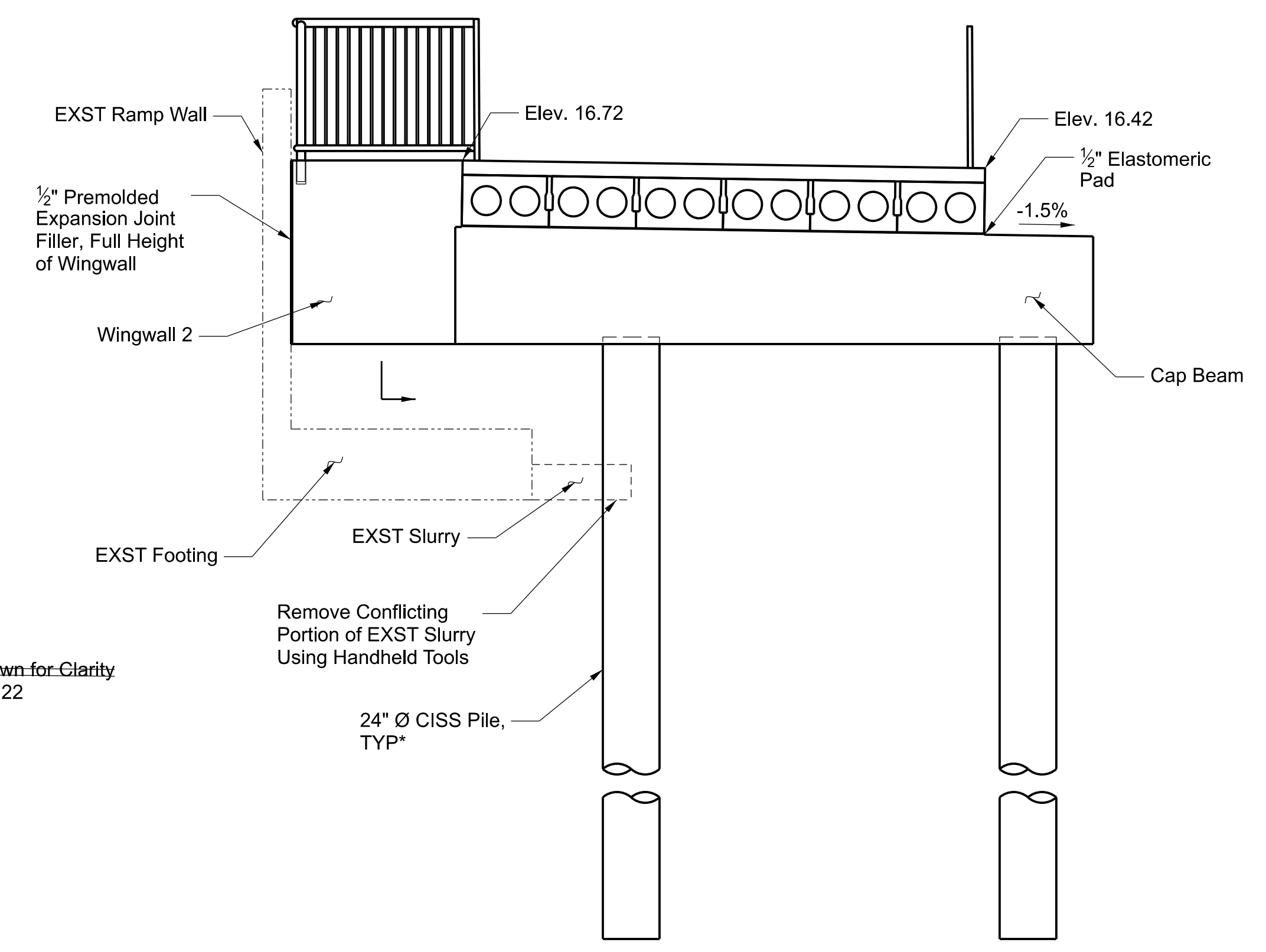
**ABUTMENT 1 PLAN**  
SCALE: 1/4" = 1'-0"



**ABUTMENT 2 PLAN**  
SCALE: 1/4" = 1'-0"



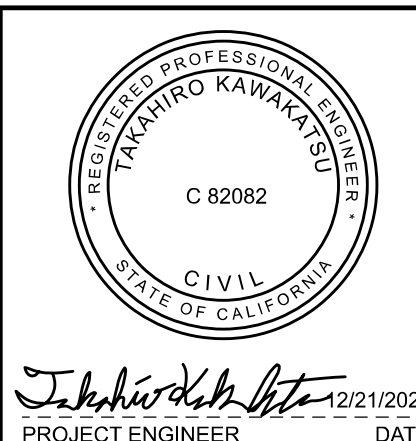
**ABUTMENT 1 ELEVATION**  
SCALE: 1/4" = 1'-0"



**ABUTMENT 2 ELEVATION**  
SCALE: 1/4" = 1'-0"

CADD PROJECT FILE NAME: RDC0015071 - Marvin Braude Beach Trail Bikeway Bridge.dgn  
 CHECKER: A. WONG  
 DESIGNER: T. KAWAKATSU  
 DRAFTER: N. TORRES


DATE	MARK	DESCRIPTION
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4/11/22	▲	ENTIRE SHEET REV.
REVISIONS		

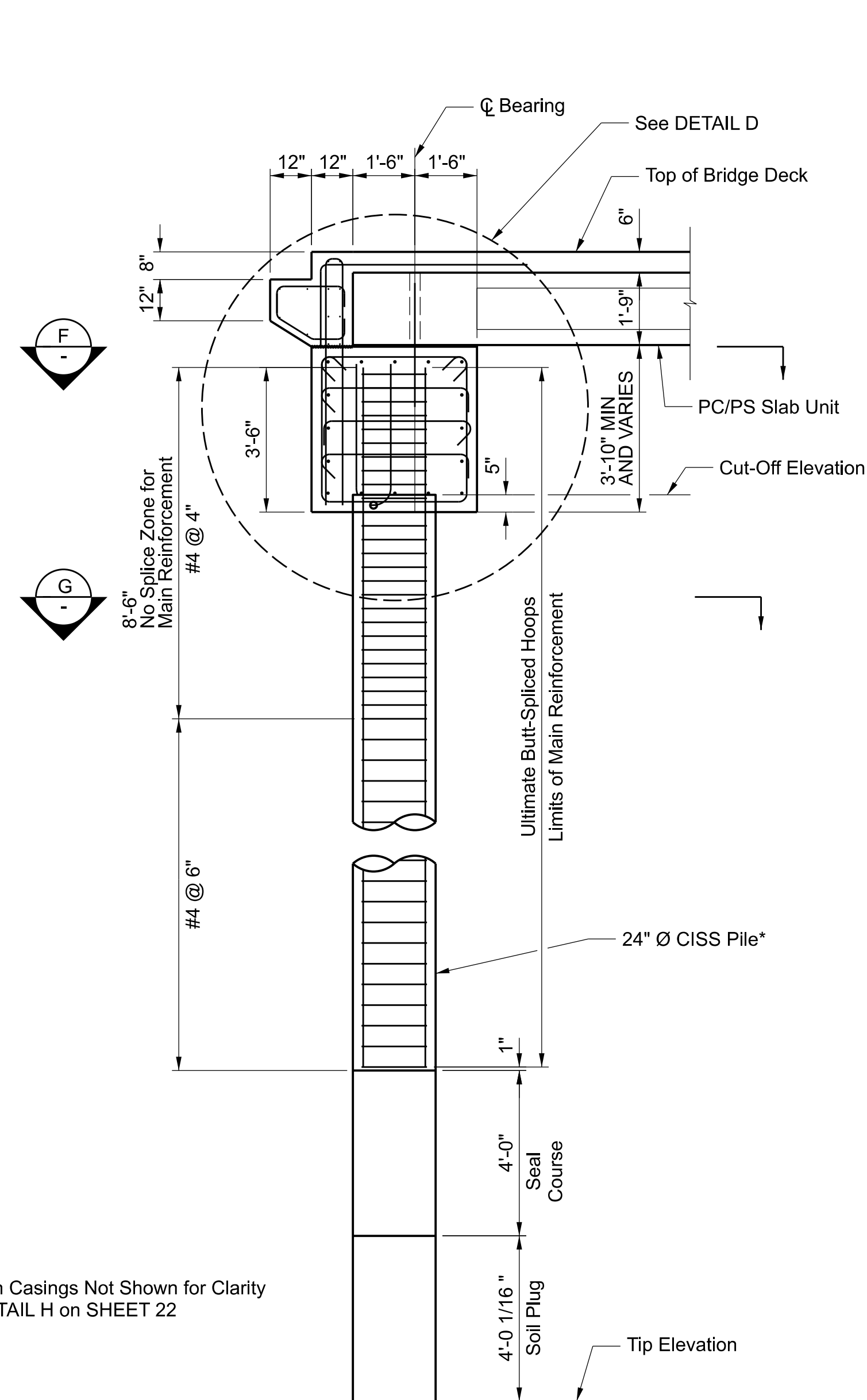


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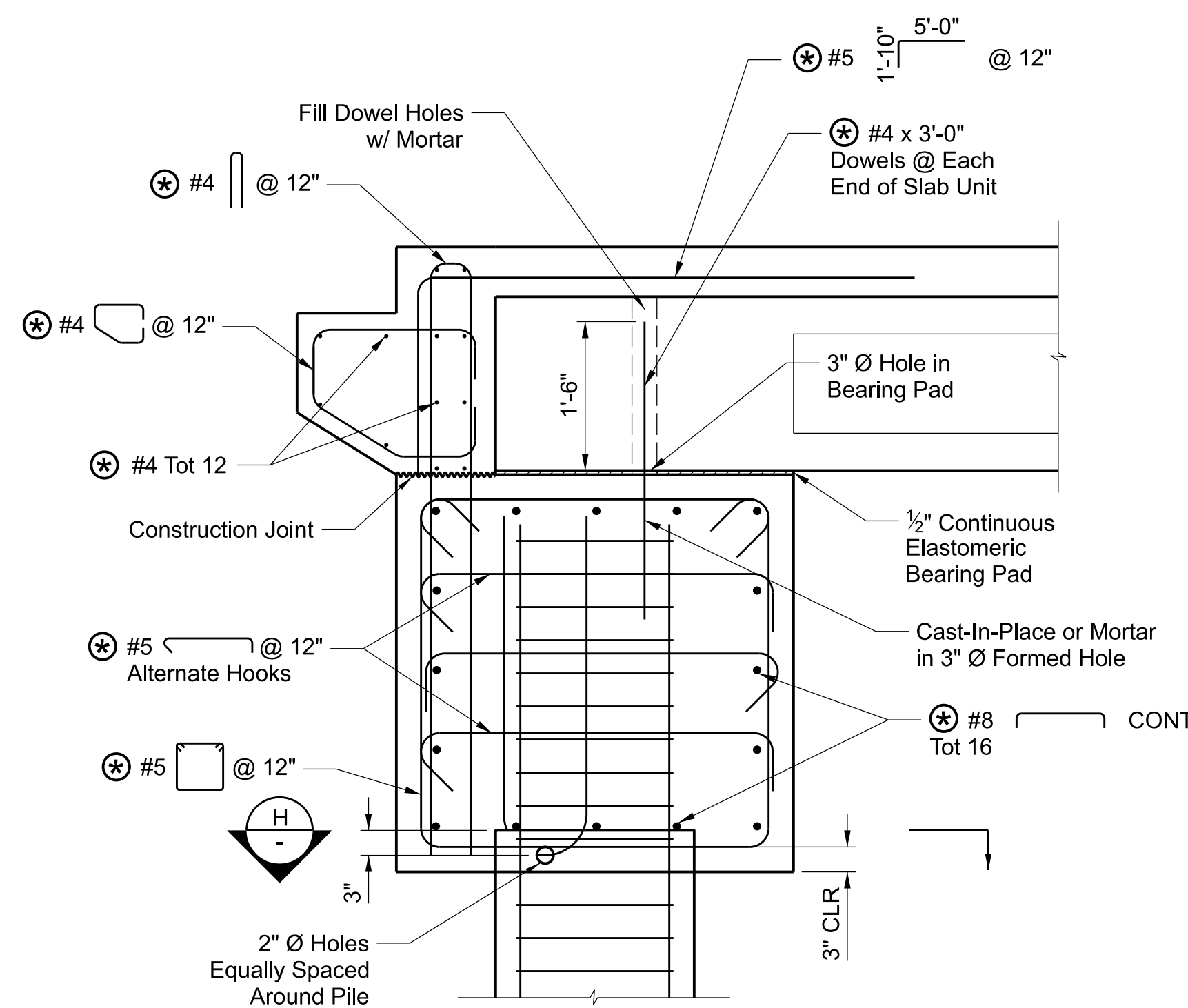
**MARVIN BRAUDE BEACH TRAIL**  
GAP CLOSURE  
BIKEWAY BRIDGE  
PROJECT ID NO. RDC0015071  
ABUTMENT PLAN AND ELEVATION

