

GENERAL

1. THESE NOTES CONTAIN GENERAL INFORMATION AND ARE NOT COMPLETE FOR CONSTRUCTION PURPOSES. CONTRACTOR SHALL VERIFY INFORMATION GIVEN HERE WITH SPECIFICATIONS AND OTHER DOCUMENTS AND BRING ANY CONFLICTS TO THE ATTENTION OF THE PORT BEFORE BEGINNING AFFECTED WORK. THE ENGINEER WILL RESOLVE ANY SUCH CONFLICT.
2. ALL DIMENSIONS AND DETAILS WILL BE VERIFIED BY THE CONTRACTOR PRIOR TO FABRICATION AND CONSTRUCTION.
3. ALL SHOP DRAWINGS FOR PRECAST CONCRETE ELEMENTS, REINFORCING STEEL, MISCELLANEOUS STEEL, AND FENDER SYSTEM SHALL BE SUBMITTED TO AND REVIEWED BY THE ENGINEER PRIOR TO FABRICATION.
4. VERTICAL DATUM: SEE SHEET G4.1.

CODES AND STANDARDS

1. STRUCTURAL

A. ALL METHODS AND MATERIALS SHALL CONFORM TO THE INTERNATIONAL BUILDING CODE, 2012 EDITION, AS AMENDED AND ADOPTED BY THE CITY OF TACOMA.

B. REINFORCED CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE" AND ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".

C. STRUCTURAL AND MISCELLANEOUS STEEL FABRICATION AND ERECTION SHALL CONFORM TO THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" 2010.

D. WELDING OF STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO THE AWS D1.1, 2010.

E. WELDING OF REINFORCING STEEL SHALL CONFORM TO THE AWS D1.4, 2010.

PILING

1. PILES SHALL BE DRIVEN TO THE MINIMUM TIP ELEVATIONS AND REQUIRED CAPACITIES INDICATED.

REINFORCED CONCRETE

1. REINFORCING STEEL

A. PRESTRESSING STEEL SHALL BE UNCOATED LOW-RELAXATION SEVEN-WIRE STRAND CONFORMING TO ASTM A 416, GRADE 270.

B. ALL REINFORCING STEEL SHALL BE DEFORMED STEEL BARS CONFORMING TO ASTM A 615 – GRADE 60, EXCEPT AS NOTED.

a. ALL REINFORCING STEEL TO BE WELDED SHALL BE ASTM A 706 – GRADE 60.

b. DOWEL BARS FOR PILE TO PILE CAP CONNECTIONS SHALL BE ASTM A 706 – GRADE 60.

c. SPIRAL REINFORCEMENT SHALL BE ASTM A 1064.

d. ASTM A 615 GRADE 60 REINFORCEMENT SHALL BE PERMITTED FOR USE AS DOWEL BARS FOR PILE TO PILE CAP CONNECTIONS IF THE FOLLOWING ARE MET.

i. THE ACTUAL YIELD STRENGTH BASED ON MILL TESTS DOES NOT EXCEED Fy BY MORE THAN 18,000 PSI (RETESTS SHALL NOT EXCEED THIS VALUE BY MORE THAN AN ADDITIONAL 3000 PSI); AND

ii. THE RATIO OF THE ACTUAL TENSILE STRENGTH TO THE ACTUAL YIELD STRENGTH IS NOT LESS THAN 1.25.
- C. EPOXY COATED REINFORCING BARS SHALL CONFORM TO ASTM A 934. ALL STAGE 1 SECTIONS INCLUDING PILE CAP, PONY BENTS, SHEET PILE WALL CAP, CIP CRANE BEAM SEGMENTS, AND PRECAST BATTER PILE SUBCAP REINFORCING BARS, INCLUDING STIRRUPS, AND MECHANICAL COUPLERS SHALL BE EPOXY COATED.

- D. LAP ALL REINFORCING BARS AS NOTED ON THE DRAWINGS. DEFORMED BAR LAP SPLICES SHALL CONFORM TO THE FOLLOWING, UNLESS OTHERWISE SHOWN.

SCHEDULE OF MINIMUM LAP SPLICE LENGTHS		
BAR SIZE	f'c = 5000 PSI	
	TOP BARS	OTHER BARS
#4	2'-5"	1'-10"
#5	3'-0"	2'-4"
#6	3'-7"	2'-9"
#7	5'-3"	4'-1"
#8	6'-0"	4'-7"
#9	6'-9"	5'-3"
#10	7'-7"	5'-10"
#11	8'-5"	6'-6"

- NOTES:

1. LENGTHS ARE BASED ON CLASS "B", CASE 1 SPLICES (MAX OF 50% OF BARS SPLICED AT ONE LOCATION.

2. TOP BARS ARE DEFINED AS ANY HORIZONTAL BAR PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR.

3. INCREASE LAP SPLICE LENGTH OF EPOXY COATED REINFORCEMENT BY 50%.

4. STAGGER ALL LAP SPLICES IN ADJACENT BARS BY ONE LAP LENGTH +1'-0" MINIMUM.

5. NO MORE THAN 50% OF THE REINFORCING BARS IN ANY LAYER SHALL BE SPLICED AT ONE LOCATION.
- E. PROVIDE CORNER BARS AT ALL CORNERS. CORNER BARS SHALL MATCH THE NUMBER, SPACING AND DIAMETER OF ALL HORIZONTAL REINFORCEMENT AT THE CORNER, UNLESS SHOWN OTHERWISE. TERMINATED STRAIGHT BARS SHALL EXTEND FULL AVAILABLE LENGTH INTO ADJOINING MEMBERS. SPACE BARS EQUALLY BETWEEN DIMENSIONED LIMITS, UNLESS NOTED OTHERWISE.
- F. MECHANICAL SPLICES SHALL DEVELOP AT LEAST 125 PERCENT OF THE YIELD STRENGTH OF THE BAR IN TENSION.
- G. REINFORCING SHALL BE SUPPORTED AS SPECIFIED BY THE PROJECT SPECIFICATIONS AND THE CRSI "MANUAL OF STANDARD PRACTICE," (MSP). REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH "ACI DETAILING MANUAL," ACI SP-66.
- H. ALL HORIZONTAL REINFORCEMENT AT DISCONTINUITIES AND CORNERS SHALL END WITH STANDARD 90° HOOKS IN ACCORDANCE WITH ACI SP-66, UNLESS SHOWN OTHERWISE.

2. PRECAST CONCRETE

MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS

A. PRECAST PRESTRESSED CONCRETE PILES8000 PSI

B. PRECAST CONCRETE DECK PANELS6000 PSI

C. PRECAST CONCRETE BATTER SUBCAPS8000 PSI
3. CAST-IN-PLACE CONCRETE

MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS

A. CAST-IN-PLACE CONCRETE PILE CAPS5000 PSI

B. BULLRAIL AND BOLLARD FILL5000 PSI

C. DECK PANEL SHEAR KEY CONCRETE5000 PSI

D. CAST-IN-PLACE CONCRETE IN PILE BUILDUP6000 PSI

E. DRILLED SHAFTSCLASS 4000P (PER WSDOT)

4. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4 IN.
5. CONSTRUCTION JOINTS SHALL BE PROVIDED ONLY AS NOTED ON THE DRAWINGS AND AS SPECIFICALLY PERMITTED BY THE ENGINEER.
6. CONCRETE MIX SHALL HAVE A MAXIMUM WATER CEMENT RATIO OF 0.40 UNLESS NOTED OTHERWISE.
7. ALL CONCRETE SHALL BE AIR ENTRAINED WITH A TARGET OF 5% ± 1 1/2% UNLESS NOTED OTHERWISE IN THE SPECIFICATIONS.
8. REINFORCING BARS SHOWN AS EXISTING ARE PER PORT RECORD DRAWINGS. ACTUAL CONDITIONS MAY VARY. THE CONTRACTOR SHALL FIELD VERIFY EXISTING REINFORCING BAR SIZES AND QUANTITIES PRIOR TO ORDERING REINFORCING STEEL OR MECHANICAL COUPLERS THAT WILL BE SPLICED TO EXISTING REINFORCING.

ANCHORS

1. USE OF DRILLED ADHESIVE CONCRETE ANCHORS, WHERE NOT SPECIFIED IN THE DOCUMENTS, SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.
2. EPOXY OR ADHESIVE-TYPE ANCHORS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATION. SPECIAL INSPECTION IS REQUIRED FOR ALL ADHESIVE ANCHORS.
3. ACCEPTABLE ADHESIVES ARE HILTI HIT RE 500 OR RE 500 SD OR SIMPSON SET-XP SYSTEM. ICBO OR ICC REPORTS SHALL BE SUBMITTED FOR ALL ADHESIVE ANCHOR PRODUCTS.

MISCELLANEOUS STEEL

1. ALL MISCELLANEOUS STEEL SHAPES AND PLATES, EXCEPT AS NOTED BELOW, SHALL CONFORM TO ASTM A 36.
2. STEEL PLATE NOTED AS GRADE 50 SHALL CONFORM TO ASTM A572, GRADE 50.
3. ALL HSS SHAPES SHALL CONFORM TO ASTM A500, GRADE B.
4. ECONOMY BOLTS SHALL CONFORM TO ASTM A 307, UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS.
5. ALL ANCHOR BOLTS SHALL CONFORM TO ASTM F 1554, GRADE 36 (TYPICAL), AND GRADE 105 (AT CRANE STOPS AND CAPSTANS).
6. HIGH STRENGTH THREADED BAR SHALL CONFORM TO ASTM A615, GRADE 75.
7. PROVIDE BLEED HOLES IN EMBEDDED PLATES AND SHAPES AT 24-IN. ON CENTER MAXIMUM.
8. ALL MISCELLANEOUS PIPES AND SLEEVES SHALL CONFORM TO ASTM A 53, GRADE B.
9. HIGH STRENGTH BOLTS FOR STEEL-TO-STEEL CONNECTIONS SHALL BE ASTM A325X.
10. ALL NUTS SHALL BE ASTM A 563, UNLESS NOTED OTHERWISE.
11. ALL WASHERS SHALL BE ASTM F 436, UNLESS NOTED OTHERWISE.
12. ALL STEEL ITEMS SHALL BE HOT-DIP GALVANIZED AND/OR COATED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS, UNLESS NOTED OTHERWISE.
13. SEE THE CONTRACT SPECIFICATIONS FOR ITEMS TO RECEIVE HIGH PERFORMANCE COATING IN ADDITION TO GALVANIZING.

WELDING

1. ALL WELDING SHALL BE PERFORMED BY WELDERS QUALIFIED FOR THE WELD AND POSITION SHOWN IN ACCORDANCE WITH AWS AND HAVING CURRENT CERTIFICATION FROM WABO.
2. ALL WELDS SHALL BE PERFORMED WITH PROCEDURES PREQUALIFIED OR QUALIFIED IN ACCORDANCE WITH AWS D1.1 AND D1.4.
3. THE WELDS SHOWN ARE FOR THE FINAL CONNECTIONS. FIELD WELD SYMBOLS ARE SHOWN WHERE FIELD WELDS ARE REQUIRED BY THE STRUCTURAL DESIGN. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING IF A WELD SHOULD BE SHOP- OR FIELD-WELDED IN ORDER TO FACILITATE THE STRUCTURAL STEEL ERECTION.
4. WELDING ELECTRODES SHALL BE 70 KSI STRENGTH AND SHALL BE "LOW-HYDROGEN" ELECTRODES.

INSPECTION

1. THE CRITICAL ELEMENTS REQUIRING SPECIAL INSPECTION PER IBC 2012 CHAPTER 17 ARE INDICATED ON S1.3.
2. SPECIAL INSPECTION WILL BE PERFORMED BY THE PORT.

6552

S1.1

SH 173 OF 499

CONT/CONS: 070136

M. ID: 091251

PHASE: BID

PIER 4 PHASE 2 RECONFIGURATION

PIER STRUCTURAL NOTES - SHEET 1

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DESIGN CRITERIA

DESIGN LOADS

- UNIFORM LIVE LOADS:
1000 PSF TYPICAL
2000 PSF ON HEAVY LOAD ZONE
250 PSF WITHIN 10 FT OF BOTH SIDES OF CRANE RAIL APPLIED SIMULTANEOUSLY WITH CRANE WHEEL LOAD.
- CONCENTRATED LIVE LOADS:
HS25 TRUCK
CRANE OUTRIGGERS
STRADDLE CARRIER
CONTAINER HANDLER
SEE DIAGRAMS ON THIS SHEET
- DEAD LOADS:
CONCRETE 160 PCF
BALLAST 150 PCF
ACP 150 PCF
STEEL 490 PCF

4. CONTAINER CRANE LOADS

A. VERTICAL LOADS:

100' GAUGE CRANE:

EQUIVALENT SERVICE LEVEL
UNIFORM LOAD

OPERATING CONDITION	WATERSIDE	65 KIPS/FT
	LANDSIDE	65 KIPS/FT
STOWED CONDITION	WATERSIDE	54 KIPS/FT
	LANDSIDE	63 KIPS/FT

- LONGITUDINAL LOADS AT PIN SOCKETS: $P_u = 515$ KIPS ULTIMATE PER SOCKET.
 $P_s = 320$ KIPS SERVICE PER SOCKET.

- CRANE STOPS: $P_u = 1,120$ KIPS (L.F.=1.0), ACTING HORIZONTALLY 3'-6" ABOVE TOP OF RAIL, PER STOP.

D. CRANE TIE DOWN UPLIFT LOAD:

WATERSIDE TIE-DOWNS $P_u = 1,184$ KIPS/CORNER
 $P_s = 667$ KIPS/CORNER

LANDSIDE TIE-DOWNS $P_u = 495$ KIPS/CORNER
 $P_s = 242$ KIPS/CORNER

E. WIND SPEEDS (ASCE 7-10)

OPERATING 55 MPH
STOWED 110 MPH

5. FENDER SYSTEM DESIGN CRITERIA

A. ULTRA LARGE CONTAINER SHIP (ULCS)

LENGTH OVERALL (LOA): 1380 FEET
BEAM: 195 FEET (24 CONTAINERS ACROSS ON DECK)
CARGO HEIGHT @ MHHW : 148 FEET
DRAFT: 50 FEET
CAPACITY: 18,000 TEU (176,000 DEADWEIGHT TONS (DWT))
TOTAL DISPLACEMENT: 230,000 LONG TONS

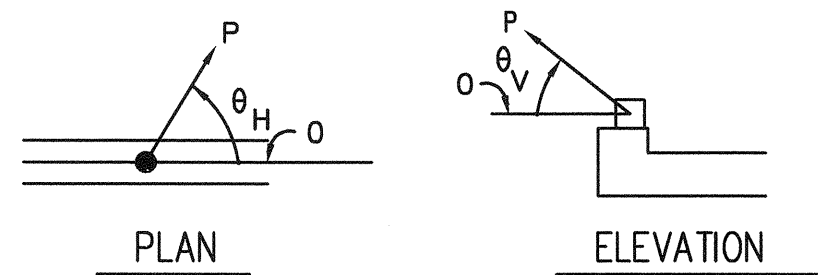
B. BERTHING LOADS:

1. ULCS

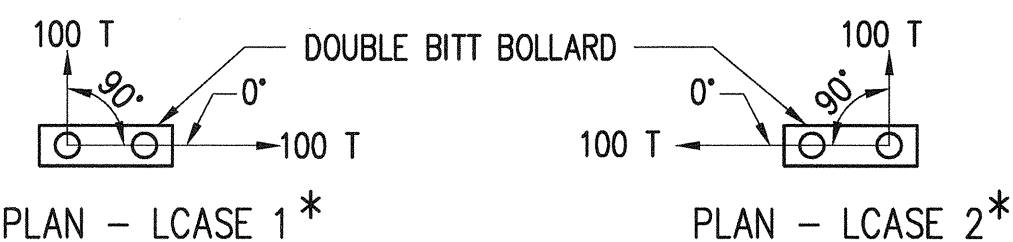
APPROACH VELOCITY: 1 KNOT
APPROACH ANGLE: 6 DEGREES

2. MAX. ALLOWABLE HULL PRESSURE = 5.0 KIPS/SQ FT

6. LINE PULL ON BOLLARDS



LOCATION	RATED CAPACITY P	RANGE OF HORIZONTAL ANGLE θ H	RANGE OF VERTICAL ANGLE θ V
PIER BOLLARD-TYPE 1	100 TONS	0° TO 180°	0° TO +60°
PIER BOLLARD-TYPE 2	200 TONS	0° TO 180°	0° TO +60°
PIER DOUBLE BITT BOLLARD	200 TONS	SEE BELOW	0° TO +60°
MOORING DOLPHIN BOLLARD	200 TONS	SEE SHEET S5.5	0° TO +60°



PLAN - LCASE 1*

PLAN - LCASE 2*

* LCASE 1 AND LCASE 2 CAN OCCUR SIMULTANEOUSLY

7. LOAD COMBINATIONS

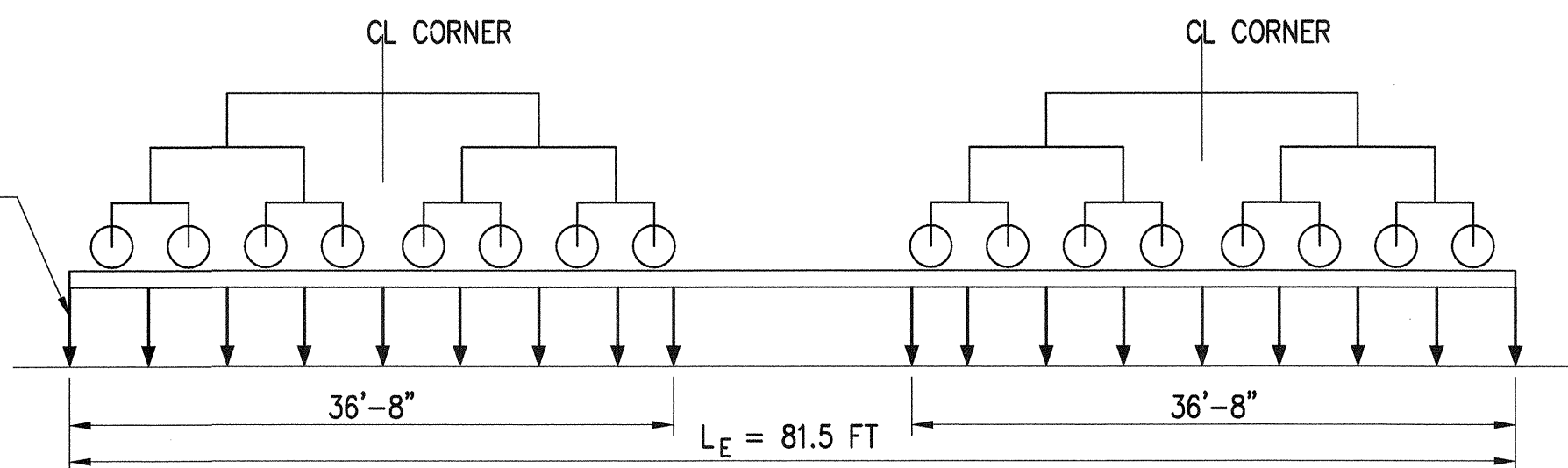
SERVICE LOAD COMBINATIONS

$S1 = 1.0D + 1.0L + 1.0CO + 1.0E + 0.6W_0 + 1.0T$
 $S2 = 0.9D + 1.0E + 0.75(0.5W_S)$
 $S3 = 1.0D + 1.0CO + 0.79L + 0.75BE + 1.0E + 0.75(0.6W_0)$
 $S4 = 1.0D + 0.75L + 0.75CO + 0.75BE + 1.0E + 0.75(0.6W_0)$
 $S5 = 1.0D + 1.0L + 1.0CO + 1.0M + 1.0E + 0.6W_0$
 $S6 = 1.0D + 1.0L + 1.0CS + 1.0M + 1.0E + 0.6W_S$

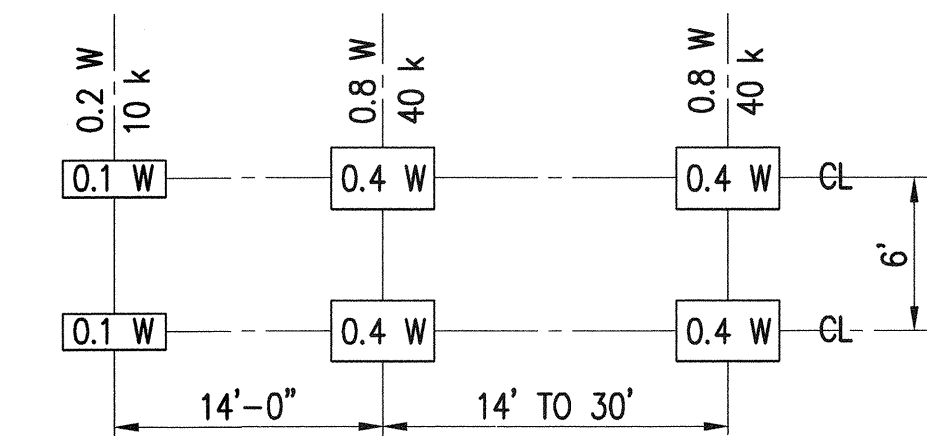
ULTIMATE STRENGTH LOAD COMBINATIONS

$U1 = 1.2D + 1.6L + 1.3CO + 1.6E + 1.0W_0 + 1.2T$
 $U2 = 0.9D + 1.6E + 1.0W_S + 1.2T$
 $U3 = 1.2D + 1.2CO + 1.0L + 1.0BE + 1.0E + 1.0W_0$
 $U4 = 1.2D + 1.0L + 1.3CO + 1.6M + 1.6E + 1.0W_0$
 $U5 = 1.2D + 1.6L + 1.5CS + 1.6M + 1.6E + 1.0W_S$

BE - BERTHING LOAD (PER UFC 4-152-01)
CD - DEAD LOAD OF CONTAINER CRANE
CO - CRANE LOAD UNDER OPERATING CONDITION
CS - CRANE LOAD UNDER STOWED CONDITION
D - DEAD LOAD
H - HORIZONTAL EARTH PRESSURE LOAD
L - LIVE LOAD + IMPACT
M - MOORING LOAD
T - TEMPERATURE LOAD ($\Delta T = \pm 30^\circ$)
 W_0 - WIND LOAD OPERATING
 W_S - WIND LOAD STOWED



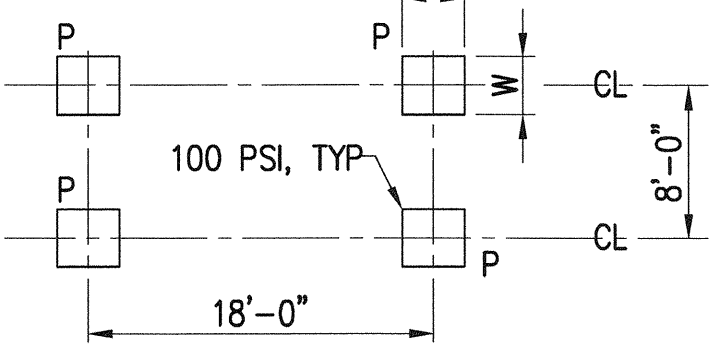
CONTAINER CRANE LOADS



W = COMBINED WEIGHT ON THE FIRST TWO AXLES WHICH IS THE SAME AS FOR THE CORRESPONDING H TRUCK.

HS25 TRUCK = $(1.25 \times \text{HS20})$

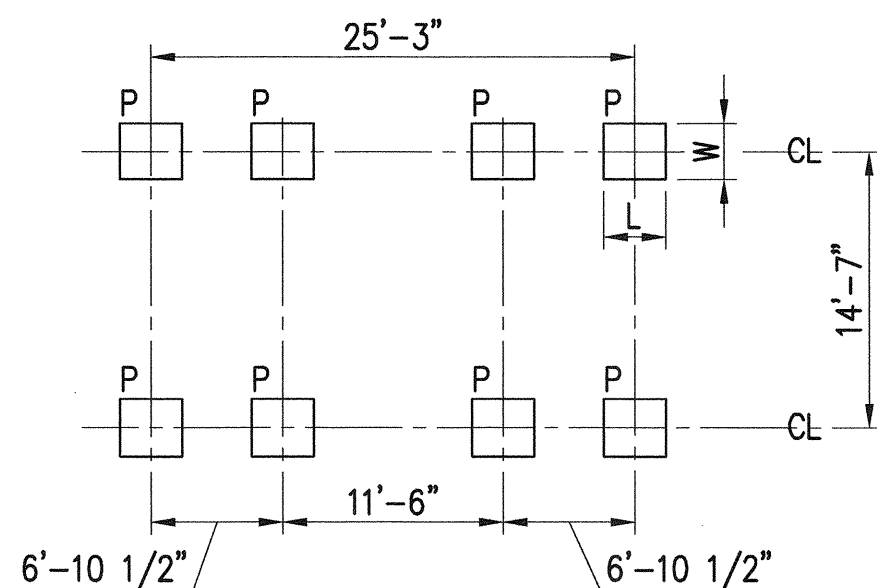
NOTE: ADD 10% IMPACT TO ABOVE LOADS



$P = 125$ k (INCLUDES IMPACT)

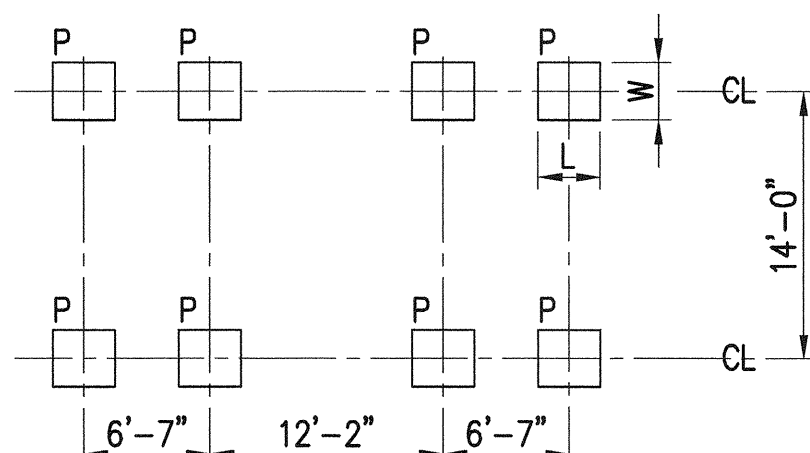
$L = W \sqrt{\frac{P}{100}}$ (P IN LBS, L OR W IN INCHES)

CRANE OUTRIGGERS



$P = 30.4$ k (INCLUDES 10% IMPACT)
 $W = 10.24$ k
 $L = 20.24$ k
 $q = 145$ psi

KALMAR CSC 340 STRADDLE CARRIER



$P = 35$ k (INCLUDES 10% IMPACT)
 $W = 18$ k
 $L = 19.5$ k
 $q = 100$ psi

NOELL SC544 STRADDLE CARRIER

DESIGN CONCEPT

1. VERTICAL LOADS:

LOADS ARE DISTRIBUTED THROUGH ASPHALT PAVING TO DECK PANELS, DECK PANELS TO PILE CAPS, PILE CAPS TO PILES, PILES TO SOIL IN FRICTION.

2. HORIZONTAL LOADS:

HORIZONTAL LOADS INCLUDING SEISMIC FORCES, SOIL PRESSURE, SHIP IMPACT, AND MOORING FORCES ARE TRANSMITTED THROUGH THE DECK ACTING AS A DIAPHRAGM TO THE PLUMB PILES AND BATTER PILES. HORIZONTAL LOADS PARALLEL TO THE WHARF ARE RESISTED BY PLUMB PILES.

SEISMIC DESIGN

- THE SEISMIC DESIGN CONFORMS WITH ASCE 61-14," SEISMIC DESIGN OF PIERS AND WHARVES," DESIGN CLASSIFICATION "HIGH".

- SEISMIC DESIGN INCLUDES DISPLACEMENT BASED DESIGN FOR SEISMIC STRUCTURAL PERFORMANCE LEVELS FOR THE THREE FOLLOWING SEISMIC EVENTS.

EVENT	HAZARD LEVEL	TARGET PERFORMANCE LEVEL
OPERATING LEVEL EARTHQUAKE (OLE)	GROUND MOTION PROBABILITY OF EXCEEDANCE: 50% IN 50 YEARS (72-YEAR RETURN PERIOD)	MINIMAL DAMAGE
CONTINGENCY LEVEL EARTHQUAKE (CLE)	GROUND MOTION PROBABILITY OF EXCEEDANCE: 10% IN 50 YEARS (475-YEAR RETURN PERIOD)	CONTROLLED AND REPAIRABLE DAMAGE
DESIGN EARTHQUAKE (DE)	SEISMIC HAZARD LEVEL: DESIGN EARTHQUAKE PER ASCE 7 (2005)	LIFE SAFETY PROTECTION

- SEISMIC MASS INCLUDES 10% OF THE TYPICAL UNIFORM LIVE LOAD MASS OVER THE ENTIRE SURFACE OF THE WHARF, AND ACCOUNTS FOR MASS CONTRIBUTION OF CONTAINER CRANES.

IBC 2012 – WIND DESIGN DATA

- BASIC WIND SPEED (3-SECOND GUST) – 110 MPH
- CATEGORY – II
- WIND EXPOSURE – EXPOSURE D

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PIER 4 PHASE 2
RECONFIGURATION
PIER STRUCTURAL NOTES - SHEET 2

6552
SH 174 OF 499
S1.2
CONTR/CONS: 070136
M. ID: 091251
PHASE: BID

TOWNSHIP: 21N
RANGE: 3E
SECTION: 27
DATE-HR: 091251
DRAWING SCALE: AS NOTED
PARCEL: AS NOTED

MARK: REVISION:
BY: DATE:
APPR: DATE:

SPECIAL INSPECTION SCHEDULE			
ESTABLISHED PER 2012 IBC SECTION 110 & CHAPTER 17			
ITEM	CONTINUOUS INSPECTION	PERIODIC INSPECTION	COMMENTS
SOILS			
GRADING, EXCAVATION & FILL		X	
FINAL FOUNDATION PREPARATION		X	
PILE DRIVING MONITORING	X		BY GEOTECHNICAL ENGINEER OF RECORD
DRILLED SHAFT INSTALLATION	X		BY GEOTECHNICAL ENGINEER OF RECORD
PREFAB CONSTRUCTION			REF. NOTE 5
CONCRETE			
REINFORCING PLACEMENT		X	
REINFORCING WELDING		X	
REINFORCING COUPLING		X	
ANCHOR BOLTS & INSERTS		X	
PREPARATION OF TEST SPECIMENS	X		
CONCRETE PLACEMENT	X		
ADHESIVE ANCHOR PLACEMENT		X	REF. NOTE 6
EXPANSION ANCHOR PLACEMENT		X	REF. NOTE 6
EMBEDDED PLATES		X	
CURING		X	
PRECAST CONCRETE ERECTION		X	
STRUCTURAL STEEL			
FABRICATION & ERECTION		X	
SINGLE PASS FILLET WELDS $\leq$ 5/16"		X	REF. NOTE 8
FILLET WELDS > 5/16"	X		REF. NOTE 8
PARTIAL/COMPLETE PENETRATION WELD	X		REF. NOTE 9
OTHER WELDING			
WELDING OF ANCHORS AND STUDS		X	

SPECIAL INSPECTION SCHEDULE NOTES

1. THE ITEMS CHECKED WITH AN "X" SHALL BE INSPECTED IN ACCORDANCE WITH IBC CHAPTER 17 BY A CERTIFIED INSPECTOR FROM AN ESTABLISHED TESTING AGENCY. FOR MATERIAL SAMPLING AND TESTING REQUIREMENTS, REFER TO PROJECT SPECIFICATIONS, THE STRUCTURAL NOTES AND THE THE NOTES BELOW. THE TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE ENGINEER. ANY MATERIALS WHICH FAIL TO MEET THE PROJECT SPECIFICATIONS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER. SPECIAL INSPECTION TESTING REQUIREMENTS APPLY EQUALLY TO ALL BIDDER DESIGNED COMPONENTS.
2. SPECIAL INSPECTION IS NOT REQUIRED FOR WORK PERFORMED ON THE PREMISES OF AN APPROVED FABRICATOR PER IBC SECTION 1704.2.5.2.
3. CONTINUOUS SPECIAL INSPECTION MEANS THAT THE SPECIAL INSPECTOR IS ON THE SITE AT ALL TIMES OBSERVING THE WORK REQUIRING SPECIAL INSPECTION (IBC 1702). PERIODIC SPECIAL INSPECTION MEANS THAT THE SPECIAL INSPECTOR IS ON SITE AT TIME INTERVALS NECESSARY TO CONFIRM THAT ALL WORK REQUIRING SPECIAL INSPECTION IS IN COMPLIANCE.
4. INSPECTION REQUIREMENTS FOR SYSTEMS DESIGNED BY OTHERS SHALL BE DEFINED BY THE REGISTERED DESIGN PROFESSIONAL RESPONSIBLE FOR THEIR DESIGN.
5. INSPECTION FOR PREFABRICATED CONSTRUCTION SHALL BE THE SAME AS IF THE MATERIALS USED IN THE CONSTRUCTION TOOK PLACE ON SITE. CONTINUOUS INSPECTION WILL NOT BE REQUIRED DURING PREFABRICATION IF THE APPROVED AGENCY CERTIFIES THE CONSTRUCTION AND FURNISHES EVIDENCE OF COMPLIANCE.
6. INSPECTION OF DRILLED CONCRETE ANCHORS, INCLUDING EXPANSION AND ADHESIVE ANCHORS, SHALL INCLUDE VISUAL VERIFICATION OF DRILLED HOLE DEPTH, SPACING, EDGE DISTANCES AND HOLE CLEANING. FOR ADHESIVE ANCHORS, ADHESIVE INSTALLATION SHALL BE OBSERVED AND PRODUCT SPECIFICATION AND PREPARATION SHALL BE VERIFIED.
7. ALL WELDS SHALL BE VISUALLY INSPECTED.
8. ALL COMPLETE PENETRATION WELDS SHALL BE TESTED ULTRASONICALLY OR BY USING ANOTHER APPROVED METHOD.
9. THE PORT WILL EMPLOY AND PAY FOR SPECIAL INSPECTION & TESTING SERVICES TO ENSURE COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. SEE SPECIFICATION FOR ADDITIONAL INFORMATION.

PERMANENT FLOATING CONTAINMENT BOOM SYSTEM

1. SYSTEM REQUIREMENTS

A. CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE PERMANENT FLOATING CONTAINMENT BOOM SYSTEM UNDER THE FINISHED PIER IN THE LOCATION INDICATED IN THE DRAWINGS (SEE S3.1 THRU S3.2 AND S6.2 THRU S6.6). PERMANENT CONTAINMENT BOOM SYSTEM SHALL CONSIST OF APPROXIMATELY 1800 LINEAR FEET OF OIL TIGHT FLOATING BARRIER AND (74) HEAVY DUTY PILE TETHERS.

B. BOOM SYSTEM MANUFACTURER AND INSTALLER SHALL HAVE A MINIMUM OF FIVE YEARS EXPERIENCE MANUFACTURING AND INSTALLING CONTAINMENT BOOM SYSTEMS FOR LONG-TERM USE IN SIMILAR CONDITIONS.

C. CONTRACTOR SHALL SUBMIT THE FOLLOWING FOR REVIEW PRIOR TO CONSTRUCTION:

• QUALIFICATIONS OF MANUFACTURER AND INSTALLER

• DETAILED INSTALLATION DRAWINGS

• PRODUCT DATA SHEETS FOR ALL BOOM SYSTEM COMPONENTS
2. BARRIER

A. BARRIER SHALL BE CONSTRUCTED OF PVC IMPREGNATED POLYESTER WITH A MINIMUM HEIGHT OF 24" , A MINIMUM THICKNESS OF 3/16" , AND A MINIMUM FREEBOARD OF 11" . FLOATATION SHALL BE PROVIDED BY REPLACEABLE FOAM-FILLED, HARD-SHELL POLYETHYLENE FLOATS BOLTED TO THE BARRIER WITH NYLON BOLTS AND NUTS. THE BARRIER SHALL BE SELF-RIGHTING AND BALLASTED USING LEAD WEIGHTS BOLTED TO THE BOTTOM OF THE BARRIER.

B. BARRIER SHALL INCLUDE STAINLESS STEEL EYEBOLT ANCHOR POINTS FOR ATTACHMENT OF BOOM TO PILE TETHERS. BARRIER END CONNECTORS SHALL ALLOW FOR AN OIL TIGHT CONNECTION BETWEEN SECTIONS OF PERMANENT BOOM, AS WELL AS TO ENDS OF TEMPORARY FLEXIBLE BOOM (BY OTHERS) AT NORTH AND SOUTH END OF PIER.

C. BARRIER SHALL BE 24" PETRO BARRIER (NRC PB24-100) MANUFACTURED BY NRC ENVIRONMENTAL SERVICES INC. OF SEATTLE WA, OR APPROVED EQUAL.
3. PILE TETHERS

A. PILE TETHERS SHALL BE PROVIDED IN OPPOSING PAIRS AT A SPACING NOT TO EXCEED 50 FEET. PILE TETHERS SHALL BE ADEQUATE TO HOLD BARRIER SECURELY IN PLACE AGAINST WIND, WAVES, AND PROP WASH WHILE ALLOWING THE BOOM TO TRAVEL VERTICAL FREELY WITH THE TIDE.

B. EACH PILE TETHER SHALL FULLY ENCIRCLE A PILE WITH A LOOP OF STAINLESS STEEL CHAIN HAVING A MINIMUM THICKNESS OF 5/16" . RUBBER DISKS SHALL BE PROVIDED BETWEEN ADJACENT TETHER FLOATS TO PREVENT FLOATS AND CHAIR FROM WEARING AGAINST PILING.

C. PILE TETHERS SHALL BE "HEAVY DUTY PILE TETHER" AS MANUFACTURED BY NRC ENVIRONMENTAL SERVICES INC. OF SEATTLE WA, OR APPROVED EQUAL.

6552

SH 175 OF 499

S1.3

PIER 4 PHASE 2
RECONFIGURATION
PIER STRUCTURAL NOTES - SHEET 3

TOWNSHIP: 21N
DAT-HRZ: WA83-SF
RANGE: 3E
VERT: MLLW 19.39' @ Tide 22 1933
SECTION: 27
DRAWING SCALE: AS NOTED
PARCEL:

CONT/CONS: 070136
M. ID: 091251
PHASE: BID

APPROVED: *Steve Howard*
3-28-16
DIRECTOR
ENG. DATE: tienons
PRINTED BY: tienons
PORT ADDRESS: ONE SITCUM PLAZA
TACOMA, WA 98401-1837

SEK
CHECKED BY: DATE
TAH
PROJ. ENGR DATE
MAR 24, 2016

91-52-5

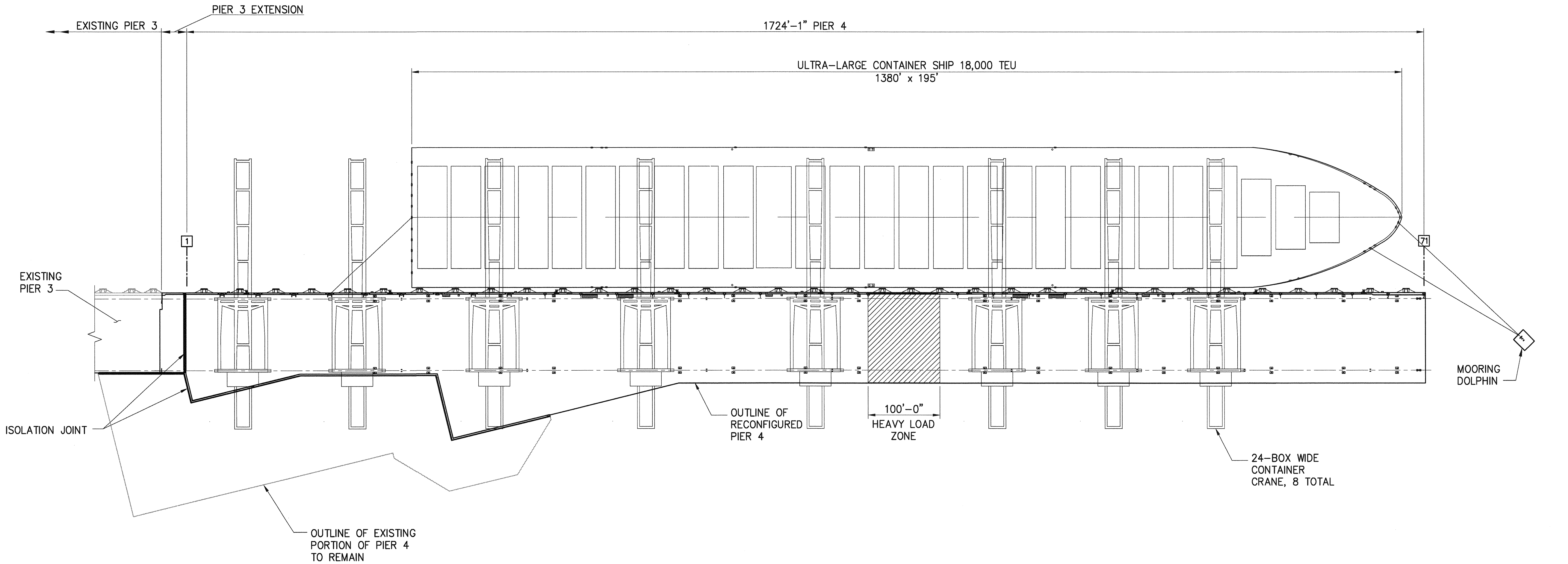
2407 North 31st Street, Suite 100
Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162

P.O. BOX 1837 TACOMA, WA 98401 (206)395-5841

APPR: DATE:

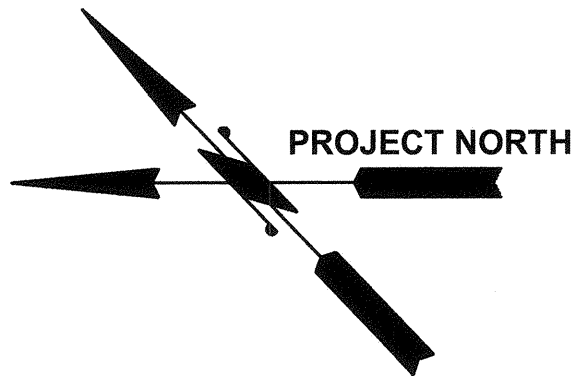
MARK: REVISION: BY:

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1
PIER PLAN
1"=80'

0 80 160 240
SCALE IN FEET



6552
SH 176 OF 499
S2.1

CONT/CONS: 070136
M. ID: 091251
PHASE: BID

PIER 4 PHASE 2
RECONFIGURATION
PIER PLAN

TOWNSHIP: 21N
DATE-HRZ: WA83-SF
PARCEL:
RANGE: 3E
SECTION: 27
VERT: MLLW 19.39' @ Tide 22.1933
DRAWING SCALE: AS NOTED

APPROVED:

[Signature]
3-28-16

SEK

CHECKED BY: TA9

DATE

PROJECT: 114-1114096



kpff

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Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162

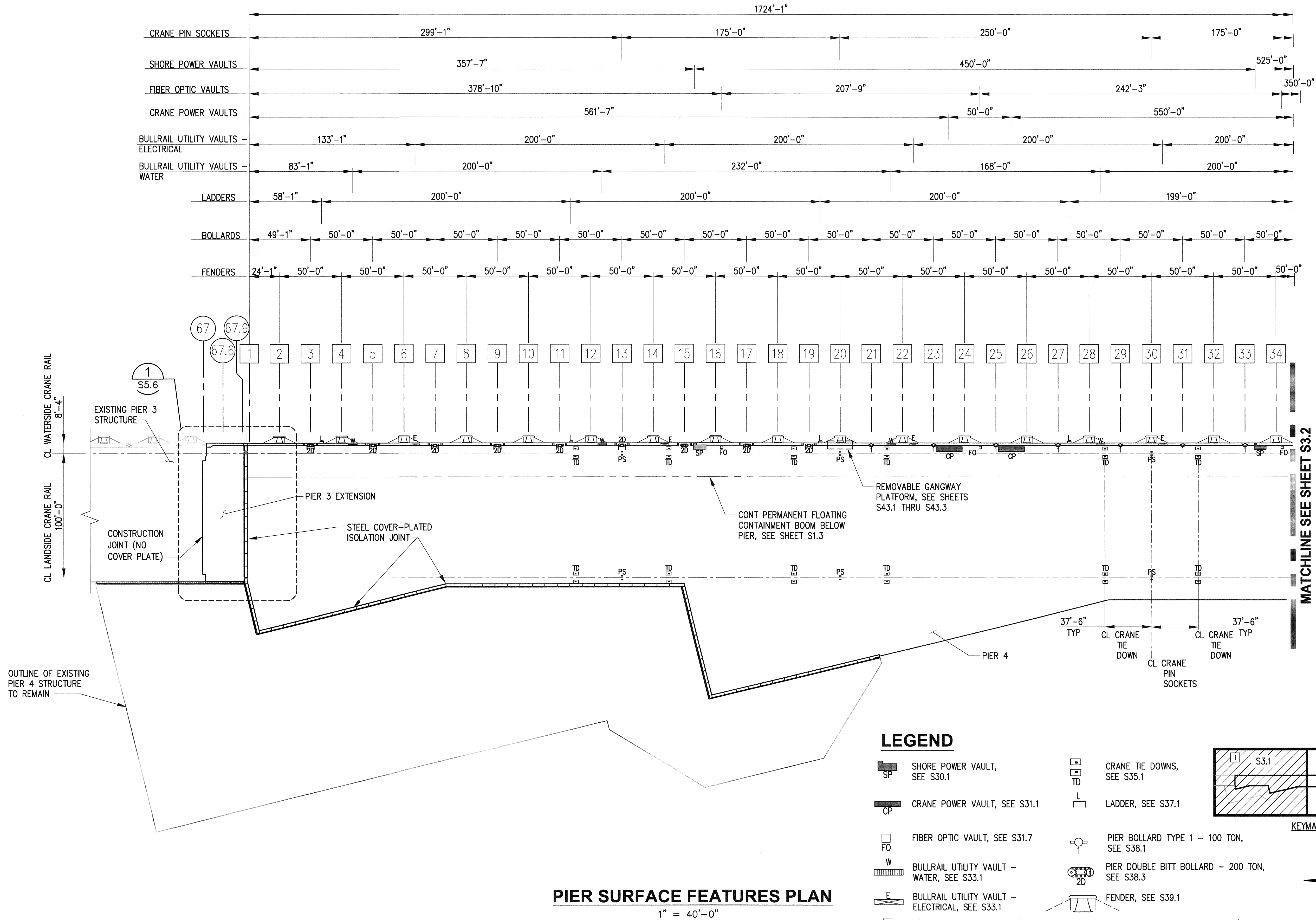
Port of Tacoma
P.O. BOX 1837 TACOMA, WA 98401

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BINDING EDGE

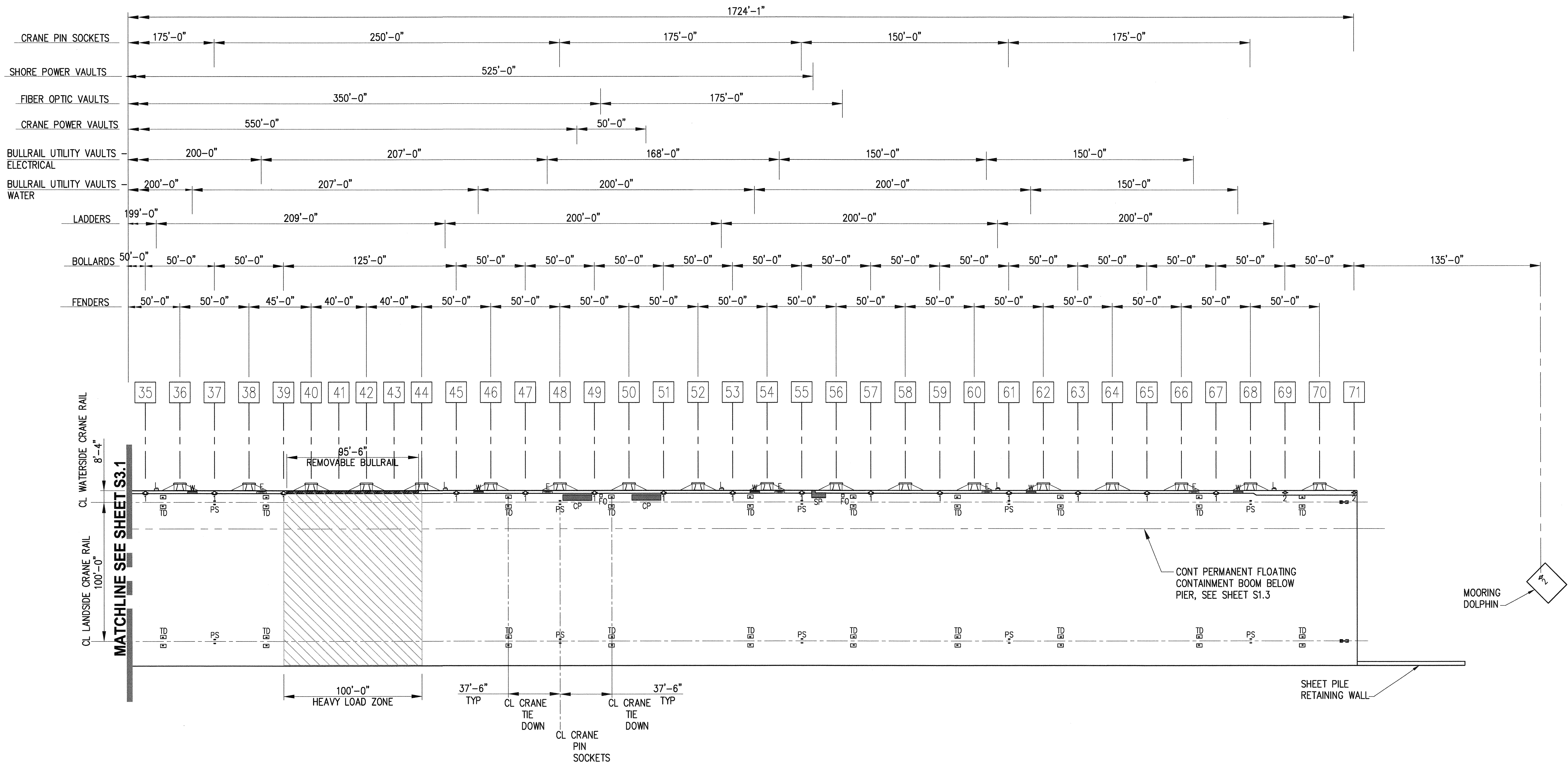
PORT OF TACOMA FILE: N:\Struct\114-1114096 (POT Pier 4)\Drawings(Current)\Phase 2_091251\091251-S3.1



PIER SURFACE FEATURES PLAN
1" = 40'-0"

6552	S3.1	SH 177 OF 499	CONT/CONS: 070136	M. ID: 091251	PHASE: BID	PIER 4 PHASE 2 RECONFIGURATION		PIER SURFACE FEATURES PLAN - SHEET 1		APPROVED: <i>[Signature]</i>		SEK	CHECKED BY: <i>[Signature]</i>	DATE	
						TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	DIRECTOR ENG. DATE: 3-28-16	TAH	PROJ. ENGR DATE	PRINTED BY: tlemans	PRINTED DATE: Mar 24, 2016	PORT ADDRESS: ONE SITCUM PLAZA	TACOMA, WA 98401-1837
						DRAWING SCALE: AS NOTED		PARCEL:		DRAFTING SCALE: AS NOTED		MARK: REVISION:		BY:	DATE:
						THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION									

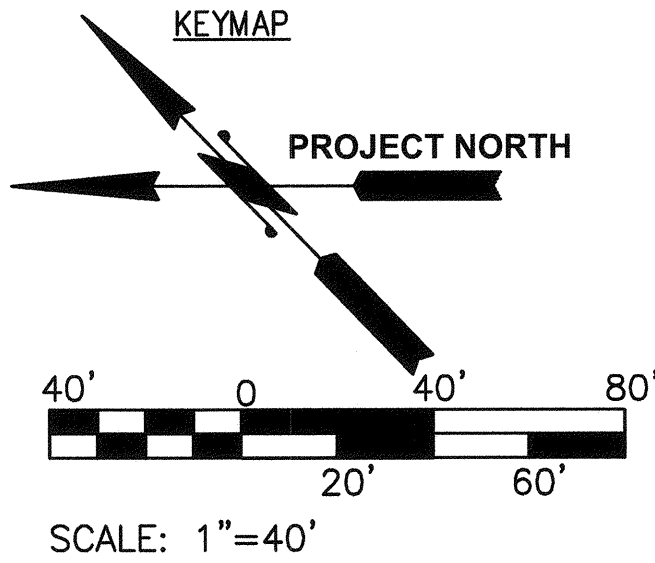
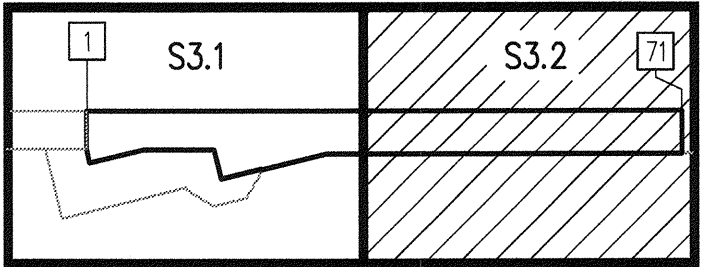
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PIER SURFACE FEATURES PLAN
1" = 40'-0"

LEGEND

- SP SHORE POWER VAULT, SEE S30.1
- CP CRANE POWER VAULT, SEE S31.1
- FO FIBER OPTIC VAULT, SEE S31.7
- W BULLRAIL UTILITY VAULT - WATER, SEE S33.1
- E BULLRAIL UTILITY VAULT - ELECTRICAL, SEE S33.1
- PS CRANE PIN SOCKET, SEE S34.1
- REMOVABLE TIMBER BULLRAIL
- HEAVY LOAD ZONE
- TD CRANE TIE DOWNS, SEE S35.1
- L LADDER, SEE S37.1
- PIER BOLLARD TYPE 1 - 100 TON, SEE S38.1
- PIER BOLLARD TYPE 2 - 200 TON, SEE S38.2, EXCEPT FOR MOORING DOLPHIN BOLLARD SEE S38.4
- FENDER, SEE S39.1



Part of Tacoma

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(253) 396-0120 Fax: (253) 396-0162

kppff

APPROVED: *[Signature]*
3-28-16

SEK
CHECKED BY: TA
DATE: 3-28-16

PIER 4 PHASE 2
RECONFIGURATION
PIER SURFACE FEATURES PLAN - SHEET 2

6552
S3.2
SH 178 OF 499

CONTR/CONS: 070136
M. ID: 091251
PHASE: BID

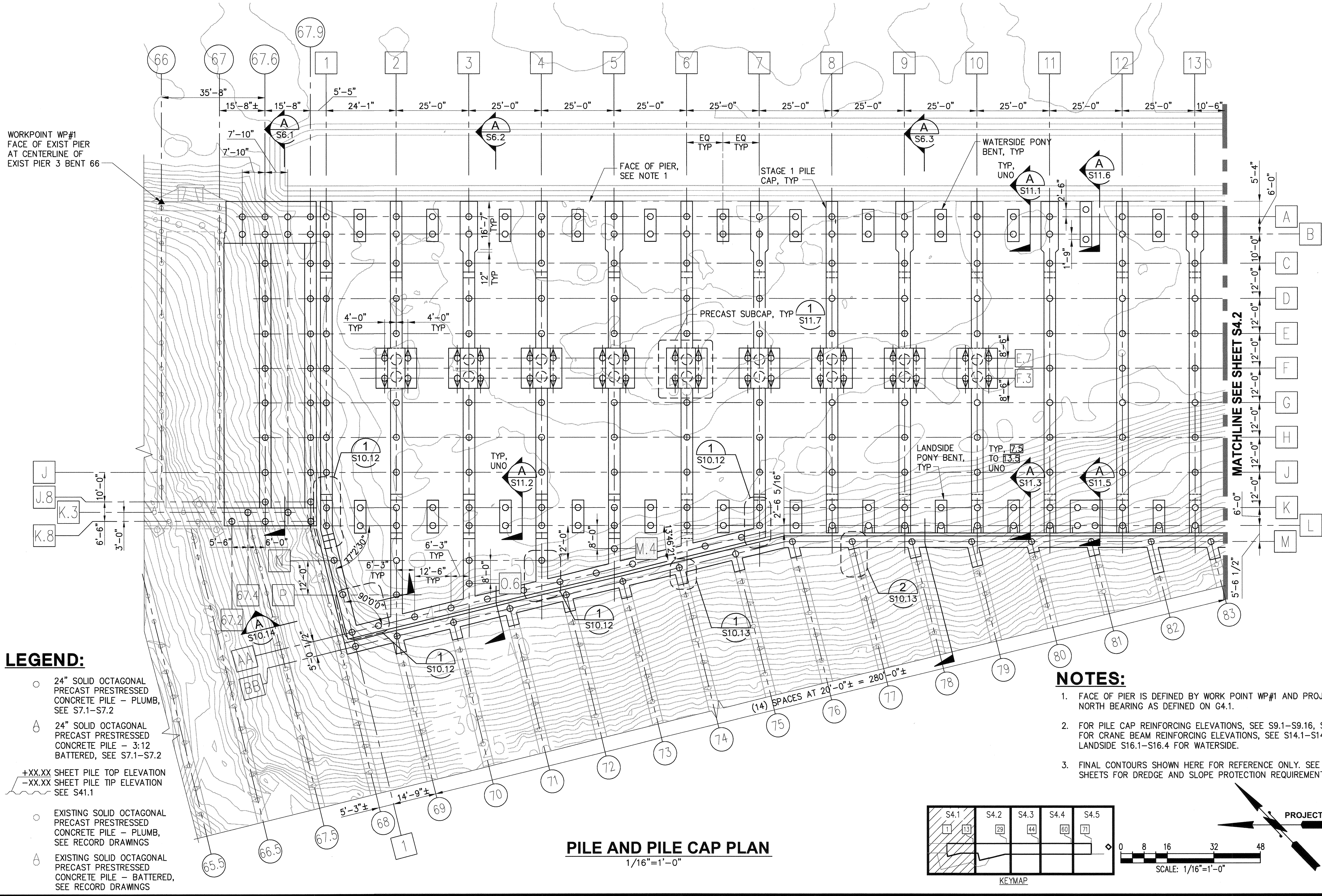
TOWNSHIP: 21N
RANGE: 3E
DATE-HRZ: 07/01/16
VERT: 091251

SECTION: 27
DRAWING SCALE: AS NOTED

DATE: 3-28-16
BY: TA
REVISION: 1

APPR: [Signature]
DATE: 3-28-16

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APPROVED:	SEK	CHECKED BY:	DATE
	TAH	TAH	
DIRECTOR	ENG. DATE	PROJ. ENGR	DATE
PRINTED BY: tlemmons	Mar 24, 2016		
PORT ADDRESS: ONE SITCUM PLAZA			
PARCEL:	TACOMA, WA 99401-1837		

6552

S4.1

SH 179 OF 499

CONT/CONS: 070136

M. ID: 091251

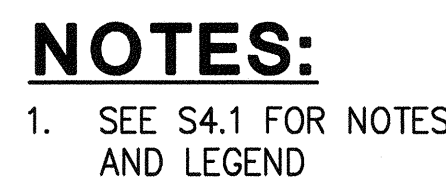
PHASE: BID

PIER 4 PHASE 2

RECONFIGURATION

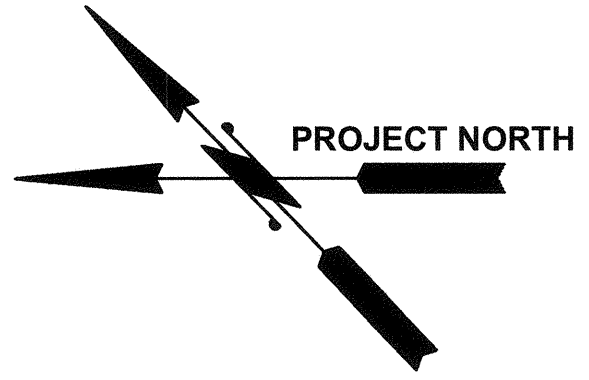
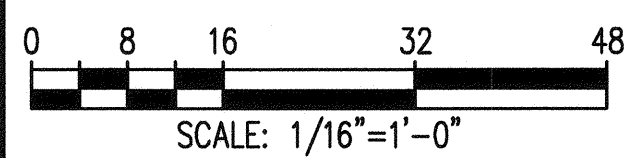
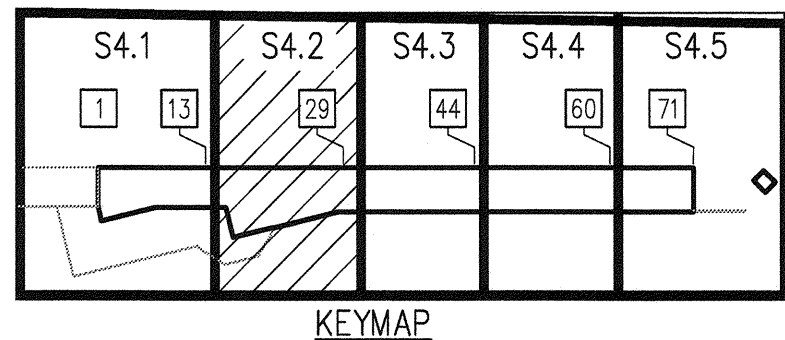
PILE AND PILE CAP PLAN - SHEET 1

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PILE AND PILE CAP PLAN

$1/16"=1'-0"$



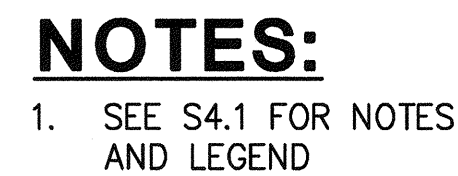
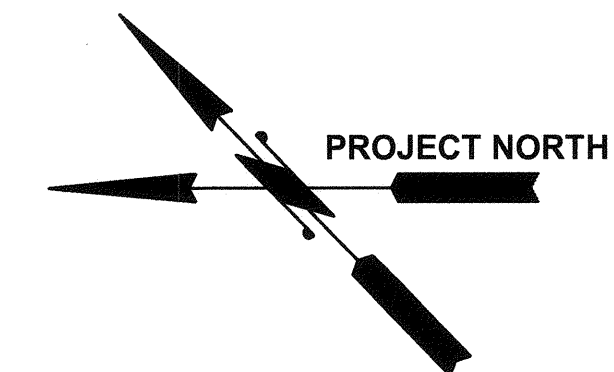
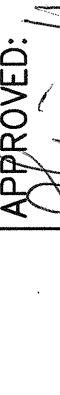
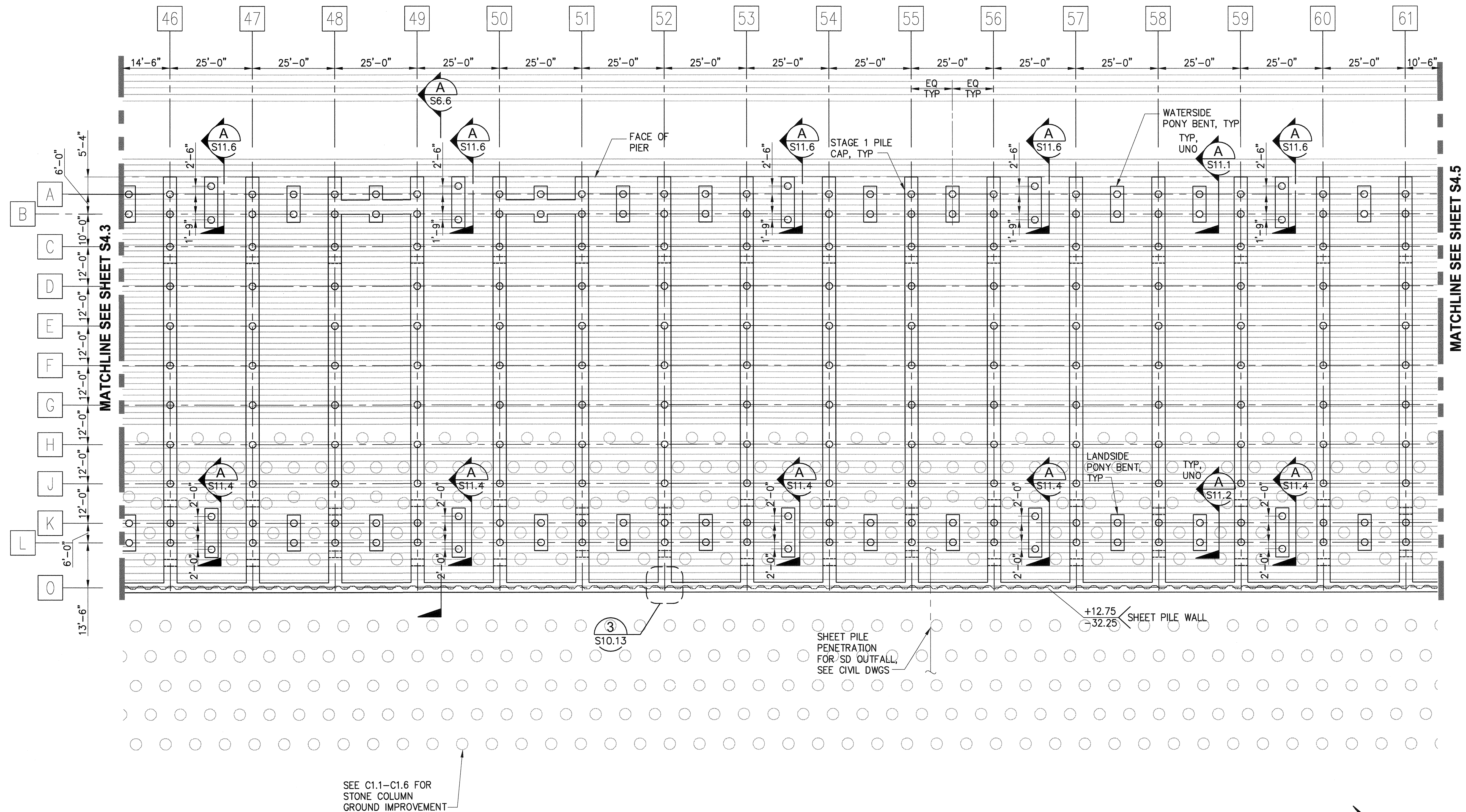


Diagram illustrating a KEYMAP structure. The map is divided into five slots (S4.1 to S4.5). Each slot contains a box with two values (e.g., 1 and 13 in S4.1). The slots are labeled S4.1, S4.2, S4.3, S4.4, and S4.5. The slot S4.3 is shaded with diagonal lines. Below the slots is a line graph labeled KEYMAP, showing a fluctuating line. A legend on the right indicates that the solid line corresponds to the values in the boxes (1 and 13), and the dashed line corresponds to the values in the boxes (29 and 44).



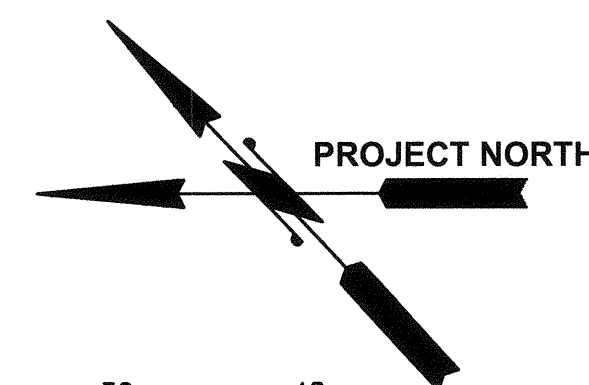
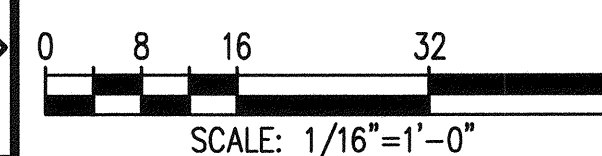
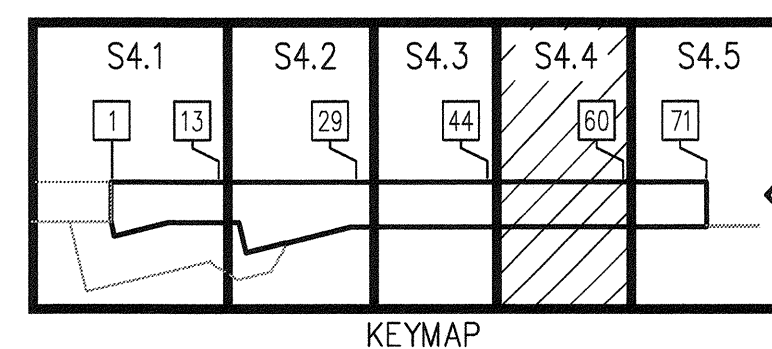
6552 S4.3 SH 181 OF 499	PIER 4 PHASE 2 RECONFIGURATION PILE AND PILE CAP PLAN - SHEET 3				APPROVED: <i>[Signature]</i> 3-28-16	SEK CHECKED BY DATE TAH			2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162		P.O. BOX 1837 TACOMA, WA 98401 (203)350-5641
	TOWNSHIP: 21N RANGE: 3E SECTION: 27 DAT-HRZ: WA83-SF VERT: MLLW 19.39' @ Tide 22 1933	DIRECTOR ENG. DATE PRINTED BY: tlemons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA	DATE REVISION: BY: APPR: DATE:								
M. ID: 091251 PARCEL: BID	DRAWING SCALE: AS NOTED	TACOMA, WA 98401-1837									



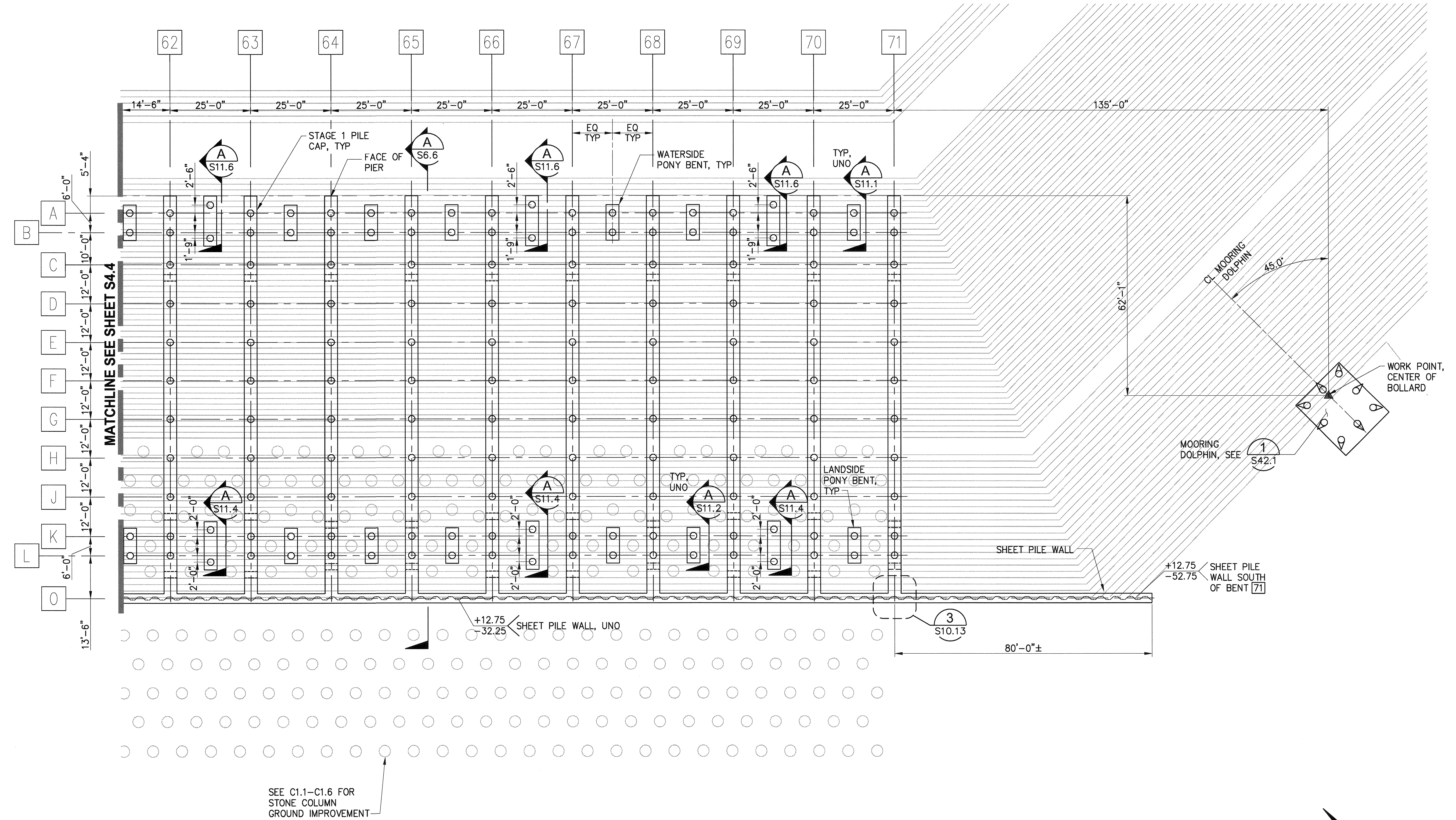
NOTES:

1. SEE S4.1 FOR NOTES
AND LEGEND

PILE AND PILE CAP PLAN

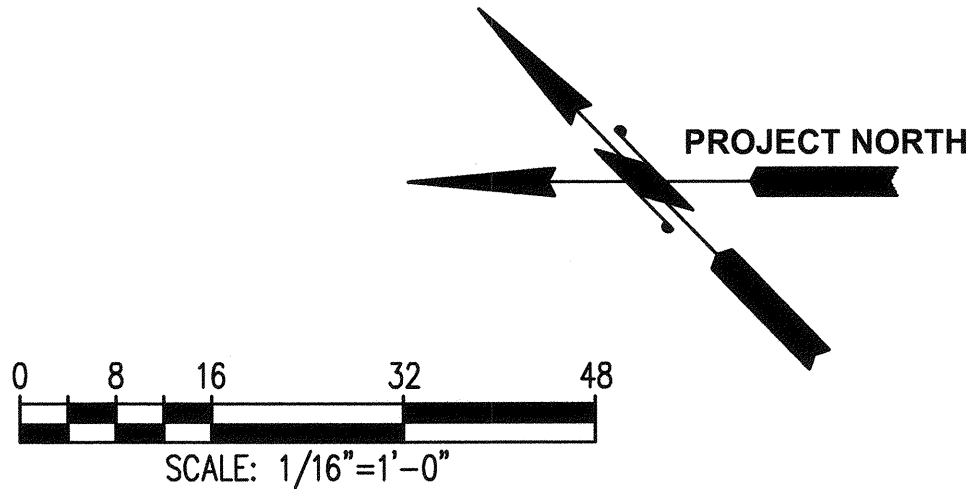
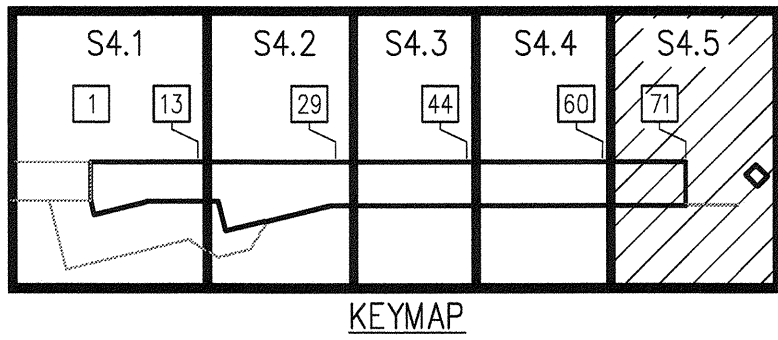
$$1/16'' = 1' - 0''$$


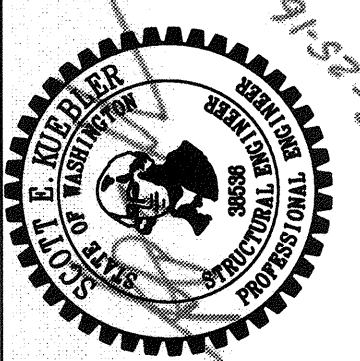
6552 S4.4 SH 182 OF 499	PIER 4 PHASE 2 RECONFIGURATION PILE AND PILE CAP PLAN - SHEET 4				APPROVED: <i>[Signature]</i> 3-28-16	SEK CHECKED BY: _____ DATE: _____			Part of Tacoma P.O. BOX 1837 TACOMA, WA 98402 (206)385-5941
	TOWNSHIP: 21N RANGE: 3E SECTION: 27	DIRECTOR ENG. DATE: _____ PRINTED BY: tlemons Mar 24, 2016	TAH	MARK: _____ REVISION: _____ BY: _____					
	DAT-HRZ: WAB3-SF VERT: MLLW 19.39' @ Tide 22 1933	PORT ADDRESS: ONE SITCUM PLAZA	DATE: _____						
	PARCEL: _____ PHASE: BID DRAWING SCALE: AS NOTED	TACOMA, WA 98401-1837	APPR: _____ DATE: _____						



NOTES:
1. SEE S4.1 FOR NOTES AND LEGEND

PILE AND PILE CAP PLAN
1/16"=1'-0"



6552 S4.5 SH 183 OF 499	PIER 4 PHASE 2 RECONFIGURATION PILE AND PILE CAP PLAN - SHEET 5				APPROVED: <i>[Signature]</i> 3-28-16		SEK CHECKED BY TAH	DATE	
	CONT./CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	DIRECTOR ENG. DATE	PROJ. ENGR DATE	DATE	DATE	
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLW 19.39' @ Tide 22 1933	PRINTED BY: tiemoms Mar 24, 2016	PORT ADDRESSONE SITOUJ PLAZA	MARK: REVISION:	BY:	APPR:		
PHASE: BID	PARCEL:	DRAWING SCALE: AS NOTED	TACOMA, WA 98401-1837	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION					
 2407 North 31st Street, Suite 100 Tacoma, WA 98401 (253) 386-0150 Fax (253) 386-0162				 9-1-52-16				 P.O. BOX 587 TACOMA, WA 98401 (253) 386-5841	

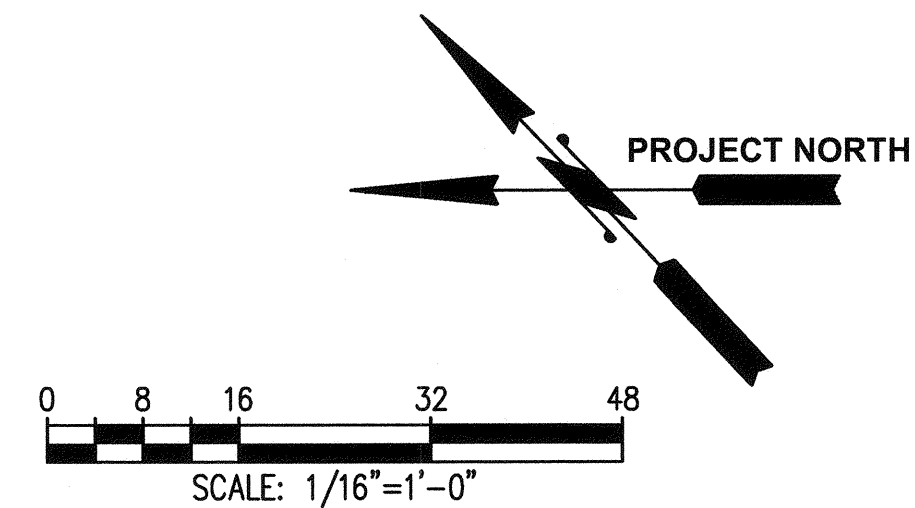
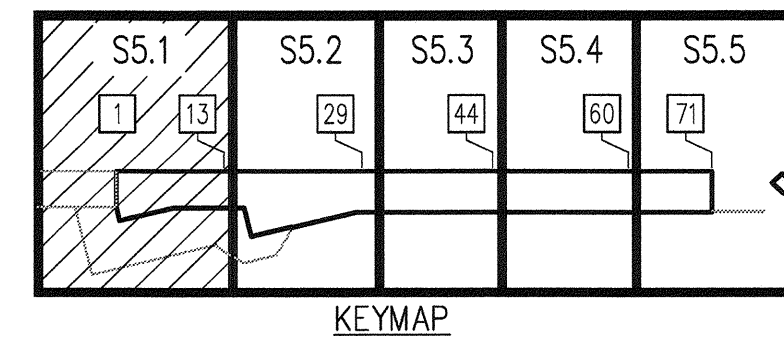


LEGEND:

1. FOR DECK PANEL
SCHEDULE, SEE S26.1 THRU
S26.5
2. FOR BULLRAIL, SEE
S18.1 THRU S18.4
3. ACP NOT SHOWN, SEE
CIVIL DRAWINGS
4. FOR PIER SECTIONS,
SEE S6.7 TO S6.18
5. * INDICATES DECK
PANELS WHICH SHALL
NOT BE FABRICATED
UNTIL POST DEMOLITION
SURVEY IS COMPLETE
AND CONFIRMED.

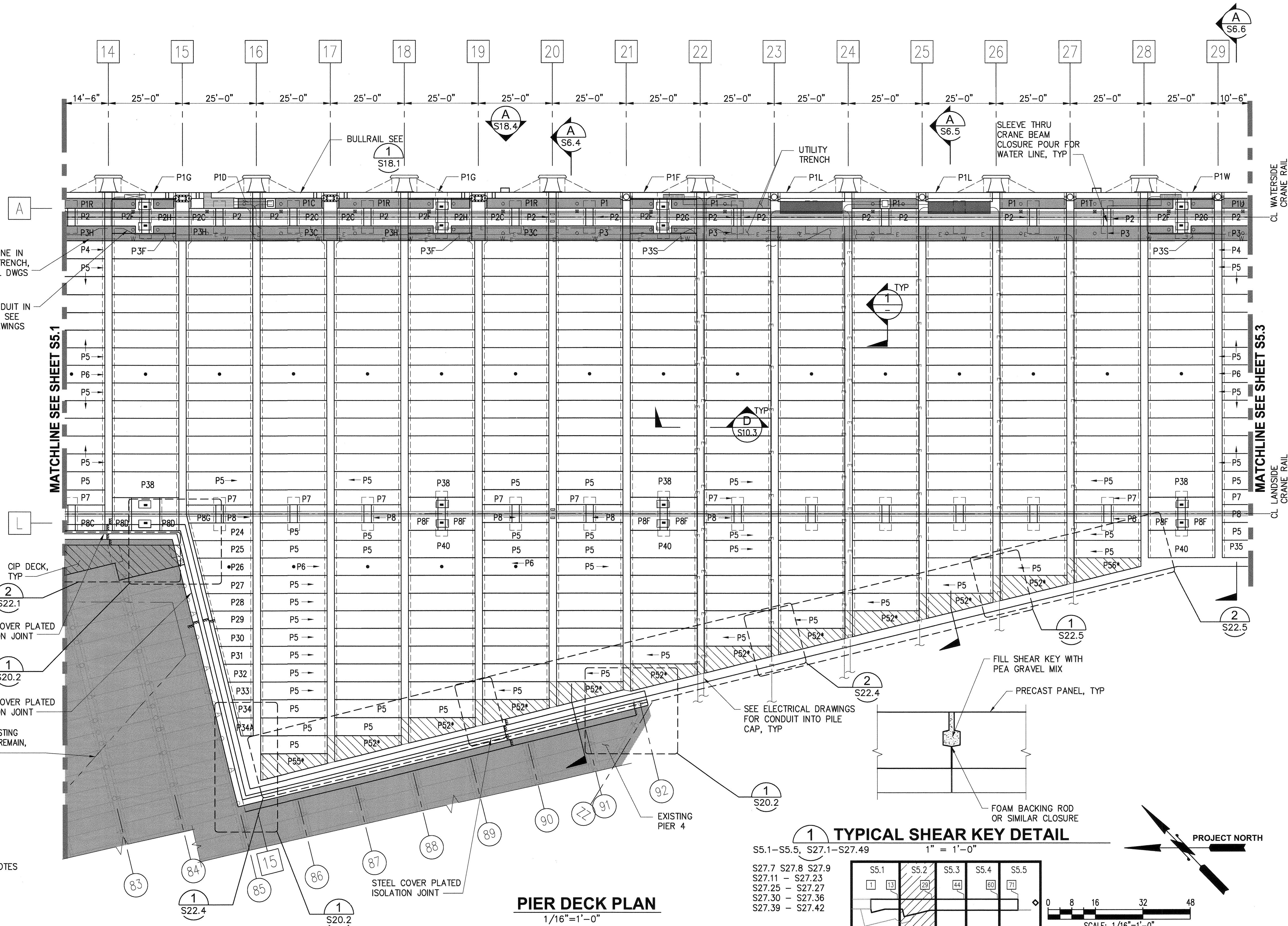
- | | | | | | |
|---|---|---|---|---|--|
|  | SHORE POWER VAULT,
SEE S30.1 |  | PIER BOLLARD TYPE 1
- 100 TON, SEE S38.1 |  | REMOVABLE TIMBER BULLRAIL |
|  | CRANE POWER VAULT, SEE S31.1 |  | PIER BOLLARD TYPE 2
- 200 TON, SEE S38.2 |  | PRECAST DECK PANEL TYPE |
|  | FIBER OPTIC VAULT, SEE S31.7 |  | PIER DOUBLE BITT
BOLLARD - 200 TON,
SEE S38.3 |  | BALLAST OVER DECK PANEL |
|  | BULLRAIL UTILITY VAULT -
WATER, SEE S33.1 |  | FENDER, SEE S39.1 |  | CIP CONCRETE DECK, OR TOPPING SLAB |
|  | BULLRAIL UTILITY VAULT -
ELECTRICAL, SEE S33.1 |  | DECK DRAIN, SEE 2/C5.10 |  | ELECTRICAL CONDUIT, SEE
ELECTRICAL DRAWINGS |
|  | CRANE PIN SOCKET, SEE S34.1 |  | SUBSURFACE DRAIN, SEE 3/C5.10 | | |
|  | CRANE TIE DOWNS,
SEE S35.1 |  | CABLE SLOT DRAIN | | |
|  | CRANE STOP, SEE S36.1 |  | WATER LINE, SEE CIVIL DRAWINGS | | |
|  | LADDER, SEE S37.1 | | | | |

PIER DECK PLAN



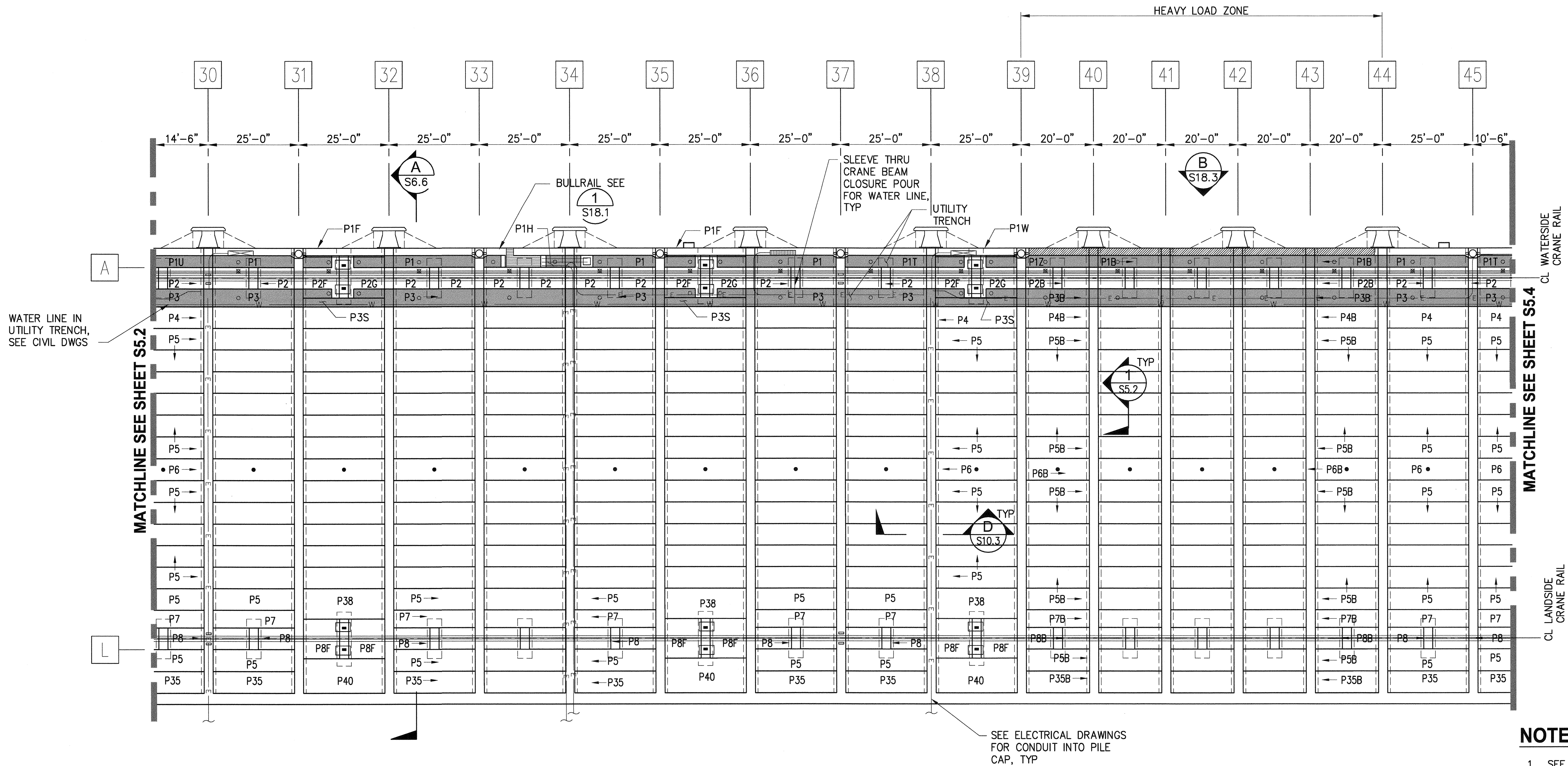
NOTES

1. SEE S5.1 FOR NOTES AND LEGEND



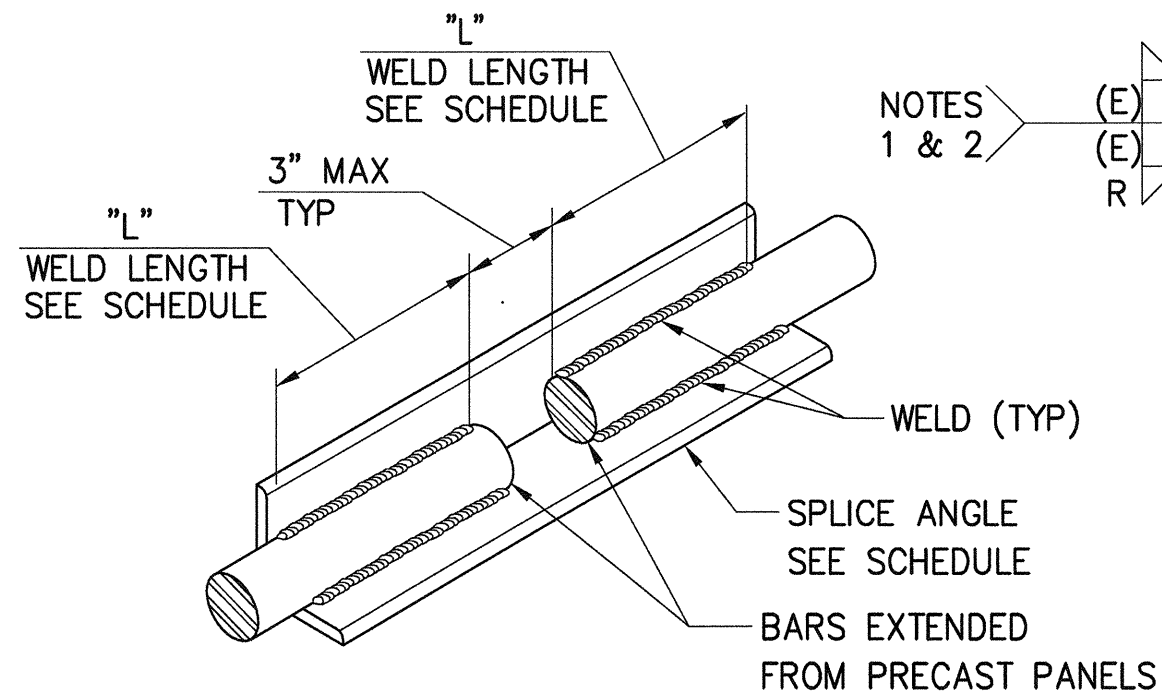
6552	S5.2	SH 185 OF 499	CONT/CONS: 070136	M. ID: 091251	PHASE: BID	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	DATE: 07/01/16	PRINTED BY: tlemmons	PORT ADDRESS: ONE SITCUM PLAZA	TACOMA, WA 98401-1837	APPROVED: <i>[Signature]</i>	SEK CHECKED BY: TA	DATE: 3-28-16	DIRECTOR ENG. DATE: tlemmons Mar 24, 2016	PRINTED BY: tlemmons	PORT ADDRESS: ONE SITCUM PLAZA	TACOMA, WA 98401-1837	MARK: REVISION:	BY: APPR: DATE:	P.O. BOX 1857 TACOMA, WA 98401-0182	2407 North 31st Street, Suite 100 Tacoma, WA 98401-1837 (253) 596-0150 Fax: (253) 596-0162	Port of Tacoma	kpff	

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PIER DECK PLAN
1/16"=1'-0"

NOTES
1. SEE S5.1 FOR NOTES AND LEGEND

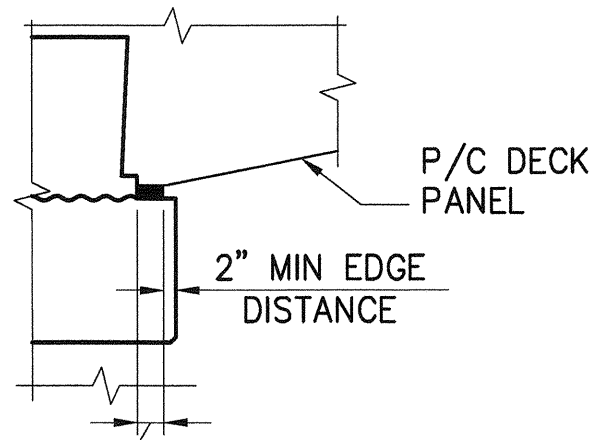


1 REBAR SPLICE
NTS

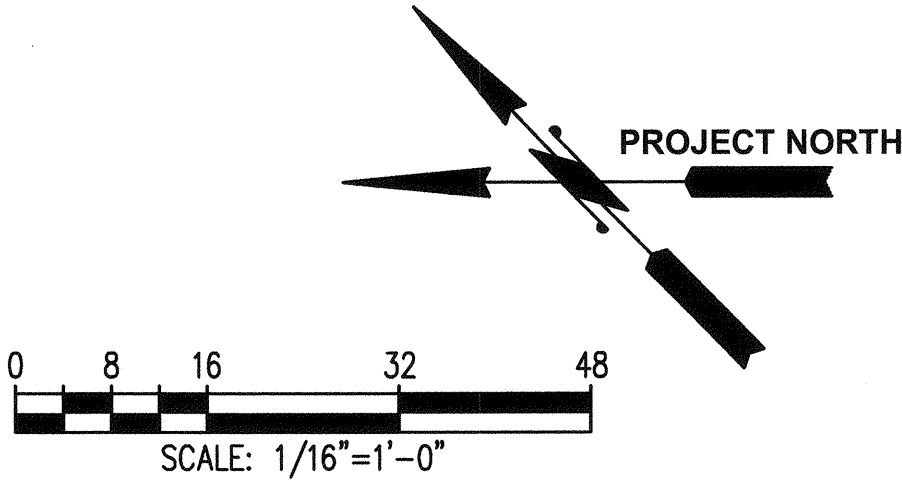
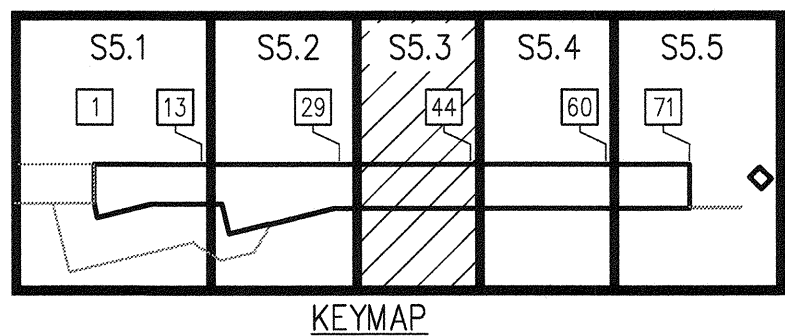
NOTES:

- BUILD-UP WELD WHERE GAP OCCURS BETWEEN REINF BAR AND SPlice ANGLE 3/16" MAX GAP BETWEEN BAR AND ANGLE AT ANY POINT TO BE WELDED.
- PREHEAT PER ASW D1.4
- USE SPlice ANGLE LISTED FOR THE LARGER SIZE BAR WHEN SPlicing BARS OF DIFFERING SIZES.

BAR SIZE	SPlice ANGLE	WELD SIZE		WELD LENGTH "L"
		EFF THROAT "E"	REINF "R"	
#11	L3x3x1/2x1'-8"	5/16" MIN	1/8" MIN	8 1/2"
#10	L3x3x1/2x1'-7"	1/4" MIN	1/8" MIN	8"
#9	L3x3x3/8x1'-4"	7/32" MIN	1/8" MIN	7"
#8	L3x3x3/8x1'-3"	3/16" MIN	1/8" MIN	6"



2 PILE CAP SECTION
NTS



2407 North 31st Street, Suite 100
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kpff

91-251-2

APPROVED: *Scott E. Kriedel*
3-28-16
DIRECTOR
TACOMA, WA 98401-1837

6552

S5.3

SH 186 OF 499

PIER 4 PHASE 2
RECONFIGURATION
PIER DECK PLAN - SHEET 3

TOWNSHIP: 21N
RANGE: 3E
SECTION: 27
DATE: 03/25/16
M. ID: 091251
PARCEL: 1837

CONTRACT: 070136
DATE: 03/25/16
M. ID: 091251
PARCEL: 1837

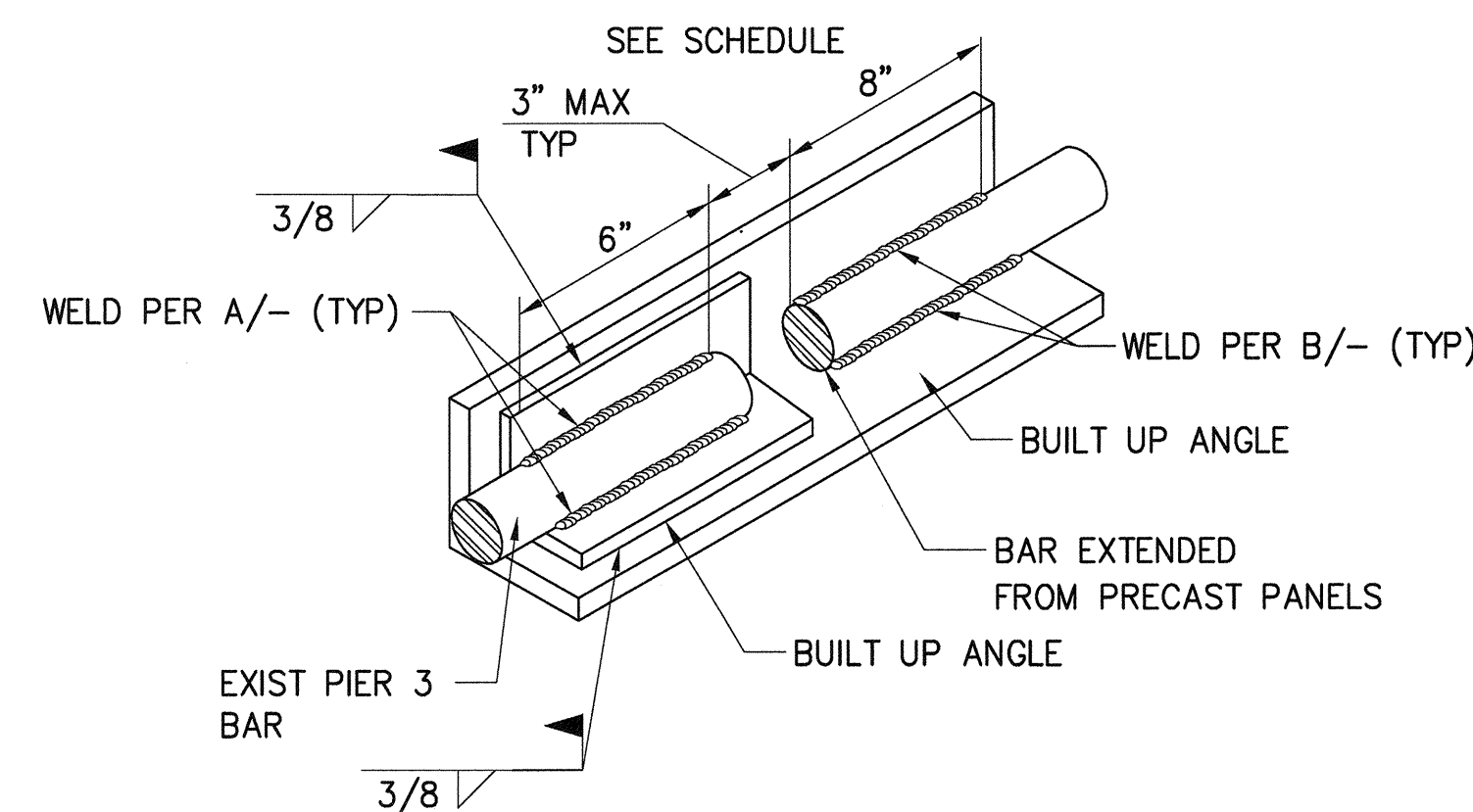
APPR: *[Signature]*
DATE: *[Blank]*

BY: *[Blank]*
REVISION: *[Blank]*

MARK: *[Blank]*
REVISION: *[Blank]*

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91-251-2

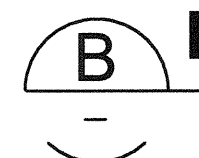


SEE ELECTRICAL DRAWINGS
FOR CONDUIT INTO PILE
CAP, TYP

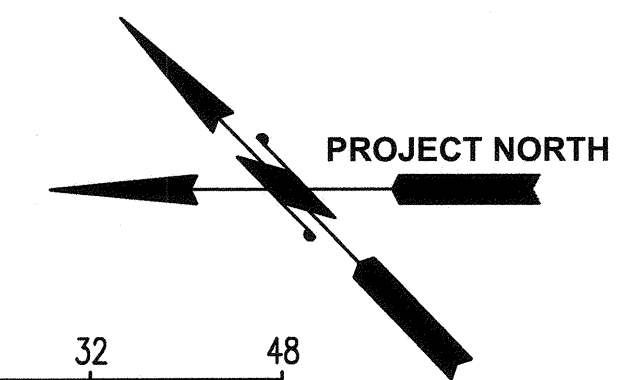
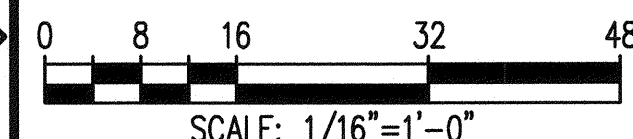
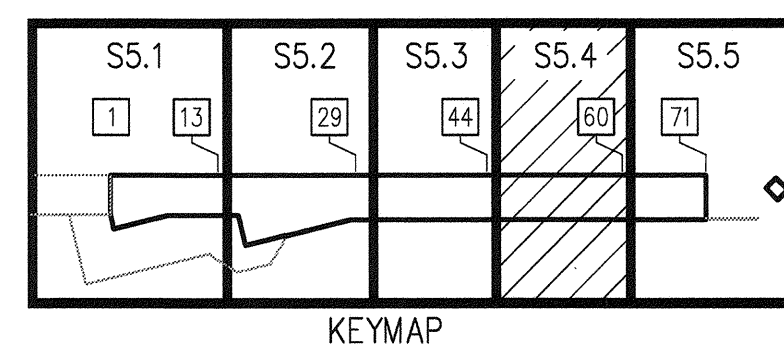
1. SEE S5.1 FOR NOTES
AND LEGEND

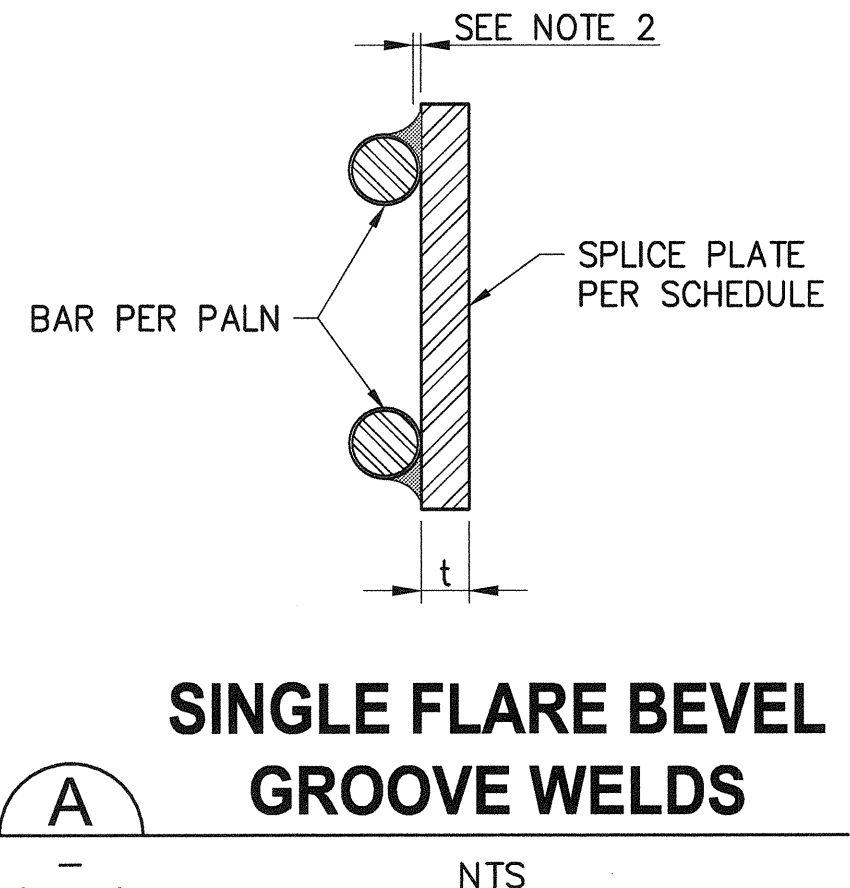
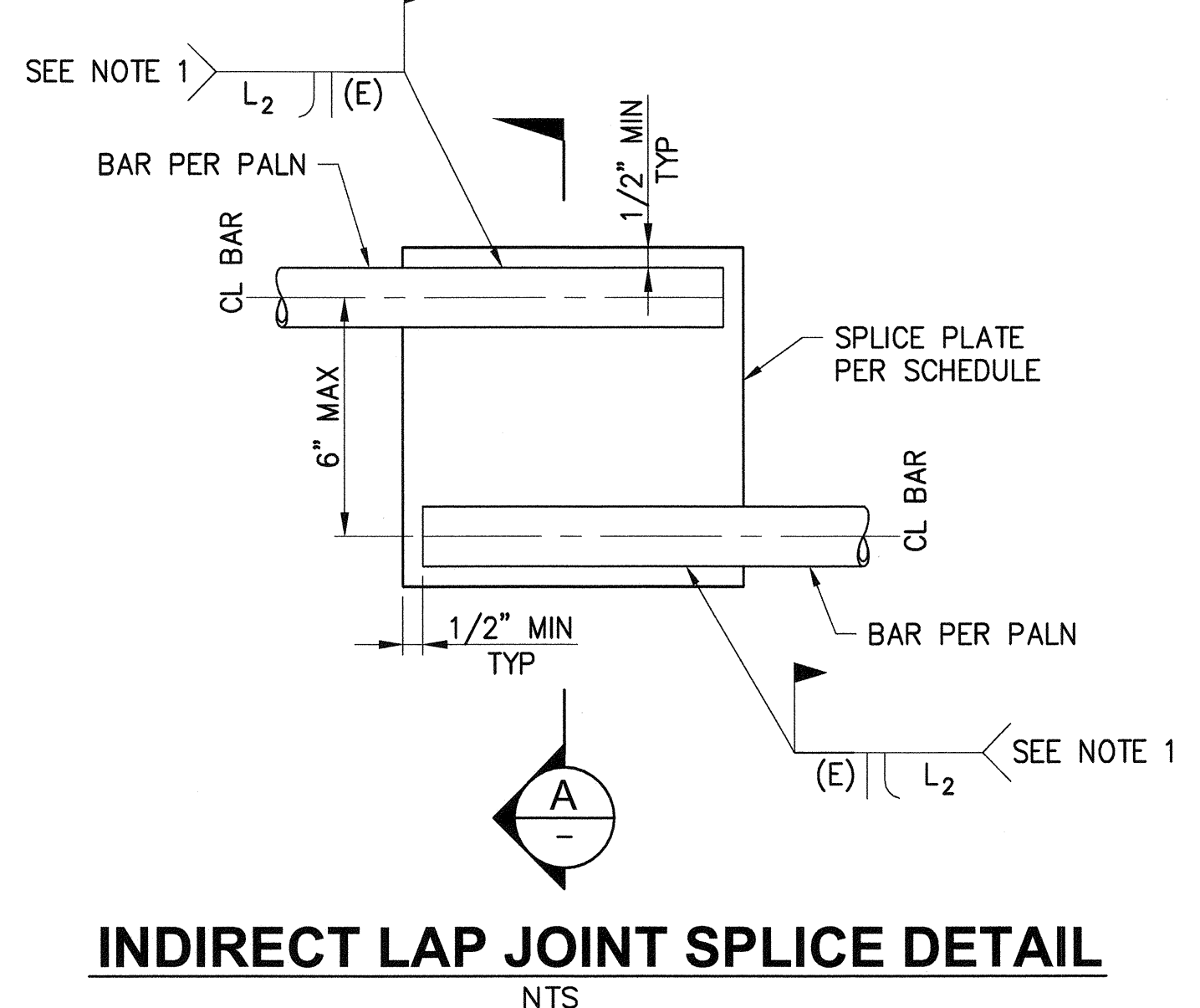
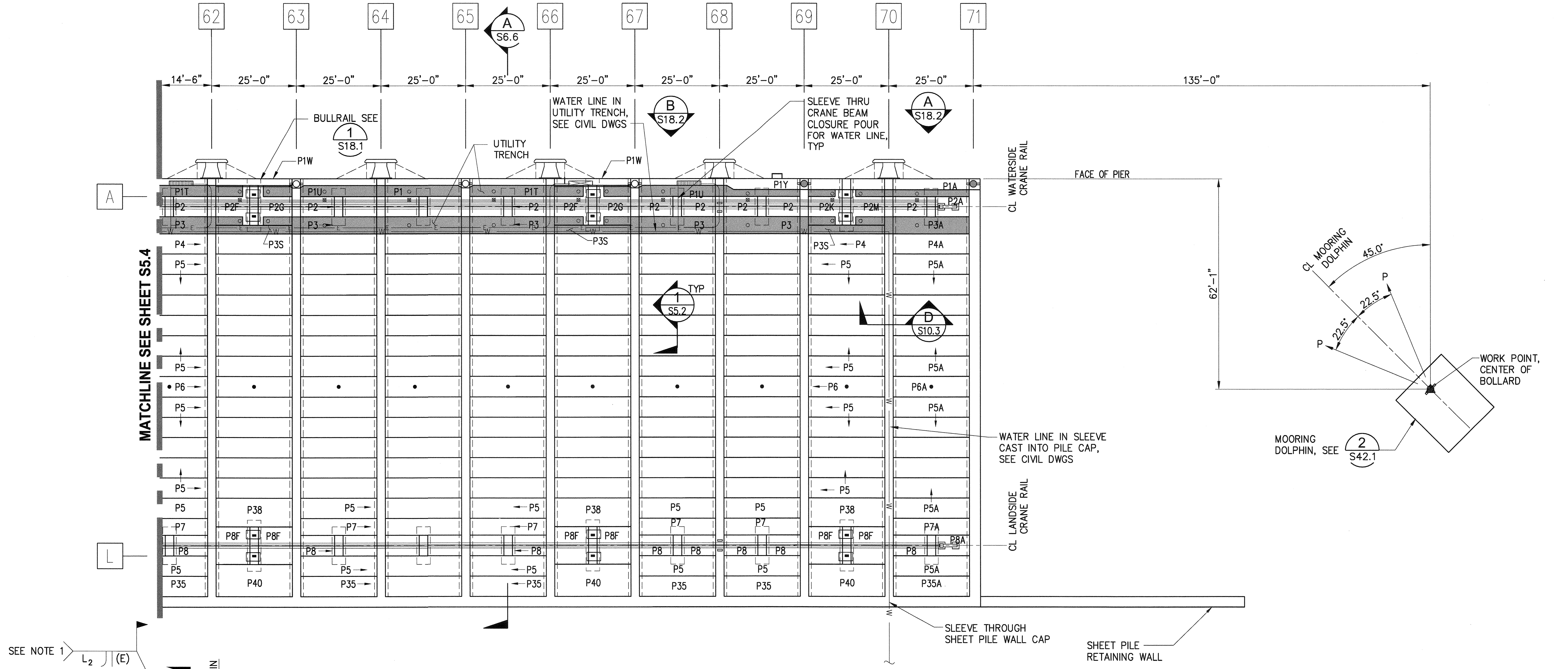
- | BAR
SIZE | WELD SIZE | | WELD
LENGTH "L" |
|-------------|----------------|-----------|--------------------|
| | EFF THROAT "E" | REINF "R" | |
| #11 | 5/16" MIN | 1/8" MIN | 8 1/2" |
| #10 | 1/4" MIN | 1/8" MIN | 8" |
| #9 | 7/32" MIN | 1/8" MIN | 7" |
| #8 | 3/16" MIN | 1/8" MIN | 6" |

NTS



NTS



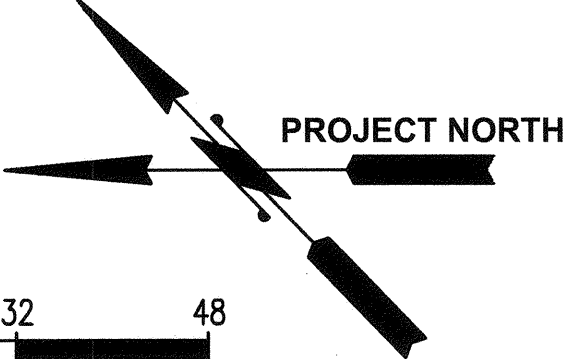
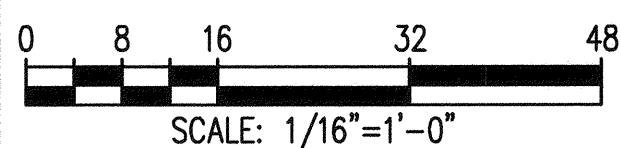
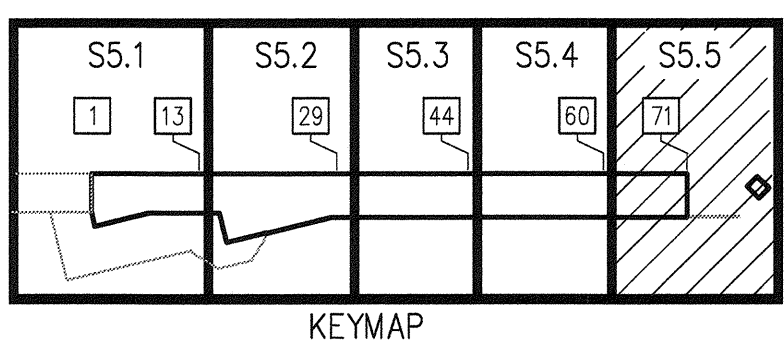


BAR SIZE	WELD SIZE		PLATE THICKNESS (t) OR 1/2"
	EFF THROAT "E"	WELD LENGTH L	
#11	5/16" MIN	9"	1/2"
#10	1/4" MIN	8 3/4"	1/2"
#9	7/32" MIN	7 3/4"	3/8"
#8	3/16" MIN	7 1/2"	3/8"

PIER DECK PLAN
1/16"=1'-0"

NOTES

1. SEE S5.1 FOR NOTES AND LEGEND



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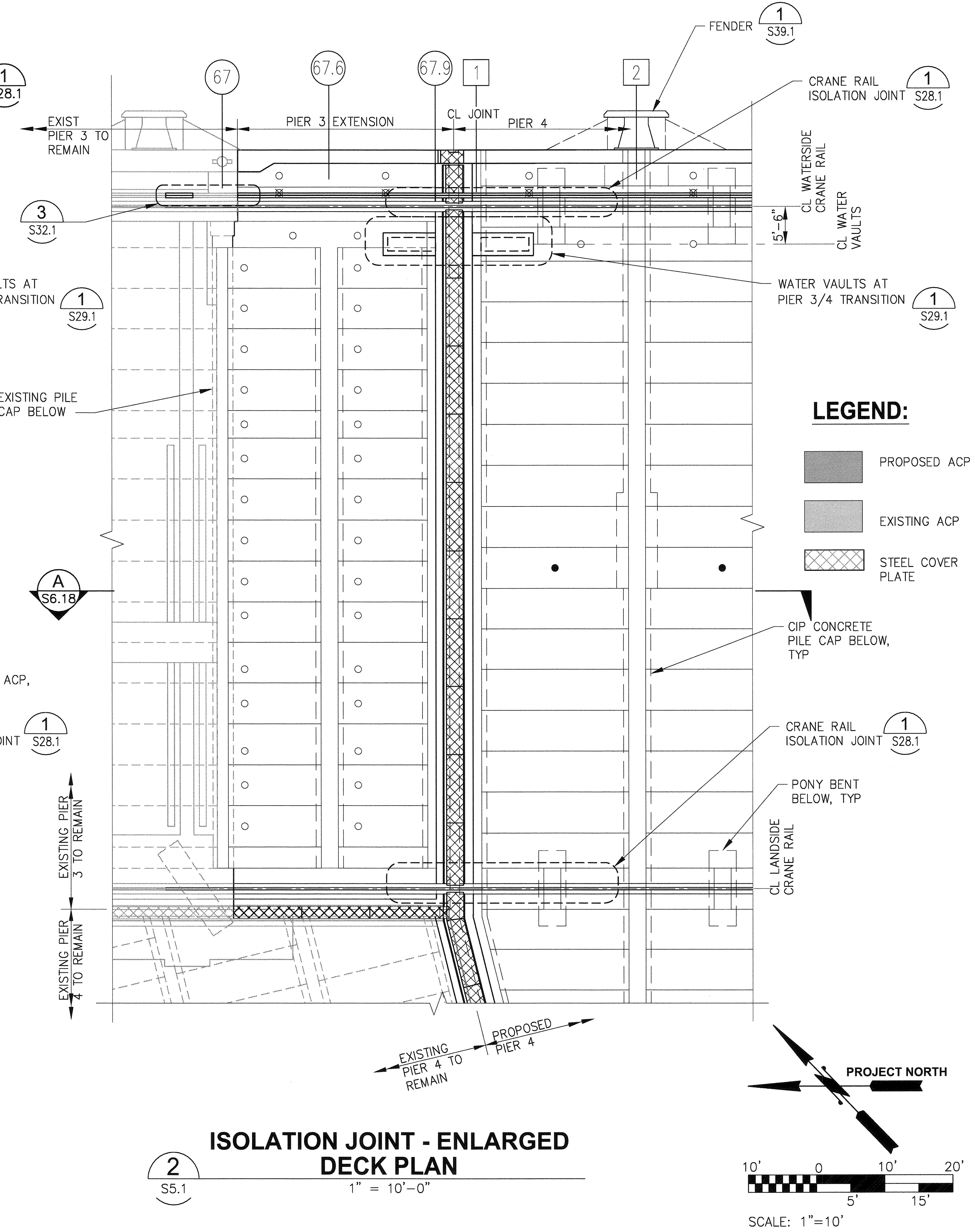
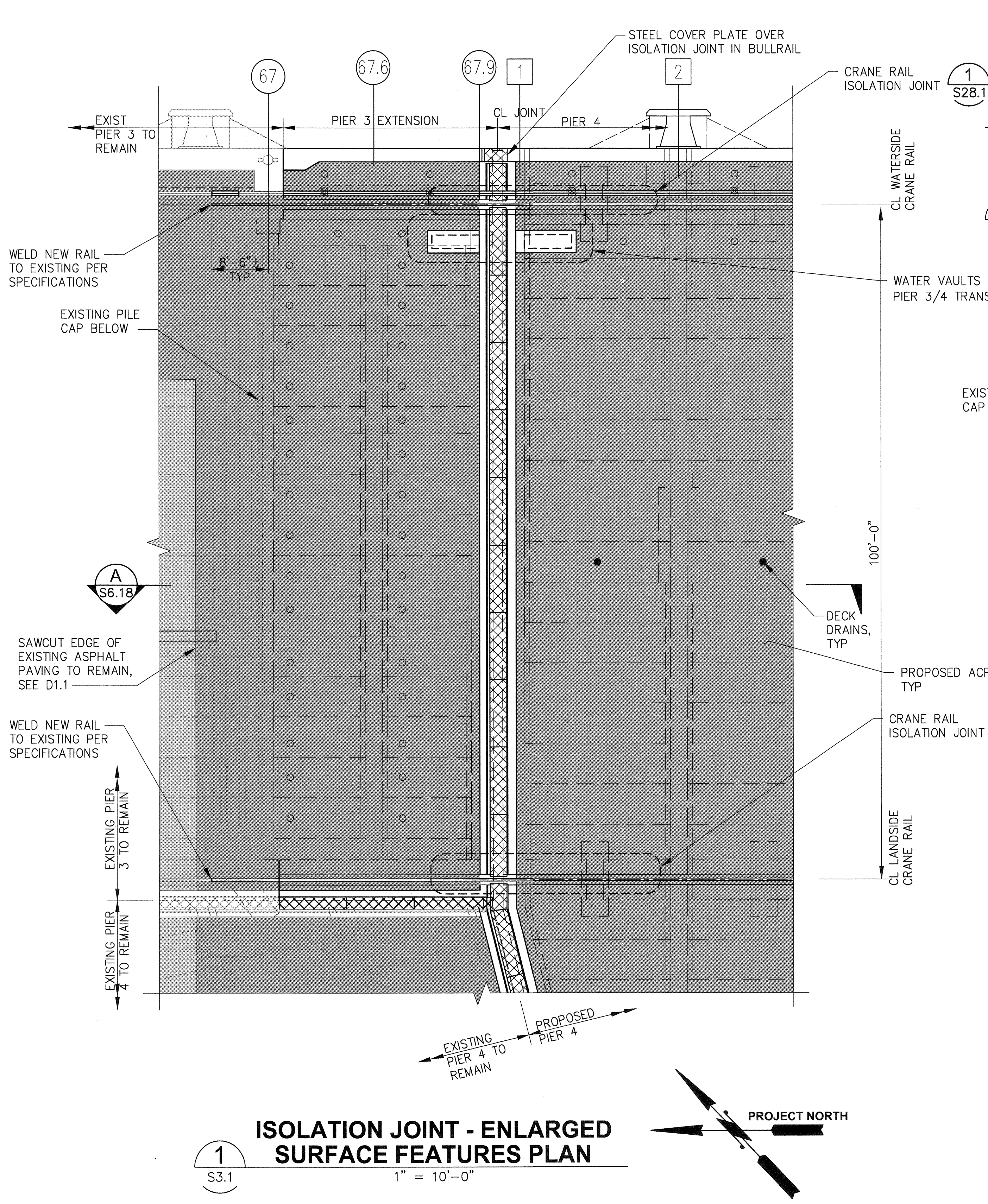
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9-1-22-2

APPROVED:	SEK	CHECKED BY	DATE
	TAH	PROJ. ENGR	DATE
		PRINTED BY:	tiemoms Mar 24, 2016
		PORT ADDRESSONE	SITCUM PLAZA
		DRAWING SCALE:	AS NOTED
		PARCEL:	TACOMA, WA 98401-1837

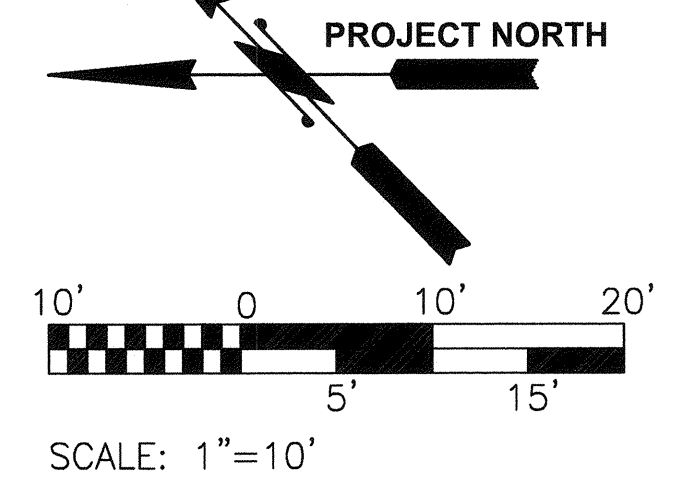
6552	SH 188 OF 499	CON/CONS:	070136	TOWNSHIP:	21N	RANGE:	3E	SECTION:	27
S5.5		M. ID:	091251	DAT-HRZ:	WA83-SF	VERT:	MLLW 19.39' @ Tide 22 1933		
		PHASE:	BID						

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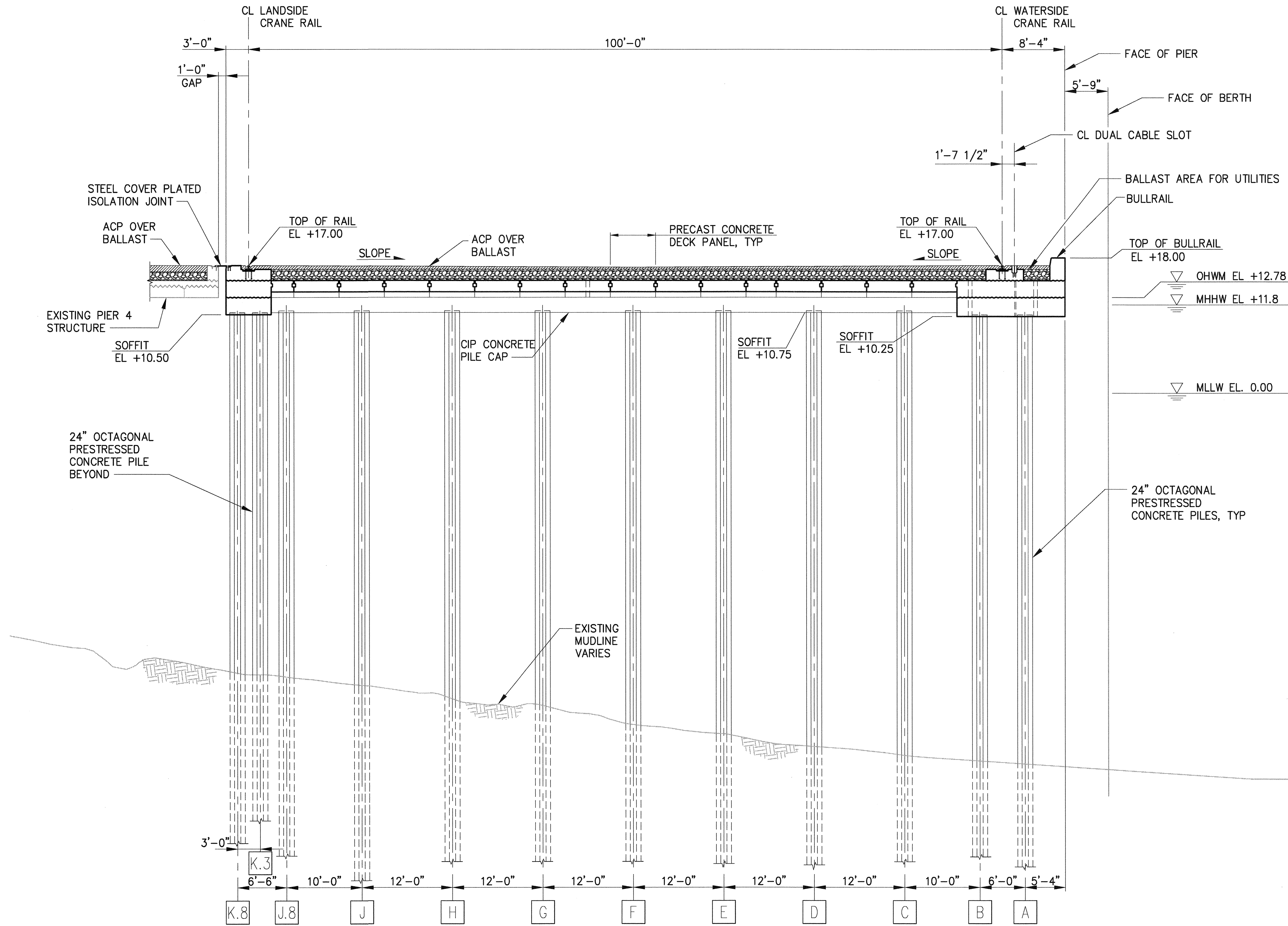
LEGEND:

- PROPOSED ACP
- EXISTING ACP
- STEEL COVER PLATE

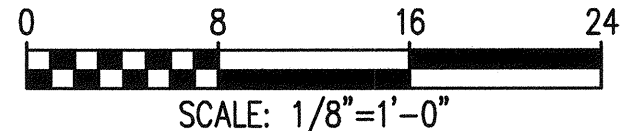


6552	SH 189 OF 499	CONT/CONS: 070136	M. ID: 091251	PHASE: BID	PIER 4 PHASE 2 RECONFIGURATION				2407 North 31st Street, Suite 100 Tacoma, WA 98401 (253) 396-0150 Fax: (253) 396-0162		Port of Tacoma P.O. BOX 1837 TACOMA, WA 98401 (253) 396-0162
					PIER PARTIAL PLANS AT PIER 3/4 JOINT		kpf				
APPROVED: <i>[Signature]</i> 3-28-16					SEK	CHECKED BY: <i>[Signature]</i>	DATE: 3-28-16	TAH	PROJ. ENGR: <i>[Signature]</i>	DATE: 3-28-16	BY: <i>[Signature]</i>
DIRECTOR: <i>[Signature]</i>					TOWNSHIP: 21N		RANGE: 3E	SECTION: 27	PRINTED BY: ttiemoons Mar 24, 2016		REVISION:
PARCEL: 1					DATE-HRZ: 091251		VERT: 1		PORT ADDRESS: ONE SITCUM PLAZA		MARK:
DRAWING SCALE: AS NOTED					TACOMA, WA 98401-1837		TACOMA, WA 98401-1837		TACOMA, WA 98401-1837		DATE:

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**OVERALL PIER CROSS SECTION
AT PIER 3 BENT 67.6**
A
S4.1, S5.1
1/8"=1'-0"

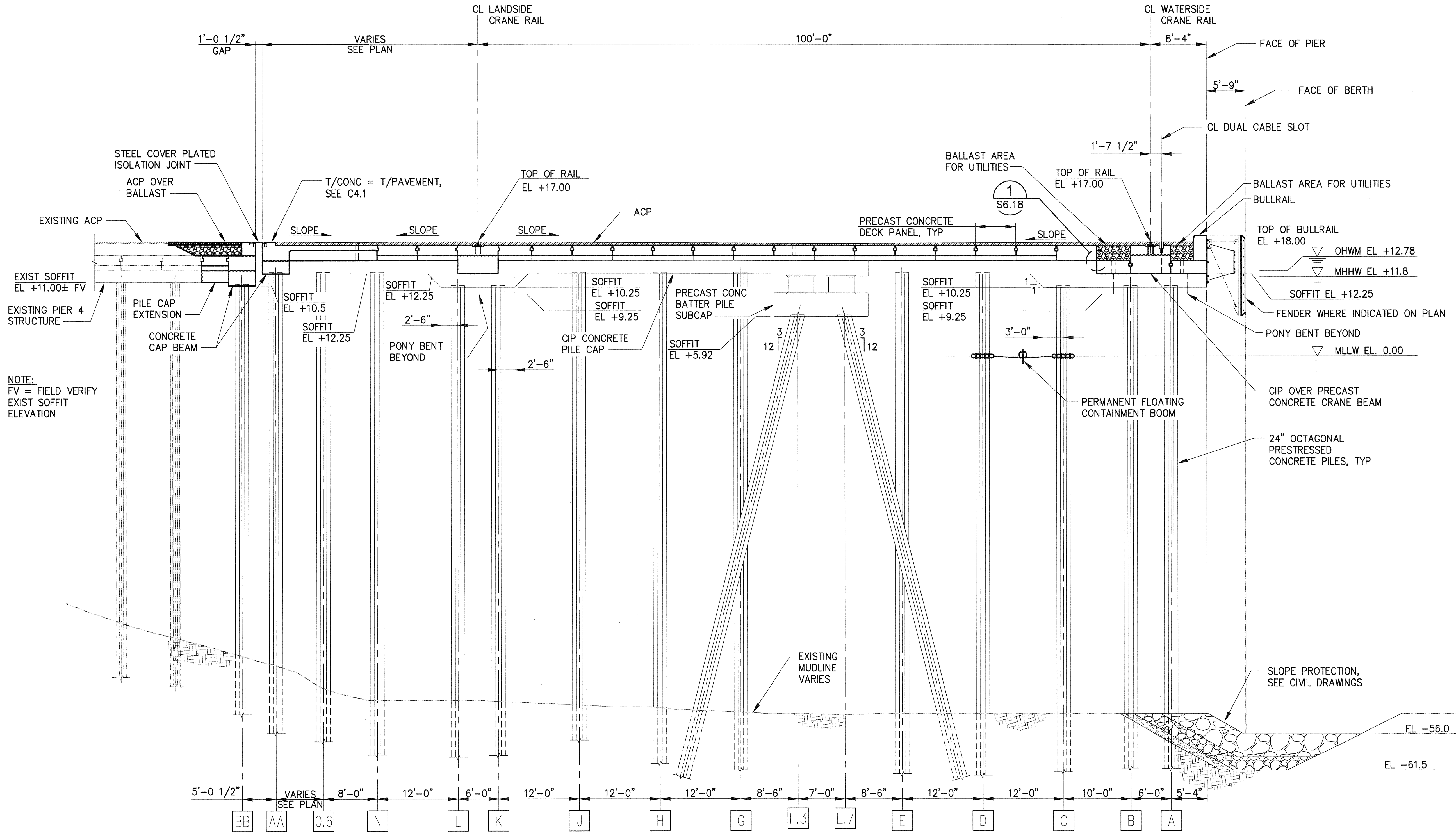


6552 S6.1 SH 190 OF 499	PIER 4 PHASE 2 RECONFIGURATION				APPROVED: <i>[Signature]</i> 3-23-16		SEK CHECKED BY TAH	DATE
	OVERALL PIER CROSS SECTION AT PIER 3 BENT 67.6				DIRECTOR 3-23-16	PROJ. ENGR TAH	DATE	
CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	PRINTED BY: tlemors Mar 24, 2016	PORT ADDRESS: ONE SITCUM PLAZA			DATE
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	DRAWING SCALE: AS NOTED		TACOMA, WA 98401-1837			DATE
PHASE: BID	PARCEL:	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION						DATE

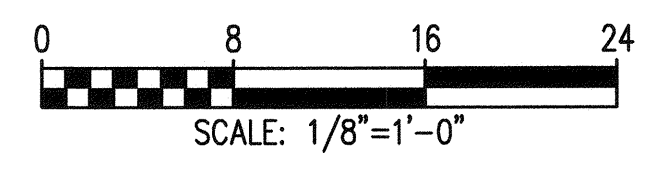
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Tacoma, WA 98401
(253) 386-0150 Fax (253) 386-0162

kpff
2407 North 31st Street, Suite 100
Tacoma, WA 98401
(253) 386-0150 Fax (253) 386-0162

MARK: REVISION: BY: APPR: DATE:



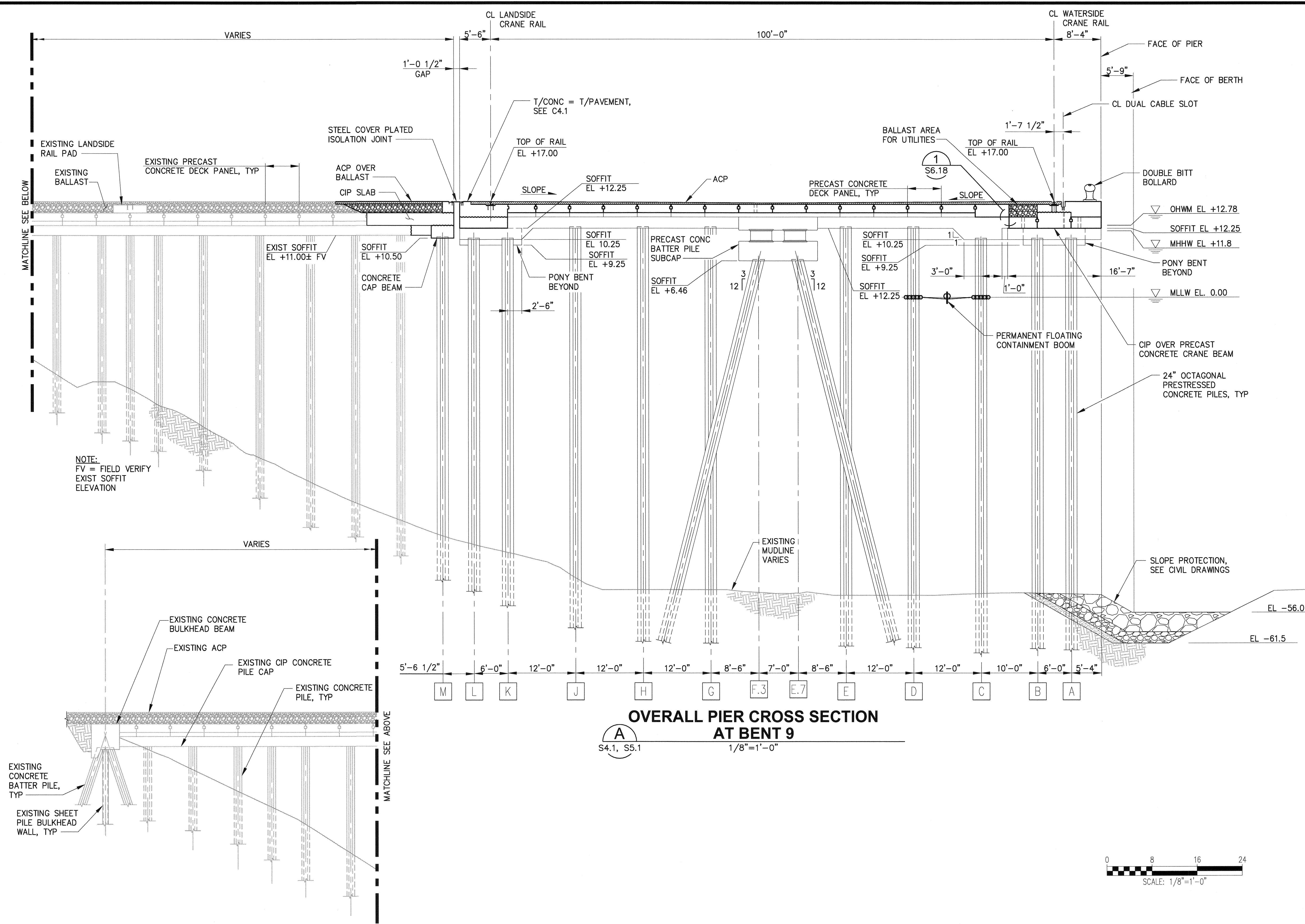
**OVERALL PIER CROSS SECTION
AT BENT 3**
S4.1, S5.1 1/8"=1'-0"



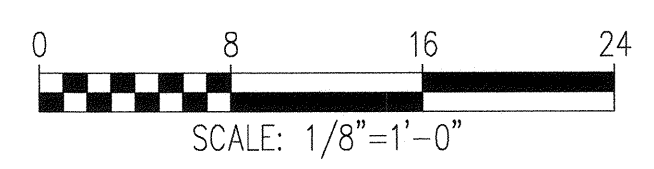
6552 S6.2 SH 191 OF 499 CONT/CONS: 070136 M. ID: 091251 PHASE: BID	PIER 4 PHASE 2 RECONFIGURATION OVERALL PIER CROSS SECTION AT BENT 3				APPROVED: <i>[Signature]</i> DIRECTOR: 3-28-16 DATE: 3-28-16	CHECKED BY: <i>[Signature]</i> DATE: 3-28-16	P.O. BOX 1837 TACOMA, WA 98401 (253) 396-0150 FAX (253) 396-0162	Port of Tacoma P.O. BOX 1837 TACOMA, WA 98401 (253) 396-0150 FAX (253) 396-0162
	TOWNSHIP: 21N RANGE: 3E DAT-HRZ: WA83-SF PARCEL:	SECTION: 27 MLLW 19.39' @ Tide 22 1933 VERT:	PRINTED BY: Hemonis Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	MARK: REVISION: BY: APPR: DATE:	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION			

PORT OF TACOMA FILE: N:\Struct\114-114096 (POT Pier 4)\Drawings\Current\Phase 2_091251\091251-S6.3

BINDING EDGE

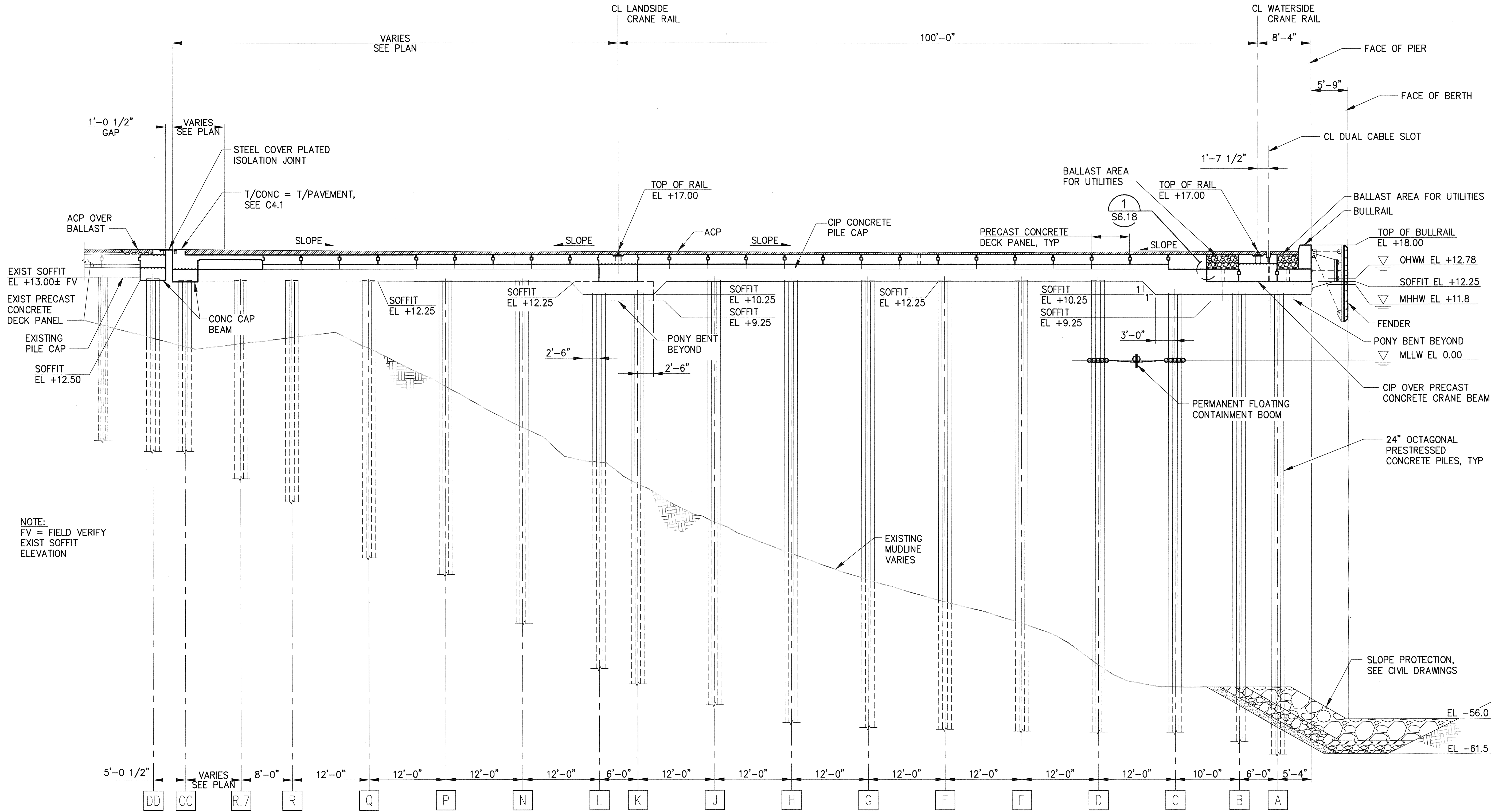


OVERALL PIER CROSS SECTION AT BENT 9
S4.1, S5.1
1/8"=1'-0"



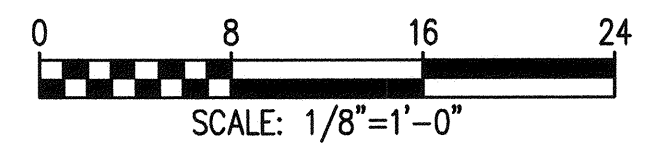
6552 S6.3 SH 192 OF 499 CONT/CONS: 070136 M. ID: 091251 PHASE: BID	PIER 4 PHASE 2 RECONFIGURATION OVERALL PIER CROSS SECTION AT BENT 9				APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR ENG. DATE PRINTED BY: tlemmons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837		SEK CHECKED BY DATE TAH PROJ. ENGR DATE PRINTED BY: tlemmons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837		Port of Tacoma 2407 North 31st Street, Suite 100 (253) 396-0120 Fax: (253) 396-0162 P.O. BOX 1887 TACOMA, WA 98401-1887		DATE:
									REVISION:		BY:

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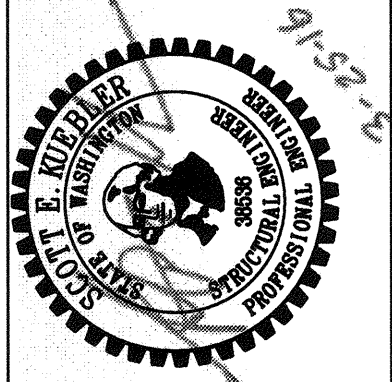
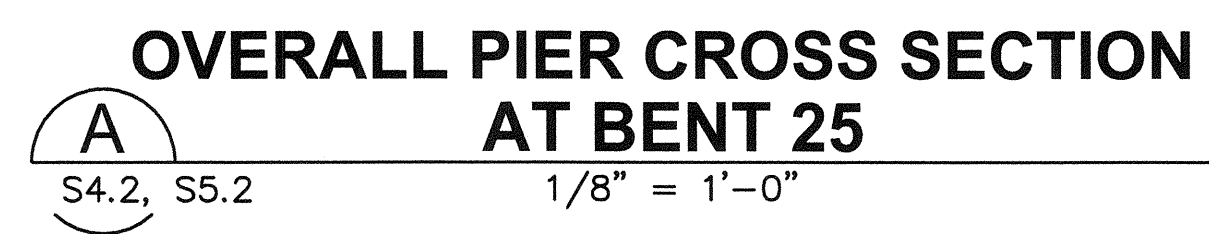


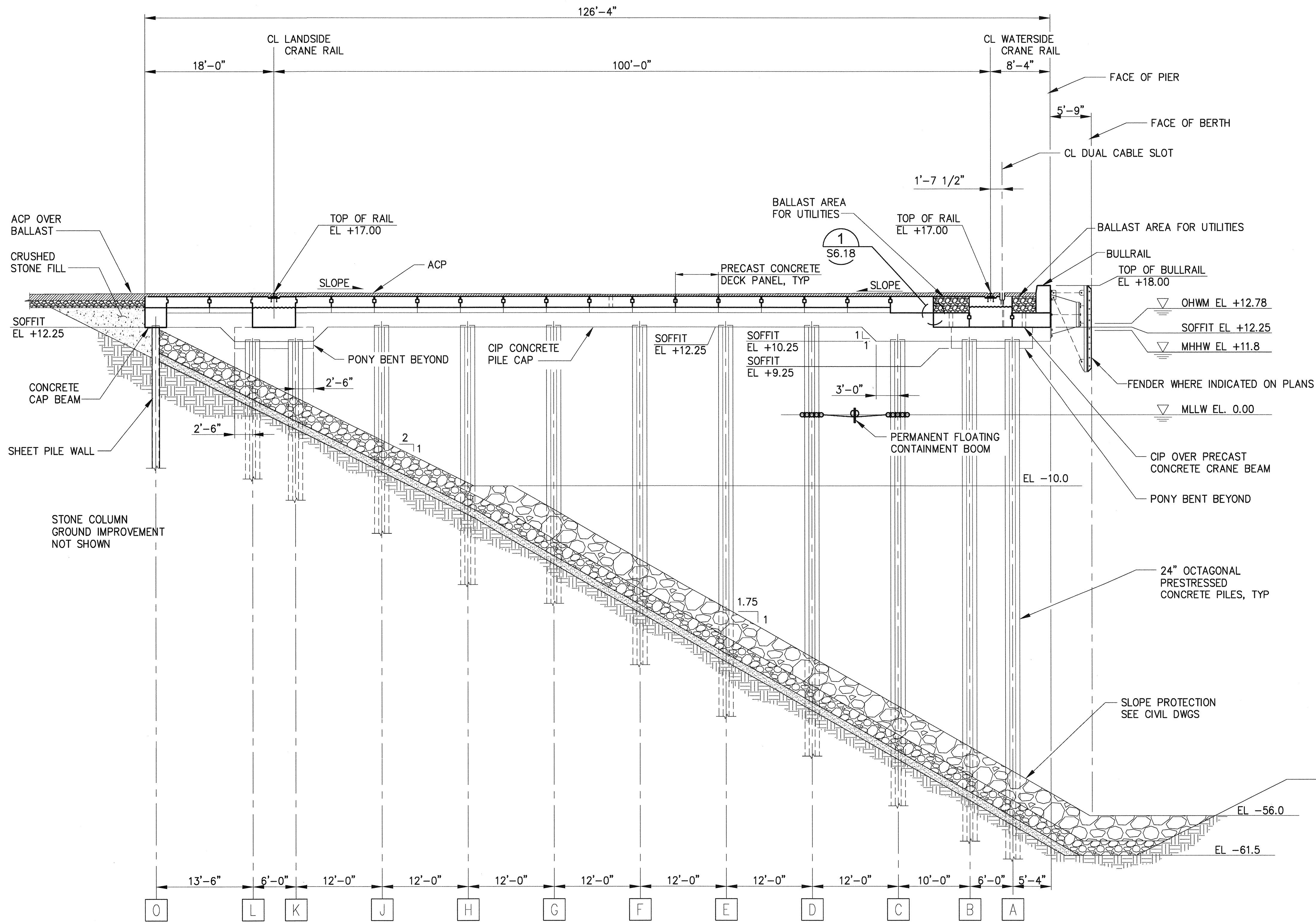
**OVERALL PIER CROSS SECTION
AT BENT 20**

S4.2, S5.2 1/8" = 1'-0"



6552 S6.4 SH 193 OF 499 CONT/CONS: 070136 M. ID: 091251 PHASE: BID	PIER 4 PHASE 2 RECONFIGURATION OVERALL PIER CROSS SECTION AT BENT 20				APPROVED: <i>[Signature]</i> 5-20/16 DIRECTOR ENG. DATE: 5-20/16 PRINTED BY: tlemmons PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837		SEK CHECKED BY: <i>[Signature]</i> DATE: 5-20/16 TAH PROJ. ENGR DATE: tlemmons Mar 24, 2016		MARK: REVISION: BY: DATE: APPR: DATE:		Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, WA 98401 (253) 396-0150 FAX (253) 396-0162 P.O. BOX 1801 TACOMA, WA 98401 (206) 885-6661
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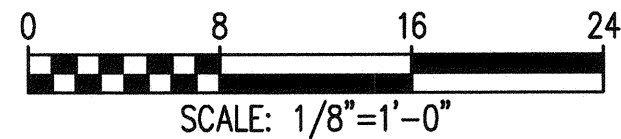




OVERALL PIER CROSS SECTION
AT BENTS 29 TO 71

S4.2, S4.3, S4.4, S4.5
S5.2, S5.3, S5.4,
S5.5

1/8" = 1'-0"

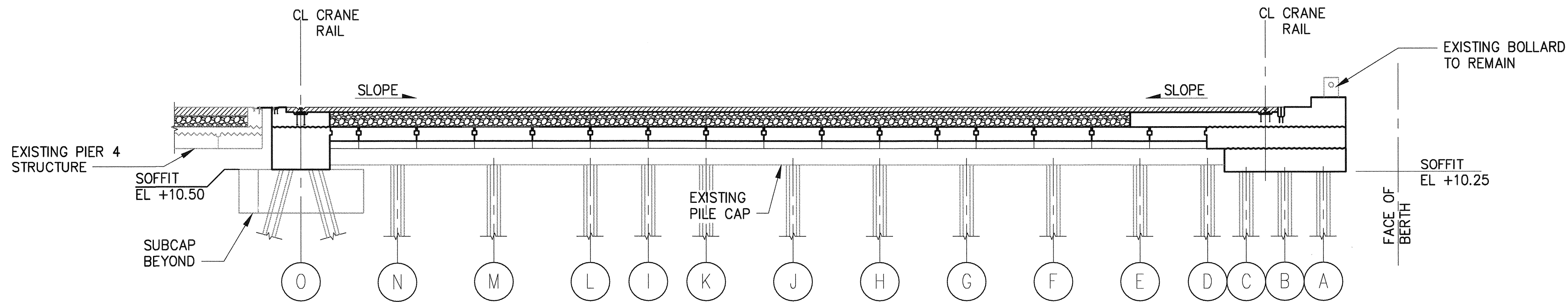


6552 S6.6 SH 195 OF 499	PIER 4 PHASE 2 RECONFIGURATION				APPROVED: <i>[Signature]</i> 3-28-16		SEK CHECKED BY DATE
	OVERALL PIER CROSS SECTION AT BENTS 29 TO 71				DIRECTOR ENG. DATE: 3-28-16 PRINTED BY: tlemmons PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837		TAH PROJ. ENGR DATE
CONT/CONS: 070136		TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	DATE: 09/25/16		
M. ID: 091251		DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	PARCEL: AS NOTED			
PHASE: BID		THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION					

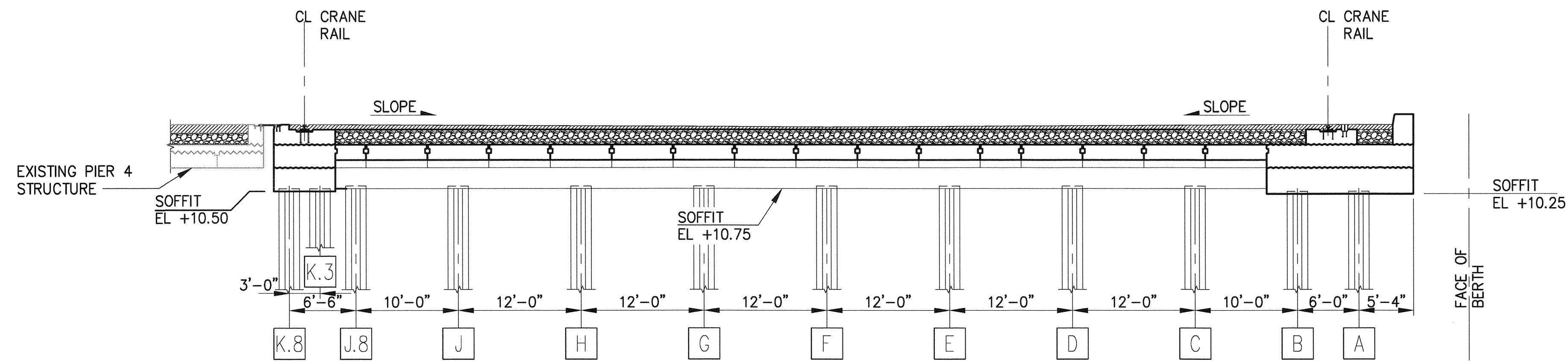
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(253) 396-0150 Fax (253) 396-0162

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P.O. BOX 1837 TACOMA, WA 98401 (253)393-3441

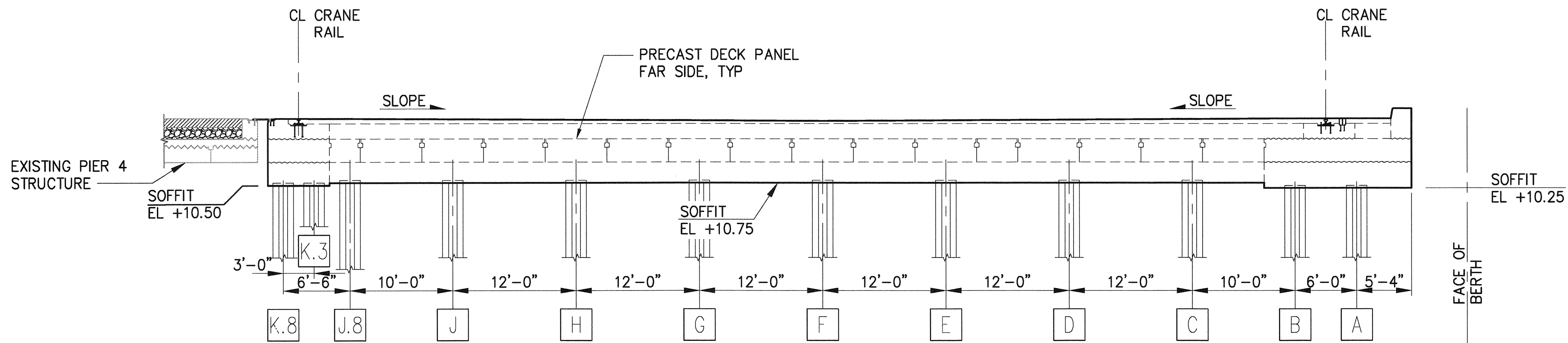
MARK:	REVISION:	BY:	APPR:	DATE:



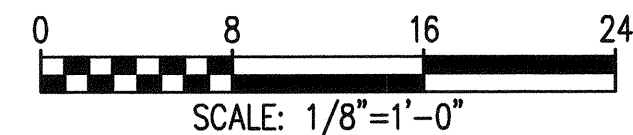
A PIER SECTION - PIER 3 BENT 67
S5.1 1/8" = 1'-0"



B PIER SECTION - PIER 3 EXTENSION BENT 67.6
S5.1 1/8" = 1'-0"



C PIER SECTION - PIER 3 EXTENSION BENT 67.9
S5.1 1/8" = 1'-0"

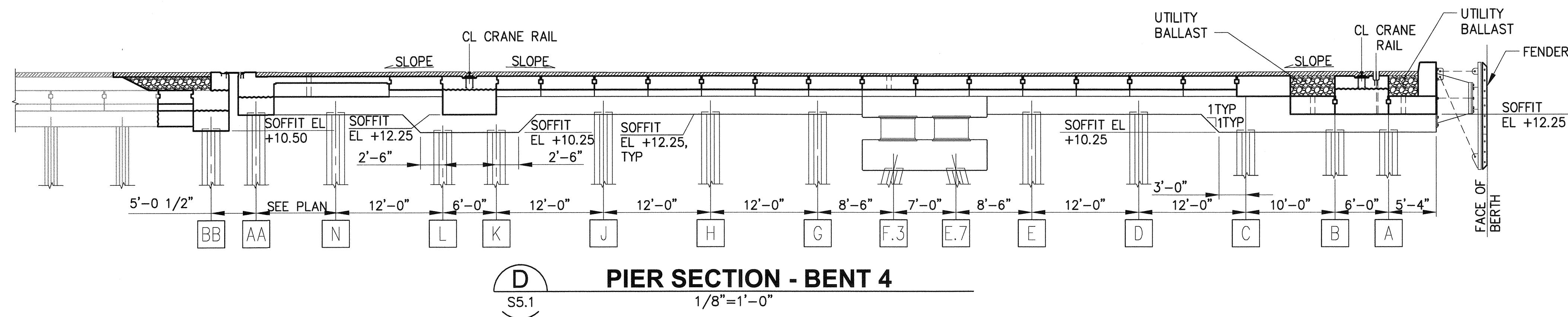


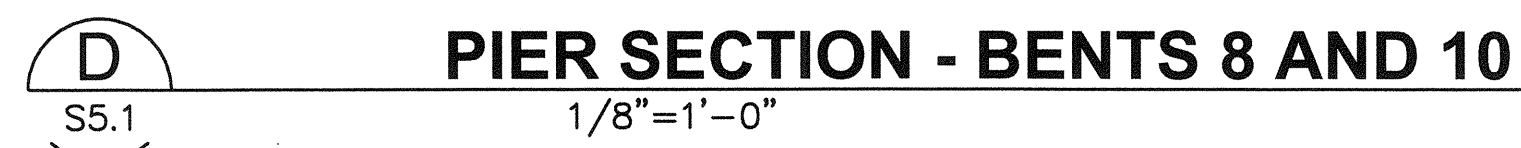
6552 S6.7 SH 196 OF 499	PIER 4 PHASE 2 RECONFIGURATION PIER SECTIONS - SHEET 1				Part of Tacoma 2407 North 31st Street, Suite 100 Tacoma, WA 98401 (253) 396-0120 Fax: (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401-1837	
	CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	MARK: REVISION:	BY: DATE:
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	PRINTED BY: tlemmons Mar 24, 2016	APPR:		
PHASE: BID	PARCEL:	DRAWING SCALE: AS NOTED	PORT ADDRESS: ONE SITCUM PLAZA			
			TACOMA, WA 98401-1837			

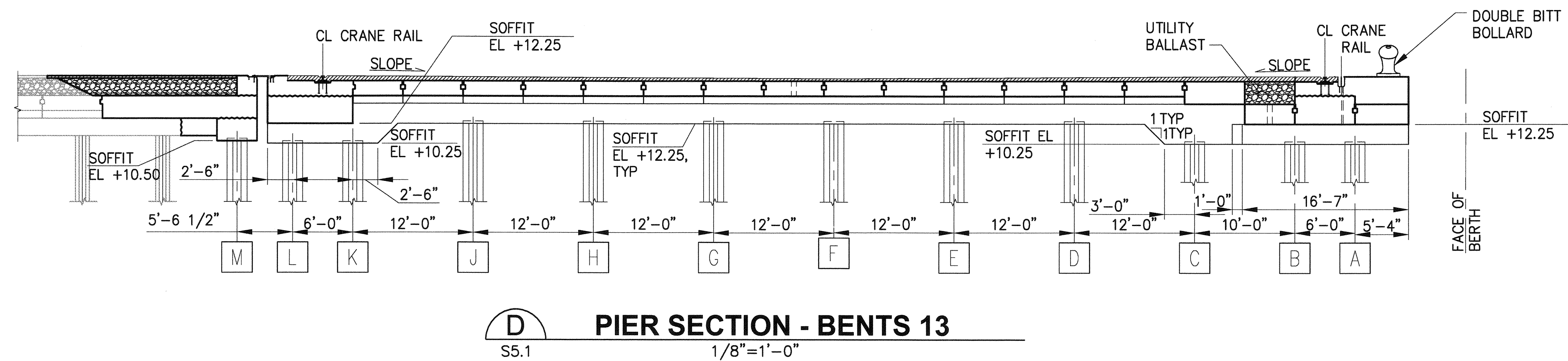
APPROVED: *[Signature]* 3-28-16
SEK CHECKED BY: TAH DATE: 3-28-16
DIRECTOR ENG. DATE: 3-28-16
PRINTED BY: tlemmons Mar 24, 2016
PORT ADDRESS: ONE SITCUM PLAZA
TACOMA, WA 98401-1837

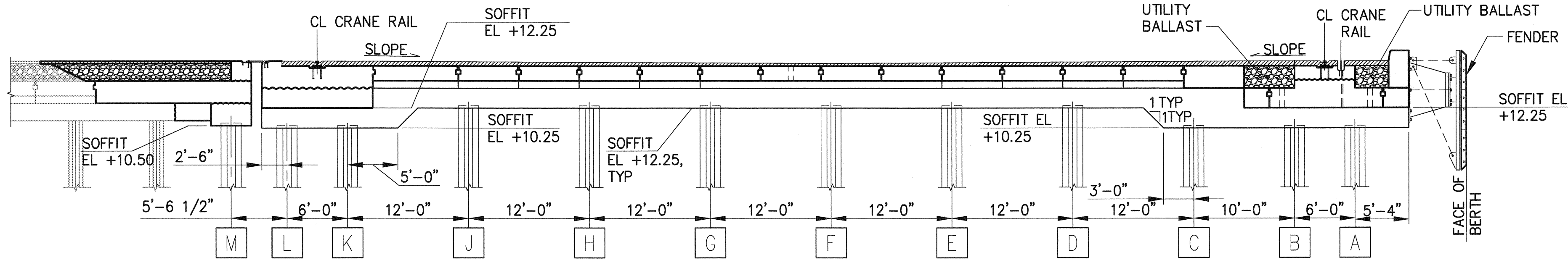
91-52-5

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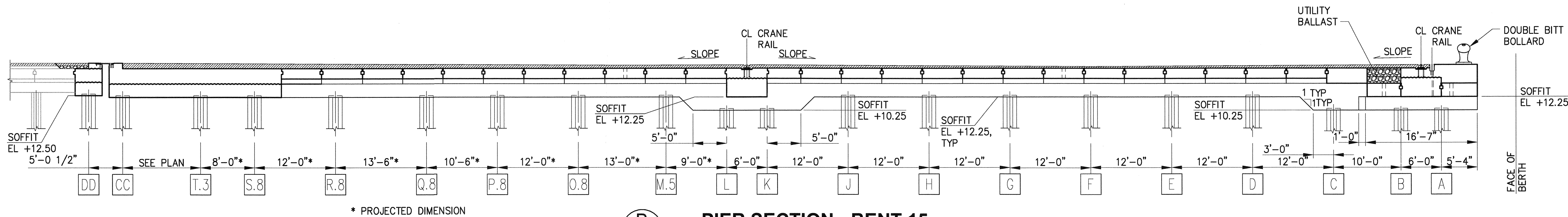




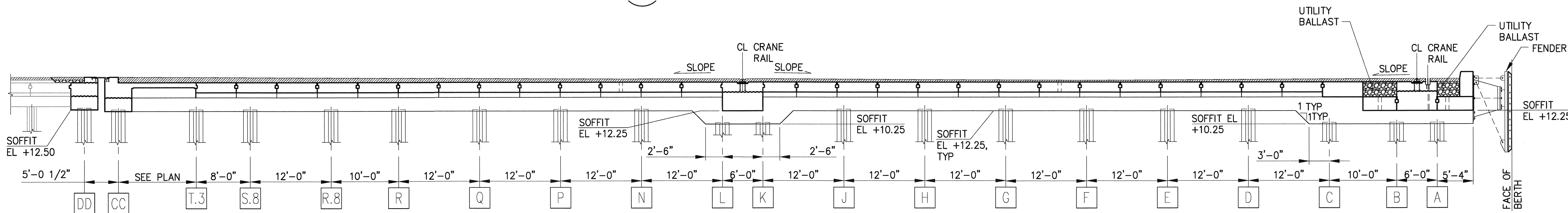




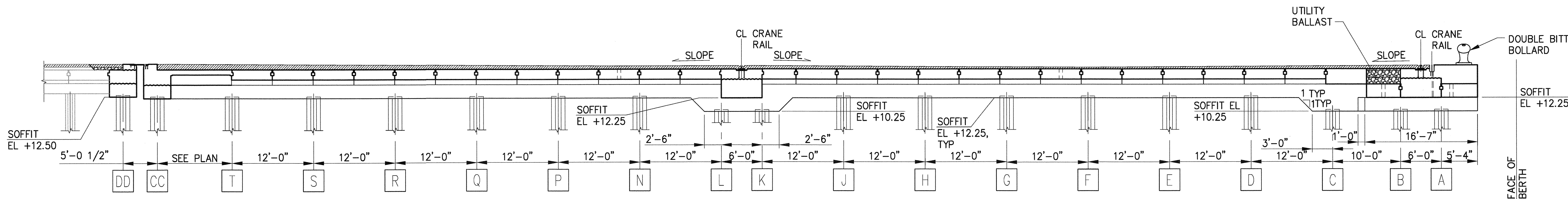
(A) PIER SECTION - BENTS 14
S5.1
1/8"=1'-0"



(B) PIER SECTION - BENT 15
S5.1
1/8"=1'-0"



(C) PIER SECTION - BENT 16
S5.1
1/8"=1'-0"



(D) PIER SECTION - BENT 17
S5.1
1/8"=1'-0"

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PIER 4 PHASE 2 RECONFIGURATION
PIER SECTIONS - SHEET 5

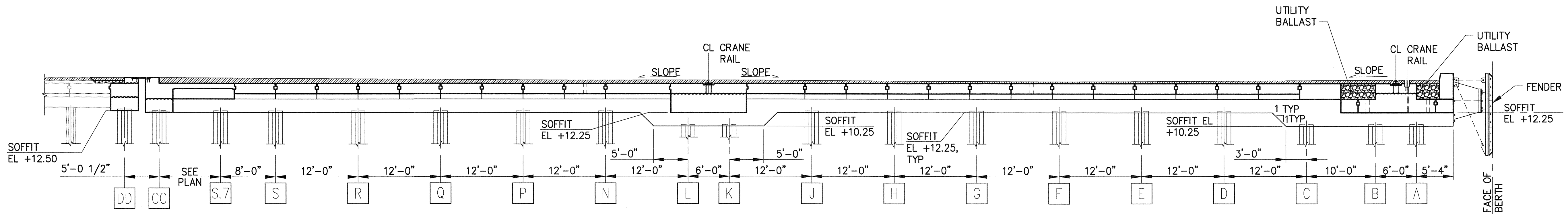
6552 **S6.11** SH 200 OF 499

CONT./CONS: 070136
M. ID: 091251
PHASE: BID

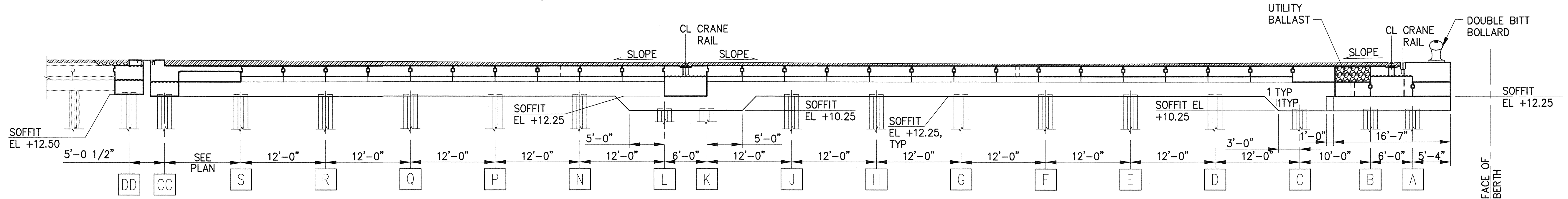
APPROVED: *[Signature]* 2-28-16
DIRECTOR ENG. DATE: 2-28-16
PRINTED BY: tlemmons Mar 24, 2016
PORT ADDRESS: ONE SITCUM PLAZA
TACOMA, WA 98401-1837

SEK CHECKED BY DATE
TAH PROJ. ENGR DATE
2-28-16 tlemmons Mar 24, 2016

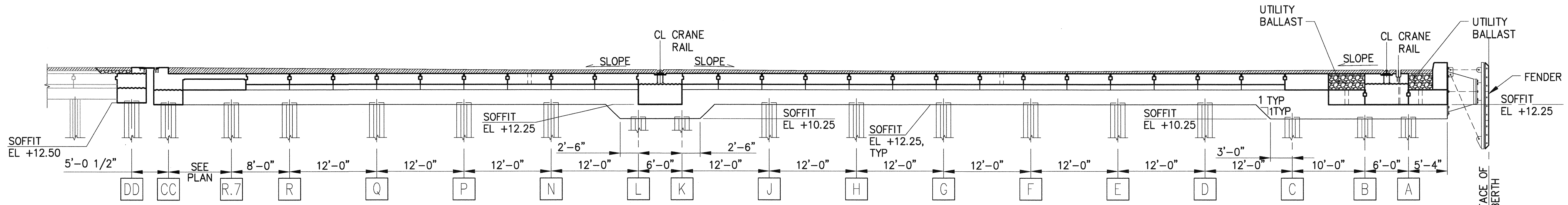
RANGE: 3E SECTION: 27
TOWNSHIP: 21N
DAT-HRZ: WA83-SF
VERT: MLW 19.39 @ Tide 22 1933
DRAWING SCALE: AS NOTED



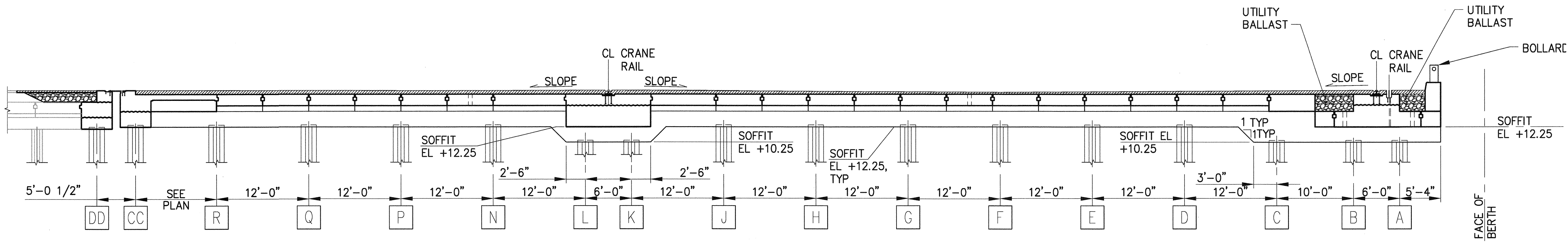
PIER SECTION - BENT 18
S5.1
1/8"=1'-0"



PIER SECTION - BENT 19
S5.1
1/8"=1'-0"



PIER SECTION - BENT 20
S5.1
1/8"=1'-0"



PIER SECTION - BENT 21
S5.1
1/8"=1'-0"



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MARK: REVISION: BY: APPR: DATE:



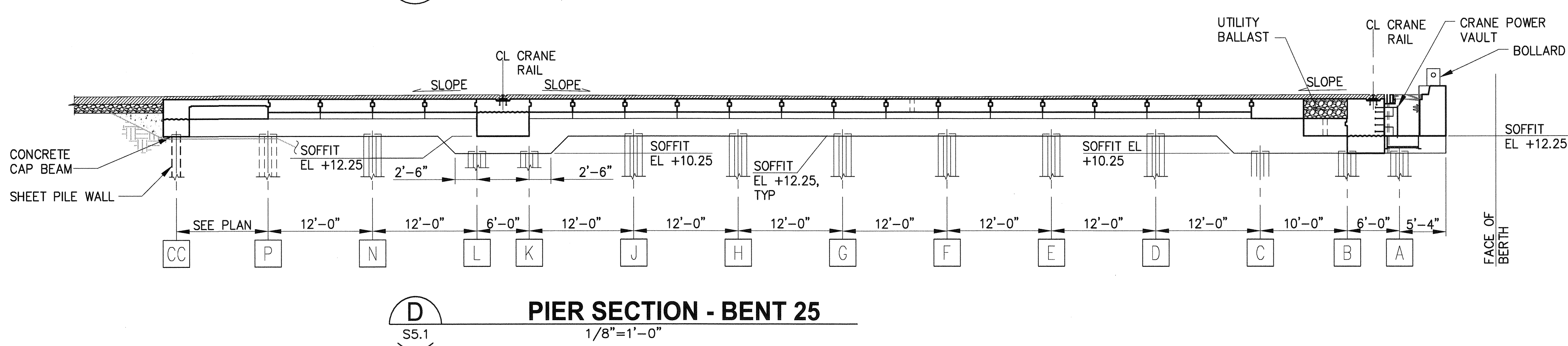
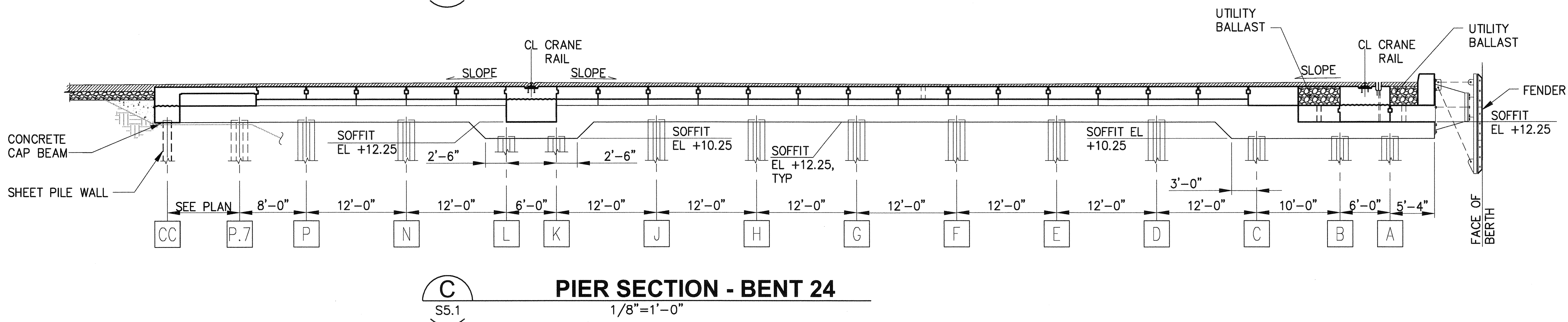
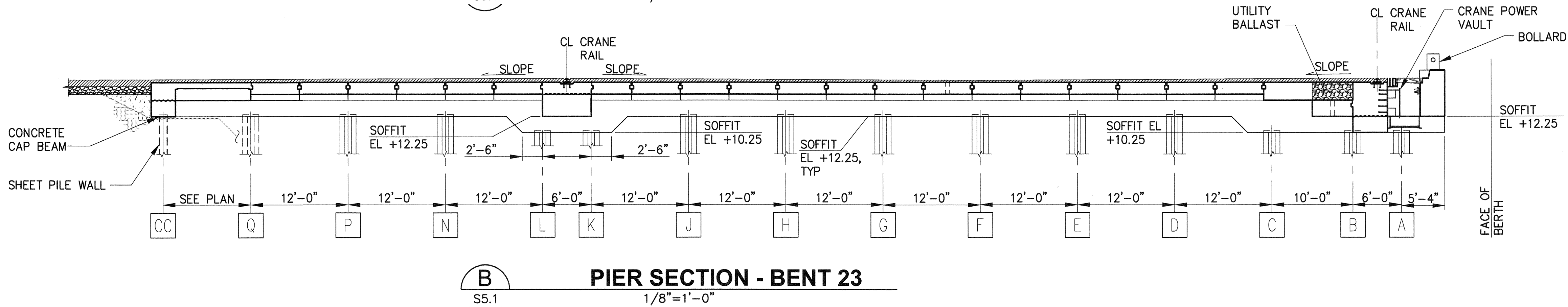
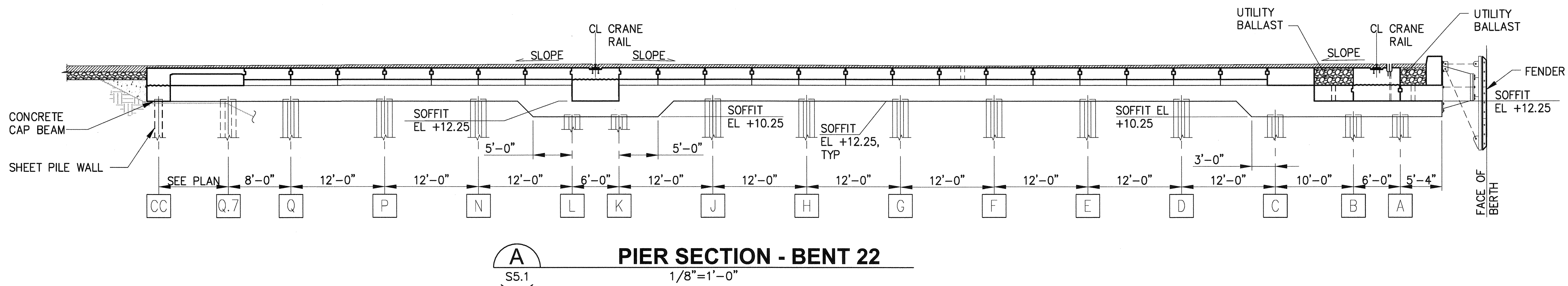
APPROVED: *David E. Kilduff*
3-28-16
DIRECTOR ENG. DATE: 3-28-16
PRINTED BY: tlemmons
PORT ADDRESS: ONE SITCUM PLAZA
TACOMA, WA 98401-1837

SEK CHECKED BY: DATE: TAHA PROJ. ENGR DATE: 27 1933

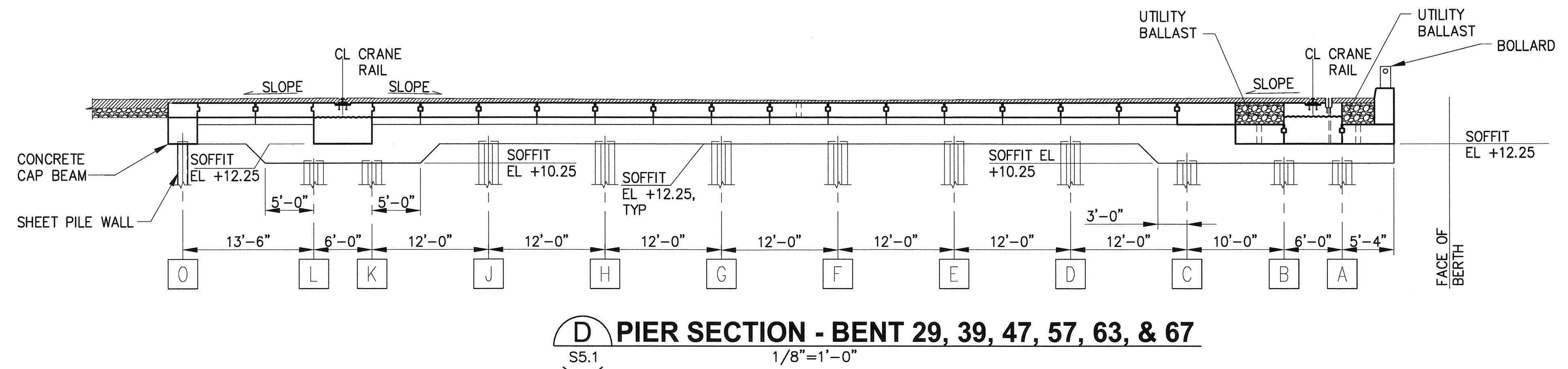
PIER 4 PHASE 2
RECONFIGURATION
PIER SECTIONS - SHEET 6

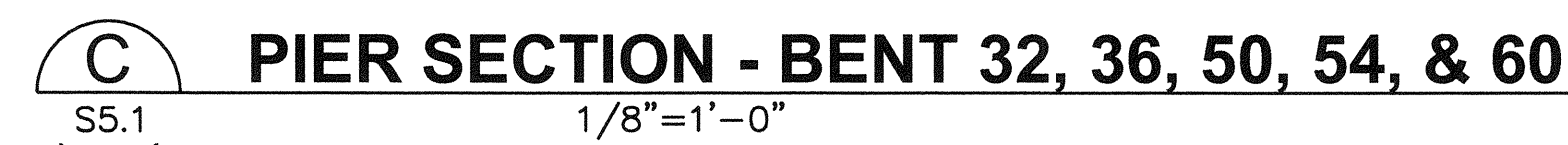
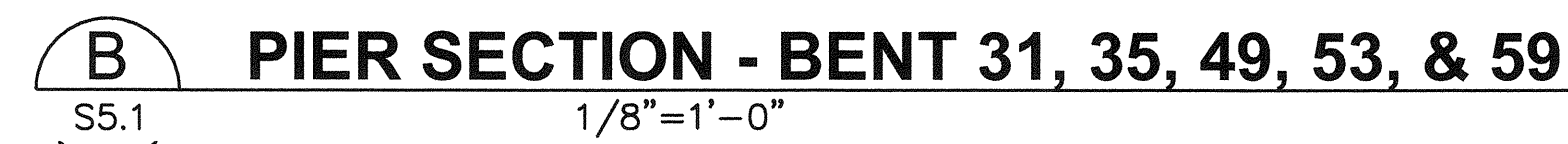
6552
S6.12
SH 201 OF 499

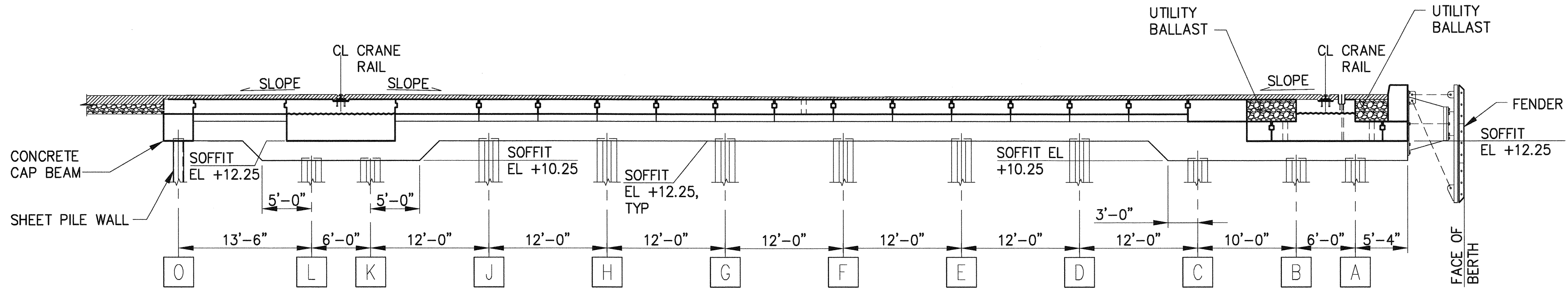
CONT/CONS: 070136
M. ID: 091251
PHASE: BID



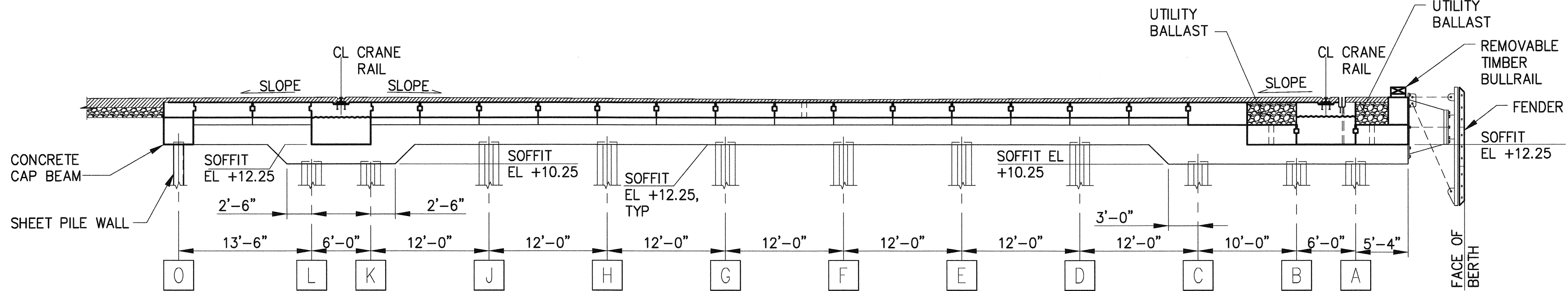
6552 S6.13 SH 202 OF 499 CONT/CONS: 070136 M. ID: 091251 PHASE: BID	PIER 4 PHASE 2 RECONFIGURATION PIER SECTIONS - SHEET 7				APPROVED: <i>[Signature]</i> 2-23-16	SEK: <i>[Signature]</i> CHECKED BY: <i>[Signature]</i> DATE: 2-23-16	TA: <i>[Signature]</i> PROL. ENR. DATE: 2-23-16 PRINTED BY: tlemmons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	2407 North 31st Street, Suite 100 Tacoma, WA 98401-1837 (253) 396-0120 Fax (253) 396-0162	Port of Tacoma P.O. BOX 1837 TACOMA, WA 98401-1837
	TOWNSHIP: 21N RANGE: 3E SECTION: 27 DAT-HRZ: WA83-SF VERT: MLLW 19.39' @ Tide 22 1933 PARCEL: DRAWING SCALE: AS NOTED	MARK: REVISION: BY: APPR: DATE:	kpf 91-52-5	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION					



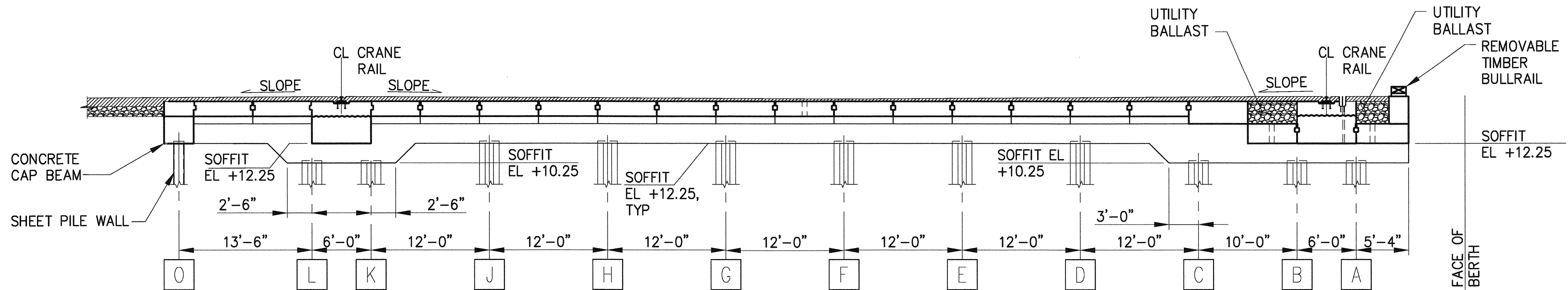




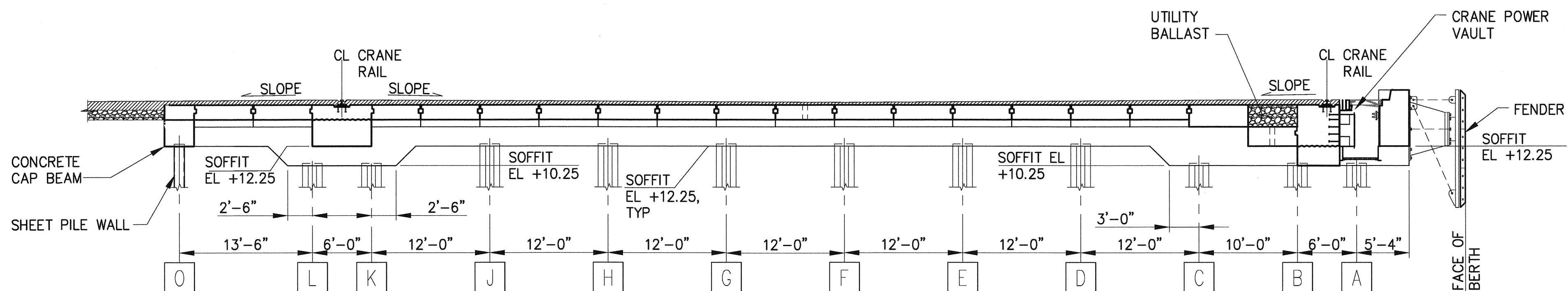
A PIER SECTION - BENT 38, 46, 56, 62, & 66
S5.1 1/8"=1'-0"



B PIER SECTION - BENT 40 & 42
S5.1 1/8"=1'-0"



C PIER SECTION - BENT 41 & 43
S5.1 1/8"=1'-0"



D PIER SECTION - BENT 48
S5.1 1/8"=1'-0"



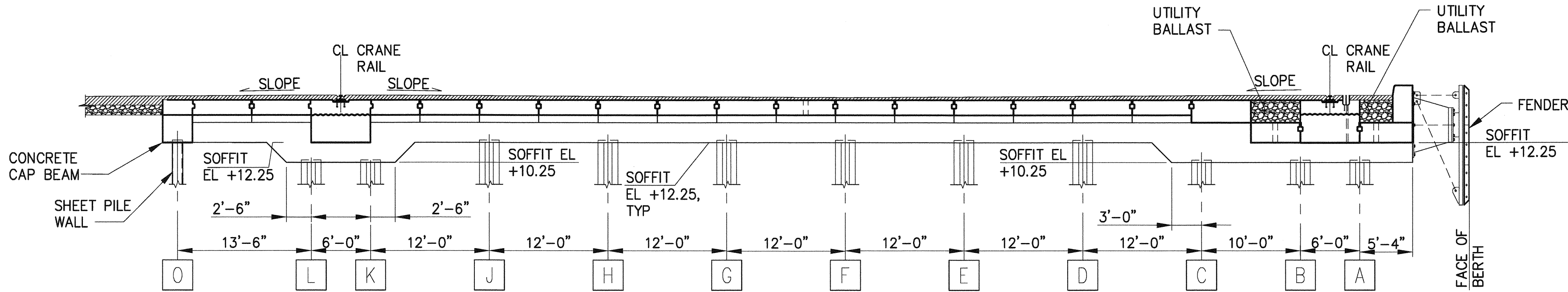
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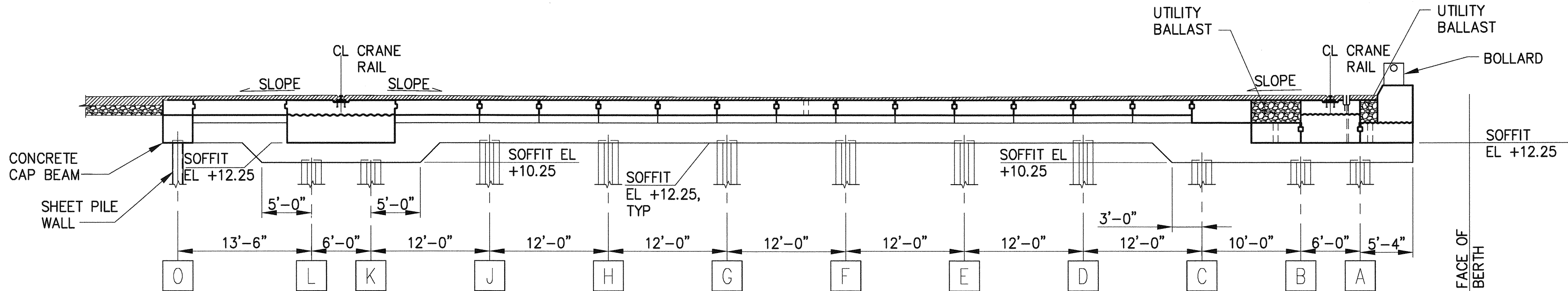
SEK	CHECKED BY	DATE
TAH	PROJ. ENGR	DATE
DIRECTOR	ENG. DATE	PRINTED BY: tlemans Mar 24, 2016
APPROVED:	3-28-16	PORT ADDRESS: ONE SITCUM PLAZA
		TACOMA, WA 98401-1837

PIER 4 PHASE 2 RECONFIGURATION PIER SECTIONS - SHEET 10	TOWNSHIP: 21N RANGE: 3E SECTION: 27
6552 SH 205 OF 489 S6.16	DATE-HRZ: WA83-SF VERT: MLLW 19.39' @ Tide 22 1933
CONTR/CONS: 070136 M. ID: 091251 PHASE: BID	DRAWING SCALE: AS NOTED PARCEL:

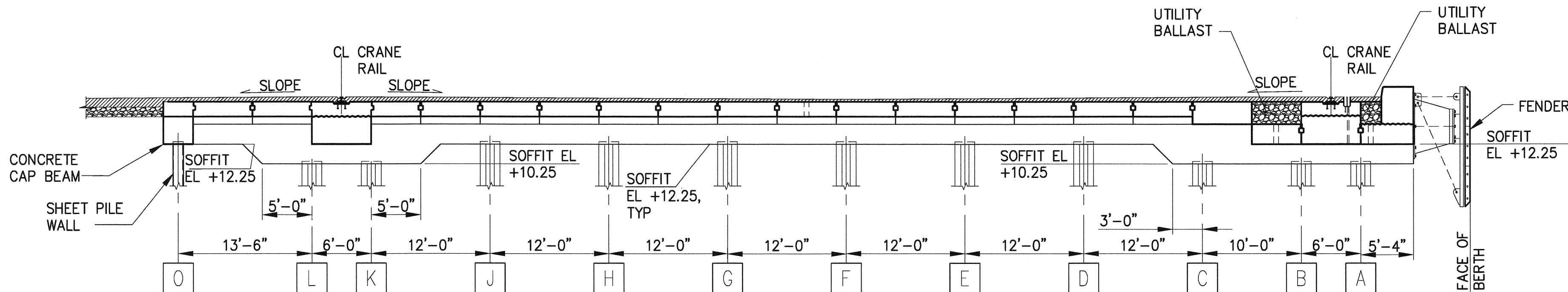
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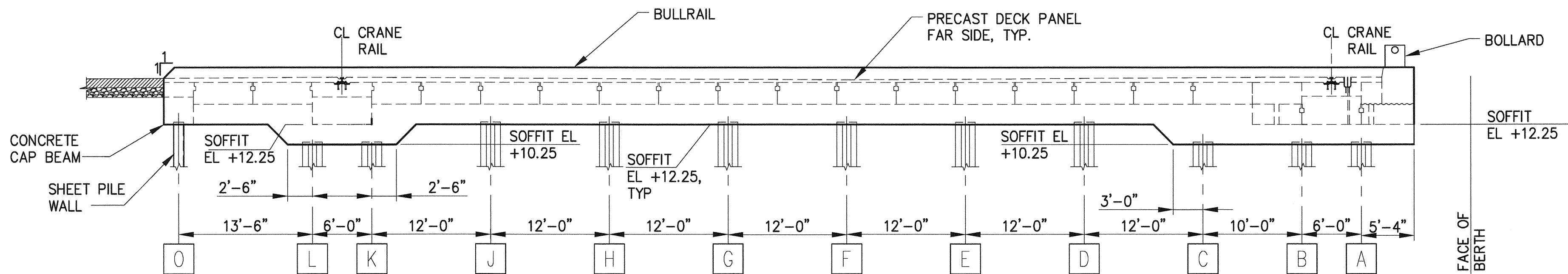
A
S5.1
PIER SECTION - BENT 68
1/8"=1'-0"



B
S5.1
PIER SECTION - BENT 69
1/8"=1'-0"



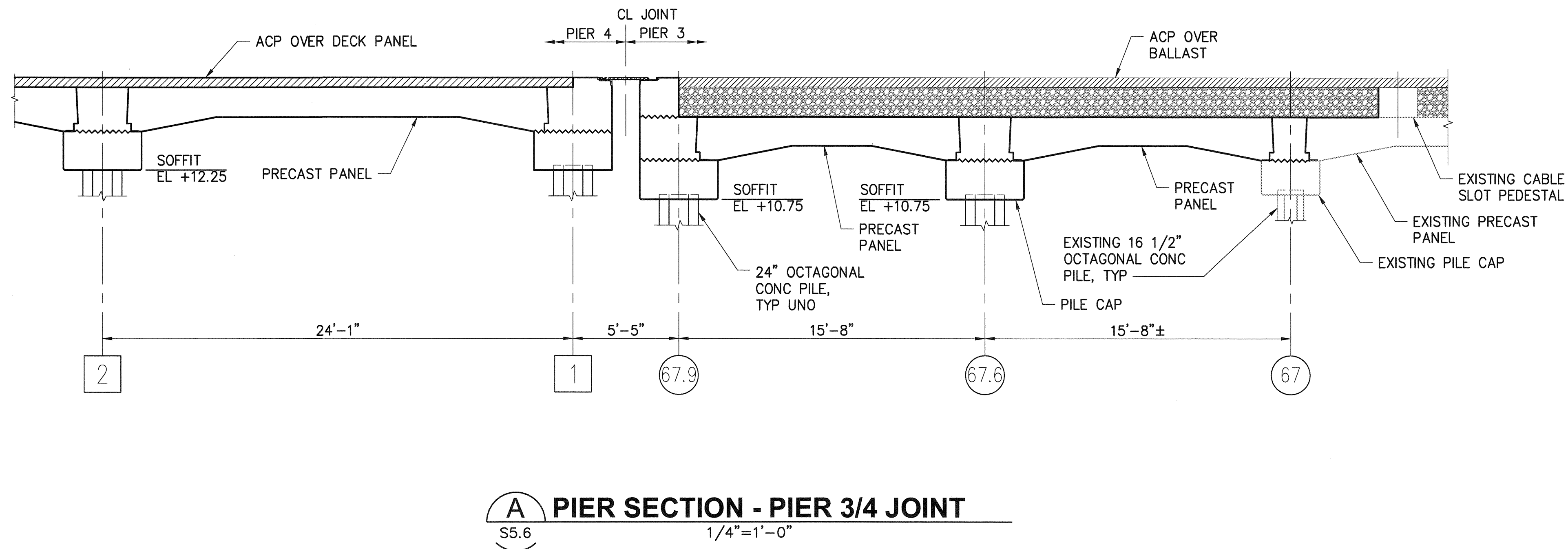
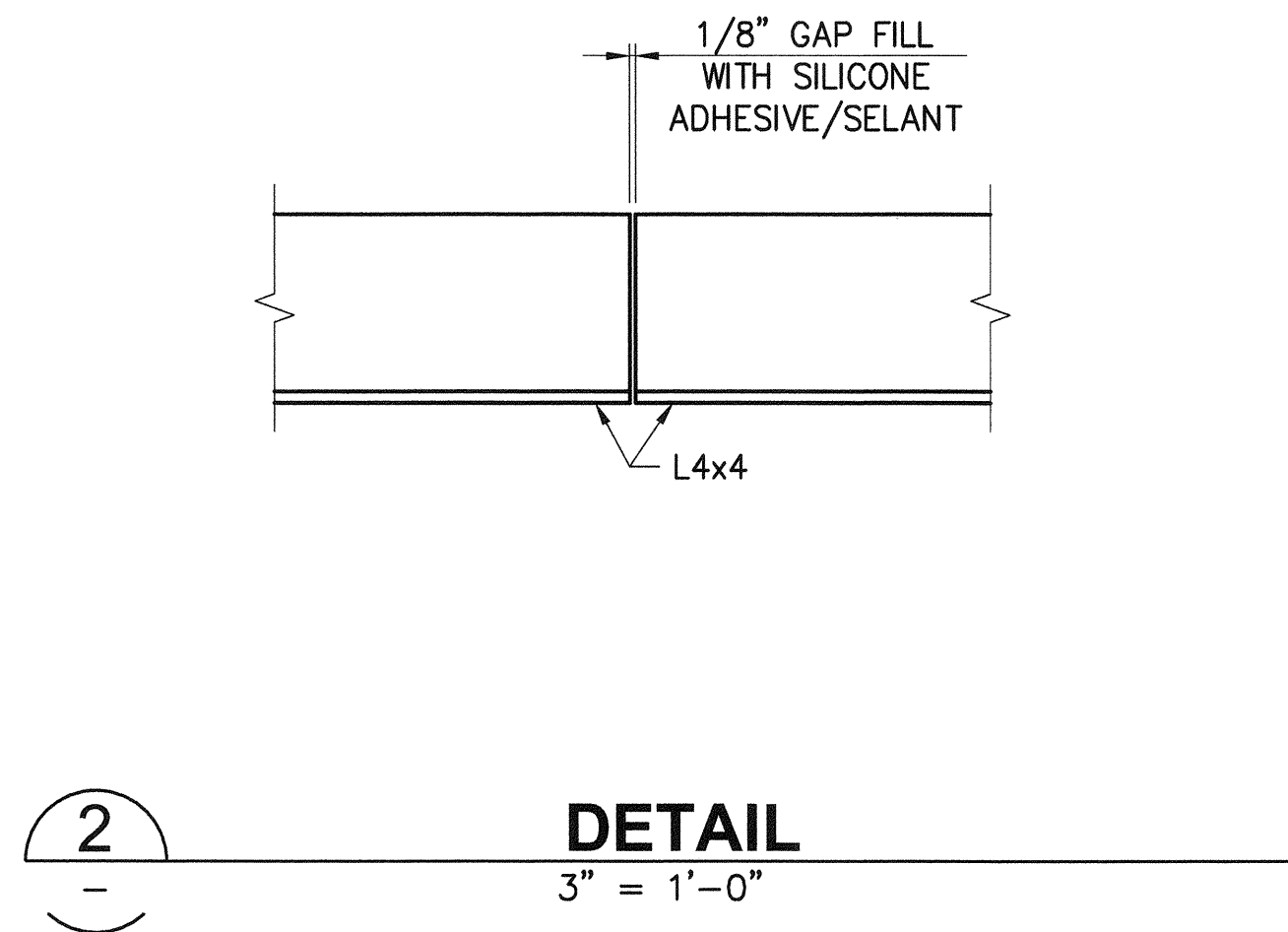
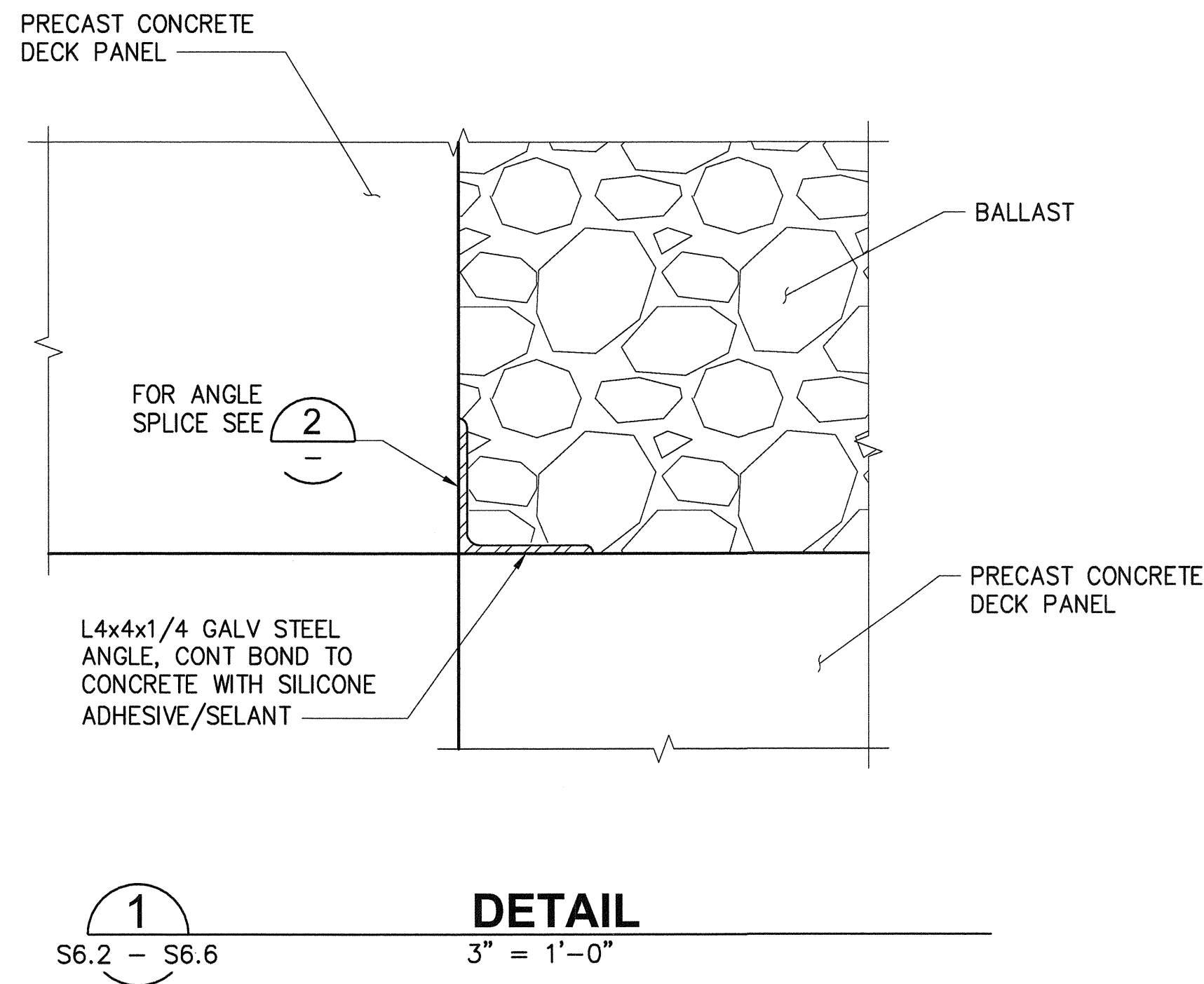
C
S5.1
PIER SECTION - BENT 70
1/8"=1'-0"



D
S5.1
PIER SECTION - BENT 71
1/8"=1'-0"

6552 S6.17 SH 206 OF 499 CONT/CONS: 070136 M. ID: 091251 PHASE: BID	PIER 4 PHASE 2 RECONFIGURATION PIER SECTIONS - SHEET 11				APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR PRINTED BY: tlemans PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837		SEK CHECKED BY DATE TAH PROJ. ENGR DATE Mar 24, 2016		Part of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98403 (253) 396-0135 Fax (253) 396-0162 P.O. BOX 187 TACOMA, WA 98401 (253)885-8441	
					DATE:		APPR:		DATE:	
					REVISION:		BY:		MARK:	
					REVISION:		BY:		MARK:	

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6552

S6.18

SH 207 OF 499

CONT/CONS: 070136

M. ID: 091251

PHASE: BID

PIER 4 PHASE 2

RECONFIGURATION

PIER SECTIONS - SHEET 12

TOWNSHIP: 21N

DAT-HRZ: WA83-SF

PARCEL:

RANGE: 3E

VERT: MLLW 19.39 @ Tide 22 1933

DRAWING SCALE: AS NOTED

APPROVED:

3-28-16

DIRECTOR

ENG. DATE

3-28-16

TAH

CHECKED BY

DATE

DATE

PROJ. ENGR

DATE

DATE

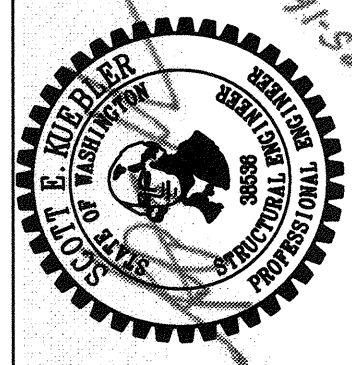
PRINTED BY:

tlmons Mar 24, 2016

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DATE



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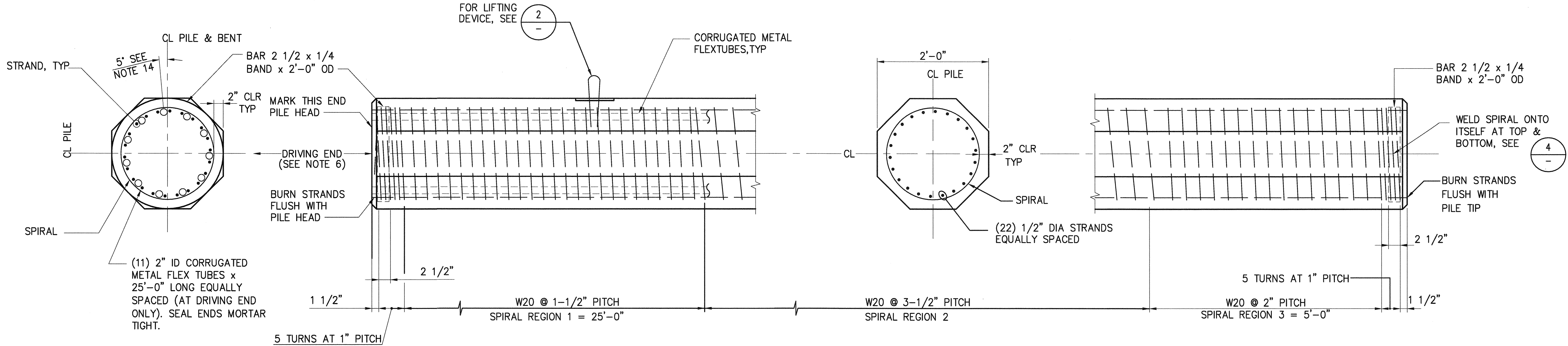
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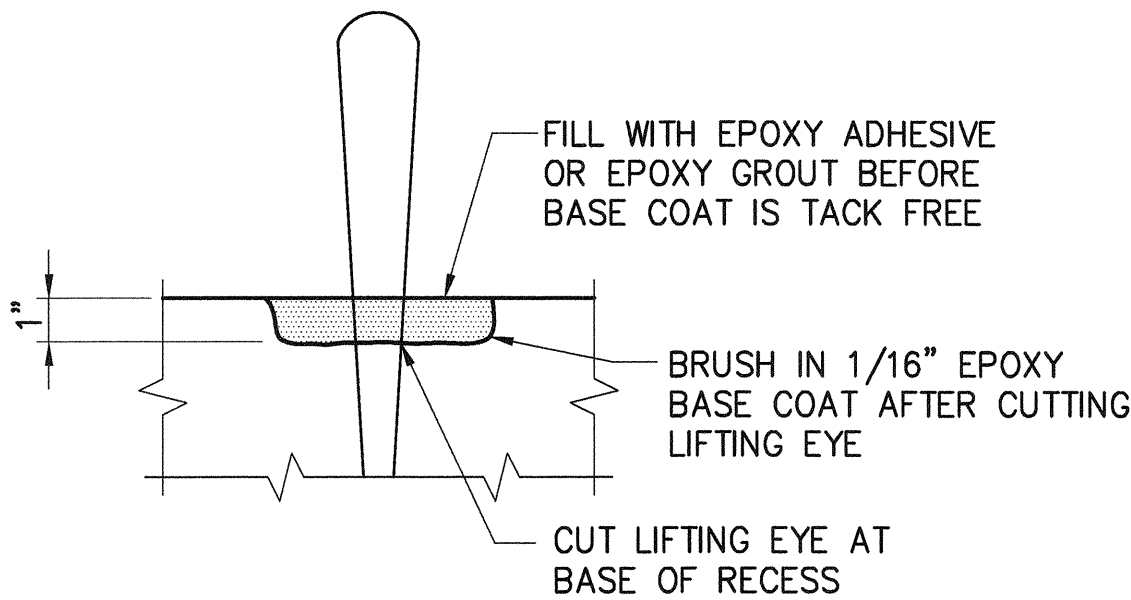
24" SOLID OCTAGONAL PRECAST
PRESTRESSED CONCRETE PILE

S4.1, S4.2, S4.3, S4.4, S4.5 1"=1'-0"

NOTES:

- MINIMUM CONCRETE STRENGTHS ARE AS FOLLOWS:
 - RELEASE F'_c = 4800 PSI
 - DRIVING F'_c = 8000 PSI
 - 28 DAYS F'_c = 8000 PSI
- 24" SOLID OCTAGONAL PRECAST PRESTRESSED PILE PROPERTIES:

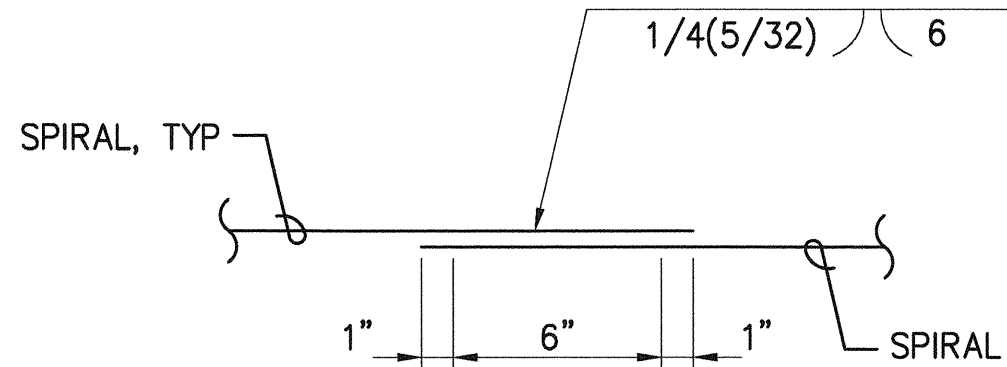
SECTION AREA	477 IN ²
WEIGHT	524 LBS/FT
SECTION MODULUS	1513 IN ³
DESIGN PRESTRESS FORCE	578 KIPS
DESIGN PRESTRESS IN CONC	1211 PSI
- PRESTRESSING STEEL SHALL BE UNCOATED 270 KSI - 1/2"φ - 7 WIRE, LOW RELAXATION, STRAND CONFORMING TO ASTM A416
- FOR PILE TIP AND CUTOFF ELEVATIONS SEE SHEET S7.2
- PILE ORDER LENGTH SHALL EQUAL PILE CUTOFF ELEVATION MINUS MINIMUM PILE TIP ELEVATION PLUS AN OVERDRIVE ALLOWANCE OF 5 FEET.
- MARK DRIVING END OF ALL PILES CLEARLY AT PRECAST PLANT.
- PILES SHALL HAVE MARKS DESIGNATING THE SIZE, LENGTH, AND ROW, GRID LOCATION PAINTED CLEARLY ON THE PILE AT THE PRECAST PLANT.
- SPIRAL REINFORCING SPLICED IN REGION 1 SHALL BE WELDED IN ACCORDANCE WITH DETAIL 3.
- SPIRAL REINFORCING MAY BE SPLICED IN REGIONS 2 AND 3 BY (2) OVERLAPPING TURNS OF SPIRAL AND TERMINATING WITH A 135° HOOK EXTENDING COMPLETELY ACROSS THE CORE.
- SPIRAL REINFORCEMENT SHALL BE ASTM A1064.
- FLEXTUBES SHALL BE RIGID, GALVANIZED, SPIRAL, FERROUS METAL, MORTAR TIGHT, DUCTS CONFORMING TO ASTM A653. THE MINIMUM THICKNESS SHALL BE 26 GAGE.
- FOR PILE CUT-OFF DETAILS, SEE SHEET S8.1
- FOR PILE BUILD-UP DETAIL, SEE SHEET S8.2
- ORIENT STRANDS, FLEXTUBES AND PILE AS SHOWN TO ALLOW FOR SUBSEQUENT PLACEMENT OF PILE CAP REINFORCING



NOTE:
LIFTING DEVICE AND LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR CONSIDERING ALL LOADS IMPARTED TO THE PILE (NORMAL AND PARALLEL TO THE LONGITUDINAL AXIS) BY THE RIGGING BEING USED. ALL MODES OF LIFTING (FABRICATION AND FIELD) SHALL BE CONSIDERED.