DWG PB630026 PH086766 SHEET 20 OF 26  
BR. NO. 4294

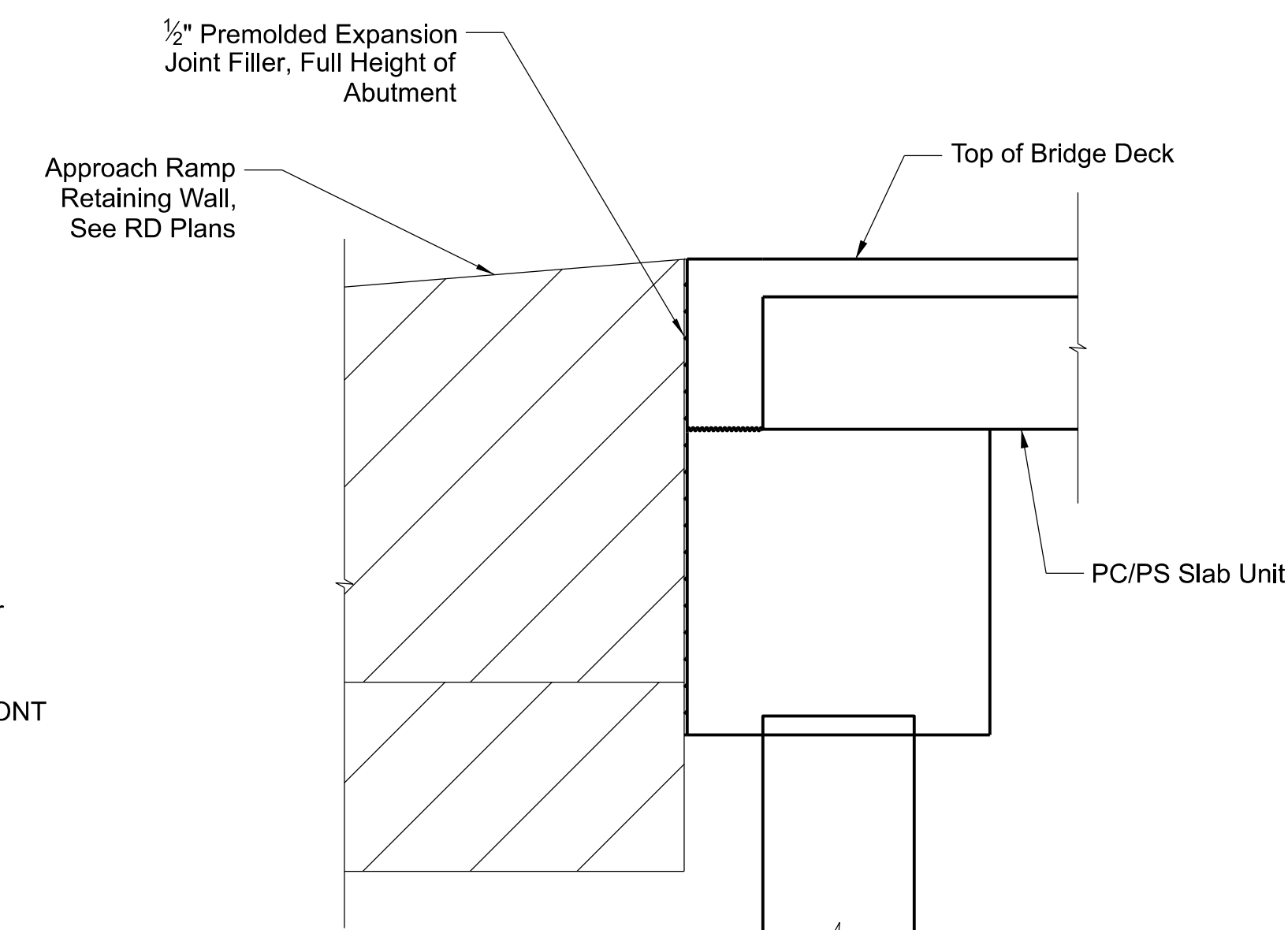
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 Epoxy Coated



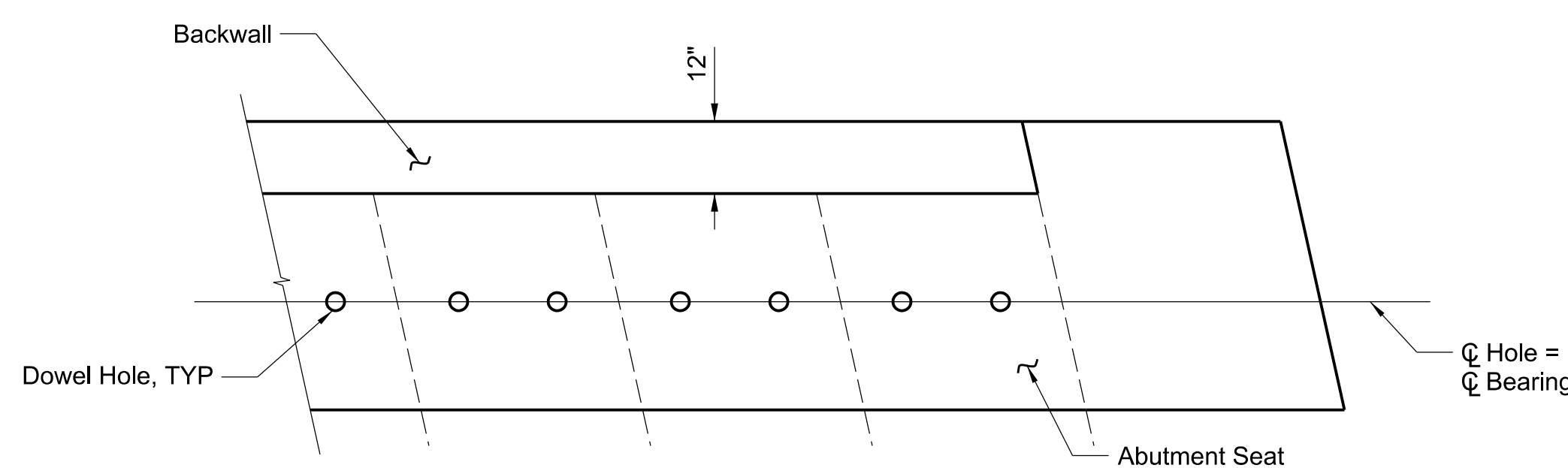
**C** ABUTMENT SECTION  
 SCALE: 3/8" = 1'-0"



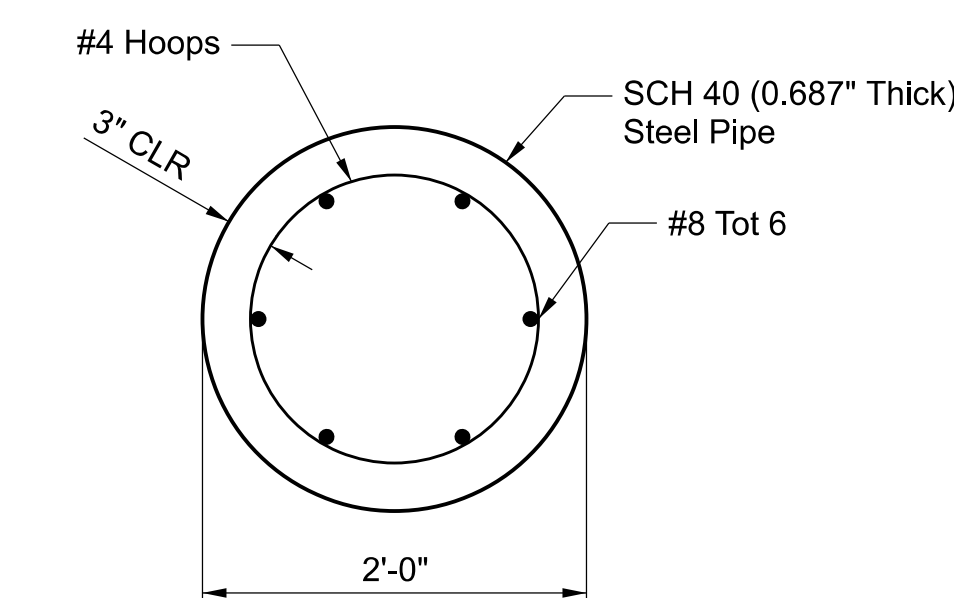
**D** ABUTMENT DETAIL  
 SCALE: 3/4" = 1'-0"



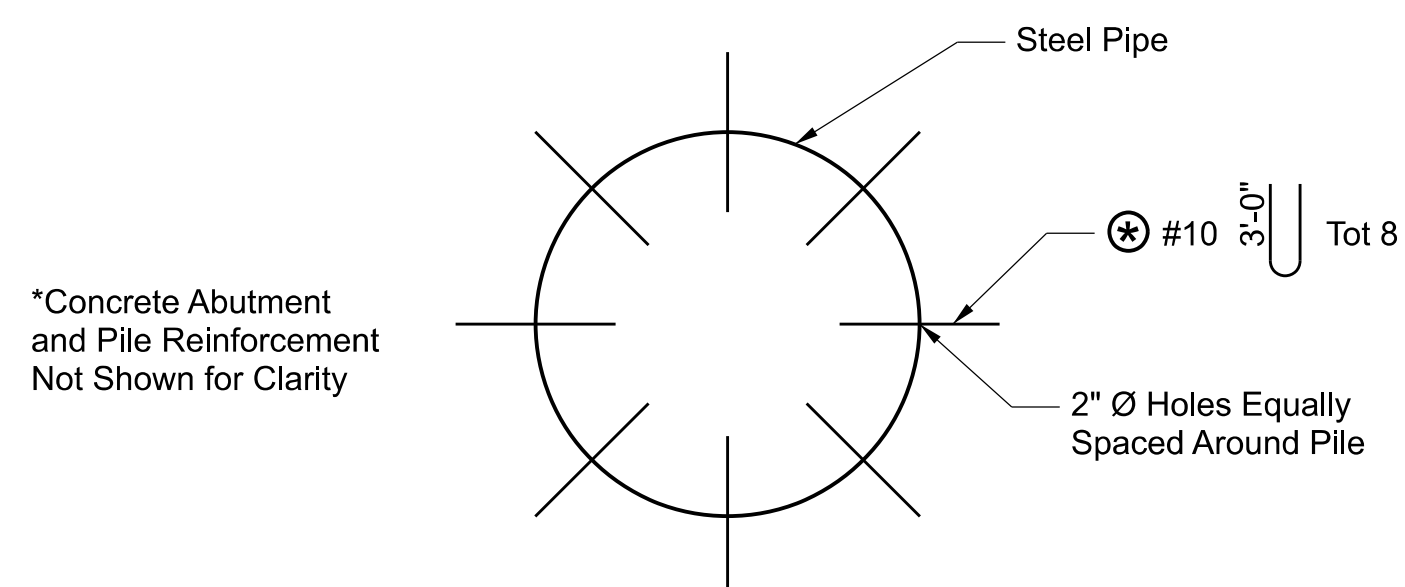
**E** APPROACH RAMP JOINT DETAIL  
 SCALE: 1/2" = 1'-0"



**F** ABUTMENT SEAT PLAN  
 SCALE: 1/2" = 1'-0"



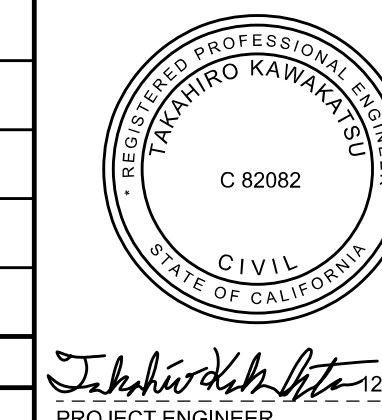
**G** CISS PILE SECTION  
 SCALE: 1" = 1'-0"



**H** CISS PILE ANCHORS  
 SCALE: 1" = 1'-0"

DRAFTER: N. TORRES  
 DESIGNER: T. KAWAKATSU  
 CHECKER: A. WONG  
 CADD PROJECT FILE NAME: RDC0015071 - Marvin Braude Beach Trail Bikeway Bridge.dgn

DATE	MARK	DESCRIPTION
REVISIONS		

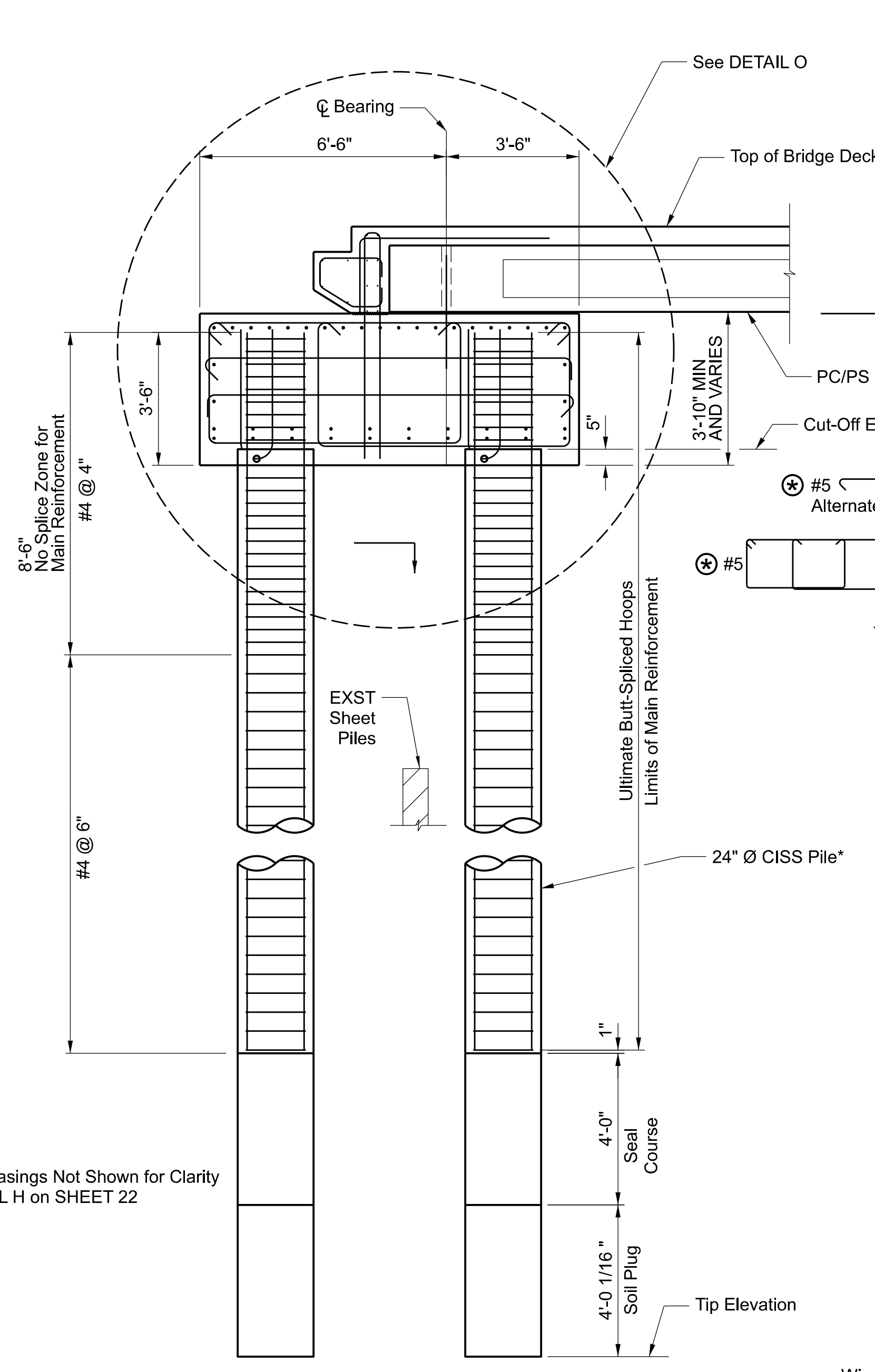


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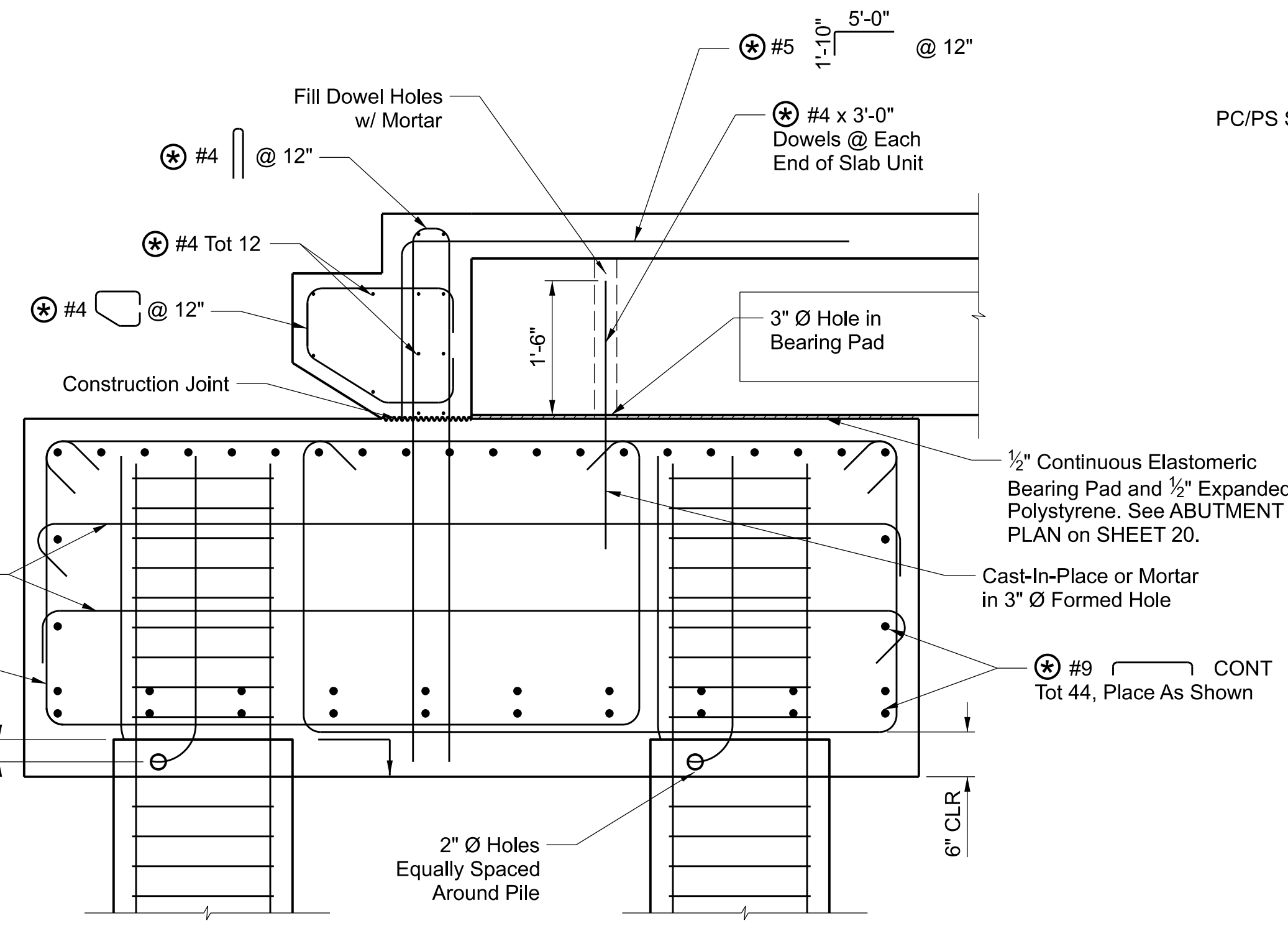
**MARVIN BRAUDE BEACH TRAIL**  
 GAP CLOSURE  
 BIKEWAY BRIDGE  
 PROJECT ID NO. RDC0015071  
 ABUTMENT DETAILS