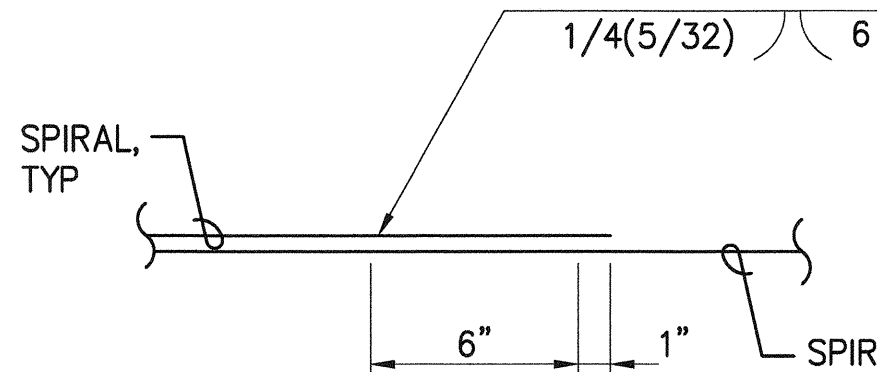
LIFTING EYE DETAIL

NTS



SPIRAL SPLICE DETAIL

NTS



SPIRAL WELD AT END

NTS

6552	S7.1	SH 208 OF 499	PIER 4 PHASE 2 RECONFIGURATION PRECAST CONCRETE PILE - DETAILS				APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR ENG. DATE PRINTED BY: tlemans Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SEK CHECKED BY DATE TAH PROJ. ENGR DATE 3-28-16 PRINTED BY: tlemans Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	2407 North 31st Street, Suite 100 Tacoma, Washington 98401 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401 (253) 396-0162	Port of Tacoma	DATE: APPR: BY: REVISION:
			CONTRACT/CONS: 070136 M. ID: 091251 PHASE: BID	MARK: 4 1	REVISION:	BY:					

TABLE 1: PILE SCHEDULE					
PILE LOCATION		REQUIRED GEOTECHNICAL CAPACITY (KIPS)	MIN TIP ELEVATION (FEET)	CUT OFF ELEVATION (FEET)	COMMENTS
BENT	GRID				
PILES AT PIER 3 EXTENSION					
67.3–67.9	A–B	1370	–138	10.5	
67.6 & 67.9	C–J.8	1176	–126	11	
67.2–67.9	K.3 & K.8	1176	–126	10.75	
PILES AT PIER 4					
1–15	A & B	1370	–134	10.5	PONY BENT PILES EXCLUDED
1.5–15.5	A & B	1370	–134	9.5	PONY BENT PILES ONLY, INCLUDING OFFSET PILES
1–15	C	1176	–126	10.5	
1–15	D	1176	–126	12.5	
1–15	E	1176	–126	12.5	
1, 11–15	F	1176	–126	12.5	
1–15	G	1176	–126	12.5	
1–15	H	1176	–126	12.5	
1–15	J	1176	–126	12.5	
1–9	K & L	1267	–127	10.5	PONY BENT PILES EXCLUDED
1.5–9.5	K & L	1267	–127	9.5	PONY BENT PILES ONLY
3–5	M.4–0.6	1018	–117	12.5	
1–2	N & P	1018	–117	12.5	
1–7	AA	1018	–117	12.5	
10–15	K & L	1314	–120	10.5	PONY BENT PILES EXCLUDED
10.5–15.5	K & L	1314	–120	9.5	PONY BENT PILES ONLY
16–47	A & B	1393	–155	10.5	PONY BENT PILES EXCLUDED
16.5–47.5	A & B	1393	–155	9.5	PONY BENT PILES ONLY, INCLUDING OFFSET PILES
16–22	C	1197	–146	10.5	
16–20	D	1197	–146	12.5	
16–19	E	1197	–146	12.5	
16–17	F	1197	–146	12.5	
16	G	1197	–146	12.5	
16–19	K & L	1320	–126	10.5	PONY BENT PILES EXCLUDED
16.5–18.5	K & L	1320	–126	9.5	PONY BENT PILES ONLY, INCLUDING OFFSET PILES
23–38	C	1475	–146	10.5	
21–38	D	1475	–145	12.5	
20–38	E	1475	–145	12.5	
18–38	F	1475	–145	12.5	
17–24	G	1475	–145	12.5	
16–23	H	1475	–145	12.5	
16–21	J	1475	–145	12.5	
20–21	K & L	1265	–108	10.5	PONT BENT PILES EXCLUDED
19.5–21.5	K & L	1265	–108	9.5	PONY BENT PILES ONLY, INCLUDING OFFSET PILES
22–24	K & L	1335	–98	10.5	PONT BENT PILES EXCLUDED
22.5–24.5	K & L	1335	–98	9.5	PONY BENT PILES ONLY
28	M.4	1136	–92	12.5	
15–16	M.5–T.3	1267	–115	12.5	
17–22	N	1288	–115	12.5	
17–21	P	1288	–115	12.5	
17–20	Q	1288	–115	12.5	
17–19	R–S	1288	–115	12.5	
17–18	S.7–T	1288	–115	12.5	

NOTES:

1. ALL ELEVATIONS RELATIVE TO MLLW DATUM.
2. REQUIRED GEOTECHNICAL CAPACITY IS THE MINIMUM REQUIRED ULTIMATE PILE CAPACITY AND IS EQUAL TO THE ULTIMATE DEMAND ON PILE AND INCLUDES A FACTOR OF SAFETY OF 2.0 FOR COMPRESSION, AND 3.0 FOR TENSION.
3. [] INDICATES TENSION

TABLE 1: PILE SCHEDULE (CONTINUED)					
PILE LOCATION		REQUIRED GEOTECHNICAL CAPACITY (KIPS)	MIN TIP ELEVATION (FEET)	CUT OFF ELEVATION (FEET)	COMMENTS
BENT	GRID				
PILES AT PIER 4 (CONTINUED)					
15–19.6	CC	1288	–115	12.5	
23–27	N	1136	–92	12.5	
26	O.6	1136	–92	12.5	
22–25	P	1136	–92	12.5	
24	P.7	1136	–92	12.5	
21–23	Q	1136	–92	12.5	
22	Q.7	1136	–92	12.5	
20–21	R	1136	–92	12.5	
20	R.7	1136	–92	12.5	
20.3–20.6	CC	1136	–92	12.5	
25–27	K & L	1327	–91	10.5	PONY BENT PILES EXCLUDED
25.5–26.5	K & L	1327	–91	9.5	PONY BENT PILES ONLY
25–38	G	1288	–115	12.5	
24–38	H	1288	–115	12.5	
22–38	J	1288	–115	12.5	
28–38	K & L	1335	–98	10.5	PONY BENT PILES EXCLUDED
27.5–38.5	K & L	1335	–98	9.5	PONY BENT PILES ONLY, INCLUDING OFFSET PILES
39–44	C	1425	–150	10.5	HEAVY LOAD ZONE
39–44	D–F	1568	–147	12.5	HEAVY LOAD ZONE
39–44	G–J	1504	–118	12.5	HEAVY LOAD ZONE
39–44	K & L	1368	–93	10.5	PONY BENT PILES EXCLUDED
39.5–43.5	K & L	1368	–93	9.5	PONY BENT PILES ONLY
45–47	C	1197	–146	10.5	
45–47	D–F	1475	–145	12.5	
45–47	G–J	1288	–115	12.5	
45–47	K & L	1335	–98	10.5	PONY BENT PILES EXCLUDED
44.5–47.5	K & L	1335	–98	9.5	PONY BENT PILES ONLY, INCLUDING OFFSET PILES
48–71	A & B	1380	–148	10.5	PONY BENT PILES EXCLUDED
48.5–70.5	A & B	1380	–148	9.5	PONY BENT PILES ONLY, INCLUDING OFFSET PILES
48–71	C	1016	–130	10.5	
48–71	D–F	1116	–115	12.5	
48–71	G & H	1116	–102	12.5	
48–71	J	1071	–87	12.5	
48–71	K & L	1283	–90	10.5	PONY BENT PILES EXCLUDED
48.5–70.5	K & L	1283	–90	9.5	PONY BENT PILES ONLY, INCLUDING OFFSET PILES
PILES ALONG EXISTING PIER 4 JOINT					
1–7	BB	1018	–117	10.75	
7.4–14.9	M	1018	–117	10.75	
15–21	DD	1288	–115	12.75	
BATTER PILES					
1.9–10.1	E.7 & F.3	1720 [863]	–150	6.2	3:12 BATTER
MOORING DOLPHIN		400 [200]	–50	12.5	3:12 BATTER

6552

S7.2

SH 209 OF 499

CONT/CONS: 070136

M. ID: 091251

PHASE: BID

PIER 4 PHASE 2

RECONFIGURATION

PRECAST CONCRETE PILE - SCHEDULE

APPROVED: *Chris Howard*

3-28-16

DIRECTOR ENG. DATE

PRINTED BY: tlemons

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

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CHECKED BY

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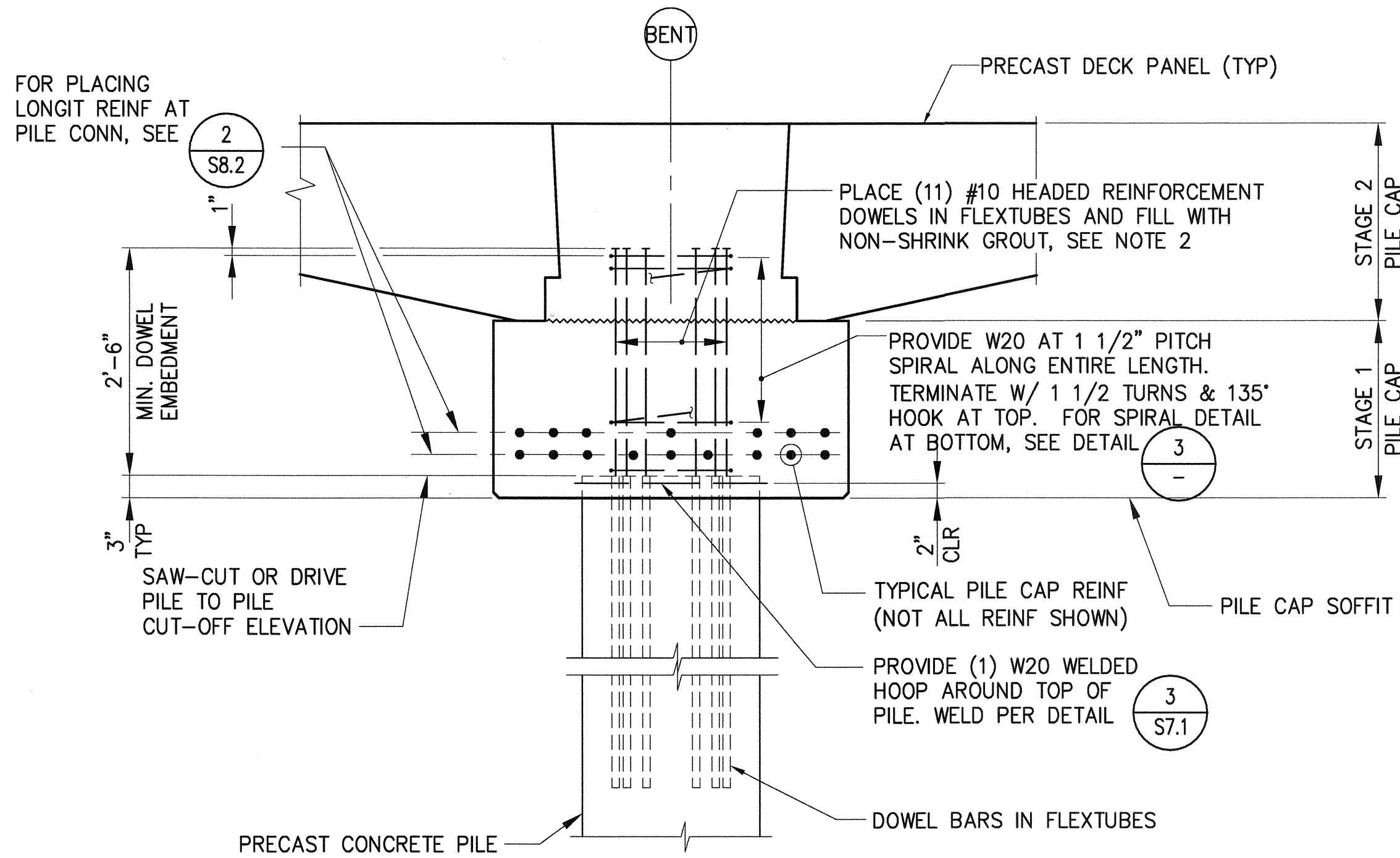
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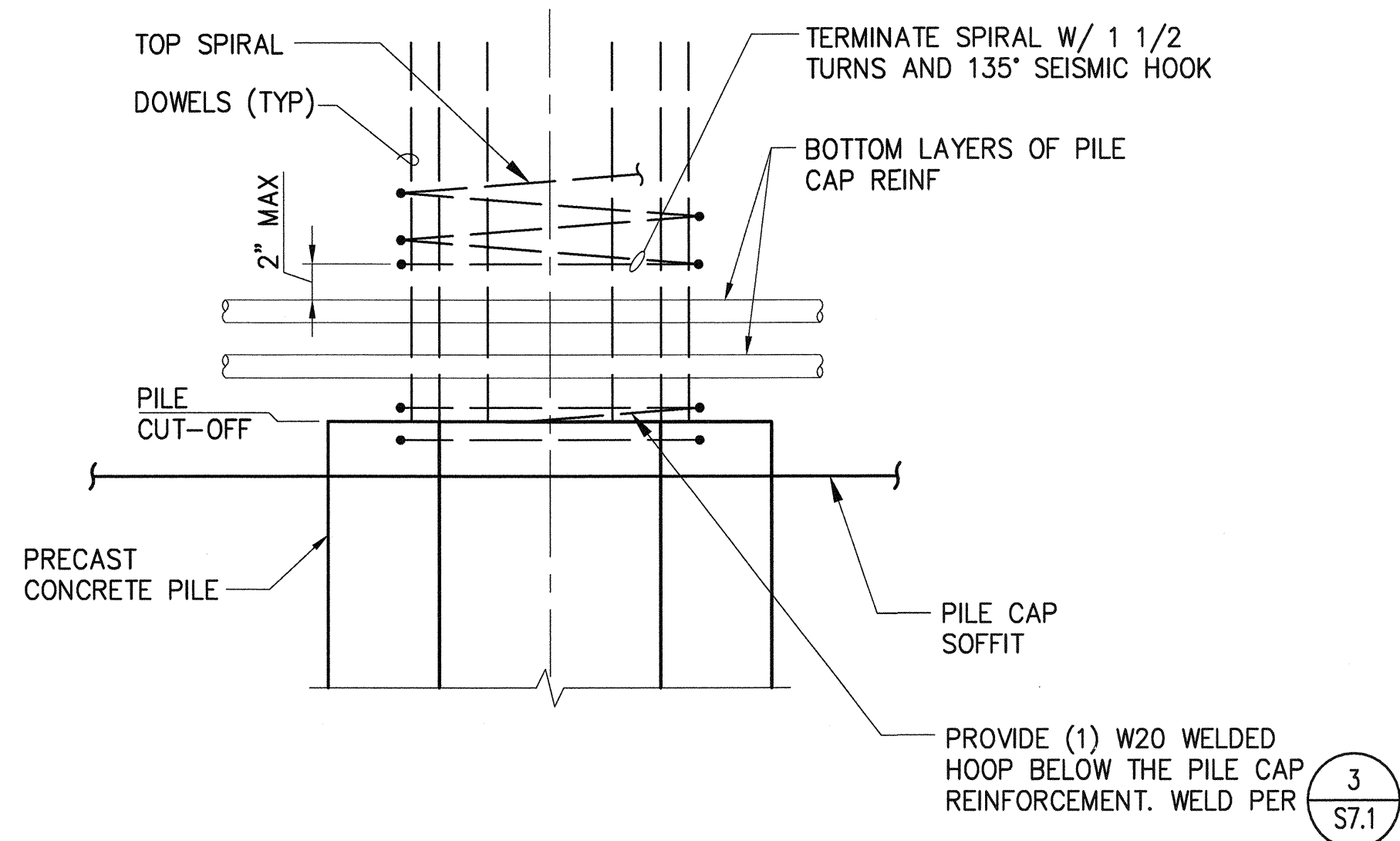
MARK:



1
S7.1

DETAIL -TYPICAL PILE CUT-OFF

3/4"=1'-0"



3
S8.2

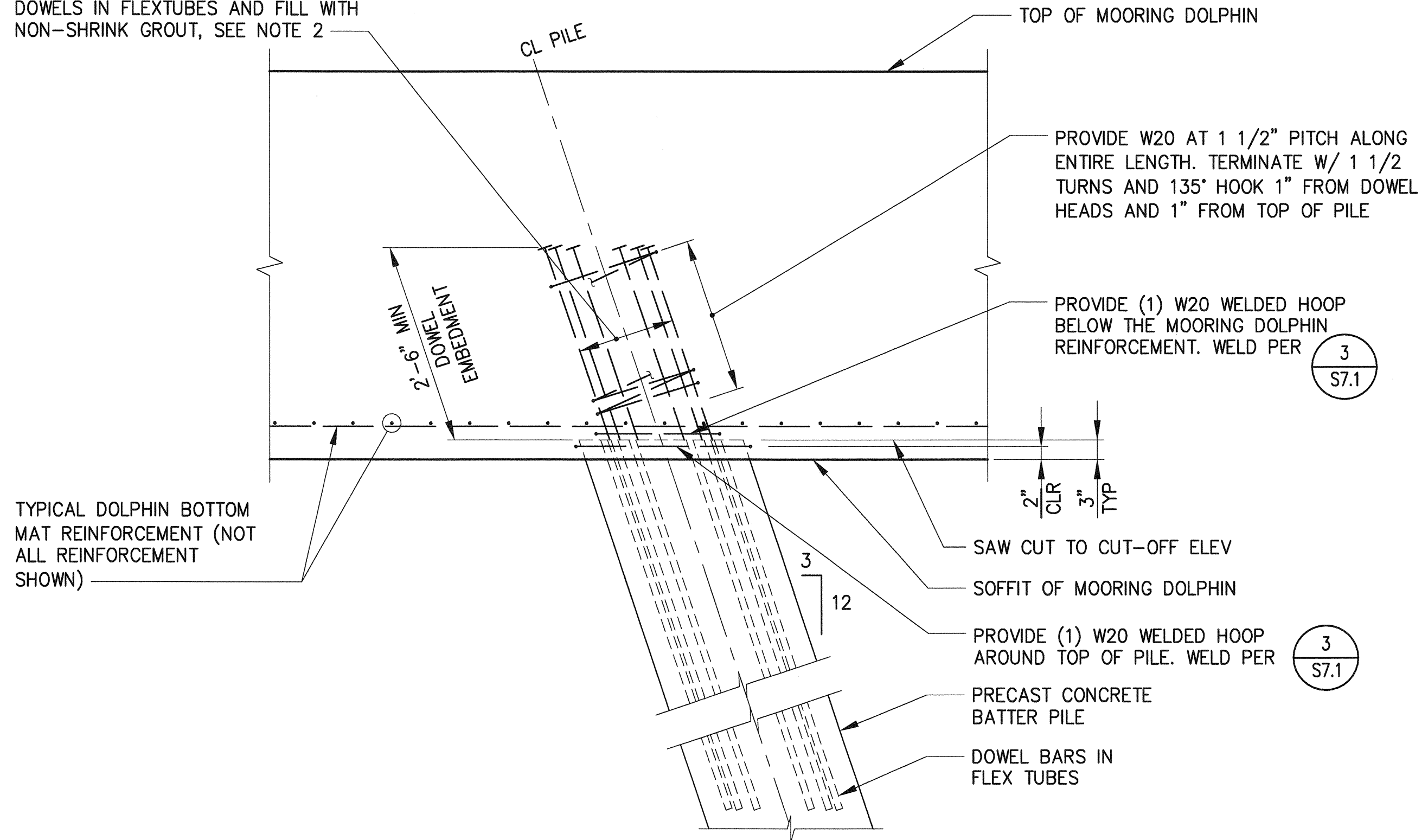
SPIRAL DETAIL

1 1/2"=1'-0"

NOTES:

1. THE CONTRACTOR SHALL NOT CUT-OFF MORE THAN 15' OF PILE WITHOUT ENGINEER'S APPROVAL.
2. DOWEL BARS SHALL BE CENTERED IN FLEX TUBES UTILIZING A CENTERING DEVICE WHICH ALLOWS GROUT TO FLOW EASILY AROUND THE DEVICE. FLEX TUBES SHALL BE FILLED TO BOTTOM OF TUBES WITH 10,000 PSI NON-SHRINK GROUT UTILIZING GROUT TUBES AS NECESSARY. DOWELS SHALL BE EMBEDDED 10'-0" MIN BELOW PILE CUT OFF ELEV. DOWELS SHALL BE PLACED INDIVIDUALLY AND IMMEDIATELY AFTER GROUTING. SEE SPECIFICATIONS FOR GROUT REQUIREMENTS.

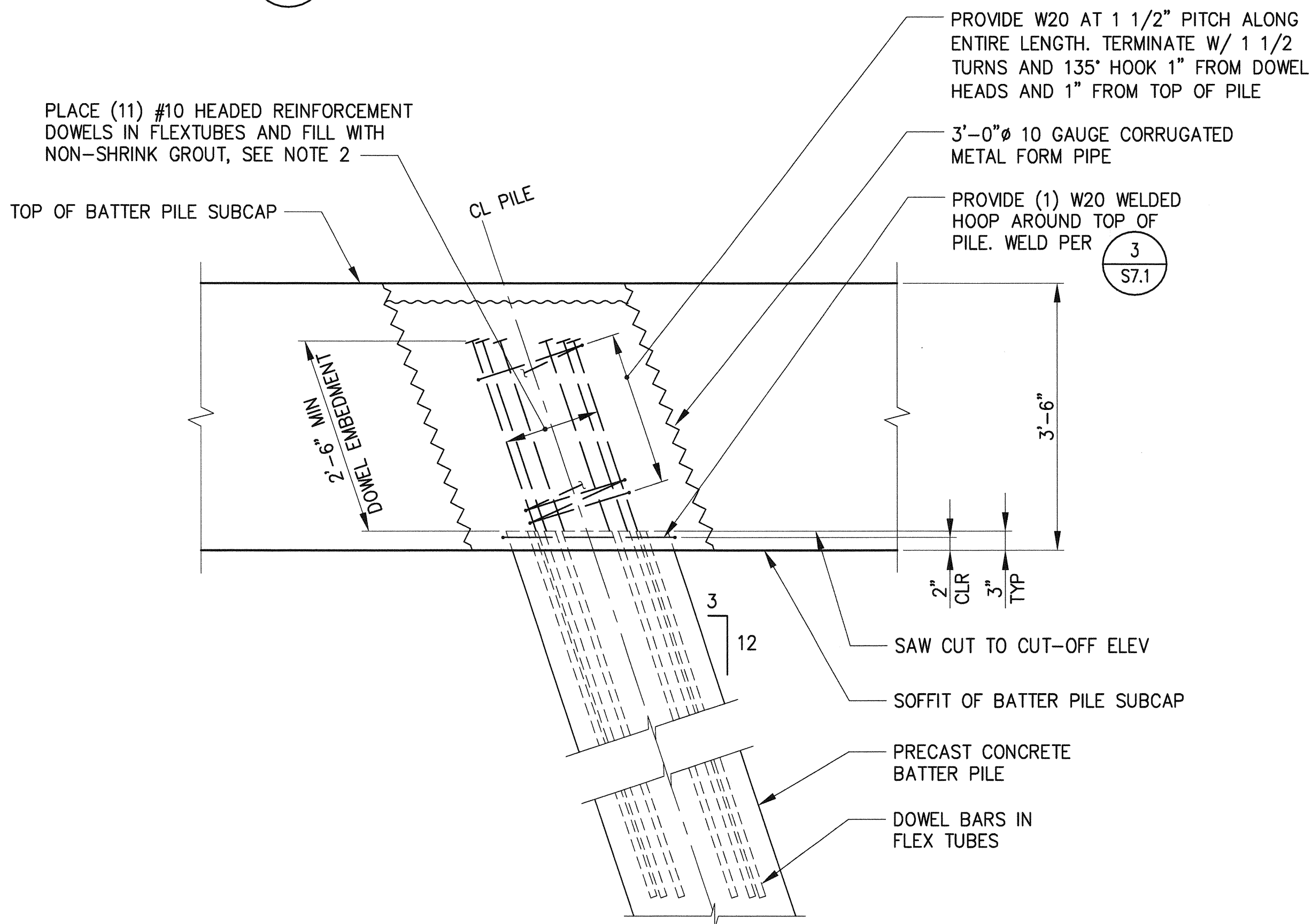
PLACE (11) #10 HEADED REINFORCEMENT DOWELS IN FLEXTUBES AND FILL WITH NON-SHRINK GROUT, SEE NOTE 2



2
S7.1, S42.1

DETAIL PILE CUT-OFF AT DOLPHIN

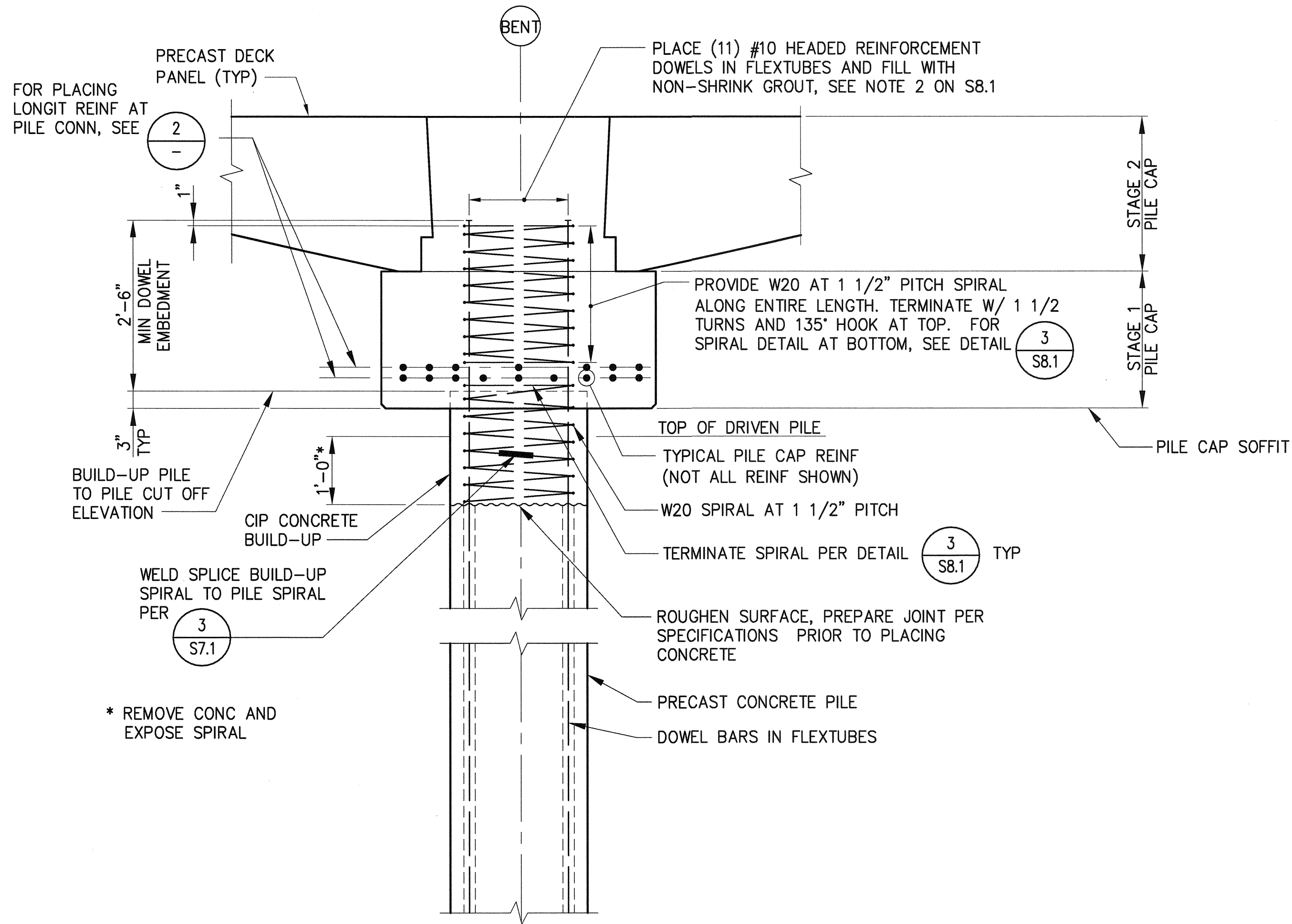
3/4"=1'-0"



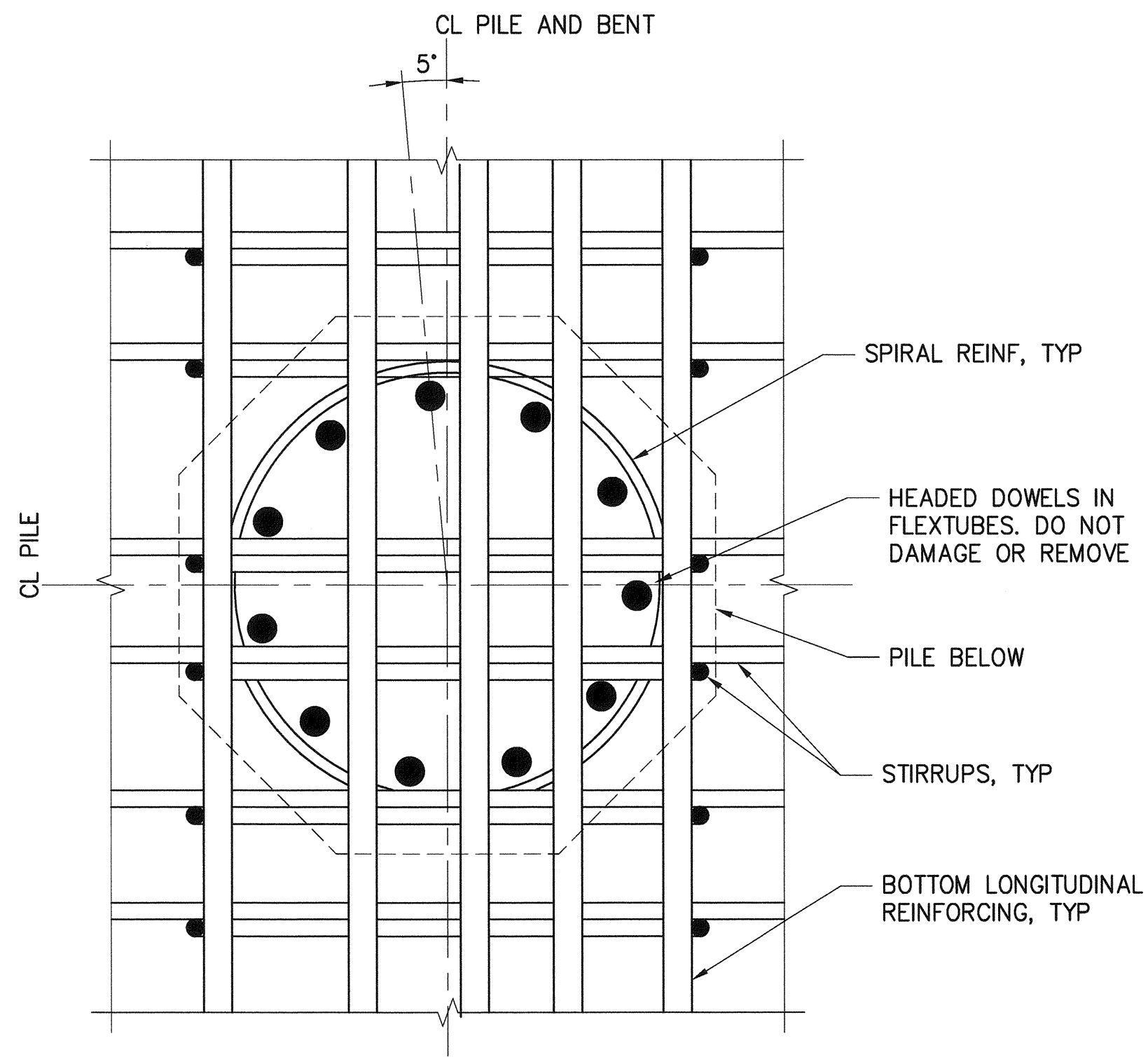
4
S7.1, S11.7

DETAIL - PILE CUT-OFF AT BATTER PILE SUBCAPS

3/4"=1'-0"



(1) S7.1
**DETAIL - PILE BUILD-UP
(PILE TOP BELOW CUT-OFF)**
3/4"=1'-0"



(2) S8.1
**DETAIL - PILE CAP
REINFORCING AT PILE CONNECTION**
2"=1'-0"

6552

S8.2
SH 211 OF 499

CONT/CONS: 070136

M. ID: 091251

PHASE: BID

PIER 4 PHASE 2

RECONFIGURATION

PILE CONNECTION DETAILS

TOWNSHIP: 21N

RANGE: 3E

SECTION: 27

DAT-HRZ: WA83-SF

VERT: MLW 19.39' @ Tide 22 1933

P. PARCEL: [DRAWING SCALE: AS NOTED]

APPROVED:

DIRECTOR ENG. DATE

3-28-16

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PORT ADDRESS: ONE SITCUM PLAZA

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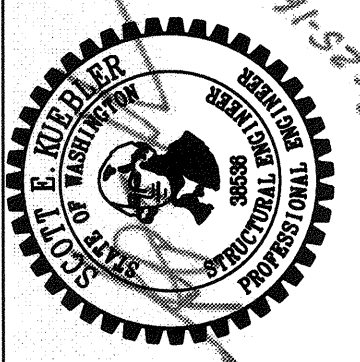
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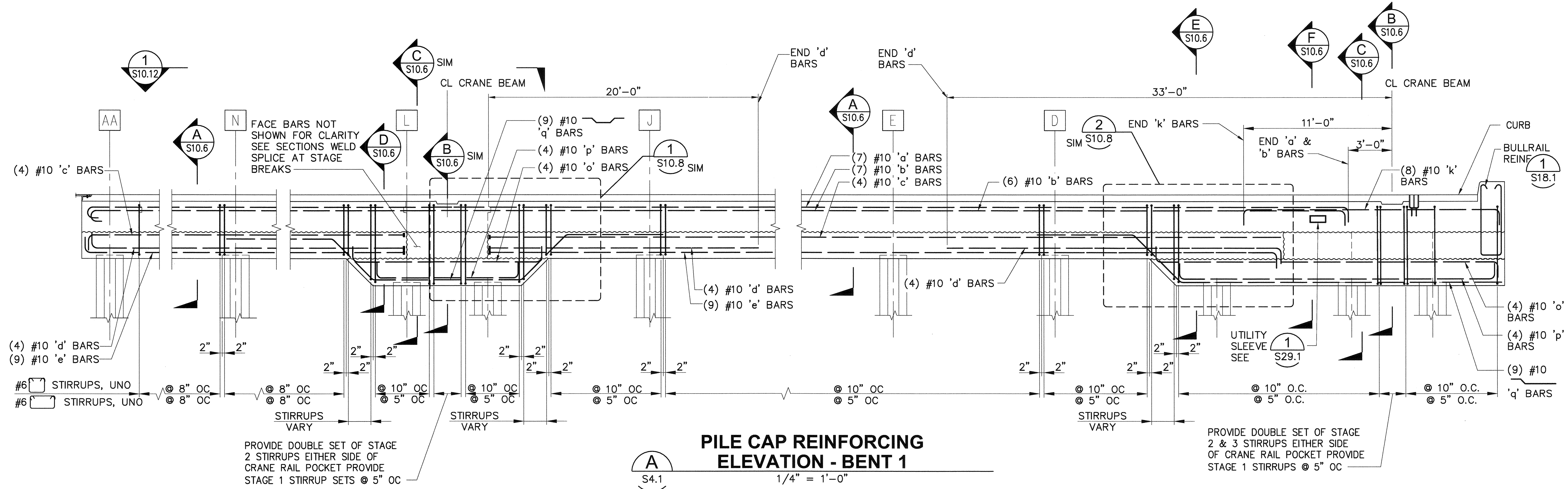
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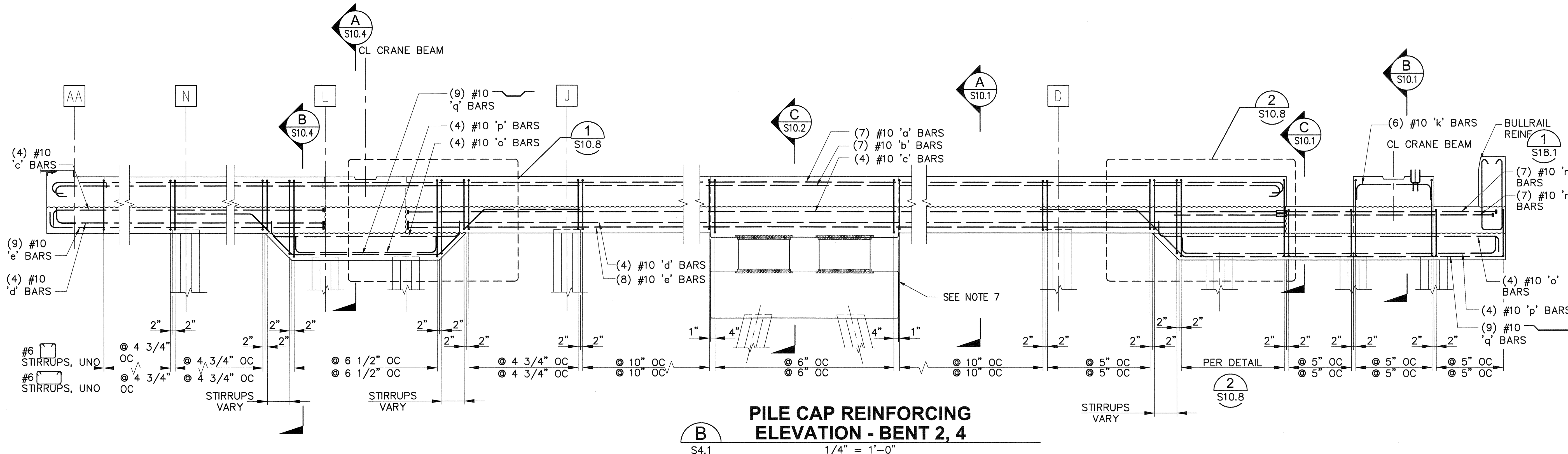
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**PILE CAP REINFORCING
ELEVATION - BENT 1**

A
S4.1

1/4" = 1'-0"



**PILE CAP REINFORCING
ELEVATION - BENT 2, 4**

B
S4.1

1/4" = 1'-0"

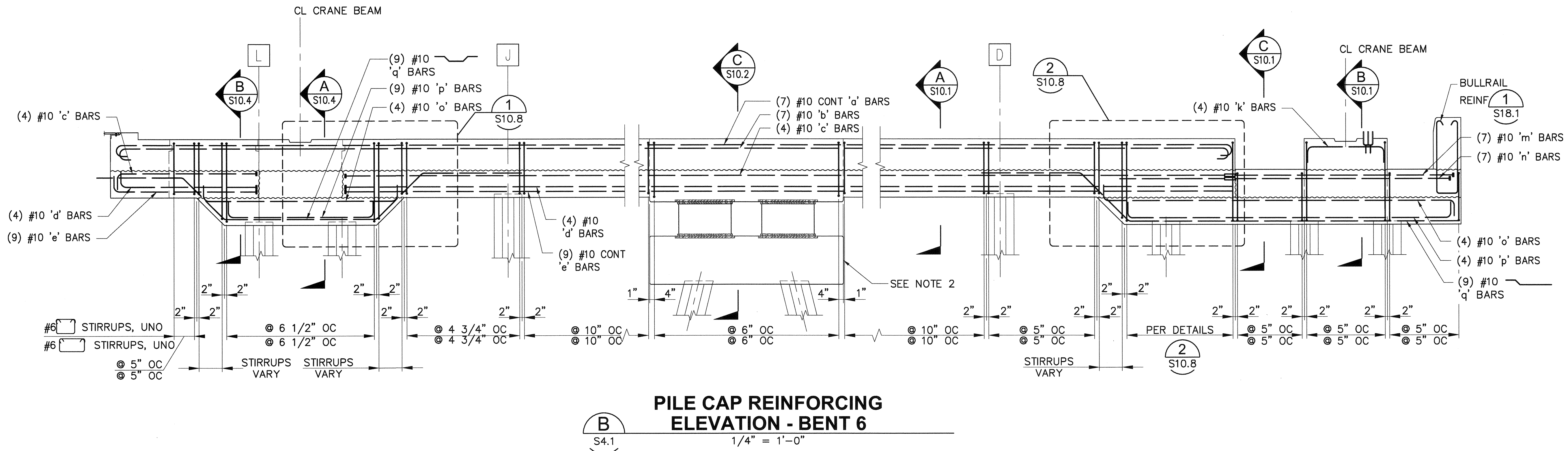
NOTES:

- PROVIDE LAP SPLICES AS REQUIRED.
- CENTER LAPS OF 'd', 'e', 'p' AND 'q' BARS OVER PILES.
- CENTER LAPS OF 'a', 'b', 'c', 'm', 'n' AND 'o' BARS MIDWAY BETWEEN PILES.
- DO NOT SPLICE MORE THAN 50% OF REINFORCEMENT IN ONE LOCATION. DO NOT SPLICE MORE THAN 50% OF REINFORCEMENT IN ANY ONE LAYER AT ONE LOCATION. IF 50% OR LESS OF THE REINFORCEMENT IN A GIVEN LAYER IS SPLICED, CLASS A SPLICE LENGTHS MAY BE USED AT THAT LOCATION.
- FOR GEOMETRY NOT SHOWN HERE SEE SHEETS S6.1 TO S6.18.
- ALPHANUMERIC LAYER IDENTIFIERS ('a' BARS) CORRESPOND WITH LAYERS SHOWN ON PILE CAP SECTIONS ON S10.1-S10.15.
- BATTER PILE SUBCAP REINFORCING, PER SHEET S11.7-S11.9.
- ADJUST STIRRUP SPACING OVER PILES FOR FIT UP, SEE DETAIL 2 S8.2.

 2407 North 3rd Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162	DATE: _____ APPR: _____ BY: _____ REVISION: _____
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 Kiewit Pacific Foundation 1001 1st Avenue Seattle, WA 98101	APPROVED: 3-28-16 DIRECTOR: PRINTED BY: PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837
PIER 4 PHASE 2 RECONFIGURATION PILE CAP REINFORCING ELEVATIONS - SHEET 1	SECTION: 27 RANGE: 3E TOWNSHIP: 21N DAT-HRZ: WA83-SF VERT: MLW 19.39' @ Tide 22 1933 DRAWING SCALE: AS NOTED PARCEL: _____
6552 S9.1 SH 212 OF 499 CONT/CONS: 070136 M. ID: 091251 PHASE: BID	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION


$$1/4'' = 1'-0''$$

1. REFER TO NOTES ON S9.1
2. BATTER PILE SUBCAP REINFORCING PER S11.7–S11.9.

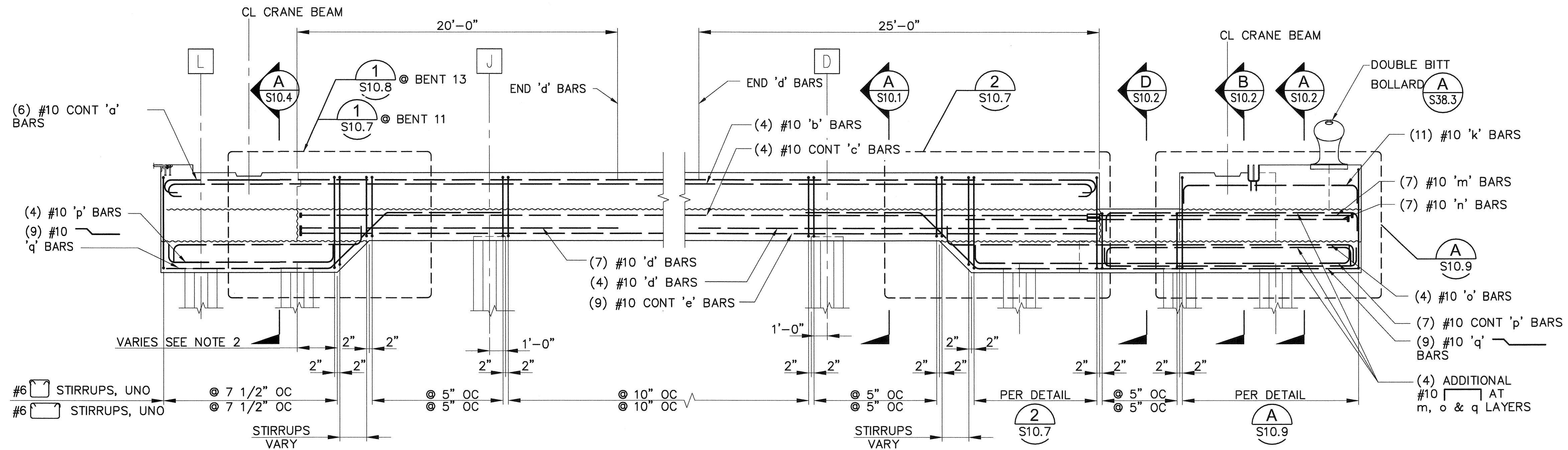


1. REFER TO NOTES ON S9.1
2. BATTER PILE SUBCAP REINFORCING PER S11.7–S11.9.

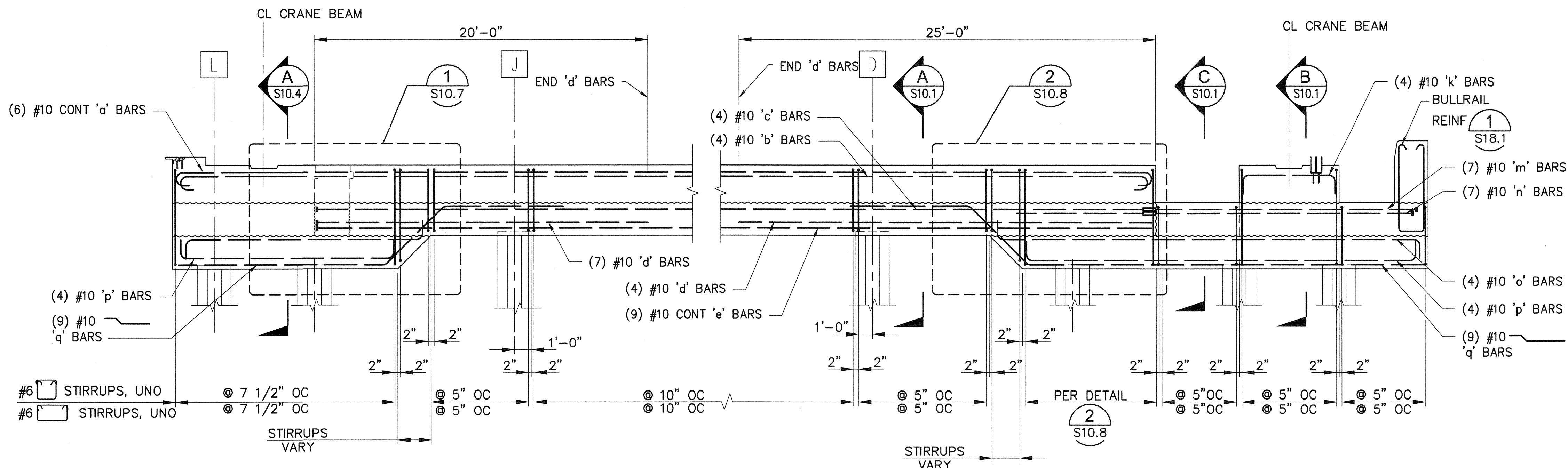
6552 S9.3 SH 214 OF 489	PIER 4 PHASE 2 RECONFIGURATION PILE CAP REINFORCING ELEVATIONS - SHEET 3							APPROVED:	SEK				
								<i>[Signature]</i>	CHECKED BY	DATE			
								<i>3-28-16</i>	TAH				
								DIRECTOR	ENG.	DATE	PROJ.	ENGR.	DATE
								PRINTED BY: tlemons Mar 24, 2016					
								PORT ADDRESS: ONE SITCOM PLAZA					
CONT/CONS:	070136	TOWNSHIP:	21N	RANGE:	3E	SECTION:	27						
M. ID:	091251	DAT-HRZ:	WAB3-SF	VERT:	MLLW 19.39'	@ Tide	22 1933						
PHASE:	BID	PARCEL:			DRAWING SCALE:	AS NOTED		TACOMA, WA 98401-1837					



1. REFER TO NOTES ON S9.1
2. BATTER PILE SUBCAP REINFORCING PER S11.7–S11.9.



**PILE CAP REINFORCING
ELEVATION - BENTS 11, 13 (SHOWN)**
S4.1
1/4" = 1'-0"



**PILE CAP REINFORCING
ELEVATION - BENTS 12, 14**
S4.1
1/4" = 1'-0"

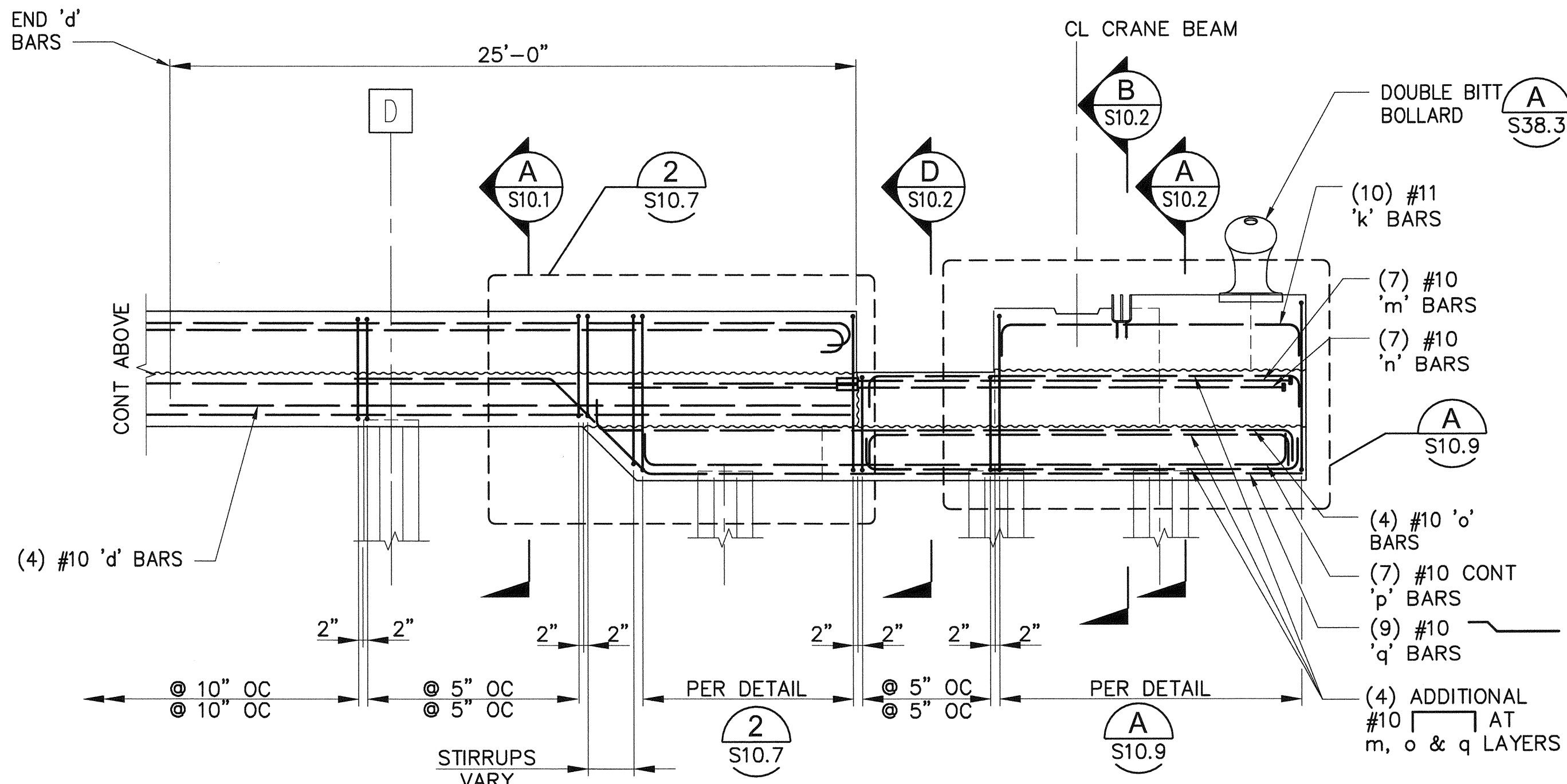
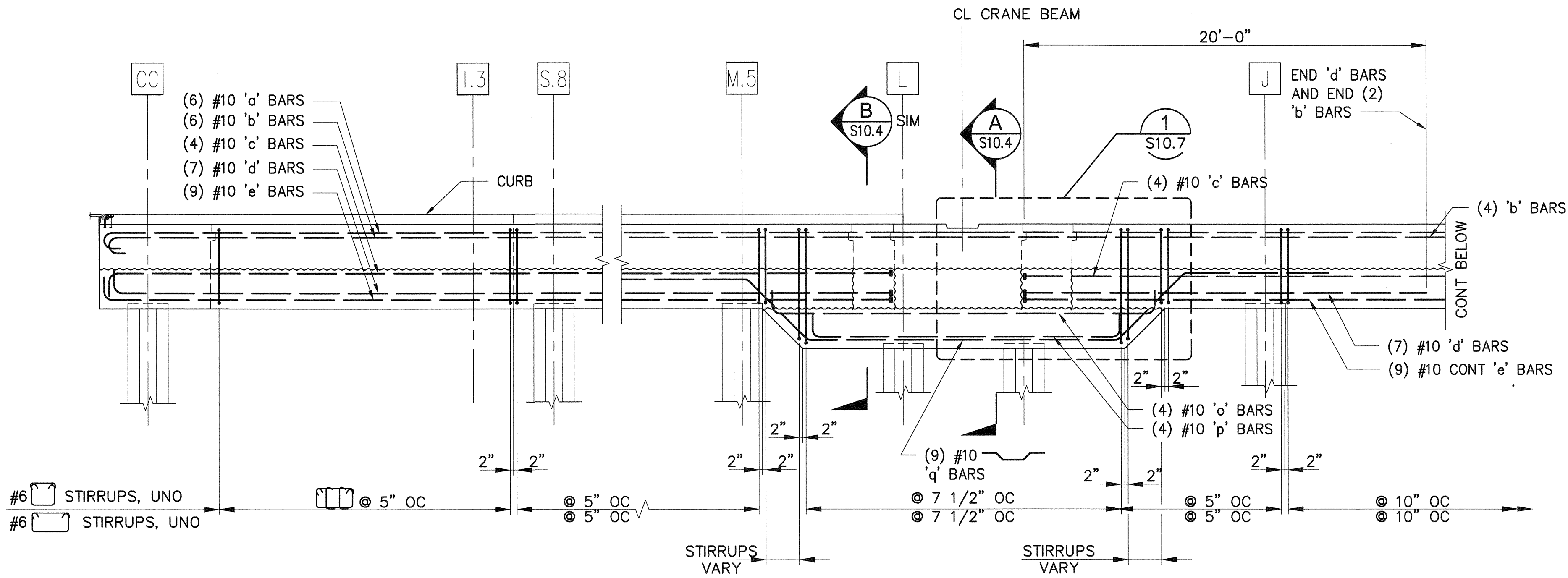
NOTES:

1. REFER TO NOTES ON S9.1
2. 5'-0" AT BENT 11, 2'-6" AT BENT 13

6552 S9.5 SH 216 OF 489	PIER 4 PHASE 2 RECONFIGURATION PILE CAP REINFORCING ELEVATIONS - SHEET 5				APPROVED: <i>[Signature]</i> 3-23-16	SEK CHECKED BY: <i>[Signature]</i> DATE: 3-23-16	TAH PROJ. ENGR. DATE: 3-23-16 PRINTED BY: tlemmons PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	2407 North 31st Street, Suite 100 Tacoma, Washington 98401 (253) 396-0135 Fax: (253) 396-0162 Port of Tacoma kprff	DATE: 3-23-16 APPR: <i>[Signature]</i> BY: <i>[Signature]</i> REVISION: <i>[Signature]</i> MARK: <i>[Signature]</i>
	TOWNSHIP: 21N RANGE: 3E SECTION: 27 DAT-HRZ: WA83-SF VERT: MLW 19.39 @ Tide 22 1933 PARCEL: <i>[Signature]</i> DRAWING SCALE: AS NOTED	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION							

NOTES:

1. REFER TO NOTES ON S9.1



PILE CAP REINFORCING
ELEVATION - BENT 15

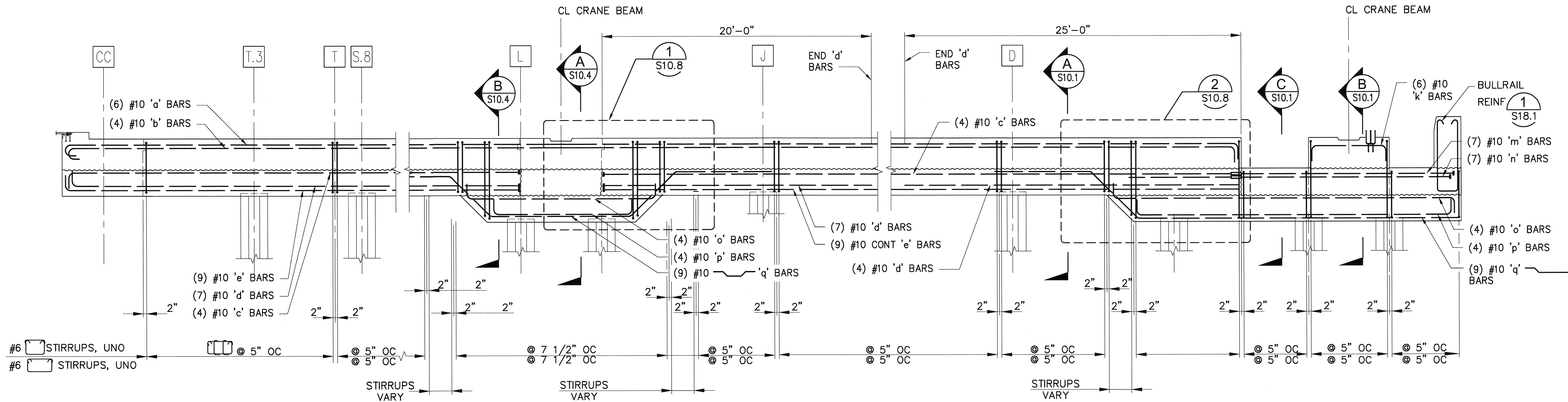
A
S4.1

1/4" = 1'-0"

6552 S9.6 SH 217 OF 499	PIER 4 PHASE 2 RECONFIGURATION PILE CAP REINFORCING ELEVATIONS - SHEET 6				APPROVED: <i>[Signature]</i> 3-28-16	SEK CHECKED BY: TA DATE: 3-28-16
	CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	DIRECTOR ENG. DATE: tlemons Mar 24, 2016	TAH PROJ. ENGR DATE: 3-28-16
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLW 19.39 @ Tide 22 1933	PRINTED BY: tlemons Mar 24, 2016	PORT ADDRESS: ONE SITCUM PLAZA	BY: [Blank]	
PHASE: BID	PARCEL: [Blank]	DRAWING SCALE: AS NOTED	TACOMA, WA 98401-1837	MARK: [Blank]	REVISION: [Blank]	
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Tacoma, WA 98401
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DAVID R. TUPPER
36688
STATE OF WASHINGTON
CIVIL ENGINEER



NOTES:
1. REFER TO NOTES ON S9.1

6552

S9.7

SH 218 OF 499

CONTRACT/CONS: 070136

M. ID: 091251

PHASE: BID

PIER 4 PHASE 2

RECONFIGURATION

PILE CAP REINFORCING ELEVATIONS - SHEET 7

TOWNSHIP: 21N

RANGE: 3E

DAT-HRZ: WA83-SF

PARCEL:

SECTION: 27

VERT: MLLW 19.39' @ Tide 22 1933

DRAWING SCALE: AS NOTED

APPROVED:

3-26-16

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DATE

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PROJ. ENGR

DATE

DIRECTOR

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MARK:

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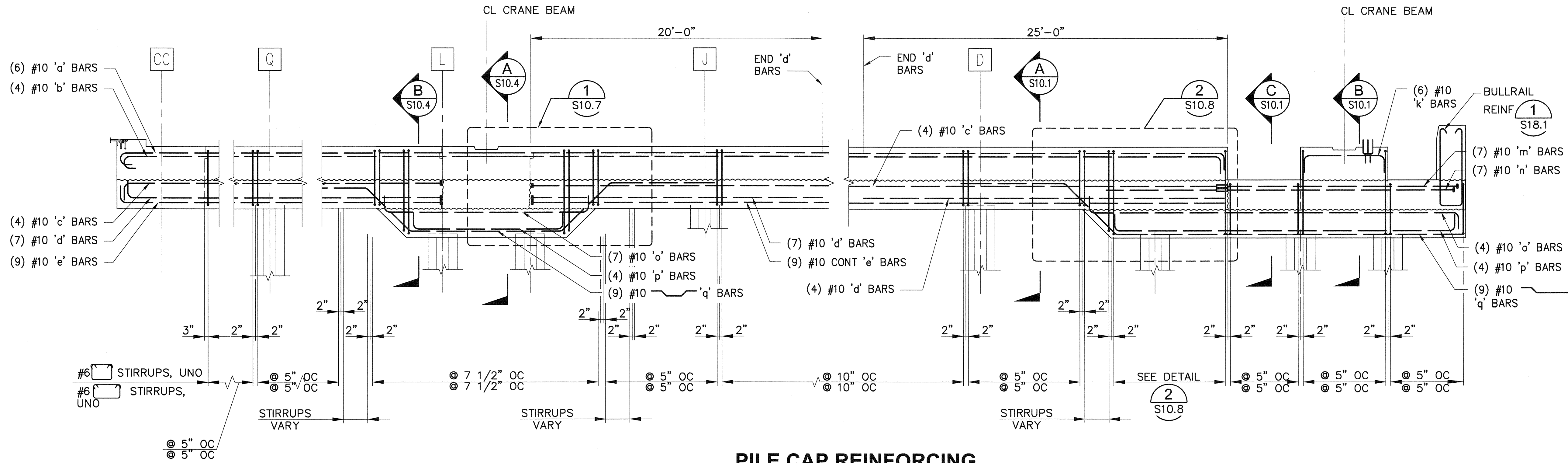
BY:

DATE:

APPR:

DATE:

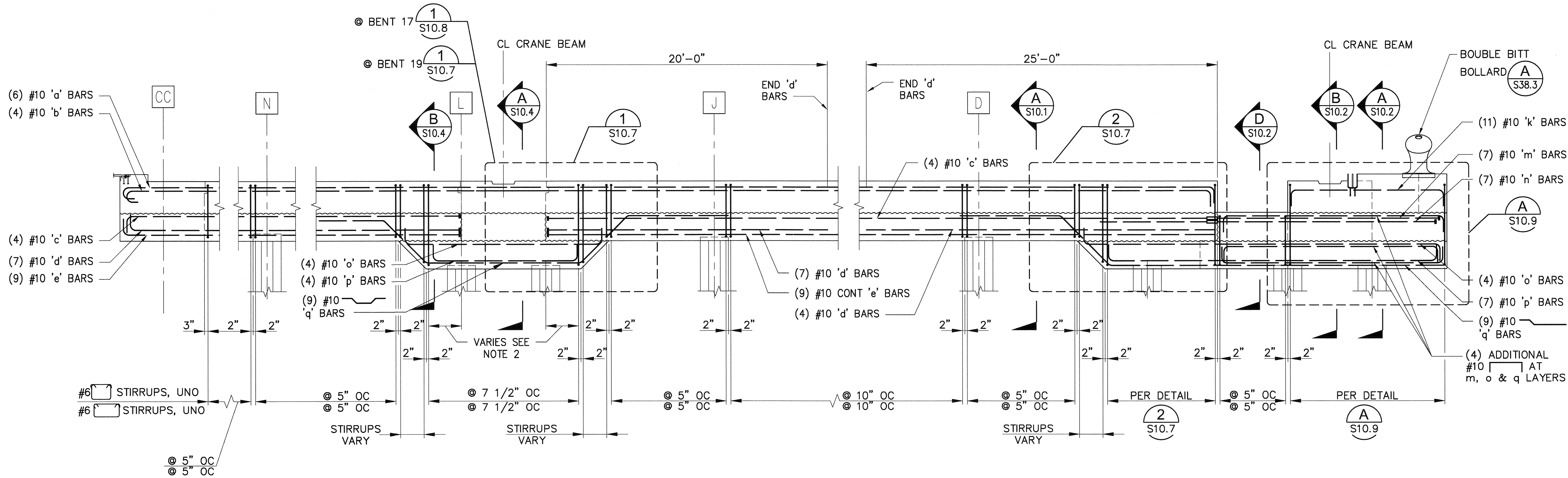
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**PILE CAP REINFORCING
ELEVATION - BENT 18**

(A)
S4.1

1/4" = 1'-0"



**PILE CAP REINFORCING
ELEVATION - BENT 17, 19**

(B)
S4.1

1/4" = 1'-0"

NOTES:

1. REFER TO NOTES ON S9.1
2. 5'-0" AT BENTS 19, 2'-6" AT BENTS 17

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**PIER 4 PHASE 2
RECONFIGURATION
PILE CAP REINFORCING ELEVATIONS - SHEET 8**

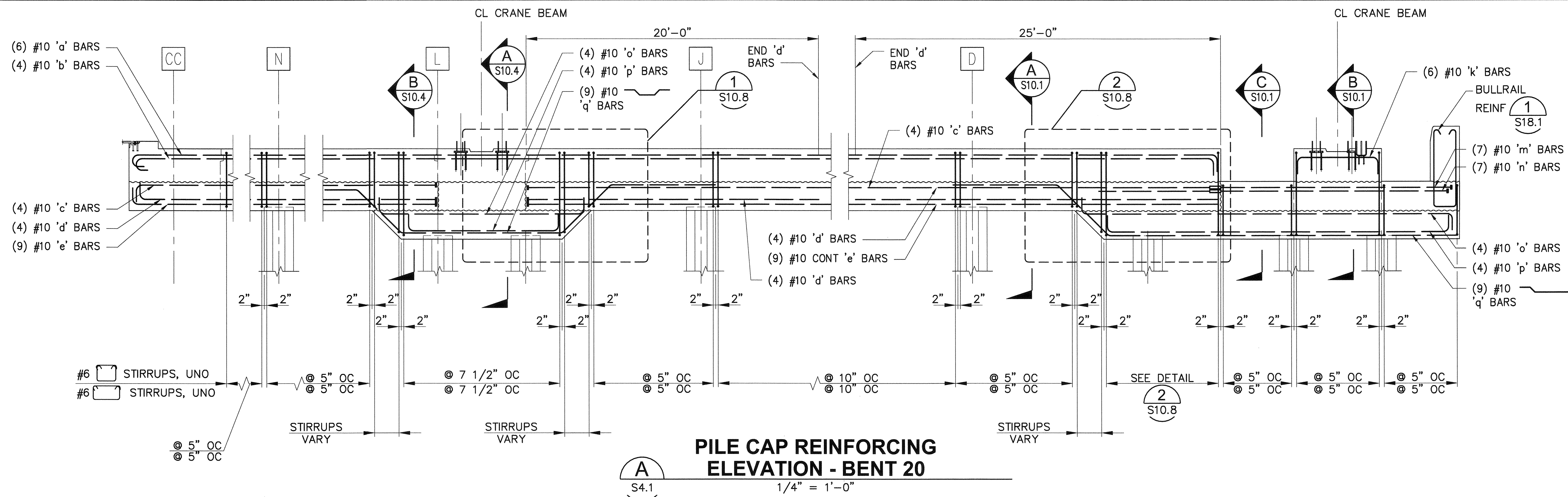
6552
S9.8
SH 219 OF 499

CONT./CONS: 070136
M. ID: 091251
PHASE: BID

APPROVED: *[Signature]*
3-28-16
DIRECTOR ENG. DATE: 3-28-16
PRINTED BY: tlemons Mar 24, 2016
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SECTION: 27
RANGE: 3E
TOWNSHIP: 21N
DATE-HRZ: W483-SF
VERT: MLLW 19.39 @ Tide 22 1933
DRAWING SCALE: AS NOTED
PARCEL:

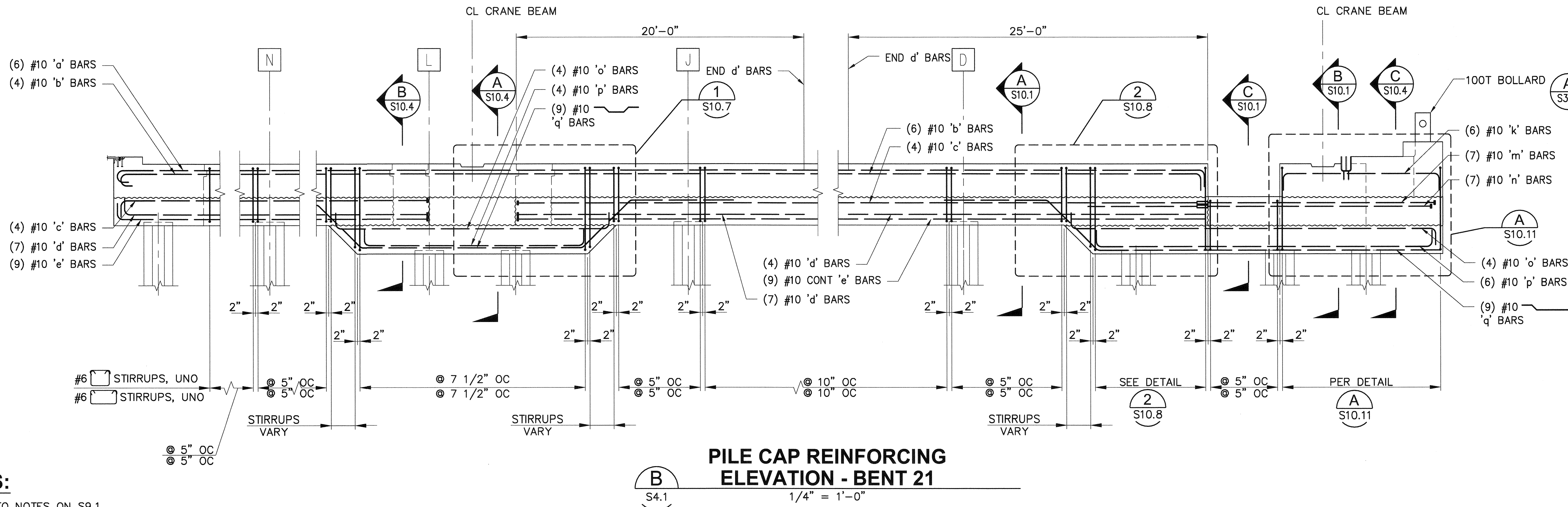
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**PILE CAP REINFORCING
ELEVATION - BENT 20**

A
S4.1

1/4" = 1'-0"



**PILE CAP REINFORCING
ELEVATION - BENT 21**

B
S4.1

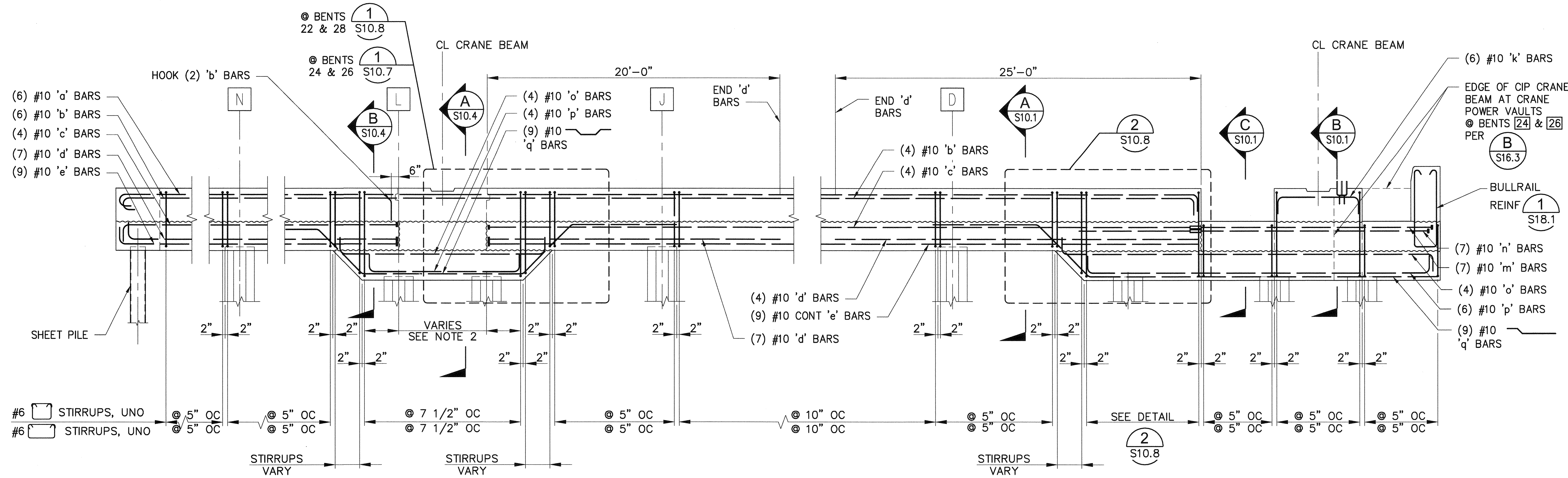
1/4" = 1'-0"

NOTES:

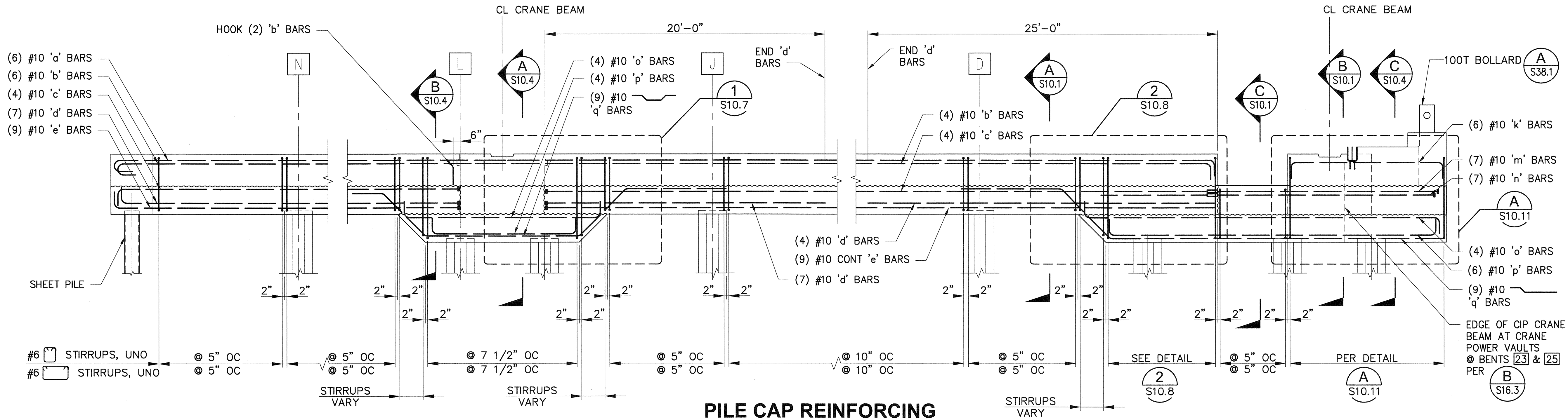
1. REFER TO NOTES ON S9.1

6552 S9.9 SH 220 OF 499 CONT/CONS: 070136 M. ID: 091251 PHASE: BID	PIER 4 PHASE 2 RECONFIGURATION PILE CAP REINFORCING ELEVATIONS - SHEET 9				APPROVED: <i>[Signature]</i> 3-24-16		SEK CHECKED BY DATE TAH		DATE PROJ. ENGR DATE PRINTED BY: tlemons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837										
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PILE CAP REINFORCING ELEVATION
BENT 22, 24, 26, 28
 S4.1 1/4" = 1'-0"



PILE CAP REINFORCING ELEVATION - BENT 23, 25, 27
 S4.1 1/4" = 1'-0"

NOTES:

1. REFER TO NOTES ON S9.1
2. 5'-0" AT BENTS 22 & 28, 2'-6" AT BENTS 24 & 26

6552

S9.10

SH 221 OF 499

CON/CONS: 070136

M. ID: 091251

PHASE: BID

PIER 4 PHASE 2

RECONFIGURATION

PILE CAP REINFORCING ELEVATIONS - SHEET 10

TOWNSHIP: 21N RANGE: 3E SECTION: 27

DAT-HRZ: WA83-SF VERT: MLLW 19.39' @ Tide 22 1933

PARCEL: AS NOTED

APPROVED: *[Signature]*

DIRECTOR ENG. DATE: 3-28-16

PRINTED BY: tlemmons Mar 24, 2016

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TACOMA, WA 98401-1837

SEK CHECKED BY DATE

TAH PROJ. ENGR DATE

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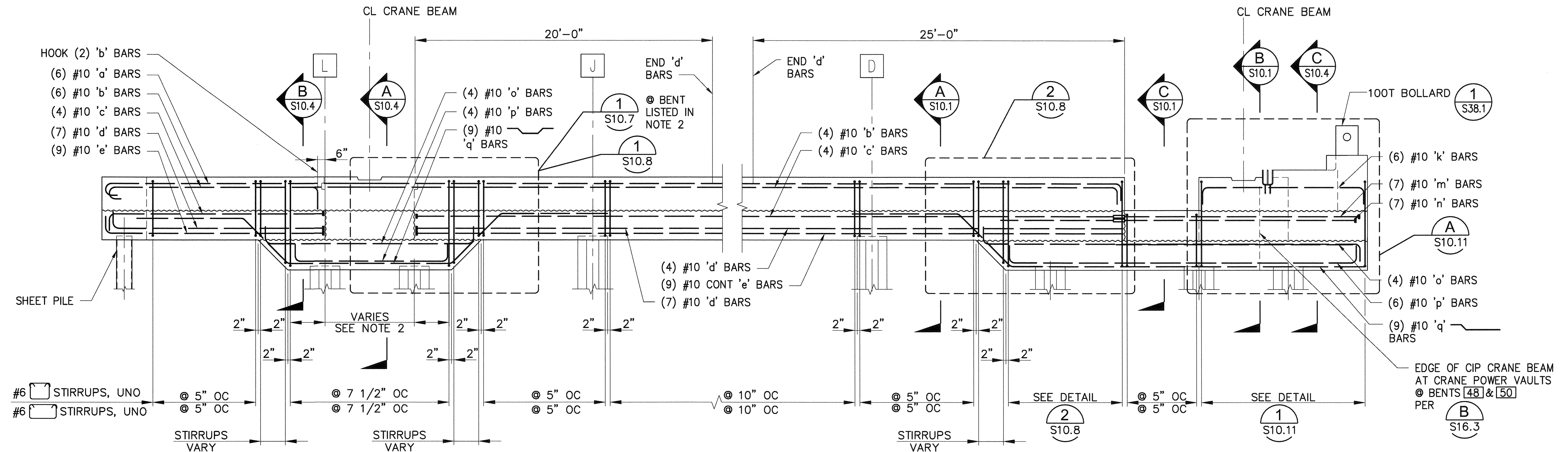
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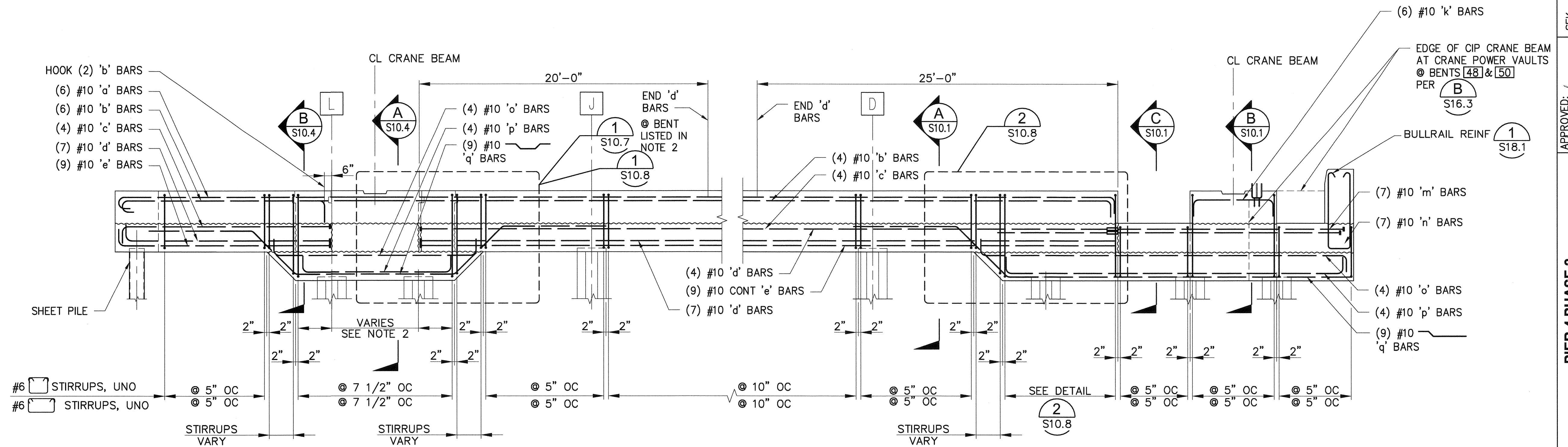
kpff

Professional Engineer

STATE OF WASHINGTON
 No. 10000
 EXPIRATION DATE: 12/31/2016



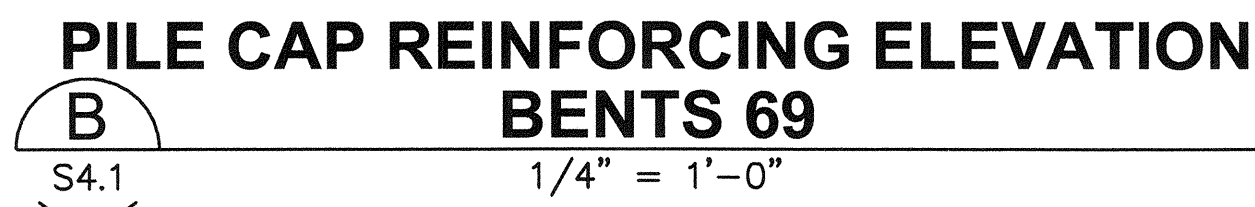
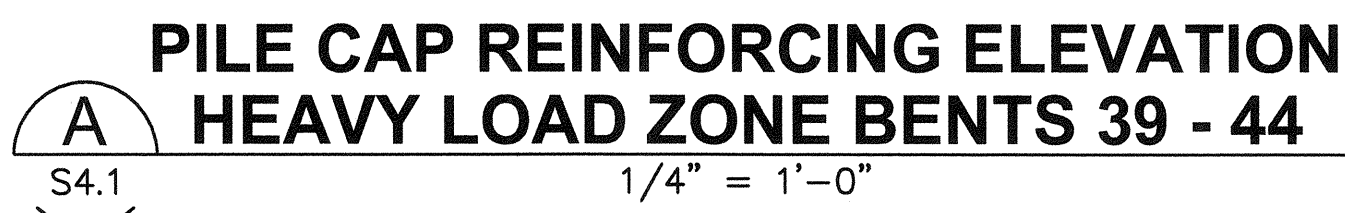
PILE CAP REINFORCING ELEVATION
BENTS 29 - 39, 45 - 67 (ODD NUMBERED BENTS)



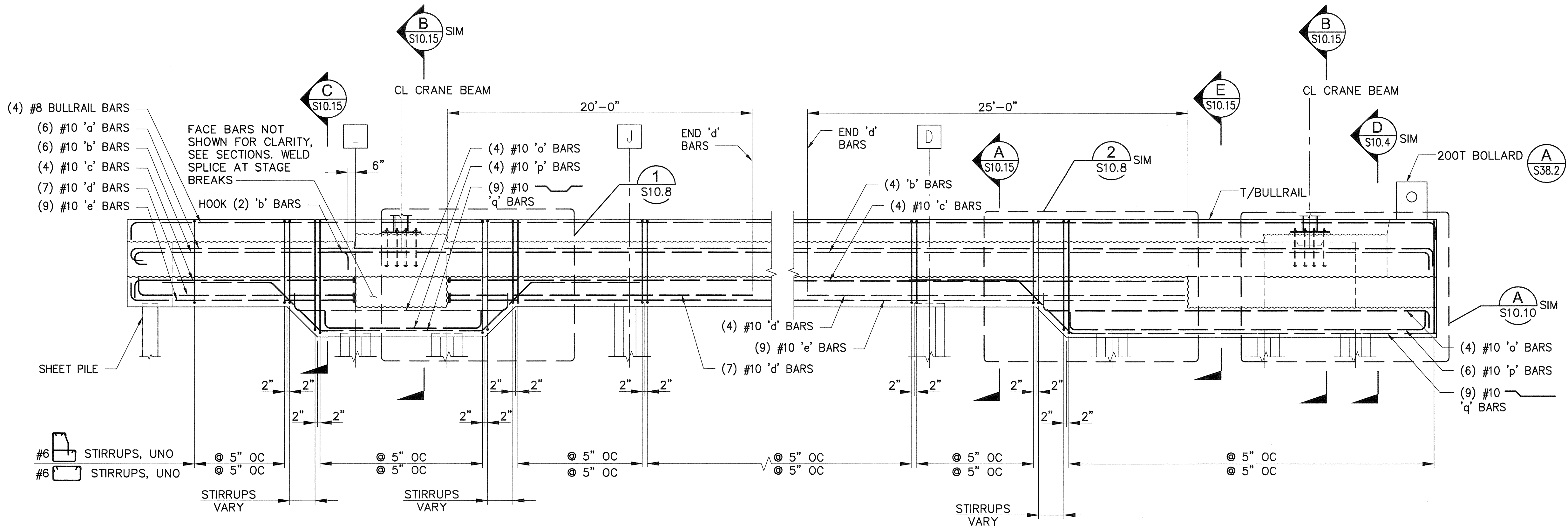
PILE CAP REINFORCING ELEVATION
BENTS 30-38, 46-70 (EVEN NUMBERED BENTS)

NOTES:

1. REFER TO NOTES ON S9.1
2. 5'-0" @ BENTS 29, 31, 32, 35, 36, 38, 39, 46, 47, 49, 50, 53, 54, 56, 57, 59, 60, 62, 63, 66, 67, AND 70. 2'-6" AT ALL OTHER BENTS (SHOWN).

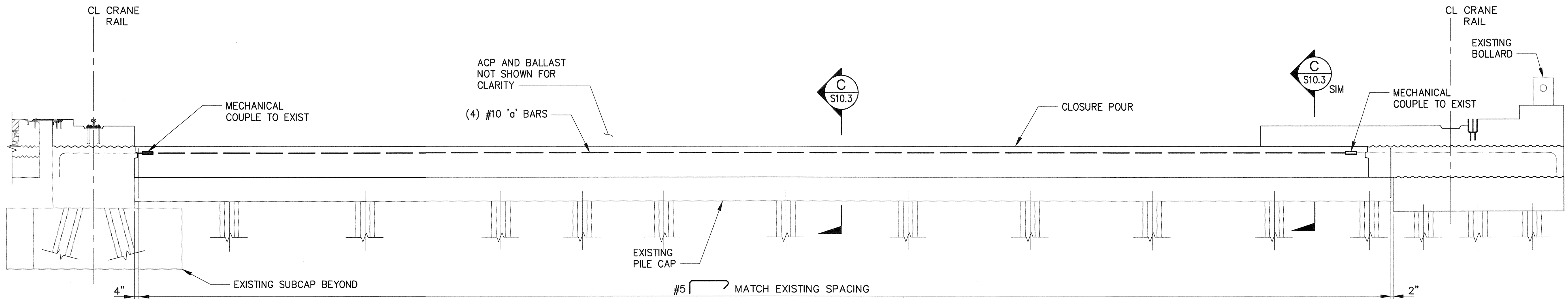


1. REFER TO NOTES ON S9.1



PILE CAP REINFORCING ELEVATION
BENT 71

1/4" = 1'-0"



PILE CAP REINFORCING ELEVATION
PIER 3 EXTENSION BENT 67

1/4" = 1'-0"

NOTES:

1. REFER TO NOTES ON S9.1



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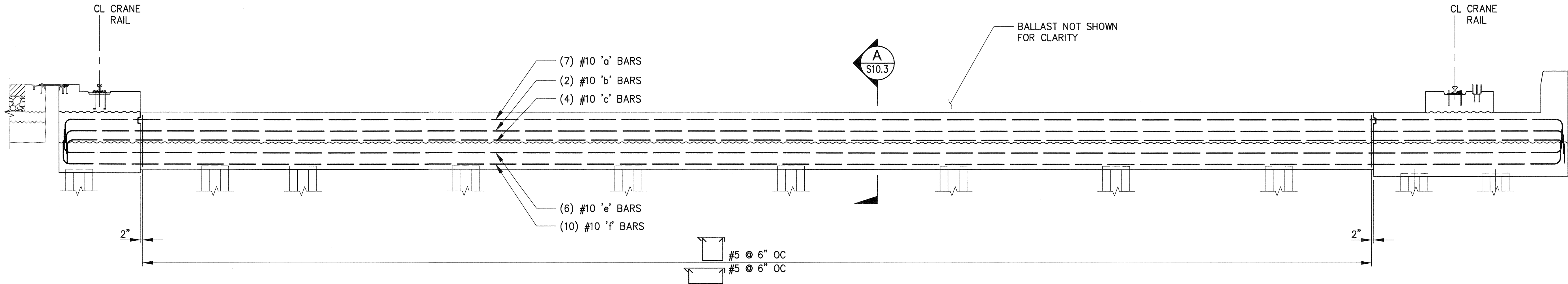


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<i>[Signature]</i>		TAH	
DIRECTOR ENG. DATE:	PROJ. ENGR. DATE		
3-28-16	tlmons Mar 24, 2016		
PRINTED BY:	PORT ADDRESS:		
ONE SITCUM PLAZA	TACOMA, WA 98401-1837		

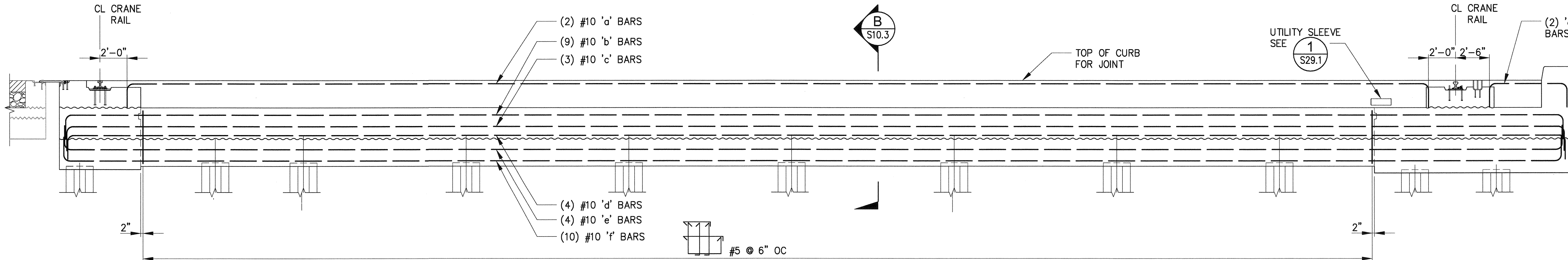
PIER 4 PHASE 2
RECONFIGURATION
PILE CAP REINFORCING ELEVATIONS - SHEET 13

6552
SH 224 OF 499
S9.13

CON/CONS:	TOWNSHIP:	RANGE:	SECTION:
070136	21N	3E	27
M. ID:	DAT-HRZ:	VERT:	
091251	WA83-SF	MLW 19.39' @ Tide 22 1933	
PHASE: BID	PARCEL:	DRAWING SCALE:	AS NOTED



A
S4.1
**PILE CAP REINFORCING ELEVATION
PIER 3 EXTENSION BENT 67.6**
1/4" = 1'-0"



B
S4.1
**PILE CAP REINFORCING ELEVATION
PIER 3 EXTENSION BENT 67.9**
1/4" = 1'-0"

NOTES

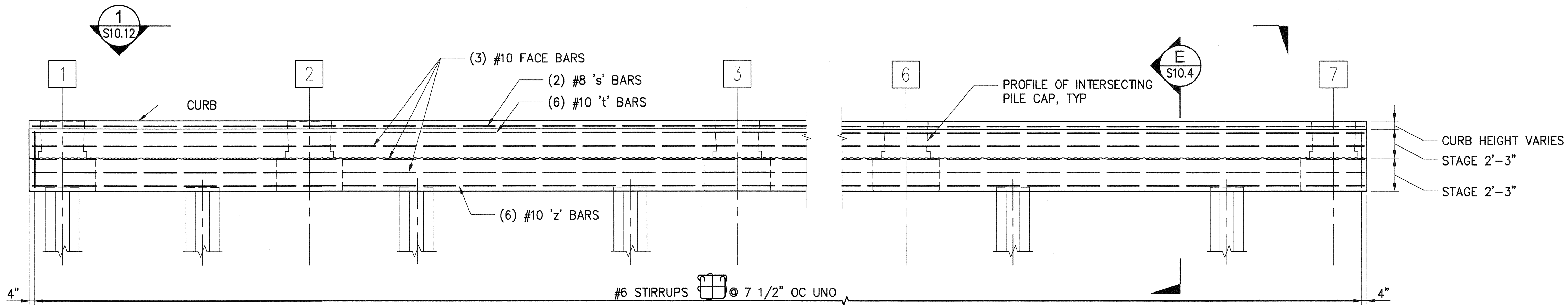
1. REFER TO NOTES ON S9.1
2. FOR WATERSIDE CRANE BEAM
DETAILS, SEE **B**
S17.2
3. FOR LANDSIDE CRANE BEAM
DETAILS, SEE **B**
S15.2

6552 S9.14 SH 225 OF 499	PIER 4 PHASE 2 RECONFIGURATION PILE CAP REINFORCING ELEVATIONS - SHEET 14	APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR ENG. DATE PRINTED BY: tlemons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SEK	CHECKED BY	DATE
			TAH	PROJ. ENGR	DATE
CONT./CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	MARK:	REVISION:
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	PARCEL:	BY:	DATE:
PHASE: BID	DRAWING SCALE: AS NOTED	TACOMA, WA 98401-1837			

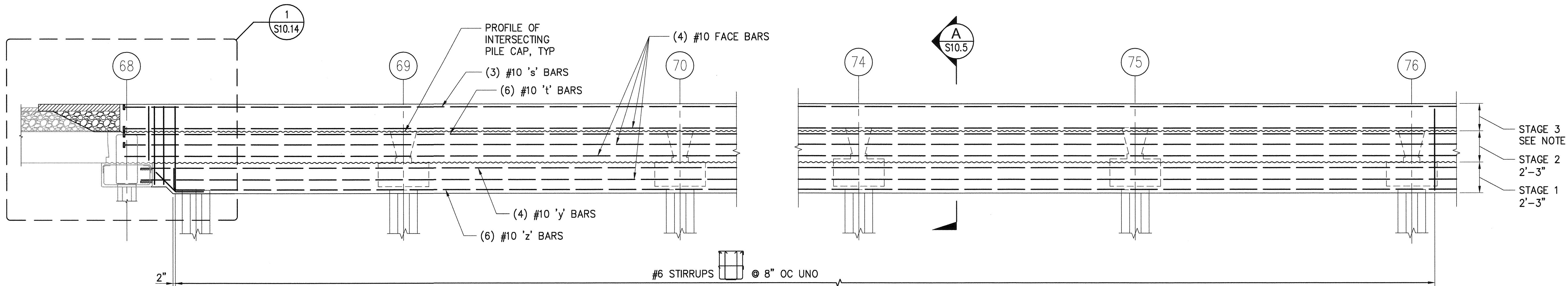
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**PILE CAP REINFORCING
ELEVATION - BENT AA**
S4.1
1/4" = 1'-0"



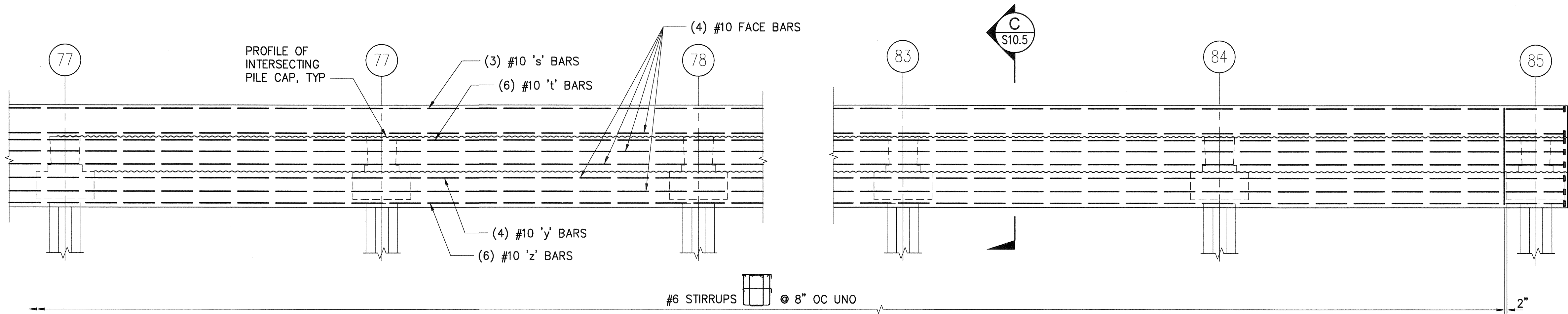
**PILE CAP REINFORCING
ELEVATION AT BENT BB**
S4.1
1/4" = 1'-0"

NOTES:

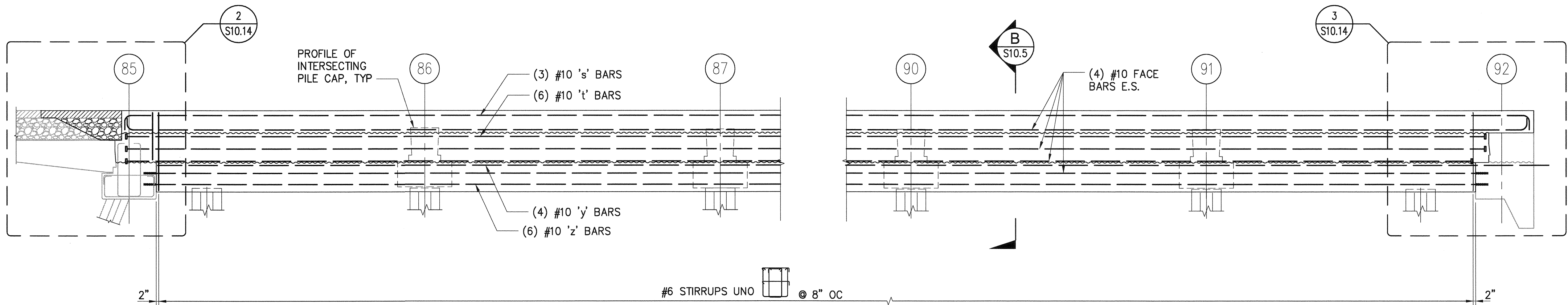
- REFER TO NOTES ON S9.1
- STAGE 3 VARIES PER FINISHED SLOPE PER CIVIL SHEETS

6552 S9.15 SH 226 OF 499	PIER 4 PHASE 2 RECONFIGURATION PILE CAP REINFORCING ELEVATIONS - SHEET 15				APPROVED: <i>[Signature]</i> 3-28-16		SEK CHECKED BY TAH	DATE
	CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	DIRECTOR ENG. DATE: 27	PROJ. ENGR DATE: 24, 2016	TAH	DATE
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	PRINTED BY: tlemmons	PORT ADDRESS: ONE SITCUM PLAZA	TACOMA, WA 98401-1837			
PHASE: BID	DRAWING SCALE: AS NOTED							

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**PILE CAP REINFORCING
ELEVATION - BENT M**
S4.1
1/4" = 1'-0"



**PILE CAP REINFORCING
ELEVATION - BENT DD**
S4.1
1/4" = 1'-0"

NOTES:
1. REFER TO NOTES ON S9.1

6552
SH 227 OF 499
S9.16

CONT/CONS: 070136
M. ID: 091251
PHASE: BID

**PIER 4 PHASE 2
RECONFIGURATION
PILE CAP REINFORCING ELEVATIONS - SHEET 16**

TOWNSHIP: 21N RANGE: 3E SECTION: 27
DAT-HRZ: WA83-SF VERT: MLLW 19.39 @ Tide 22 1933
PARCEL: DRAWING SCALE: AS NOTED

APPROVED: *[Signature]* 3-28-16
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TACOMA, WA 98401-1837

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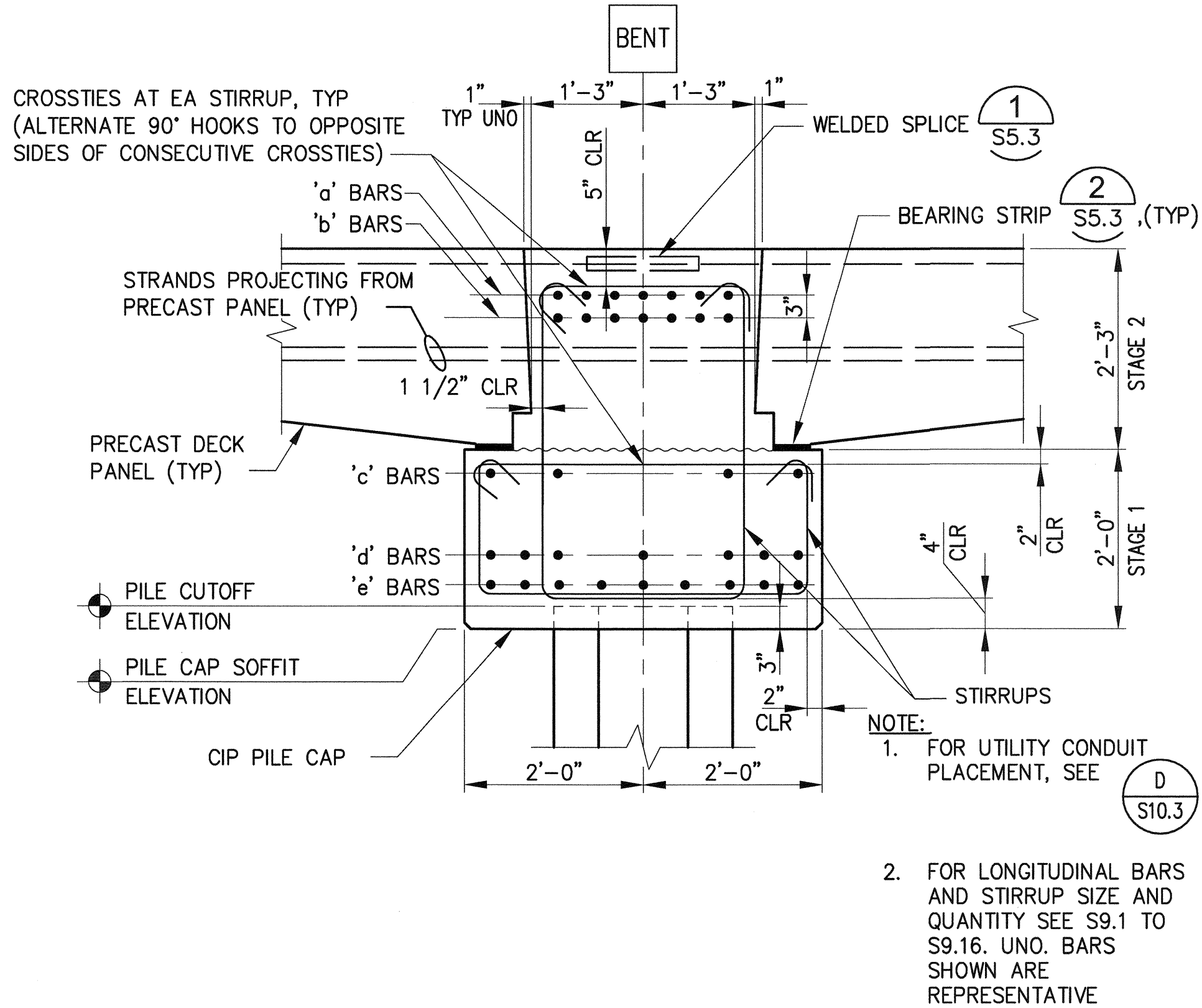
DATE
DATE
DATE



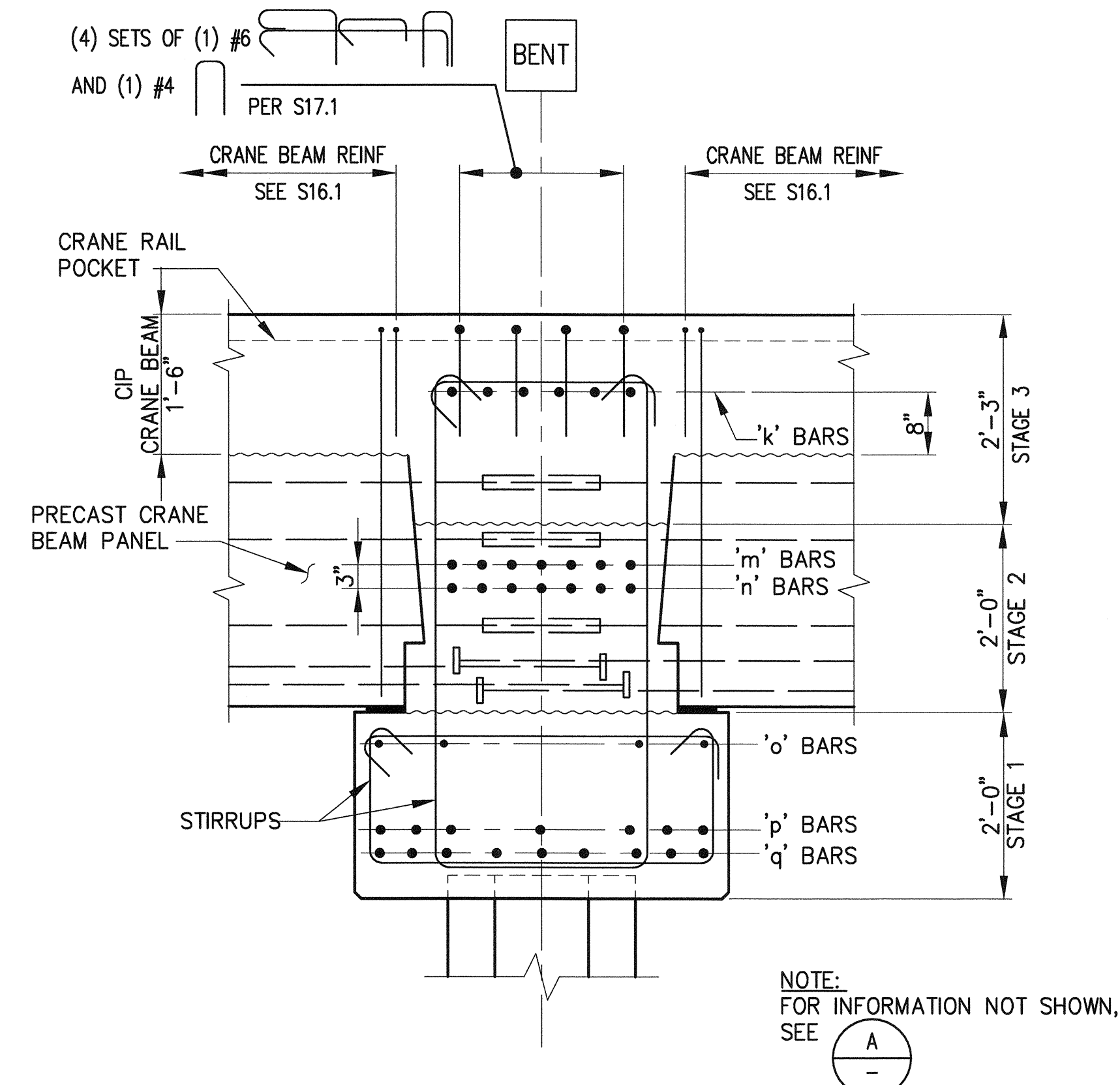
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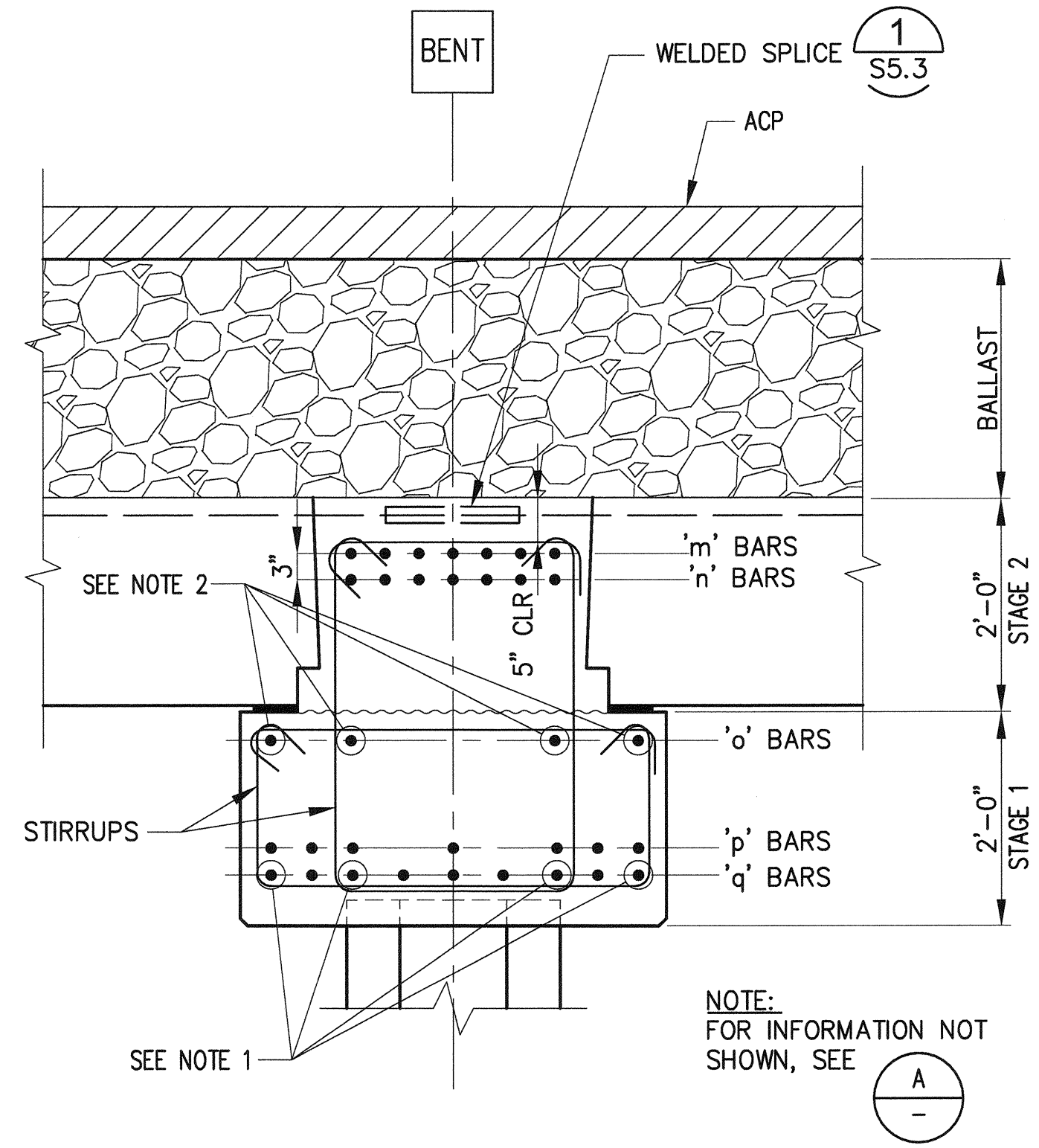
**Port of
Tacoma**



A TYPICAL PILE CAP SECTION
S9.1-S9.12, S10.2, S10.4, 3/4"=1'-0"
S14.1-S14.3, S16.1-S16.4



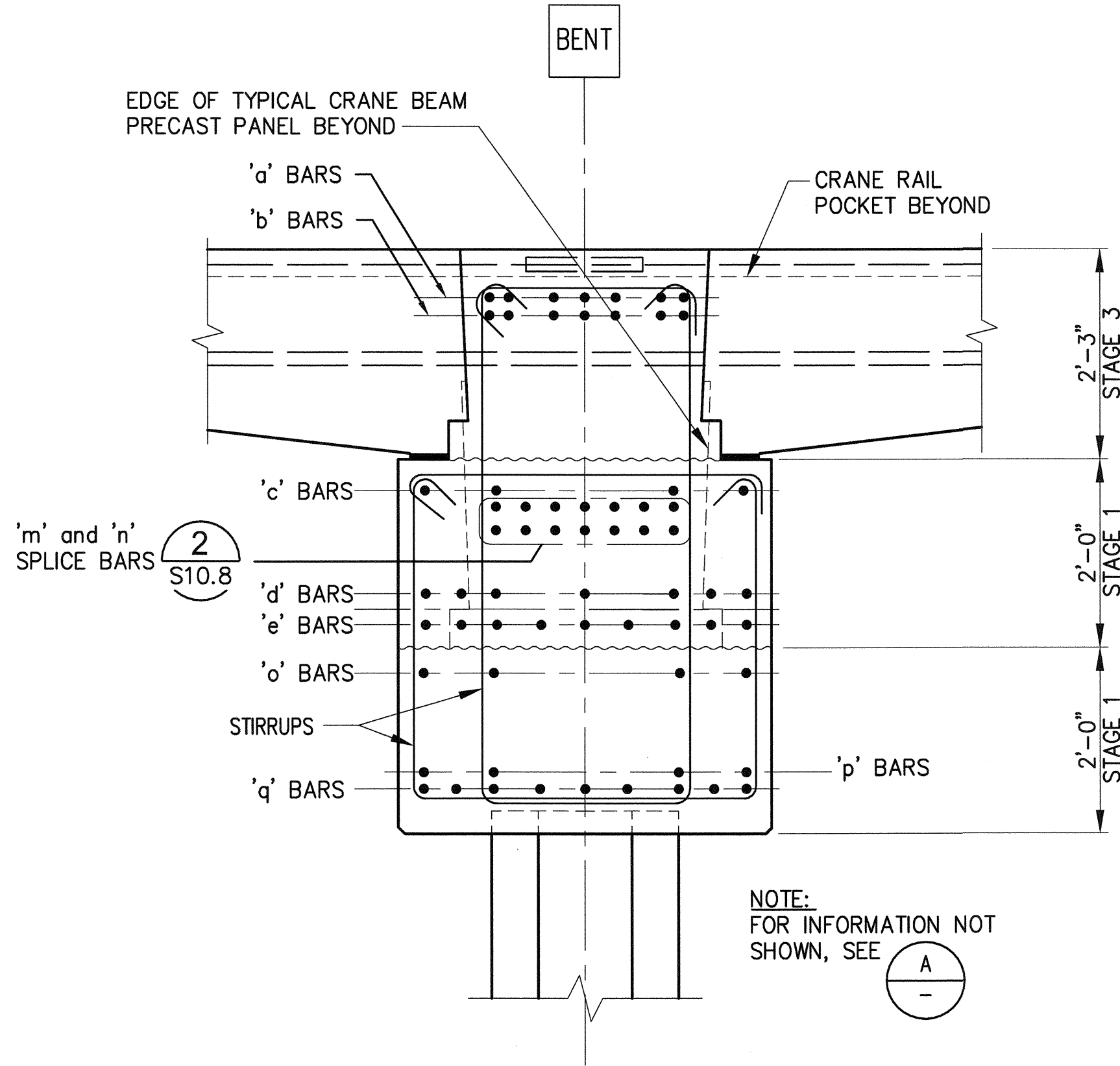
B PILE CAP SECTION AT WATERSIDE CRANE BEAM
S9.1-S9.5, S9.7-S9.12, S10.1, S10.11 3/4"=1'-0"



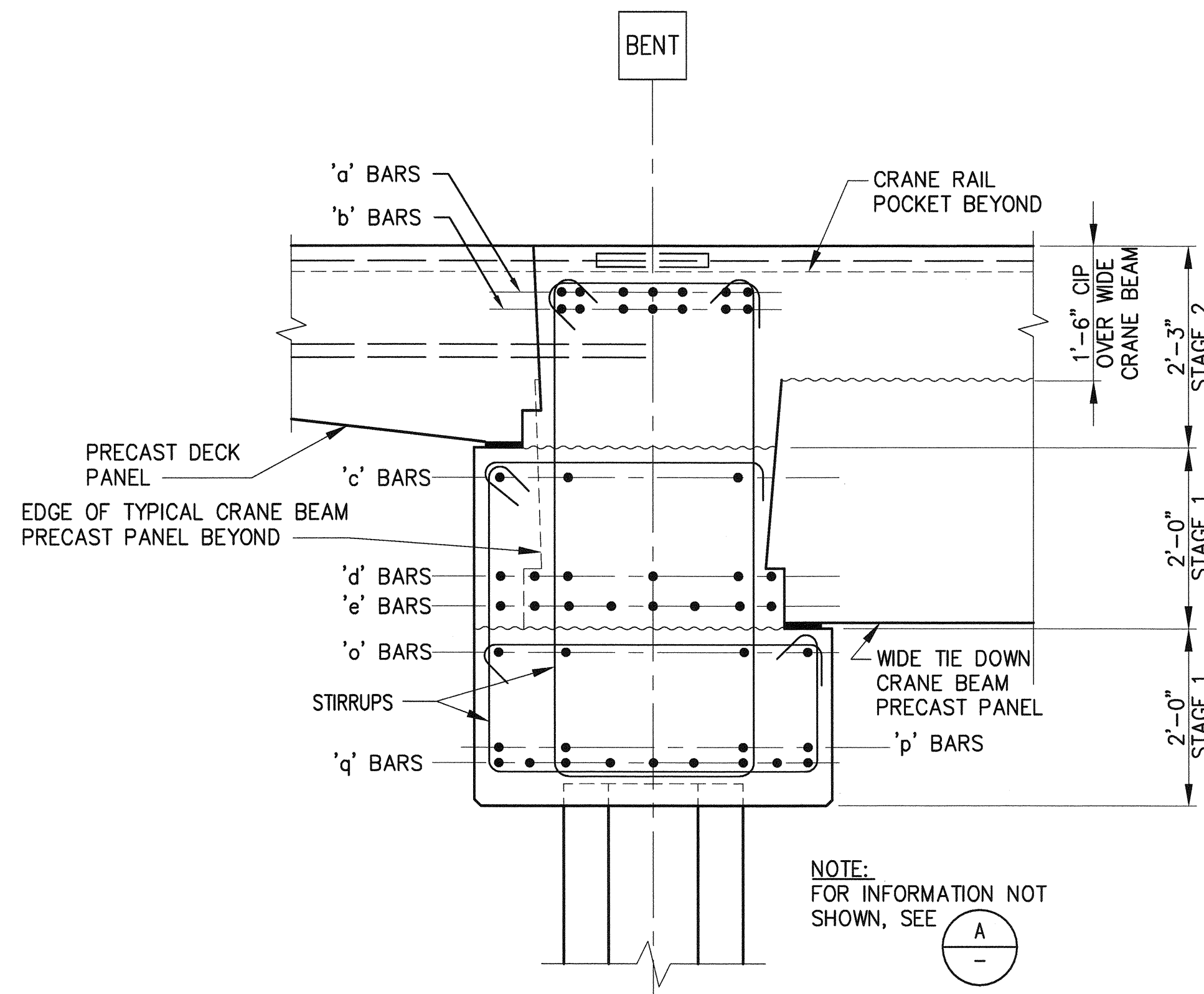
C PILE CAP SECTION AT UTILITY TRENCH
S9.1-S9.12 3/4"=1'-0"

NOTES:

1. TERMINATE FOUR 'q' BARS AT WATERSIDE FACE OF WITH 90° HOOKS.
2. TERMINATE EACH SIDE OF 'o' BARS WITH 90° HOOK.
3. ADJUST STIRRUPS AND LONGITUDINAL BARS OVER PILES PER DETAIL (2) S8.2



D PILE CAP SECTION AT WATERSIDE DROP DOWN
S10.8 3/4"=1'-0"



E PILE CAP SECTION AT LAND SIDE CRANE BEAM AT WIDE PANEL TRANSITION
S10.1 3/4"=1'-0"

6552 S10.1 SH 228 OF 499 CONT/GONS: 070136 M. ID: 091251 PHASE: BID	PIER 4 PHASE 2 RECONFIGURATION PILE CAP SECTIONS AND DETAILS - SHEET 1				APPROVED: <i>[Signature]</i> 3-28-16	SEK CHECKED BY DATE TAH	PROJ. ENGR DATE tiemons Mar 24, 2016	DATE
	TOWNSHIP: 21N RANGE: 3E SECTION: 27				DIRECTOR ENG. DATE	DATE	DATE	DATE
	DAT-HRZ: WA83-SF VERT: MLW 19.39 @ Tide 22 1933				PRINTED BY: tiemons	DATE	DATE	DATE
	PARCEL: AS NOTED				PORT ADDRESS: ONE SITCUM PLAZA	DATE	DATE	DATE

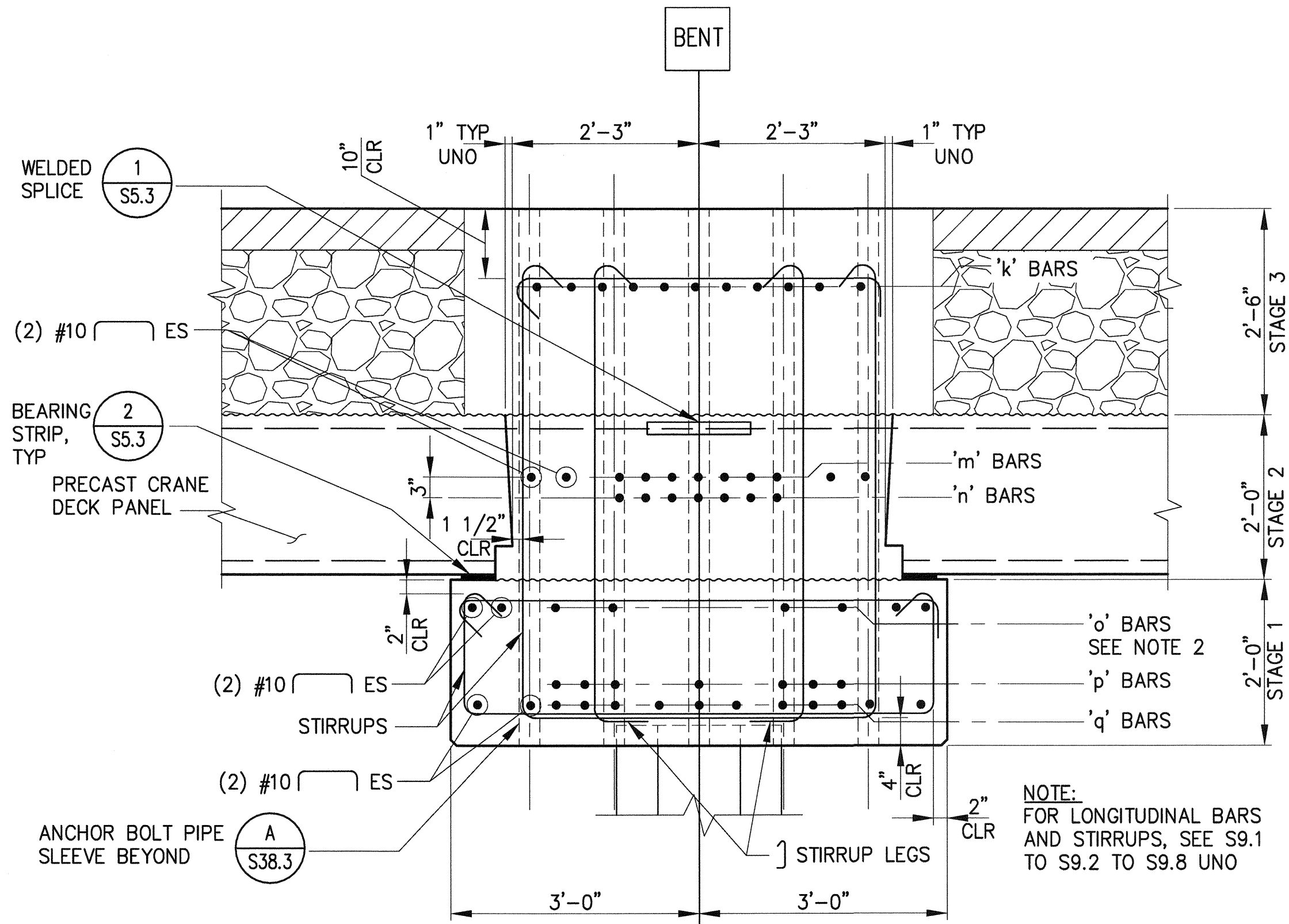
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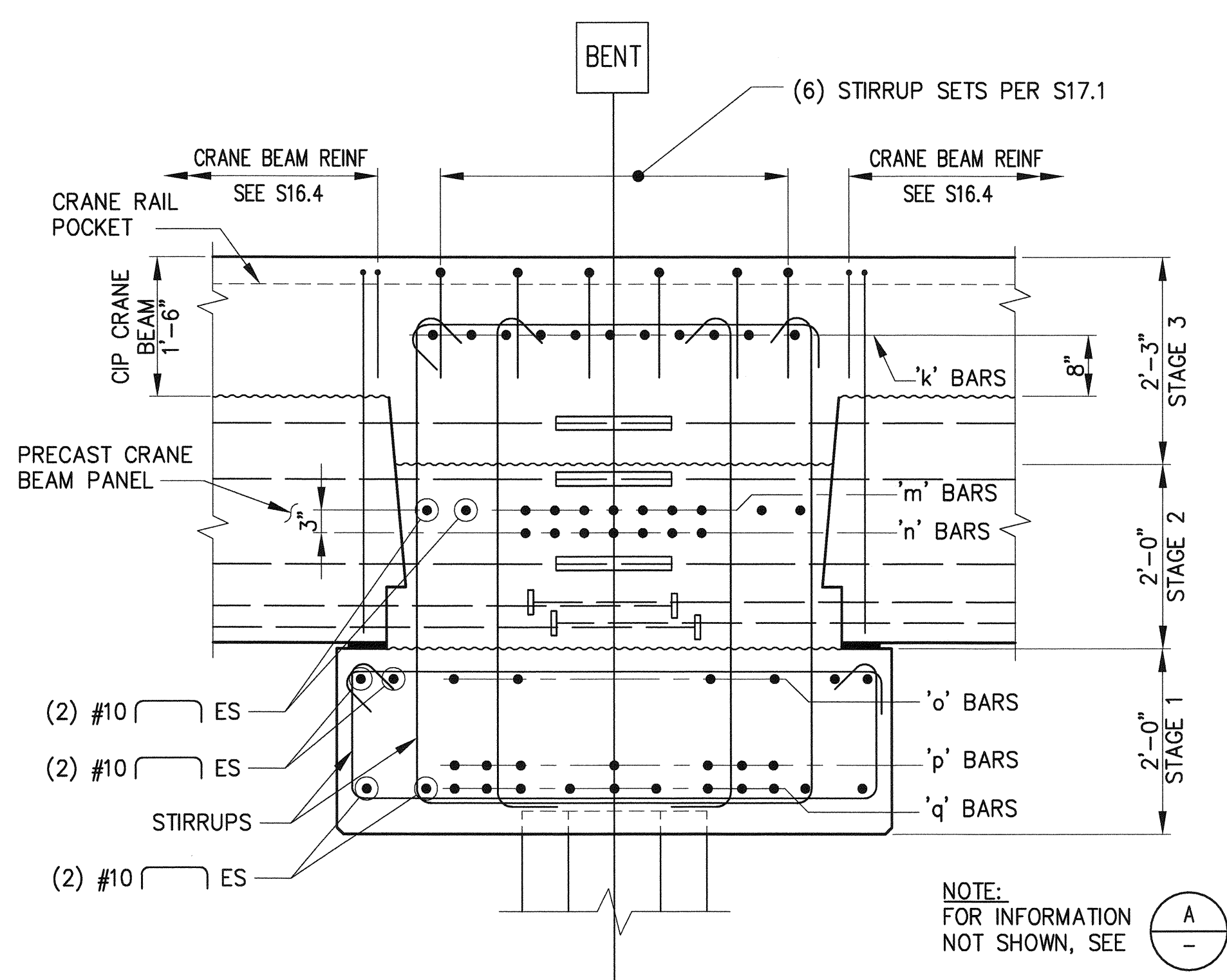
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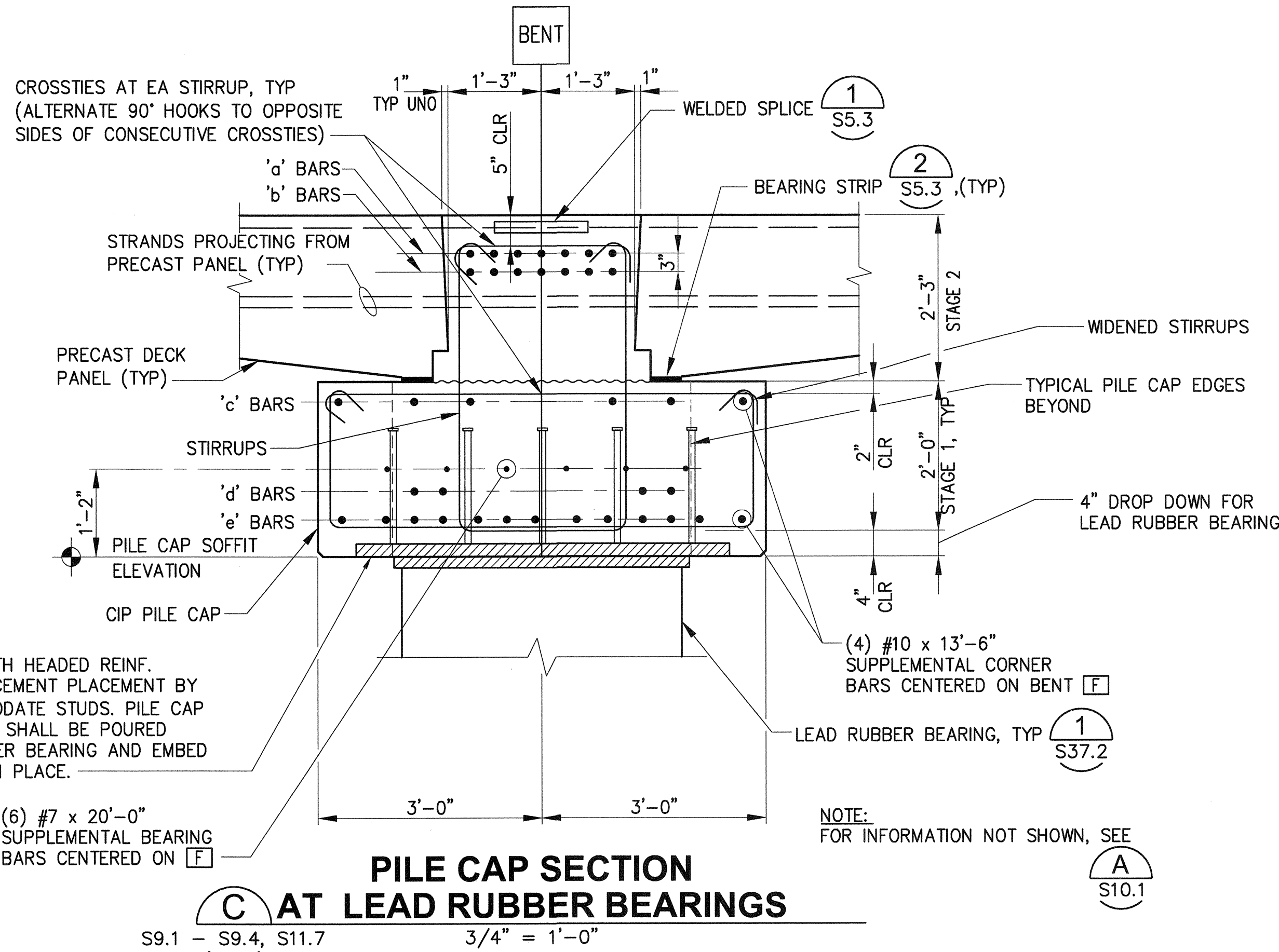
PILE CAP SECTION A AT DOUBLE BITT BOLLARD
S9.2-S9.8, S10.9
3/4"=1'-0"



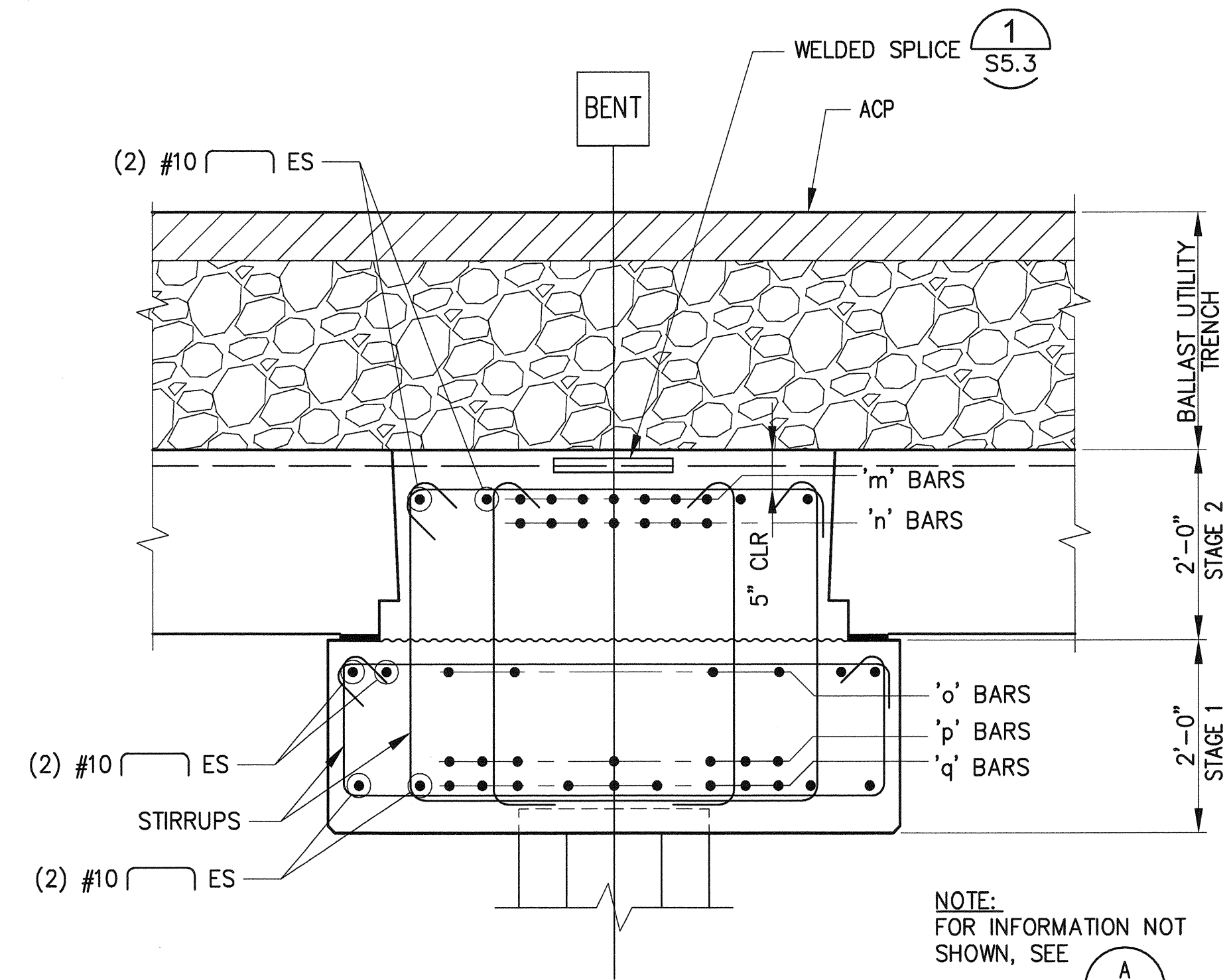
DOUBLE BITT BOLLARD PILE CAP SECTION B AT WATERSIDE CRANE BEAM
S9.2-S9.8, S10.9, S16.4
3/4"=1'-0"

NOTES:

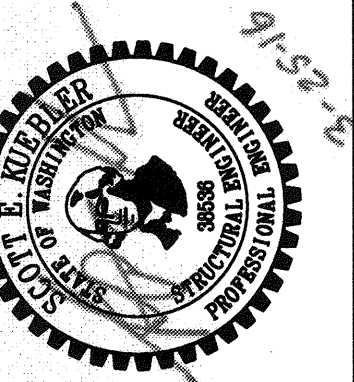
1. TERMINATE FOUR 'q' BARS AT WATERSIDE FACE OF WITH 90° HOOKS.
2. TERMINATE EACH END OF 'o' BARS WITH 90° HOOK.
3. TERMINATE 'k', 'm', 'n', 'o', 'p' AND 'q' BARS AT FACE OF ANCHOR BOLT PIPE SLEEVE WITH HEADED REINFORCEMENT WHERE BARS CONFLICT WITH PIPE SLEEVE. SEE S10.9
4. ADJUST STIRRUPS AND LONGITUDINAL BARS OVER PILES PER DETAIL S8.2



PILE CAP SECTION C AT LEAD RUBBER BEARINGS
S9.1-S9.4, S11.7
3/4"=1'-0"

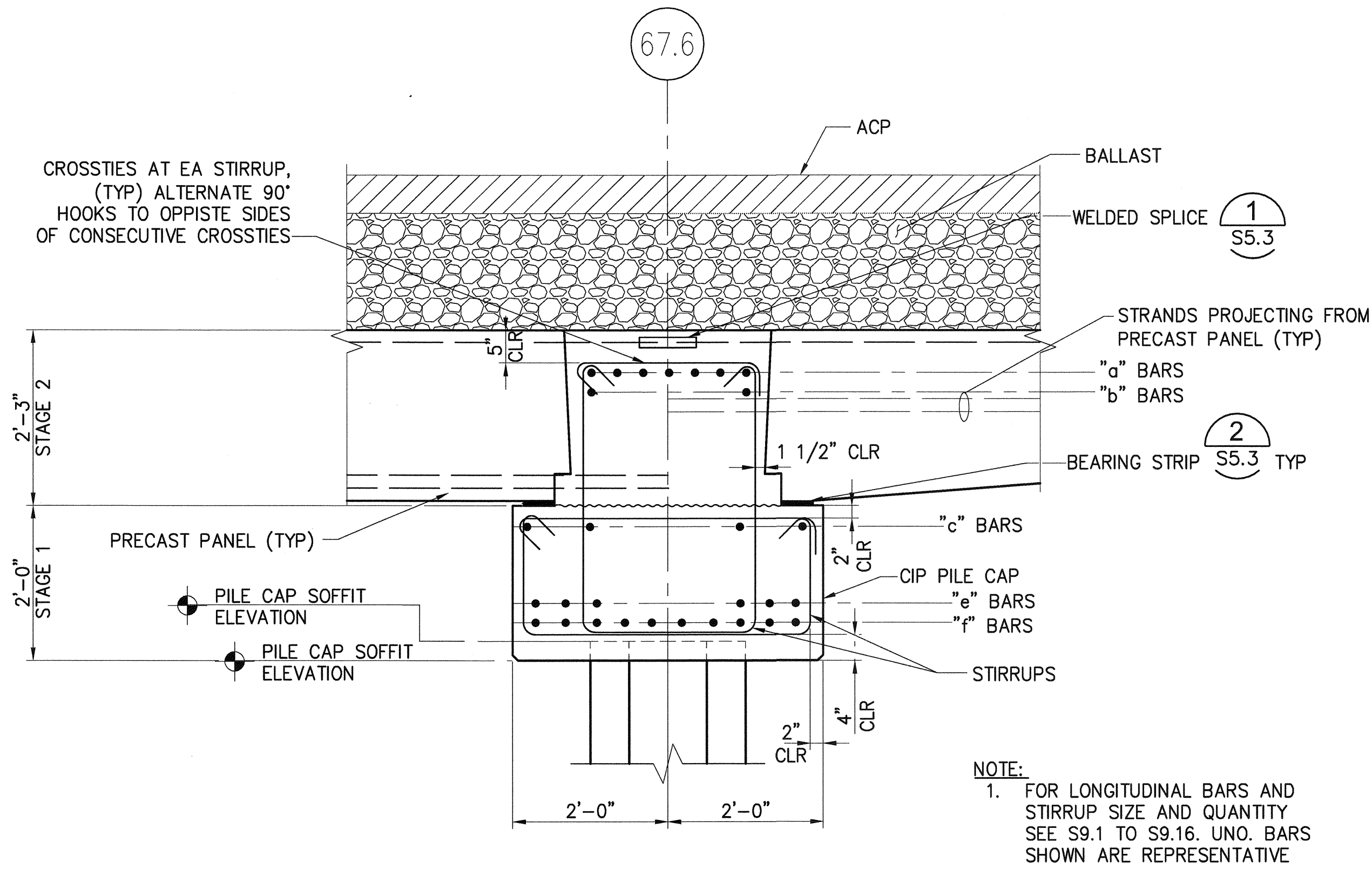


DOUBLE BITT BOLLARD PILE CAP SECTION D AT UTILITY TRENCH
S9.2-S9.8
3/4"=1'-0"

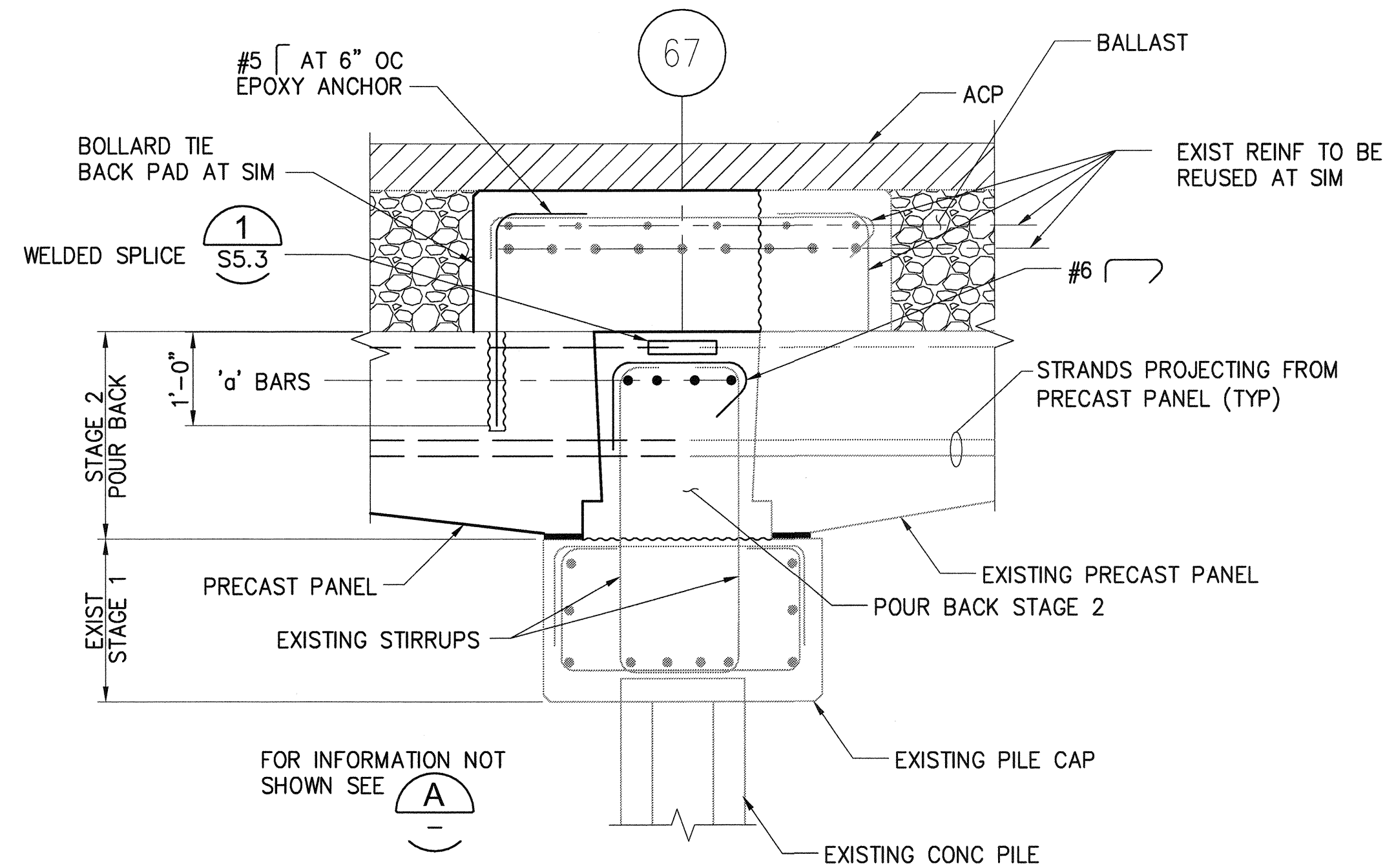


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TAH	PROJ. ENGR	DATE
3-28-16	tiemoms Mar 24, 2016	
DIRECTOR	PRINTED BY:	PORT ADDRESS: ONE SITCUM PLAZA
APPROVED:	TACOMA, WA 98401-1837	

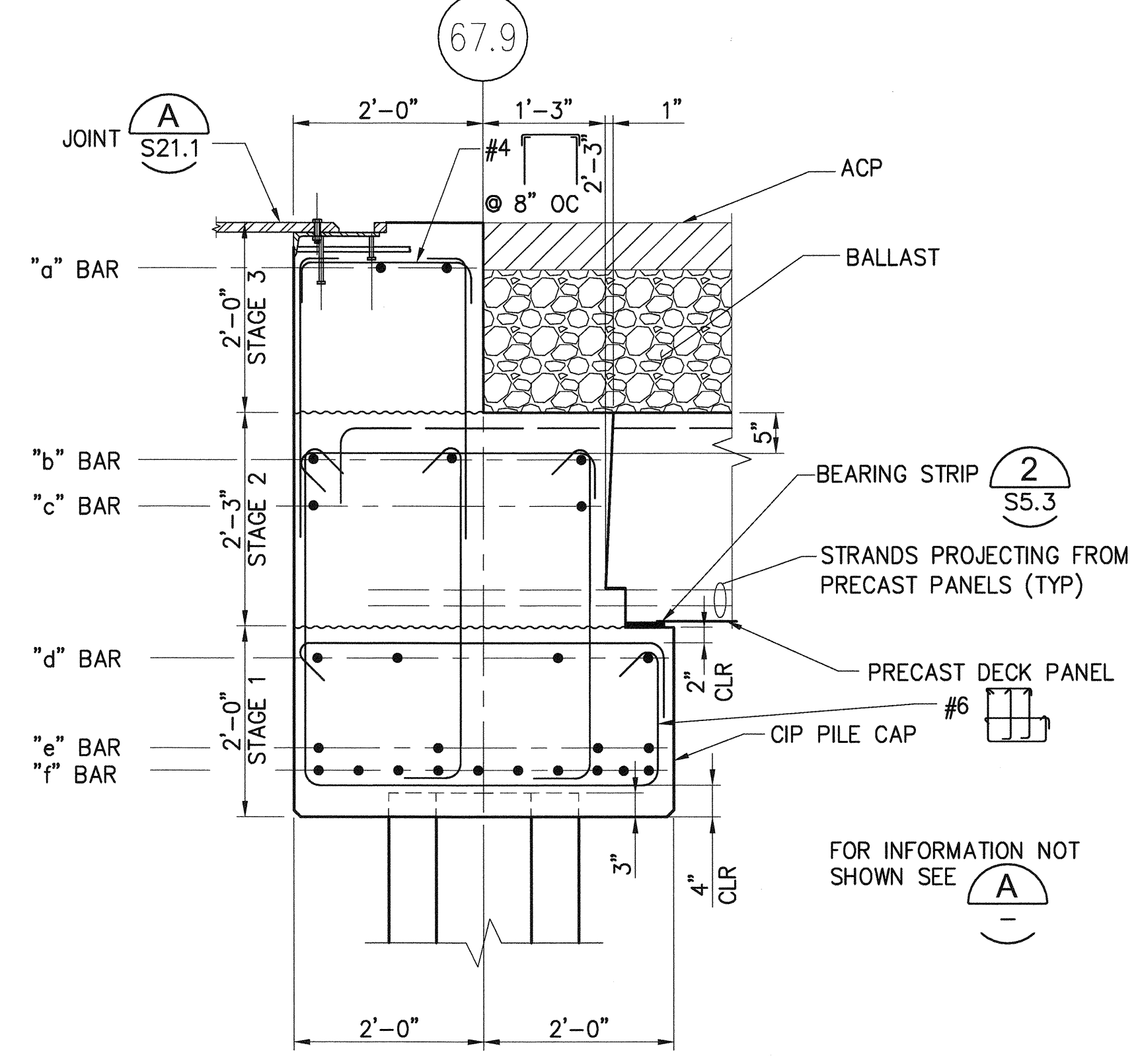
PIER 4 PHASE 2	RECONFIGURATION	PILE CAP SECTIONS AND DETAILS - SHEET 2
6552	SH 229 OF 499	S10.2
CONTRACT/CONS:	TOWNSHIP: 21N	RANGE: 3E
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933
PHASE: BID	PARCEL:	DRAWING SCALE: AS NOTED



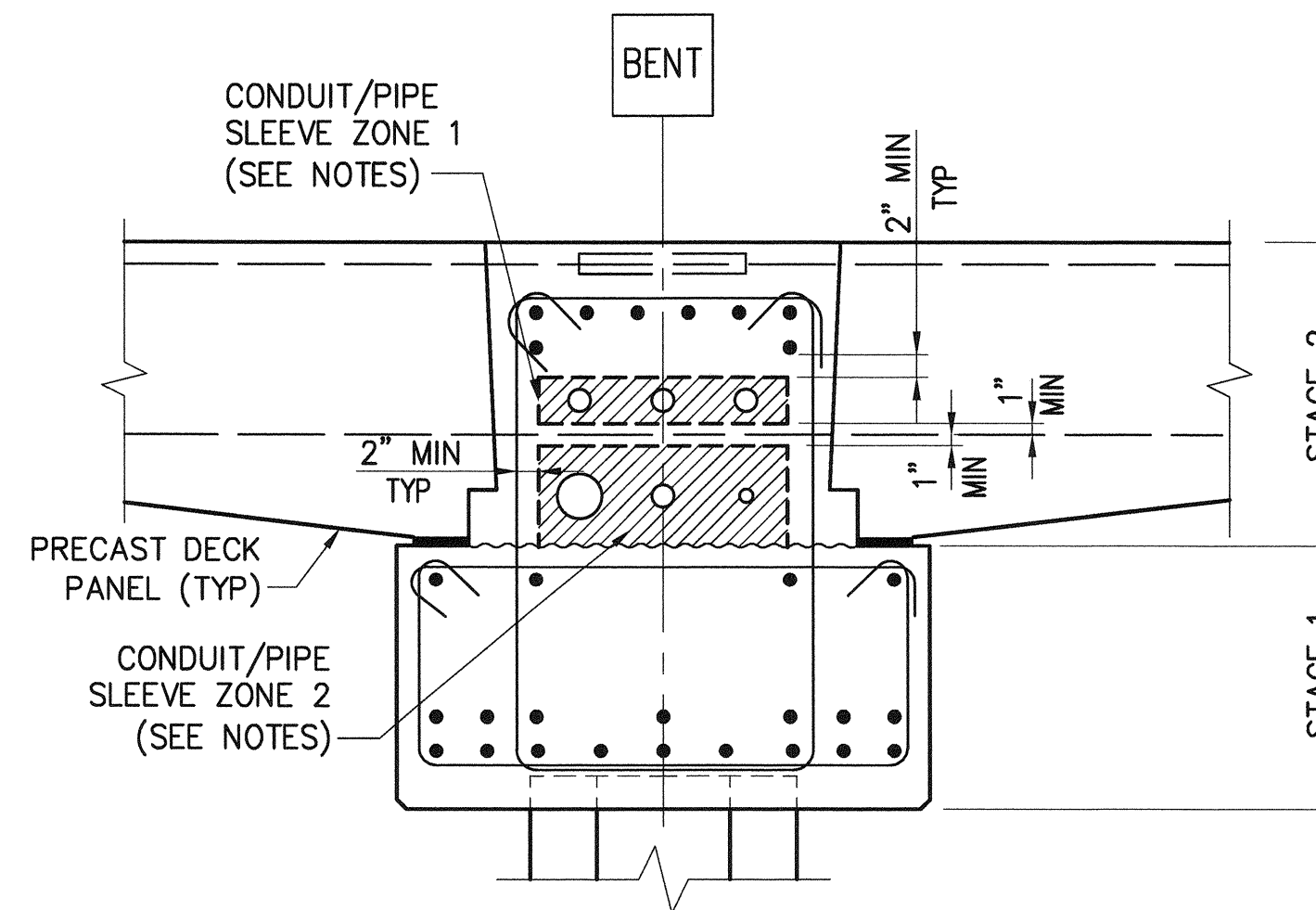
A PILE CAP SECTION
S9.14, S14.3, S16.3 3/4"=1'-0"



**C PILECAP SECTION @ GRID 67
PIER 3 EXTENSION**
S9.13 3/4"=1'-0"



B PILE CAP SECTION
S9.14, 14.3, 16.4 3/4"=1'-0"



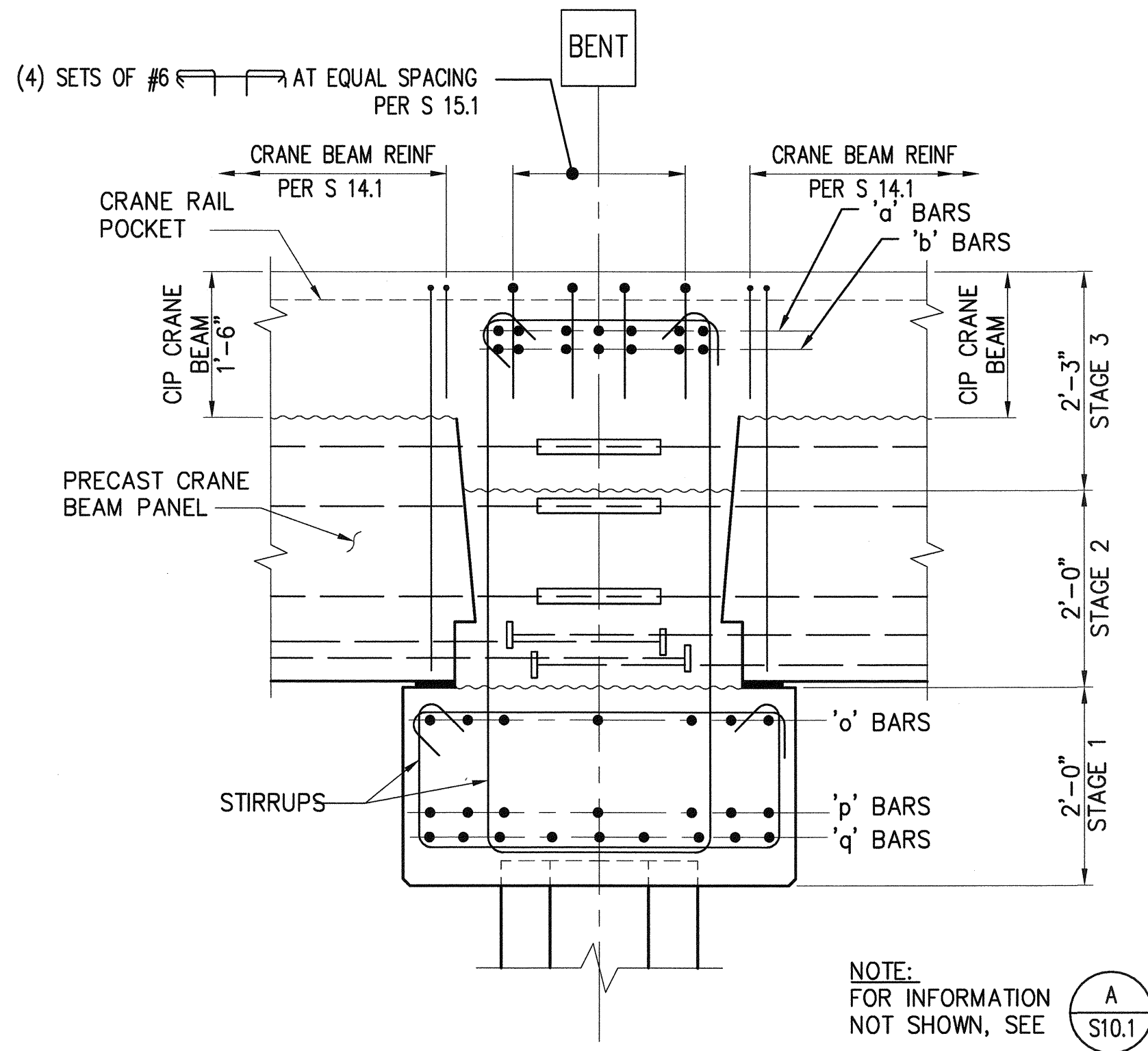
D PILE CAP CONDUIT/ PIPE SLEEVE ZONE
S5.2-S5.5 3/4"=1'-0"

NOTES:

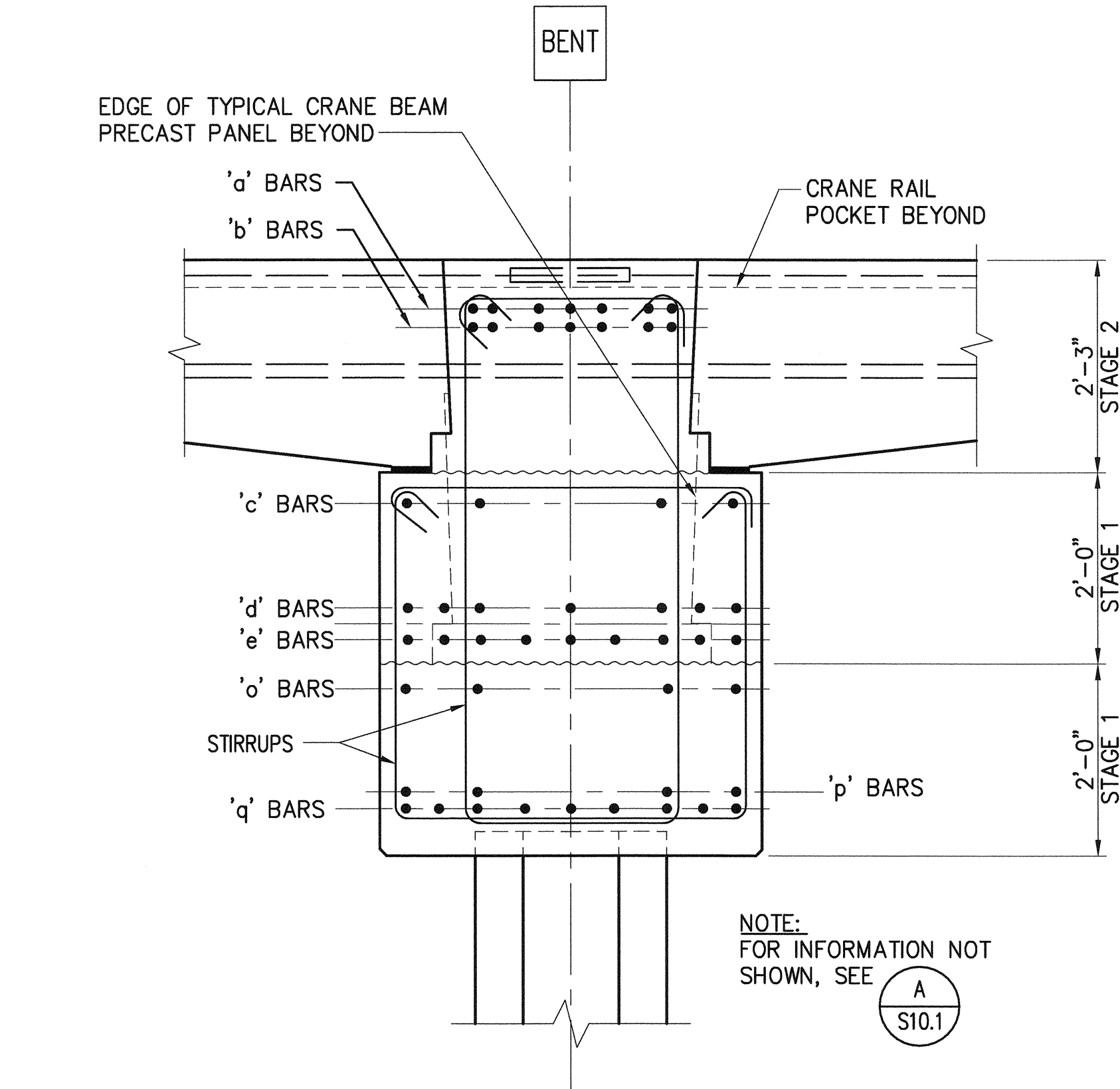
1. FOR CONDUIT AND PIPE SLEEVE TYPE, SIZE, SPACING, LOCATION, AND DETAILS SEE CIVIL AND ELECTRICAL SHEETS. CONDUIT /PIPE SLEEVE SIZE AND SPACING SHALL COMPLY WITH THE FOLLOWING NOTES.
2. ALL CONDUIT AND PIPE SLEEVES SHALL BE PLACED WITHIN THE LIMITS OF ZONE 1 AND ZONE 2 AS SHOWN ON THIS DETAIL.
3. THE MAXIMUM OUTSIDE DIAMETER OF ANY CONDUIT OR PIPE SLEEVE (O.D.) SHALL NOT EXCEED 9 INCHES.
4. THE MINIMUM CENTER TO CENTER SPACING OF CONDUIT OR PIPE SLEEVE SHALL BE 3 TIMES THE DIAMETER OF THE CONDUIT OR PIPE SLEEVE. FOR ADJACENT CONDUITS OR PIPE SLEEVES WITH DIFFERENT DIAMETERS THE AVERAGE DIAMETER SHALL BE USED.
5. THE TOTAL CROSS SECTIONAL AREA OF VOIDED CONCRETE CREATED BY ALL THE CONDUITS AND /OR PIPE SLEEVES IN A PILE CAP SHALL NOT EXCEED 64 SQUARE INCHES.

6552 S10.3 SH 230 OF 499	PIER 4 PHASE 2 RECONFIGURATION PILE CAP SECTIONS AND DETAILS - SHEET 3				APPROVED: <i>[Signature]</i> DIRECTOR ENG. DATE: 3-27-16	SEK CHECKED BY DATE TAH PROJ. ENGR DATE	2007 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 Port of Tacoma P.O. BOX 1807 TACOMA, WA 98401 (253) 396-5941
	TOWNSHIP: 21N RANGE: 3E SECTION: 27 DAT-HRZ: WA83-SF VERT: MLLW 19.39' @ Tide 22 1933 PARCEL: PHASE: BID	DRAWING SCALE: AS NOTED	PRINTED BY: tlemors Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	MARK: REVISION: BY: DATE: APPR: DATE:			

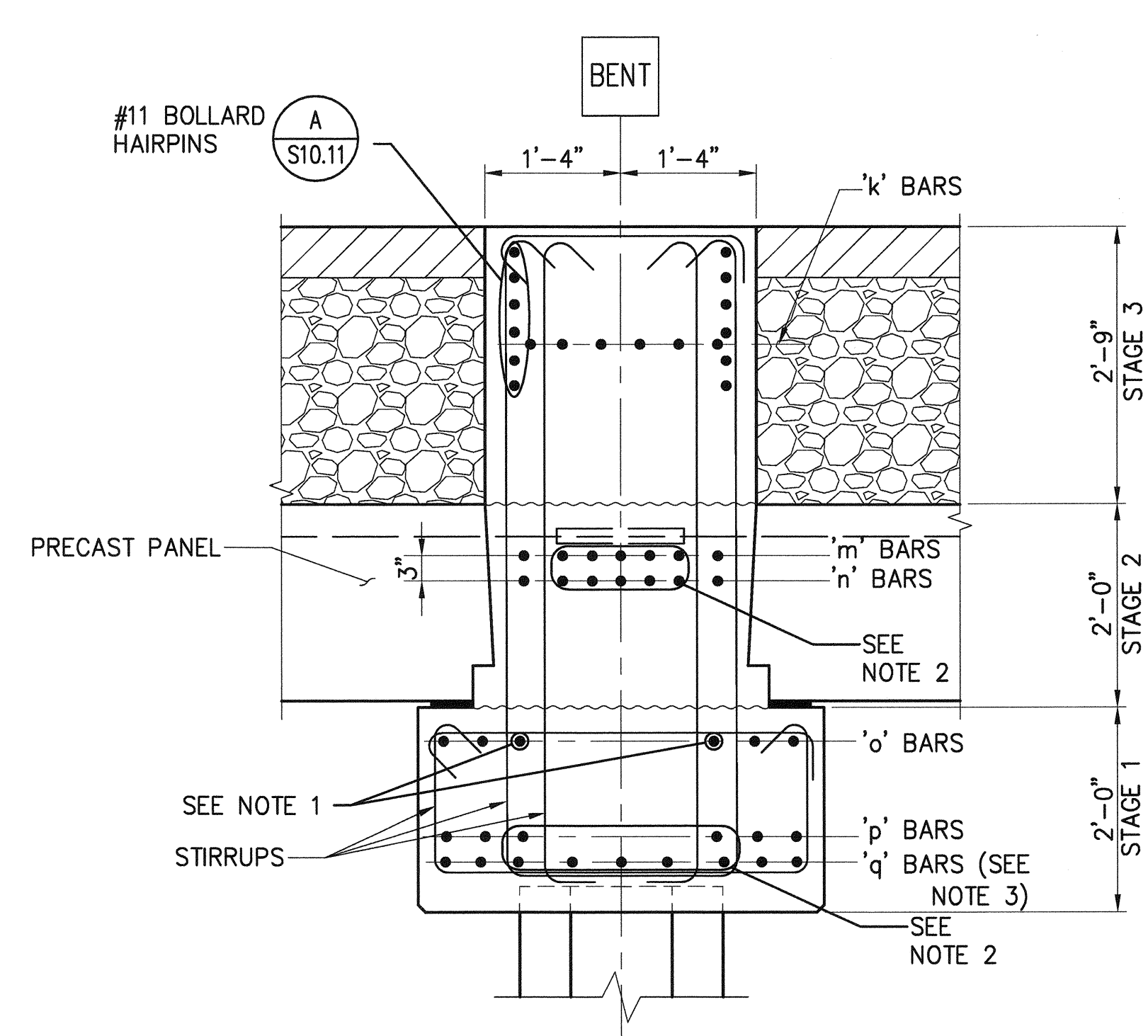
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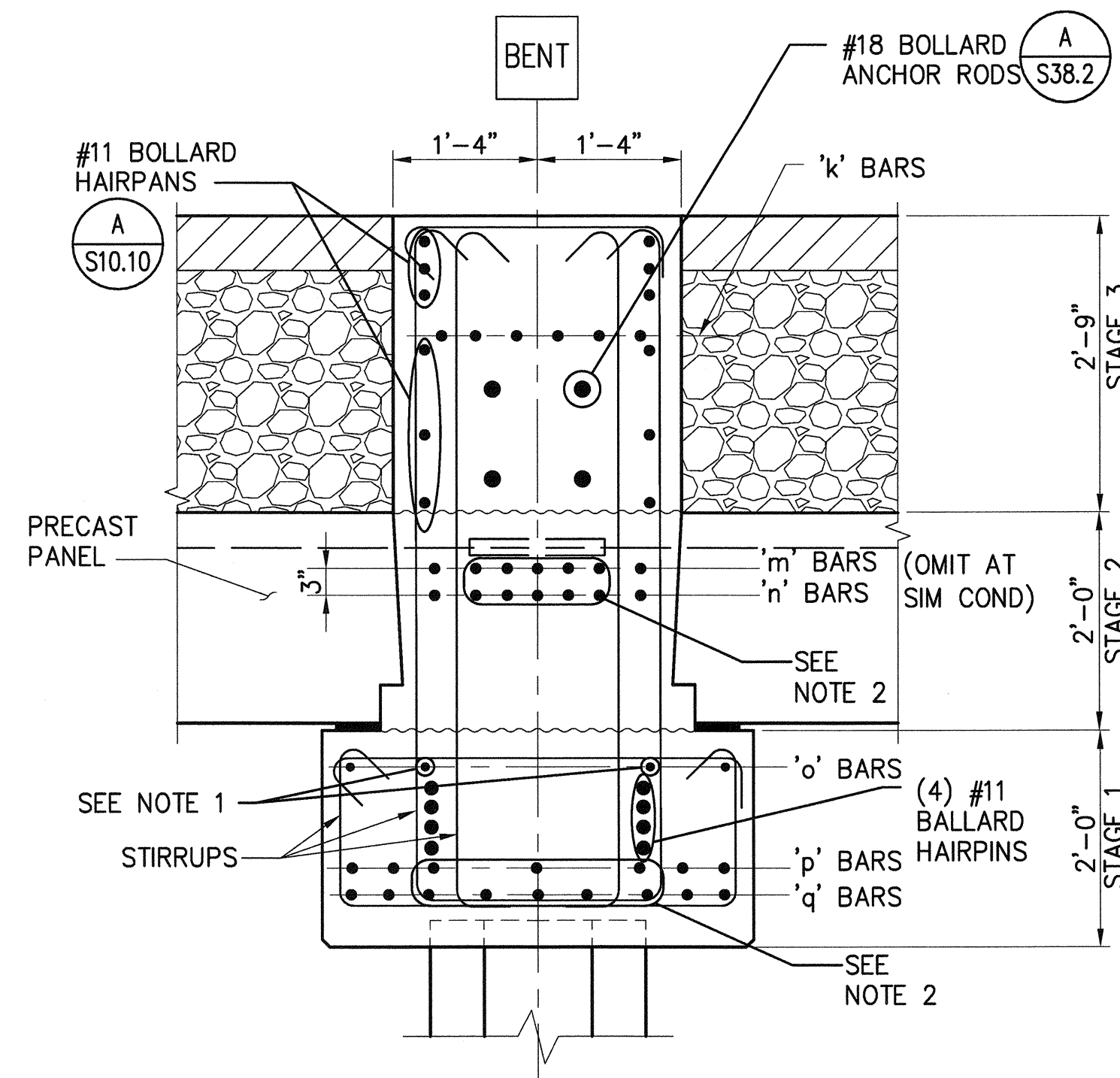
**PILE CAP SECTION
AT LANDSIDE CRANE BEAM**
S9.1-S9.3, S9.6-S9.12 $3/4"=1'-0"$



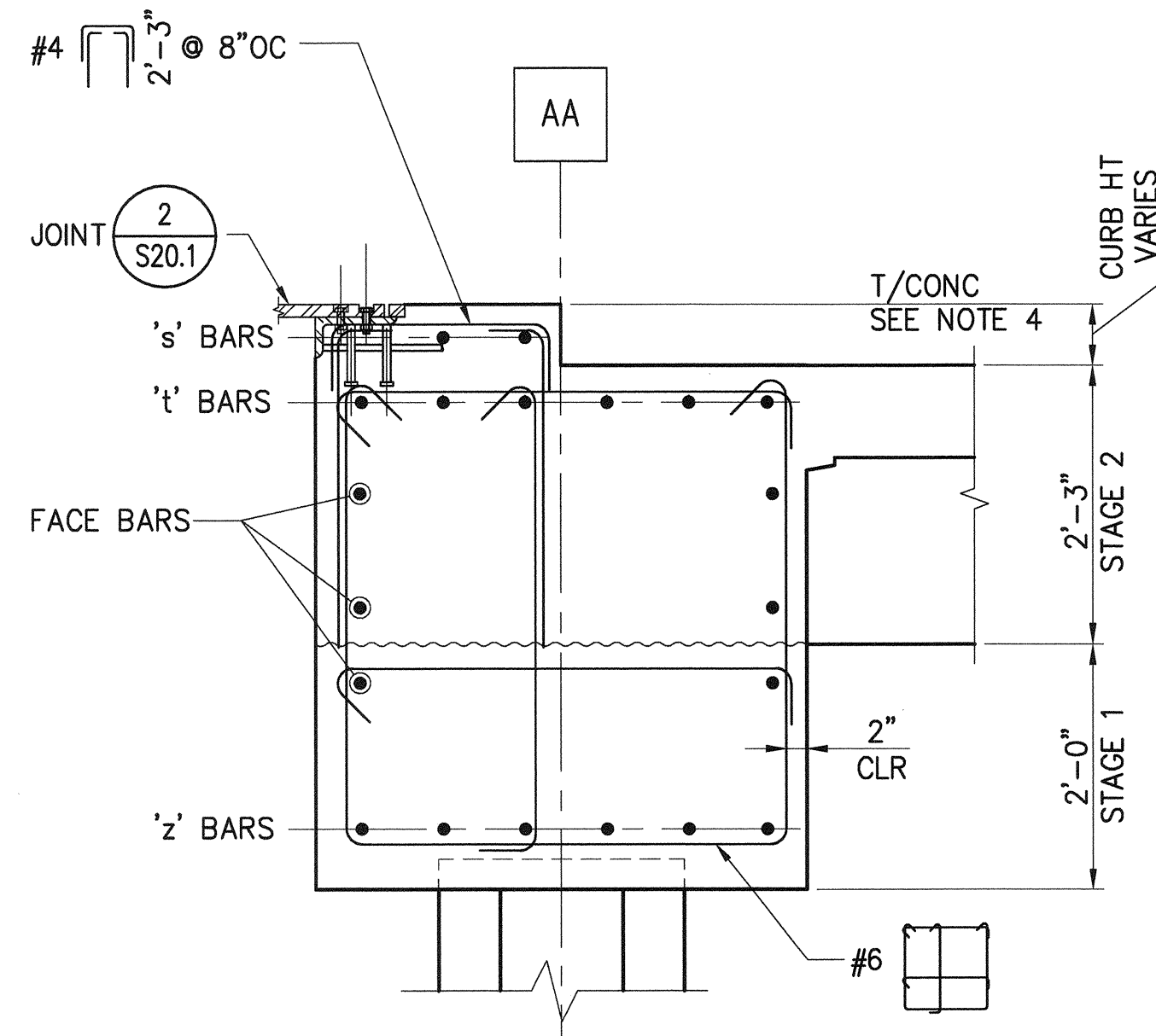
**PILE CAP SECTION
AT LANDSIDE DROP DOWN**
S9.1-S9.12, S10.7, S10.8 $3/4"=1'-0"$



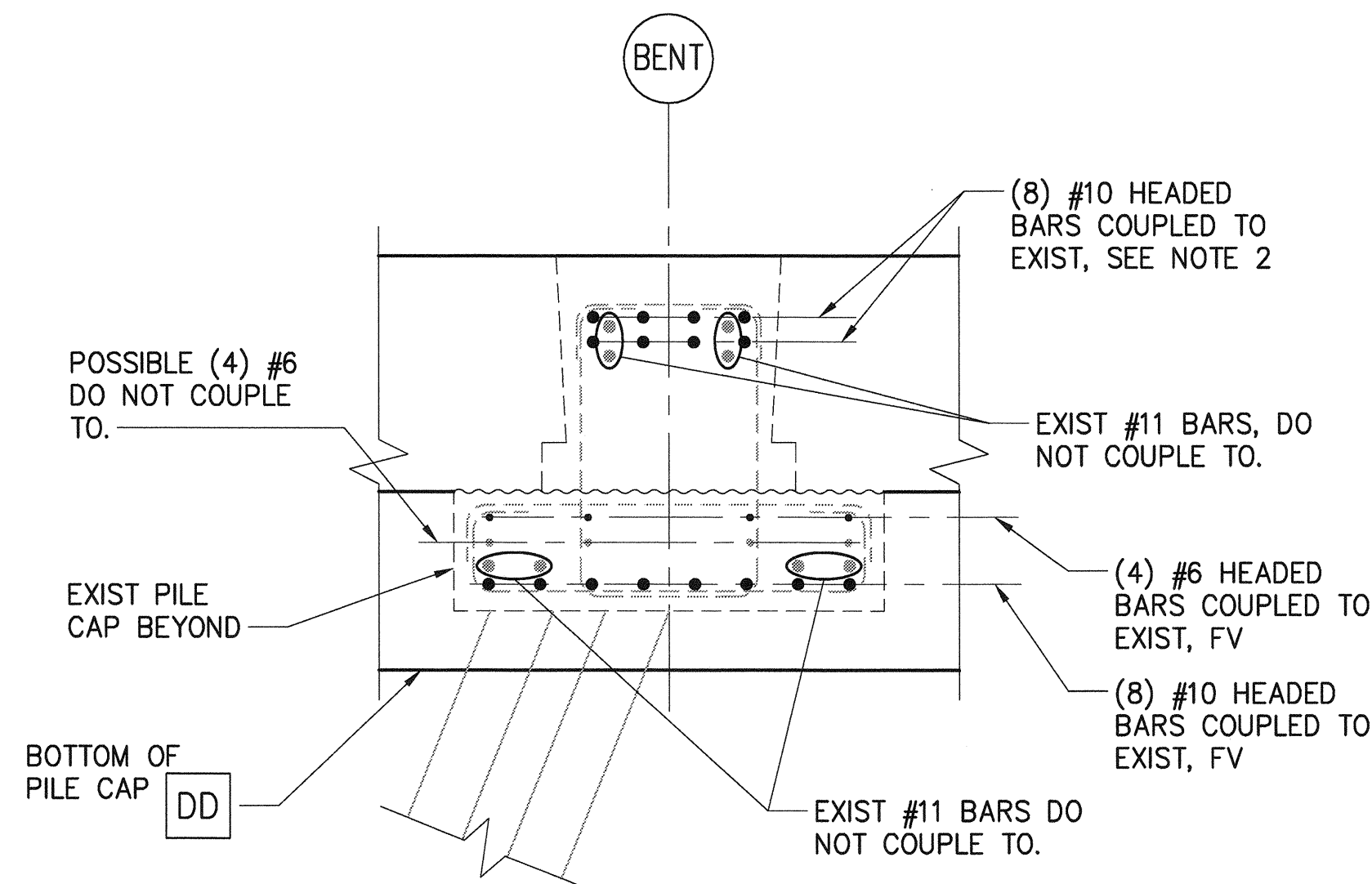
**PILE CAP SECTION
AT 100 TON BOLLARD**
S9.9-S9.11, S10.11 $3/4"=1'-0"$



**PILE CAP SECTION
AT 200 TON BOLLARD**
S9.12, S9.13, S10.10 $3/4"=1'-0"$



EDGE BEAM SECTION AT GRID AA
S9.15 $3/4"=1'-0"$



**SECTION AT EXISTING
PILE CAP BUILD BACK**
S10.5 $3/4"=1'-0"$

NOTES:

1. TERMINATE TWO 'o' BARS AT FACE OF BOLLARD WITH 90° HOOKS. TERMINATE OTHER 'o' BARS AT FACE OF WATERSIDE PILE CAP WITH 90° HOOKS.
2. THESE 'm', 'n', 'p', 'q' BARS TERMINATE AT FACE OF BOLLARD WITH HEADED REINFORCEMENT. TERMINATE OTHER 'm', 'n', 'p', 'q' BARS AT WATERSIDE FACE OF PILE CAP WITH HEADED REINFORCEMENT.
3. FOR THESE 'q' BARS TERMINATE AT WATERSIDE FACE OF PILE CAP WITH HEADED REINFORCEMENT.
4. T/CONC = TOP OF ASPHALT PER GRADING AND PAVING PLAN C4.1

6552

S10.4

SH 231 OF 499

CONTR/CONS: 070136

M. ID: 091251

PHASE: BID

**PIER 4 PHASE 2
RECONFIGURATION**

PILE CAP SECTIONS AND DETAILS - SHEET 4

TOWNSHIP: 21N

DAT-HRZ: WA83-SF

PARCEL: AS NOTED

APPROVED: *[Signature]*

3-28-16

DIRECTOR ENG. DATE: 16mons Mar 24, 2016

PRINTED BY: TACOMA WA 98401-1837

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TAH PROL. ENGR DATE

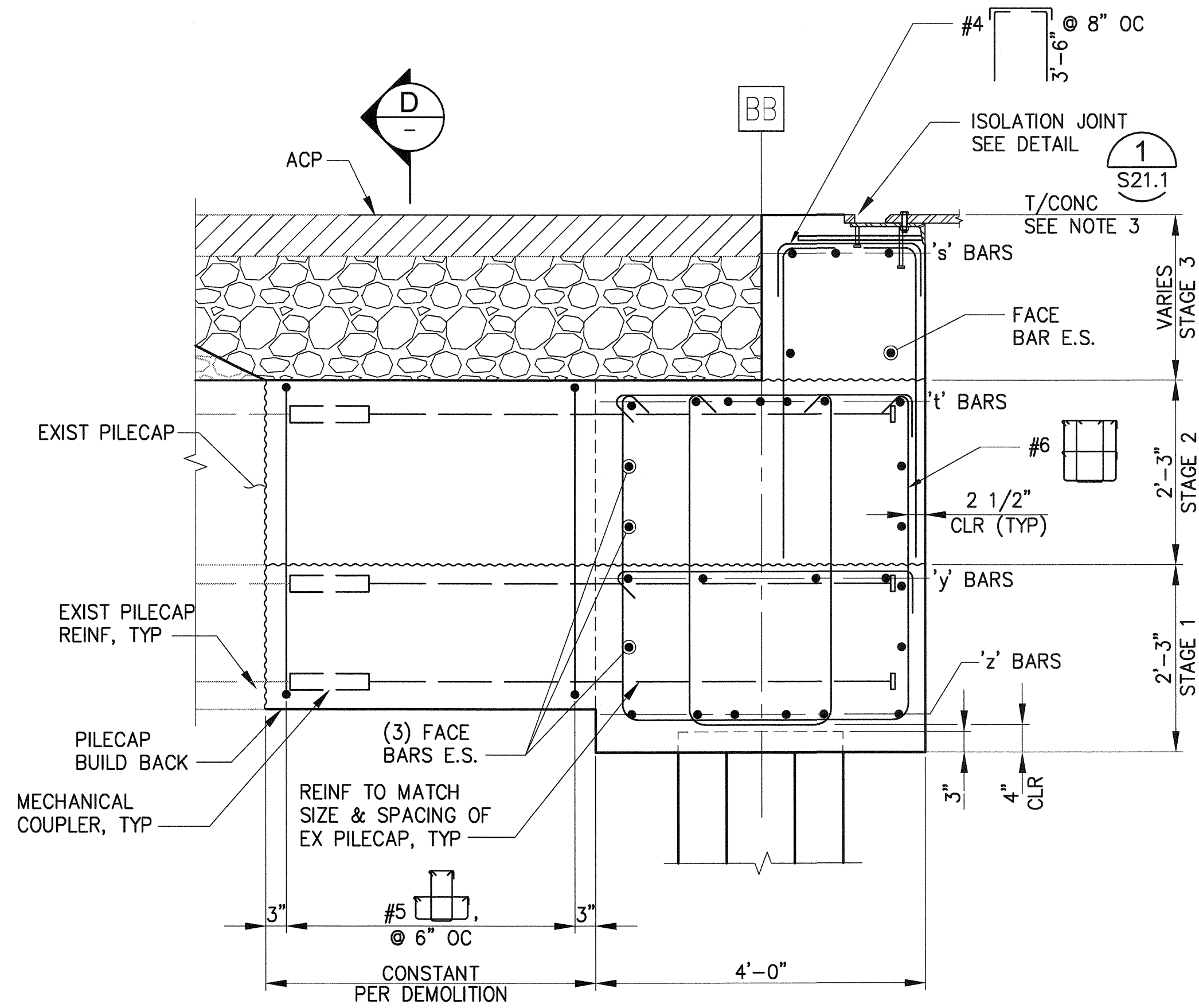
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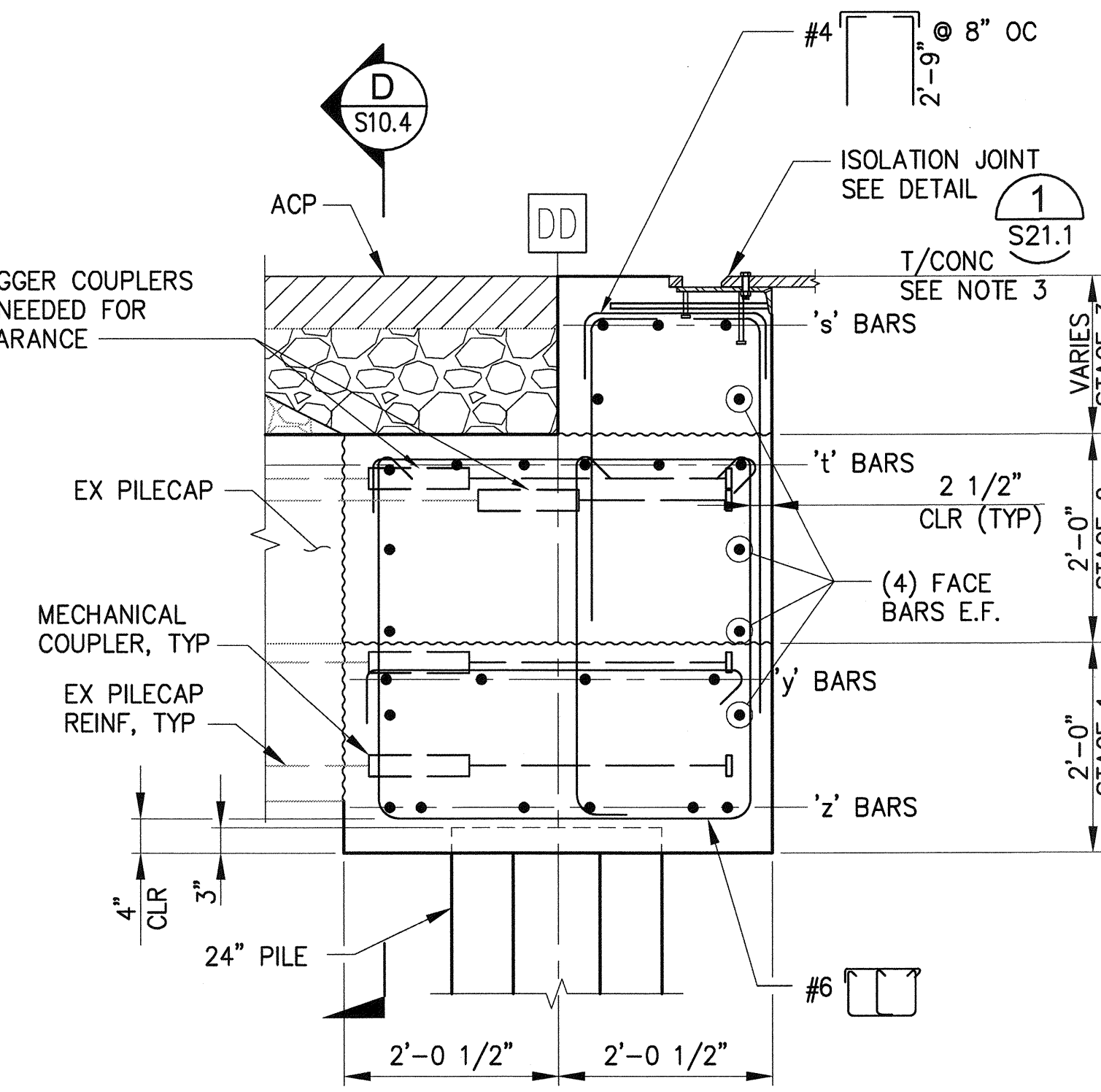
2407 North 31st Street, Suite 100
Tacoma, Washington 98401
(253) 396-0150 Fax (253) 396-0162

kprff

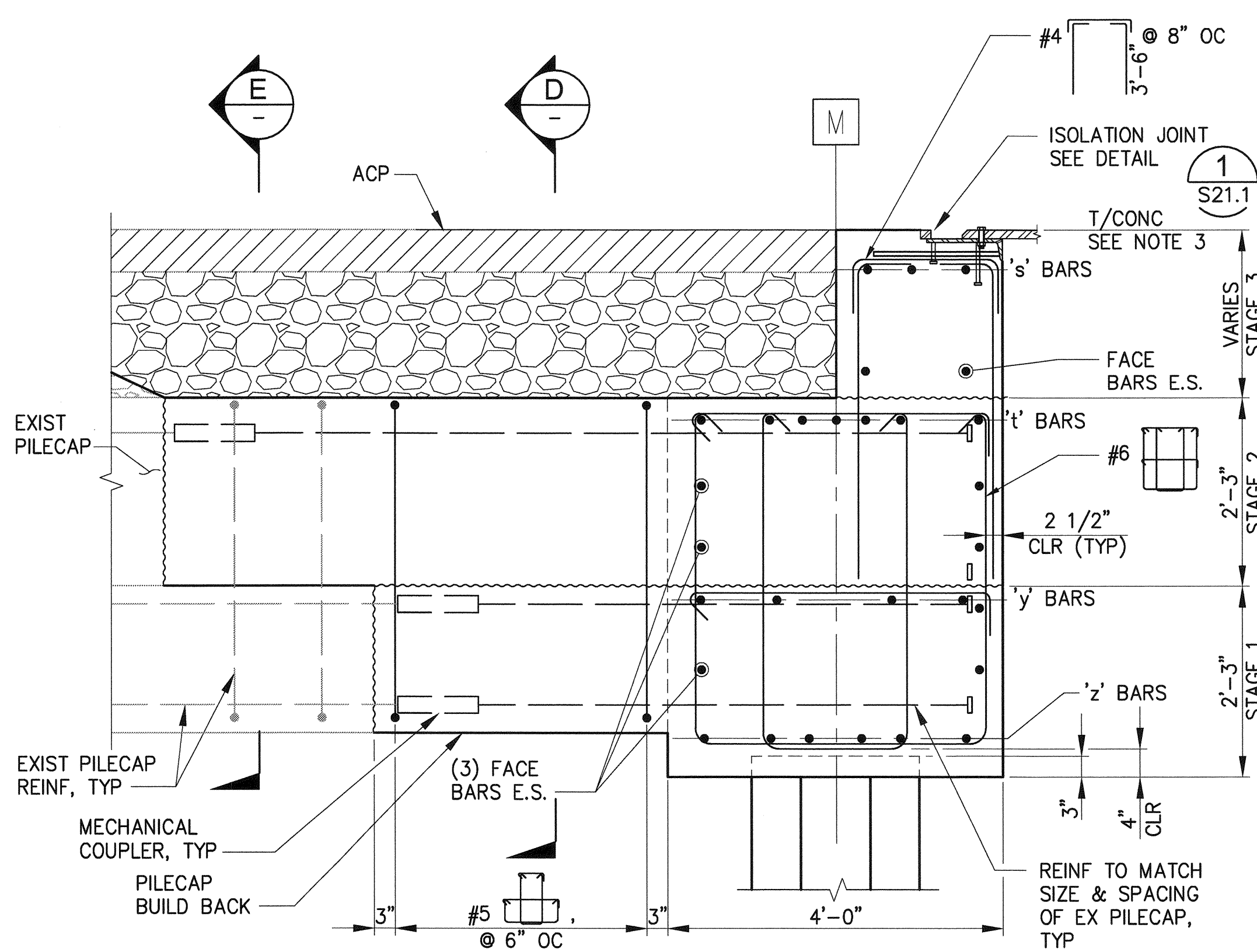
2407 North 31st Street, Suite 100
Tacoma, Washington 98401
(253) 396-0150 Fax (253) 396-0162



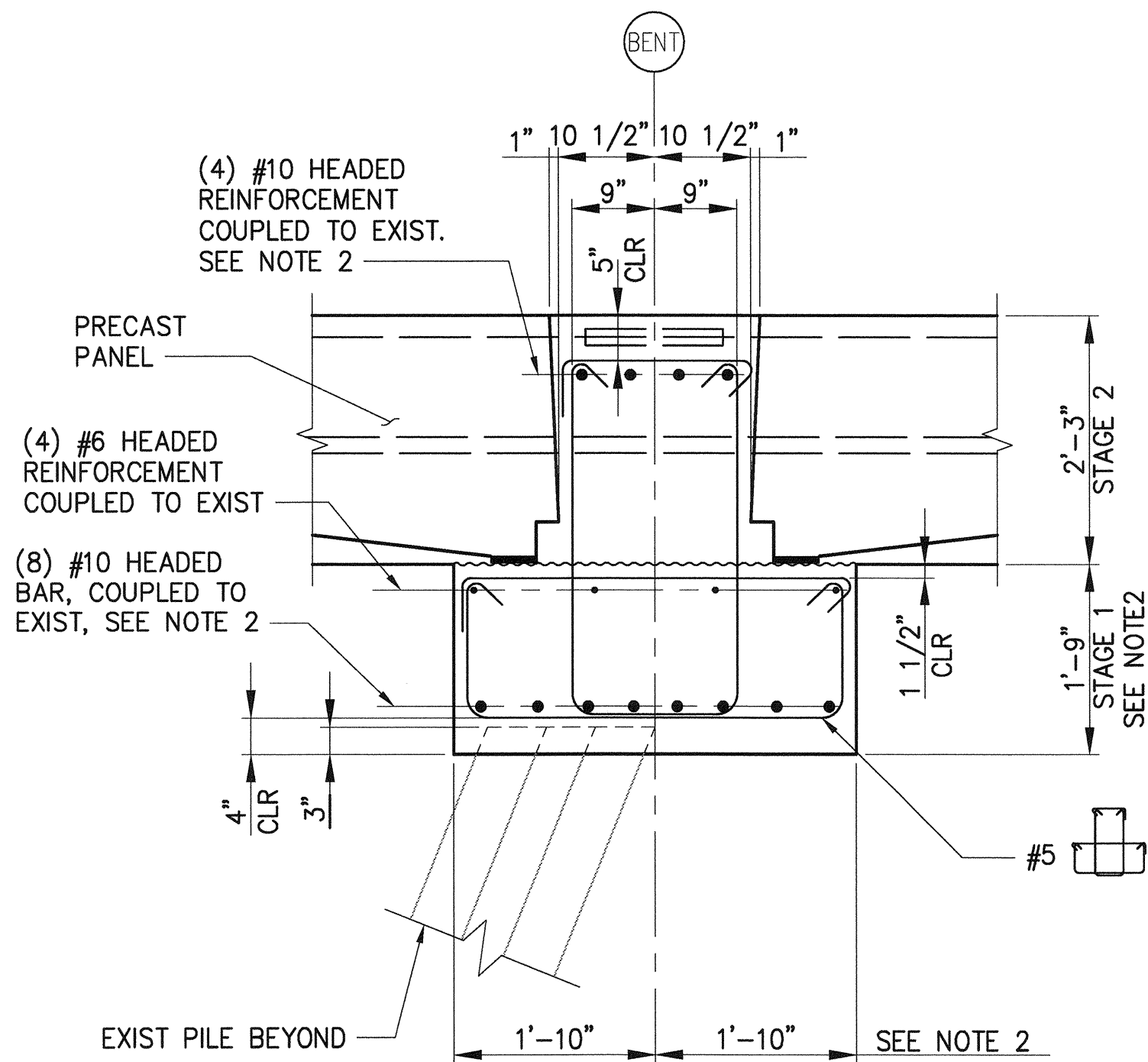
**EDGE BEAM SECTION
EXISTING BENT BB**
S9.15, S22.2
3/4"=1'-0"



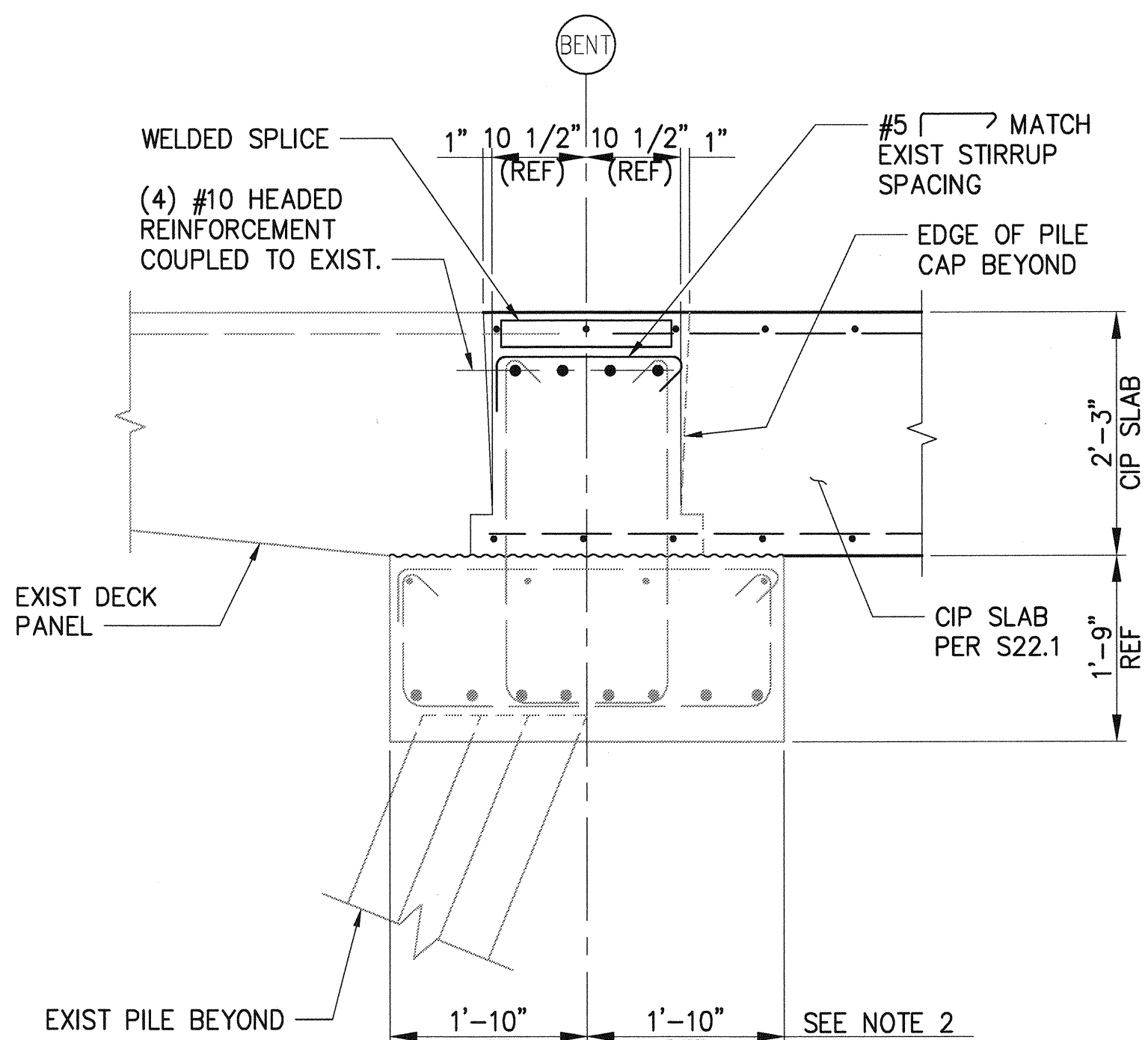
**EDGE BEAM SECTION
EXISTING BENT DD**
S9.16
3/4"=1'-0"



**EDGE BEAM SECTION
EXISTING BENT M**
S9.16
3/4"=1'-0"



SECTION D
3/4"=1'-0"



SECTION E
3/4"=1'-0"

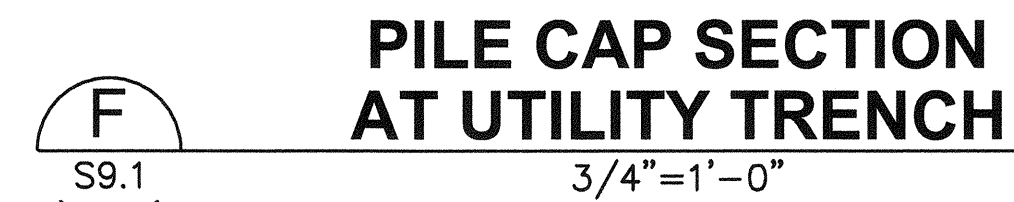
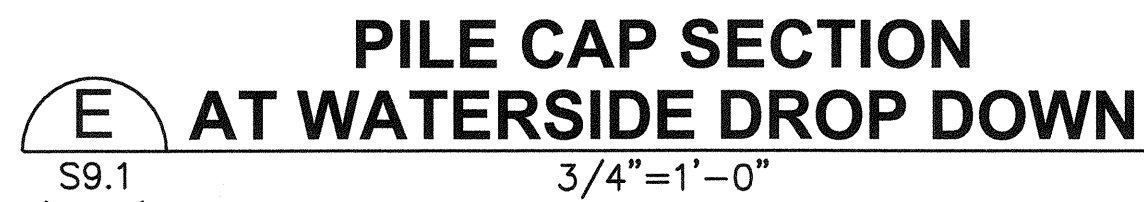
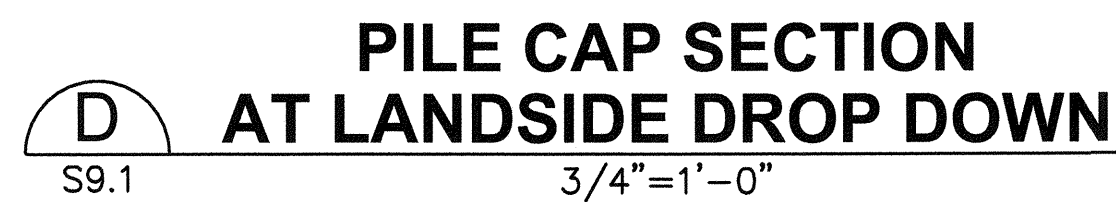
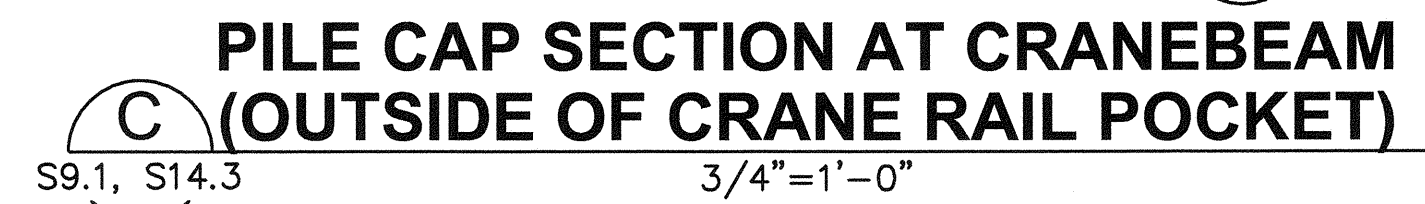
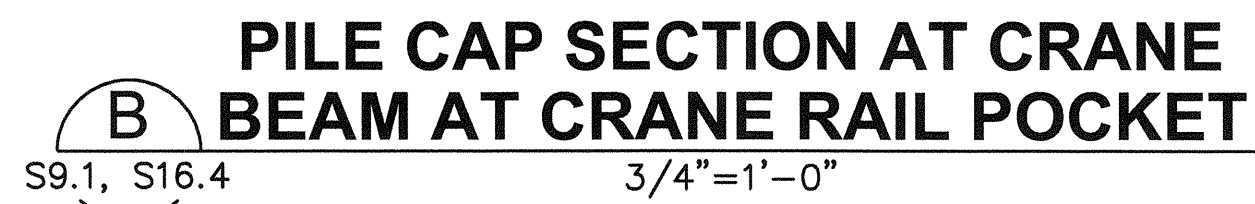
NOTES:

1. COUPLE HEADED REINFORCEMENT TO EXISTING BARS PROTRUDING FROM EXISTING PILE CAP, UNO.
2. STAGE 1 MAY VARY AT EXIST PILE CAP BUILD BACK, MATCH DEPTH AND WIDTH OF EXISTING PILE CAP.
3. T/CONC = TOP OF ASPHALT PER GRADING AND PAVING PLAN C4.1

 2407 North 31st Street, Suite 100 Tacoma, WA 98401 (253) 396-0150 Fax (253) 396-0162	 Kiewit Professional Firm 1000 1st Avenue Tacoma, WA 98401 (253) 396-0150	 SCOTT B. KIEWIT LICENSE NO. 10000 EXPIRATION DATE 12/31/2024	APPR: DATE:
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APPROVED: 3-28-16	CHECKED BY: DATE:
DIRECTOR: 3-28-16	ENGR: DATE:
PRINTED BY: tiemans Mar 24, 2016	PORT ADDRESS: ONE SITCUM PLAZA
TACOMA, WA 98401-1837	DRAWING SCALE: AS NOTED

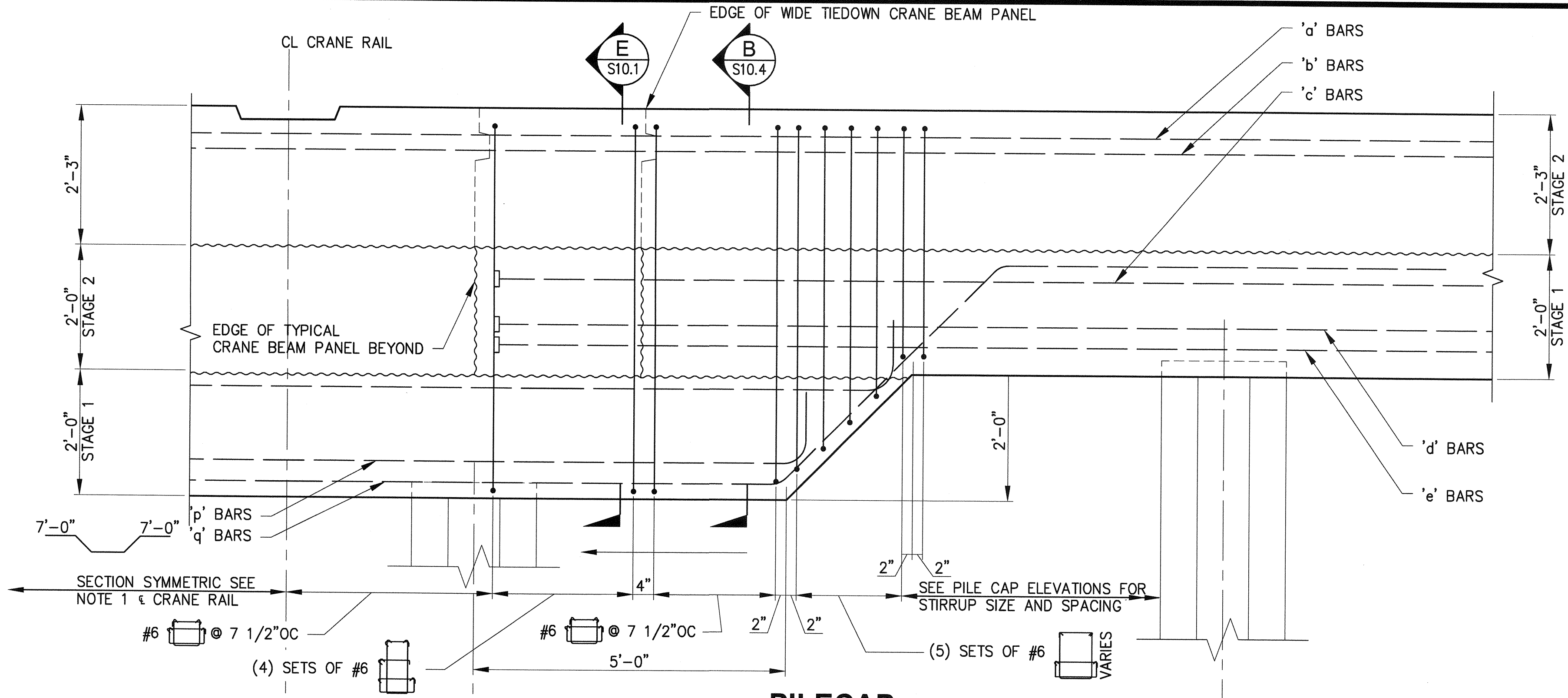
6552 S10.5 SH 232 OF 499	PIER 4 PHASE 2 RECONFIGURATION PILE CAP SECTIONS AND DETAILS - SHEET 5
TOWNSHIP: 21N RANGE: 3E SECTION: 27	DAT-HRZ: WA83-SF VERT: MLW 19.39' @ Tide 22 1933
CONT/CONS: 070136 M. ID: 091251 PHASE: BID	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION



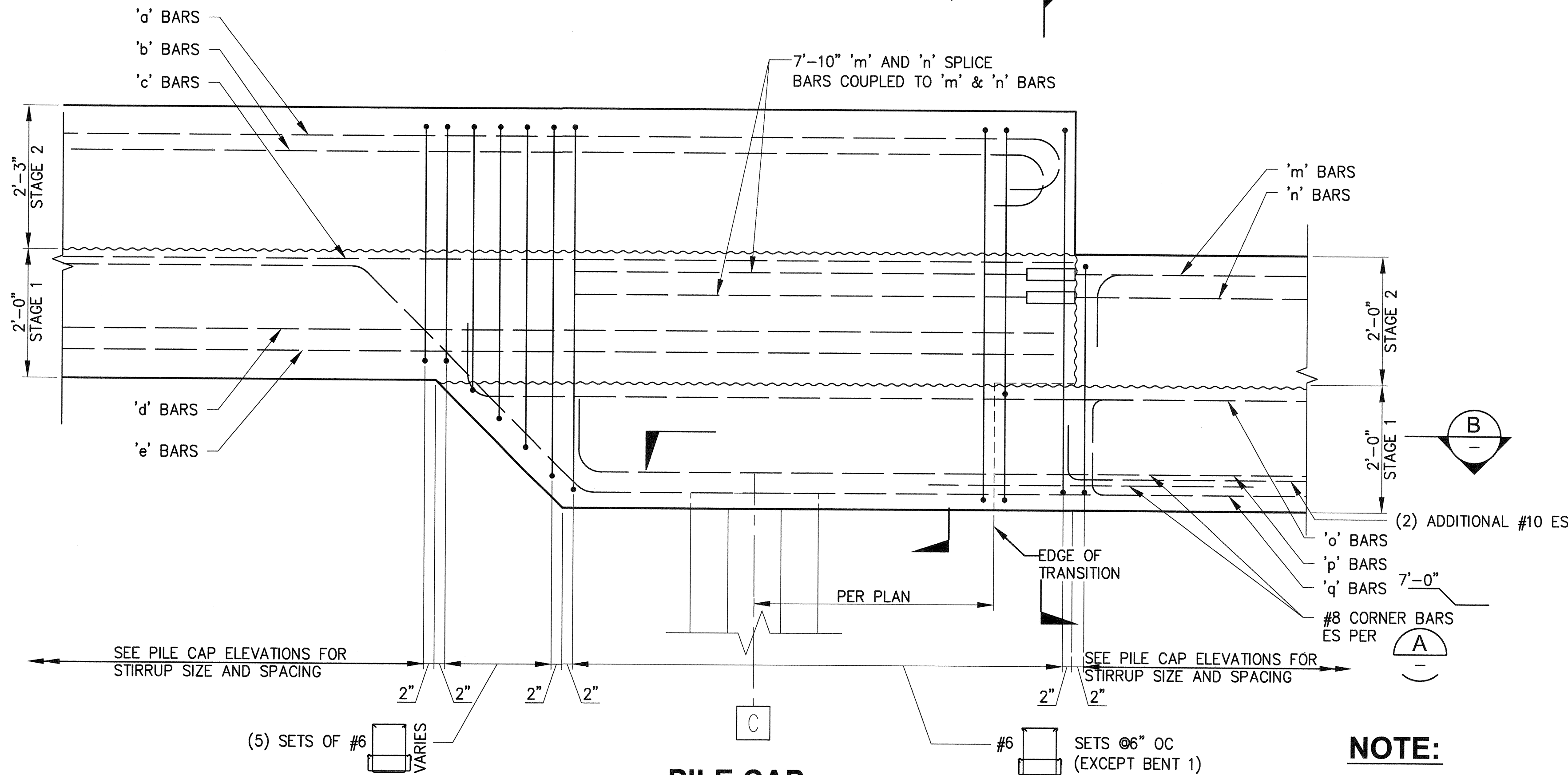
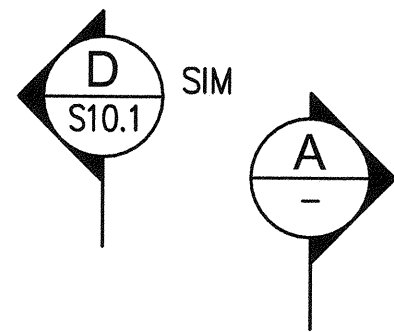
1. TERMINATE FOUR 'q' BARS AT WATERSIDE FACE OF WITH 90° HOOKS.
2. TERMINATE EACH SIDE OF 'o' BARS WITH 90° HOOK.
3. HOOK 'k' BARS EACH SIDE TO RAIL JOINT AS NEEDED
4. #10X16"-0" FRANE BARS AT LANDSIDE CRANE BEAM, 22"-0" AT WATERSIDE
5. T/CONC = TOP OF ASPHALT PER GRADING AND PAVING PLAN C4.1

BINDING EDGE

PORT OF TACOMA FILE: N:\Struct\114-1114096 (POT Pier 4)\Drawings\Current\Phase 2_091251\091251-S10.7

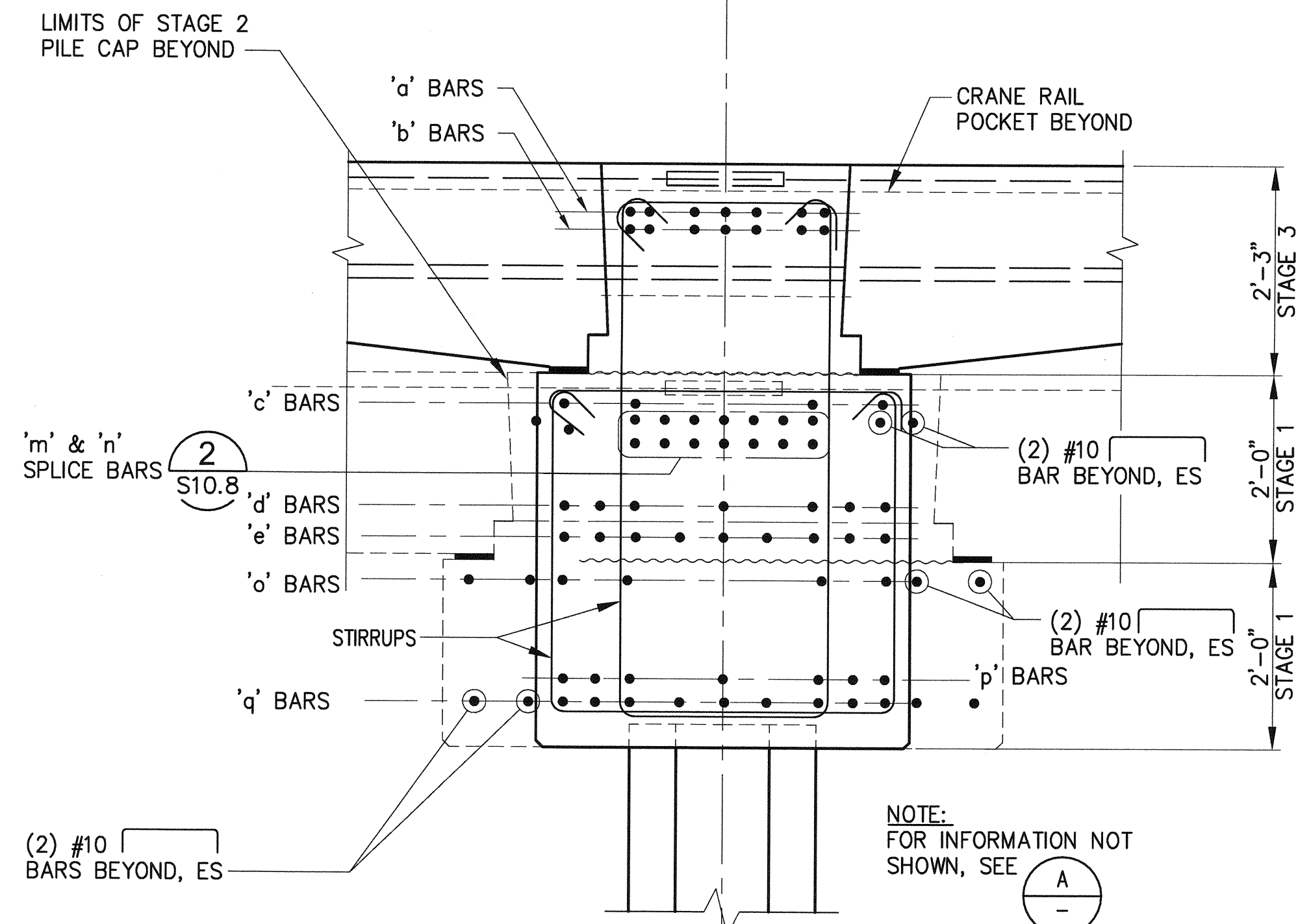


PILECAP STEP DETAIL
1
S9.5 - S9.12 SCALE: 3/4" = 1'-0"

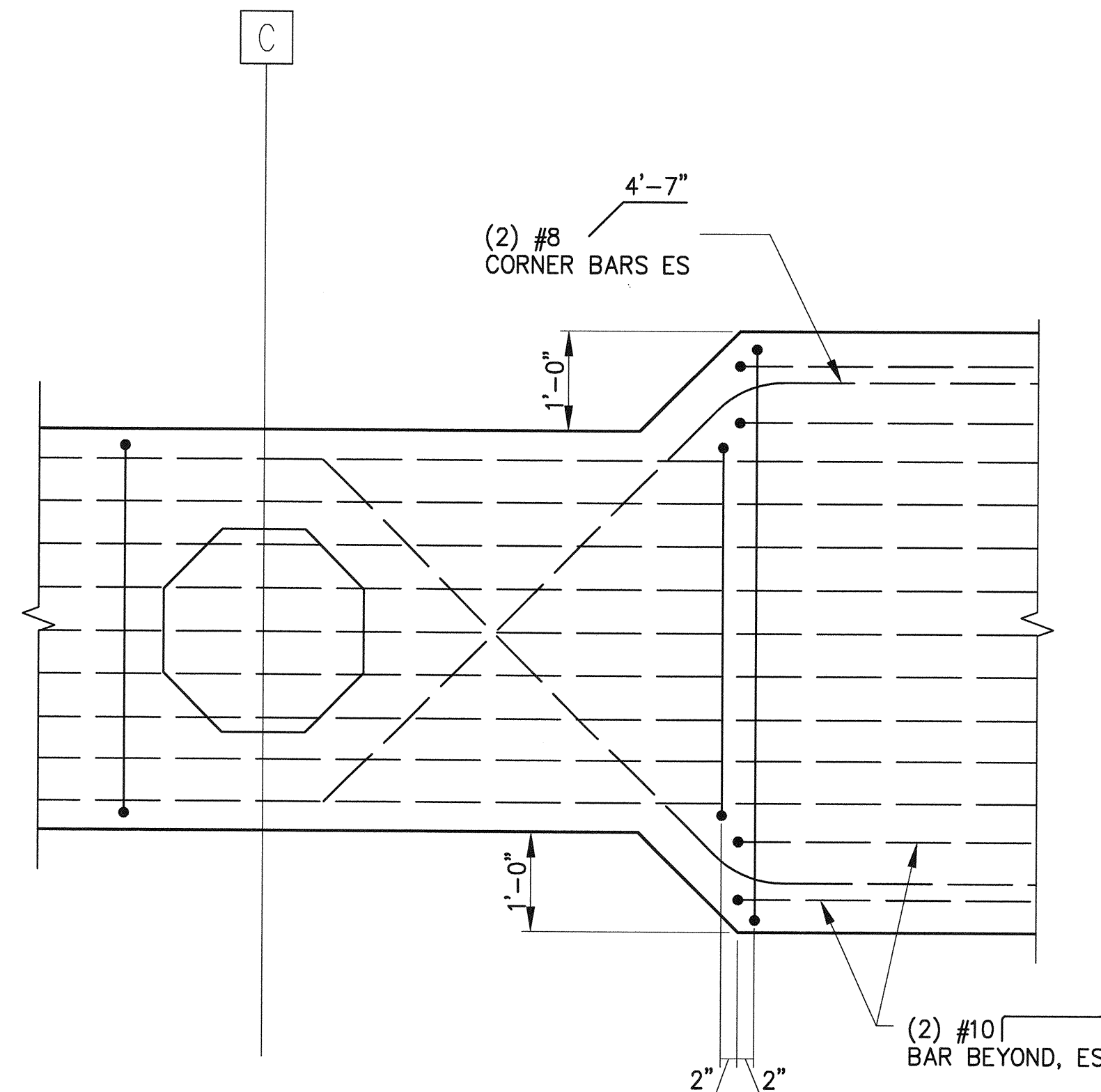


PILECAP STEP DETAIL
2
S9.2 - S9.8 SCALE: 3/4" = 1'-0"

NOTE:
1. REINFORCING DETAILED SYMMETRIC CEBOUT & CRAIN RAIL WHERE CRANE BEAM IS SYMMETRIC.