DWG PB630026 PH086766 SHEET 21 OF 26  
 BR. NO. 4294

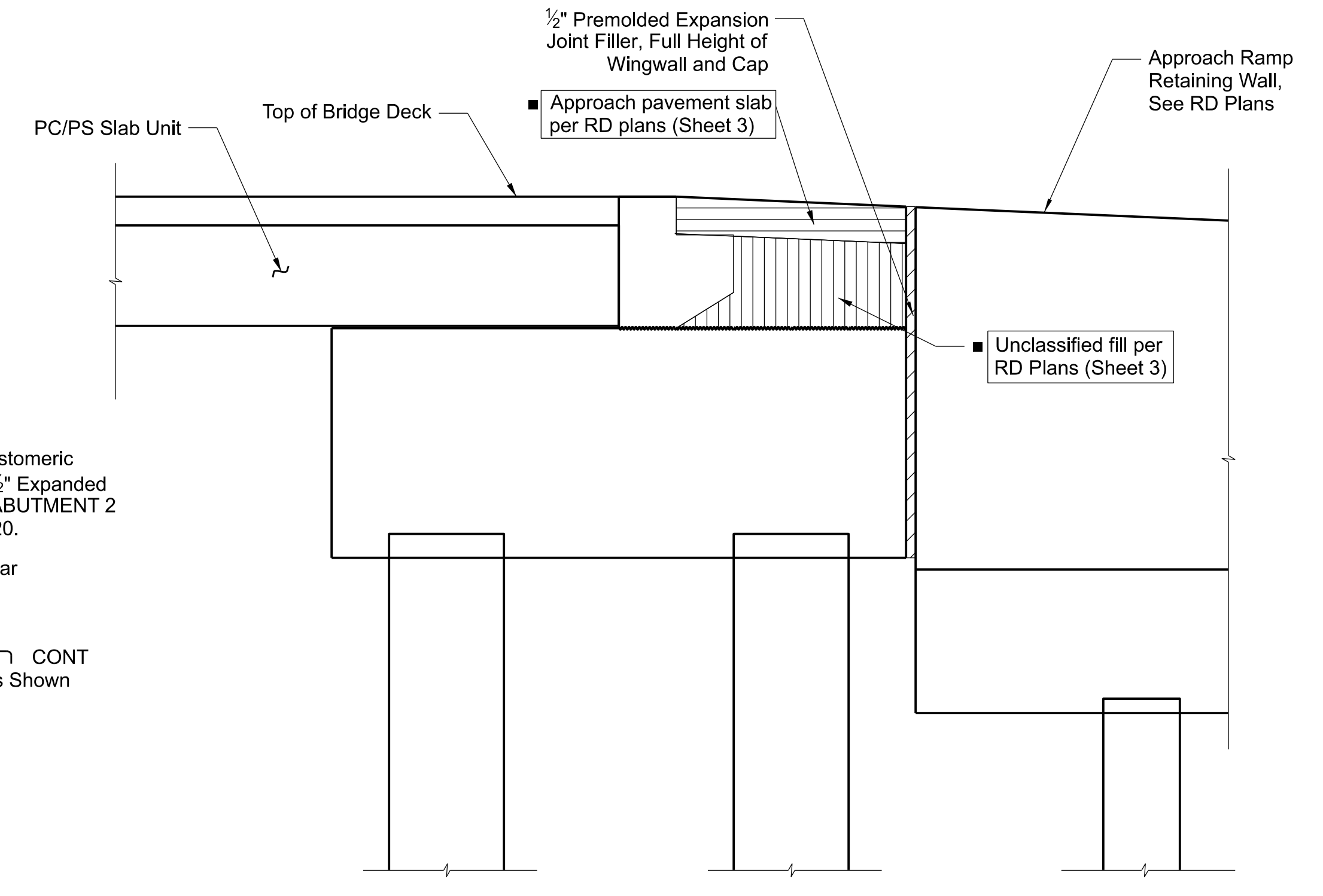
LEGEND:  
 ⊕ Epoxy Coated



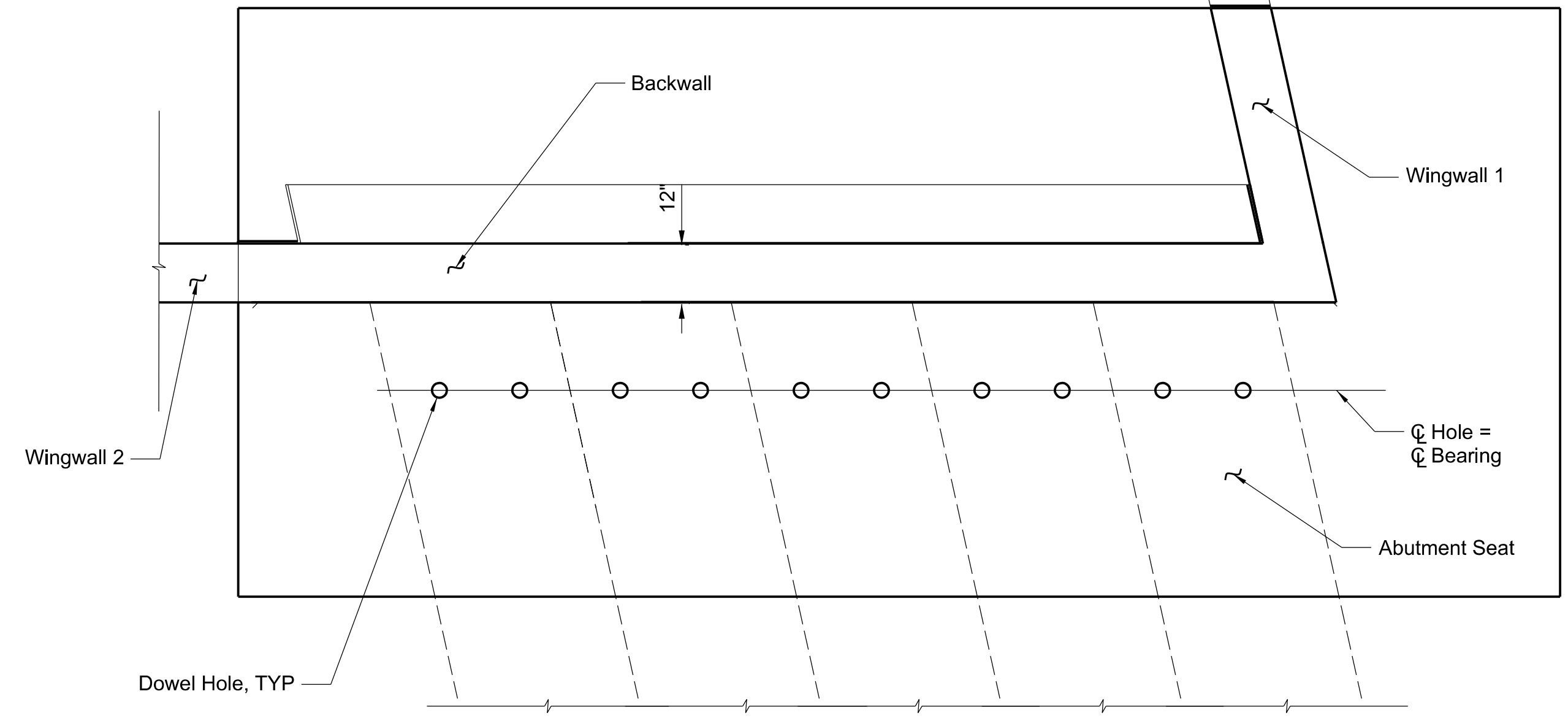
**ABUTMENT 2 SECTION**  
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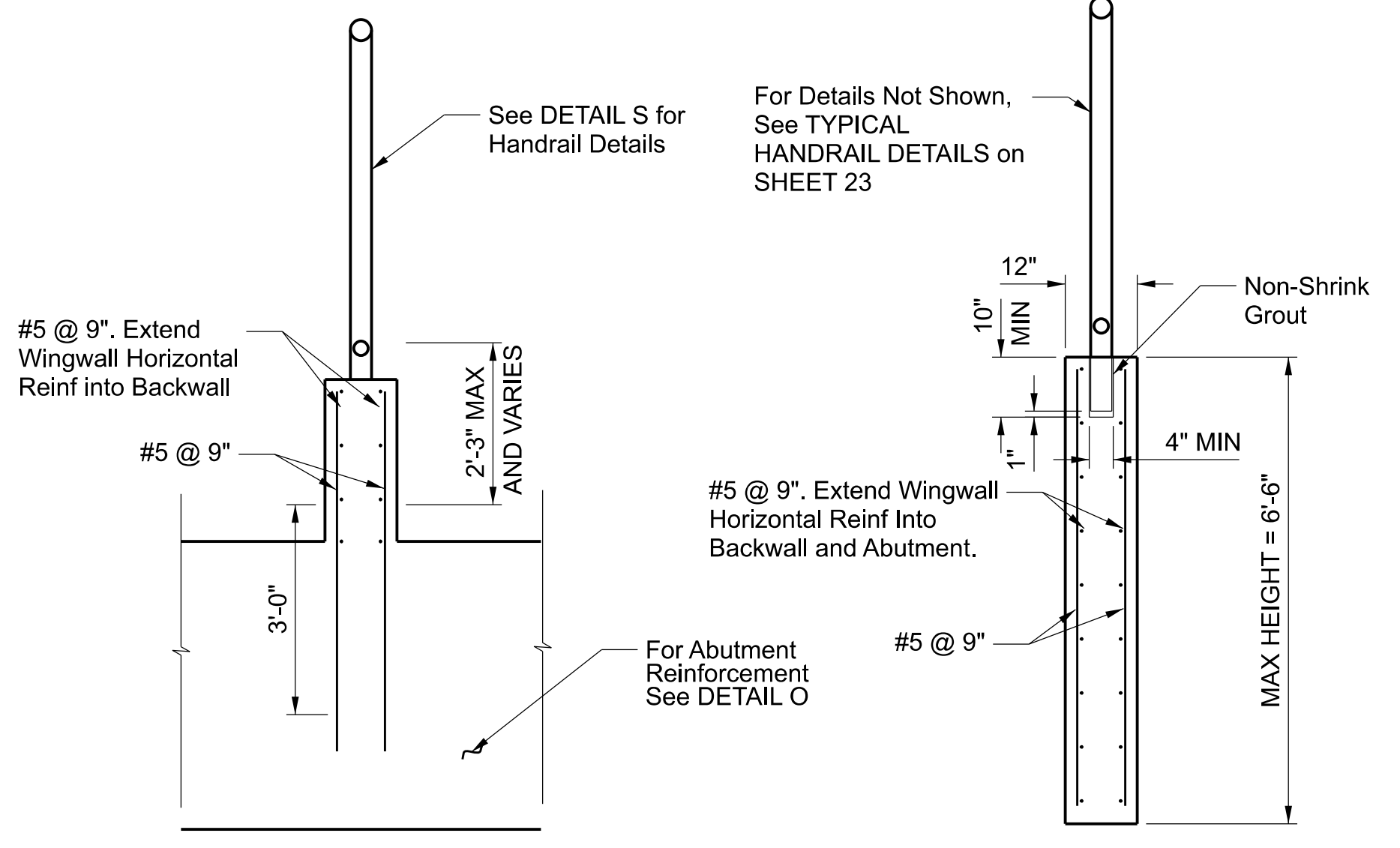
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 SCALE: 3/4" = 1'-0"



**APPROACH RAMP JOINT DETAIL**  
 SCALE: 1/2" = 1'-0"



**ABUTMENT SEAT PLAN**  
 SCALE: 1/2" = 1'-0"



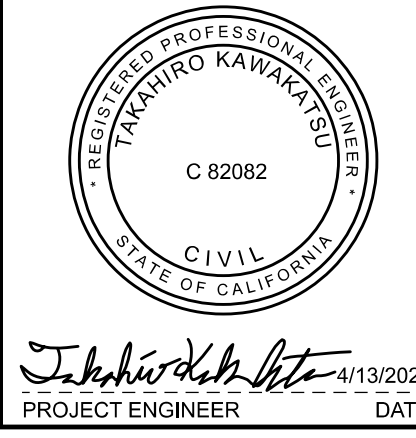
**WINGWALL 1 DETAIL**  
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**WINGWALL 2 DETAIL**  
 SCALE: 1/2" = 1'-0"

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 CHECKER: A. WONG  
 DESIGNER: T. KAWAKATSU  
 DRAFTER: N. TORRES

\*Isolation Casings Not Shown for Clarity  
 See DETAIL H on SHEET 22

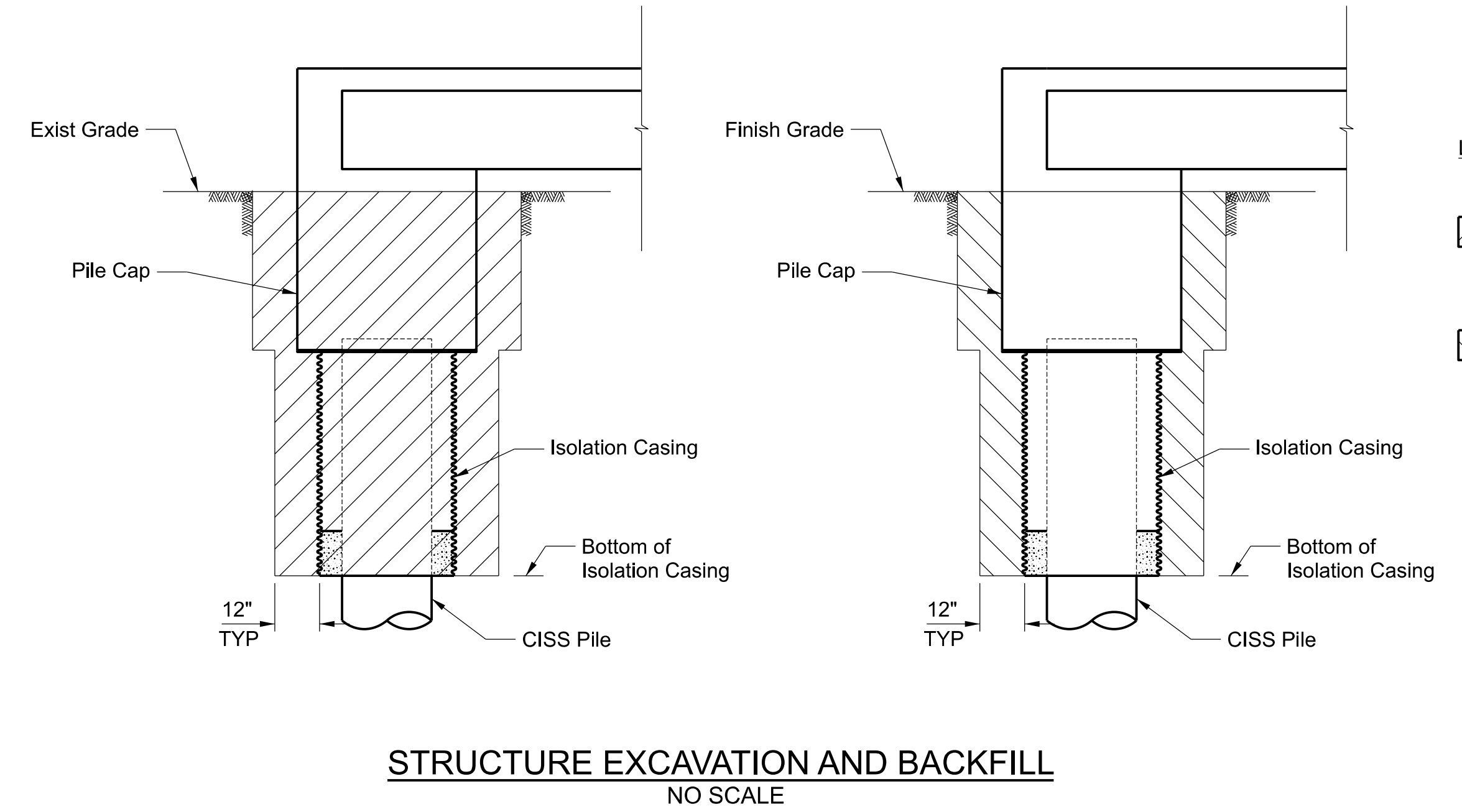
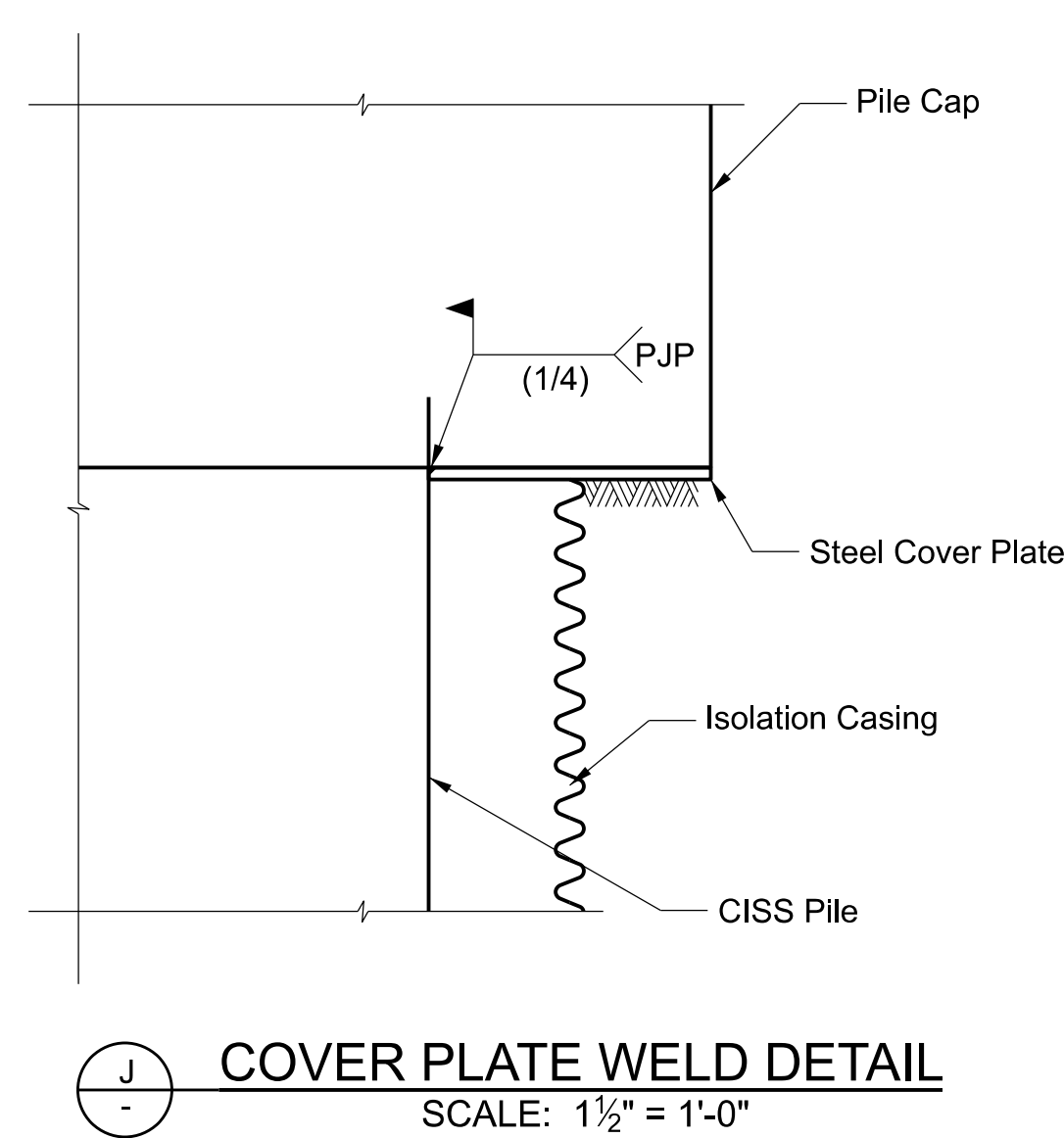
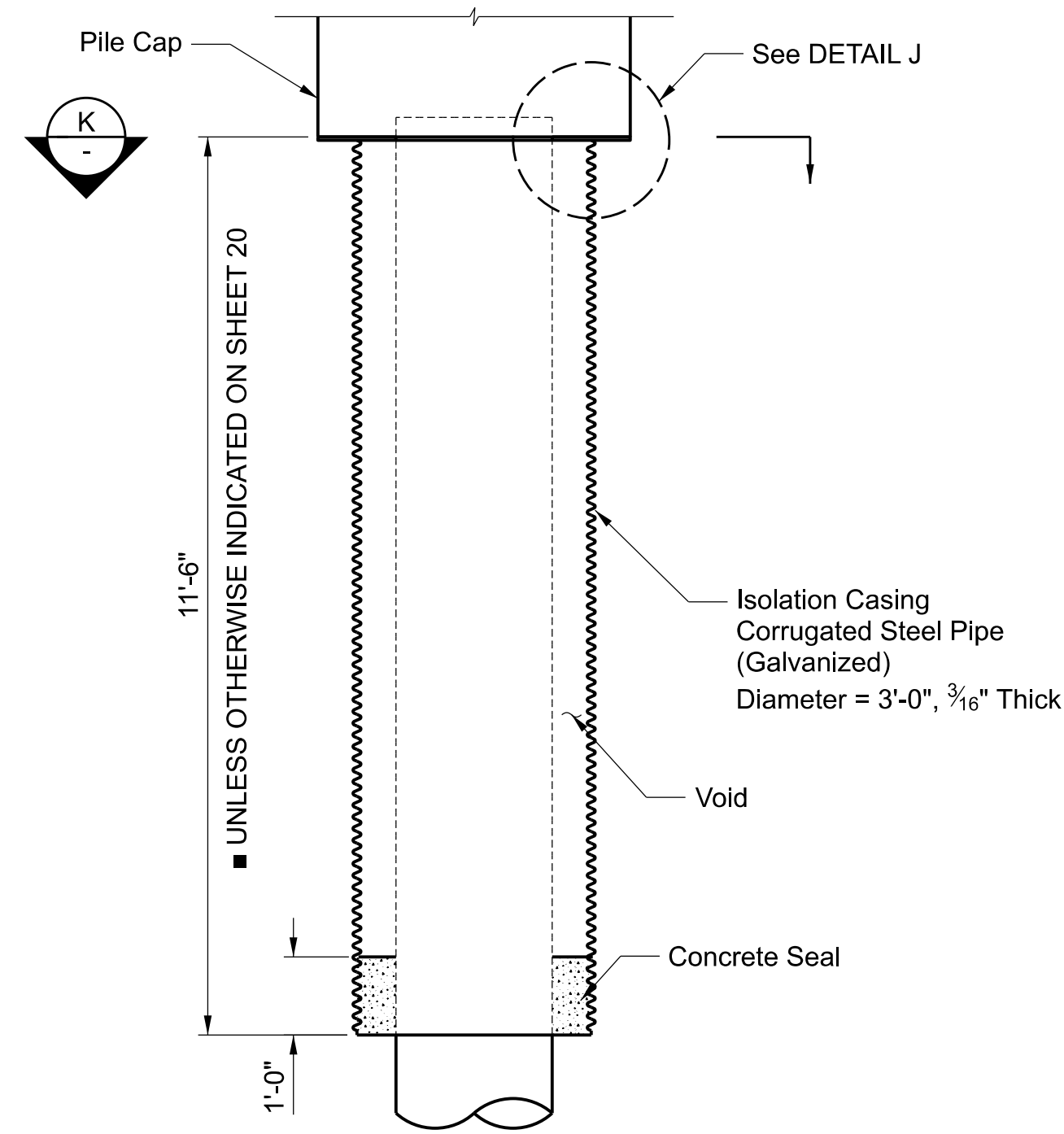
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LOS ANGELES COUNTY PUBLIC WORKS

**MARVIN BRAUDE BEACH TRAIL**  
 GAP CLOSURE  
 BIKEWAY BRIDGE  
 PROJECT ID NO. RDC0015071  
 ABUTMENT 2 DETAILS

DWG PB630026 PH086766 SHEET 21A OF 26  
 BR. NO. 4294

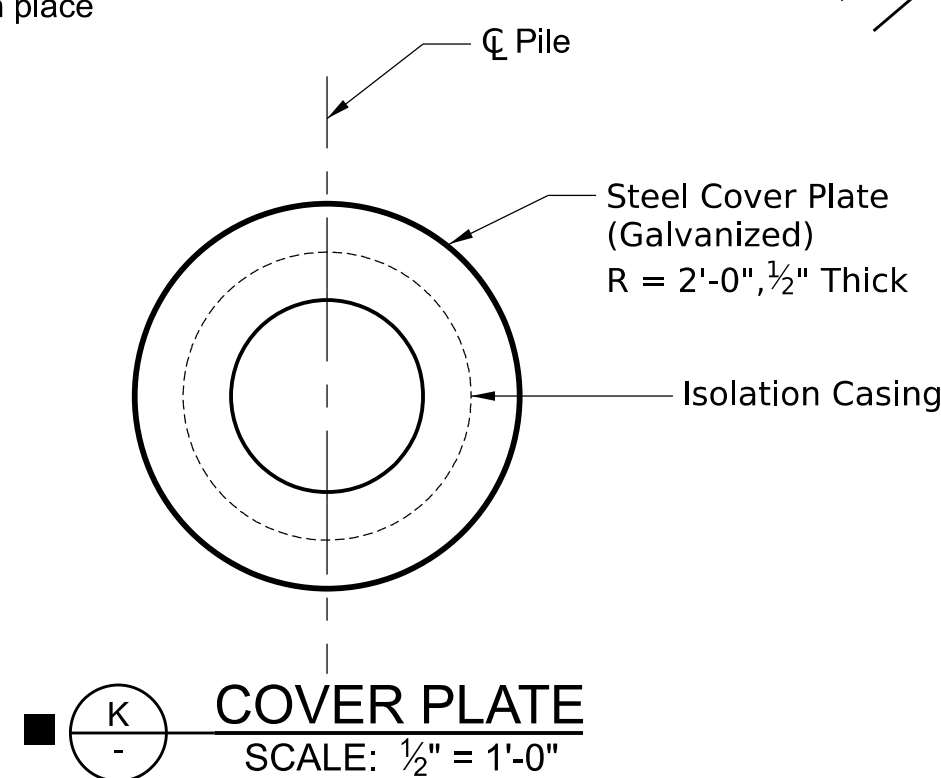
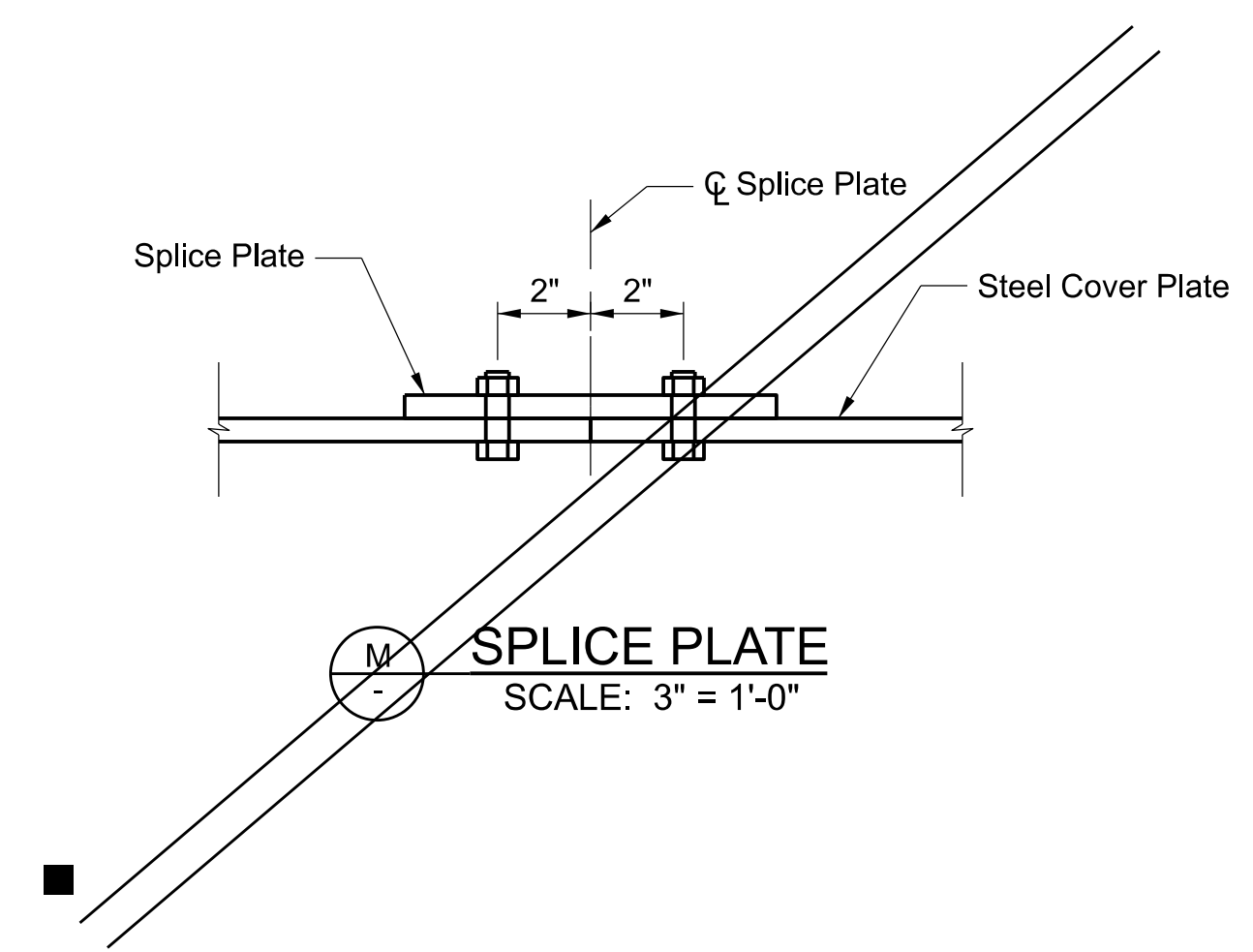
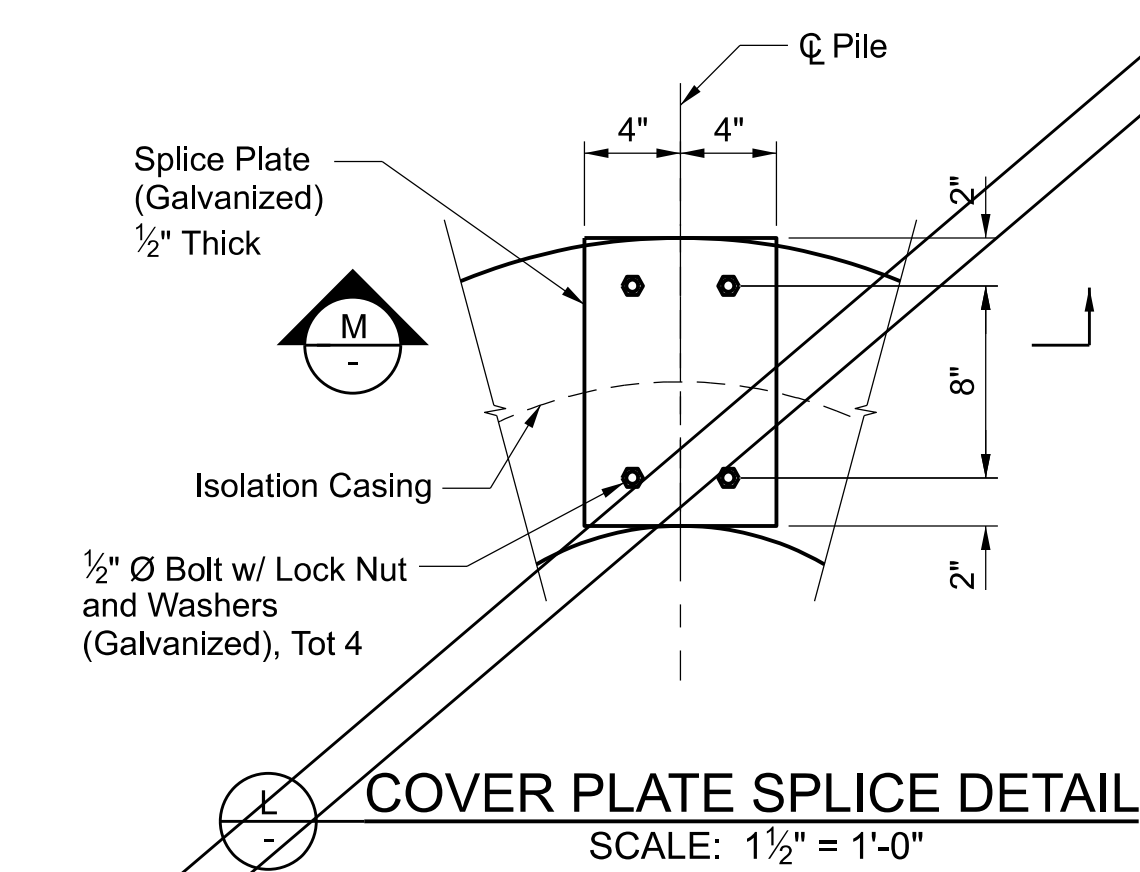
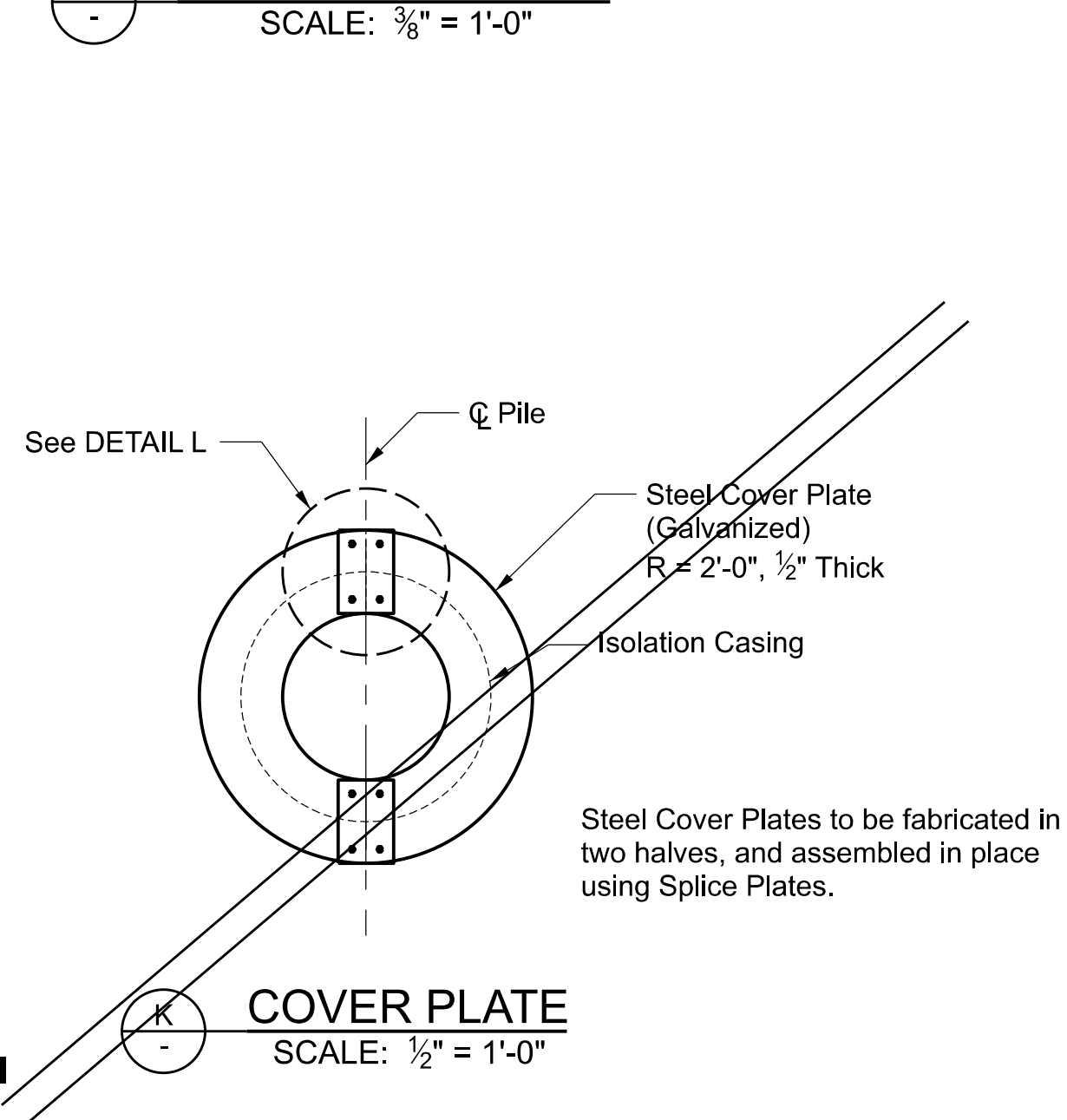