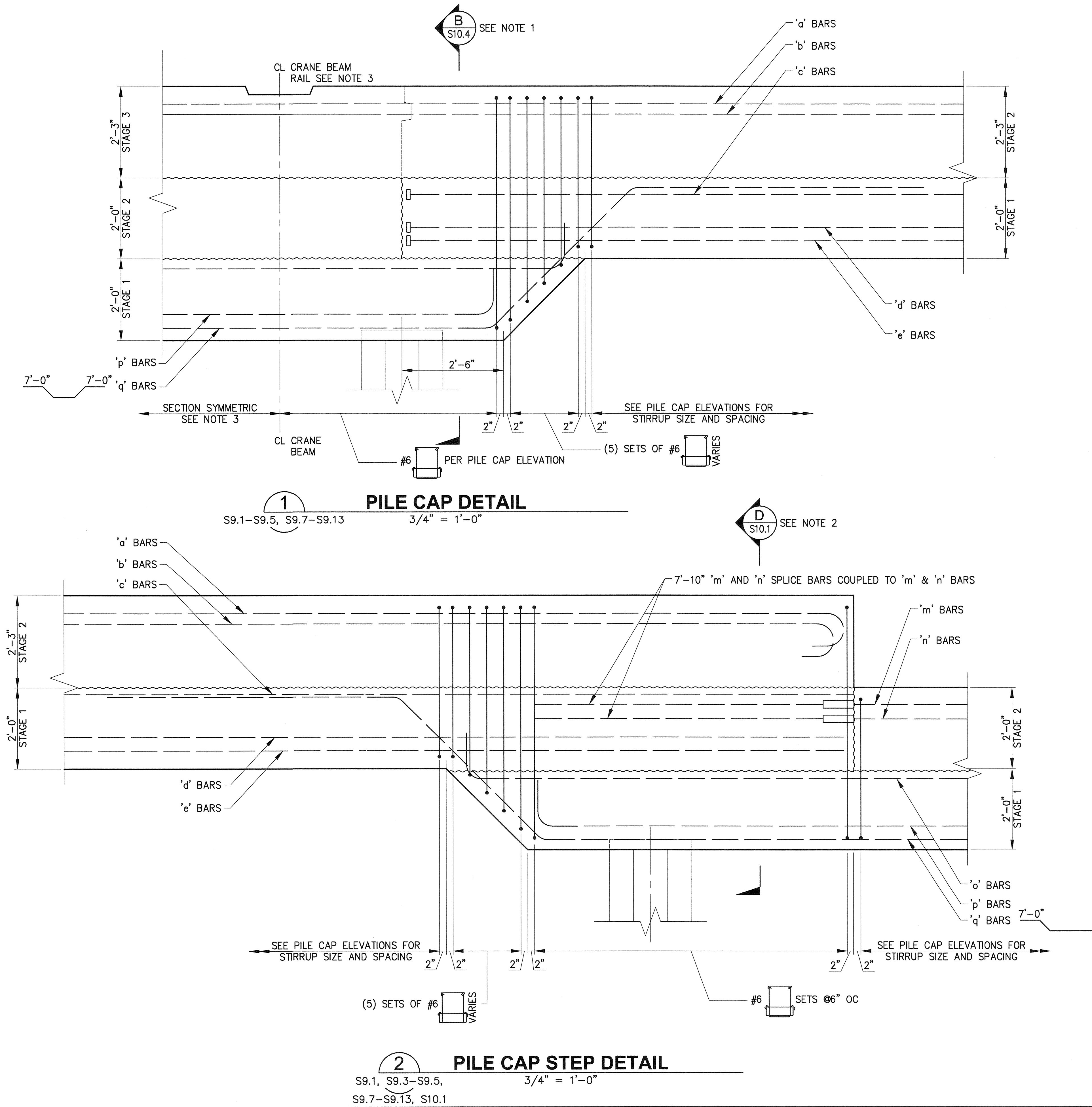
DOUBLE BITT BOLLARD PILE C CCP SECTION
A
SCALE: 3/4" = 1'-0"



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

6552 S10.7 SH 234 OF 499	PIER 4 PHASE 2 RECONFIGURATION PILE CAP SECTIONS AND DETAILS - SHEET 7				Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1887 TACOMA, WA 98401 (253)385-3841	
	CONT/CONS: 070136 M. ID: 091251 PHASE: BID	TOWNSHIP: 21N RANGE: 3E SECTION: 27 DATE-HRZ: WA83-SF PARCEL: MLLW 19.39' @ Tide 22 1933	APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR ENG. DATE: 2/28/16 PRINTED BY: tlemmons PORT ADDRESS: ONE SITCLIM PLAZA TACOMA, WA 98401-1837	SEK CHECKED BY: TA DATE: 3-28-16 PROJ. ENGR: TA DATE: 2/24/16 REVISION: 1 BY: 1 DATE: 1	MARK: 1 REVISION: 1 BY: 1 DATE: 1	

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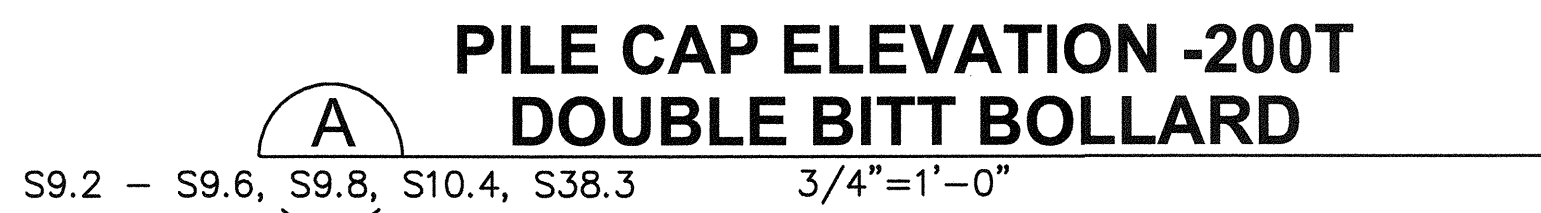


NOTES:

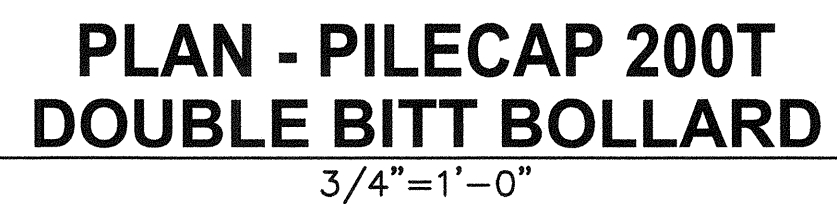
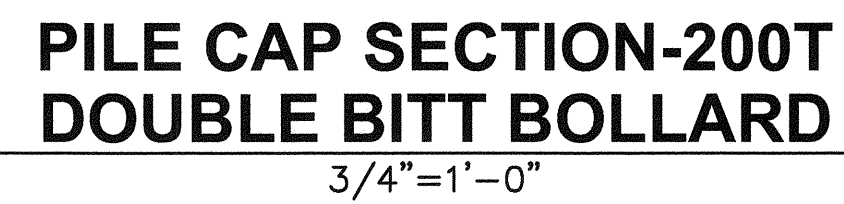
- AT BENT 1 SEE DETAIL
- AT BENT 1 SEE DETAIL
- REINFORCEMENT DETAILED SYMMETRIC ABOUT CRANE RAIL WHERE CRANE BEAM IS SYMMETRIC.

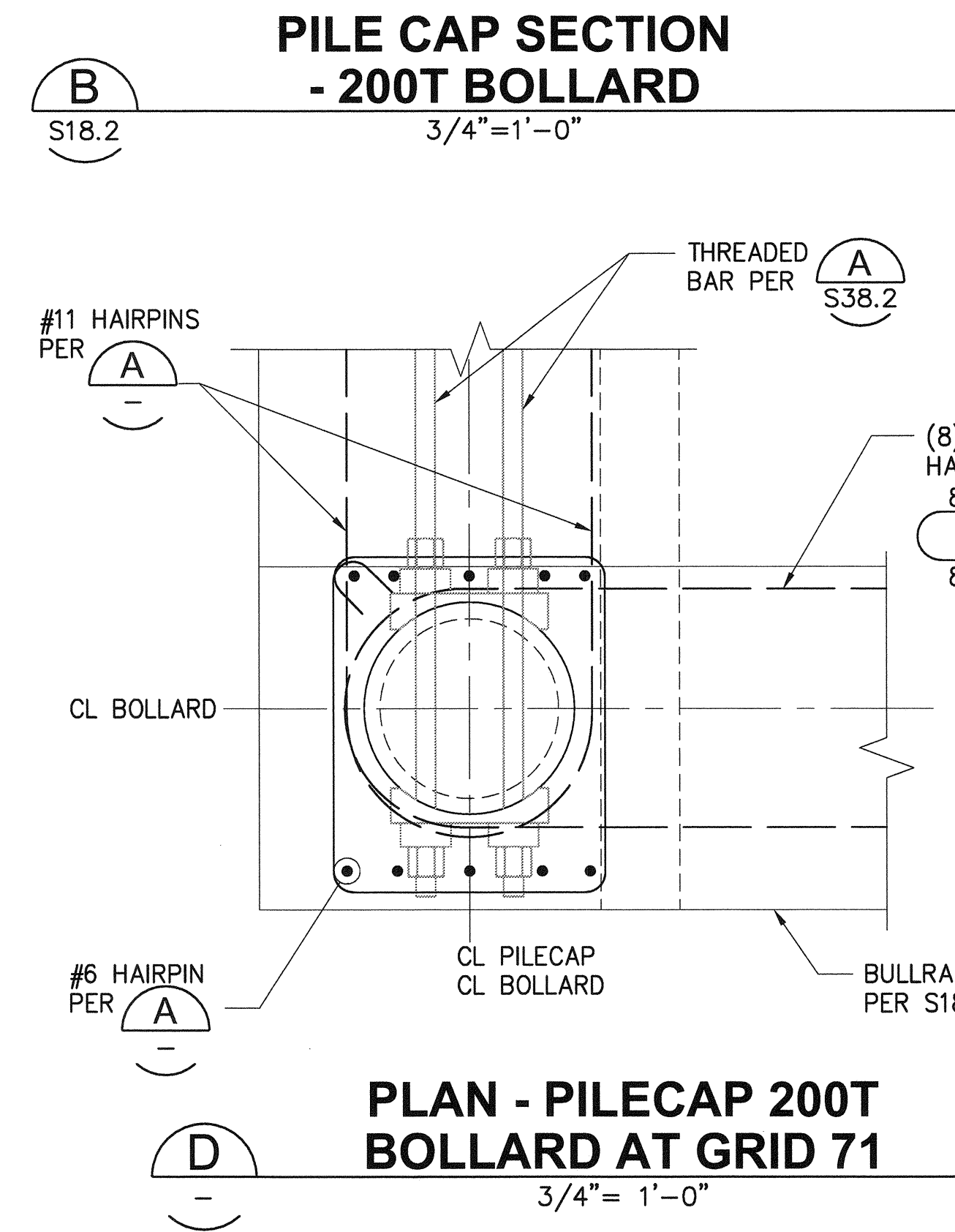
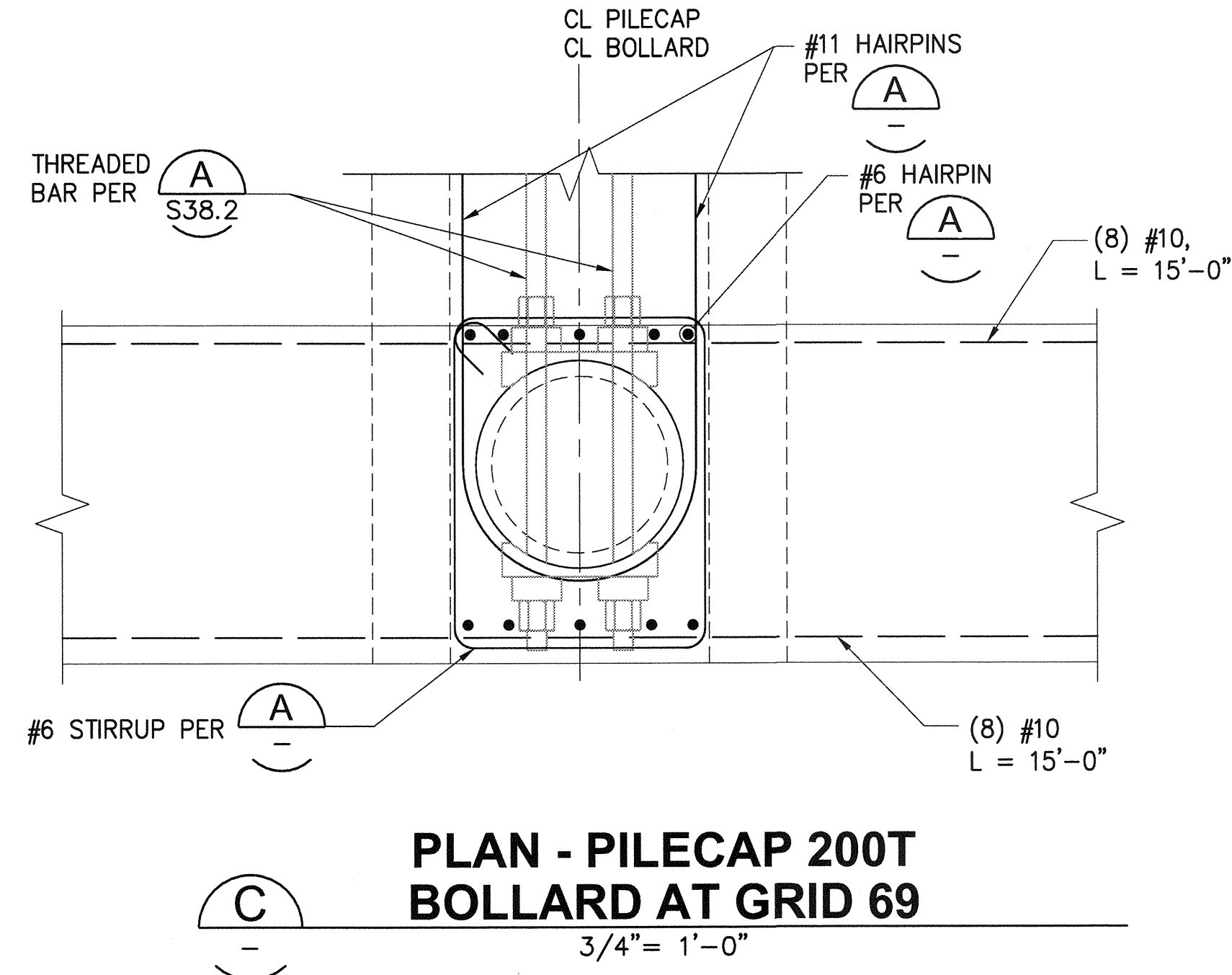
D	S10.6
C	S10.15
E	S10.6
D	S10.15

6552 S10.8 SH 235 OF 499				PIER 4 PHASE 2 RECONFIGURATION PILE CAP SECTIONS AND DETAILS - SHEET 8				APPROVED: <i>[Signature]</i> 3-23-16		SEK CHECKED BY DATE		TAH DIRECTOR ENG. DATE		PRINTED BY: tlemonts Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837		9152-5				kpff 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162											
CONT/CONS: 070136		TOWNSHIP: 21N		RANGE: 3E		SECTION: 27																MARK:		REVISION:		BY:		APPR:		DATE:	
M. ID: 091251		DAT-HRZ: WA83-SF		VERT: MLLW 19.39' @ Tide 22 1933																											
PHASE: BID		PARCEL:		DRAWING SCALE: AS NOTED																											

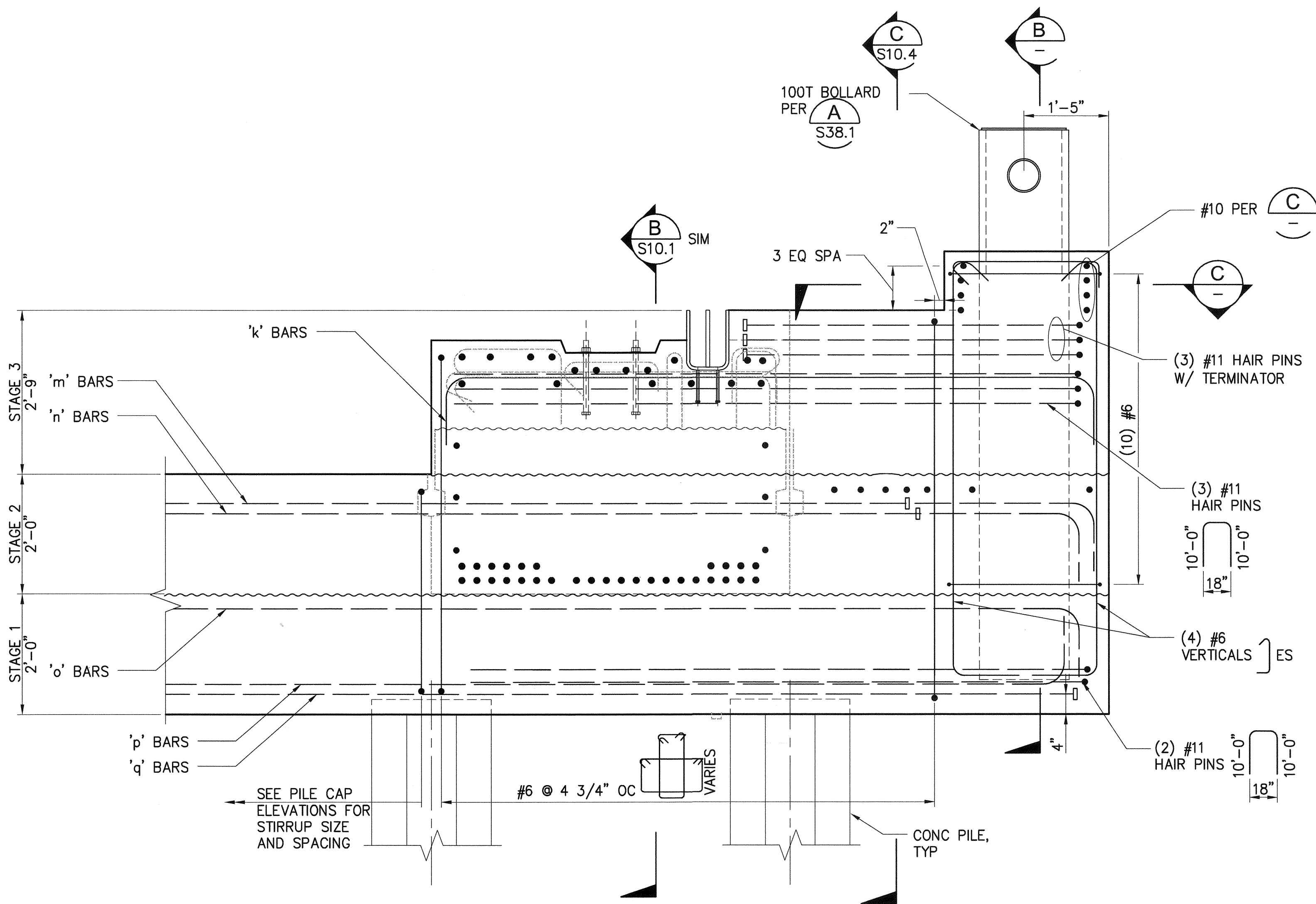


1. TERMINATE ALL LONGITUDINAL PILE CAP BARS THAT CONFLICT WITH BOLLARD PIPE SLEEVES WITH HEADED REINFORCEMENT

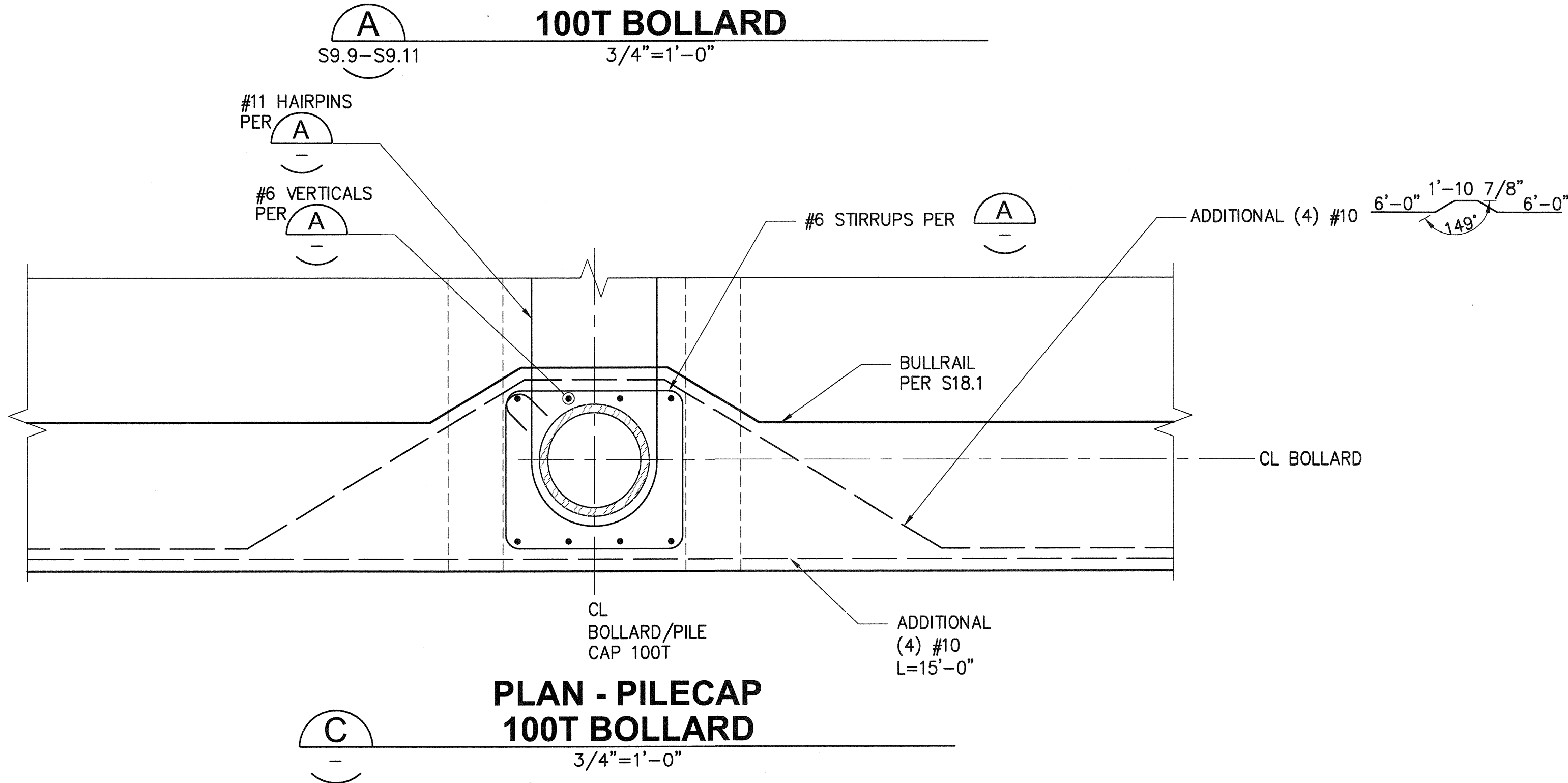




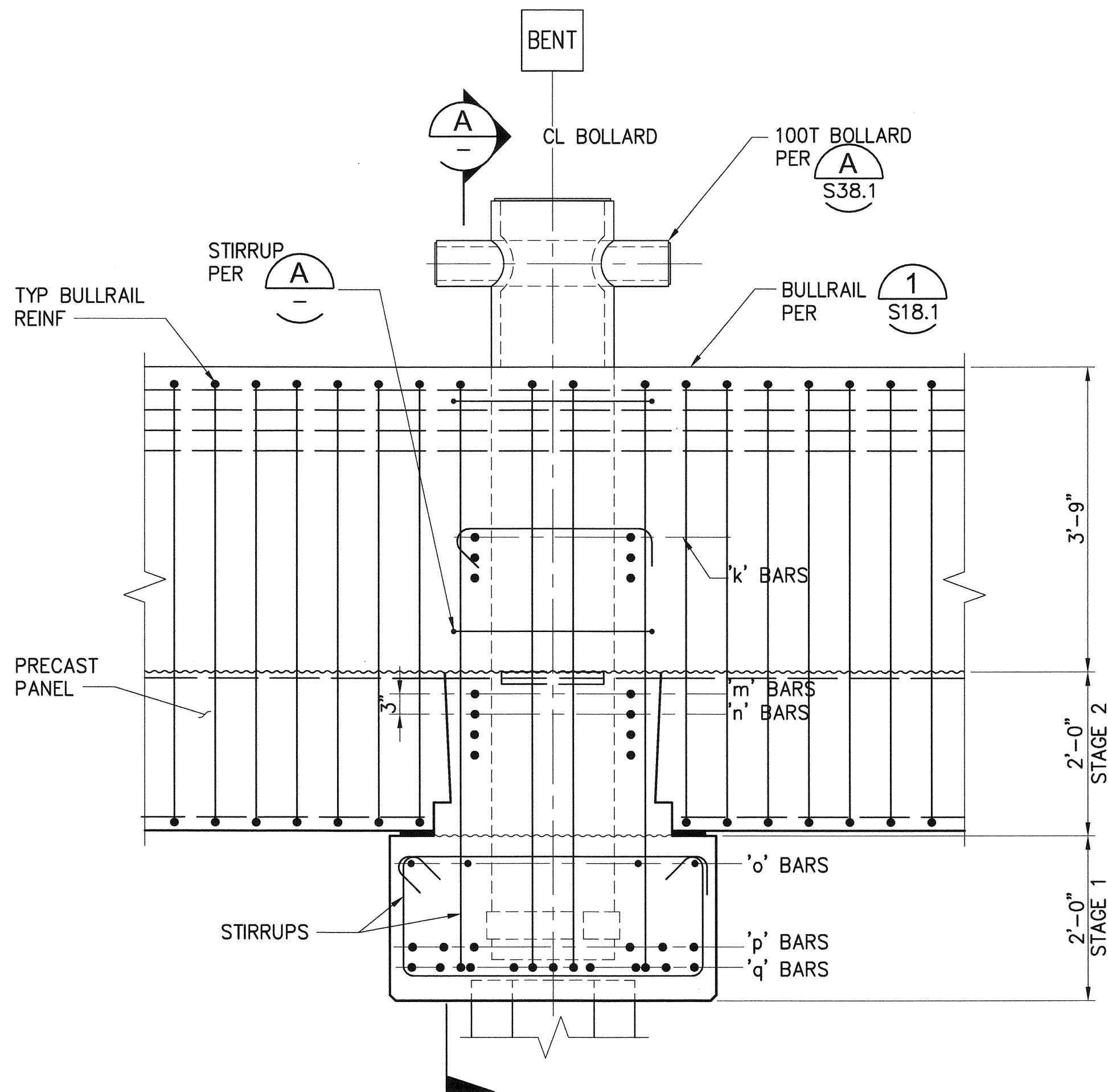
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PILECAP ELEVATION-
100T BOLLARD



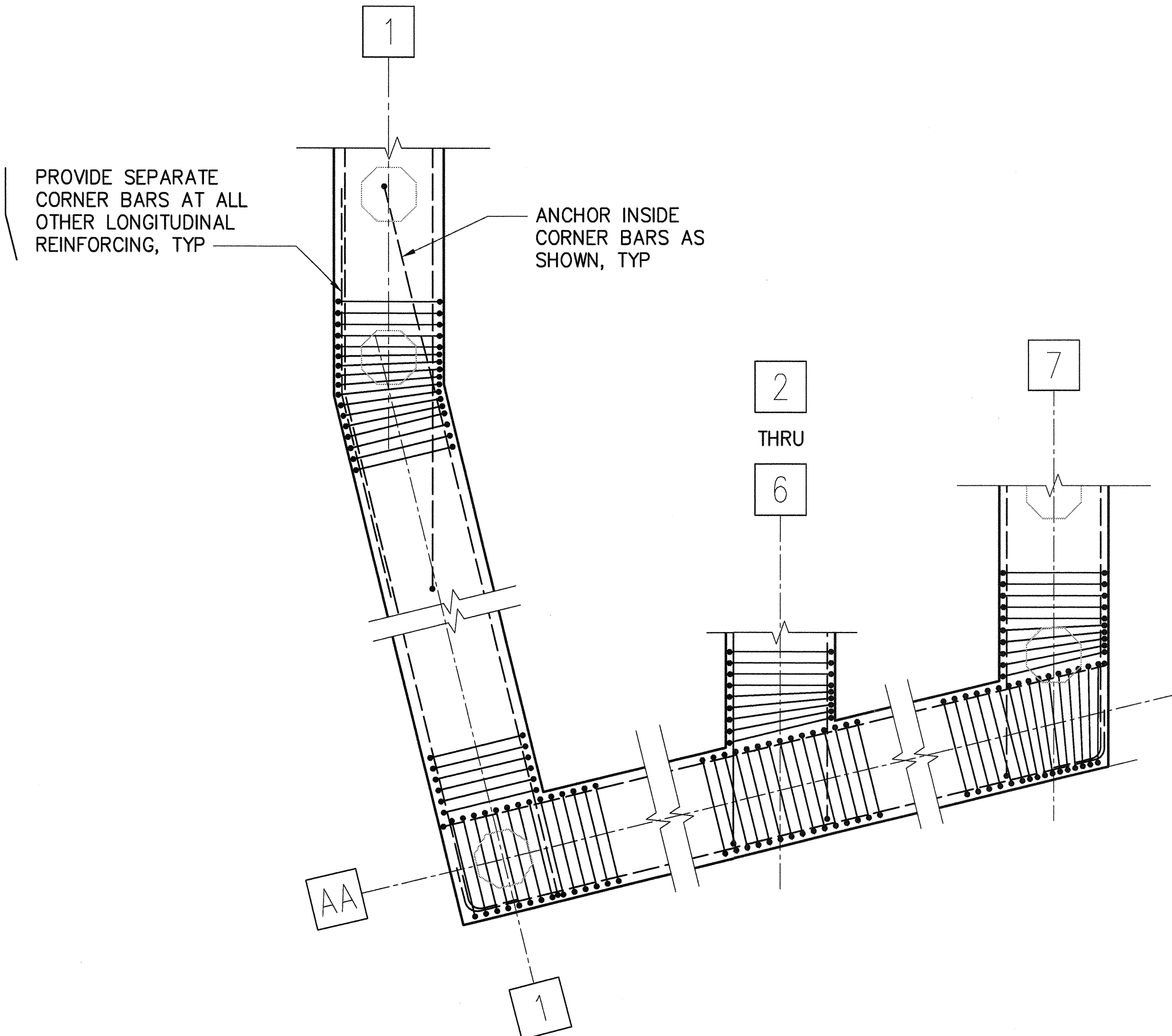
PLAN - PILECAP
100T BOLLARD



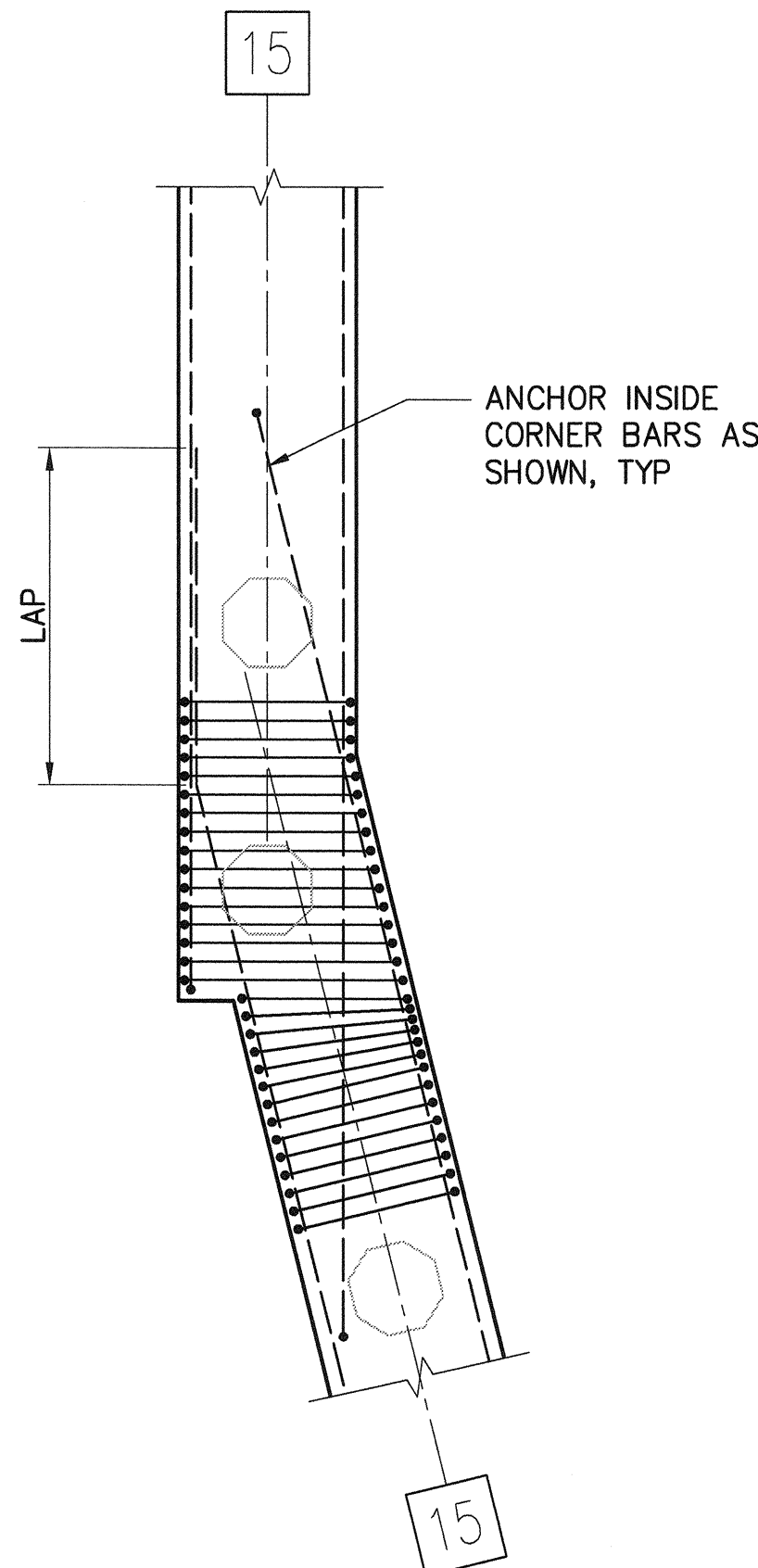
PILECAP SECTION -
100T BOLLARD

6552	S10.11	SH 238 OF 499	PIER 4 PHASE 2 RECONFIGURATION PILE CAP SECTIONS AND DETAILS - SHEET 11				APPROVED: <i>[Signature]</i> 3-28-16		SEK CHECKED BY TAH	DATE
			CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	DIRECTOR ENG. DATE: 16Mons Mar 24, 2016	PROJ. ENGR DATE	DATE	
M. ID: 091251	PHASE: BID		DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	PRINTED BY: TACOMA, WA 98401-1837	PORT ADDRESS: ONE SITCUM PLAZA	REVISION:	BY:	APPR:	DATE:

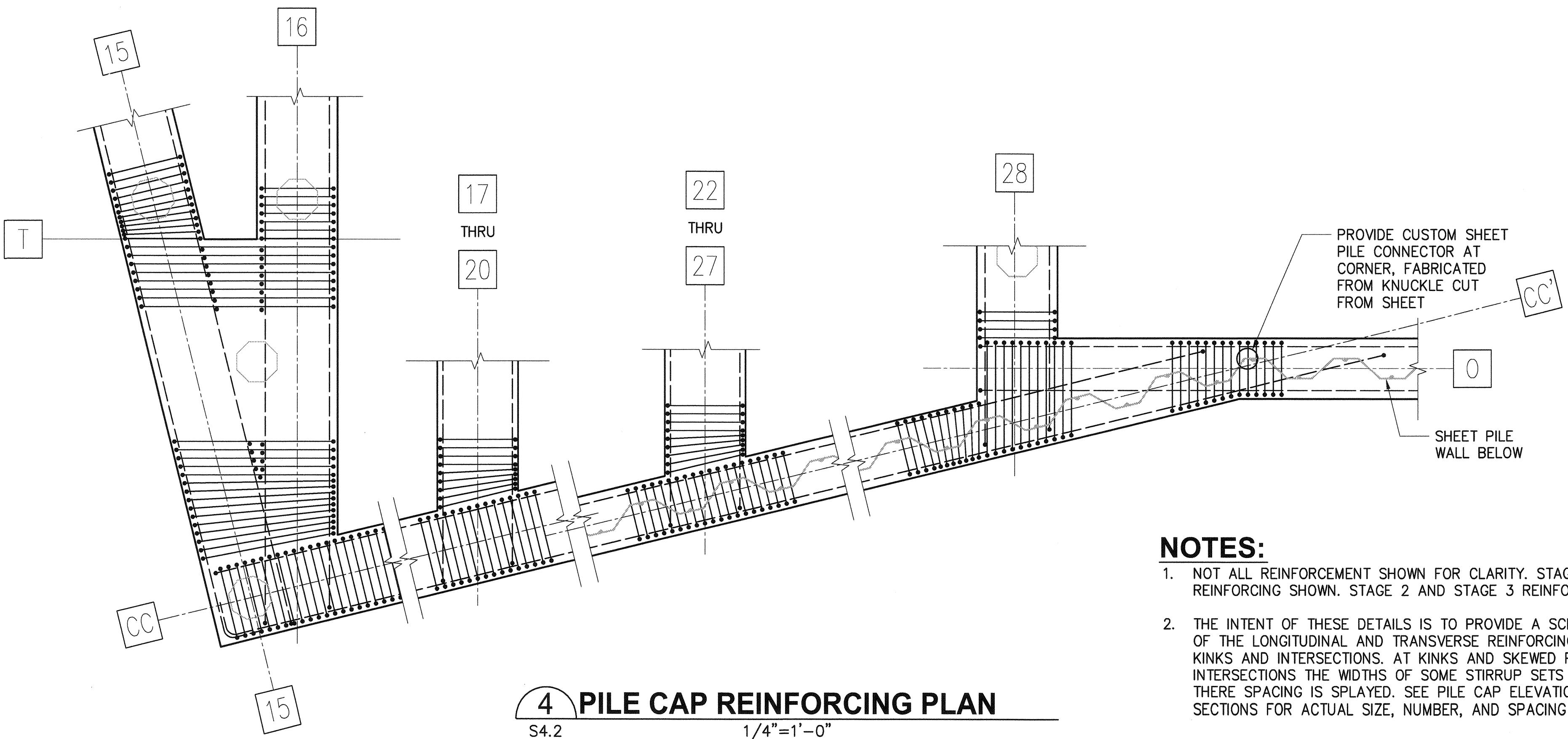
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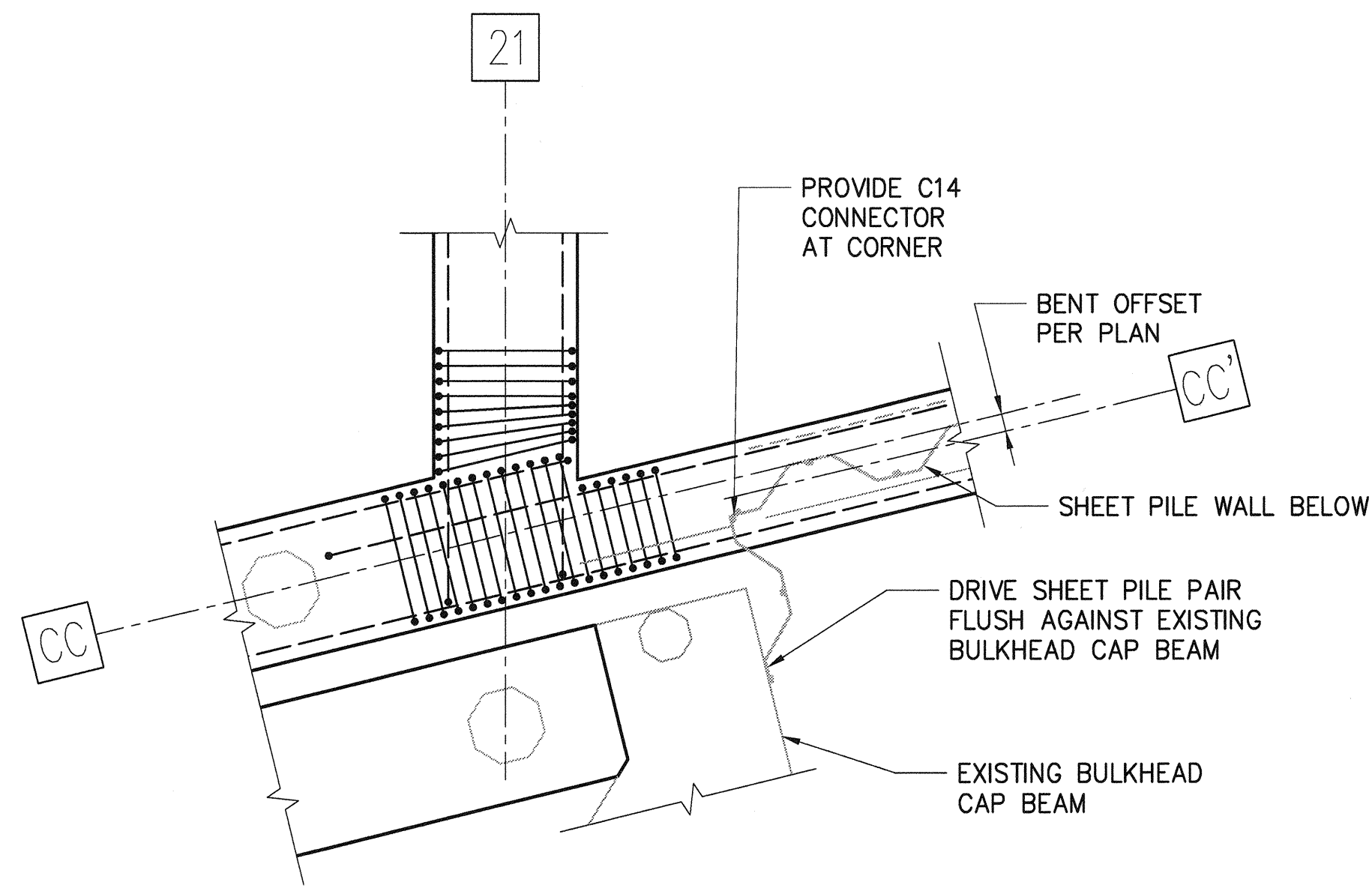
1 PILE CAP REINFORCING PLAN
S4.1 1/4"=1'-0"



2 PILE CAP REINFORCING PLAN
S4.2 1/4"=1'-0"



3 PILE CAP REINFORCING PLAN
S4.2 1/4"=1'-0"

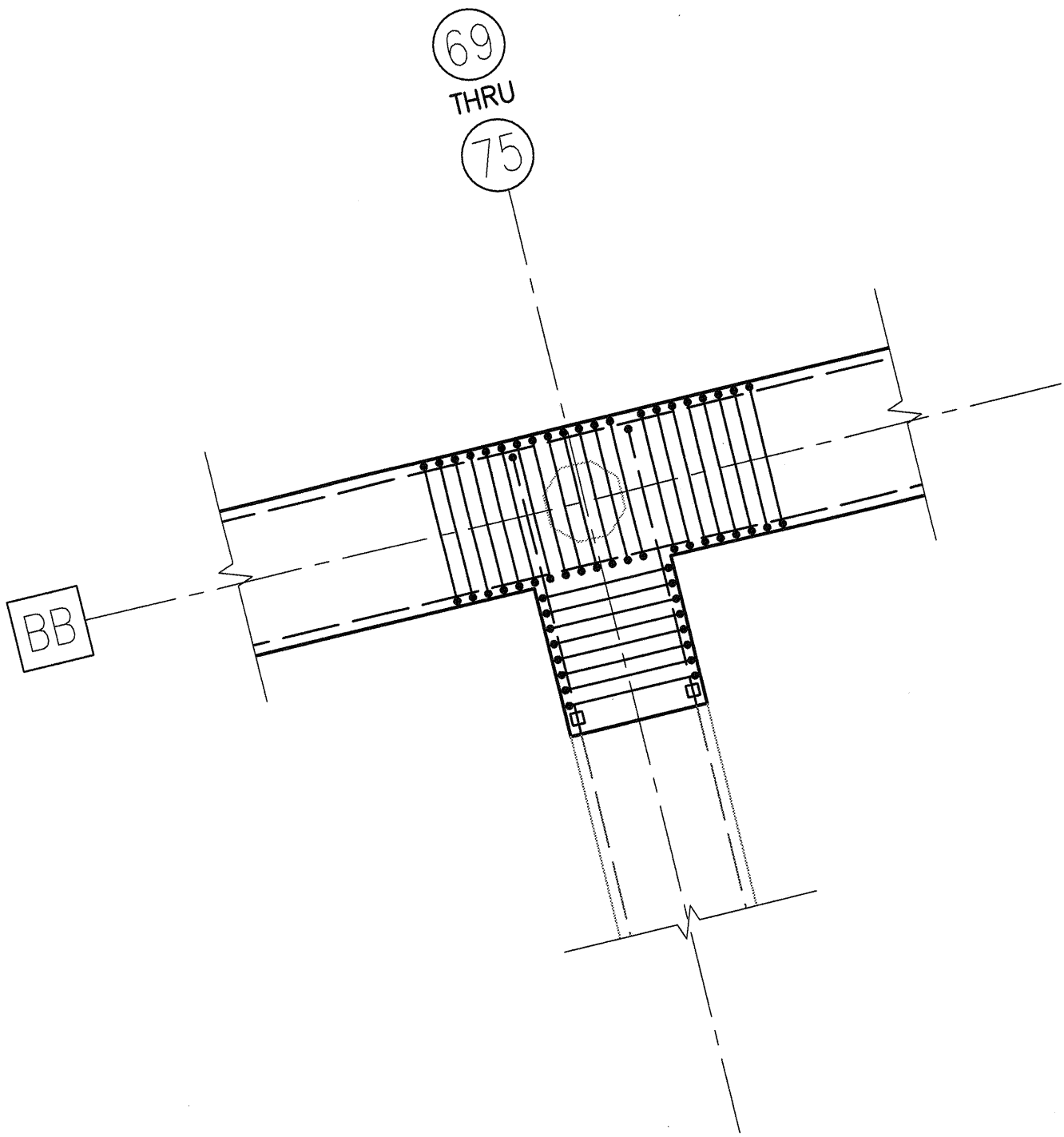


4 PILE CAP REINFORCING PLAN
S4.2 1/4"=1'-0"

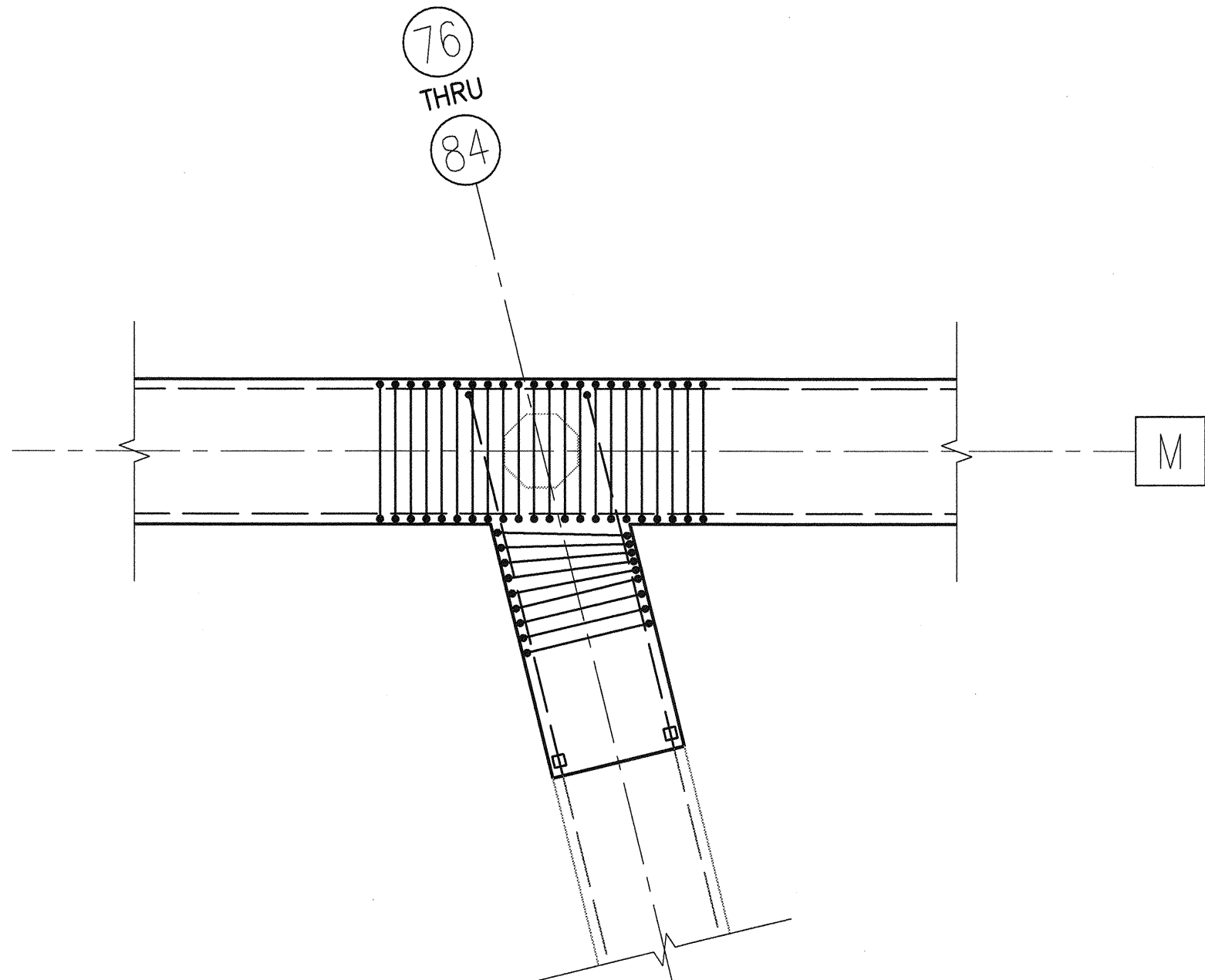
- NOTES:**
1. NOT ALL REINFORCEMENT SHOWN FOR CLARITY. STAGE 1 TOP REINFORCING SHOWN. STAGE 2 AND STAGE 3 REINFORCING SIMILAR.
 2. THE INTENT OF THESE DETAILS IS TO PROVIDE A SCHEMATIC LAYOUT OF THE LONGITUDINAL AND TRANSVERSE REINFORCING AT PILE CAP KINKS AND INTERSECTIONS. AT KINKS AND SKEWED PILE CAP INTERSECTIONS THE WIDTHS OF SOME STIRRUP SETS VARIES AND THERE SPACING IS SPLAYED. SEE PILE CAP ELEVATIONS AND SECTIONS FOR ACTUAL SIZE, NUMBER, AND SPACING OF REINFORCING.

6552 S10.12 SH 239 OF 499	PIER 4 PHASE 2 RECONFIGURATION PILE CAP SECTIONS AND DETAILS - SHEET 12				Port of Tacoma P.O. BOX 1837 TACOMA, WA 98401 (253) 396-5441
	CONT/CONS: 070136 M. ID: 091251 PHASE: BID	TOWNSHIP: 21N DAT-HRZ: WA83-SF PARCEL:	RANGE: 3E VERT: MILLW 19.39' @ Tide 22 1933	SECTION: 27 PRINTED BY: tlemmons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	
APPROVED: <i>[Signature]</i> DIRECTOR ENG. DATE: 3-28-16		SEK CHECKED BY: TA DATE: 3-28-16	2407 North 1st Street, Suite 100 Tacoma, WA 98401 (253) 396-0150 Fax (253) 396-0162		kpff
DRAWING SCALE: AS NOTED		PROJ. ENGR. DATE: 3-28-16	BY: REVISION: DATE: APPR: DATE:		

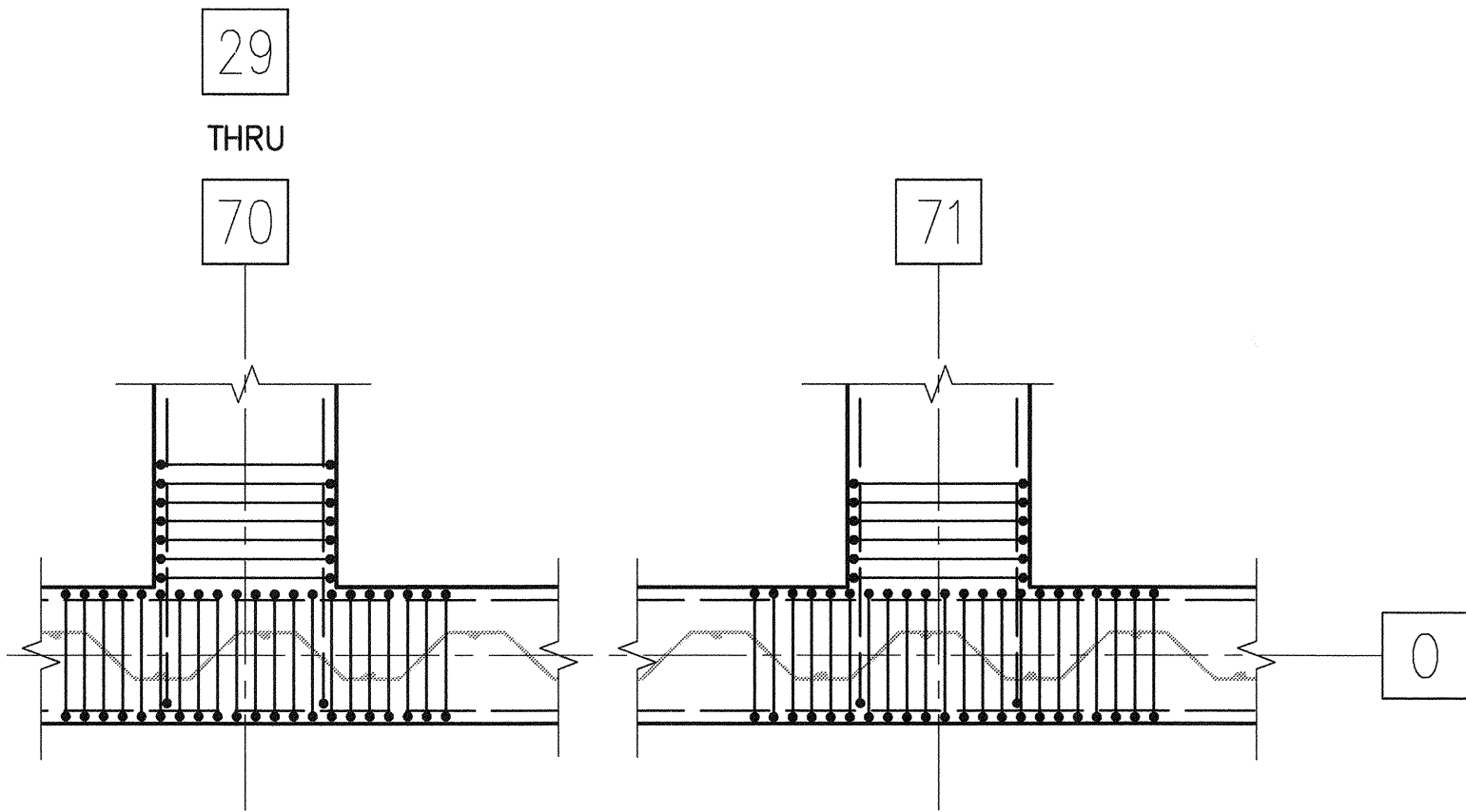
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1 PILE CAP REINFORCING PLAN
S4.1 1/4"=1'-0"



2 PILE CAP REINFORCING PLAN
S4.1 1/4"=1'-0"



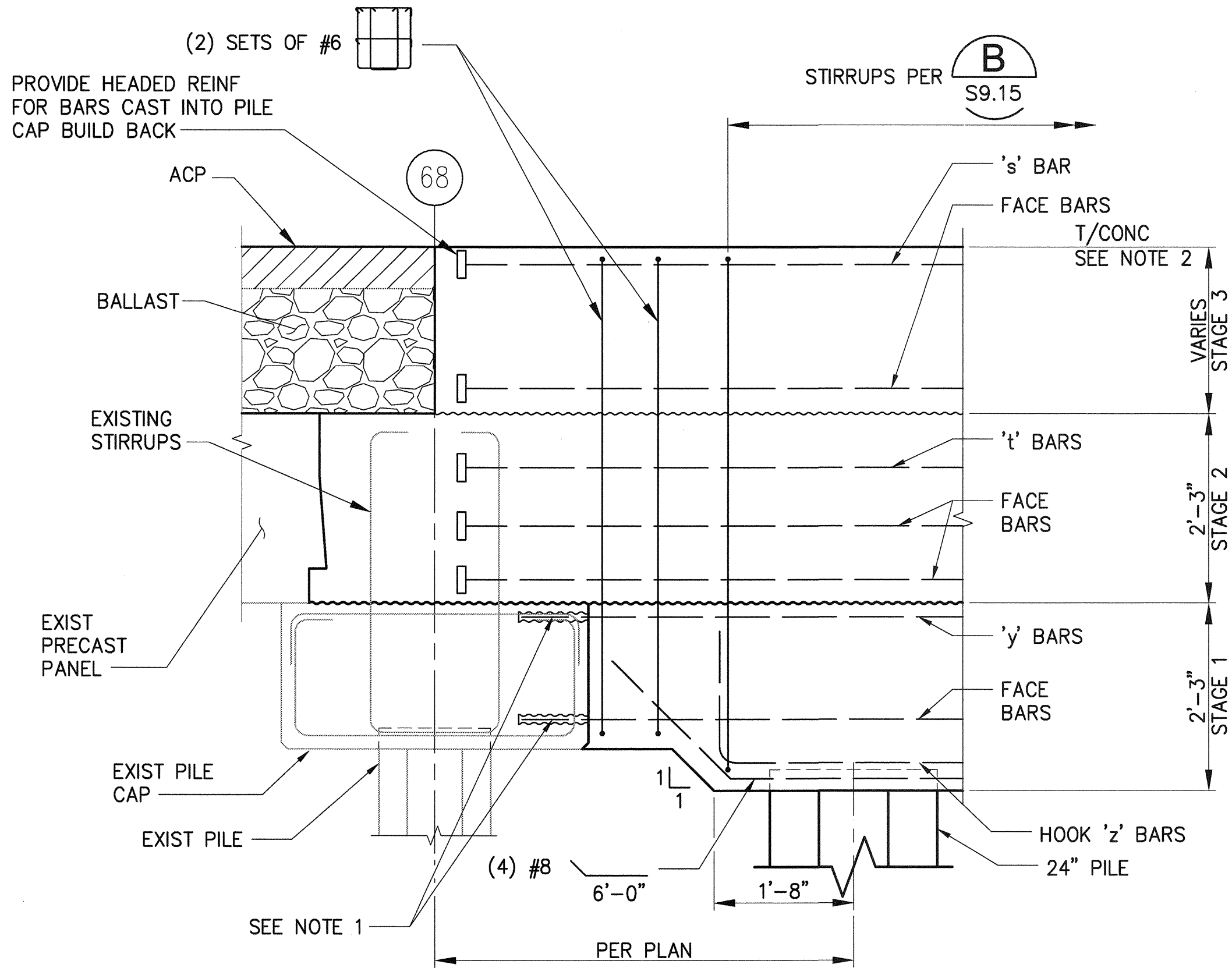
3 PILE CAP REINFORCING PLAN
S4.3, S4.5 1/4"=1'-0"

NOTES:

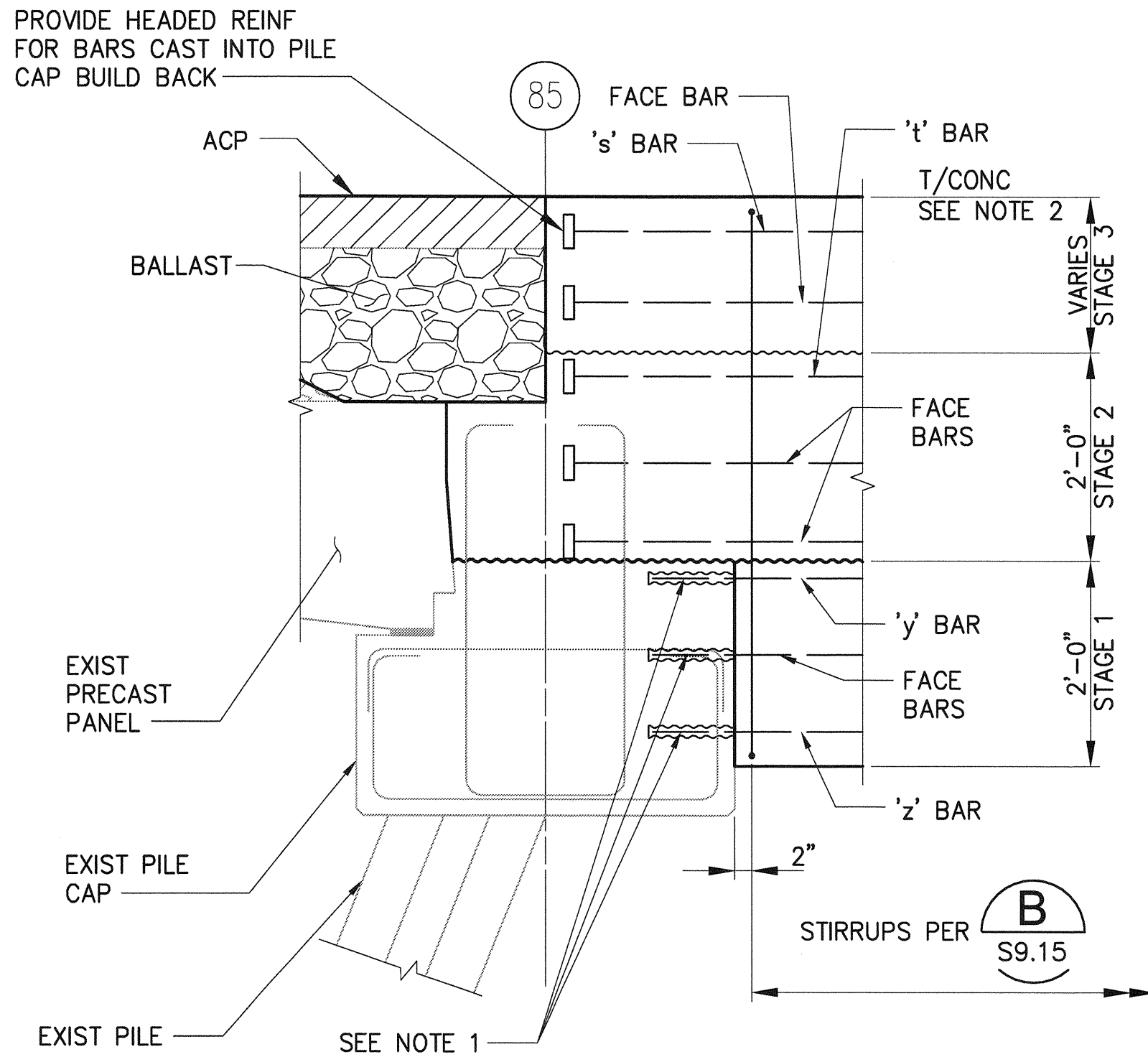
1. NOT ALL REINFORCEMENT SHOWN FOR CLARITY. STAGE 1 TOP REINFORCING SHOWN. STAGE 2 AND STAGE 3 REINFORCING SIMILAR.
2. THE INTENT OF THESE DETAILS IS TO PROVIDE A SCHEMATIC LAYOUT OF THE LONGITUDINAL AND TRANSVERSE REINFORCING AT PILE CAP KINKS AND INTERSECTIONS. AT KINKS AND SKEWED PILE CAP INTERSECTIONS THE WIDTHS OF SOME STIRRUP SETS VARIES AND THERE SPACING IS SPLAYED. SEE PILE CAP ELEVATIONS AND SECTIONS FOR ACTUAL SIZE, NUMBER, AND SPACING OF REINFORCING.

6552 SH 240 OF 499 \$10.13	PIER 4 PHASE 2 RECONFIGURATION PILE CAP SECTIONS AND DETAILS - SHEET 13				APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR ENG. DATE PRINTED BY: tlemmons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA	SEK CHECKED BY TAH PROJ. ENGR DATE	DATE	
	TOWNSHIP: 21N DAT-HRZ: WA89-SF PARCEL:	RANGE: 3E VERT: MLLW 19.39' @ Tide 22 1933 DRAWING SCALE: AS NOTED	SECTION: 27 TIDE: 22 1933	DATE	DATE	DATE	DATE	
CON/CONS: 070136 M. ID: 091251 PHASE: BID		TACOMA, WA 98401-1837		MARK: REVISION: BY: APPR: DATE:		2407 North 31st Street, Suite 100 Tacoma, WA 98401 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 489 TACOMA, WA 98401 (253)396-5441		Port of Tacoma

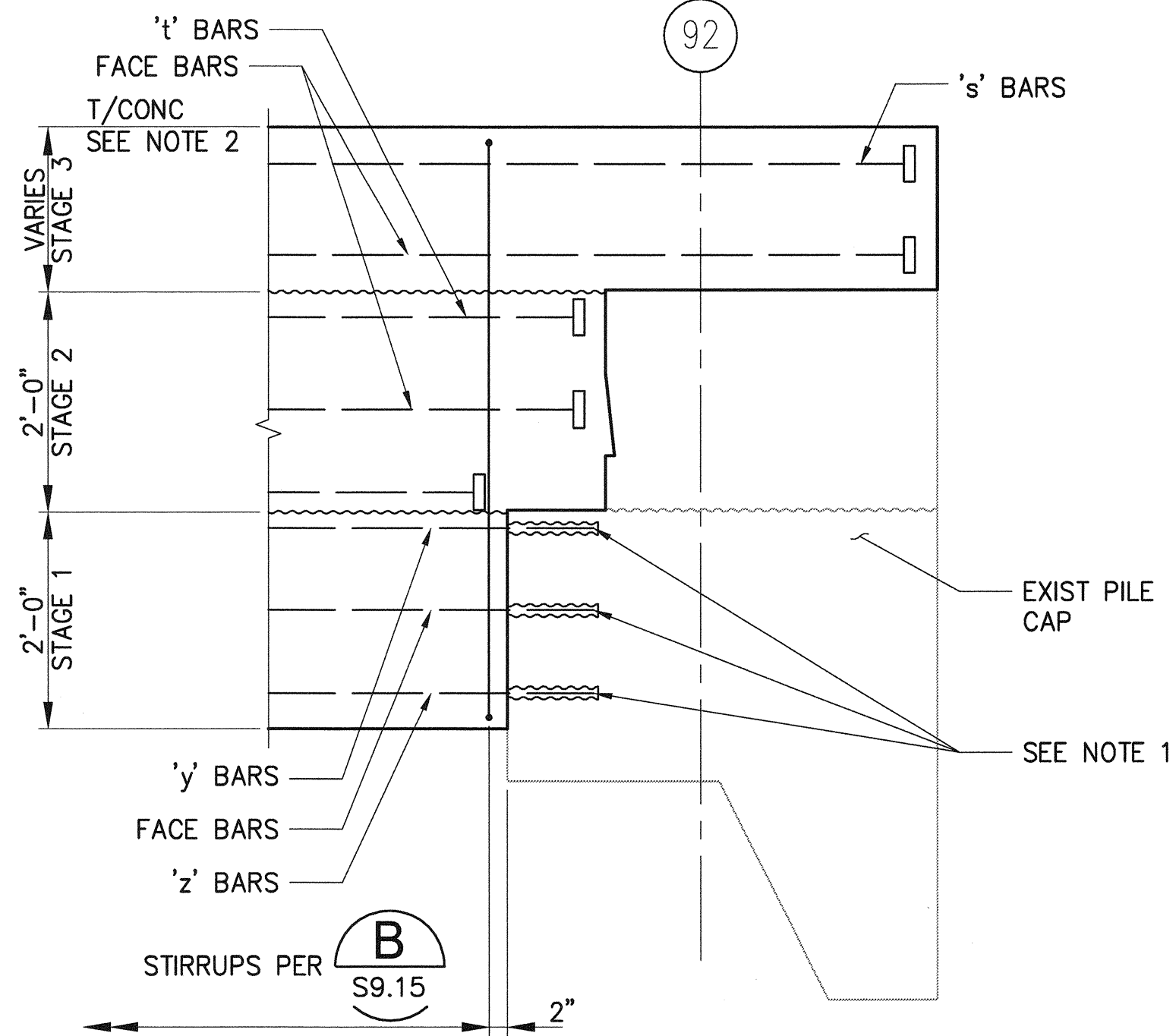
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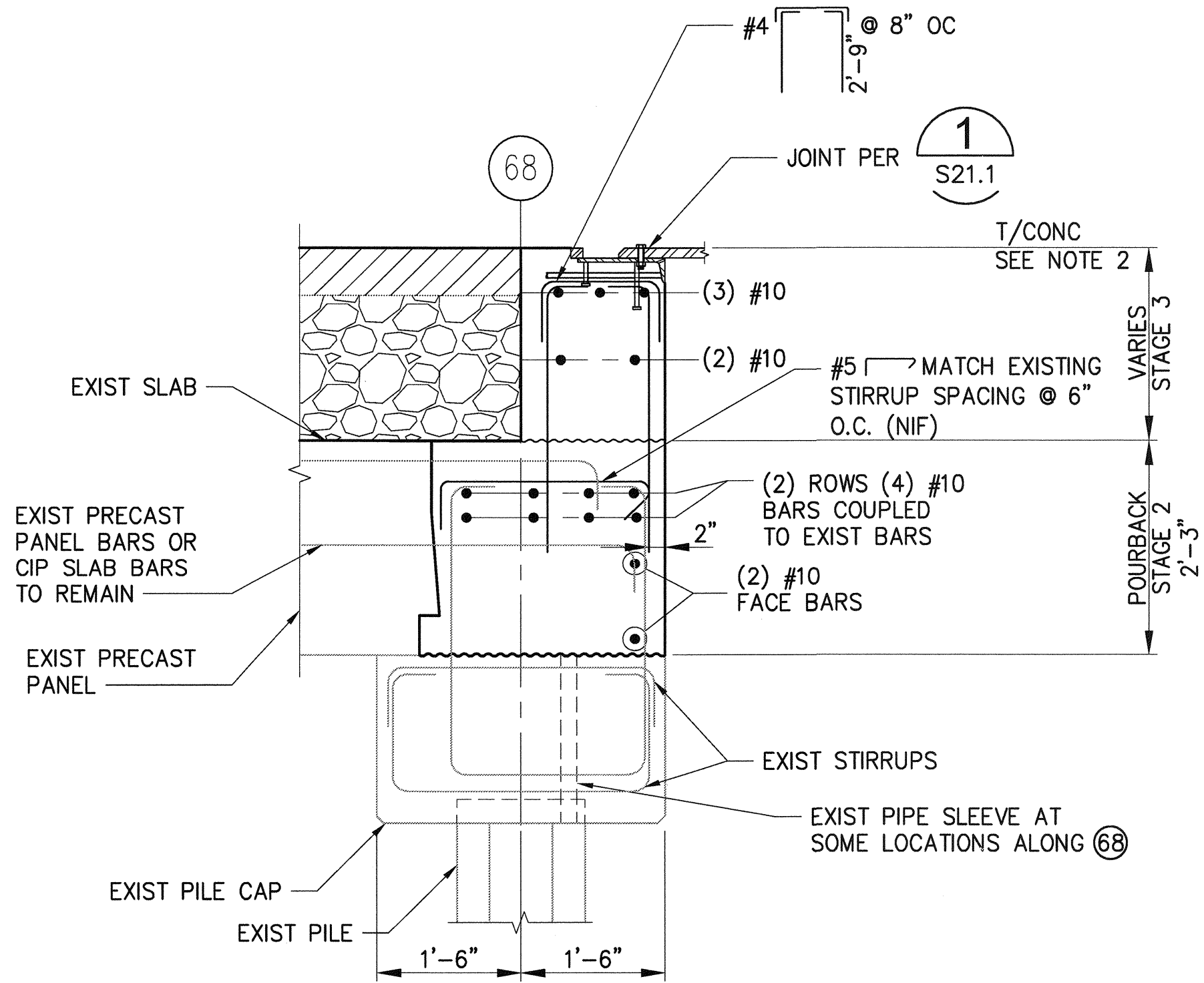
1
S9.15
EXISTING PILE CAP
3/4"=1'-0"



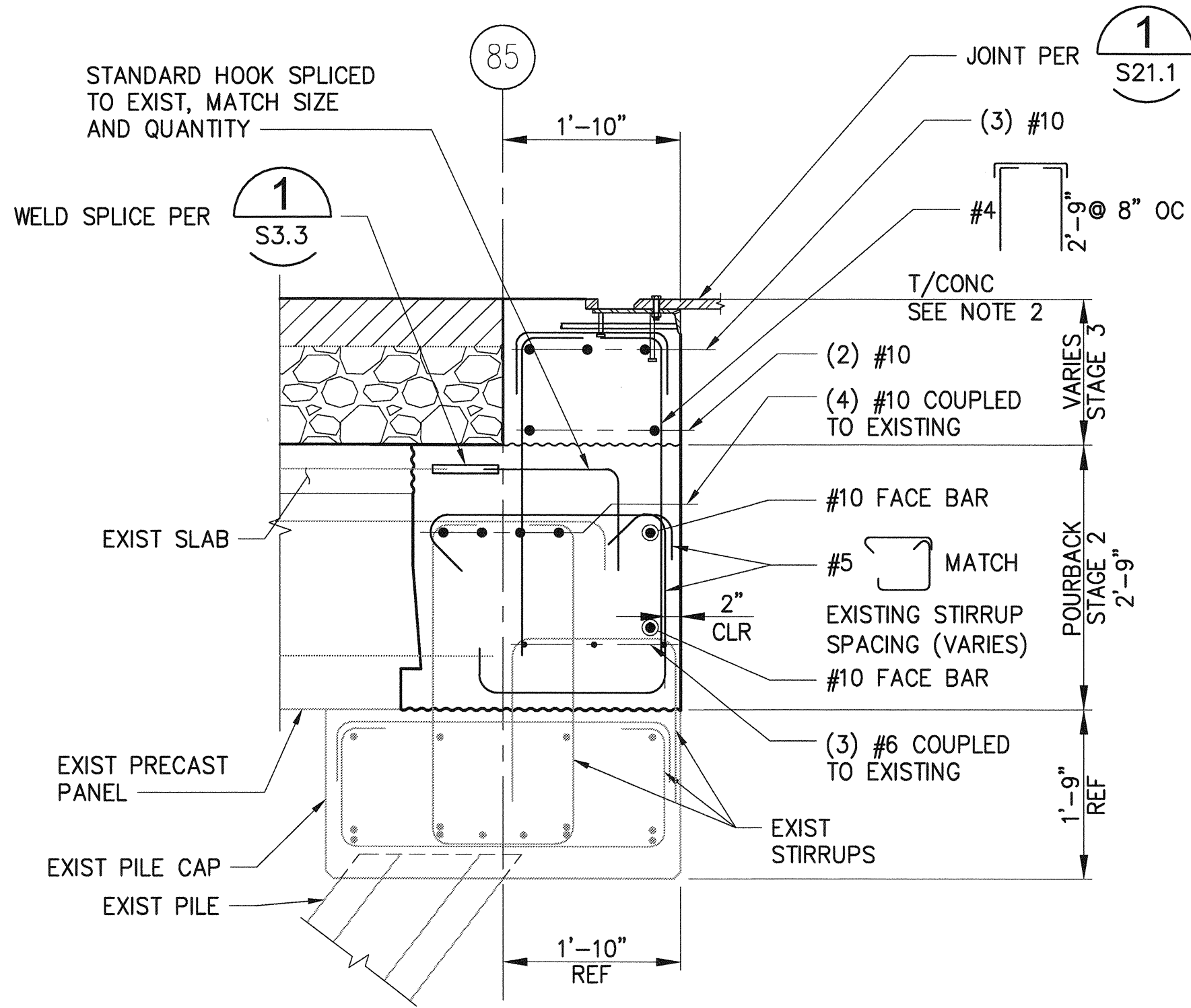
2
S9.16
EXISTING PILE CAP
3/4"=1'-0"



3
S9.16
EXISTING PILE CAP
3/4"=1'-0"



A
EXISTING PILE CAP BUILD BACK
3/4"=1'-0"

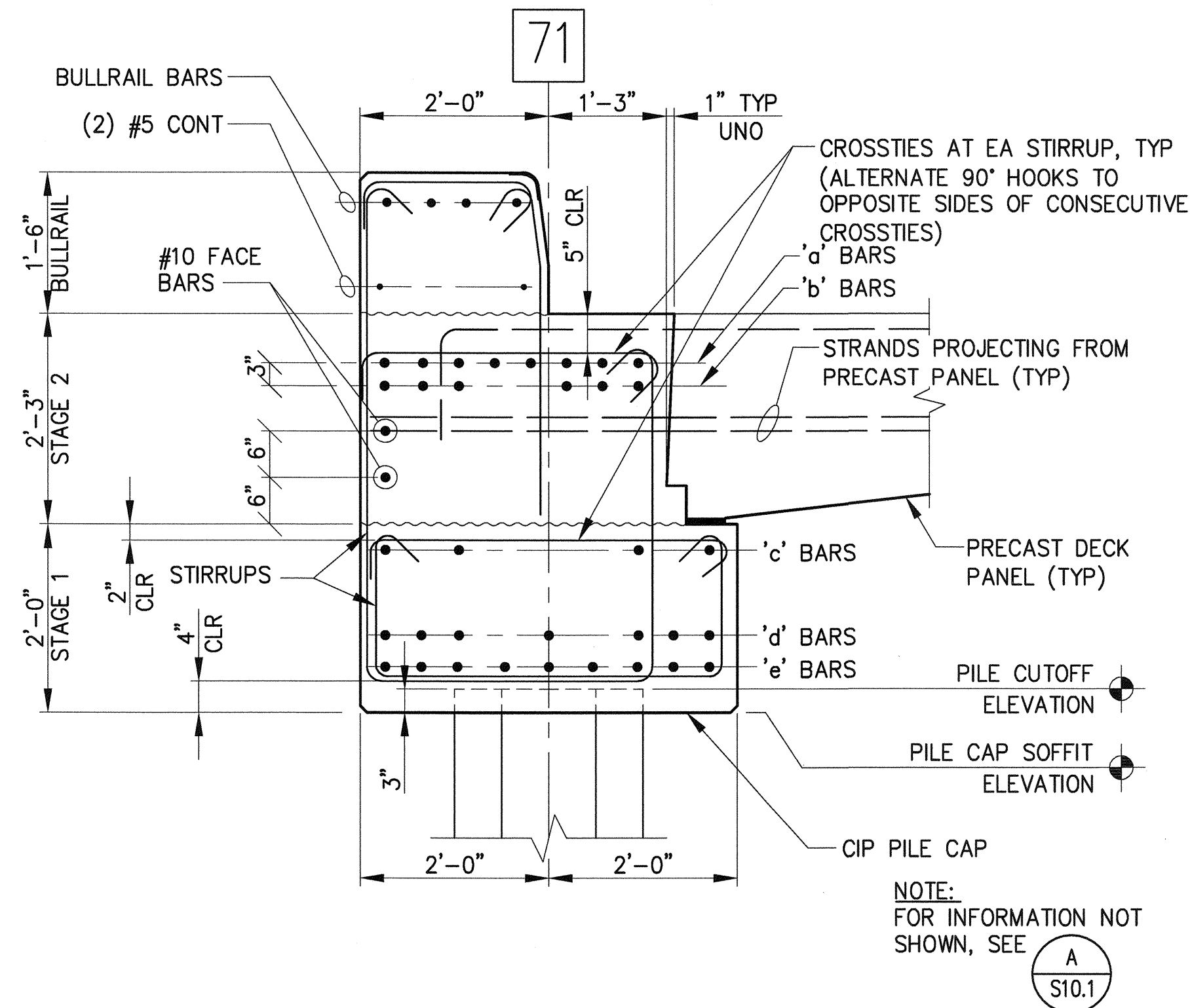


B
EXISTING PILE CAP BUILD BACK
3/4"=1'-0"

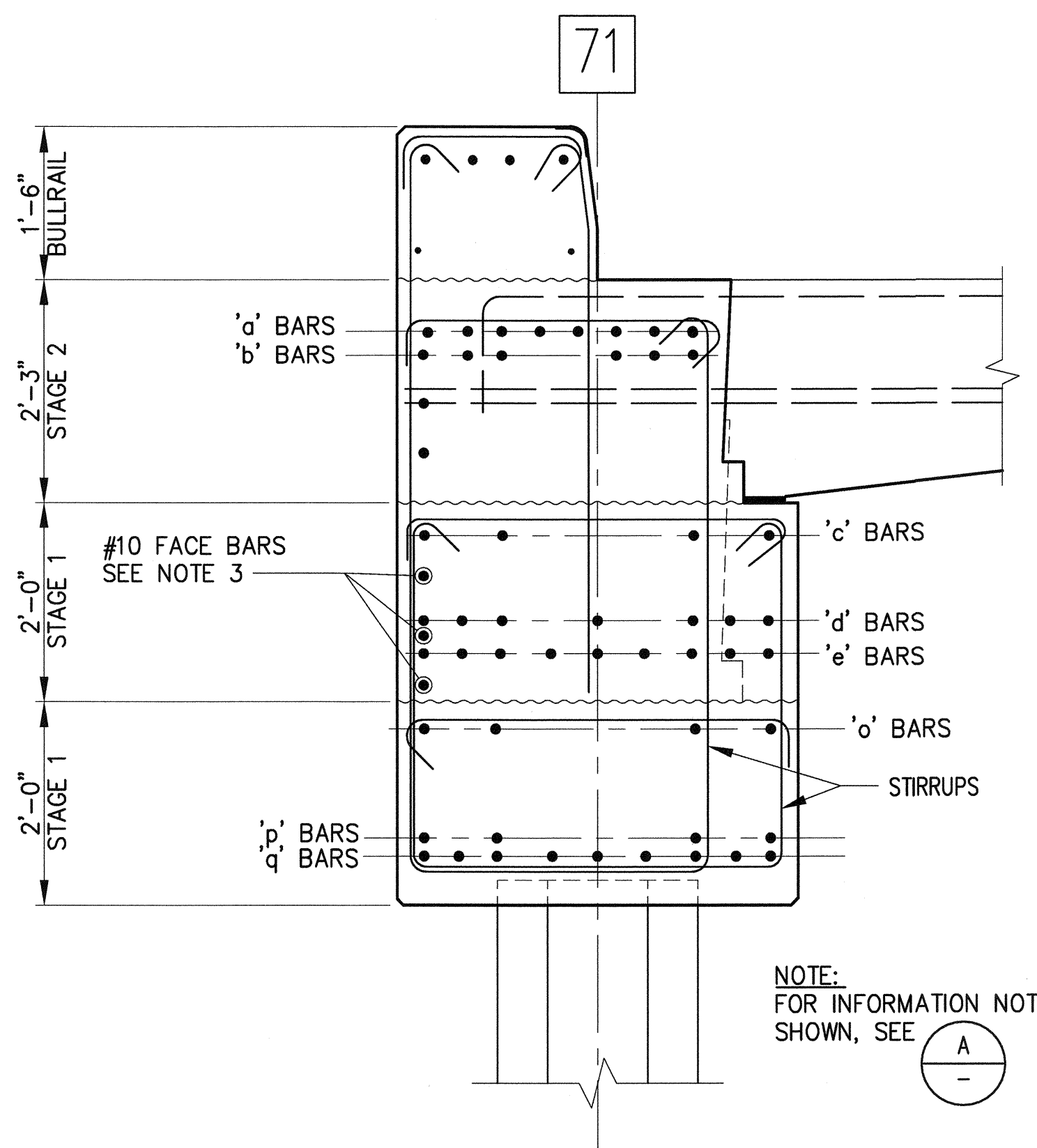
NOTE:

1. DRILL AND EPOXY BAR 7" INTO EXISTING PILE CAP WITH HILTI RE 500 OR APPROVED EQUAL PER MANUFACTURER SPECIFICATIONS CONTRACTOR SHALL USE ROTO HAMMER TYPE DRILL TO PREVENT DAMAGE TO EXISTING REINFORCING.
2. T/CONC = TOP OF ASPHALT PER GRADING AND PAVING PLAN C4.1

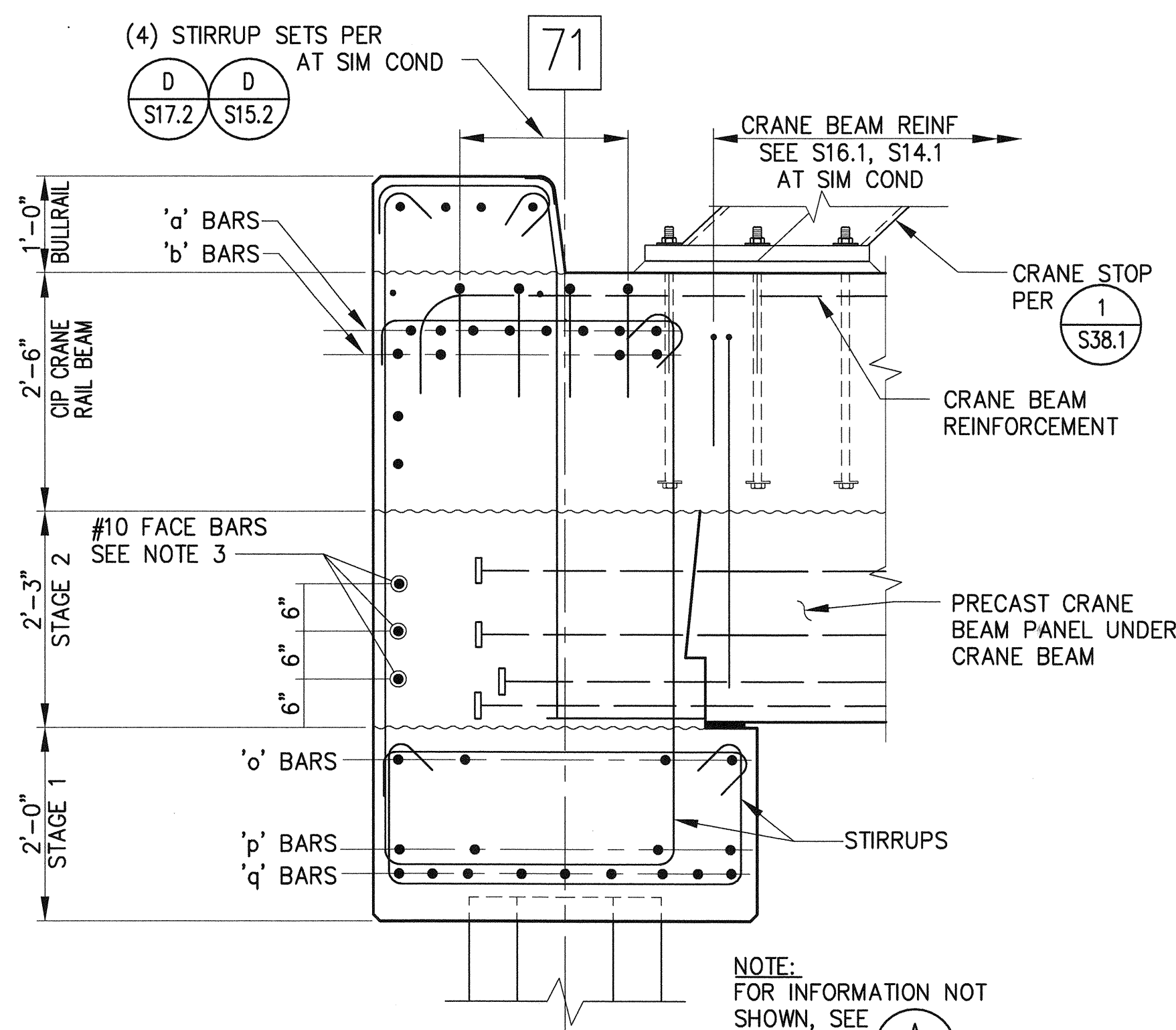
6552 S10.14 SH 241 OF 499	PIER 4 PHASE 2 RECONFIGURATION PILE CAP SECTIONS AND DETAILS - SHEET 14				Port of Tacoma 2407 North 31st Street, Suite 100 (253) 396-0150 Fax (253) 396-0162	
	CON/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	MARK: REVISION:	DATE:
M. ID: 091251	DATE-HRZ: WA63-SF	VERT: MLLW 19.39' @ Tide 22 1933	PORT ADDRESS: ONE SITCUM PLAZA	APPR: BY:	DATE:	
PHASE: BID	PARCEL:	DRAWING SCALE: AS NOTED	TACOMA, WA 98401-1837			



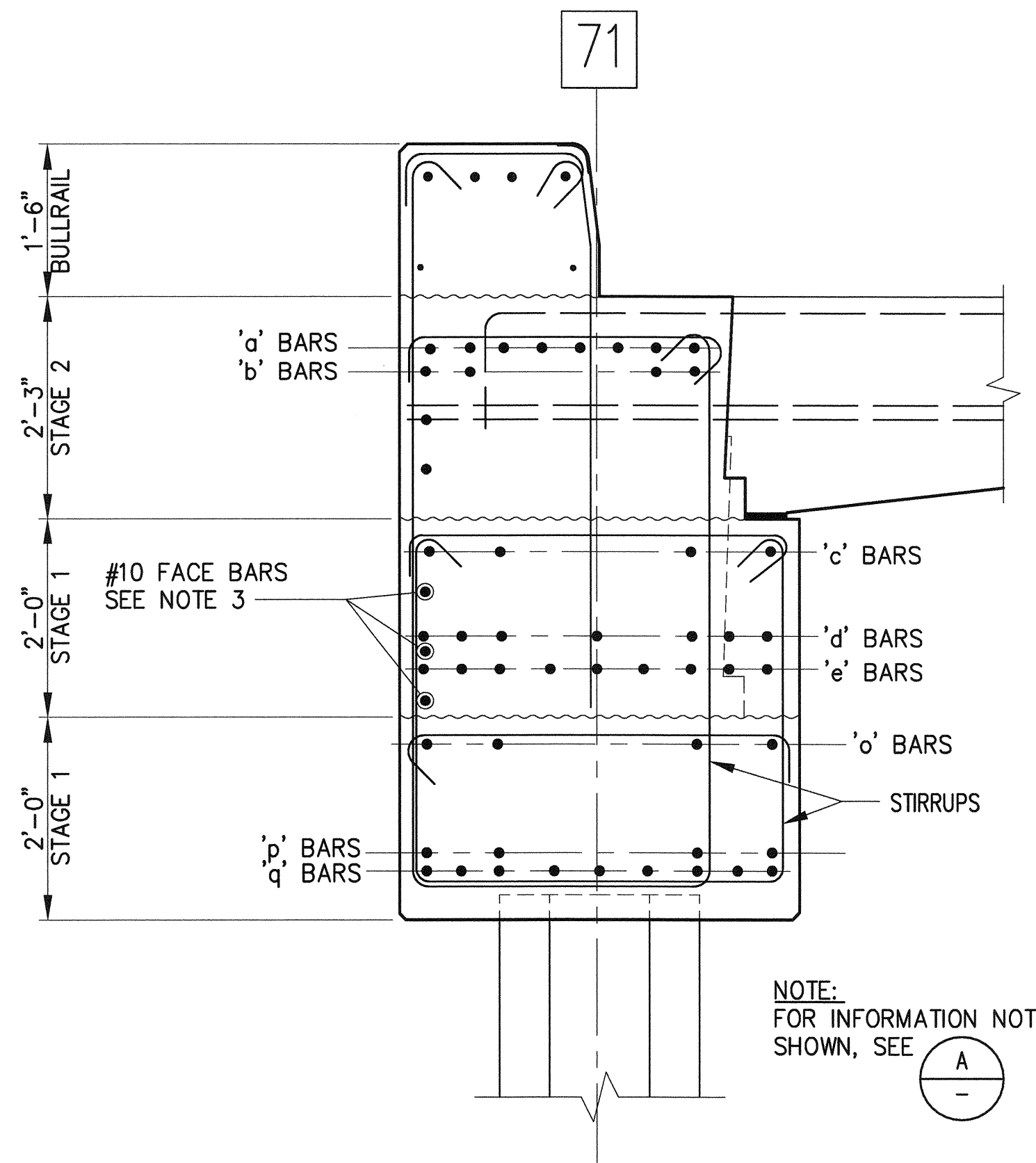
A TYPICAL PILE CAP SECTION
S9.13 3/4"=1'-0"



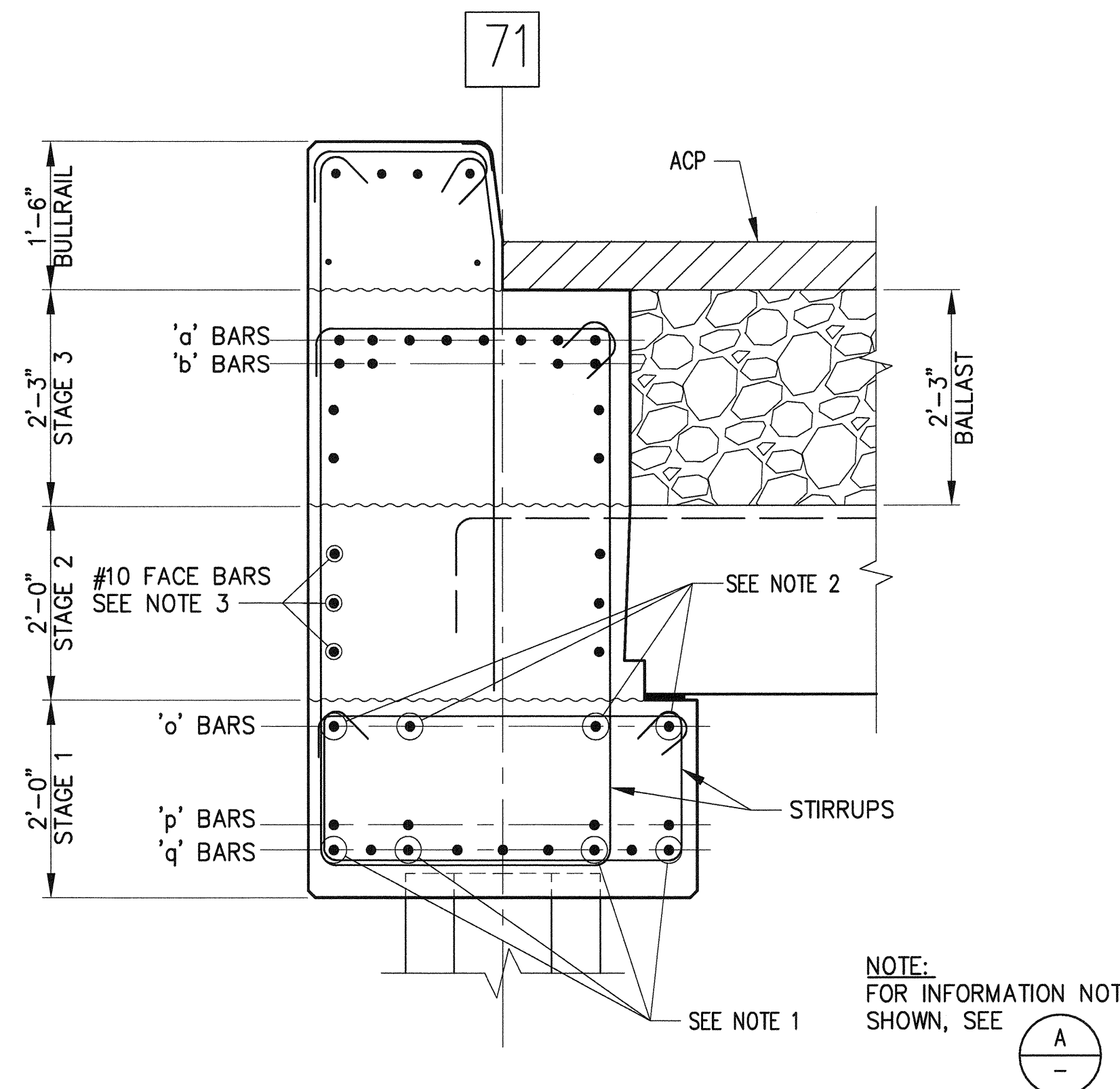
C PILE CAP SECTION AT LANDSIDE DROP DOWN
S9.13 3/4"=1'-0"



B PILE CAP SECTION AT CRANE STOP
S9.13 3/4"=1'-0"



D PILE CAP SECTION AT WATERSIDE DROP DOWN
S10.8 3/4"=1'-0"



E PILE CAP SECTION AT UTILITY TRENCH
S9.13 3/4"=1'-0"

NOTES:

1. TERMINATE FOUR 'q' BARS AT WATERSIDE FACE OF WITH 90° HOOKS.
2. TERMINATE EACH SIDE OF 'o' BARS WITH 90° HOOK.
3. #10 FACE BARS 16'-0" AT LANDSIDE CRANE BEAM, 22'-0" AT WATERSIDE

6552 S10.15 SH 242 OF 499	PIER 4 PHASE 2 RECONFIGURATION PILE CAP SECTIONS AND DETAILS - SHEET 15	APPROVED: <i>Shirley Howard</i>	SEK		
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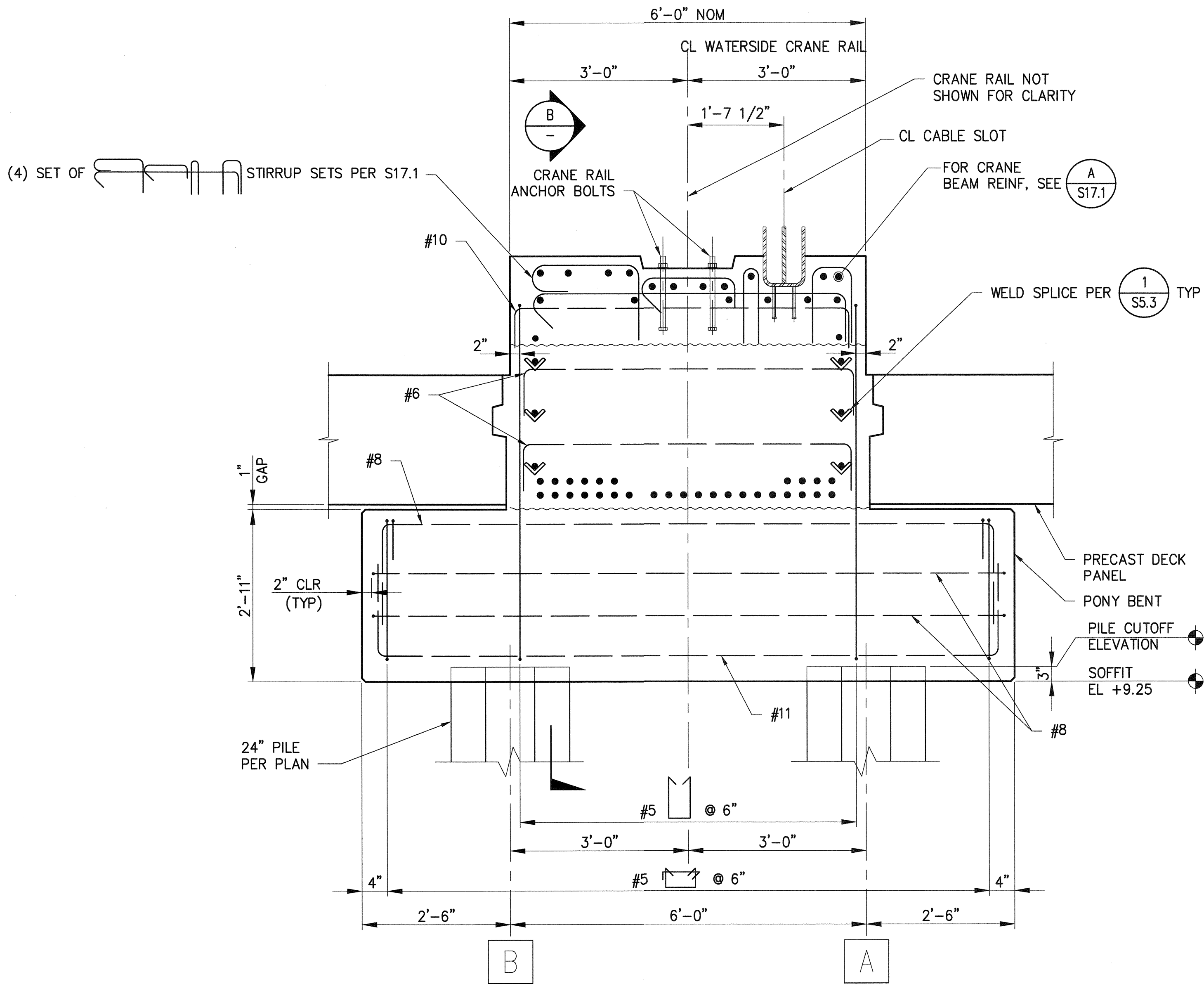
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PHASE: BID	PARCEL:	DRAWING SCALE: AS NOTED	TACOMA, WA 98401-1837		

6552 S10.15 SH 242 OF 499	PIER 4 PHASE 2 RECONFIGURATION PILE CAP SECTIONS AND DETAILS - SHEET 15	APPROVED: <i>Shirley Howard</i> 3-28-16 DIRECTOR ENG. DATE PROJ. ENGR DATE PRINTED BY: tlemmons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA	SEK	CHECKED BY	DATE
			TAH		
			PROJ. ENGR	DATE	
			PRINTED BY:	tlemmons	Mar 24, 2016
PORT ADDRESS:	ONE SITCUM PLAZA				
CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27		
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933			
PHASE: BID	PARCEL:	DRAWING SCALE: AS NOTED	TACOMA, WA 98401-1837		

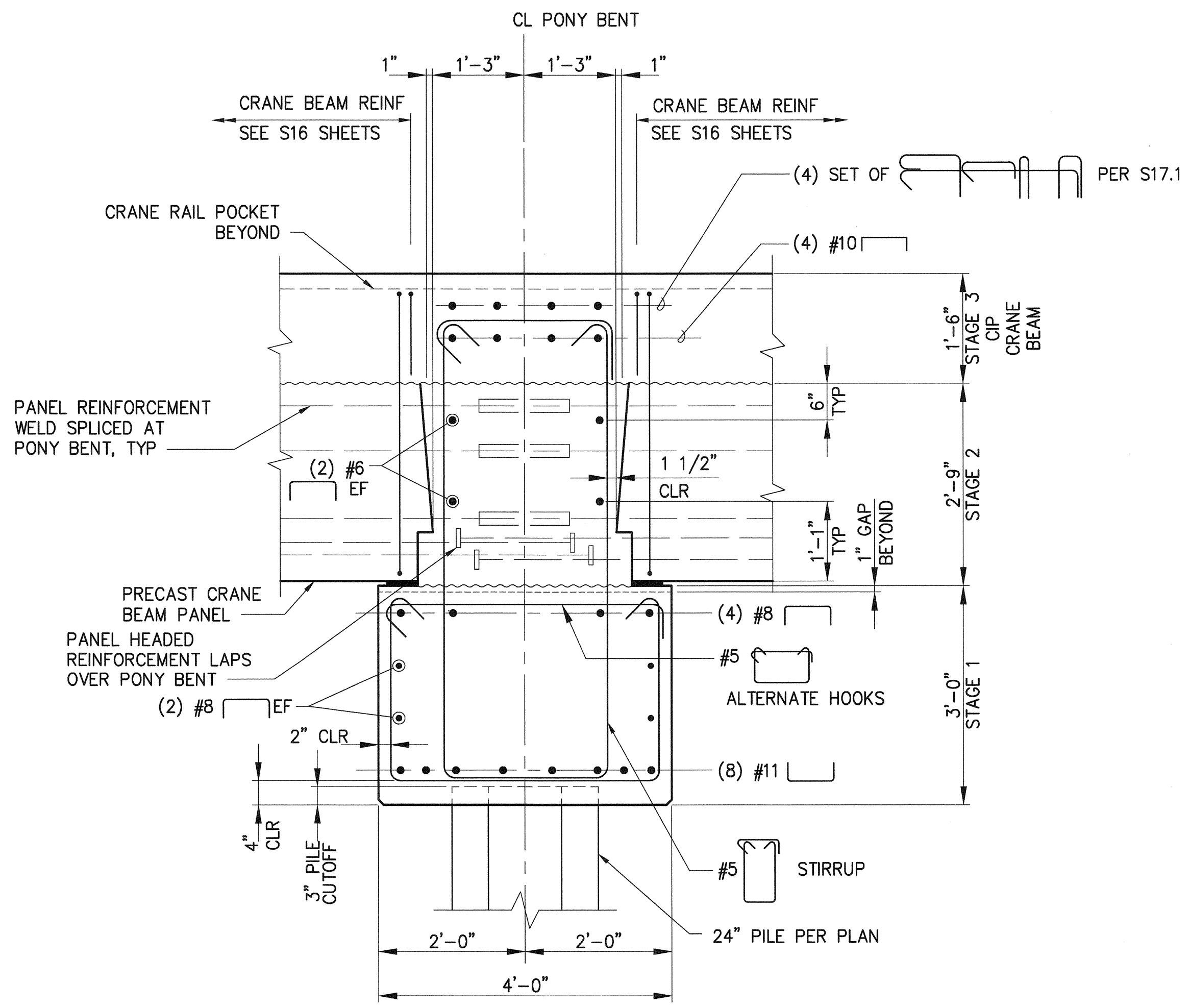
6552 S10.15 SH 242 OF 499	PIER 4 PHASE 2 RECONFIGURATION PILE CAP SECTIONS AND DETAILS - SHEET 15	APPROVED: <i>Shirley Howard</i> 3-28-16 DIRECTOR ENG. DATE PROJ. ENGR DATE PRINTED BY: tlemmons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA	SEK	CHECKED BY	DATE
			TAH		
			PROJ. ENGR	DATE	
			PRINTED BY:	tlemmons	Mar 24, 2016
PORT ADDRESS:	ONE SITCUM PLAZA				
CONT/CONS: 070136	TOWNSHIP: 21N	RANGE			



ELEVATION - WATERSIDE PONY BENT

S4.1-S4.5, S16.1-S16.4

3/4"=1'-0"



SECTION - PONY BENT

3/4"=1'-0"

6552 S11.1 SH 243 OF 499	PIER 4 PHASE 2				RECONFIGURATION		PORT OF TACOMA	
	PONY BENT ELEVATIONS AND SECTIONS - SHEET 1							
CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	DIRECTOR ENG. DATE: 3-28-16	TAH	SEK	CHECKED BY	DATE
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39 @ Tide 22 1933	PRINTED BY: tlemonts Mar 24, 2016	PROJ. ENGR	DATE	APPR:	BY:	DATE
PHASE: BID	PARCEL:	DRAWING SCALE: AS NOTED	PORT ADDRESS: ONE SITCUM PLAZA	TACOMA, WA 98401-1837		MARK:	REVISION:	

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Tacoma, Washington 98401
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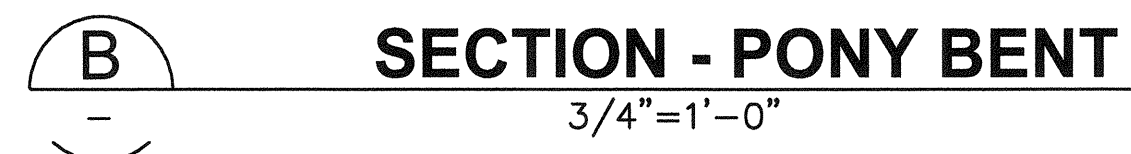
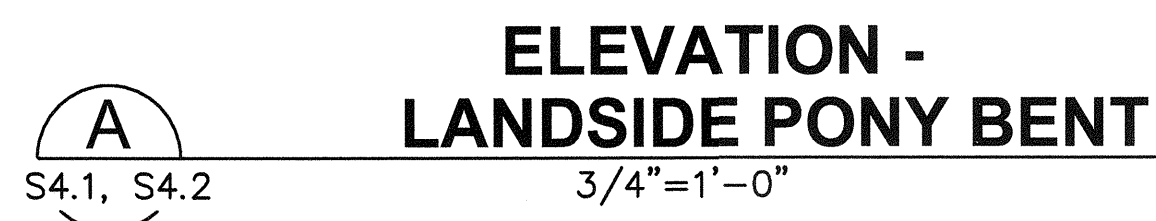
kpff

9-25-16

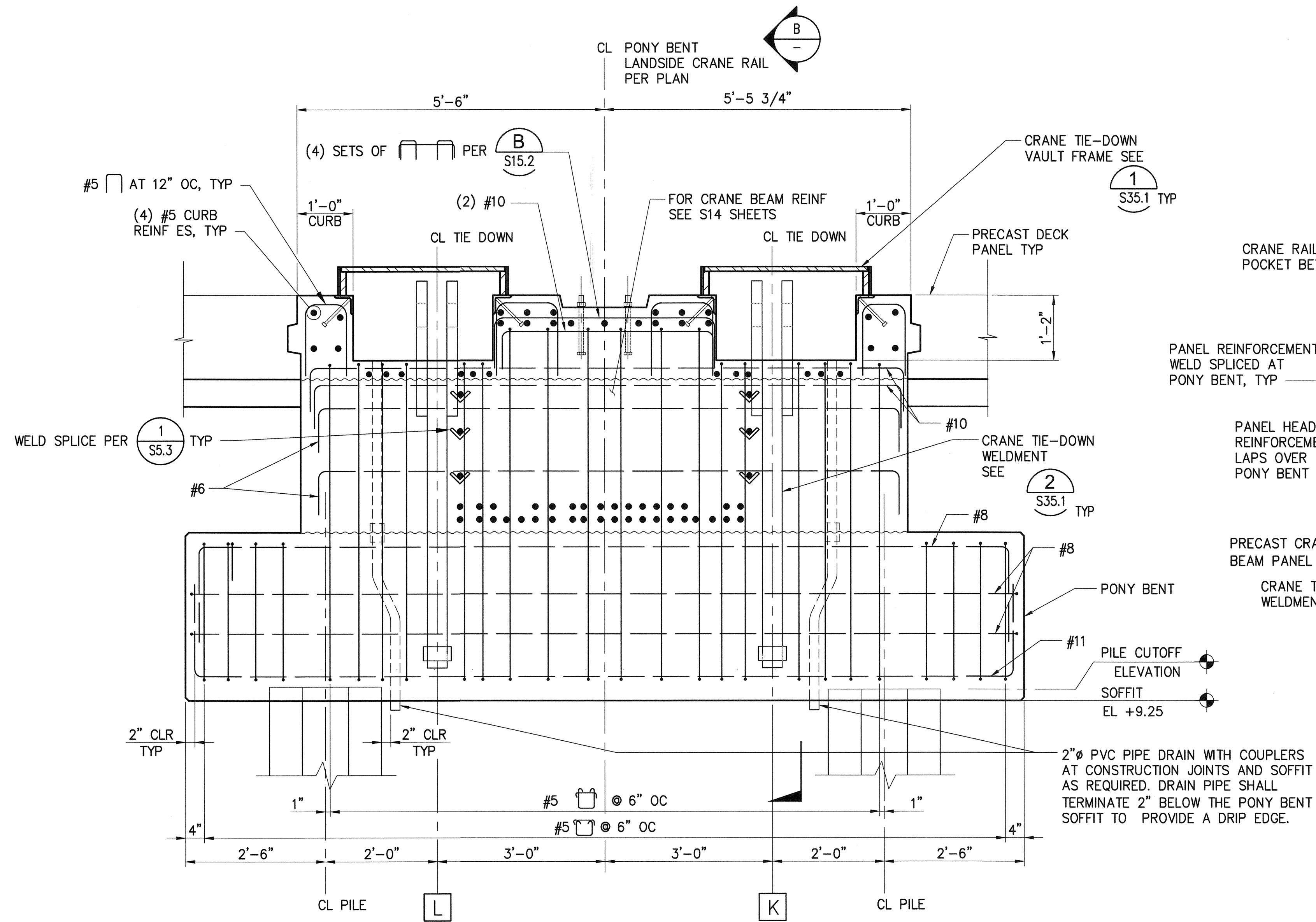
SEALED & FILED IN THE OFFICE OF THE CLERK OF SUPERIOR COURT FOR THE COUNTY OF PIERCE, WASHINGTON, ON 03/28/2016 AT 10:00 AM. BY: [Signature]

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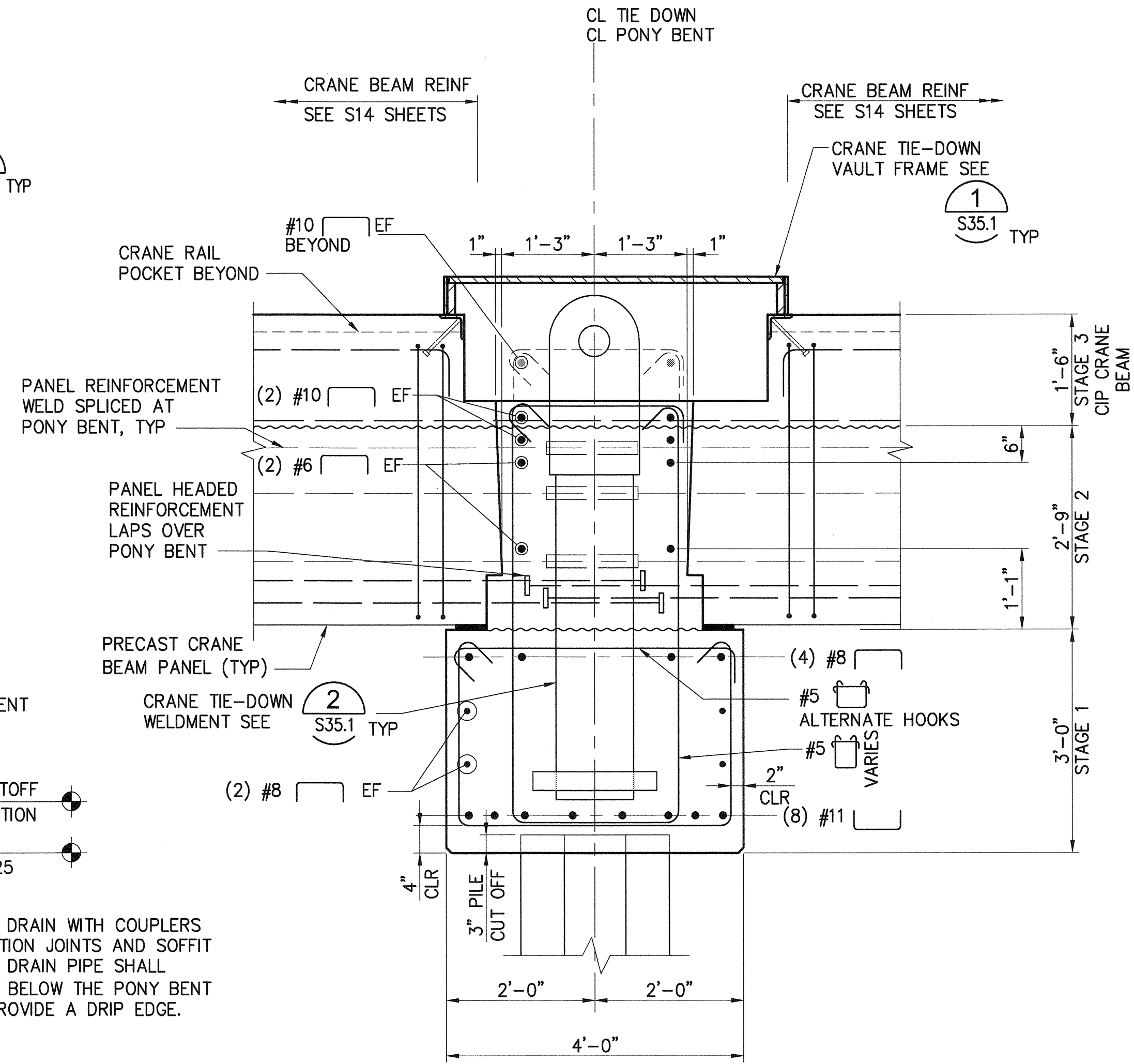




1. T/CONC = TOP OF ASPHALT PER GRADING AND PAVING PLAN C4.1

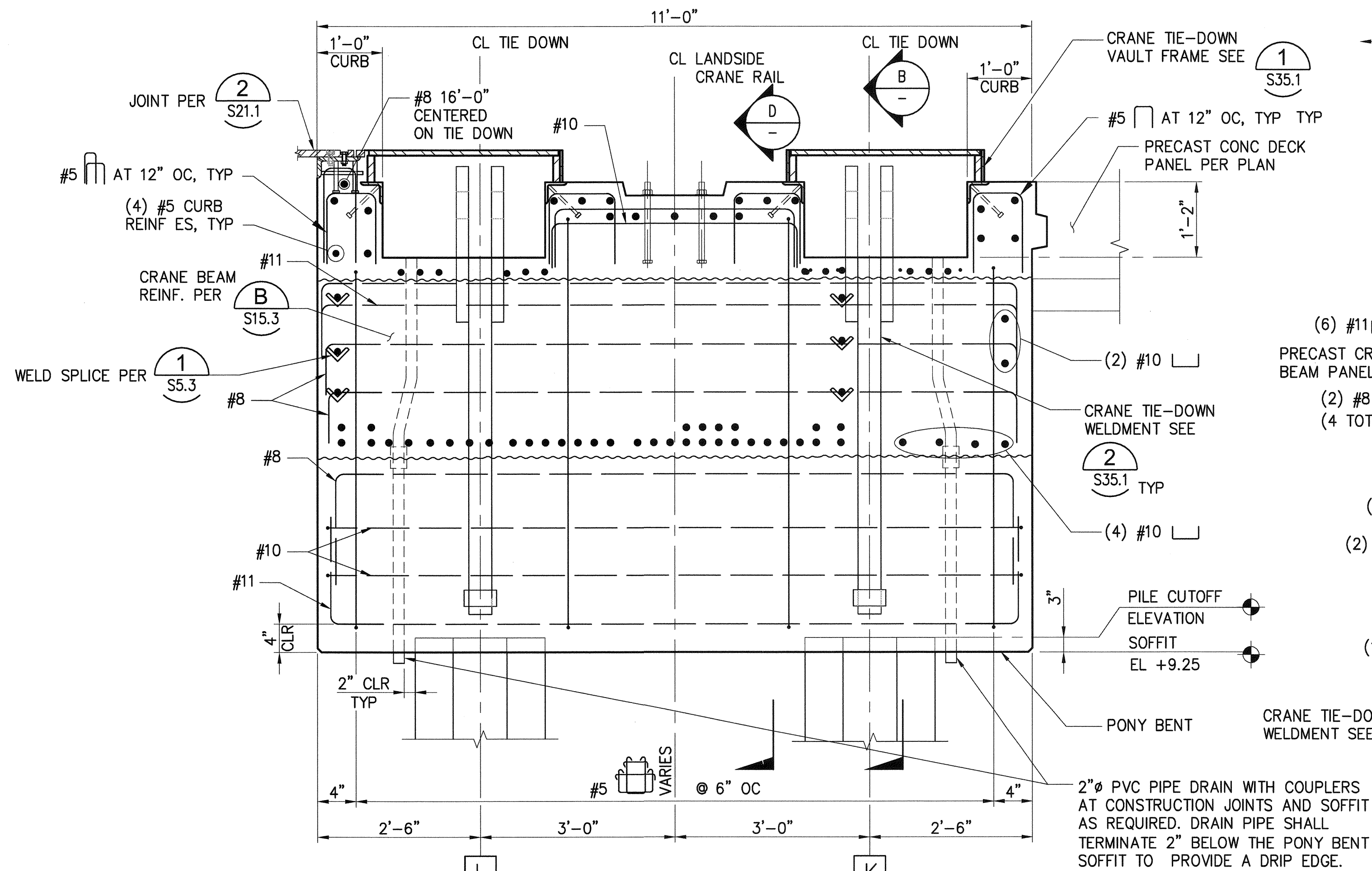


**ELEVATION -LANDSIDE
PONY BENT AT TIE DOWN**
S4.2-S4.5, S14.1, S15.2
3/4"=1'-0"



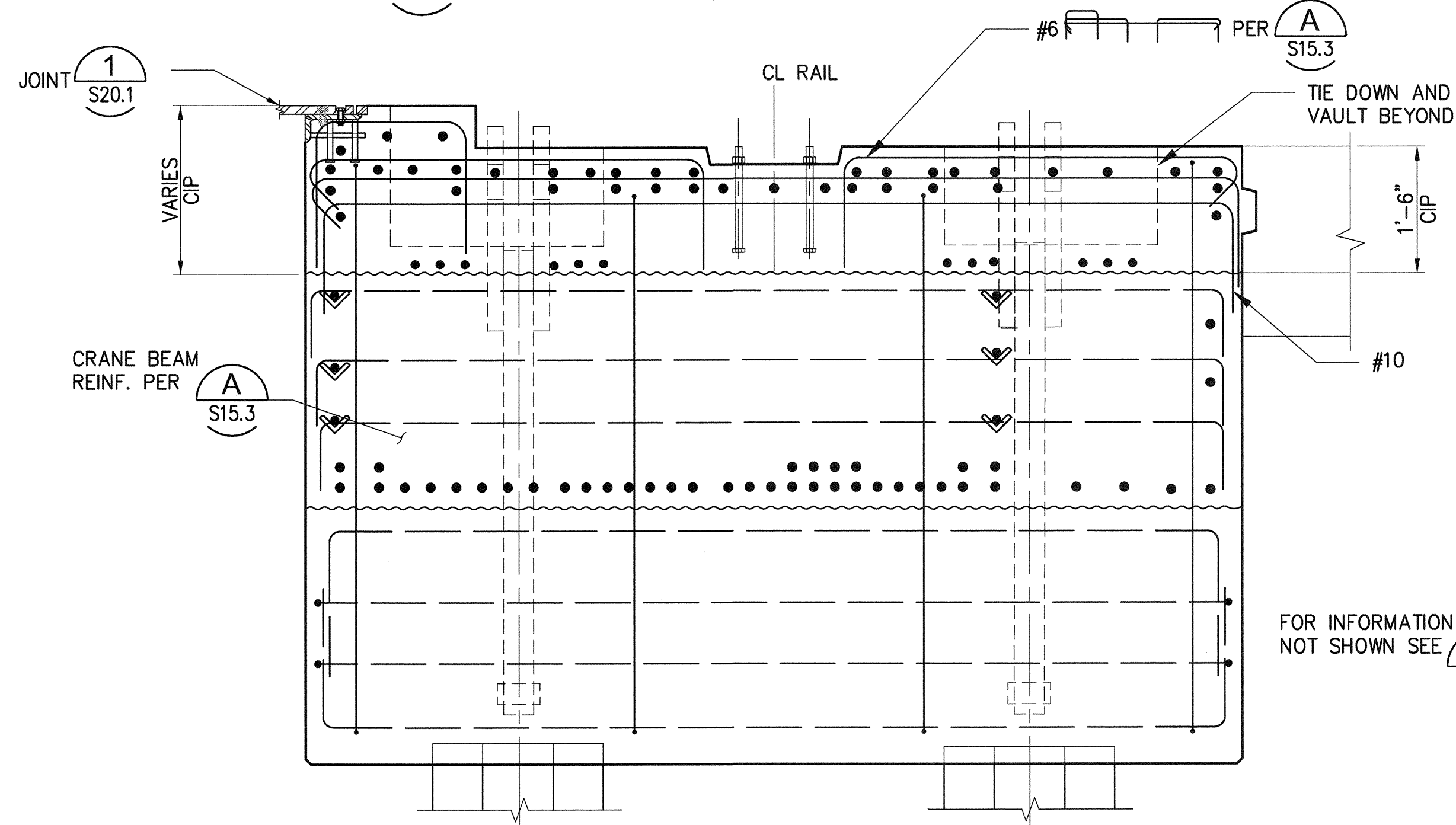
SECTION - PONY BENT
3/4"=1'-0"

6552 S11.4 SH 246 OF 499	PIER 4 PHASE 2 RECONFIGURATION				Port of Tacoma P.O. BOX 187 TACOMA, WA 98401 (206) 888-5481				
	PONY BENT ELEVATIONS AND SECTIONS - SHEET 4				2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162				
	CONT/CONS: 070136 M. ID: 091251 PHASE: BID	TOWNSHIP: 21N RANGE: 3E DAT-HRZ: WA83-SF VERT: MLLW 19.39 @ Tide 22 1933 PARCEL:	SECTION: 27 PRINTED BY: tlemmons PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	DATE: 3-28-16 DIRECTOR ENG. DATE: 3-28-16 PROJ. ENGR DATE: 3-28-16 TAH	MARK:	REVISION:	BY:	APPR:	DATE:
	APPROVED: <i>[Signature]</i> 3-28-16								



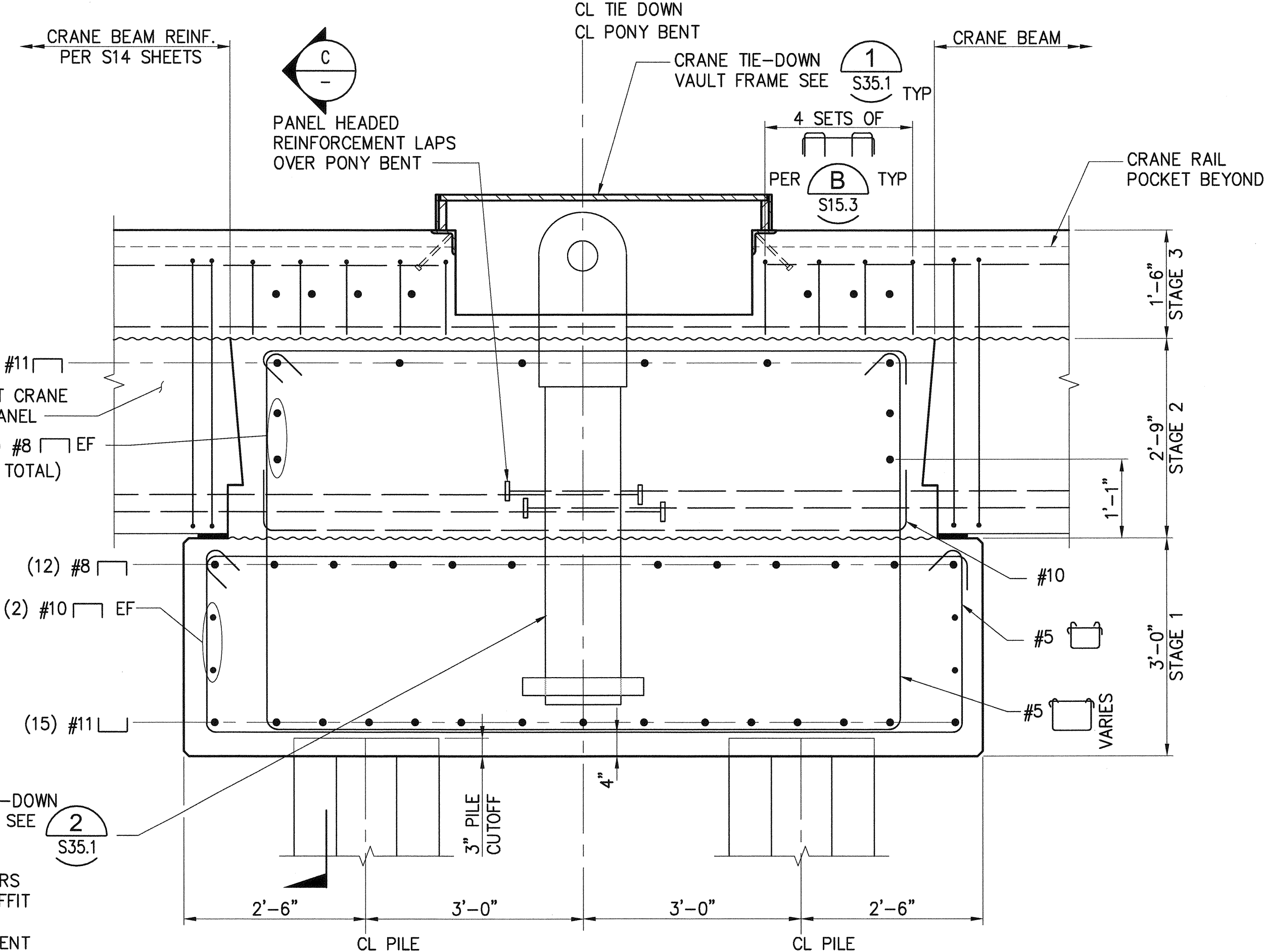
ELEVATION - LANDSIDE PONY BENT AT TIE DOWN

S4.1, S4.2, S14.2, S15.3 3/4"=1'-0"



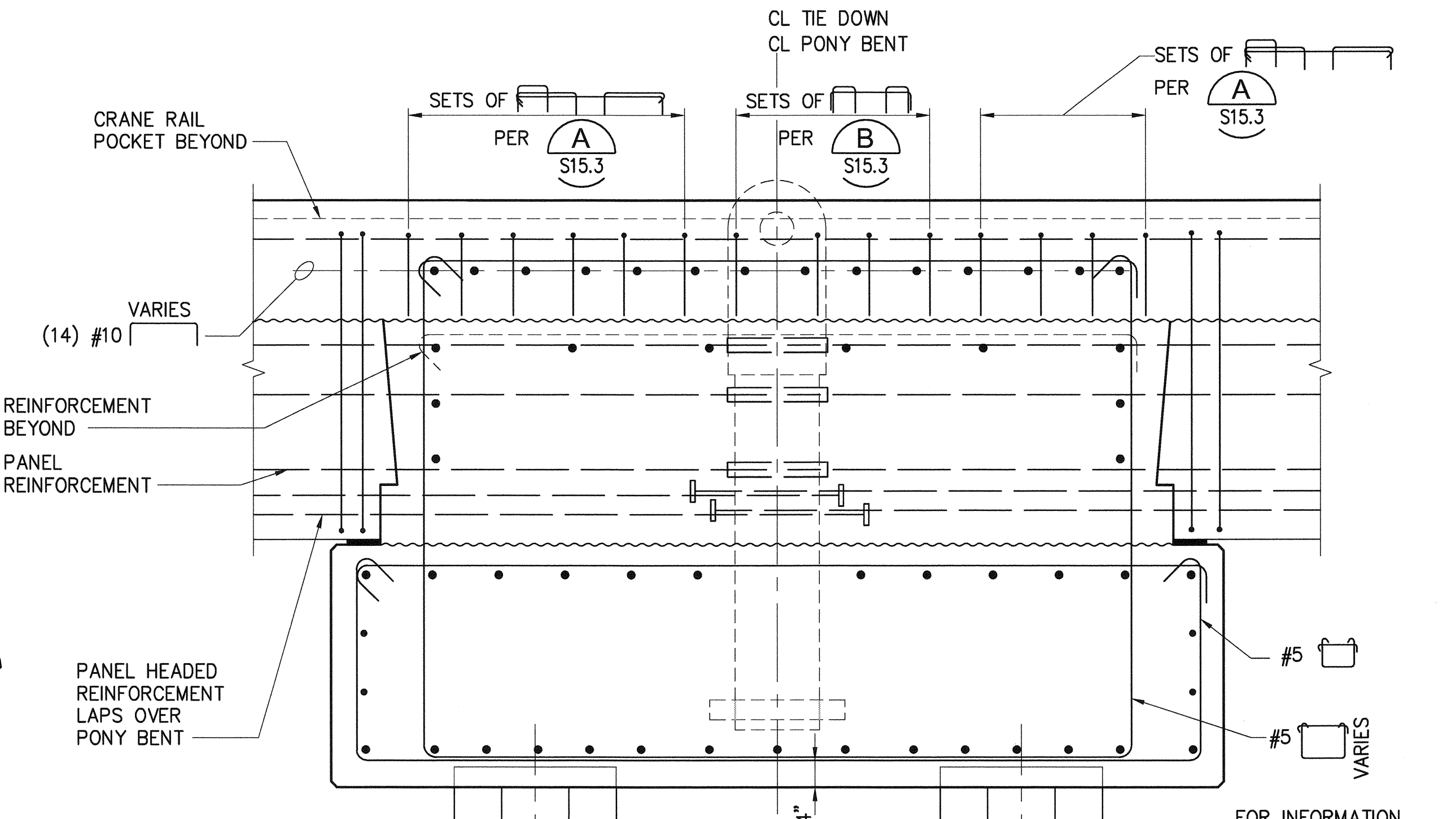
SECTION - LANDSIDE PONY BENT AT TIE DOWN

3/4"=1'-0"



SECTION-PONY BENT

3/4"=1'-0"



SECTION-PONY BENT

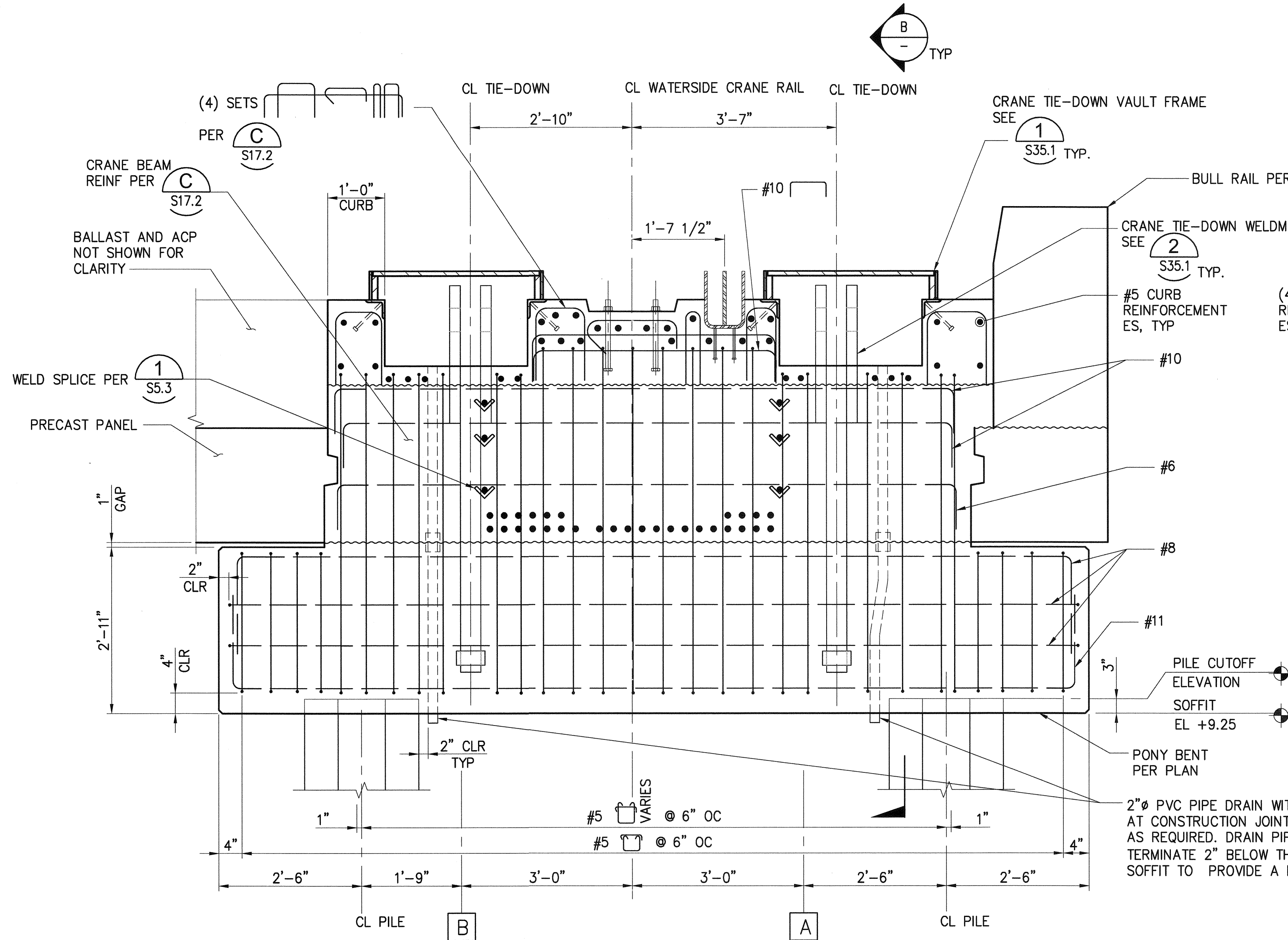
3/4"=1'-0"

6552 S11.5 SH 247 OF 499	PIER 4 PHASE 2 RECONFIGURATION PONY BENT ELEVATIONS AND SECTIONS - SHEET 5				APPROVED: <i>[Signature]</i> 3-29-16	CHECKED BY: <i>[Signature]</i> DATE:	SEC: <i>[Signature]</i> DATE:
	CONT./CONS: 070136 M. ID: 091251 PHASE: BID	TOWNSHIP: 21N RANGE: 3E DAT-HRZ: WA83-SF PARCEL:	SECTION: 27 VERT: MLW 19.39 @ Tide 22 1933 DRAWING SCALE: AS NOTED	PRINTED BY: ttenions DATE: Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	DIRECTOR: <i>[Signature]</i> 3-29-16	PROJ. ENGR: <i>[Signature]</i> DATE:	TA: <i>[Signature]</i> DATE:

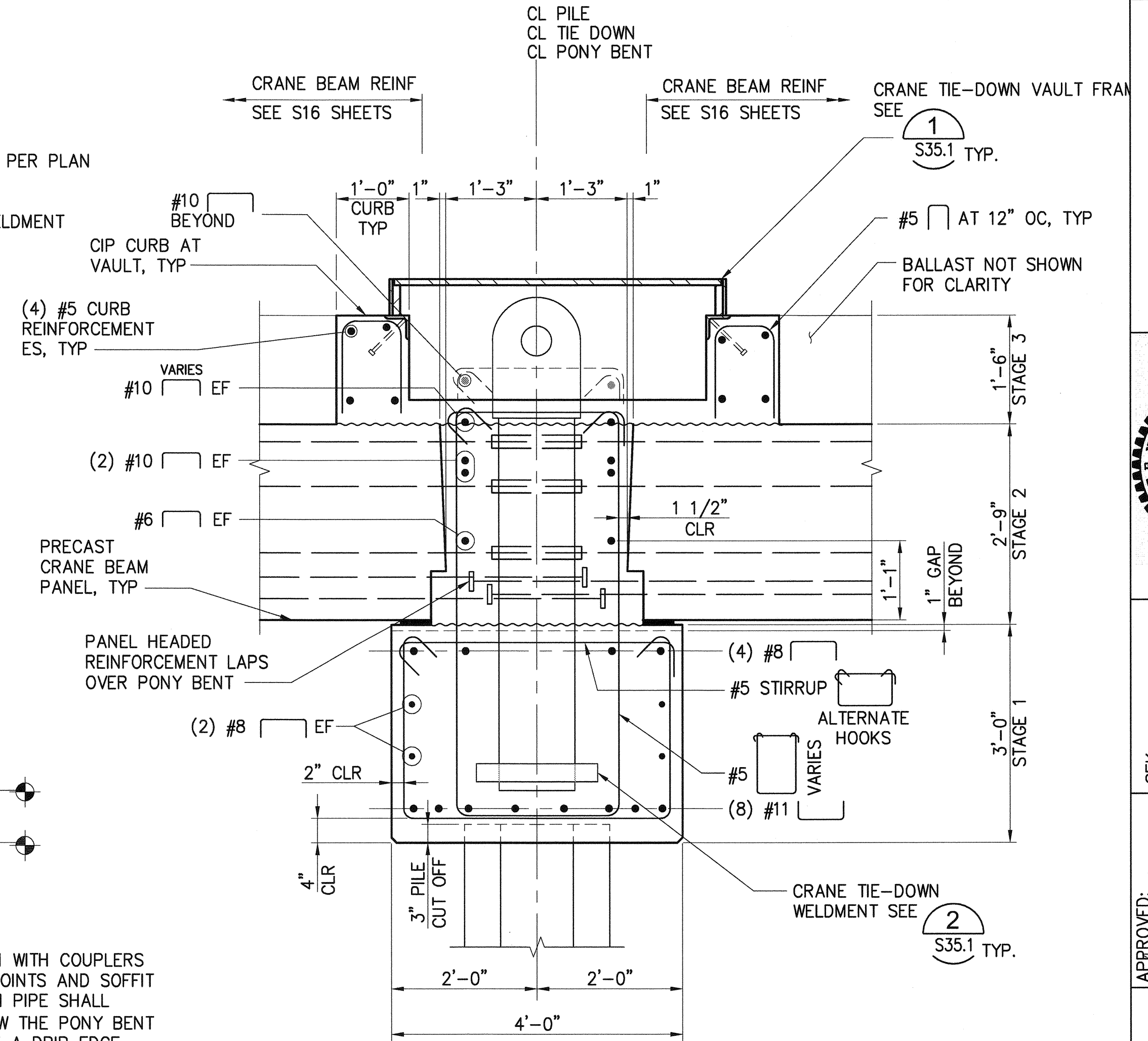
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kprff
 91-52-20

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**ELEVATION - WATERSIDE
PONY BENT AT TIE DOWN**
S4.1-S4.5, S16.1
3/4"=1'-0"



SECTION - PONY BENT
3/4"=1'-0"

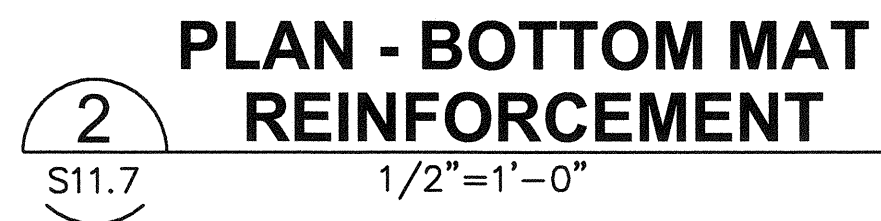
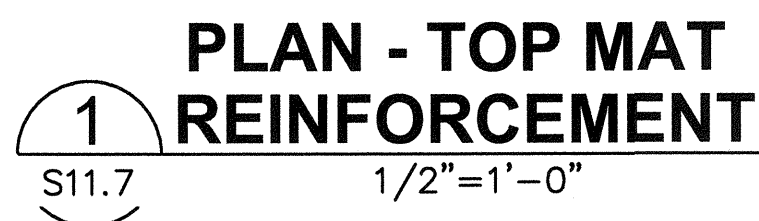
6552 S11.6 SH 248 OF 499	PIER 4 PHASE 2 RECONFIGURATION PONY BENT ELEVATIONS AND SECTIONS - SHEET 6				APPROVED: <i>[Signature]</i> 3-28-16	SEK CHECKED BY: <i>[Signature]</i> DATE:	TACOMA WA 98401-1837 TACOMA WA 98401-1837
	CONT/CONS: 070136 M. ID: 091251 PHASE: BID	TOWNSHIP: 21N DAT-HRZ: WA83-SF PARCEL:	RANGE: 3E VERT: MLLW 19.39 @ Tide 22 1933 DRAWING SCALE: AS NOTED	SECTION: 27 PRINTED BY: tienoms Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA	DIRECTOR: ENG. DATE: tienoms Mar 24, 2016 PRINTED BY: tienoms Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA	TACOMA WA 98401-1837 TACOMA WA 98401-1837	TACOMA WA 98401-1837 TACOMA WA 98401-1837

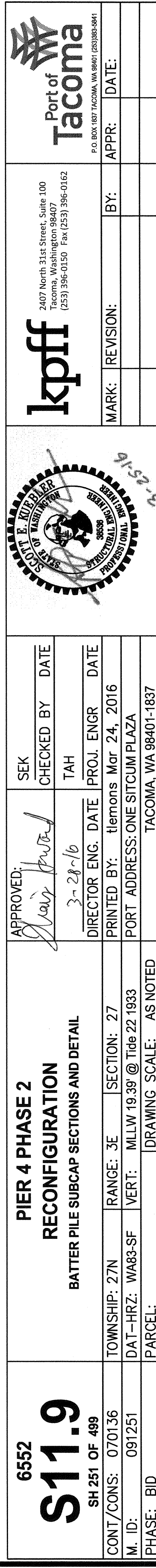
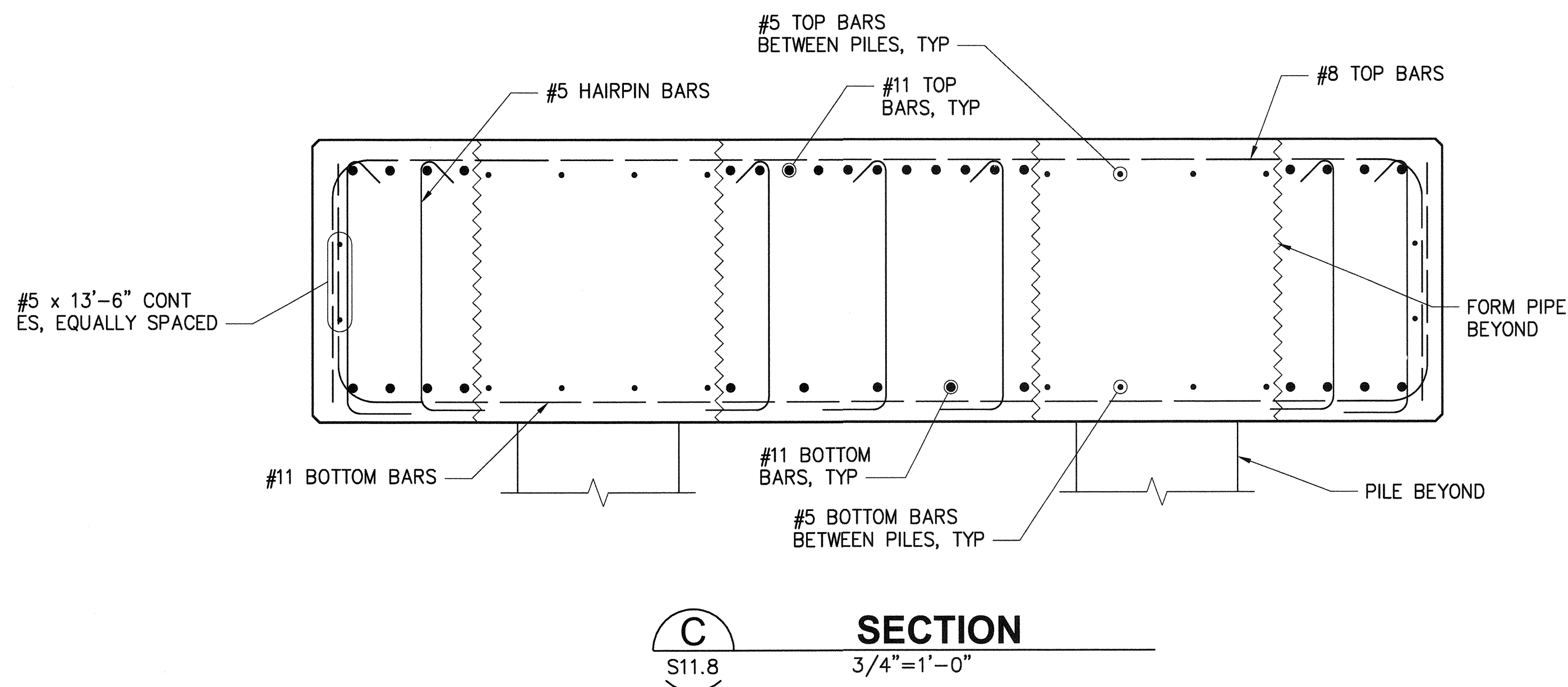
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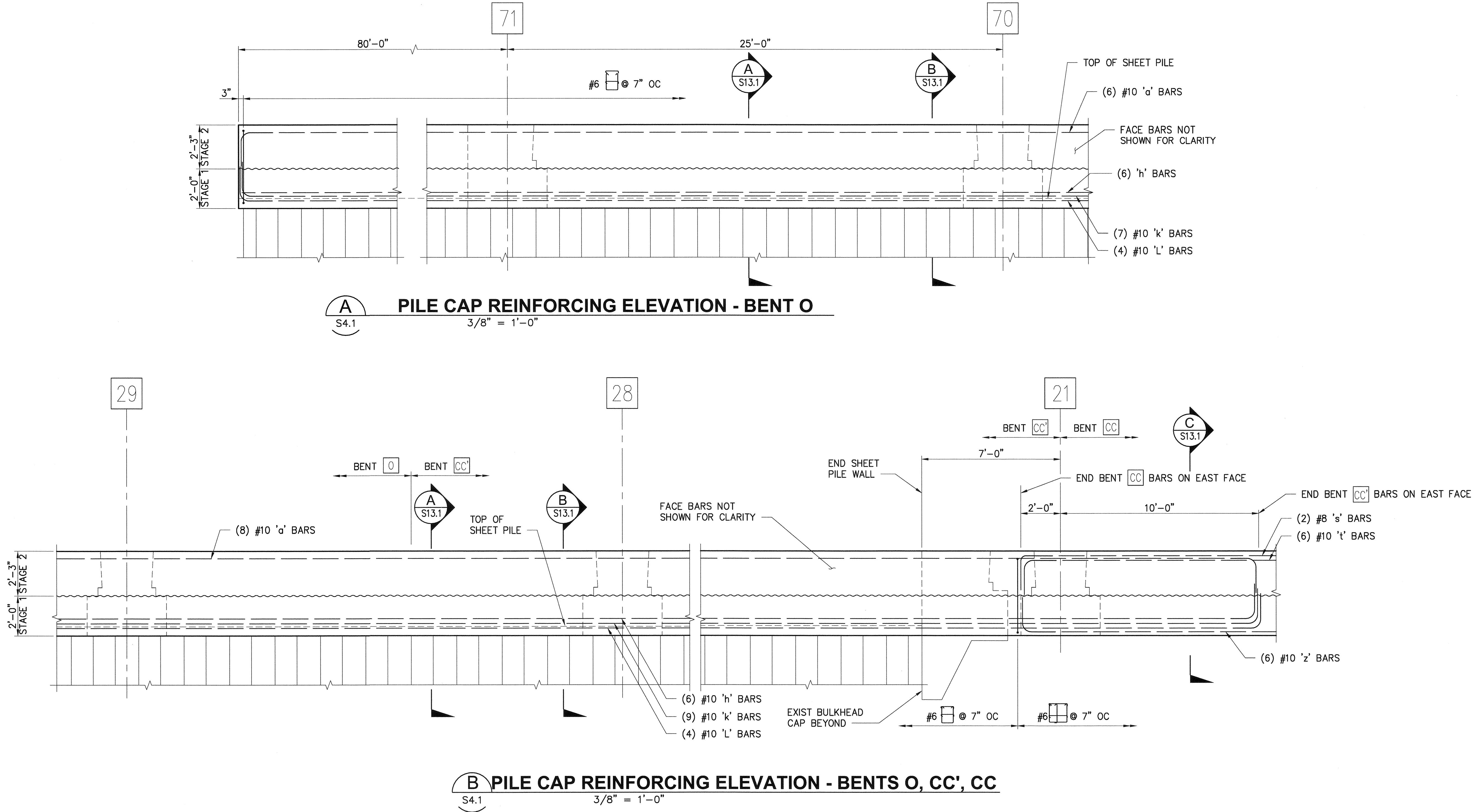
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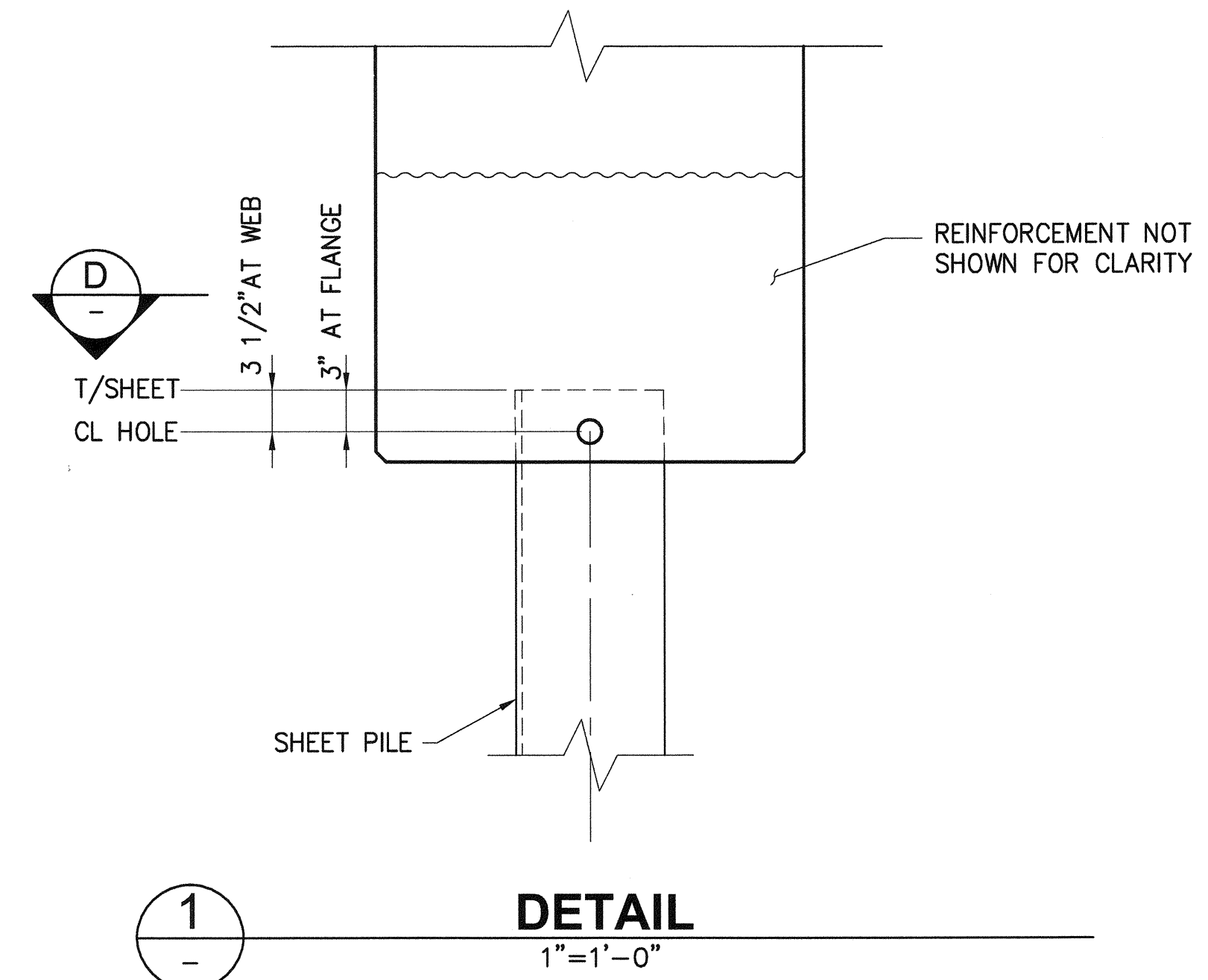
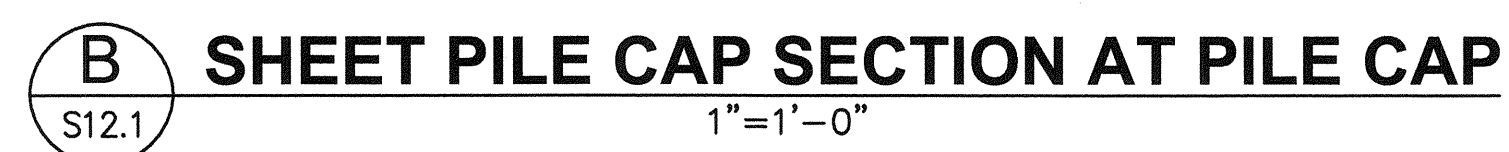
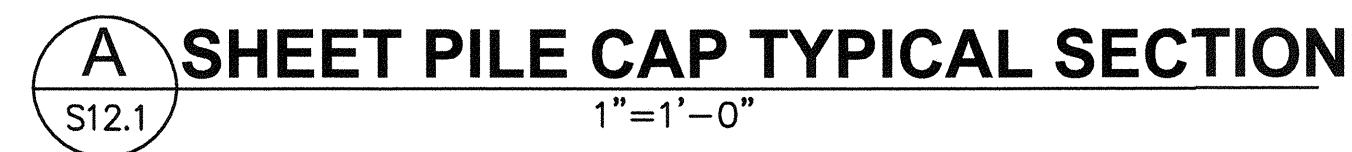




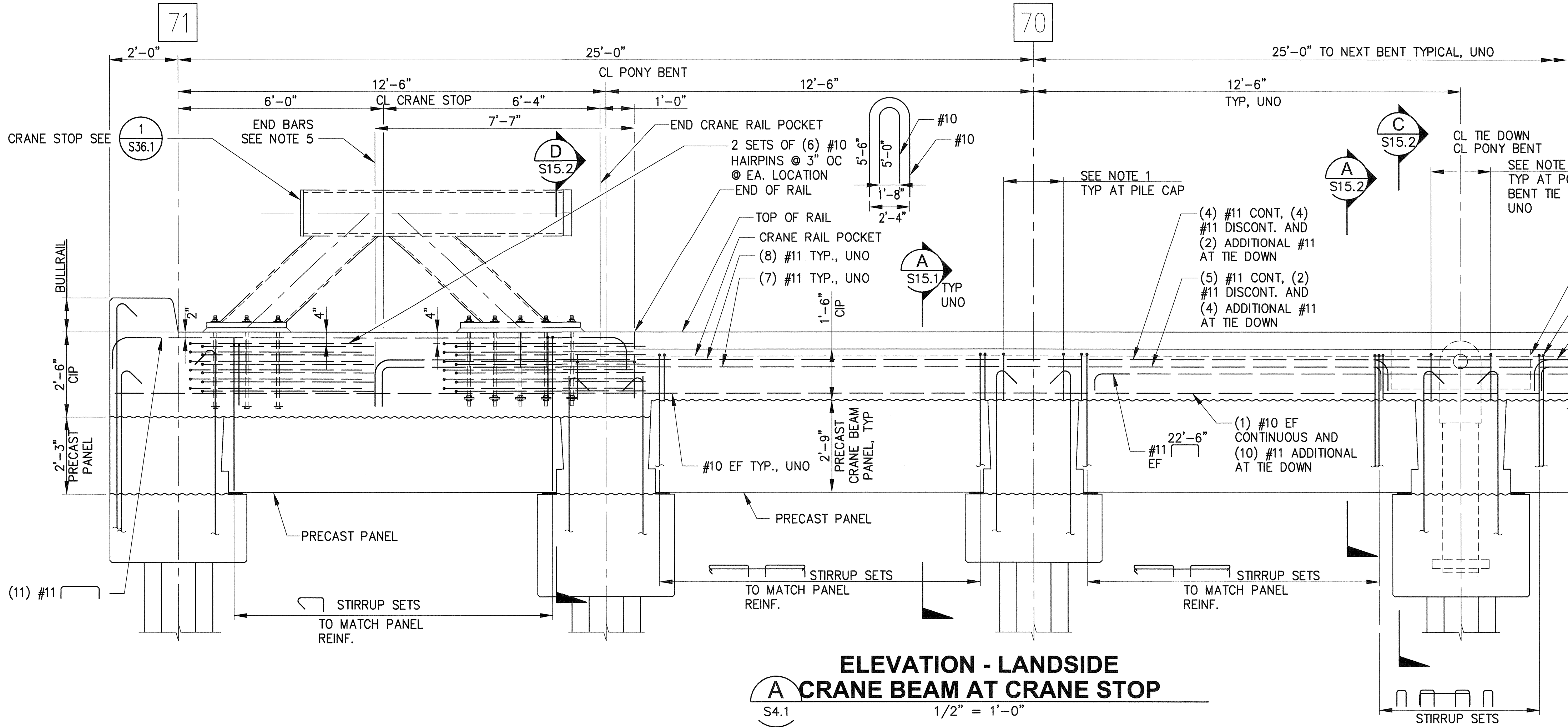


6552 S12.1 SH 252 OF 499	PIER 4 PHASE 2 RECONFIGURATION SHEET PILE WALL CAP BEAM ELEVATIONS				APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR PRINTED BY: tlemmons PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SEK CHECKED BY TAH PROJ. ENGR DATE Mar 24, 2016	DATE DATE DATE
	CONT/CONS: 070136 M. ID: 091251 PHASE: BID	TOWNSHIP: 21N RANGE: 3E SECTION: 27 VERT: MLW 19.39 @ Tide 22 1933 DRAWING SCALE: AS NOTED	MARK: REVISION: BY: DATE:				
Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 187 TACOMA, WA 98401 (253)885-5841						kpff P.O. BOX 187 TACOMA, WA 98401 (253)885-5841	

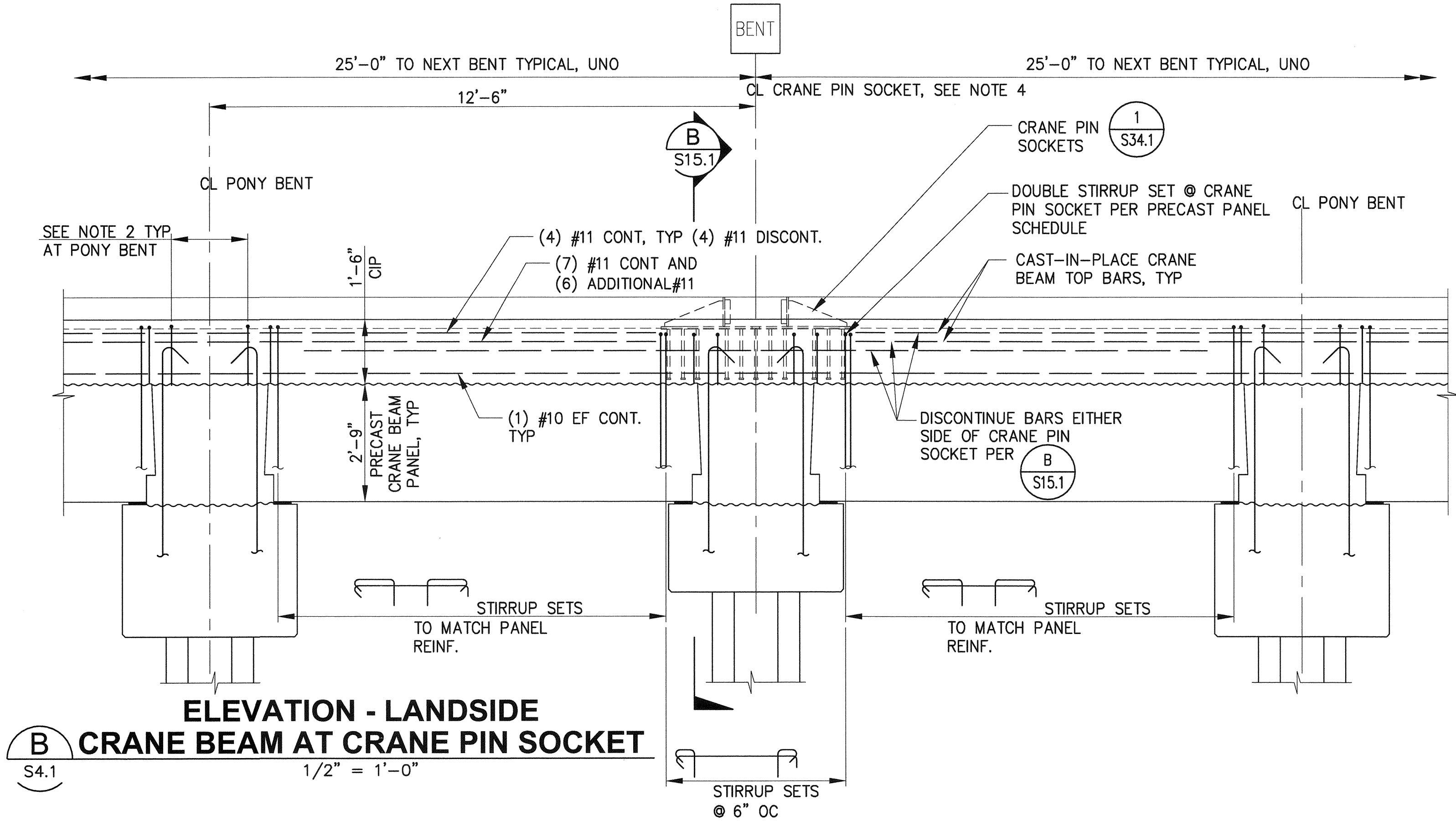
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1. FOR PILE CAP REINFORCEMENT SEE SHEETS S9.1 – S9.16



**ELEVATION - LANDSIDE
A CRANE BEAM AT CRANE STOP**
S4.1 1/2" = 1'-0"



**ELEVATION - LANDSIDE
B CRANE BEAM AT CRANE PIN SOCKET**
S4.1 1/2" = 1'-0"

NOTES:

1. PILE CAP REINFORCEMENT NOT SHOWN, SEE (A) S10.4
2. PONY BENT REINFORCEMENT NOT SHOWN, SEE (A) S11.2
3. PONY BENT REINF. NOT SHOWN @ TIE DOWN SEE (A) S11.4
4. CRANE PIN SOCKET LOCATIONS PER PLAN, SEE SHEETS S5.1-S5.5
5. EXTEND TYPICAL CRANE BEAM TOP REINFORCEMENT 7'-7" PAST END OF RAIL AND PROVIDE 90° HOOK.

6552	S14.1 SH 254 OF 499	PIER 4 PHASE 2 RECONFIGURATION				APPROVED: <i>Glenn Howard</i> 3-28-16		SEK CHECKED BY DATE TAH	
		LANDSIDE CRANE BEAM ELEVATIONS - SHEET 1				DIRECTOR ENG. DATE Hemons Mar 24, 2016		DATE	
CON/CONS: 070136		TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	PRINTED BY: Hemons Mar 24, 2016		DATE		
M. ID: 091251		DAT-HRZ: WA93-SF	VERT: MLLW 19.39 @ Tide 22.1933	PORT ADDRESS: ONE SITCOM PLAZA		DATE			
PHASE: BID		DRAWING SCALE: AS NOTED		TACOMA, WA 98401-1837		DATE			

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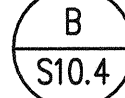
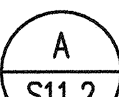
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Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162

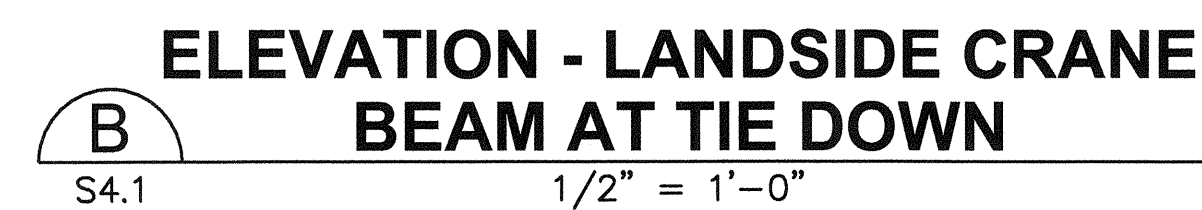
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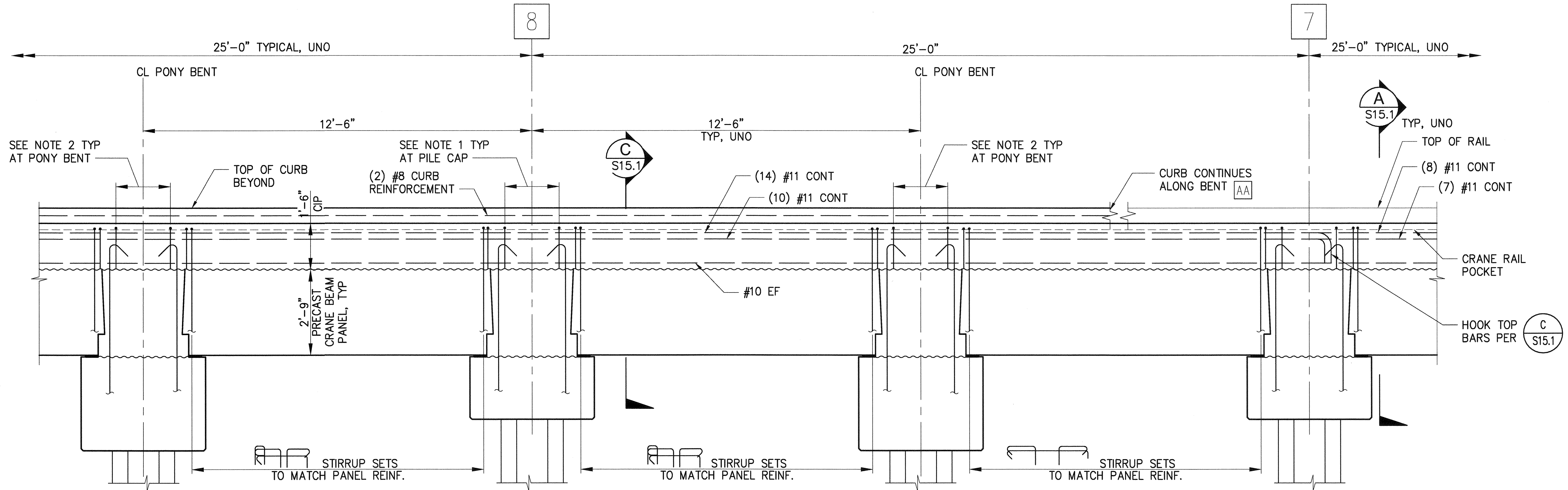


1. PILE CAP REINFORCEMENT NOT SHOWN, SEE 
2. PONY BENT REINFORCEMENT NOT SHOWN, SEE 
3. PONY BENT REINFORCEMENT NOT SHOWN AT TIE DOWN, SEE 
4. HEAVY LOAD ZONE LOCATION PER SHEET S5.3

ELEVATION - LANDSIDE CRANE
BEAM AT HEAVY LOAD ZONE

S4.1 $1/2" = 1'-0"$

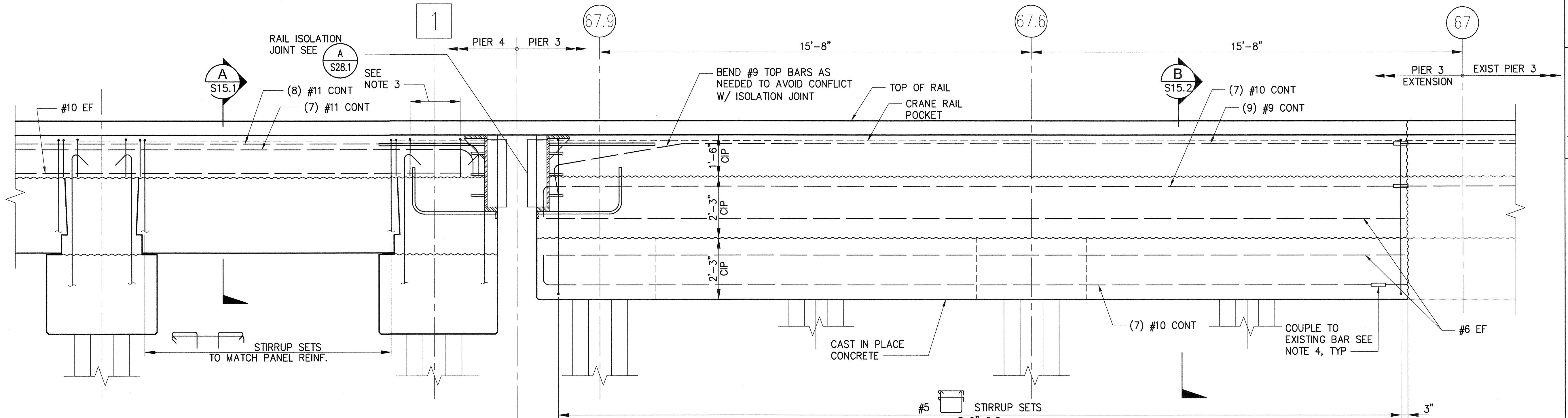




ELEVATION - LANDSIDE CRANE BEAM AT CORNER

A
S4.1

1/2" = 1'-0"



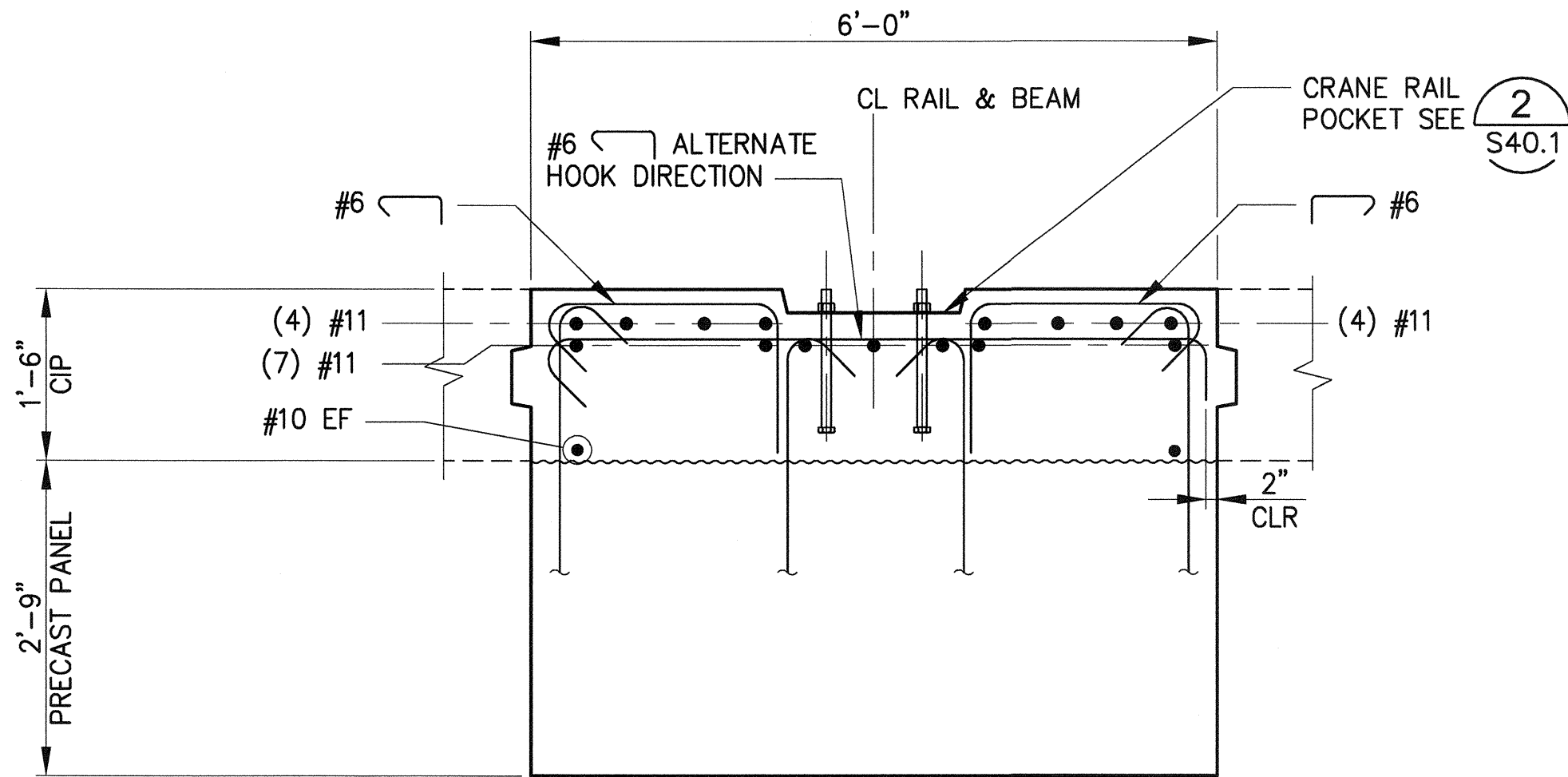
ELEVATION - LANDSIDE CRANE BEAM AT ISOLATION JOINT

B
S4.1

1/2" = 1'-0"

NOTES

- PILE CAP REINFORCEMENT NOT SHOWN, SEE B
S10.4
- PONY BENT REINFORCEMENT NOT SHOWN, SEE A
S11.2
- PILE CAP REINFORCEMENT NOT SHOWN SEE C
S10.6
- MECHANICALLY COUPLE TO EXISTING CRANE BEAM BARS AT LAND SIDE CRANE BEAM, TYP.



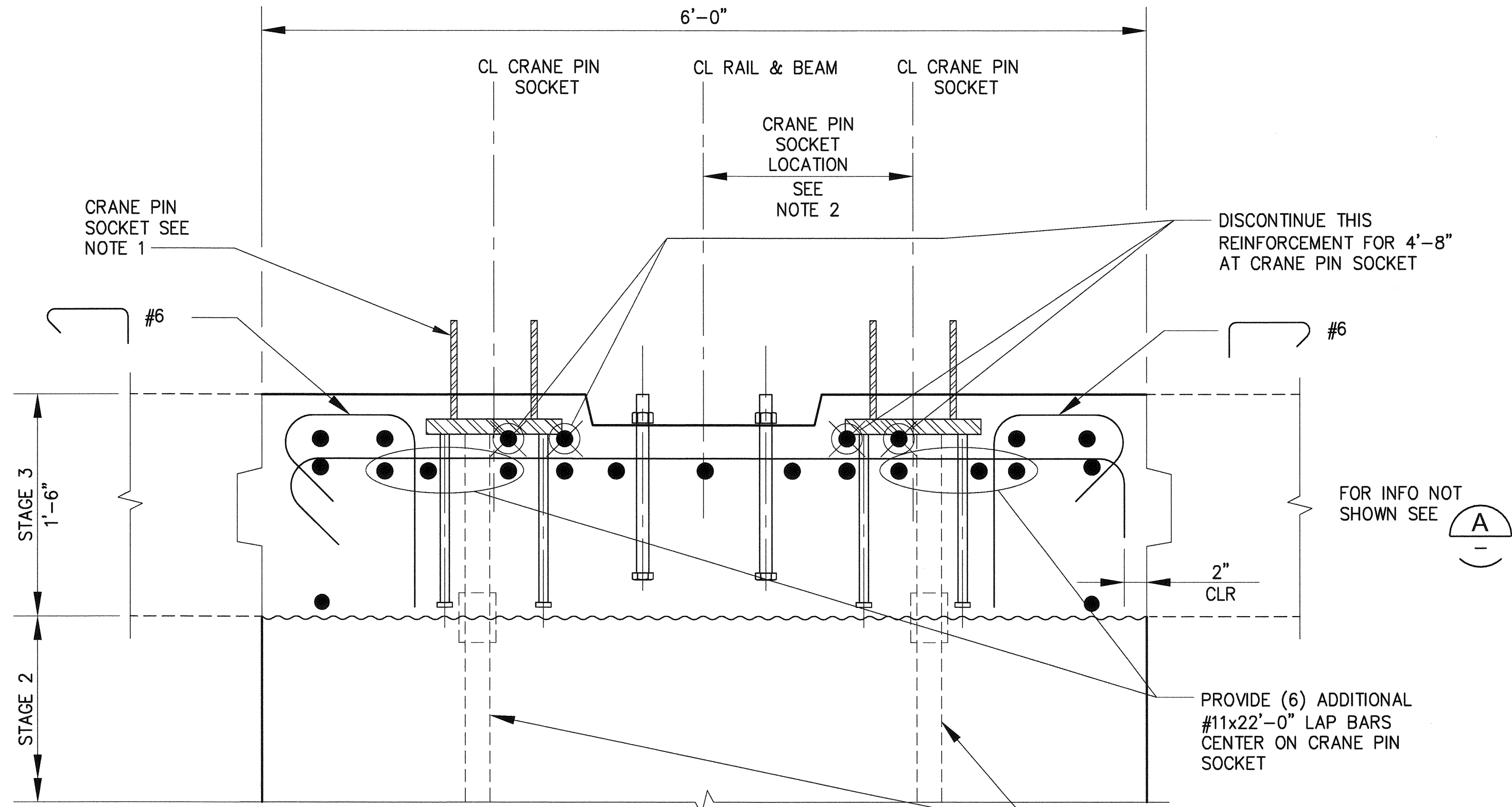
A
TYPICAL LANDSIDE CRANE BEAM SECTION
S11.3, S14.1, S14.3
3/4"=1'-0"

NOTES

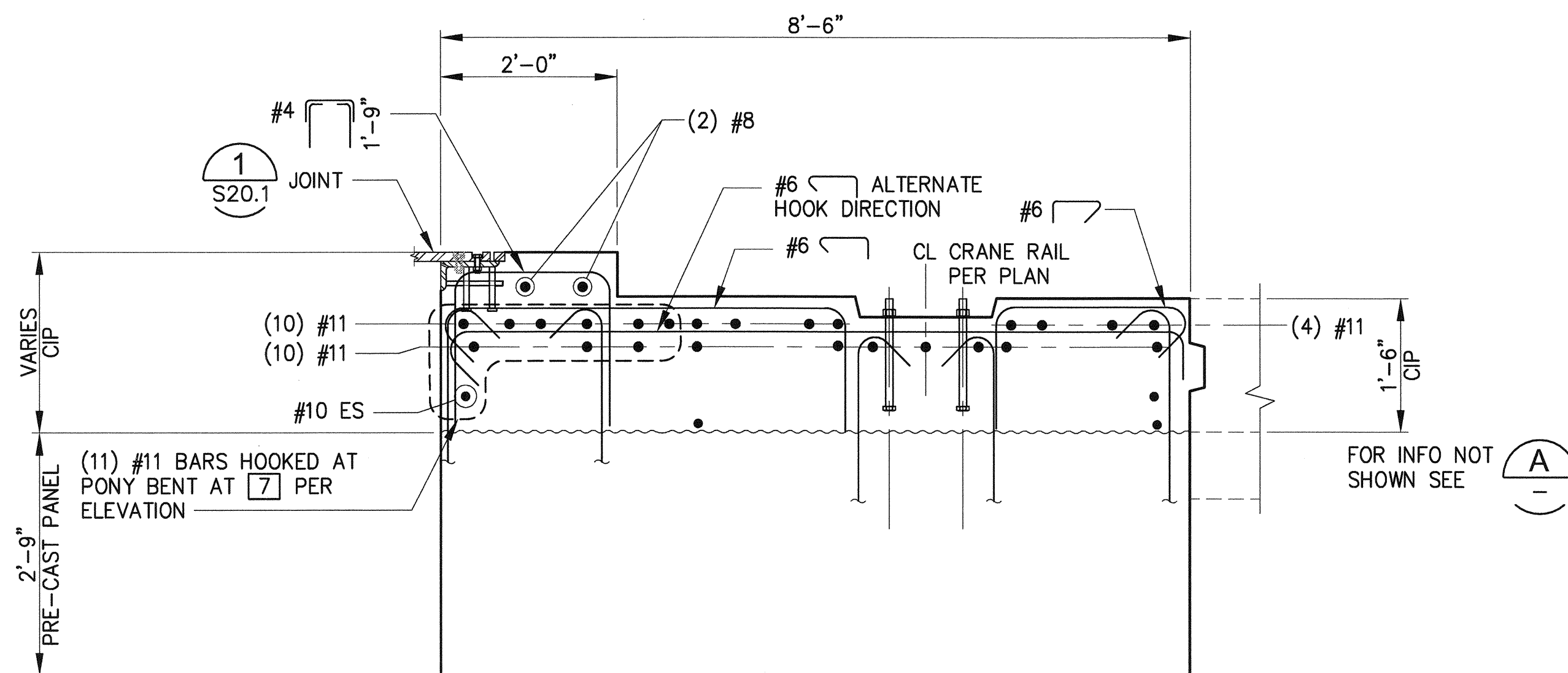
1. FOR CRANE PIN SOCKET LOCATIONS SEE SHEETS S5.1-S5.5

2. FOR CRANE PIN SOCKET DETAILS AND PLACEMENT SEE

1
S34.1

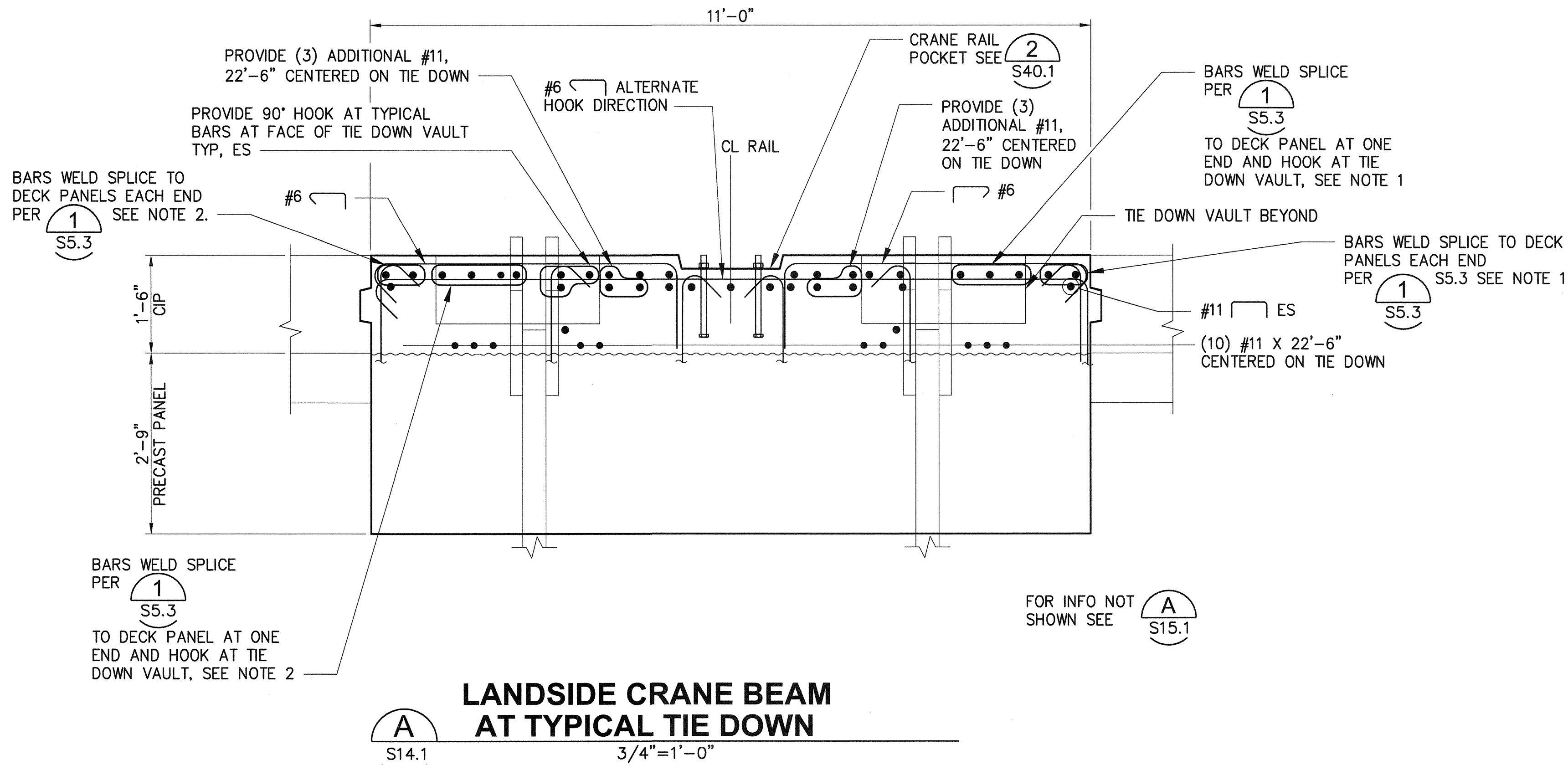


B
LANDSIDE CRANE BEAM SECTION AT CRANE PIN SOCKET
S14.1
1 1/2"=1'-0"



C
LANDSIDE CRANE BEAM SECTION AT 7.5 TO 14
S14.2, S14.3
3/4"=1'-0"

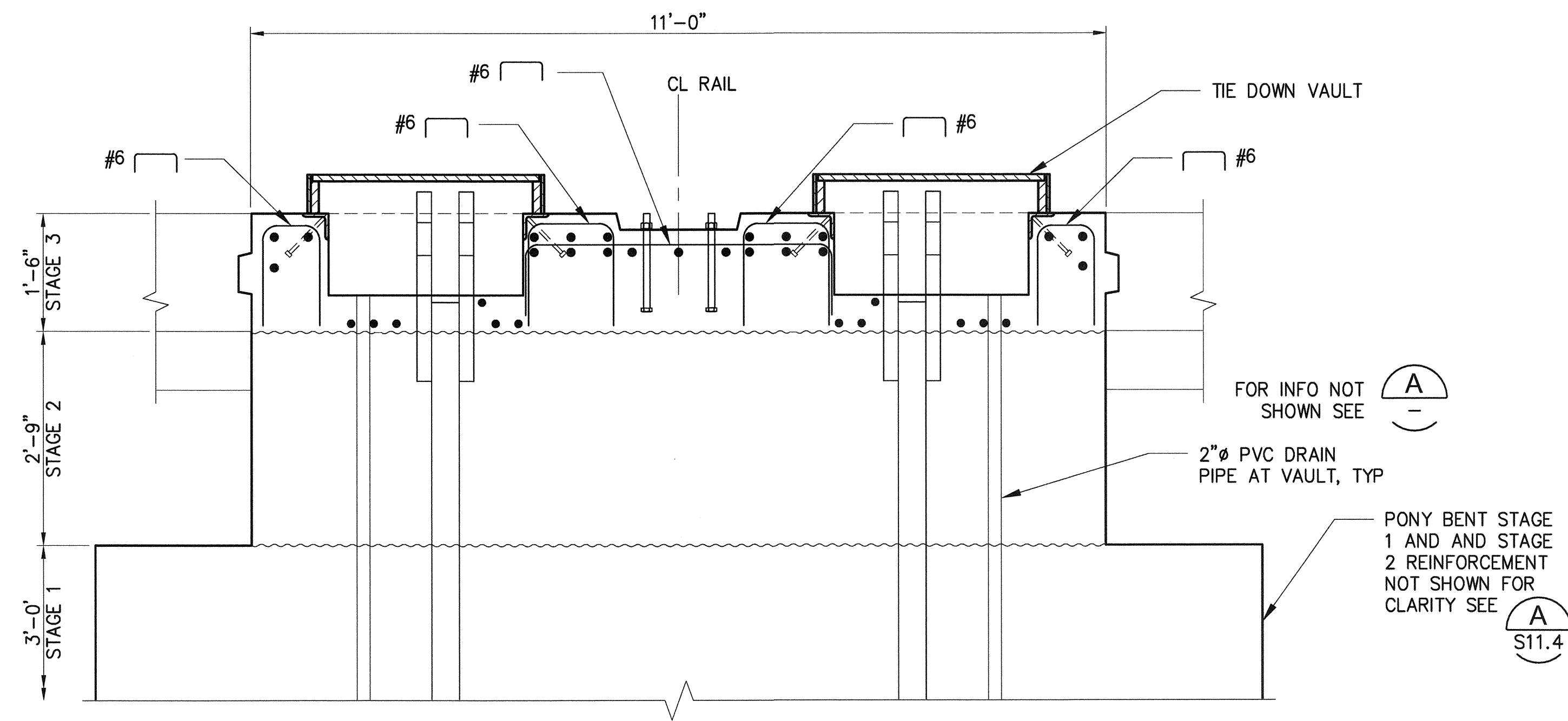
6552 S15.1 SH 257 OF 499	PIER 4 PHASE 2 RECONFIGURATION				Port of Tacoma P.O. BOX 1837 TACOMA, WA 98401 (253) 396-3841	
	LANDSIDE CRANE BEAM SECTIONS AND DETAILS - SHEET 1				kpff 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162	
CONT/CONS: 070136	TOWNSHIP: 070136	RANGE: MLW 19.39' @ Tide 22 1933	SECTION: WA83-SF	MARK: REVISION: BY: DATE: APPR: DATE:	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION	
M. ID: 091251	DAT-HRZ: 091251	VERT: AS NOTED	DRAWING SCALE: AS NOTED			
PHASE: BID						



LANDSIDE CRANE BEAM AT TYPICAL TIE DOWN

A
S14.1

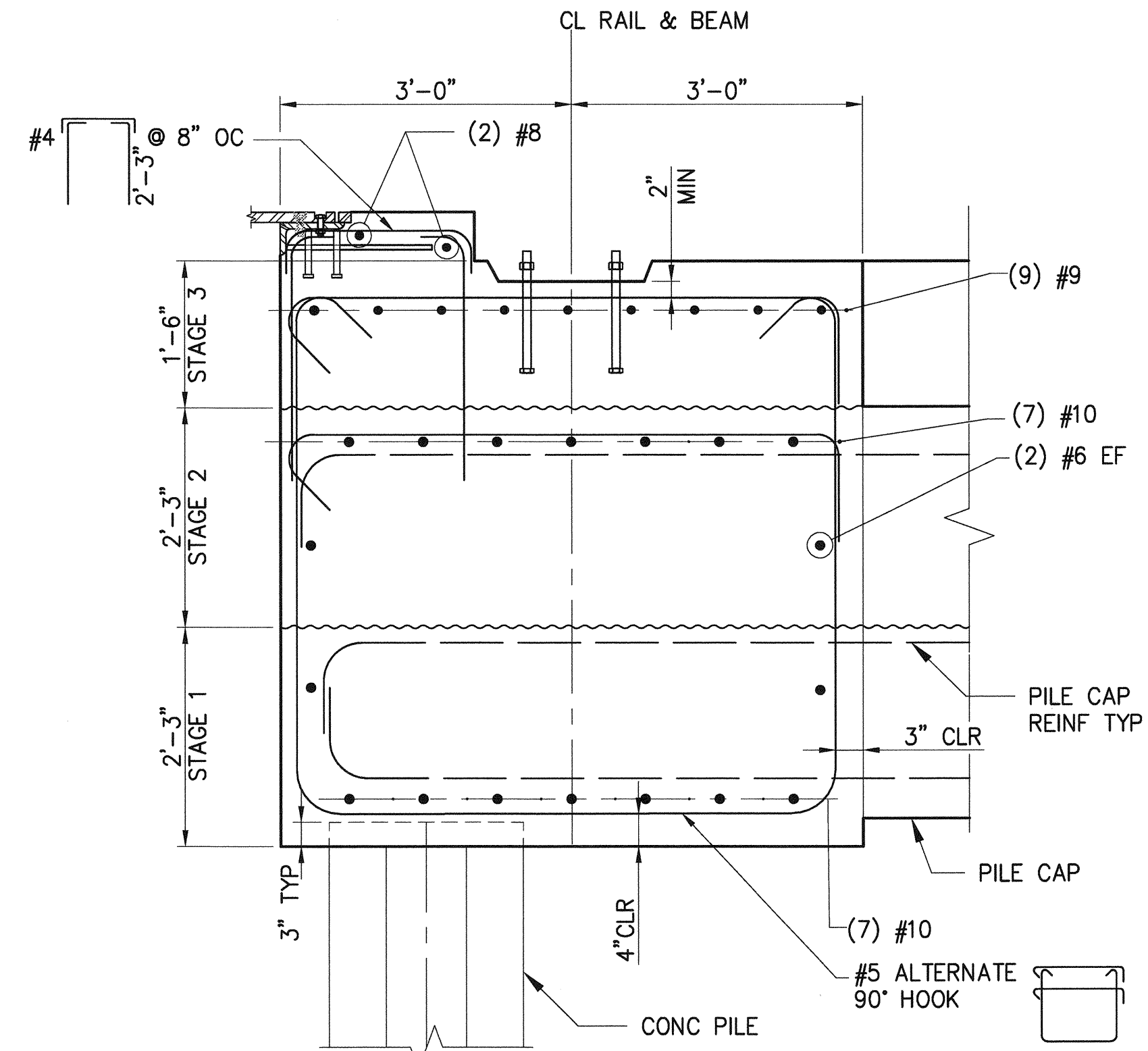
3/4"=1'-0"



LANDSIDE CRANE BEAM AT TYPICAL TIE DOWN AT PONY BENT

C
S14.1

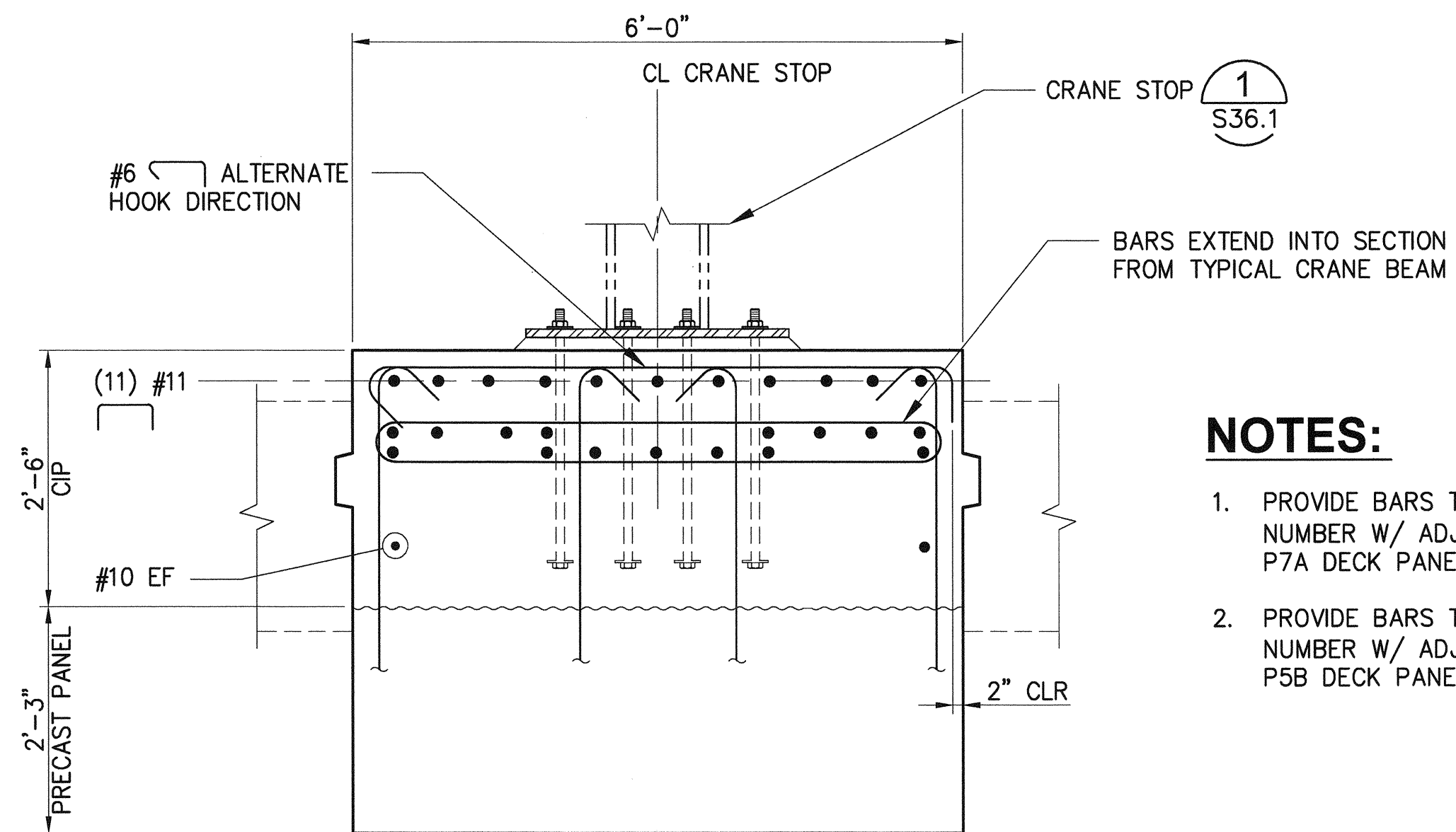
3/4"=1'-0"



PILECAP LANDSIDE - PIER 3 EXTENSION

B
S9.13 S9.14 S14.3

3/4"=1'-0"



LANDSIDE CRANE BEAM AT CRANE STOP

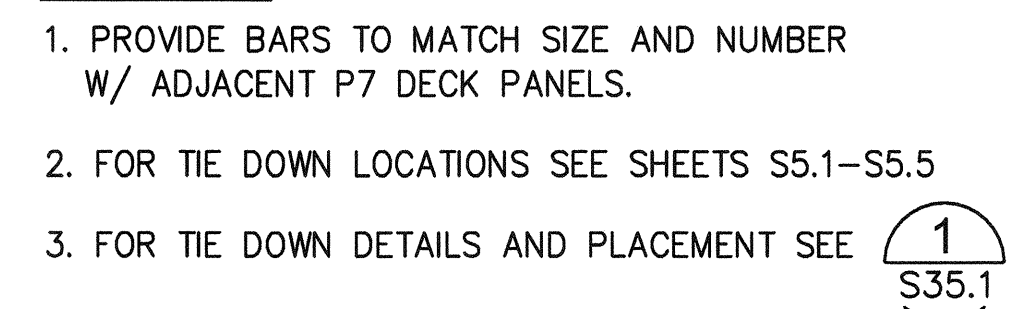
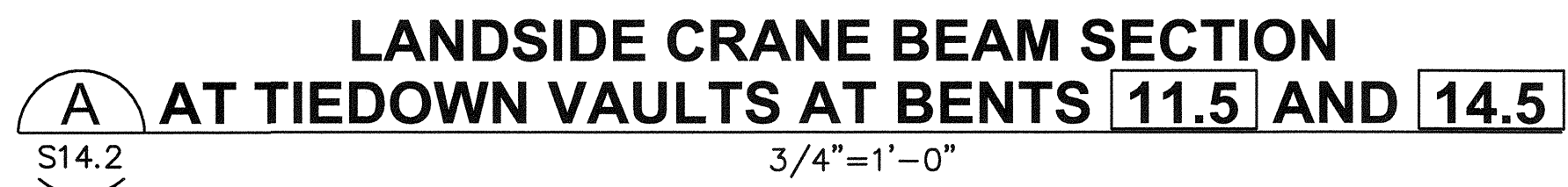
D
S14.1

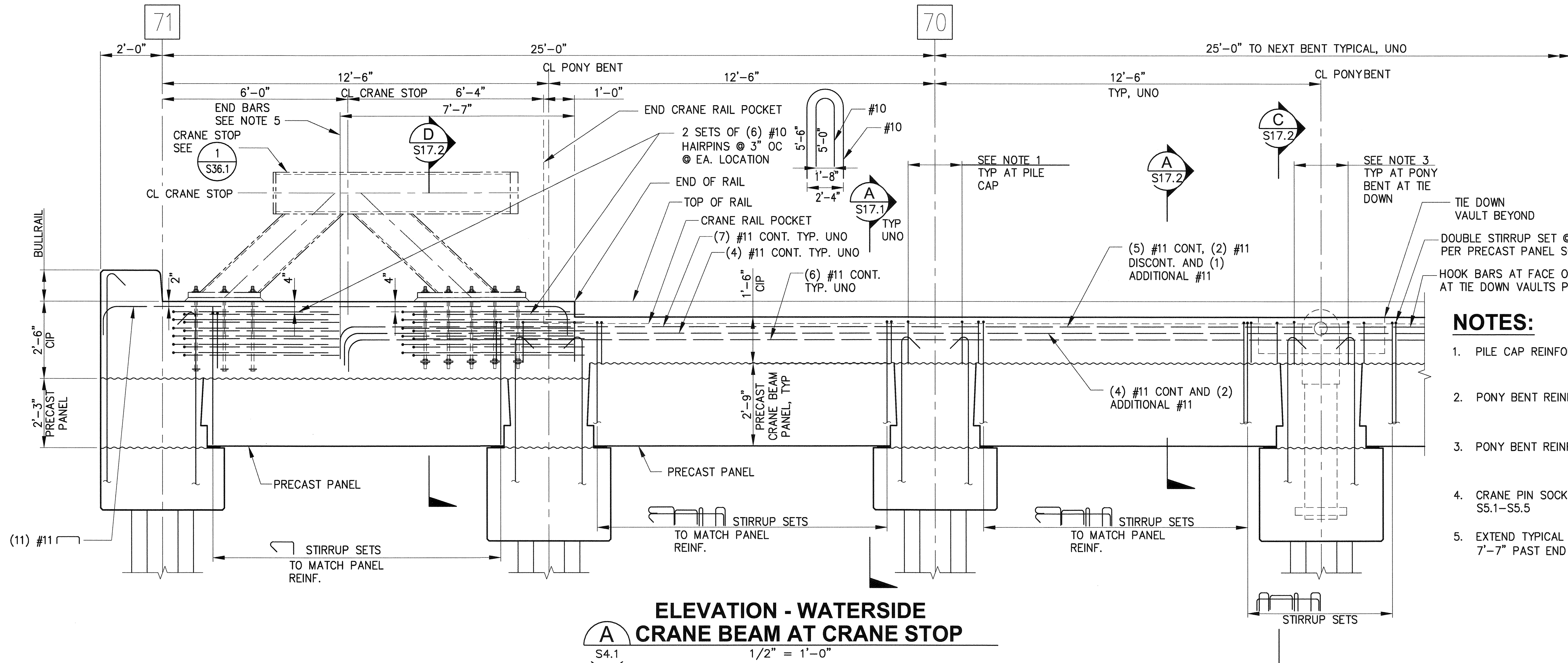
3/4"=1'-0"

NOTES:

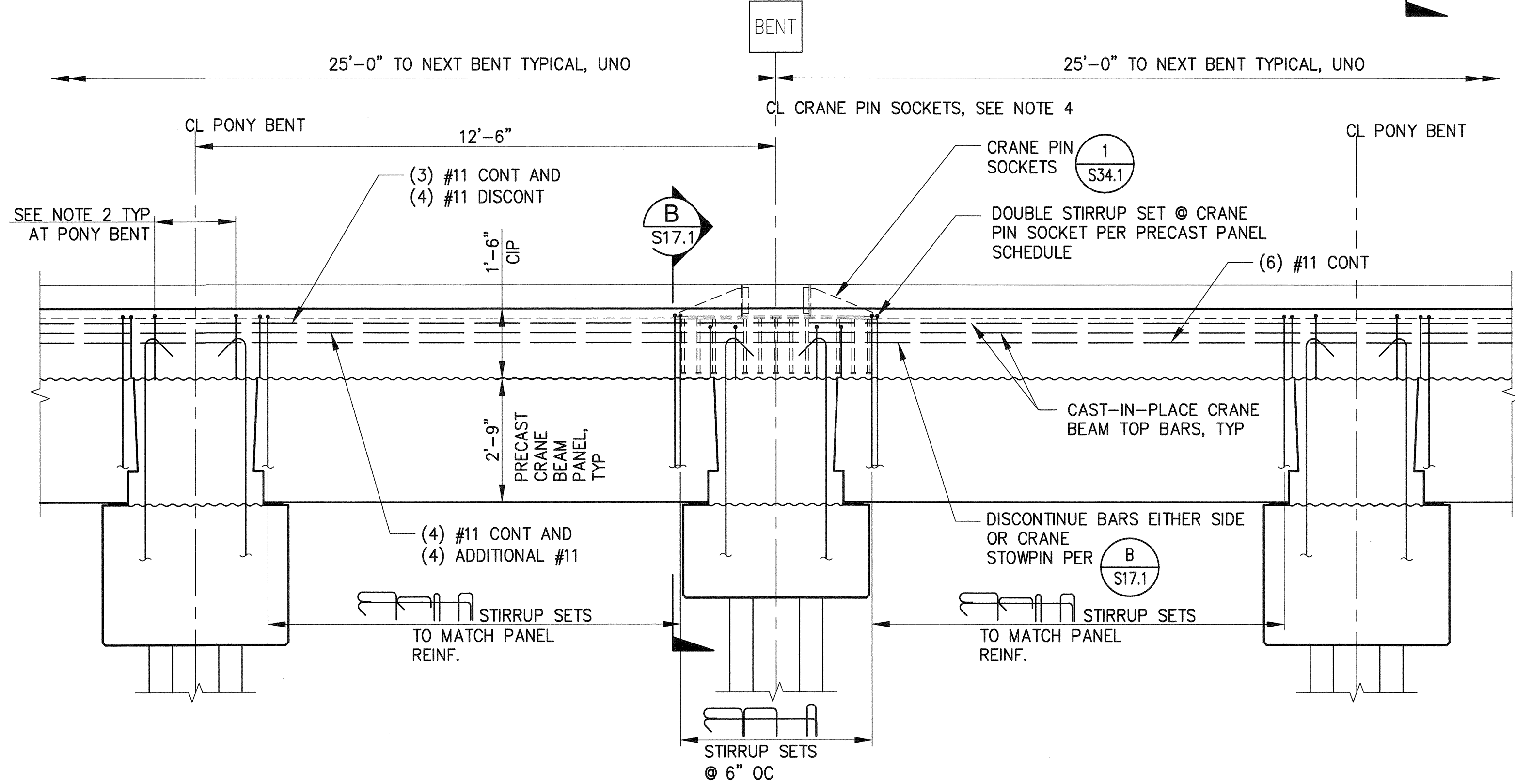
1. PROVIDE BARS TO MATCH SIZE AND NUMBER W/ ADJACENT P7, P7B OR P7A DECK PANELS.
2. PROVIDE BARS TO MATCH SIZE AND NUMBER W/ ADJACENT P5, P5A OR P5B DECK PANELS.