**LEGEND:**

Limits of Structure Excavation for Installation of Concrete Seal, Isolation Casing, and Pile Cap

Limits of Structure Backfill for Installation of Concrete Seal, Isolation Casing, and Pile Cap

**I** ISOLATION CASING  
SCALE: 3/8" = 1'-0"



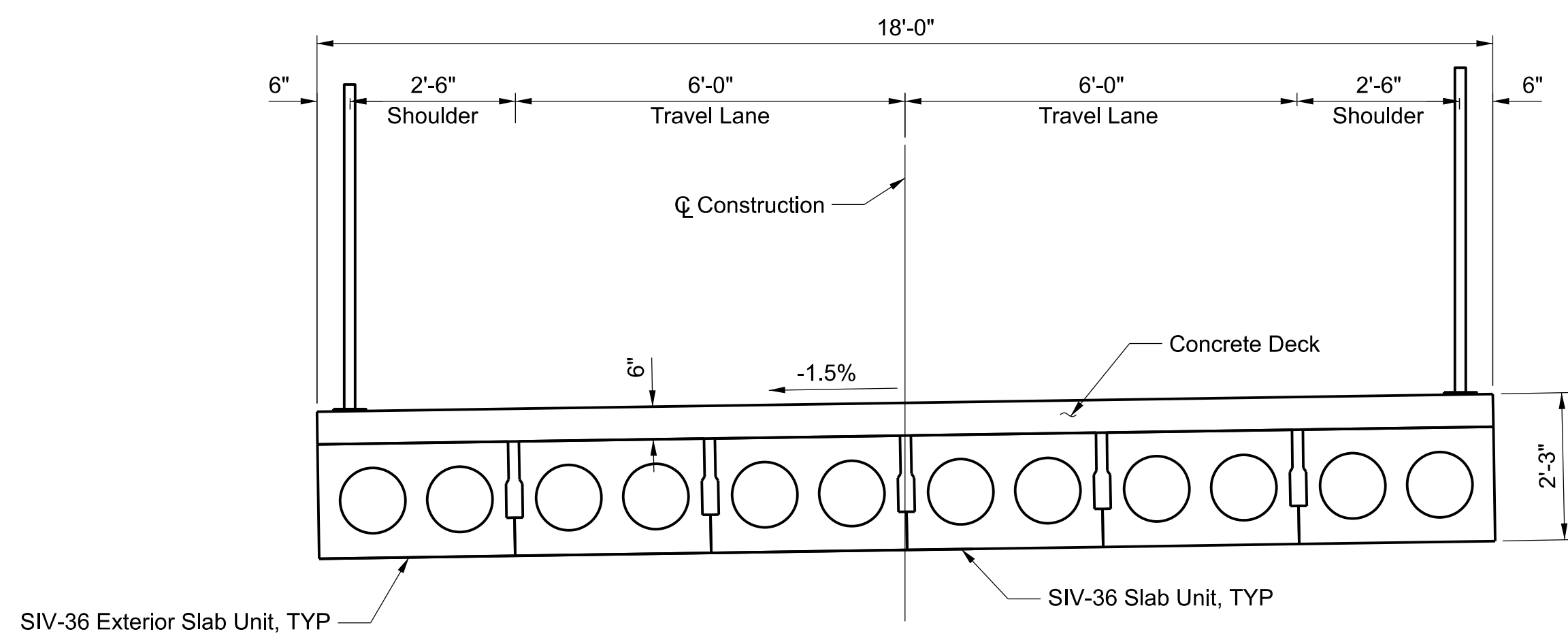
DATE	MARK	DESCRIPTION
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PROJECT ENGINEER

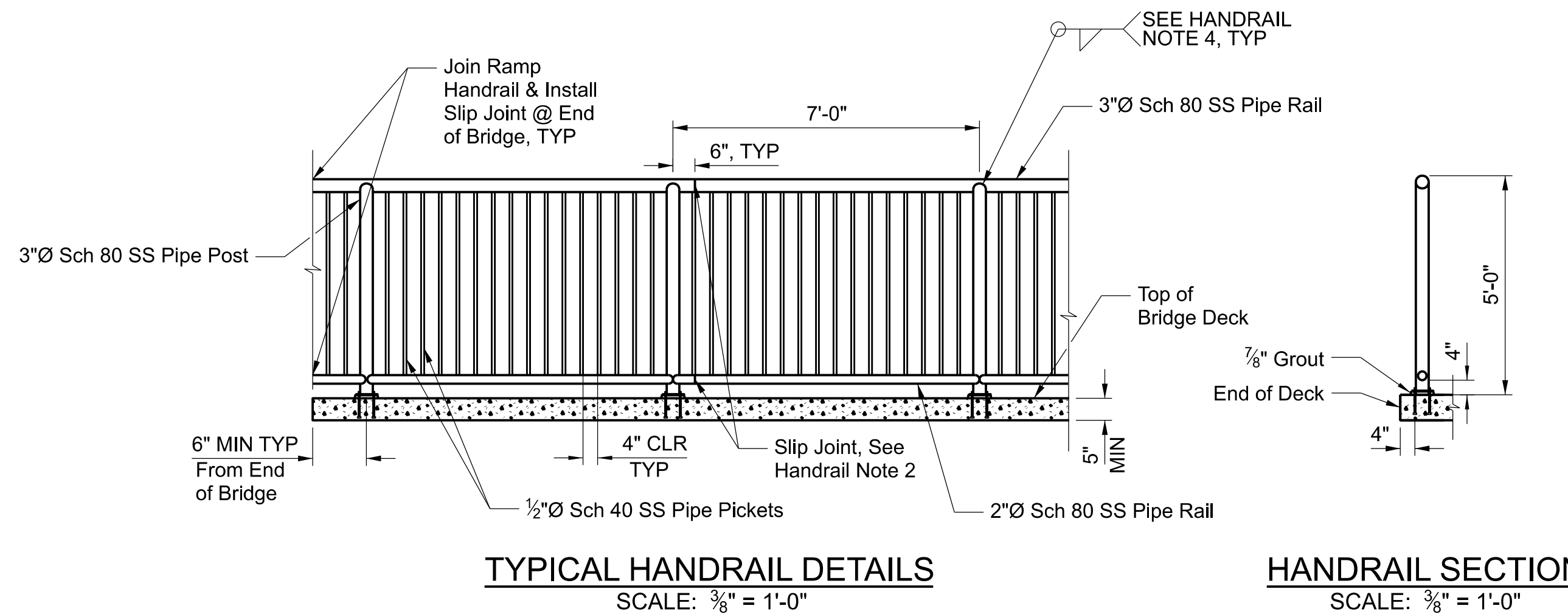
LOS ANGELES COUNTY PUBLIC WORKS  
**MARVIN BRAUDE BEACH TRAIL**  
 GAP CLOSURE  
 BIKEWAY BRIDGE  
 PROJECT ID NO. RDC0015071  
 ISOLATION CASING DETAILS  
 DWG PB630026 PH086766 SHEET 22 OF 26  
 BR. NO. 4294

CADD PROJECT FILE NAME: RDC0015071 - Marvin Braude Beach Trail Bikeway Bridge.dgn  
 CHECKER: A. WONG  
 DESIGNER: T. KAWAKATSU  
 DRAFTER: N. TORRES





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

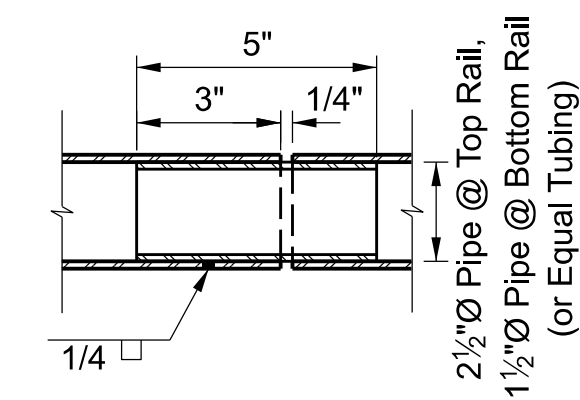


**TYPICAL HANDRAIL DETAILS**  
SCALE: 3/8" = 1'-0"

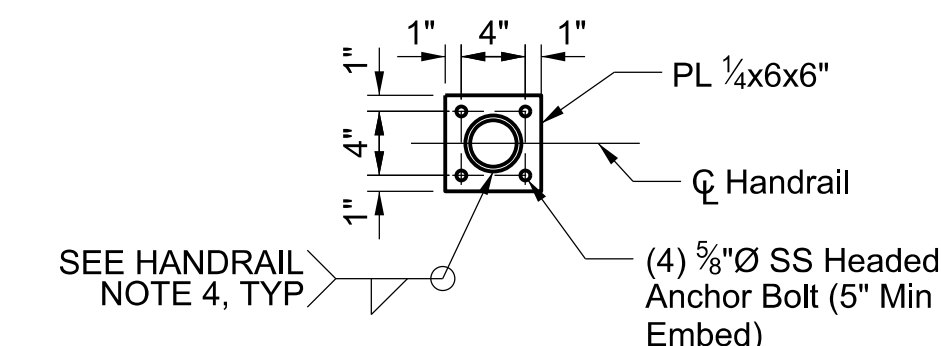
**HANDRAIL SECTION**  
SCALE: 3/8" = 1'-0"