6552	S15.2	SH 258 OF 499	CONT/CONS: 070136	M. ID: 091251	PHASE: BID	PIER 4 PHASE 2 RECONFIGURATION	LANDSIDE CRANE BEAM SECTIONS AND DETAILS - SHEET 2	APPROVED: <i>[Signature]</i>	SEK	CHECKED BY	DATE	
								DIRECTOR	TAH	PROJ. ENGR	DATE	
									PRINTED BY: tlemmons	Mar 24, 2016		
									PORT ADDRESS: ONE SITCUM PLAZA			
									TACOMA, WA 98401-1837			
									DRAWING SCALE: AS NOTED			
									PARCEL:			
									REVISION:	BY:	DATE:	
									MARK:	REVISION:	BY:	DATE:
									APPR:	DATE:		
									Port of Tacoma			
									2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162			





**ELEVATION - WATERSIDE
A CRANE BEAM AT CRANE STOP**
S4.1 1/2" = 1'-0"



**ELEVATION - WATERSIDE
B CRANE BEAM AT CRANE PIN SOCKET**
S4.1 1/2" = 1'-0"

NOTES:

- PILE CAP REINFORCEMENT NOT SHOWN, SEE S10.1
- PONY BENT REINFORCEMENT NOT SHOWN, SEE S11.1
- PONY BENT REINF. NOT SHOWN @ TIE DOWN SEE S11.6
- CRANE PIN SOCKET LOCATIONS PER PLAN, SEE SHEETS S5.1-S5.5
- EXTEND TYPICAL CRANE BEAM TOP REINFORCEMENT 7'-7" PAST END OF RAIL AND PROVIDE 90° HOOK.

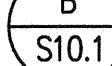
6552 S16.1 SH 260 OF 499	PIER 4 PHASE 2 RECONFIGURATION WATERSIDE CRANE BEAM ELEVATIONS - SHEET 1				APPROVED: <i>[Signature]</i> 3-28-16	SEC CHECKED BY DATE
	CONT/CONS: 070136 M. ID: 091251 PHASE: BID	TOWNSHIP: 21N RANGE: 3E SECTION: 27	DAT-HRZ: WA83-SF VERT: MLLW 19.39' @ Tide 22 1933	PRINTED BY: tienoms DATE: Mar 24, 2016	DIRECTOR ENG. DATE: 3-28-16 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	MARK: REVISION: BY: DATE:

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1. PILE CAP REINFORCEMENT NOT SHOWN, SEE 
2. PONY BENT REINFORCEMENT NOT SHOWN, SEE 
3. HEAVY LOAD ZONE LOCATION PER SHEET S5.3

ELEVATION - WATER SIDE
BEAM AT HEAVY LOAD ZONE

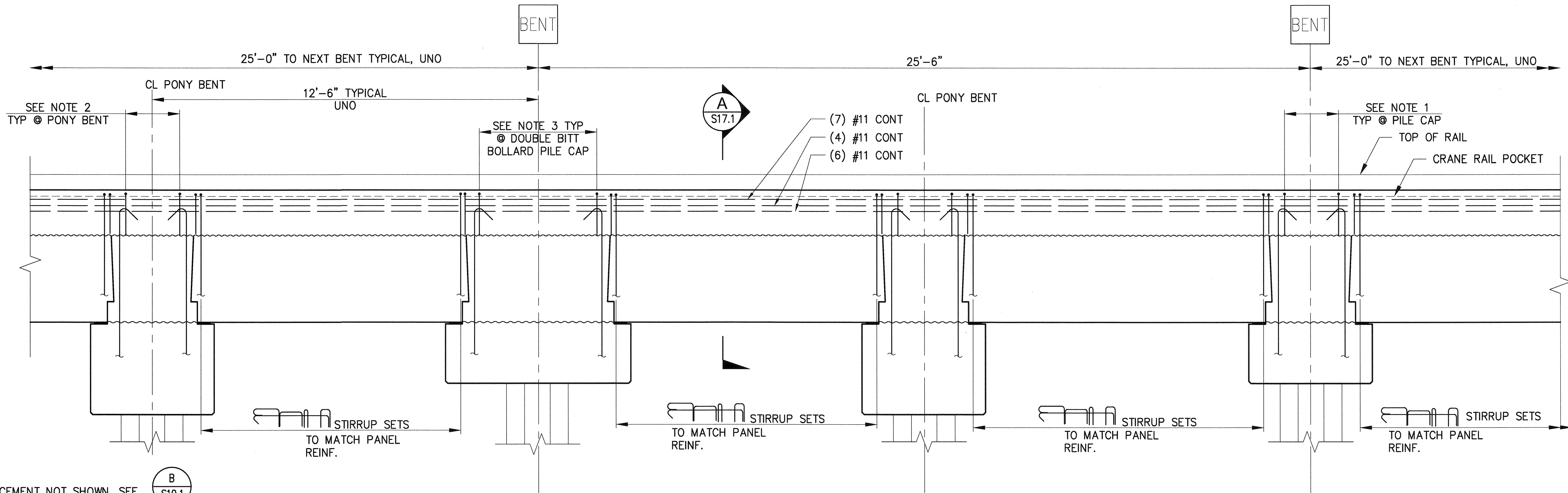


1. PILE CAP REINFORCEMENT NOT SHOWN, SEE 
2. PONY BENT REINFORCEMENT NOT SHOWN, SEE 
3. TYPICAL BARS CONTINUOUS THROUGH SECTION AT CRANE POWER VAULT, BARS IN CONFLICT SHALL HOOK @ CRANE POWER VAULT PER 
4. LONGITUDINAL REINFORCEMENT IN STAGE 1 AND STAGE 2 SHALL BE HEADED REINFORCEMENT AND BE EMBEDDED 3'-6" INTO PILE CAPS, TYP

**ELEVATION - WATER SIDE CRANE
BEAM AT SHORE POWER VAULT**



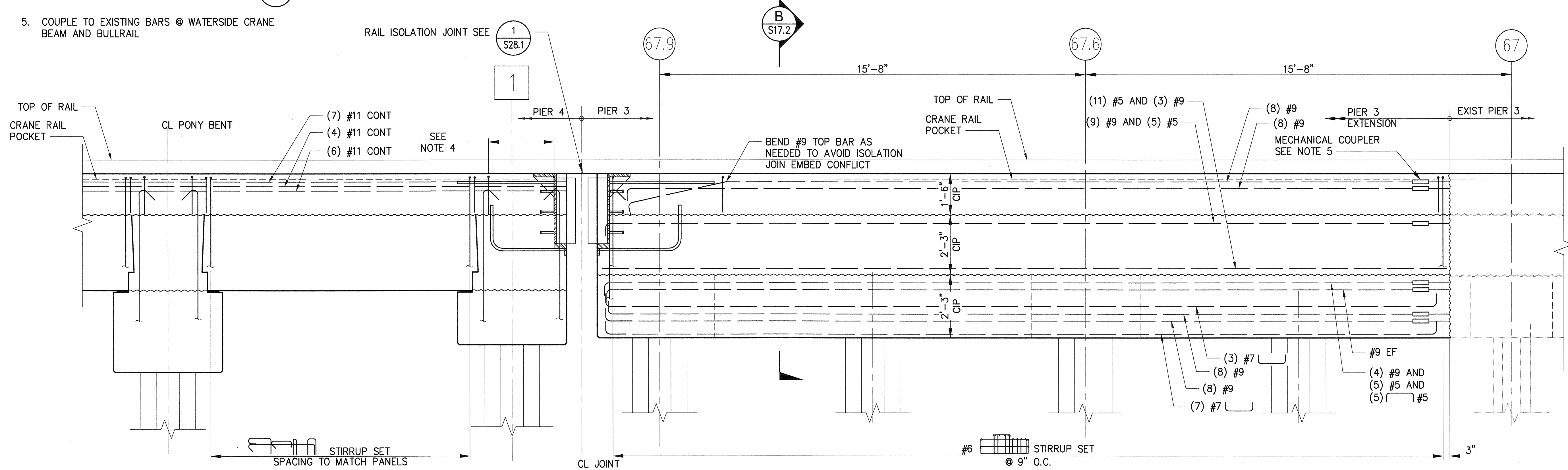
B **AT CRANE POWER VAULT**
S4.1 1/2"=1'-0"



**ELEVATION - WATERSIDE CRANE BEAM
AT DOUBLE BITT BOLLARD**
A
S4.1 1/2"=1'-0"

NOTES:

- PILE CAP REINFORCEMENT NOT SHOWN, SEE B S10.1
- PONY BENT REINFORCEMENT NOT SHOWN, SEE A S11.1
- PILE CAP REINFORCEMENT NOT SHOWN SEE B S10.2
- PILE CAP REINFORCEMENT NOT SHOWN SEE B S10.6
- COUPLE TO EXISTING BARS @ WATERSIDE CRANE BEAM AND BULLRAIL



**ELEVATION - WATERSIDE CRANE
BEAM AT EXPANSION JOINT**
B
S4.1 1/2"=1'-0"

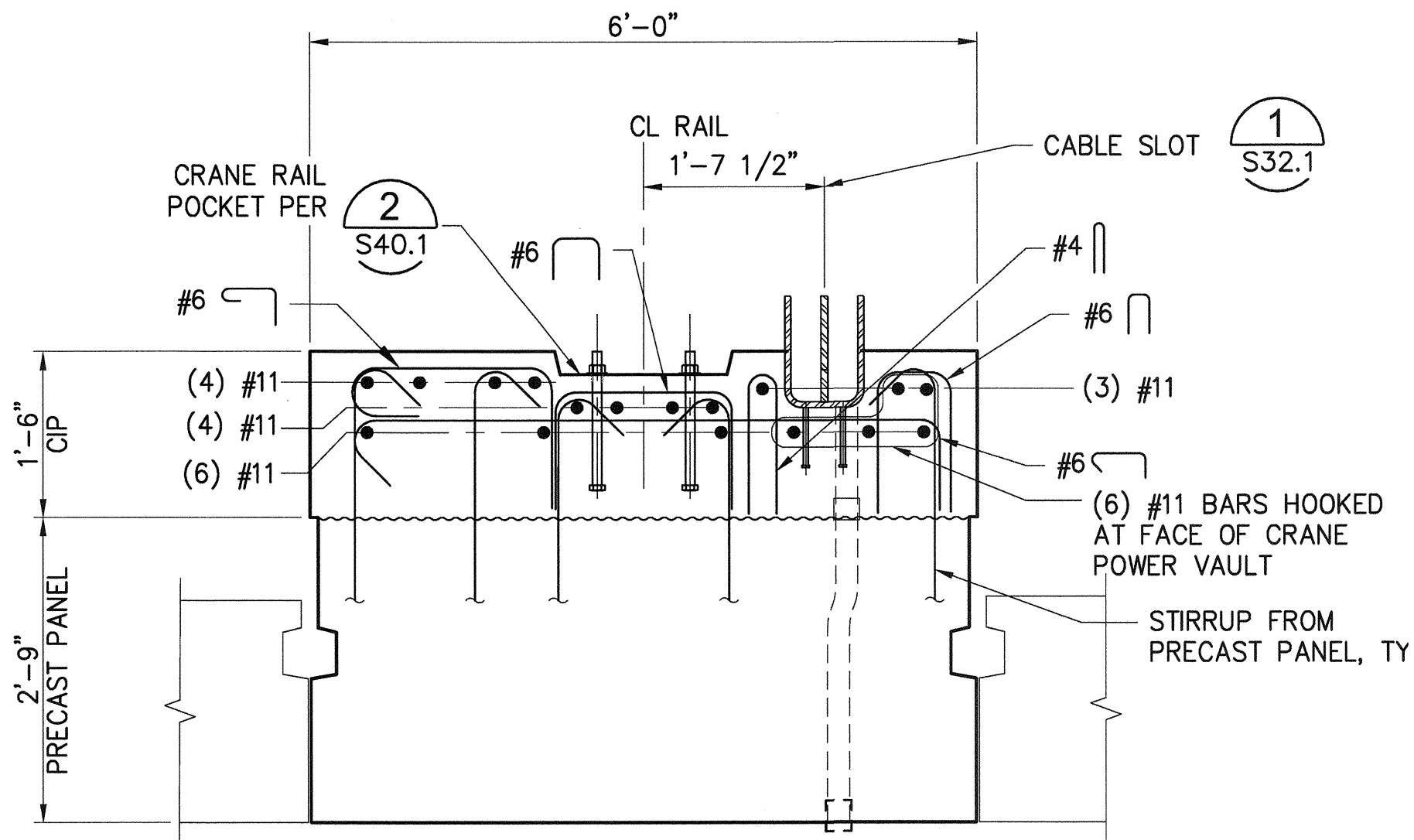
6552 S16.4 SH 263 OF 499	PIER 4 PHASE 2 RECONFIGURATION WATERSIDE CRANE BEAM ELEVATIONS - SHEET 4				APPROVED: <i>[Signature]</i> 3-28-16	SEC CHECKED BY TA	DATE DATE
	TOWNSHIP: 21N RANGE: 3E SECTION: 27 CONT/CONS: 070136 M. ID: 091251 PHASE: BID	DAT-HRZ: WA83-SF VERT: MLLW 19.39 @ Tide 22 1983 DRAWING SCALE: AS NOTED	PRINTED BY: tlemans Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	DIRECTOR ENG. DATE 3-28-16	PROJECT ENGR DATE	APPR: BY:	DATE:

2407 North 31st Street, Suite 100
 Tacoma, Washington 98407
 (253) 396-0150 Fax (253) 396-0162
 P.O. BOX 1837 TACOMA, WA 98401 (253) 396-0841

Port of Tacoma
 kpff

91-52-2

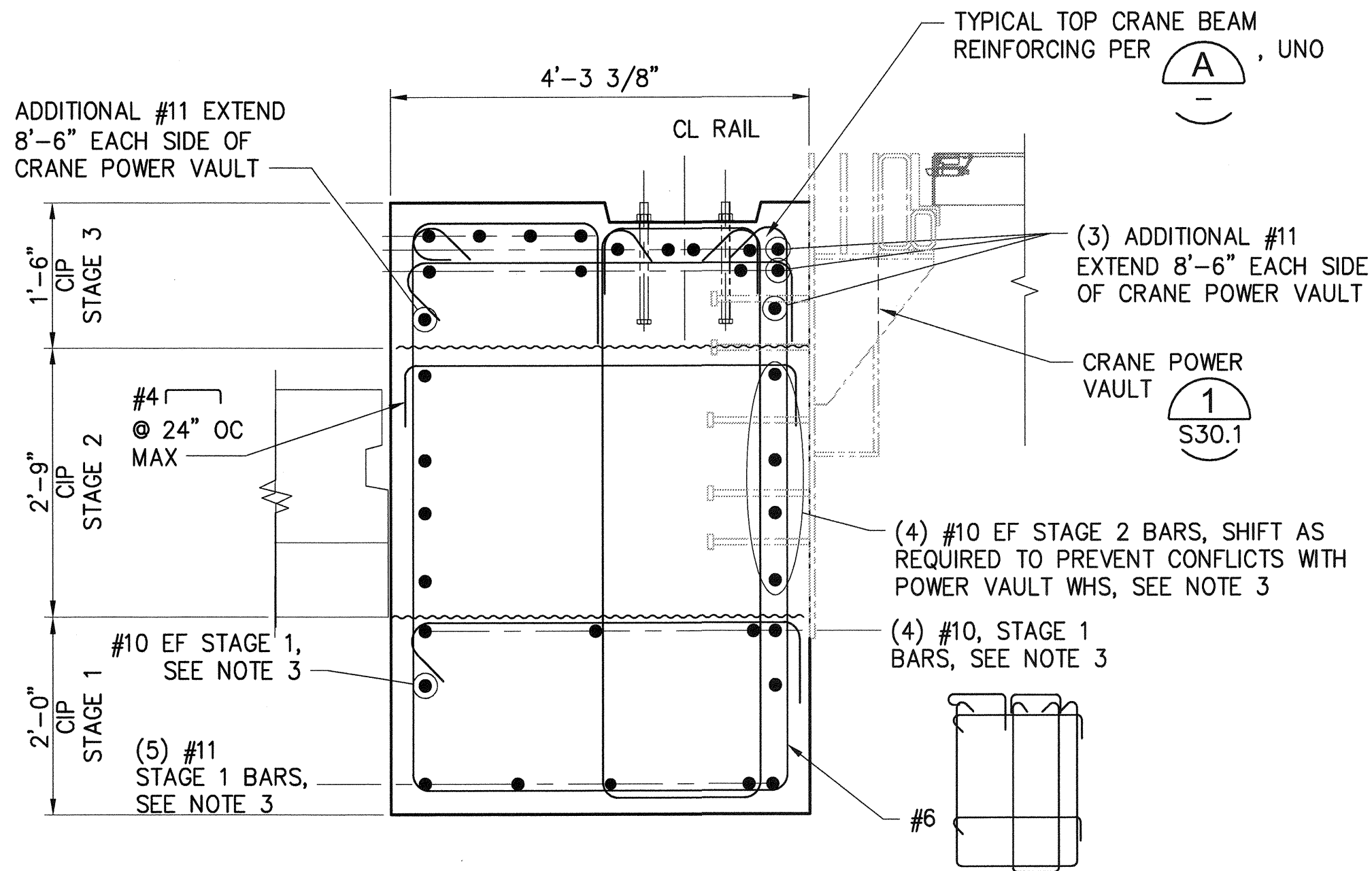
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TYPICAL WATERSIDE CRANE BEAM SECTION
S11.1, S11.2, S16.1- S16.4
3/4" = 1'-0"

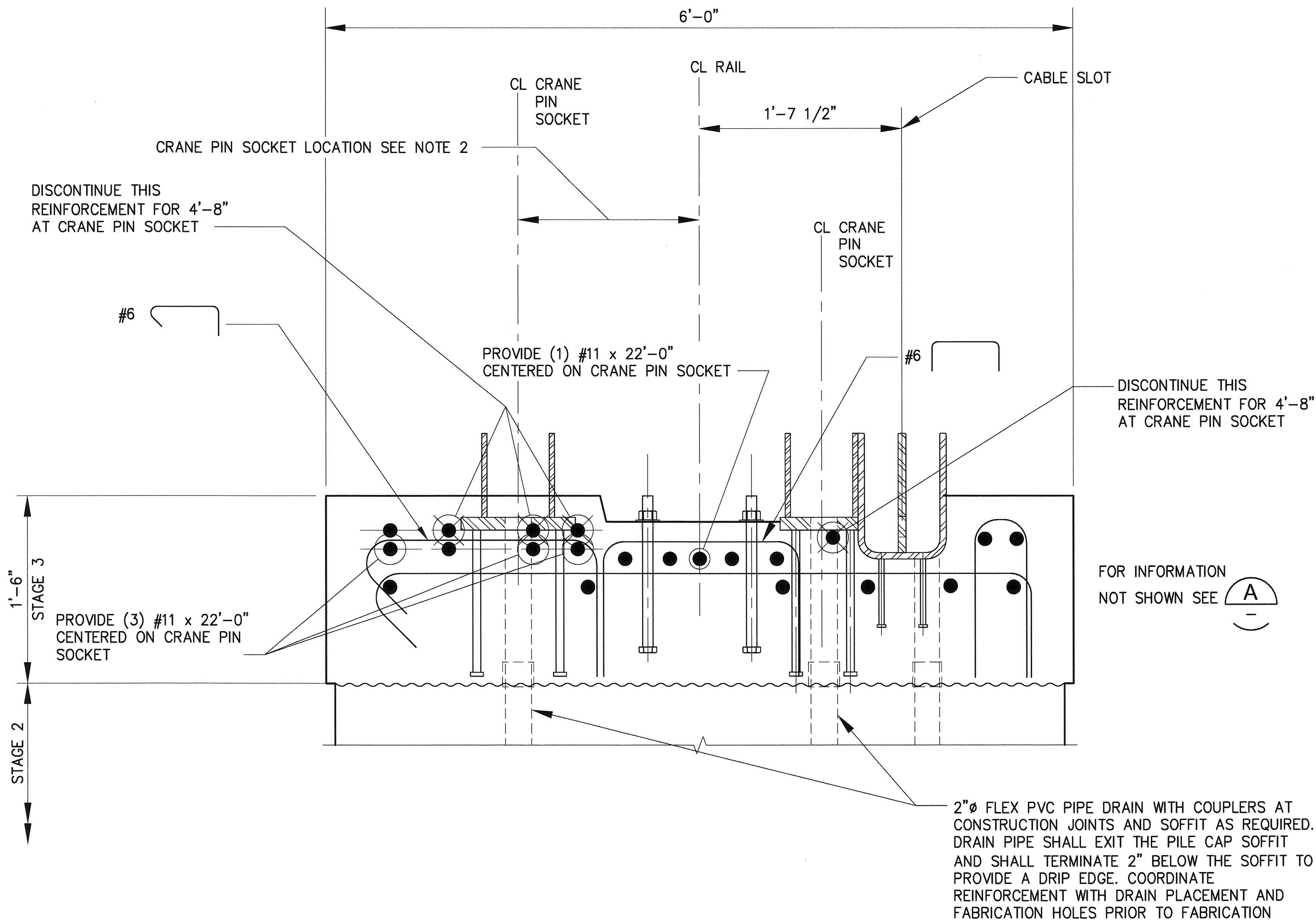
NOTES

1. FOR CRANE PIN SOCKET LOCATIONS SEE SHEETS S5.1-S5.5
2. FOR CRANE PIN SOCKET DETAILS AND PLACEMENT SEE **1** (S34.1)
3. STAGE 1 AND STAGE 2 REINF. SHALL BE HEADED REINFORCEMENT, EXTEND 3'-6" INTO ADJACENT PILE CAPS, PER S16.3.

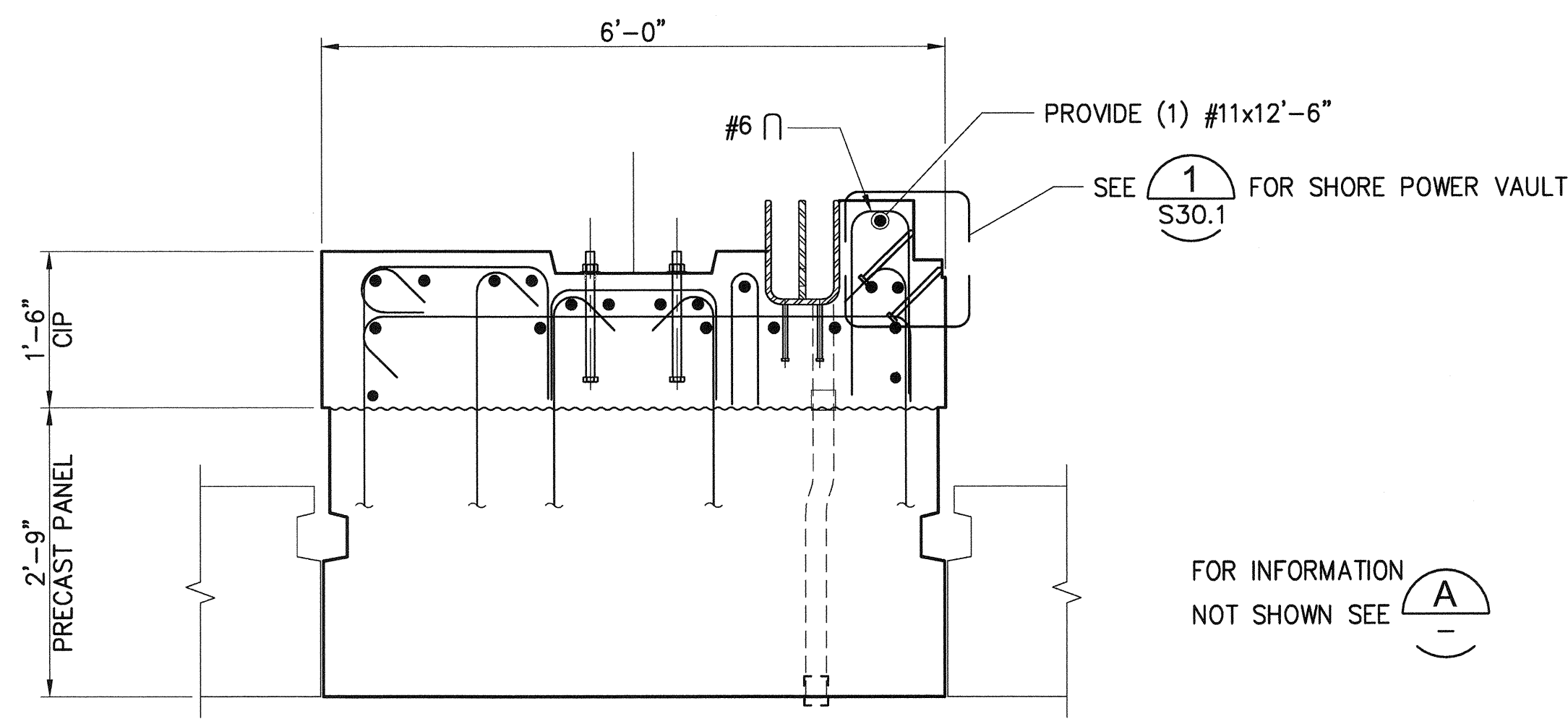


WATERSIDE CRANE BEAM AT CRANE POWER VAULT
S16.3
3/4" = 1'-0"

FOR INFORMATION NOT SHOWN SEE **A** (-)



WATERSIDE CRANE BEAM AT CRANE PIN SOCKET
S16.1
1 1/2" = 1'-0"



WATERSIDE CRANE BEAM SECTION AT SHORE POWER VAULT
S16.3
3/4" = 1'-0"

FOR INFORMATION NOT SHOWN SEE **A** (-)

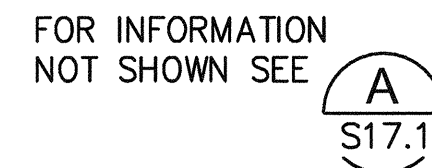


APPROVED:	CHECKED BY:	DATE:
<i>David J. Ward</i>		
DIRECTOR ENG. DATE:	PROJ. ENGR. DATE:	
3-28-14	tiemans Mar 24, 2016	
PRINTED BY:	PORT ADDRESS:	
one sitcum plaza	TACOMA, WA 98401-1837	

PIER 4 PHASE 2 RECONFIGURATION
WATERSIDE CRANE BEAM SECTIONS AND DETAILS - SHEET 1

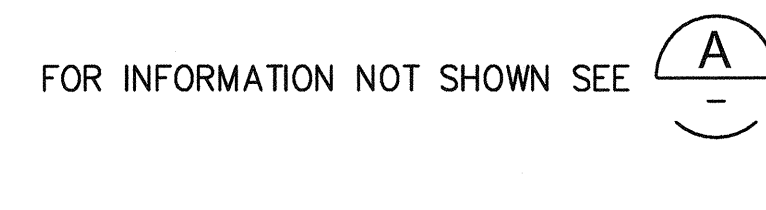
6552 S17.1
SH 264 OF 499

CONT/CONS:	RANGE:	SECTION:
070136	MLW 19.39 @ Tide 22	1933
M. ID:	DAT-HRZ:	VERT:
091251	WA83-SF	
PHASE:	PARCEL:	DRAWING SCALE:
BID		AS NOTED



WATERSIDE CRANE BEAM SECTION
AT TIE DOWN

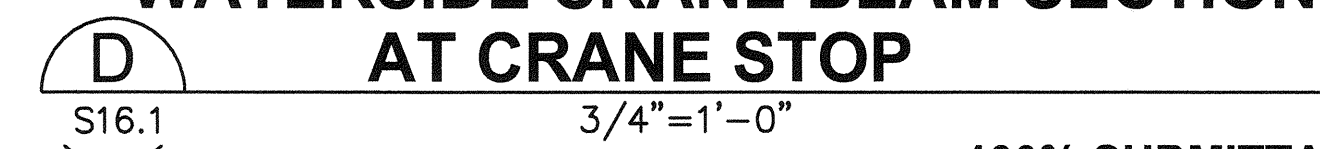
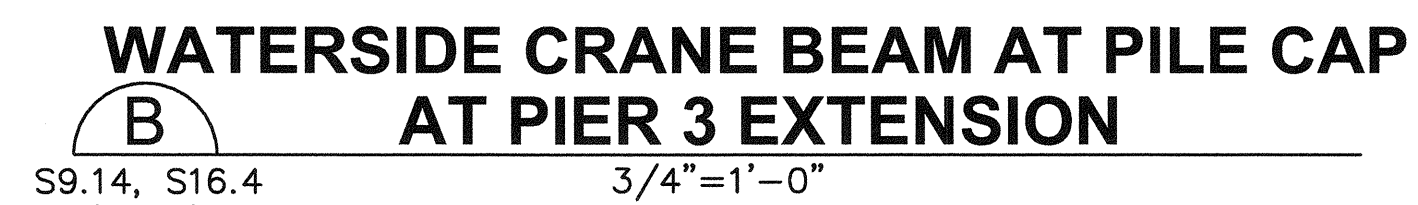




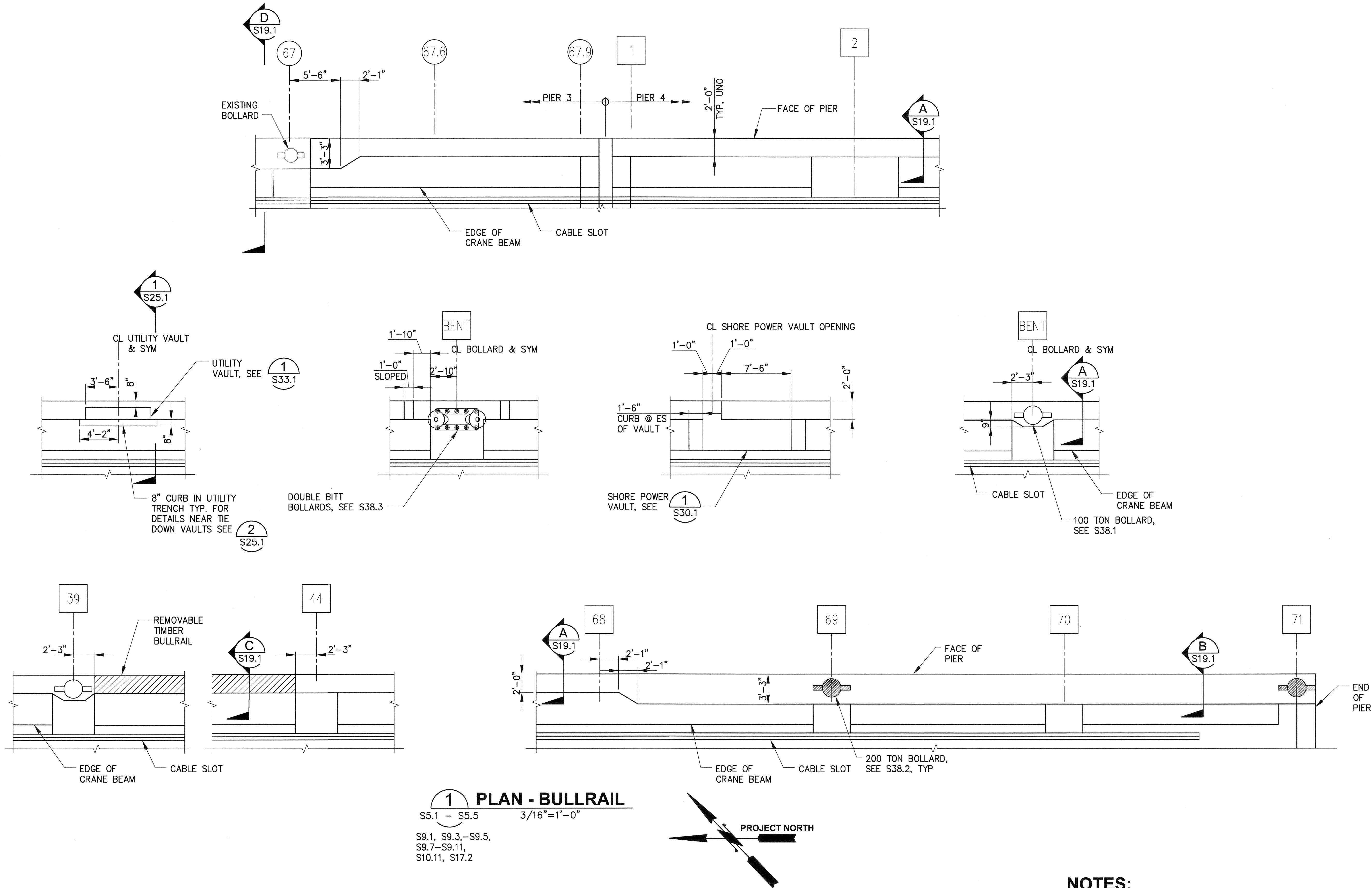
WATERSIDE CRANE BEAM SECTION
AT TIE DOWN AT PONT BENT

 S16.1

$3/4" = 1'-0"$



100% SUBMITTAL - NOT FOR CONSTRUCTION

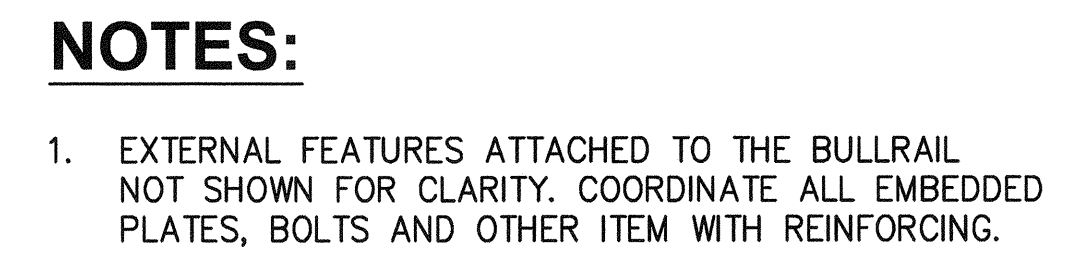


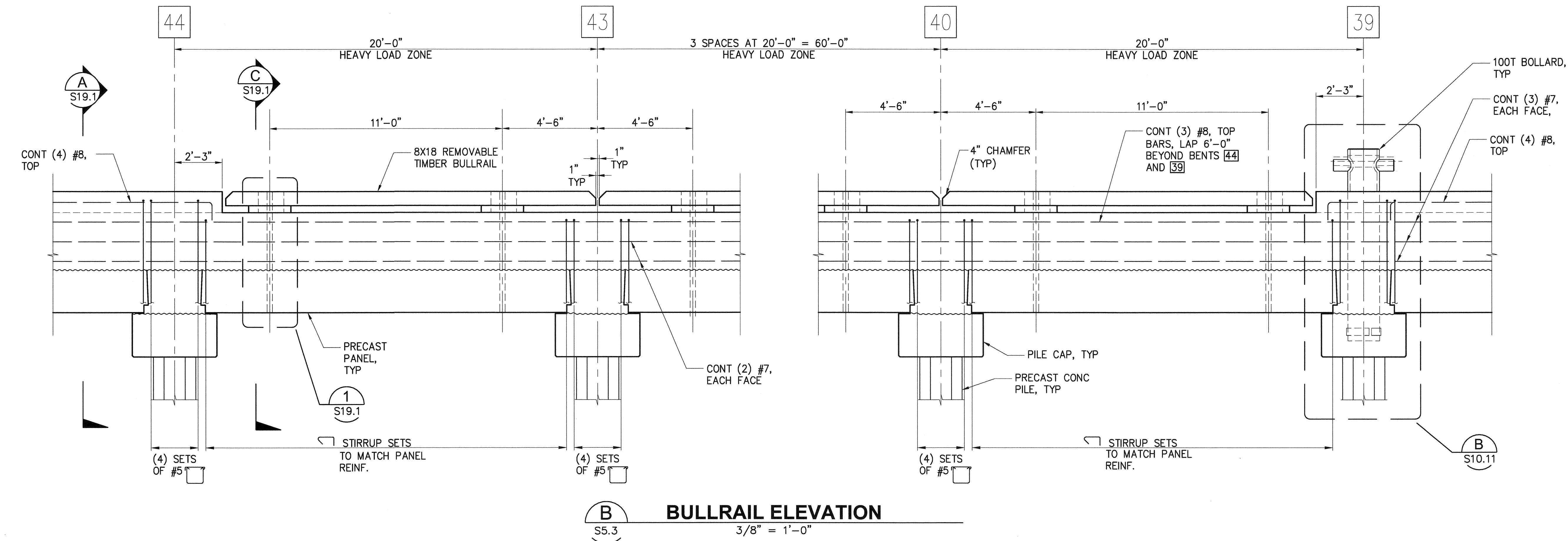
1 PLAN - BULLRAIL
S5.1 - S5.5 3/16"=1'-0"
S9.1, S9.3, -S9.5,
S9.7-S9.11,
S10.11, S17.2

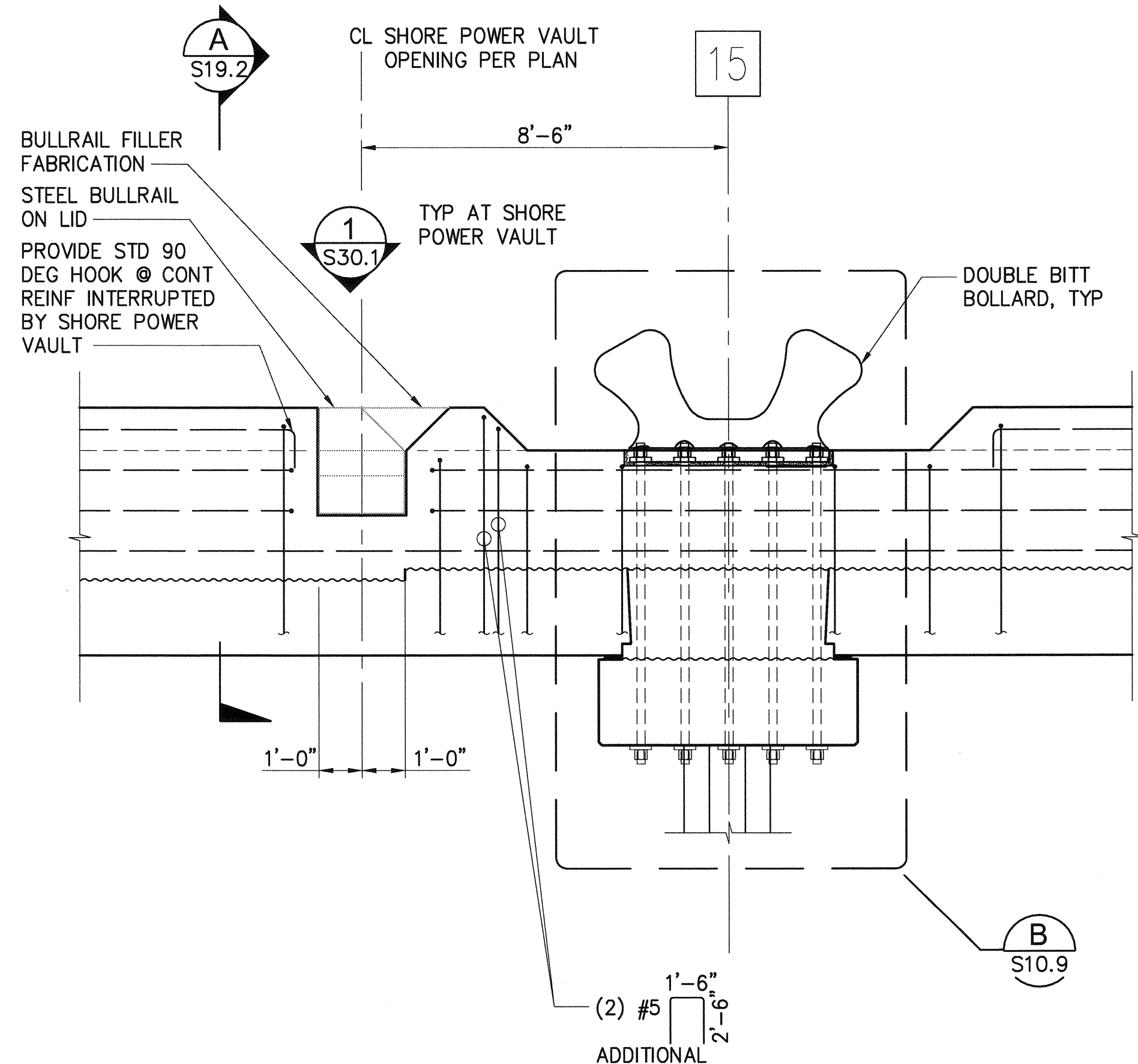
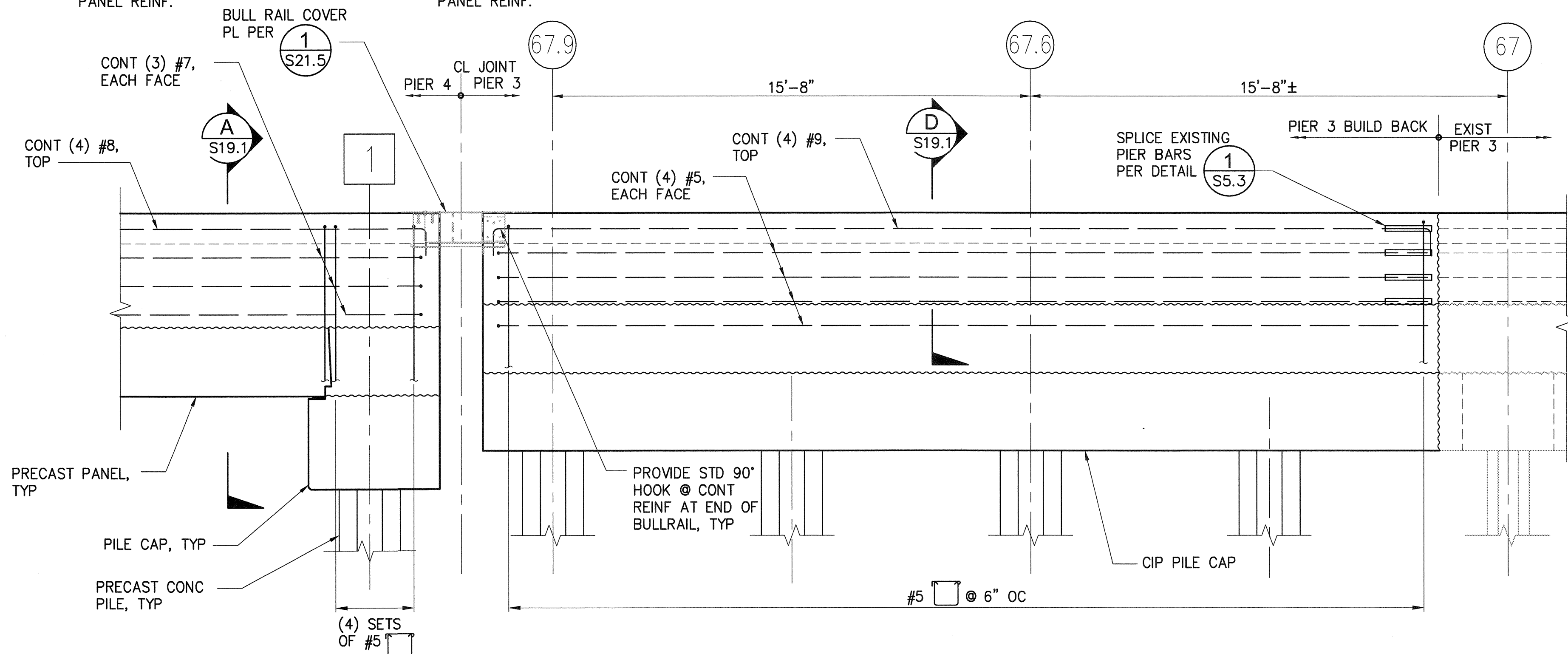
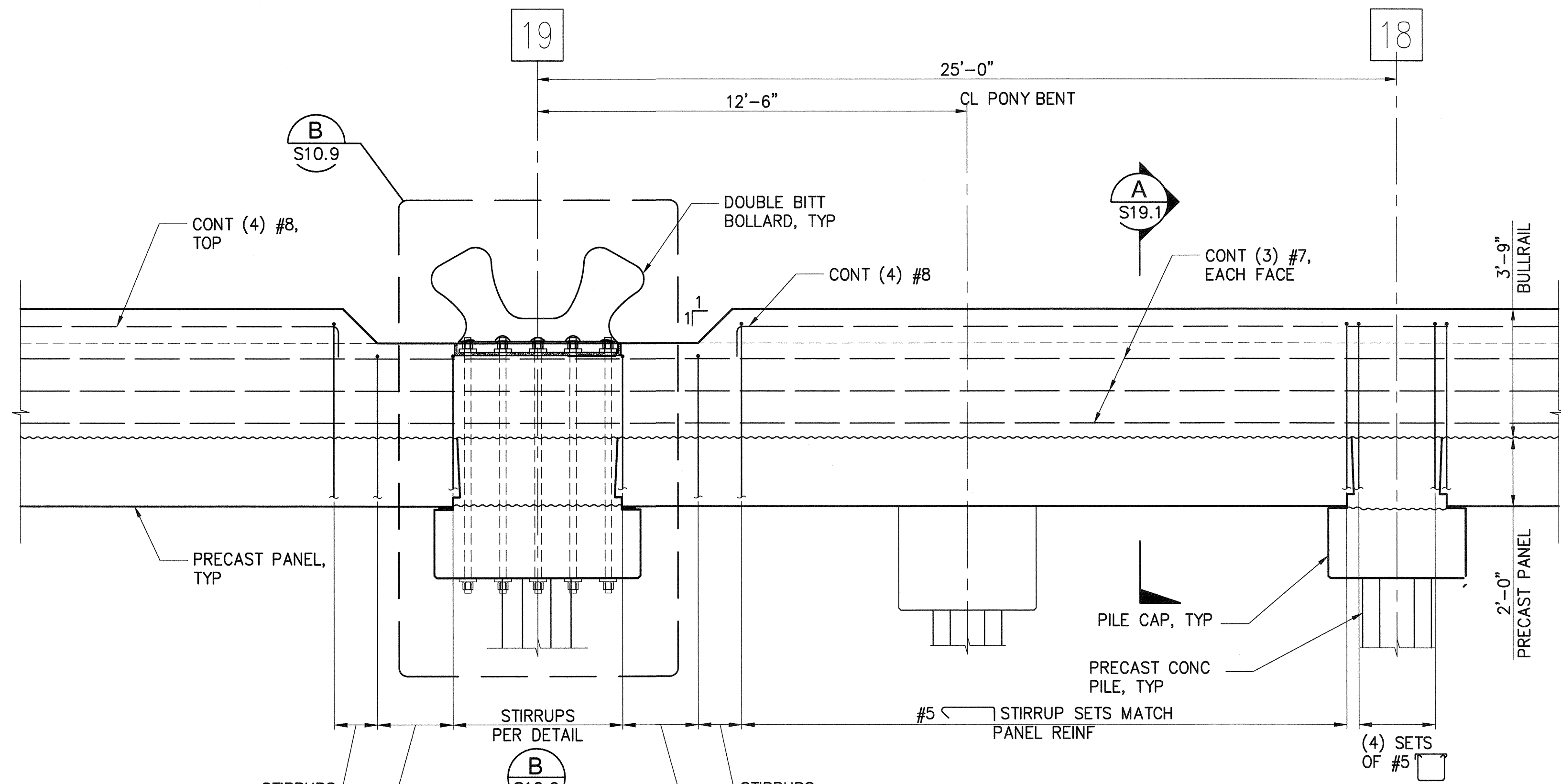
- NOTES:**
- 1. AT BULLRAIL REINF DISCONTINUITIES PROVIDE STD 90 DEGREE HOOKS.
 - 2. INSERTS FOR FENDER EMBEDS NOT SHOWN.
 - 3. ACP AND BALLAST NOT SHOWN.
 - 4. FENDER SYSTEM NOT SHOWN.

6552 S18.1 SH 266 OF 499	PIER 4 PHASE 2 RECONFIGURATION BULLRAIL PLAN				APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR 3-28-16 PROJ. ENGR		SEC CHECKED BY DATE	
	CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	DATE: 091251	DATE: 2016	DATE: 2016	DATE: 2016
PHASE: BID	M. ID: 091251	DAT-HRZ:	VERT:	DRAWING SCALE: AS NOTED		PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837		
P.O. BOX 1807 TACOMA, WA 98401 (253) 396-0162				2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162		P.O. BOX 1807 TACOMA, WA 98401 (253) 396-0162		
Port of Tacoma				kpff		Port of Tacoma		
MARK: REVISION:				BY: APPR: DATE:		DATE:		

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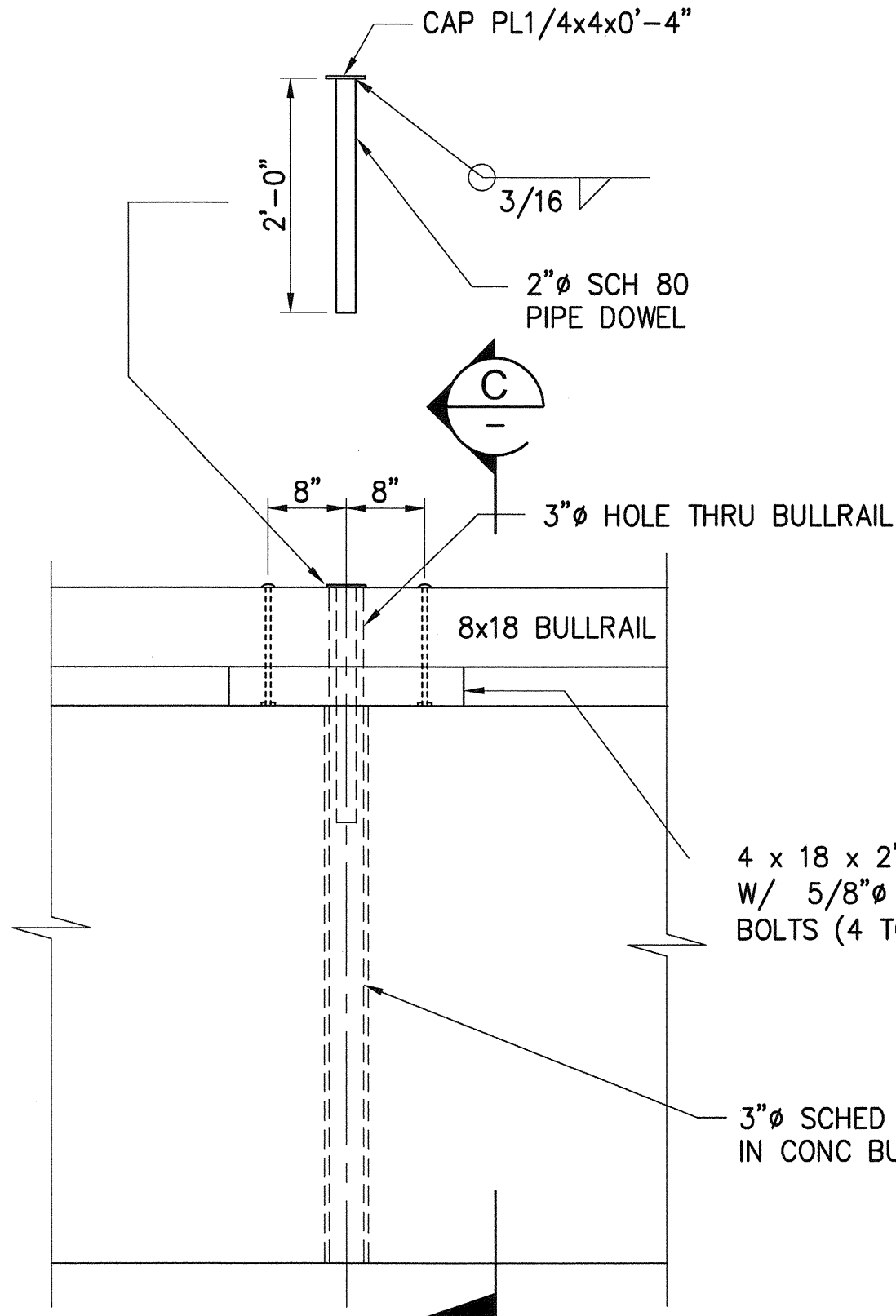




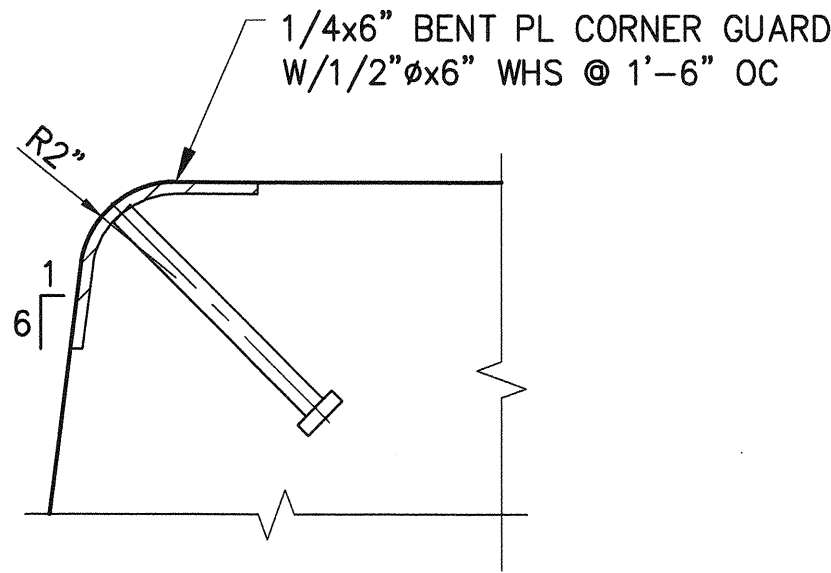


6552 S18.4 SH 269 OF 499	PIER 4 PHASE 2 RECONFIGURATION BULLRAIL ELEVATIONS - SHEET 3				APPROVED: <i>[Signature]</i> 3-28-16	SEC CHECKED BY: <i>[Signature]</i> DATE: 3-28-16
	TOWNSHIP: 21N RANGE: 3E SECTION: 27 DAT-HRZ: WA83-SF VERT: MILLW 19 39' @ Tide 22 1933 PARCEL: BID	COUNTY: 070136 M. ID: 091251 PHASE: BID	PRINTED BY: ttenors Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	DIRECTOR ENG. DATE: 3-28-16 PROJ. ENGR DATE: 3-28-16 TACOMA, WA 98401-1837	MARK: <i>[Signature]</i> REVISION: <i>[Signature]</i> BY: <i>[Signature]</i> APPR: <i>[Signature]</i> DATE: <i>[Signature]</i>	

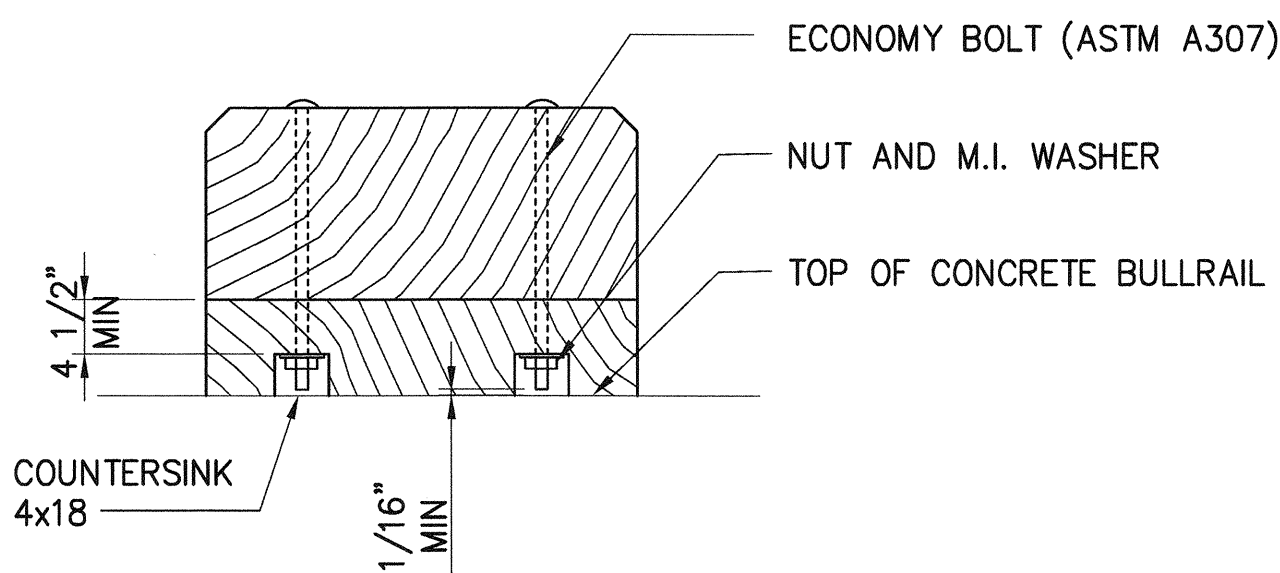
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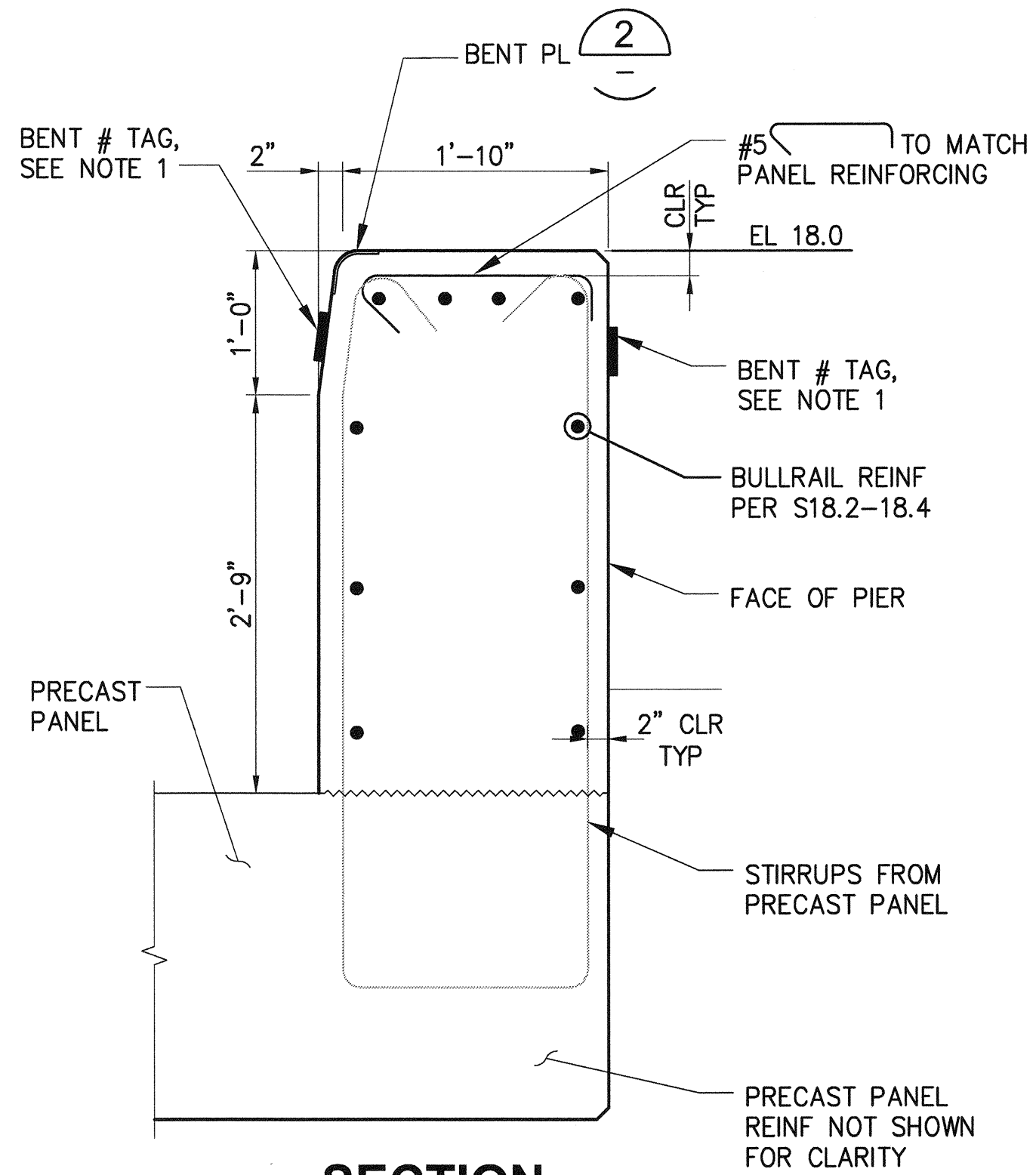
1 TYPICAL REMOVABLE BULLRAIL DETAIL
S18.3 3/4"=1'-0"



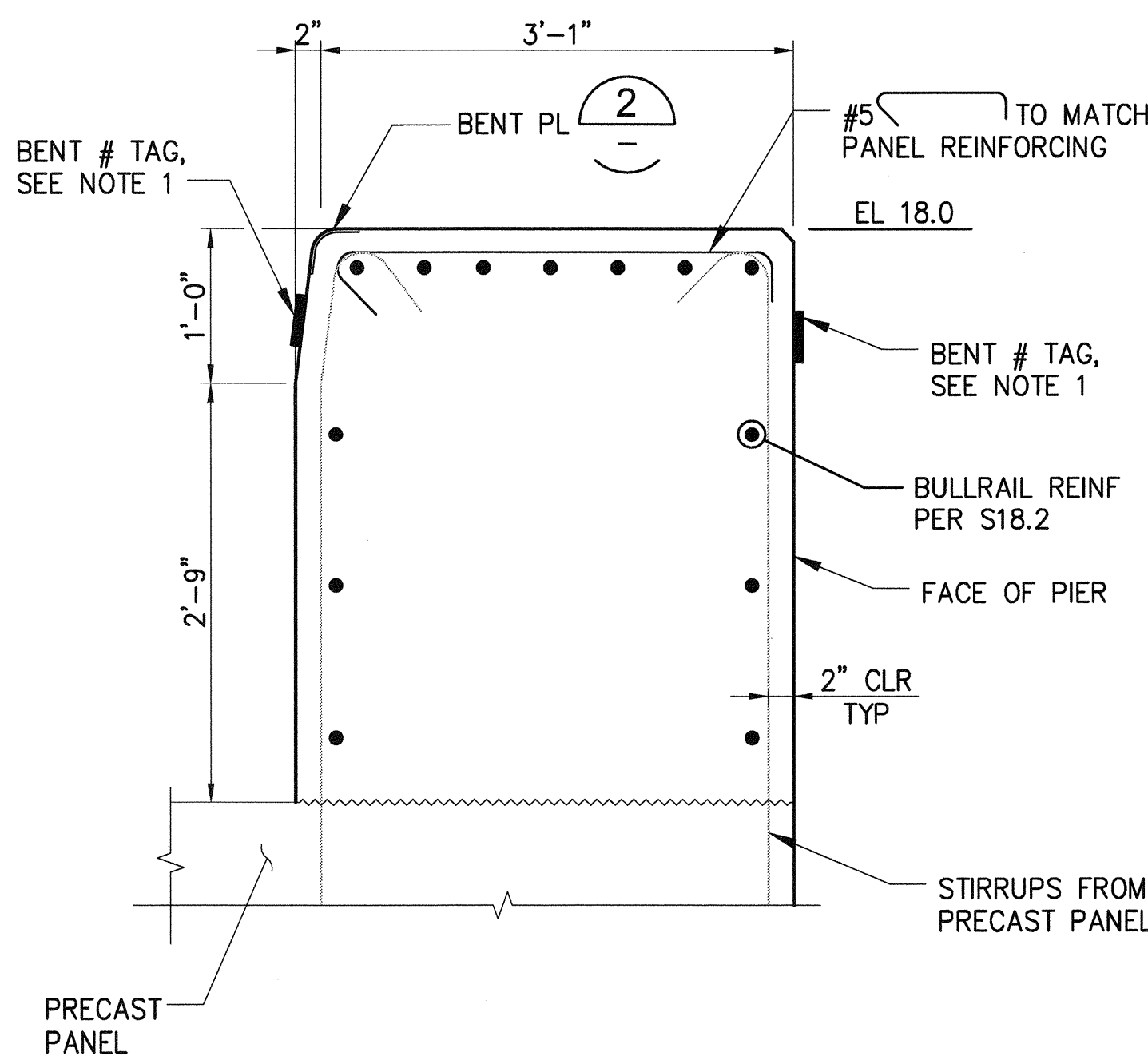
2 DETAIL - BENT PL CORNER GUARD
3"=1'-0"



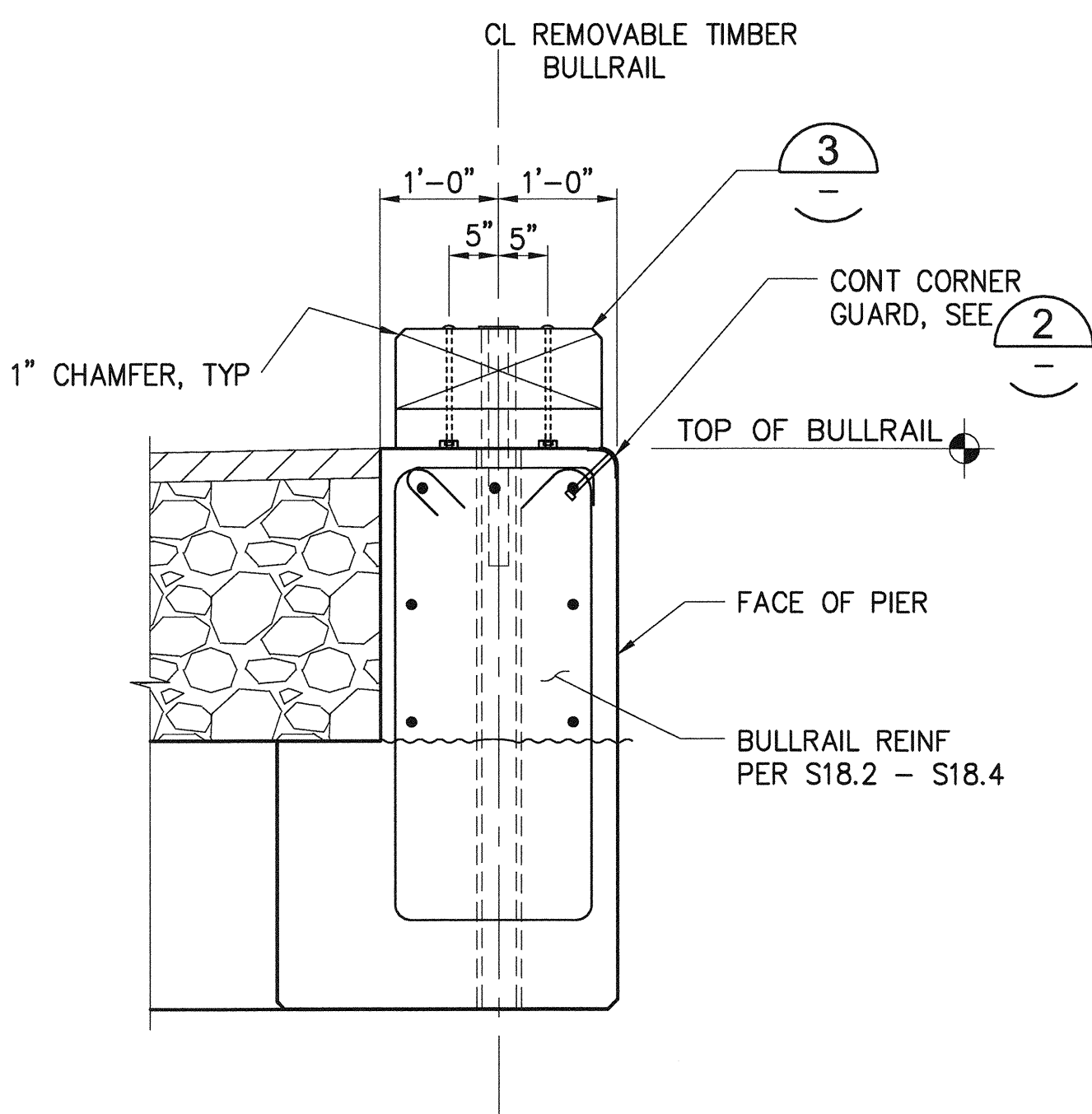
3 DETAIL
1 1/2"=1'-0"



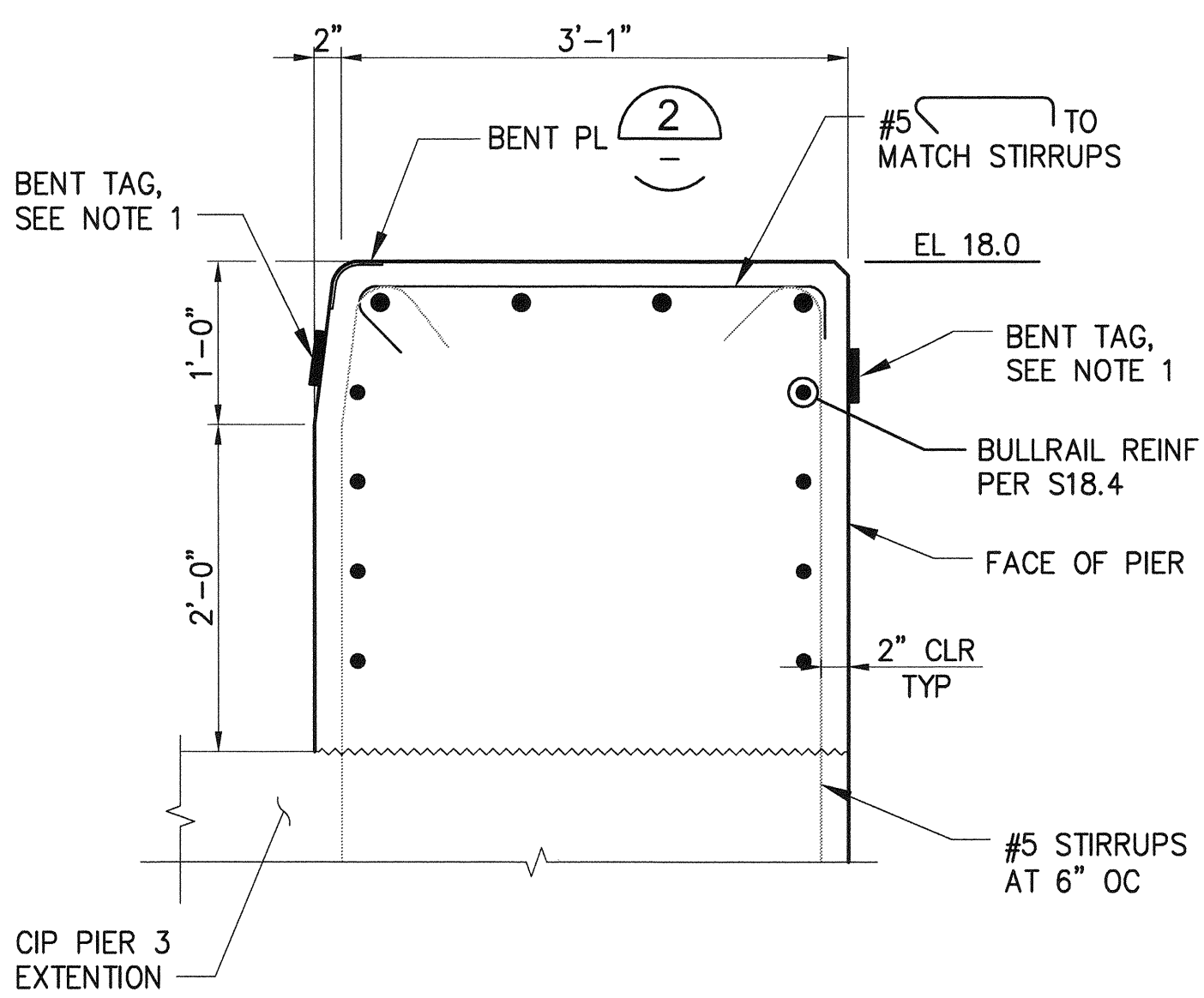
A SECTION - TYPICAL BULLRAIL
S18.1 - S18.4 1"=1'-0"



B SECTION - WIDE BULLRAIL
S18.1, S18.2 1"=1'-0"



C SECTION - REMOVABLE BULLRAIL DETAIL
S18.1, S18.3 3/4"=1'-0"

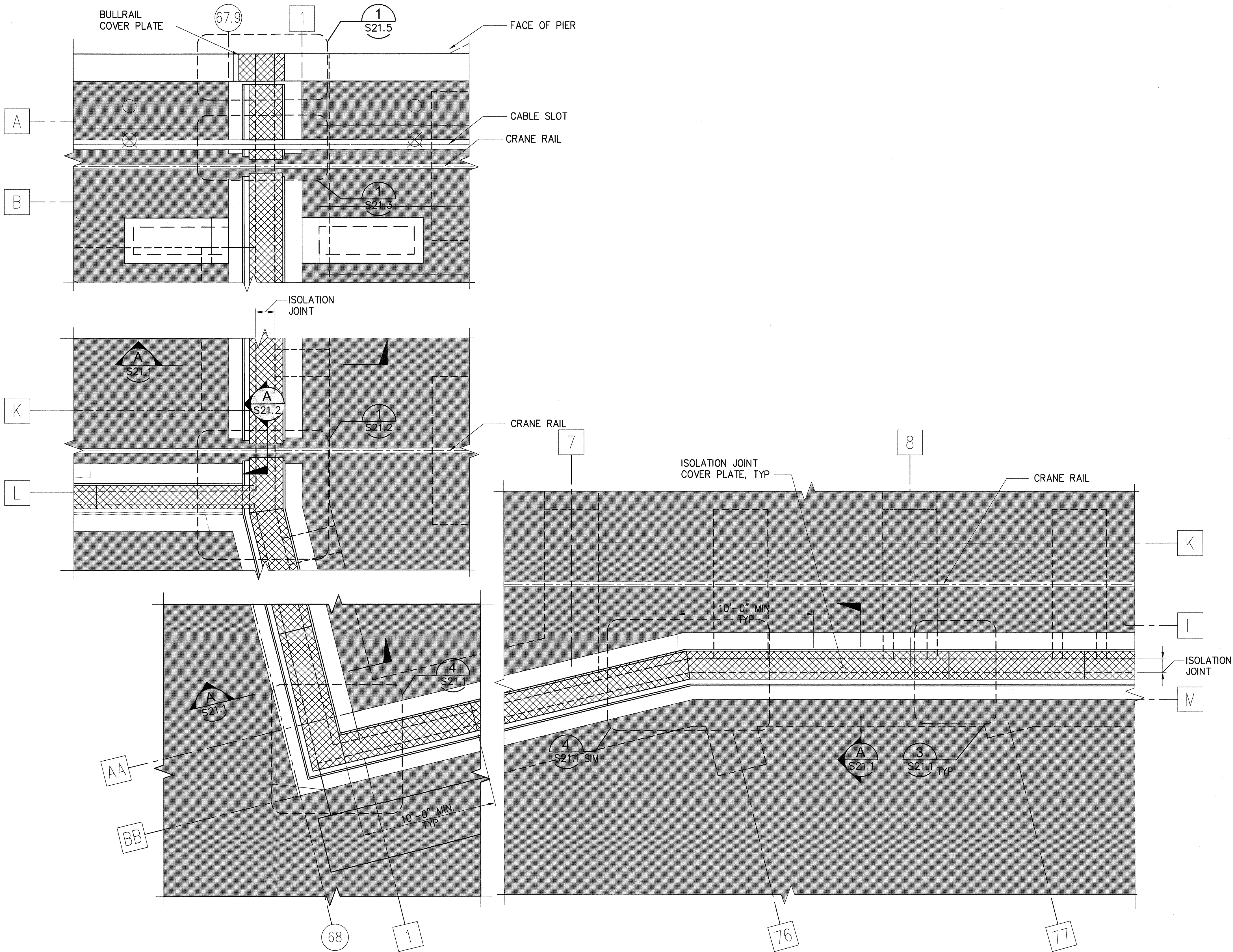


D SECTION PIER 3 EXTENSION BULLRAIL
S18.1, S18.4 1"=1'-0"

NOTES:
1. BENT # TAGS SHALL BE 1/8"x6"Wx4"H PHENOLIC PLASTIC LAMINATED BLACK WITH WHITE CORE. LETTERS SHALL BE 3" HIGH ENGRAVED TO EXPOSE WHITE CORE. EPOXY TAGS TO CONCRETE SURFACE (ROUGHEN BACK OF TAGS PRIOR TO APPLYING EPOXY). PROVIDE BENT # TAGS AT BENT LINES 1 THROUGH 71.

6552 S19.1 SH 270 OF 499	PIER 4 PHASE 2 RECONFIGURATION BULLRAIL SECTIONS AND DETAILS				Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401 (203) 396-9641
	CONTR/CONS: 07/0136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	
M. ID: 091251	DATE-HRZ:	VERT:	DRAWING SCALE: AS NOTED	PARCEL:	kpff 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162
PHASE: BID	APPROVED: <i>[Signature]</i> 3-29-16 DIRECTOR ENG. DATE: 11/09/16 PRINTED BY: 11/09/16 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837			SEC CHECKED BY: DATE TAH PROJ. ENGR. DATE 11/09/16 11/09/16	

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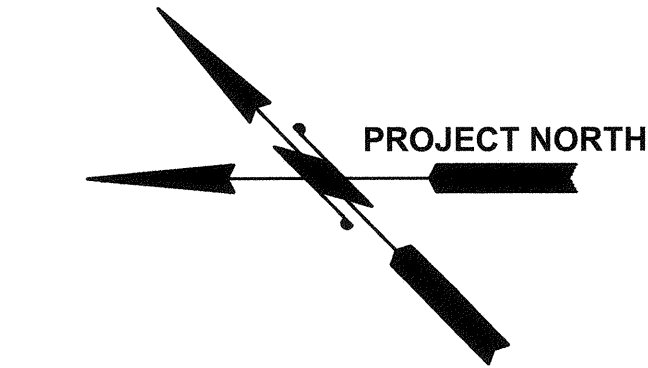
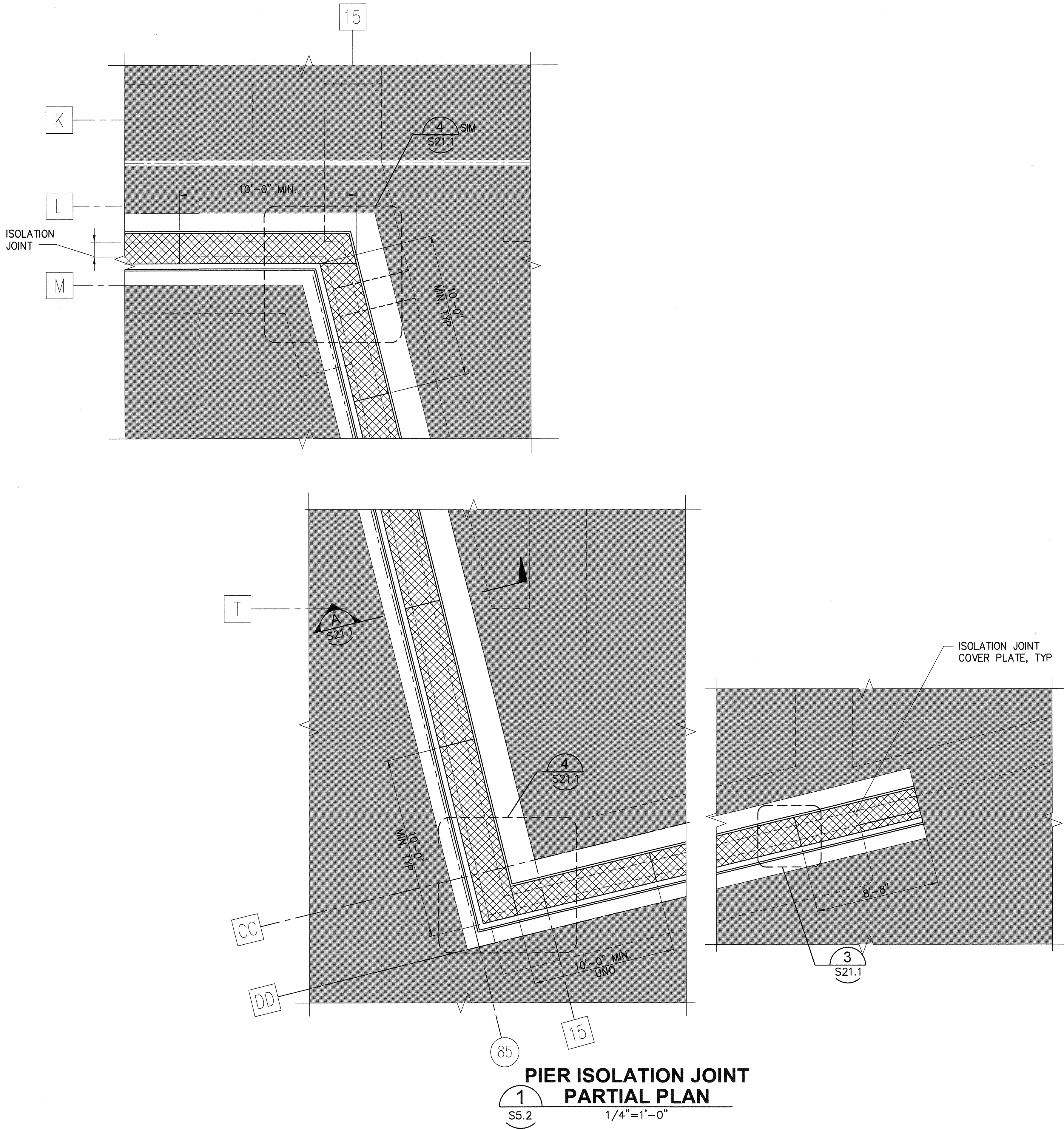
**PIER ISOLATION JOINT
PARTIAL PLAN**
S5.1 - S10.4 - S15.3 1/4"=1'-0"

LEGEND:

- PROPOSED ACP
- STEEL COVER PLATE
- CONCRETE

6552 S20.1 SH 271 OF 499	PIER 4 PHASE 2 RECONFIGURATION				PIER ISOLATION JOINT PARTIAL PLANS - SHEET 1		APPROVED: <i>[Signature]</i> 3-28-16		SEK CHECKED BY DATE	Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 187 TACOMA, WA 98401 (253) 393-5841	
	CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	DIRECTOR ENG. DATE: tienons Mar 24, 2016	PROJ. ENGR DATE	MARK:	REVISION:	BY:	APPR:	DATE:
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	PORT ADDRESS: ONE SITCUM PLAZA	TACOMA, WA 98401-1837							
PHASE: BID	DRAWING SCALE: AS NOTED										

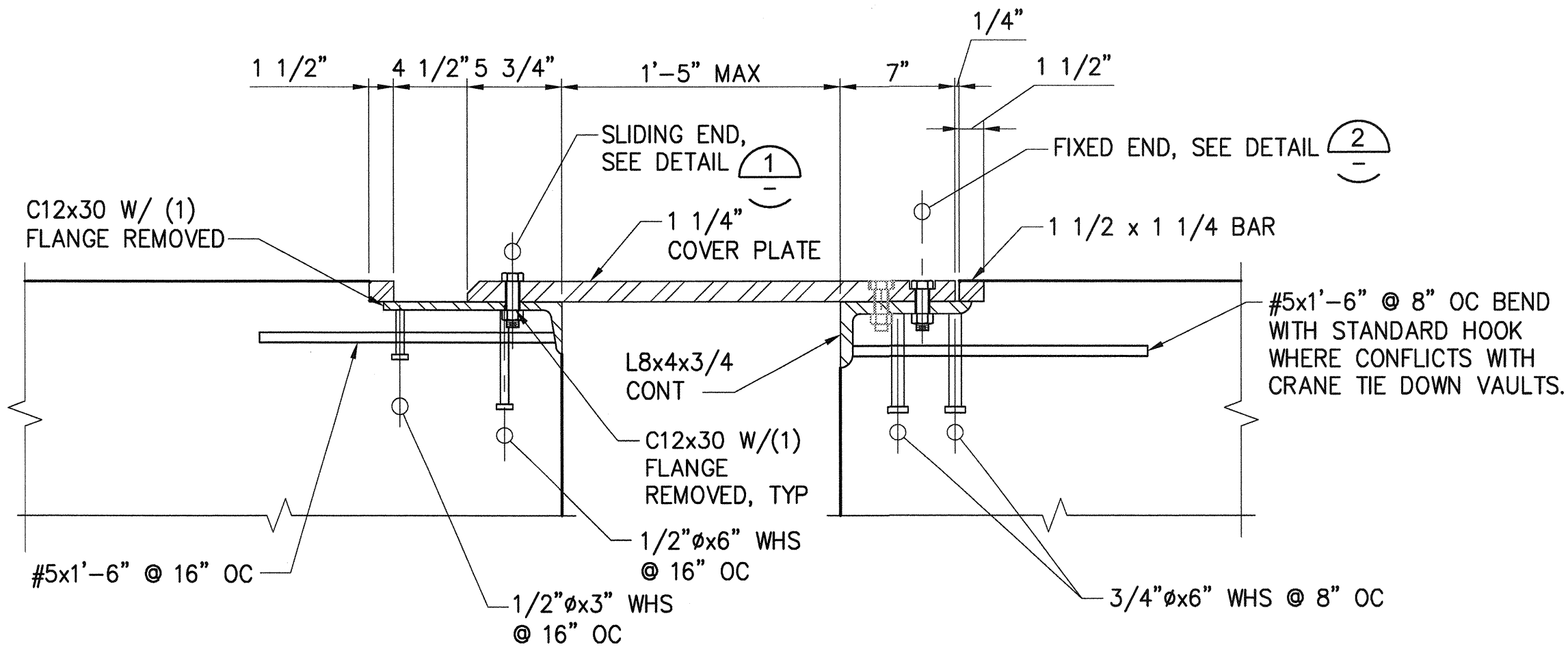
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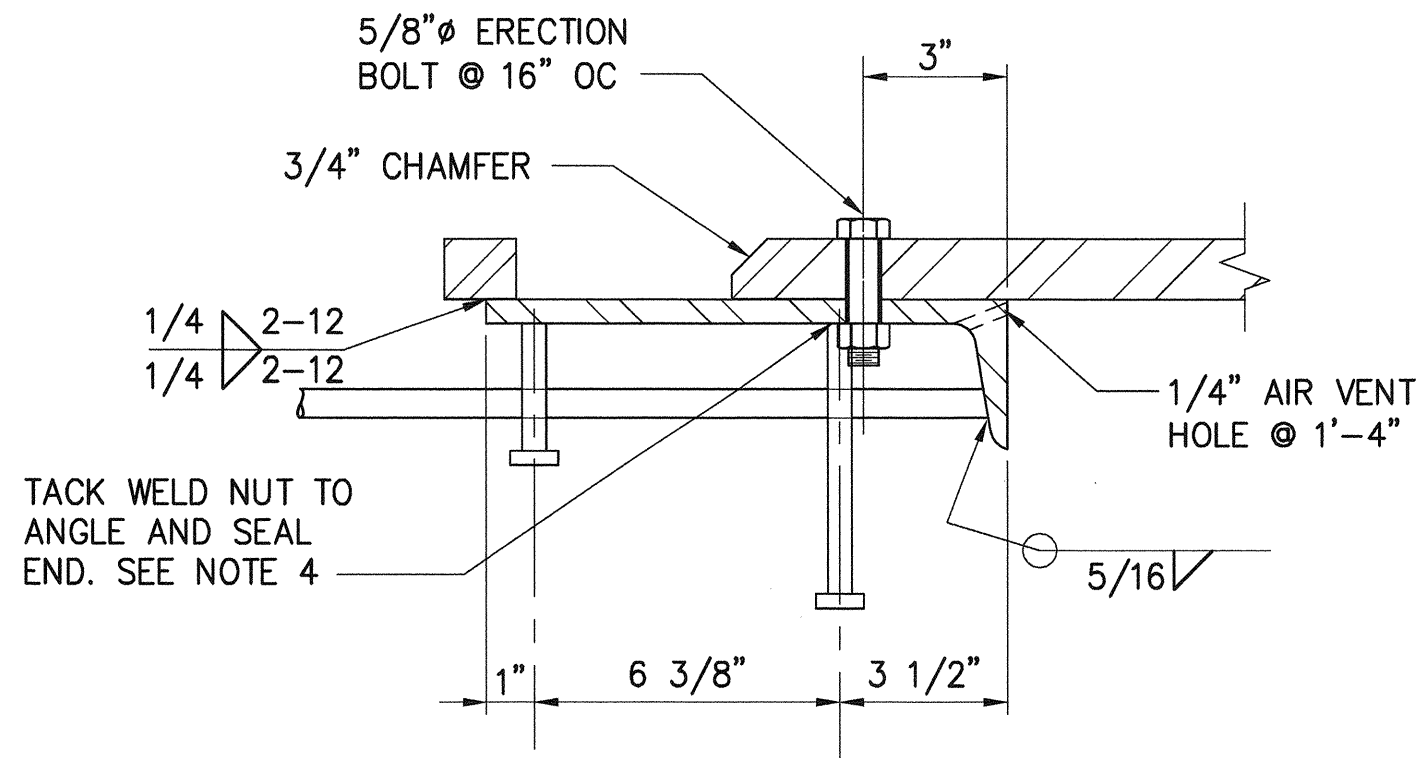
LEGEND:

- PROPOSED ACP
- STEEL COVER PLATE
- CONCRETE

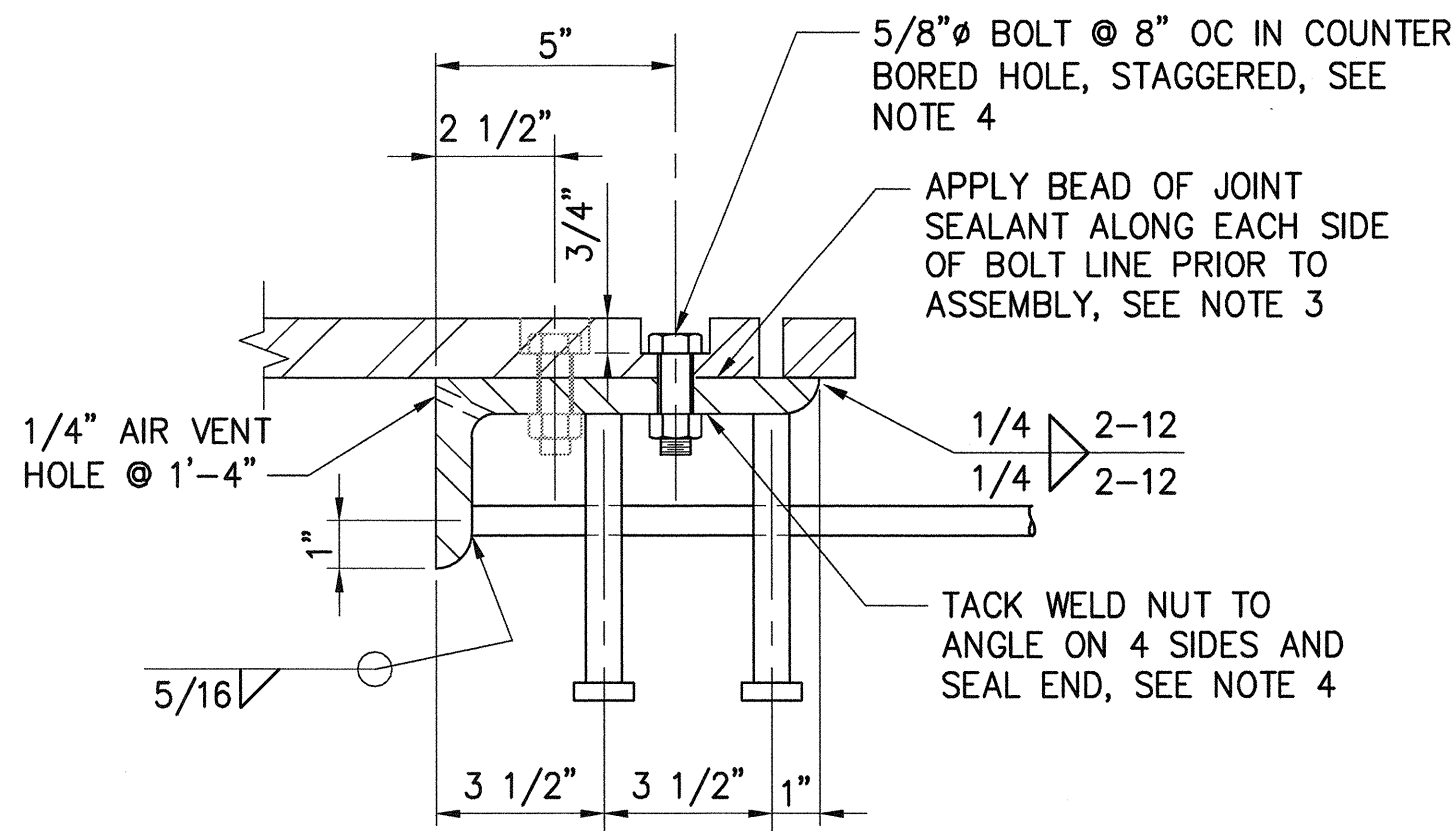
6552 S20.2 SH 272 OF 499	PIER 4 PHASE 2 RECONFIGURATION PIER ISOLATION JOINT PARTIAL PLANS - SHEET 2				APPROVED: <i>[Signature]</i> 3-28-16	SEK CHECKED BY: <i>[Signature]</i> DATE: 3-28-16
	CONT/CONS: 070136 M. ID: 091251 PHASE: BID	TOWNSHIP: 21N RANGE: 3E SECTION: 27	DATE: 07/01/36 M. ID: 091251 PHASE: BID	PRINTED BY: tlemmons DATE: Mar 24, 2016	PROJ. ENGR: TAH DATE: 3-28-16	TAH CHECKED BY: <i>[Signature]</i> DATE: 3-28-16
PORT OF TACOMA 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162		kpff		2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162		
PORT OF TACOMA P.O. BOX 1837 TACOMA, WA 98401		PORT OF TACOMA P.O. BOX 1837 TACOMA, WA 98401		PORT OF TACOMA P.O. BOX 1837 TACOMA, WA 98401		
MARK: REVISION:		BY: DATE:		APPR: DATE:		
91-52-2		91-52-2		91-52-2		



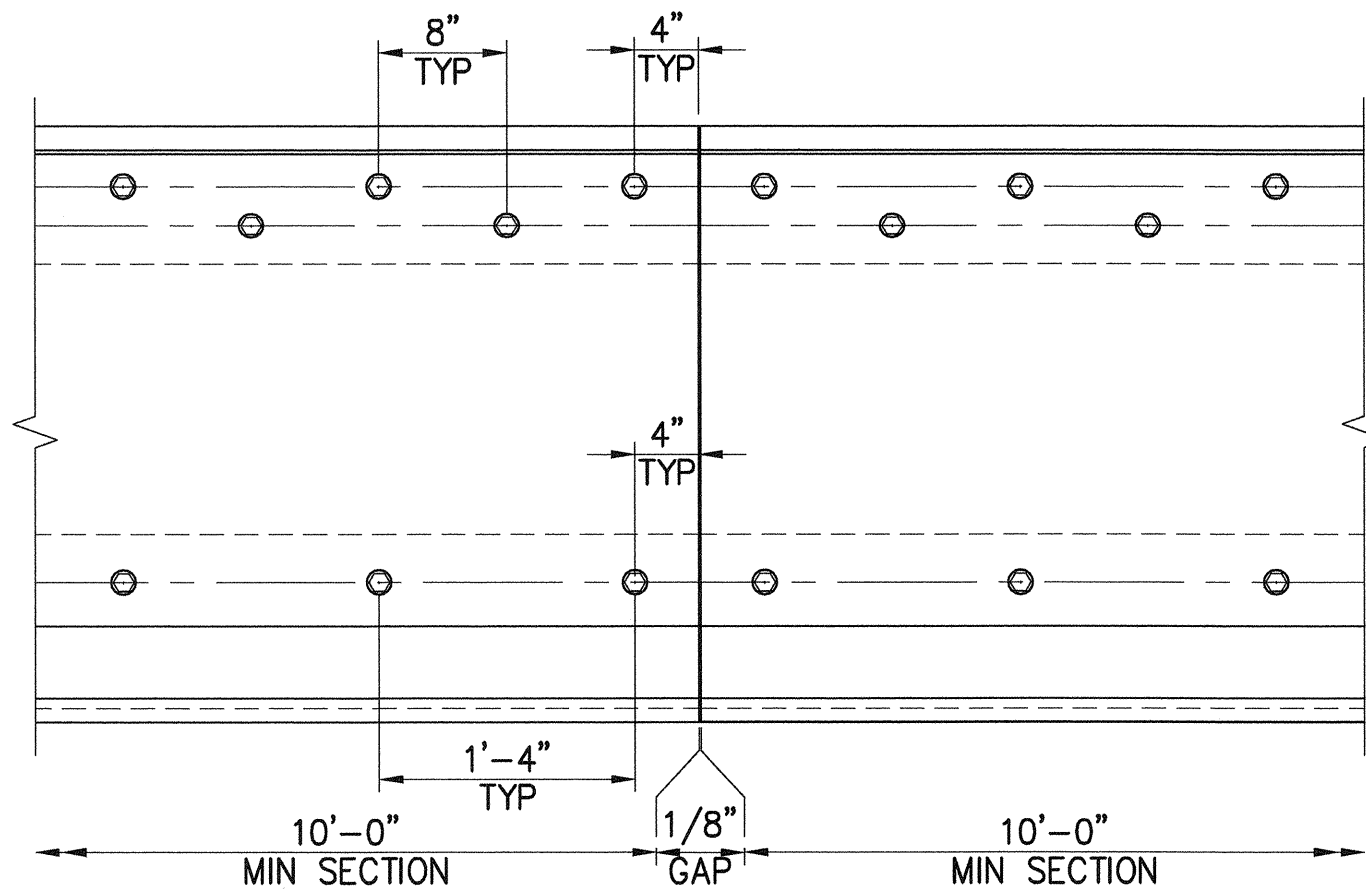
A TYPICAL ISOLATION JOINT
S20.1, S20.2 1 1/2"=1'-0"



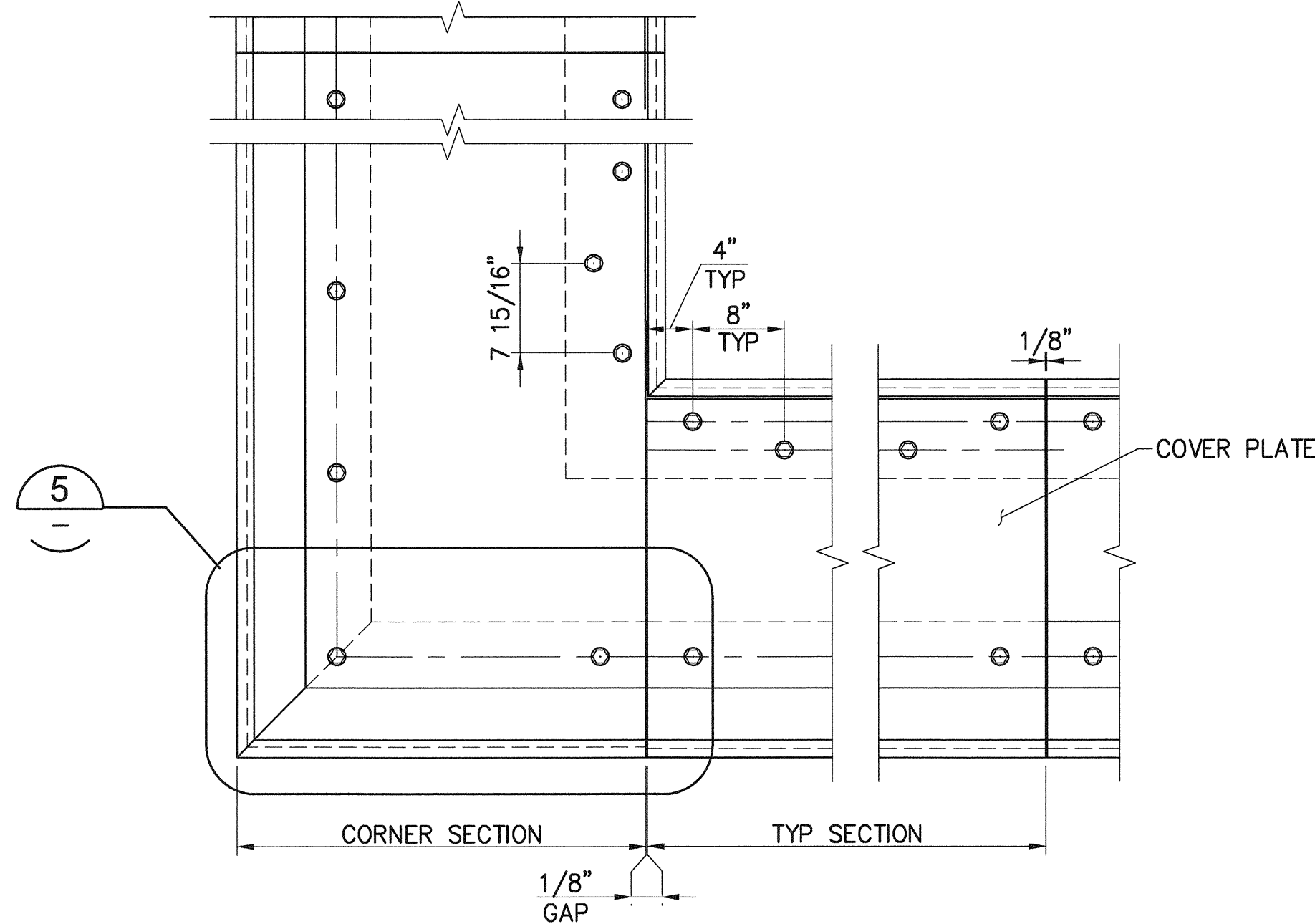
1 DETAIL - SLIDING END
S10.5 3"=1'-0"



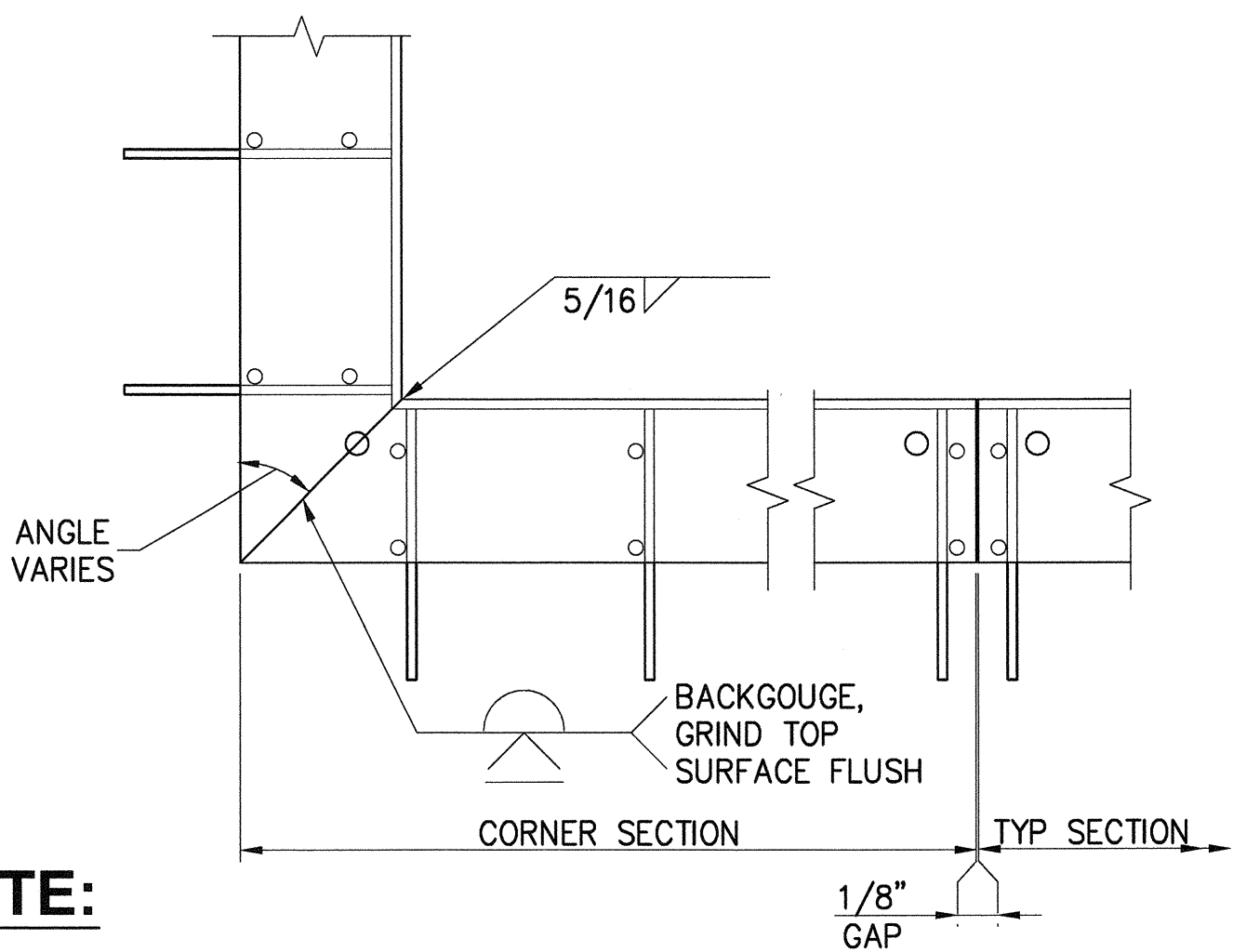
2 DETAIL - FIXED END
S10.6 3"=1'-0"



3 DETAIL - TYPICAL JOINT
S20.1, S20.2 1"=1'-0"



4 DETAIL - CORNER JOINT
S20.1, S20.2 1"=1'-0"



NOTE:
1. SLIDING END SHOWN. FIXED END SIMILAR.

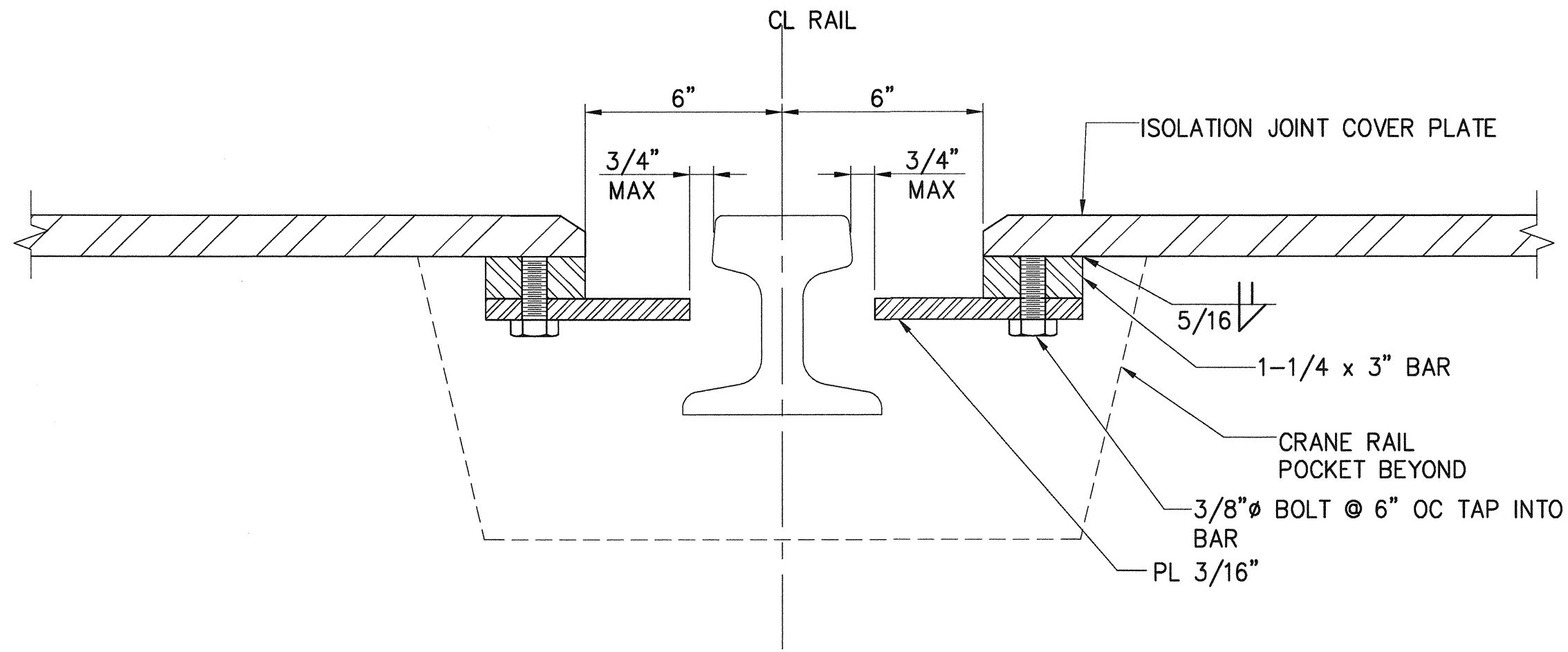
5 DETAIL - EMBED CONNECTION
1"=1'-0"

NOTES:

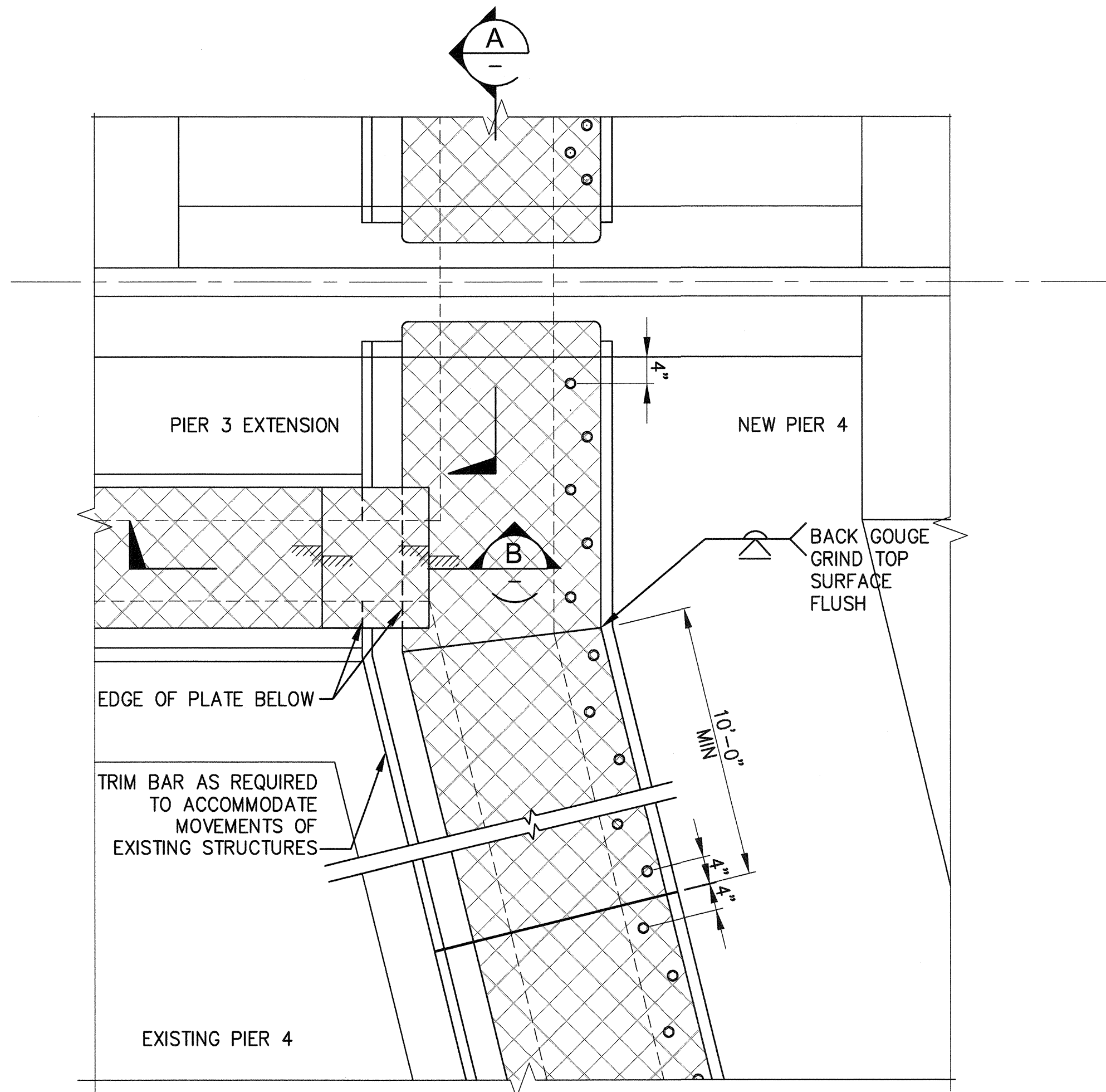
- SUGGESTED CONSTRUCTION SEQUENCE:
 - ASSEMBLE ISOLATION JOINT AS ONE UNIT USING THE ERECTION BOLTS IN THE SLIDING EMBED TO SECURE IT TO THE PLATE.
 - SUPPORT ASSEMBLY IN FORMWORK AND LEVEL.
 - CAST CONCRETE FLUSH WITH EMBEDS.
 - REMOVE ERECTION BOLTS FROM SLIDING END AND FILL HOLES WITH SEALANT (NOTE 3) IMMEDIATELY.
 - PLATE MAY BE REMOVED AS NEEDED TO FACILITATE FORMWORK. CONCRETE SHALL MEET THE MINIMUM STRENGTH REQUIREMENTS FOR FORMWORK REMOVAL.
- CONTRACTOR SHALL ENSURE ASSEMBLY IS LEVEL AND PLATES SITS FLUSH WITH EMBED SURFACE. COVER PLATE SHALL NOT ROCK, WARP OR BUCKLE AFTER ERECTION BOLTS ARE REMOVED.
- SEALANT SHALL BE SIKAFLEX 1A (ONE PART POLYURETHANE ELASTOMERIC SEALANT/ADHESIVE) OR APPROVED EQUIVALENT.
- END OF NUTS SHALL BE SEALED TO PREVENT CONCRETE INTRUSION INTO THE THREADS APPLY THREAD LOCKER COMPOUND (LOCTITE 242 OR APPROVED EQUAL) TO BOLT/NUT DURING FINAL ASSEMBLY.
- COVER PLATE AND EMBED SECTIONS SHALL COME IN 10'-0" MINIMUM SEGMENTS.

6552 S21.1 SH 273 OF 499	PIER 4 PHASE 2 RECONFIGURATION PIER ISOLATION JOINT DETAILS - SHEET 1				APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR ENG. DATE PRINTED BY: tienrons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SEK CHECKED BY DATE TAH PROJ. ENGR DATE	Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401 (253)883-8841
	CONT/CONS: 070136 M. ID: 091251 PHASE: BID	TOWNSHIP: 21N RANGE: 3E SECTION: 27 DATE: MLLW 19.39' @ Tide 22 1933 VERT: WA83-SF DRAWING SCALE: AS NOTED	MARK: REVISION: BY: DATE:				

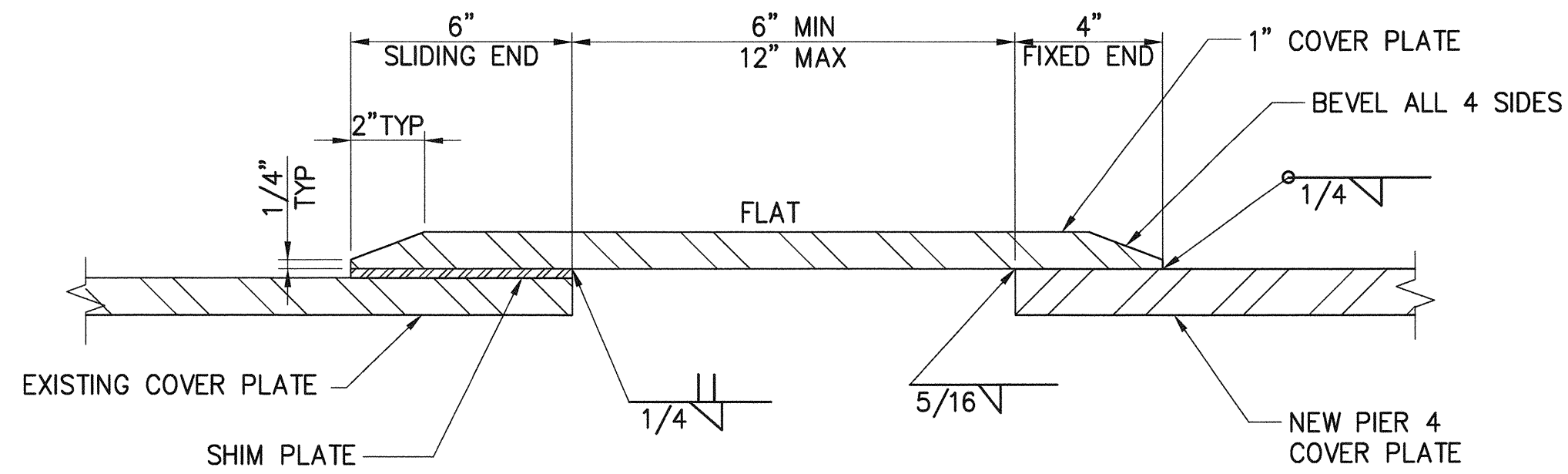
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A SECTION
S20.1, S21.4 SCALE: 3"=1'-0"



1 DETAIL JOINT INTERSECTION
S20.1 SCALE: 3/4"=1'-0"

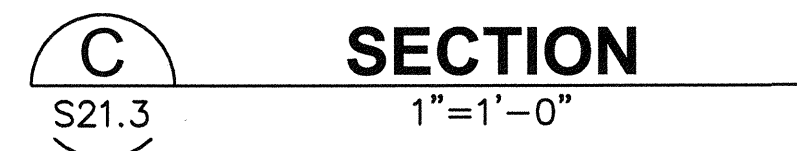


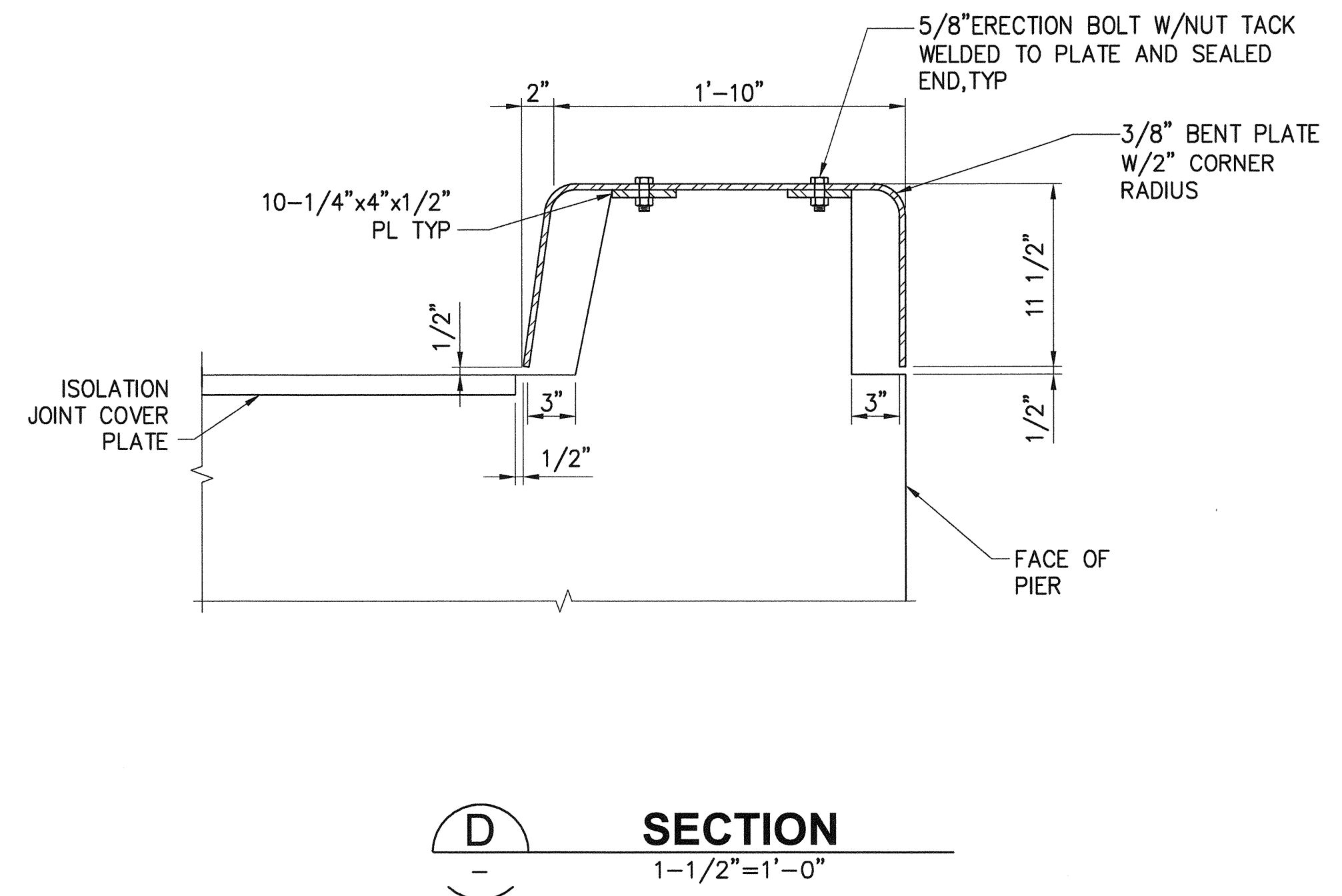
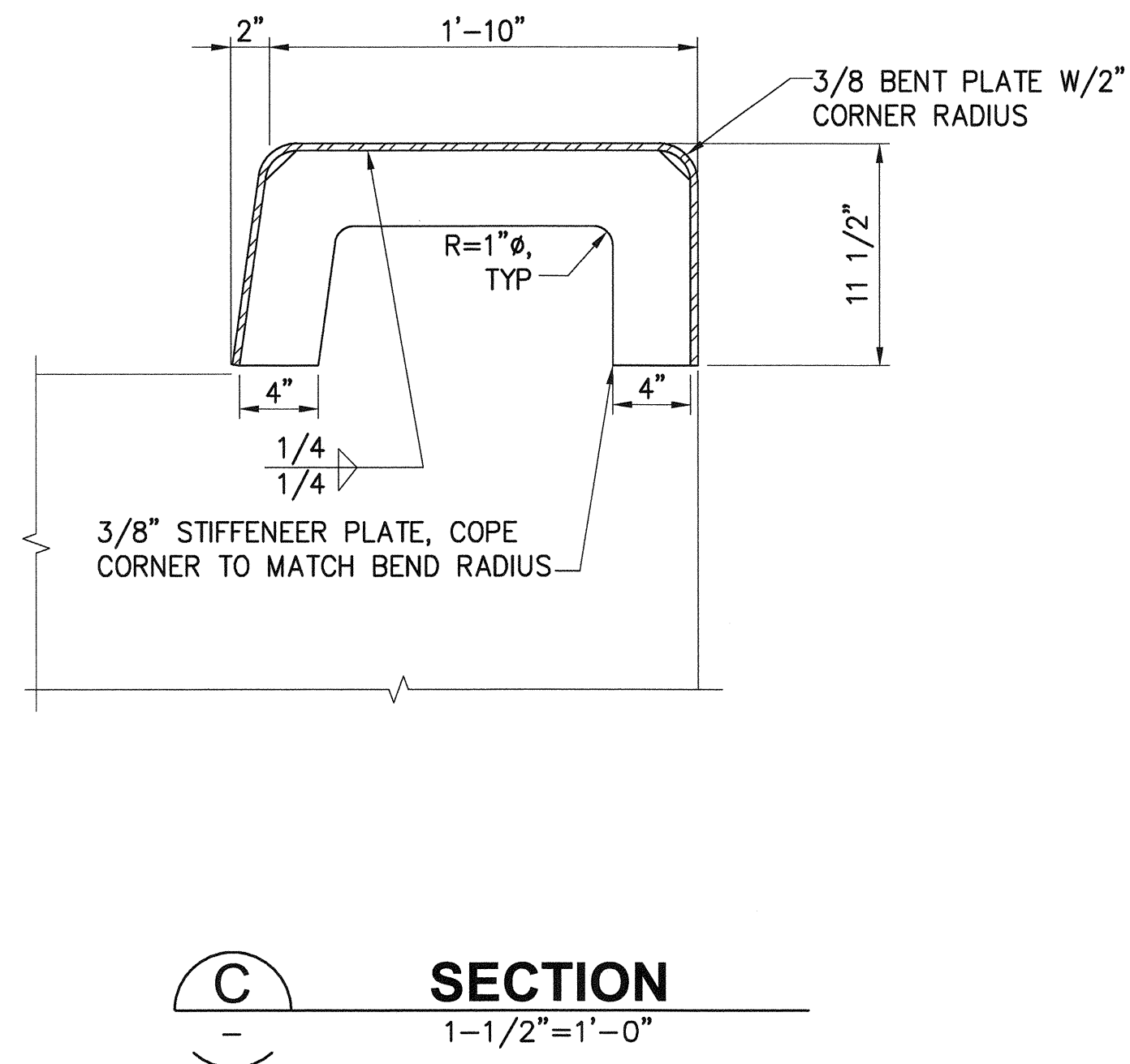
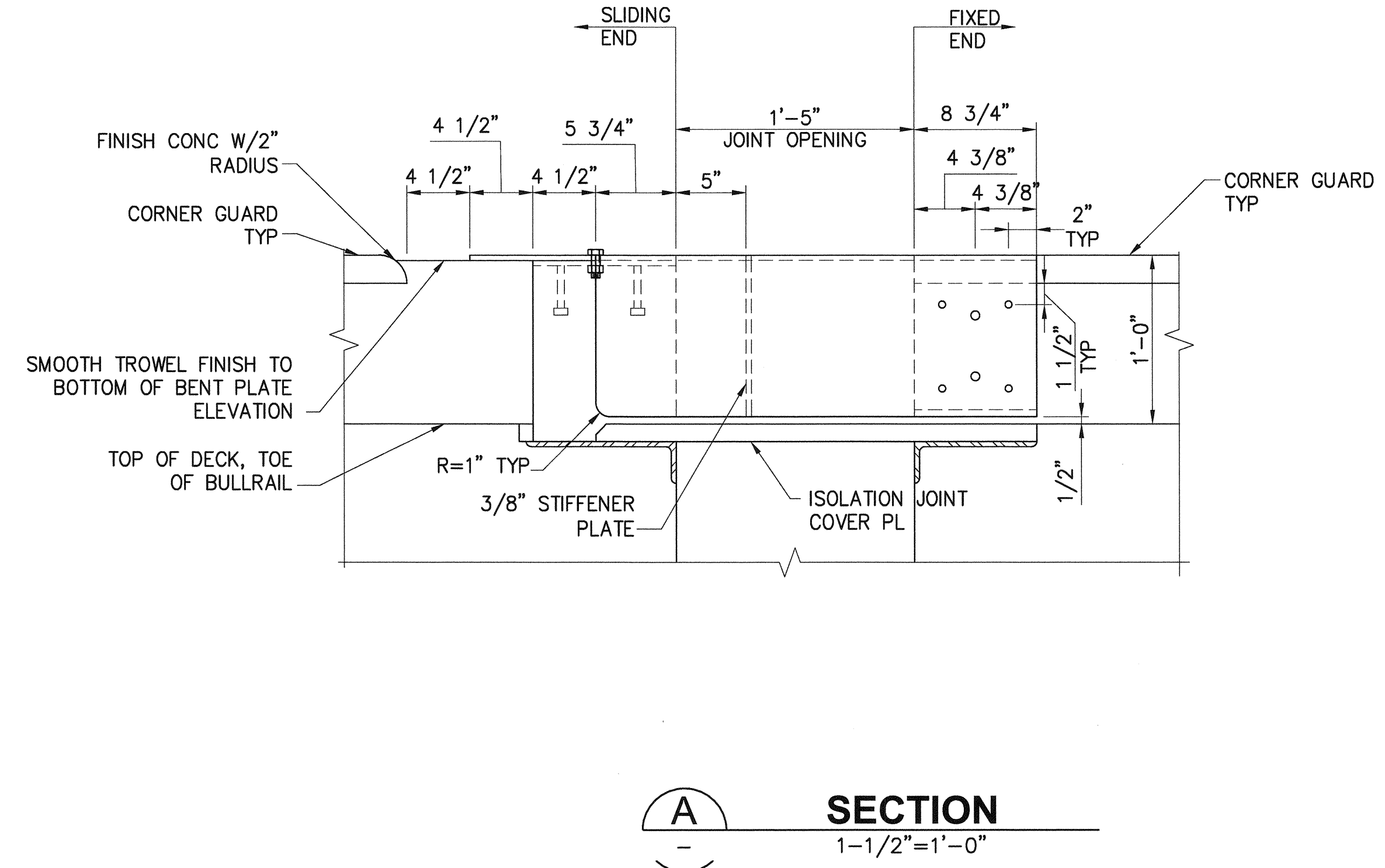
B SECTION- JOINT INTERSECTION
SCALE: 3"=1'-0"

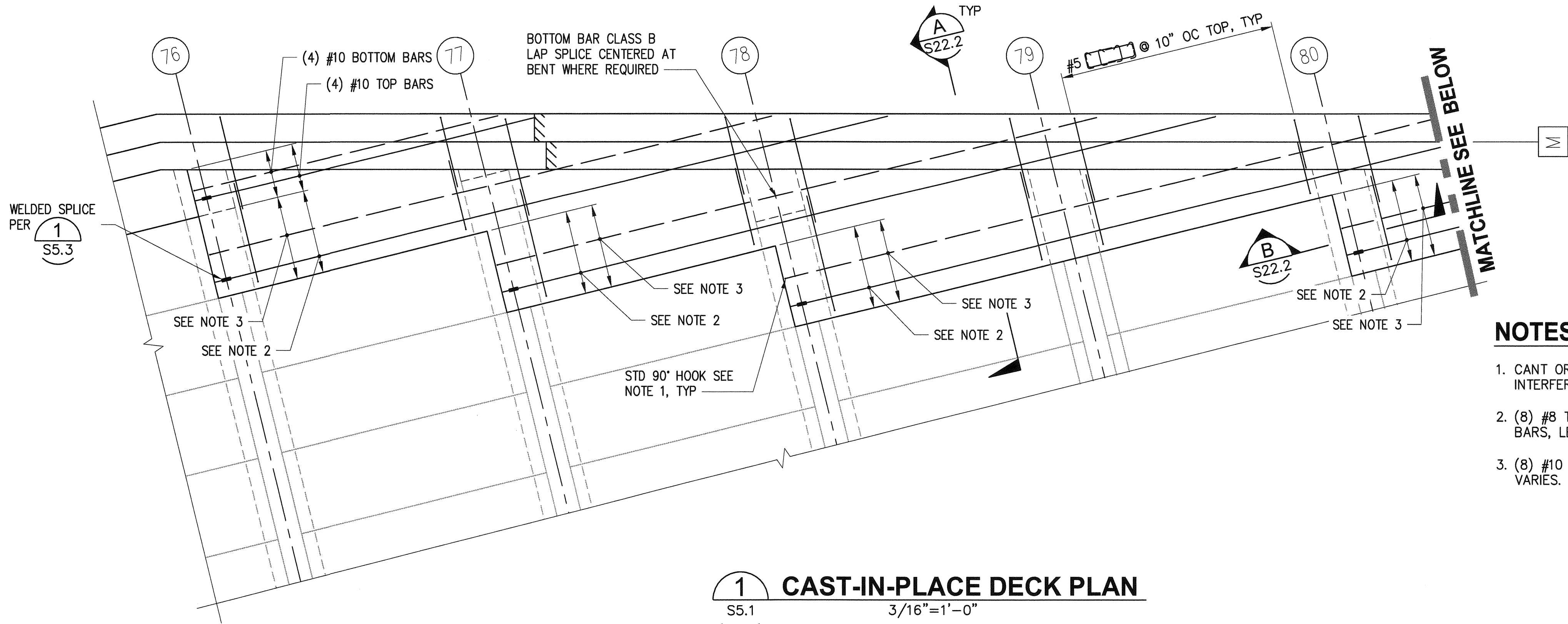
6552 S21.2 SH 274 OF 499	PIER 4 PHASE 2 RECONFIGURATION PIER ISOLATION JOINT DETAILS - SHEET 2				APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR ENG. DATE: 3-28-16 PRINTED BY: tlemans Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SEK CHECKED BY: TA DATE: 3-28-16	DATE: 3-28-16
	TOWNSHIP: 21N RANGE: 3E SECTION: 27 DATE: 07/01/36	DATE: 09/25/16 VERT: MLW 19.39' @ Tide 22 1933 PARCEL: AS NOTED	DRAWING SCALE: AS NOTED		TACOMA, WA 98401-1837		MARK: REVISION: BY: APPR: DATE:

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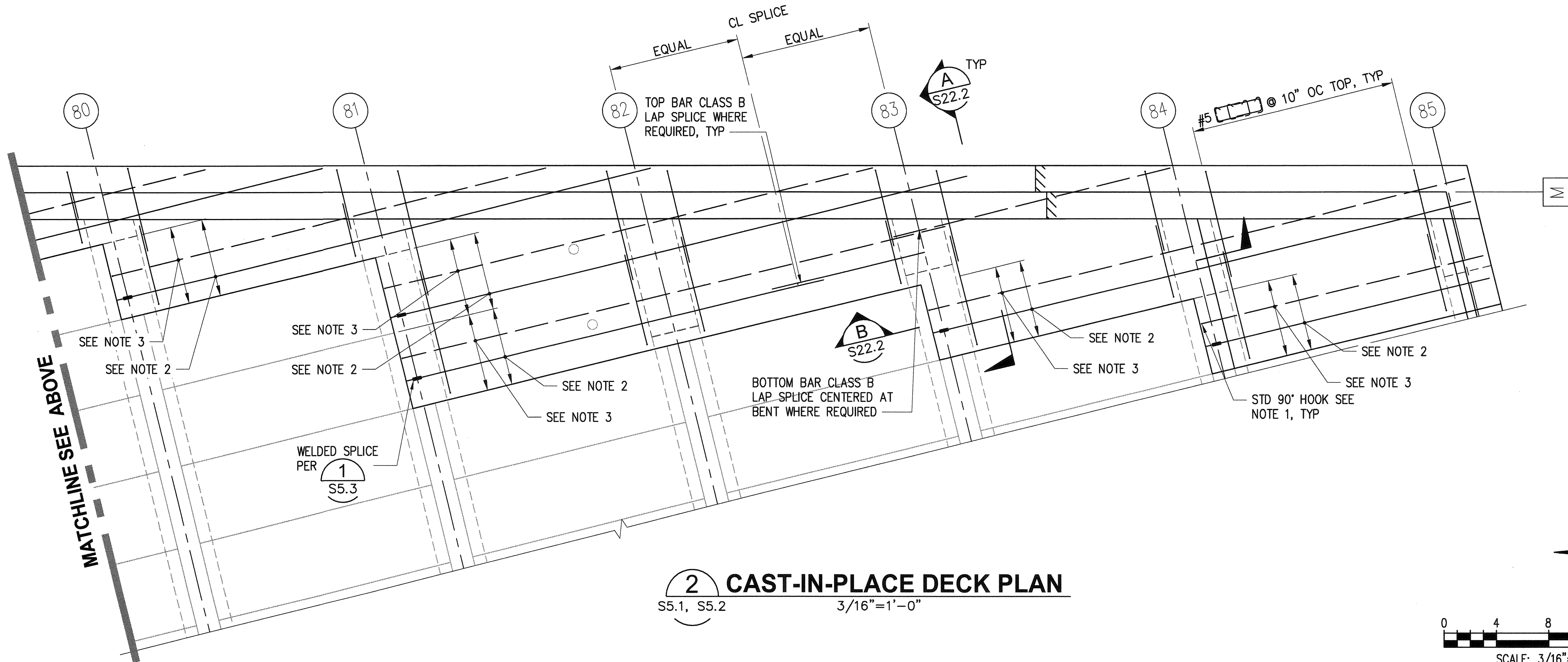






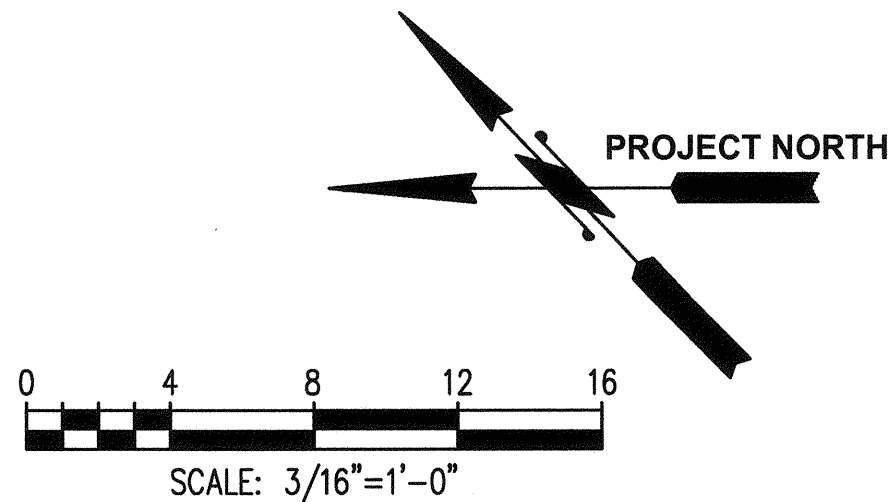


1 CAST-IN-PLACE DECK PLAN
S5.1 3/16"=1'-0"

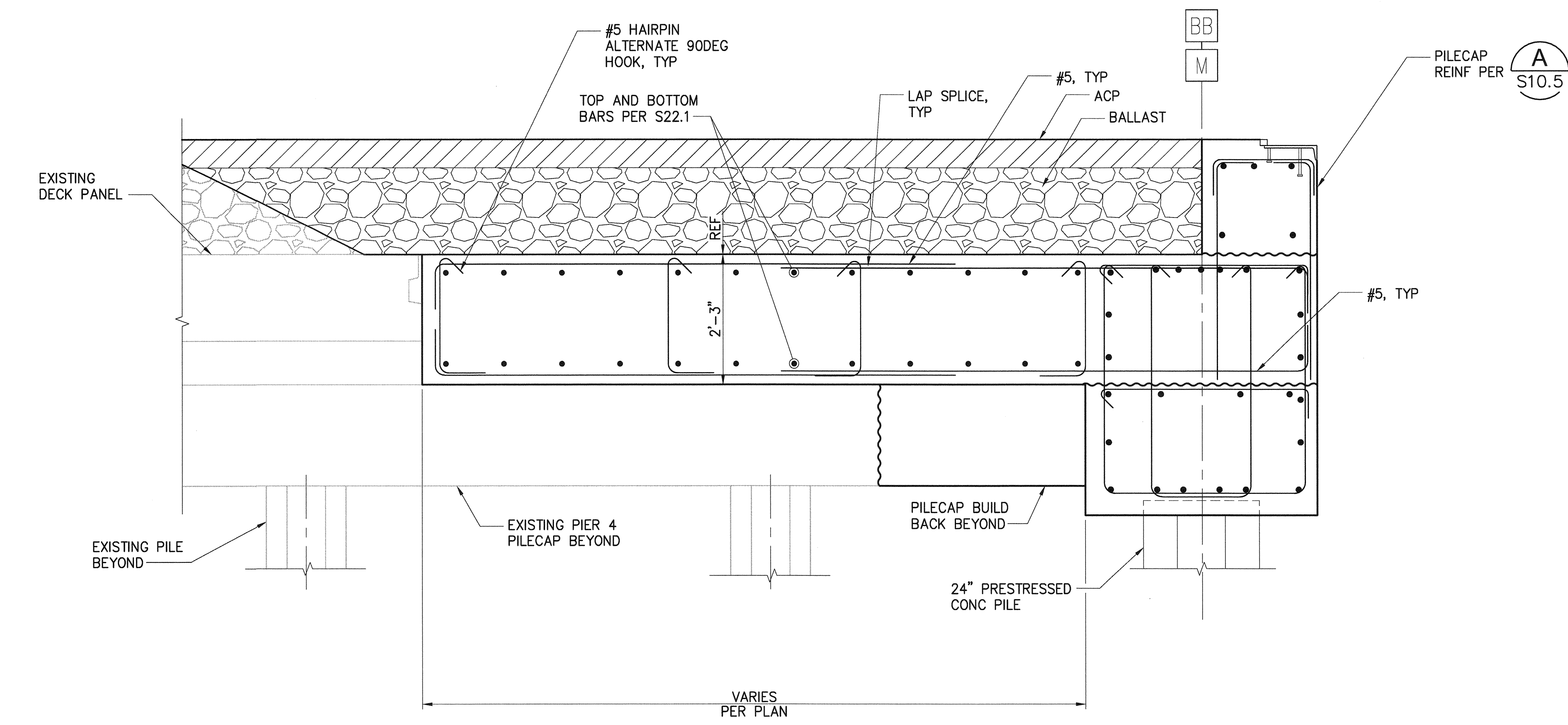


2 CAST-IN-PLACE DECK PLAN
S5.1, S5.2 3/16"=1'-0"

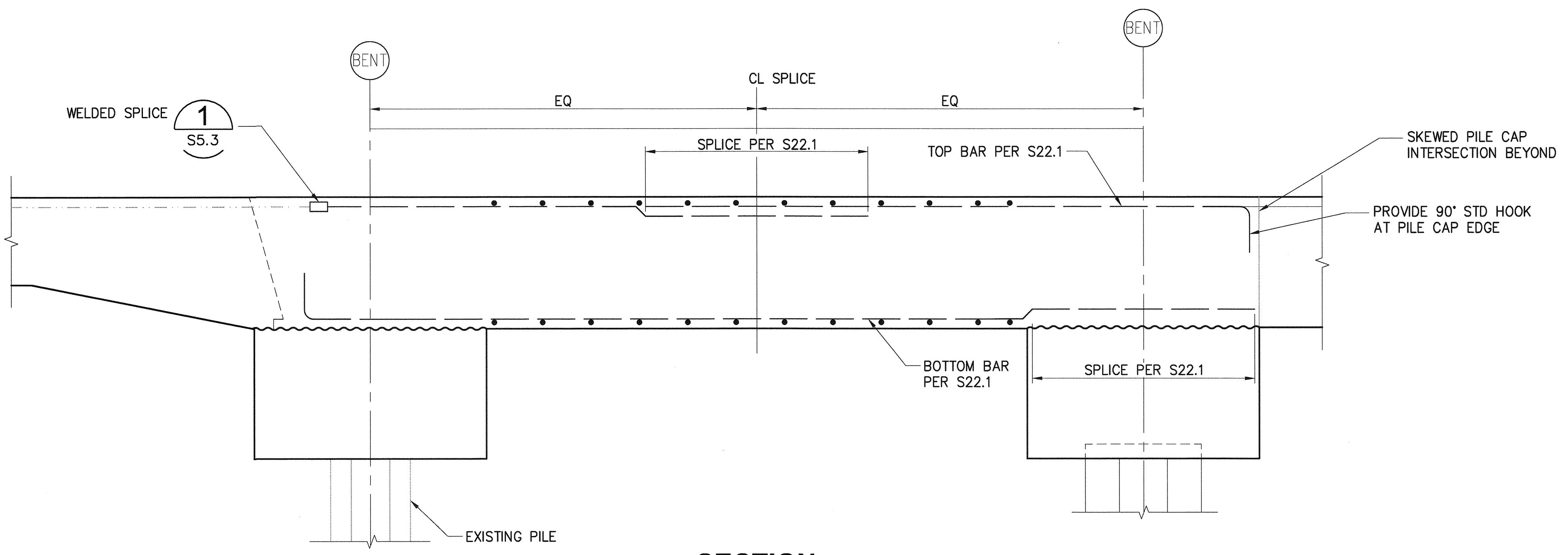
- NOTES:**
1. CANT OR ORIENT HOOKS AS REQUIRED TO ELIMINATE INTERFERENCES AND MAINTAIN MINIMUM CLEARANCE.
 2. (8) #8 TOP BARS TO MATCH EXISTING P/C PANEL BARS, LENGTH VARIES.
 3. (8) #10 BOTTOM BARS EQUALLY SPACED, LENGTH VARIES.



6552 S22.1 SH 278 OF 499	PIER 4 PHASE 2 RECONFIGURATION CAST-IN-PLACE DECK PLANS				APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR PRINTED BY: Hlemons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SEK CHECKED BY: <i>[Signature]</i> DATE: 3-28-16 TAH PROJ. ENGR DATE: 3-28-16	MARK: REVISION: BY: DATE:
	CONT/CONS: 070136 M. ID: 091251 PHASE: BID	TOWNSHIP: 21N RANGE: 3E SECTION: 27 MILLW 19.39' @ Tide 22 1933 DAT-HRZ: WA83-SF PARCEL: AS NOTED					
Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 187 TACOMA, WA 98401 (203)88-9841							
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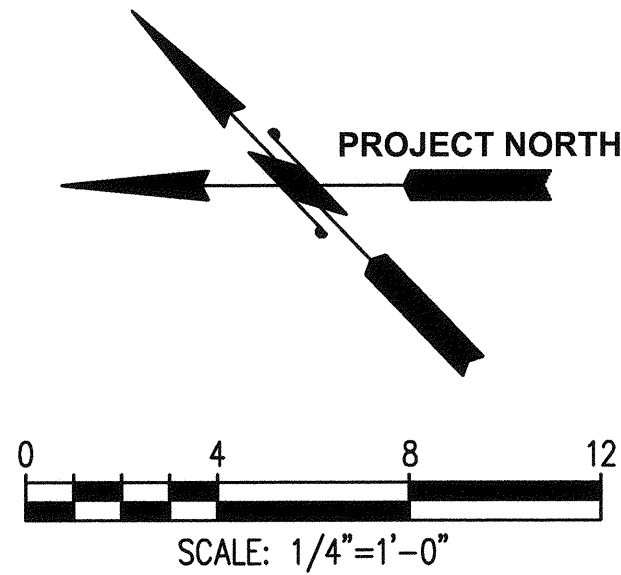
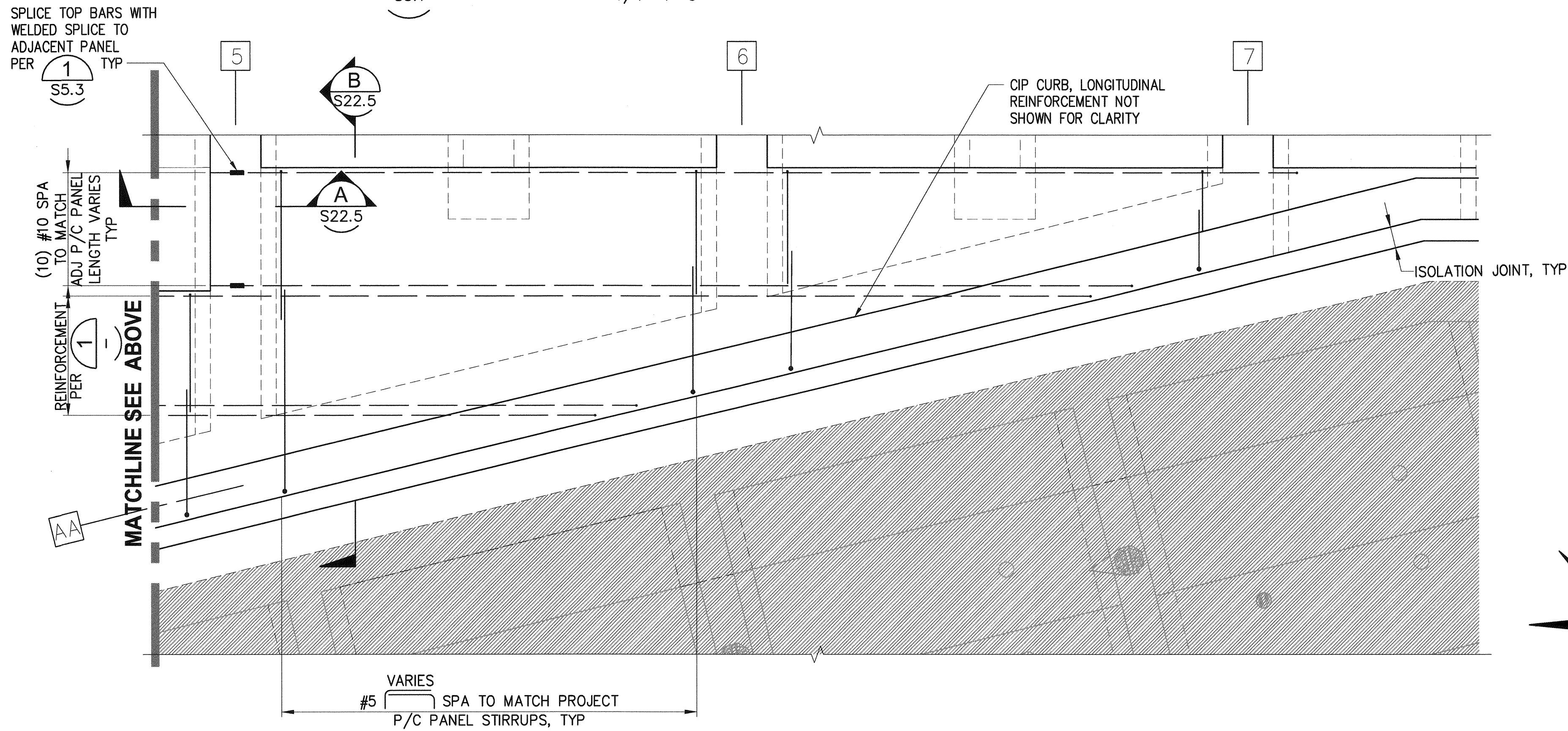
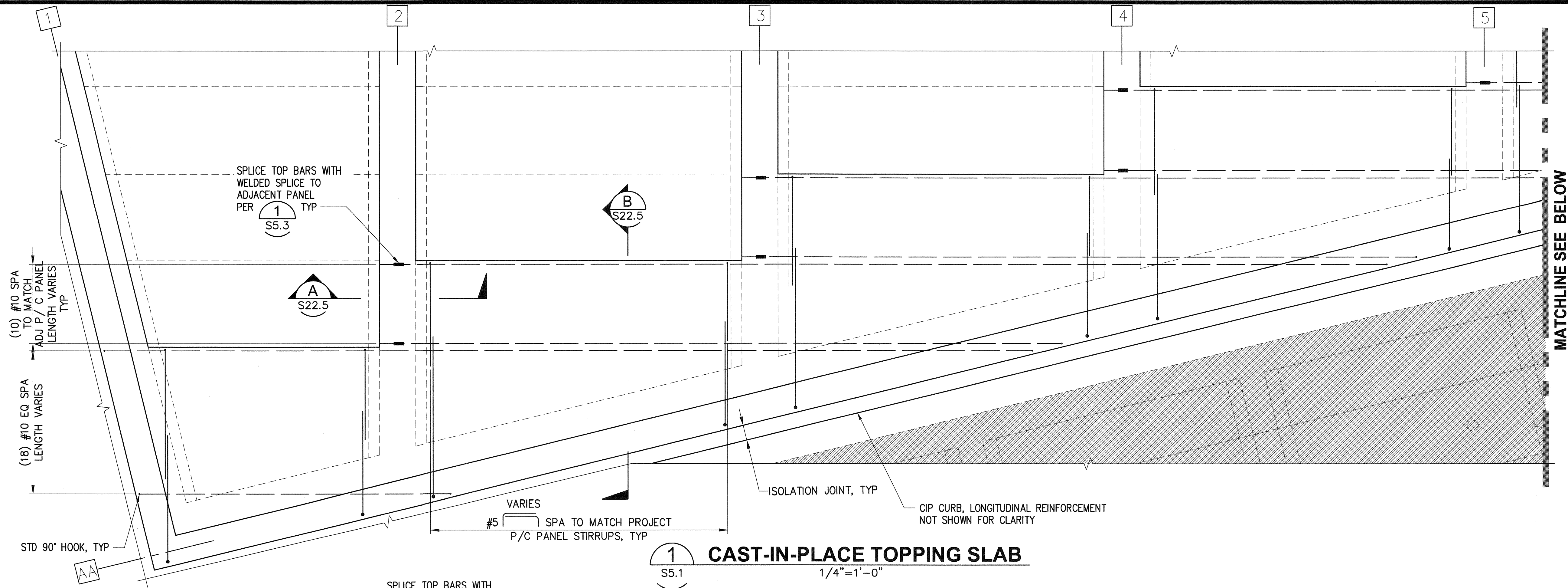


SECTION-A
CAST-IN-PLACE DECK
S22.1
3/4"=1'-0"



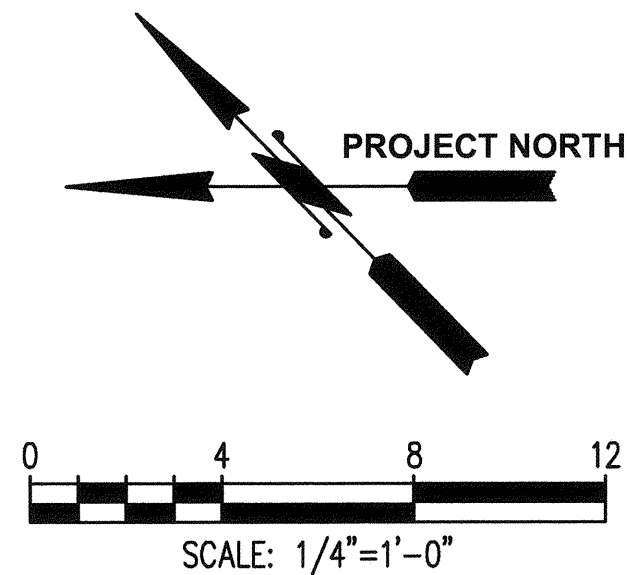
SECTION-B
CAST-IN-PLACE DECK
S22.1
3/4"=1'-0"

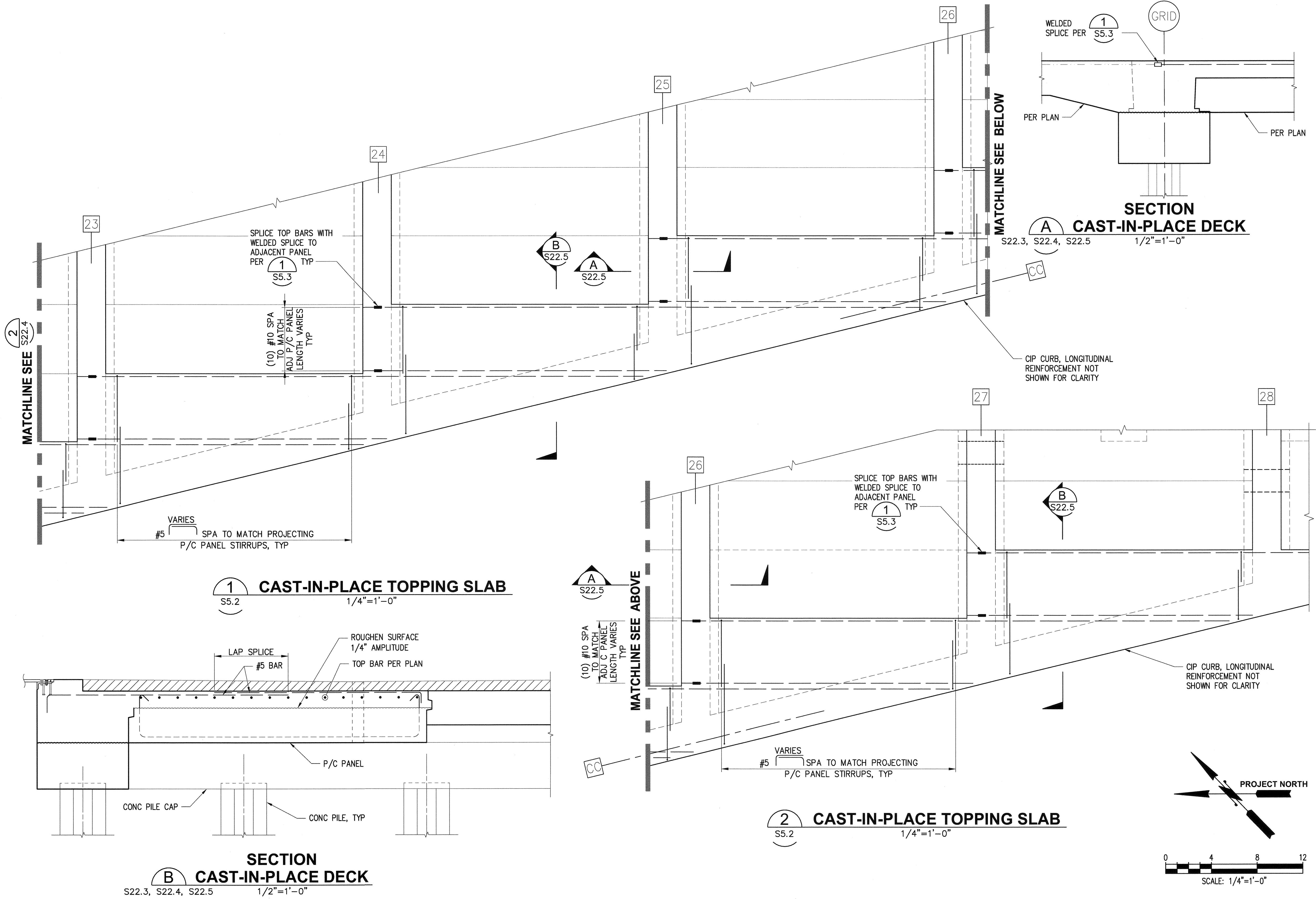
6552 S22.2 SH 279 OF 499	PIER 4 PHASE 2 RECONFIGURATION CAST-IN-PLACE DECK SECTION EXISTING PIER 4				APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR ENG. DATE PRINTED BY: hemons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SEK CHECKED BY TAH PROJ. ENGR DATE	DATE
	CONT/CONS: 070136 M. ID: 091251 PHASE: BID	TOWNSHIP: 21N RANGE: 3E SECTION: 27 DATE-HRZ: WA83-SF VERT: MLLW 19.39' @ Tide 22 1933 DRAWING SCALE: AS NOTED	DATE	DATE	DATE	DATE	DATE
PORT OF Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162		kpff		MARK: REVISION: BY: APPR: DATE:		P.O. BOX 1837 TACOMA, WA 98401 (253) 396-8841	
91-52-1-5		SCOTT E. RICHARDS REGISTERED PROFESSIONAL ENGINEER NO. 10000 EXPIRATION DATE 12/31/2018		THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION			



1
S5.1
CAST-IN-PLACE TOPPING SLAB
1/4"=1'-0"

6552 S22.3 SH 280 OF 499	PIER 4 PHASE 2 RECONFIGURATION CAST-IN-PLACE TOPPING SLAB - SHEET 1				APPROVED: <i>[Signature]</i> 3-28-16	SEK CHECKED BY: <i>[Signature]</i> TAH	DATE
	CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	DIRECTOR ENG. DATE: 16mons Mar 24, 2016	PROJ. ENGR. DATE	
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	PORT ADDRESS: ONE SITCUM PLAZA		PRINTED BY: 16mons Mar 24, 2016	PROJ. ENGR. DATE	
PHASE: BID	PARCEL:	DRAWING SCALE: AS NOTED	TACOMA, WA 98401-1837		PORT ADDRESS: ONE SITCUM PLAZA	PROJ. ENGR. DATE	
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6552

S22.5

SH 282 OF 499

CONT/CONS: 070136
M. ID: 091251
PHASE: BID

PIER 4 PHASE 2
RECONFIGURATION
CAST-IN-PLACE TOPPING SLAB - SHEET 3

TOWNSHIP: 21N
RANGE: 3E
SECTION: 27
DATE-HRZ: WA83-SF
PARCEL: MLLW 19.39' @ Tide 22 1933

DRAWING SCALE: AS NOTED

APPROVED: *[Signature]*
3-28-16
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PORT ADDRESS: ONE SITCUM PLAZA
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CHECKED BY
DATE
TAH
PROJ. ENGR
DATE
MAR 24, 2016

Part of Tacoma

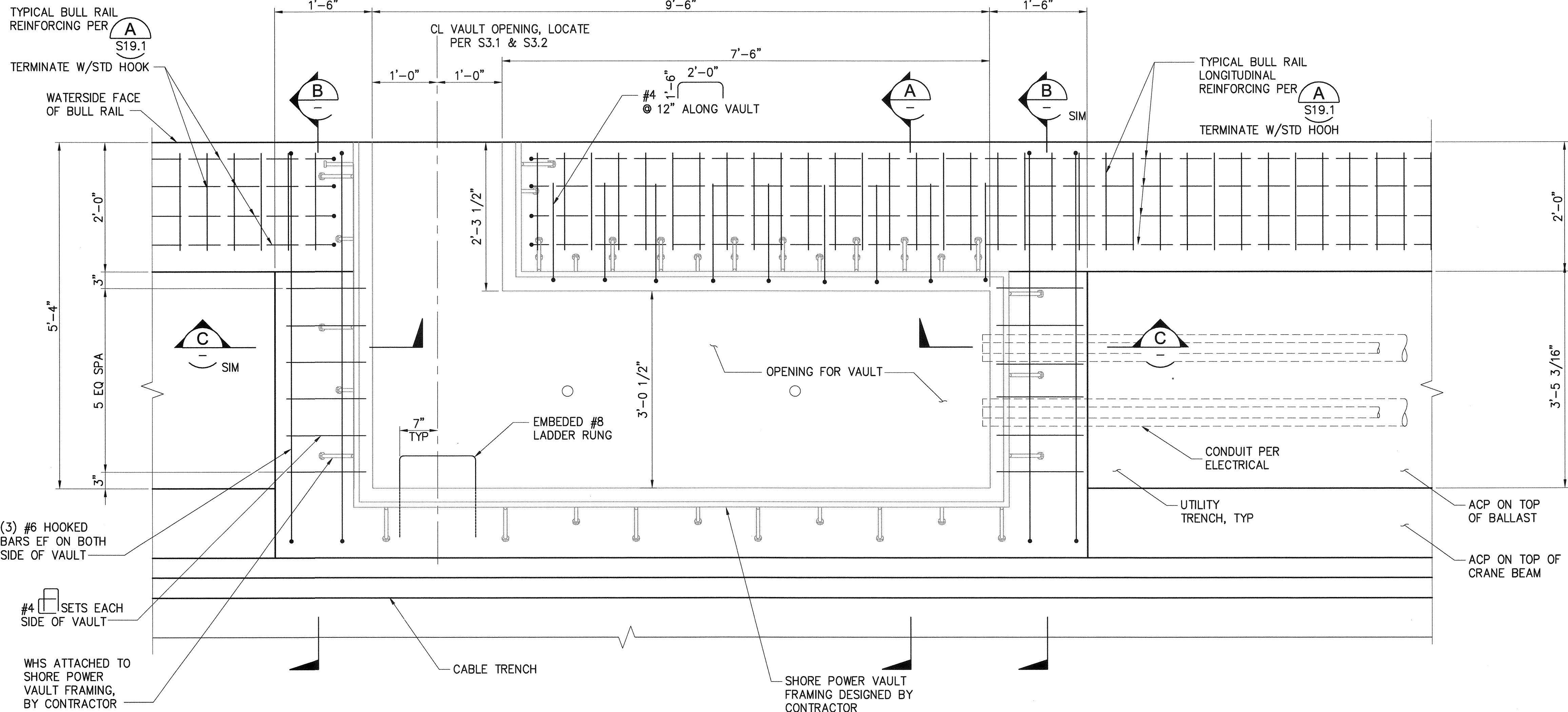
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Tacoma, Washington 98407
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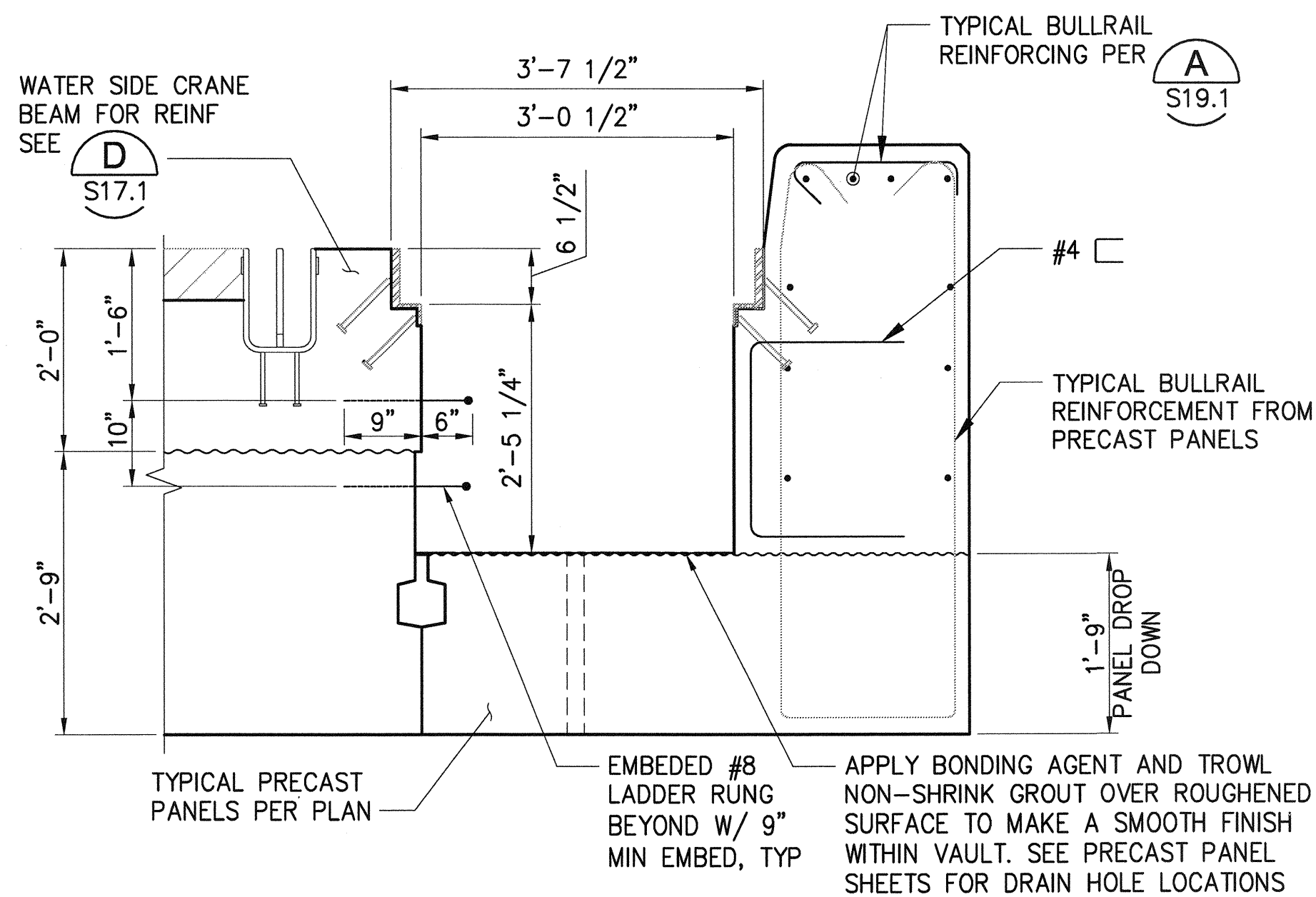
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91-52-16



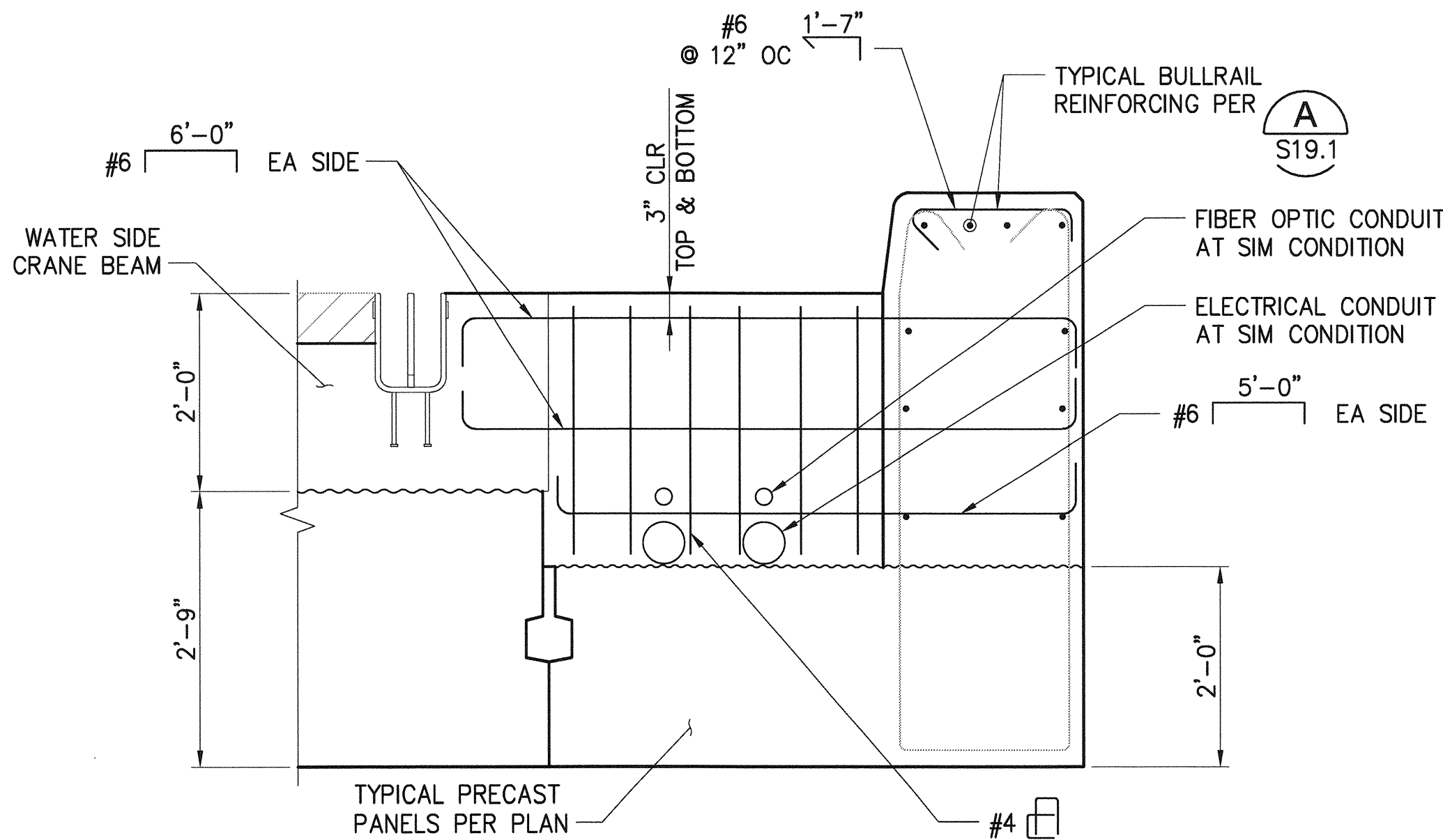
REINFORCING PLAN - SHORE POWER VAULT

1"=1'-0"



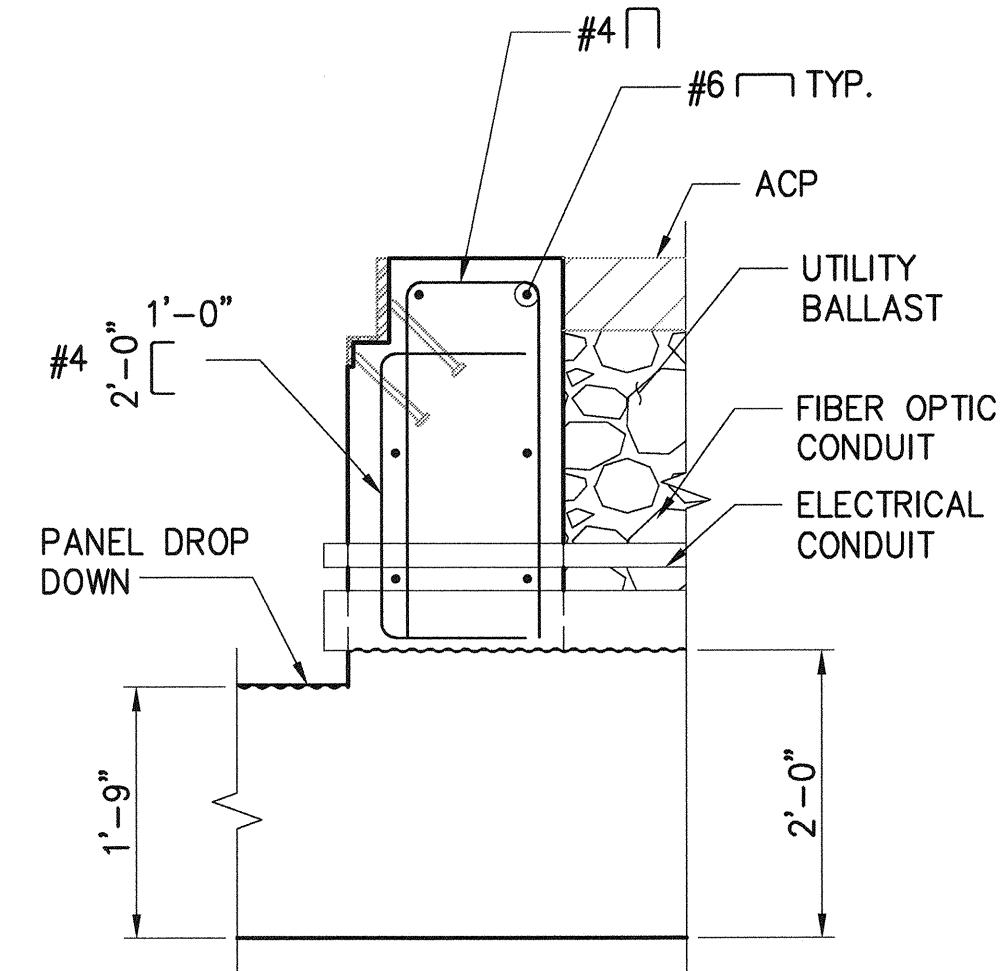
SECTION

3/4"=1'-0"



SECTION

3/4"=1'-0"



SECTION

3/4"=1'-0"

6552 S23.1 SH 283 OF 499	PIER 4 PHASE 2 RECONFIGURATION CAST-IN-PLACE CONCRETE DETAILS AT SHORE POWER VAULT				APPROVED: <i>[Signature]</i> DIRECTOR ENG. DATE: 3-28-16	SEK CHECKED BY: <i>[Signature]</i> TAH	DATE DATE
	CON/CONS: 070136 M. ID: 091251 PHASE: BID	TOWNSHIP: 21N RANGE: 3E SECTION: 27	DATE: 07/13/16 DATE: 07/13/16 DATE: 07/13/16	PRINTED BY: tlemmons PROJ. ENGR: Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	MARK: REVISION: BY: DATE:	APPR: DATE:	

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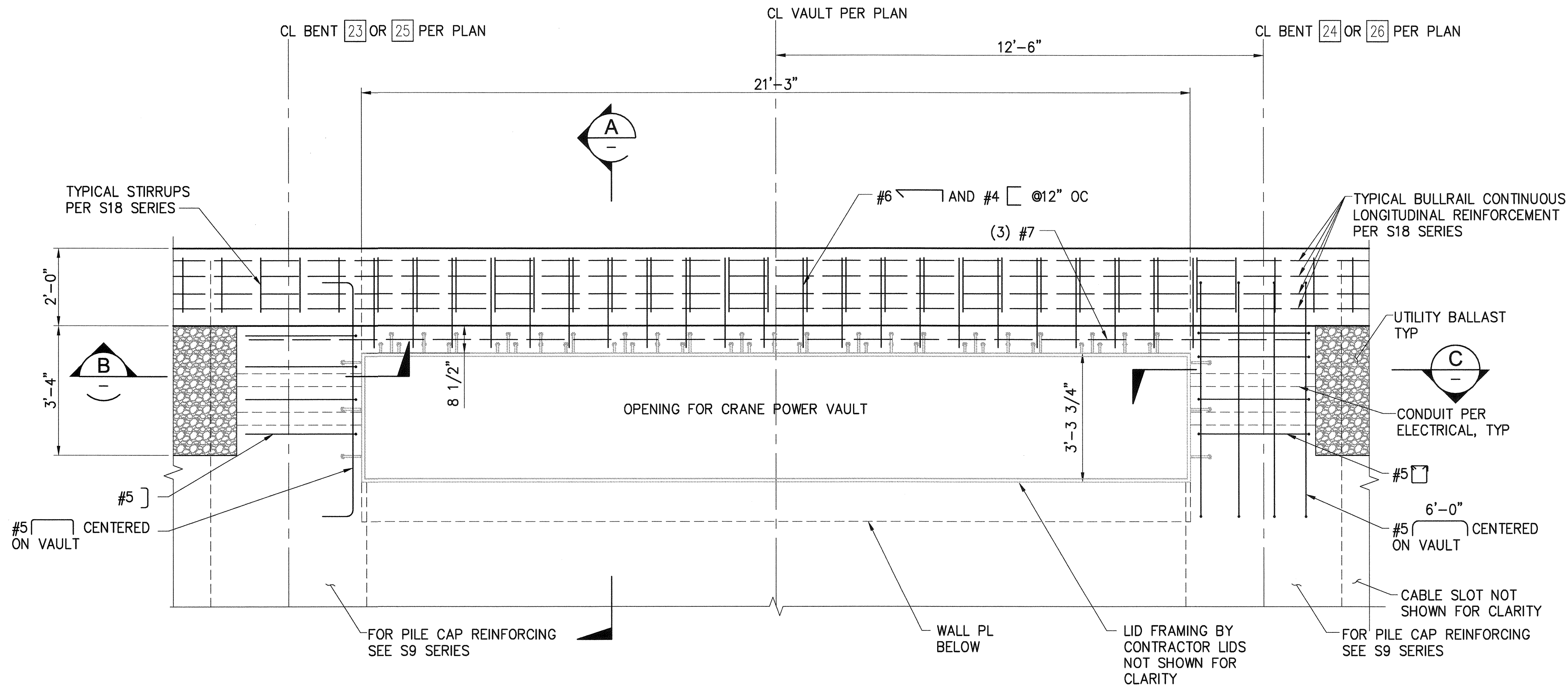
91-52-16

SEAL OF THE PORT OF TACOMA

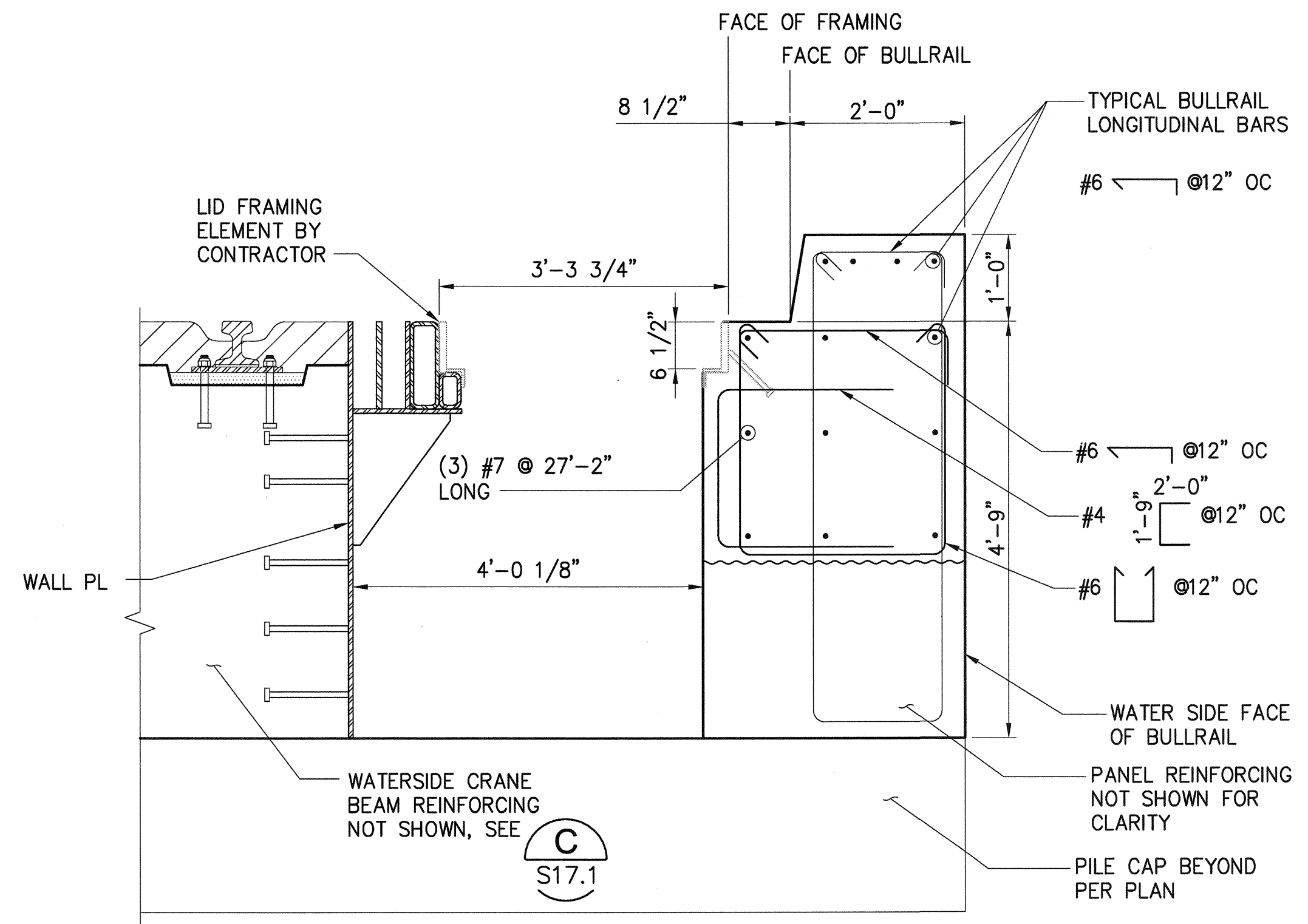
OFFICE OF THE PORT ENGINEER

PROFESSIONAL SEAL

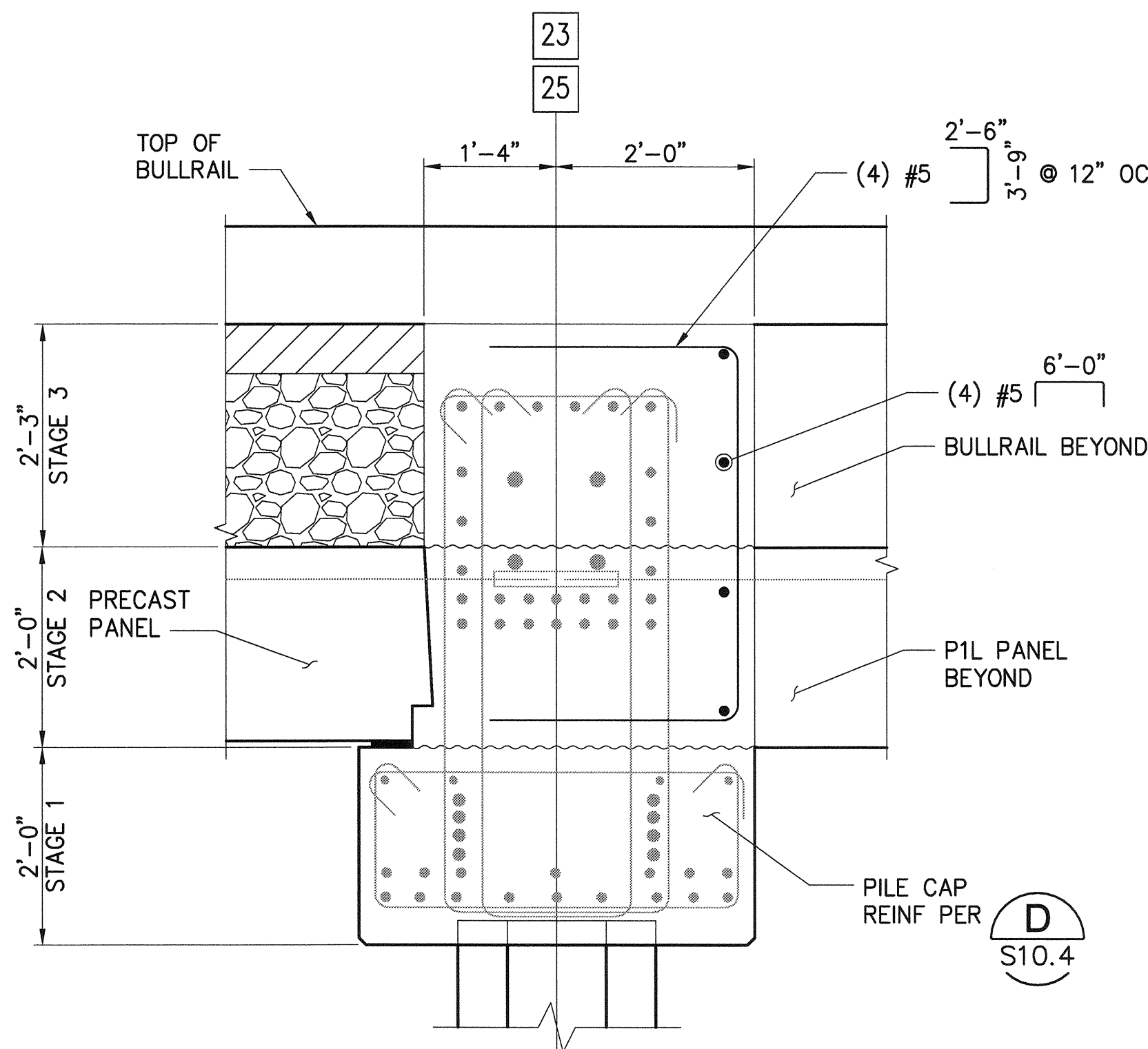
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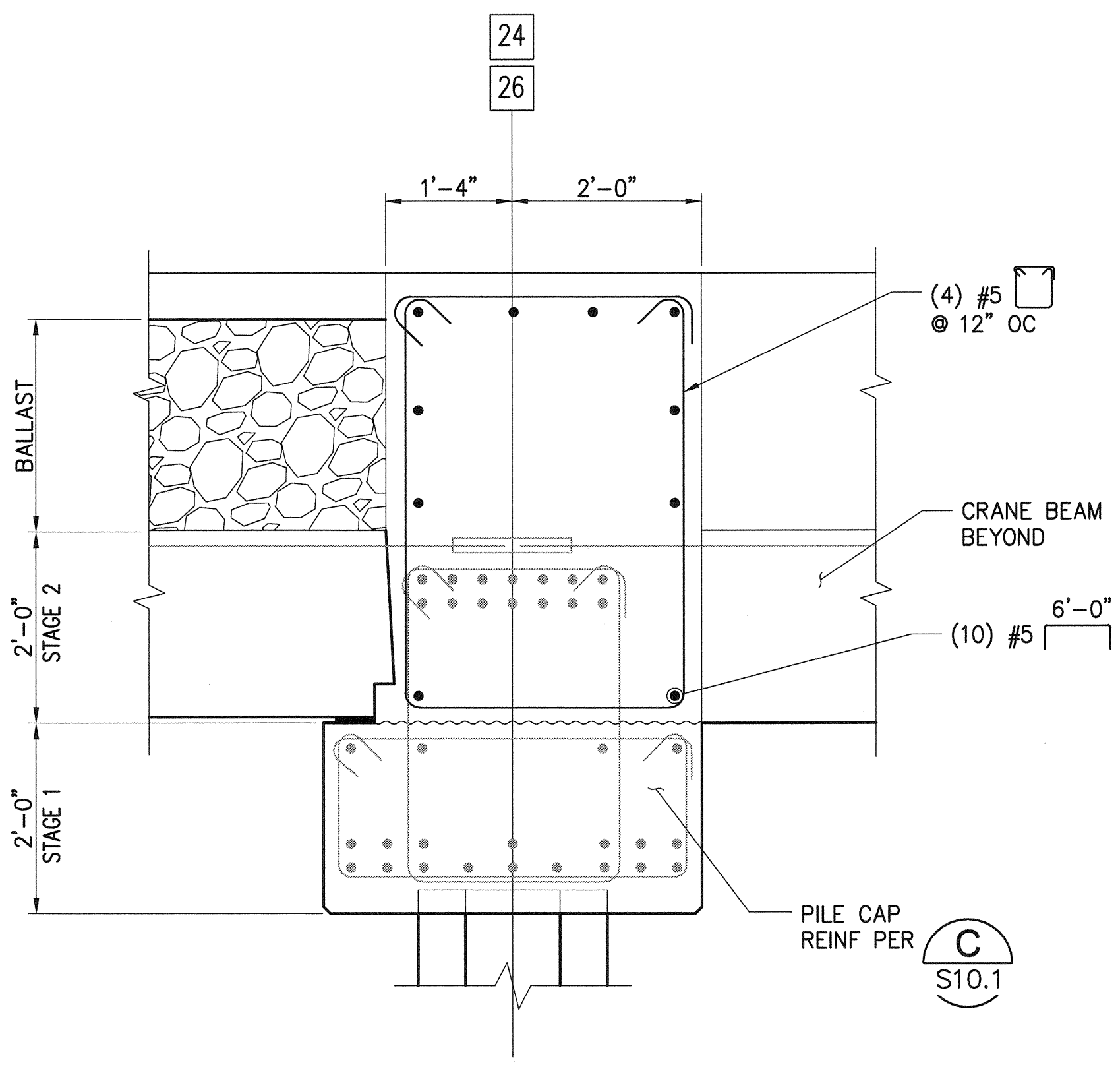
1
REINFORCING PLAN -
CRANE POWER VAULT
SCALE: 1/2"=1'-0"



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



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

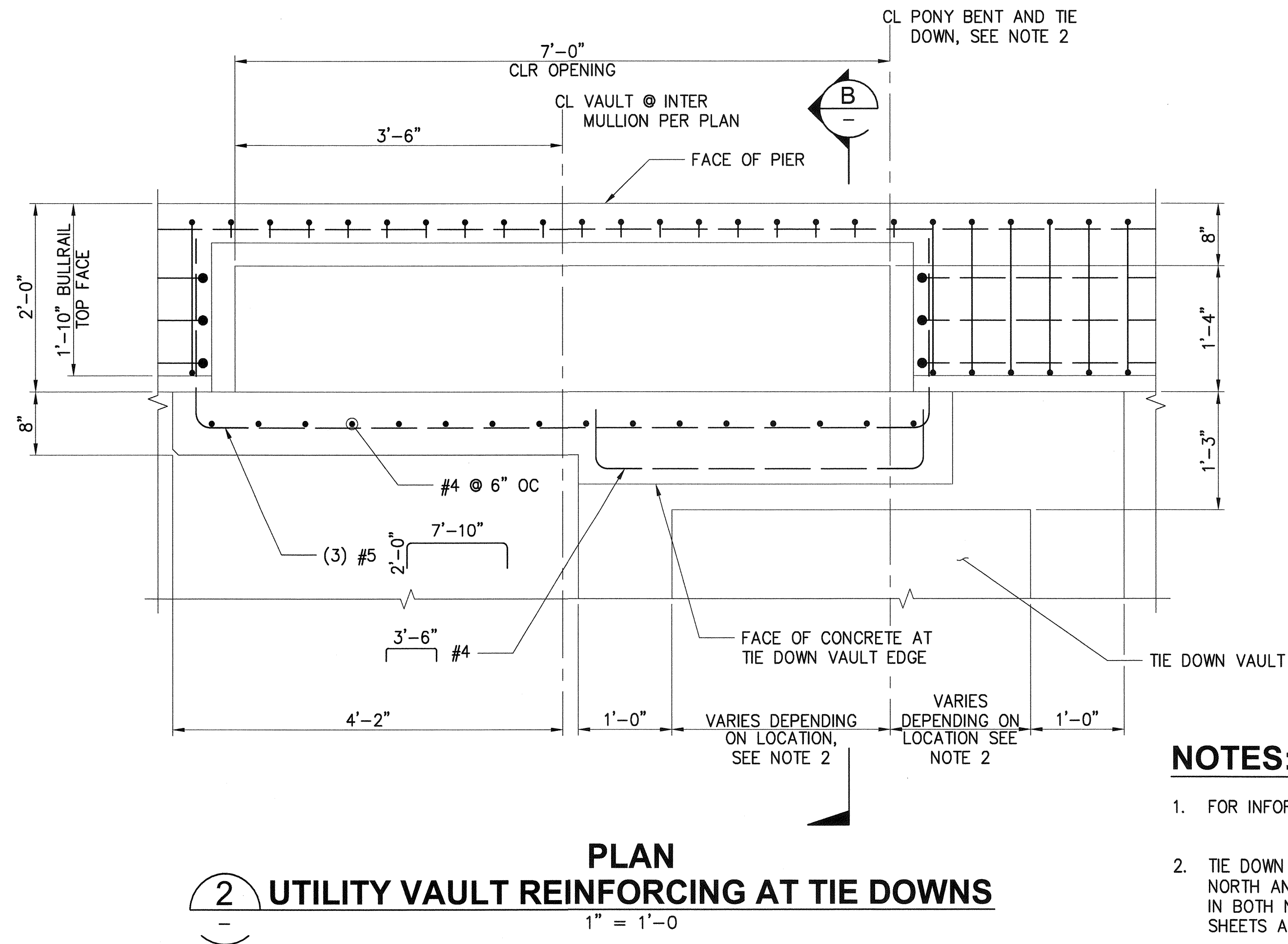
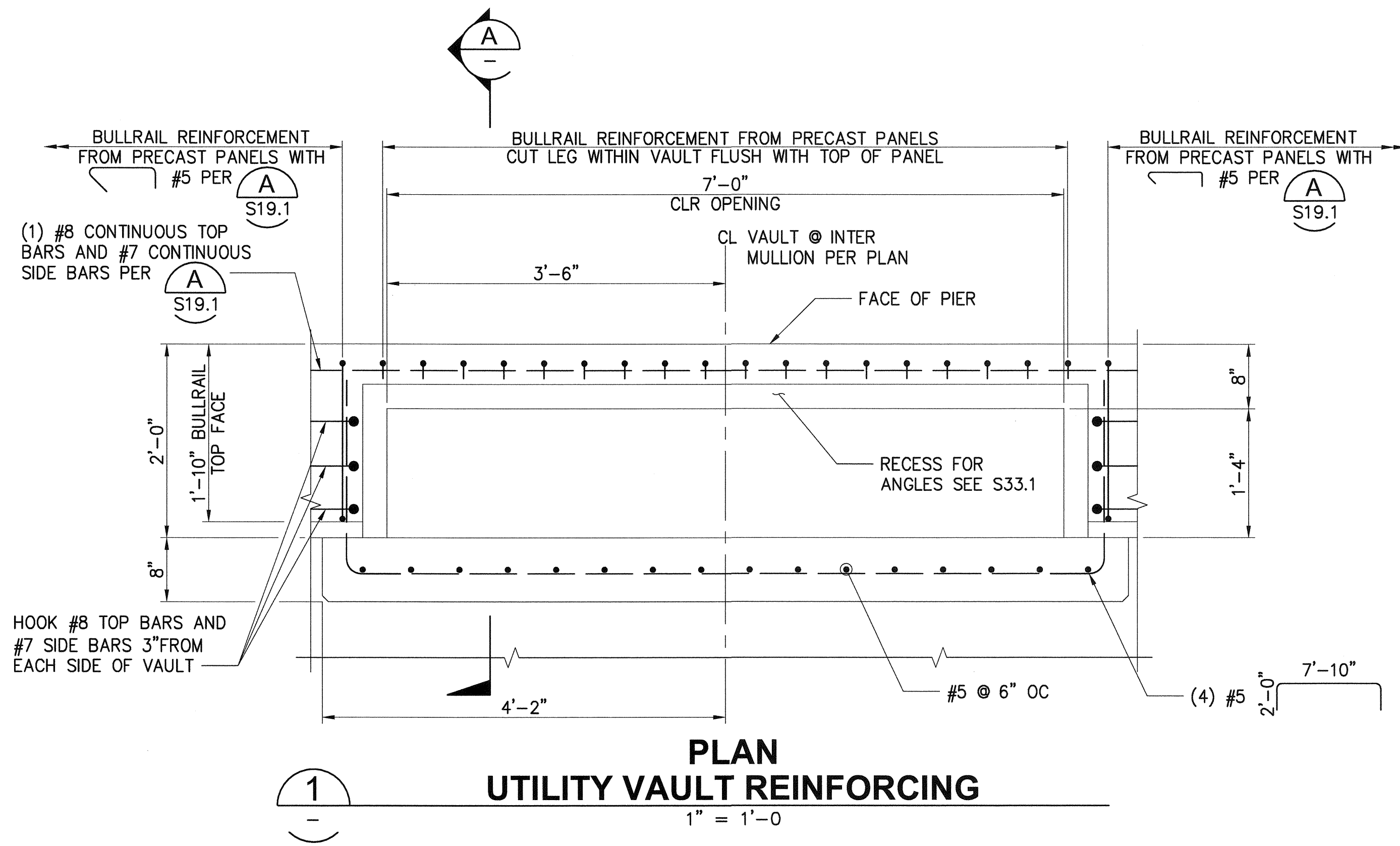


C
SECTION
SCALE : 3/4"=1'-0"

6552 S24.1 SH 284 OF 499	PIER 4 PHASE 2 RECONFIGURATION CAST-IN-PLACE CONCRETE DETAILS AT CRANE POWER VAULT				APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR 3-28-16 PROJ. ENGR Mar 24, 2016 PRINTED BY: ttenions PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SEK CHECKED BY TAH DATE	DATE		
	CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27					
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	DRAWING SCALE: AS NOTED		MARK:	REVISION:	BY:	APPR:	DATE:
PHASE: BID									

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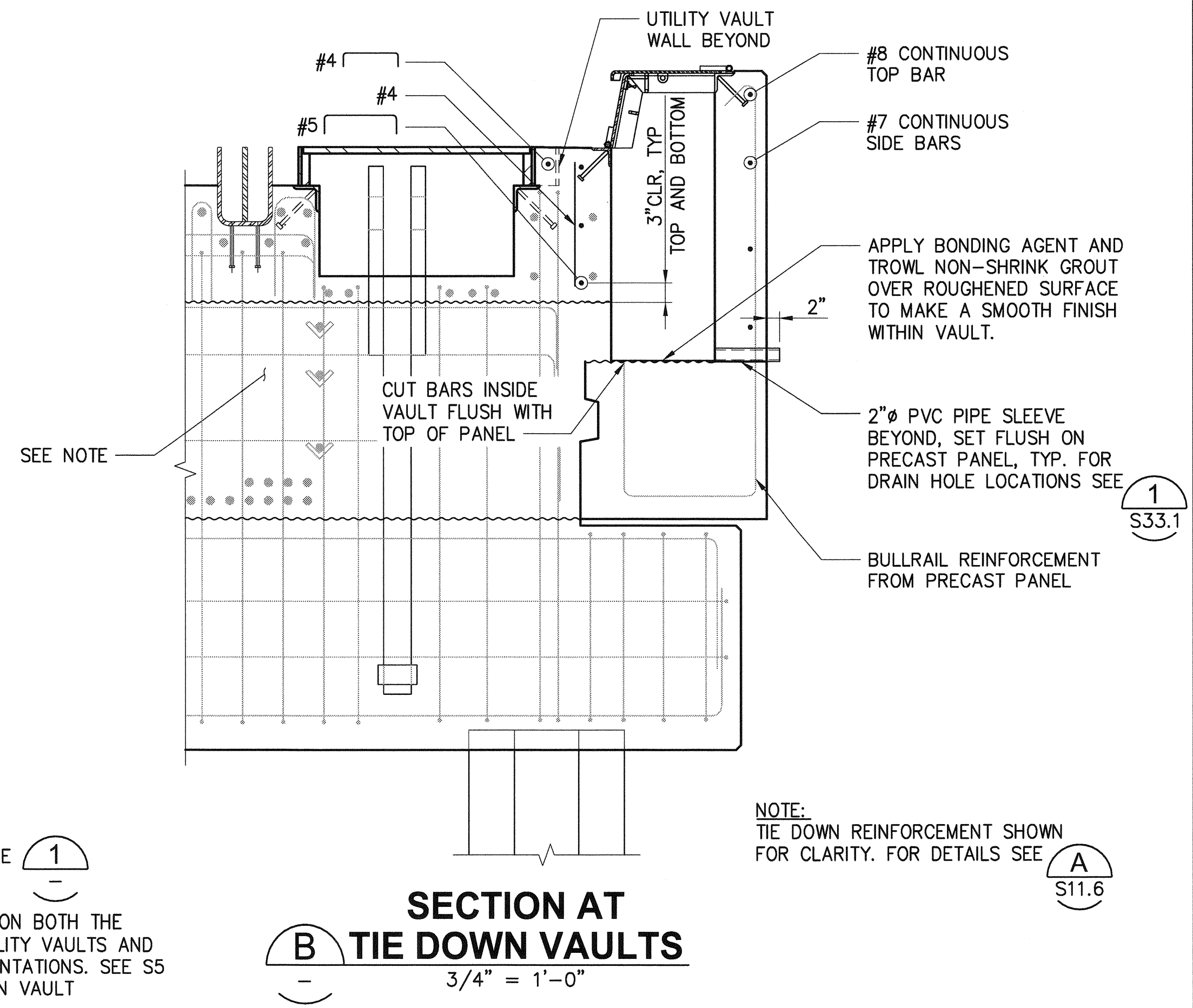
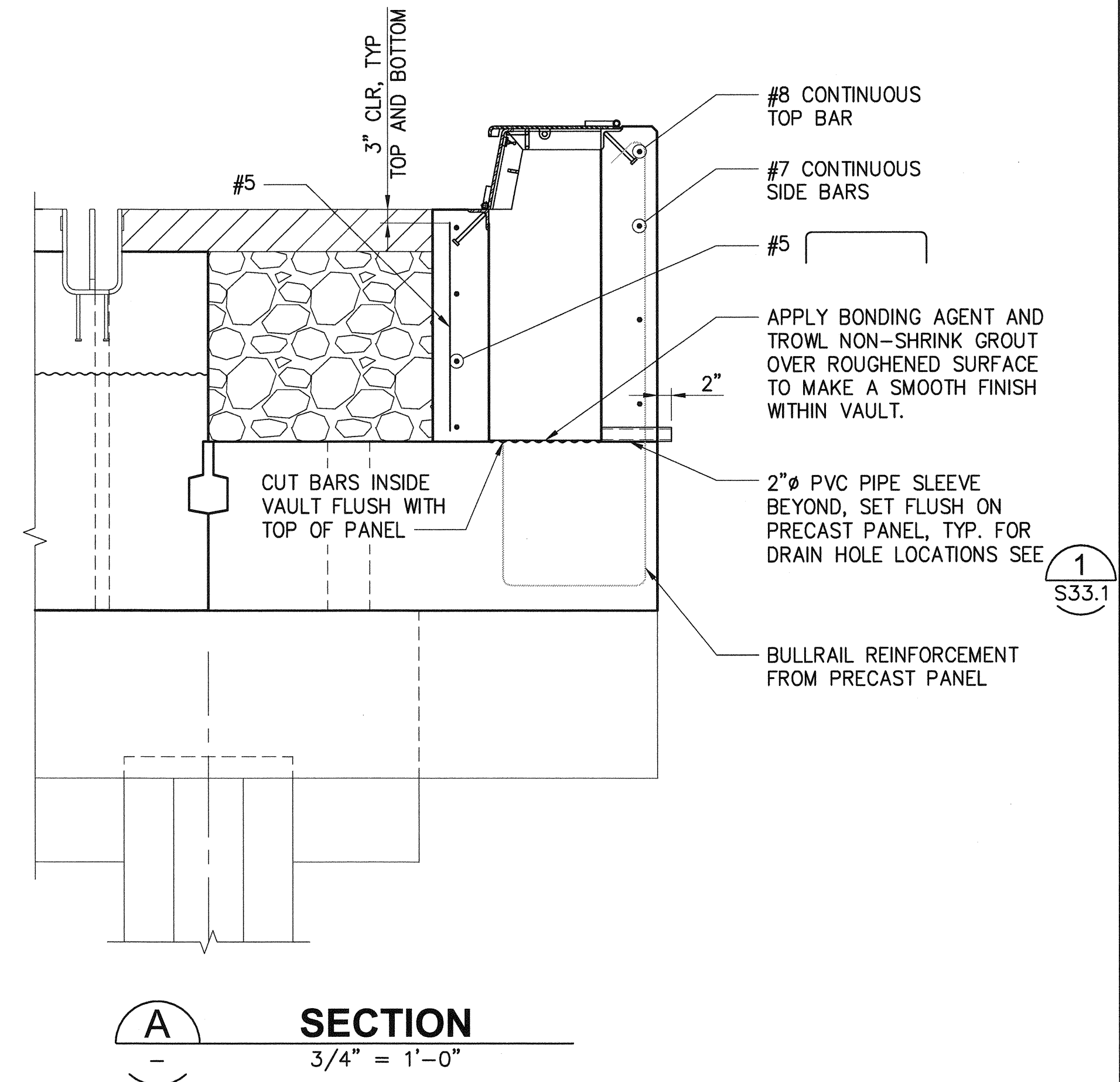
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NOTES:

- FOR INFORMATION NOT SHOWN SEE **1**
- TIE DOWN VAULTS ARE PRESENT ON BOTH THE NORTH AND SOUTH SIDES OF UTILITY VAULTS AND IN BOTH NORTH AND SOUTH ORIENTATIONS. SEE S5 SHEETS AND **1** FOR TIE DOWN VAULT

LOCATIONS & ORIENTATION AT EACH UTILITY VAULT



NOTE:
TIE DOWN REINFORCEMENT SHOWN
FOR CLARITY. FOR DETAILS SEE **A**

6552 S25.1 SH 285 OF 499	CAST-IN-PLACE CONCRETE DETAILS AT BULLRAIL UTILITY VAULT				APPROVED: <i>[Signature]</i> DIRECTOR	CHECKED BY: <i>[Signature]</i> TAH	DATE: <i>3-28-16</i>
	CONT/CONS: 070136 M. ID: 091251 PHASE: BID	TOWNSHIP: 21N DAT-HRZ: WA83-SF VERT: MLLW 19.39' @ Tide 22 1933	RANGE: 3E SECTION: 27 PRINTED BY: <i>[Signature]</i> PORT ADDRESS: ONE SITCUM PLAZA	DATE: <i>Mar 24, 2016</i>	DATE: <i>Mar 24, 2016</i>	REVISION: <i>1</i> S33.1	BY: <i>[Signature]</i> DATE: <i>3-28-16</i>

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 TACOMA, WA 98401-1837

PRECAST DECK PANEL SCHEDULE																			
PANEL TYPE	NOMINAL WIDTH X'-X" [X'-X"]*	NOMINAL LENGTH "L"	ACTUAL LENGTH "Ln"	NON-HAUNCH LENGTH "Lm"	REBAR LENGTH "Lb"	REBAR LENGTH "Lc"	ONE END HOOKED TOP BAR	DRAIN HOLES	REF. PLAN	CONCRETE STRENGTH	FINAL PRESTRESS (KIPS)	# PRESTRESS STRANDS	BOTTOM REINF.	TOP REINFORCEMENT			SHEAR REINFORCEMENT		
														BAR 'a'	BAR 'b'	BAR 'c'	ZONE 1	ZONE 2	END TO END
P1	5'-4"	25'-0"	22'-6"	---	6'-6"	---	---	YES	1 S27.7	f'c @ RELEASE = 4000 PSI MIN f'c @ 28 DAYS = 6000 PSI MIN f'c @ ERECTION = 6000 PSI MIN	382	14	(5)#4	(10)#11	(2)#11	---	#5@12"	#5@10"	---
P2	6'-0"	12'-6"	10'-0"	---	---	---	---	---	1 S27.2		---	---	(15)#11	(2)#10	---	(2)#10	---	---	#6@5"
P3	5'-0"	25'-0"	22'-6"	---	6'-6"	---	---	YES	1 S27.12		375	14	(4)#4	(10)#11	(4)#11	---	#5@12"	#5@10"	---
P4	6'-0"	25'-0"	22'-6"	---	6'-6"	---	---	---	1 S27.13		379	14	(6)#4	(10)#11	(5)#11	---	#5@12"	#5@8"	---
P5	6'-0"	25'-0"	22'-6"	13'-6"	---	---	---	---	1 S27.1		375	14	(4)#4	(10)#10	---	---	#5@12"	#5@8"	---
P6	6'-0"	25'-0"	22'-6"	13'-6"	---	---	---	YES	1 S27.1		375	14	(4)#4	(10)#10	---	---	#5@12"	#5@8"	---
P7	5'-0"	25'-0"	22'-6"	13'-6"	---	---	---	---	1 S27.15		321	12	(4)#4	(10)#10	---	---	#5@12"	#5@10"	---
P8	6'-0"	12'-6"	10'-0"	---	---	---	---	---	1 S27.3		---	---	(12)#11	(2)#10	---	(2)#10	---	---	#6@9"
P1A	5'-4"	25'-0"	22'-6"	---	6'-6"	---	YES	YES	1 S27.9		382	14	(5)#4	(10)#11	(2)#11	---	#5@12"	#5@8"	---
P2A	6'-0"	12'-6"	10'-0"	---	---	---	YES	---	1 S27.45		---	---	(17)#11	(2)#10	---	(2)#10	---	---	#6@6-1/2"
P3A	5'-0"	25'-0"	22'-6"	---	6'-6"	---	YES	YES	1 S27.12		428	16	(4)#4	(10)#11	(4)#11	---	#5@12"	#5@10"	---
P4A	6'-0"	25'-0"	22'-6"	---	6'-6"	---	YES	---	1 S27.13		379	14	(6)#4	(10)#11	(5)#11	---	#5@12"	#5@8"	---
P5A	6'-0"	25'-0"	22'-6"	13'-6"	---	---	YES	---	1 S27.1		473	18	(4)#4	(12)#10	---	---	#5@12"	#5@8"	---
P6A	6'-0"	25'-0"	22'-6"	13'-6"	---	---	YES	YES	1 S27.1		473	18	(4)#4	(12)#10	---	---	#5@12"	#5@8"	---
P7A	5'-0"	25'-0"	22'-6"	13'-6"	---	---	YES	---	1 S27.15		420	16	(4)#4	(10)#10	---	---	#5@12"	#5@10"	---
P8A	6'-0"	12'-6"	10'-0"	---	---	---	YES	---	1 S27.48		---	---	(12)#11	(2)#10	---	(2)#10	---	---	#6@6"
P1B	5'-4"	20'-0"	17'-6"	---	6'-6"	---	---	YES	1 S27.8		326	10	(5)#4	(10)#11	---	---	#5@12"	#5@6"	---
P2B	6'-0"	10'-0"	7'-6"	---	---	---	---	---	1 S27.2		---	---	(15)#11	(2)#10	---	(2)#10	---	---	#6@5"
P3B	5'-0"	20'-0"	17'-6"	---	6'-6"	---	---	YES	1 S27.12		322	12	(4)#4	(10)#11	(3)#11	---	#5@12"	#5@8"	---
P4B	6'-0"	20'-0"	17'-6"	---	6'-6"	---	---	---	1 S27.13		379	14	(6)#4	(10)#11	(3)#11	---	#5@12"	#5@8"	---
P5B	6'-0"	20'-0"	17'-6"	8'-6"	---	---	---	---	1 S27.1		523	20	(4)#4	(12)#10	---	---	#5@12"	#5@8"	---
P6B	6'-0"	20'-0"	17'-6"	8'-6"	---	---	---	YES	1 S27.1		523	20	(4)#4	(12)#10	---	---	#5@12"	#5@8"	---
P7B	5'-0"	20'-0"	17'-6"	8'-6"	---	---	---	---	1 S27.15		470	14	(4)#4	(10)#10	---	---	#5@12"	#5@10"	---
P8B	6'-0"	10'-0"	7'-6"	---	---	---	---	---	1 S27.3		---	---	(12)#11	(2)#10	---	(2)#10	---	---	#6@9"

NOTES:

1. FOR PRECAST DECK PANEL LOCATIONS, SEE S5.1 – S5.5.
2. PROVIDE ASTM A706 GRADE 60 REINFORCEMENT FOR ALL TYPE 'a' TOP BARS.
3. TYPE 'b' TOP BARS ARE HOOKED OUTSIDE PANEL AT BOTH ENDS.
4. [X-X"] INDICATES PANEL NOMINAL WIDTH AT NARROW END OF PANEL SHEETS S27.XX

NOTES FOR PRECAST DECK PANEL STRAND QUANTITIES:

4. SCHEDULE SHOWS THE NUMBER OF STRANDS REQUIRED TO ACHIEVE THE FINAL PRESTRESS FORCE AFTER ALL LOSSES. PRESTRESS LOSSES HAVE BEEN DETERMINED IN ACCORDANCE WITH THE RECOMMENDATIONS OF ACI 318-11 AND THE PCI DESIGN HANDBOOK. IF THE CONTRACTORS MEANS AND METHODS OF PRESTRESSING RESULT IN LOSSES THAT ARE NOT ACCURATELY PREDICTED BY THESE RECOMMENDATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, AND SHALL NOT PROCEED WITH WORK UNTIL APPROPRIATE ADJUSTMENTS CAN BE MADE.
5. THE NUMBER OF STRANDS SHOWN TO BE REQUIRED IS BASED ON THE ASSUMPTION THAT THE 1/2"Ø STRANDS WILL BE JACKED TO A MAXIMUM JACKING STRESS OF 0.75FPU AND A MINIMUM JACKING STRESS OF 0.70FPU. IF THE CONTRACTOR DESIRES TO JACK THE STRANDS TO A STRESS OUTSIDE OF THIS RANGE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, AND SHALL NOT PROCEED WITH WORK UNTIL APPROPRIATE ADJUSTMENTS CAN BE MADE.
6. THE PRESTRESS STRANDS SHOULD BE PLACED IN THE BOTTOM LAYER UNTIL NO MORE STRANDS CAN BE PLACED WHILE MAINTAINING THE TYPICAL CLEARANCE SHOWN ON THE PLANS. CLEARANCES BETWEEN PRESTRESS STRANDS MAY EXCEED THE TYPICAL CLEARANCE SHOWN ON THE PLANS.
7. IN ALL CASES PLACE STRANDS SO THAT THE PRESTRESS FORCE IS BALANCED ABOUT THE CENTERLINE OF THE PANELS.

6552

S26.1

SH 286 OF 489

CONT/CONS: 070136

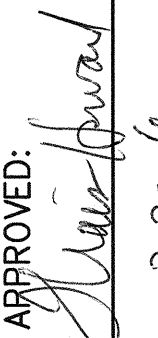
M. ID: 091251

PHASE: BID

PIER 4 PHASE 2

RECONFIGURATION

DECK PANEL SCHEDULE - SHEET 1

APPROVED: 

DIRECTOR

ENG. DATE

3-29-16

SEK

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DATE

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Mar 24, 2016

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

TOWNSHIP: 21N

RANGE: 3E

SECTION: 27

DAT-HRZ: WA83-SF

VERT: MLLW 19.39' @ Tide 22 1933

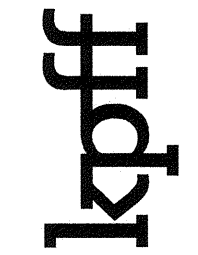
DRAWING SCALE: AS NOTED

PARCEL:



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91-52-16

MARK:

REVISION:

BY:

DATE:

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PRECAST DECK PANEL SCHEDULE																			
PANEL TYPE	NOMINAL WIDTH X'-X" [X'-X"]*	NOMINAL LENGTH "L"	ACTUAL LENGTH "Ln"	NON-HAUNCH LENGTH "Lm"	REBAR LENGTH "Lb"	REBAR LENGTH "Lc"	ONE END HOOKED TOP BAR	DRAIN HOLES	REF. PLAN	CONCRETE STRENGTH	FINAL PRESTRESS (KIPS)	# PRESTRESS STRANDS	BOTTOM REINF.	TOP REINFORCEMENT			SHEAR REINFORCEMENT		
														BAR 'a'	BAR 'b'	BAR 'c'	ZONE 1	ZONE 2	END TO END
P1C	5'-4"	25'-0"	21'-6"	----	6'-6"	----	----	YES	$\frac{1}{S27.7}$	f'c @ RELEASE = 4000 PSI MIN f'c @ 28 DAYS = 6000 PSI MIN f'c @ ERECTION = 6000 PSI MIN	382	14	(5)#4	(10)#11	(2)#11	----	#5@12"	#5@10"	----
P2C	6'-0"	12'-6"	9'-0"	----	----	----	----	----	$\frac{1}{S27.28}$		----	----	(15)#11	(2)#10	----	(2)#10	----	----	#6@5"
P3C	5'-0"	25'-0"	21'-6"	----	6'-6"	----	----	YES	$\frac{1}{S27.12}$		375	14	(4)#4	(10)#11	(4)#11	----	#5@12"	#5@10"	----
P8C	8'-6"	12'-6"	10'-0"	----	----	----	----	----	$\frac{1}{S27.6}$		----	----	(18)#11	(2)#10	----	(3)#10	----	----	#6@4-3/4"
P1D	5'-4"	25'-0"	21'-6"	----	----	----	----	YES	$\frac{1}{S27.23}$		431	16	(4)#4	(10)#11	----	----	#5@12"	#5@6"	----
P2D	11'-6"	12'-6"	9'-0"	----	----	----	----	----	$\frac{1}{S27.4}$		----	----	(15)#11	(2)#10	(2)#10	(14)#10	----	----	#6@6"
P8D	11'-0"	12'-6"	6'-6"	----	----	----	----	----	$\frac{1}{S27.37}$		----	----	(22)#11	(2)#10	(3)#10	----	----	----	#6@6"
P1E	5'-4"	24'-1"	21'-7"	----	6'-6"	----	YES	YES	$\frac{1}{S27.7}$		382	14	(5)#4	(10)#11	(2)#11	----	#5@12"	#5@8"	----
P2E	6'-0"	11'-7"	9'-1"	--	----	----	--	--	$\frac{1}{S27.29}$		----	----	(15)#11	(2)#10	----	(2)#10	----	----	#6@5"
P3E	5'-0"	24'-1"	21'-7"	--	6'-6"	----	YES	YES	$\frac{1}{S27.12}$		428	16	(4)#4	(10)#11	(4)#11	----	#5@12"	#5@10"	----
P4E	6'-0"	24'-1"	21'-7"	--	6'-6"	----	YES	--	$\frac{1}{S27.13}$		379	14	(6)#4	(10)#11	(5)#11	----	#5@12"	#5@10"	----
P5E	6'-0"	24'-1"	21'-7"	12'-7"	----	----	YES	--	$\frac{1}{S27.1}$		473	18	(4)#4	(12)#10	----	----	#5@12"	#5@8"	----
P6E	6'-0"	24'-1"	21'-7"	12'-7"	----	----	YES	YES	$\frac{1}{S27.1}$		473	18	(4)#4	(12)#10	----	----	#5@12"	#5@8"	----
P7E	5'-0"	24'-1"	21'-7"	12'-7"	----	----	YES	--	$\frac{1}{S27.15}$		420	16	(4)#4	(10)#10	----	----	#5@12"	#5@10"	----
P8E	6'-0"	11'-7"	9'-1"	--	----	----	--	--	$\frac{1}{S27.14}$		----	----	(12)#11	(2)#10	----	(2)#10	----	----	#6@7"
P1F	2'-4"	25'-0"	22'-6"	--	----	----	--	--	$\frac{1}{S27.16}$		111	4	(4)#4	(4)#11	----	----	#5@12"	#5@12"	----
P2F	11'-6"	12'-6"	10'-0"	--	----	----	--	--	$\frac{1}{S27.5}$		----	----	(15)#11	(2)#10	(2)#10	(14)#10	----	----	#6@6"
P3F	2'-6"	25'-0"	21'-6"	--	----	----	--	--	$\frac{1}{S27.11}$		166	6	(4)#4	(6)#11	----	----	#5@12"	#5@12"	----
P8F	11'-0"	12'-6"	10'-0"	--	----	----	--	--	$\frac{1}{S27.10}$		----	----	(12)#11	(2)#10	(2)#10	(8)#10	----	----	#6@6"
P1G	2'-4"	25'-0"	21'-6"	--	----	----	--	--	$\frac{1}{S27.16}$		111	4	(4)#4	(4)#11	----	----	#5@12"	#5@12"	----
P2G	11'-6"	12'-6"	10'-0"	--	----	----	--	--	$\frac{1}{S27.4}$		----	----	(15)#11	(2)#10	(2)#10	(14)#10	----	----	#6@6"
P1H	5'-4"	25'-0"	22'-6"	--	----	----	--	YES	$\frac{1}{S27.23}$	431	16	(4)#4	(10)#11	----	----	#5@12"	#5@6"	----	
P2H	11'-6"	12'-6"	9'-0"	--	----	----	--	--	$\frac{1}{S27.5}$	----	----	(20)#11	(2)#10	(2)#10	(14)#10	----	----	#6@5-1/2"	
P3H	5'-0"	25'-0"	21'-6"	----	6'-6"	----	----	YES	$\frac{1}{S27.12}$ </										

1. SEE S26.1 FOR NOTES.

6552 S26.2 SH 287 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL SCHEDULE - SHEET 2				APPROVED: <i>[Signature]</i> SEK CHECKED BY DATE				2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162	
	DIRECTOR ENG. DATE	TAH PROJ. ENG. DATE	MARK: REVISION:	BY:	APPR: DATE:					
	RANGE: SECTION:	PRINTED BY: ITEMS DATE	MARK: REVISION:	BY:	APPR: DATE:					
	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	PRINTED BY: ITEMS DATE	MARK: REVISION:	BY:				
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	PORT ADDRESS: ONE SITCUM PLAZA	MARK: REVISION:	BY:	APPR: DATE:				
PHASE: BID	PARCEL:	DRAWING SCALE: AS NOTED	TACOMA, WA 98401-1837	MARK: REVISION:	BY:	APPR: DATE:				

PRECAST DECK PANEL SCHEDULE																			
PANEL TYPE	NOMINAL WIDTH X'-X" [X'-X"]*	NOMINAL LENGTH "L"	ACTUAL LENGTH "Ln"	NON-HAUNCH LENGTH "Lm"	REBAR LENGTH "Lb"	REBAR LENGTH "Lc"	ONE END HOOKED TOP BAR	DRAIN HOLES	REF. PLAN	CONCRETE STRENGTH	FINAL PRESTRESS (KIPS)	# PRESTRESS STRANDS	BOTTOM REINF.	TOP REINFORCEMENT			SHEAR REINFORCEMENT		
														BAR 'a'	BAR 'b'	BAR 'c'	ZONE 1	ZONE 2	END TO END
P2K	13'-10"	12'-6"	10'-0"	--	---	---	--	--	1 S27.43	f'c @ RELEASE = 4000 PSI MIN f'c @ 28 DAYS = 6000 PSI MIN f'c @ ERECTION = 6000 PSI MIN	---	---	(15)#11	(2)#10	(2)#10	(7)#10	---	---	#6@6"
P2M	13'-10"	12'-6"	10'-0"	--	---	---	--	--	1 S27.43		---	---	(15)#11	(2)#10	(2)#10	(7)#10	---	---	#6@6"
P1L	3'-0"	25'-0"	22'-6"	--	---	---	--	--	1 S27.39		166	6	(6)#4	(6)#11	---	---	#5@12"	#5@12"	---
P1R	5'-4"	25'-0"	21'-6"	---	6'-6"	---	---	YES	1 S27.7		382	14	(5)#4	(10)#11	(2)#11	---	#5@12"	#5@10"	---
P3R	2'-6"	25'-0"	21'-6"	--	---	---	--	--	1 S27.11		166	6	(4)#4	(6)#11	---	---	#5@12"	#5@12"	---
P1S	2'-4"	25'-0"	21'-6"	--	---	---	--	--	1 S27.16		111	4	(4)#4	(4)#11	---	---	#5@12"	#5@12"	---
P3S	2'-6"	25'-0"	22'-6"	--	---	---	--	--	1 S27.11		166	6	(4)#4	(6)#11	---	---	#5@12"	#5@12"	---
P14	6'-0"	VARIES	VARIES	--	---	---	YES	--	1 S27.17		---	---	(10)#9	(10)#10	---	---	---	---	#5@8"
P15	6'-0"	VARIES	VARIES	--	---	---	YES	--	1 S27.17		---	---	(10)#9	(10)#10	---	---	---	---	#5@8"
P16	6'-0"	VARIES	VARIES	--	---	---	YES	YES	1 S27.17		---	---	(10)#8	(10)#10	---	---	---	---	#5@8"
P17	6'-0"	VARIES	VARIES	--	---	---	YES	--	1 S27.17		---	---	(10)#8	(10)#10	---	---	---	---	#5@8"
P19	6'-0"	15'-8"	13'-2"	4'-2"	---	---	YES	YES	1 S27.25		272	10	(6)#4	(8)#10	---	---	#5@12"	#5@8"	---
P20	6'-0"	15'-8"	13'-2"	4'-2"	---	---	YES	YES	1 S27.46		272	10	(6)#4	(8)#10	---	---	#5@12	#5@8	---
P21	6'-0"	15'-8"	13'-2"	4'-2"	---	---	YES	YES	1 S27.18		272	10	(6)#4	(8)#10	---	---	#5@12	#5@8	---
P22	4'-0"	15'-8"	13'-2"	4'-2"	---	---	YES	YES	1 S27.26		216	8	(4)#4	(8)#8	---	---	#5@12	#5@12	---
P23	6'-0"	15'-8"	13'-2"	4'-2"	---	---	YES	YES	1 S27.20		272	10	(6)#4	(8)#10	---	---	#5@12"	#5@8"	---
P19A	6'-0"	15'-8"	13'-6 1/2"	4'-6 1/2"	---	---	--	YES	1 S27.27		272	10	(4)#4	(8)#10	---	---	#5@12"	#5@8"	---
P20A	6'-0"	15'-8"	13'-6 1/2"	4'-6 1/2"	---	---	--	YES	1 S27.47		272	10	(4)#4	(8)#10	---	---	#5@12"	#5@8"	---
P21A	6'-0"	15'-8"	13'-6 1/2"	4'-6 1/2"	---	---	--	YES	1 S27.19		272	10	(4)#4	(8)#10	---	---	#5@12"	#5@8"	---
P22A	4'-0"	15'-8"	13'-6 1/2"	4'-6 1/2"	---	---	---	YES	1 S27.30		216	8	(4)#4	(8)#8	---	---	#5@12	#5@12	---
P23A	6'-0"	15'-8"	13'-6 1/2"	4'-6 1/2"	---	---	--	YES	1 S27.21		272	10	(4)#4	(8)#10	---	---	#5@12"	#5@8"	---
P24	6'-0"	VARIES	VARIES	--	---	---	YES	--	1 S27.22		---	---	(10)#10	(10)#10	---	---	---	---	#5@8"
P25	6'-0"	VARIES	VARIES	--	---	---	YES	--	1 S27.22		---	---	(10)#10	(10)#10	---	---	---	---	#5@8"

NOTES:

1. SEE S26.1 FOR NOTES.

6552

S26.3

SH 288 OF 499

PIER 4 PHASE 2
RECONFIGURATION
DECK PANEL SCHEDULE - SHEET 3

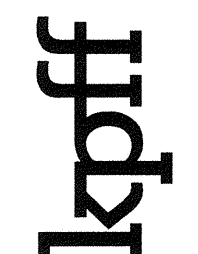
APPROVED:  3-28-16
DIRECTOR
ENG. DATE
PRINTED BY: ttenions
Mar 24, 2016
PORT ADDRESS: ONE SITCUM PLAZA
TACOMA, WA 98401-1837

TOWNSHIP: 21N
RANGE: 3E
SECTION: 27
DATE-HRZ: WA83-SF
VERT: MLLW 19.39' @ Tide 22 1933
DRAWING SCALE: AS NOTED
PARCEL: AS NOTED

CONT/CONS: 070136
M. ID: 091251
PHASE: BID



Port of Tacoma
P.O. BOX 1837 TACOMA, WA 98401 (253)385-5641



2407 North 31st Street, Suite 100
Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162



SCOTT E. RUPPEL
P.E.
WASHINGTON
No. 10000
EXPIRATION DATE 12/31/2016

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CHECKED BY
DATE
TAH
PROJ. ENGR
DATE
REVISION:
BY:
DATE:
APPR:
DATE:

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PRECAST DECK PANEL SCHEDULE																			
PANEL TYPE	NOMINAL WIDTH X'-X" [X'-X"]*	NOMINAL LENGTH "L"	ACTUAL LENGTH "Ln"	NON-HAUNCH LENGTH "Lm"	REBAR LENGTH "Lb"	REBAR LENGTH "Lc"	ONE END HOOKED TOP BAR	DRAIN HOLES	REF. PLAN	CONCRETE STRENGTH	FINAL PRESTRESS (KIPS)	# PRESTRESS STRANDS	BOTTOM REINF.	TOP REINFORCEMENT			SHEAR REINFORCEMENT		
														BAR 'a'	BAR 'b'	BAR 'c'	ZONE 1	ZONE 2	END TO END
P26	6'-0"	VARIES	VARIES	--	---	---	YES	YES	$\frac{1}{S27.22}$	f'c @ RELEASE = 4000 PSI MIN f'c @ 28 DAYS = 6000 PSI MIN f'c @ ERECTION = 6000 PSI MIN	---	---	(10)#10	(10)#10	---	---	---	---	#5@8"
P27	6'-0"	VARIES	VARIES	--	---	---	YES	--	$\frac{1}{S27.22}$		---	---	(10)#10	(10)#10	---	---	---	---	#5@8"
P28	6'-0"	VARIES	VARIES	--	---	---	YES	--	$\frac{1}{S27.22}$		---	---	(10)#10	(10)#10	---	---	---	---	#5@8"
P29	6'-0"	VARIES	VARIES	--	---	---	YES	--	$\frac{1}{S27.22}$		---	---	(10)#10	(10)#10	---	---	---	---	#5@8"
P30	6'-0"	VARIES	VARIES	--	---	---	YES	--	$\frac{1}{S27.22}$		---	---	(10)#9	(10)#9	---	---	---	---	#5@8"
P31	6'-0"	VARIES	VARIES	--	---	---	YES	--	$\frac{1}{S27.22}$		---	---	(10)#9	(10)#9	---	---	---	---	#5@8"
P32	6'-0"	VARIES	VARIES	--	---	---	YES	--	$\frac{1}{S27.22}$		---	---	(10)#8	(10)#8	---	---	---	---	#5@8"
P33	6'-0"	VARIES	VARIES	--	---	---	YES	--	$\frac{1}{S27.22}$		---	---	(10)#8	(10)#8	---	---	---	---	#5@8"
P34	6'-0"	VARIES	VARIES	--	---	---	YES	--	$\frac{1}{S27.22}$		---	---	(10)#8	(10)#8	---	---	---	---	#5@8"
P34A	6'-0"	VARIES	VARIES	--	---	---	YES	--	$\frac{1}{S27.22}$		---	---	(10)#8	(10)#8	---	---	---	---	#5@8"
P35	6'-0"	25'-0"	22'-6"	13'-6"	---	---	--	--	$\frac{1}{S27.1}$		375	14	(4)#4	(10)#10	---	---	#5@12"	#5@8"	---
P35A	6'-0"	25'-0"	22'-6"	13'-6"	---	---	YES	--	$\frac{1}{S27.1}$		473	18	(4)#4	(12)#10	---	---	#5@12"	#5@8"	---
P35B	6'-0"	20'-0"	17'-6"	8'-6"	---	---	--	--	$\frac{1}{S27.1}$		523	20	(4)#4	(12)#10	---	---	#5@12"	#5@8"	---
P37*	3'-11"	20'-0"	17'-6"	8'-6"	---	---	---	---	$\frac{1}{S27.42}$		273	8	(4)#4	(8)#9	---	---	#5@12"	#5@10"	---
P37A*	3'-11"	20'-0"	17'-6"	8'-6"	---	---	---	---	$\frac{1}{S27.42}$		273	8	(4)#4	(8)#9	---	---	#5@12"	#5@10"	---
P37B*	3'-11"	20'-0"	17'-6"	8'-6"	---	---	---	---	$\frac{1}{S27.24}$		273	8	(4)#4	(8)#9	---	---	#5@12"	#5@10"	---
P38	8'-6"	25'-0"	22'-6"	13'-6"	---	---	--	--	$\frac{1}{S27.31}$		535	20	(8)#4	(18)#10	---	---	#5@12"	#5@6"	---
P40	9'-6"	25'-0"	22'-6"	13'-6"	---	---	--	--	$\frac{1}{S27.32}$		592	22	(8)#4	(20)#10	---	---	#5@12"	#5@5"	---
P41	3'-0"	15'-8"	13'-2"	4'-2"	---	---	YES	---	$\frac{1}{S27.33}$		162	6	(4)#4	(6)#8	---	---	#5@12"	#5@12"	---
P41A	3'-0"	15'-8"	13'-6 1/2"	4'-6 1/2"	---	---	---	---	$\frac{1}{S27.34}$		162	6	(4)#4	(6)#8	---	---	#5@12"	#5@12"	---
P50*	12'-6" [7'-0"]	25'-0"	22'-6"	---	---	---	--	--	$\frac{1}{S27.35}$			---	---	(16)#10	---	---	---	---	#5@10"
P50A	12'-6" [7'-0"]	25'-0"	22'-6"	---	---	---	--	YES	$\frac{1}{S27.35}$			---	---	(16)#10	---	---	---	---	#5@10"
P51*	10'-7 3/16" [7'-5"]	VAR	VAR	---	---	---	YES	--	$\frac{1}{S27.41}$			---	---	(14)#10	---	---	---	---	#5@10"
P52*	10'-7" [7'-5"]	25'-0"	22'-6"	---	---	---	--	--	$\frac{1}{S27.36}$			---	---	(14)#10	---	---	---	---	#5@10"
P53	6'-3 7/16" [0'-9 1/4"]	25'-0"	22'-6"	---	---	---	YES	--	$\frac{1}{S27.40}$			---	---	(5)#10	---	---	---	---	#5@10"

NOTES:

1. SEE NOTE S26.1 FOR NOTES.
- * INDICATES DECK PANEL SHALL NOT BE FABRICATED UNTIL POST DEMOLITION SURVEY IS COMPLETE AND CONFIRMED.

6552

S26.4

SH 289 OF 499

CON/CONS: 070136
M. ID: 091251
PHASE: BID

PIER 4 PHASE 2
RECONFIGURATION
DECK PANEL SCHEDULE - SHEET 4

TOWNSHIP: 21N
RANGE: 3E
DATE-HRZ: WA83-SF
PARCEL: [DRAWING SCALE: AS NOTED]

SECTION: 27
MLLW 19.39' @ Tide 22 1933
VERT: [DRAWING SCALE: AS NOTED]

APPROVED: *[Signature]*
3-28-16

DIRECTOR ENG. DATE
PRINTED BY: Hemons Mar 24, 2016
PORT ADDRESS: ONE SITCOM PLAZA
TACOMA, WA 98401-1837

SEK
CHECKED BY
DATE
TAH
PROJ. ENGR
DATE

6552

S26.4

SH 289 OF 499

2407 North 31st Street, Suite 100
Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162

kpff

Part of Tacoma

P.O. BOX 687 TACOMA, WA 98401 (203)85-8841

91-52-15

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REVISION: []

BY: []

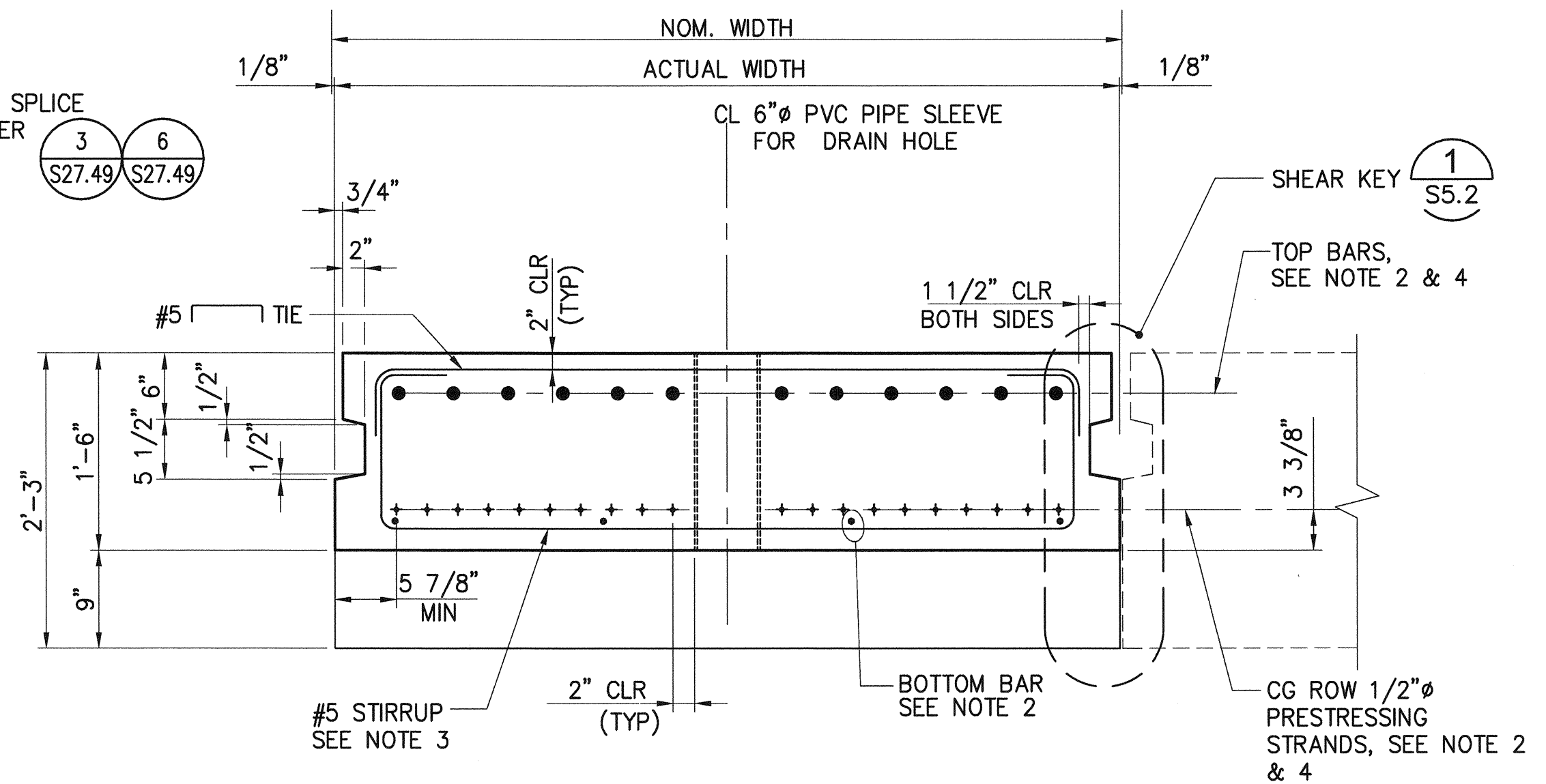
DATE: []

APPR: []

NOTES:

1. SEE NOTE S26.1 FOR NOTES.
2. * INDICATES DECK PANEL SHALL NOT BE FABRICATED UNTIL POST DEMOLITION SURVEY IS COMPLETE AND CONFIRMED.

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A TYPICAL DECK PANEL SECTION

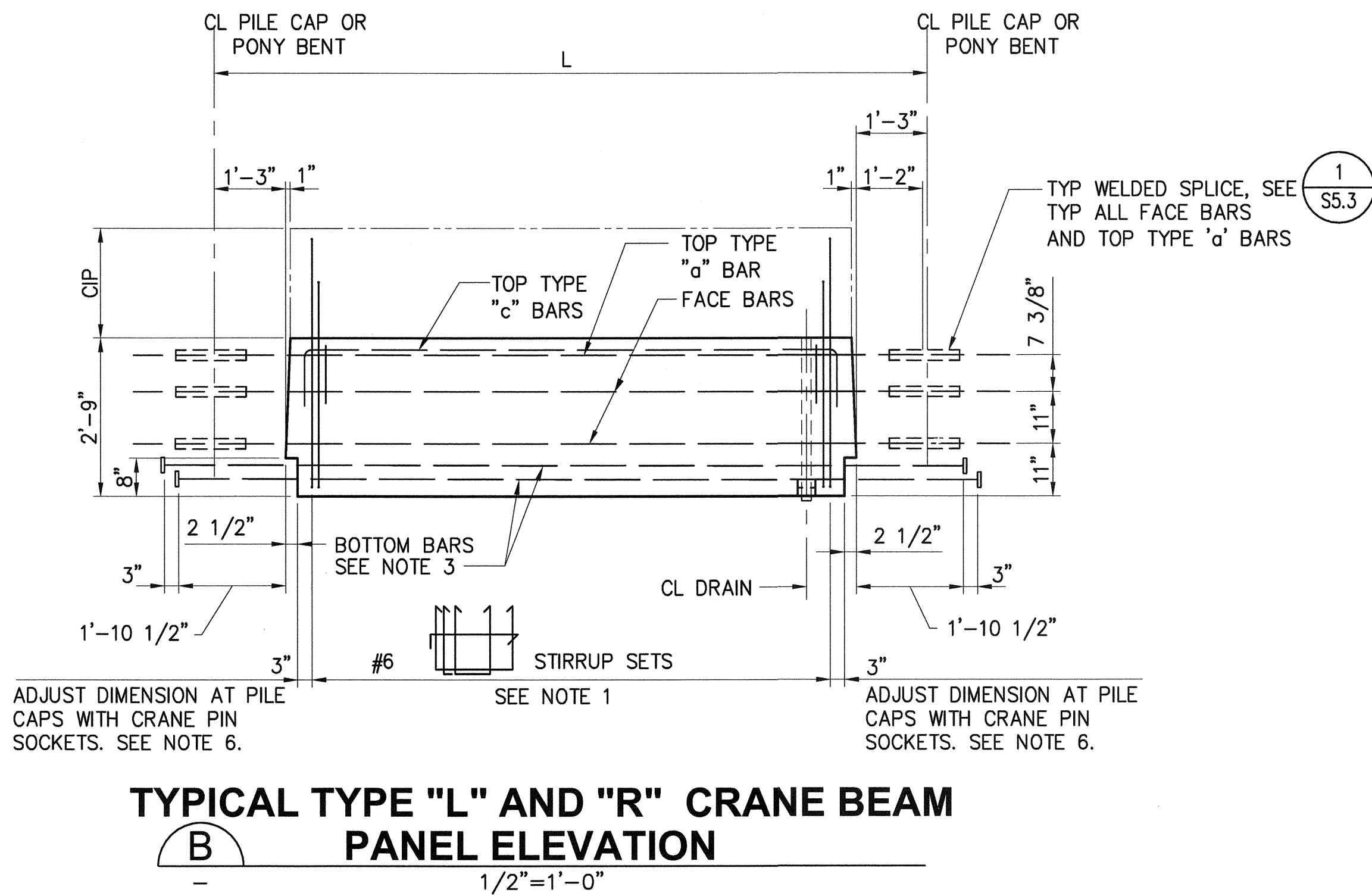
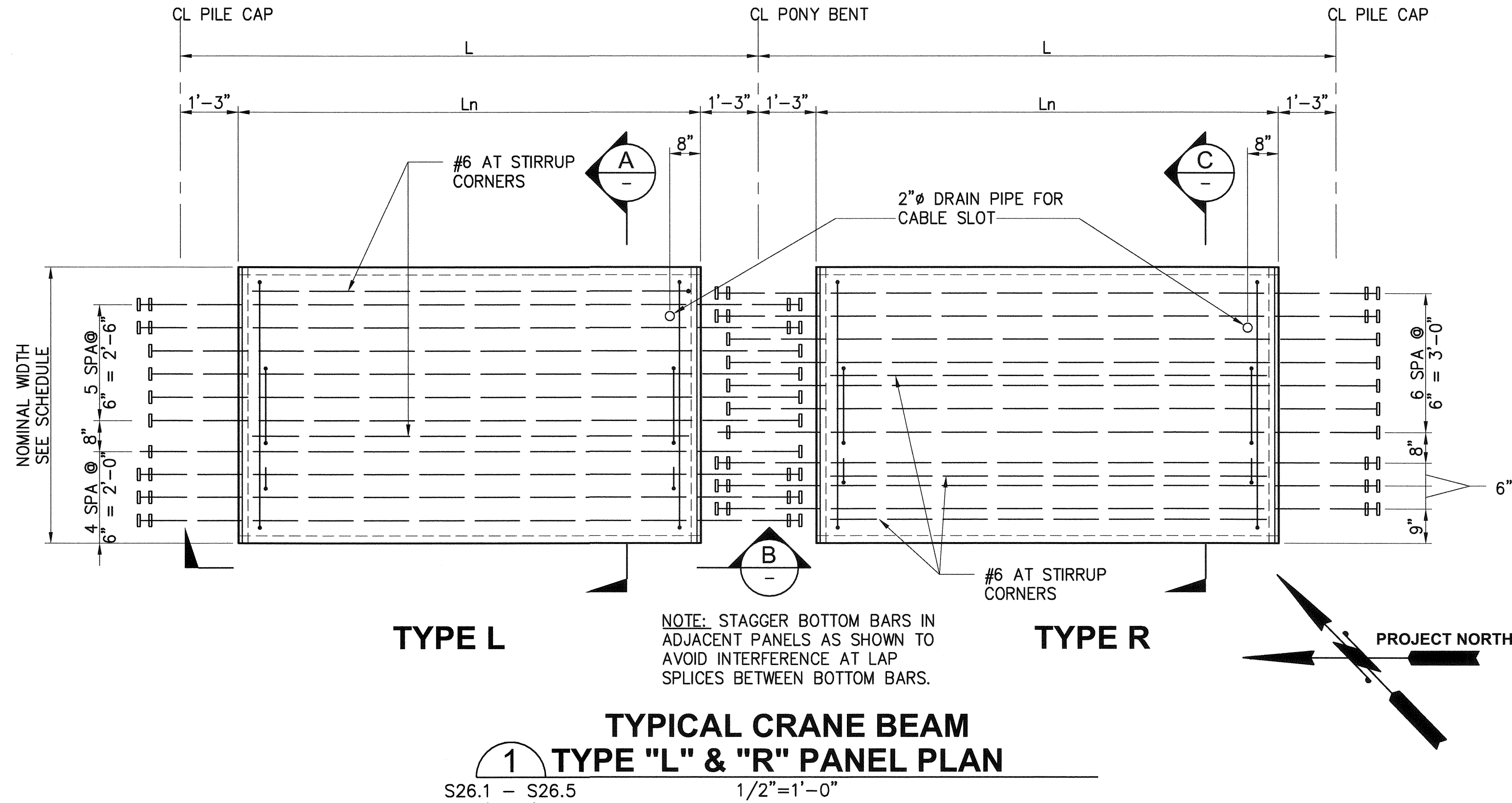


1. USE THIS SHEET FOR DECK PANEL TYPES: P5, P5A, P5B, P5E, P6, P6A, P6B, P6E, P35, P35A, P35B
2. FOR DECK PANEL SCHEDULE, SEE S26.1 – S26.5
3. PROVIDE 135° HOOKS ON STIRRUPS AND TIES FOR PANEL TYPES P35, P35A, P35B

ALTERNATE HOOK — #5 TIE
#5 STIRRUP

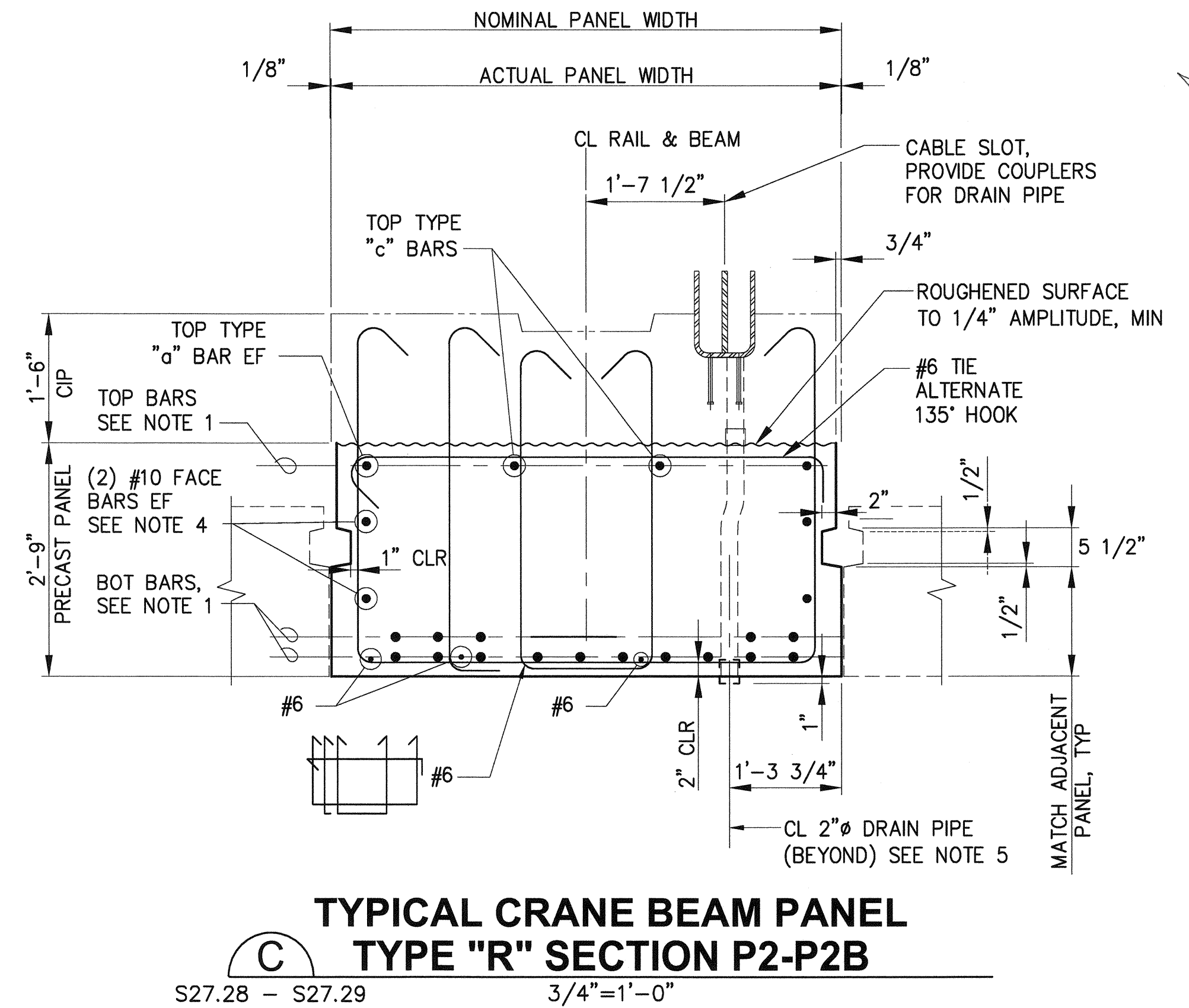
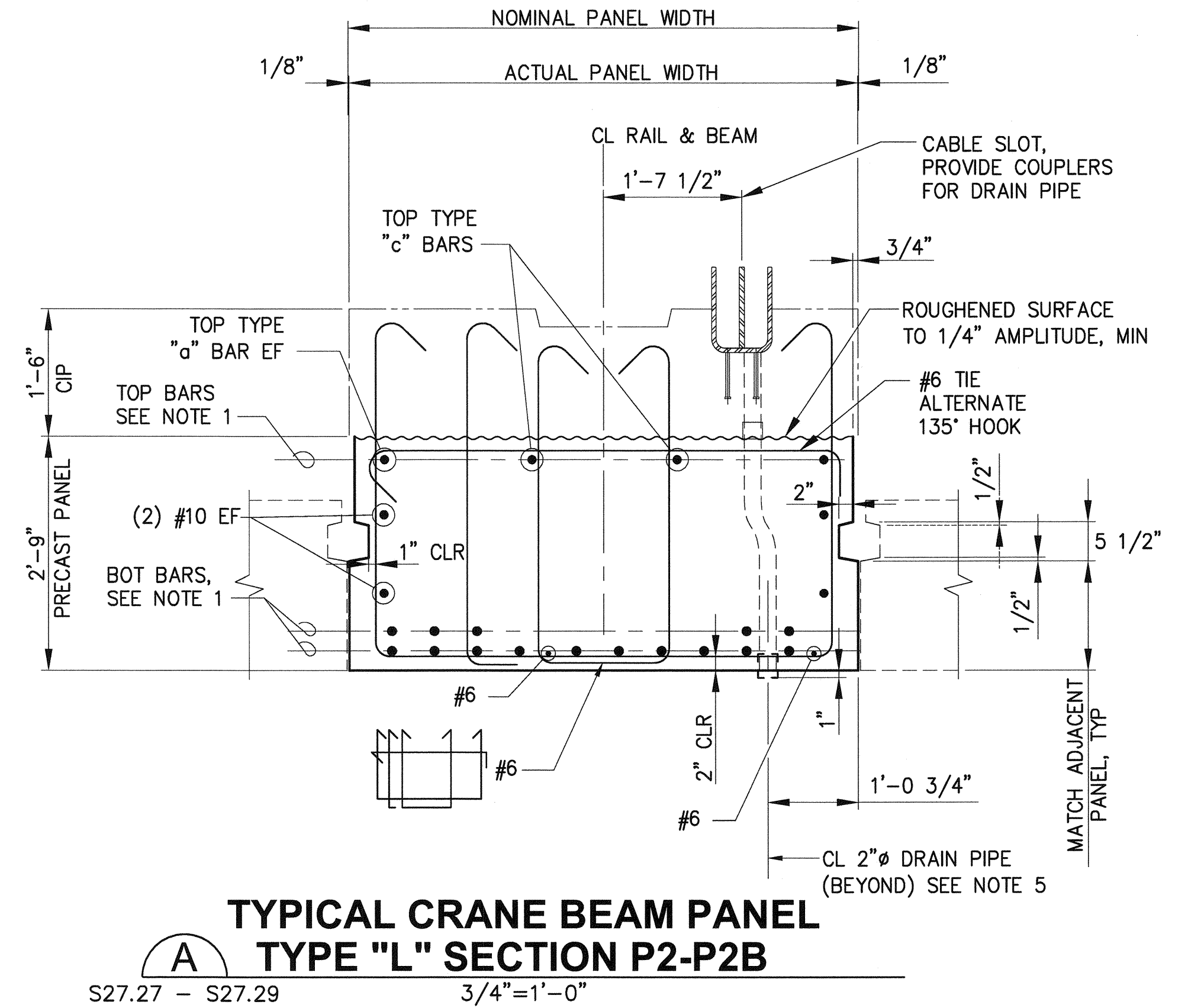
4. STRANDS (BARS) SHOWN ON THIS DETAIL ARE SCHEMATIC, ACTUAL # OF STRANDS (BARS) SHALL BE ADJUSTED AS SHOWN ON SCHEDULE S26.1-S26.5. STRANDS (BARS) SHALL BE EQUALLY SPACED.

B TYPICAL DECK PANEL ELEVATION



NOTES:

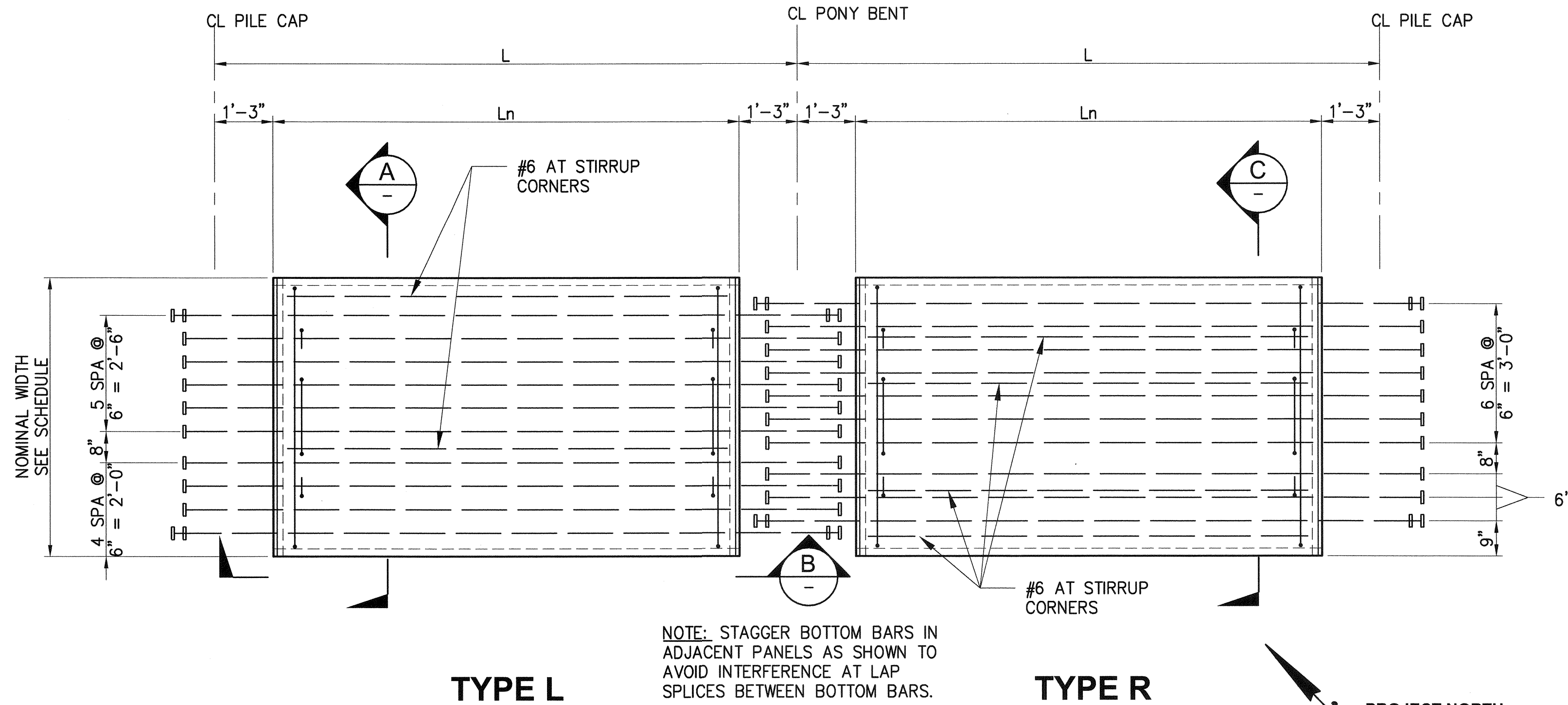
1. SEE DECK PANEL SCHEDULE, S26.1 - S26.5
2. USE THIS SHEET FOR PANEL TYPES P2 & P2B
3. PROVIDE HEADED REINFORCEMENT, SEE SPECIFICATIONS
4. PROVIDE ASTM A706 GRADE 60 REINFORCEMENT FOR ALL FACE BARS
5. 2"Ø FLEX PVC PIPE DRAIN WITH COUPLERS AT TOP AND BOTTOM OF PIPE.
6. COORDINATE PANELS WITH CRANE PIN SOCKET LOCATIONS PER SHEETS S5.1-S5.5. AT CRANE PIN SOCKETS CHANGE TYPICAL 3" DISTANCE TO 9" AND PROVIDE A DOUBLE STIRRUP SET.



Port of Tacoma
P.O. BOX 187 TACOMA, WA 98401 (206)984-8441

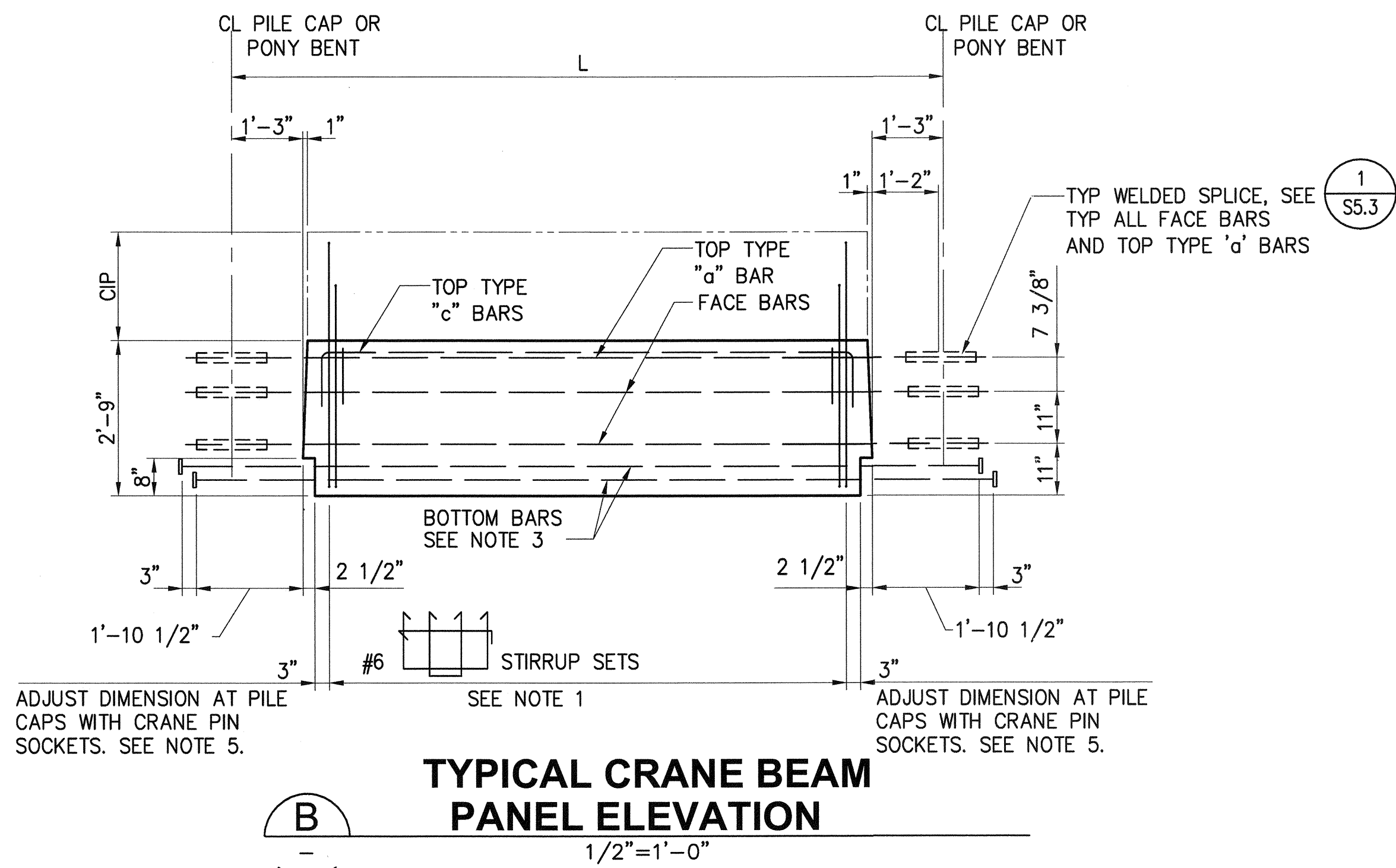
kpff
2407 North 31st Street, Suite 100
Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162

6552	PIER 4 PHASE 2				SEK	CHECKED BY	DATE
	RECONFIGURATION				TAH	PROJ. ENGR	DATE
DECK PANEL DETAILS - SHEET 2				DIRECTOR	ENG. DATE	PRINTED BY:	ITEMS
				3-28-16	27	Mar 24, 2016	
				TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	
				DAT-HRZ: WA03-SF	VERT: MLLW 19.39 @ Tide 22 1933		
				PARCEL:	DRAWING SCALE: AS NOTED		
				PHASE: BID			



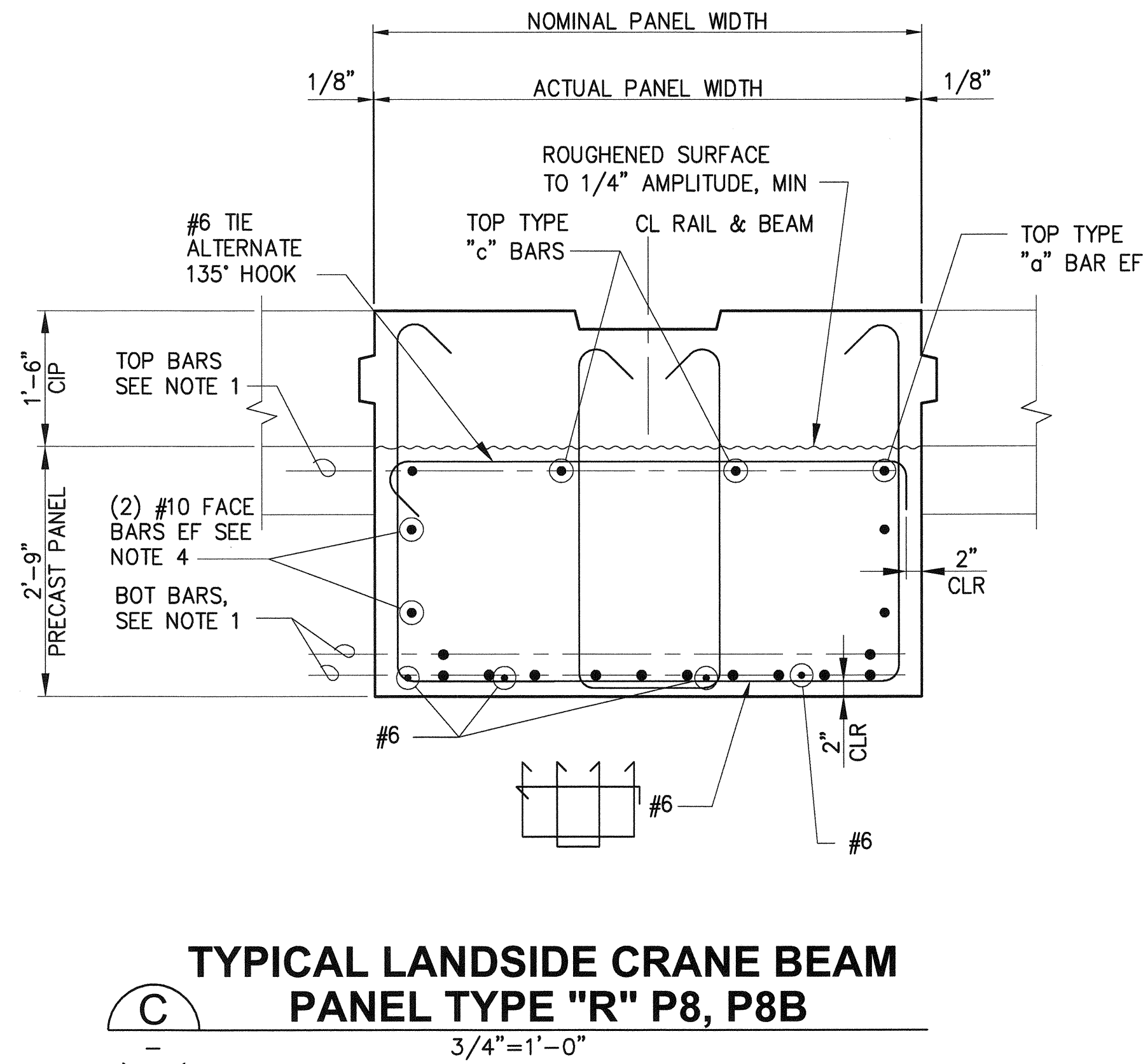
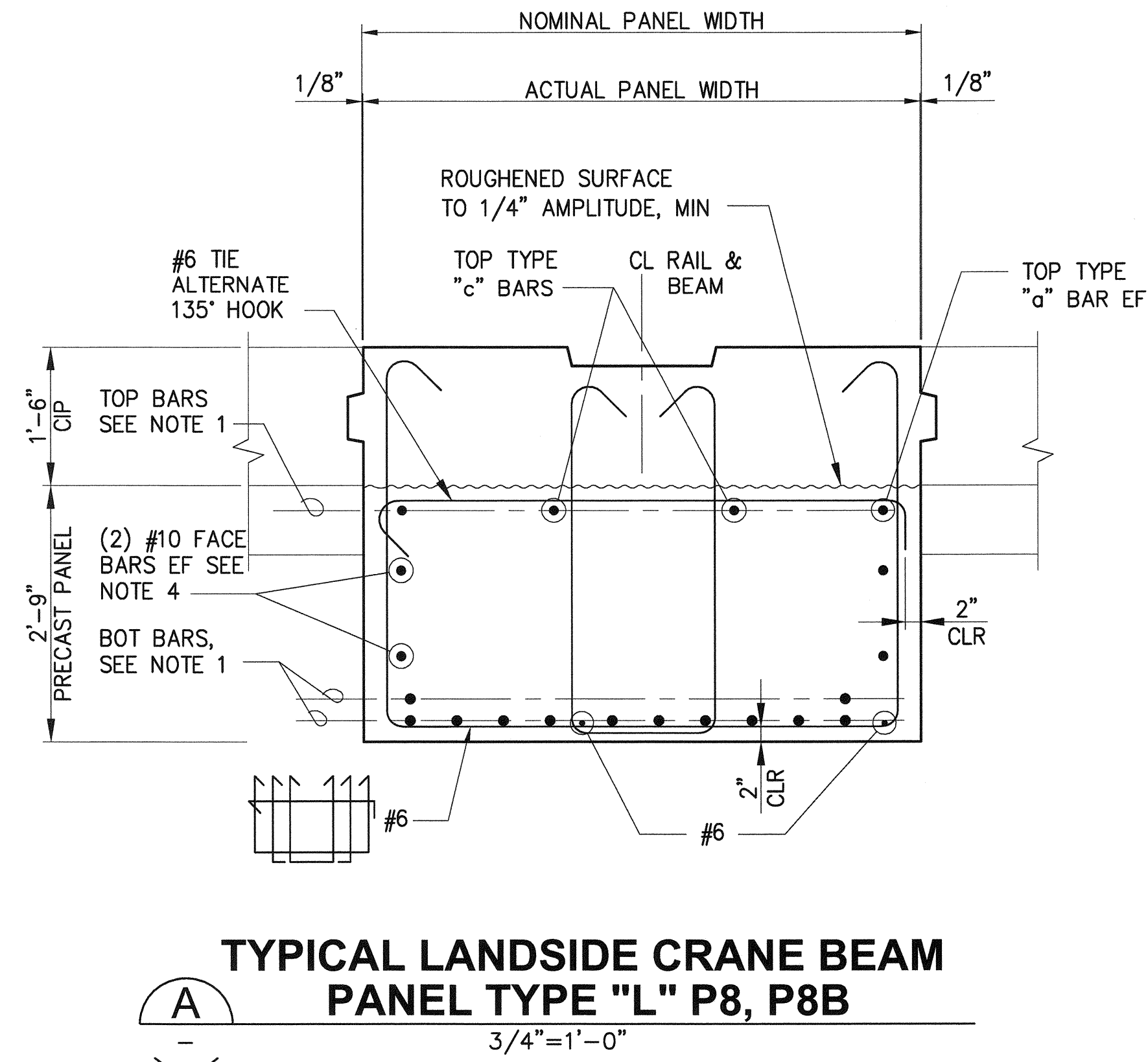
1
S26.1 - S26.5
1/2"=1'-0"

**TYPICAL CRANE BEAM
TYPE "L" & "R" PANEL PLAN**

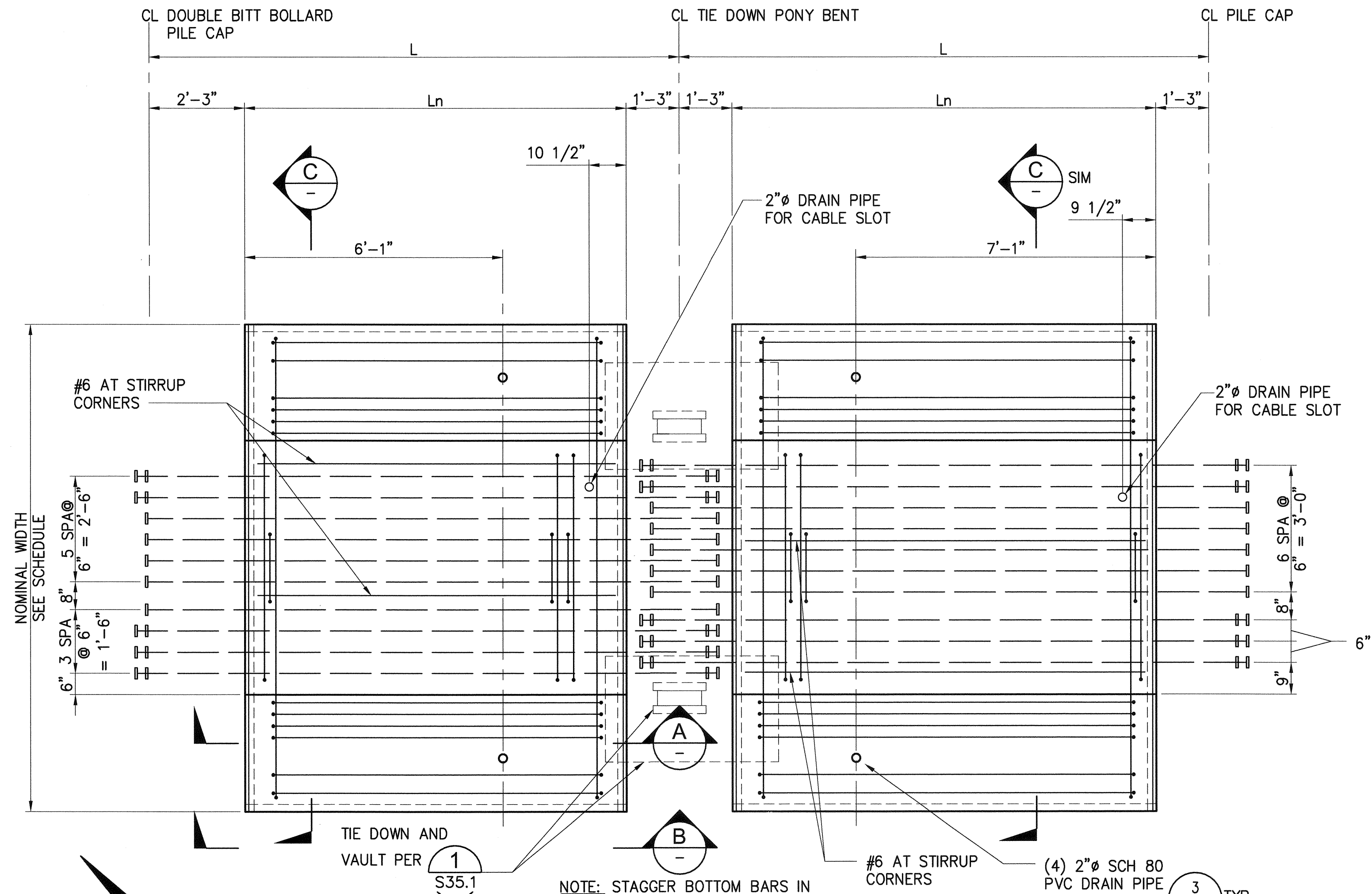


NOTES:

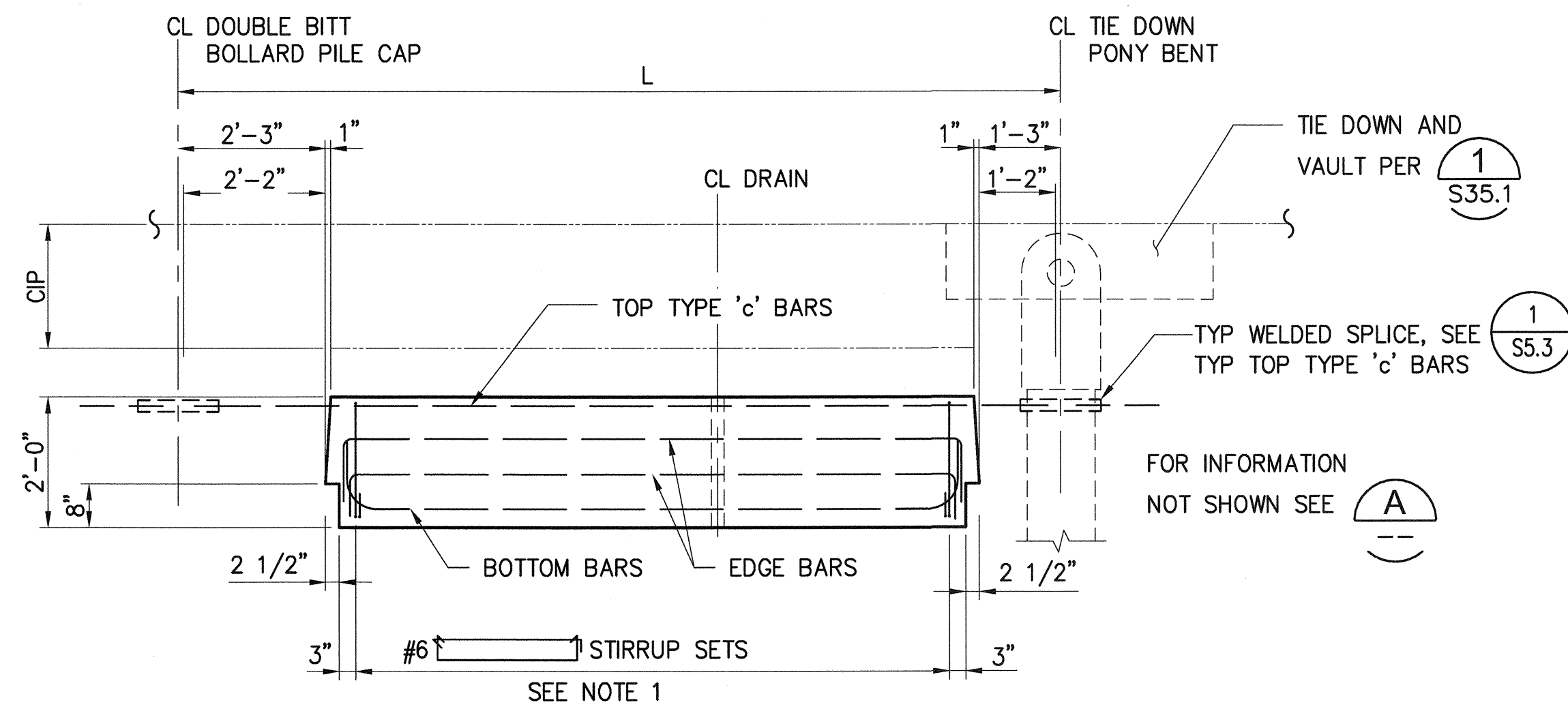
1. SEE DECK PANEL SCHEDULE, S26.1 - S26.5
2. USE THIS SHEET FOR PANEL TYPES P8 & P8B
3. PROVIDE HEADED REINFORCEMENT, SEE SPECIFICATIONS
4. PROVIDE ASTM A706 GRADE 60 REINFORCEMENT FOR ALL FACE BARS
5. COORDINATE PANELS WITH CRANE PIN SOCKET LOCATIONS PER SHEETS S5.1-S5.5. AT CRANE PIN SOCKETS CHANGE TYPICAL 3" DISTANCE TO 9" AND PROVIDE A DOUBLE STIRRUP SET.



6552 S27.3 SH 293 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 3				APPROVED: <i>[Signature]</i> 3-28-16	SEK CHECKED BY: TAH DATE: 3-28-16	2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 Port of Tacoma kpff
	CONTRACT: 070136 M. ID: 091251 PHASE: BID	TOWNSHIP: 21N RANGE: 3E SECTION: 27	PRINTED BY: ttenions DATE: Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	MARK: REVISION: BY: APPR: DATE:	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION		



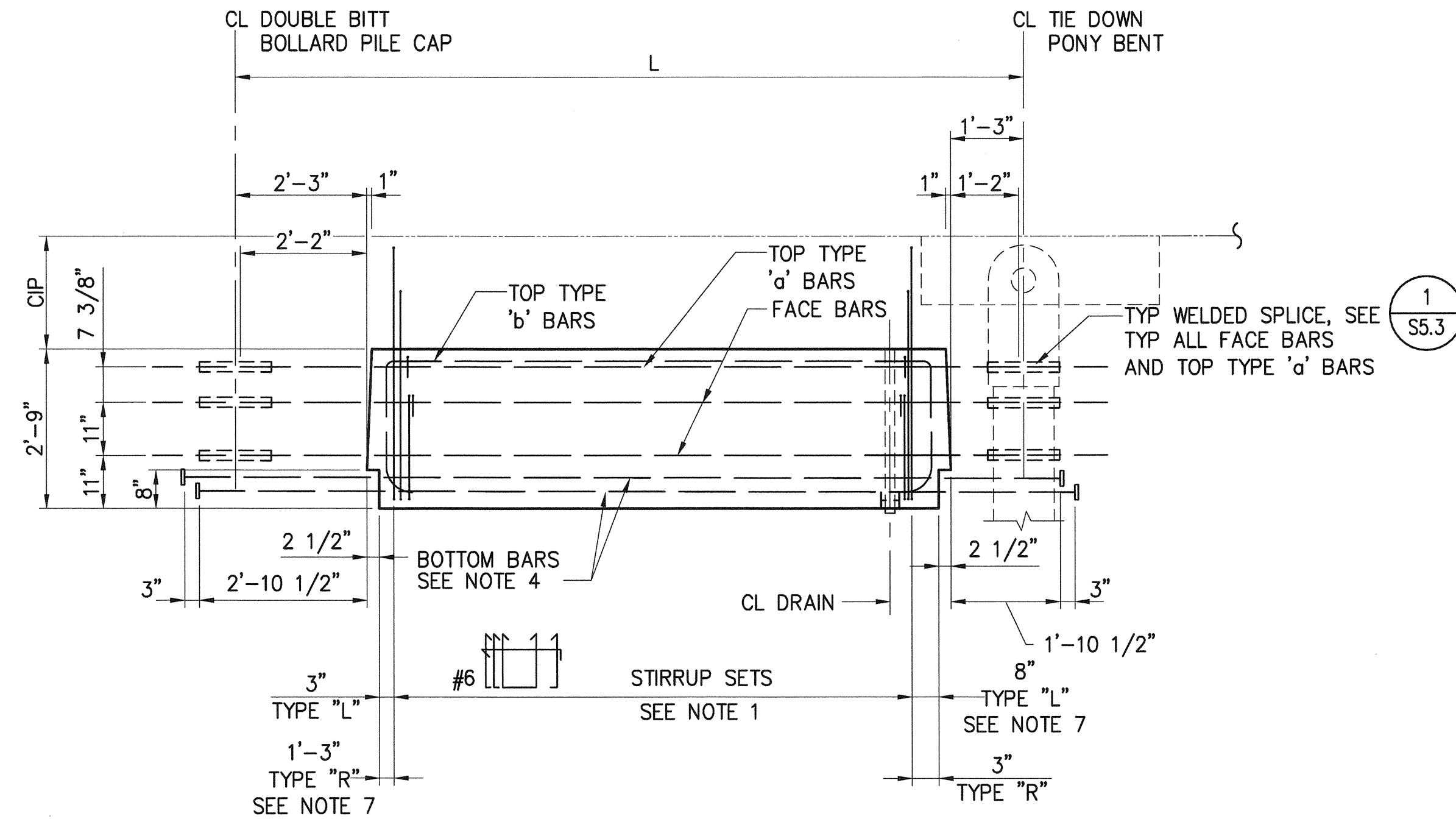
P2D TYPE L
P2G TYPE R
CRANE BEAM - P2D TYPE "L" AND P2G TYPE "R" PANEL PLAN
S26.1 - S26.5
1/2"=1'-0"



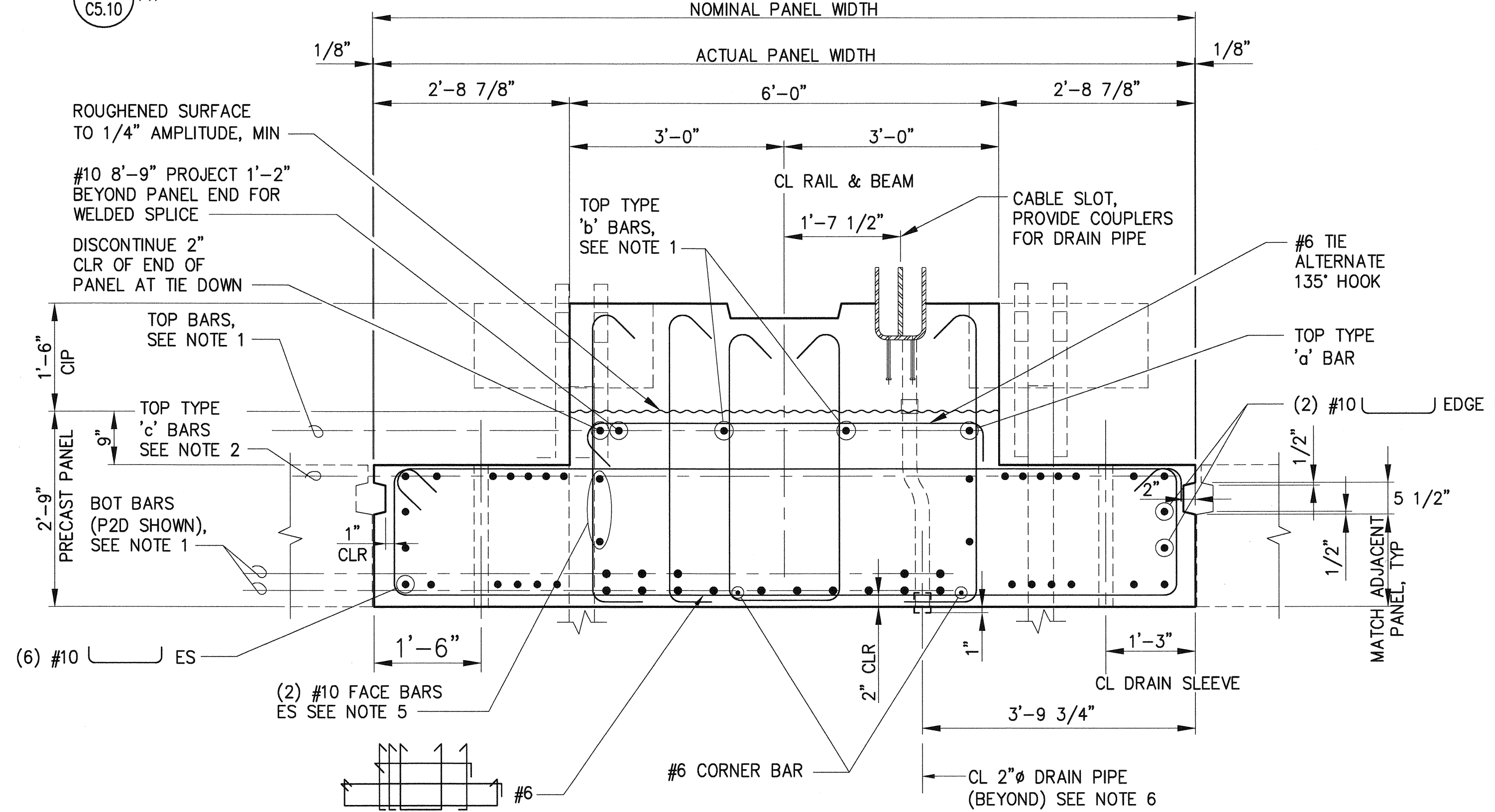
B CRANE BEAM PANEL ELEVATION
1/2"=1'-0"

NOTES:

1. SEE DECK PANEL SCHEDULE, S26.1 - S26.5
2. PROVIDE 'c' BARS TO MATCH SIZE AND NUMBER W/ADJACENT P1 & P3 PANEL BARS FOR WELD SPLICE
3. USE THIS SHEET FOR DECK PANEL TYPES P2D & P2G
4. PROVIDE HEADED REINFORCEMENT, SEE SPECIFICATIONS
5. PROVIDE ASTM A706 GRADE 60 REINFORCEMENT FOR ALL FACE BARS
6. 2"Ø FLEX PVC PIPE DRAIN WITH COUPLERS TO BE PLACED AT TOP AND BOTTOM OF PIPE
7. PROVIDE DOUBLE STIRRUP SET AT THIS END



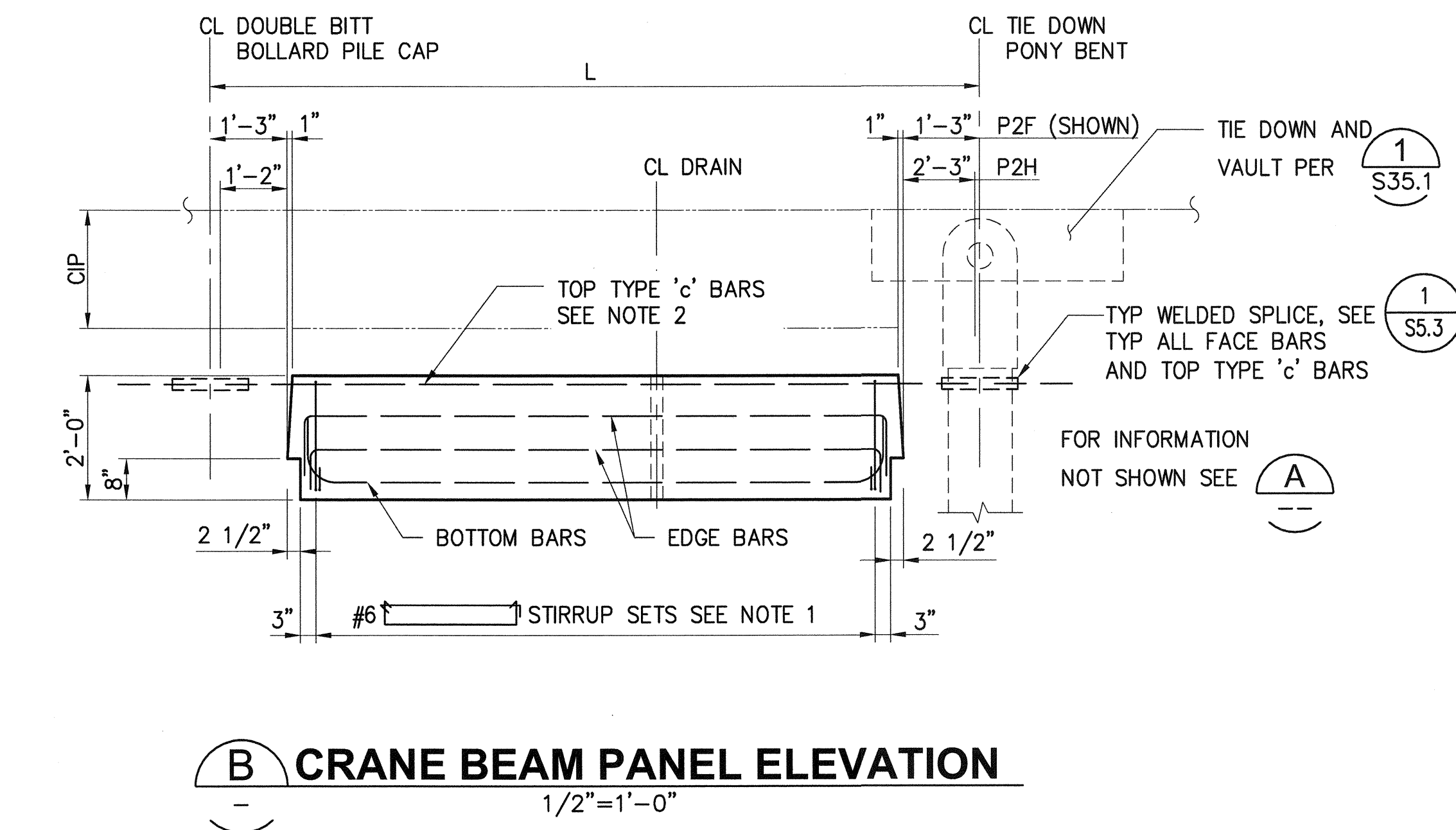
A CRANE BEAM PANEL SECTION
1/2"=1'-0"



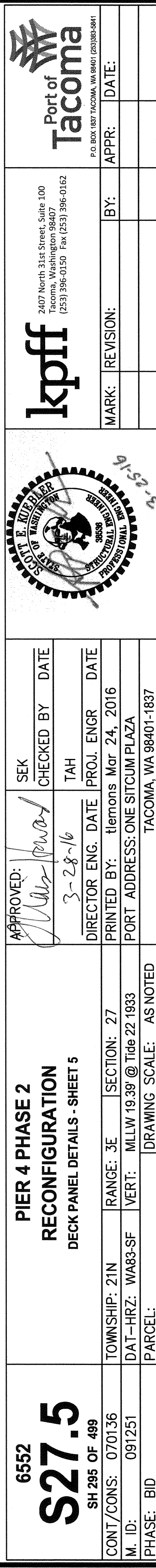
C WATER SIDE CRANE BEAM PANEL TYPE "L" SECTION, P2D & P2G & P2H
S27.5
3/4"=1'-0"

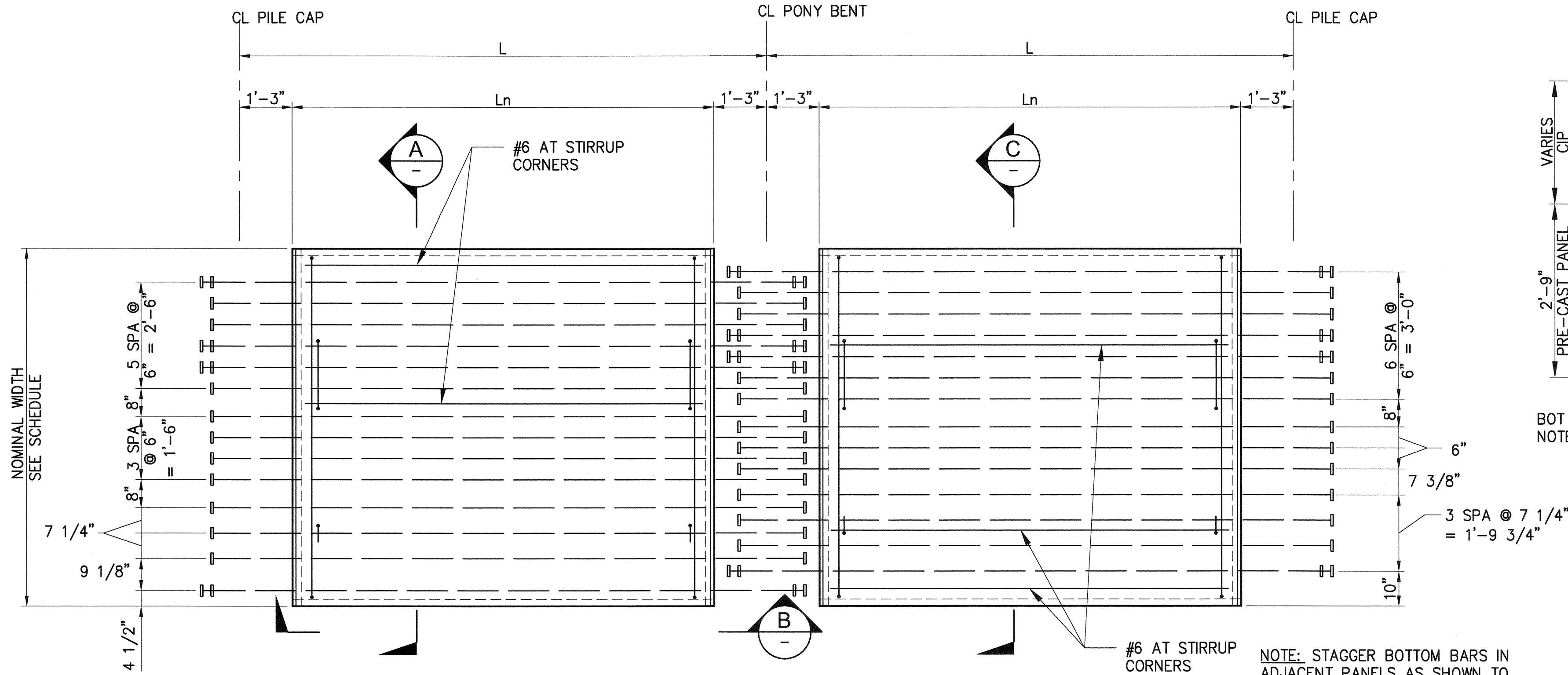
Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162	DATE:	
	APPR:	
kpff 91-52-2	BY:	
	REVISION:	
PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 4	SEK	
	CHECKED BY	DATE
6552 S27.4 SH 294 OF 499	TAH	
	PROJ. ENGR	DATE
CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLW 19.39' @ Tide 22 1983
PHASE: BID	PARCEL:	DRAWING SCALE: AS NOTED

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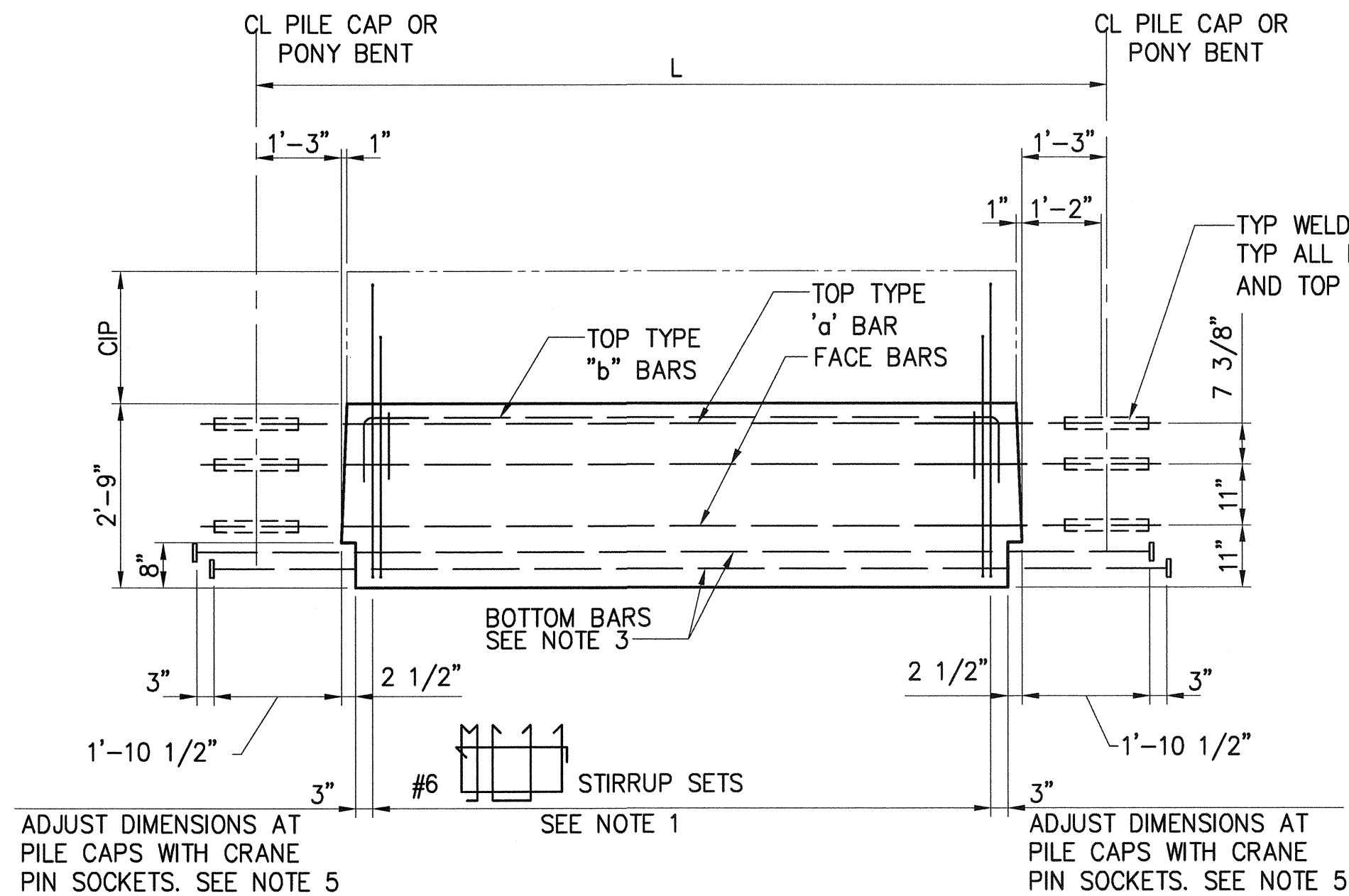
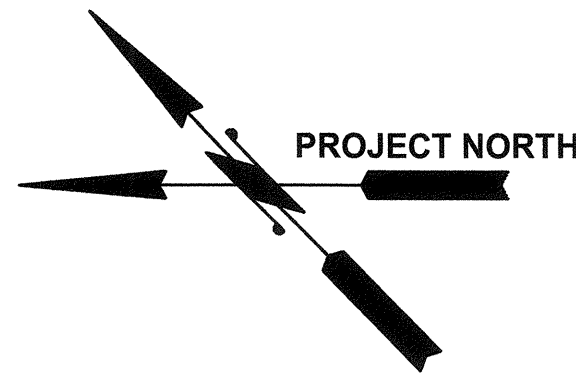
1. SEE DECK PANEL SCHEDULE, S26.1 – S26.5
2. ALIGN 'c' BARS W/ADJACENT P1 & P3 PANEL BARS FOR LAP SPLICE
3. USE THIS SHEET FOR DECK PANEL TYPES P2F & P2H
4. PROVIDE HEADED REINFORCEMENT, SEE SPECIFICATIONS
5. PROVIDE ASTM A706 GRADE 60 REINFORCEMENT FOR ALL FACE BARS
6. 2"Ø FLEX PVC PIPE DRAIN WITH COUPLERS TO BE PLACED AT TOP AND BOTTOM OF PIPE
7. PROVIDE DOUBLE STIRRUP SET AT THIS END



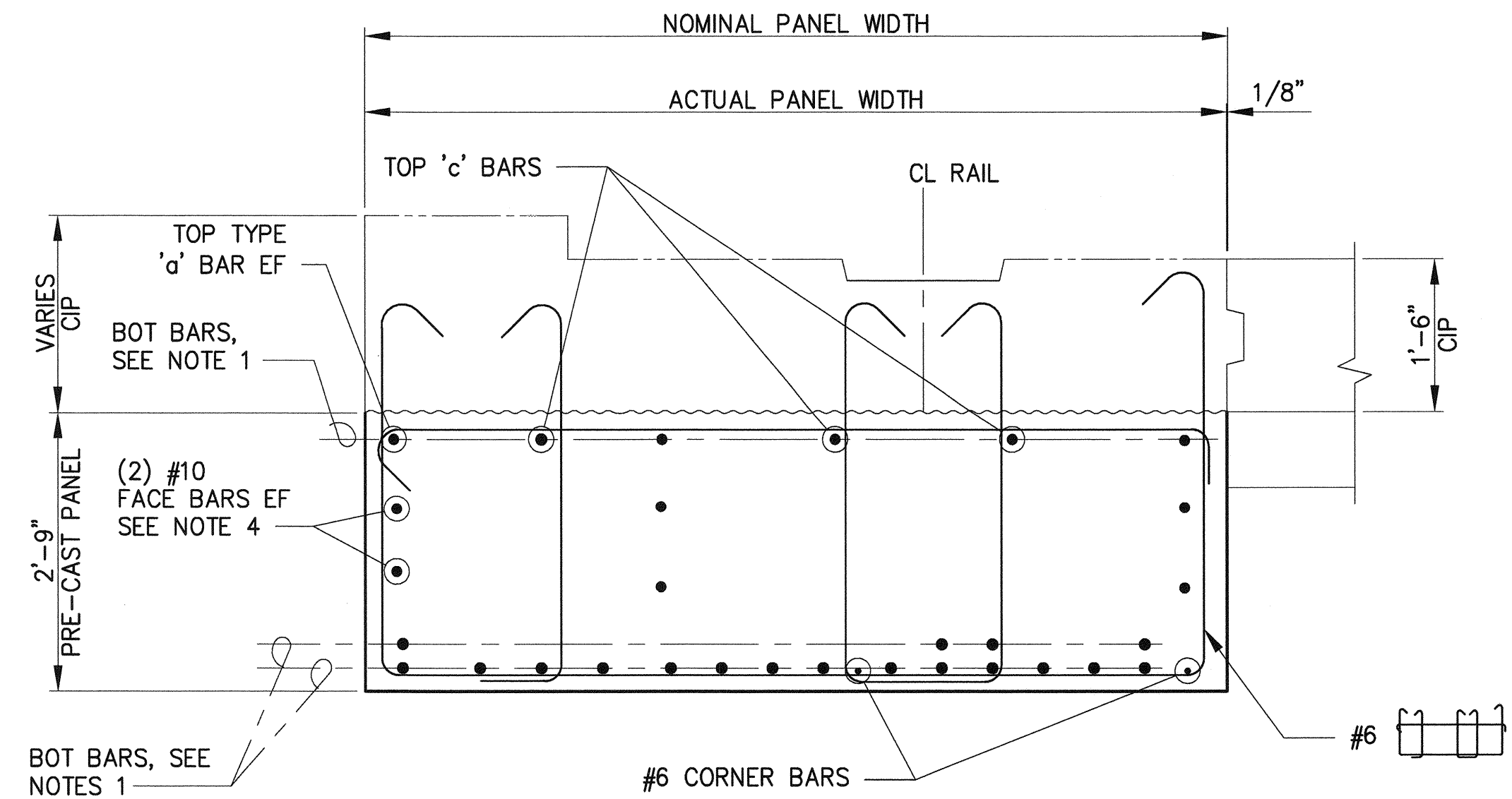


TYPE L
CRANE BEAM - P8C TYPE "L" AND "R"
PANEL PLAN
1
S26.1 - S26.5
1/2"=1'-0"

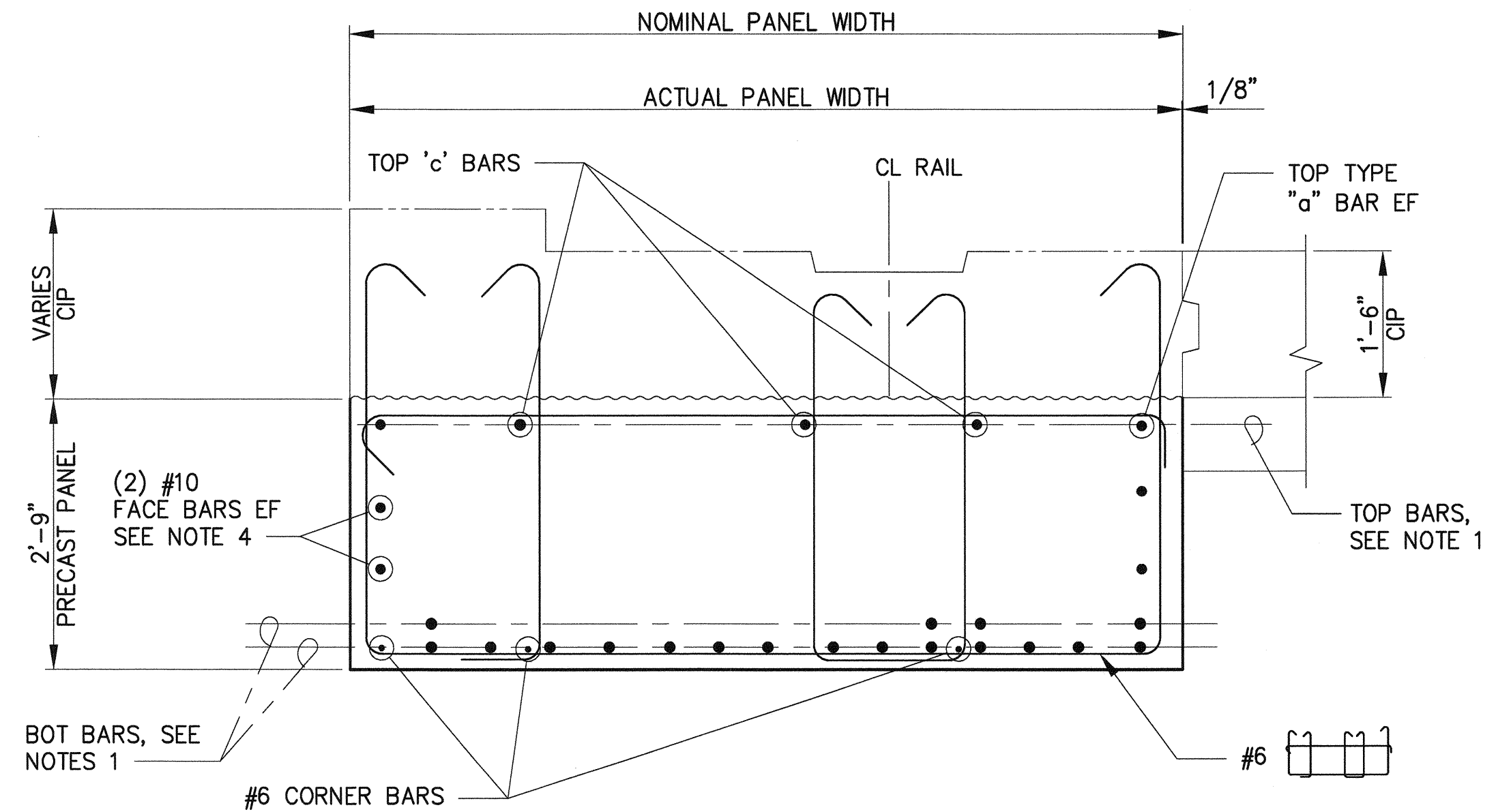
NOTE: STAGGER BOTTOM BARS IN ADJACENT PANELS AS SHOWN TO AVOID INTERFERENCE AT LAP SPLICES BETWEEN BOTTOM BARS.



CRANE BEAM
PANEL ELEVATION
B
1/2"=1'-0"



WIDE LANDSIDE CRANE BEAM PANEL
SECTION TYPE "L" P8C
A
3/4"=1'-0"



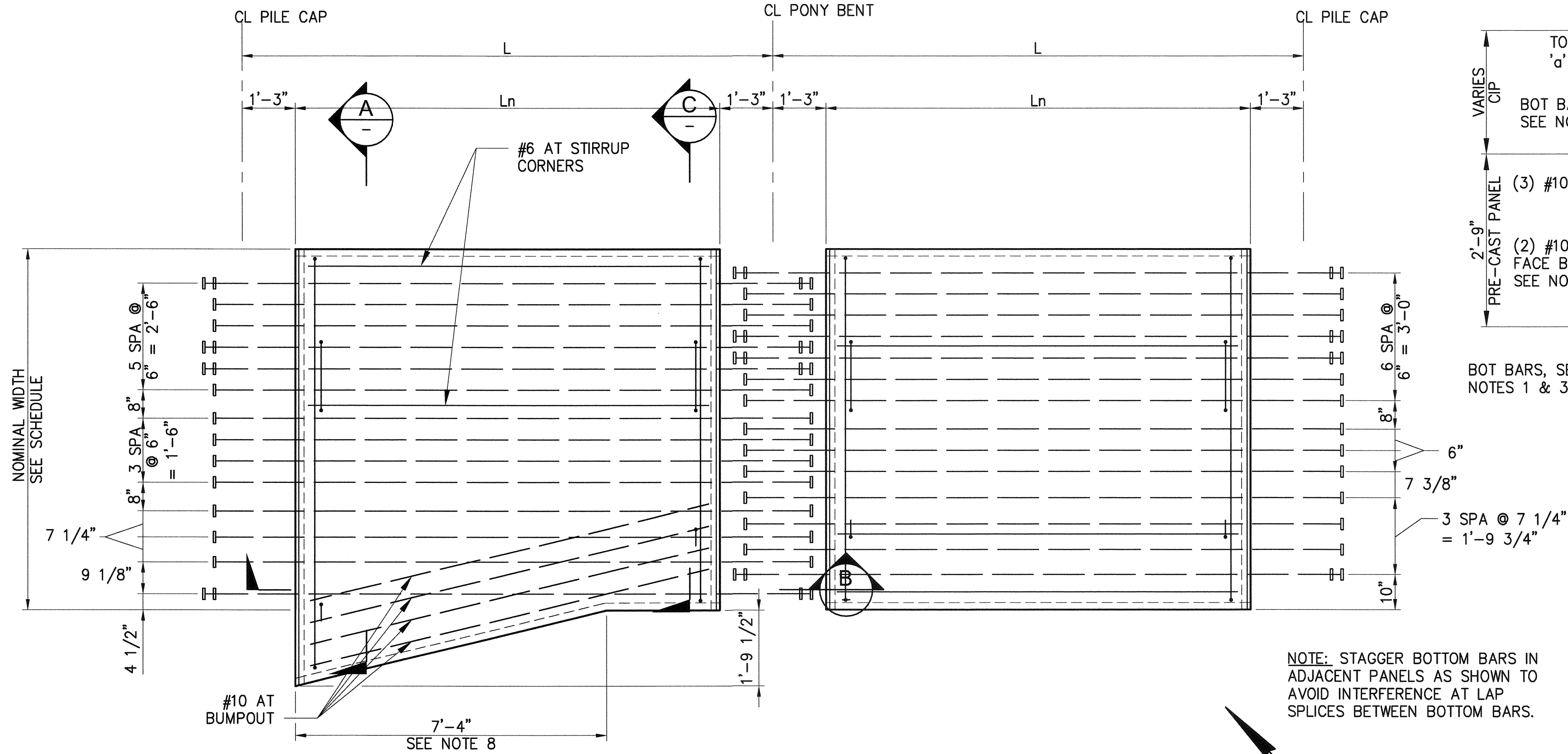
CRANE BEAM PANEL
SECTION TYPE "R" P8C
C
3/4"=1'-0"

NOTES:

- SEE DECK PANEL SCHEDULE, S26.1 - S26.5
- USE THIS SHEET FOR PANEL TYPE P8C
- PROVIDE HEADED REINFORCEMENT, SEE SPECIFICATIONS
- PROVIDE ASTM A706 GRADE 60 REINFORCEMENT FOR ALL FACE BARS
- COORDINATE PANELS WITH CRANE PIN SOCKET LOCATIONS PER SHEETS S5.1-S5.5. AT CRANE PIN SOCKETS CHANGE TYPICAL 3" DISTANCE TO 9" AND PROVIDE A DOUBLE STIRRUP SET.

6552 S27.6 SH 296 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 6				 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401 (253)883-0841		APPROVED: <i>David J. Brown</i>	SEK	CHECKED BY: <i>David J. Brown</i>	DATE
	CONTR/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27			DIRECTOR ENG. DATE: 3-28-16	TAH	PROJ. ENGR DATE	DATE
PHASE: BID	M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	PRINTED BY: tiemoms Mar 24, 2016	PORT ADDRESS: ONE SITCUM PLAZA	REVISION:	BY:	APPR:	DATE:	

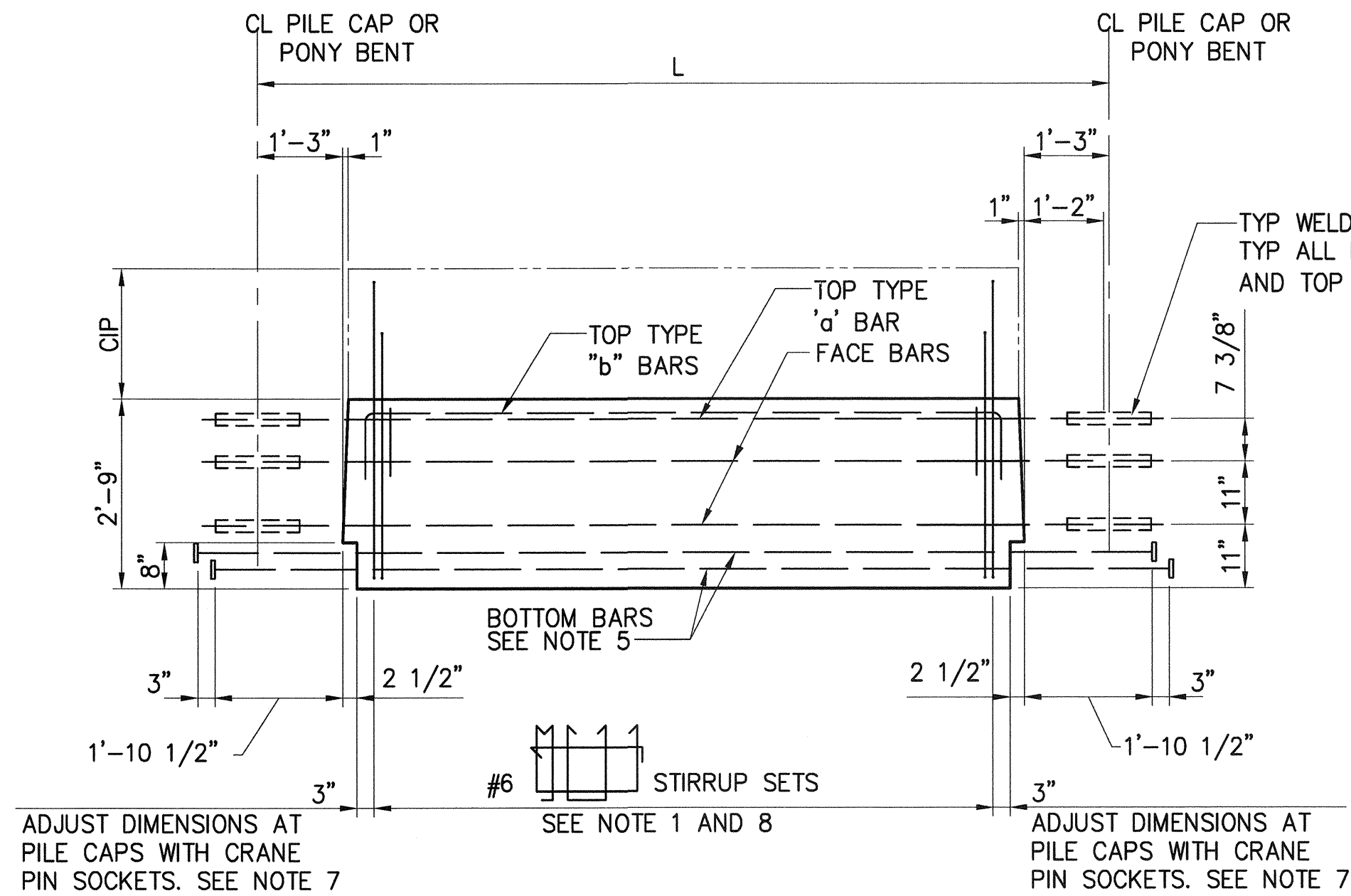
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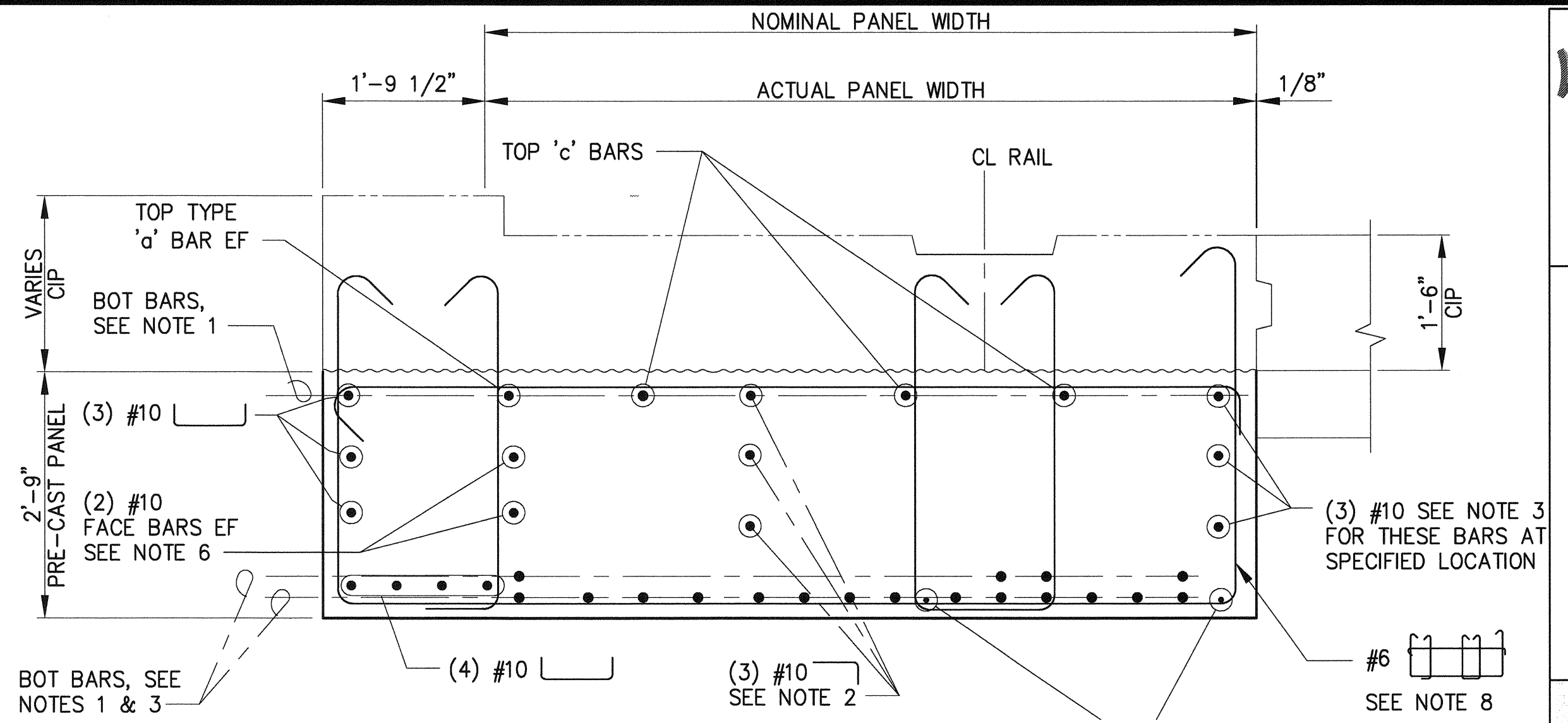
TYPE L (P8H)

TYPE R (P8C)

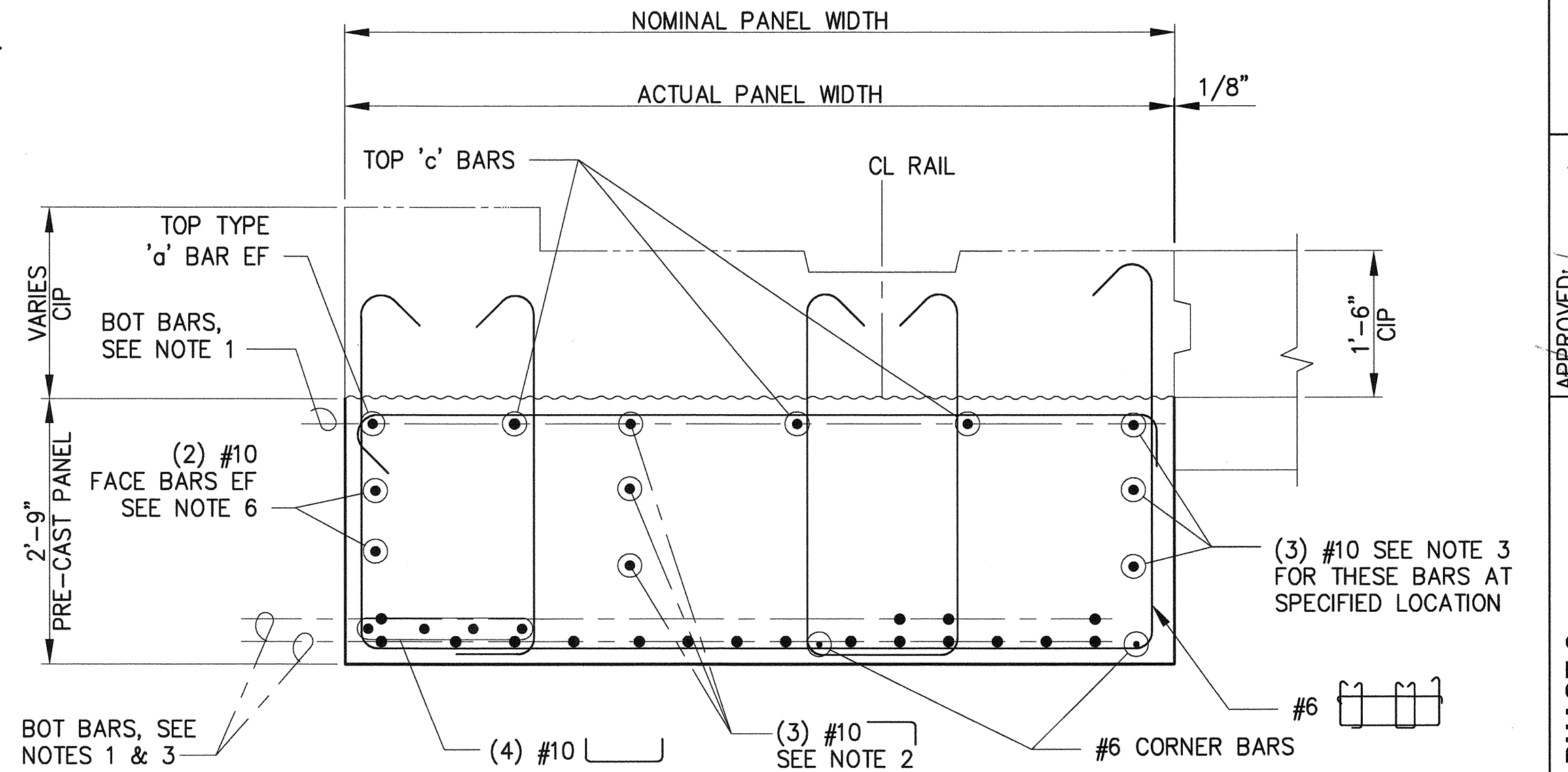
CRANE BEAM - P8C TYPE "L" AND "R" PANEL PLAN



CRANE BEAM PANEL ELEVATION



WIDE LANDSIDE CRANE BEAM PANEL SECTION TYPE "L" P8H



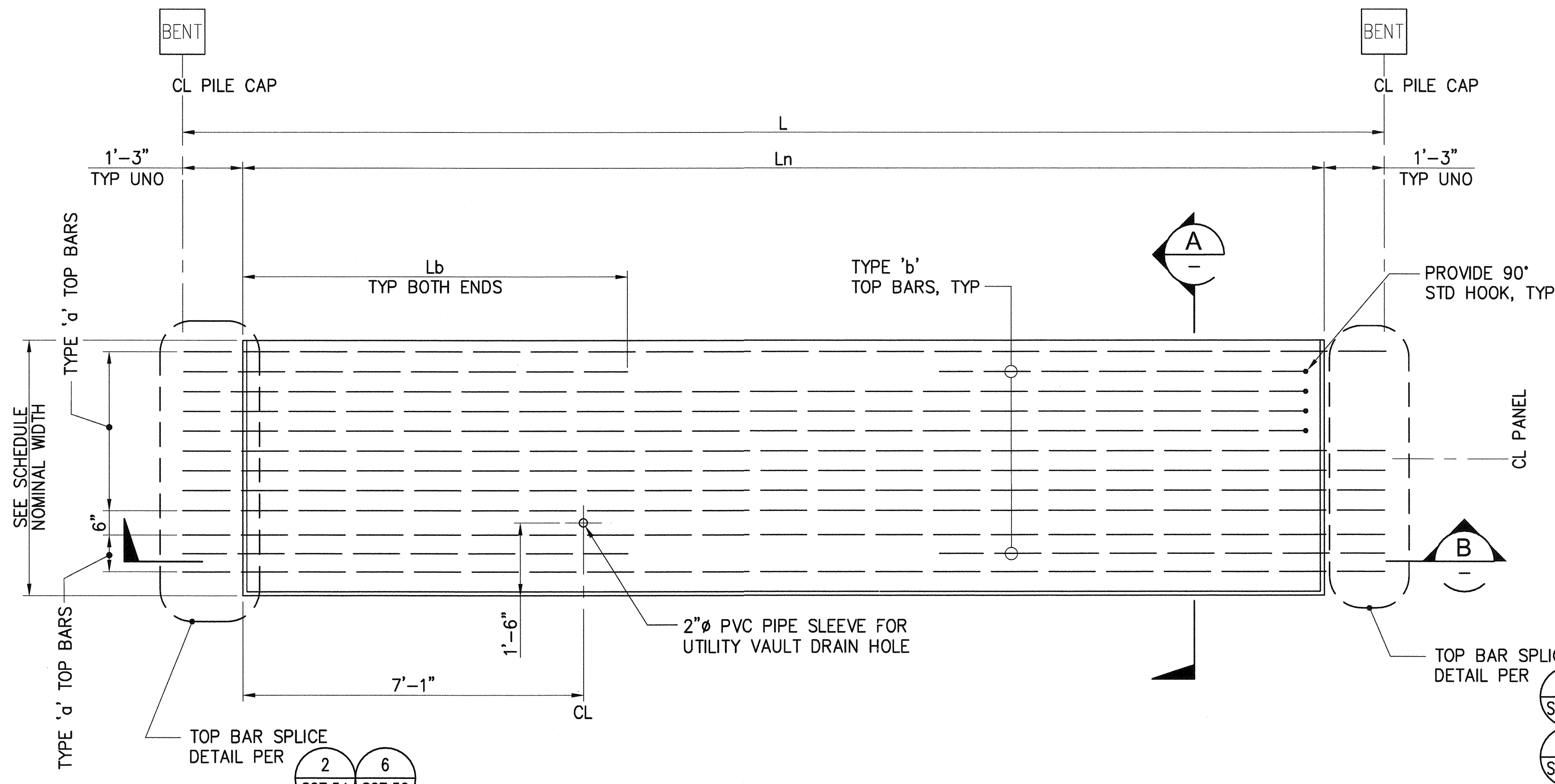
CRANE BEAM PANEL SECTION TYPE "R" P8H

NOTES:

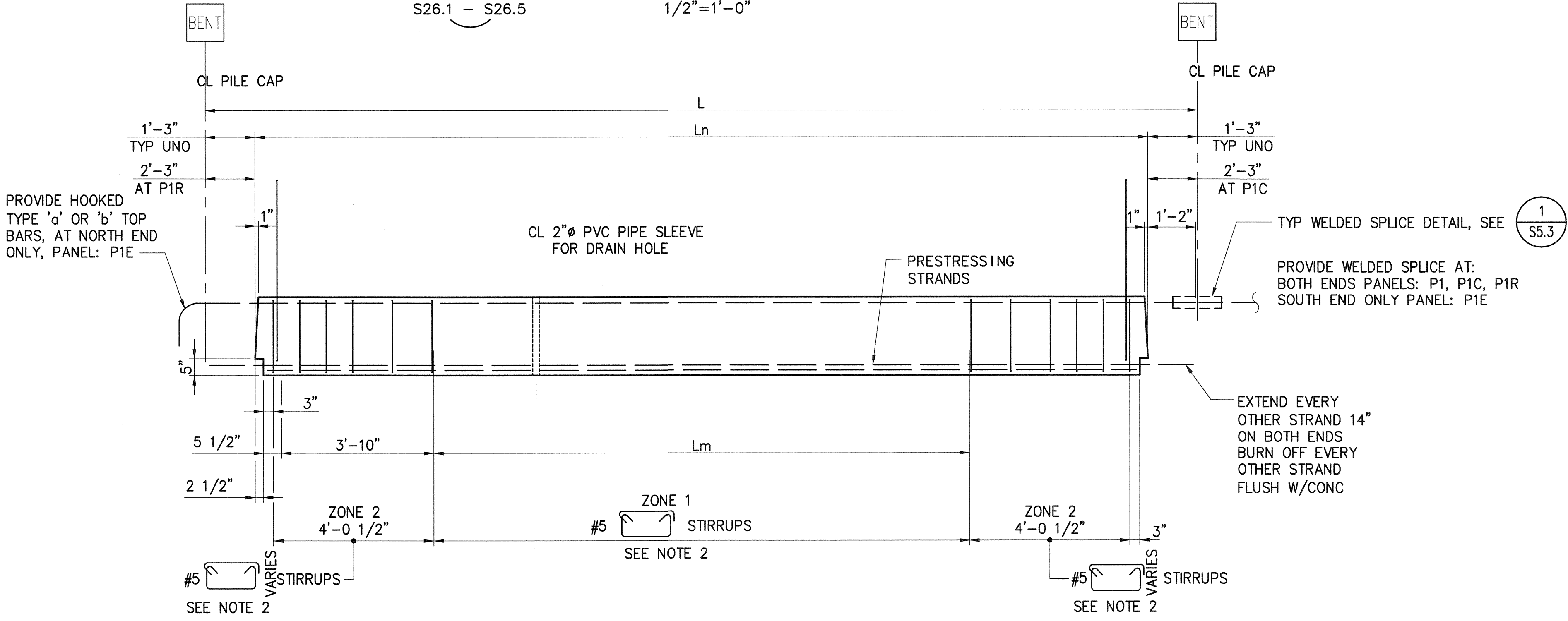
- SEE DECK PANEL SCHEDULE, S26.1 - S26.5
- PROVIDE (3) #10 BARS AT PANEL P8C AT BENT TO SPlice WITH FACE BARS FROM TYPICAL P8 PANEL, THESE BARS NOT REQUIRED AT OTHER P8C PANELS.
- ALIGN TO SPlice THESE BARS @ BENT TO TYPICAL P8 PANEL
- USE THIS SHEET FOR PANEL TYPE P8H
- PROVIDE HEADED REINFORCEMENT, SEE SPECIFICATIONS
- PROVIDE ASTM A706 GRADE 60 REINFORCEMENT FOR ALL FACE BARS
- COORDINATE PANELS WITH CRANE PIN SOCKET LOCATIONS PER SHEETS S5.1-S5.5. AT CRANE PIN SOCKETS CHANGE TYPICAL 3" DISTANCE TO 9" AND PROVIDE A DOUBLE STIRRUP SET.
- STIRRUP WIDTH VARIES FROM NORTH FACE OF PANEL TO 7'-4" SOUTH.

6552 S27.6A SH 297 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 6A				Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401 (253) 396-8841
	CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	
M. ID: 091251	DATE-HRZ: WA83-SF	DATE: 1939	PRINTED BY: temons Mar 24, 2016	DATE: 3-28-16	kpff 91-32-16
PHASE: BID	PARCEL: AS NOTED	DRAWING SCALE: AS NOTED	PORT ADDRESS: ONE SITCUM PLAZA	TACOMA, WA 98401-1837	
APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR ENG. DATE: temons Mar 24, 2016 PRINTED BY: temons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837					Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401 (253) 396-8841
SEK CHECKED BY DATE TAH PROJ. ENGR DATE 3-28-16 temons Mar 24, 2016 DIRECTOR ENG. DATE: temons Mar 24, 2016 PRINTED BY: temons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837					

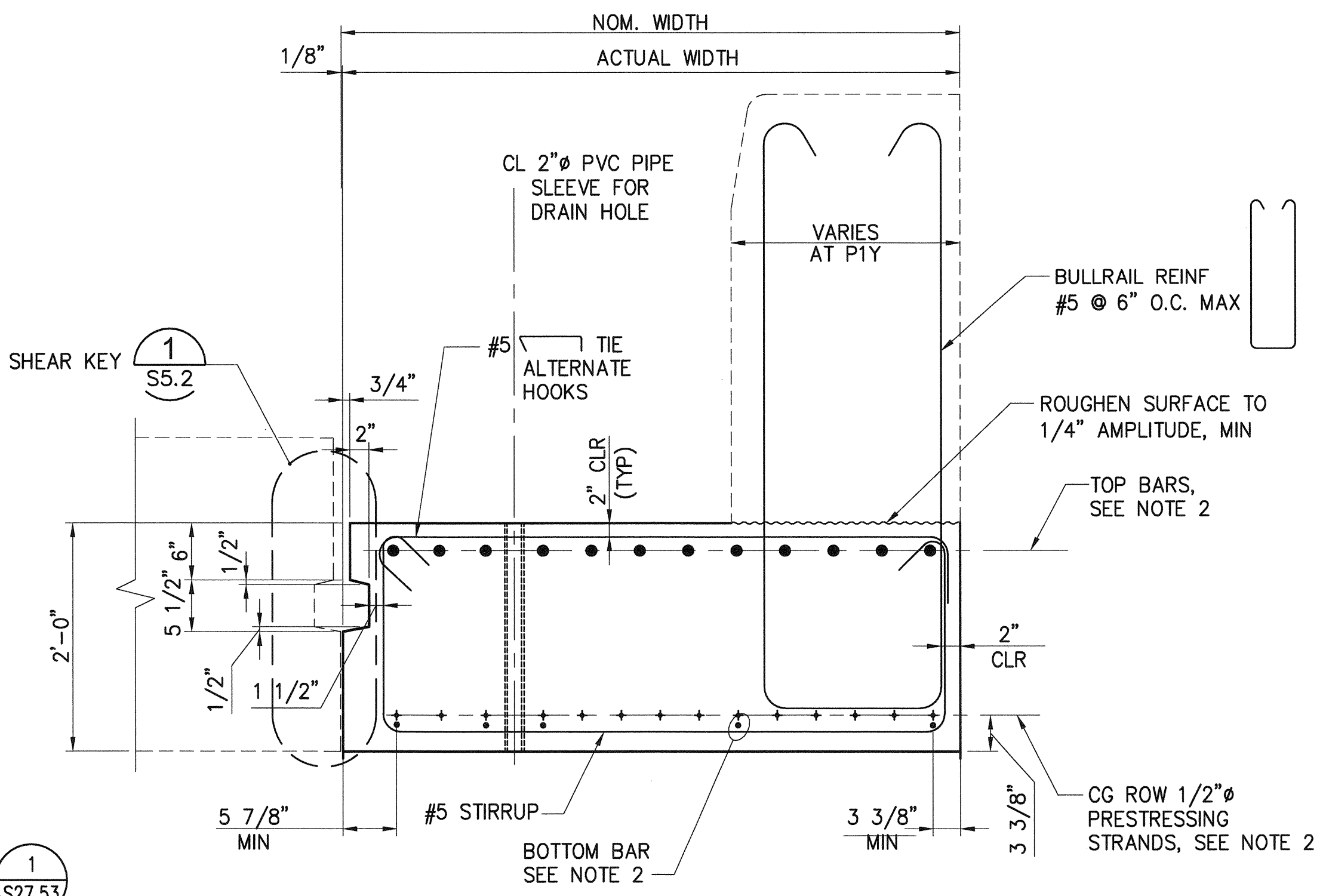
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1 DECK PANEL PLAN - PANEL P1
S26.1 - S26.5
1/2"=1'-0"



B DECK PANEL ELEVATION
1/2"=1'-0"



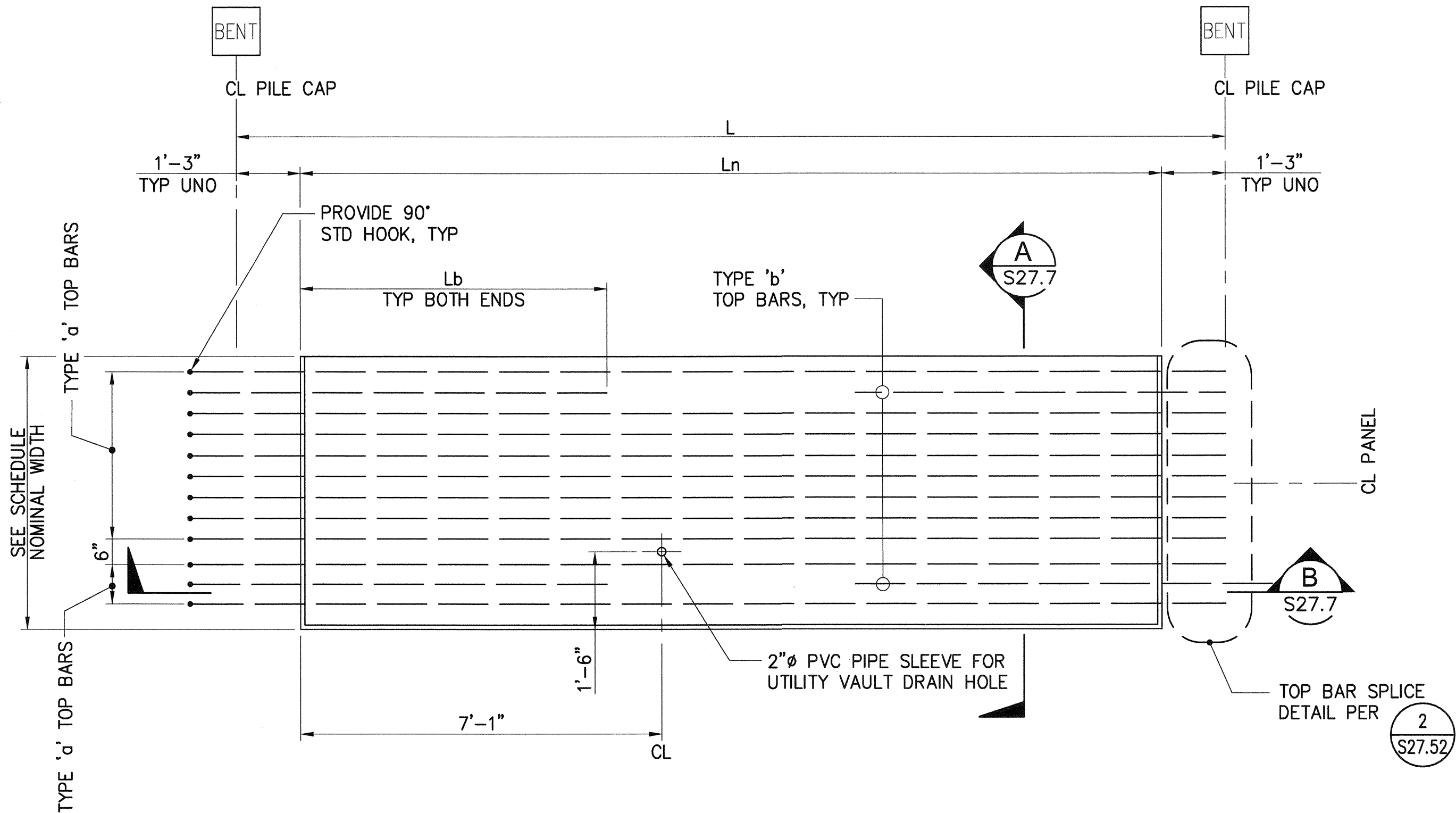
A DECK PANEL SECTION
1"=1'-0"

- NOTES:**
1. USE THIS SHEET FOR DECK PANEL TYPE: P1, P1C, P1E, P1R, P1T, P1U, P1Y
 2. FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5

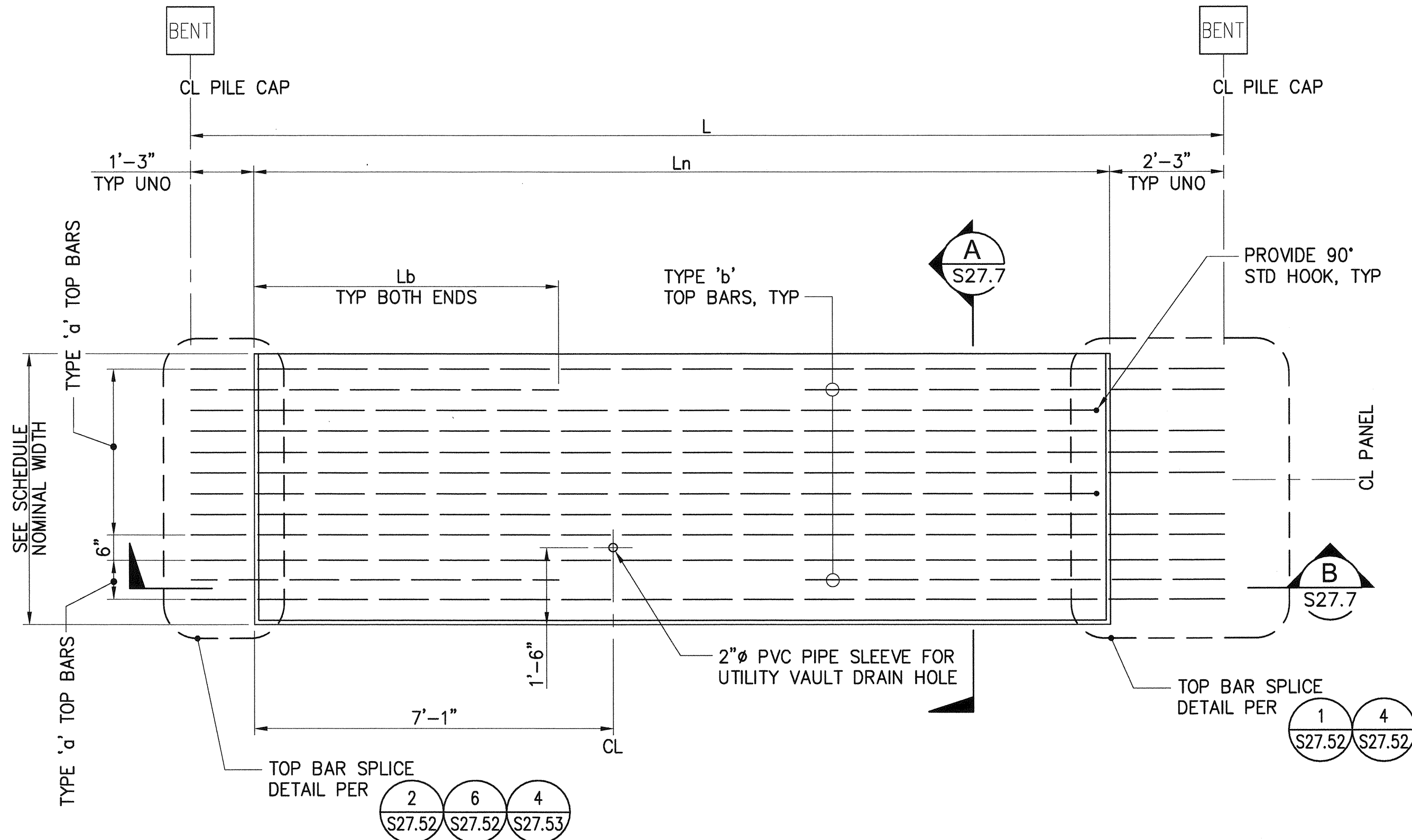
6552 S27.7 SH 298 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 7				kpff 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401 (253) 396-3841		APPROVED: <i>[Signature]</i> 3-28-16	SEK	CHECKED BY	DATE
	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	TAH				PROJ. ENGR	DATE	
CONT/CONS: 070136		TOWN: 1939 @ Tide 22 1933		PRINTED BY: tlenons Mar 24, 2016			MARK:	REVISION:	BY:	DATE:
M. ID: 091251		PARCEL:		PORT ADDRESS: ONE SITCUM PLAZA				APPR:		
PHASE: BID		DRAWING SCALE: AS NOTED		TACOMA, WA 98401-1837		THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION				

BINDING EDGE

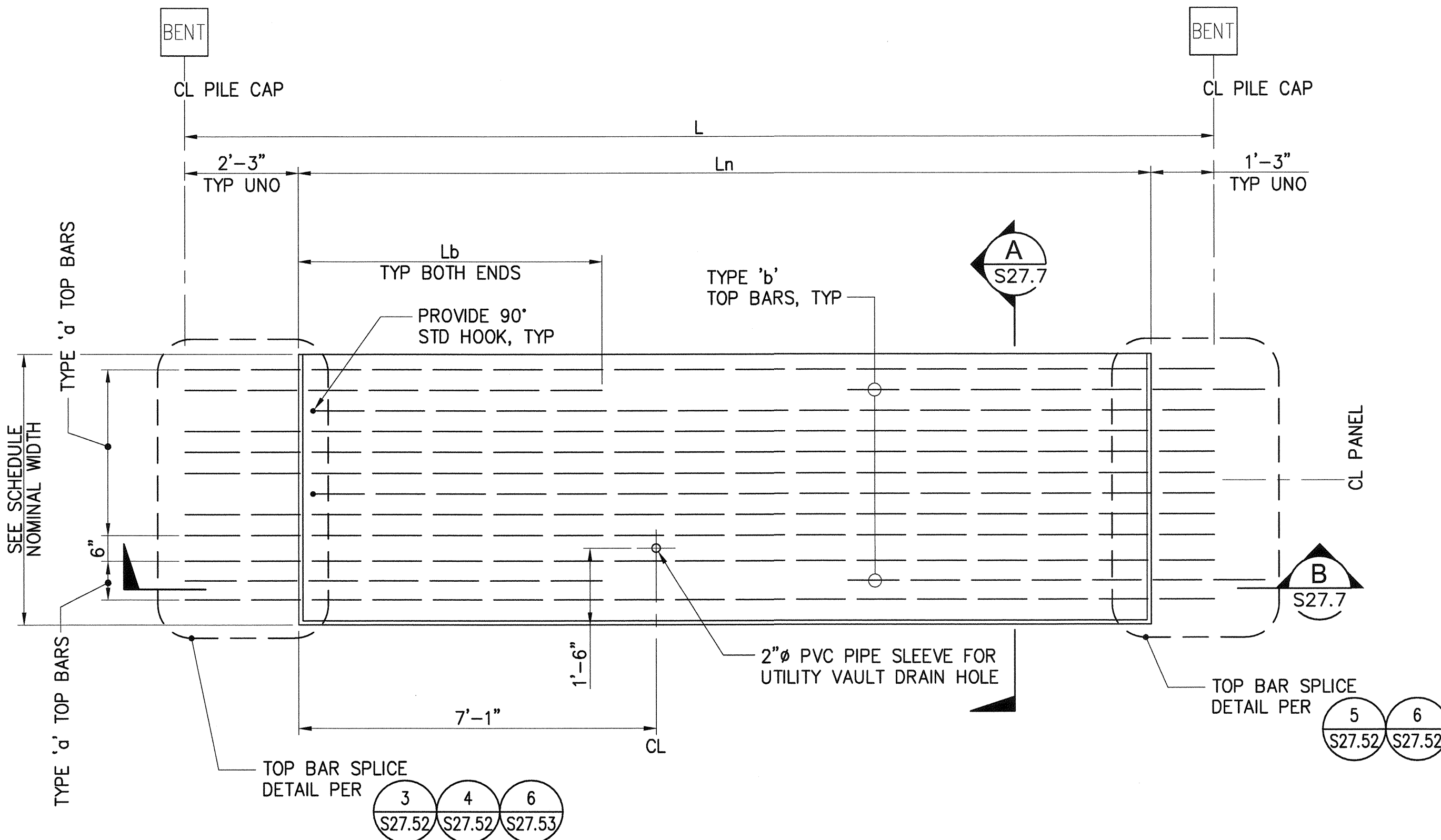
PORT OF TACOMA FILE: N:\Struct\114114096 (POT Pier 4)\Drawings\Current\Phase 2_091251\091251-S27.7A



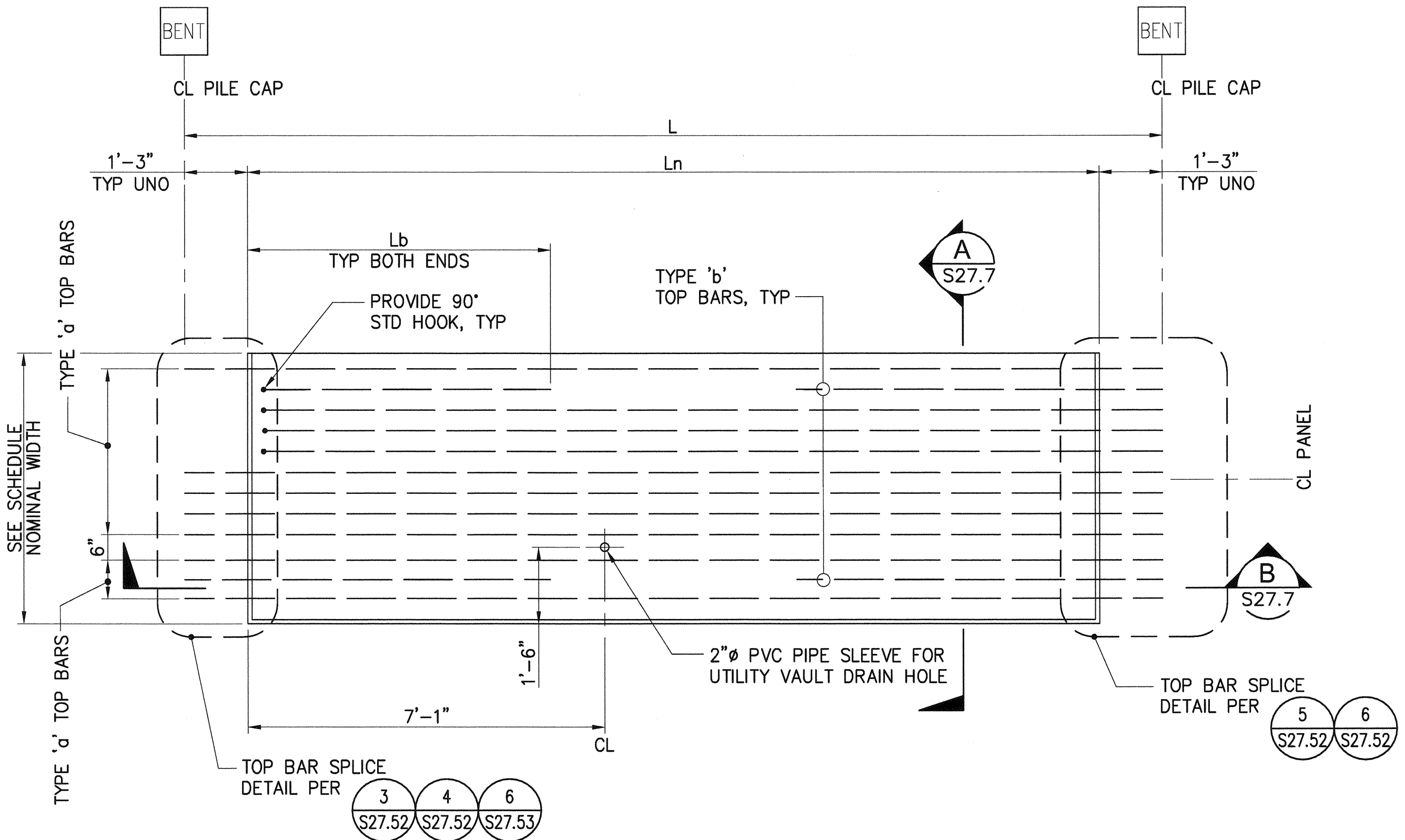
1 DECK PANEL PLAN - PANEL P1E
S26.1 - S26.5 1/2"=1'-0"



2 DECK PANEL PLAN - PANEL P1C
S26.1 - S26.5 1/2"=1'-0"



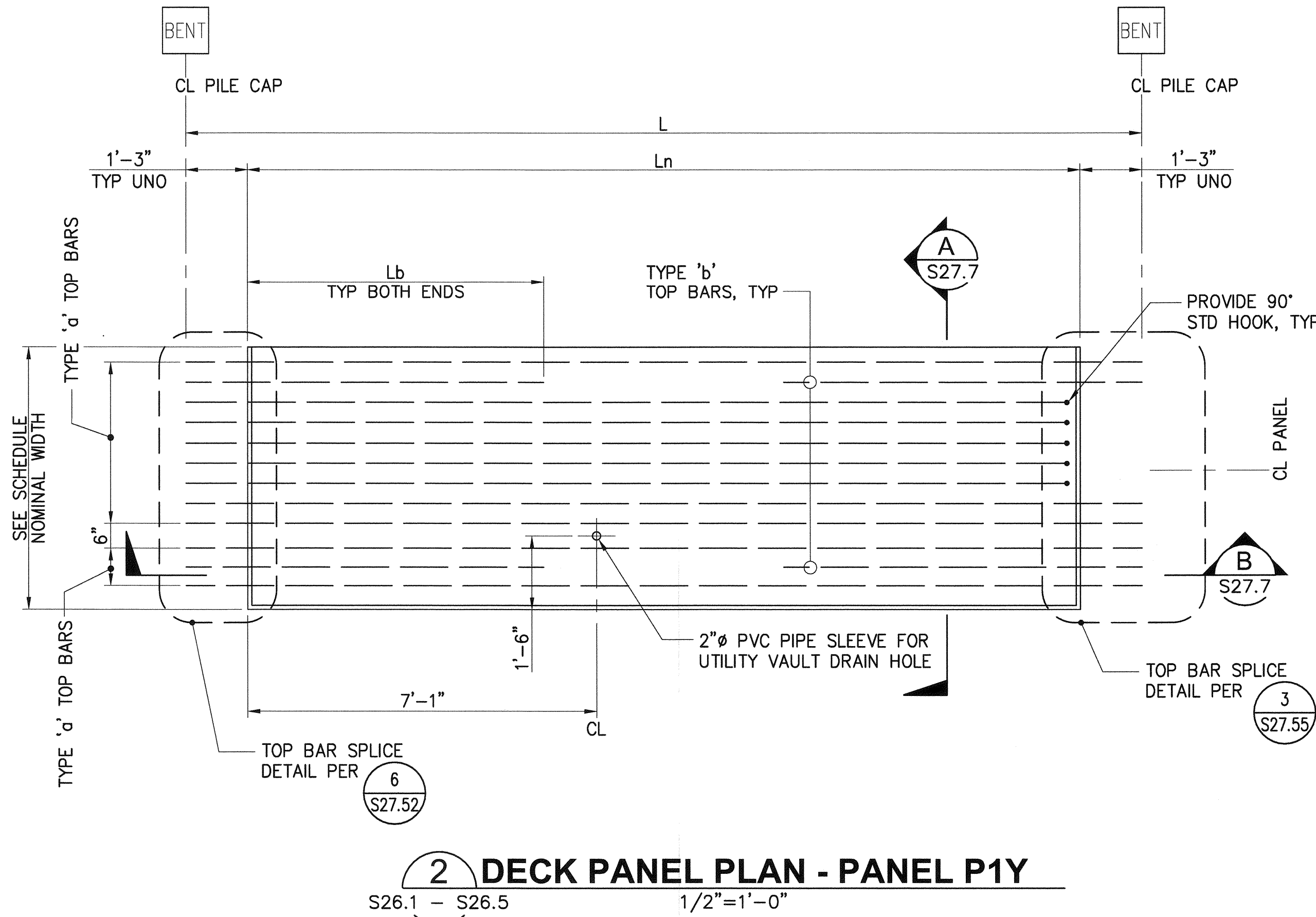
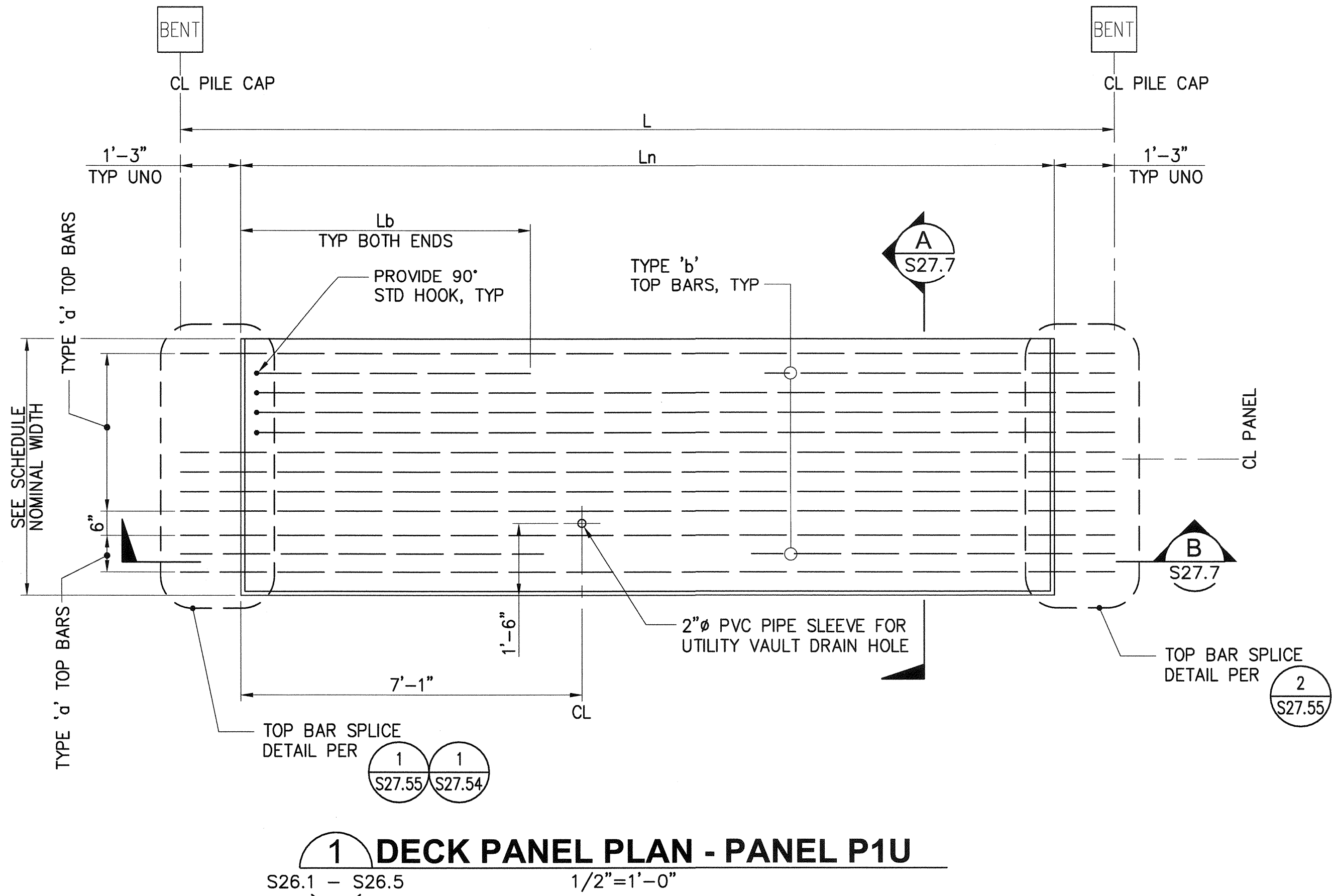
3 DECK PANEL PLAN - PANEL P1R
S26.1 - S26.5 1/2"=1'-0"



4 DECK PANEL PLAN - PANEL P1T
S26.1 - S26.5 1/2"=1'-0"

6552 S27.7A SH 299 OF 499	PIER 4 PHASE 2				RECONFIGURATION DECK PANEL DETAILS - SHEET 7A	APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR PRINTED BY: tlemmons TACOMA, WA 98401-1837
	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	DAT-HRZ: WA83-SF		
CONT/CONS: 070136	M. ID: 091251	PHASE: BID	DRAWING SCALE: AS NOTED			
Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 187 TACOMA, WA 98401 (253) 396-5841						kpff
						MARK: REVISION: BY: DATE: APPR:

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6552
S27.7B
SH 300 OF 499

CONTR/CONS: 070136
M. ID: 091251
PHASE: BID

PIER 4 PHASE 2
RECONFIGURATION
DECK PANEL DETAILS - SHEET 7B

APPROVED: *Glenn Howard*
DIRECTOR
3-28-16

SEK
CHECKED BY: TAH
DATE: Mar 24, 2016

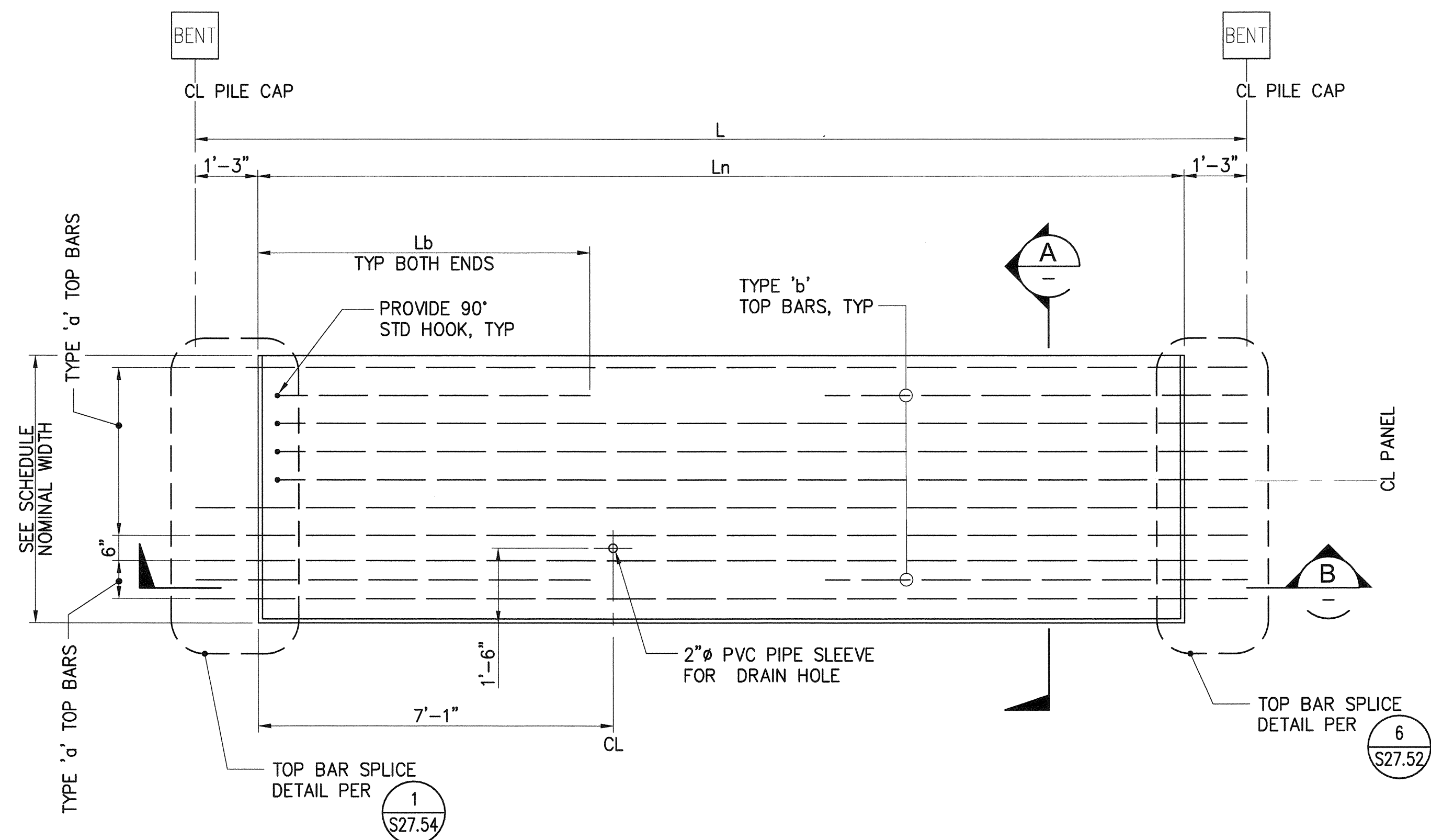


MARK: REVISION:
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APPR: DATE:

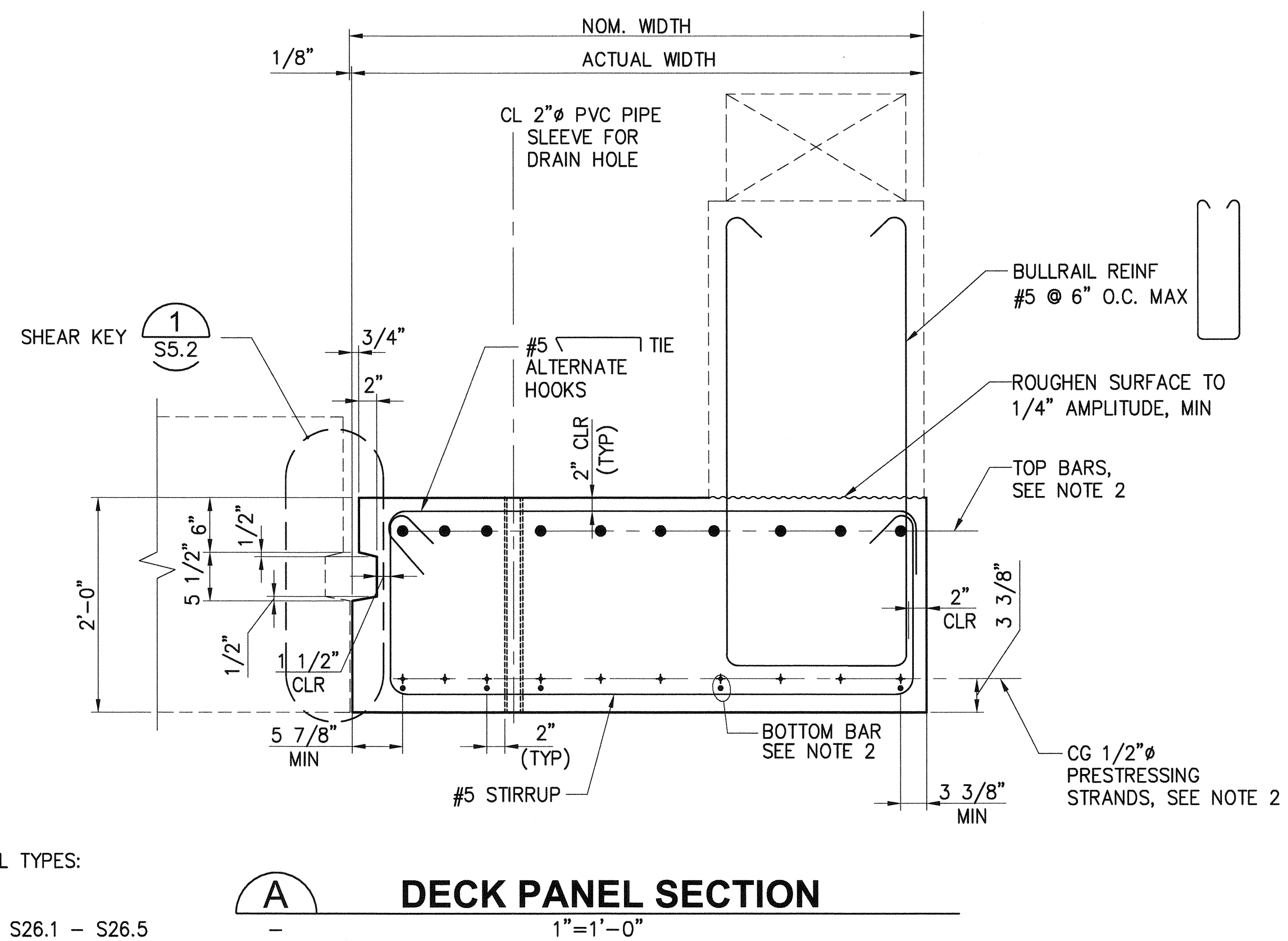
Port of Tacoma
P.O. BOX 1837 TACOMA, WA 98401 (253) 396-0162

2407 North 31st Street, Suite 100
Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162

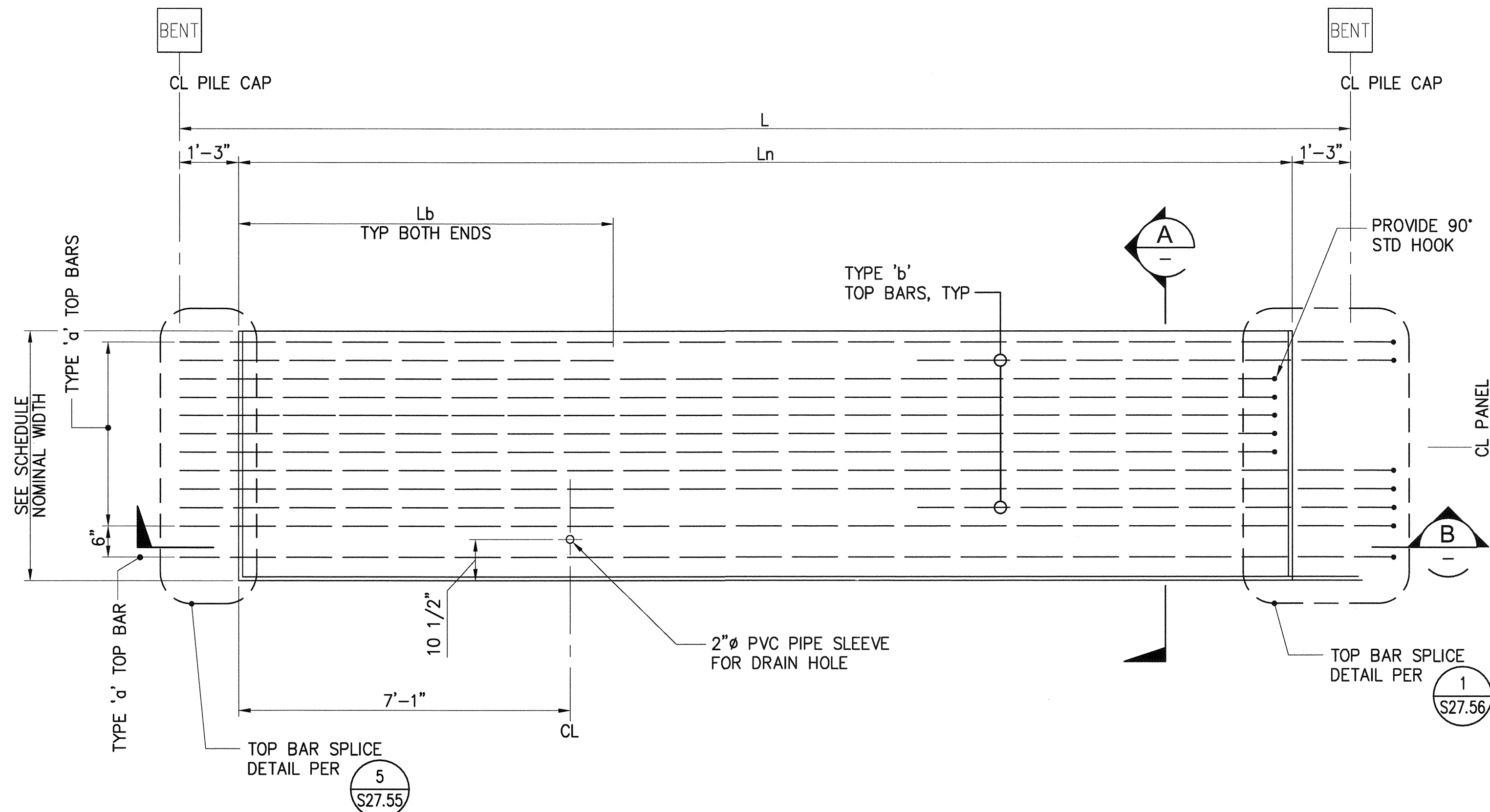
kprff



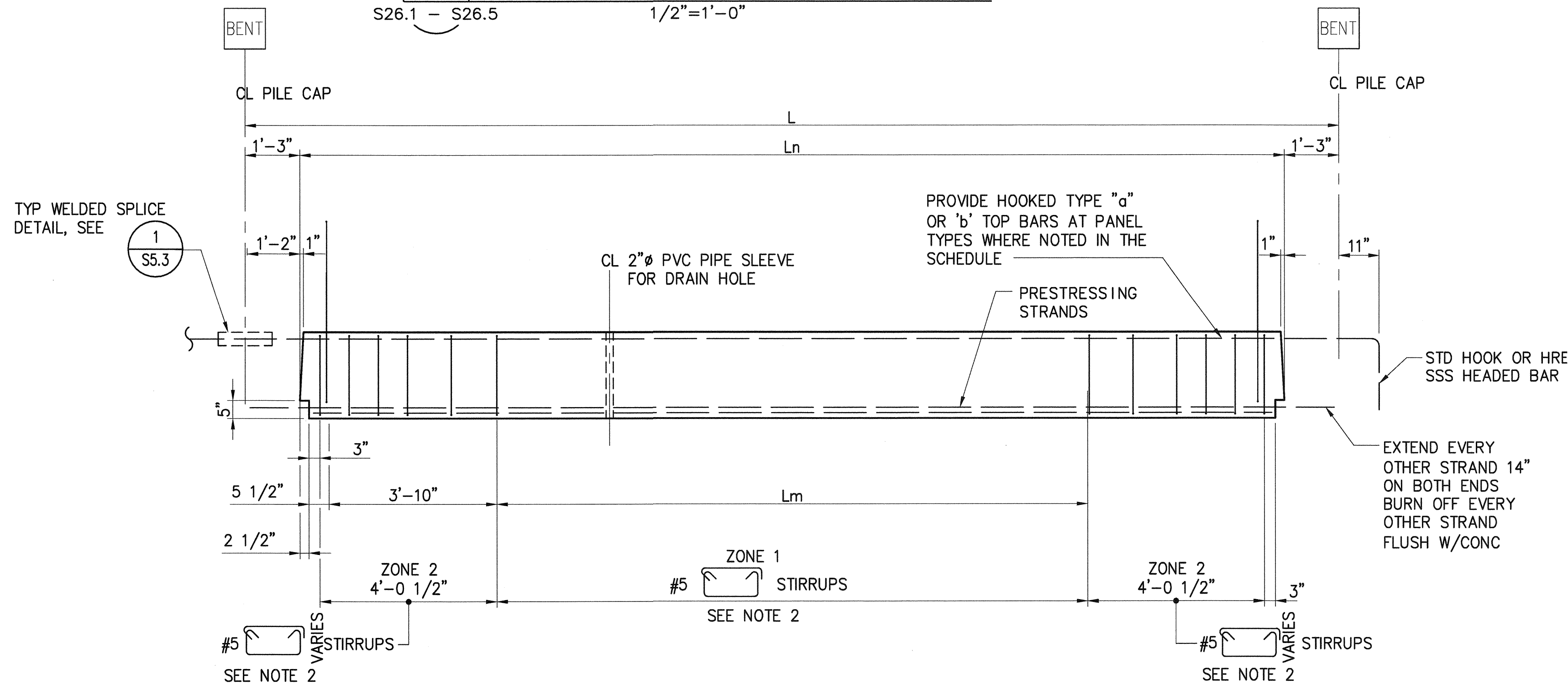
2 DECK PANEL PLAN - PANEL: P1Z
S26.1, - S26.5 1/2"=1'-0"



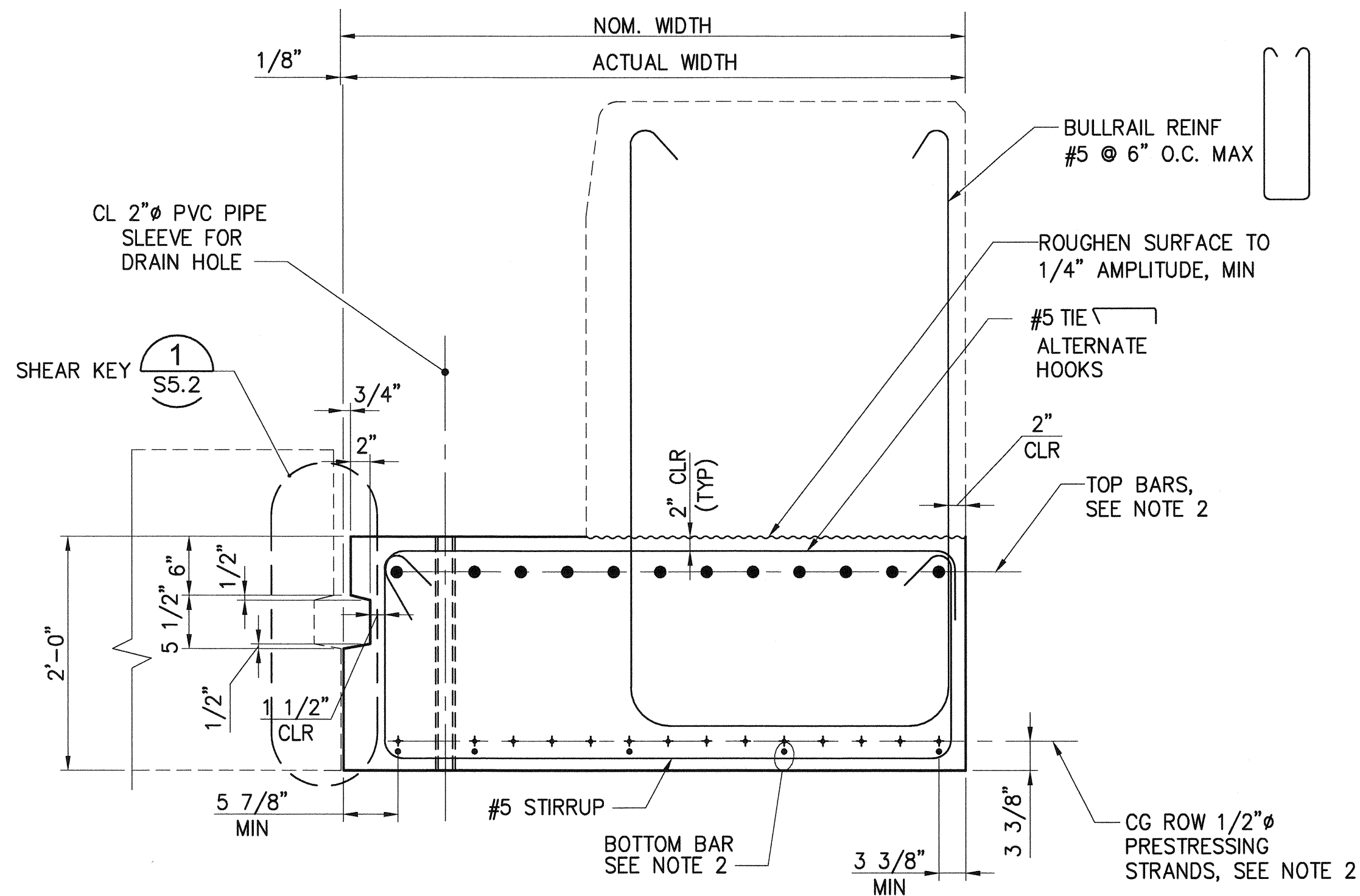
1. USE THIS SHEET FOR DECK PANEL TYPES:
P1B, P1Z
2. FOR DECK PANEL SCHEDULE, SEE S26.1 – S26.5



1 DECK PANEL PLAN
S26.1 - S26.5
1/2"=1'-0"



B DECK PANEL ELEVATION
1/2"=1'-0"



A DECK PANEL SECTION
1"=1'-0"

NOTES:

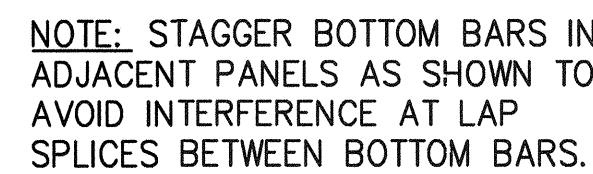
1. USE THIS SHEET FOR DECK PANEL TYPES: P1A
2. FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5

6552 S27.9 SH 302 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 9				APPROVED: <i>David Hines</i> 3-28-16 DIRECTOR ENG. DATE	SEK TAH	CHECKED BY DATE
	CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	PRINTED BY: Hemons Mar 24, 2016	PROJ. ENGR DATE	BY: DATE:
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	PORT ADDRESS: ONE SITCUM PLAZA	TACOMA, WA 98401-1837		MARK: REVISION:	APPR: DATE:
PHASE: BID	DRAWING SCALE: AS NOTED						BY: DATE:

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Port of Tacoma
P.O. BOX 1837 TACOMA, WA 98401 (206)385-8941

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2407 North 31st Street, Suite 100
Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162

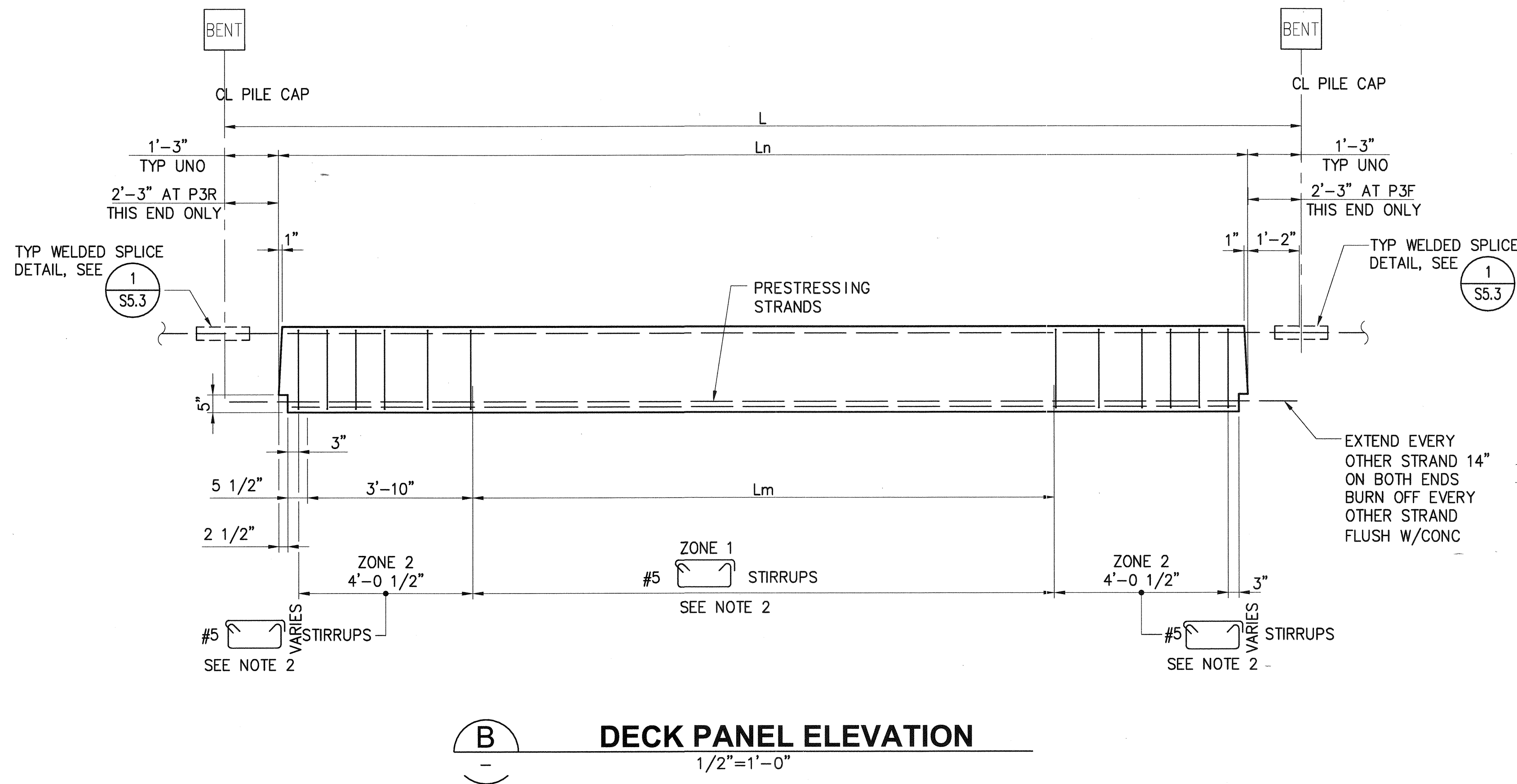
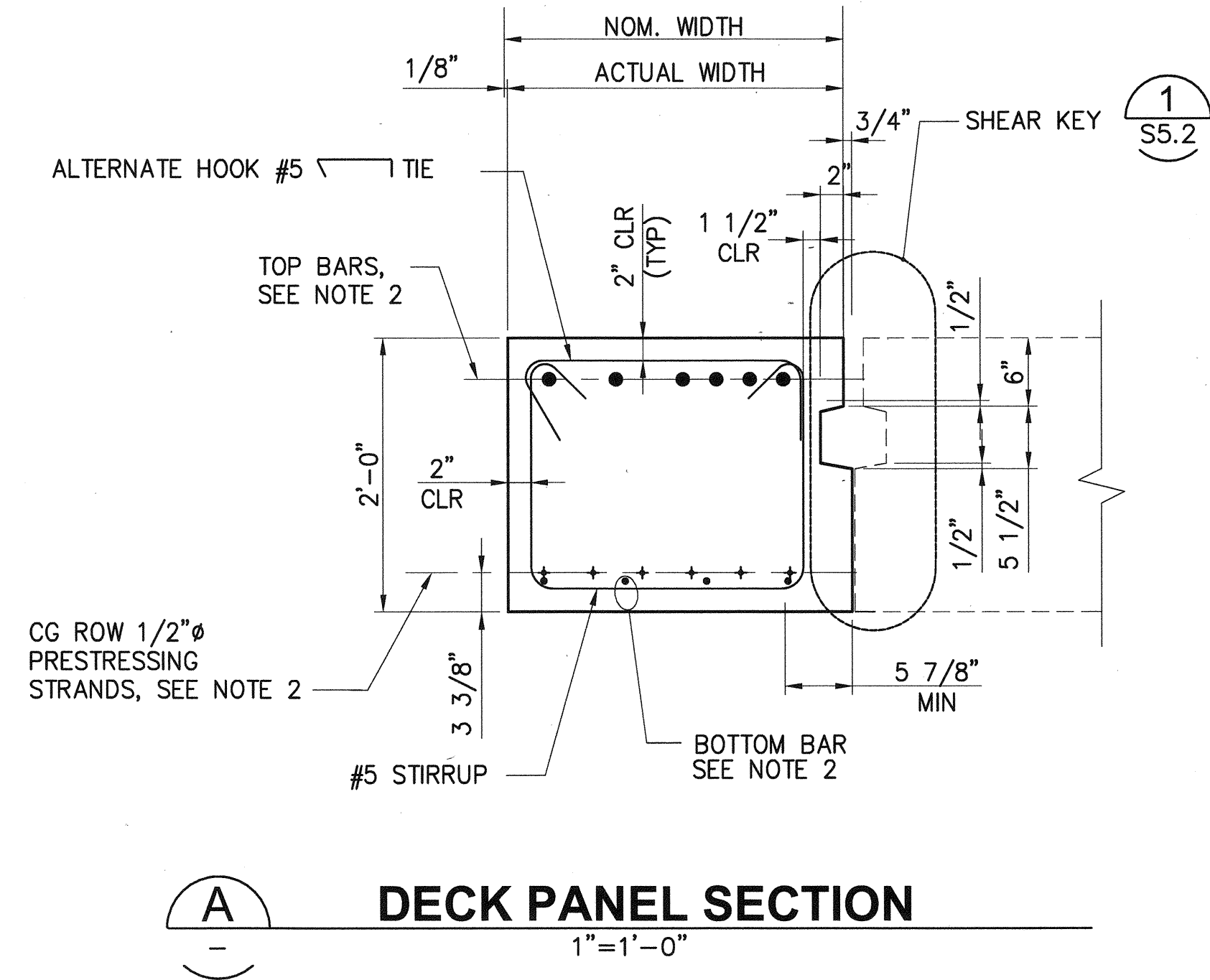
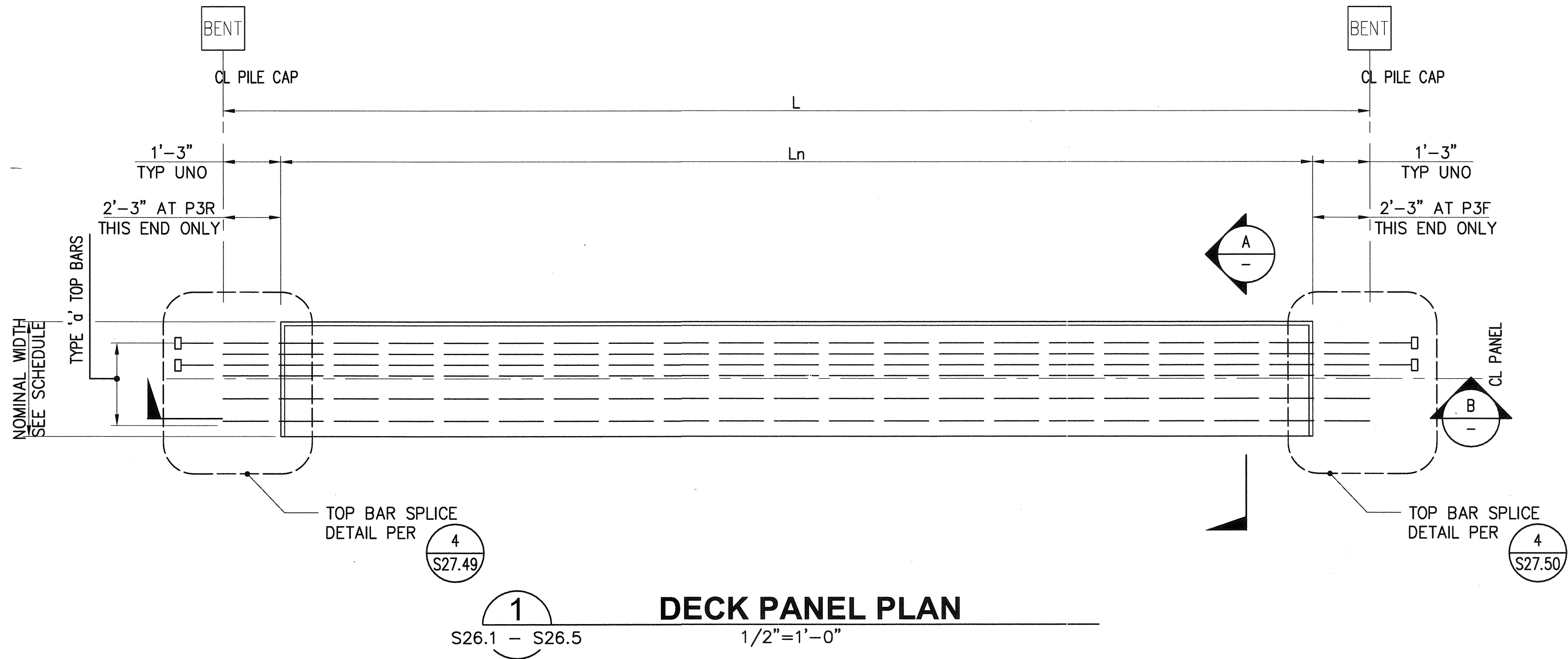


CRANE BEAM - P8F



1. SEE DECK PANEL SCHEDULE, S26.1 - S26.5
2. USE THIS SHEET FOR PANEL TYPE P8F
3. PROVIDE HEADED REINFORCEMENT, SEE SPECIFICATIONS
4. PROVIDE ASTM A706 GRADE 60 REINFORCEMENT FOR ALL FACE BARS

5. PROVIDE DOUBLE STIRRUP SET AT THIS END

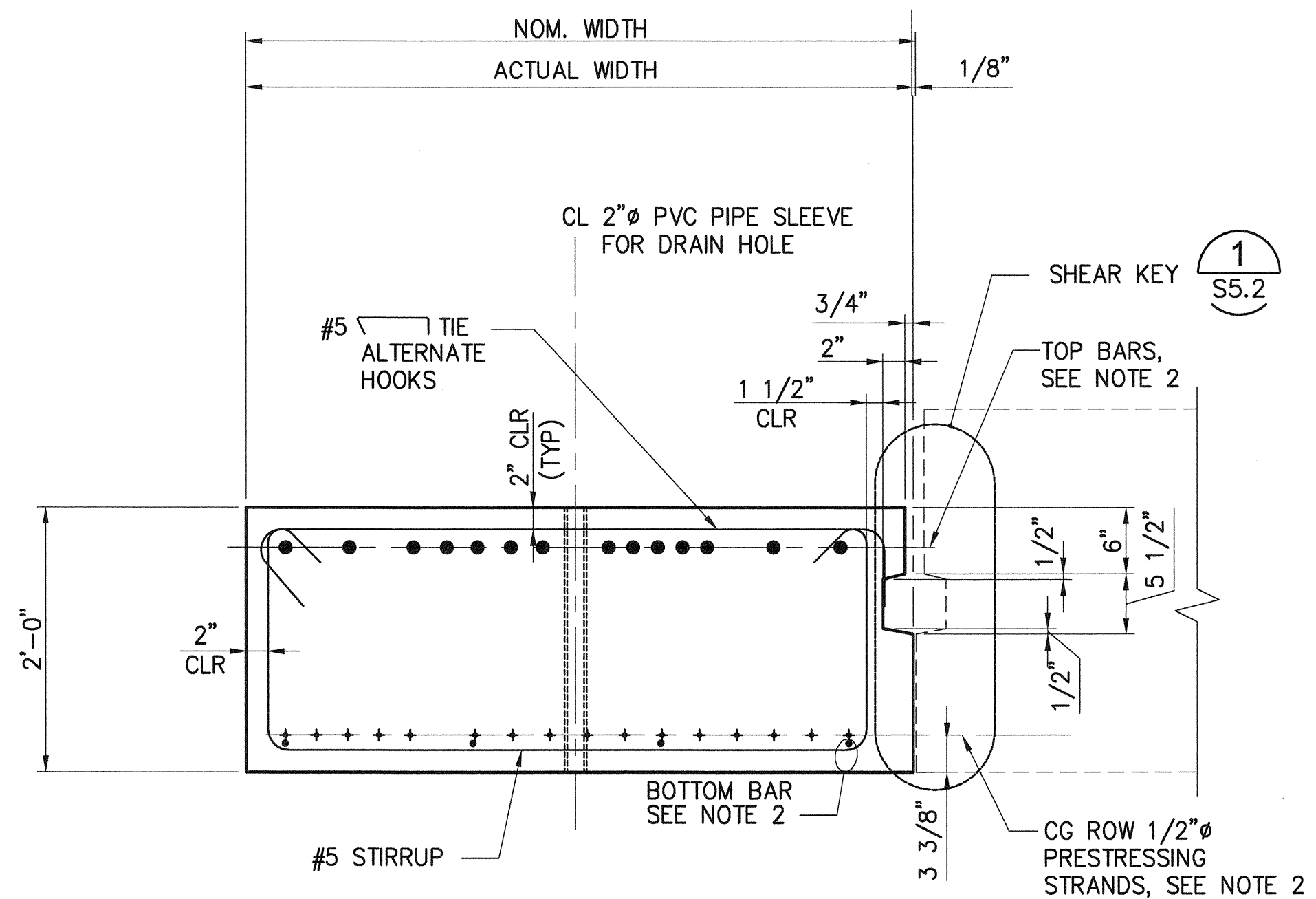
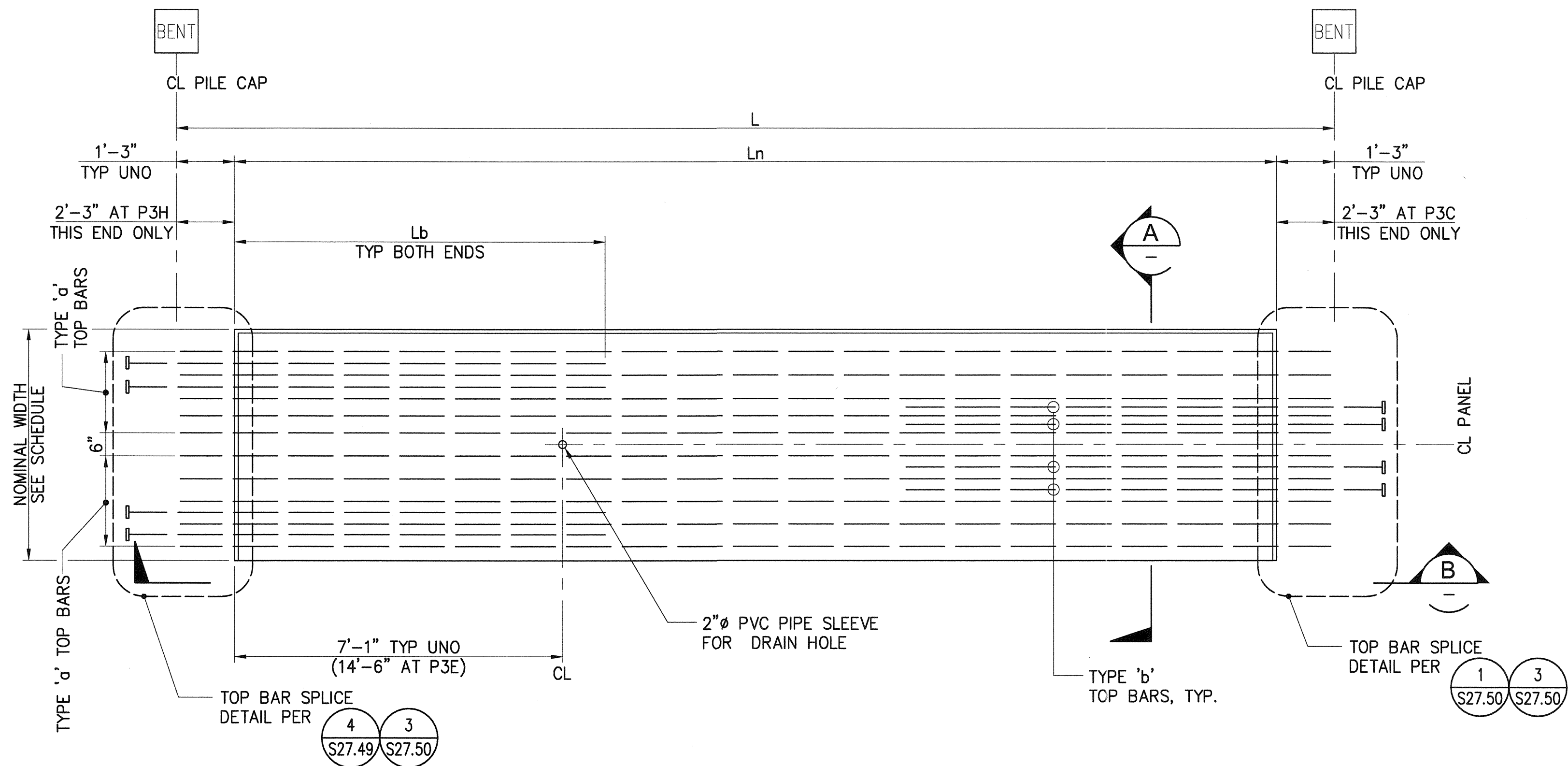


NOTES:

- USE THIS SHEET FOR DECK PANEL TYPES: P3F, P3R, & P3S
- FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5

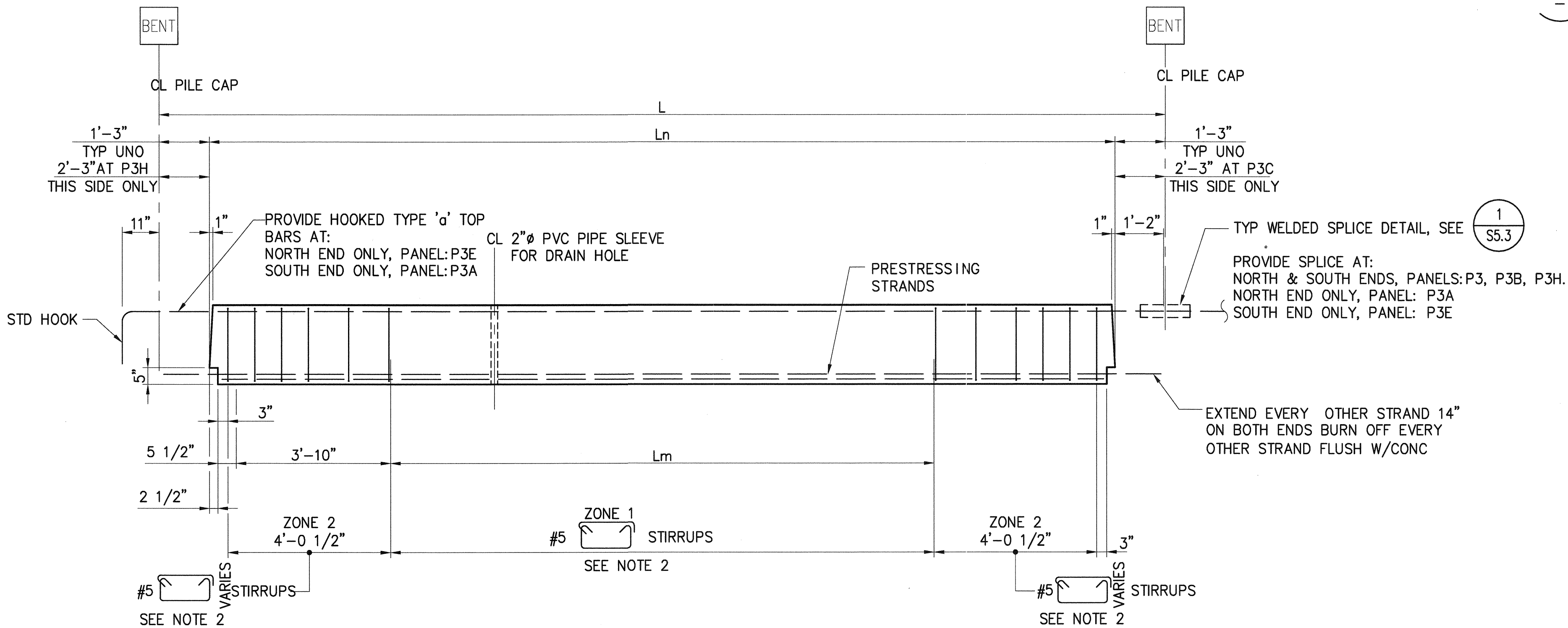
6552 S27.11 SH 304 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 11				Port of Tacoma P.O. BOX 187 TACOMA, WA 98401 (253) 888-1841	
	CONTRACT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	DATE: 091251	DATE: 091251
PHASE: BID	DAT-HRZ: WA83-SF	VERT: MLW 79.89 @ Tide 22 1933	PARCEL: AS NOTED	MARK: REVISION:	BY: APPR:	
APPROVED: <i>[Signature]</i> DIRECTOR ENG. DATE: 3-28-16			TAH: tlemons	PROJ. ENGR. DATE: Mar 24, 2016	DATE: 091251	
PRINTED BY: tlemons			PORT ADDRESS: ONE SITCUM PLAZA			
DRAWING SCALE: AS NOTED			TACOMA, WA 98401-1837			

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NOTES:

- USE THIS SHEET FOR DECK PANEL TYPES: P3, P3A, P3B, P3C, P3E, & P3H
- FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5



6552

S27.12

SH 305 OF 499

CONT/CONS: 070136
M. ID: 091251
PHASE: BID

PIER 4 PHASE 2
RECONFIGURATION
DECK PANEL DETAILS - SHEET 12

TOWNSHIP: 21N
RANGE: 3E
DATE-HRZ: WA83-SF
PARCEL: AS NOTED

SECTION: 27
VERT: MILLW 1939 @ Tide 22 1933
SCALE: AS NOTED

APPROVED: *Mar Howard*
DIRECTOR
3-28-16

CHECKED BY: TAH
DATE: 3-28-16

DATE: 3-28-16

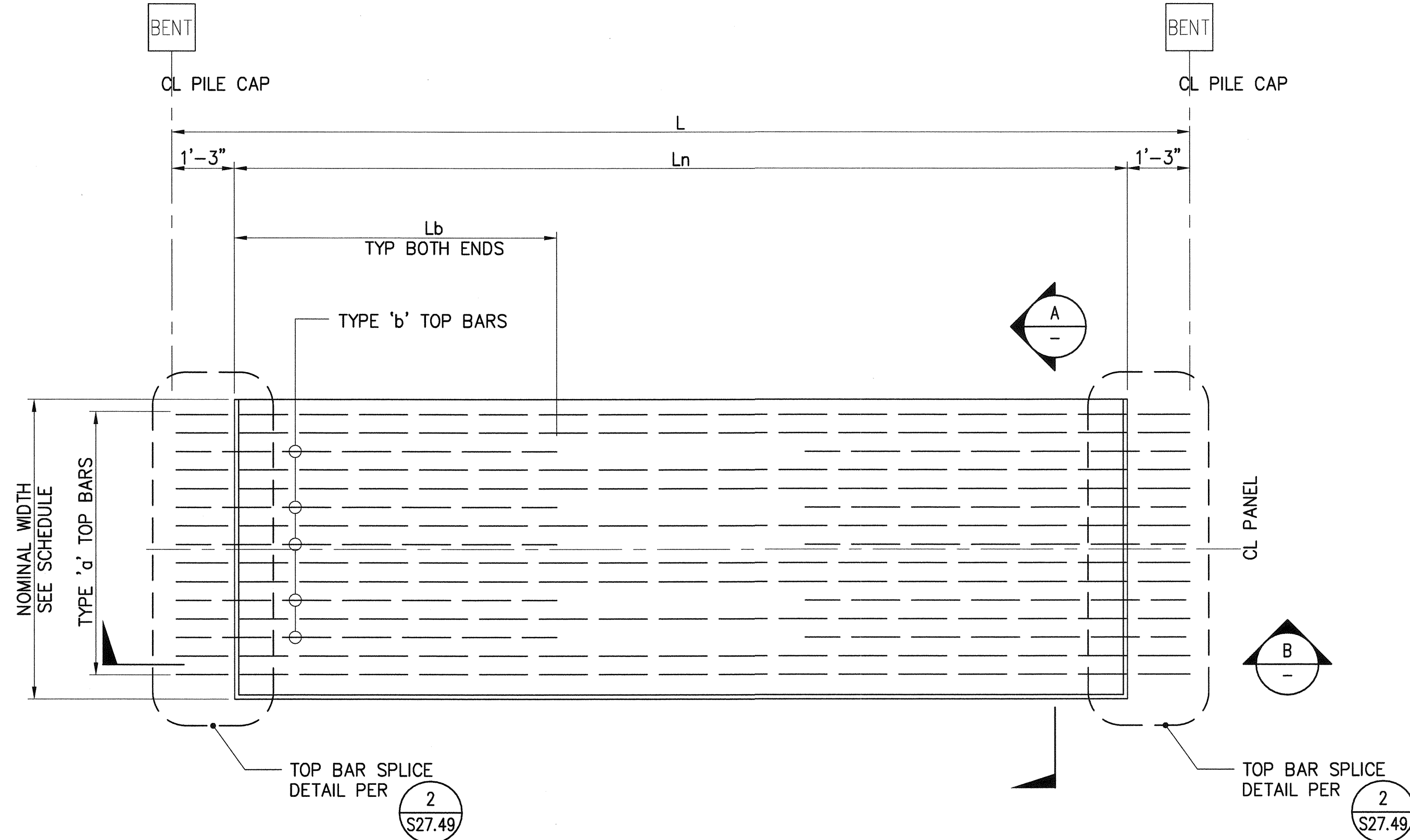
PORT OF TACOMA
2407 North 31st Street, Suite 100
Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162
P.O. BOX 1837 TACOMA, WA 98401 (253) 393-5841

kprff

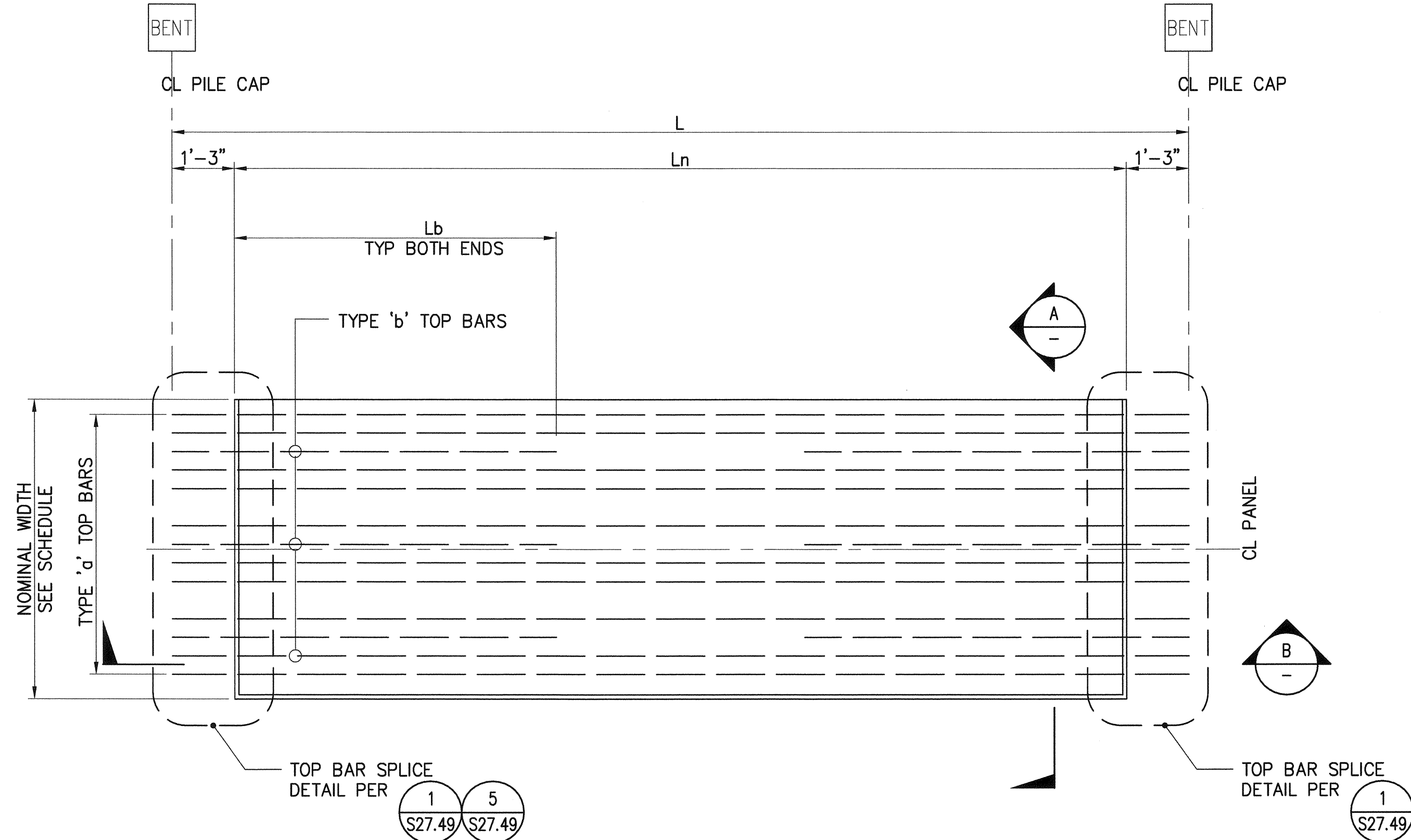
91522

MARK: REVISION: BY: DATE: APPR: DATE:

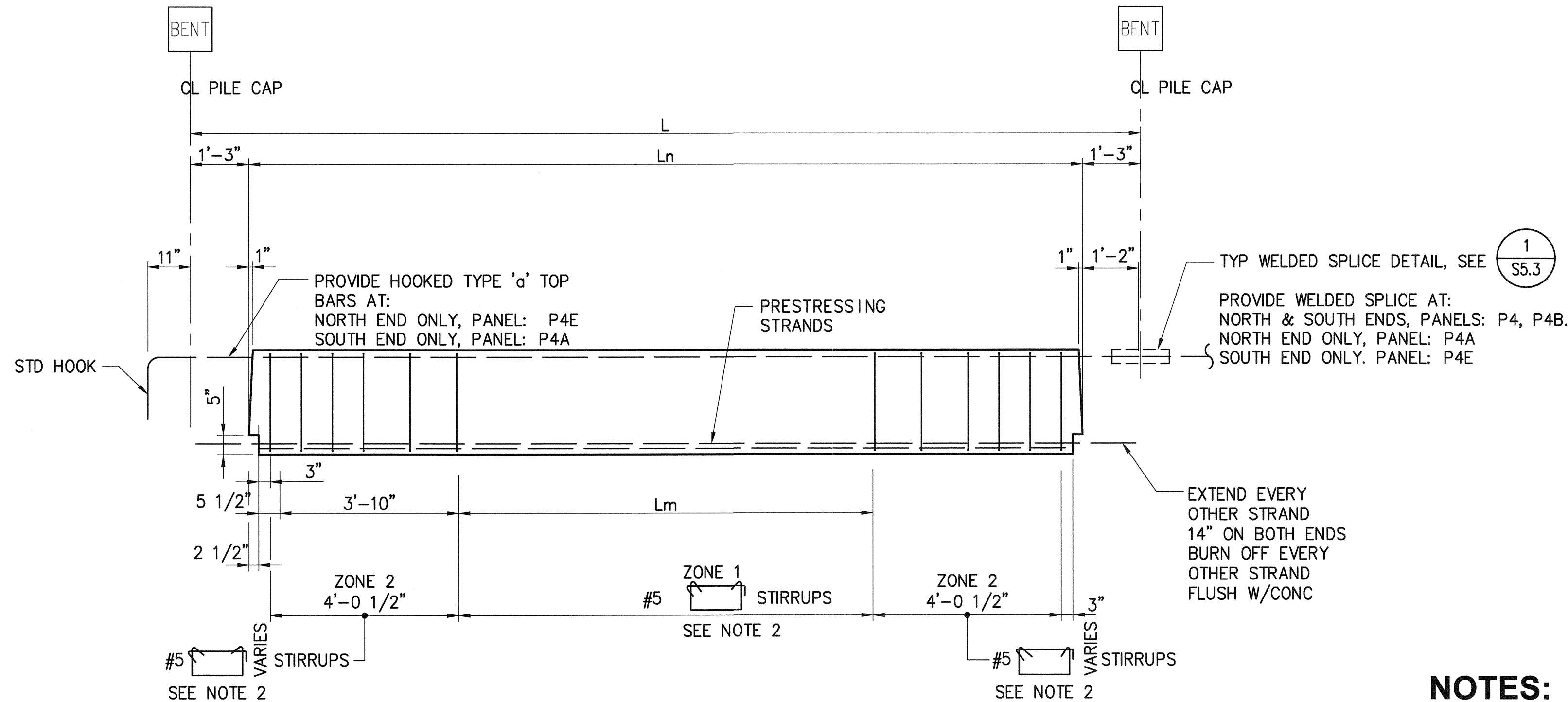
THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION



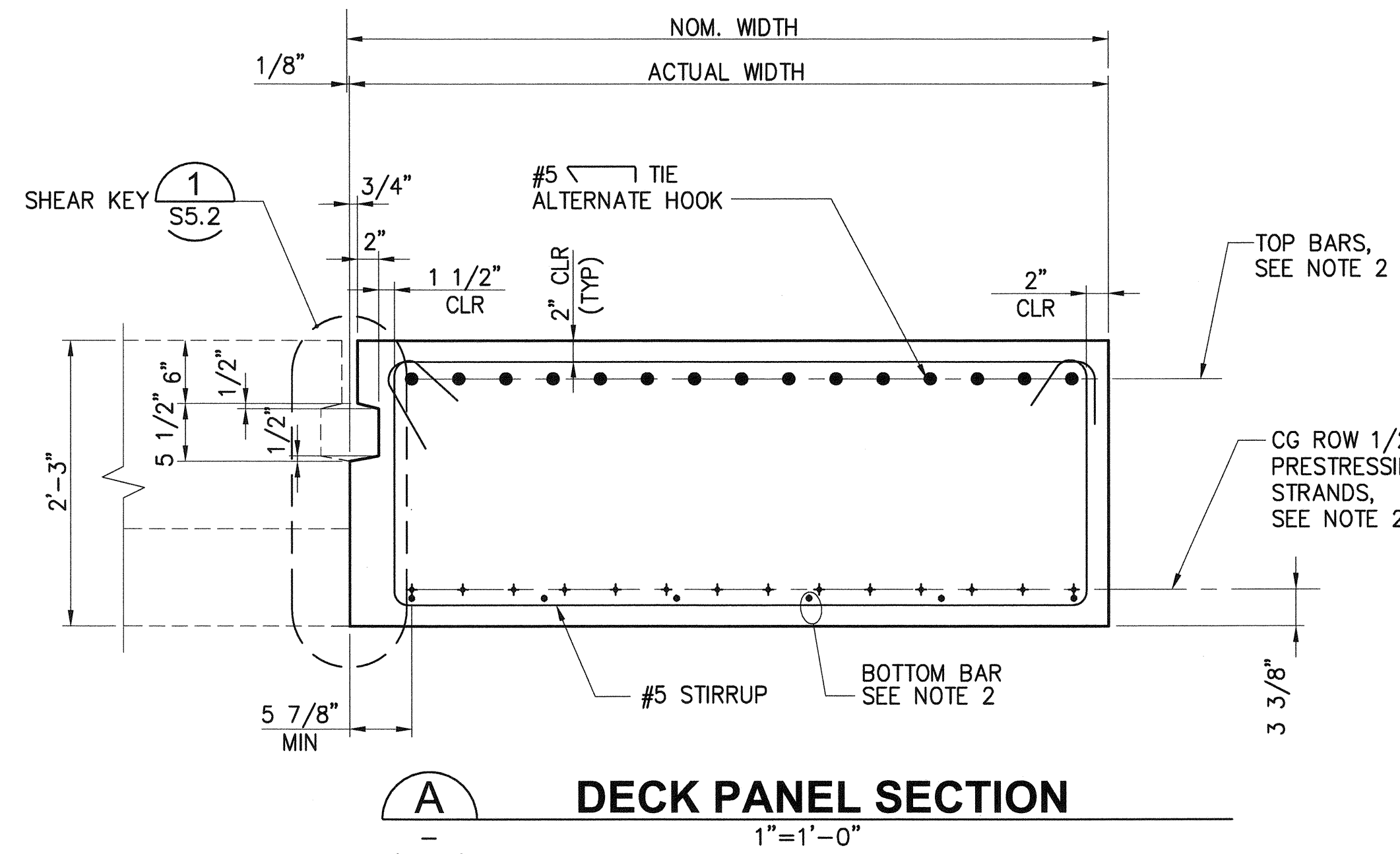
1 DECK PANEL PLAN - PANELS: P4, P4A, P4E
S26.1 - S26.5 1/2"=1'-0"



2 DECK PANEL PLAN - PANEL: P4B
S26.1 - S26.5 1/2"=1'-0"



B DECK PANEL ELEVATION
1/2"=1'-0"



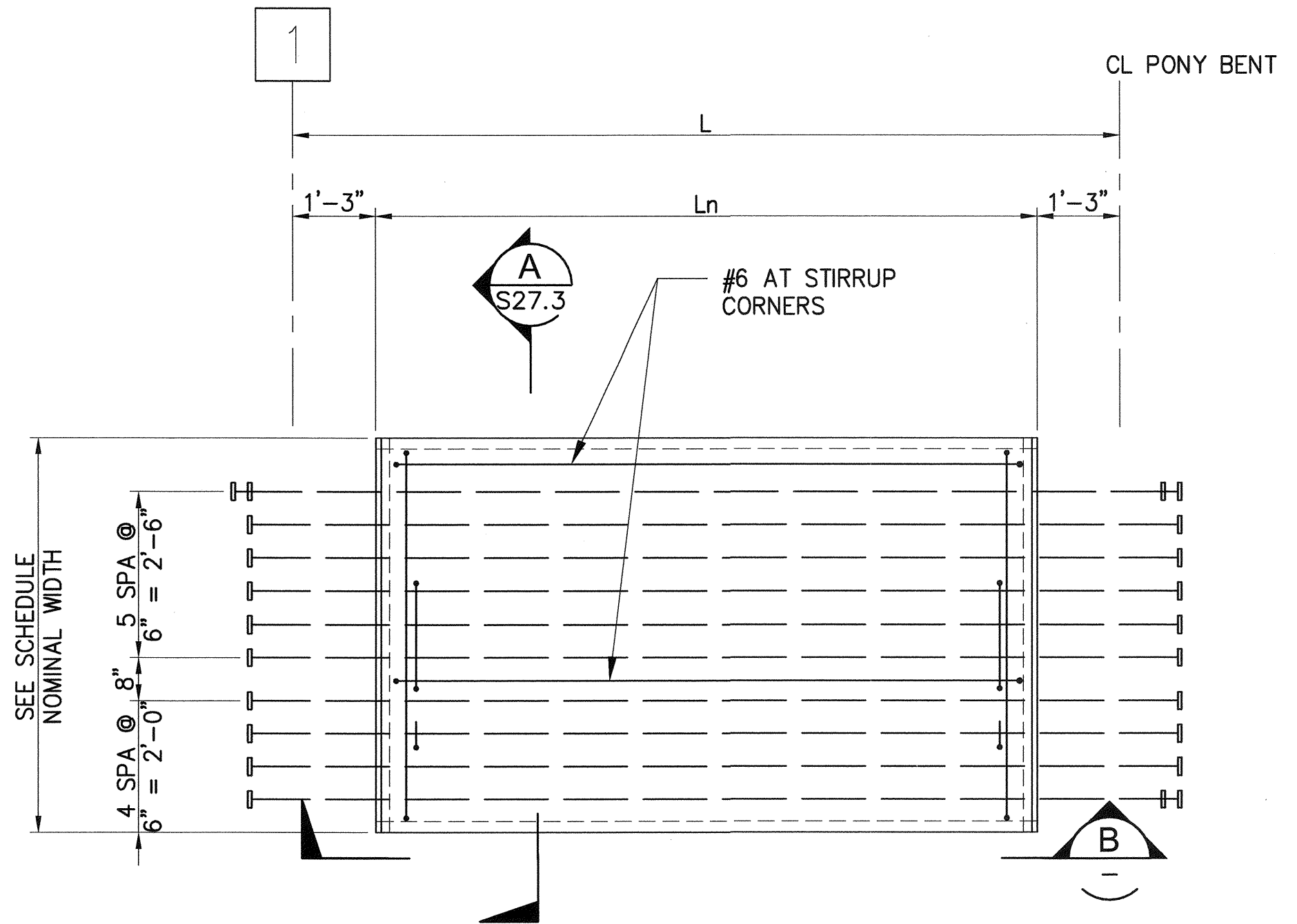
A DECK PANEL SECTION
1"=1'-0"

NOTES:

1. USE THIS SHEET FOR DECK PANEL TYPES:
P4, P4A, P4E, P4B
2. FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5

6552	S27.13 SH 306 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 13					kpff 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401 (253)984-8841	Port of Tacoma
		CONTR/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27			
PHASE: BID	M. ID: 091251	DATE-HRZ: WA83-SF	VERT: MILLW 19.39' @ Tide 22.1933	PRINTED BY: tlemans	DATE: Mar 24, 2016	PROJ. ENGR	BY:	APPR:
DRAWING SCALE: AS NOTED				PORT ADDRESS: ONE SITOCUM PLAZA		TACOMA, WA 98401-1837		

THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION

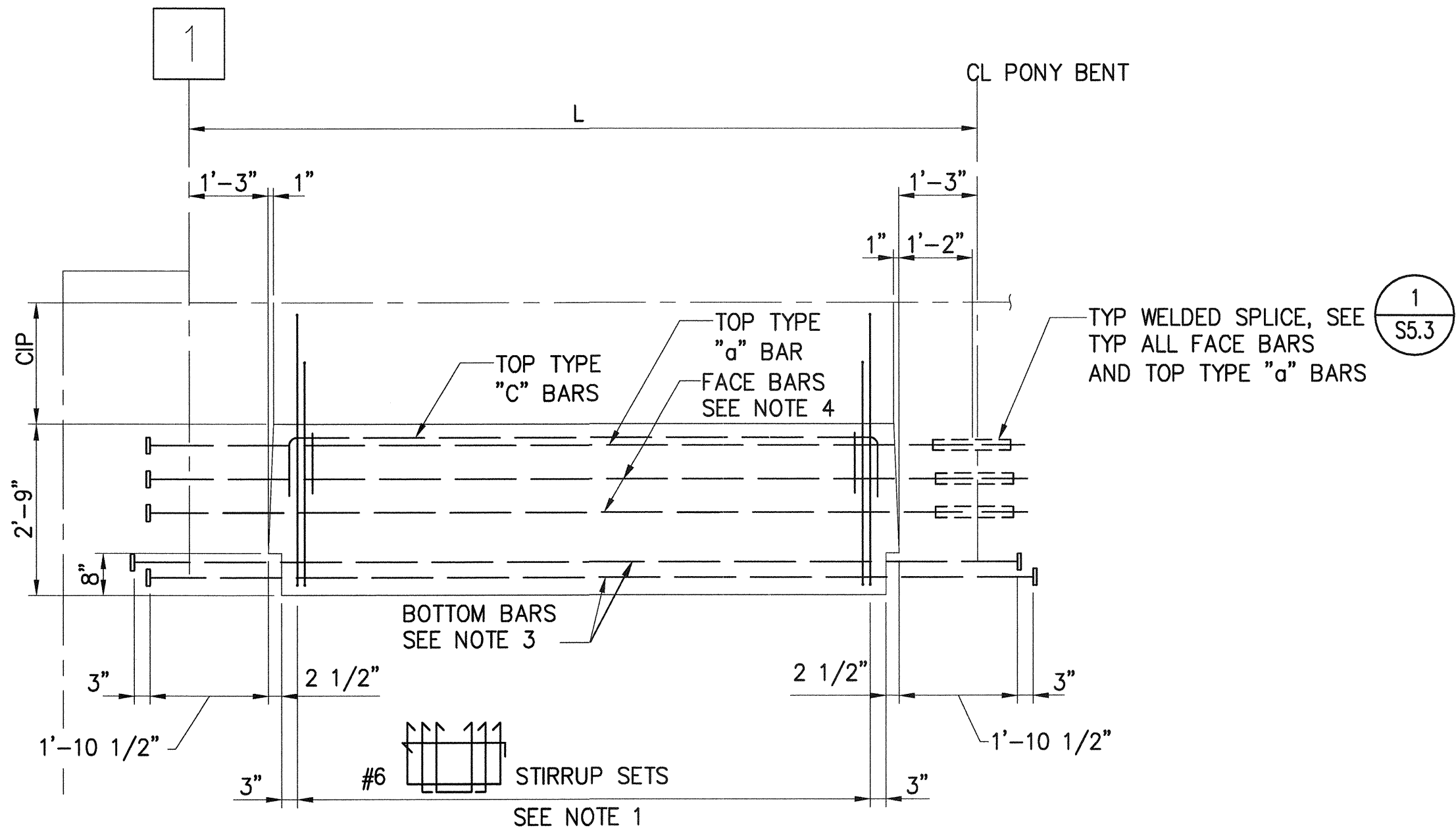


TYPE L

NOTE: STAGGER BOTTOM BARS IN ADJACENT PANELS AS SHOWN TO AVOID INTERFERENCE AT LAP SPLICES BETWEEN BOTTOM BARS.