**HANDRAIL NOTES:**

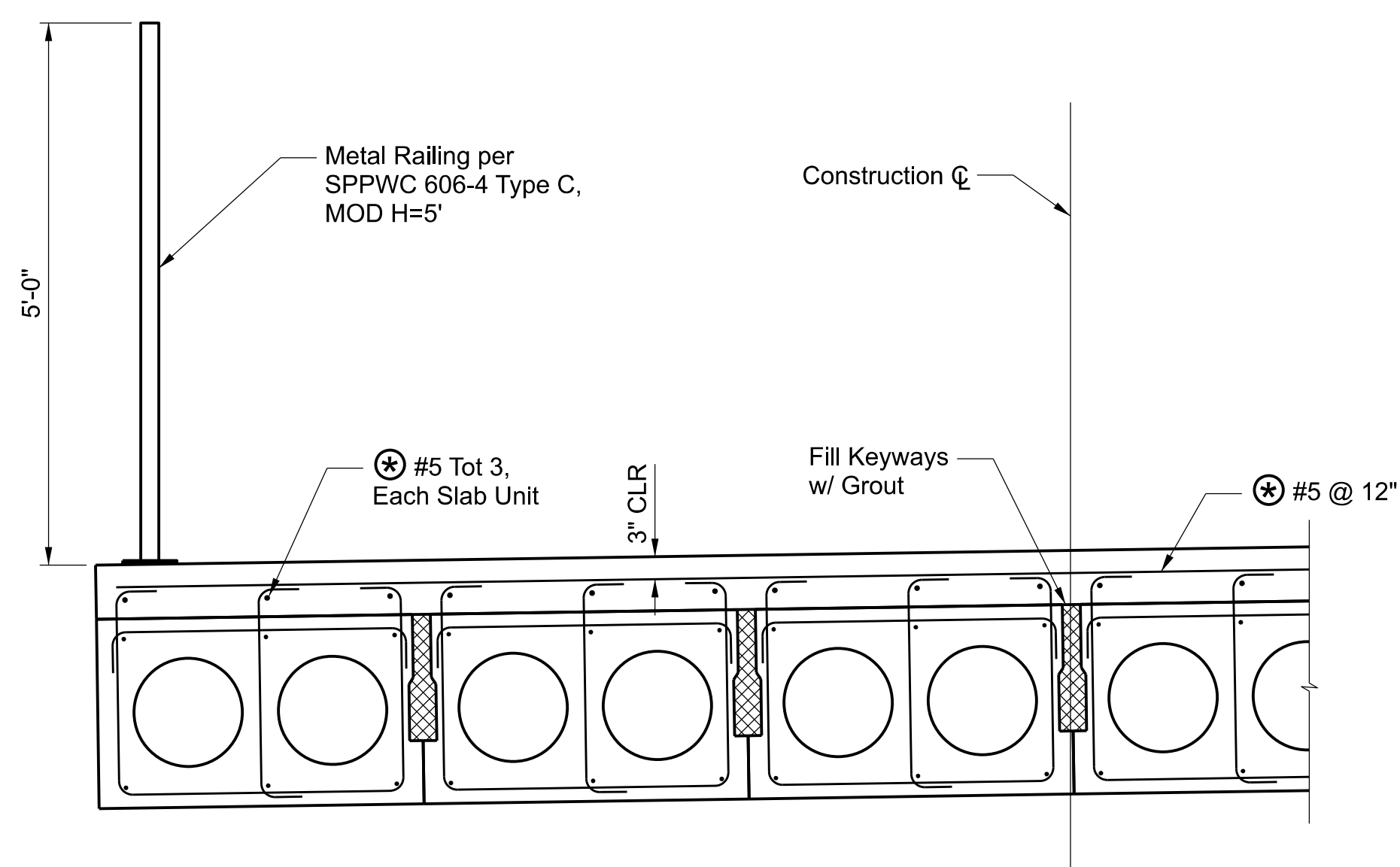
1. All components of the handrail shall be stainless steel pipe.
2. Slip joints shall be provided at an interval not to exceed 24 ft.
3. Maximum spacing of post shall not exceed 7 ft.
4. Welds shall be groove or fillet welds equal to thickness of pipe. Weld all joints all around.



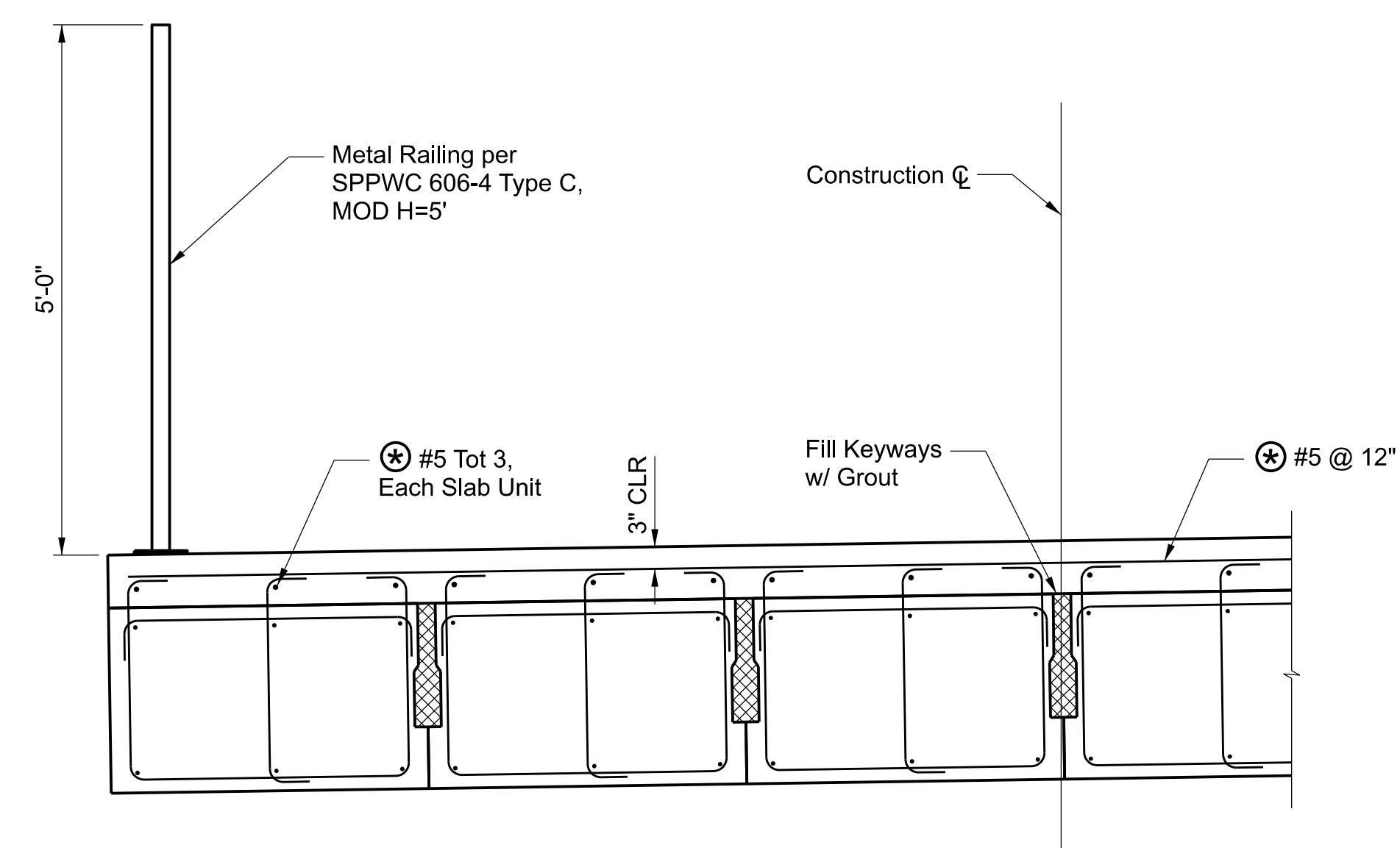
**SLIP JOINT DETAIL**  
SCALE: 3" = 1'-0"



**POST CONNECTION TO CONCRETE**  
SCALE: 1" = 1'-0"



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



**TYPICAL SECTION AT END DIAPHRAGM**  
SCALE: 3/4" = 1'-0"

**NOTES:**

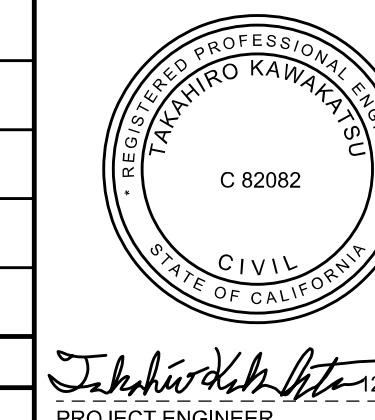
1. For reinforcement details see PRESTRESSED SLAB GIRDER DETAILS on SHEET 25.

**LEGEND:**

- ⊗ Epoxy Coated

CADD PROJECT FILE NAME: RDC0015071 - Marvin Braude Beach Trail Bikeway Bridge.dgn  
 CHECKER: A. WONG  
 DESIGNER: T. KAWAKATSU  
 DRAFTER: N. TORRES

DATE	MARK	DESCRIPTION
REVISIONS		



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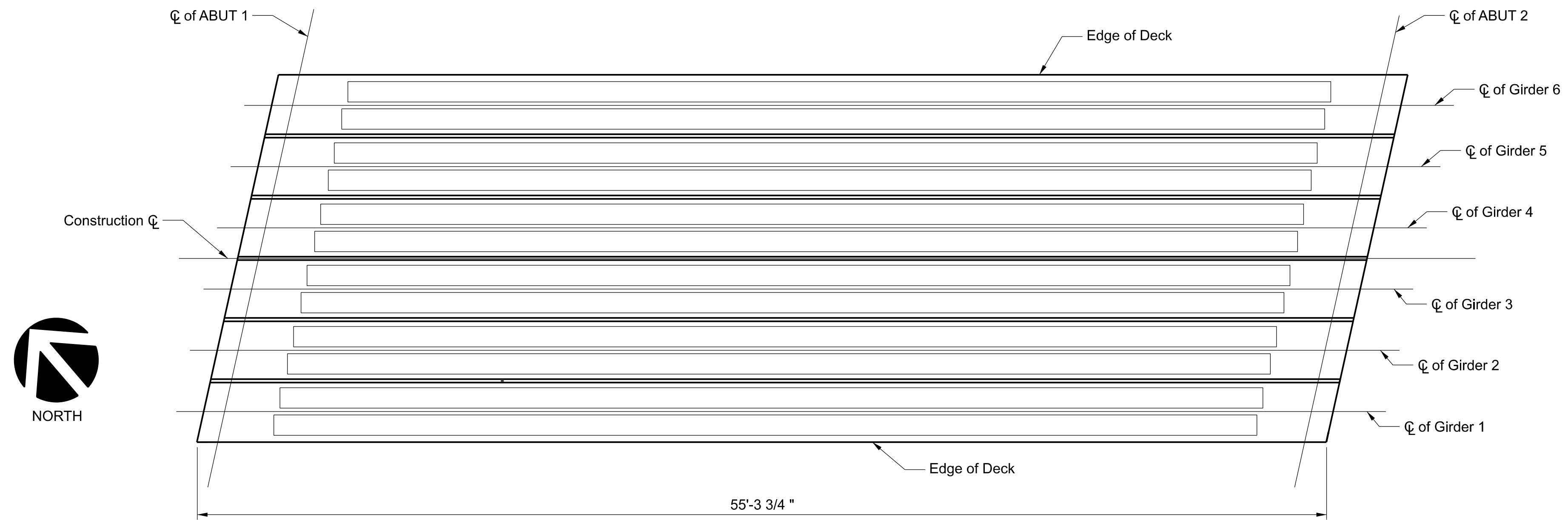
**MARVIN BRAUDE BEACH TRAIL**  
GAP CLOSURE  
BIKEWAY BRIDGE  
PROJECT ID NO. RDC0015071  
TYPICAL SECTION

DWG PB630026	PH086766	SHEET 23 OF 26
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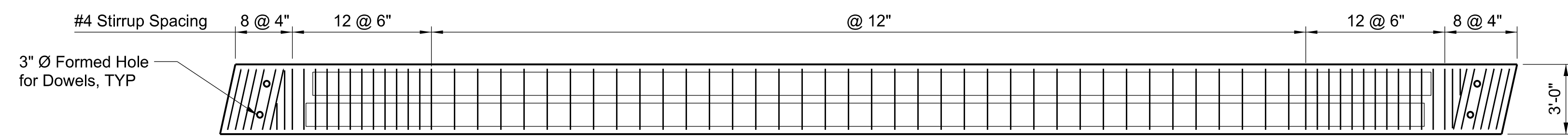
BR. NO. 4294

**AS-BUILT DRAWINGS PLAN B**

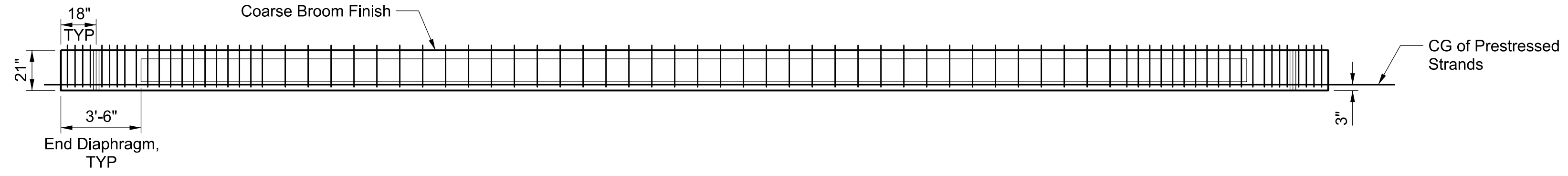
DRAFTER: N. TORRES  
 DESIGNER: T. KAWAKATSU  
 CHECKER: A. WONG  
 CADD PROJECT FILE NAME: RDC0015071 - Marvin Braude Beach Trail Bikeway Bridge.dgn



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



**TYPICAL PRESTRESSED SLAB GIRDER**  
SCALE: 1/4" = 1'-0"



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

DATE	MARK	DESCRIPTION
REVISIONS		



LOS ANGELES COUNTY PUBLIC WORKS  
**MARVIN BRAUDE BEACH TRAIL**  
 GAP CLOSURE  
 BIKEWAY BRIDGE  
 PROJECT ID NO. RDC0015071  
 PRESTRESSED SLAB GIRDER LAYOUT

DWG PB630026	PH086766	SHEET 24 OF 26
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BR. NO. 4294

**AS-BUILT DRAWINGS PLAN B**

**GENERAL NOTES**

- Jacking force (P) is the force required at the point of control along the span. The jacking force does not include any fabrication specific losses.
- The maximum tensile stress in the prestressing steel upon release shall not exceed 75% of the specified minimum ultimate tensile strength of the prestressing steel.
- The maximum temporary tensile stress (jacking stress) in the prestressing steel shall not exceed 80% of the specified minimum ultimate tensile strength of the prestressing steel.
- Keyways to be filled with grout (Minimum compressive strength = 5.0 ksi @ 24 hours)

**PRESTRESSING NOTES**

JACKING FORCE:  
Jacking force (P) = 352 kips/slab unit

CONCRETE STRENGTH:  
f<sub>ci</sub> = 4.5 ksi at time of initial stressing  
f<sub>c</sub> = 6.0 ksi at 28 days

PRESTRESSING STEEL (BOTTOM):  
0.6" DIA Strands, seven wire uncoated stress-relieved strands, Grade 270.