1 TYPE "L" PANEL P8E PLAN

S26.1 – S26.5 1/2"=1'-0"



B

TYPICAL CRANE BEAM
PANEL ELEVATION

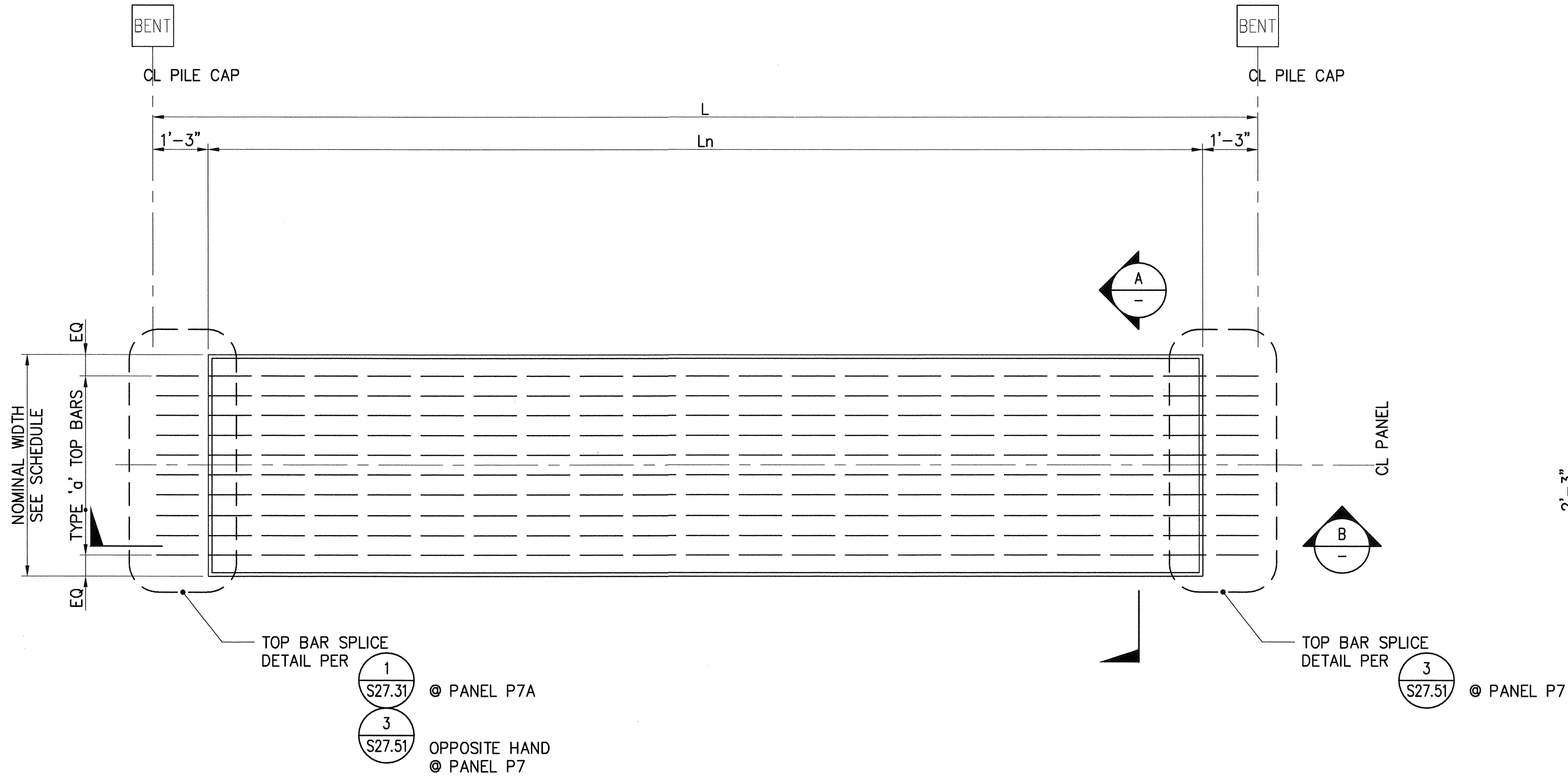
1/2"=1'-0"

- NOTES:**
- SEE DECK PANEL SCHEDULE, S26.1 – S26.5
 - USE THIS SHEET FOR DECK PANEL TYPES P8E
 - PROVIDE HEADER REINFORCEMENT, SEE SPECIFICATIONS
 - PROVIDE ASTM A706 GRADE 60 REINFORCEMNT FOR ALL FACE BARS. FOR PANEL P2E PROVIDE HEADED REINFORCEMENT W/ BEAMS AT BENT



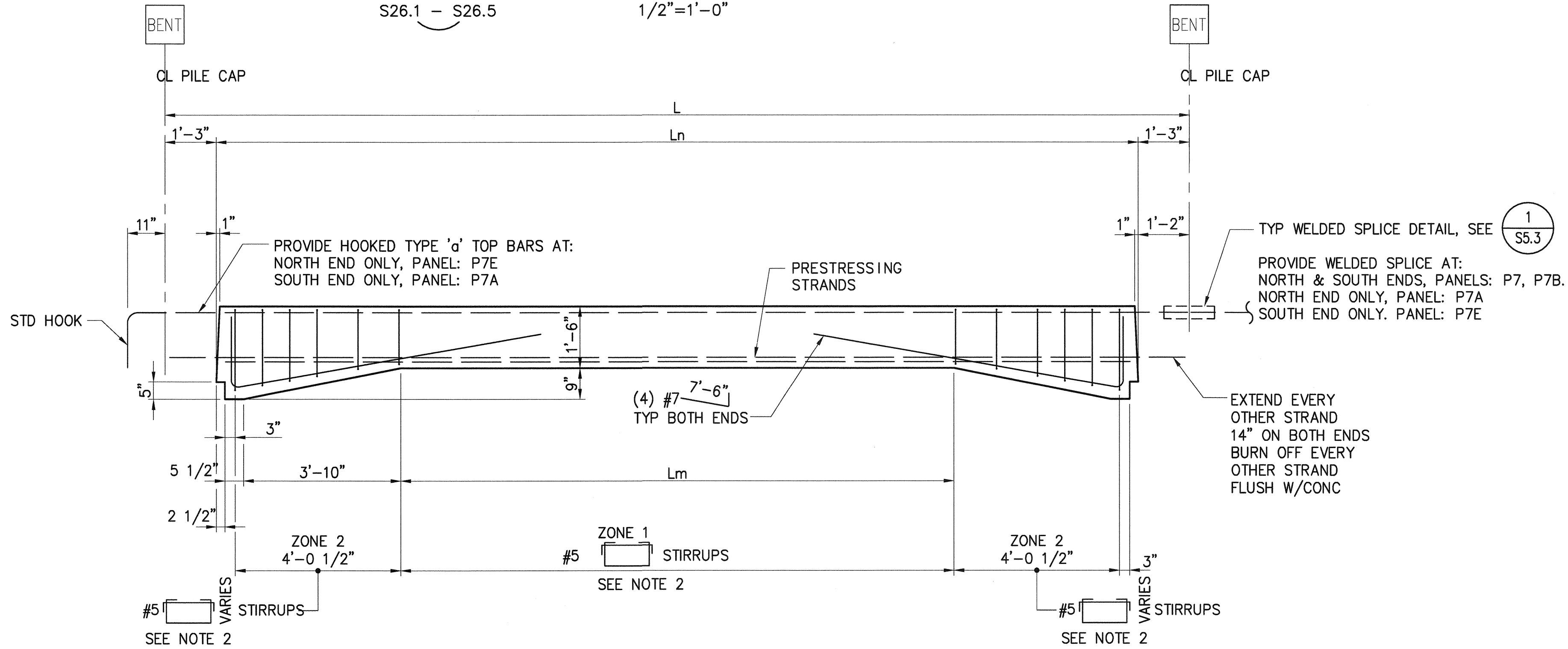
6552 S27.14 SH 307 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 14				 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401 (253)365-8841				
	CONT/CONS: 07/0136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27					
	M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	PRINTED BY: Hemons Mar 24, 2016					
	PHASE: BID	DRAWING SCALE: AS NOTED	PORT ADDRESS: ONE SITCUM PLAZA	TACOMA, WA 98401-1837					
APPROVED: <i>Scott E. Ruppel</i>		SEK	CHECKED BY: TAH	DATE	MARK:	REVISION:	BY:	APPR:	DATE:
DIRECTOR ENG. DATE: 3-28-16									

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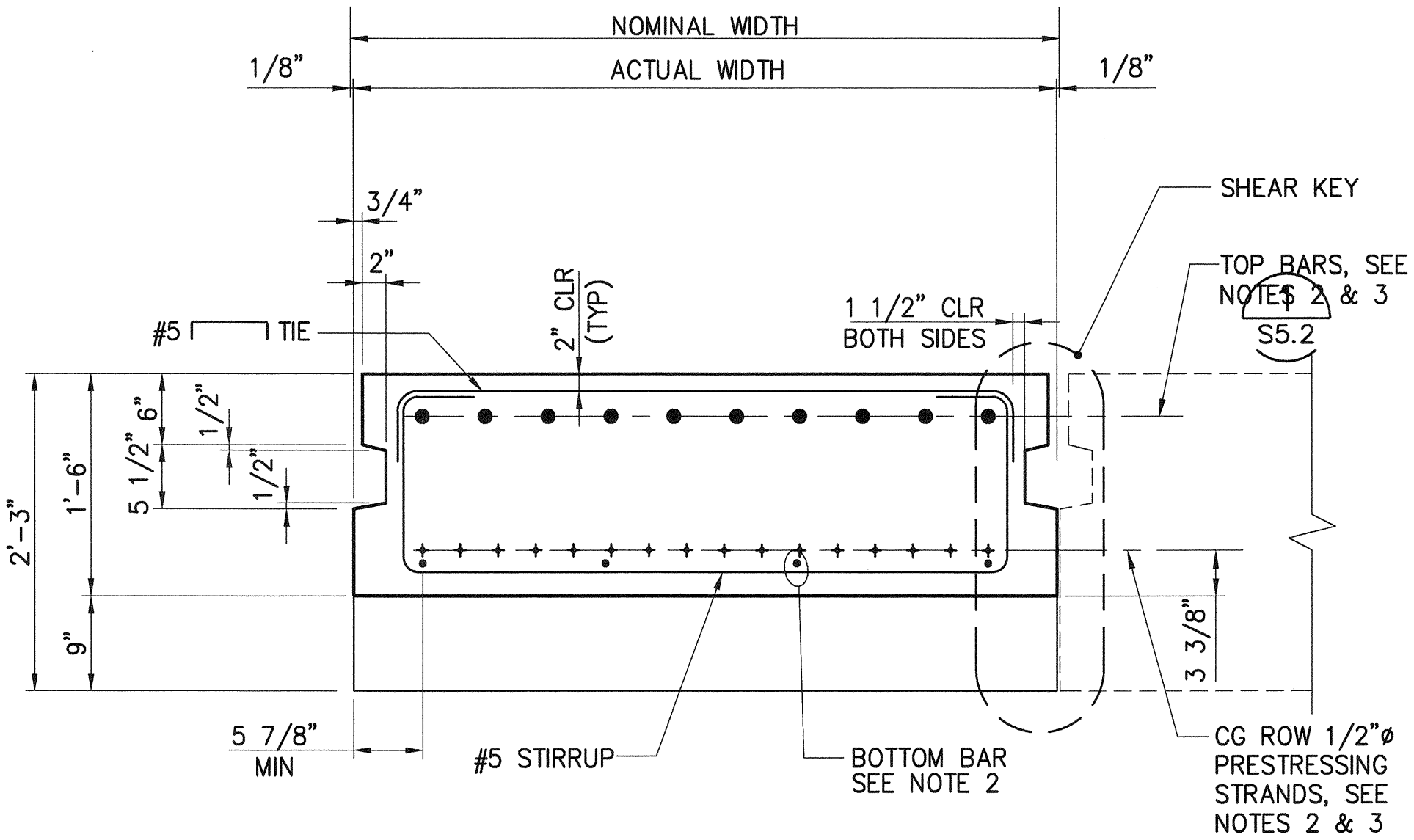
1
S26.1 - S26.5
1/2"=1'-0"

DECK PANEL PLAN



B
1/2"=1'-0"

DECK PANEL ELEVATION



A
1"=1'-0"

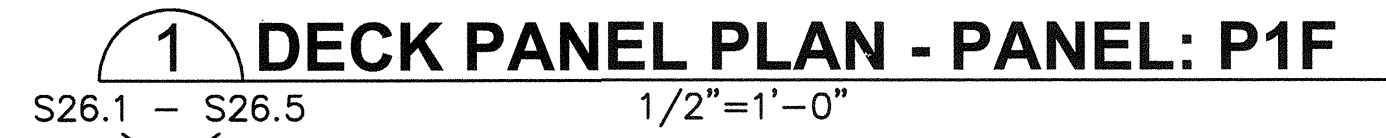
DECK PANEL SECTION

NOTES:

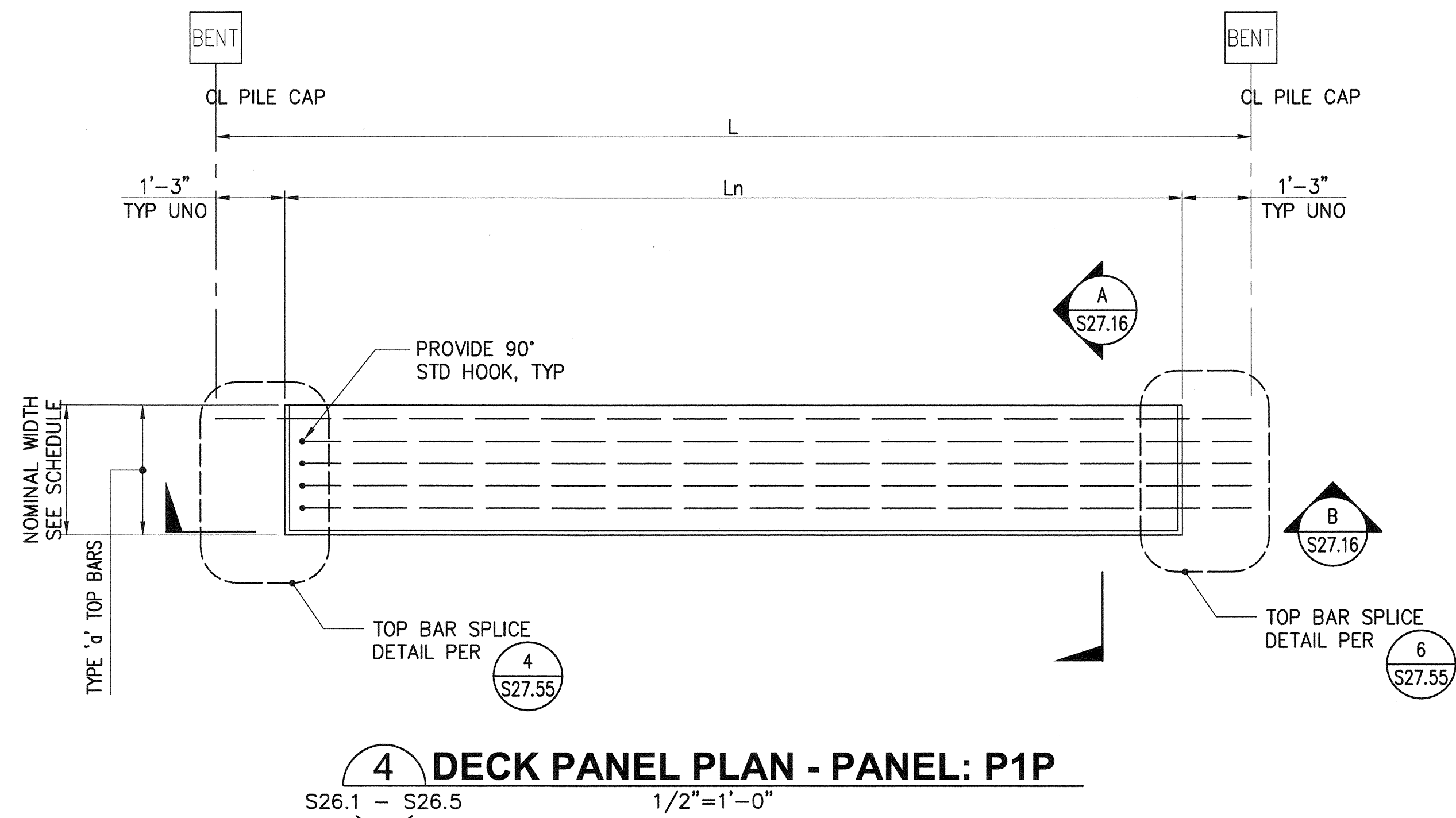
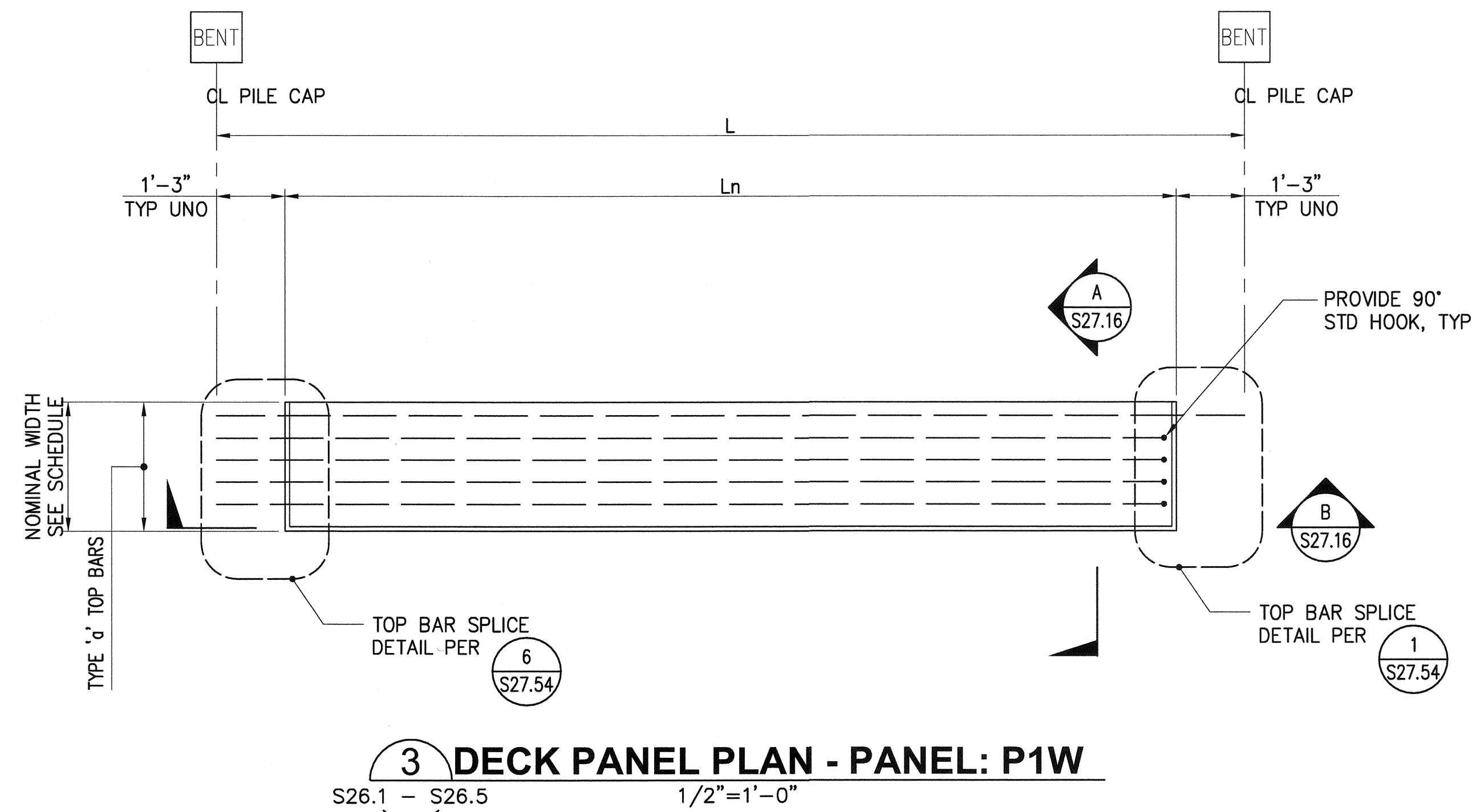
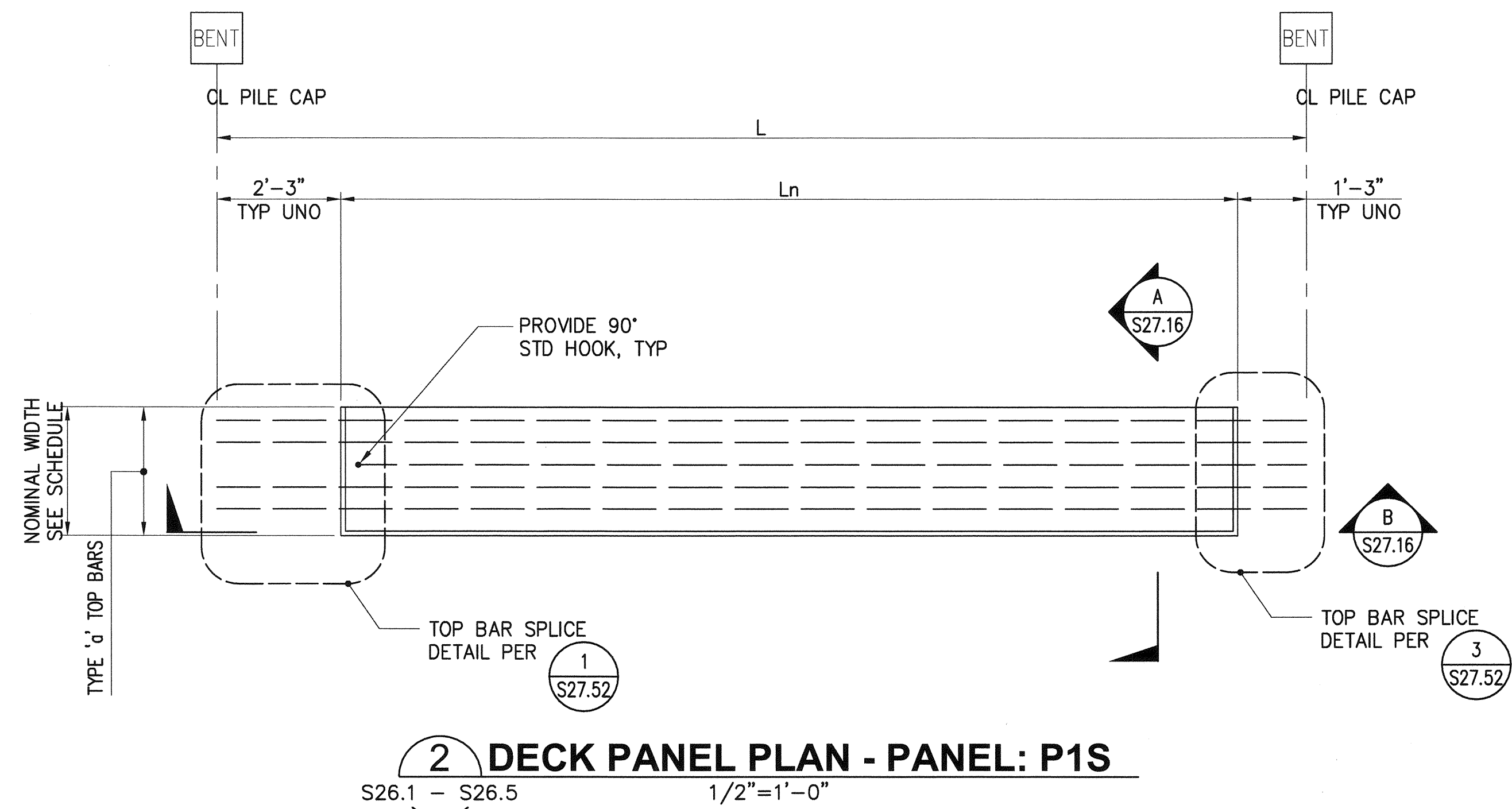
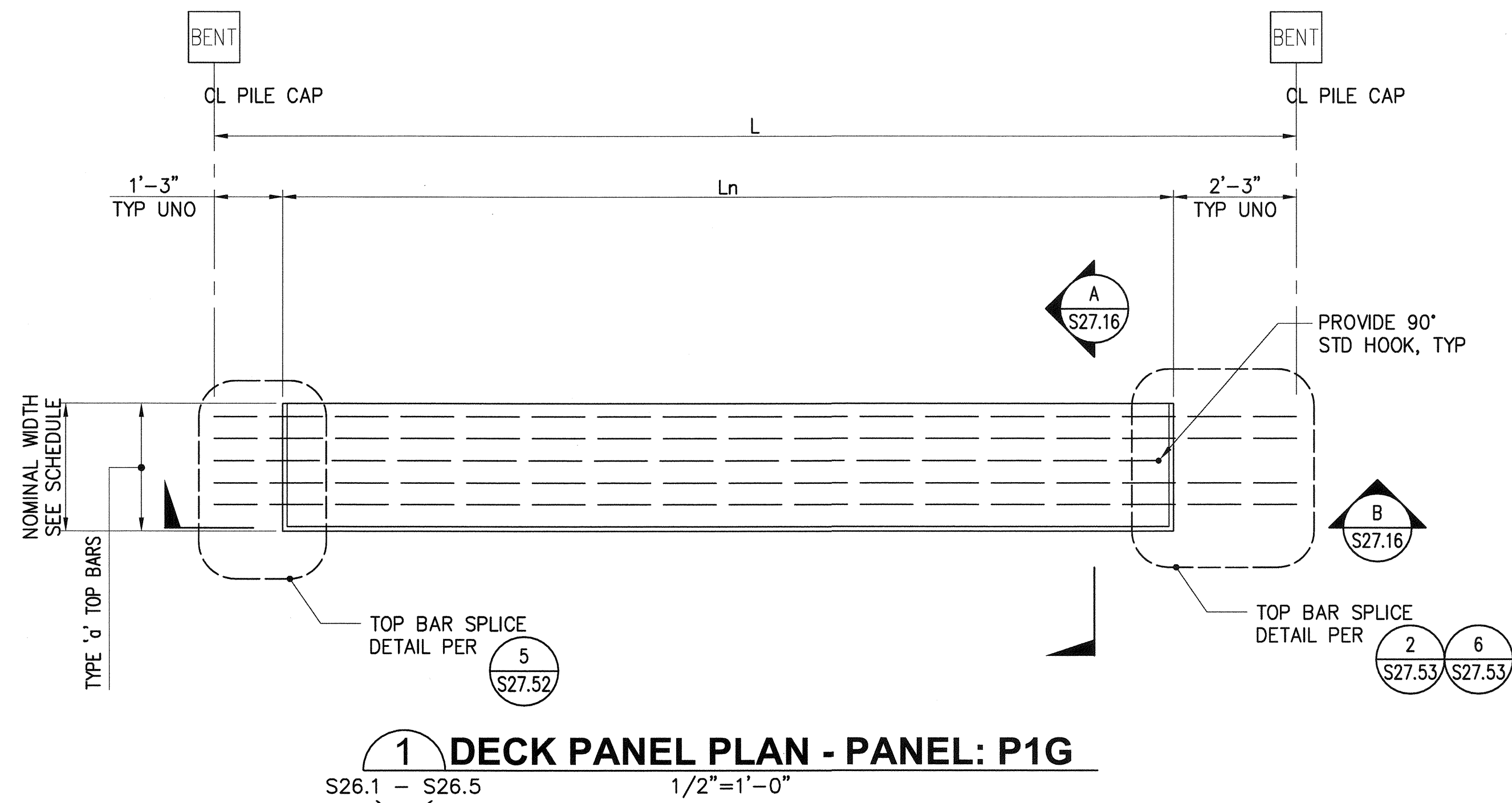
1. USE THIS SHEET FOR DECK PANEL TYPES: P7, P7A, P7B, P7E
2. FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5
3. STRANDS (BARS) SHOWN ON THIS DETAIL ARE SCHEMATIC, ACTUAL # OF STRANDS (BARS) SHALL BE ADJUSTED AS SHOWN ON SCHEDULE S26.1-S26.5. STRANDS (BARS) SHALL BE EQUALLY SPACED.

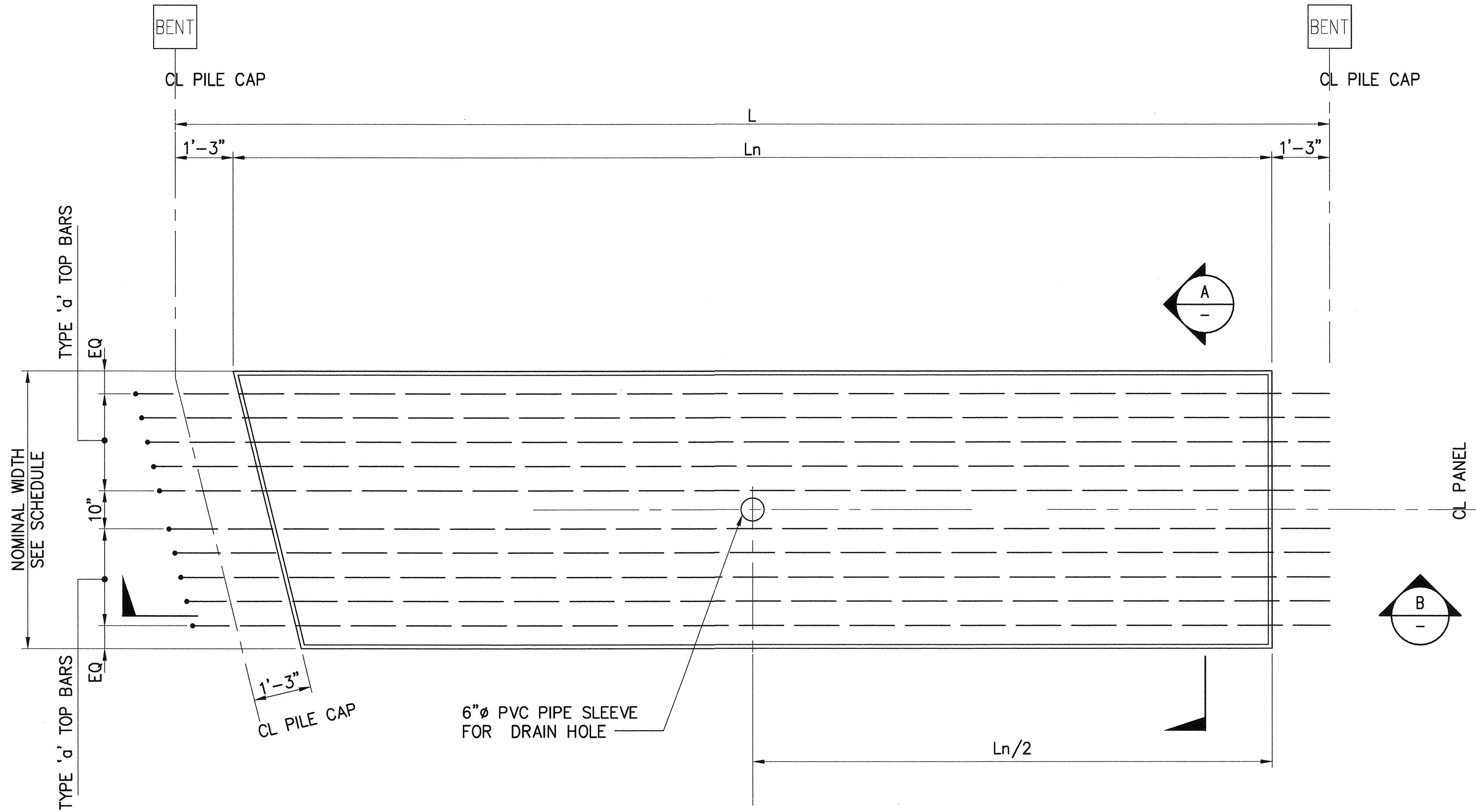
6552 S27.15 SH 308 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 15					 Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401 (253)383-5841	
	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	DATE: 091251			
	DAT-HRZ: WA83-SF	VERT: MLLW 19.39 @ Tide 22 1933	BY: [Signature]	REVISION: [Signature]			
	PARCEL: [Signature]	DRAWING SCALE: AS NOTED	PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	DATE: [Signature]			
CONT/CONS: 070136	M. ID: 091251	PHASE: BID				APPR: [Signature]	DATE: [Signature]

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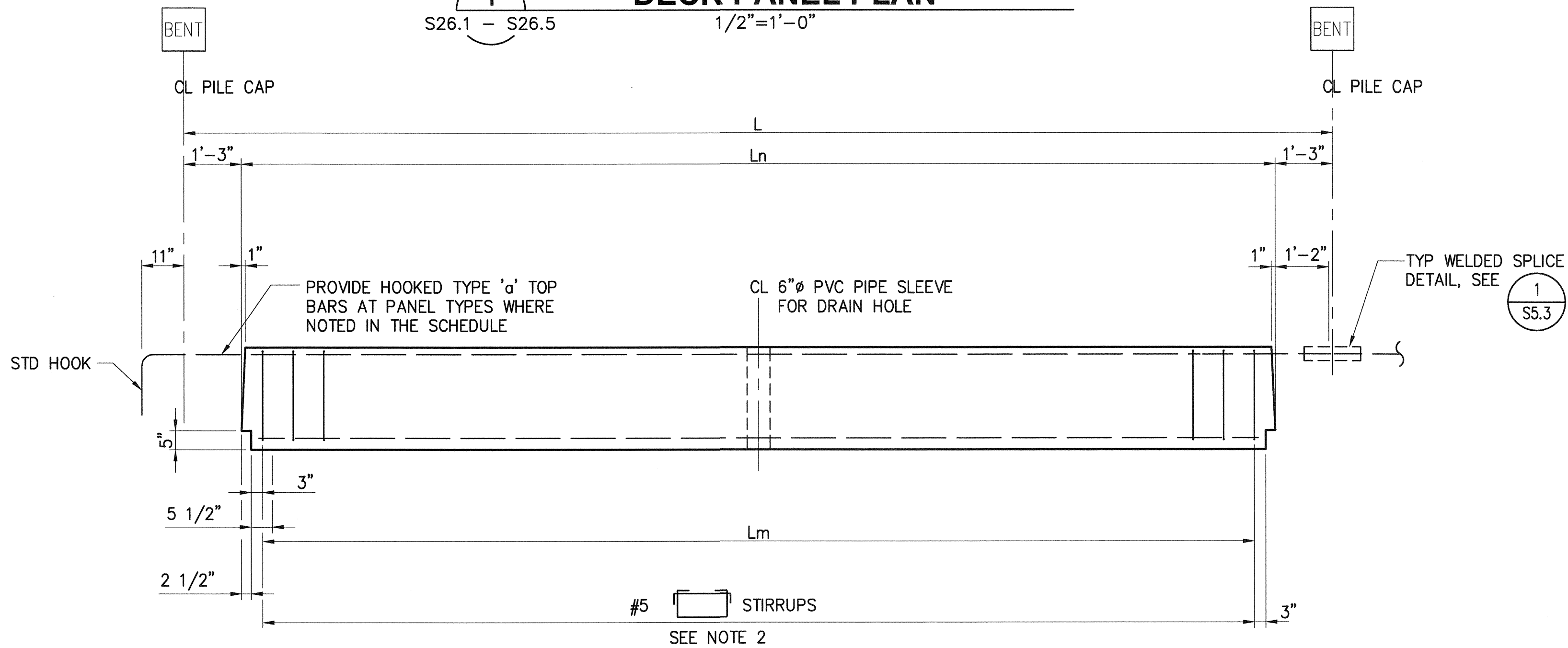
1. USE THIS SHEET FOR DECK PANEL TYPES:
P1F, P1G, P1S, P1W, P1P
2. FOR DECK PANEL SCHEDULE, SEE S26.1 – S26.5





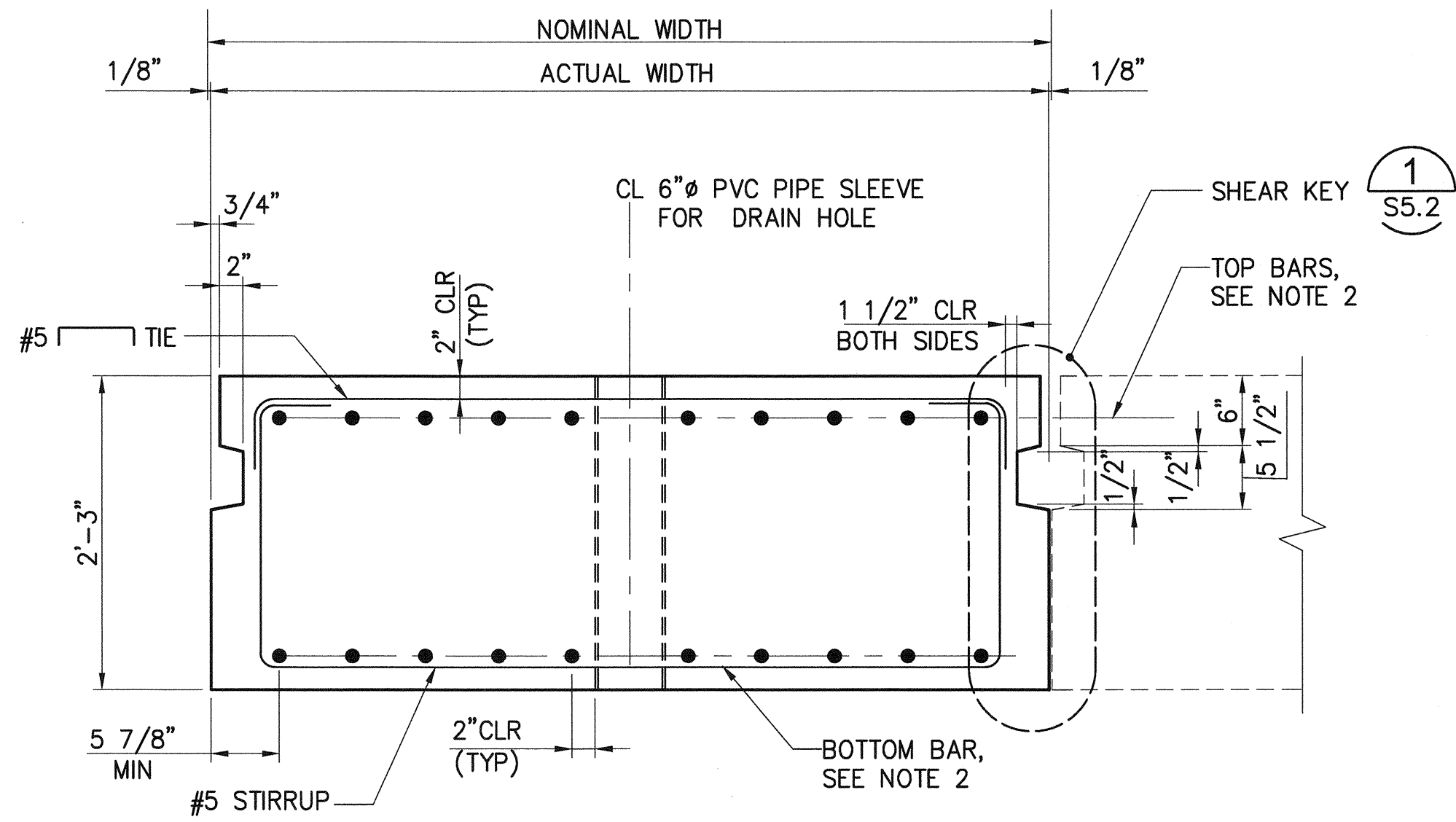
1
S26.1 - S26.5
1/2"=1'-0"

DECK PANEL PLAN



B
1/2"=1'-0"

DECK PANEL ELEVATION



A
1"=1'-0"

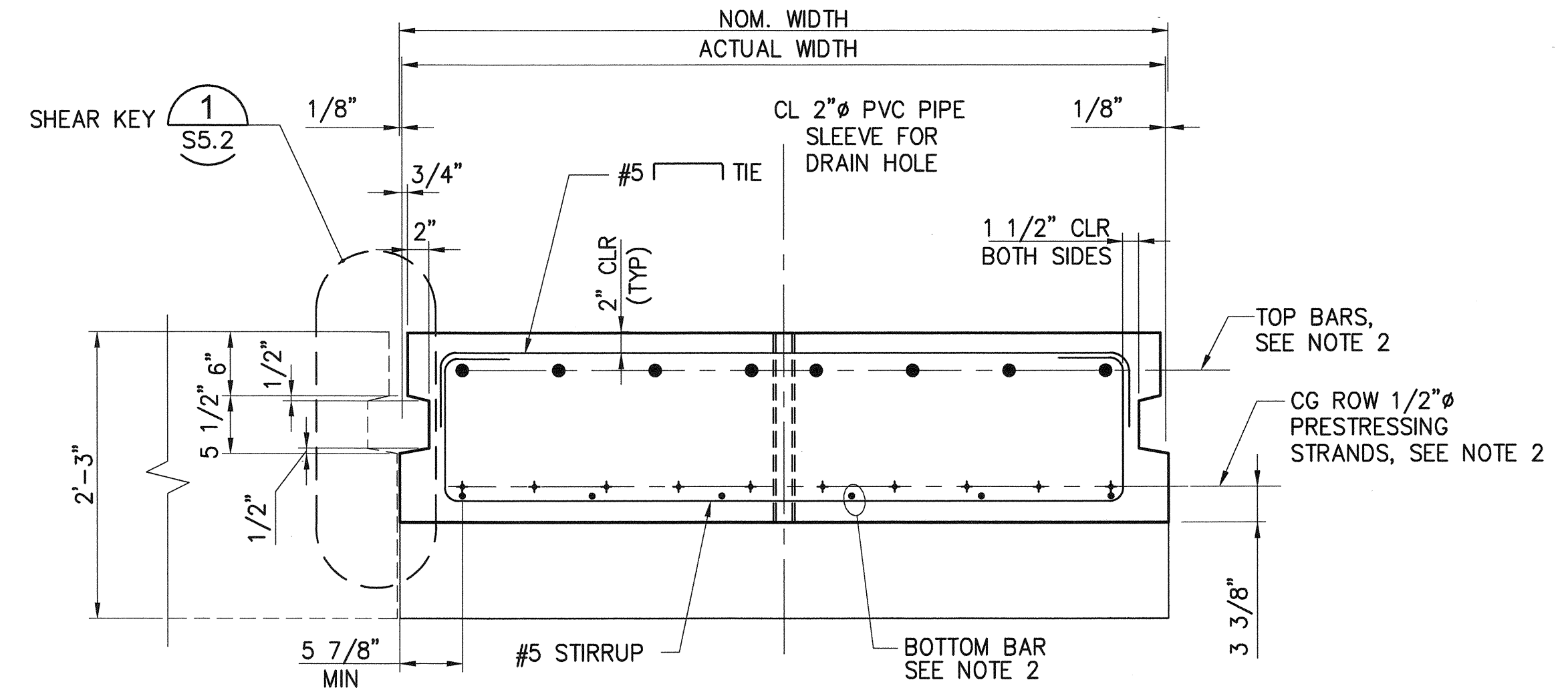
DECK PANEL SECTION

NOTES:

1. USE THIS SHEET FOR DECK PANEL TYPES: P14, P15, P16, P17
2. FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5

6552 S27.17 SH 311 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 17				kpff 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 187 TACOMA, WA 98401 (253)888-5841		Port of Tacoma
	CONTR/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27			
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLW 19.39@ Tide 22 1933	PRINTED BY: tlemans Mar 24, 2016	DIRECTOR ENG. DATE: 3-28-16	APPR: BY: DATE:		Port of Tacoma
PHASE: BID	DRAWING SCALE: AS NOTED	PORT ADDRESS: ONE SITCUM PLAZA	TACOMA, WA 98401-1837	MARK: REVISION:	DATE:		

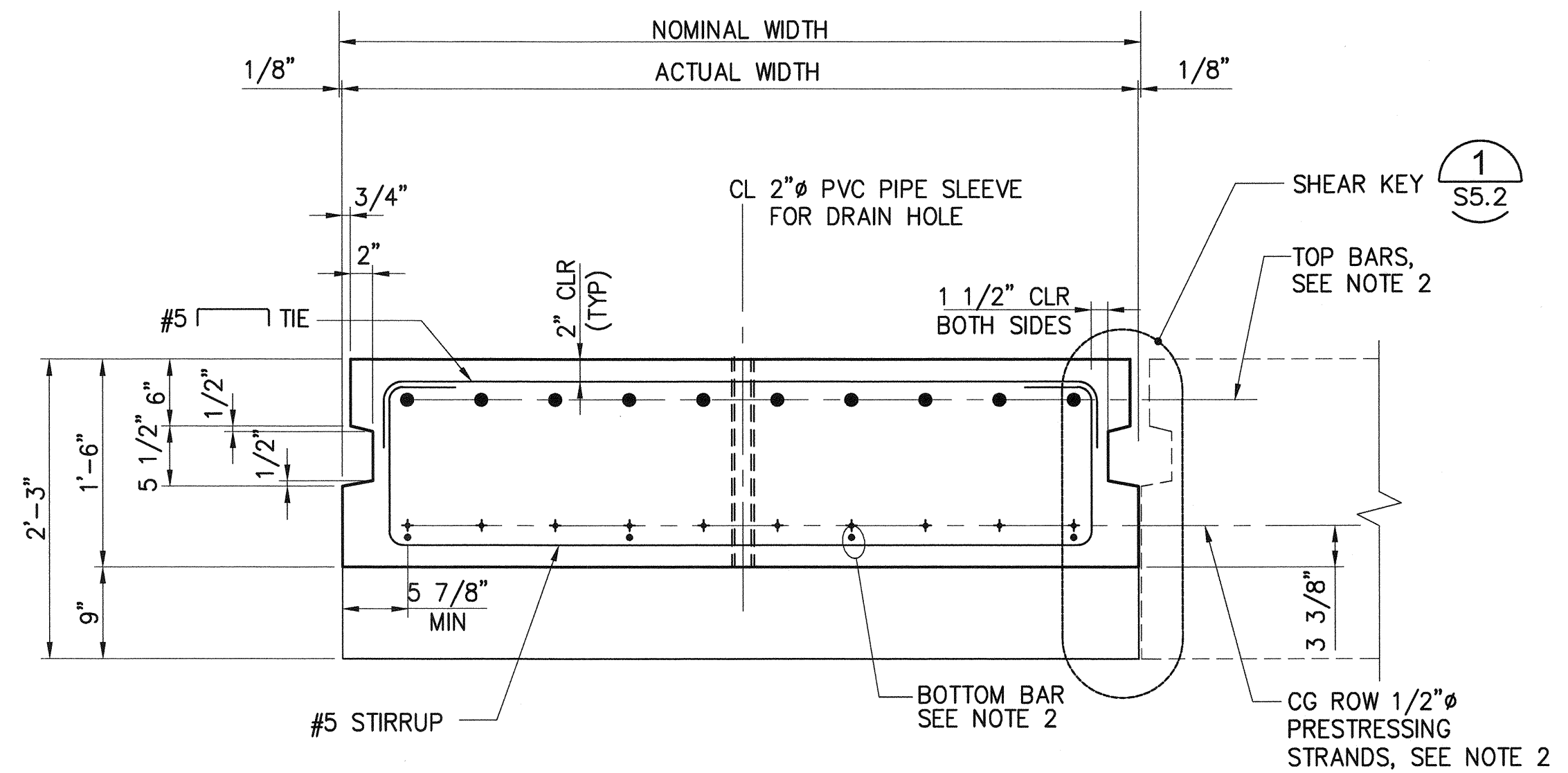
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DECK PANEL SECTION



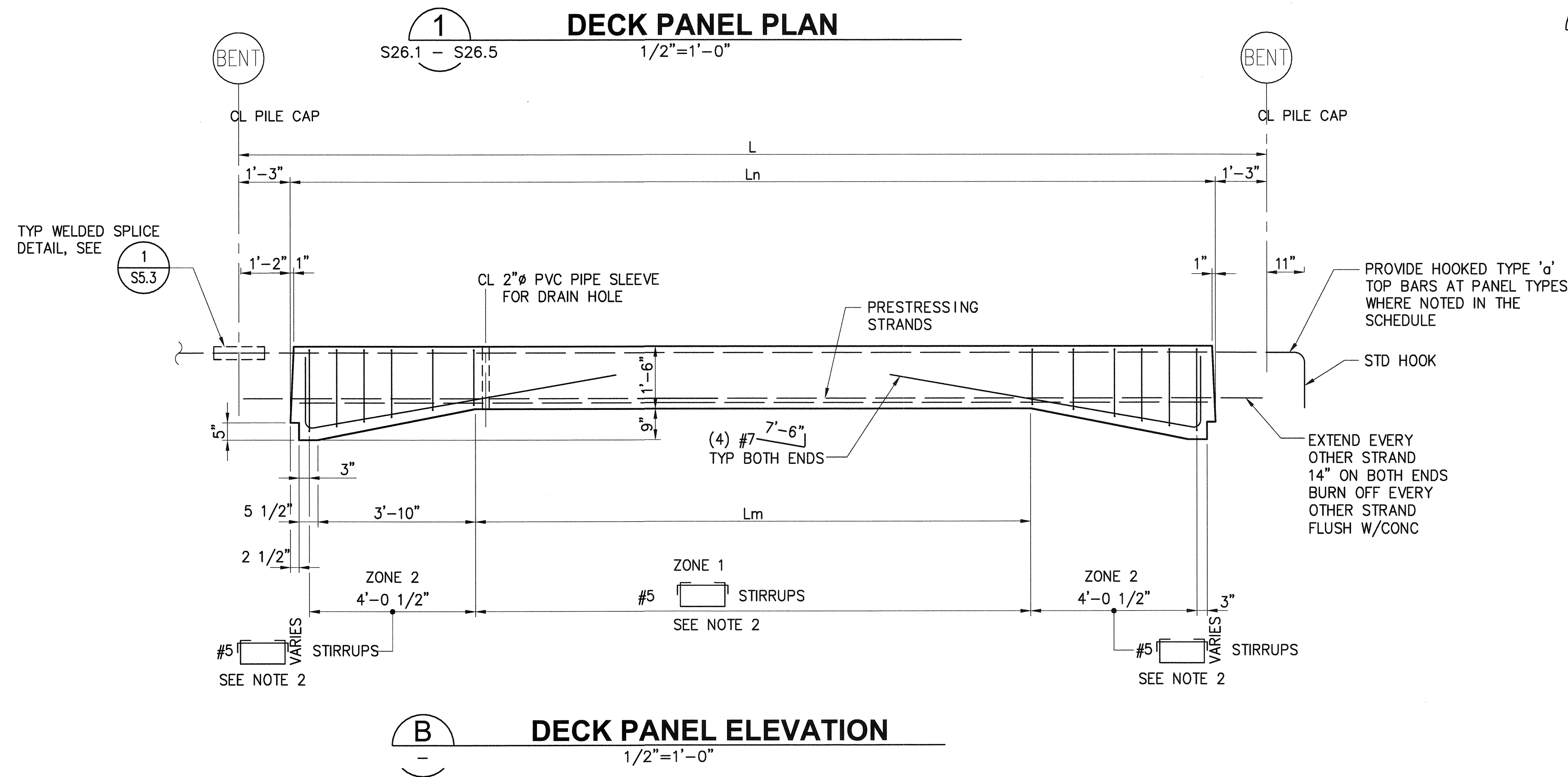
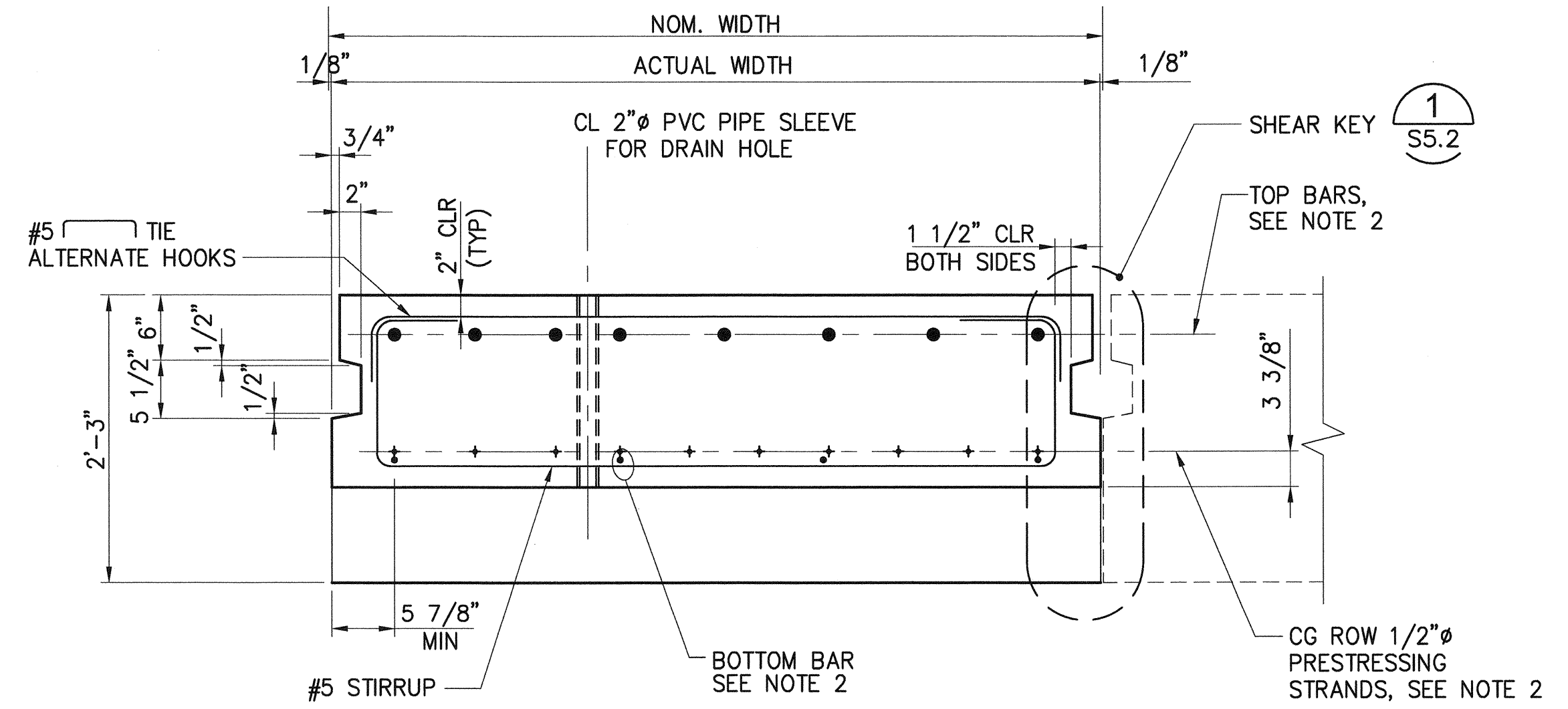
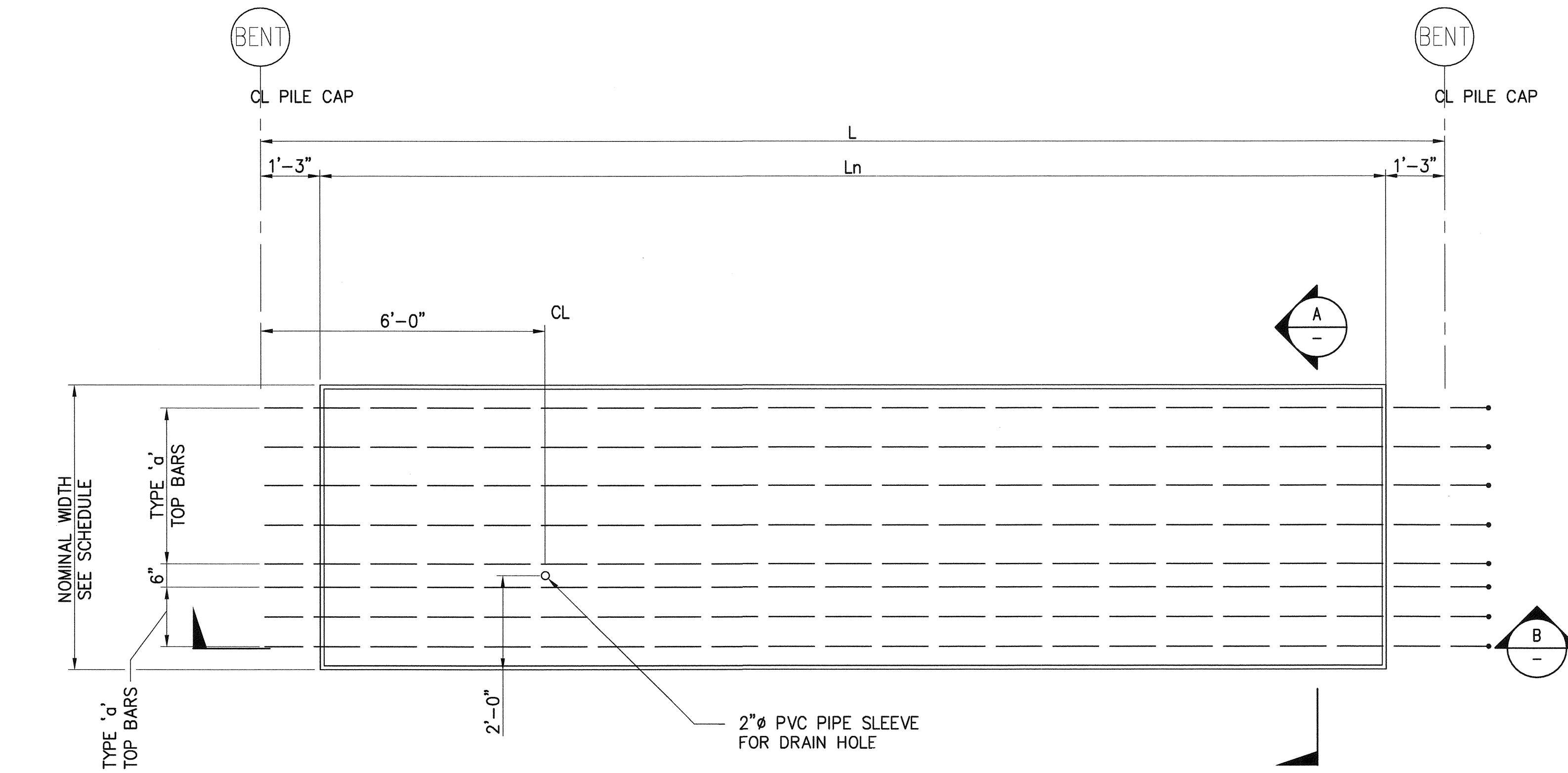
1. USE THIS SHEET FOR DECK PANEL TYPE:
P21
2. FOR DECK PANEL SCHEDULE, SEE S26.1 – S26.5
3. TOP BAR LAYOUT SHALL MATCH EXIST DECK PANEL
TOP BAR LOCATION. FIELD VERIFY EXIST DECK PANEL
TOP BAR PRIOR TO PANEL FABRICATION.



DECK PANEL SECTION

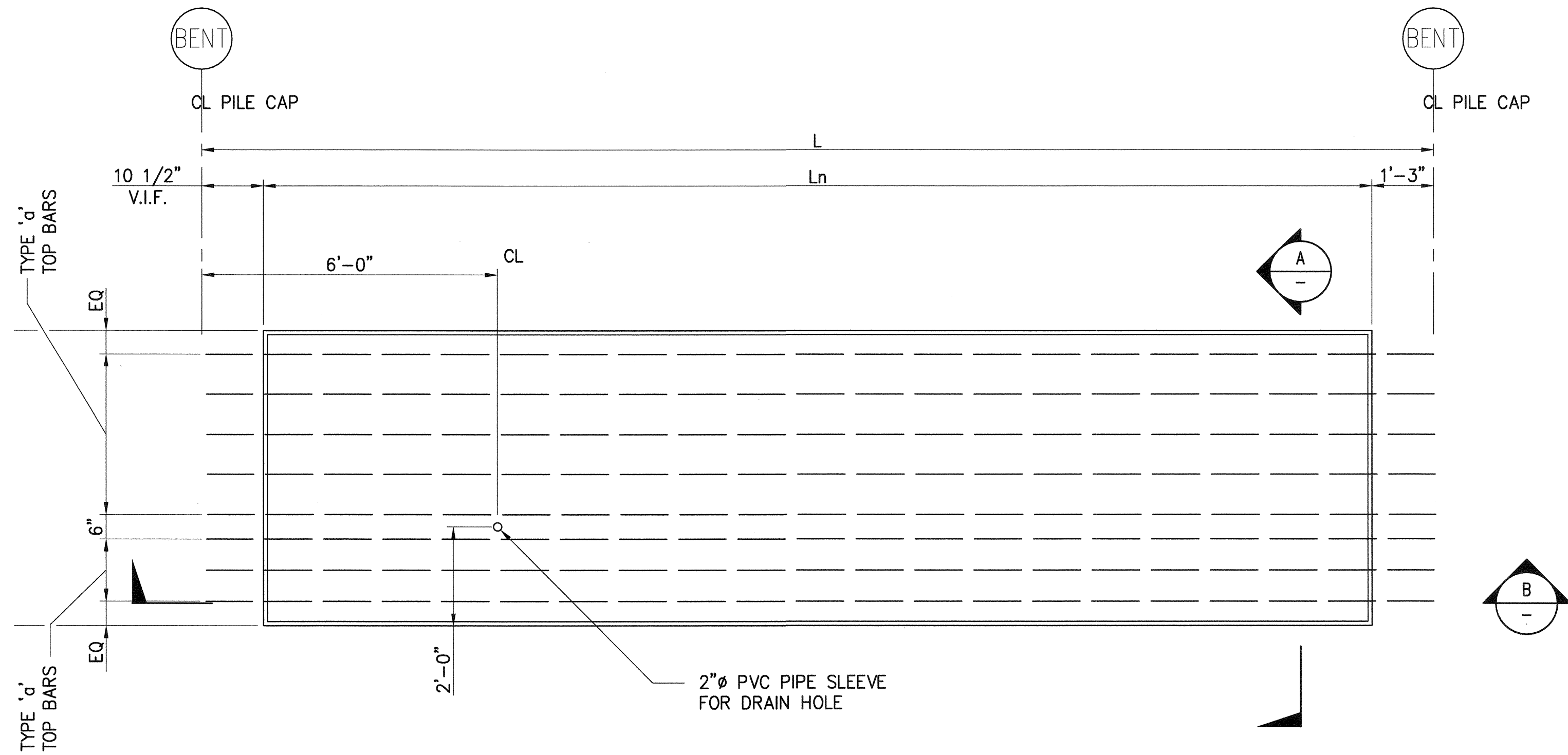


1. USE THIS SHEET FOR DECK PANEL TYPES:
P21A
2. FOR DECK PANEL SCHEDULE, SEE S26.1 – S26.5
3. TOP BAR LAYOUT SHALL MATCH EXIST DECK PANEL
TOP BAR LOCATION. FIELD VERIFY EXIST DECK PANEL
TOP BAR PRIOR TO PANEL FABRICATION.

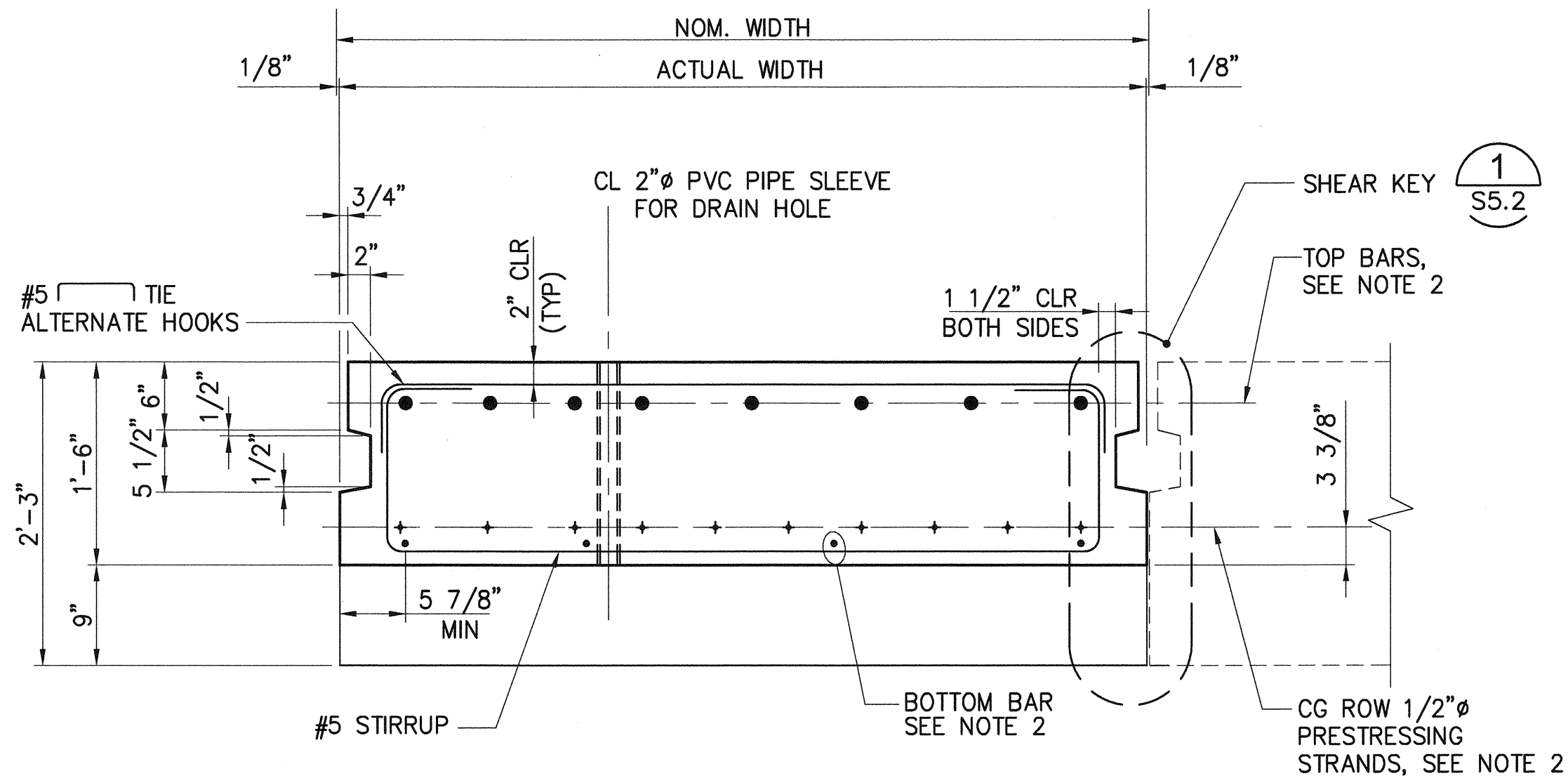


- NOTES:**

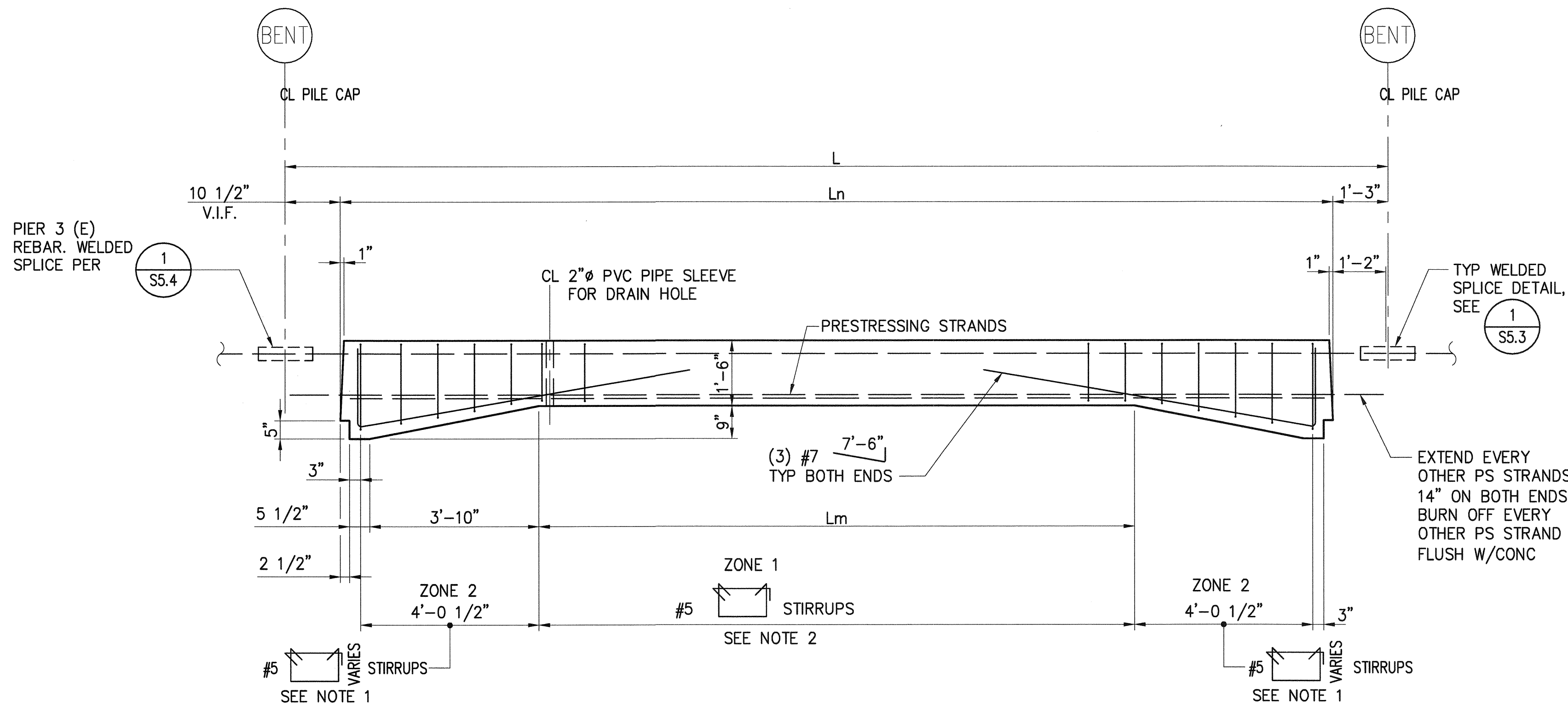
1. USE THIS SHEET FOR DECK PANEL TYPES:
P23
2. FOR DECK PANEL SCHEDULE, SEE S26.1 – S26.5
3. TOP BAR LAYOUT SHALL MATCH EXIST DECK PANEL
TOP BAR LOCATION. FIELD VERIFY EXIST DECK PANEL
TOP BAR PRIOR TO PANEL FABRICATION.



1
S26.1 - S26.5
DECK PANEL PLAN
 $1/2"=1'-0"$



A
DECK PANEL SECTION
 $1"=1'-0"$

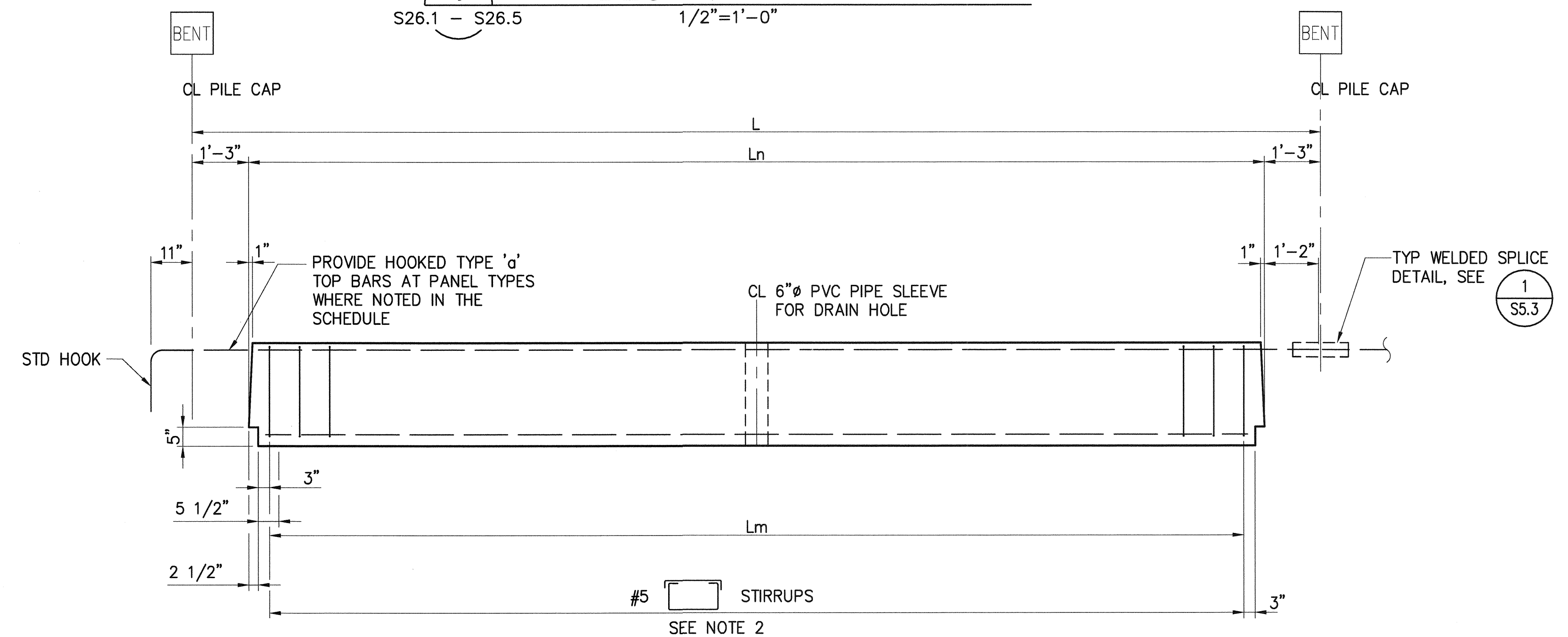
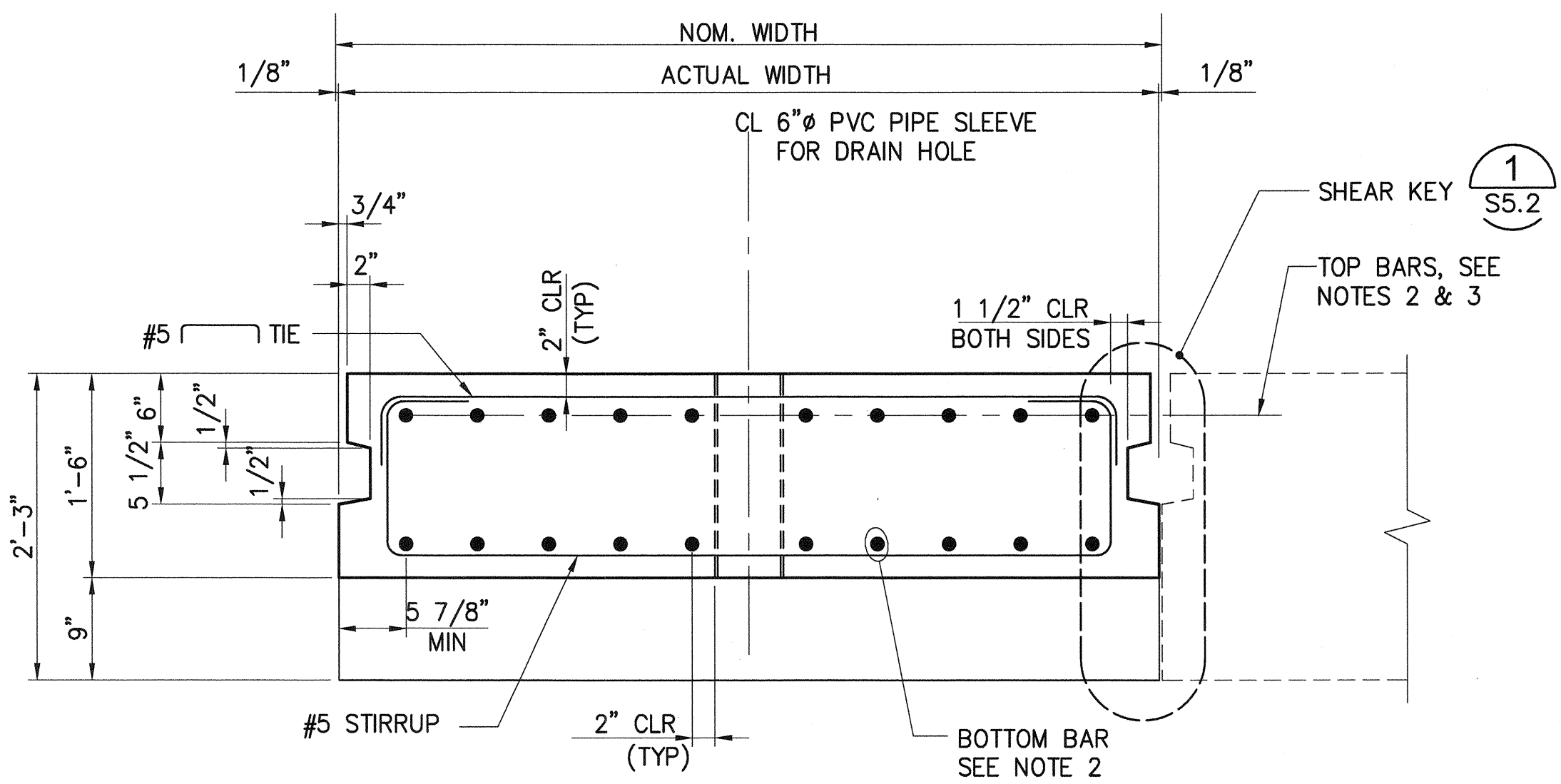
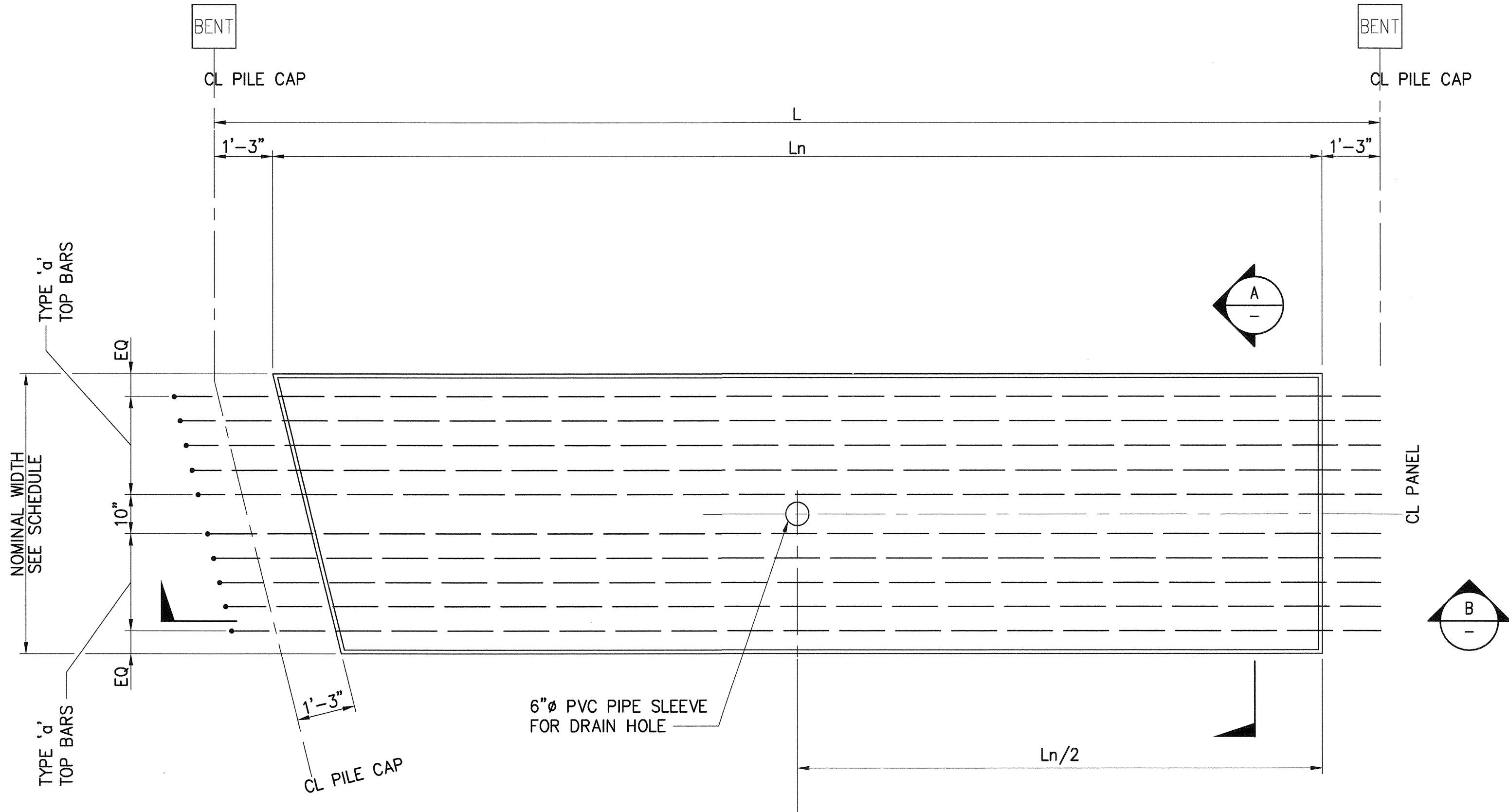


B
DECK PANEL ELEVATION
 $1/2"=1'-0"$

NOTES:

1. USE THIS SHEET FOR DECK PANEL TYPES: P23A
2. FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5
3. TOP BAR LAYOUT SHALL MATCH EXIST DECK PANEL TOP BAR LOCATION. FIELD VERIFY EXIST DECK PANEL TOP BAR PRIOR TO PANEL FABRICATION.

6552 S27.21 SH 315 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 21				Part of Tacoma P.O. BOX 1837 TACOMA, WA 98401 (206)985-9641	
	CONTR/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162	APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR ENG. DATE PRINTED BY: <i>[Signature]</i> TACOMA, WA 98401-1837
M. ID: 091251	DATE-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	PARCEL: AS NOTED	REVISION: BY: DATE:	MARK: REVISION: BY: DATE:	
PHASE: BID	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION					



- NOTES:
- USE THIS SHEET FOR DECK PANEL TYPES: P24 TO P34
 - FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5
 - STRANDS (BARS) SHOWN ON THIS DETAIL ARE SCHEMATIC, ACTUAL # OF STRANDS (BARS) SHALL BE ADJUSTED AS SHOWN ON SCHEDULE S26.1-S26.5. STRANDS (BARS) SHALL BE EQUALLY SPACED.

6552

S27.22

SH 316 OF 499

CONT/CONS: 070136

M. ID: 091251

PHASE: BID

PIER 4 PHASE 2

RECONFIGURATION

DECK PANEL DETAILS - SHEET 22

APPROVED: *[Signature]*

3-28-16

DIRECTOR ENG. DATE

PRINTED BY: tlemmons

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

SECTION: 27

RANGE: 3E

TOWNSHIP: 21N

DAT-HRZ: WA83-SF

PARCEL: AS NOTED

DATE: Mar 24, 2016

PROJ. ENGR

DATE

MARK: REVISION:

BY:

APPR:

DATE:

Port of Tacoma

P.O. BOX 1837 TACOMA, WA 98401 (253)983-5841

2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162

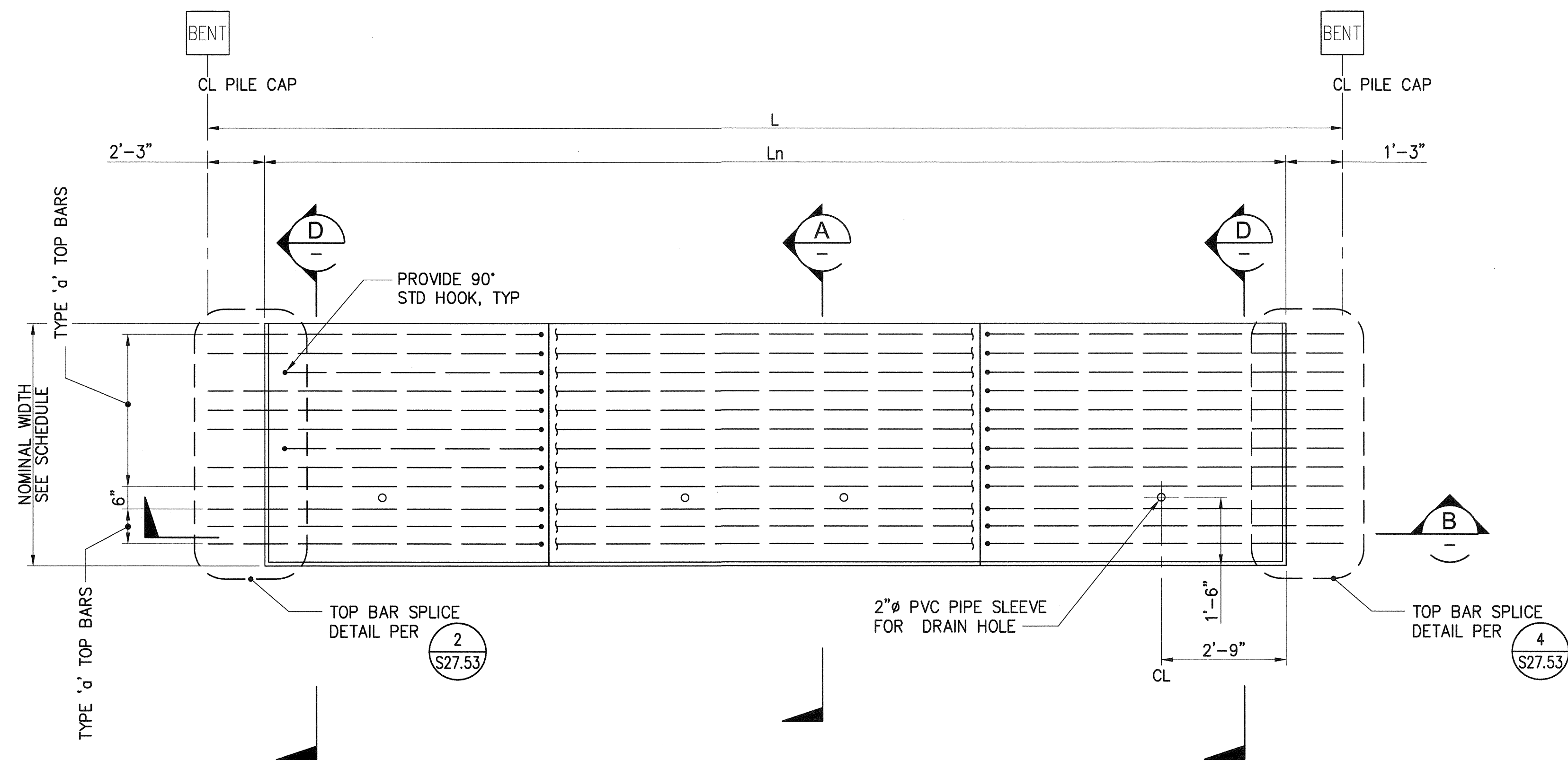
kpff

SEAL OF THE PORT OF TACOMA

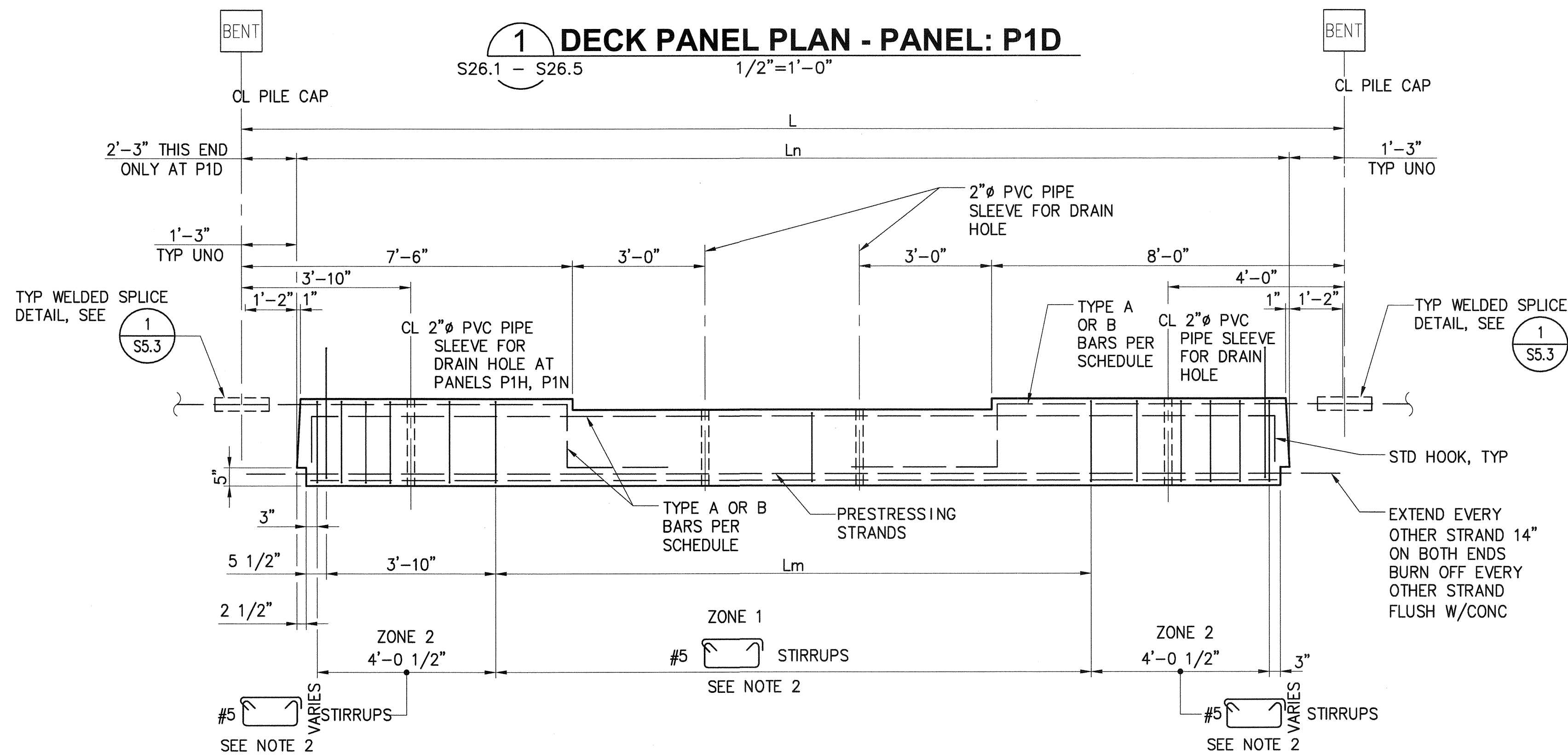
91-52-2

NOTES:

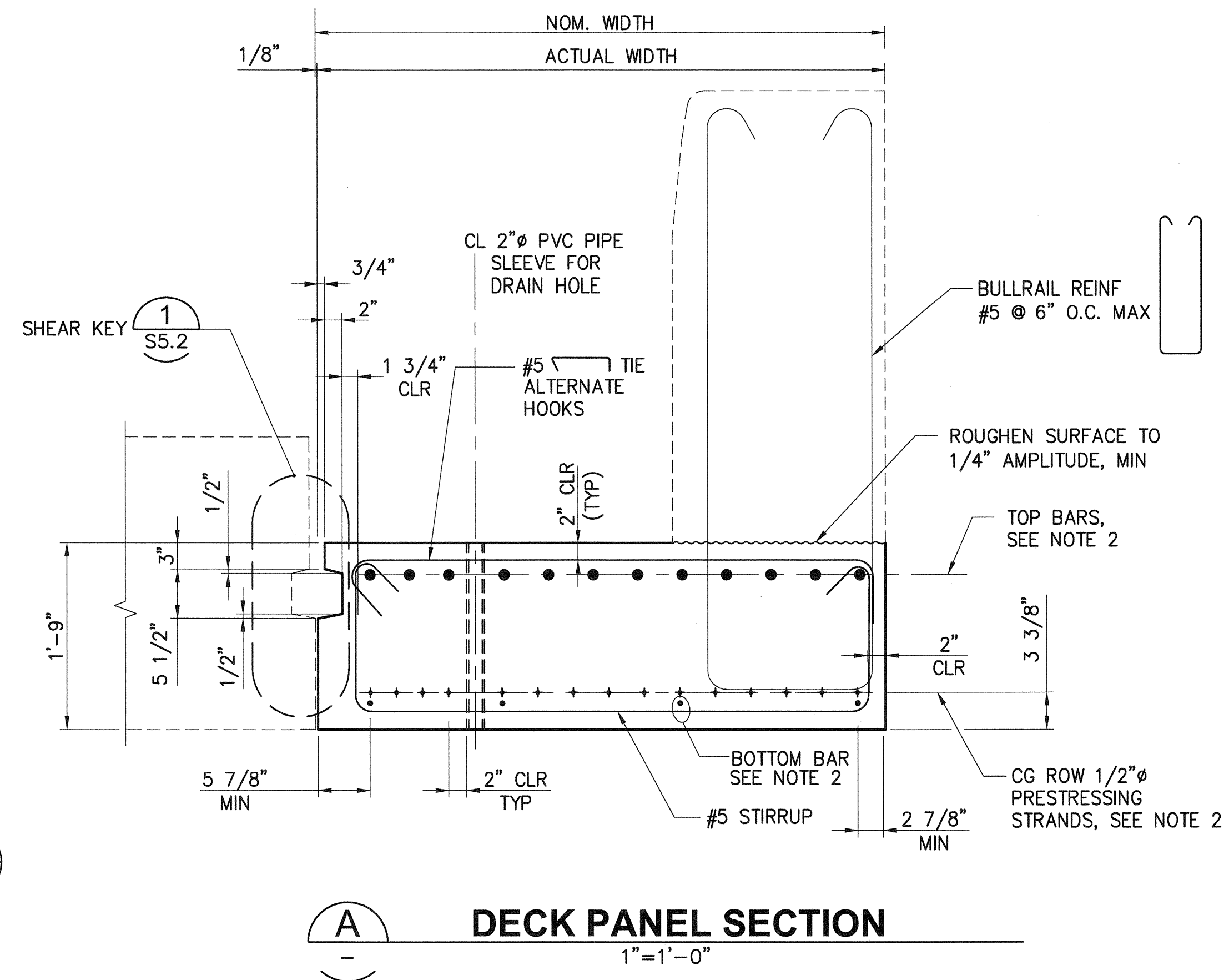
1. USE THIS SHEET FOR DECK PANEL TYPES:
P1D, P1H, P1N
2. FOR DECK PANEL SCHEDULE, SEE S26.1 – S26.5



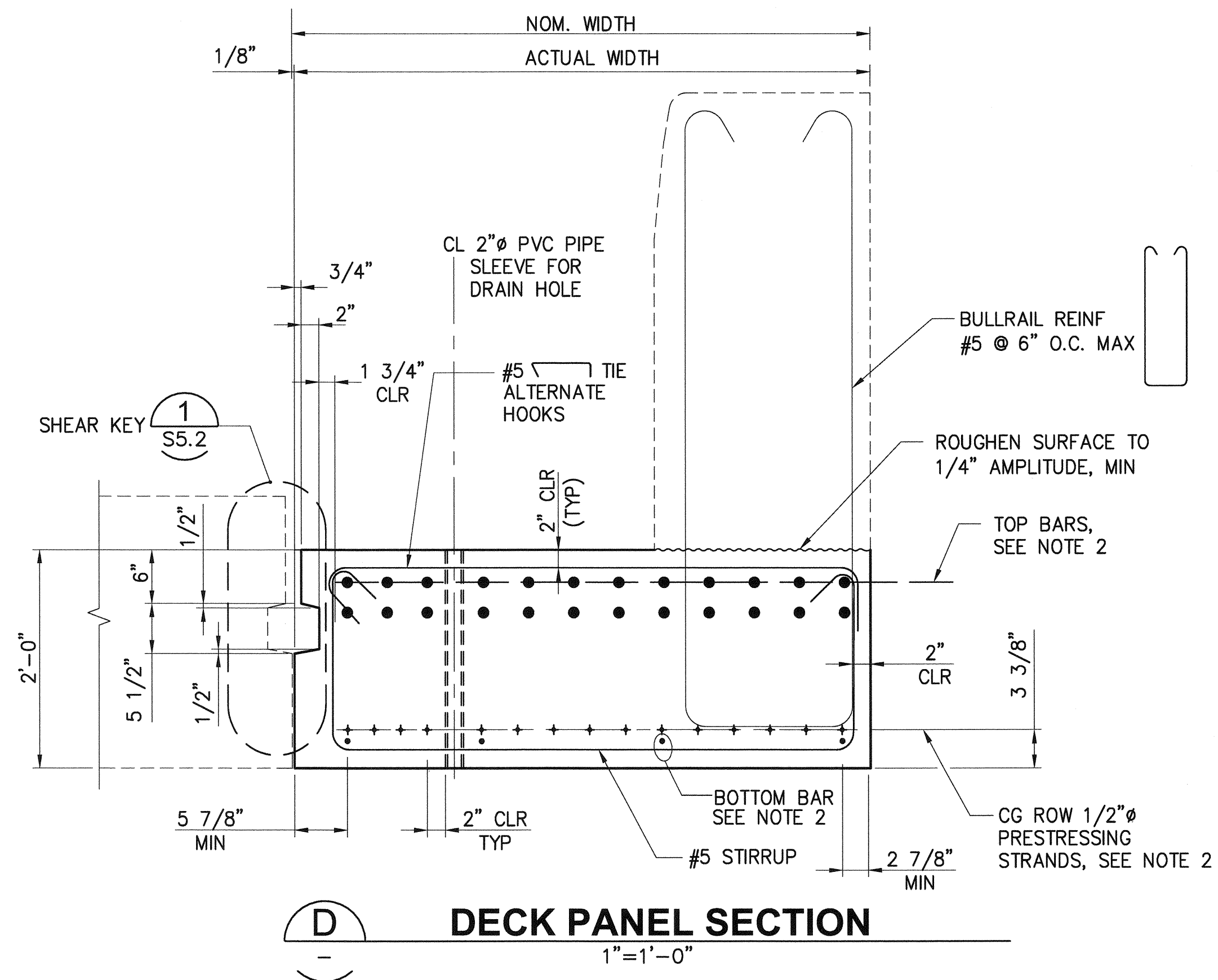
1 DECK PANEL PLAN - PANEL: P1D
S26.1 - S26.5 1/2"=1'-0"



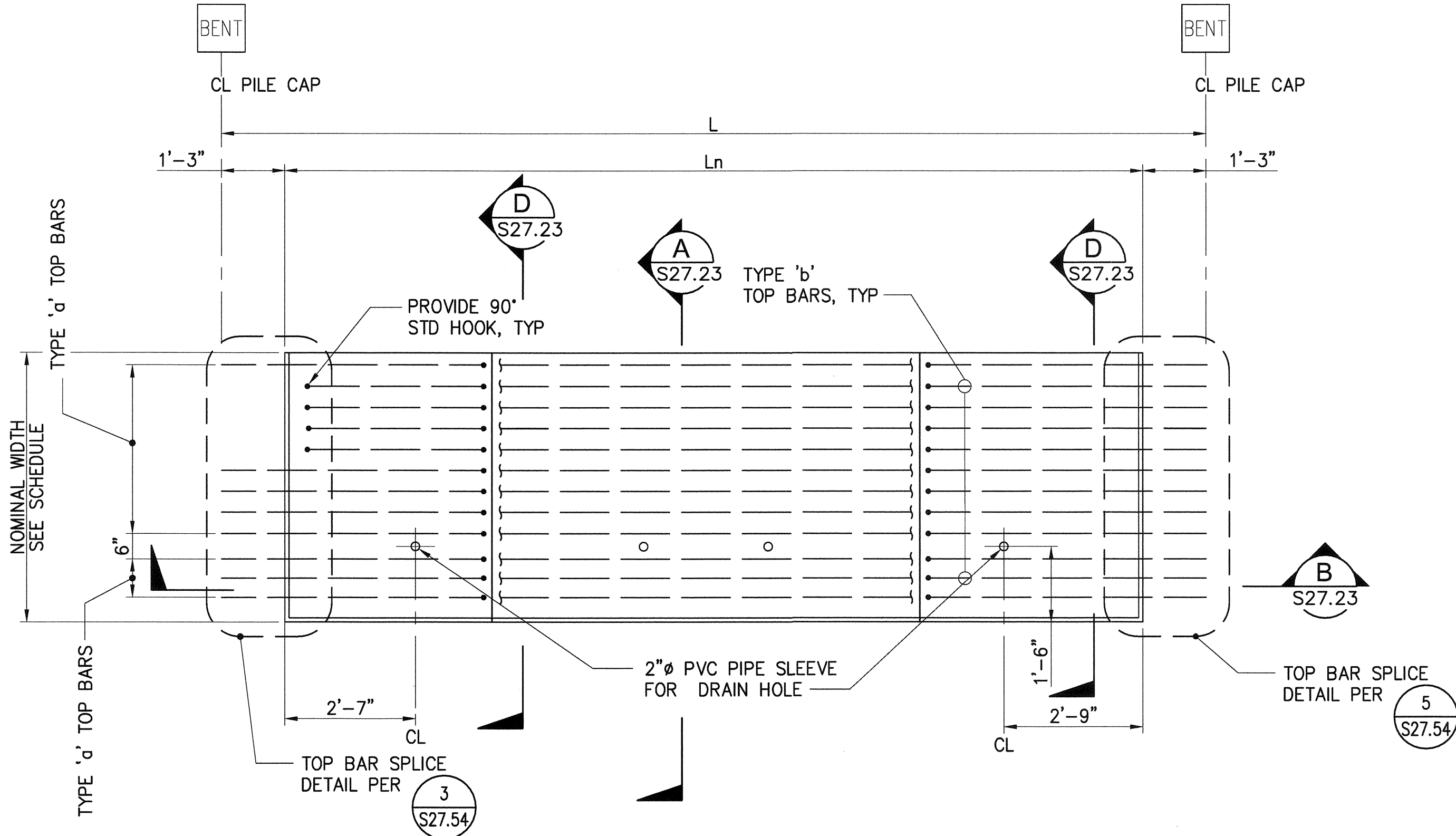
DECK PANEL ELEVATION



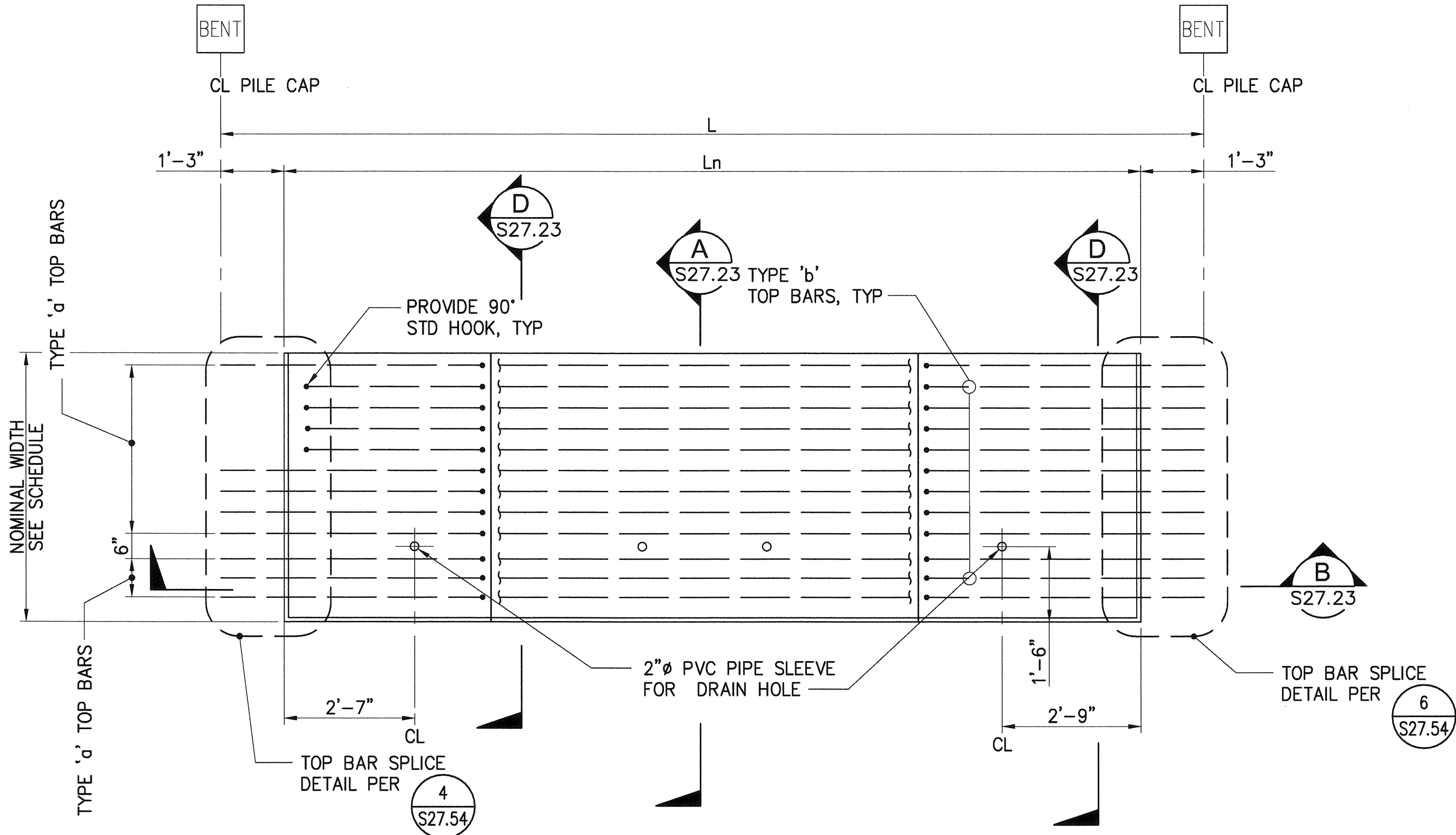
DECK PANEL SECTION



DECK PANEL SECTION



1 DECK PANEL PLAN - PANEL: P1H
S26.1 - S26.5 1/2"=1'-0"



2 DECK PANEL PLAN - PANEL: P1N
S26.1 - S26.5 1/2"=1'-0"

6552
S27.23A
SH 318 OF 499

**PIER 4 PHASE 2
RECONFIGURATION
DECK PANEL DETAILS - SHEET 23A**

CONT/CONS:	070136	TOWNSHIP:	21N	RANGE:	3E	SECTION:	27
M. ID:	091251	DAT-HRZ:	WA83-SF	VERT:	MLLW 19.39' @ Tide 22 1933		
PHASE:	BID	PARCEL:		DRAWING SCALE:	AS NOTED		

APPROVED:	SEK	CHECKED BY:	DATE
<i>[Signature]</i>	TAH	PROJ. ENGR	DATE
DIRECTOR	3-28-16	tiemoms	Mar 24, 2016
PRINTED BY:	tiemoms	Mar 24, 2016	
PORT ADDRESS:	ONE SITCUM PLAZA		
	TACOMA, WA 98401-1837		

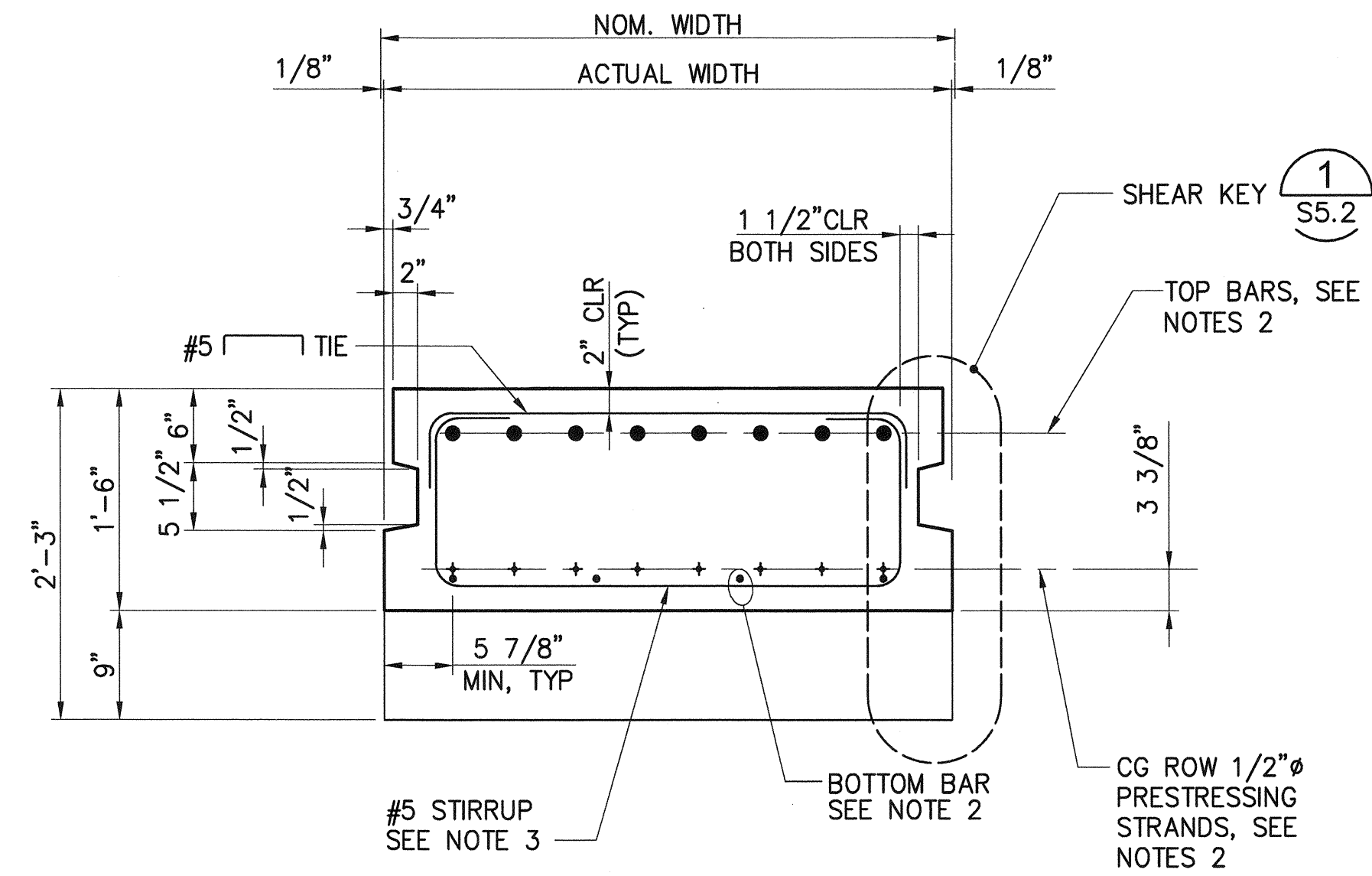


kpf

2407 North 31st Street, Suite 100
Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162

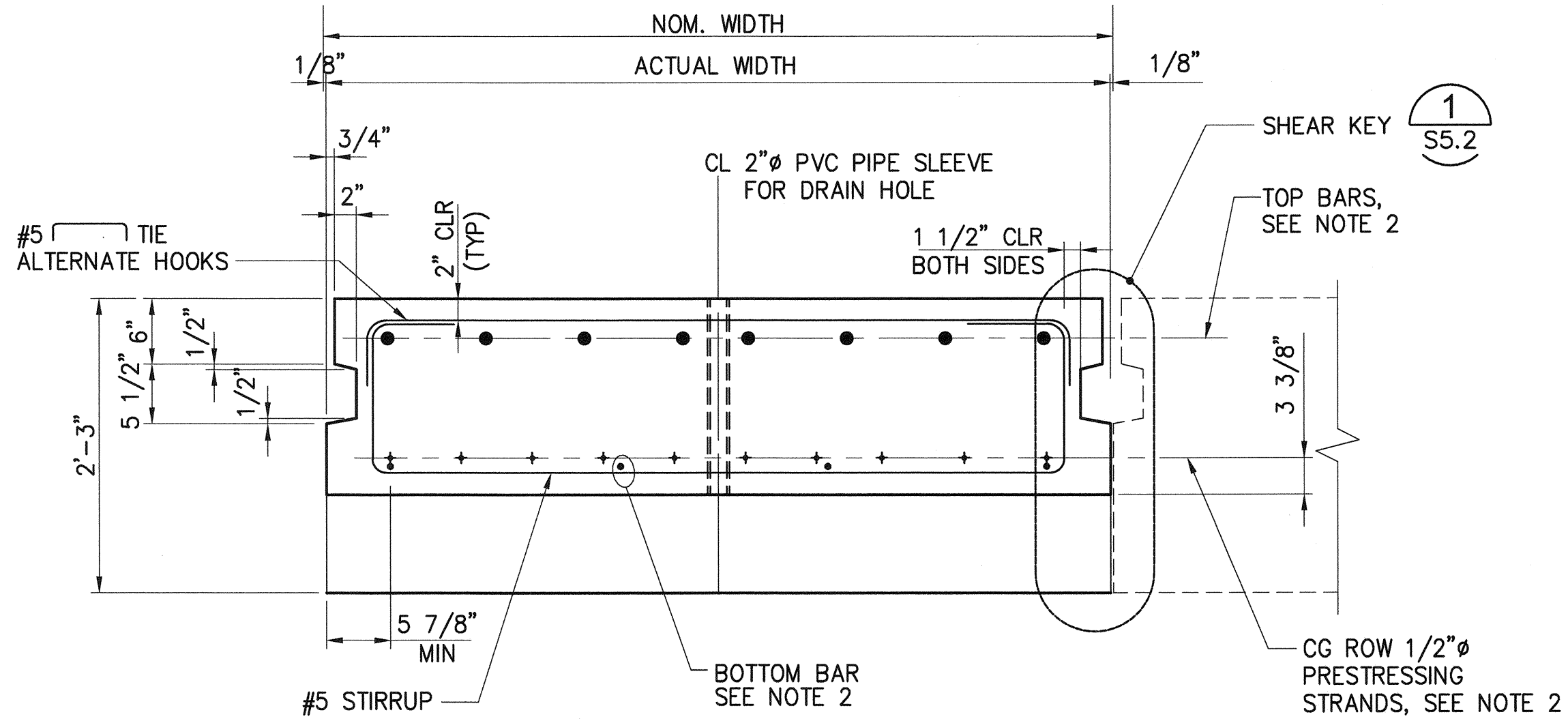
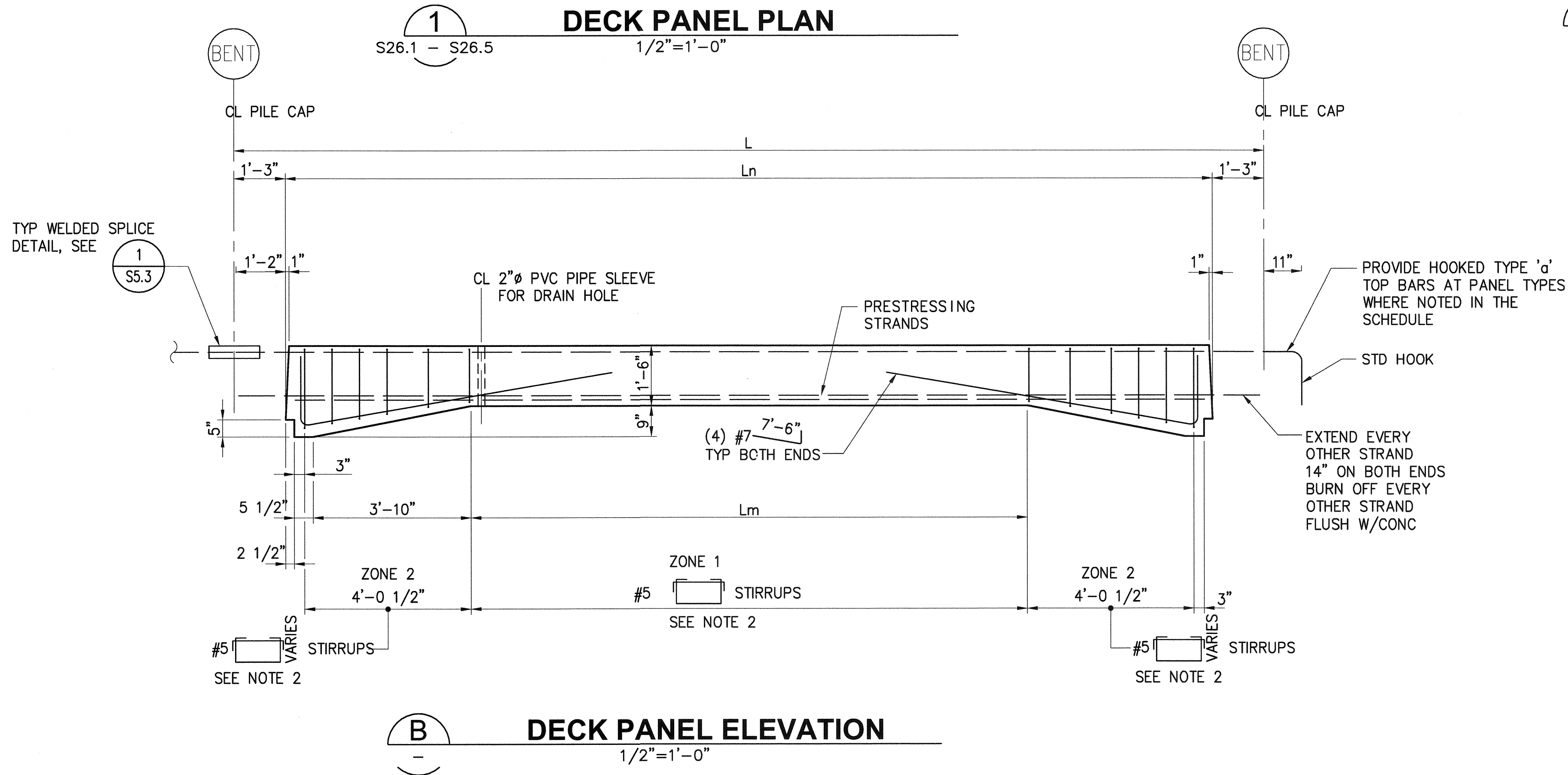
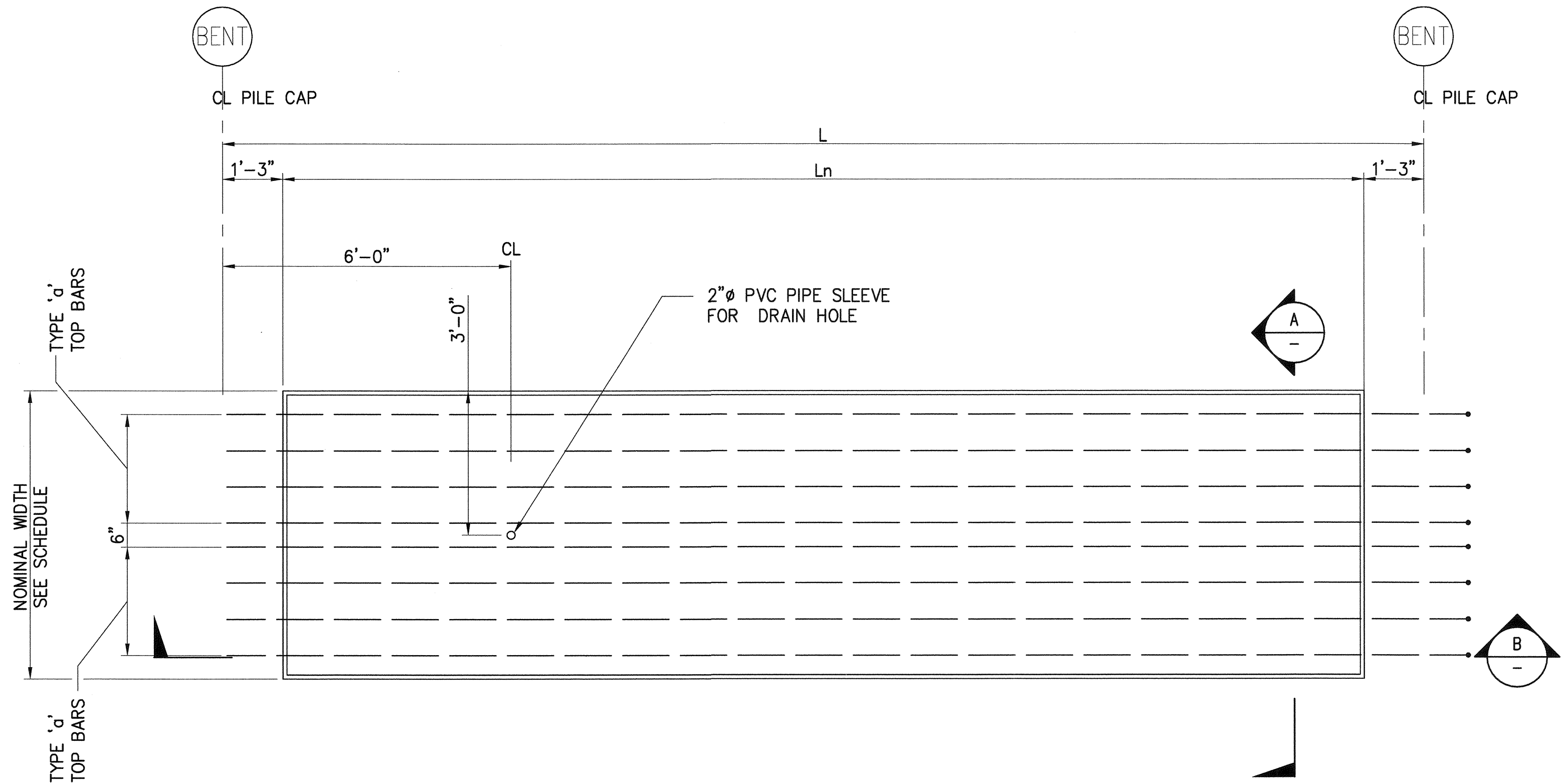
**Port of
Tacoma**
P.O. BOX 1487 TACOMA, WA 98401 (253)383-5841

MARK:	REVISION:	BY:	DATE:



DECK PANEL SECTION

- NOTES:**
1. USE THIS SHEET FOR DECK PANEL TYPES: P37B
 2. FOR DECK PANEL SCHEDULE, SEE S26.1 – S26.5

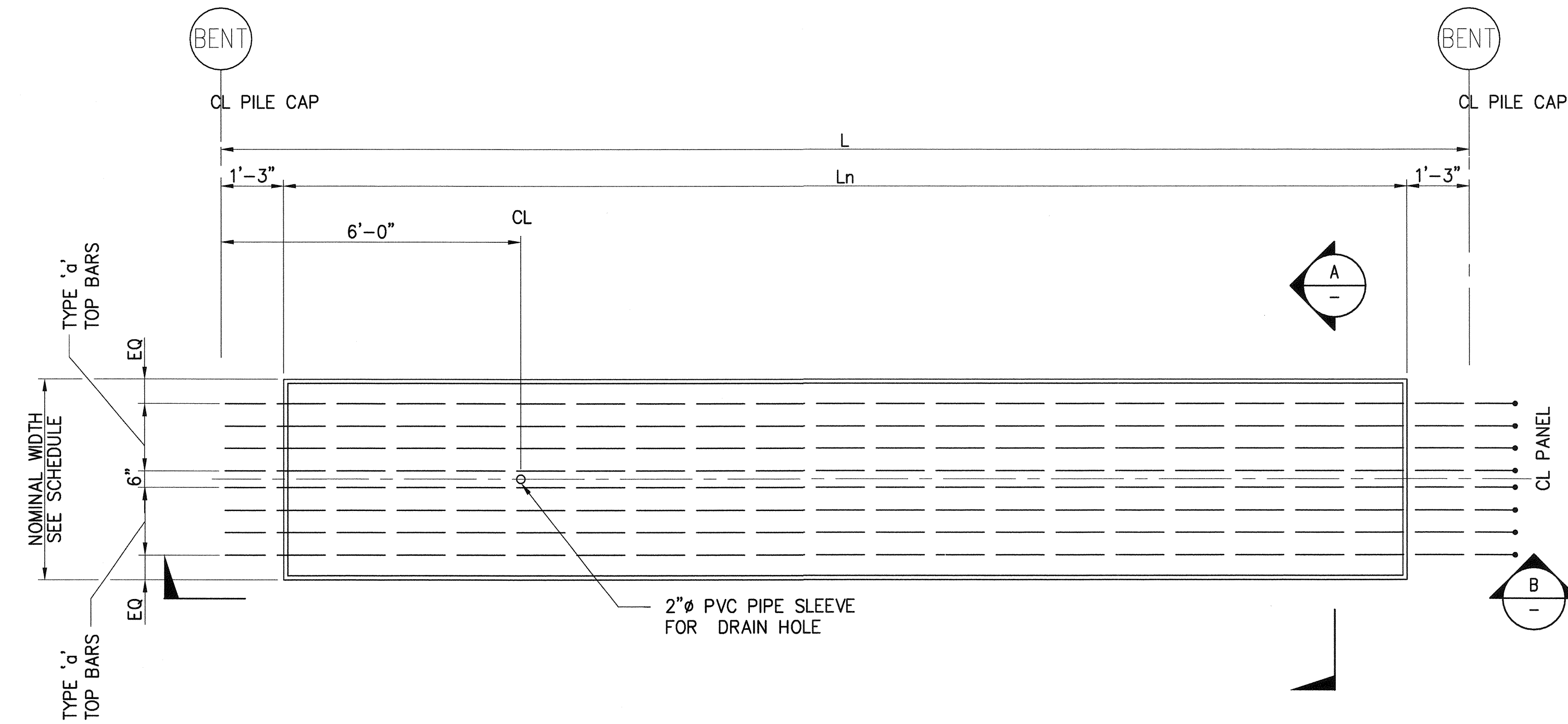


NOTES:

- USE THIS SHEET FOR DECK PANEL TYPES: P19
- FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5
- TOP BAR LAYOUT SHALL MATCH EXIST DECK PANEL TOP BAR LOCATION. FIELD VERIFY EXIST DECK PANEL TOP BAR PRIOR TO PANEL FABRICATION.

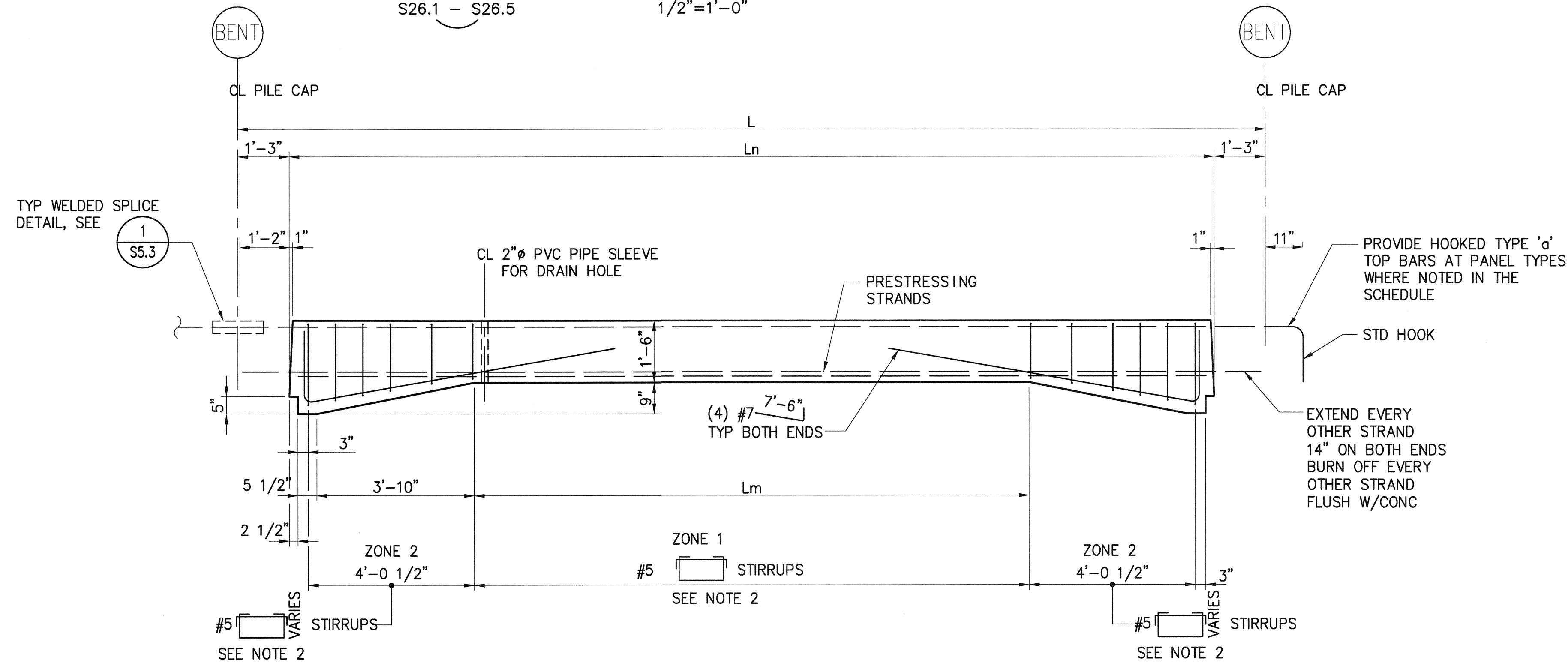
6552 S27.25 SH 320 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 25				Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401	
	CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	APPROVED: <i>Steve Howard</i>	DATE: 3-28-16
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	PRINTED BY: tienoms	PROJ. ENGR: TAH	DATE: Mar 24, 2016	
PHASE: BID	PARCEL:	DRAWING SCALE: AS NOTED	PORT ADDRESS: ONE SITCUM PLAZA	TACOMA, WA 98401-1837		

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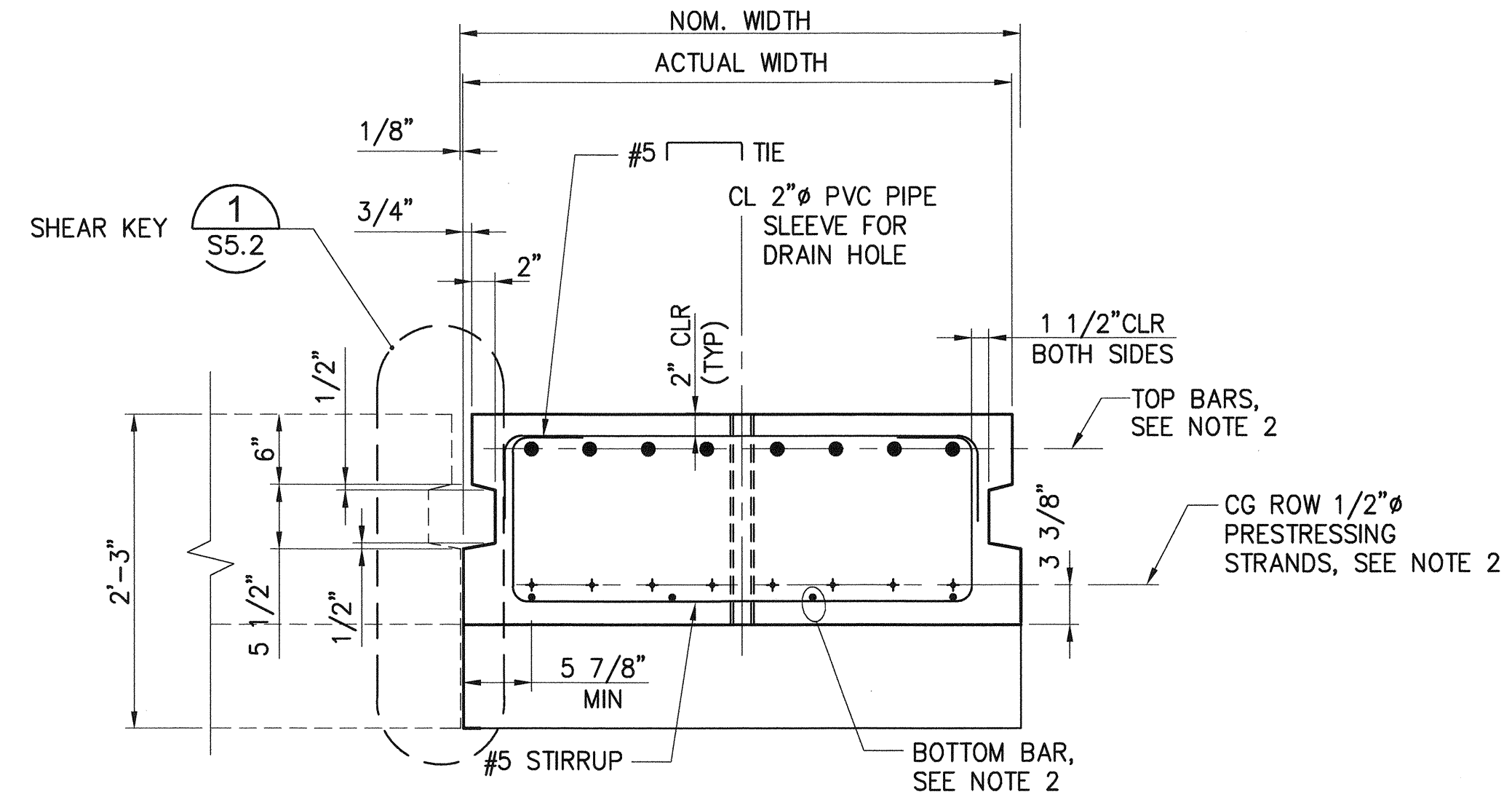


DECK PANEL PLAN

S26.1 – S26.5 1/2"=1'-0"



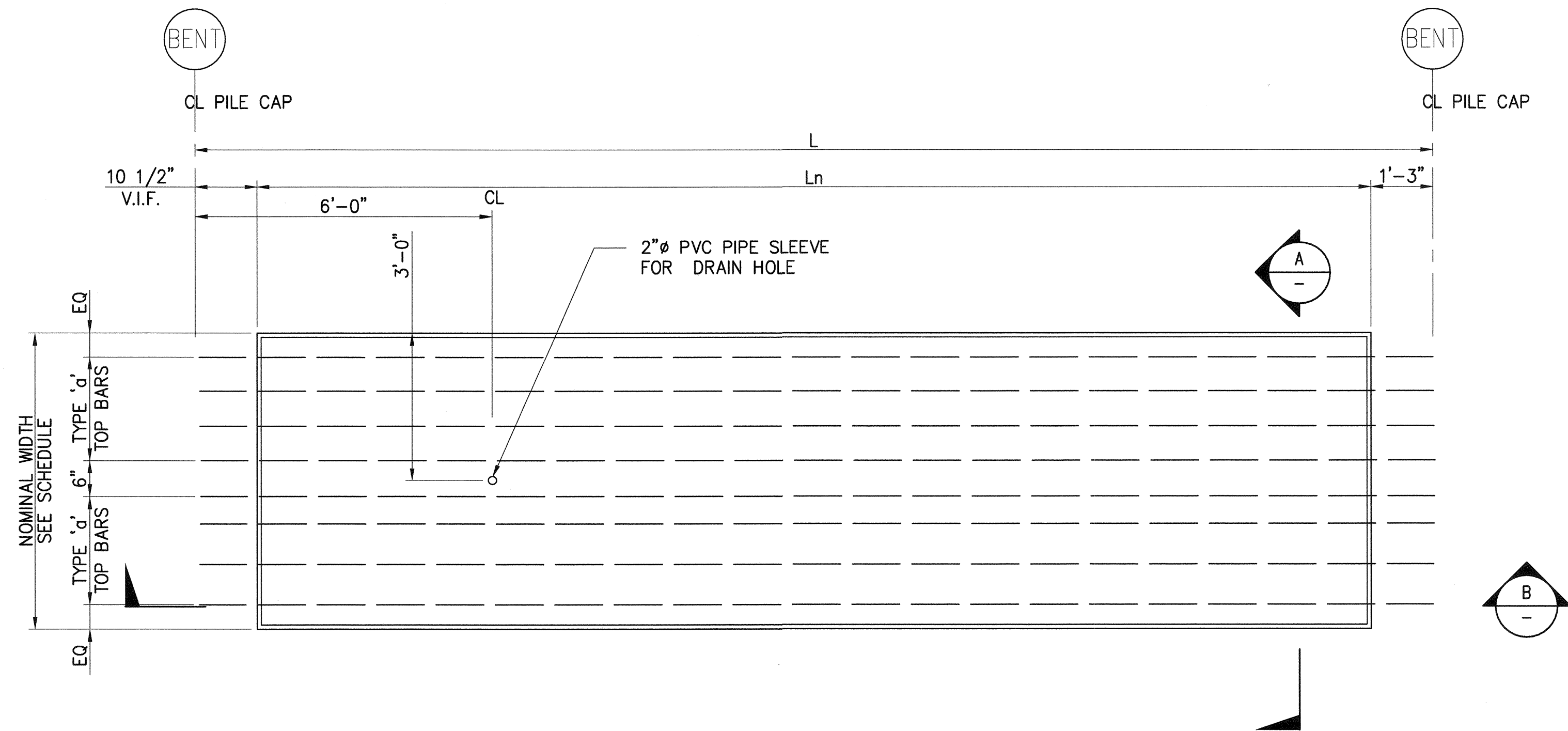
DECK PANEL ELEVATION



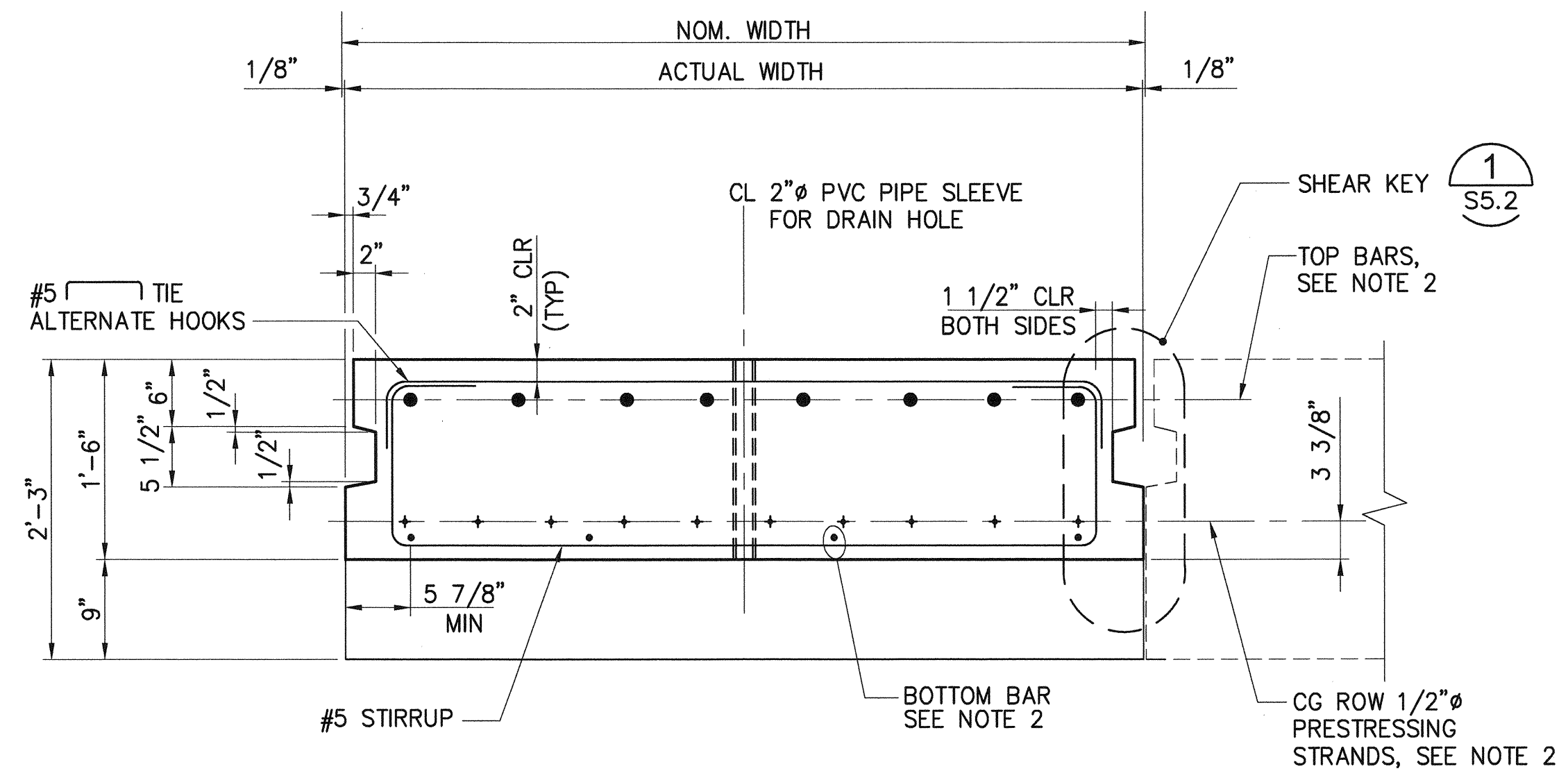
DECK PANEL SECTION

NOTES:

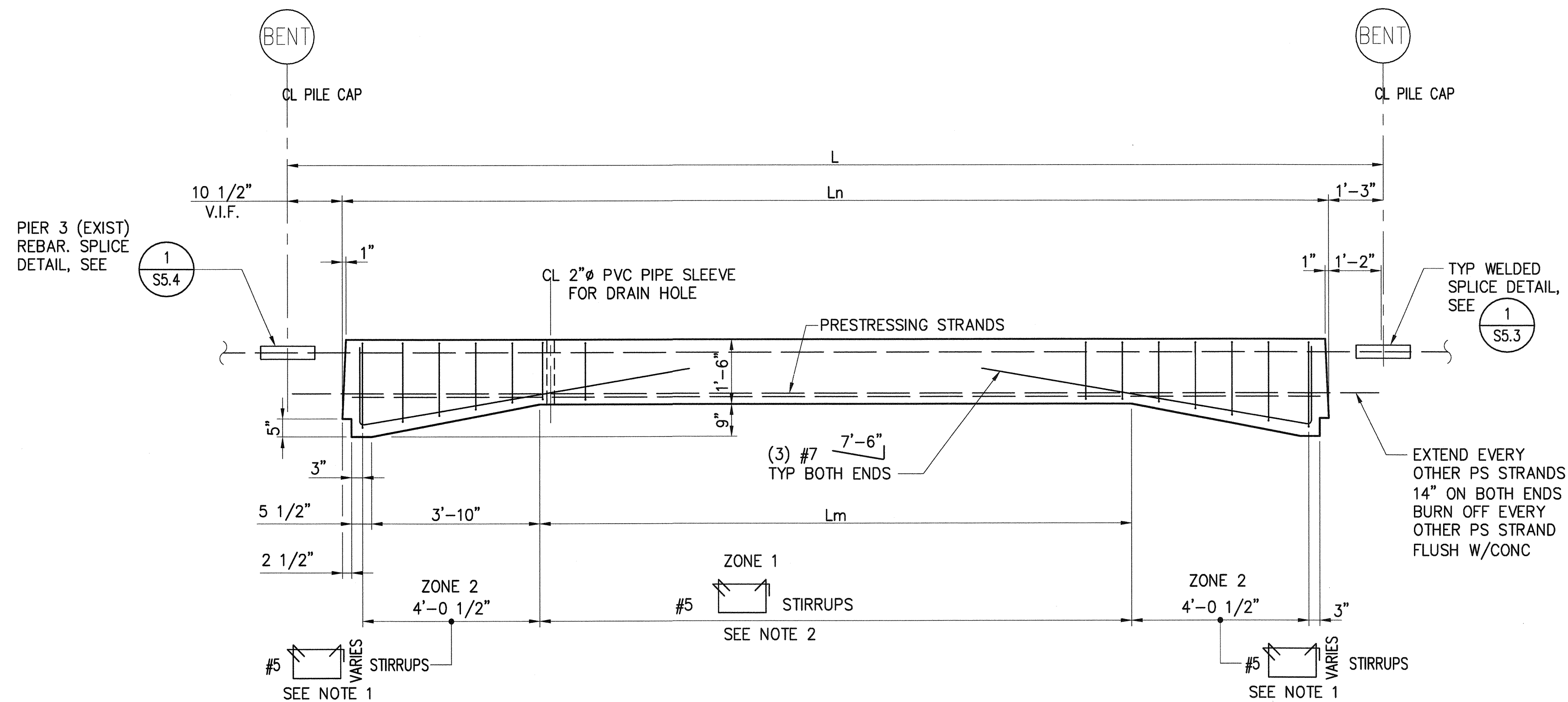
1. USE THIS SHEET FOR DECK PANEL TYPES: P22
2. FOR DECK PANEL SCHEDULE, SEE S26.1 – S26.5
3. TOP BAR LAYOUT SHALL MATCH EXIST DECK PANEL
TOP BAR LOCATION. FIELD VERIFY EXIST DECK PANEL
TOP BAR PRIOR TO PANEL FABRICATION.



 **DECK PANEL PLAN**
S26.1 – S26.5 1/2"=1'-0"



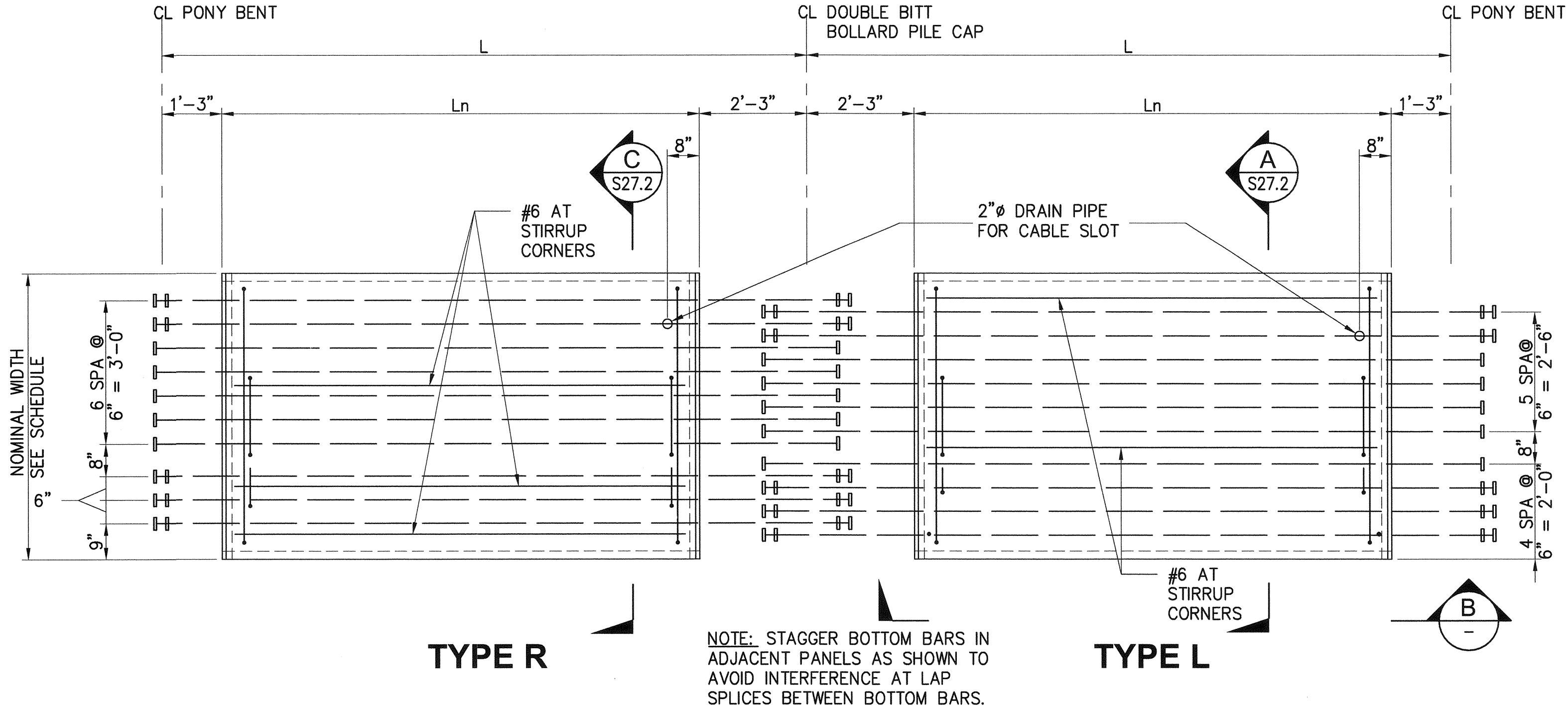
DECK PANEL SECTION



DECK PANEL ELEVATION

NOTES:

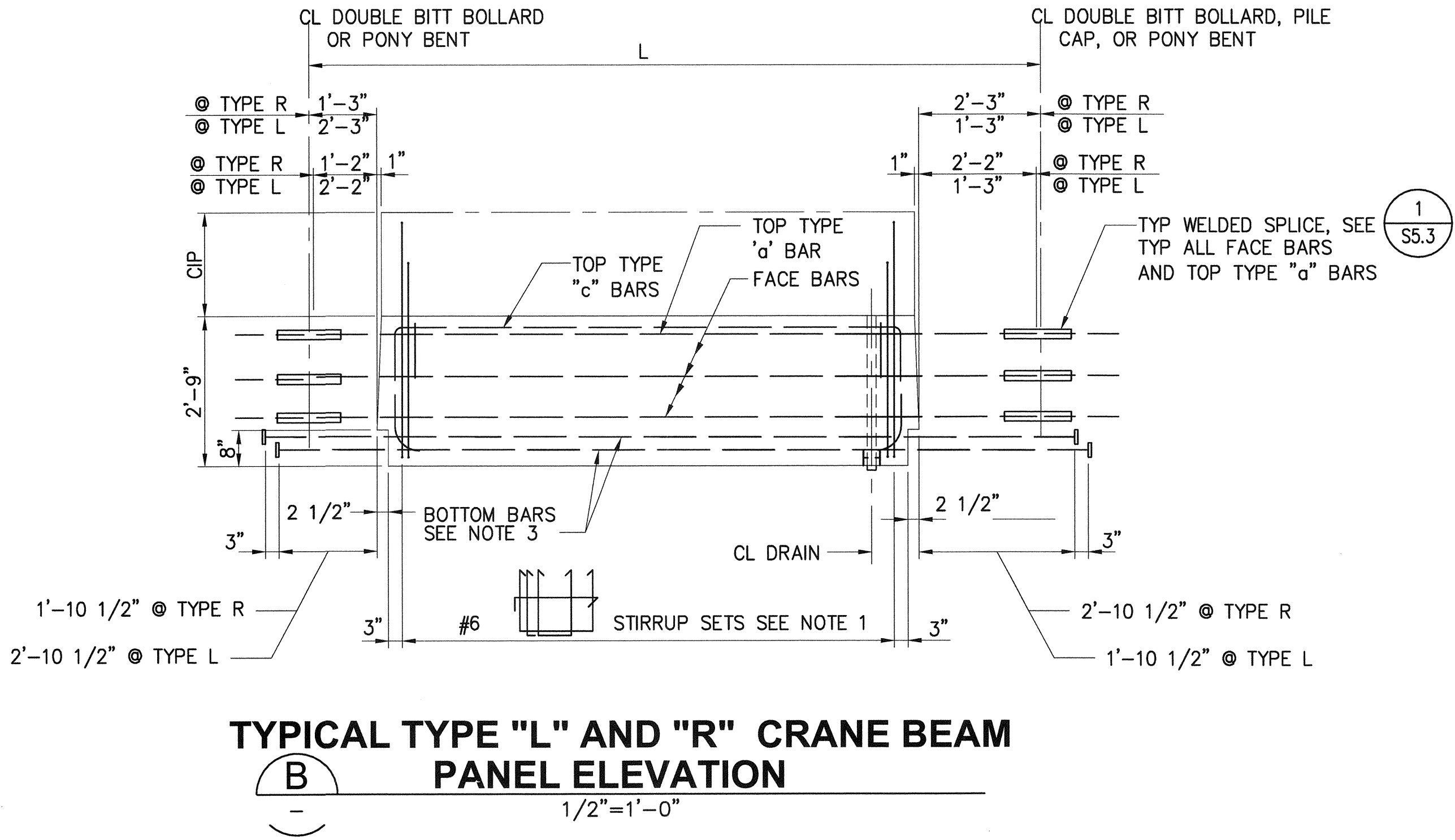
1. USE THIS SHEET FOR DECK PANEL TYPES:
P19A
2. FOR DECK PANEL SCHEDULE, SEE S26.1 – S26.5
3. TOP BAR LAYOUT SHALL MATCH EXIST DECK PANEL
TOP BAR LOCATION. FIELD VERIFY EXIST DECK PANEL
TOP BAR PRIOR TO PANEL FABRICATION.



CRANE BEAM
1 TYPE "L" & "R" PANEL P2C PLAN
S26.1 - S26.5 1/2"=1'-0"

NOTES:

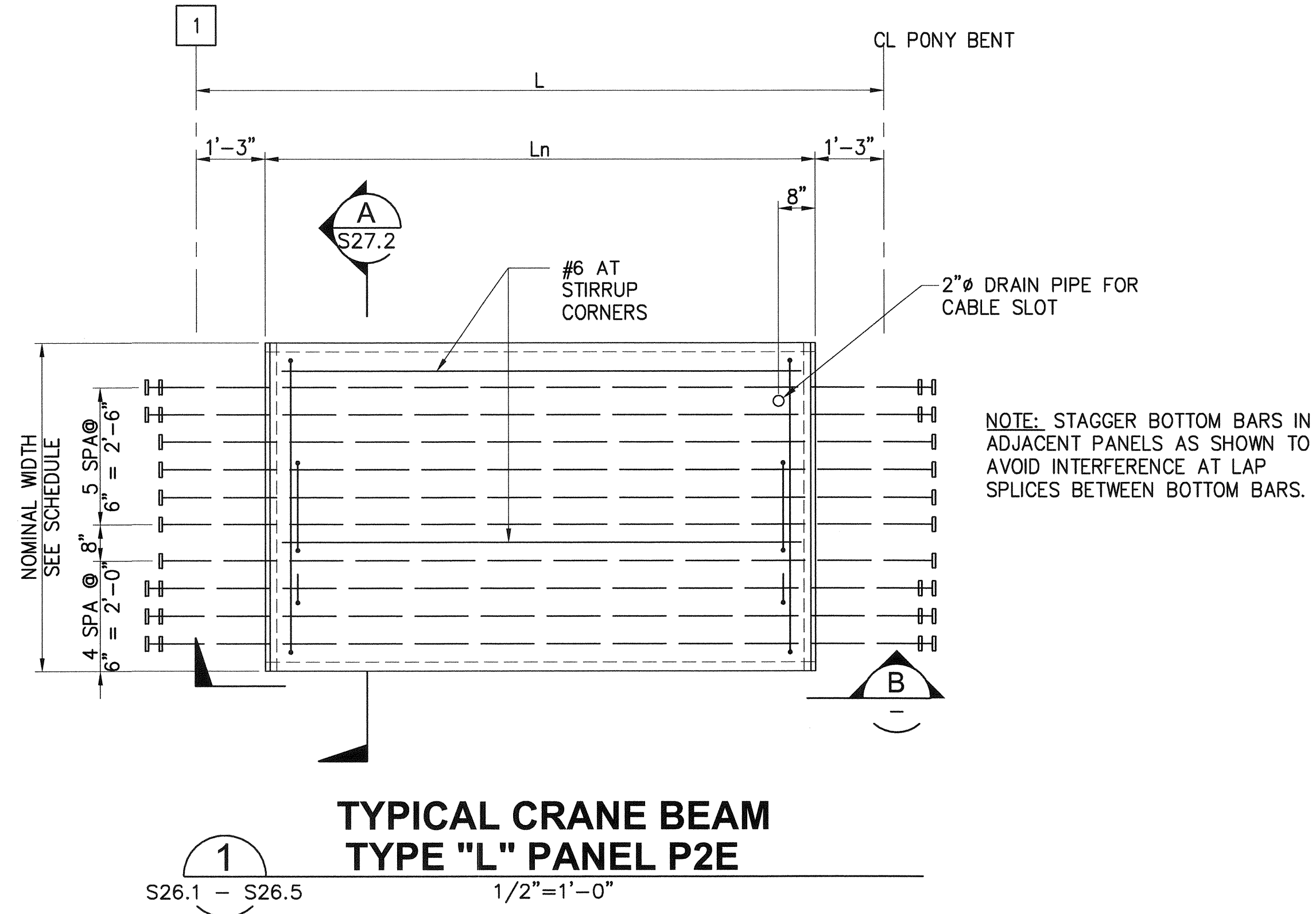
- 1. SEE DECK PANEL SCHEDULE, S26.1 - S26.5
- 2. USE THIS SHEET FOR DECK PANEL TYPE P2C
- 3. PROVIDE HEADED REINFORCEMENT, SEE SPECIFICATIONS



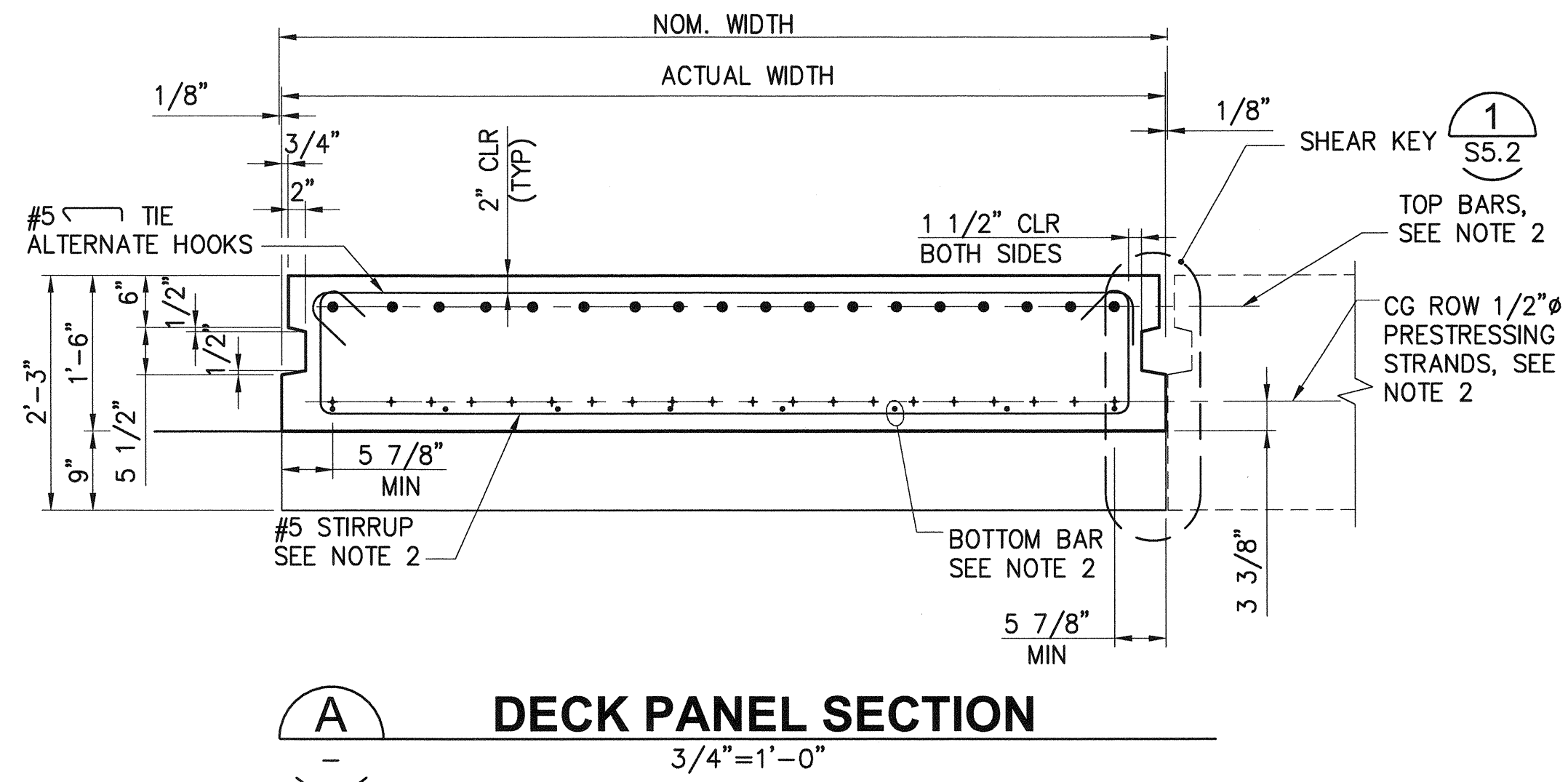
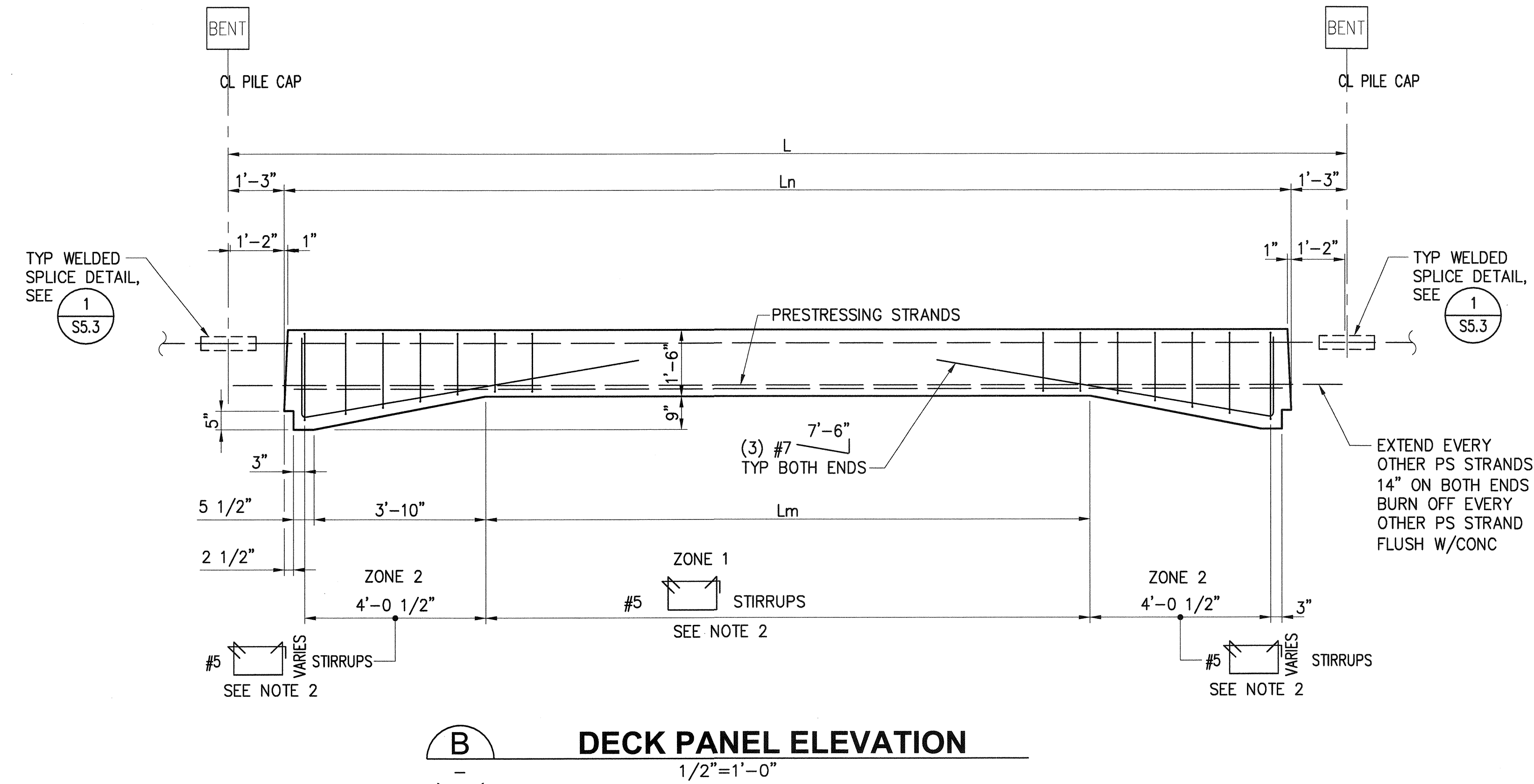
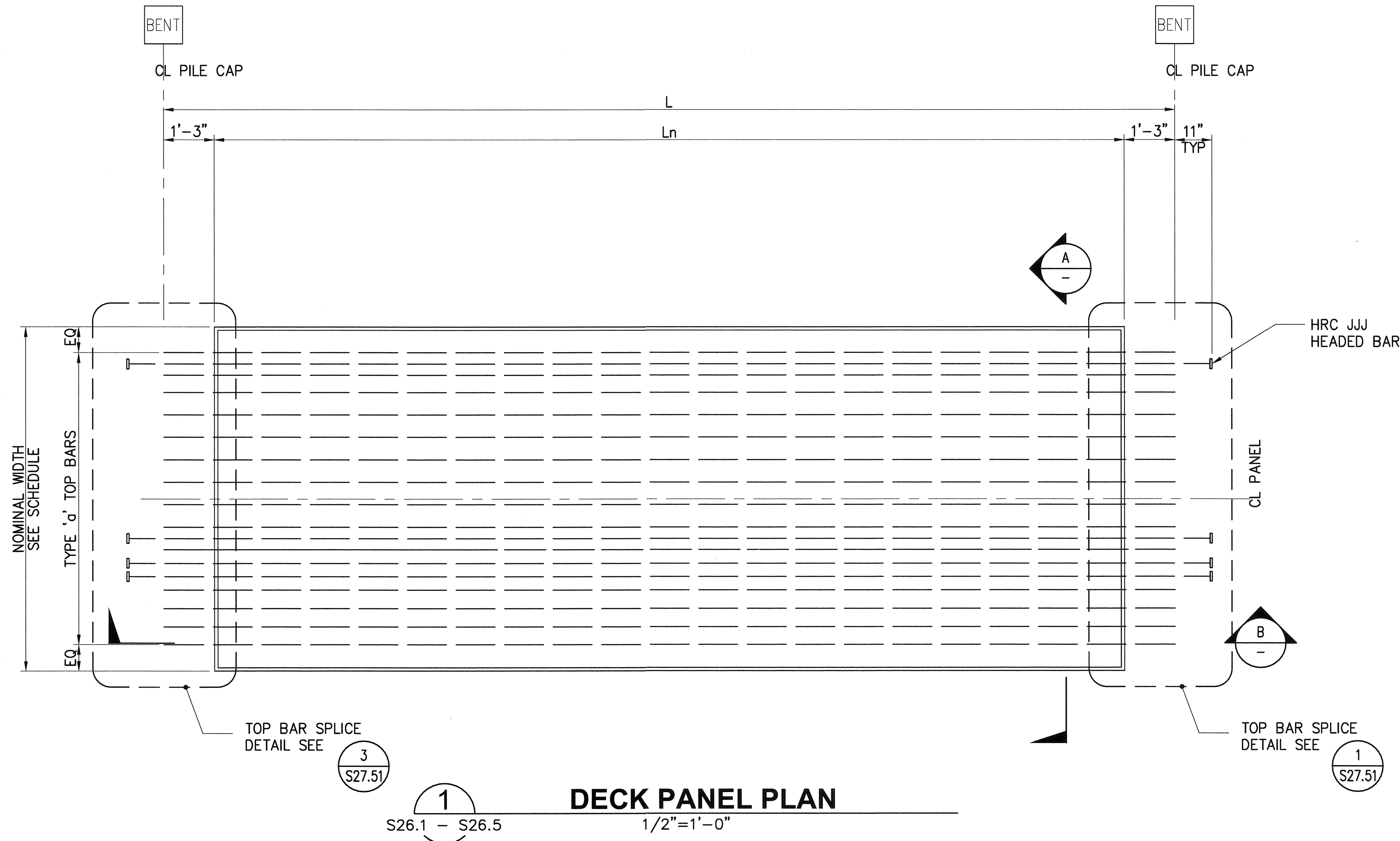
TYPICAL TYPE "L" AND "R" CRANE BEAM
PANEL ELEVATION
1/2"=1'-0"

6552 S27.28 SH 323 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 28				Part of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401 (203)883-8641
	CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39 @ Tide 22 1933	PRINTED BY: Hemons Mar 24, 2016	DATE:	
PHASE: BID	PARCEL:	DRAWING SCALE: AS NOTED	PORT ADDRESS: ONE SITCUM PLAZA	APPR:	
			TACOMA, WA 98401-1837	BY:	
				REVISION:	
				MARK:	

91-52-1-5



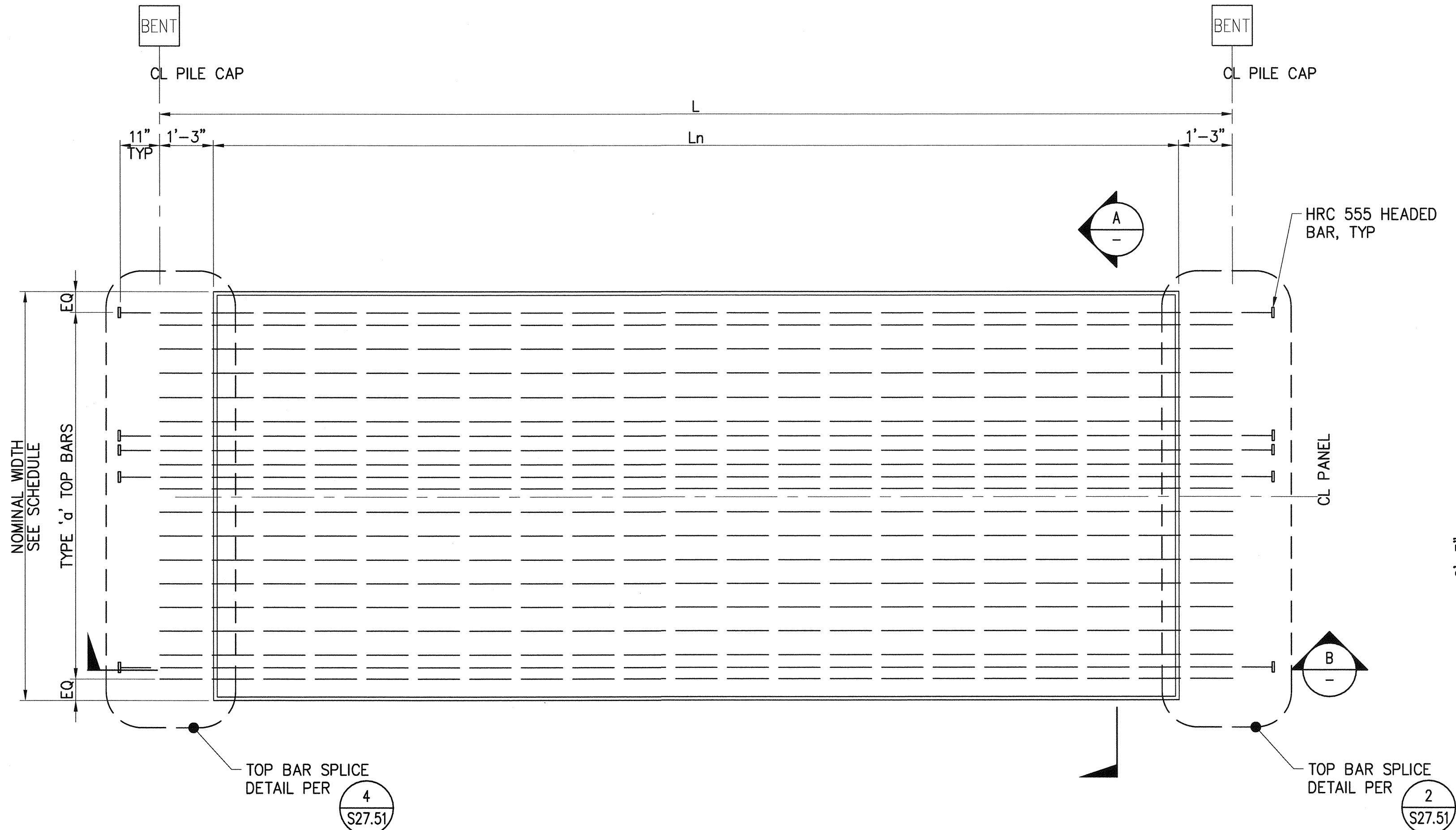
1. SEE DECK PANEL SCHEDULE, S26.1 – S26.5
2. USE THIS SHEET FOR DECK PANEL TYPE P2E
3. PROVIDE HEADED REINFORCEMENT, SEE SPECIFICATIONS
4. PROVIDE ASTM A706 GRADE 60 REINFORCEMENT FOR ALL FACE BARS. FOR PANEL P2E PROVIDE HEADED REINFORCEMENT W/HEADS AT BEND ☐



- NOTES:**
1. USE THIS SHEET FOR DECK PANEL TYPES: P38
 2. FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5

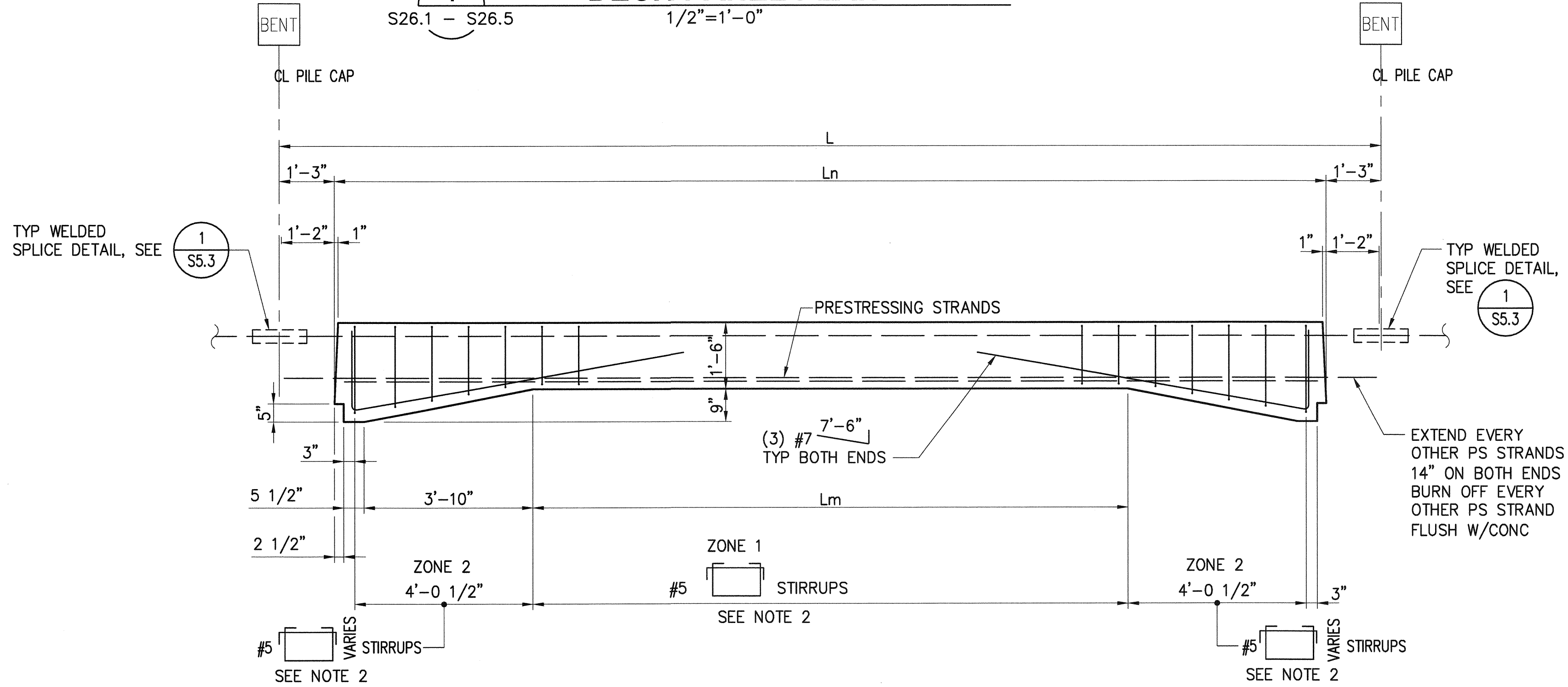
6552 SH 326 OF 499 S27.31	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 31				 Port of Tacoma P.O. BOX 187 TACOMA, WA 98401 (253) 896-5441	
	CONTRACT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	MARK:	REVISION:
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	PRINTED BY: ttenions Mar 24, 2016	BY:	DATE:	
PHASE: BID	PARCEL:	DRAWING SCALE: AS NOTED	PORT ADDRESS: ONE SITCUM PLAZA	APPR:		
			TACOMA, WA 98401-1837			

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DECK PANEL PLAN

DECK PANEL SECTION



DECK PANEL ELEVATION

NOTES:

- USE THIS SHEET FOR DECK PANEL TYPES: P40
- FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5

6552

S27.32

SH 327 OF 499

CON/CONS: 070136

M. ID: 091251

PHASE: BID

PIER 4 PHASE 2

RECONFIGURATION

DECK PANEL DETAILS - SHEET 32

APPROVED: *[Signature]*

3-28-16

DIRECTOR ENG. DATE

PRINTED BY: Hemons Mar 24, 2016

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

SEK

CHECKED BY

DATE

TAH

PROJ. ENGR

DATE

MARK:

REVISION:

BY:

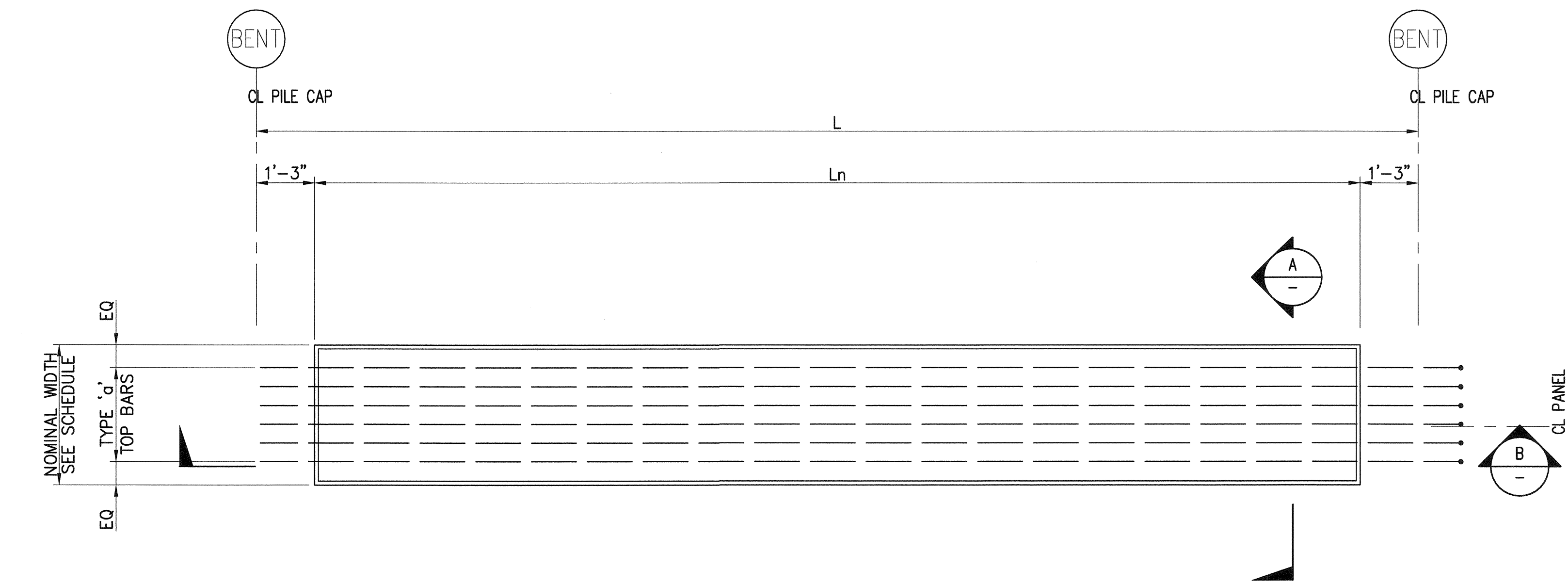
DATE:

Part of Tacoma

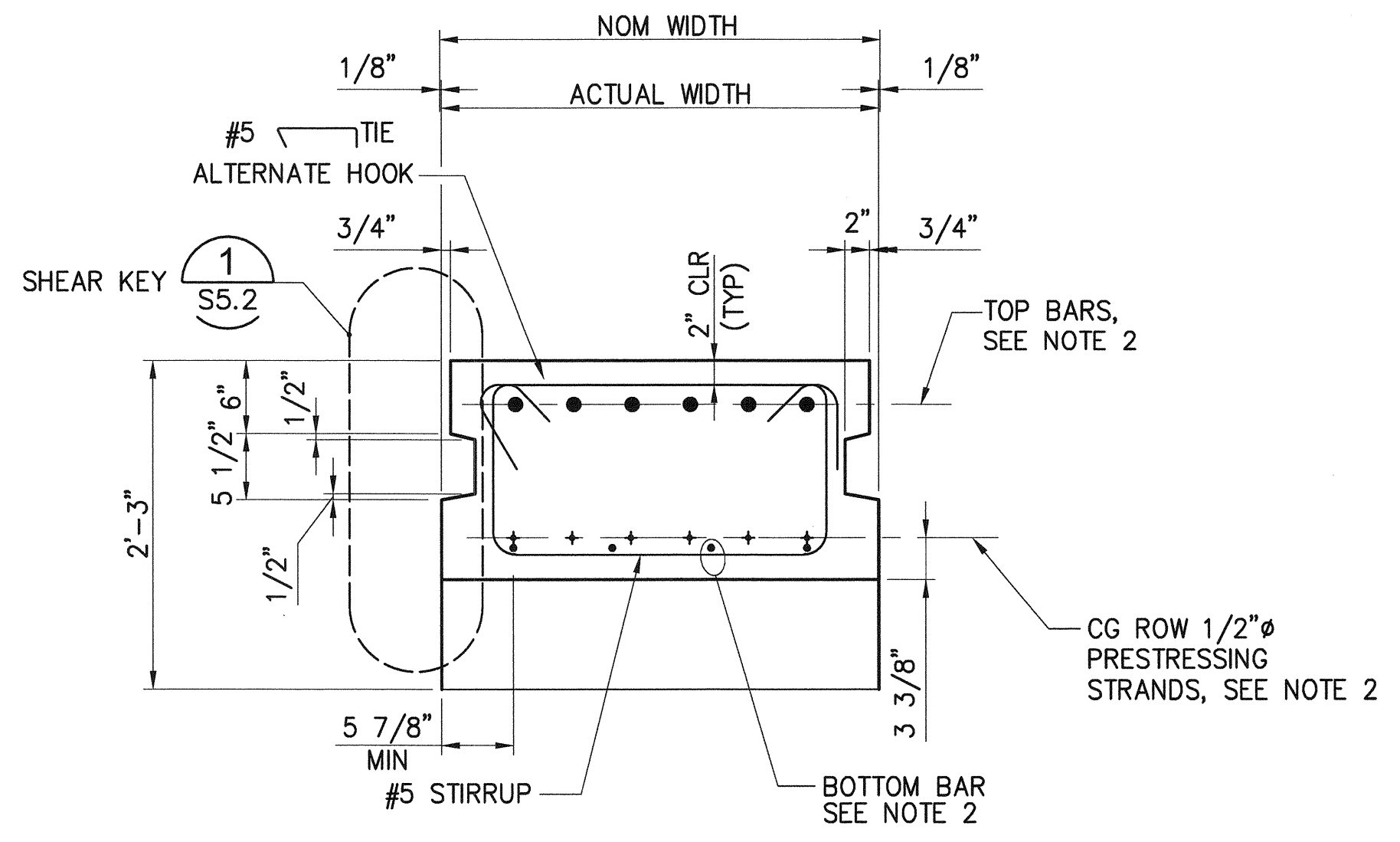
P.O. BOX 1837 TACOMA, WA 98401 (203)85-8441

2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162

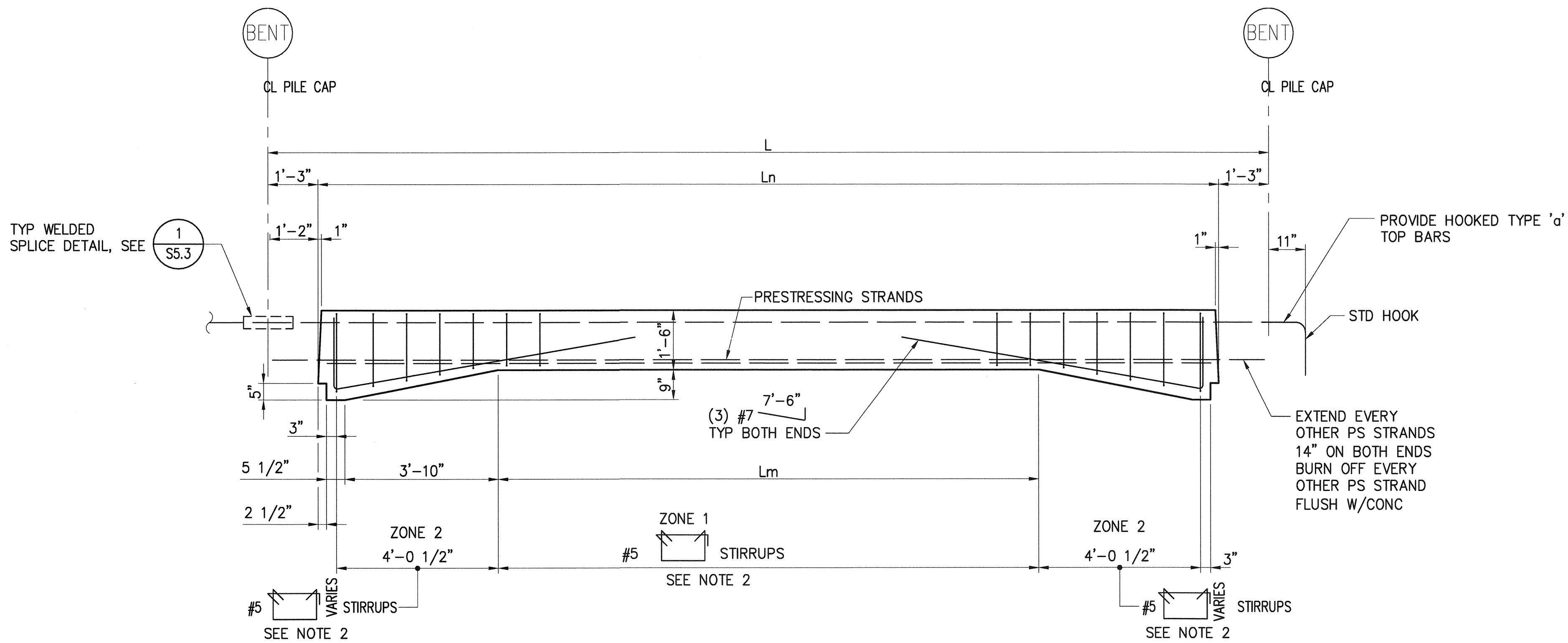
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1
S26.1 - S26.5
1/2"=1'-0"



A
1"=1'-0"



B
1/2"=1'-0"

- NOTES:**
- USE THIS SHEET FOR DECK PANEL TYPES: P41
 - FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5
 - TOP BAR LAYOUT SHALL MATCH EXIST DECK PANEL TOP BAR LOCATION. FIELD VERIFY EXIST DECK PANEL TOP BAR PRIOR TO PANEL FABRICATION.

6552

S27.33

SH 328 OF 499

CONTR/CONS: 070136
M. ID: 091251
PHASE: BID

PIER 4 PHASE 2
RECONFIGURATION
DECK PANEL DETAILS - SHEET 33

TOWNSHIP: 21N
RANGE: 3E
SECTION: 27
DATE: 07/01/36

DAT-HRZ: WA83-SF
VERT: MLLW 19.39' @ Tide 22'1933
PARCEL: DRAWING SCALE: AS NOTED

APPROVED: *[Signature]*
DIRECTOR ENG. DATE: 3-28-16
PRINTED BY: Hemons Mar 24, 2016
PORT ADDRESS: ONE SITCUM PLAZA
TACOMA, WA 98401-1837

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CHECKED BY: TA
DATE: 3-28-16
PROJ. ENGR. DATE: 3-28-16
BY: Hemons Mar 24, 2016
TACOMA, WA 98401-1837

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P.O. BOX 1837 TACOMA, WA 98401 (203)55-9641

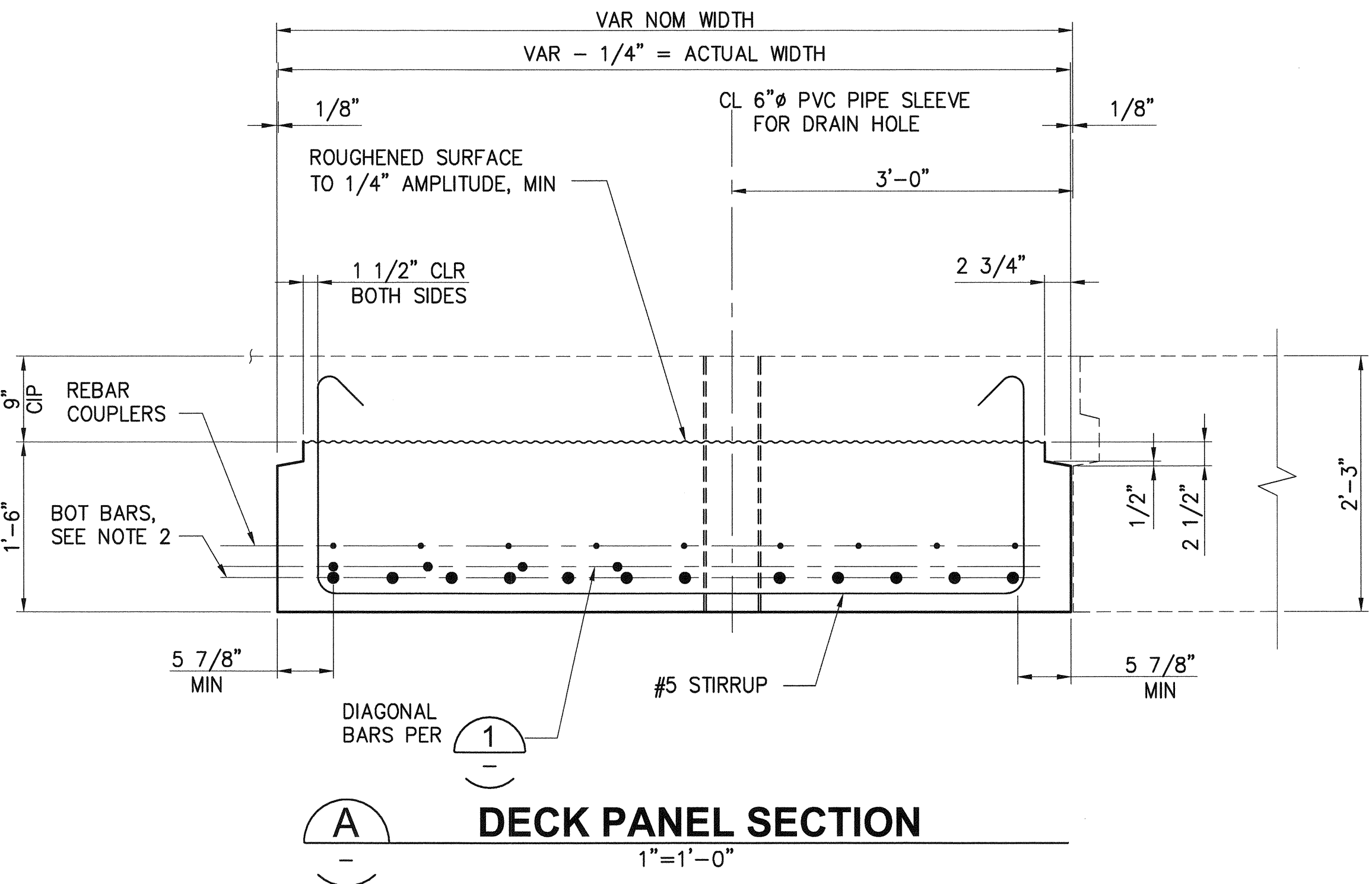
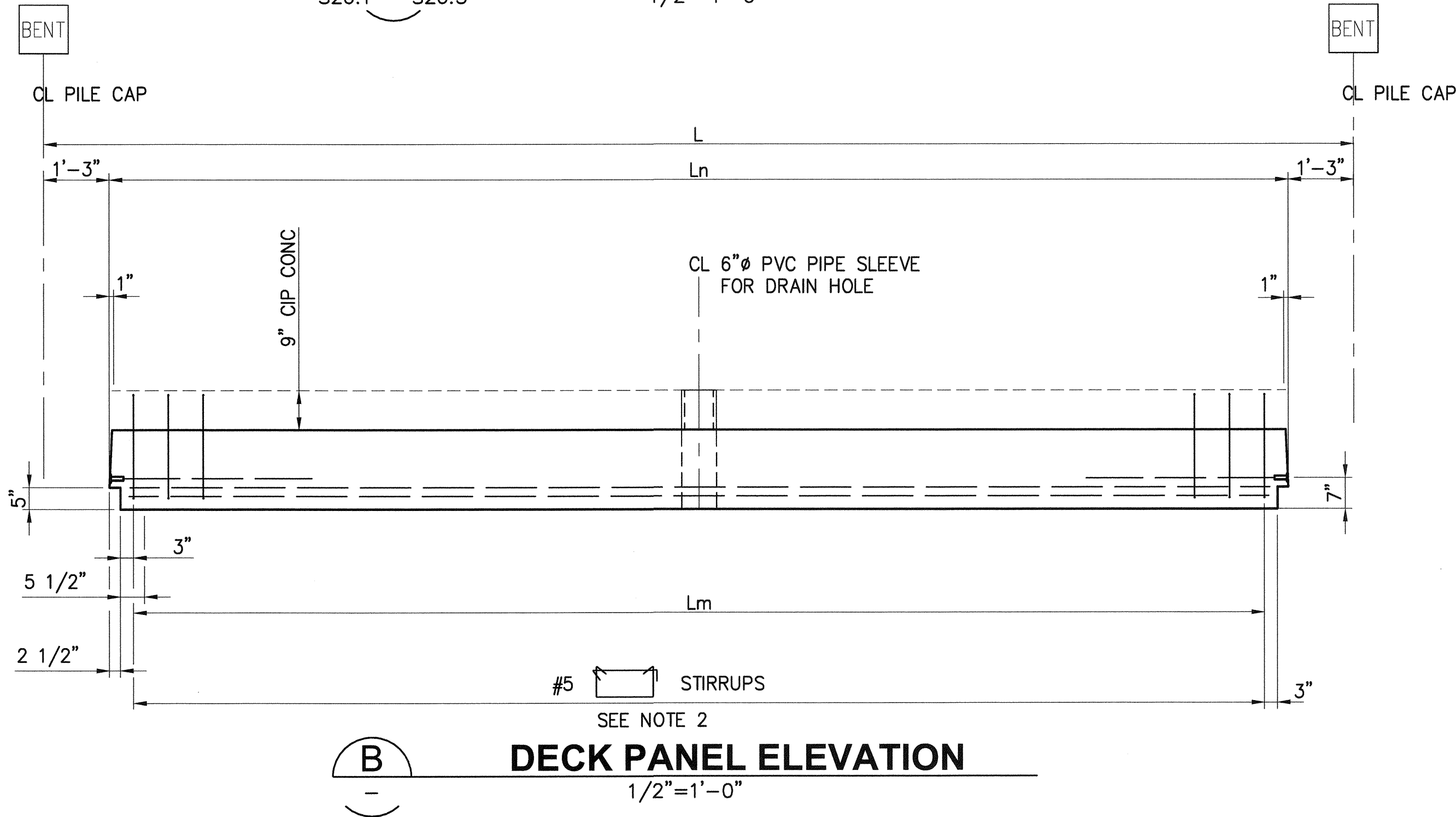
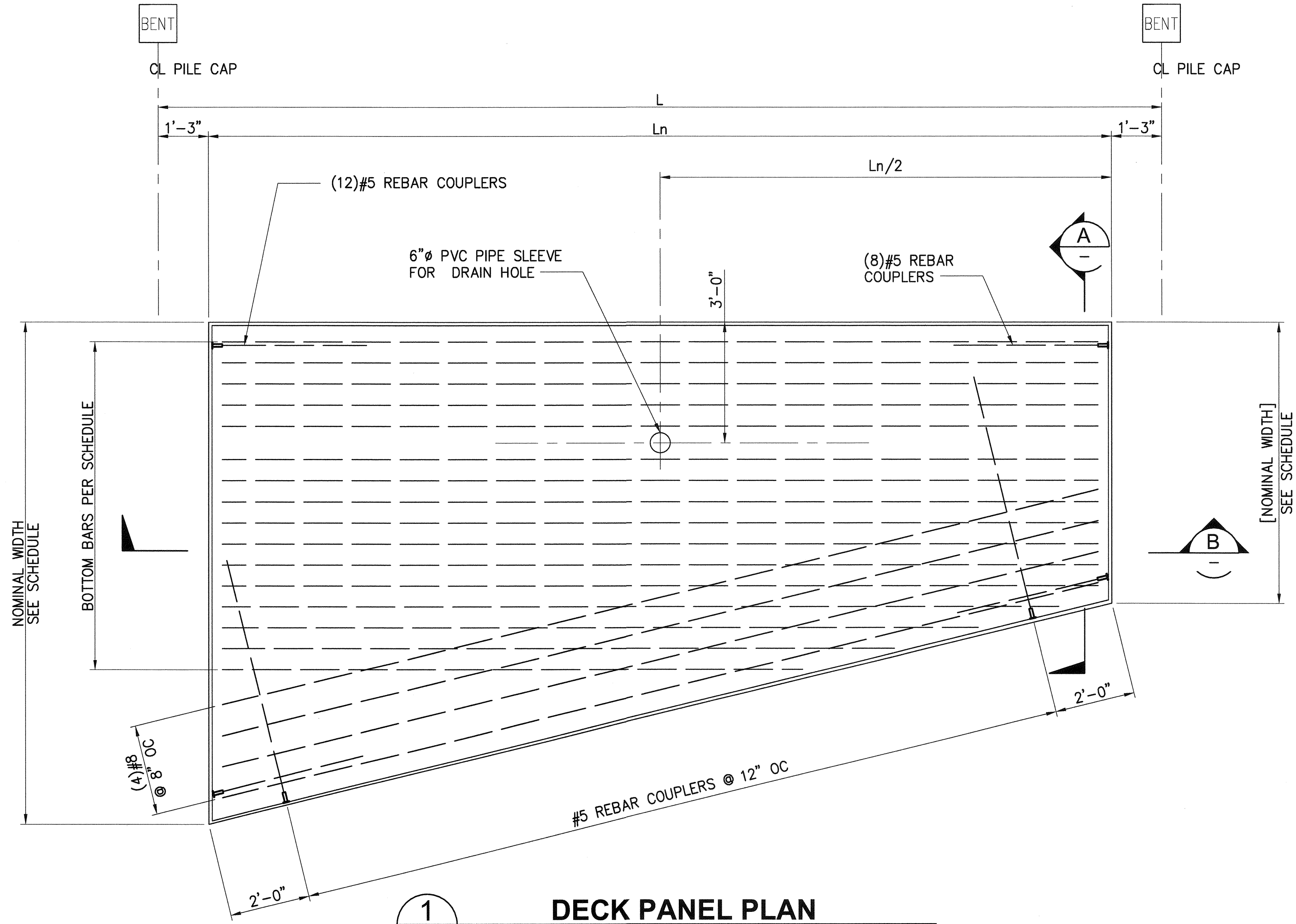
2407 North 31st Street, Suite 100
Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162

kprff

MARK: REVISION: BY: APPR: DATE:

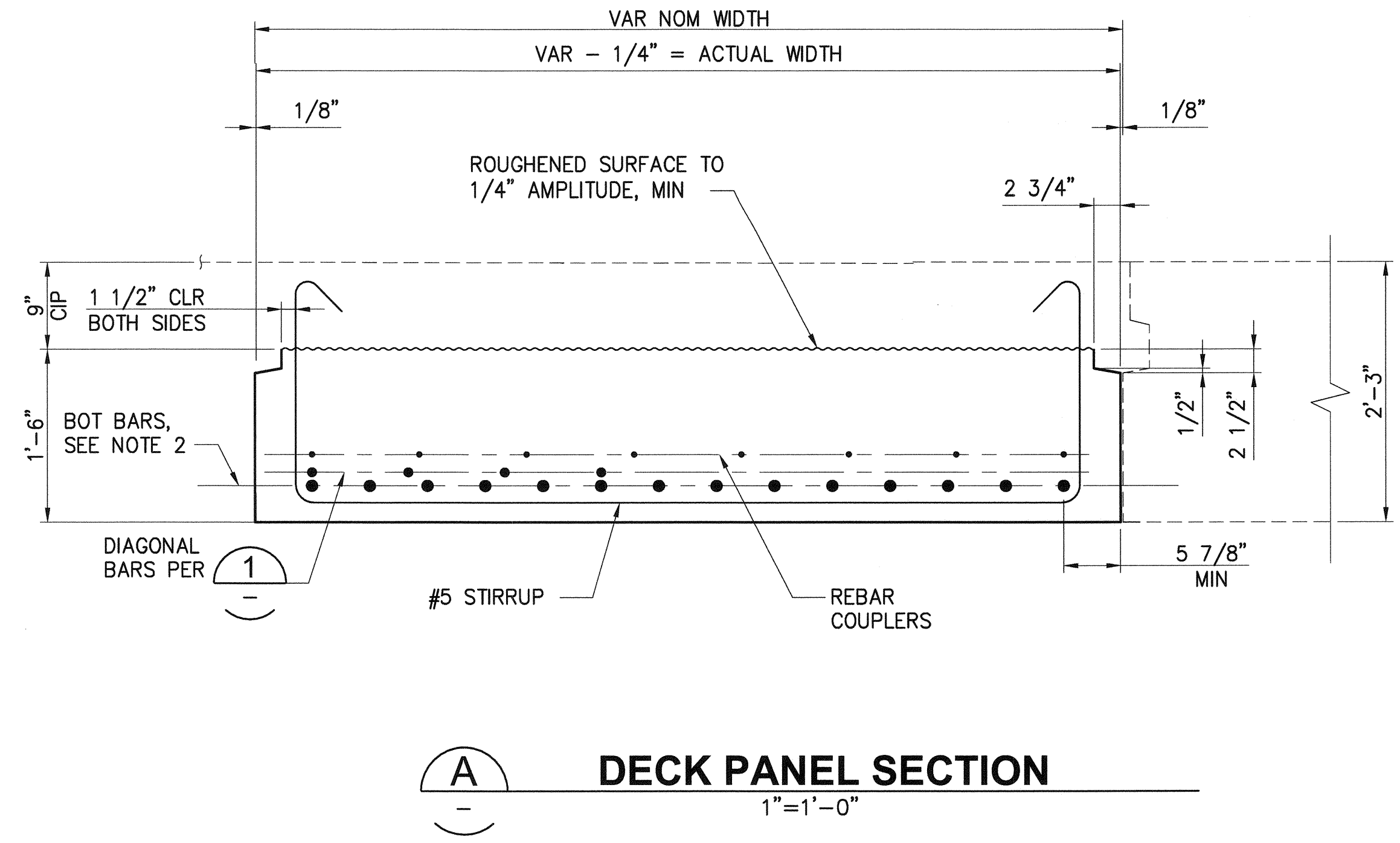
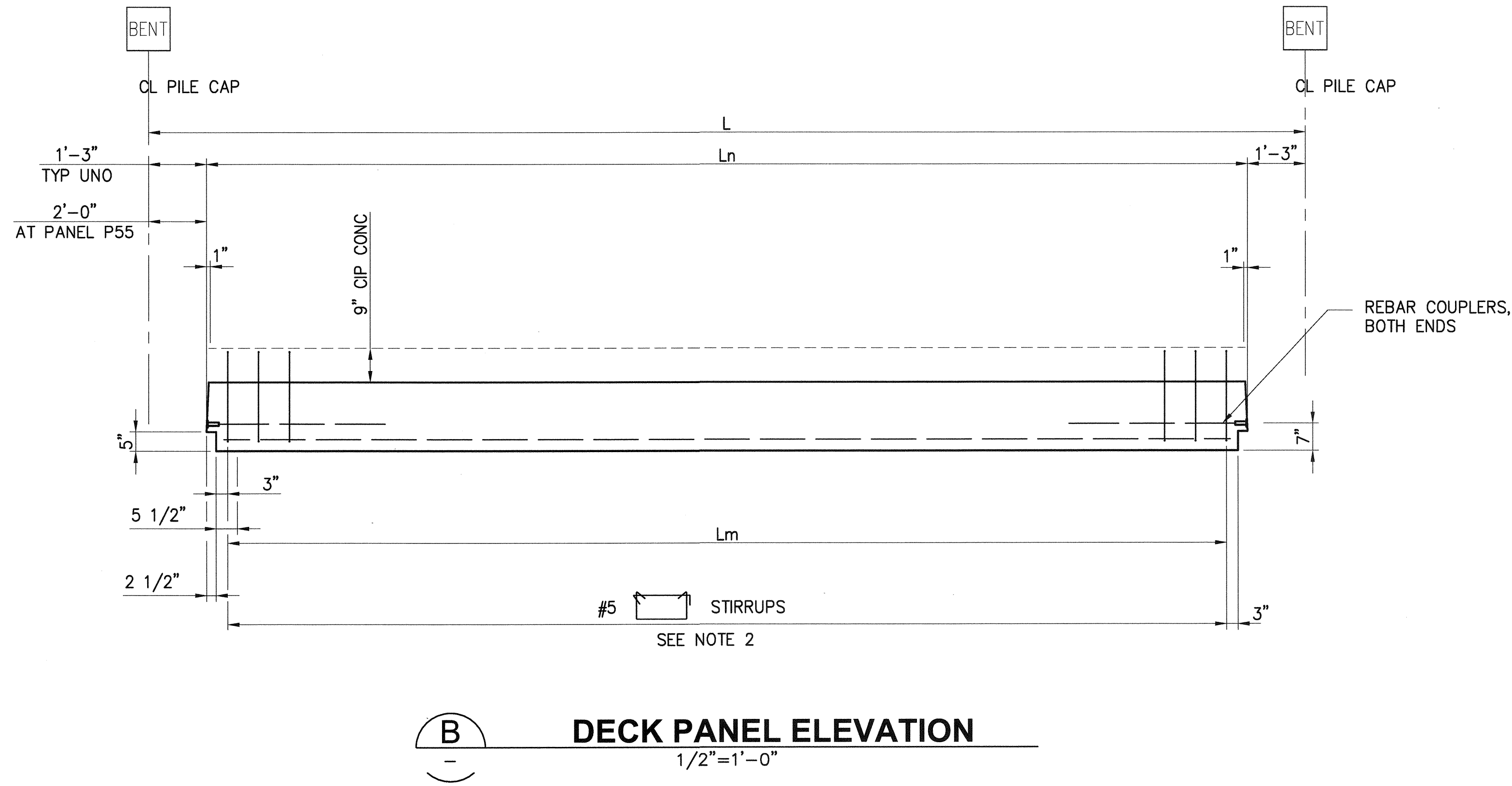
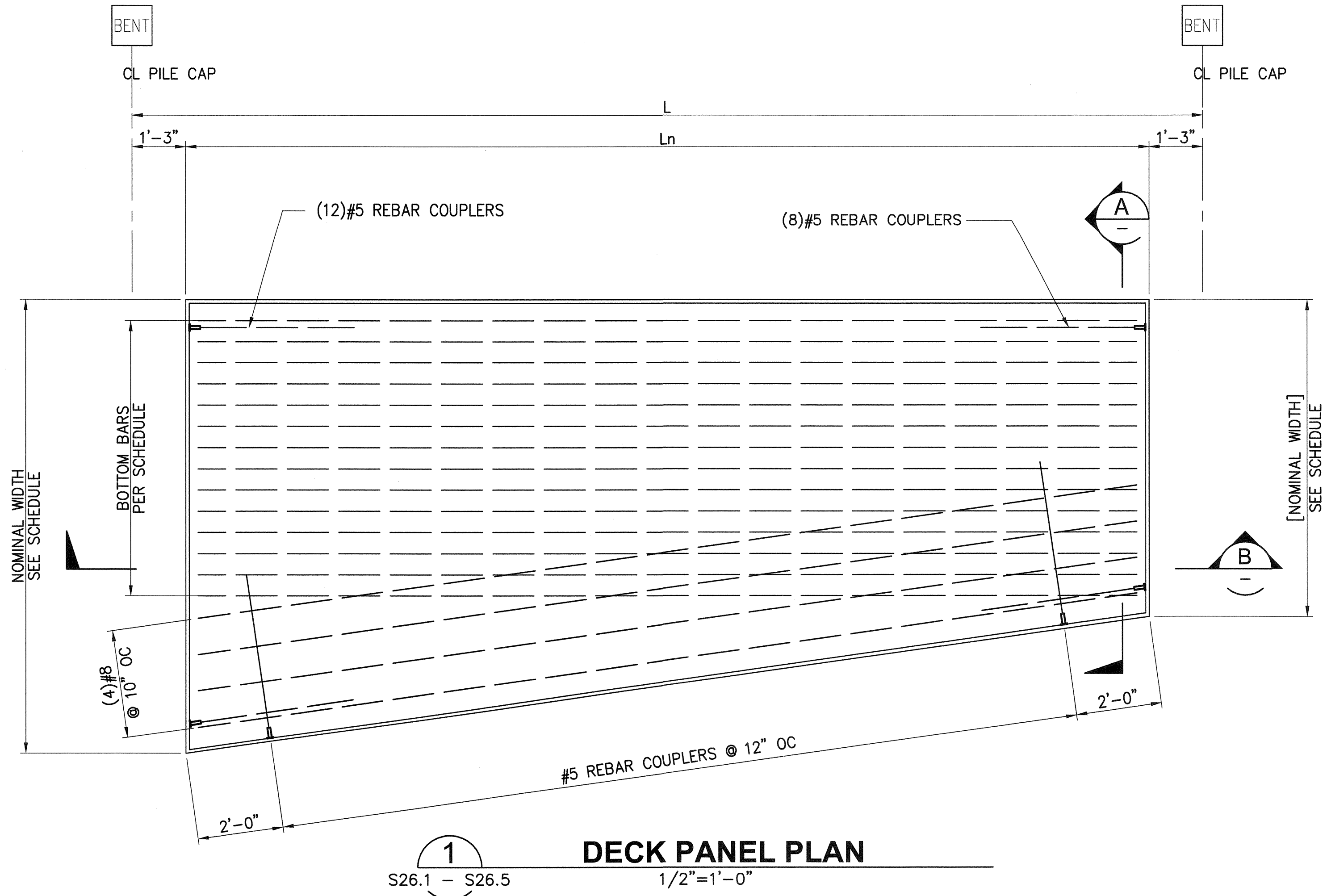


1. USE THIS SHEET FOR DECK PANEL TYPES:
P41A
2. FOR DECK PANEL SCHEDULE, SEE S26.1 – S26.5
3. TOP BAR LAYOUT SHALL MATCH EXIST DECK PANEL
TOP BAR LOCATION. FIELD VERIFY EXIST DECK PANEL
TOP BAR PRIOR TO PANEL FABRICATION.



- NOTES:**
- USE THIS SHEET FOR DECK PANEL TYPES: P50, P50A
 - FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5

6552 S27.35 SH 330 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 35				kpff 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401 (253)983-5841		APPROVED: <i>David J. Ford</i> 3-28-16 DIRECTOR ENG. DATE	SEK	CHECKED BY	DATE
	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	TAH				PROJ. ENGR	DATE	
CONT/CONS: 070136	M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	PRINTED BY: tlemmons	Mar 24, 2016		MARK: REVISION: BY: APPR: DATE:	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION		
PHASE: BID	PARCEL:	DRAWING SCALE: AS NOTED	PORT ADDRESS: ONE SITCUM PLAZA	TACOMA, WA 98401-1837						



- NOTES:
- USE THIS SHEET FOR DECK PANEL TYPES: P52, P55, P56
 - FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5

6552

S27.36

SH 331 OF 499

CONTR/CONS: 070136

M. ID: 091251

PHASE: BID

PIER 4 PHASE 2
RECONFIGURATION
DECK PANEL DETAILS - SHEET 36

APPROVED: *[Signature]*

3-28-16

DIRECTOR

ENG. DATE

PROJ. ENGR

DATE

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DATE

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PROJ. ENGR

DATE

PRINTED BY: tiemoms

Mar 24, 2016

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

TOWNSHIP: 21N

RANGE: 3E

SECTION: 27

DAT-HRZ: WA83-SF

VERT: MLW 19.39' @ Tide 22 1933

PARCEL:

DRAWING SCALE: AS NOTED

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P.O. BOX 687 TACOMA, WA 98401 (203)951-8441

kpff

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Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162

MARK:

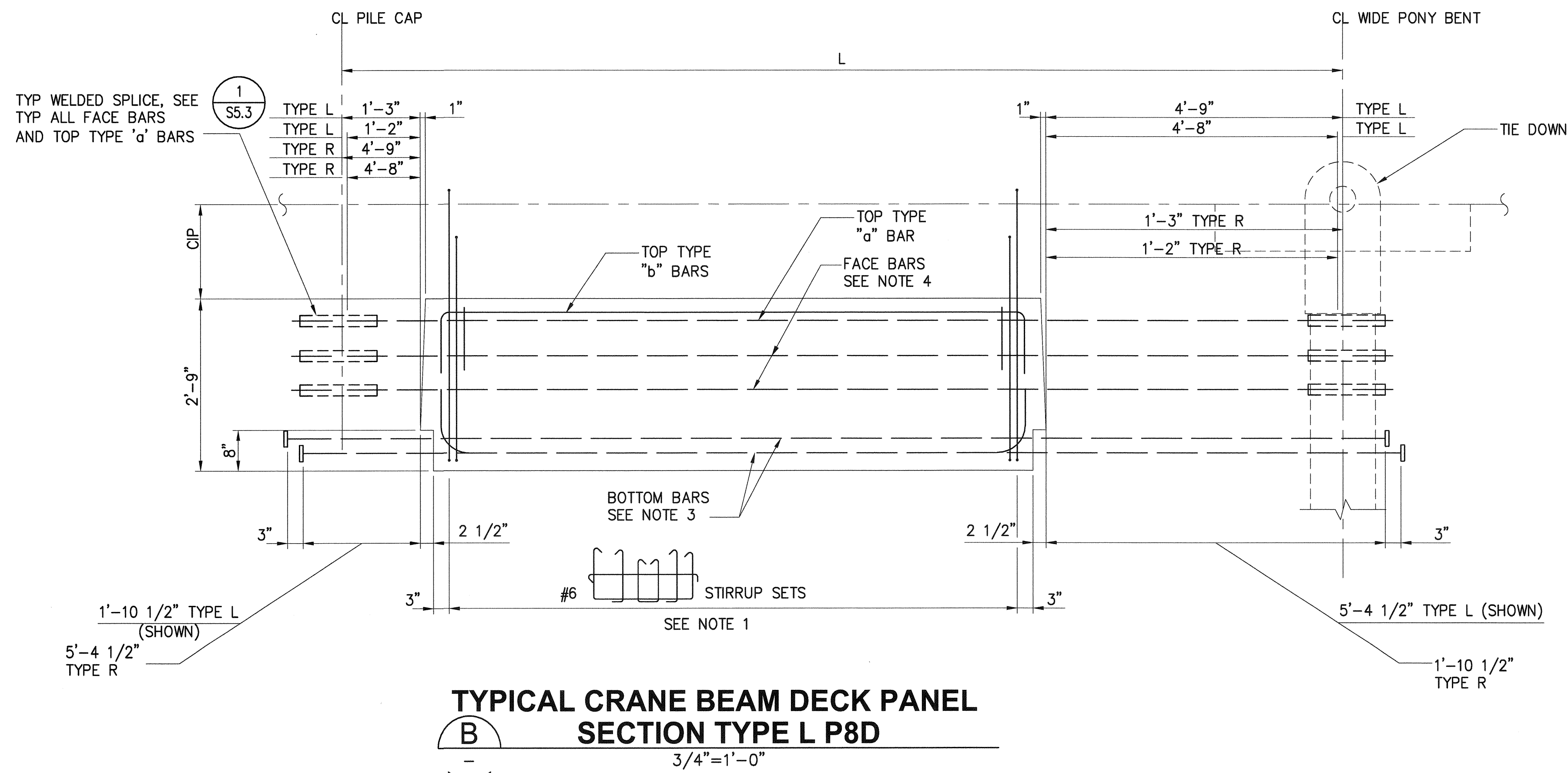
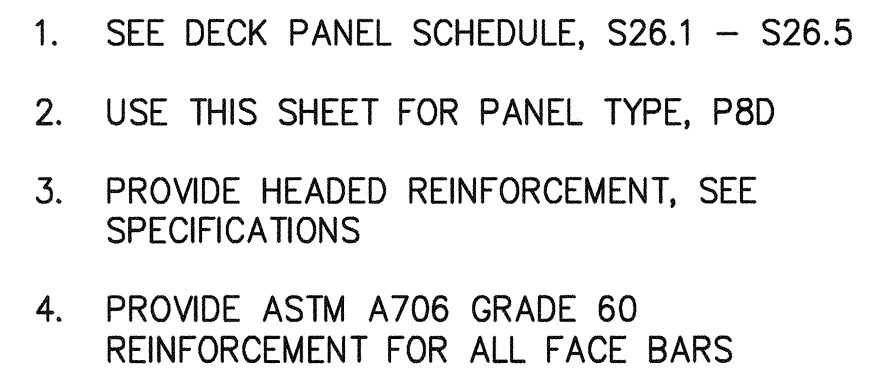
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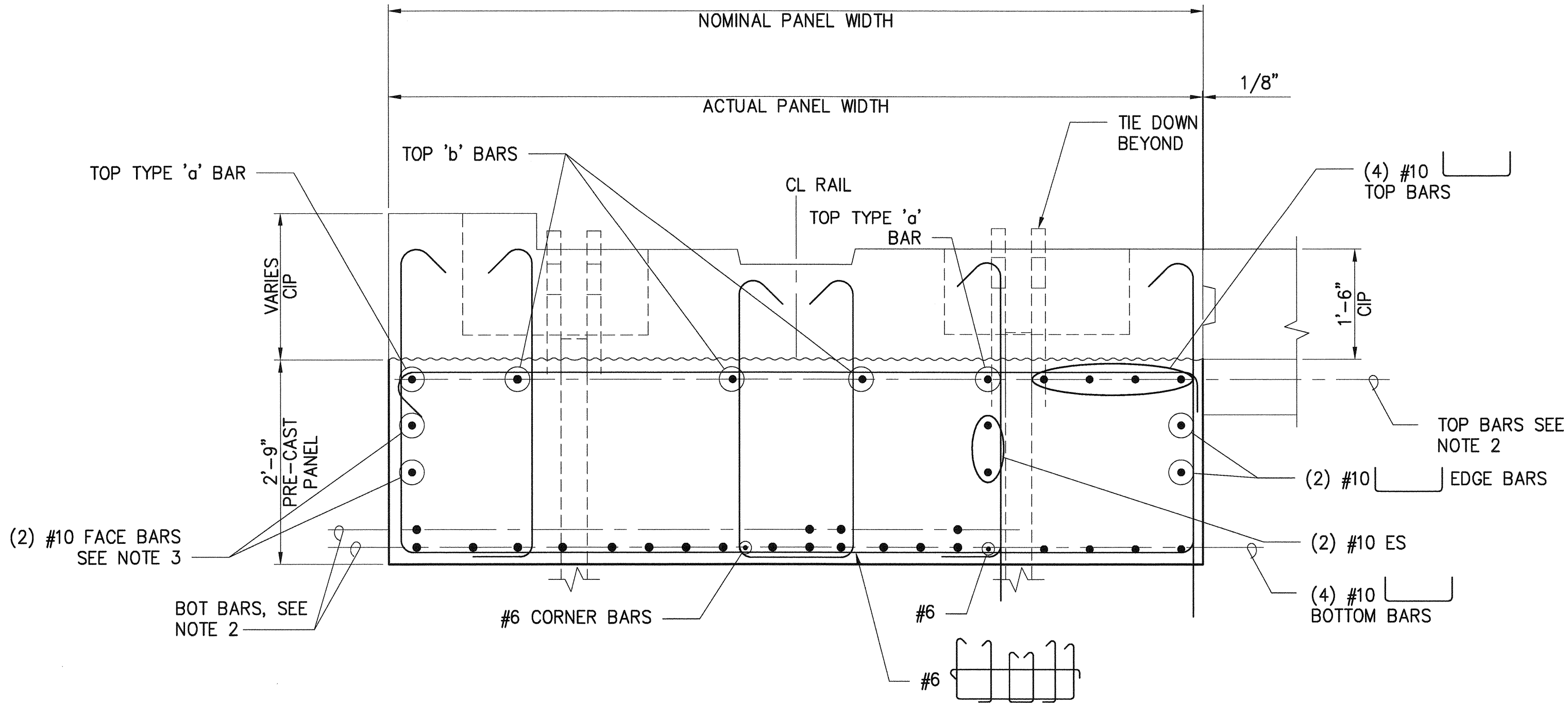
BY:

DATE:

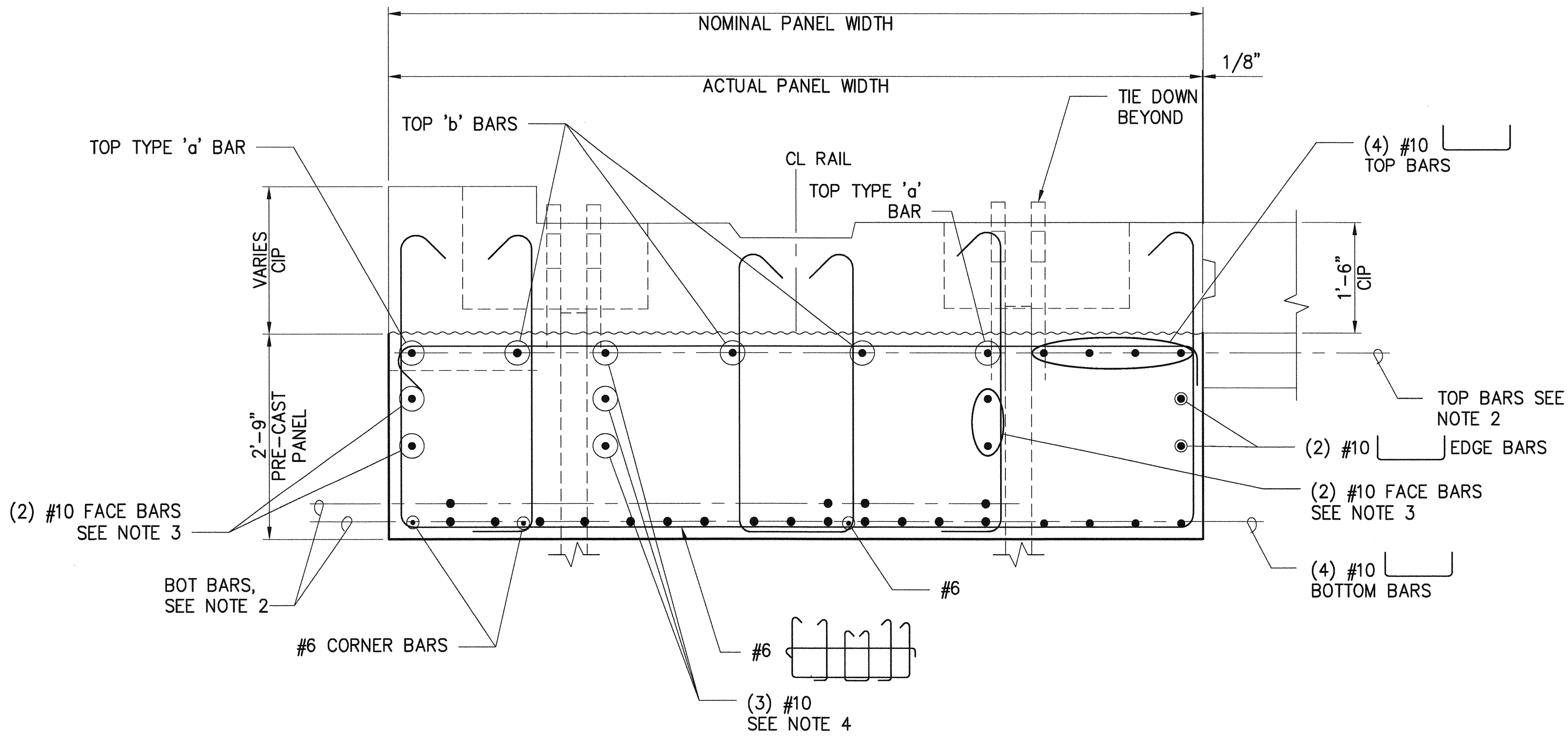
APPR:

DATE:





A
S27.37
**CRANE BEAM PANEL
TYPE L SECTION P8D**
3/4"=1'-0"



C
S27.37
CRANE BEAM PANEL SECTION TYPE 'R' P8D
3/4"=1'-0"

NOTES:

1. USE THIS SHEET FOR DECK PANEL TYPE, P8D
2. FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5
3. PROVIDE ASTM A706 GRADE 60 REINFORCEMENT FOR ALL FACE BARS
4. PROVIDE AND COORDINATE (3) #10 BARS @ PANEL P8D TYPE 'R' AT BENT 15 TO SPLICE WITH FACE BARS FROM PANEL P8G. THESE BARS NOT REQUIRED AT OTHER P8D PANELS
5. ALIGN 'c' BARS W/ADJACENT PANEL BARS FOR LAP SPLICE



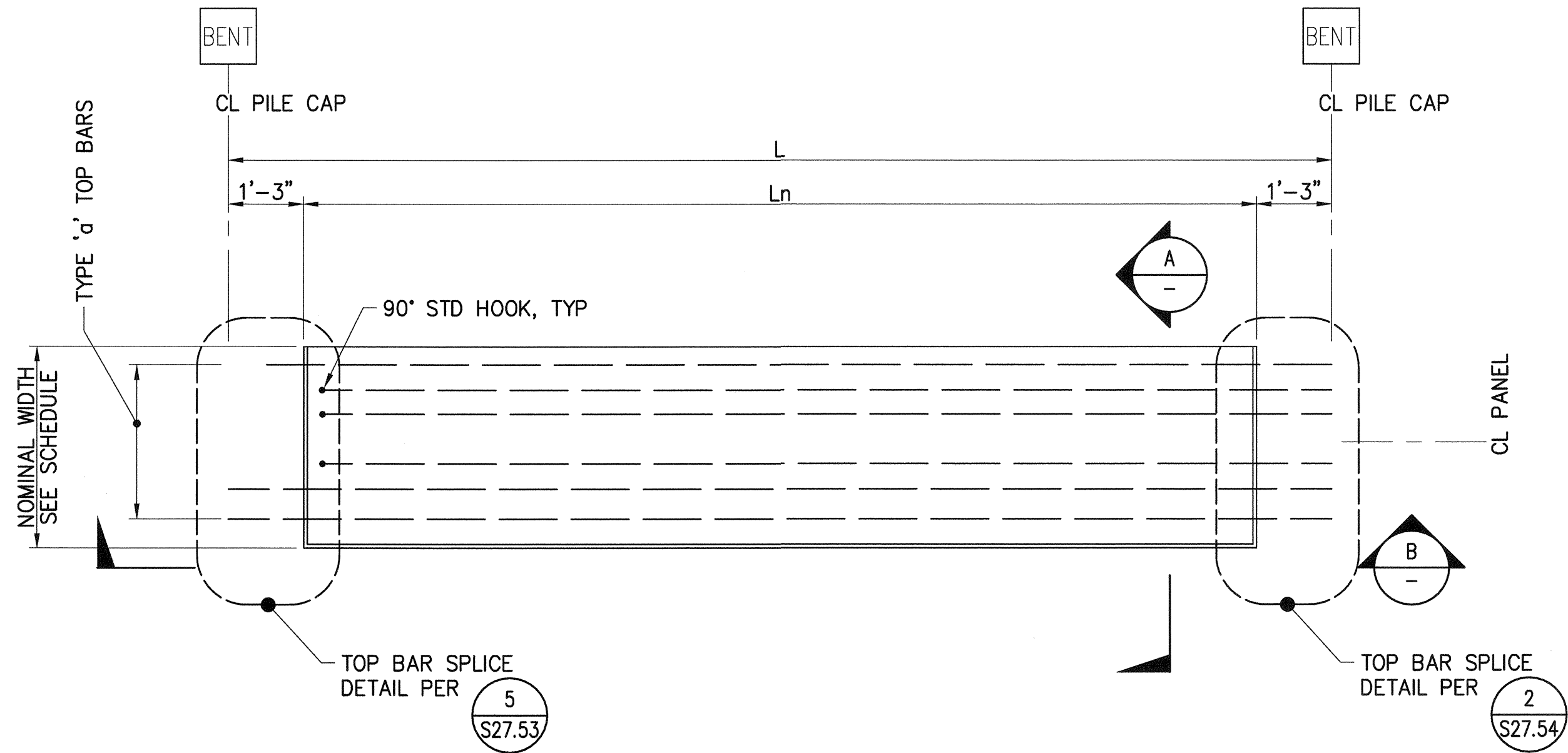
2407 North 31st Street, Suite 100
Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0152
P.O. BOX 187 TACOMA, WA 98401 (253) 396-9841

kpff

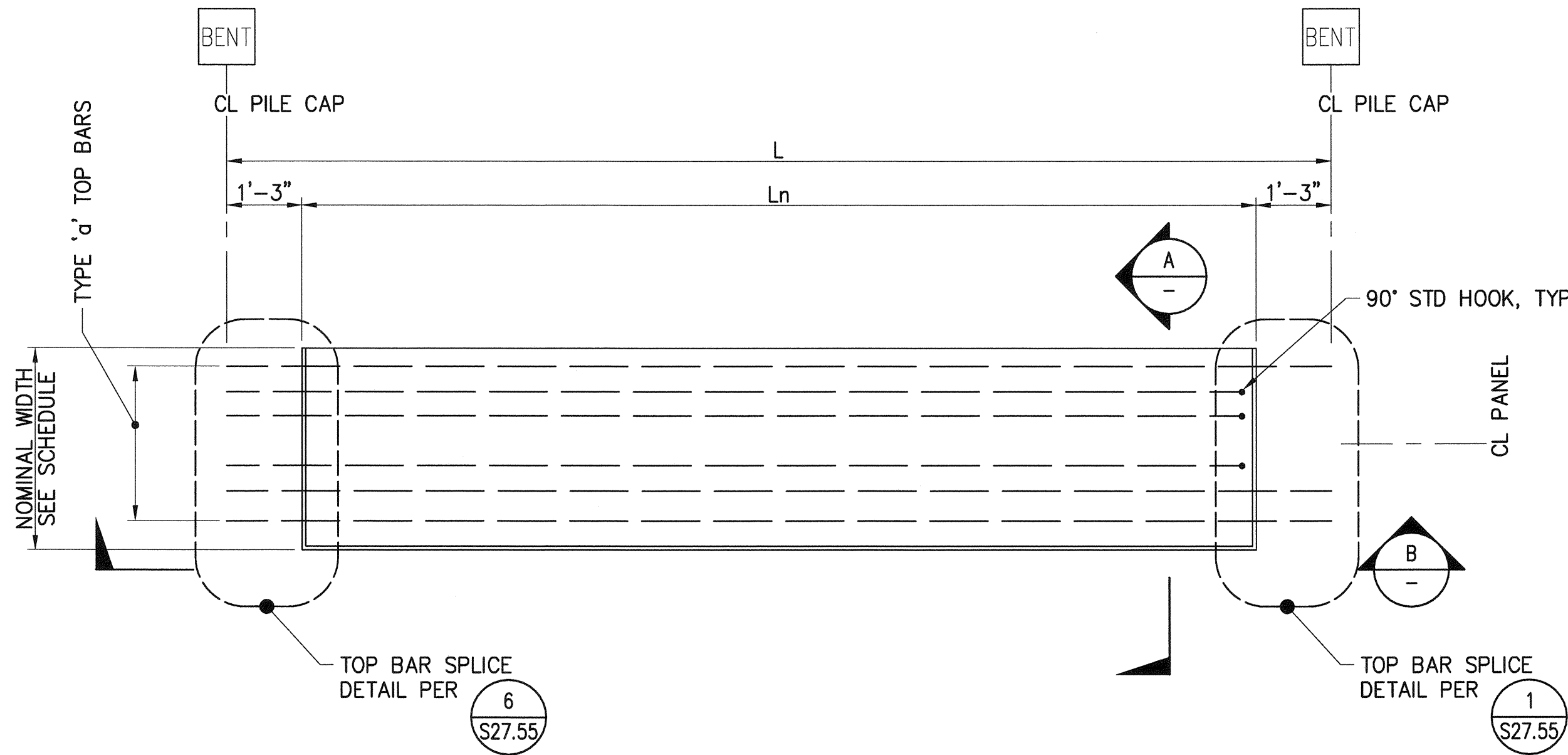
APPROVED:	SEK	CHECKED BY	DATE
<i>David Howard</i>	TAH		
3-28-16	PROJ.	ENGR	DATE
DIRECTOR	ENG.	DATE	
PRINTED BY: tlemans	Mar. 24, 2016		
PORT ADDRESS: ONE SITCUM PLAZA			
TACOMA, WA 98401-1837			

PIER 4 PHASE 2			
RECONFIGURATION			
DECK PANEL DETAILS - SHEET 38			
TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	
DAT-HRZ: WA83-SF	VERT: MLLW 19.39 @ Tide 22 1933		
PARCEL:	DRAWING SCALE: AS NOTED		

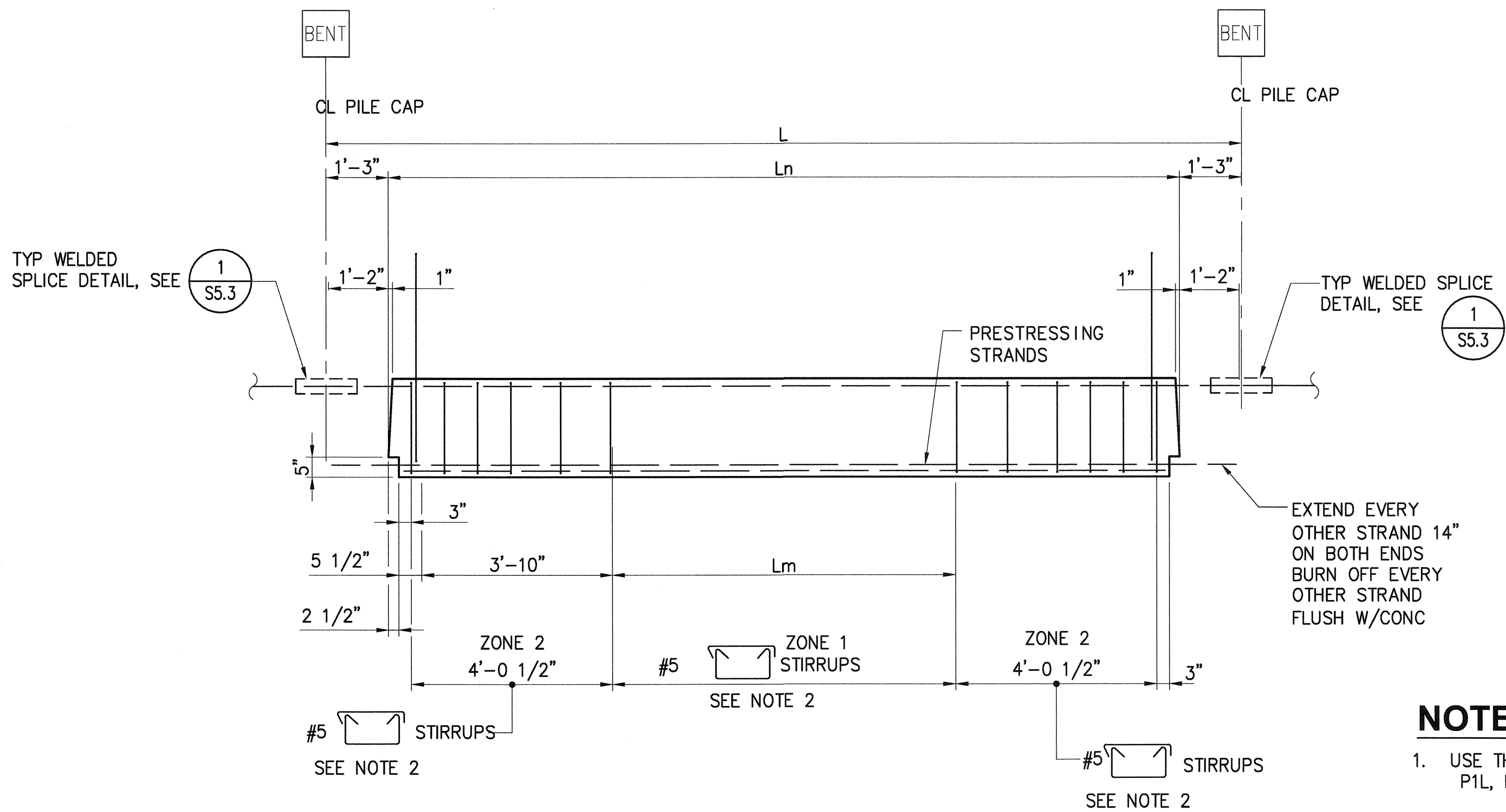
6552	
S27.38	
SH 333 OF 499	
CONT/CONS: 070136	
M. ID: 091251	
PHASE: BID	



1 DECK PANEL PLAN - PANEL: P1L
S26.1 - S26.5 $1/2"=1'-0"$



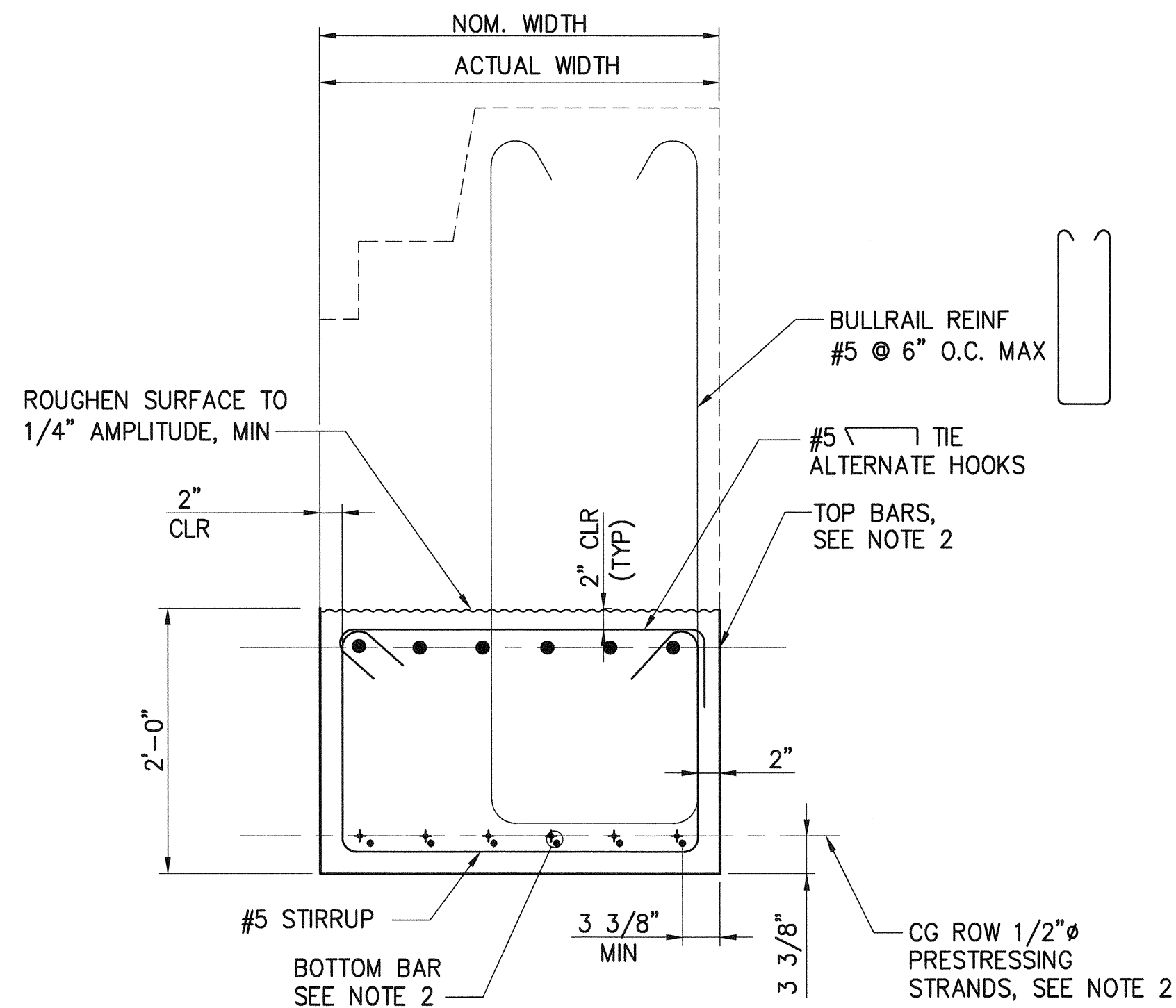
1 DECK PANEL PLAN - PANEL: P1M
S26.1 - S26.5 $1/2"=1'-0"$



B DECK PANEL ELEVATION
 $1/2"=1'-0"$

NOTES:

- USE THIS SHEET FOR DECK PANEL TYPES: P1L, P1M
- FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5



A DECK PANEL SECTION
 $1"=1'-0"$

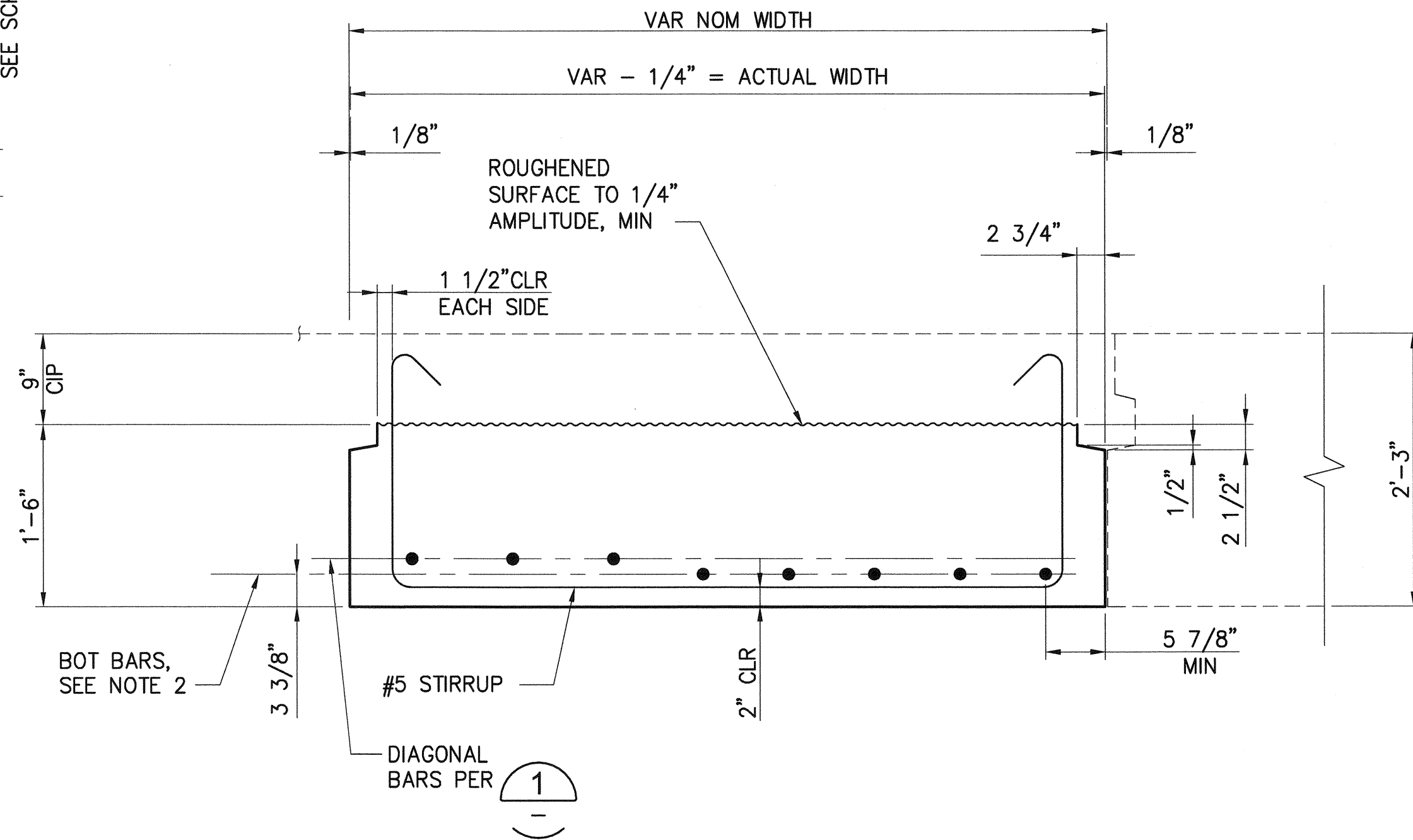
6552 S27.39 SH 334 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 39		APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR ENG. DATE PRINTED BY: tlemans Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SEK	CHECKED BY	DATE
	TOWNSHIP: 21N	RANGE: 3E		SECTION: 27	TAH	PROJ. ENGR
CONT/CONS: 070136	M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLW 19.39' @ Tide 22 1933	MARK:	REVISION:	BY:
PHASE: BID	PARCEL:	DRAWING SCALE: AS NOTED		APPR:	DATE:	

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Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162
P.O. BOX 1807 TACOMA, WA 98401 (253)393-5841

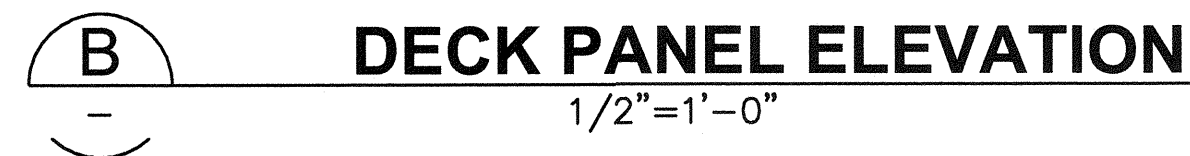
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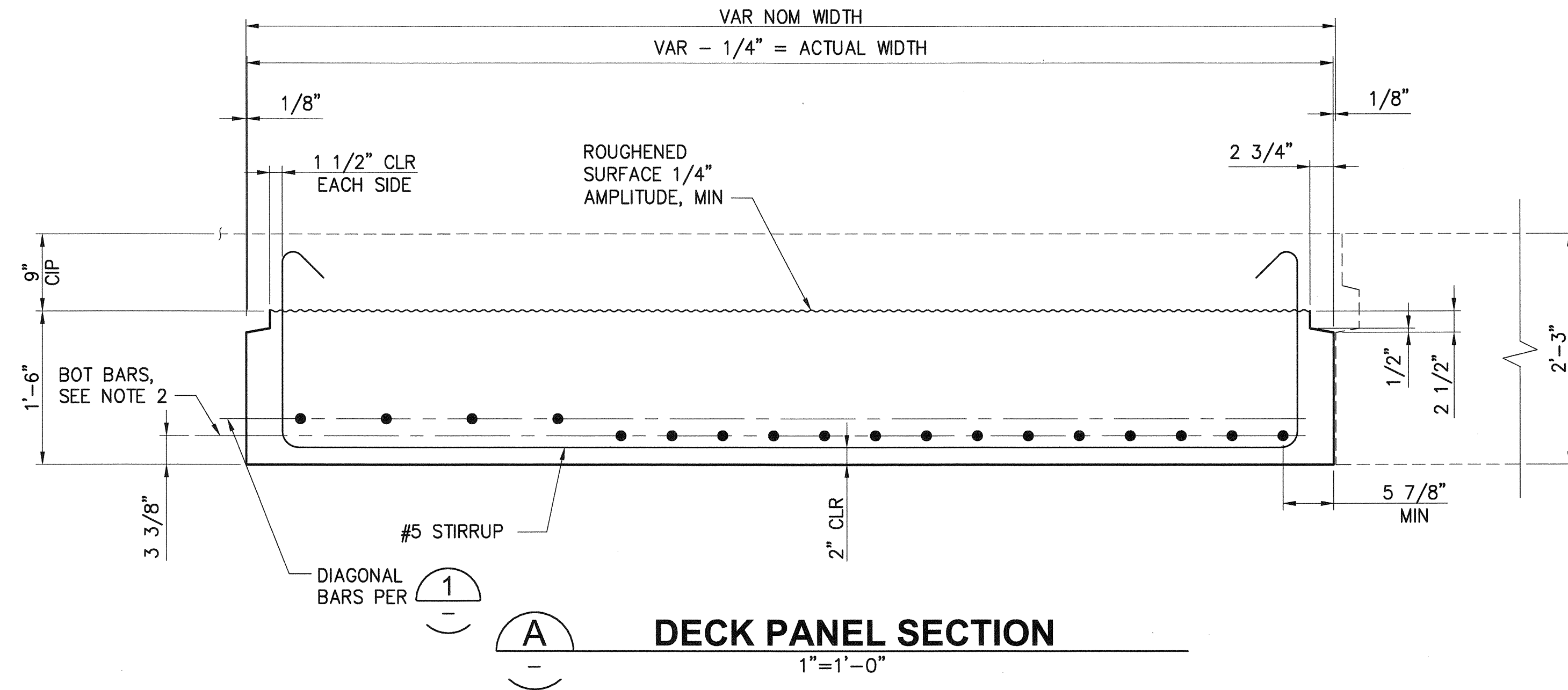
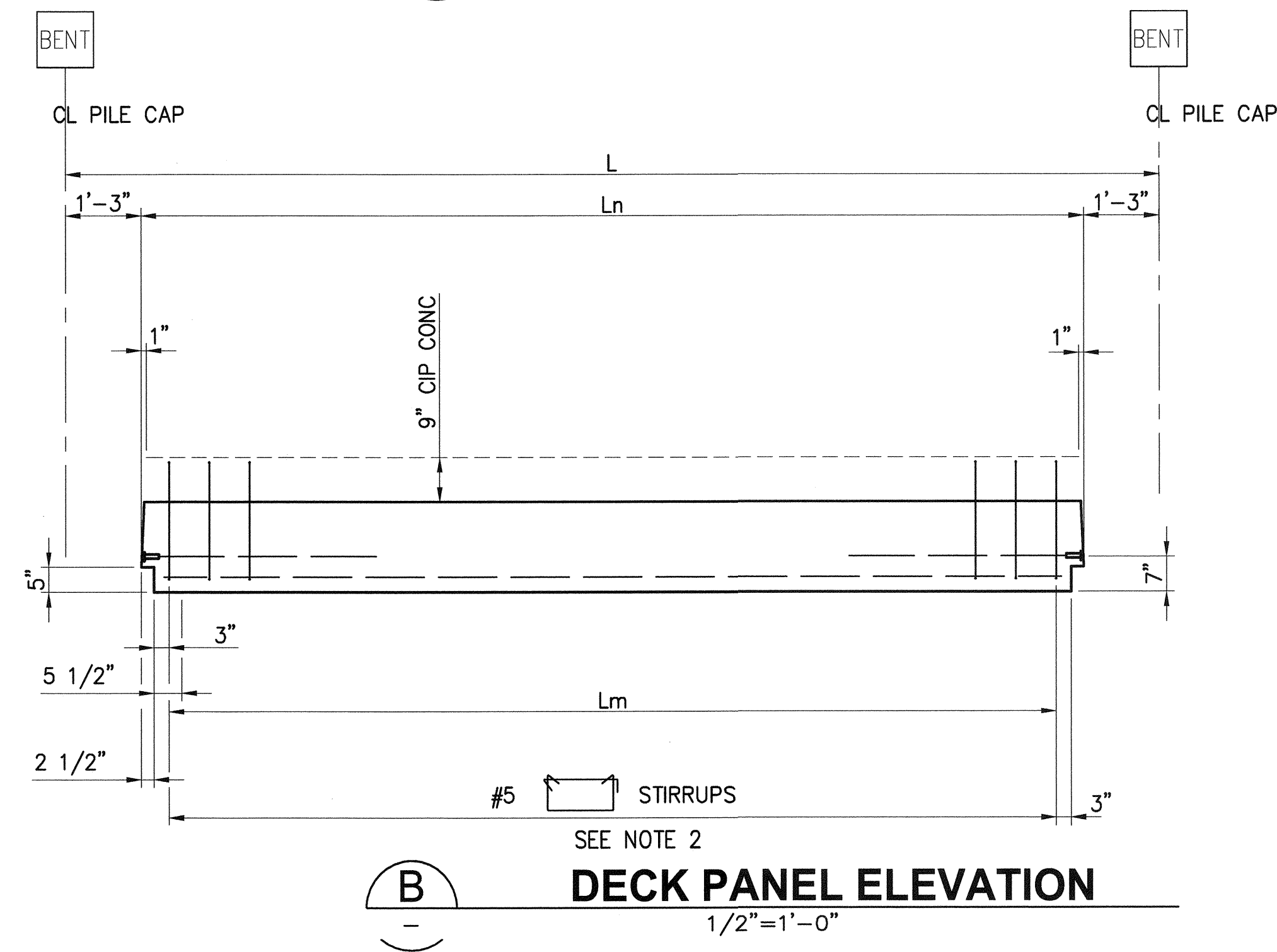
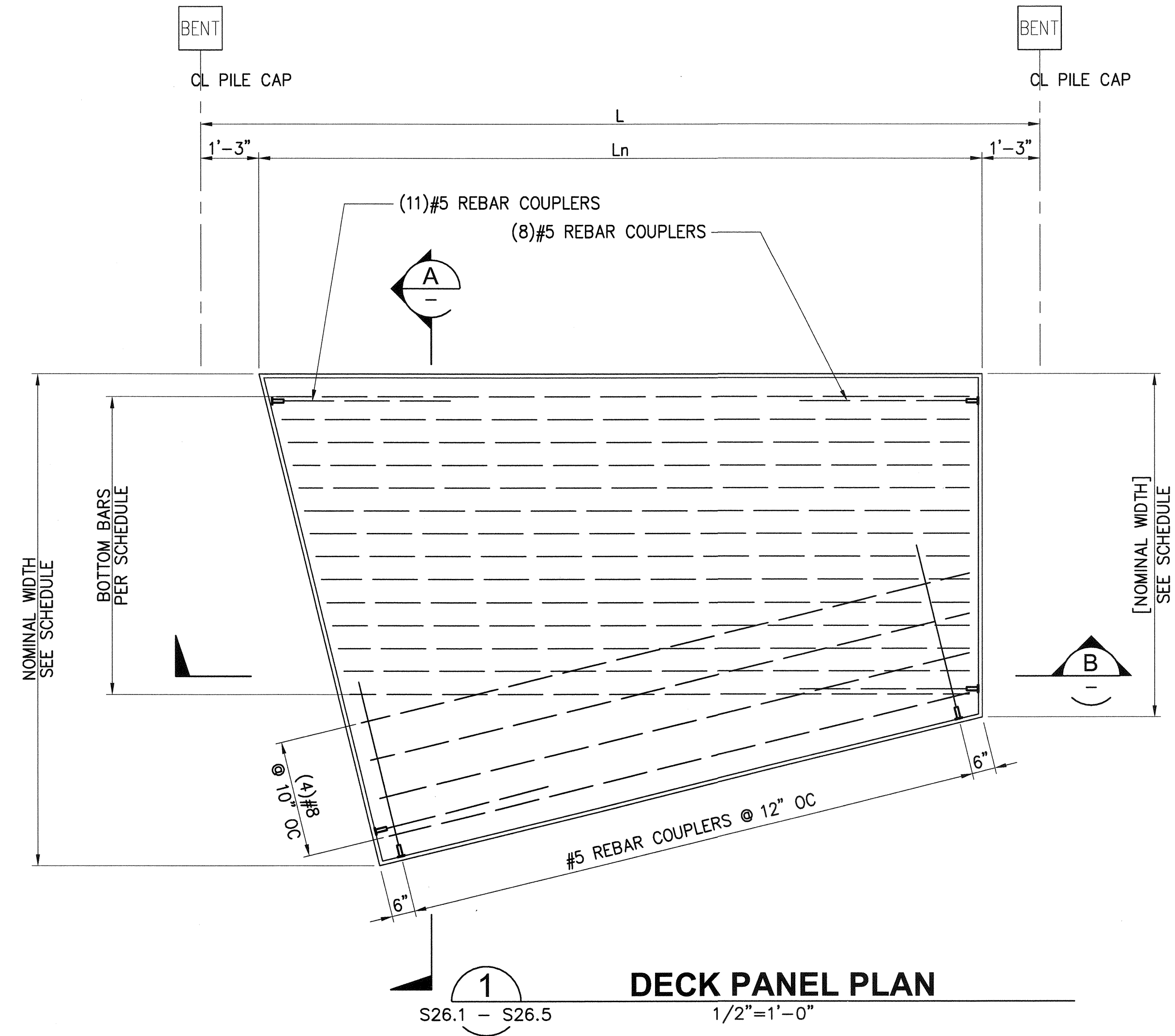
SEALED
T. B. WILSON
REGISTERED PROFESSIONAL ENGINEER
NO. 10000
EXPIRATION DATE 12/31/2018



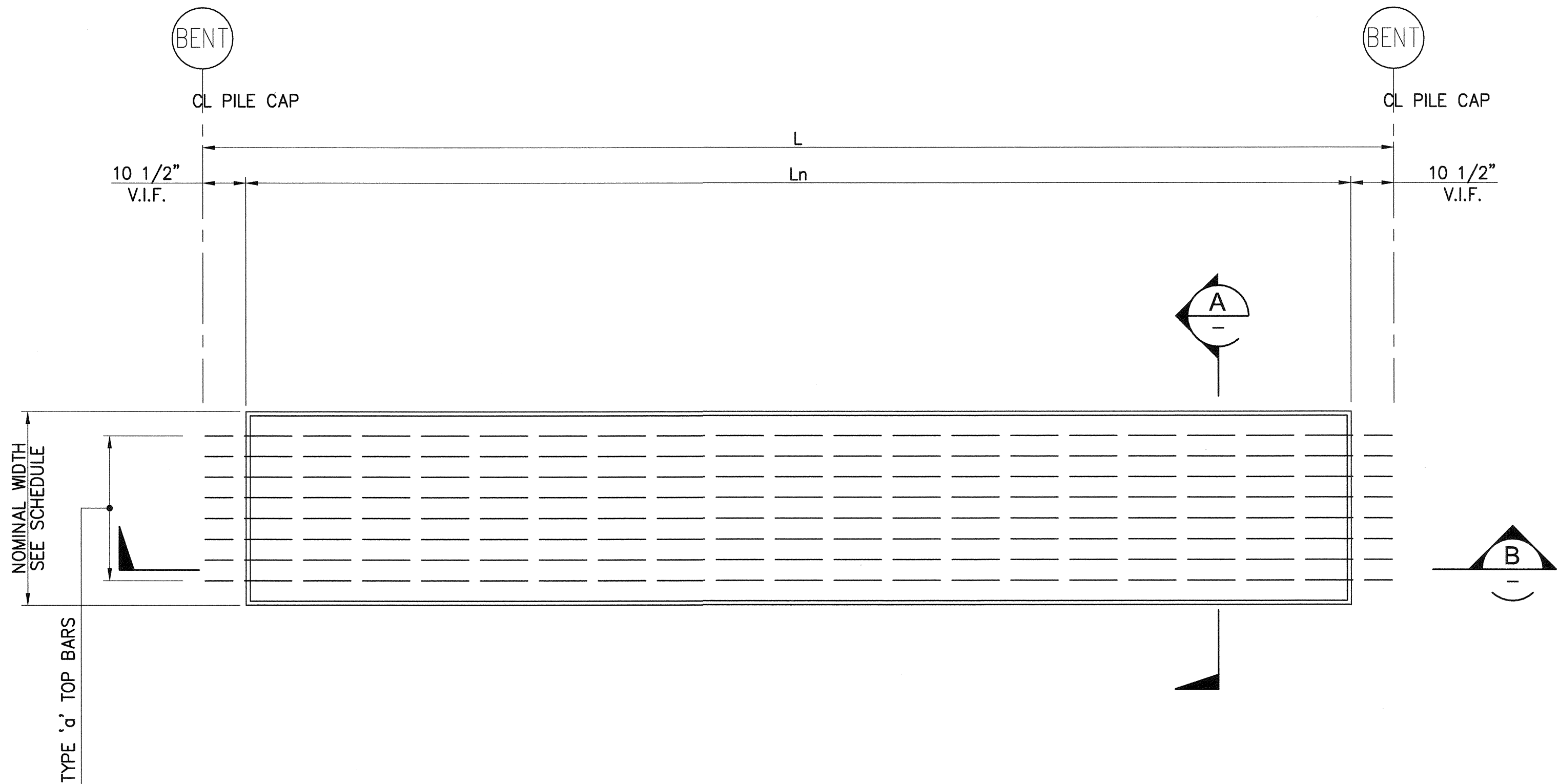
NOTES:

1. USE THIS SHEET FOR DECK PANEL TYPES:
P53
2. FOR DECK PANEL SCHEDULE, SEE S26.1 – S26.5

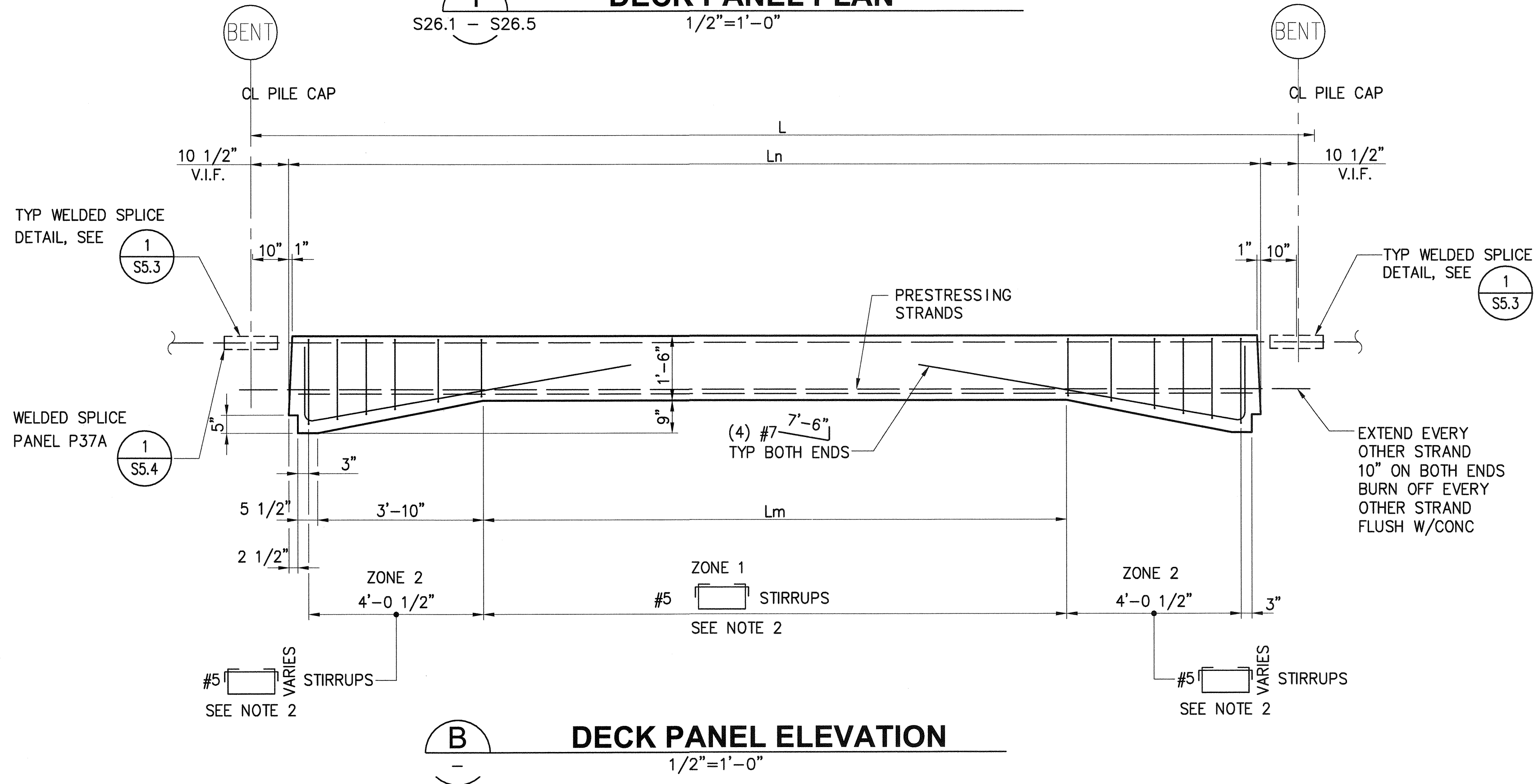




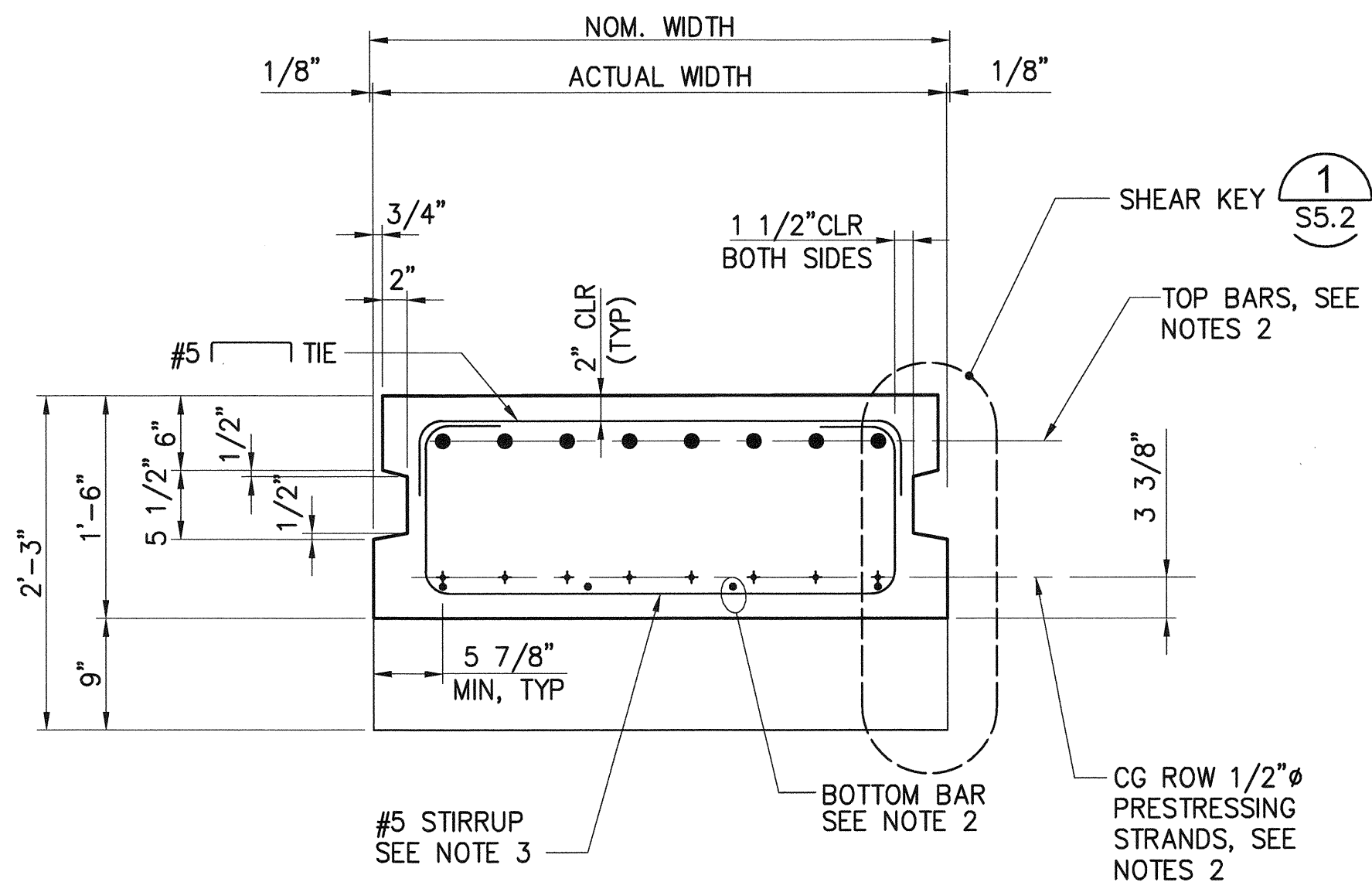
- NOTES:**



1
S26.1 - S26.5
DECK PANEL PLAN
1/2"=1'-0"



B
DECK PANEL ELEVATION
1/2"=1'-0"



A
DECK PANEL SECTION
1"=1'-0"

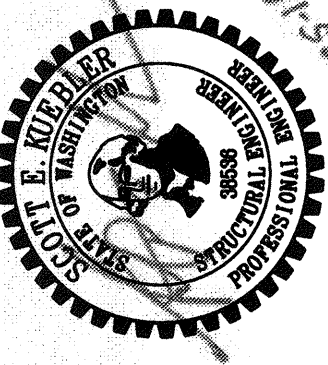
NOTES:

1. USE THIS SHEET FOR DECK PANEL TYPES:
P37, P37A
2. FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5

6552
S27.42
SH 337 OF 499

**PIER 4 PHASE 2
RECONFIGURATION
DECK PANEL DETAILS - SHEET 42**

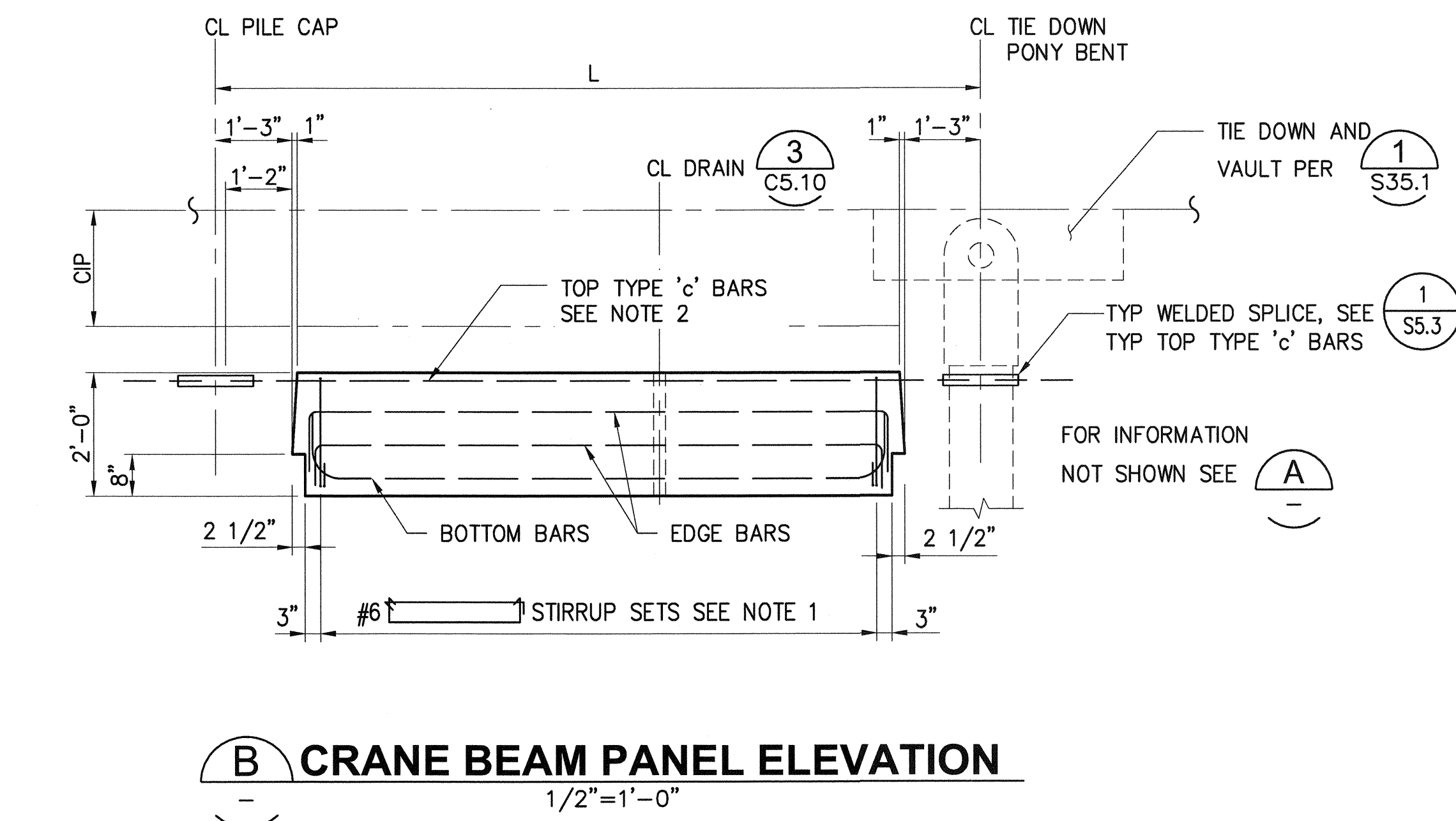
APPROVED:	CHKD BY:	DATE:
<i>[Signature]</i>	TAH	
DIRECTOR ENG. DATE:	PROJ. ENGR. DATE:	
3-28-16	Mar 24, 2016	
PRINTED BY:	PROJECT ADDRESS:	
ITEMS	ONE SITCUM PLAZA	
PORT ADDRESS:	TACOMA, WA 98401-1837	



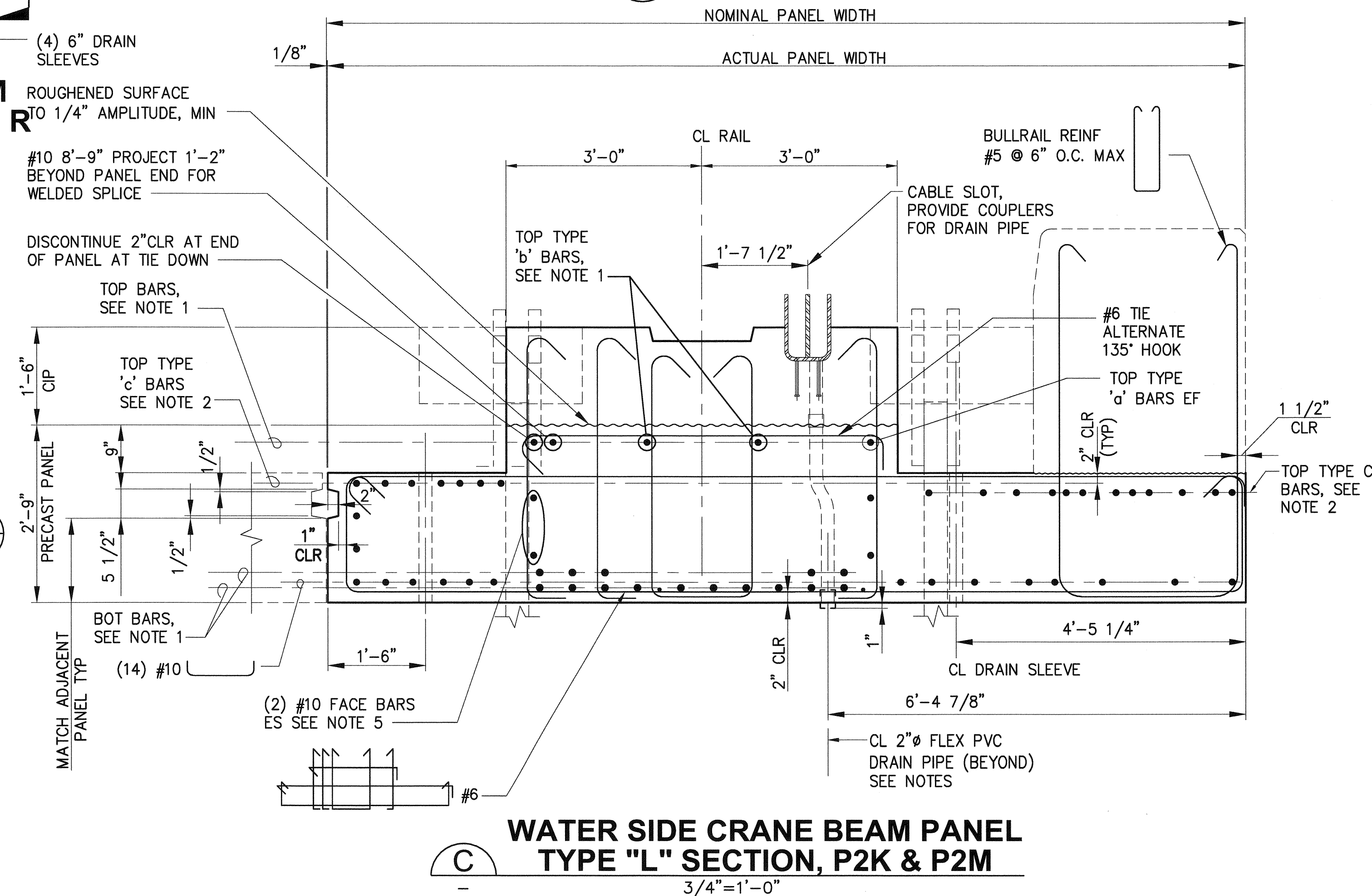
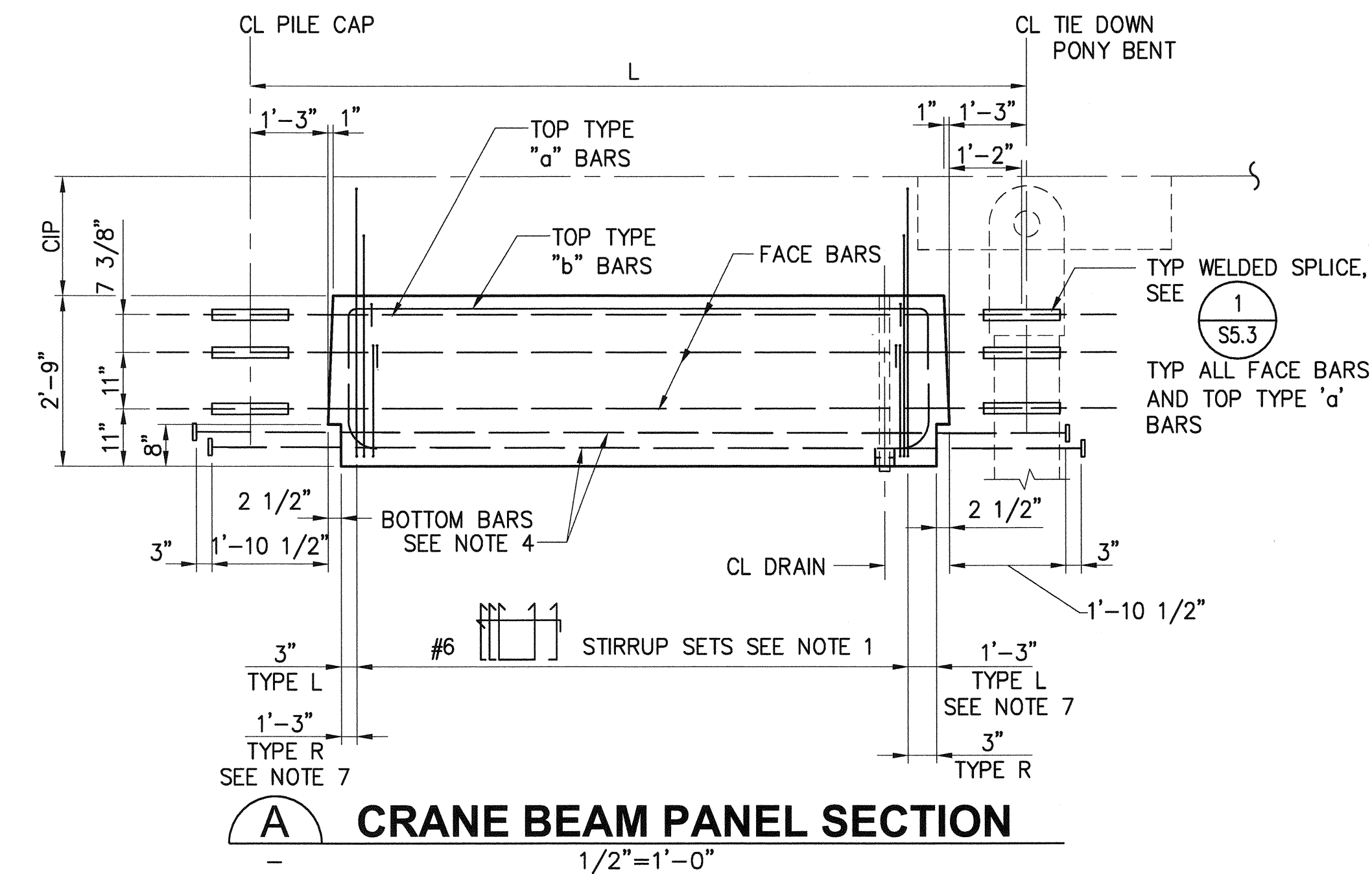
kpf
2407 North 31st Street, Suite 100
Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162

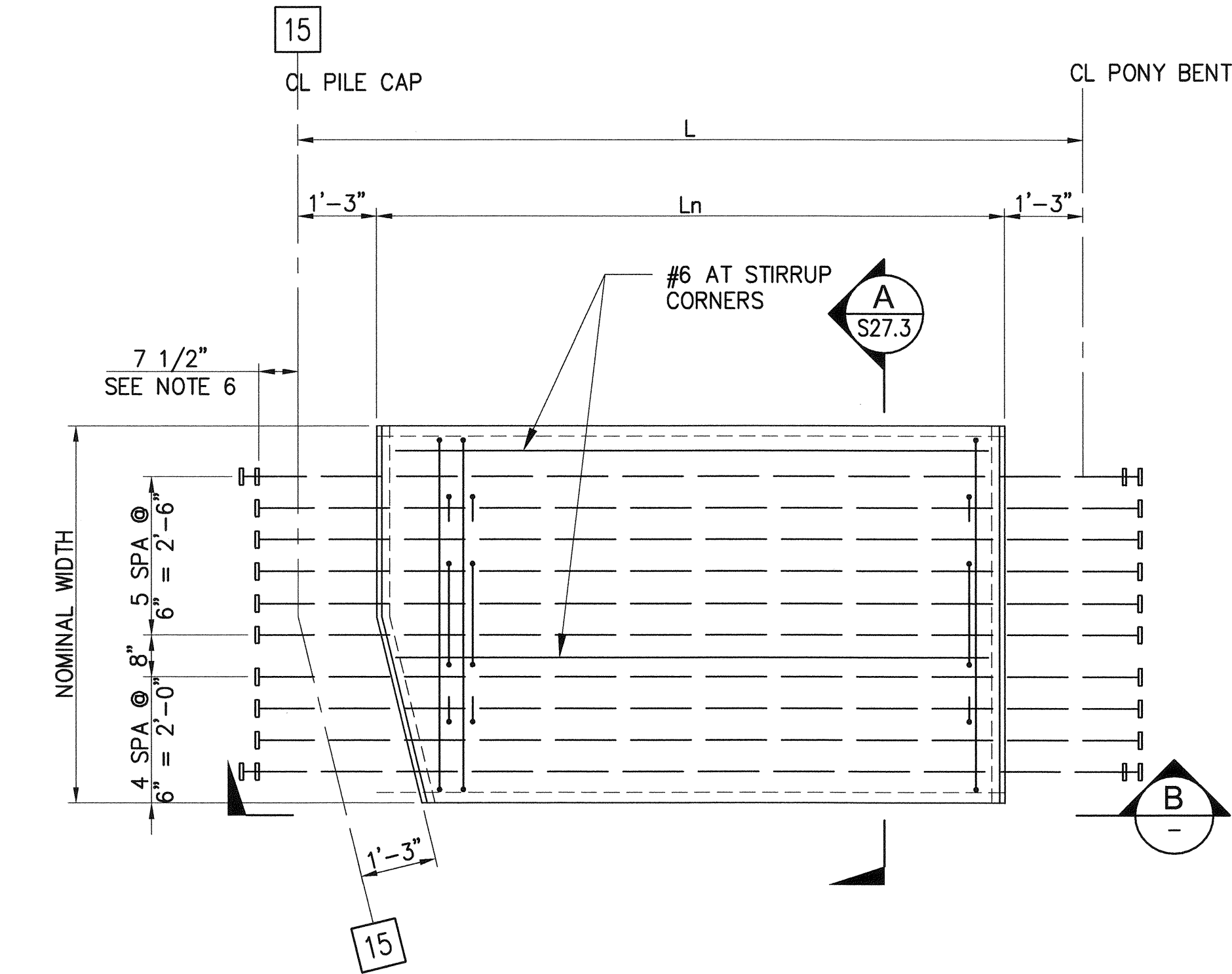
Port of Tacoma
P.O. BOX 1837 TACOMA, WA 98401 (253) 396-5841

MARK:	REVISION:	BY:	DATE:



- | | |
|---|---|
| 1. SEE DECK PANEL SCHEDULE, S26.1 – S26.5 | 4. PROVIDE HEADED REINFORCEMENT, SEE SPECIFICATIONS |
| 2. PROVIDE 'c' BARS TO MATCH SIZE AND NUMBER W/ADJACENT P1A, P1, & P3A PANEL BARS FOR WELDED SPLICE | 5. PROVIDE ASTM A706 GRADE 60 REINFORCEMENT FOR ALL FACE BARS |
| 3. USE THIS SHEET FOR DECK PANEL TYPES P2K & P2M | 6. 2"Ø FLEX PVC PIPE DRAIN WITH COUPLERS TO BE PLACED AT TOP AND BOTTOM OF PIPE |
| | 7. PROVIDE DOUBLE STIRRUP SET AT THIS END |

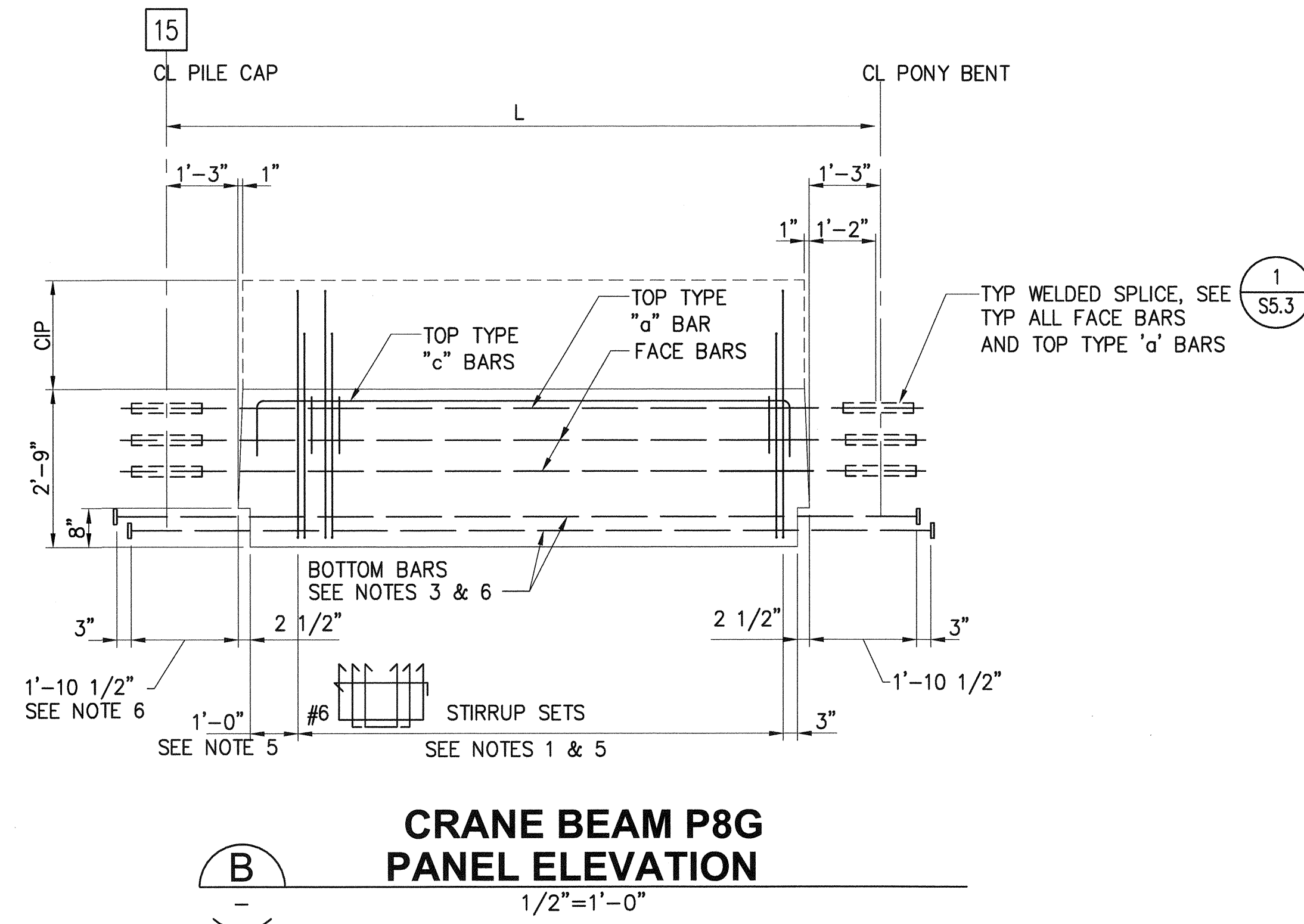




CRANE BEAM
TYPE "L" PANEL P8G PLAN

S26.1 - S26.5 3/4"=1'-0"

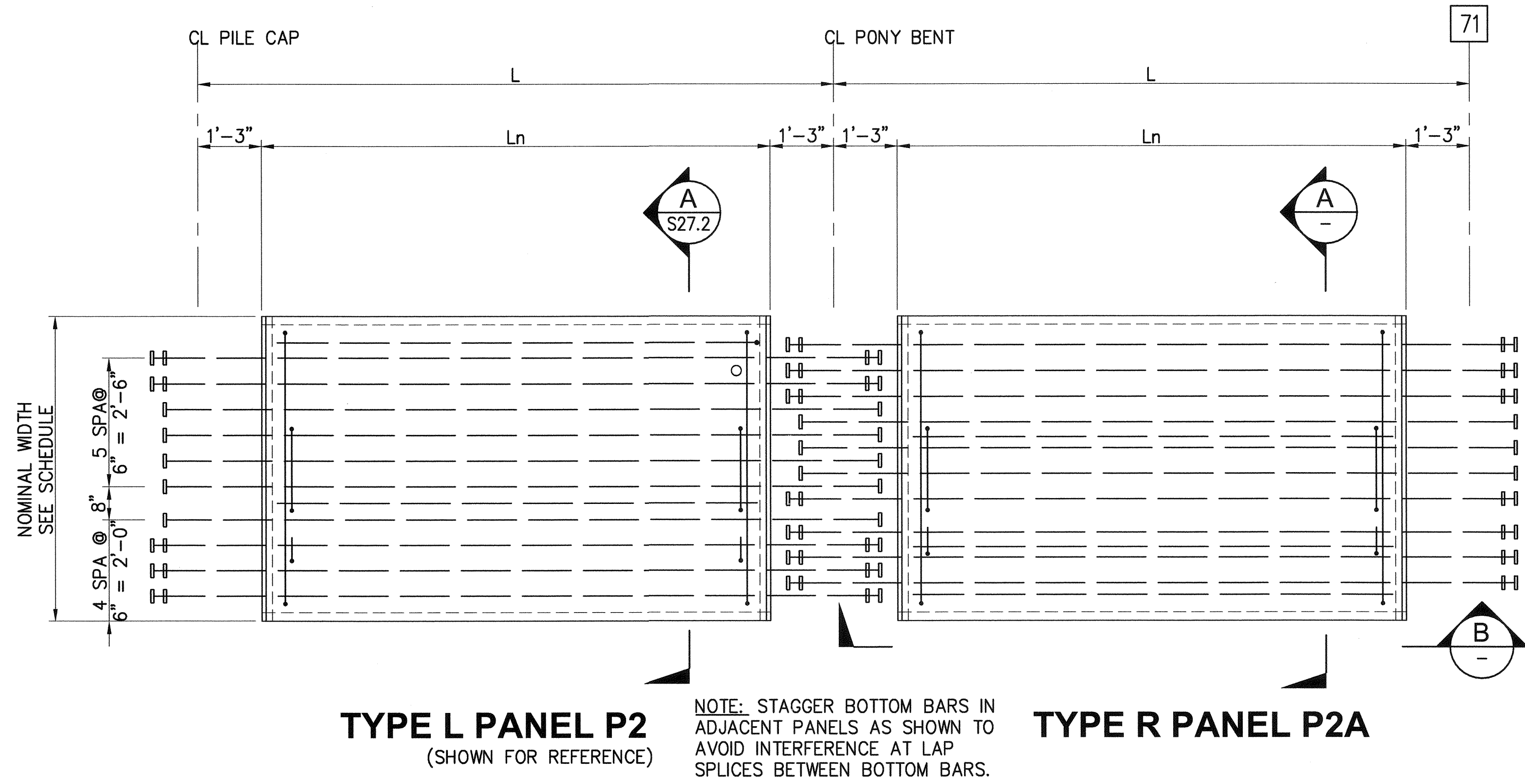
NOTE: STAGGER BOTTOM BARS IN ADJACENT PANELS AS SHOWN TO AVOID INTERFERENCE AT LAP SPLICES BETWEEN BOTTOM BARS.



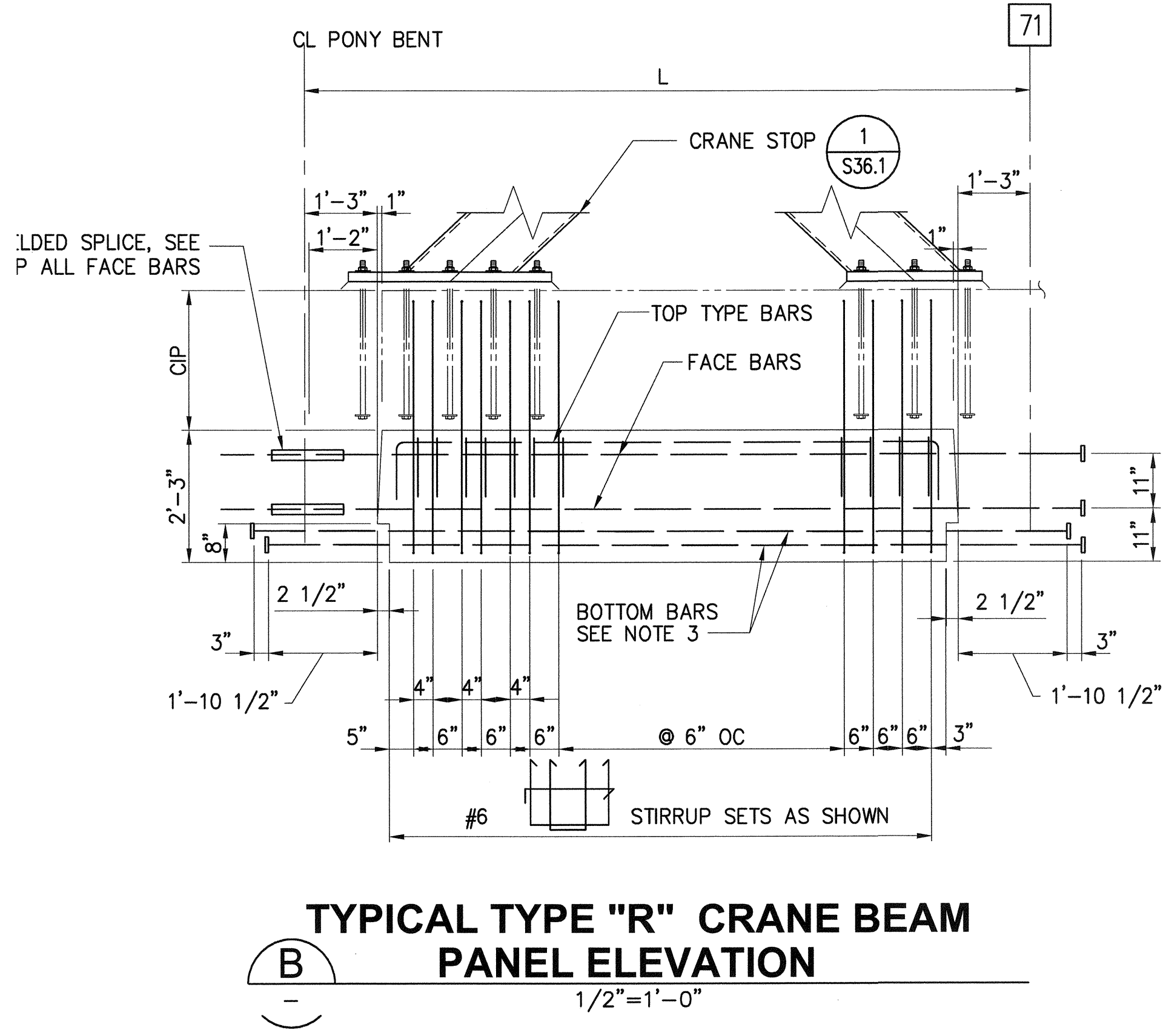
CRANE BEAM P8G PANEL ELEVATION

NOTES:

1. SEE DECK PANEL SCHEDULE, S26.1 – S26.5
2. USE THIS SHEET FOR PANEL TYPE P8G
3. PROVIDE HEADED REINFORCEMENT, SEE SPECIFICATIONS
4. PROVIDE ASTM A706 GRADE 60 REINFORCEMENT FOR ALL FACE BARS
5. PROVIDE DOUBLE SET OF STIRRUPS @ THIS SIDE OF PANEL
6. ALL BOTTOM BARS TO EXTEND OUT OF PANEL AT BENT 15 FLUSH.

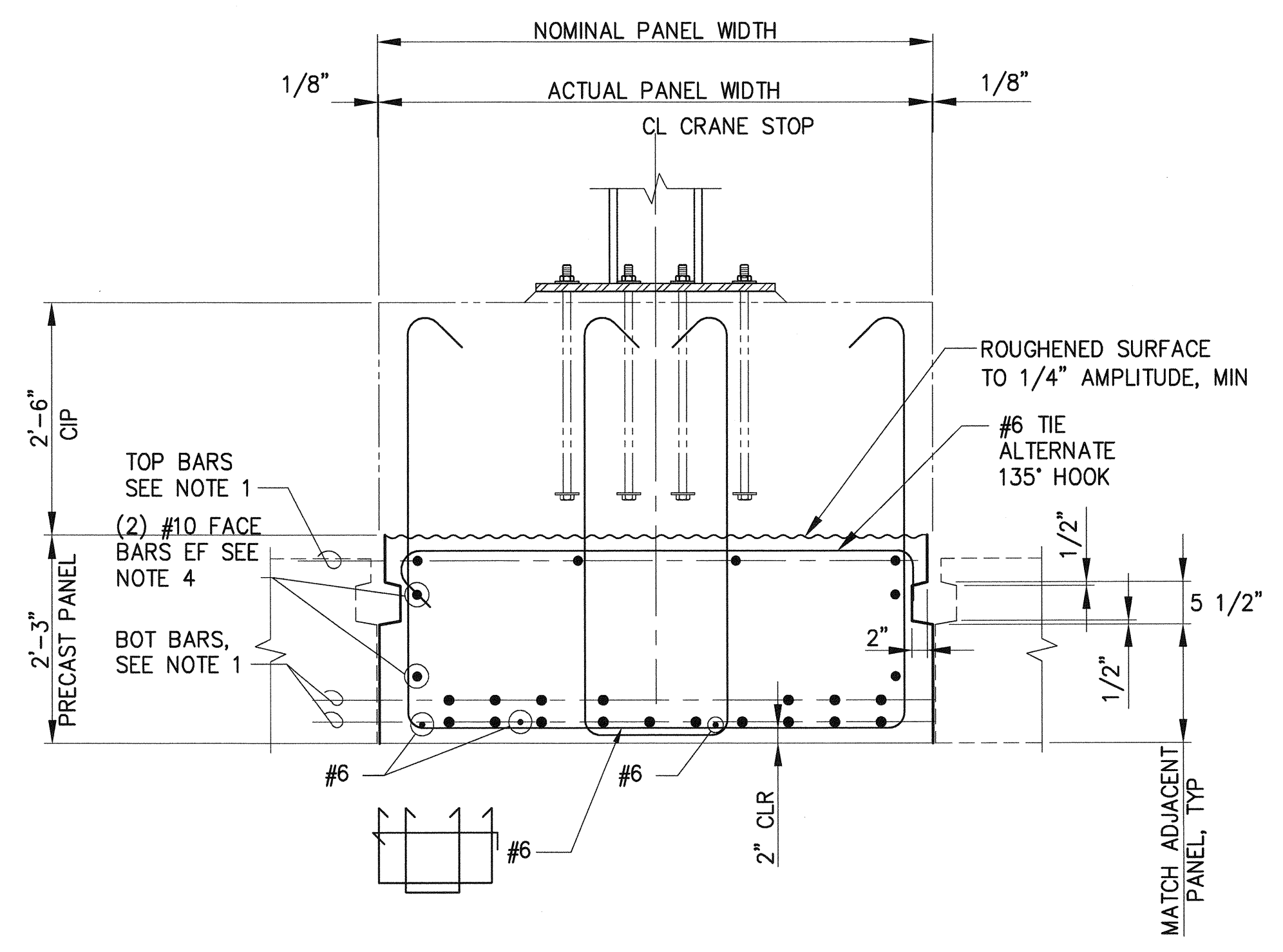


CRANE BEAM
1 TYPE "L" & "R" PANEL PLAN
S26.1 - S26.5
1/2"=1'-0"



TYPICAL TYPE "R" CRANE BEAM
PANEL ELEVATION

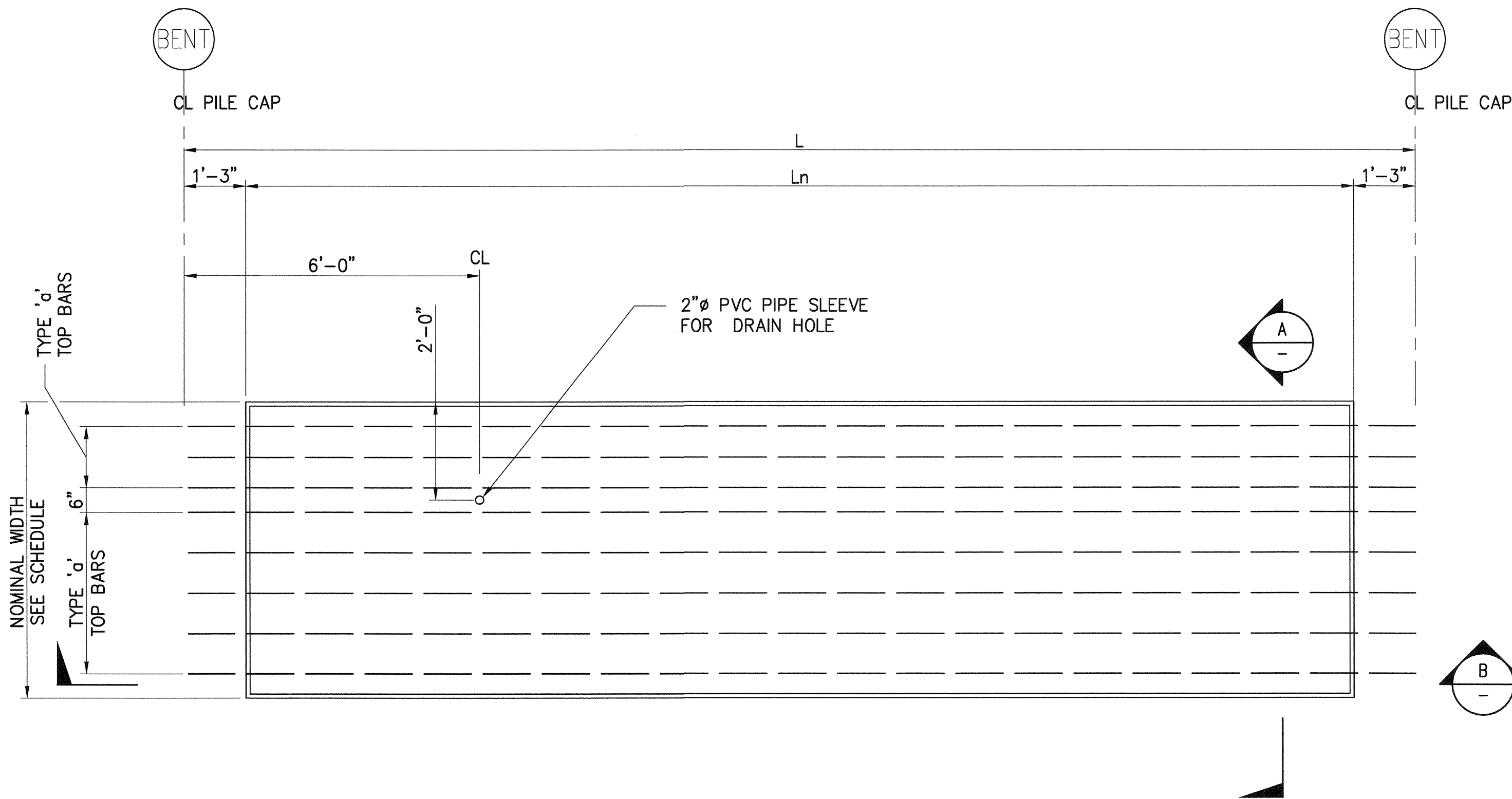
- NOTES:**
1. SEE DECK PANEL SCHEDULE, S26.1 - S26.5
 2. USE THIS SHEET FOR PANEL TYPE P2A
 3. PROVIDE HEADED REINFORCEMENT, SEE SPECIFICATIONS
 4. PROVIDE ASTM A706 GRADE 60 REINFORCEMENT FOR ALL FACE BARS. ALIGN FACE BARS TO SPLICE WITH FACE BARS FROM PANEL TYPE P2. FACE BARS SHALL BE HEADED AT BENT 71



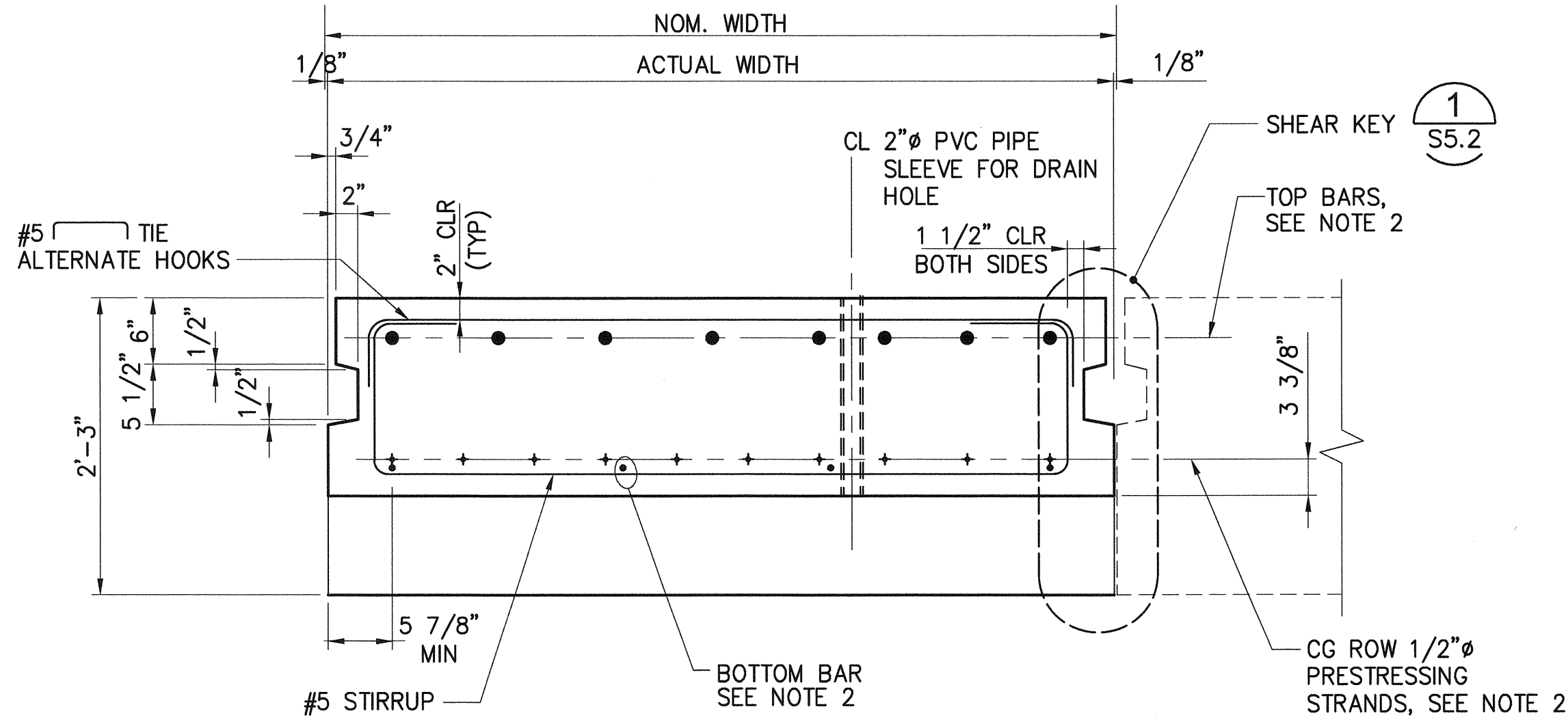
TYPICAL CRANE BEAM PANEL
A TYPE "L" SECTION P2A
S27.27 - S27.29
3/4"=1'-0"

6552 S27.45 SH 340 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 45				APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR PRINTED BY: tlemmons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SEK CHECKED BY TAH PROJ. ENGR DATE	DATE	
CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27				MARK:	REVISION:
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLW 19.39 @ Tide 22 1833	PARCEL: DRAWING SCALE: AS NOTED					
PHASE: BID							APPR:	DATE:
Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401 (253) 398-1841								

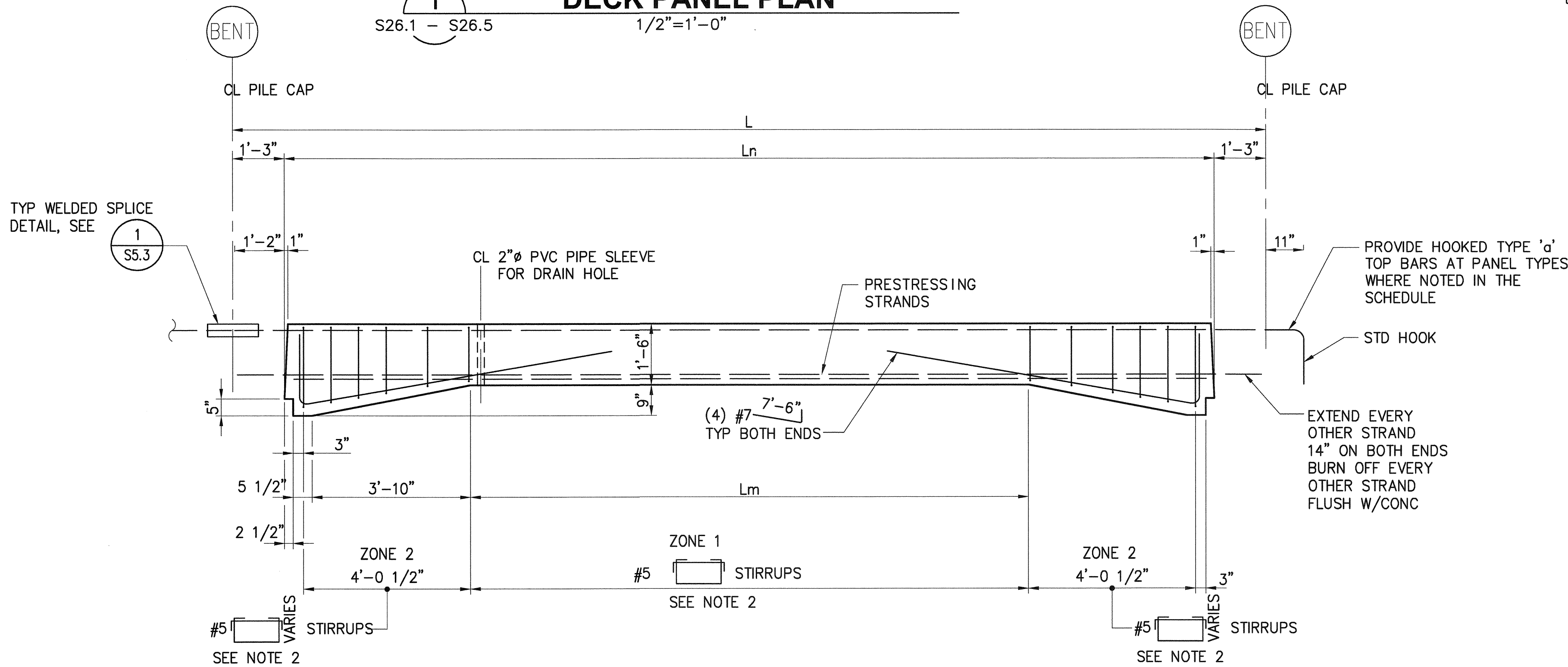
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1
DECK PANEL PLAN
S26.1 - S26.5
1/2"=1'-0"



A
DECK PANEL SECTION
1"=1'-0"



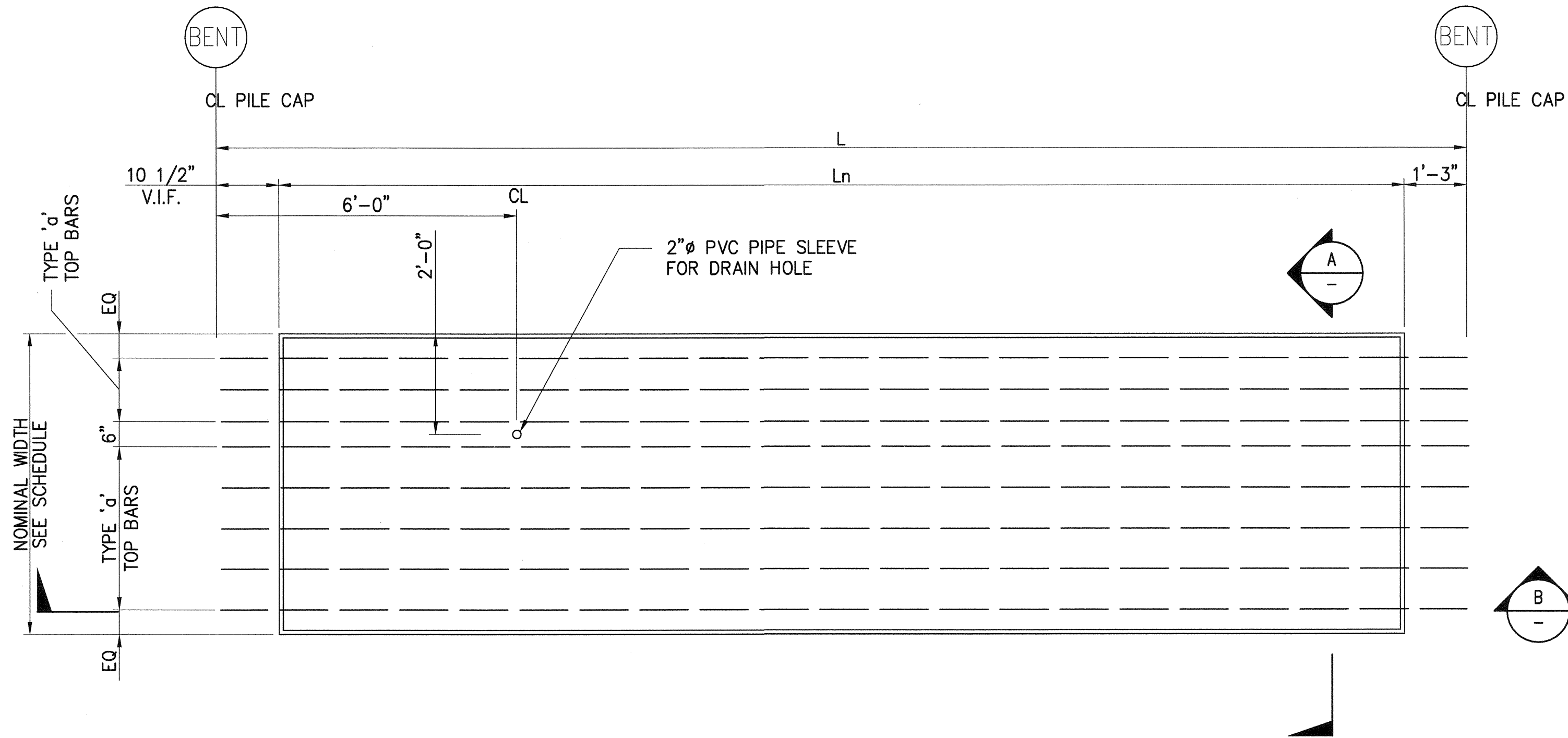
B
DECK PANEL ELEVATION
1/2"=1'-0"

NOTES:

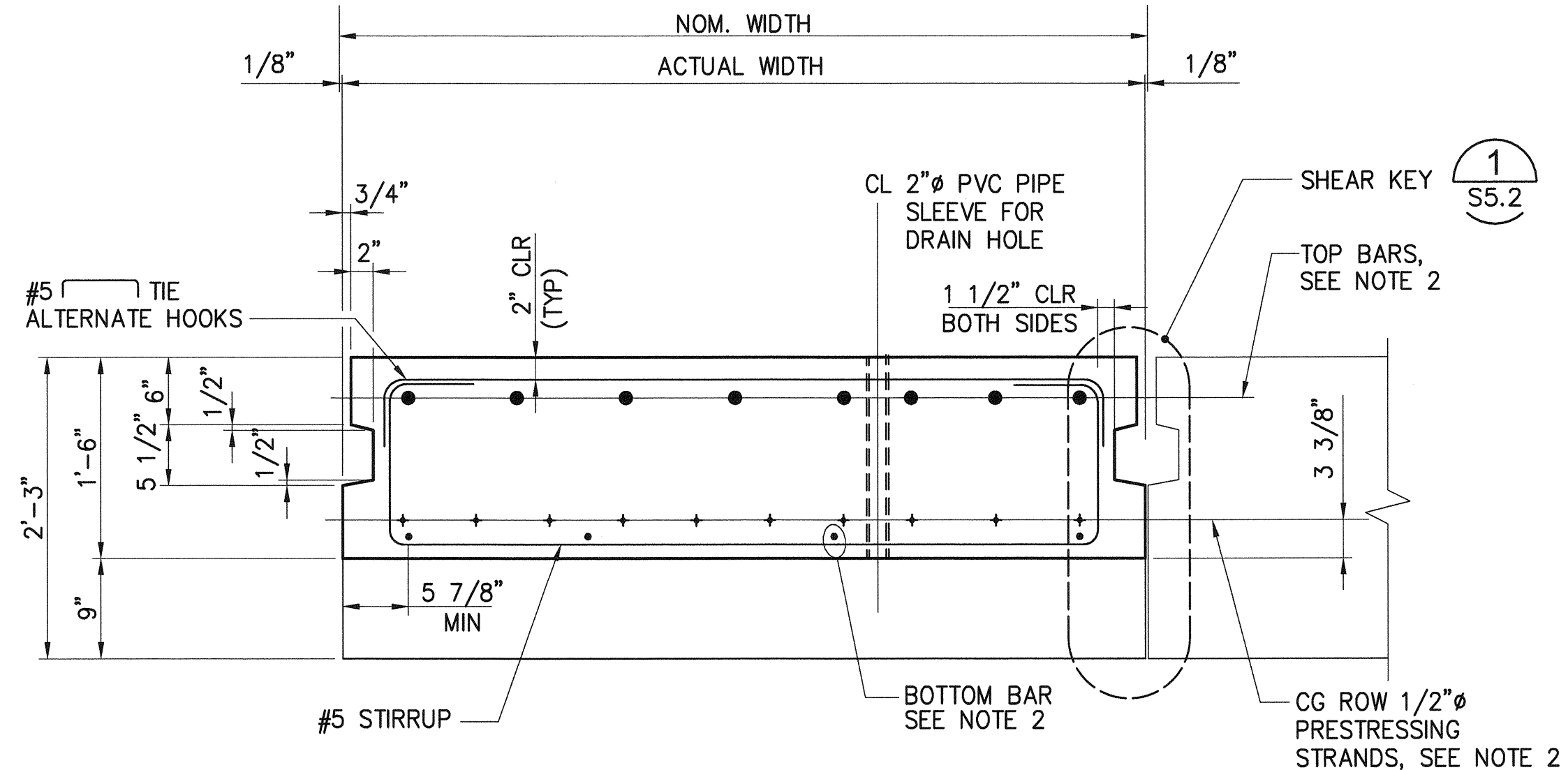
- USE THIS SHEET FOR DECK PANEL TYPES: P20
- FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5
- TOP BAR LAYOUT SHALL MATCH EXIST DECK PANEL TOP BAR LOCATION. FIELD VERIFY EXIST DECK PANEL TOP BAR PRIOR TO PANEL FABRICATION.

6552 S27.46 SH 341 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 46				Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401 (253) 393-5841
	CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	PRINTED BY: tiemoms Mar 24, 2016	PROJ. ENGR: TAHA	
PHASE: BID	PARCEL:	DRAWING SCALE: AS NOTED	PORT ADDRESS: ONE SITCUM PLAZA	TACOMA, WA 98401-1837	
APPROVED: <i>David J. Tiemoms</i> DIRECTOR ENG. DATE: 3-28-16					SEK CHECKED BY: DATE
BY: DATE:					MARK: REVISION:

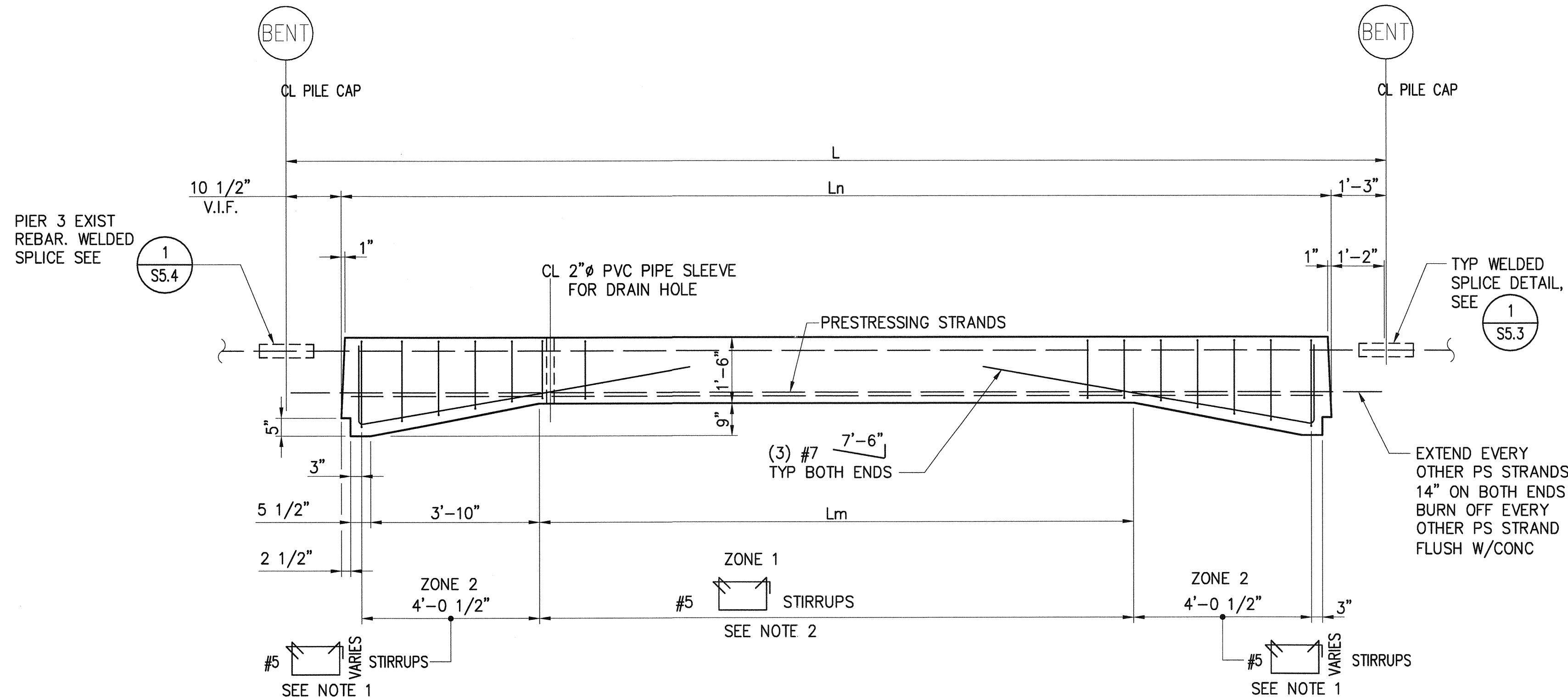
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1
S26.1 - S26.5
1/2"=1'-0"



A
1"=1'-0"



B
1/2"=1'-0"

NOTES:

- USE THIS SHEET FOR DECK PANEL TYPES: P20A
- FOR DECK PANEL SCHEDULE, SEE S26.1 - S26.5
- TOP BAR LAYOUT SHALL MATCH EXIST DECK PANEL TOP BAR LOCATION. FIELD VERIFY EXIST DECK PANEL TOP BAR PRIOR TO PANEL FABRICATION.

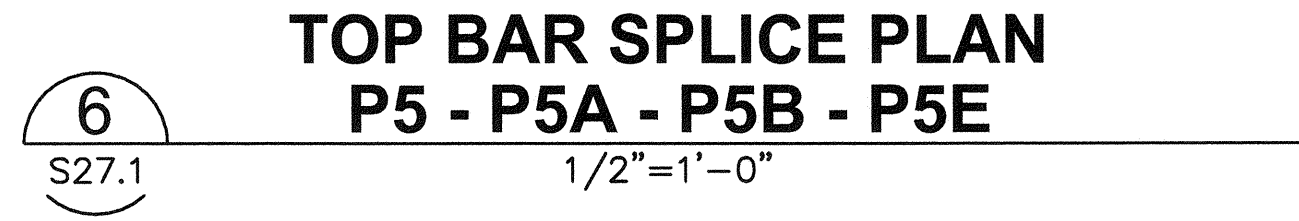
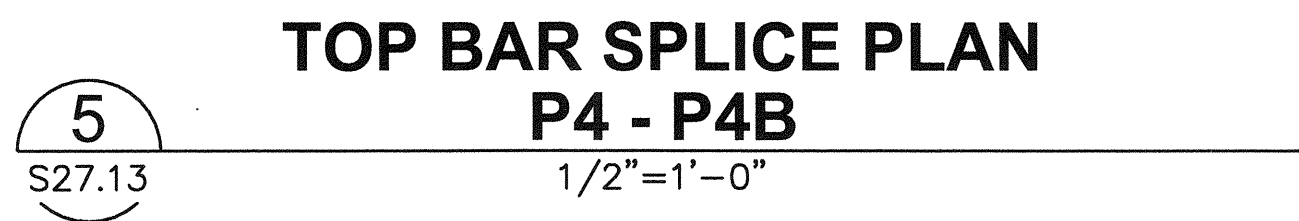
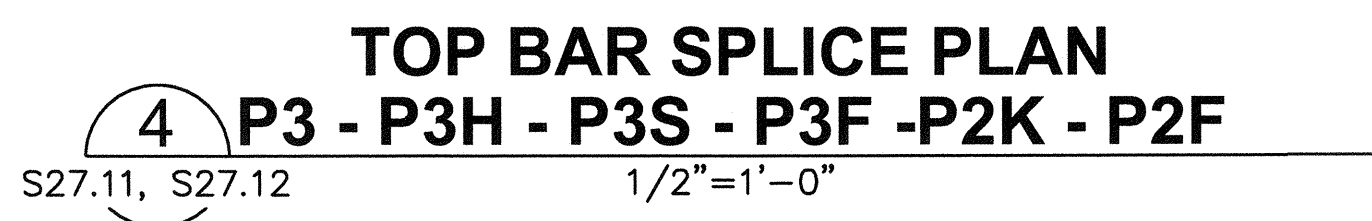
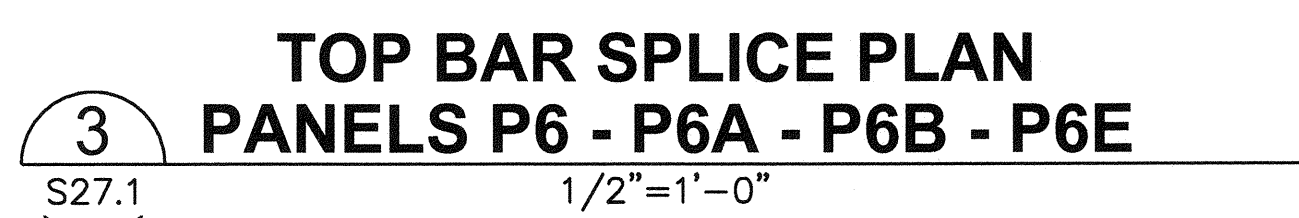
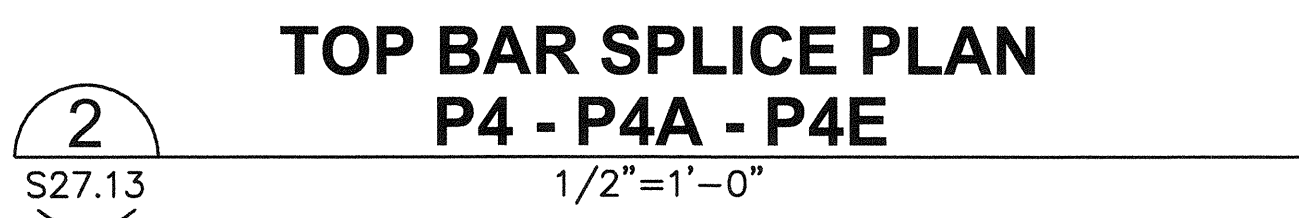
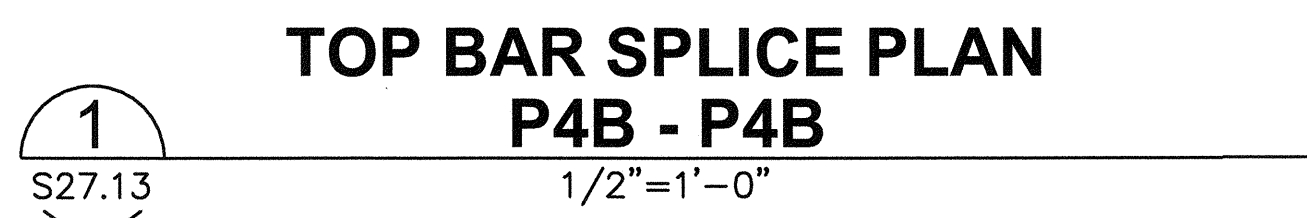
6552 S27.47 SH 342 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 47				Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 187 TACOMA, WA 98401 (253)393-5841	
	CONTRACT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	DATE: 091251	DATE: 091251
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MILLW 19:39 @ Tide 22 1933	PARCEL: AS NOTED	MARK: REVISION: BY: APPR: DATE:	DATE: 091251	
PHASE: BID	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION					

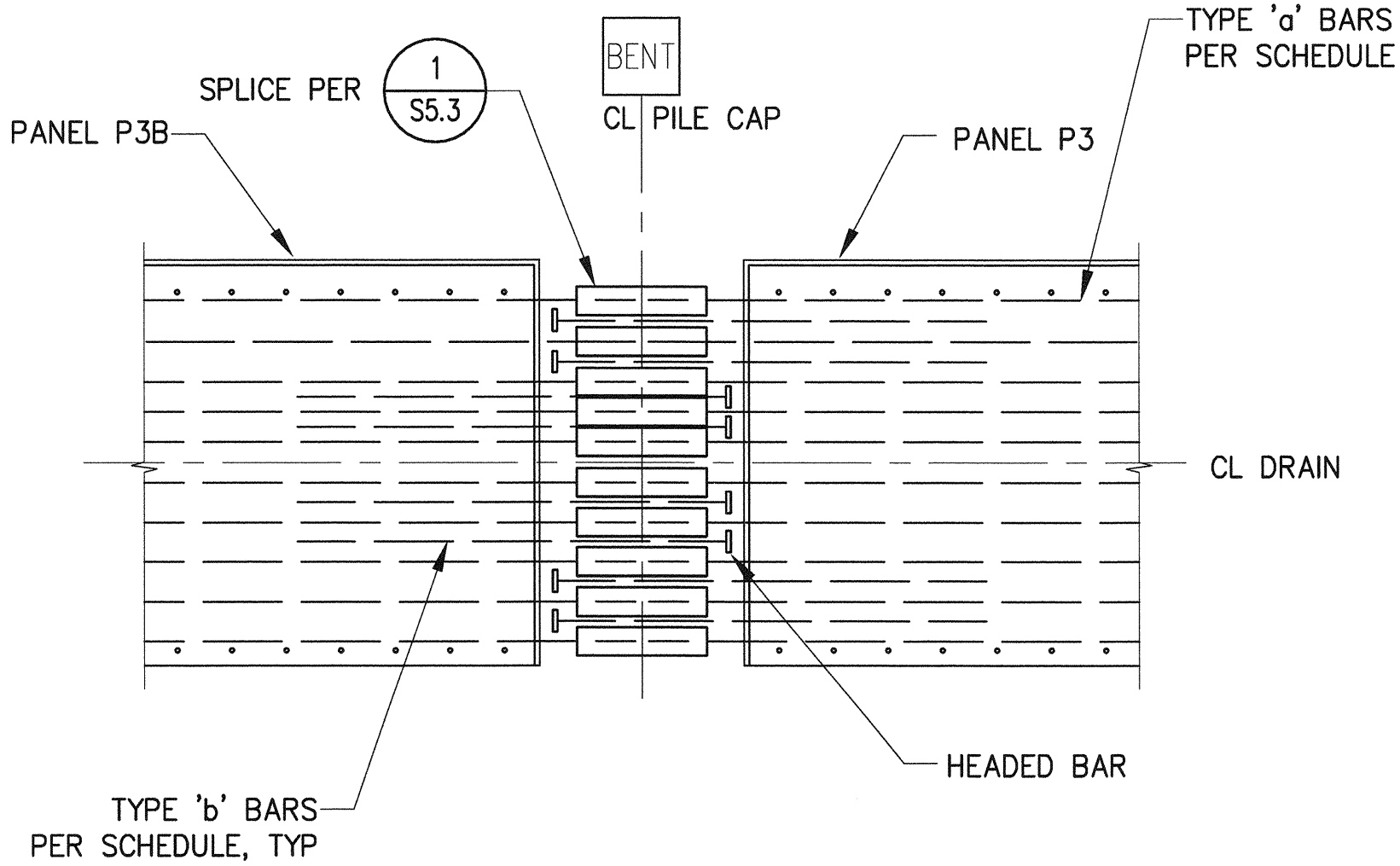


1
S26.1 – S26.5

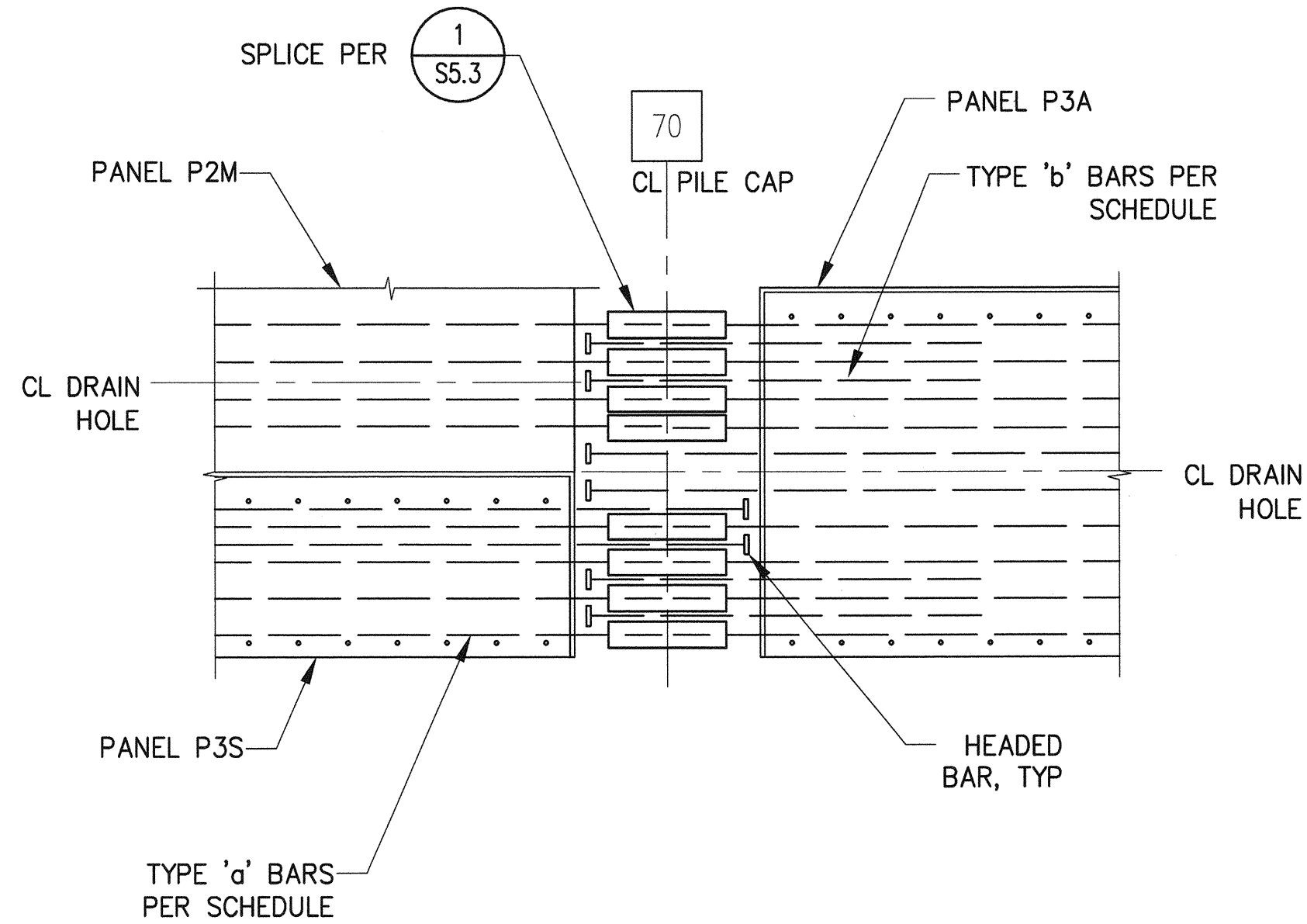


1. SEE DECK PANEL SCHEDULE, S26.1 – S26.5
2. USE THIS SHEET FOR PANEL TYPE P8A
3. PROVIDE HEADED REINFORCEMENT, SEE SPECIFICATIONS
4. PROVIDE ASTM A706 GRADE 60 REINFORCEMENT FOR ALL FACE BARS. ALIGN FACE BARS TO SPLICE WITH FACE BARS FROM PANEL TYPE P2. FACE BARS SHALL BE HEADED AT BENT 71

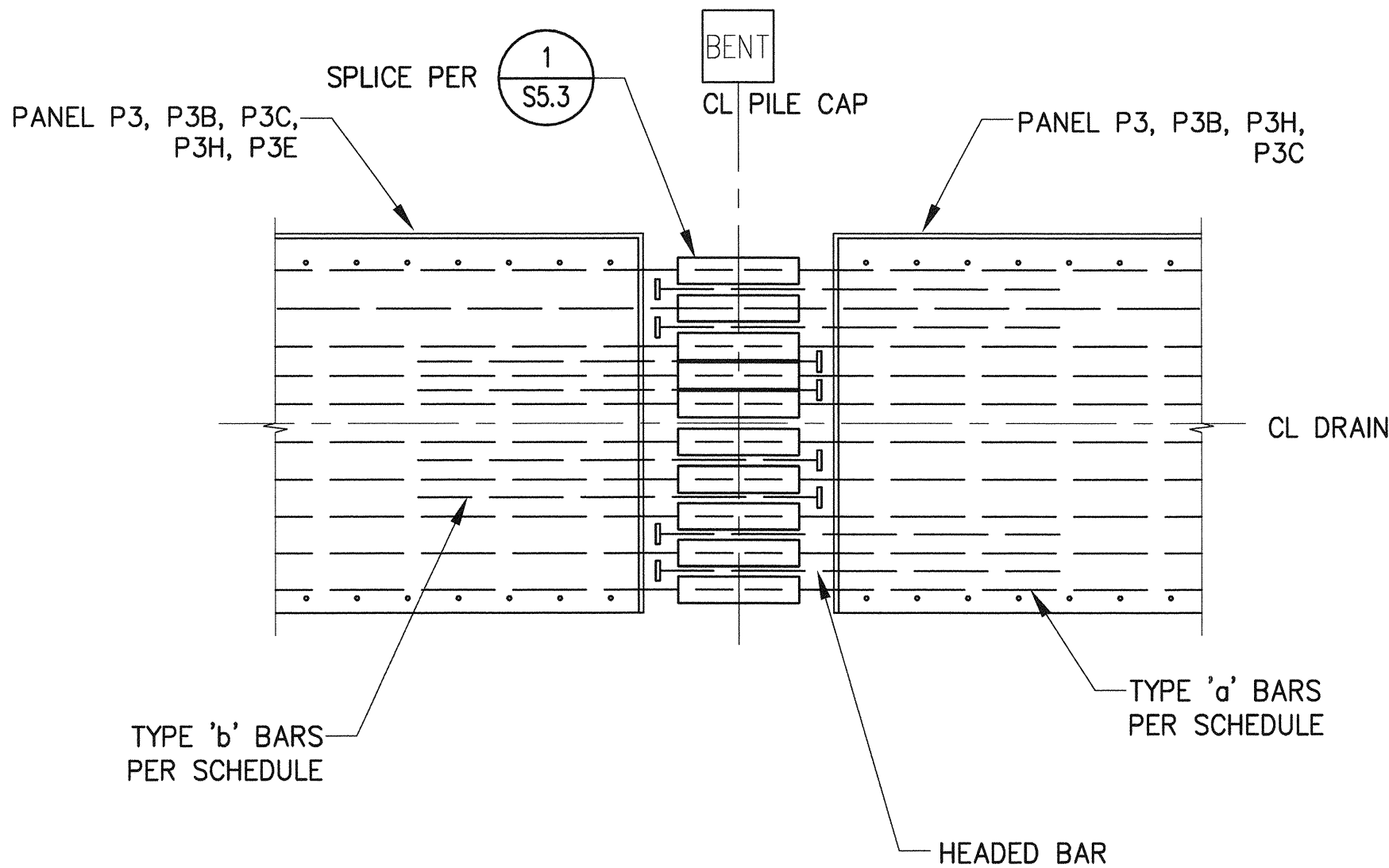




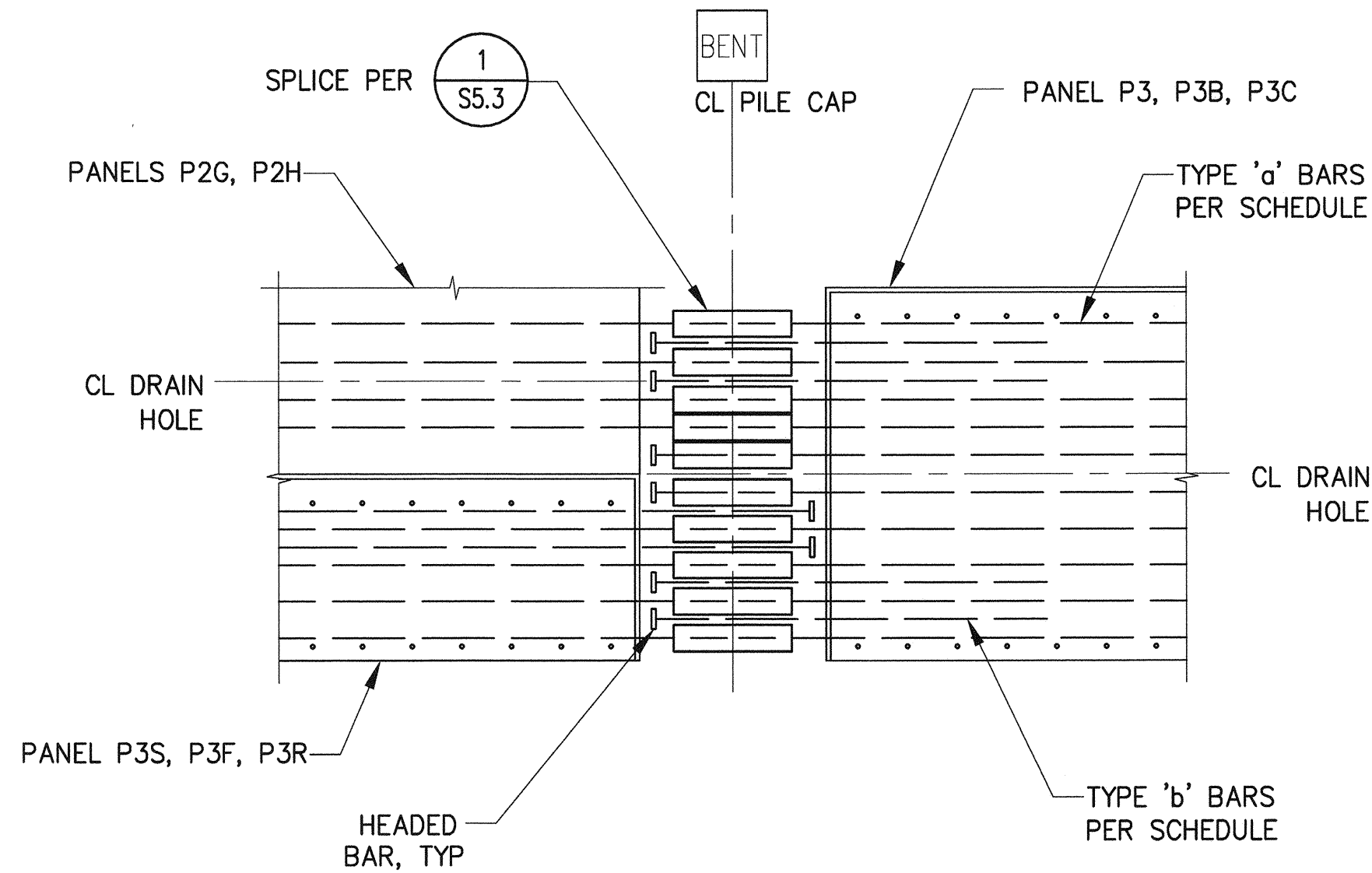
**TOP BAR SPLICE PLAN
PANELS P3B - P3**
1
S27.12
1/2"=1'-0"



**TOP BAR SPLICE PLAN
PANELS P2M - P3S - P3A**
2
S27.11
1/2"=1'-0"



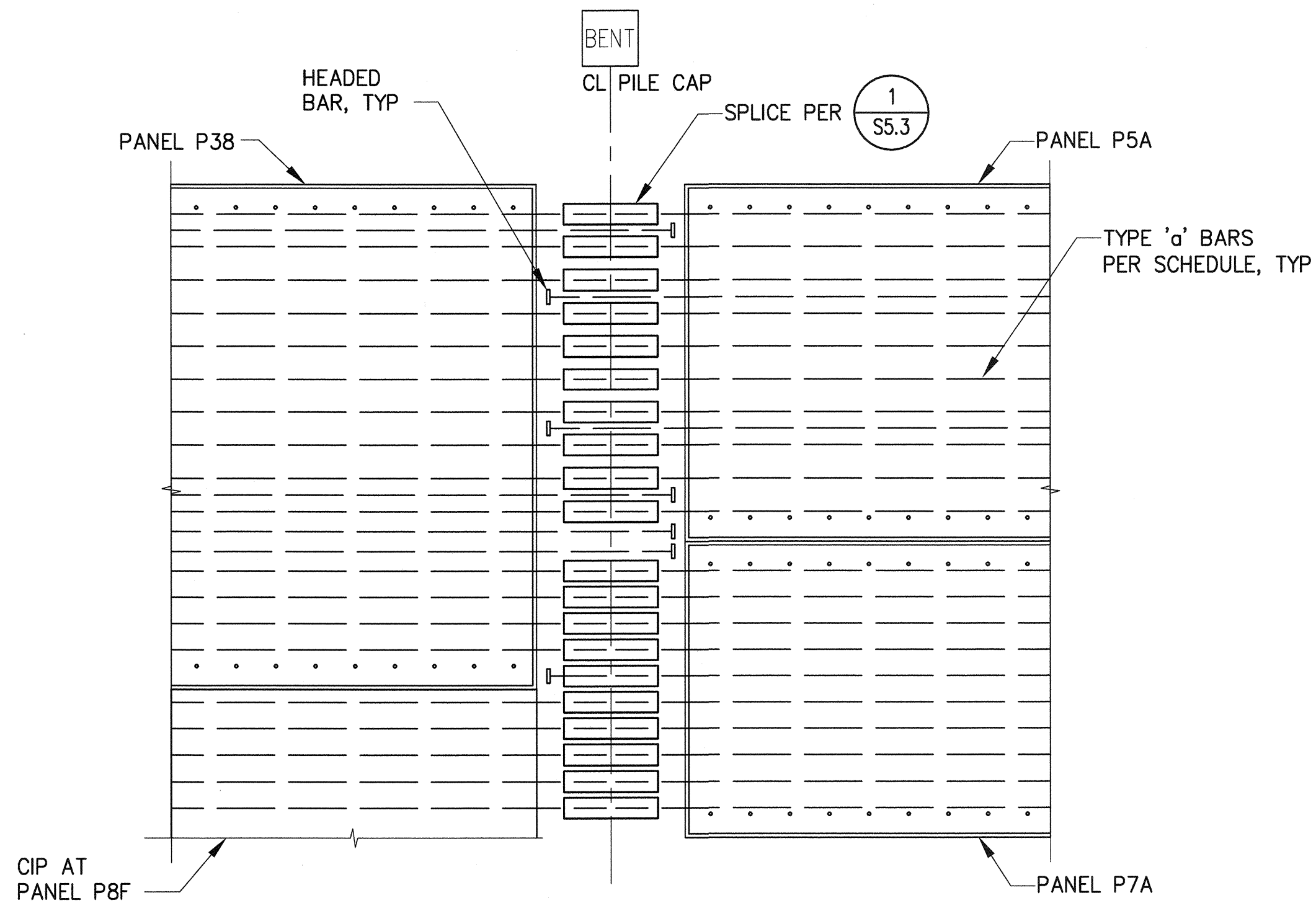
**TOP BAR SPLICE PLAN PANELS
P3 - P3B - P3C - P3H - P3E**
3
S27.12
1/2"=1'-0"



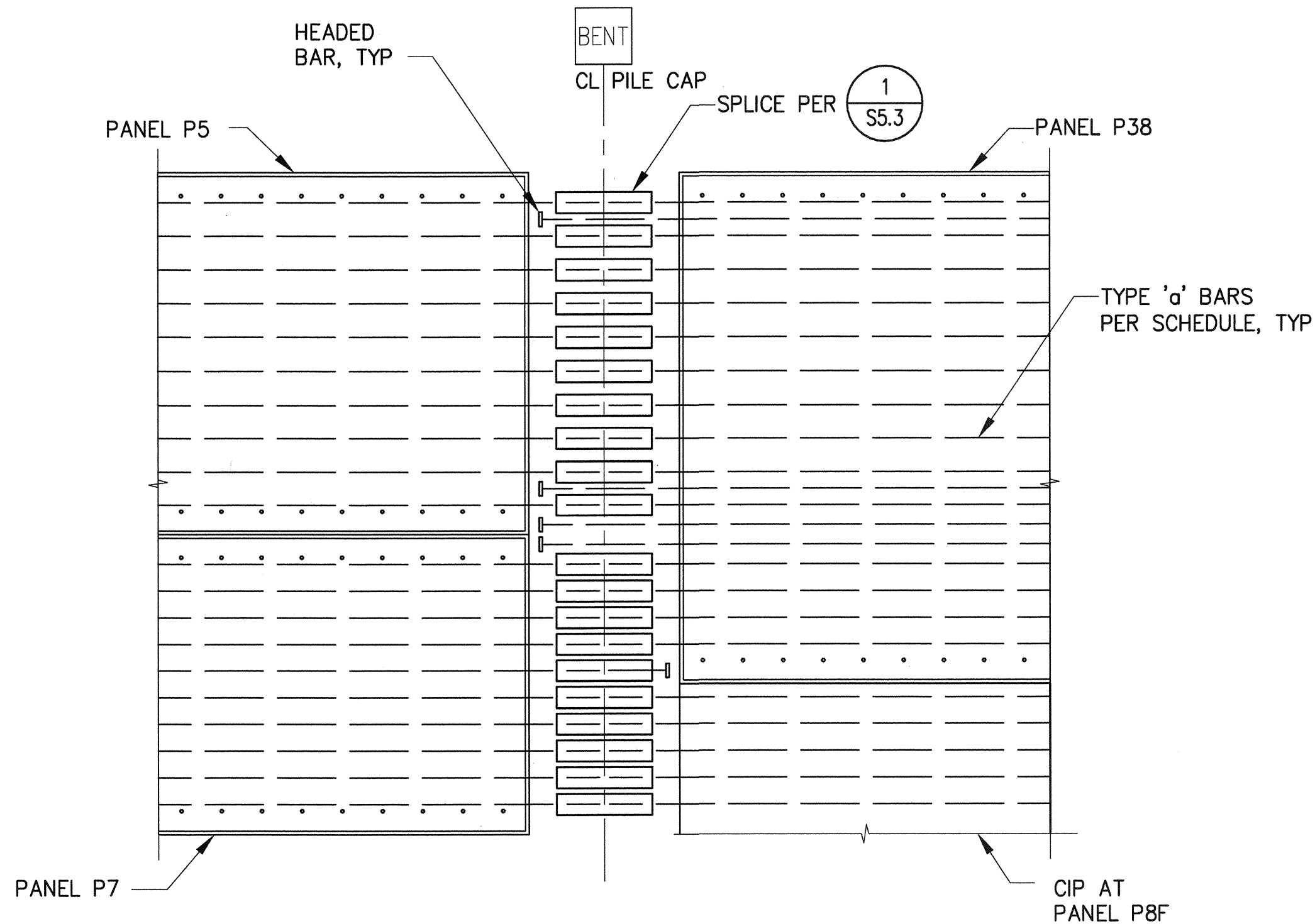
**TOP BAR SPLICE PLAN PANELS
P2G - P2H - P3 - P3B - P3C**
4
S27.11
1/2"=1'-0"

6552 S27.50 SH 345 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 50				kpff 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 687 TACOMA, WA 98401 (203)983-8641		Port of Tacoma
	CONT/CONS: 070136 M. ID: 091251 PHASE: BID	TOWNSHIP: 21N DATE-HRZ: WA83-SF PARCEL: AS NOTED	RANGE: 3E VERT: MLLW 19.39' @ Tide 22 1933	SECTION: 27			
APPROVED: <i>David Brown</i> 3-28-16 DIRECTOR		ENG. DATE: 11/08/15 PRINTED BY: Hemons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SEK CHECKED BY: TA DATE: 3-28-16	PROJ. ENGR DATE: 3-28-16	MARK: REVISION: BY: APPR: DATE:		

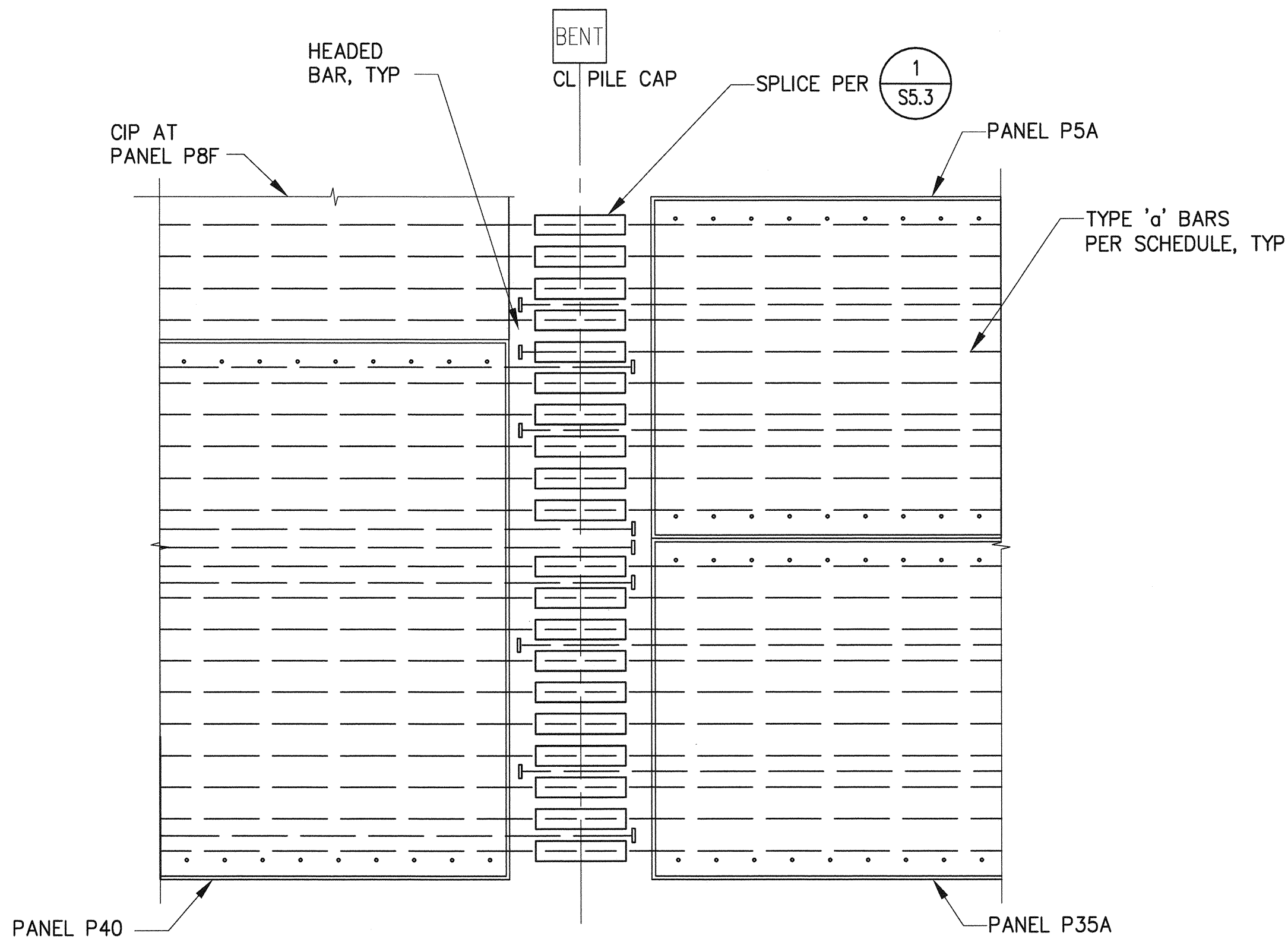
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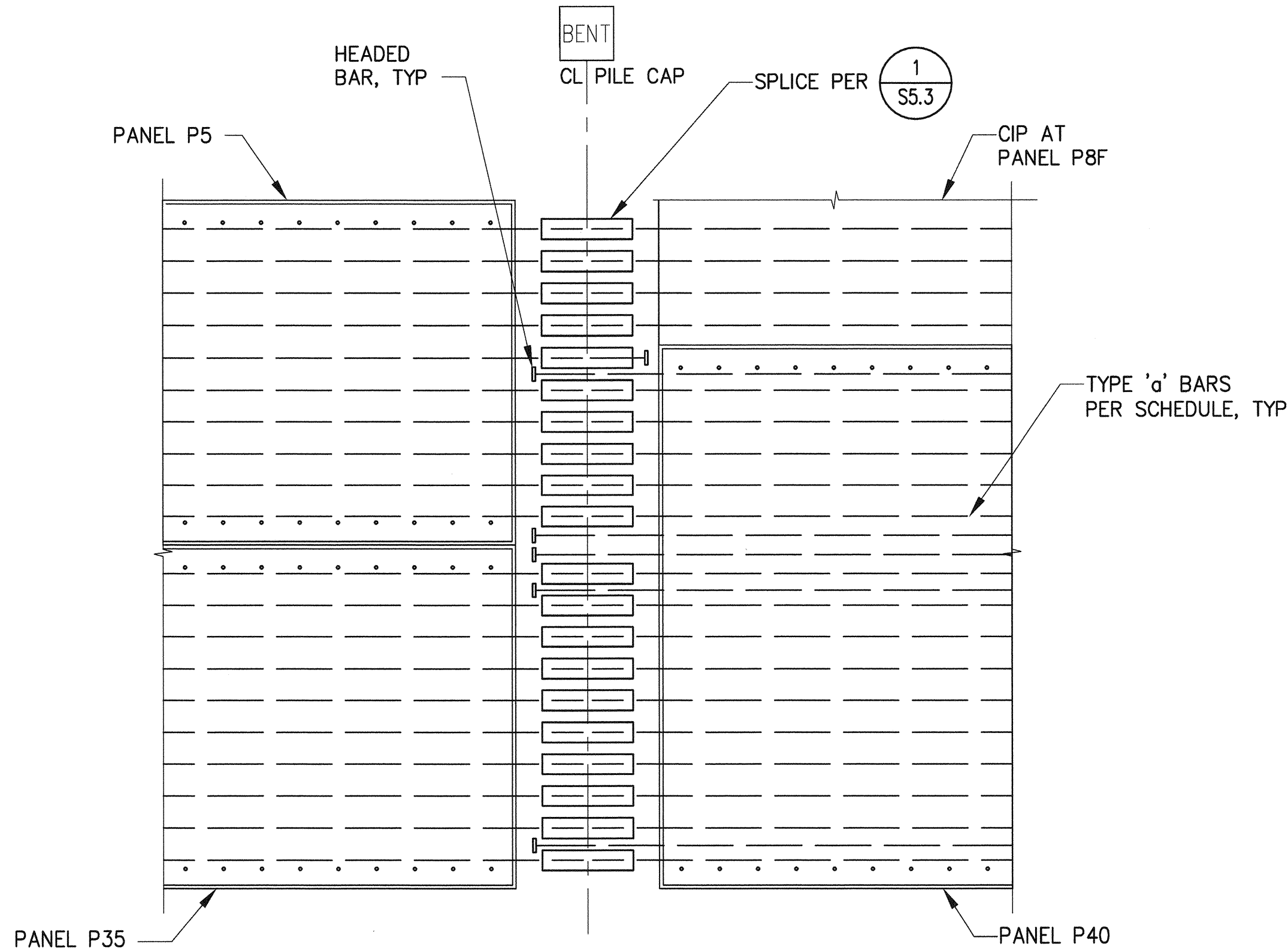
1 TOP BAR SPLICE PLAN
PANELS P38 - P5A - P7A - P8F
S27.15, S27.31 1/2"=1'-0"



3 TOP BAR SPLICE PLAN
PANELS P5 - P38 - P8F - P7
S27.15, S27.31 1/2"=1'-0"



2 TOP BAR SPLICE PLAN
PANELS P5A - P35A - P40 - P8F
S27.32 1/2"=1'-0"

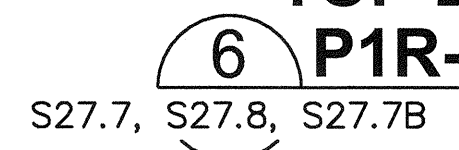
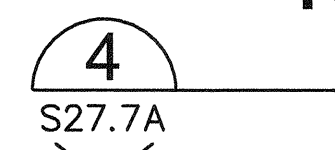
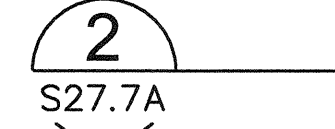
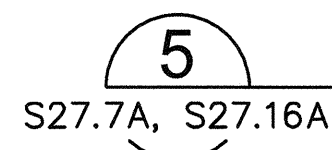
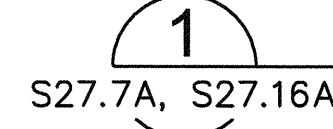


4 TOP BAR SPLICE PLAN
PANELS P5 - P35 - P8F - P40
S27.32 1/2"=1'-0"

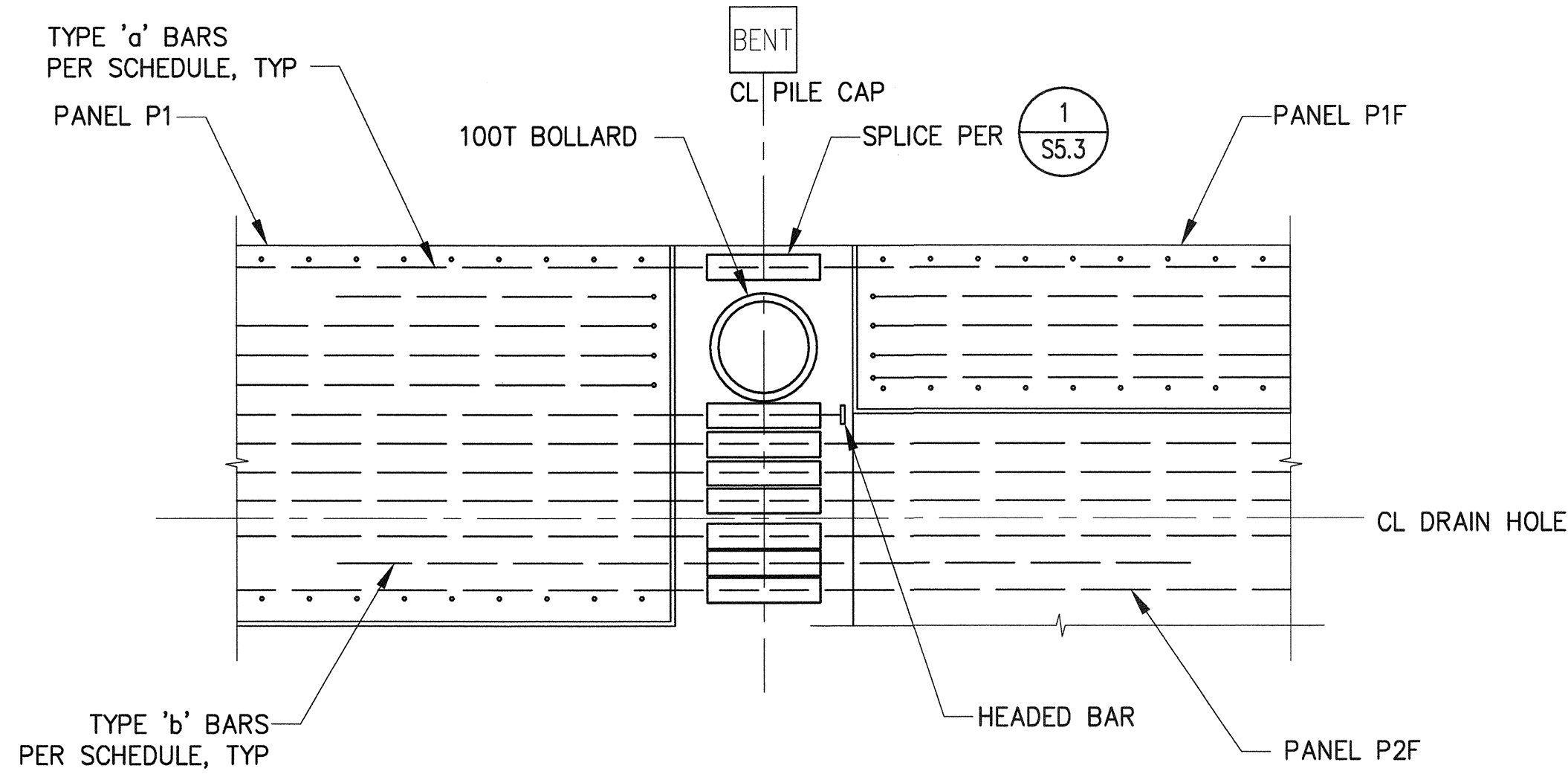
6552 S27.51 SH 346 OF 499	PIER 4 PHASE 2				RECONFIGURATION DECK PANEL DETAILS - SHEET 51	APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR PRINTED BY: tienoms PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SEK	CHECKED BY	DATE			
	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	TAH			PROJ. ENGR	DATE				
CONT/CONS: 070136	DAT-HRZ: WA83-SF	VERT: MLW 19:39 @ Tide 22 1933	PARCEL:	DRAWING SCALE: AS NOTED				MARK:	REVISION:	BY:	APPR:	DATE:
PHASE: BID												

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Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162
P.O. BOX 1887 TACOMA, WA 98401 (253) 396-5841

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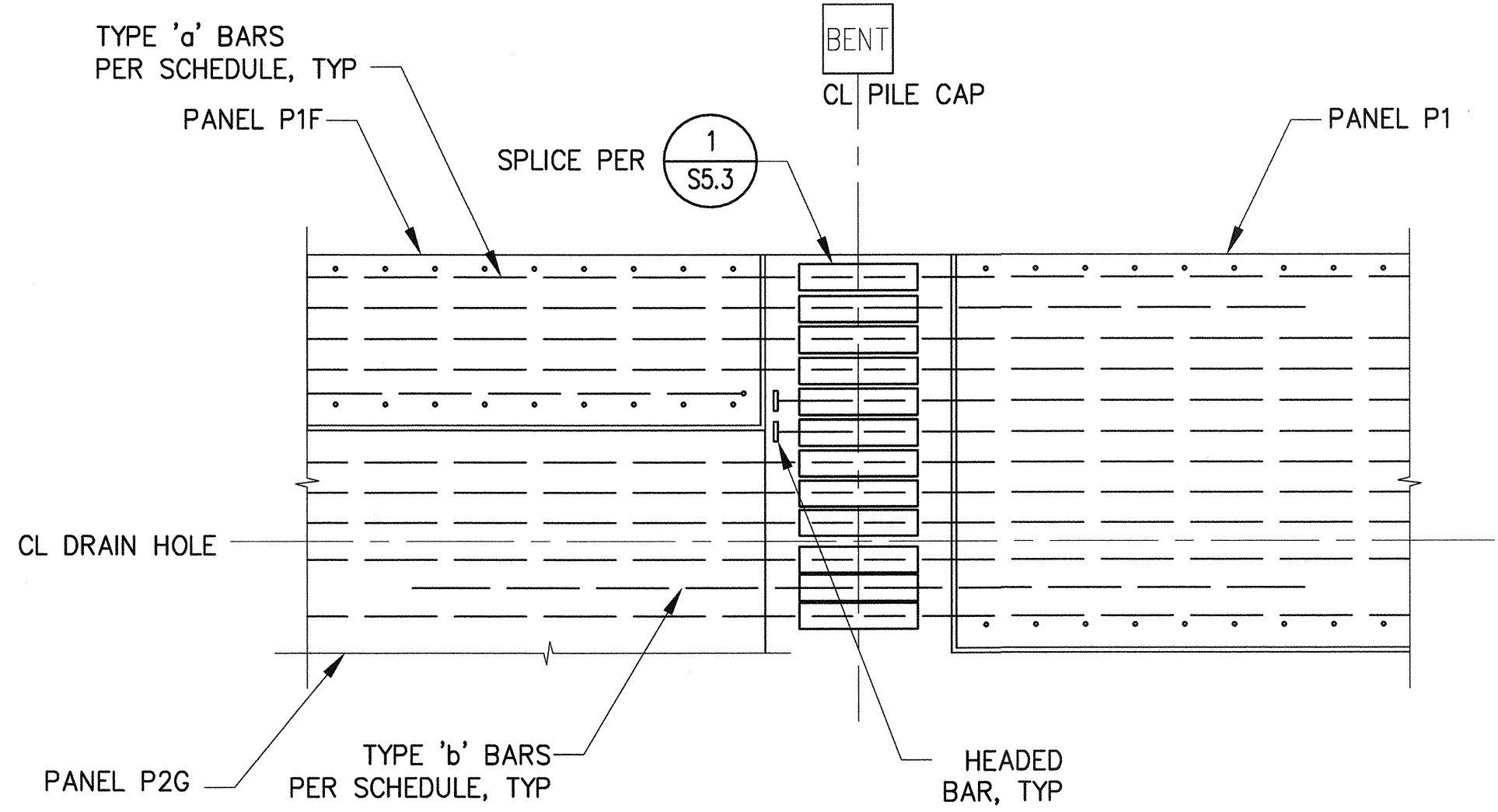
BINDING EDGE



**TOP BAR SPLICE PLAN
PANELS P1 - P1F**

1
S27.7, S27.16

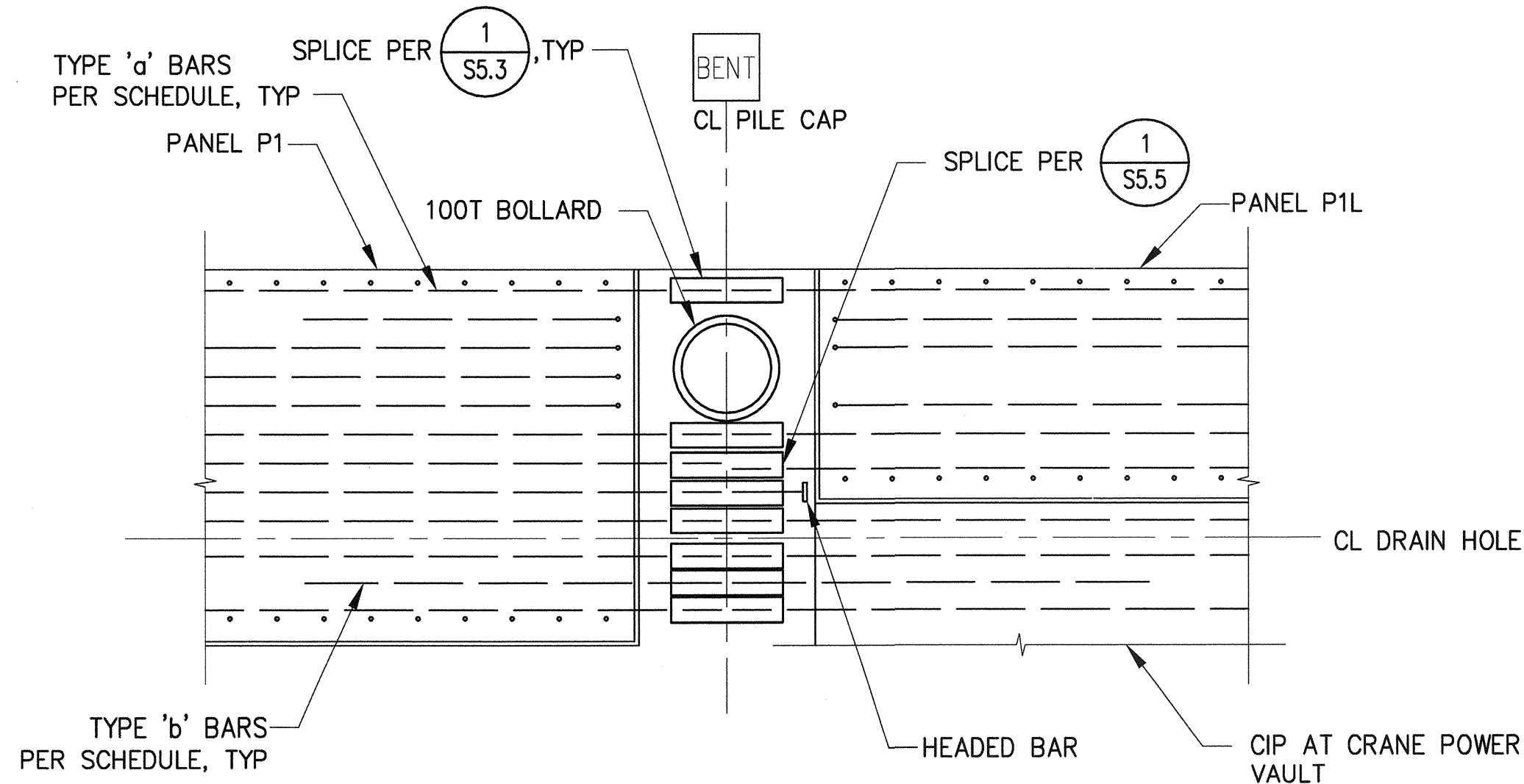
1/2"=1'-0"



**TOP BAR SPLICE PLAN
PANELS P1F - P1**

3
S27.7, S27.16

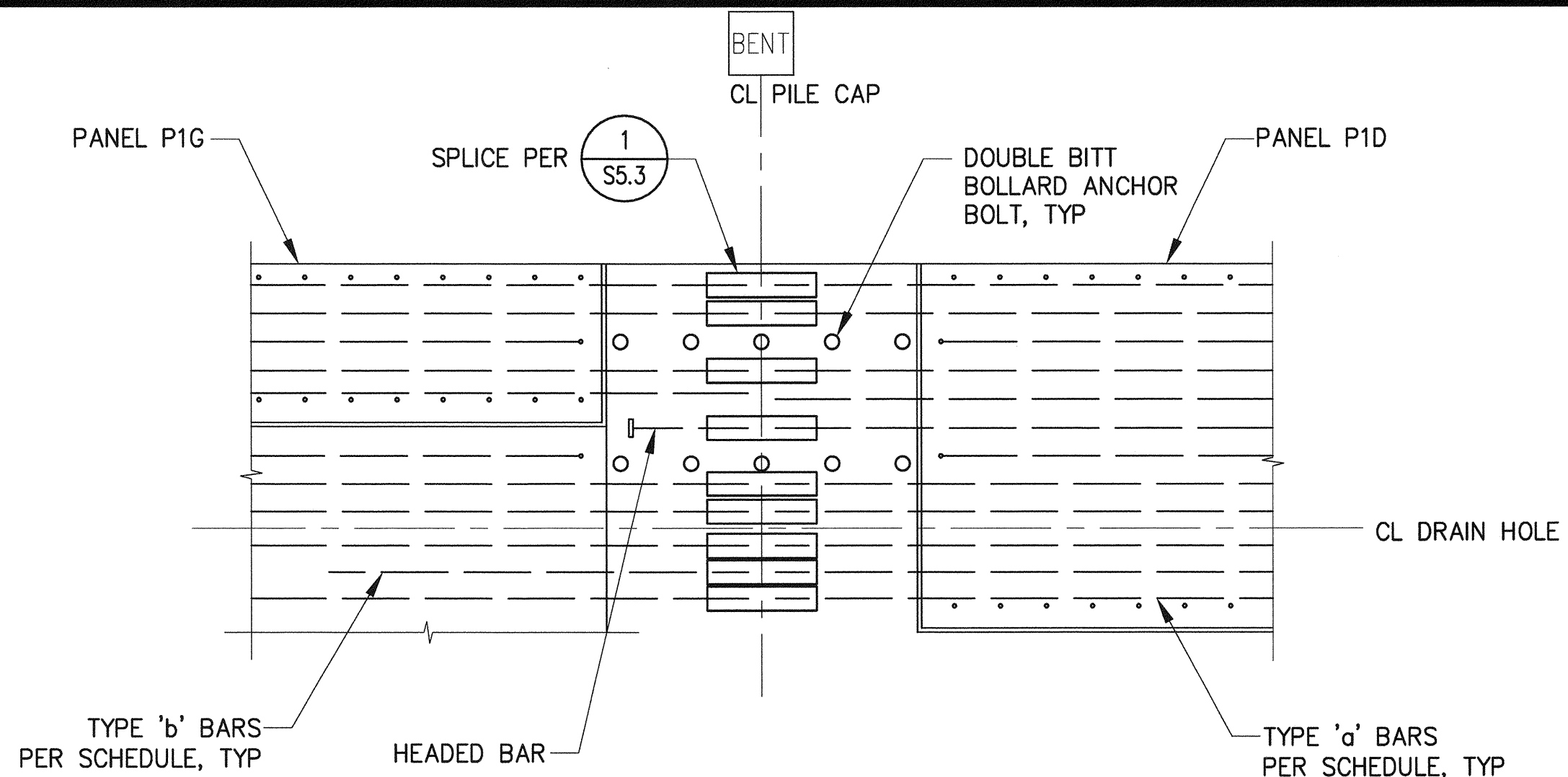
1/2"=1'-0"



**TOP BAR SPLICE PLAN
PANELS P1 - P1L**

5
S27.7, S27.39

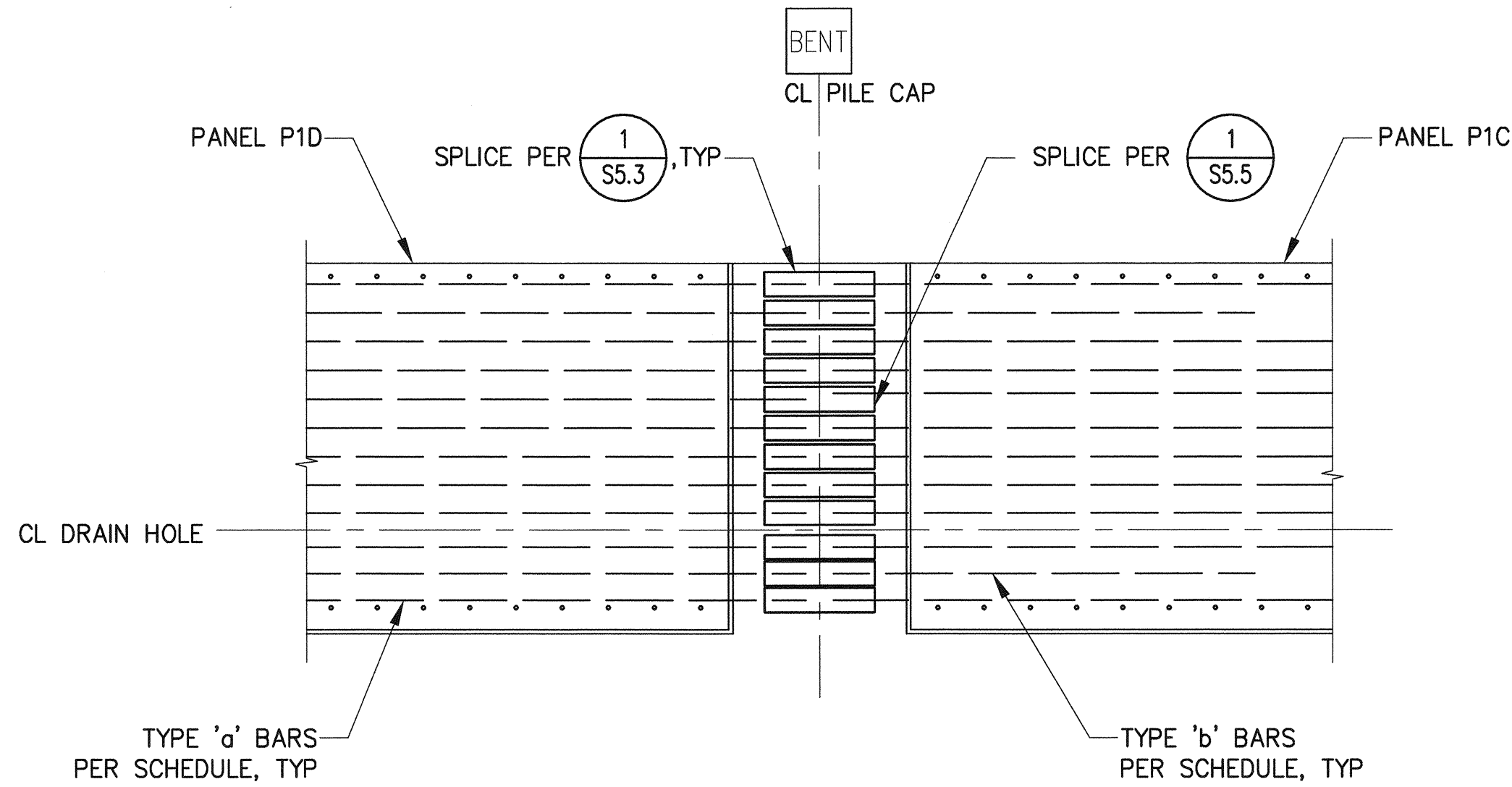
1/2"=1'-0"



**TOP BAR SPLICE PLAN
PANELS P1G - P1D**

2
S27.23, S27.16A

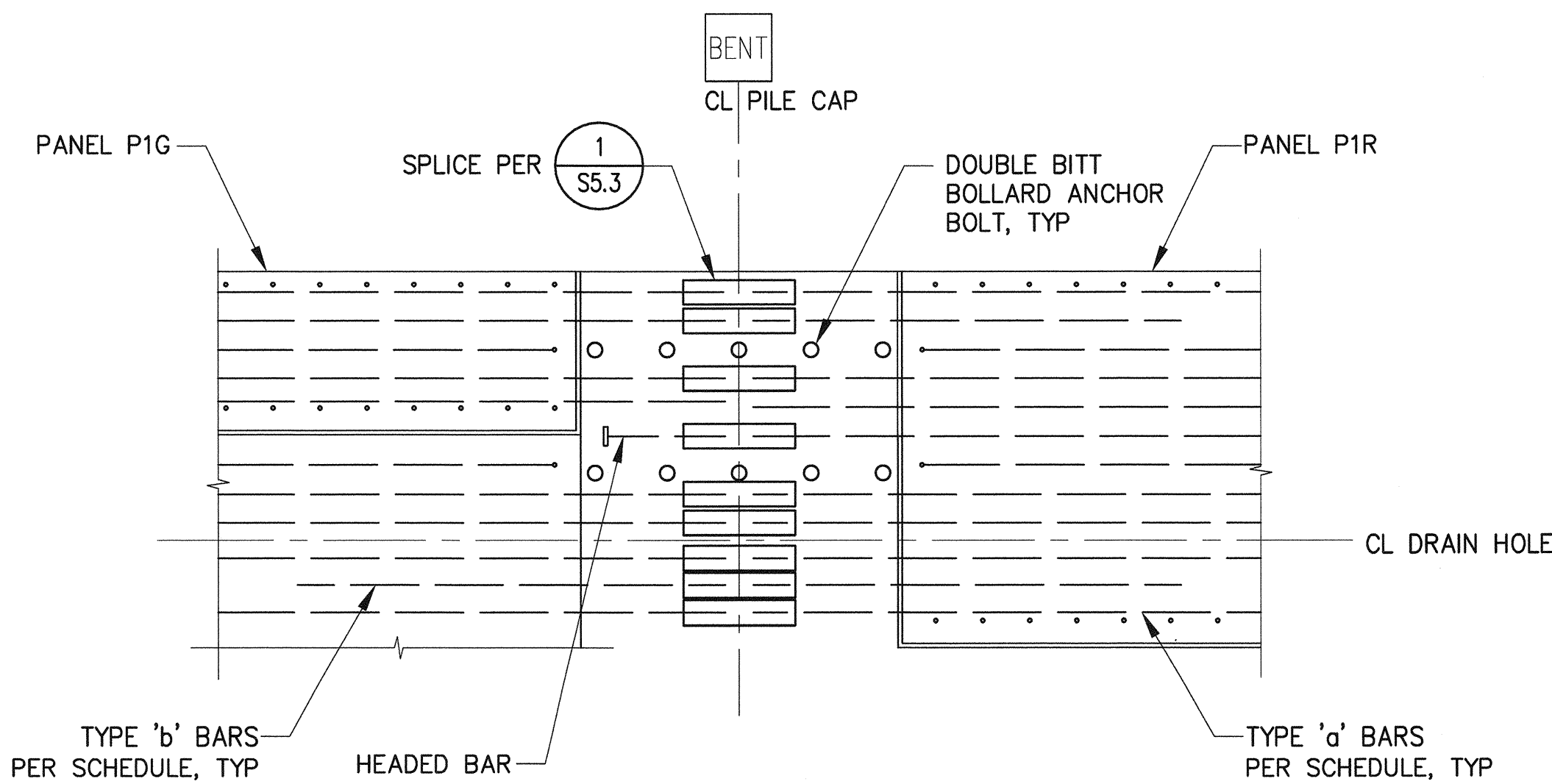
1/2"=1'-0"



**TOP BAR SPLICE PLAN
PANELS P1D - P1C**

4
S27.23

1/2"=1'-0"



**TOP BAR SPLICE PLAN
PANELS P1G - P1R**

6
S27.7A, S27.16A

1/2"=1'-0"

PORT OF TACOMA FILE: N:\Struct\114-114096 (POT Pier 4)\Drawings\Current\Phase 2_091251\091251-S27.53



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APPROVED:	SEK	CHECKED BY:	DATE
<i>[Signature]</i>	TAH		
DIRECTOR ENG. DATE	PROJ. ENGR	DATE	
3-28-16	tiemois	Mar 24, 2016	
PRINTED BY:	PORT ADDRESS:	ONE SITCUM PLAZA	
	TACOMA, WA 98401-1837		

**PIER 4 PHASE 2
RECONFIGURATION
DECK PANEL DETAILS - SHEET 53**

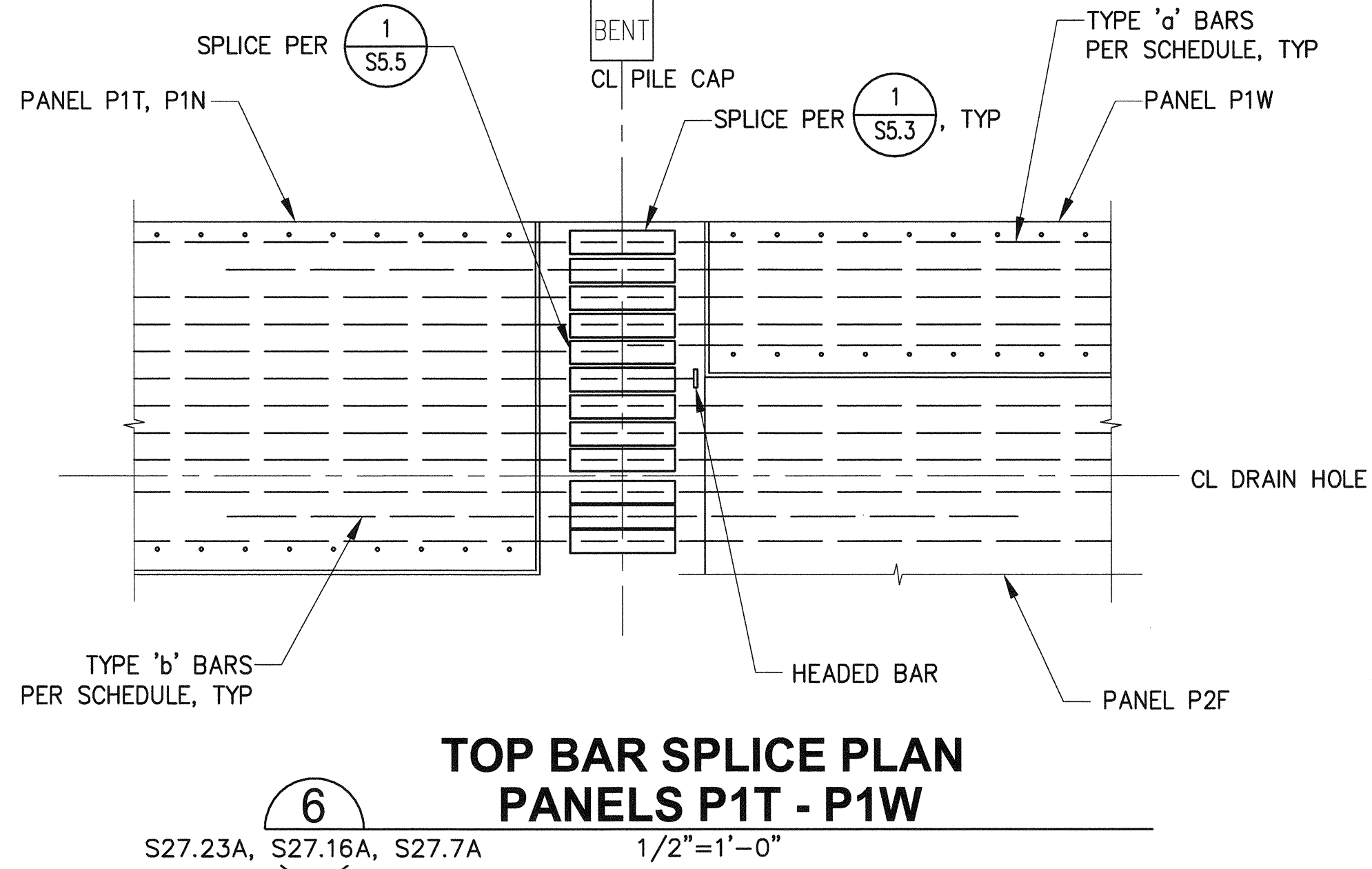
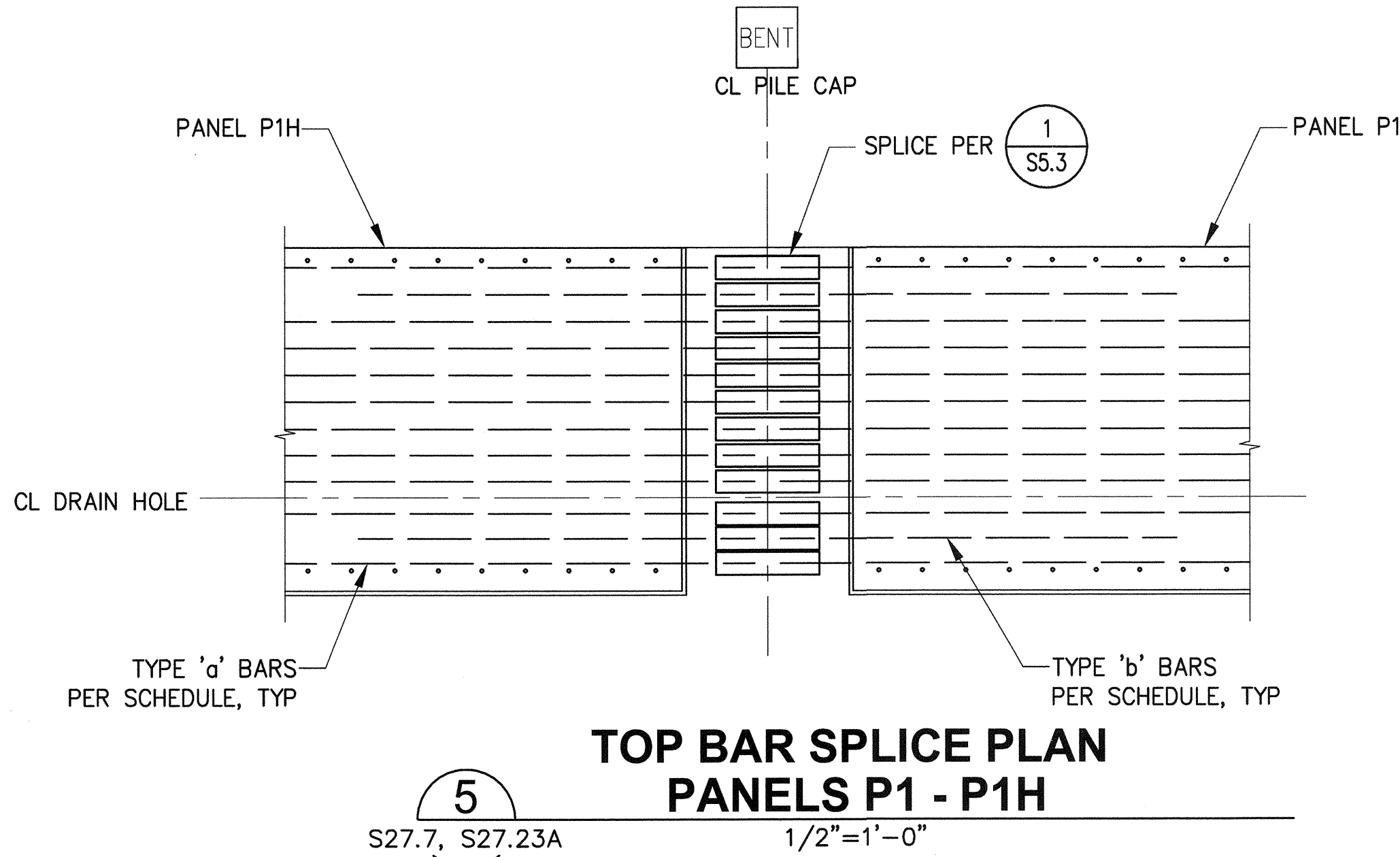
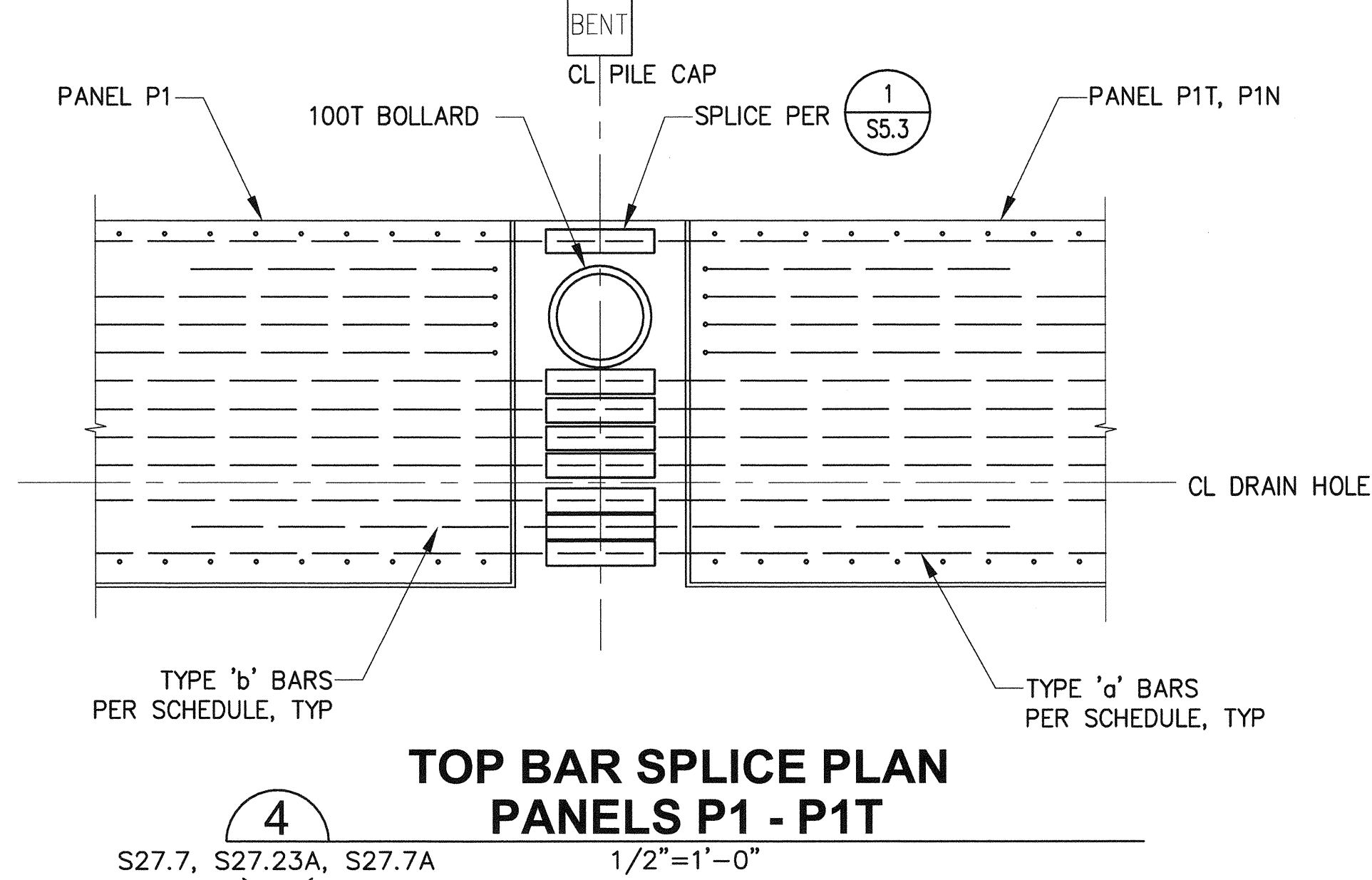
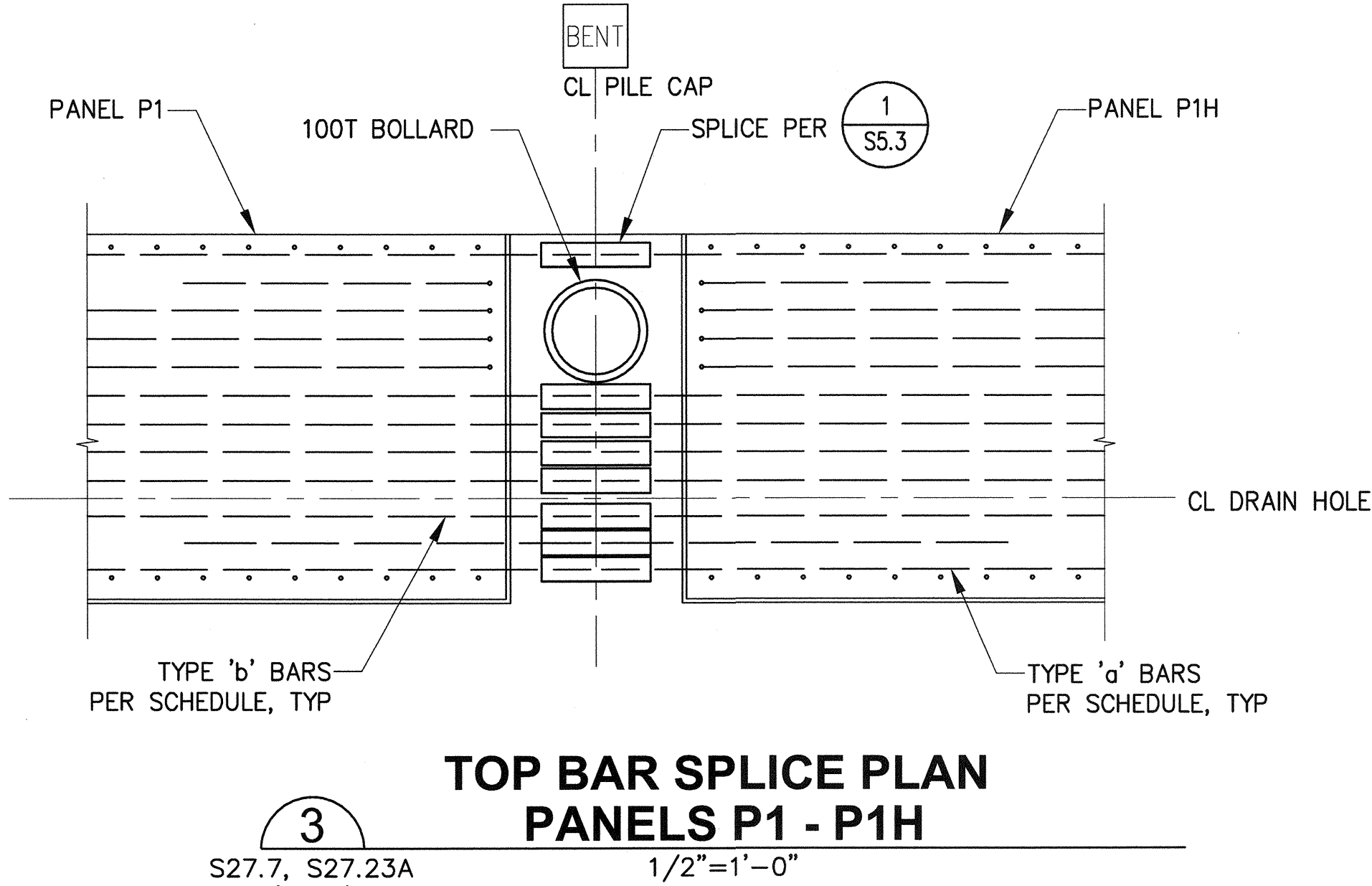
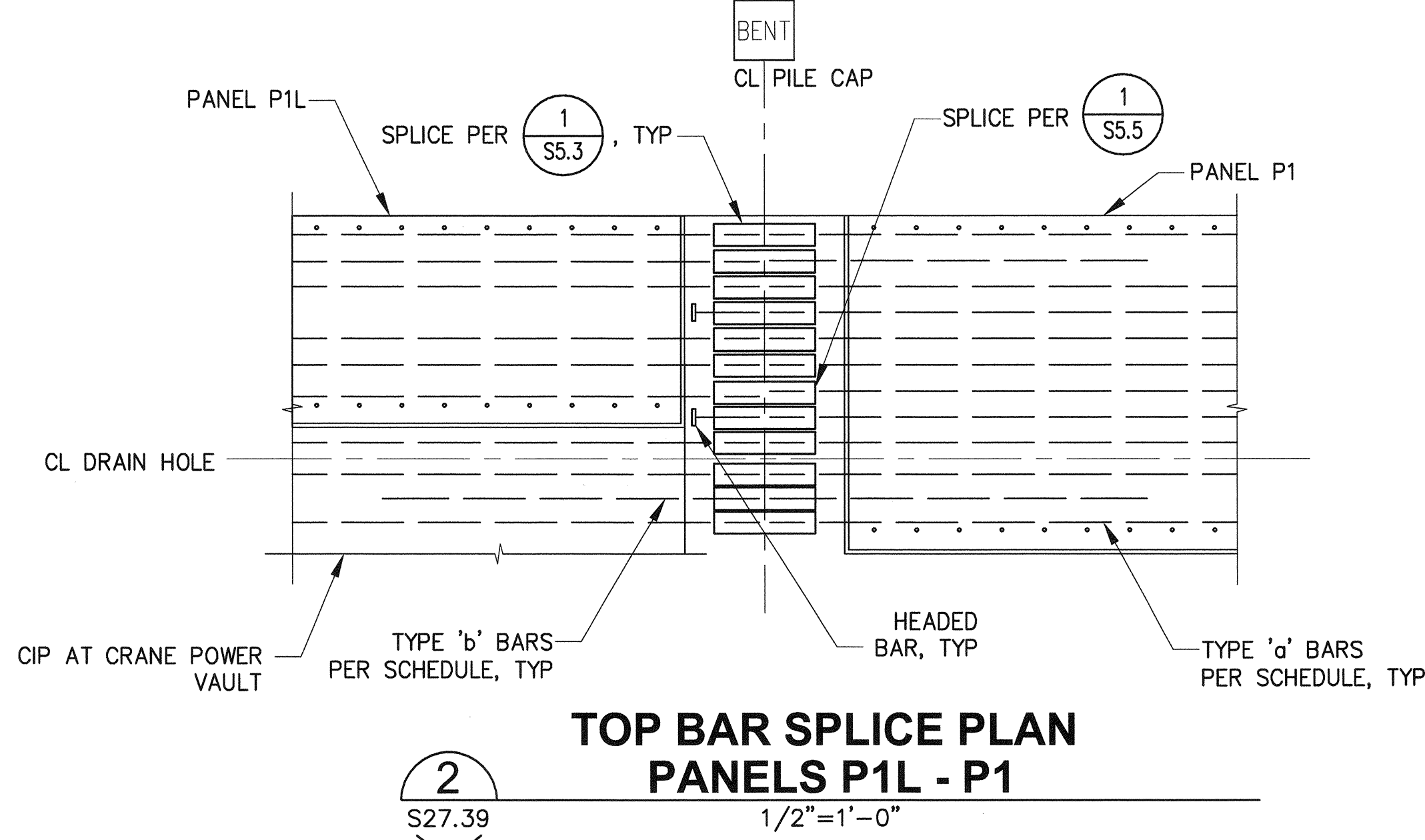
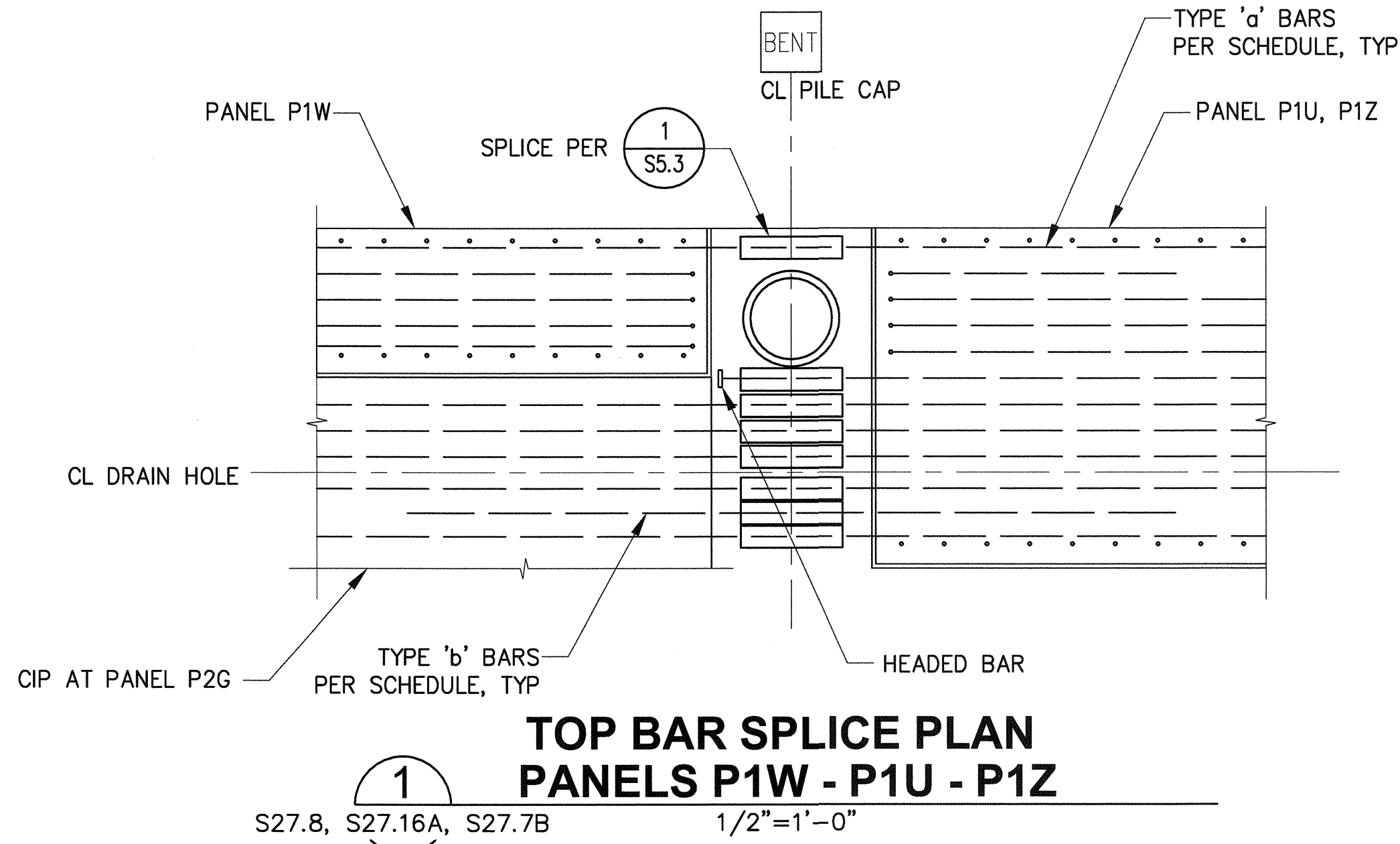
6552
S27.53
SH 348 OF 499

CONTR/CONS:	TOWNSHIP:	RANGE:	SECTION:
070136	21N	3E	27
M. ID:	DAT-HRZ:	VERT:	
091251	WA83-SF	MLLW 19:39 @ Tide 22 1933	
PHASE:	PARCEL:	DRAWING SCALE:	AS NOTED
BID			

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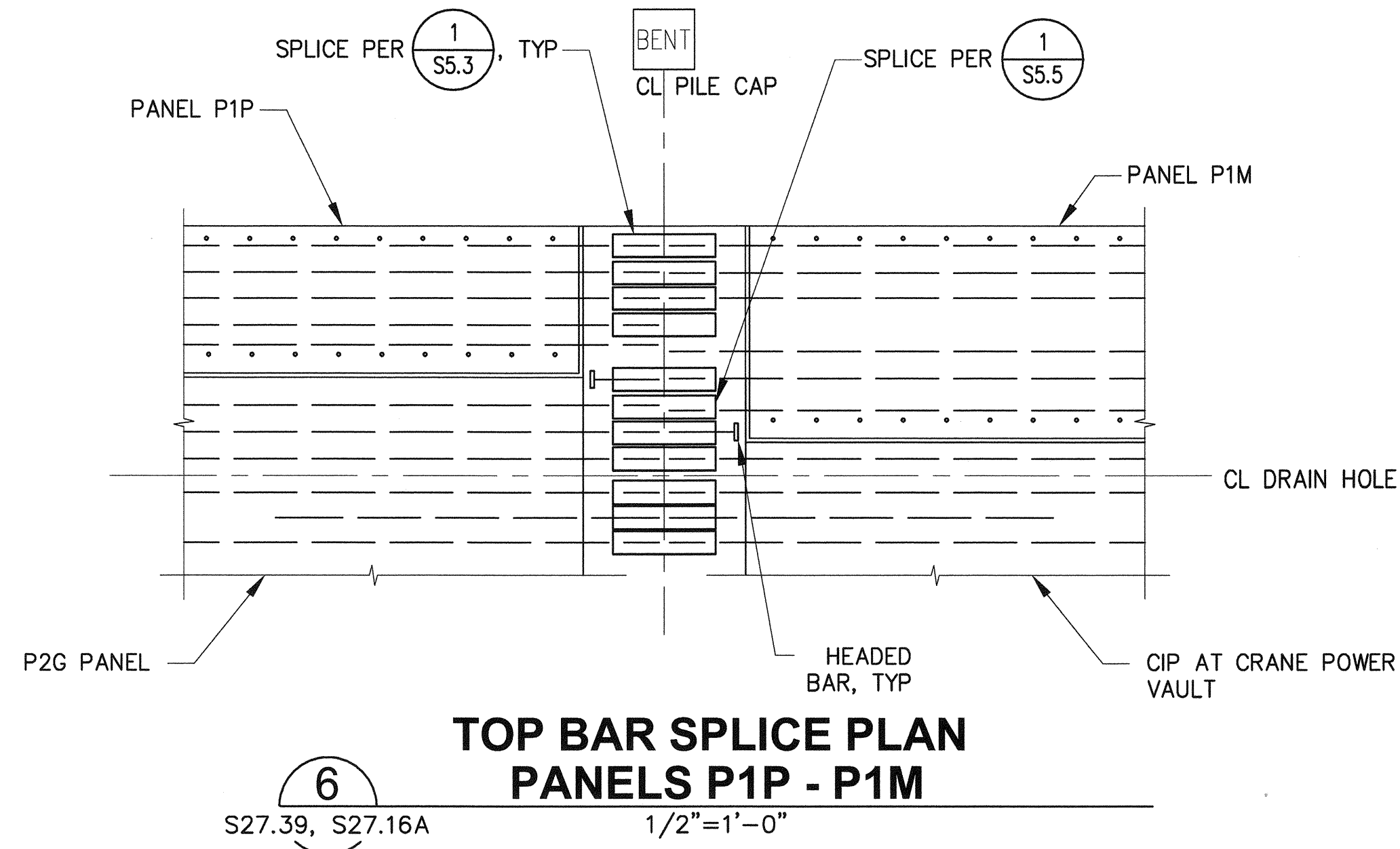
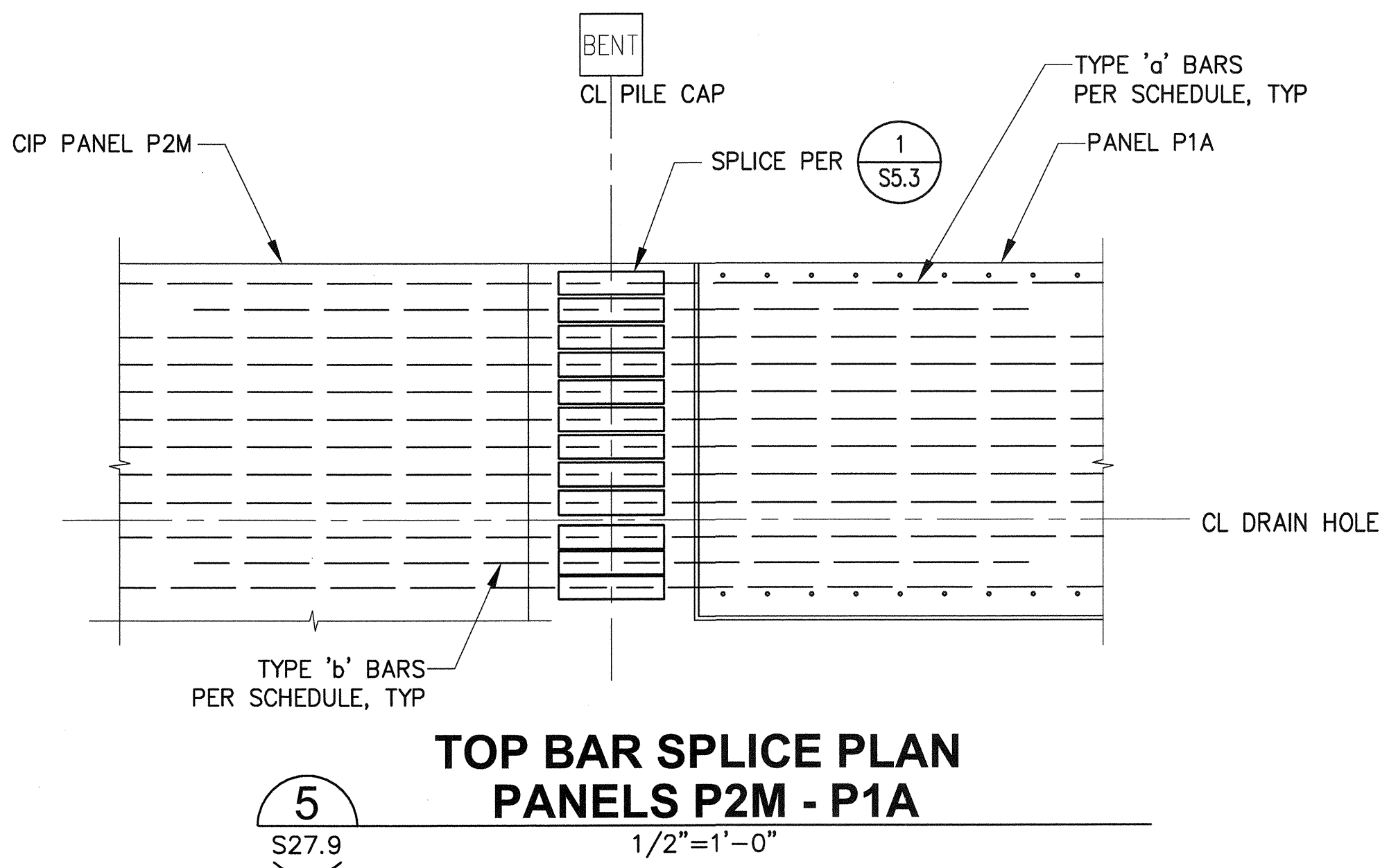
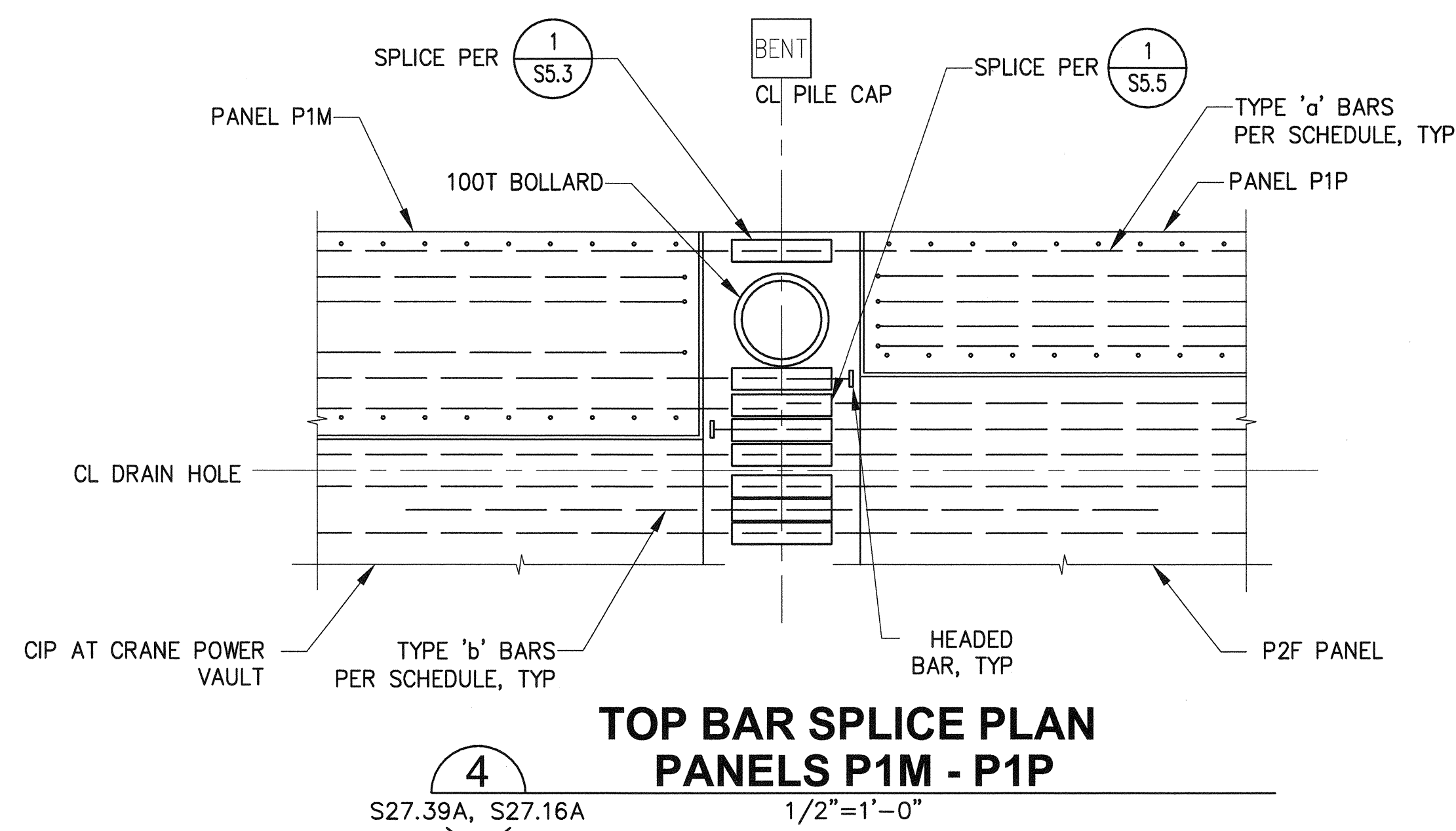
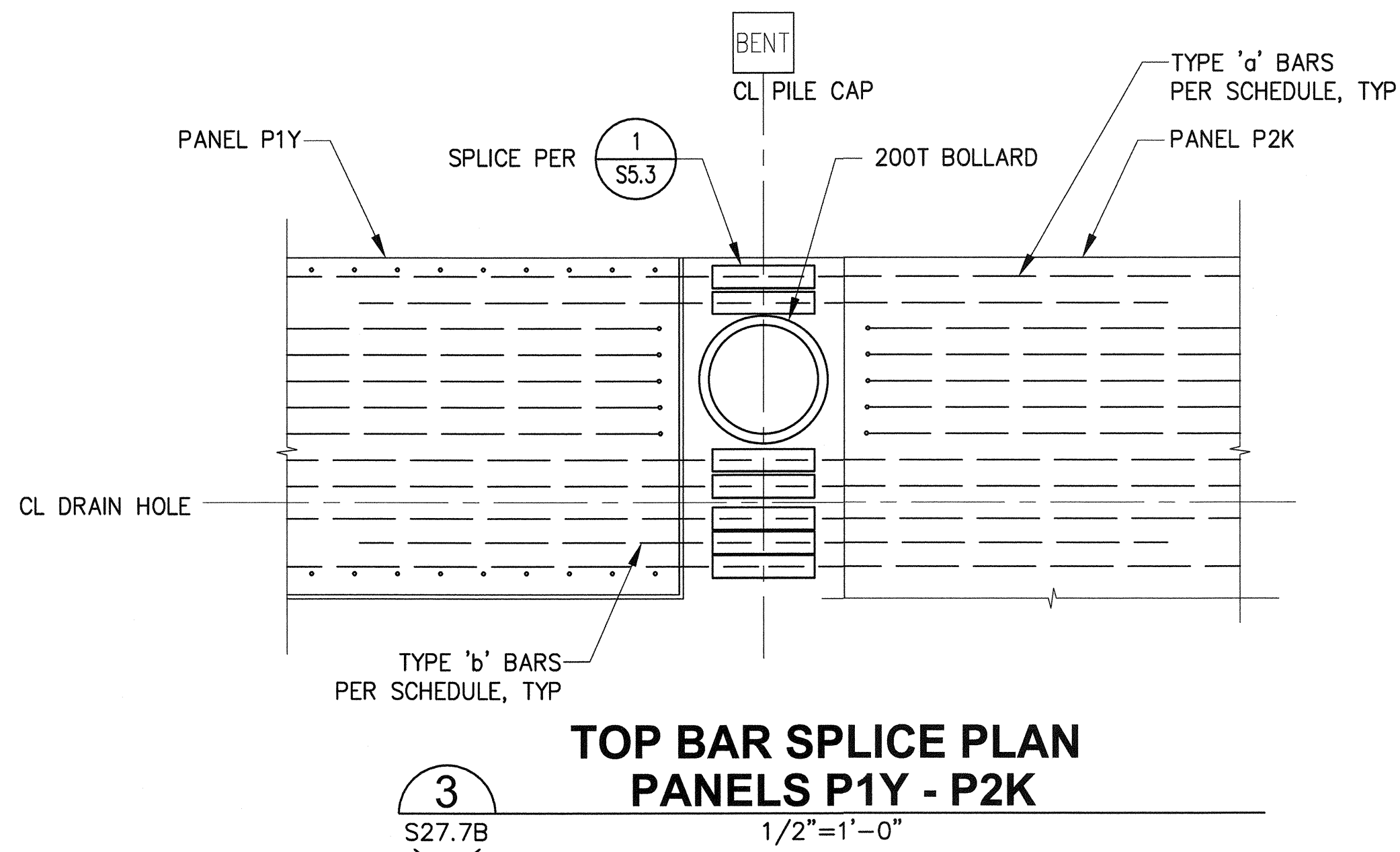
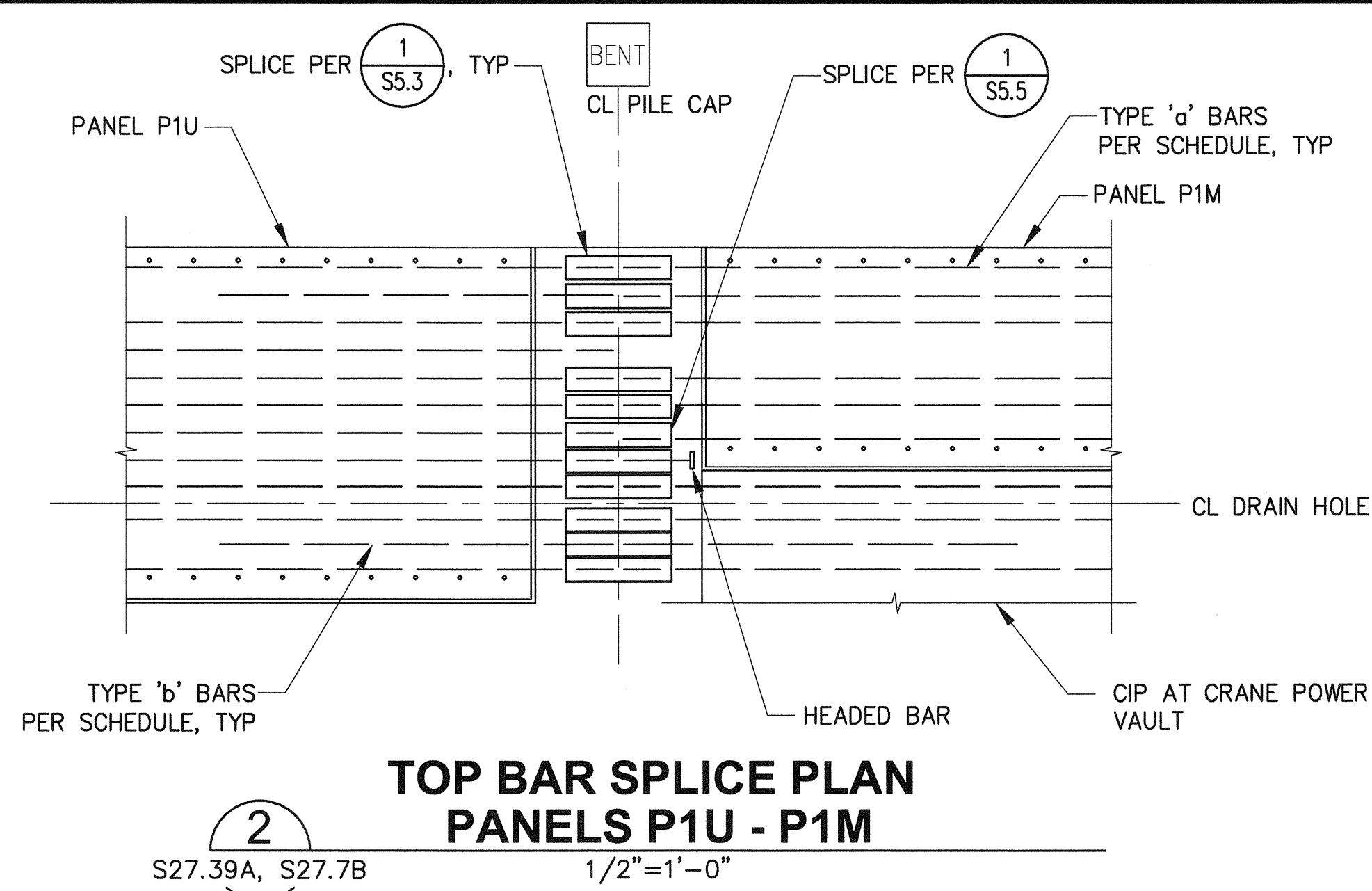
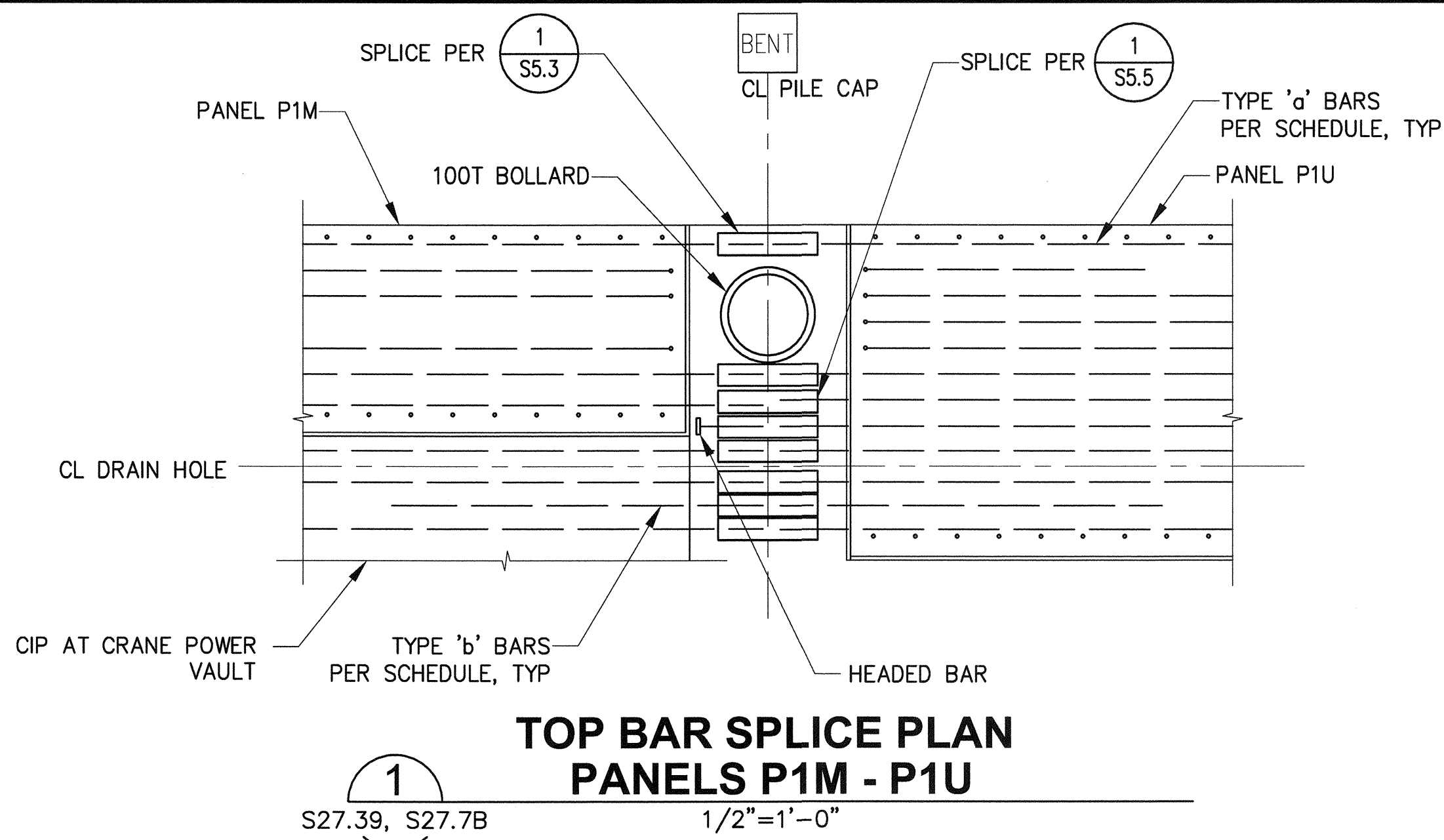


6552 S27.54 SH 349 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 54				Port of Tacoma P.O. BOX 187 TACOMA, WA 98401 (253) 396-0162 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162	kpff		MARK:	REVISION:	BY:	APPR:	DATE:
	CONTR/CONS:	TOWNSHIP:	RANGE:	SECTION:				DIRECTOR:	ENG. DATE:	PROJ. ENGR. DATE:	PRINTED BY:	PORT ADDRESS:
PHASE:	BID	DAT-HRZ:	WAB3-SF	VERT:	MLLW 19.39' @ Tide 22 1933	AS NOTED	DRAWING SCALE:					

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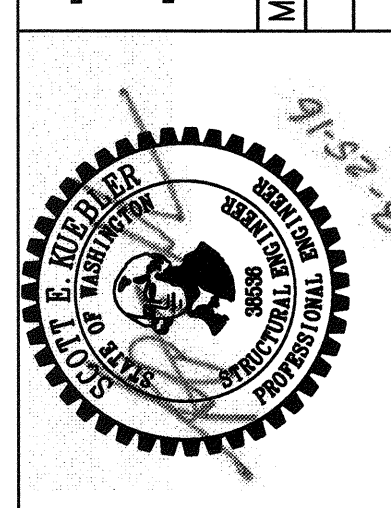


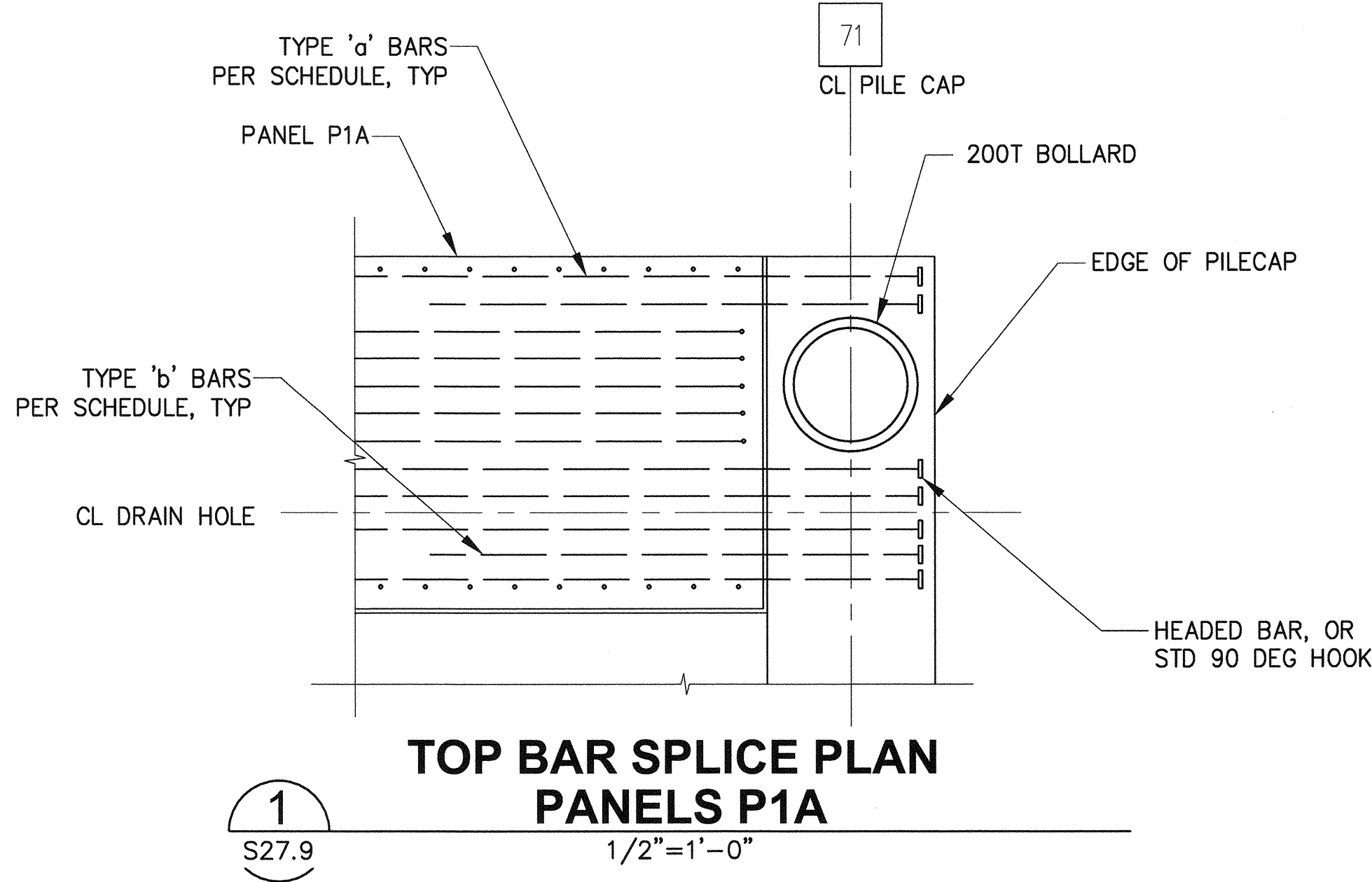
6552 S27.55 SH 350 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 55				APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR ENG. DATE PRINTED BY: tlemans Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SEK CHECKED BY DATE TAH PROJ. ENGR DATE	DATE
	CONT/CONS: 070136 M. ID: 091251 PHASE: BID	TOWNSHIP: 21N RANGE: 3E SECTION: 27 M. ID: 091251 PHASE: BID	VERT: WA83-SF DRAWING SCALE: AS NOTED	MARK: REVISION: BY: APPR: DATE:			

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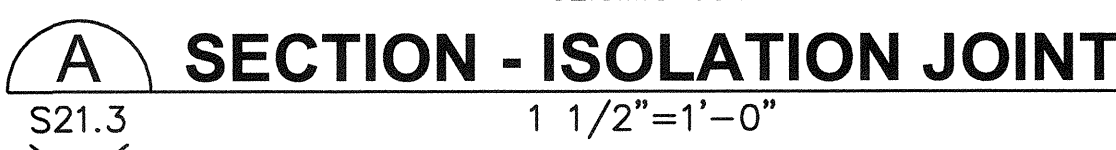
6552 \$27.56 SH 351 OF 499	PIER 4 PHASE 2 RECONFIGURATION DECK PANEL DETAILS - SHEET 56	APPROVED: <i>[Signature]</i> 3-28-16	SEK	CHECKED BY: TAH	DATE
		DIRECTOR ENG. DATE: 3-28-16	TAH	PROJ. ENGR	DATE
		PRINTED BY: tiemons	Mar 24, 2016		
		PORT ADDRESS: ONE SITCUM PLAZA			
CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27		
M. ID: 091251	DAT-HRZ: WA83-SF	VERT: MLLW 19.39 @ Tide 22 1933			
PHASE: BID	PARCEL:	DRAWING SCALE: AS NOTED			
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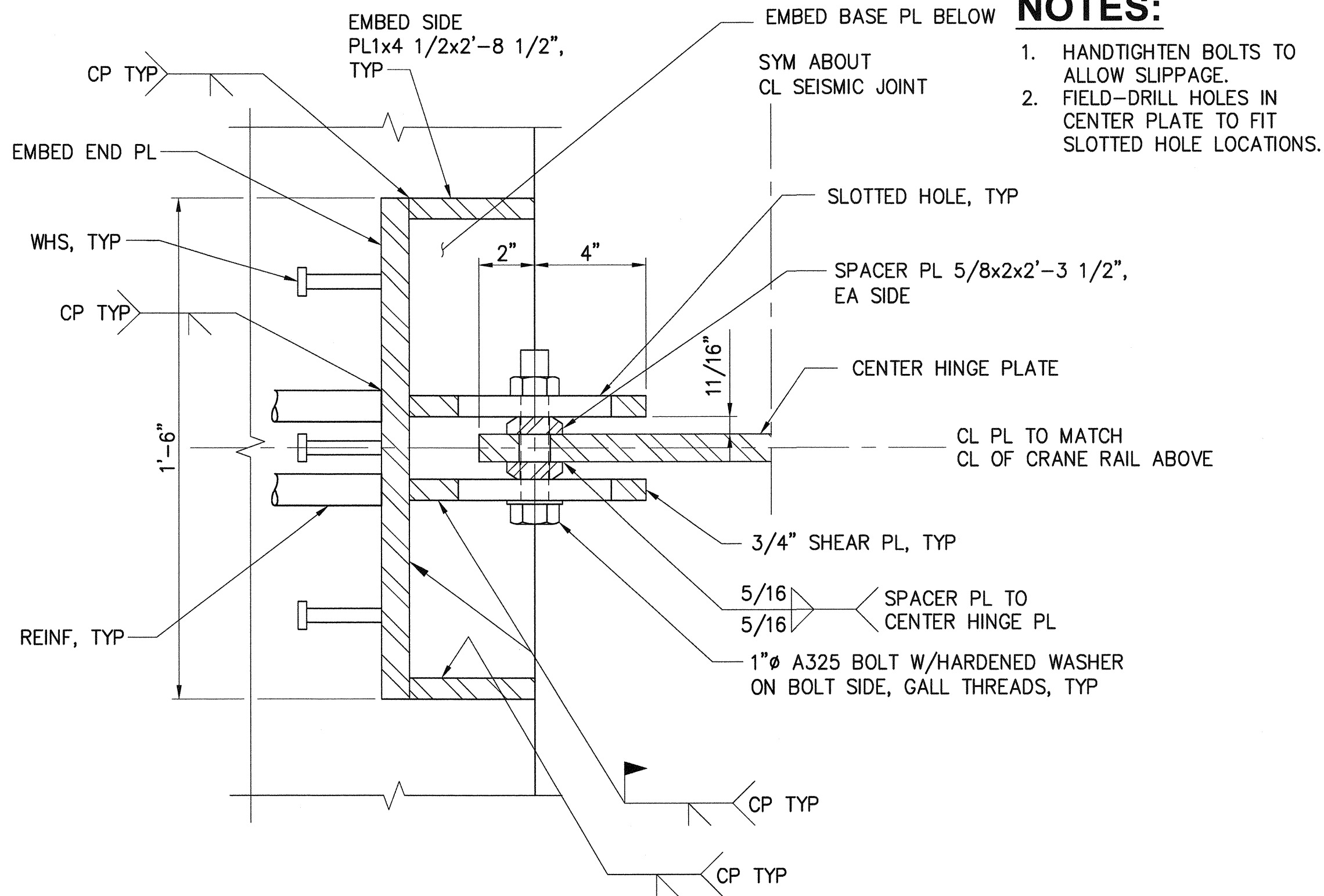
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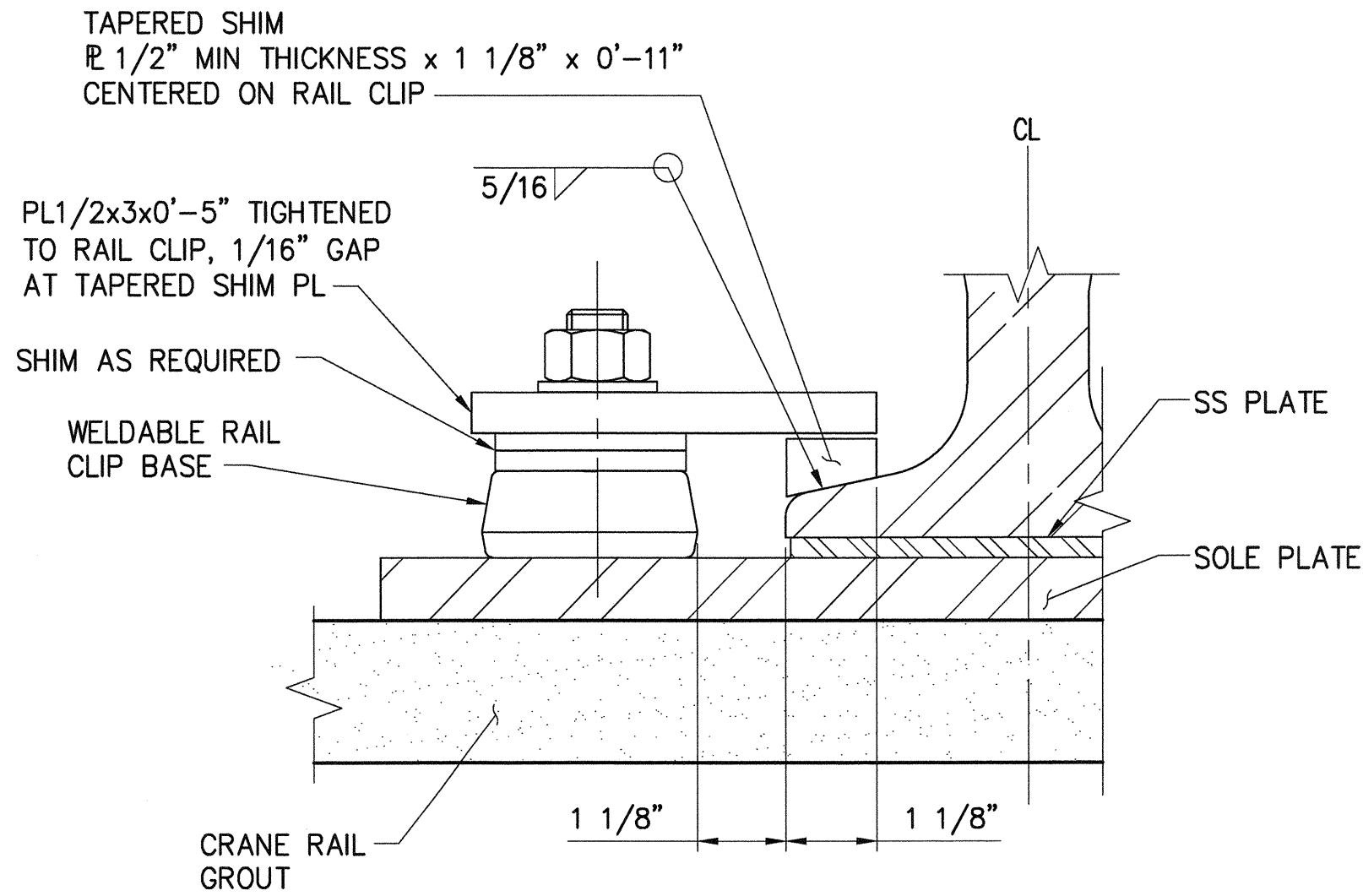
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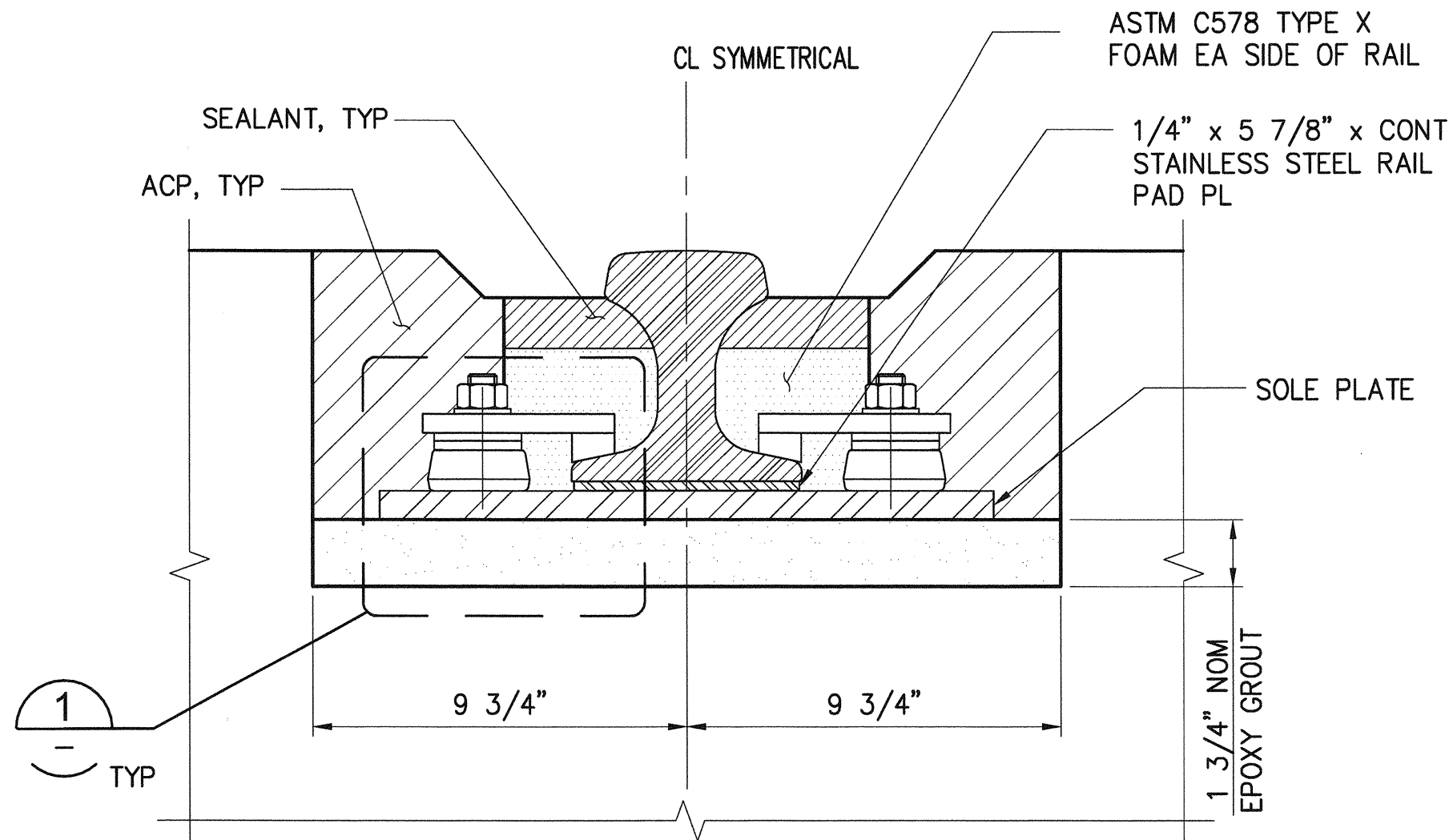


- NOTES:**
1. HANDTIGHTEN BOLTS TO ALLOW SLIPPAGE.
 2. FIELD-DRILL HOLES IN CENTER PLATE TO FIT SLOTTED HOLE LOCATIONS.