NUMBER OF SLAB UNITS:  
Total number of slab units = 6

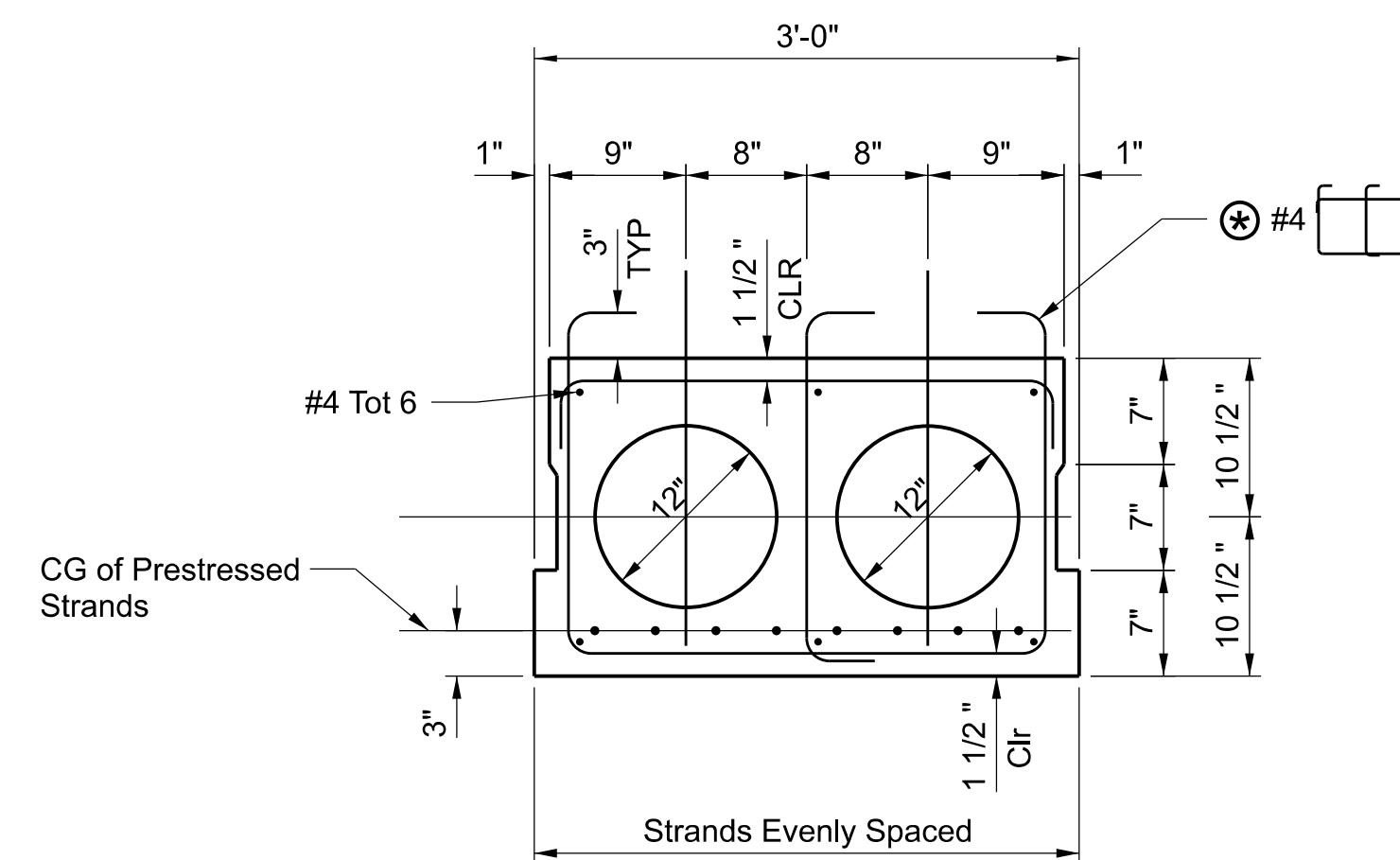
DEFLECTION COMPONENTS:  
Informational - to be used in setting screed line elevations.  
Screed line elevations for deck concrete will be determined by the Contractor.

PRESTRESS SLAB UNIT	DEFLECTION COMPONENTS @ MIDSPAN (in)	
	6" DECK	RAILING
ALL UNITS	-0.31	-0.01

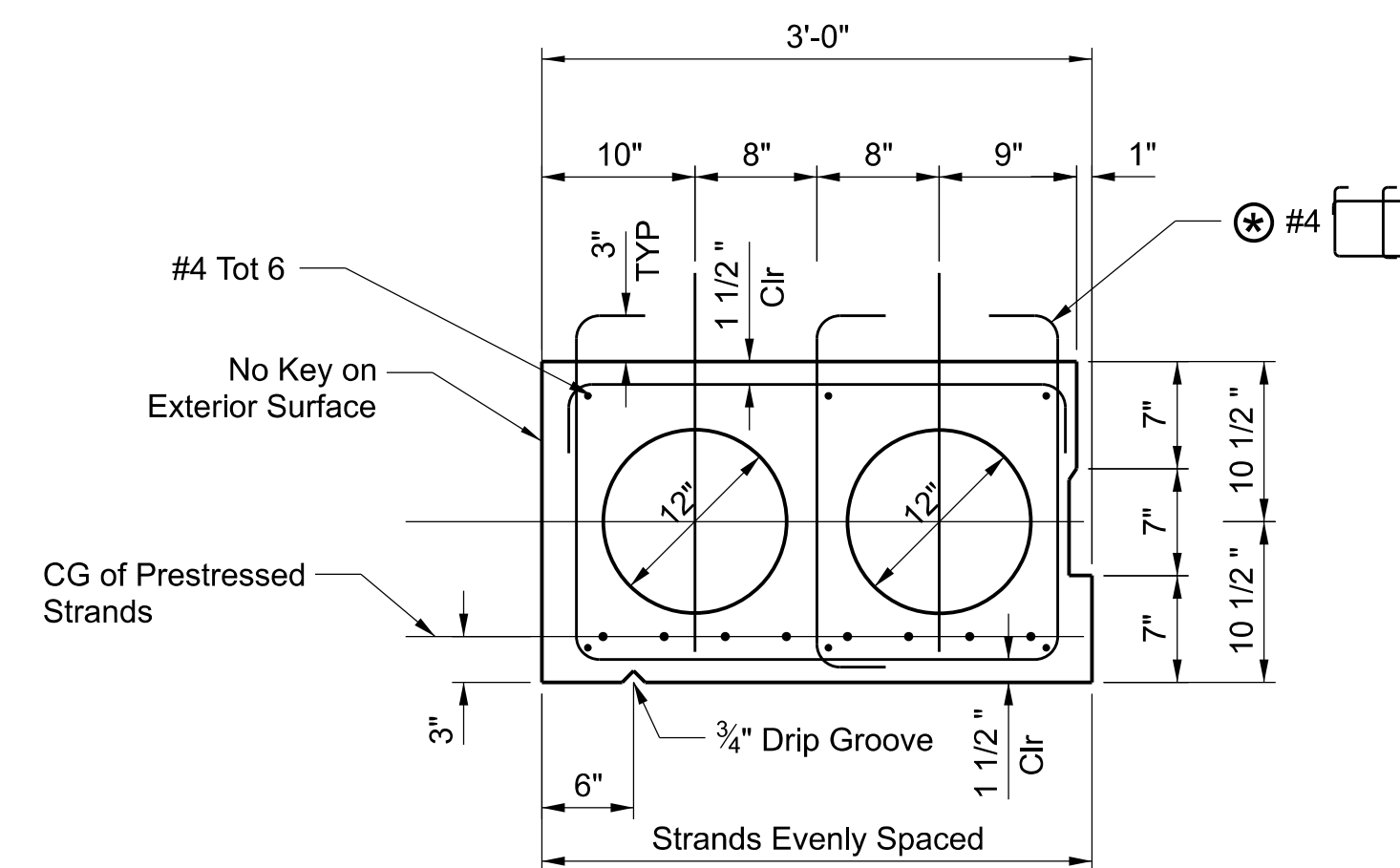
A (-) sign indicates downward deflection.

**LEGEND**

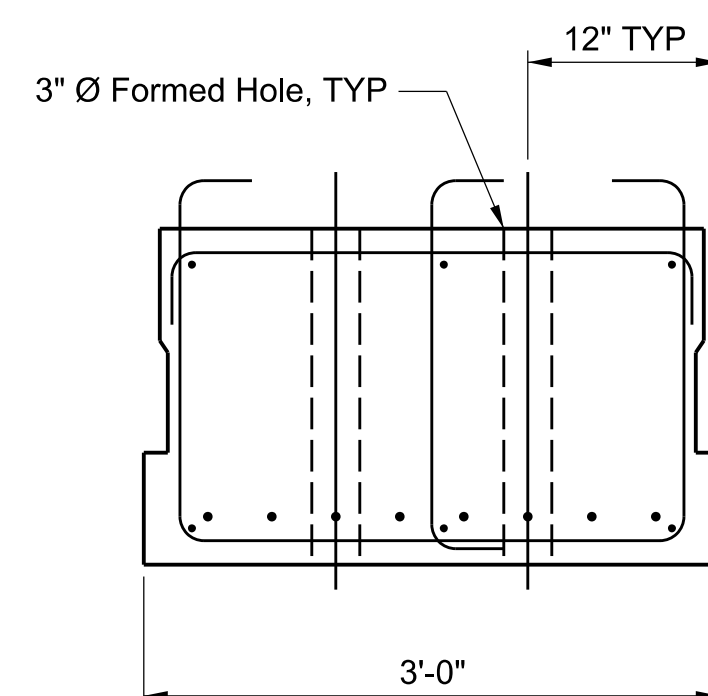
⊕ Epoxy Coated



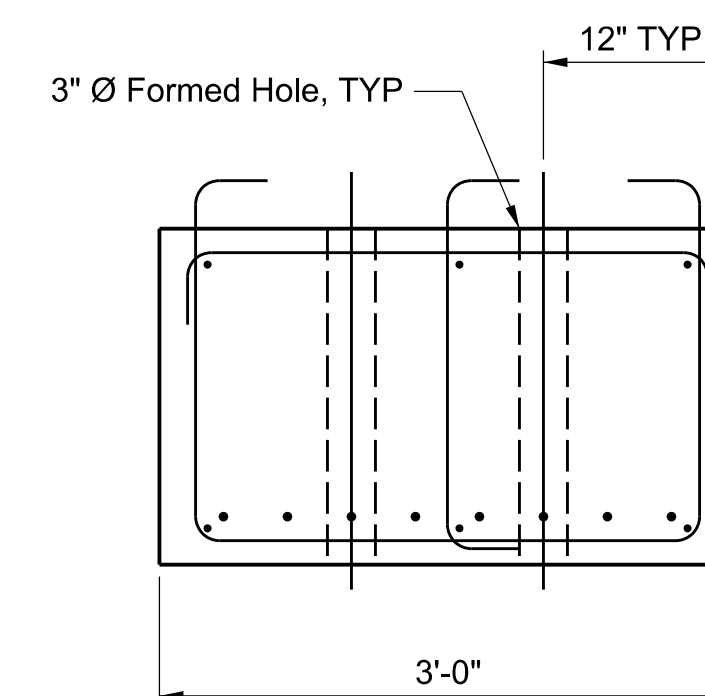
**SIV-36 SLAB UNIT**  
SCALE: 1" = 1'-0"



**SIV-36 EXTERIOR SLAB UNIT**  
SCALE: 1" = 1'-0"



**SIV-36 SLAB UNIT AT ABUTMENTS**  
SCALE: 1" = 1'-0"



**SIV-36 EXTERIOR SLAB UNIT AT ABUTMENTS**  
SCALE: 1" = 1'-0"

CAD PROJECT FILE NAME: RDC0015071 - Marvin Braude Beach Trail Bikeway Bridge.dgn  
 CHECKER: A. WONG  
 DESIGNER: T. KAWAKATSU  
 DRAFTER: N. TORRES

DATE	MARK	DESCRIPTION
REVISIONS		



PROJECT ENGINEER: T. Kawakatsu  
DATE: 2/21/2020

LOS ANGELES COUNTY PUBLIC WORKS		
<b>MARVIN BRAUDE BEACH TRAIL</b>		
GAP CLOSURE		
BIKEWAY BRIDGE		
PROJECT ID NO. RDC0015071		
PRESTRESSED SLAB GIRDER DETAILS		
DWG PB630026	PH086766	SHEET 25 OF 26

BR. NO. 4294

AS-BUILT DRAWINGS PLAN B