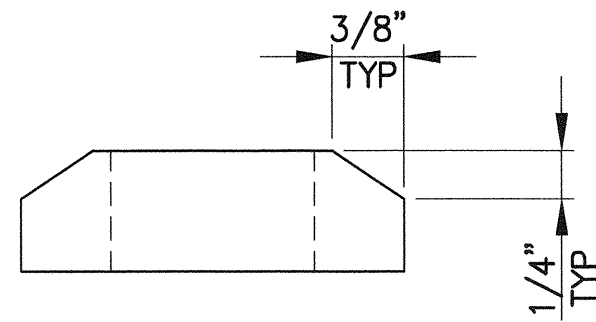
A
S28.1
CONNECTION SECTION
3"=1'-0"



1
DETAIL LATERAL SLIP CLIP
6"=1'-0"



B
S28.1
SECTION
3"=1'-0"



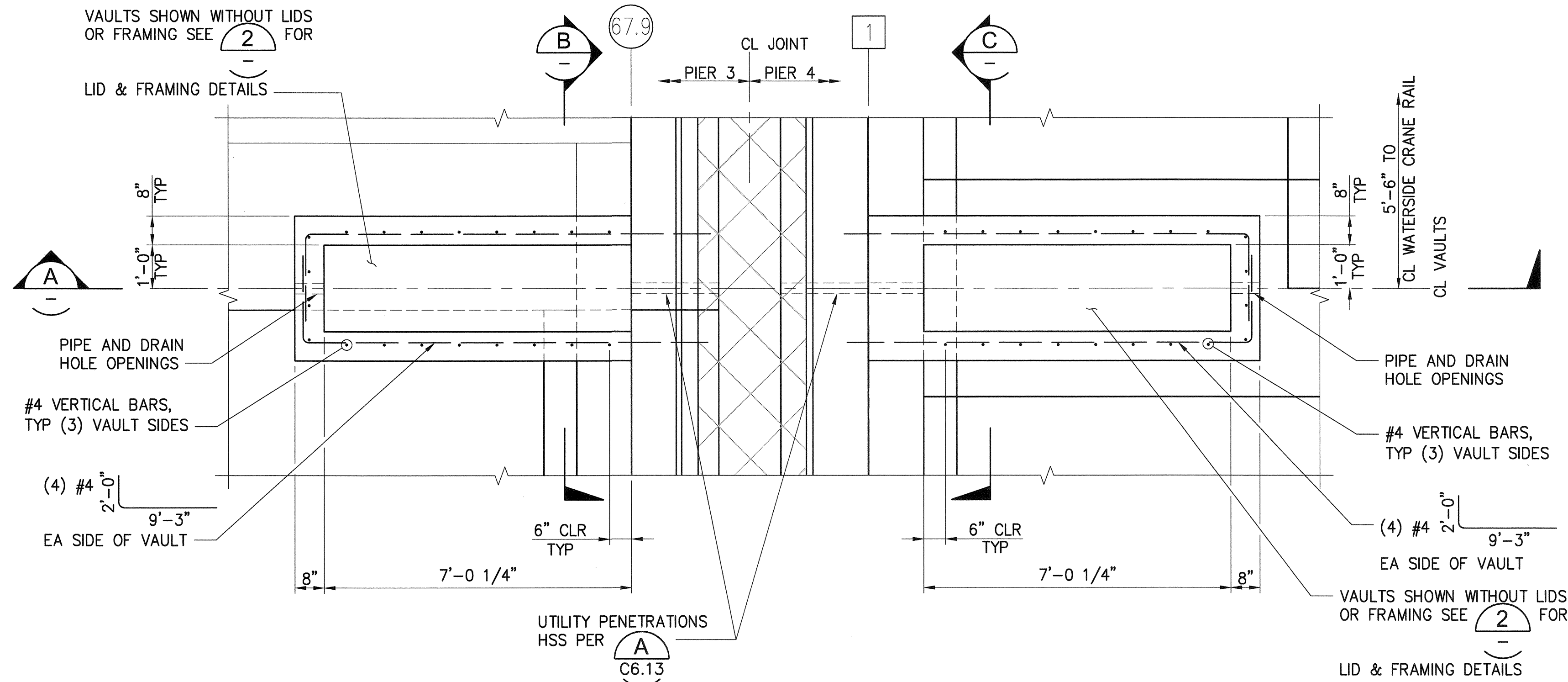
SPACER PL DETAIL
1'-0"=1'-0"

6552 S28.2 SH 353 OF 499 CONT/CONS: 070136 M. ID: 091251 PHASE: BID	PIER 4 PHASE 2 RECONFIGURATION CRANE RAIL ISOLATION JOINT DETAILS - SHEET 2	APPROVED: <i>[Signature]</i> 3-28-16	SEK CHECKED BY: TA	DATE: 3-28-16
		DIRECTOR ENG. DATE: 3-28-16	PROJ. ENGR DATE: 3-28-16	PRINTED BY: tlemons Mar 24, 2016
		PORT ADDRESS: ONE SITCUM PLAZA		
		TACOMA, WA 98401-1837		
TOWNSHIP: 21N RANGE: 3E SECTION: 27		DATE: 3-28-16		
DAT-HRZ: WA83-SF		VERT: MLW 19.39 @ Tide 22 1933		
PARCEL:		DRAWING SCALE: AS NOTED		
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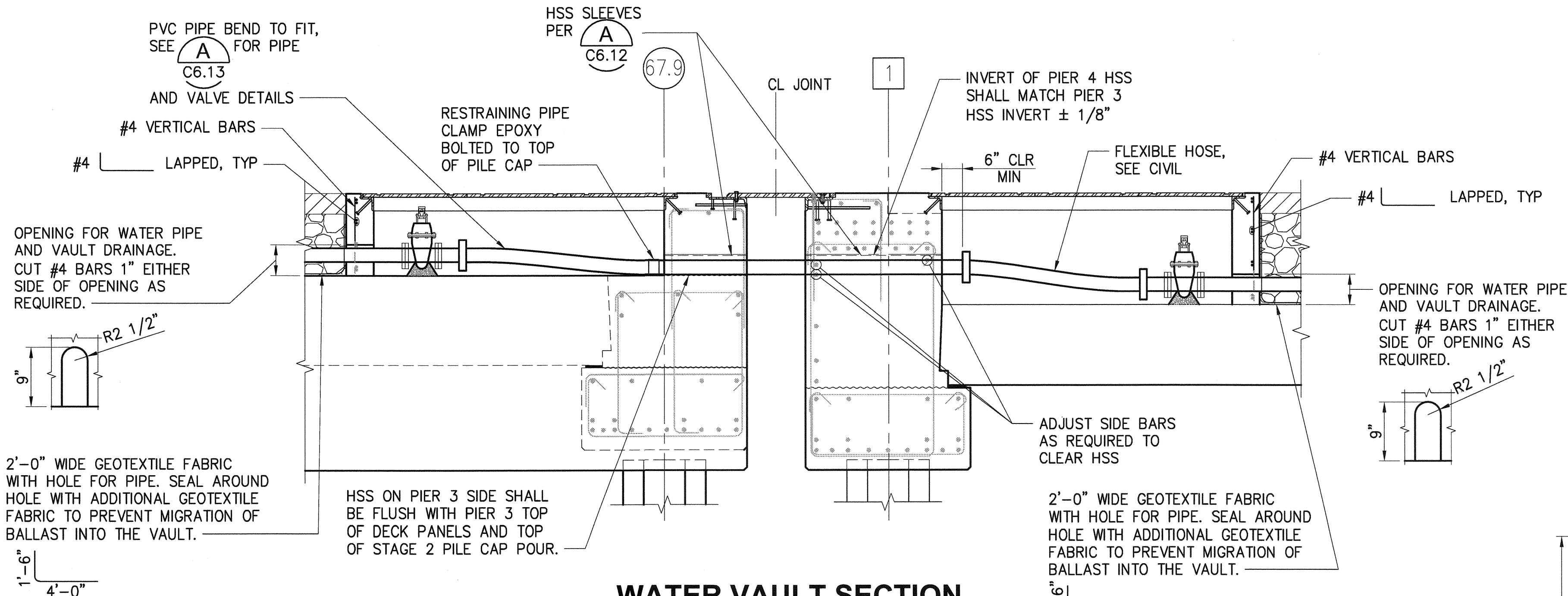
MARK: REVISION: BY: DATE: APPR: DATE:



**WATER VAULTS PLAN
AT PIER 3/4 TRANSITION**

1
S5.6

1/2" = 1'-0"



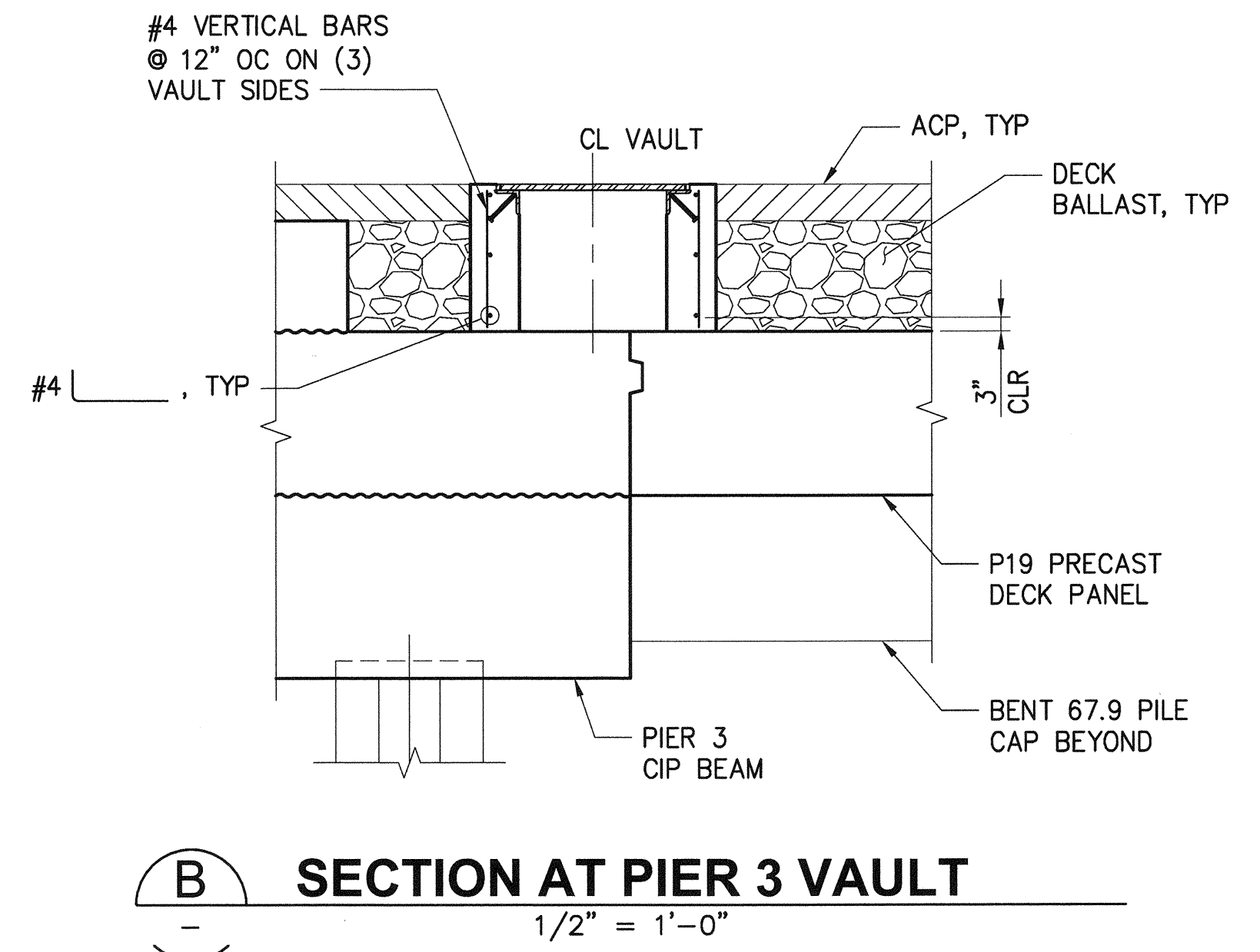
**WATER VAULT SECTION
AT PIER 3/4 TRANSITION**

A
S31.7

1/2" = 1'-0"

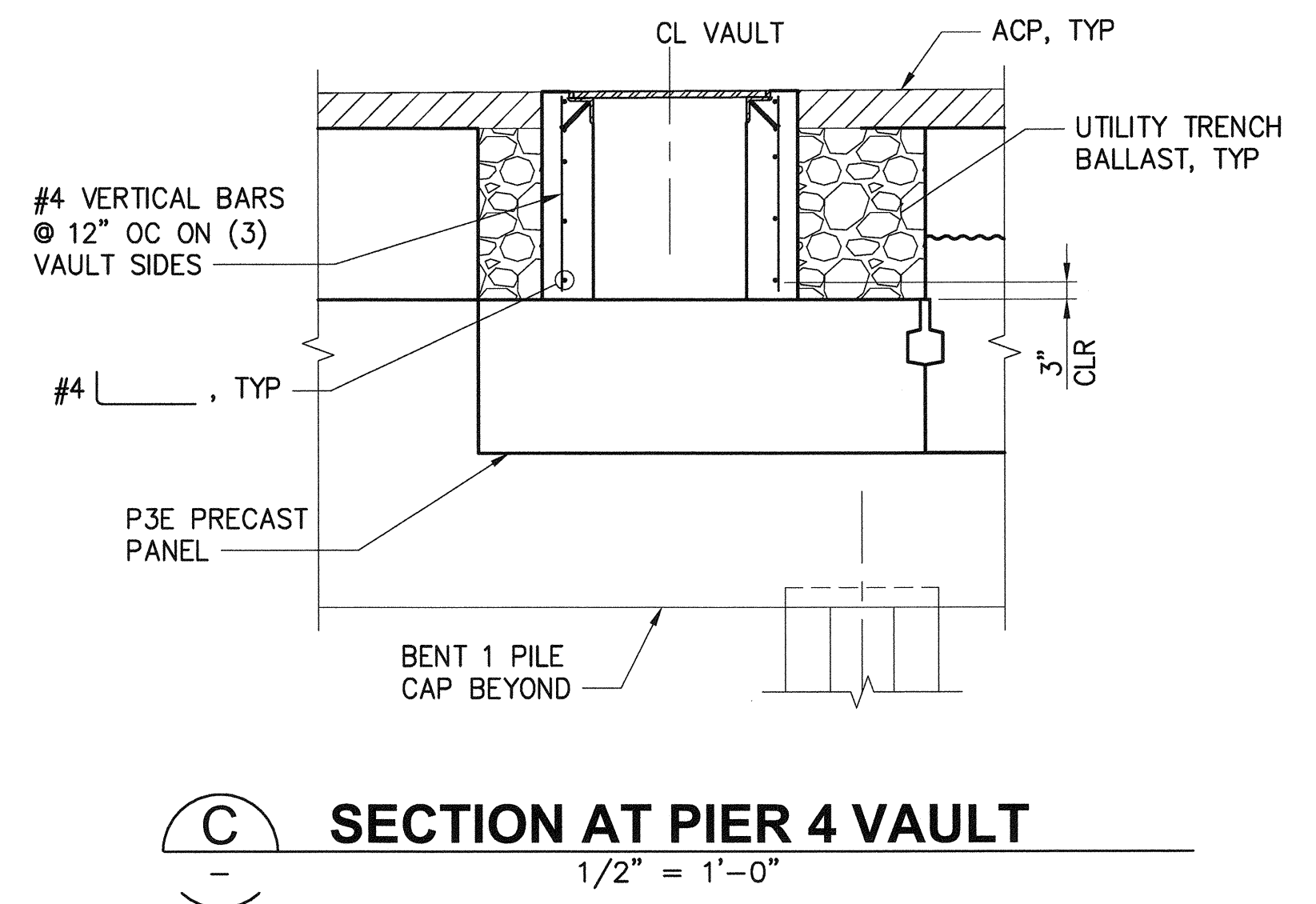
NOTES:

1. LIDS NOT SHOWN FOR CLARITY. SEE LID DETAIL ON **2** AND **D** S31.7 S31.7 FOR ADDITIONAL LID DIMENSIONS AND DETAILS NOT SHOWN
2. PAINT DESIGNATOR SIGN - "WATER" ON TOP OF EACH LID. USE HELVETICA FONT 4" TALL TEXT. SEE SPECIFICATIONS FOR COLOR.



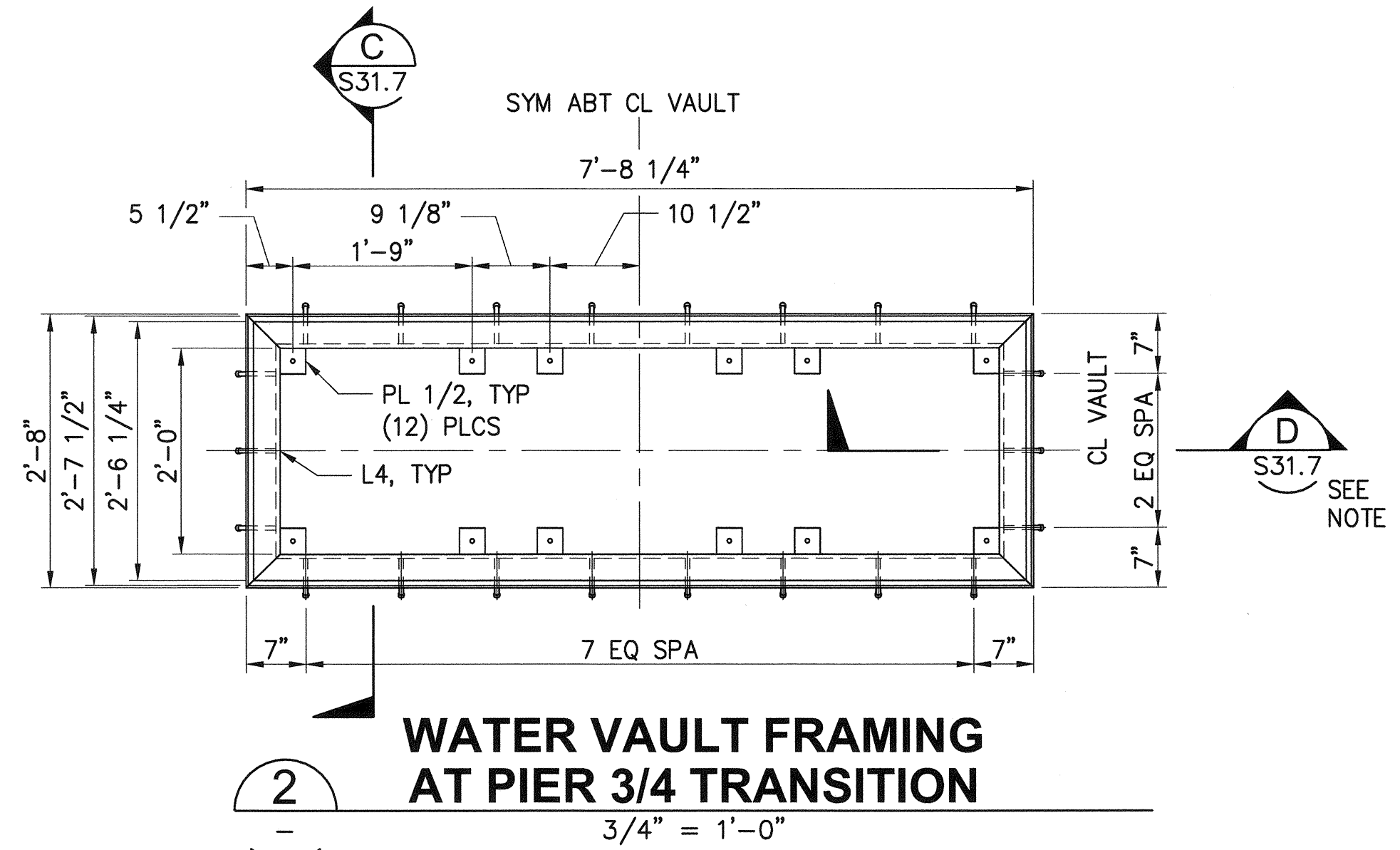
SECTION AT PIER 3 VAULT

1/2" = 1'-0"



SECTION AT PIER 4 VAULT

1/2" = 1'-0"



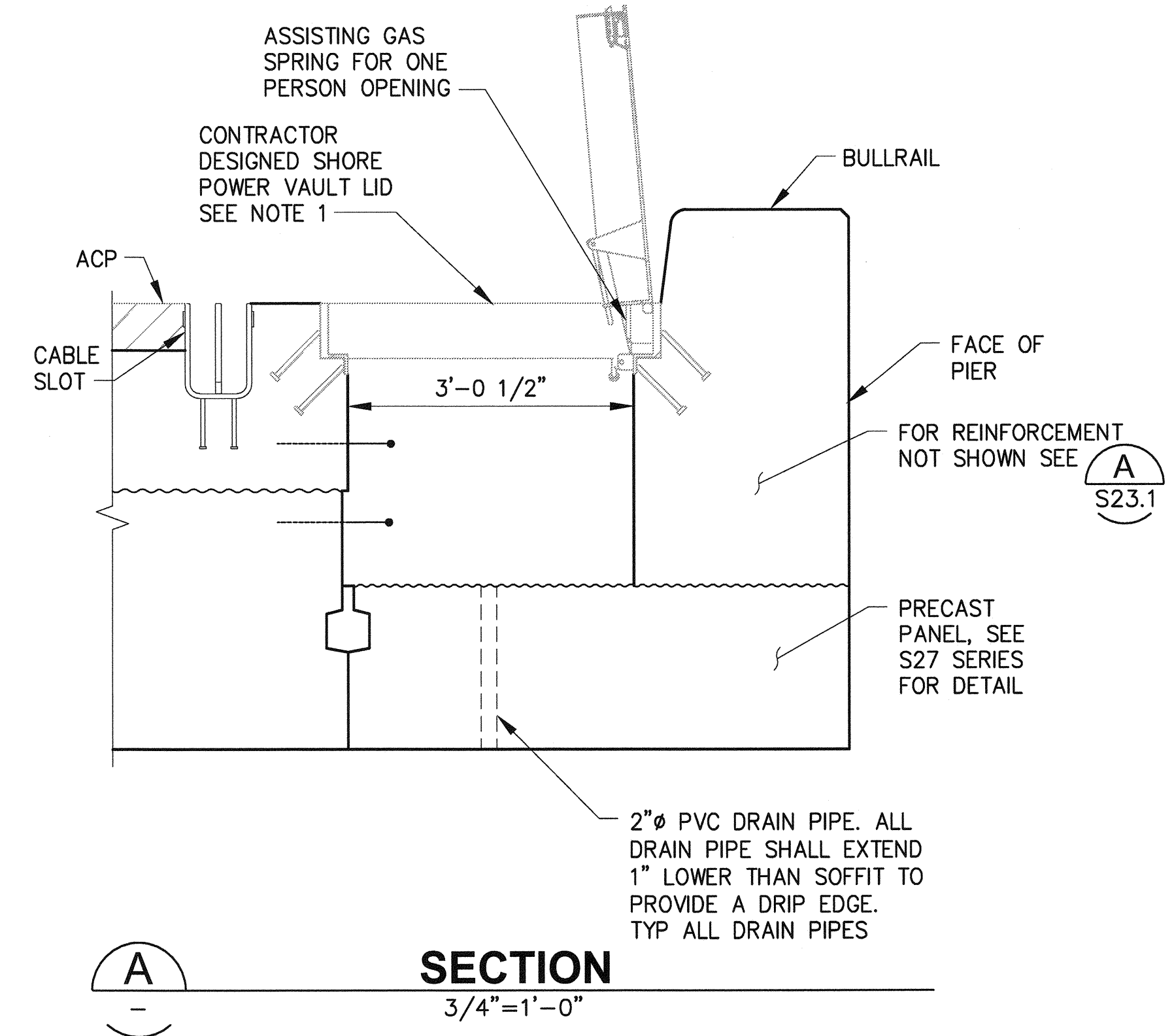
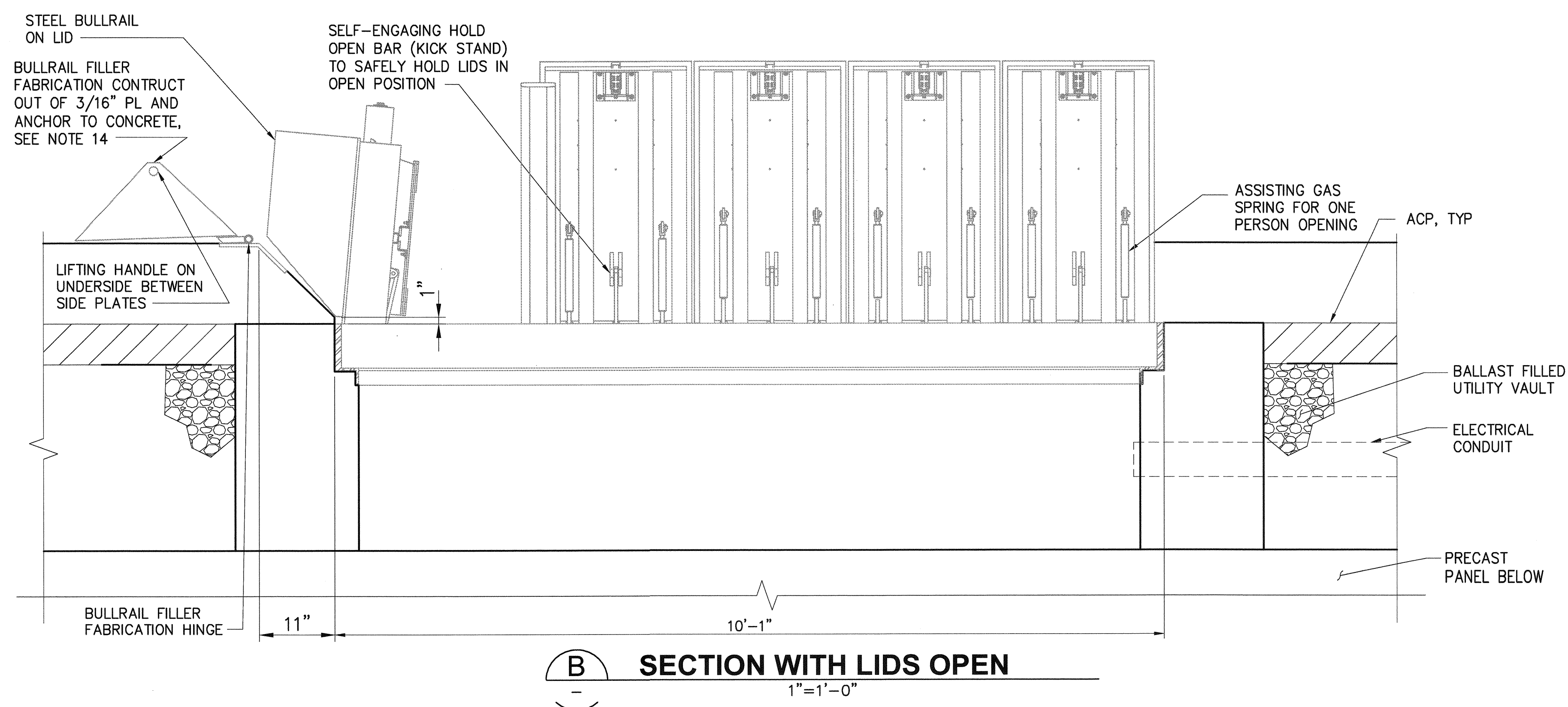
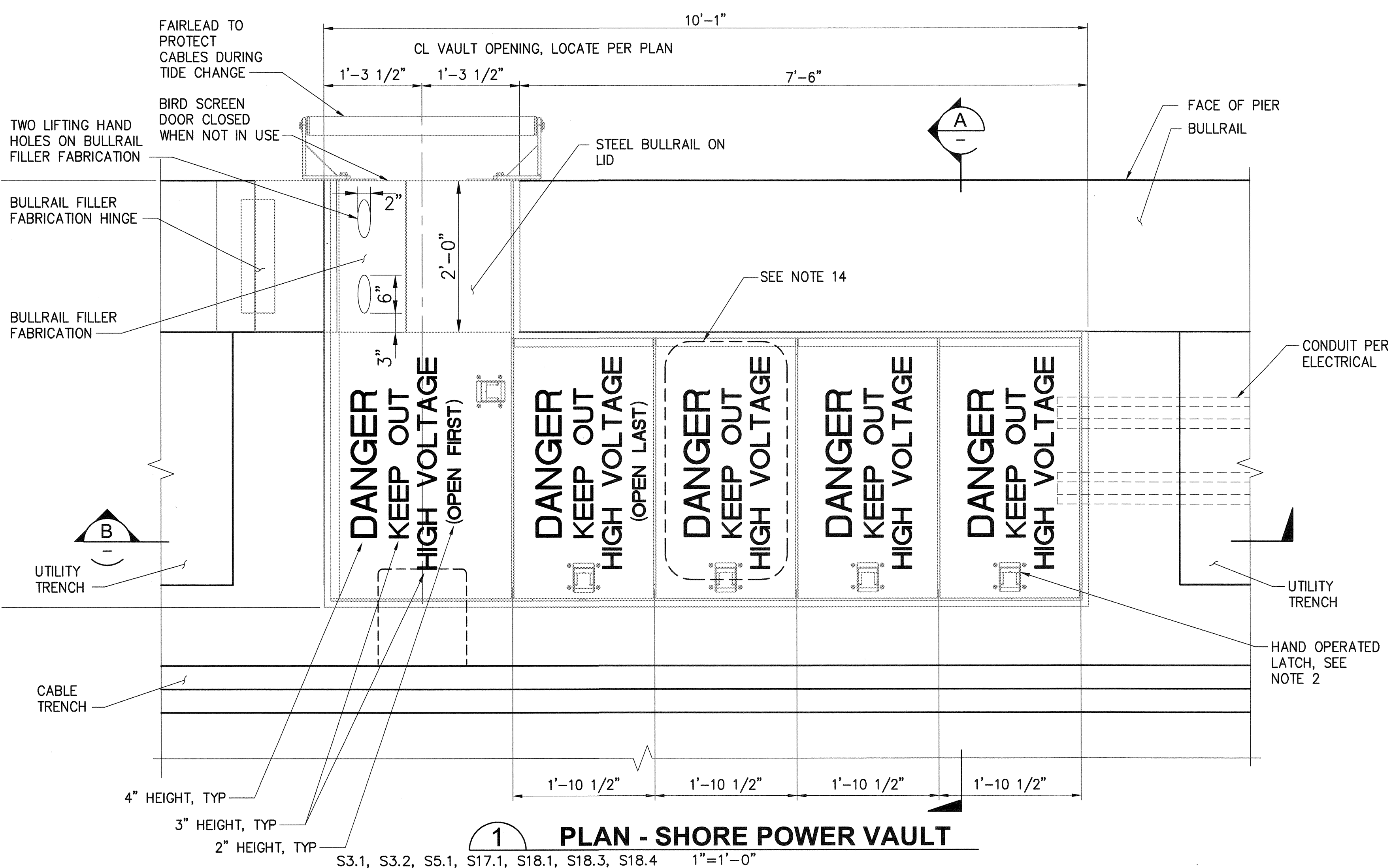
**WATER VAULT FRAMING
AT PIER 3/4 TRANSITION**

2
S31.7

3/4" = 1'-0"

BINDING EDGE

PORT OF TACOMA FILE: N:\Struct\114-1114096 (POT Pier 4)\Drawings\Current\Phase 2_091251\091251-S30.1



- NOTES:**
- CONTRACTOR TO DESIGN AND PROVIDE VAULT LID, BULLRAIL FILLER FABRICATION AND VAULT FRAMING TO BE EMBEDDED IN CONCRETE. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - EACH LID SHALL INCORPORATE ALL 316 STAINLESS STEEL NITROGEN GAS SPRINGS, TO ACHIEVE ONE-PERSON LIFT CAPABILITY, WITH A 20 LB. MAXIMUM OPENING FORCE THROUGH THE 90 DEGREE OPENING RANGE. THE NITROGEN GAS SPRING SHALL HAVE A MINIMUM ROD DIAMETER OF 14 MM, A MINIMUM CYLINDER DIAMETER OF 28 MM AND A MINIMUM STROKE OF 200 MM. INTERNAL SEALS SHALL BE OF VITON CONSTRUCTION.
 - LATCH SHALL BE ACTIVATED BY A RECESSED HANDLE WITH NO ABOVE-GRADE PROTRUSIONS. THE SPRING LOADED HANDLE SHALL RETURN TO CLOSED POSITION AUTOMATICALLY. THE HANDLE SHALL INCORPORATE CONCEALED MOUNTING HARDWARE, FOUR-BOLT INSTALLATION/REPLACEMENT AND BE OF ALL 316 STAINLESS STEEL CONSTRUCTION. HANDLE SHALL BE NON-LOCKING.
 - SEE SHEET S30.2 FOR CONCEPTUAL ISOMETRIC VIEWS OF VAULT LIDS.
 - STRUCTURAL SECTIONS AND PLATE SHALL BE ASTM A36 STRUCTURAL STEEL OR GREATER.
 - STEEL COVER AND FRAME SHALL BE HOT DIP GALVANIZED. PER ASTM A123 AFTER ALL WELDING BUT PRIOR TO INSTALLING STAINLESS STEEL ELEMENTS.
 - HINGE SHALL BE HEAVY DUTY ALL 316 STAINLESS STEEL CONSTRUCTION.
 - FRAME SHALL HAVE INTEGRAL CONCRETE ANCHORS. PROVIDE MINIMUM OF TWO ANCHORS FOR EVERY 24" WIDTH OF COVER.
 - A SELF-ENGAGING HOLD-OPEN BAR (HOB) SHALL BE PROVIDED TO SAFELY HOLD THE COVER IN THE OPEN POSITION AND TO PROTECT AGAINST COVER OVER-TRAVEL WHILE OPENING.
 - LIDS AND PERIMETER FRAMING ELEMENTS SHALL BE DESIGNED FOR THE MOST STRINGENT OF THE CRANE AND VEHICLE LOADS SHOWN ON S1.2 IN ADDITION TO A 125 KIP LOAD OVER A 2FT X 2.5 FT FOOT PRINT.
 - ALL HARDWARE REQUIRED TO ATTACH ANY OF THE COMPONENTS TO THE CONCRETE SHALL BE DESIGNED AND SUPPLIED BY THE CONTRACTOR.
 - SEE SHEET S23.1 FOR REINFORCING DETAILS.
 - THE BULLRAIL FILLER FABRICATION SHALL BE OF THE SAME MATERIAL AND HAVE THE SAME COATING AS THE VAULT LIDS. THE FABRICATION SHALL SMOOTHLY ROTATE SUCH THAT IT CAN ROTATE CLOSED TO FILL THE GAP BETWEEN THE CONCRETE BULLRAIL AND THE STEEL BULLRAIL ON LID. WHEN OPEN IT SHALL REST SECURELY ON THE CONCRETE BULLRAIL WITHOUT DAMAGING THE CONCRETE. THE STEEL BULLRAIL ON LID SHALL BE DESIGNED FOR THE SAME LOADING AS THE LIDS, BUT THE BULLRAIL FILLER FABRICATION SHALL ONLY BE DESIGNED FOR A 300LB POINT LOAD. THE BULLRAIL FILLER FABRICATION SHALL BE MANUALLY OPERATED AND DOES NOT REQUIRE AN ASSIST.
 - PAINT DESIGNATOR SIGN - TEXT SHALL BE AS SHOWN ON EACH LID. USE HELVITICA FONT, TEXT HEIGHT AS SHOWN. SEE SPECIFICATIONS FOR COLOR.

6552

S30.1

SH 355 OF 499

CON/CONS: 070136
M. ID: 091251
PHASE: BID

PIER 4 PHASE 2

RECONFIGURATION

SHORE POWER VAULT DETAILS - SHEET 1

APPROVED: *[Signature]*

3-28-16

DIRECTOR ENG. DATE

PRINTED BY: tiemoms Mar 24, 2016

PORT ADDRESS: ONE SITCOM PLAZA

TACOMA, WA 98401-1837

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PROJ. ENGR

DATE

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BY:

DATE:

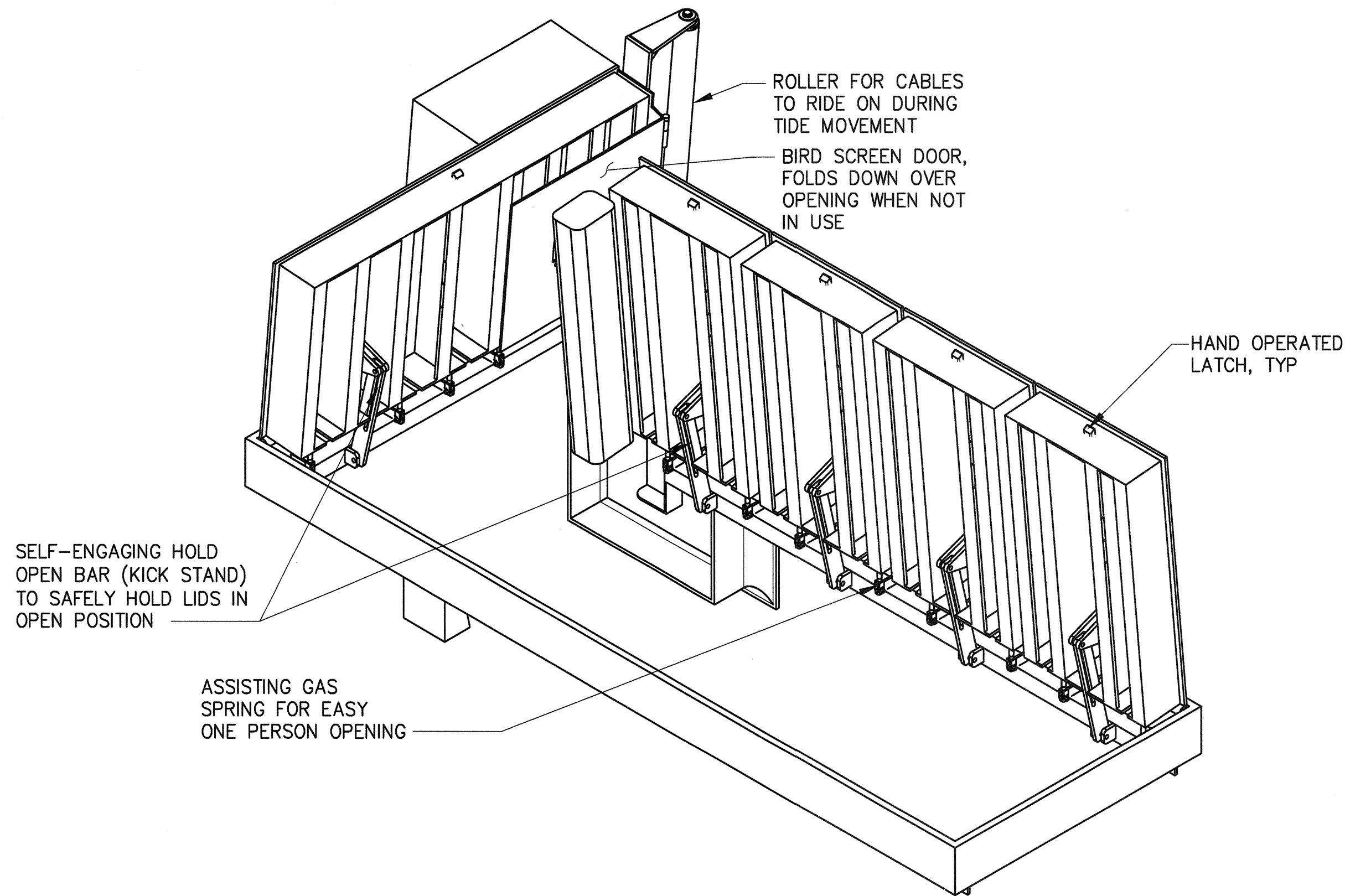
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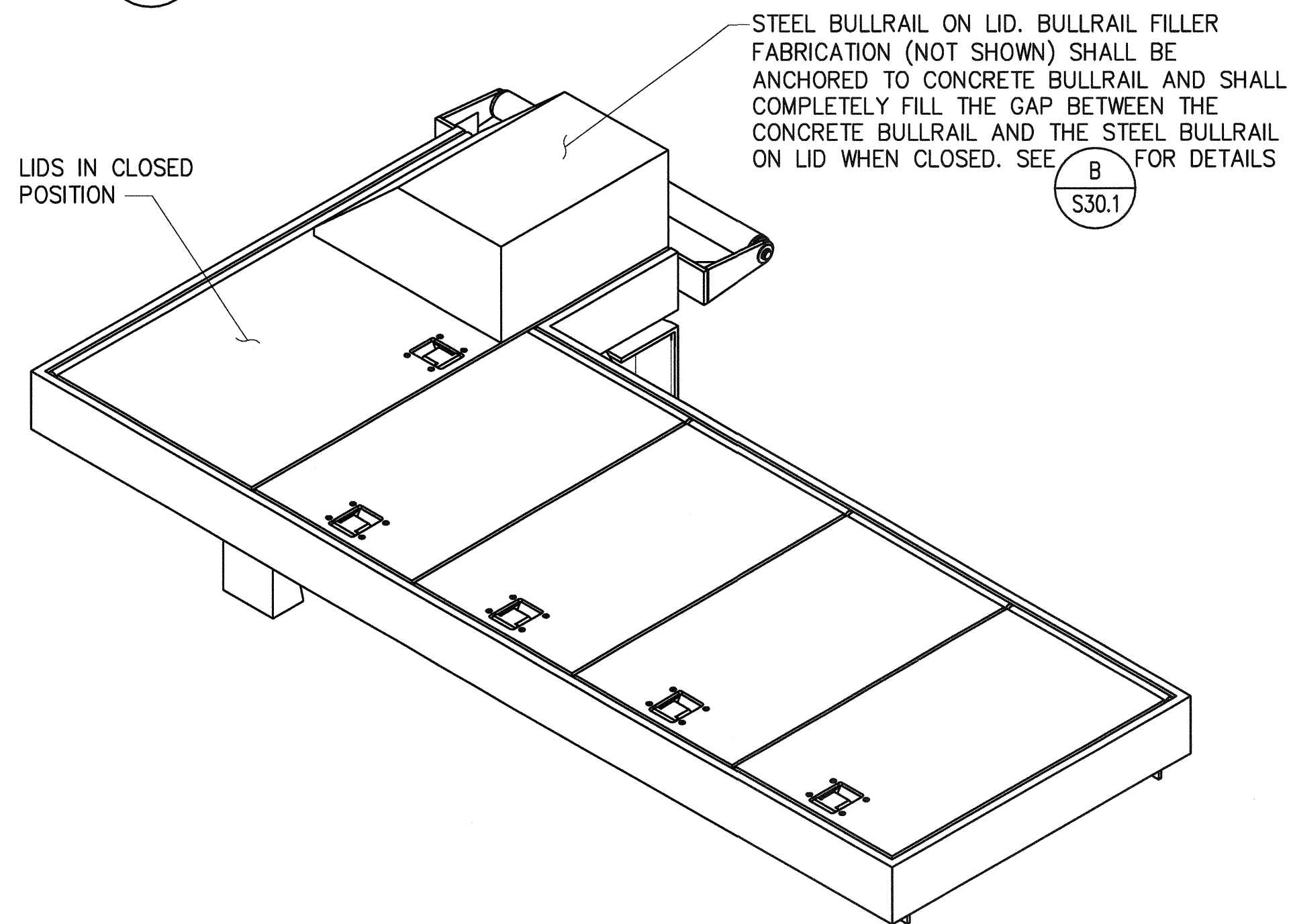
kpff

91-52-5

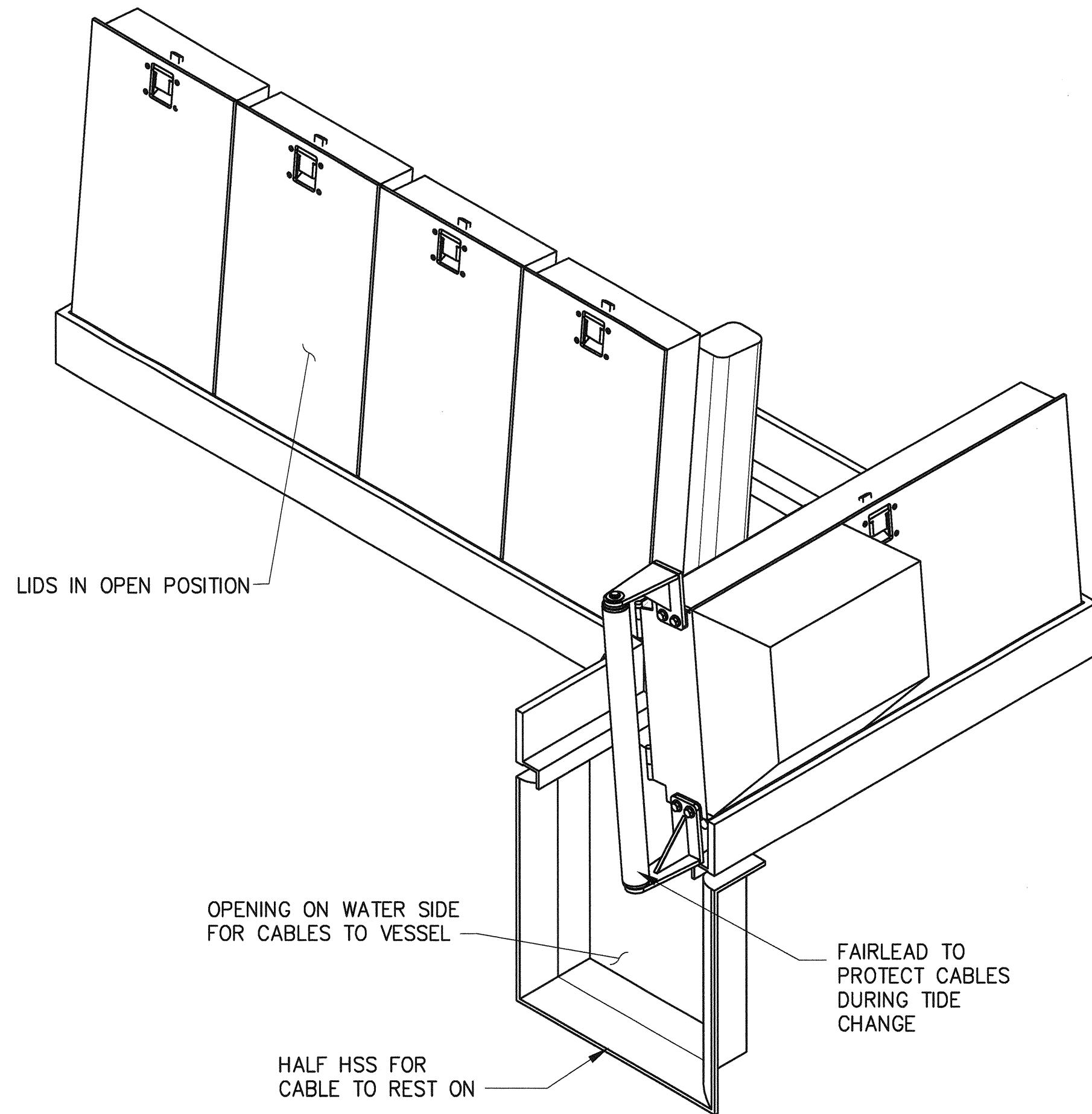
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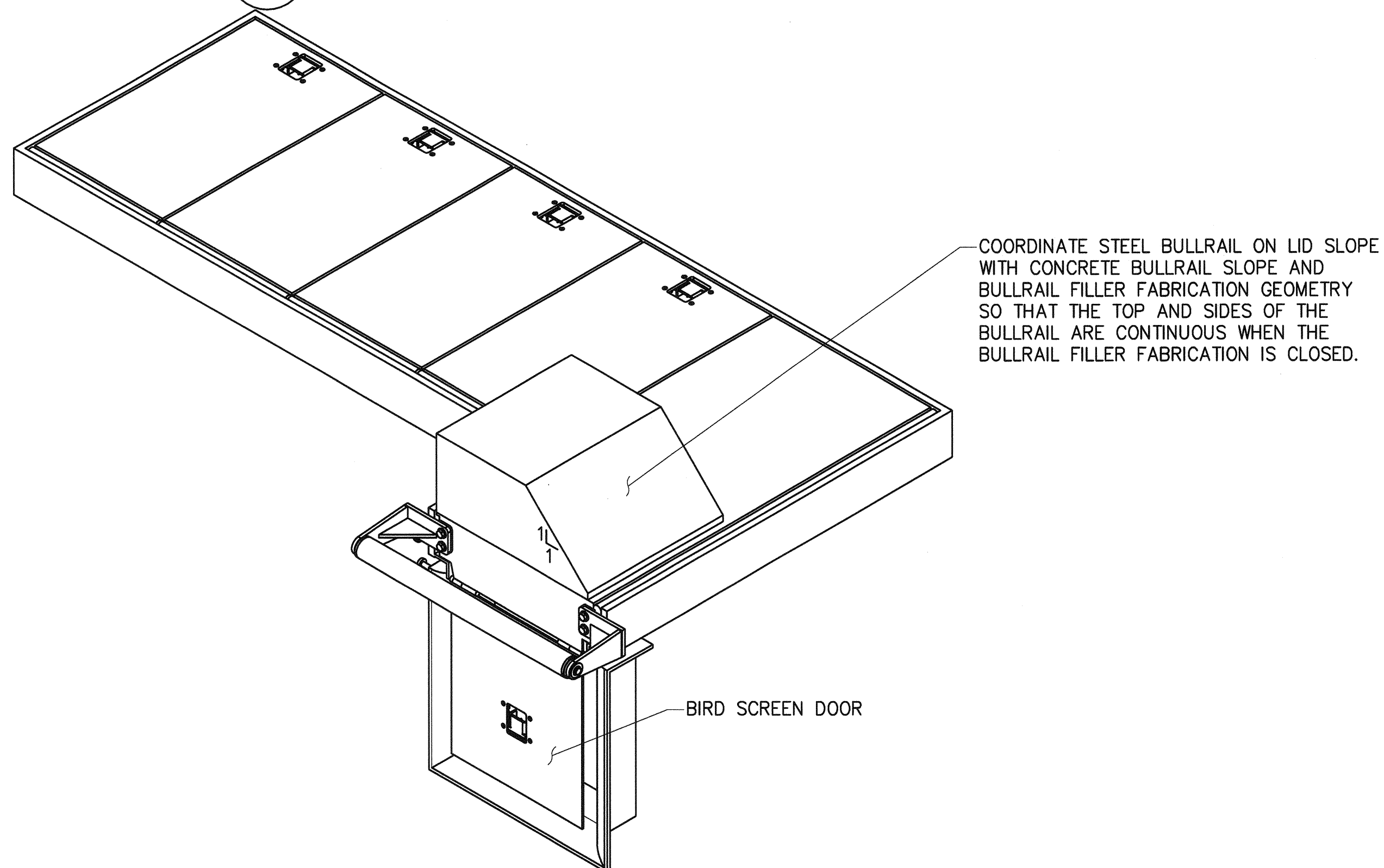
SHORE POWER VAULT LID ASSEMBLY
VIEW FROM LANDSIDE
1
S30.1 NTS



SHORE POWER VAULT LID ASSEMBLY
VIEW FROM LANDSIDE
3
S30.1 NTS



SHORE POWER VAULT LID ASSEMBLY
VIEW FROM WATERSIDE
2
S30.1 NTS



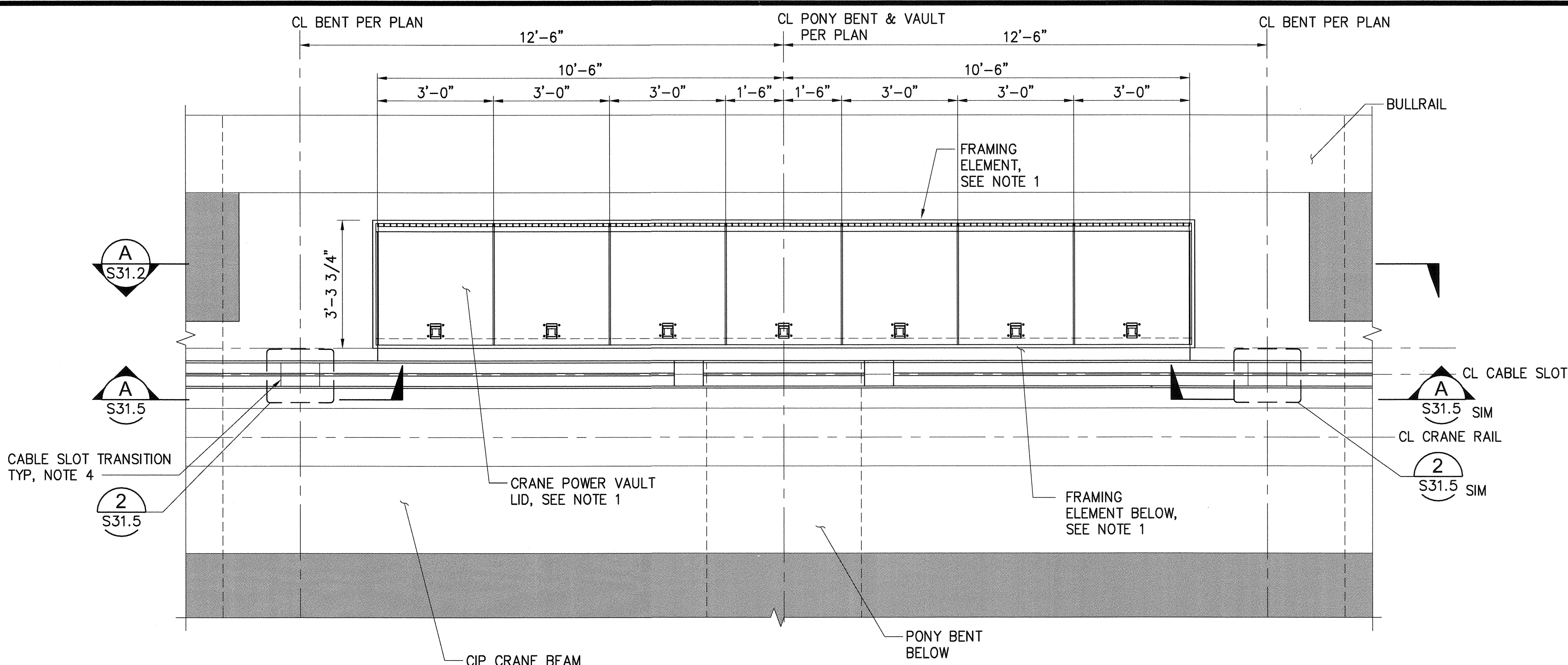
SHORE POWER VAULT LID ASSEMBLY
VIEW FROM WATERSIDE
4
S30.1 NTS

6552 S30.2 SH 356 OF 499	PIER 4 PHASE 2 RECONFIGURATION SHORE POWER VAULT DETAILS - SHEET 2				APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR ENG. DATE PRINTED BY: tterions Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SEK CHECKED BY: TA DATE: TA	MARK: REVISION: BY: DATE:	Port of Tacoma P.O. BOX 1887 TACOMA, WA 98401 (206) 462-5841 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162
	CONT/CONS: 070136 M. ID: 091251 PHASE: BID	TOWNSHIP: 21N RANGE: 3E SECTION: 27 DAT-HRZ: WA83-SF VERT: MLLW 19.39' @ Tide 22 1933 DRAWING SCALE: AS NOTED						

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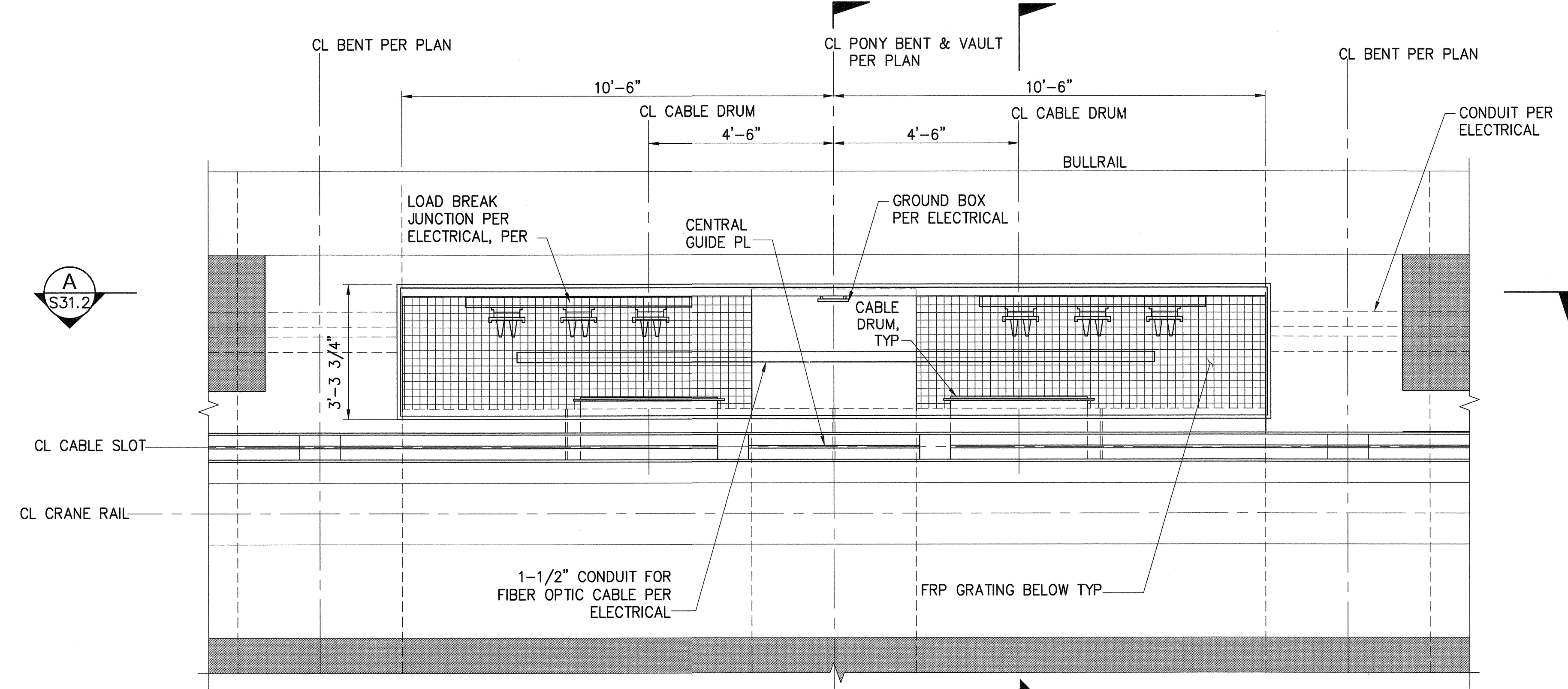
BINDING EDGE

PORT OF TACOMA FILE: N:\Struct\114-1114096 (POT Pier 4)\Drawings\Current\Phase 2_091251\091251-S31.1



PLAN - CRANE POWER VAULT - LID CLOSED

1
S3.1, S3.2, S5.1 1/2"=1'-0"



PLAN - CRANE POWER VAULT - LID OPEN

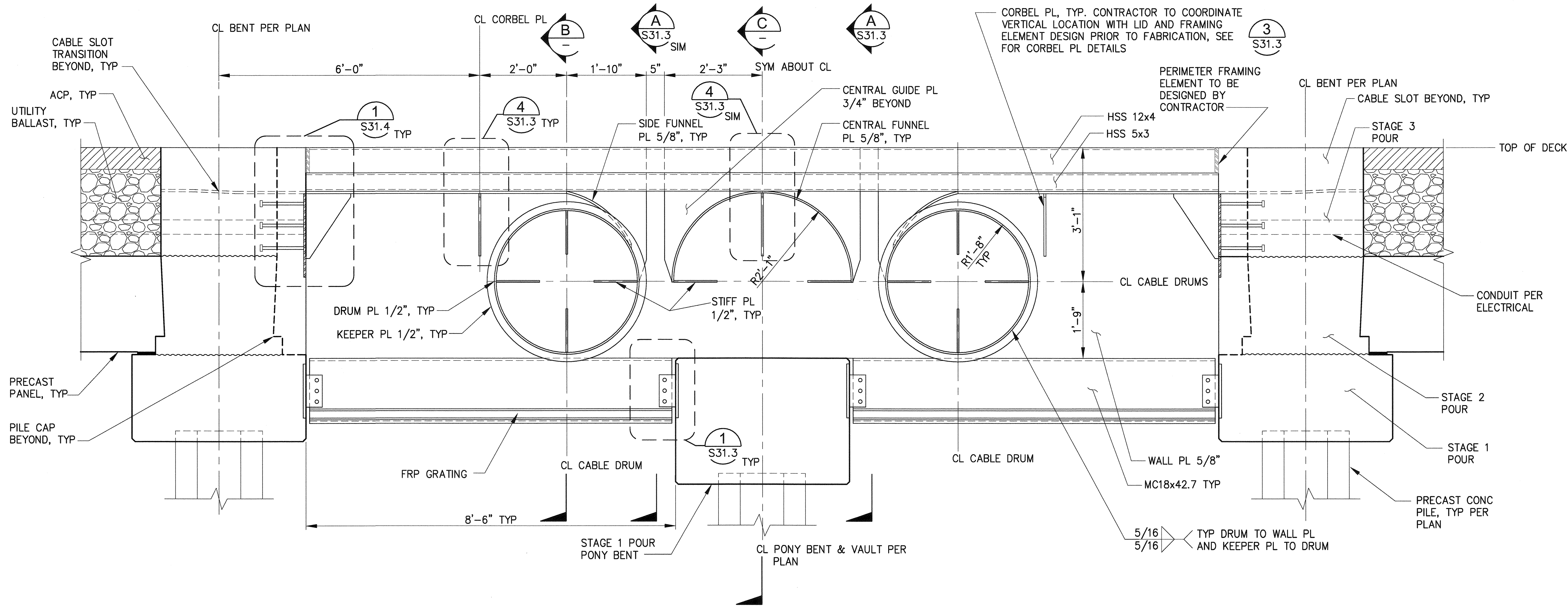
2
1/2"=1'-0"

NOTE
1. FOR CALLOUTS IN COMMON SEE
1

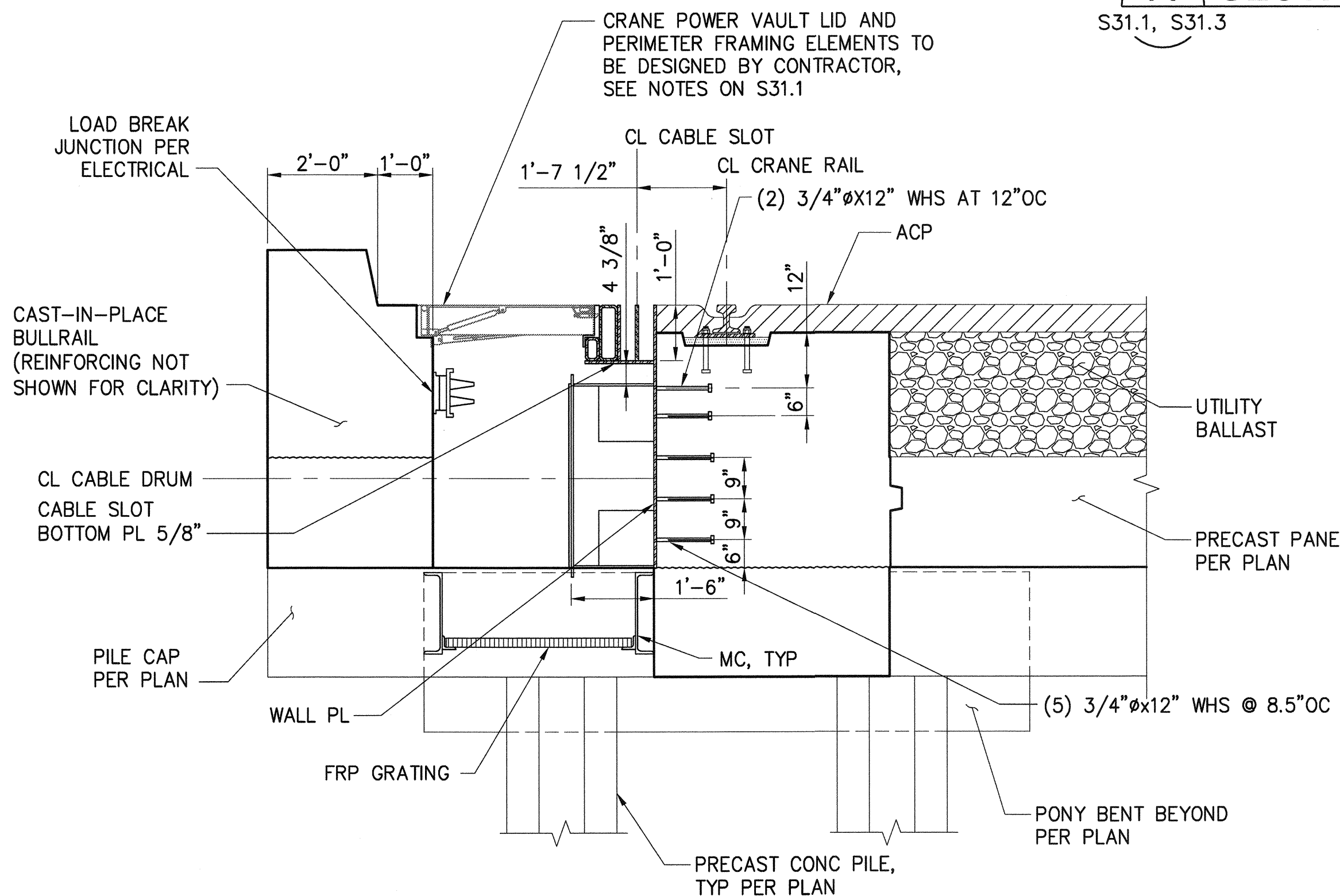
NOTES:

1. CONTRACTOR TO DESIGN AND PROVIDE LIDS AND PERIMETER FRAMING ELEMENTS WHICH WILL BE SUPPORTED ON THE STEEL CORBELS AND HSS SECTIONS, AND EMBED IN CONCRETE AS SHOWN ON THE DRAWINGS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. EACH LID SHALL INCORPORATE 316 STAINLESS STEEL NITROGEN GAS SPRINGS, TO ACHIEVE ONE-PERSON LIFT CAPABILITY, WITH A 20 LB. MAXIMUM OPENING FORCE THROUGH THE 90 DEGREE OPENING RANGE. THE NITROGEN GAS SPRING SHALL HAVE A MINIMUM ROD DIAMETER OF 14 MM, A MINIMUM CYLINDER DIAMETER OF 28 MM AND A MINIMUM STROKE OF 200 MM. INTERNAL SEALS SHALL BE OF VITON CONSTRUCTION.
3. LATCH SHALL BE ACTIVATED BY A RECESSED HANDLE WITH NO ABOVE-GRADE PROTRUSIONS. THE SPRING LOADED HANDLE SHALL RETURN TO CLOSED POSITION AUTOMATICALLY. THE HANDLE SHALL INCORPORATE CONCEALED MOUNTING HARDWARE, FOUR-BOLT INSTALLATION/REPLACEMENT AND BE OF ALL 316 STAINLESS STEEL CONSTRUCTION. HANDLE SHALL BE NON-LOCKING.
4. SEE SHEET S31.5 FOR CABLE SLOT TRANSITION DETAILS.
5. SEE SHEET S31.6 FOR CONCEPTUAL ISOMETRIC VIEWS OF VAULT LIDS.
6. STRUCTURAL SECTIONS AND PLATE SHALL BE ASTM A36 STRUCTURAL STEEL OR GREATER.
7. STEEL COVER AND FRAME SHALL BE HOT DIP GALVANIZED. PER ASTM A123 AFTER ALL WELDING BUT PRIOR TO INSTALLING STAINLESS STEEL ELEMENTS.
8. HINGE SHALL BE HEAVY DUTY ALL 316 STAINLESS STEEL CONSTRUCTION.
9. FRAME SHALL HAVE INTEGRAL CONCRETE ANCHORS. PROVIDE A MINIMUM OF TWO ANCHORS FOR EVERY 24" WIDTH OF COVER.
10. A SELF-ENGAGING HOLD-OPEN BAR (HOB) SHALL BE PROVIDED TO SAFELY HOLD THE COVER IN THE OPEN POSITION AND TO PROTECT AGAINST COVER OVER-TRAVEL WHILE OPENING.
11. LIDS AND PERIMETER FRAMING ELEMENTS SHALL BE DESIGNED FOR THE MOST STRINGENT OF THE CRANE AND VEHICLE LOADS SHOWN ON S1.2 IN ADDITION TO A 125 KIP LOAD OVER A 2FT X 2.5FT FOOT PRINT.
12. ALL HARDWARE TO ATTACH ANY OF THE COMPONENTS TO THE CONCRETE OR HSS SECTIONS SHALL BE DESIGNED AND SUPPLIED BY THE CONTRACTOR.
13. SEE SHEET S24.1 FOR REINFORCEMENT DETAILS.
14. PAINT DESIGNATOR - "DANGER HIGH VOLTAGE" ON TOP OF EACH LID. USE HELVITICA FONT 4" TALL. SEE SPECIFICATIONS FOR COLOR.

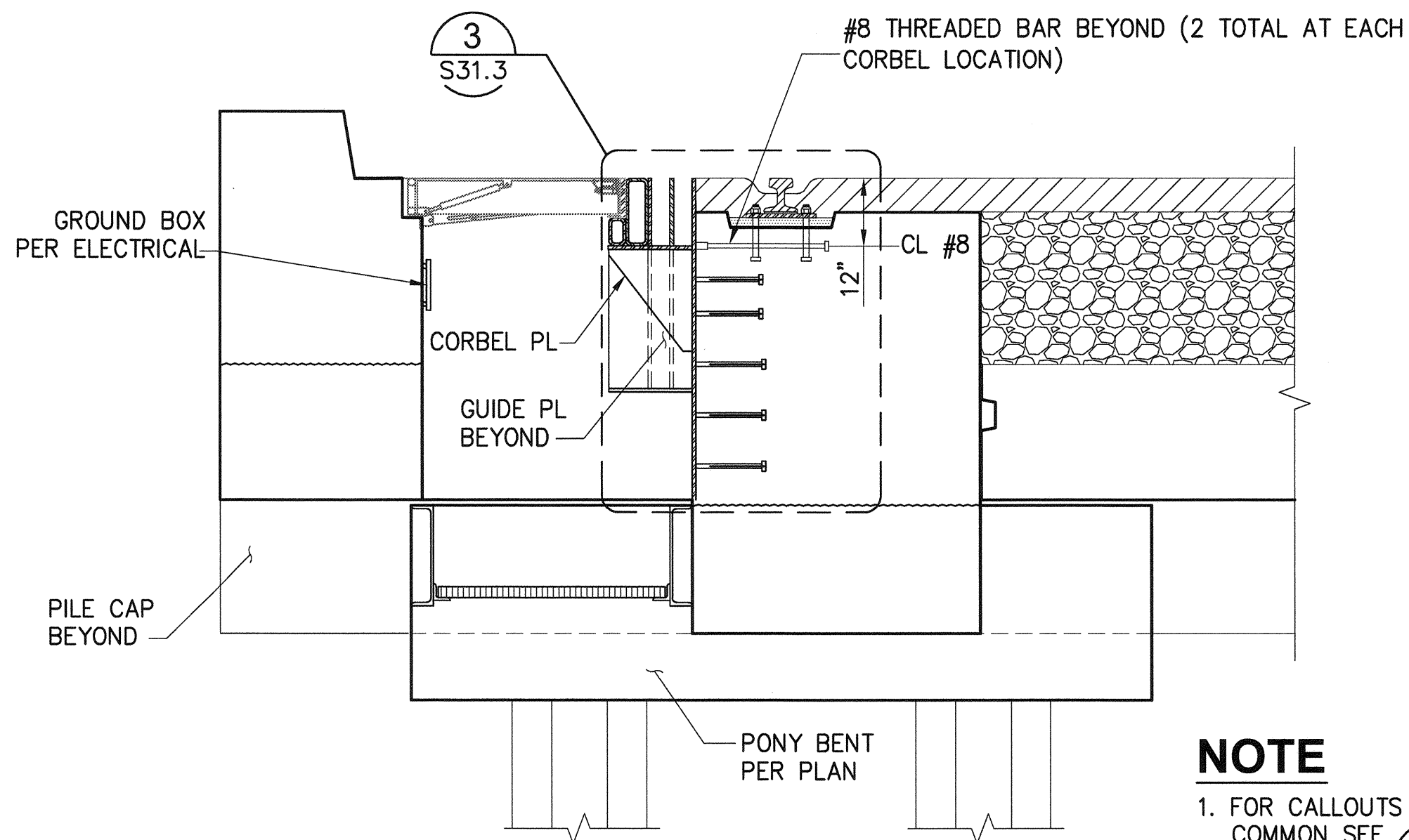
6552 S31.1 SH 357 OF 499	PIER 4 PHASE 2 RECONFIGURATION CRANE POWER VAULT DETAILS - SHEET 1				kpff 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1857 TACOMA, WA 98401 (253) 396-3441	
	CONT/CONS: 070136	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27		
M. ID: 091251	DATE-HRZ: WA83-SF	VERT: MLLW 19.39' @ Tide 22 1933	PRINTED BY: ttenoris Mar 24, 2016	PROJ. ENGR. DATE	BY:	DATE:
PHASE: BID	PARCEL:	DRAWING SCALE: AS NOTED	PORT ADDRESS: ONE SITCUM PLAZA	DIRECTOR ENG. DATE	REVISION:	APPR:
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A SECTION - CRANE POWER VAULT
S31.1, S31.3 3/4"=1'-0"



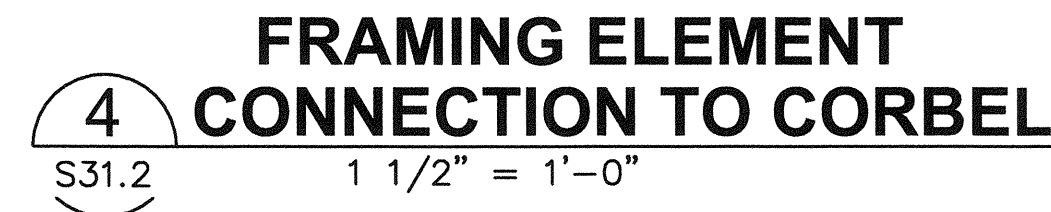
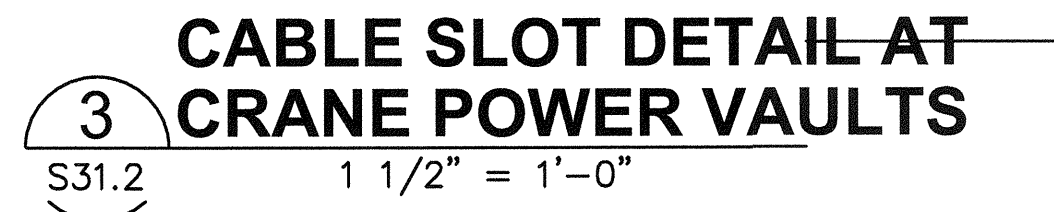
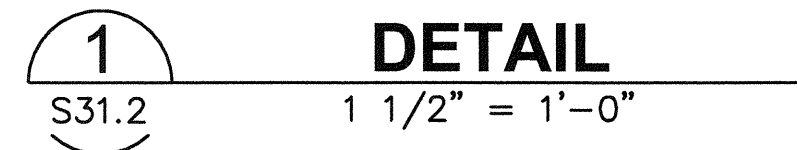
B SECTION - CRANE POWER VAULT
S31.1 1/2"=1'-0"

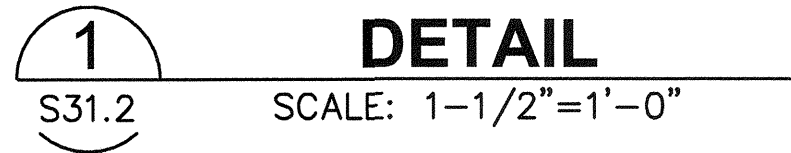


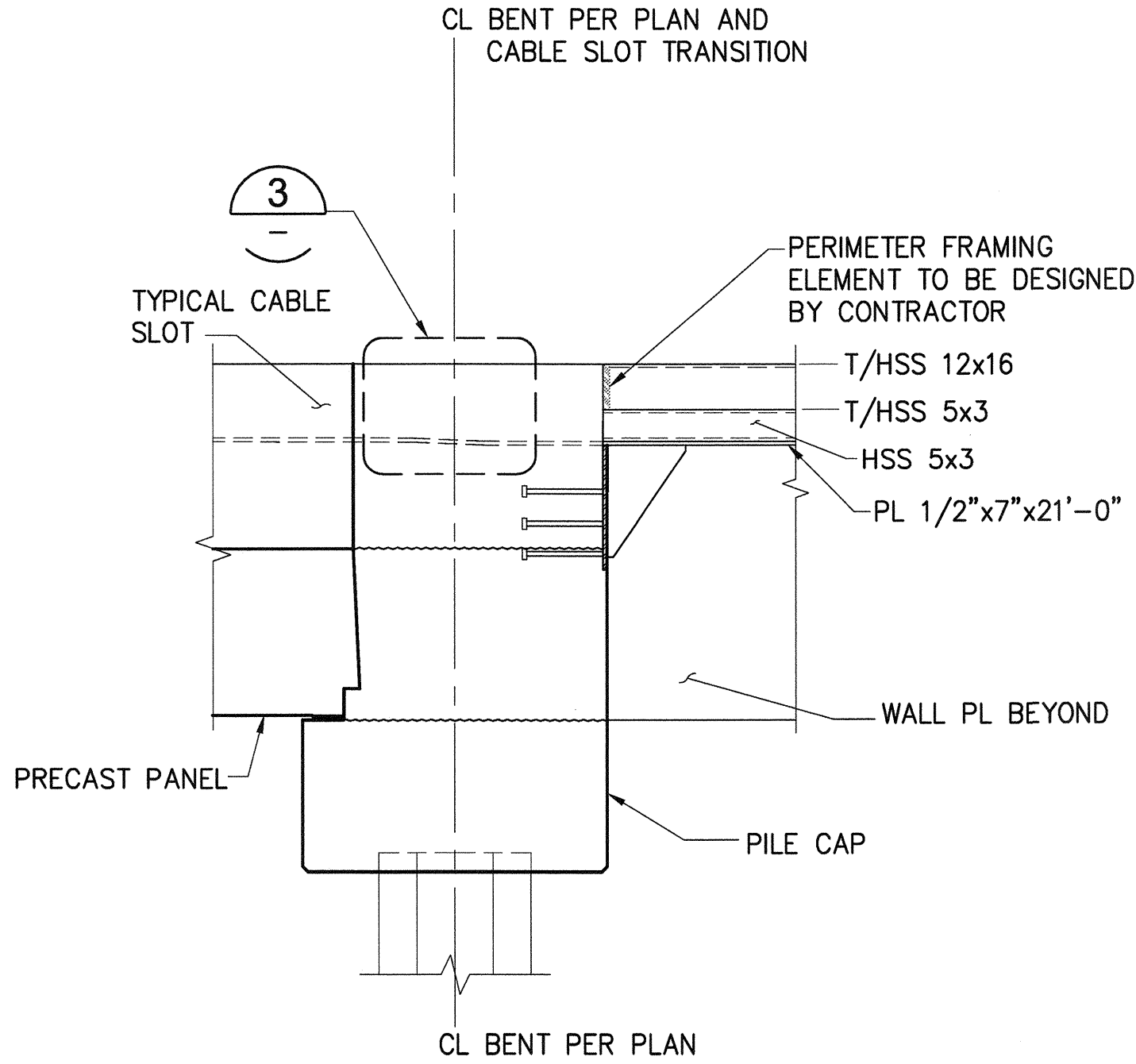
C SECTION - CRANE POWER VAULT
S31.1 1/2"=1'-0"

6552 S31.2 SH 358 OF 499	PIER 4 PHASE 2 RECONFIGURATION CRANE POWER VAULT DETAILS - SHEET 2				APPROVED: <i>[Signature]</i> 3-28-16	SEK CHECKED BY: <i>[Signature]</i> DATE: 3-28-16	TAH PROJ. ENGR. DATE: 24, 2016	PRINTED BY: Hemons PORT ADDRESS: ONE SITCUM PLAZA	TACOMA, WA 98401-1837	DATE: 3-28-16
	TOWNSHIP: 21N RANGE: 3E SECTION: 27	DATE-HRZ: WA83-SF VERT: MLLW 19.39 @ Tide 22 1933	DRAWING SCALE: AS NOTED	PARCEL: BID	MARK: REVISION:	BY: APPR:	DATE: 3-28-16			

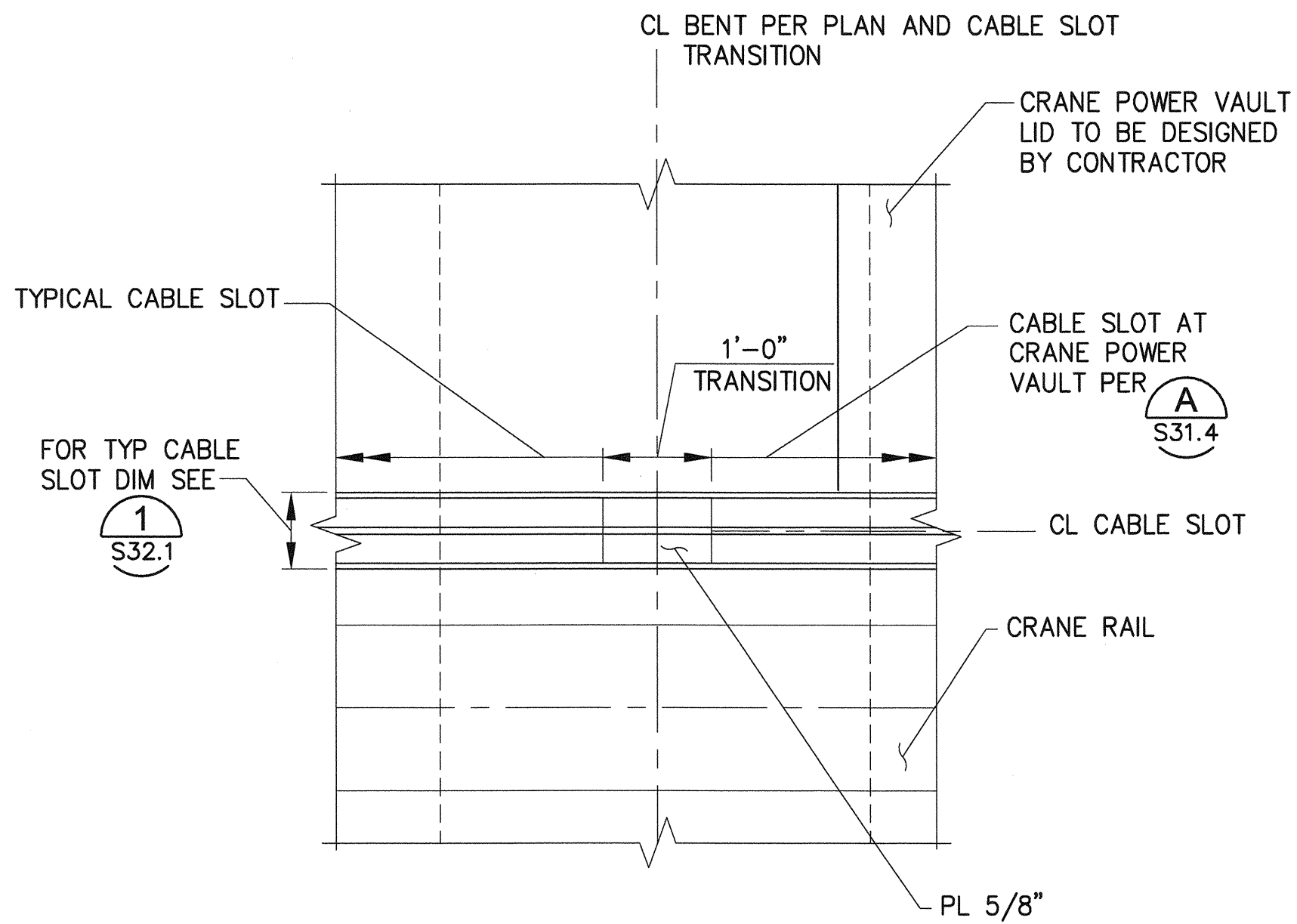
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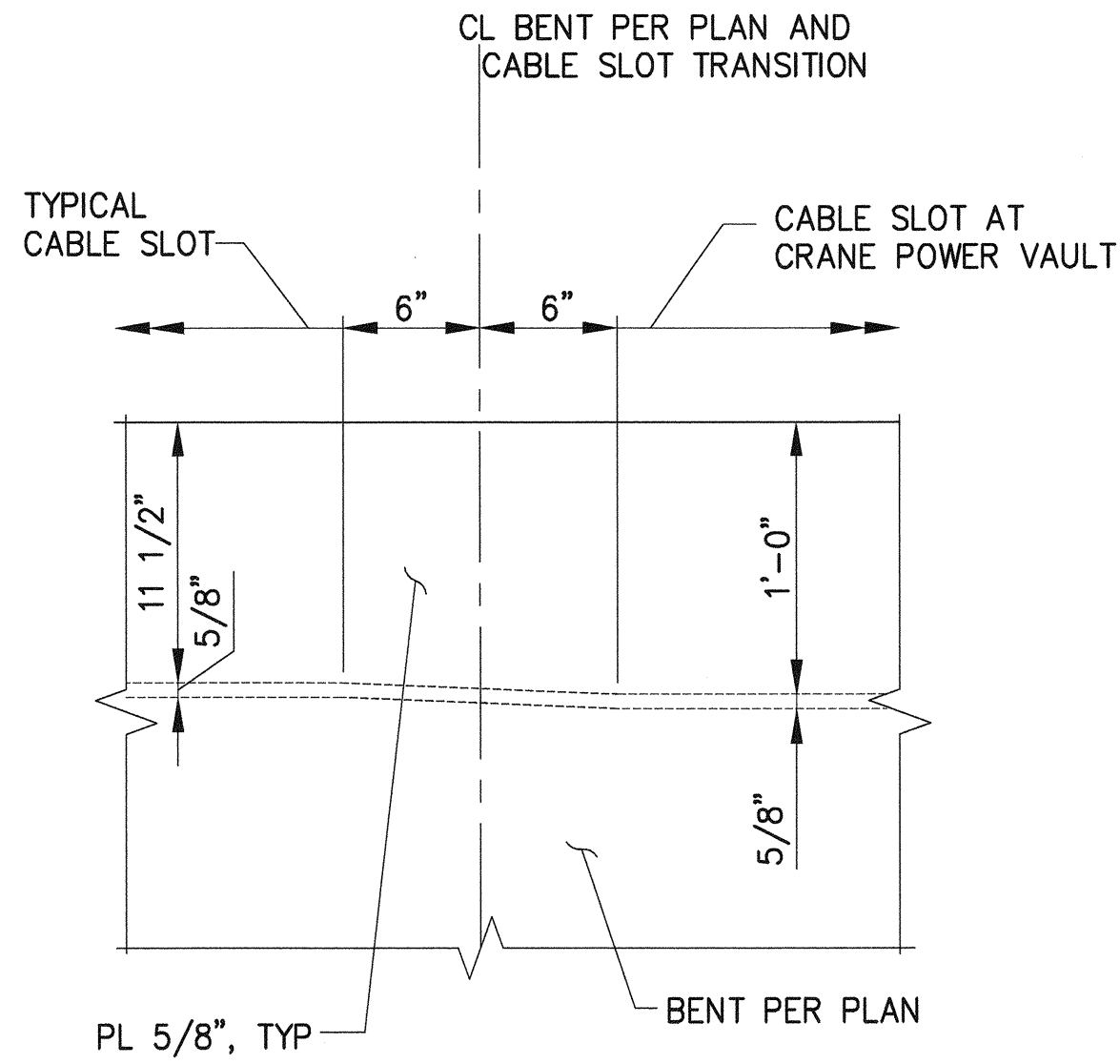




A SECTION- CABLE SLOT TRANSITION
AT CRANE POWER VAULTS
S31.1 SCALE: 1/2"=1'-0"



2 DETAIL-CABLE SLOT TRANSITION
S31.1 SCALE: 3/4"=1'-0"



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

6552
S31.5
SH 361 OF 499

CONT/CONS: 070136
M. ID: 091251
PHASE: BID

**PIER 4 PHASE 2
RECONFIGURATION
CRANE POWER VAULT DETAILS - SHEET 5**

TOWNSHIP: 21N RANGE: 3E SECTION: 27
DAT-HRZ: WA83-SF VERT: MLLW 19.39 @ Tide 22 1933
PARCEL: DRAWING SCALE: AS NOTED

APPROVED:

David Howard

SEK

CHECKED BY

TAH

DATE

3-28-16

PROJ. ENGR

DATE

DIRECTOR

ENG. DATE

Mar 24, 2016

PRINTED BY:

tiemoons

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837



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Port of Tacoma
P.O. BOX 187 TACOMA, WA 98401 (203)88-8841

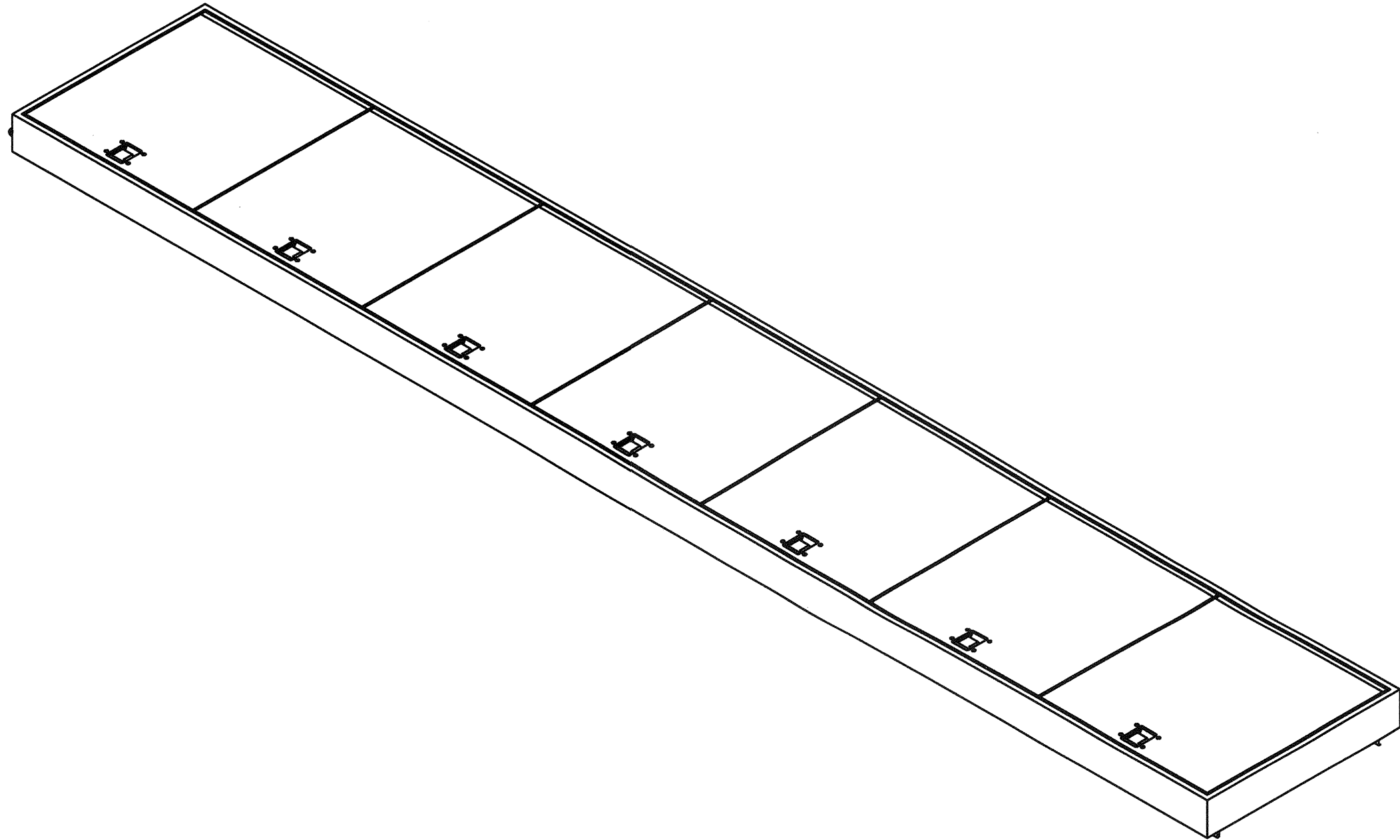
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BY:

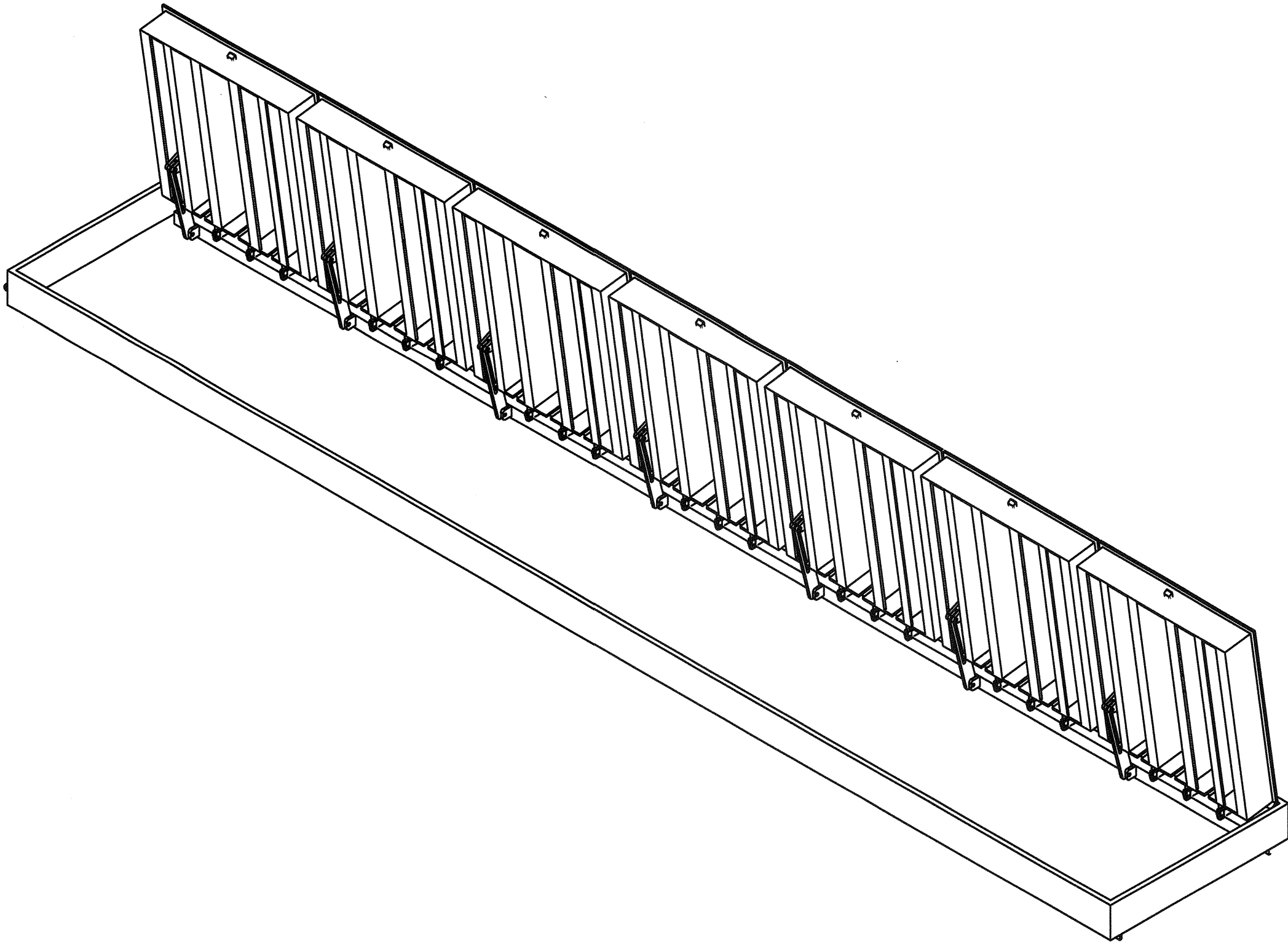
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MARK:

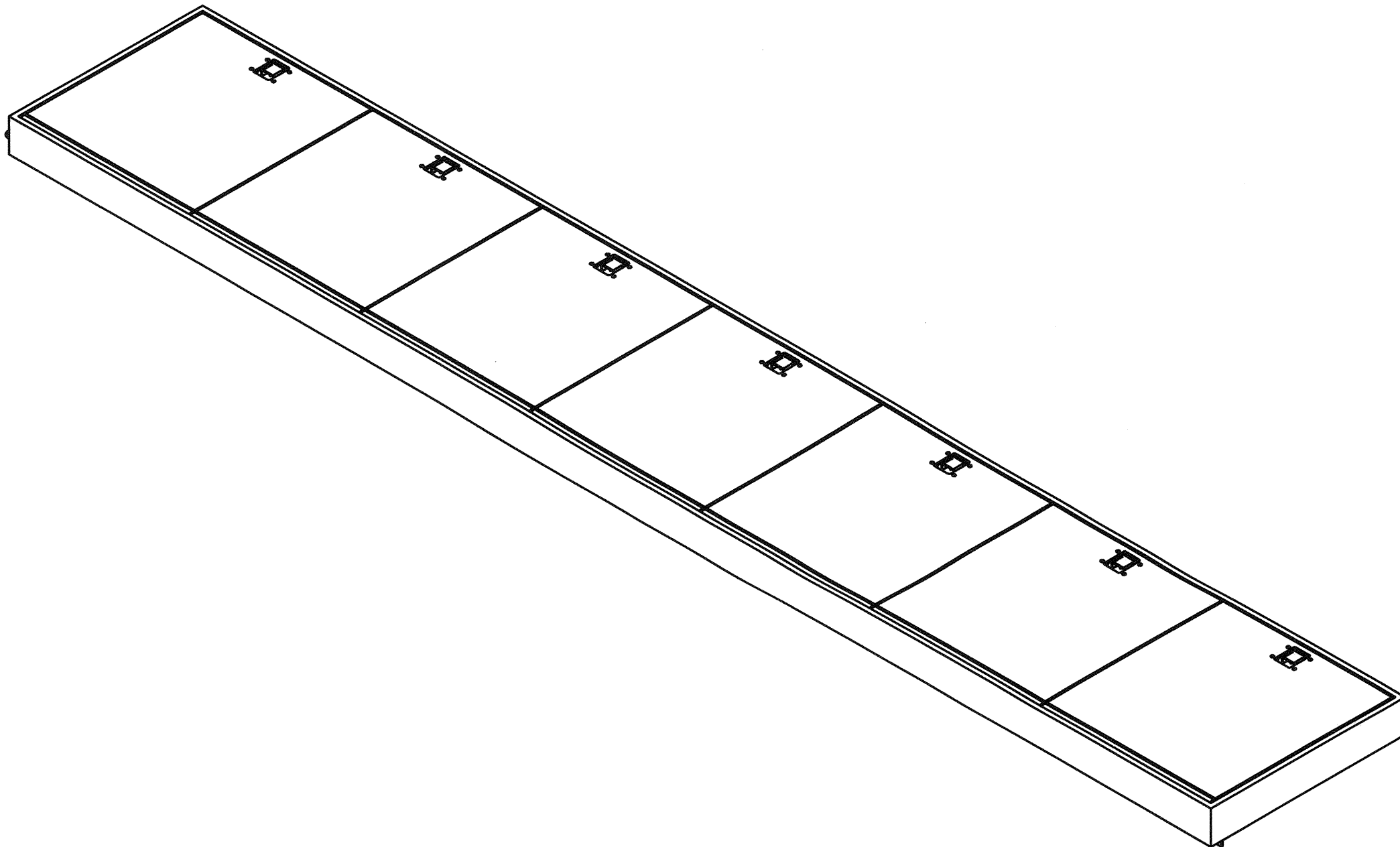
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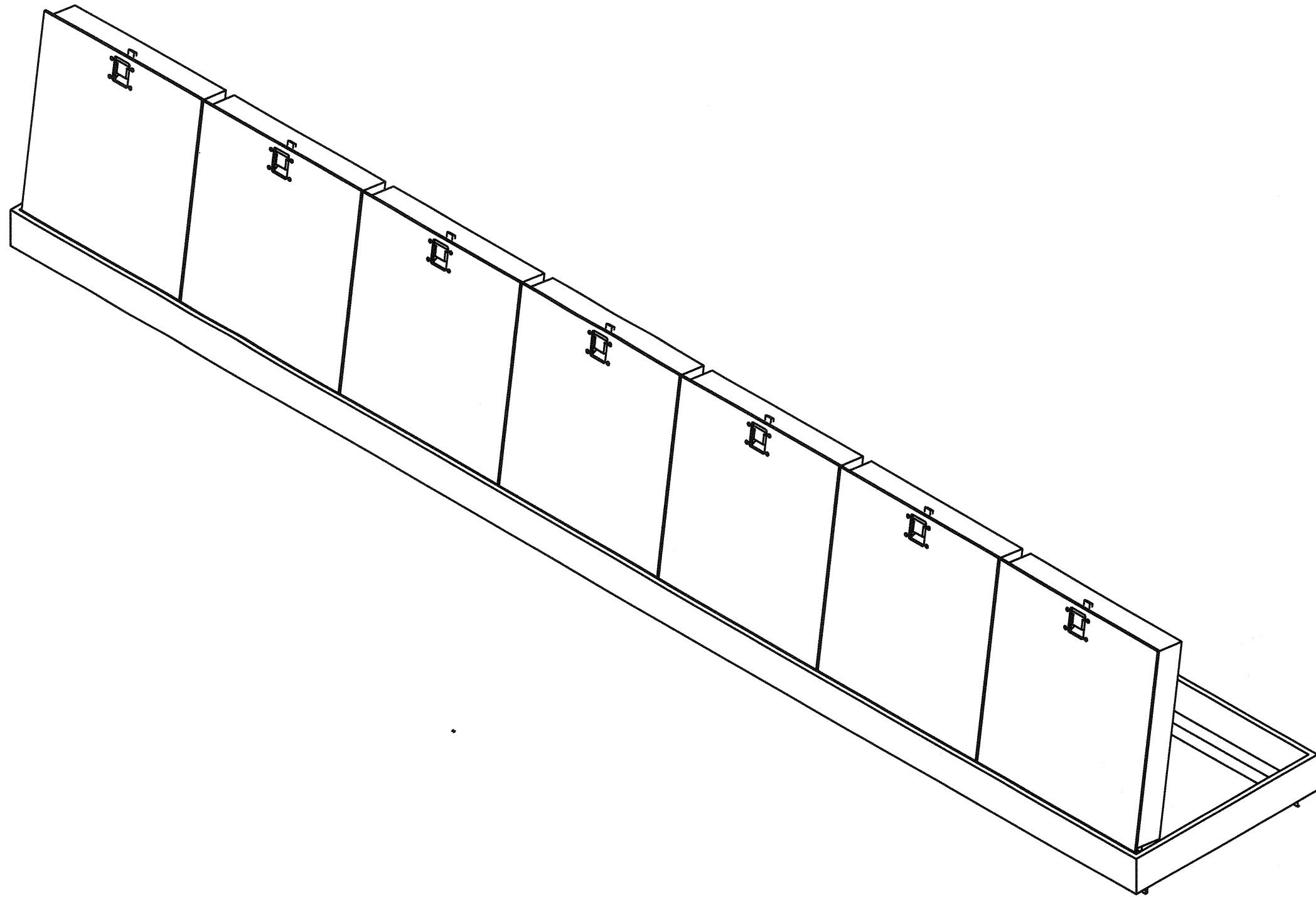
3
S31.1 NTS
**CRANE POWER VAULT LID
ASSEMBLY VIEW FROM LANDSIDE**



1
S31.1 NTS
**CRANE POWER VAULT LID
ASSEMBLY VIEW FROM LANDSIDE**



4
S31.1 NTS
**CRANE POWER VAULT LID
ASSEMBLY FROM WATERSIDE**



2
S31.1 NTS
**CRANE POWER VAULT LID
ASSEMBLY VIEW FROM WATERSIDE**

6552

S31.6

SH 362 OF 499

CONT/CONS: 070136

M. ID: 091251

PHASE: BID

PIER 4 PHASE 2

RECONFIGURATION

CRANE POWER VAULT DETAILS - SHEET 6

TOWNSHIP: 21N

RANGE: 3E

SECTION: 27

DATE-HRZ: WA83-SF

VERT: MLLW 19.39' @ Tide 22 1933

PARCEL: DRAWING SCALE: AS NOTED

APPROVED:

[Signature]

3-28-16

DIRECTOR

ENG. DATE

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Mar 24, 2016

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

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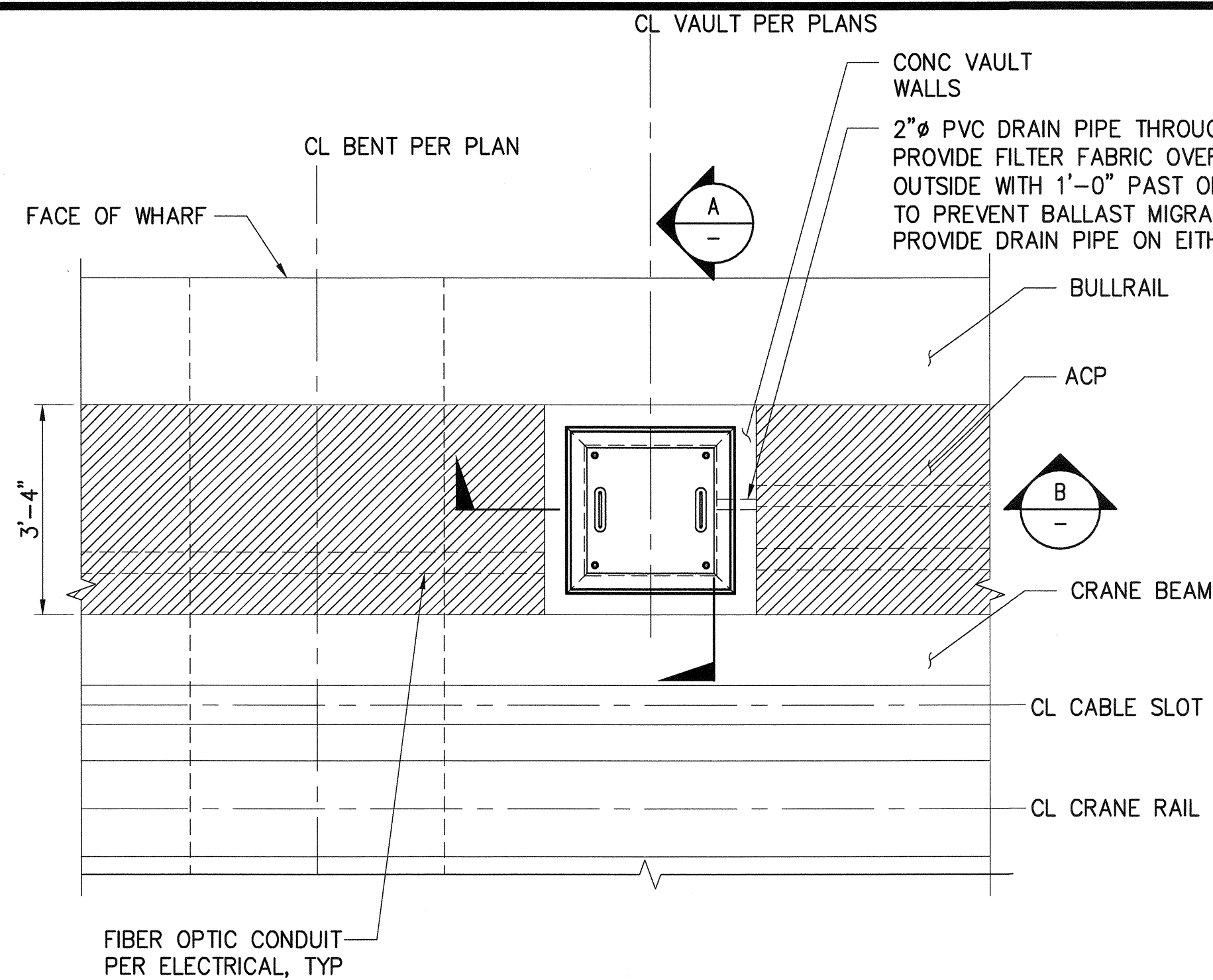
kpff

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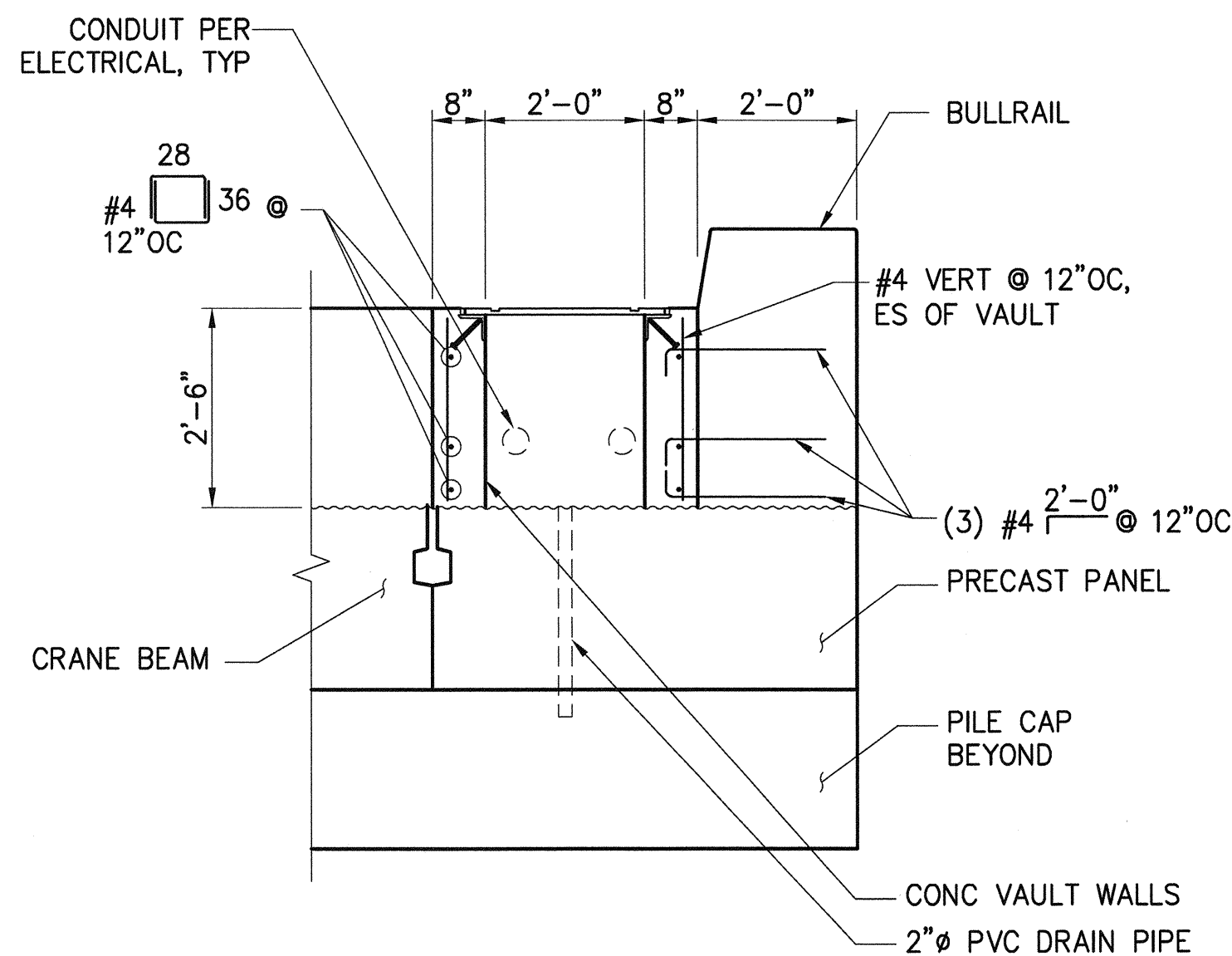
FIBER OPTIC VAULT PARTIAL PLAN

S3.1, S3.2, S5.1

1/2"=1'-0"

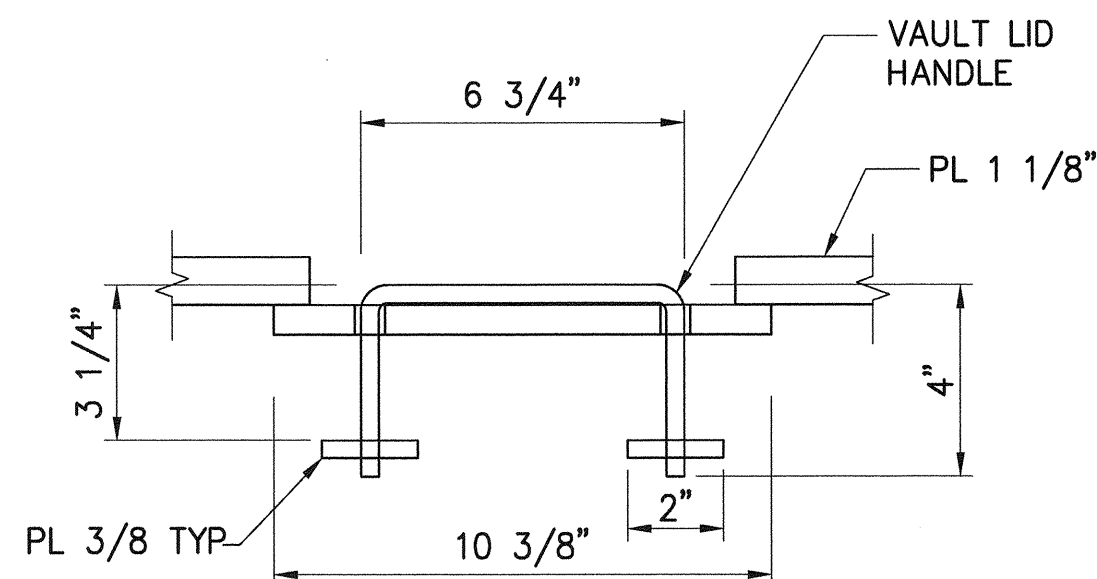
NOTE:

PAINT DESIGNATOR SIGN - "FIBER OPTIC" ON TOP OF LID. USE HELVETICA FONT 4" TALL TEXT. SEE SPECIFICATIONS FOR COLOR.



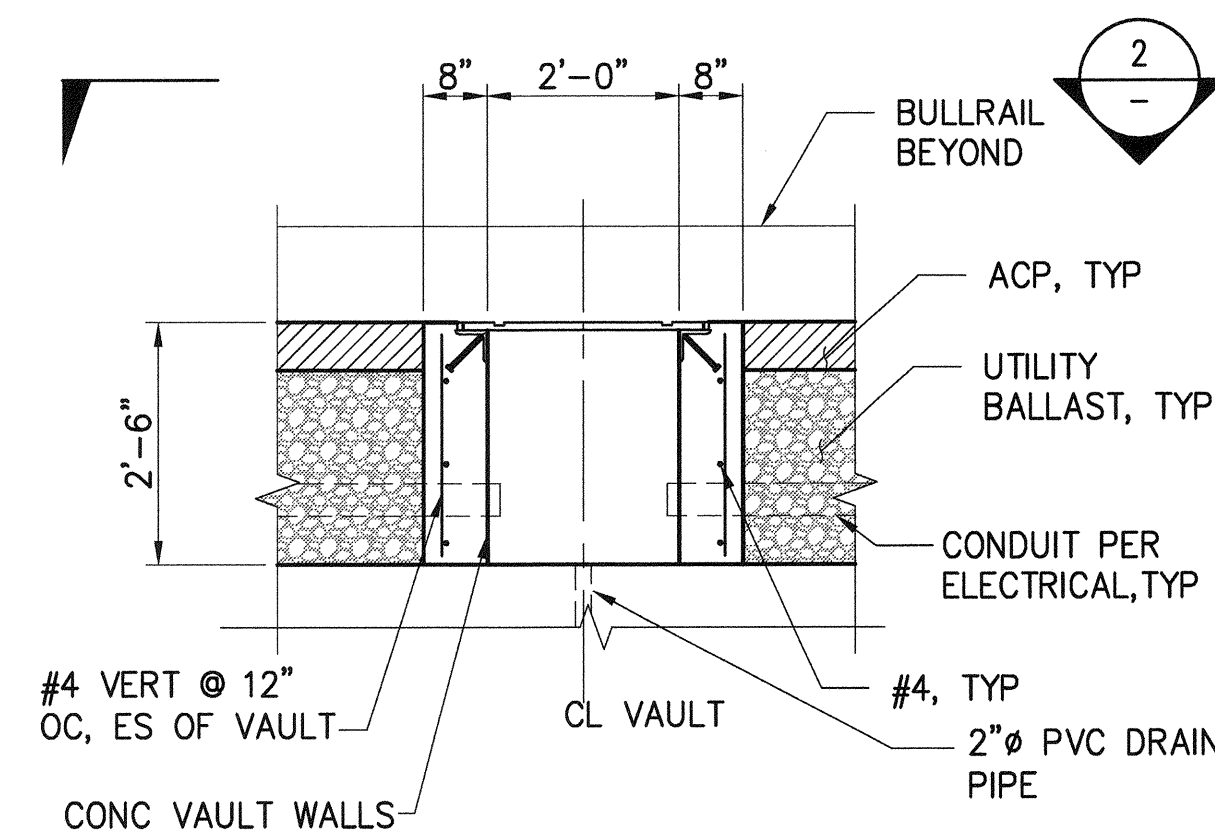
FIBER OPTIC VAULT SECTION

1/2"=1'-0"



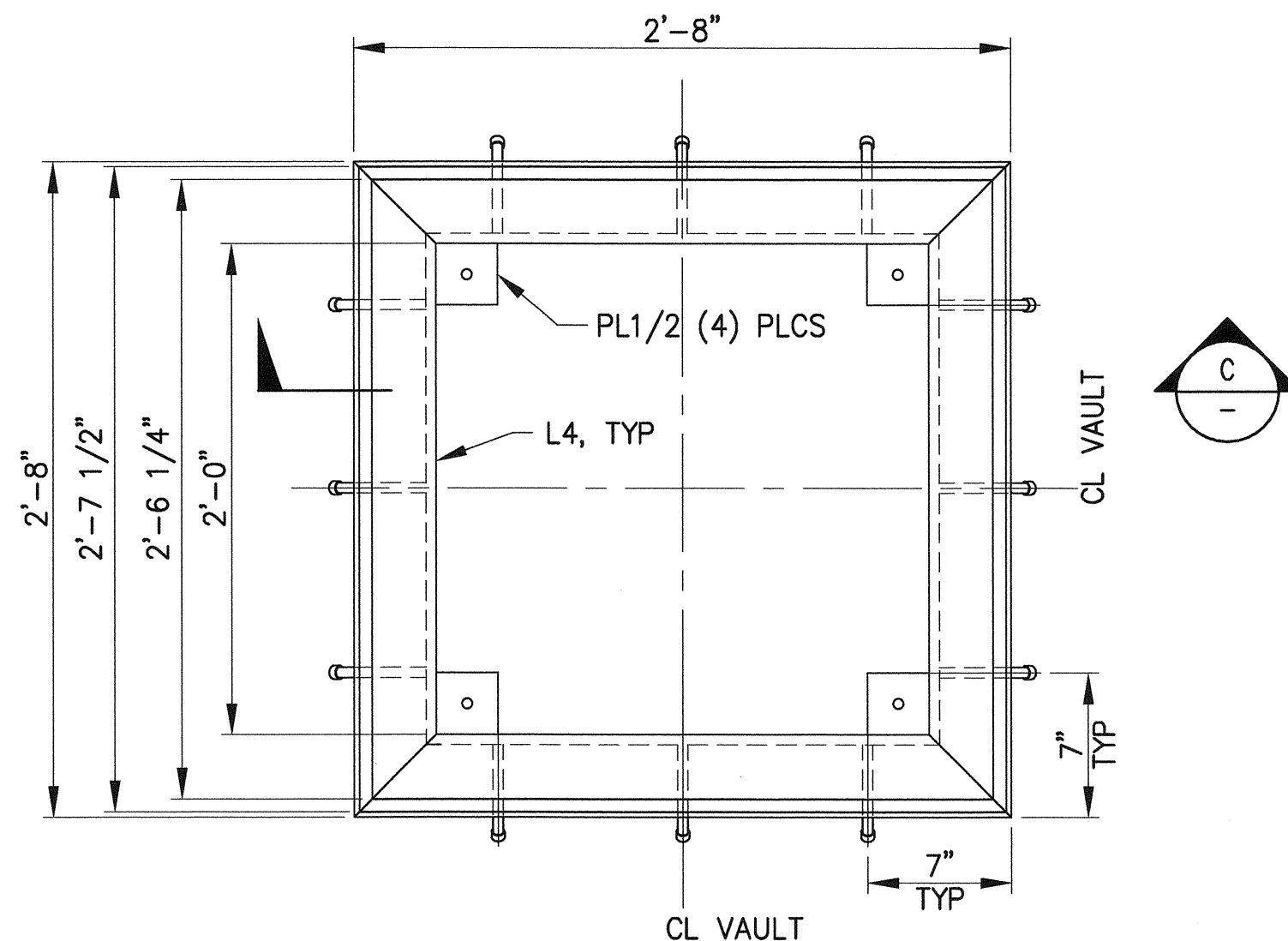
HANDLE DETAIL

3"=1'-0"



FIBER OPTIC VAULT SECTION

1/2"=1'-0"

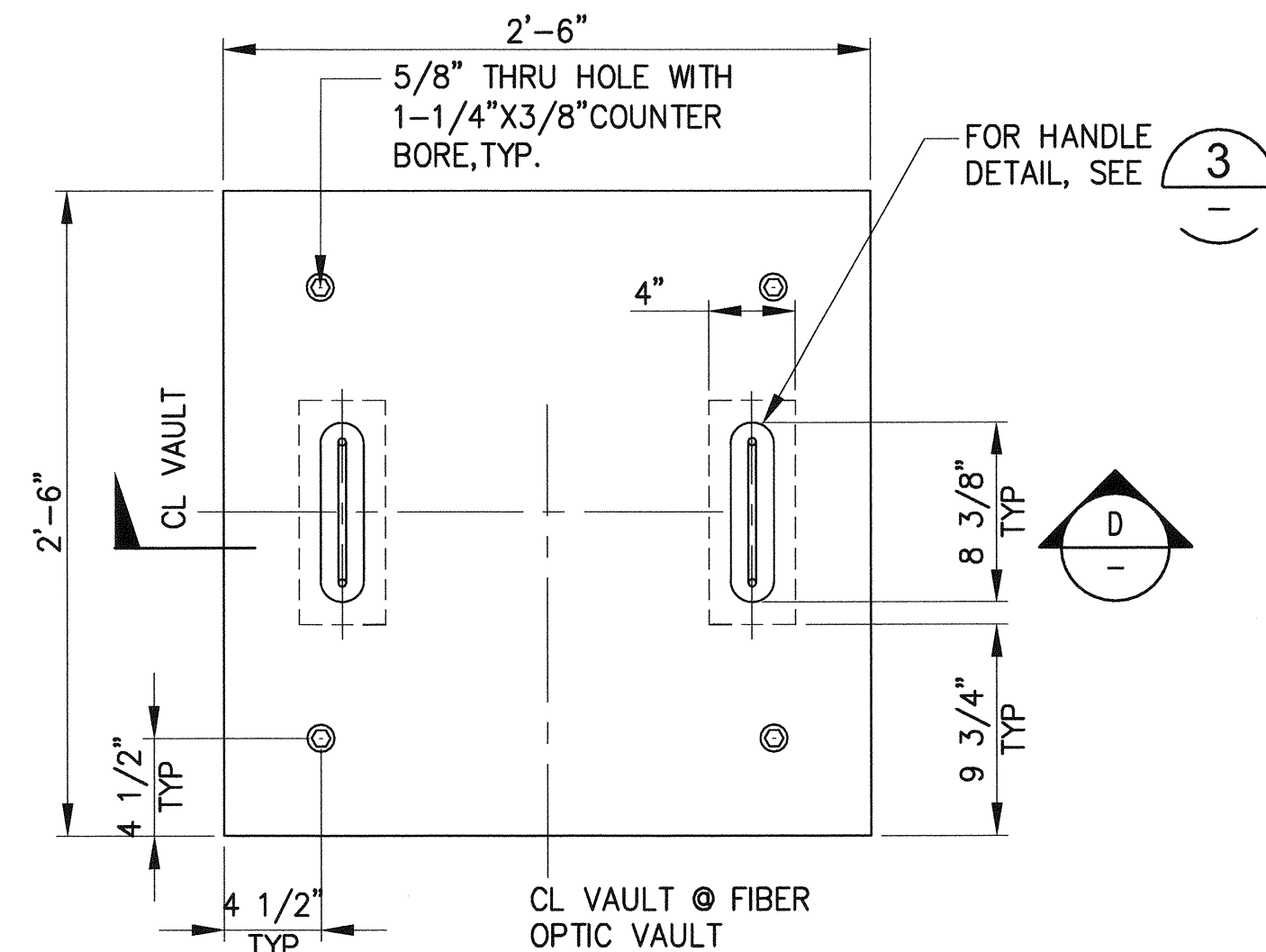


LID FRAMING

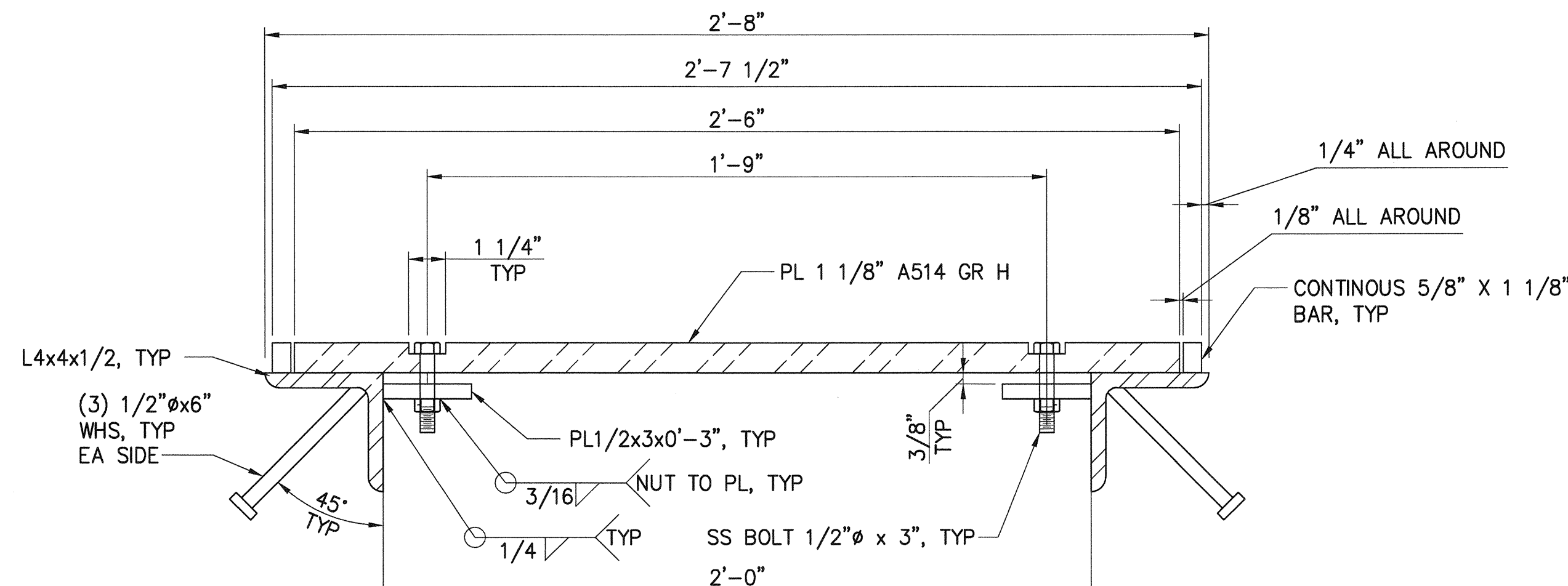
S29.1, S31.7

FIBER OPTIC VAULT LID DETAIL

1 1/2"=1'-0"



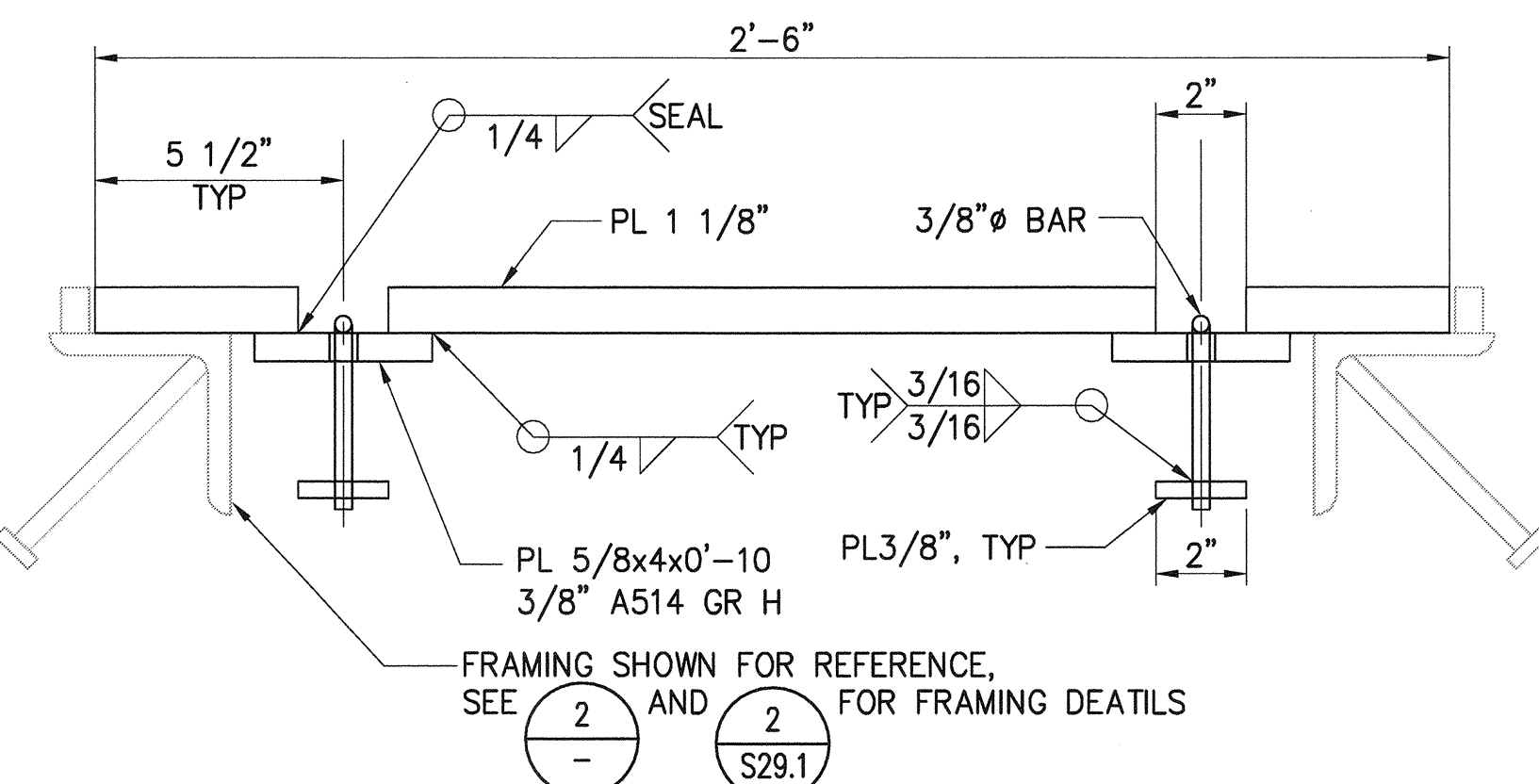
LID



FIBER OPTIC VAULT LID & FRAME SECTION

S29.1, S31.7

3"=1'-0"

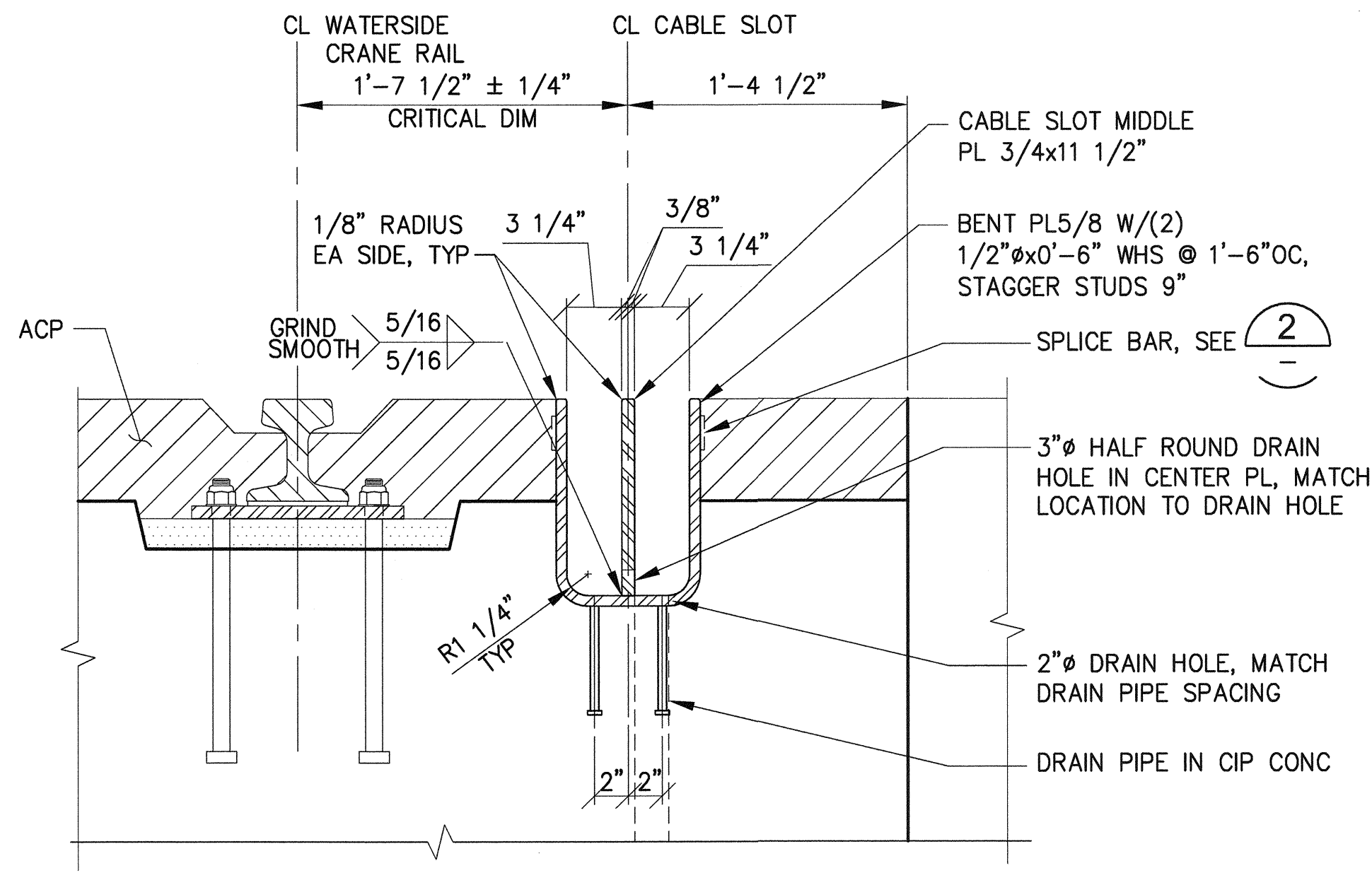


FIBER OPTIC VAULT LID SECTION

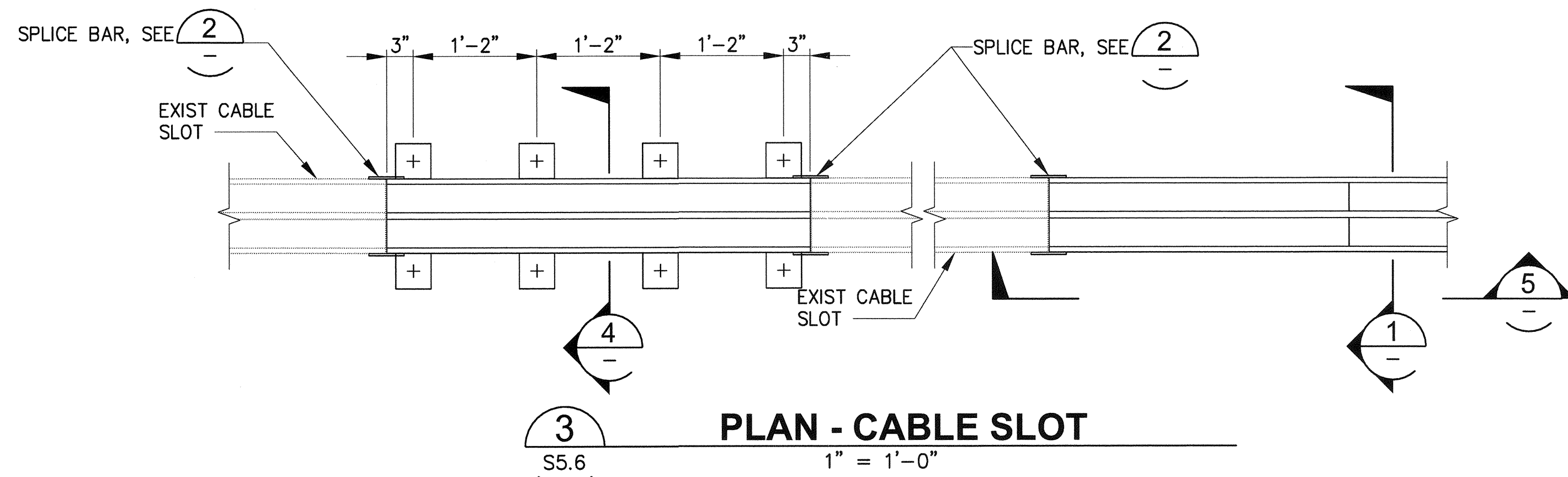
S29.1, S31.7

3"=1'-0"

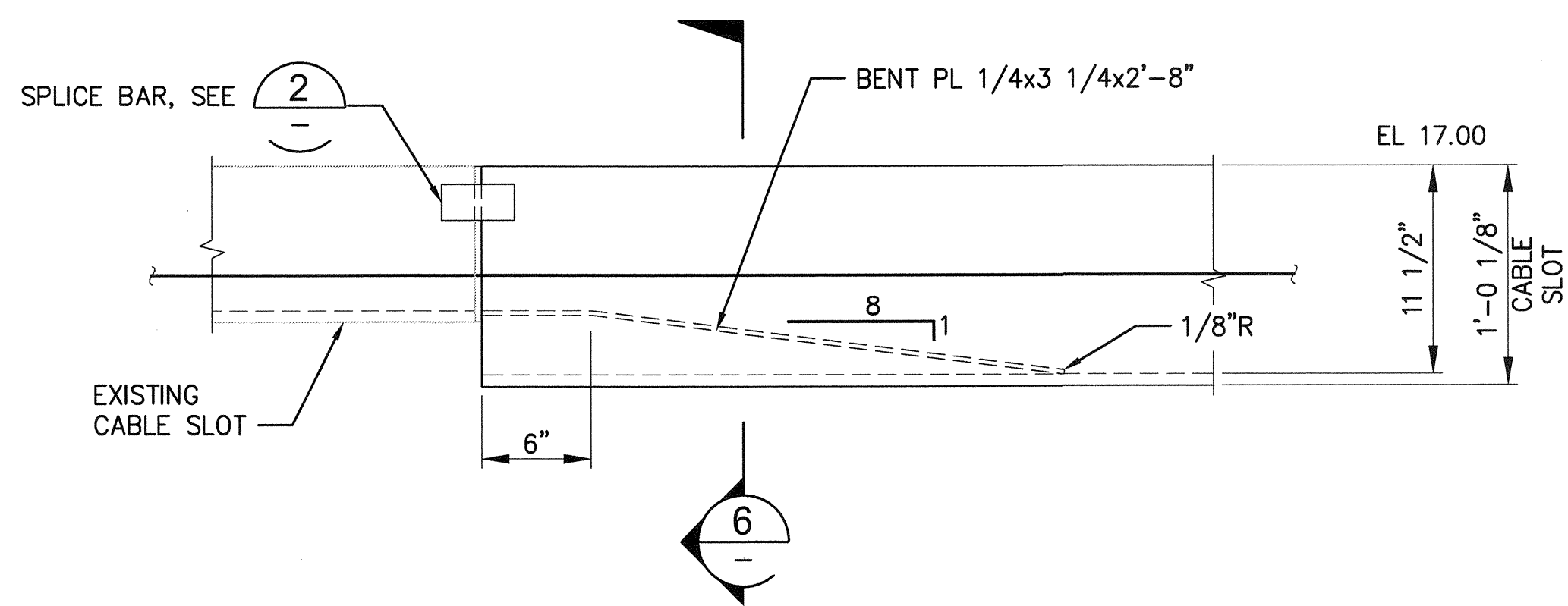
 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162	 253-396-0150		DATE: _____ APPR: _____ BY: _____ REVISION: _____ MARK: _____
	PIER 4 PHASE 2 RECONFIGURATION FIBER OPTIC VAULT DETAILS SECTION: 27 RANGE: 3E TOWNSHIP: 21N DAT-HRZ: WA83-SF M. ID: 091251 PHASE: BID DRAWING SCALE: AS NOTED PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837		
6552 S31.7 SH 363 OF 499		THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION	



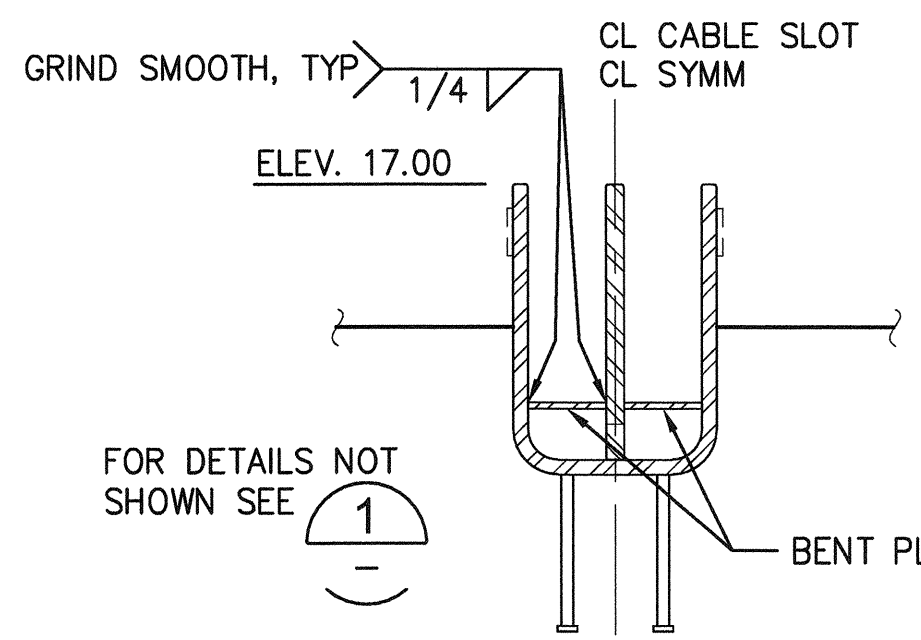
SECTION -
1 TYPICAL DUAL CABLE SLOT
S17.1, S17.2, S31.5 1 1/2" = 1'-0"



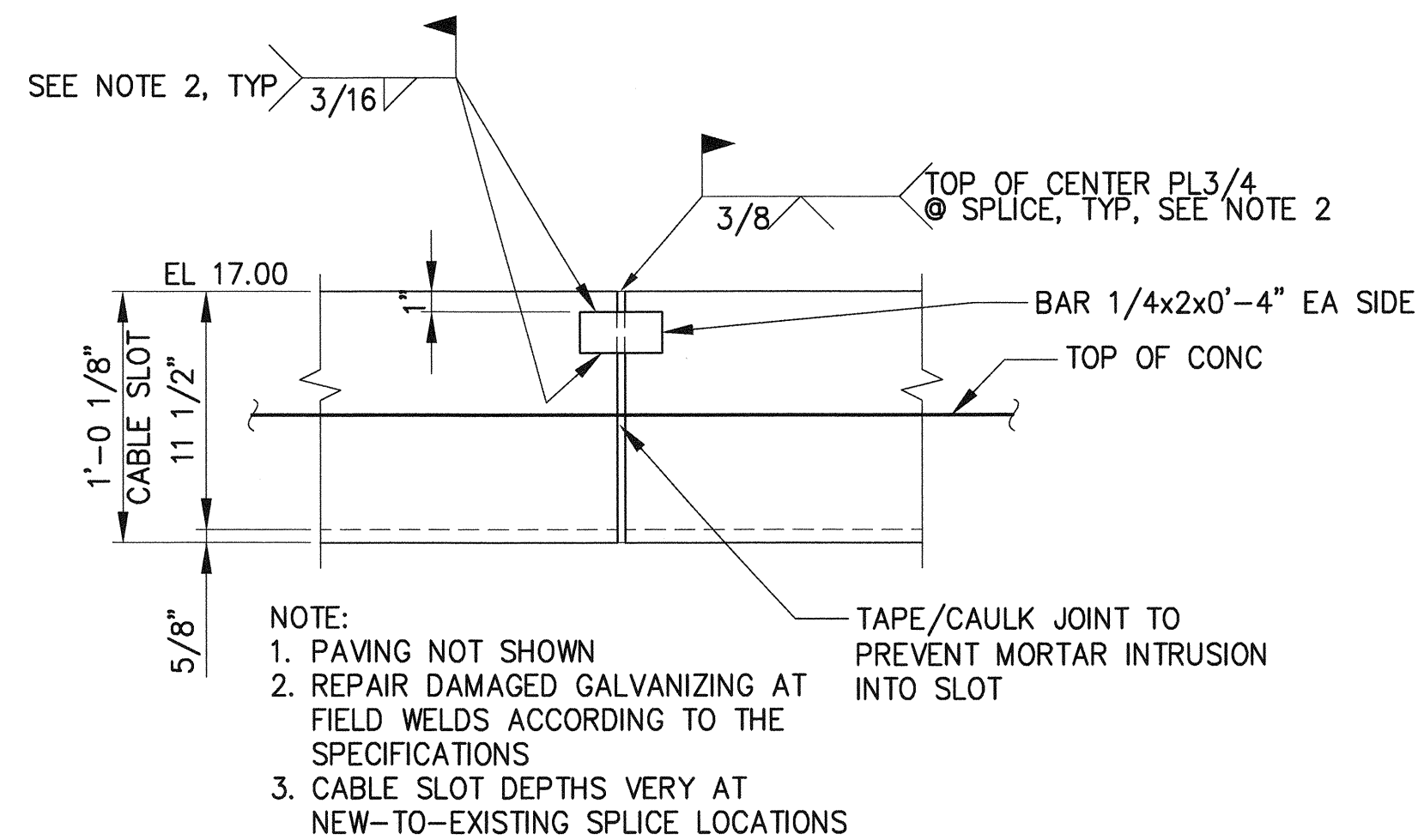
3 PLAN - CABLE SLOT
S5.6 1" = 1'-0"



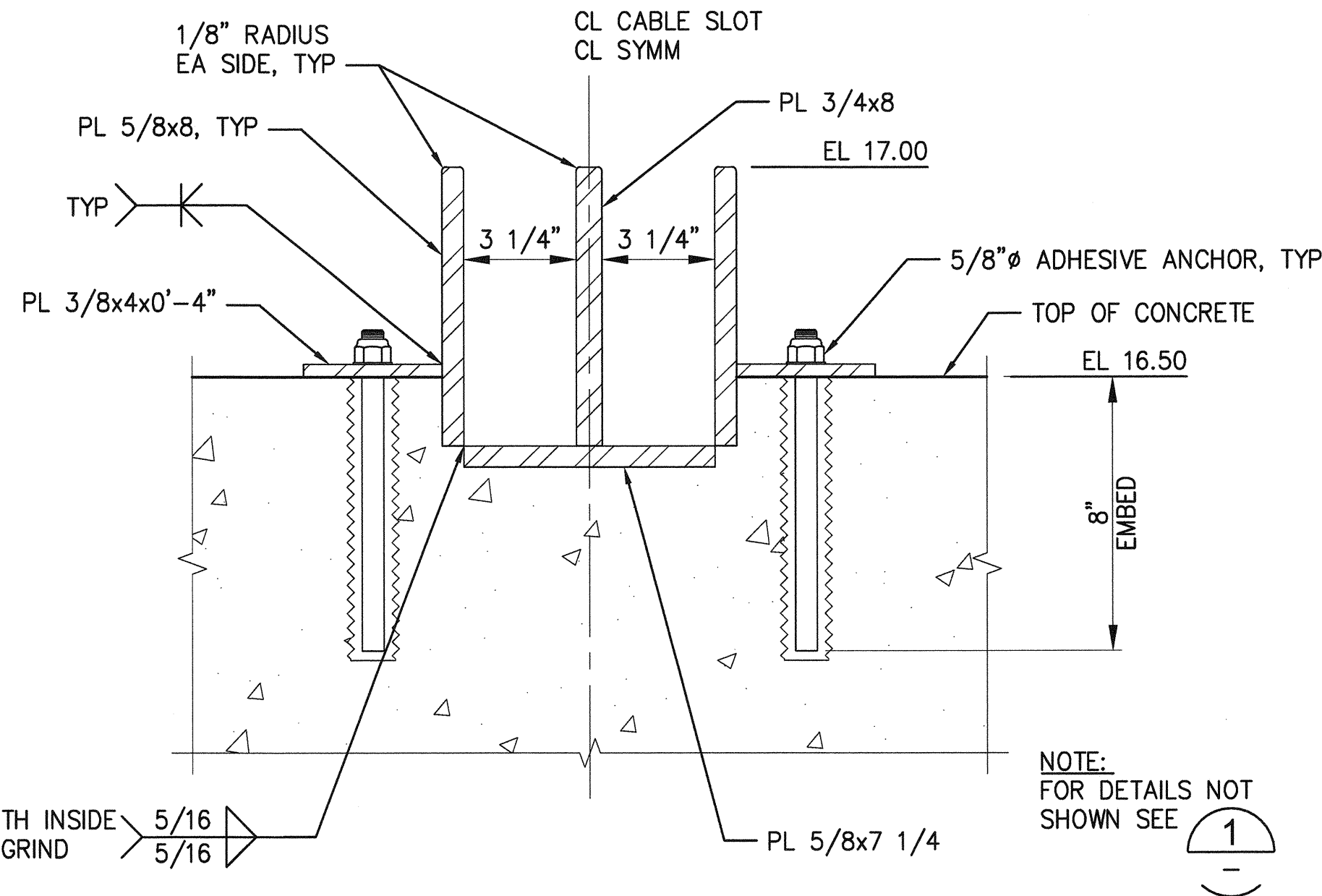
5 CABLE SLOT TRANSITION
1 1/2" = 1'-0"



6 SECTION
1 1/2" = 1'-0"



ELEVATION -
2 CABLE SLOT AT SPLICE
S21.3 1 1/2" = 1'-0"



SECTION -
4 BOLT DOWN CABLE SLOT
3" = 1'-0"

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SEAL
T. E. KUPFF
REGISTERED PROFESSIONAL ENGINEER
NO. 10000
EXPIRATION DATE 12/31/2016
TACOMA, WA 98401-1837

DATE: _____
APPR: _____
BY: _____
REVISION: _____

PIER 4 PHASE 2 RECONFIGURATION CRANE CABLE SLOT DETAILS

APPROVED: *[Signature]*
3-28-16

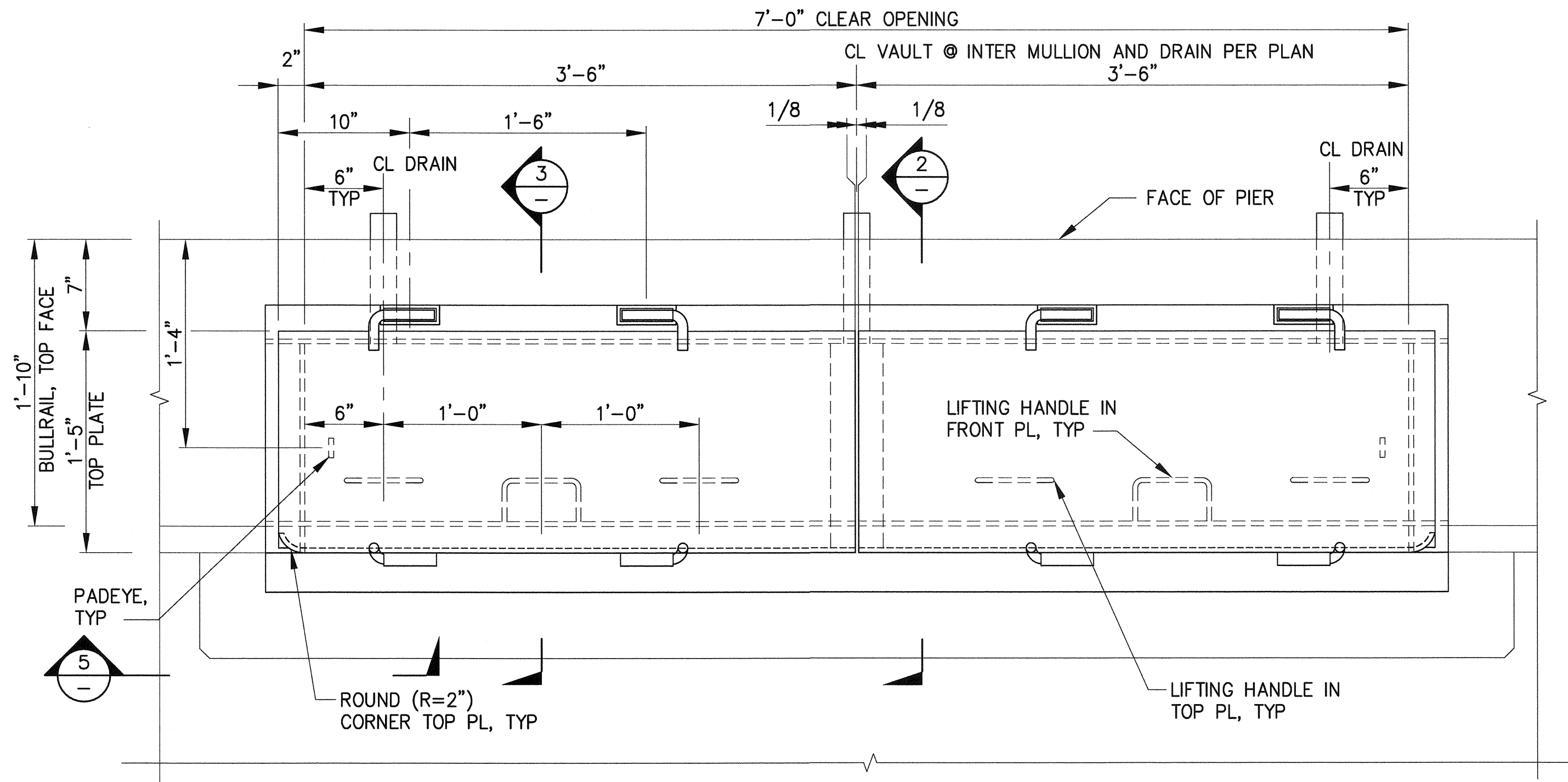
DIRECTOR ENG. DATE: 3-28-16
PRINTED BY: tlemmons Mar 24, 2016
PORT ADDRESS: ONE SITCUM PLAZA
TACOMA, WA 98401-1837

SEK: _____
CHECKED BY: _____
DATE: _____
TAH: _____
PROJ. ENGR. DATE: _____
DATE: _____
TOWNSHIP: 21N
RANGE: 3E
SECTION: 27
MILLW 19.39 @ Tide 22 1933
DAT-HRZ: WA83-SF
VERT: _____
DRAWING SCALE: AS NOTED
PARCEL: _____

6552 S32.1
SH 364 OF 499

CONT/CONS: 070136
M. ID: 091251
PHASE: BID

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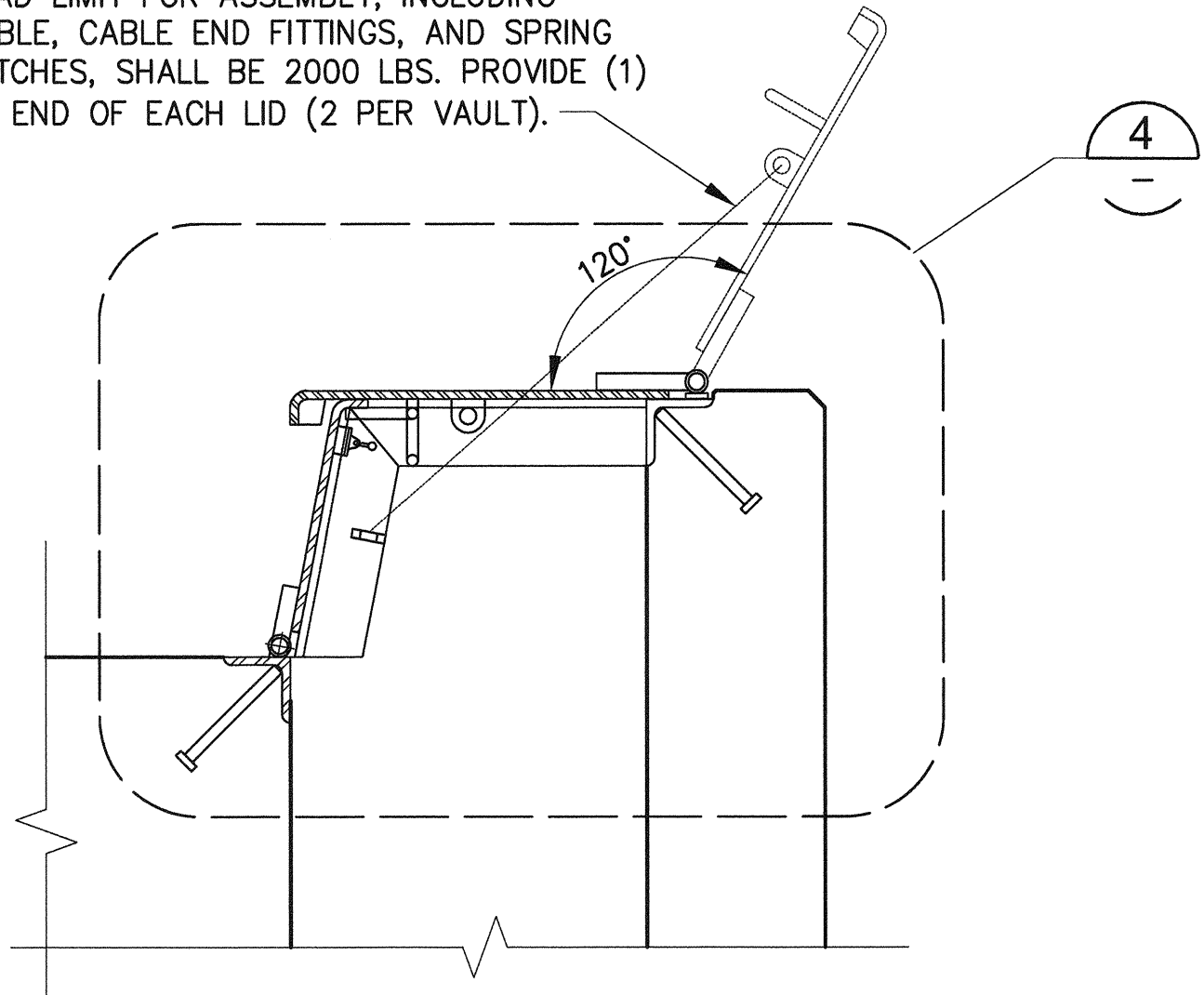
1 PLAN - UTILITY VAULT

S3.1, S3.2, S5.1, S18.1, S18.3 1 1/2"=1'-0"

NOTE:

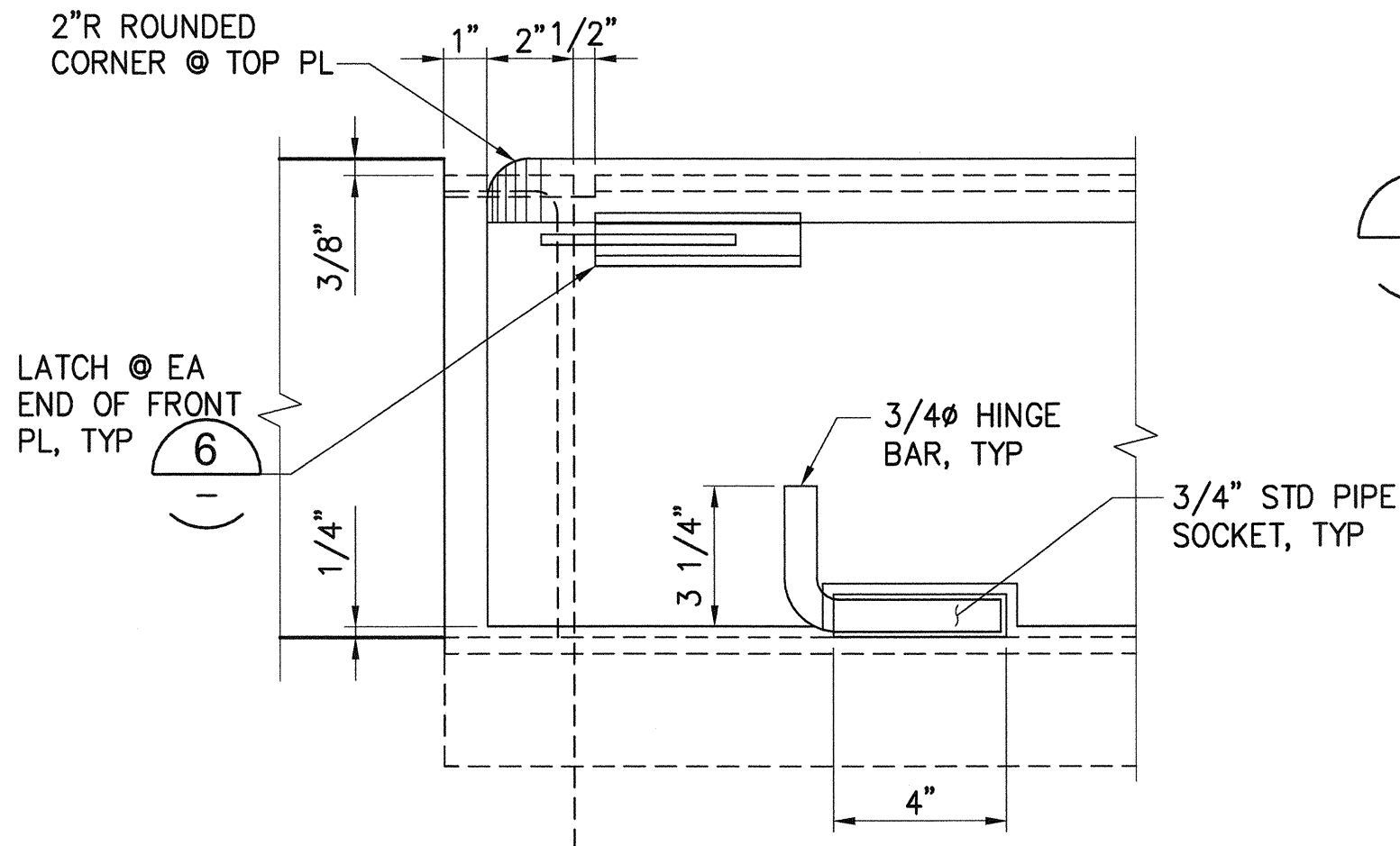
1. PAINT DESIGNATOR SIGNS - "WATER" & "ELECTRICAL" ON TOP OF RESPECTIVE VAULT LIDS USE HELVITICA FONT 4" TALL TEXT. SEE SPECIFICATIONS FOR COLOR.
2. CONTRACTOR SHALL VERIFY AND COORDINATE ALL PENETRATIONS PRIOR TO FABRICATION AND SHOW ON SHOP DWGS.
3. FOR TYPICAL REINFORCEMENT DETAILS AT UTILITY VAULTS, SEE 1 S25.1
4. FOR REINFORCEMENT DETAILS AT UTILITY VAULT AT LOCATIONS WITH TIE DOWN VAULTS, SEE 1 S25.1

GALV AIRCRAFT CABLE ASSEMBLY W/SPRING LATCH AT EACH END. MINIMUM WORKING LOAD LIMIT FOR ASSEMBLY, INCLUDING CABLE, CABLE END FITTINGS, AND SPRING LATCHES, SHALL BE 2000 LBS. PROVIDE (1) AT END OF EACH LID (2 PER VAULT).



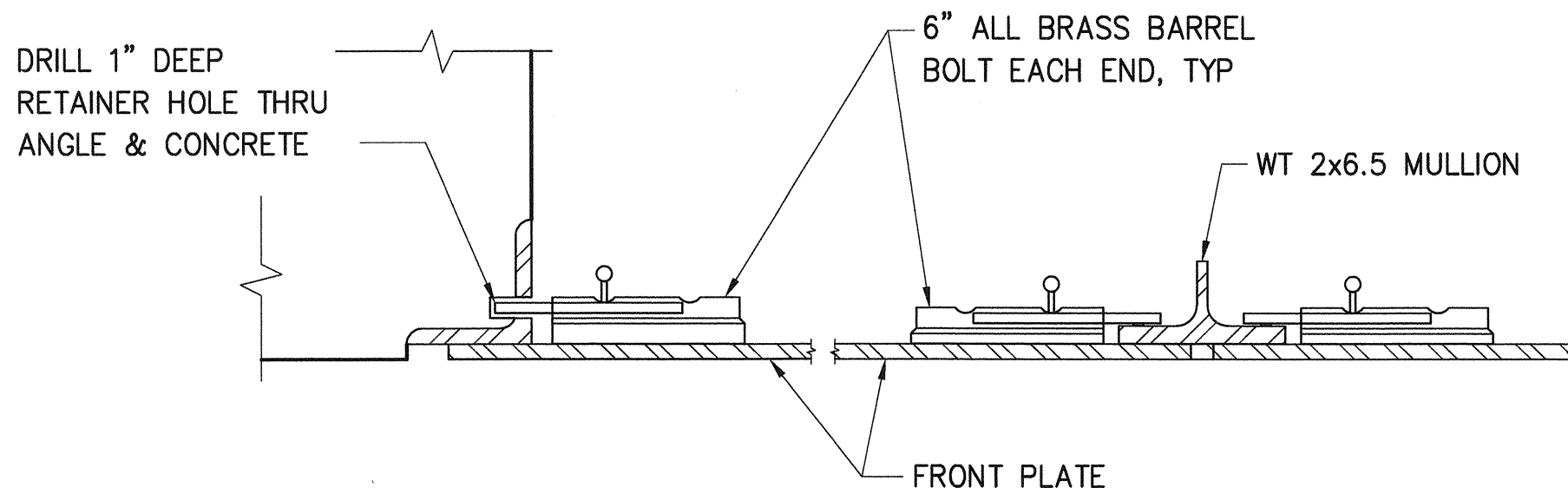
3 SECTION - UTILITY VAULT

1 1/2"=1'-0"



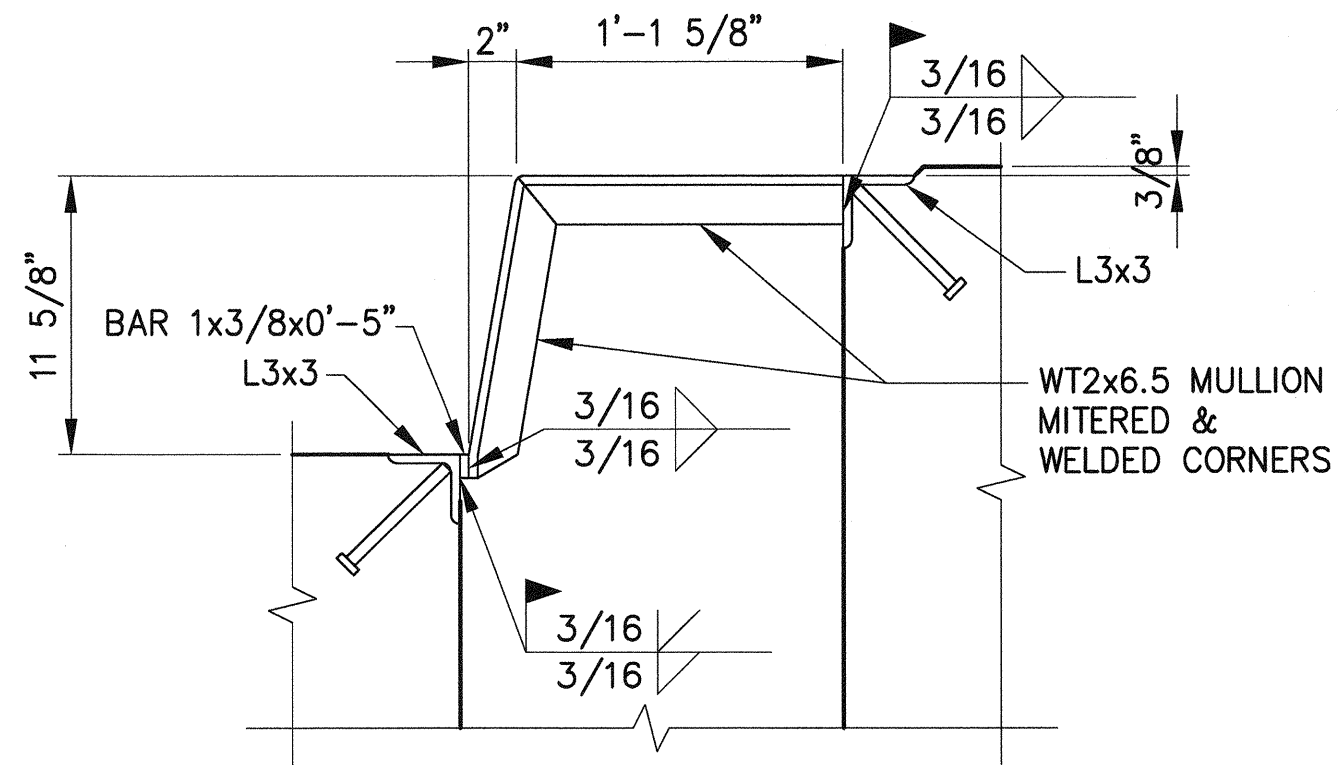
5 ELEVATION - FRONT PLATE

3"=1'-0"



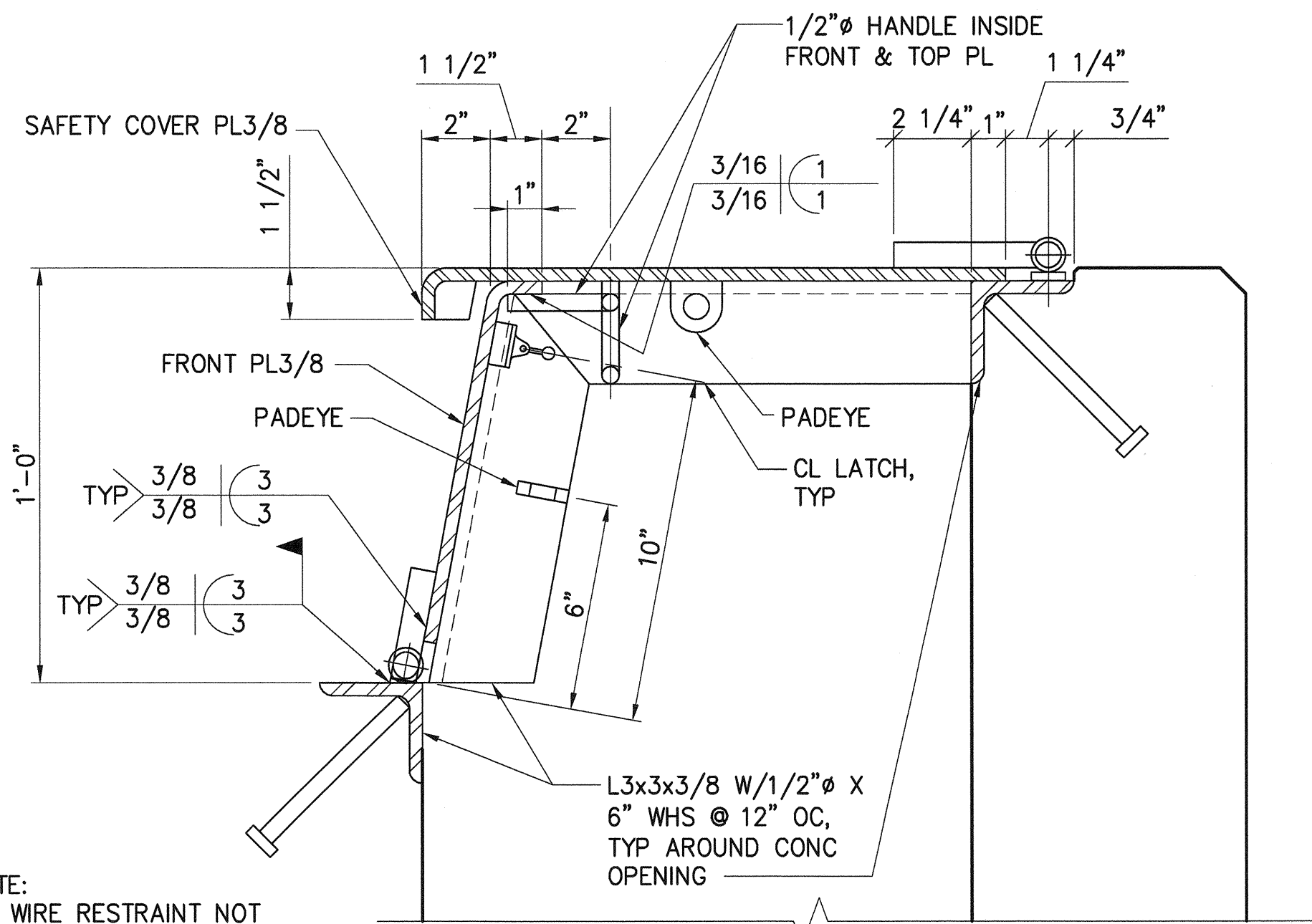
6 LATCH DETAIL

3"=1'-0"



2 SECTION - INTERMEDIATE MULLION

1 1/2"=1'-0"



4 DETAIL - UTILITY VAULT

3"=1'-0"



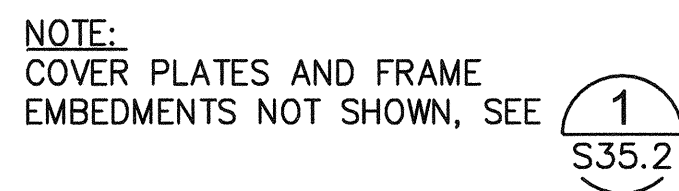
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	CHECKED BY DATE
3-28-16	TAH
DIRECTOR ENG. DATE	PROJ. ENGR DATE
3-28-16	3-28-16
PRINTED BY:	tdemons Mar 24, 2016
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TACOMA, WA	98401-1837

PIER 4 PHASE 2
RECONFIGURATION
BULLRAIL UTILITY VAULT DETAILS

6552
S33.1
SH 365 OF 499

CON/CONS:	070136
M. ID:	091251
PHASE:	BID

TOWNSHIP:	21N	RANGE:	3E	SECTION:	27
DAT-HRZ:	WA83-SF	VERT:	MLLW 19.39' @ Tide 22 1933		
PARCEL:		DRAWING SCALE:	AS NOTED		



13
20
30
37
48
55
61
68



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

1. THE TIE-DOWN SYSTEM ON THE CRANES SHALL BE DESIGNED TO EQUALIZE THE LOADS BETWEEN THE (2) TIE-DOWN ANCHORS AT EACH CORNER OF THE CRANE.



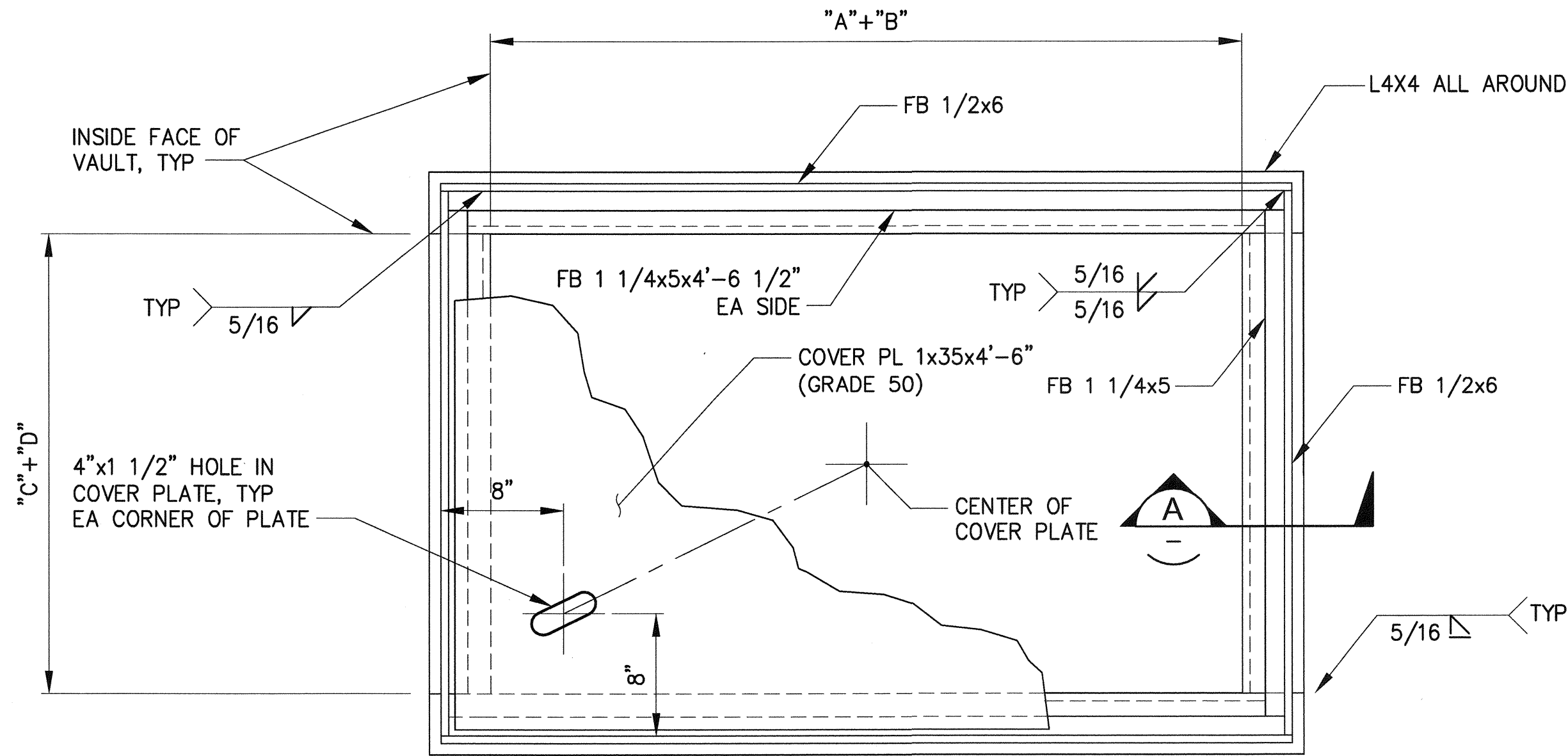
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6552
S35.1
SH 367 OF 499

SH 367 OF 499				DIRECTOR	ENG.	DATE	PROJ.	ENGR.	DATE
CONTRACT/CONS:	070136	TOWNSHIP:	21N	RANGE:	3E	SECTION:	27		
M. ID:	091251	DAT-HRZ:	WA83-SF	VERT:	MLLW 19.39' @ Tide 22 1933				
PHASE:	RID	DRAWING	SCAL F:	AS NOTED					
		TACOMA, WA 98401-1837							

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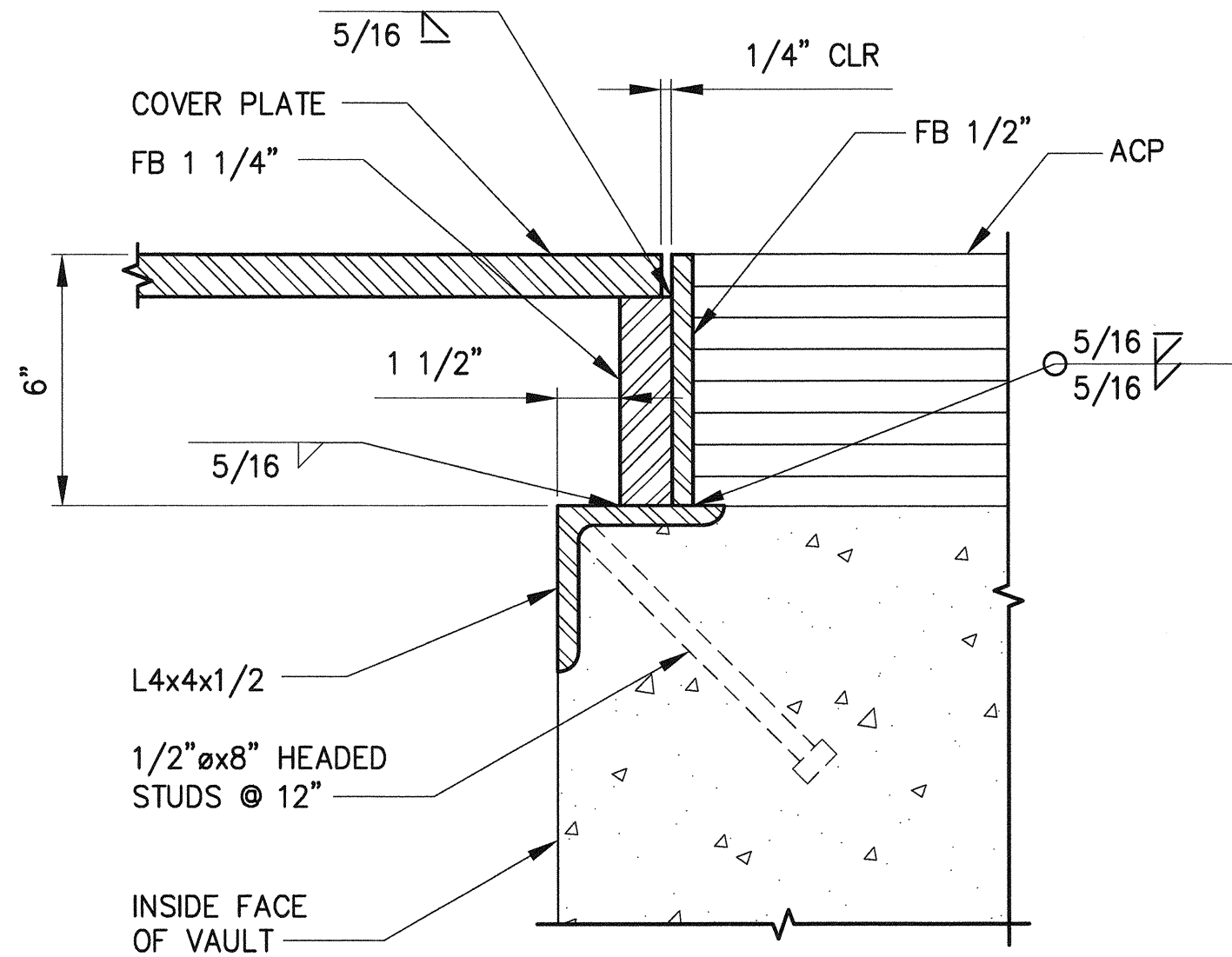
NOTE:

SEE S35.1 FOR "A", "B", "C" AND "D" DIMENSIONS

**PLAN - TIE-DOWN
VAULT FRAME**

1
S35.1

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



**SECTION -
COVER PLATE SUPPORT**

A
-

3"=1'-0"

6552
S35.2
SH 368 OF 499

CONT/CONS: 070136
M. ID: 091251
PHASE: BID

**PIER 4 PHASE 2
RECONFIGURATION
CRANE TIE-DOWN DETAILS - SHEET 2**

TOWNSHIP: 21N
RANGE: 3E
SECTION: 27
DATE-HRZ: WA83-SF
VERT: MLLW 19.39' @ Tide 22 1933
DRAWING SCALE: AS NOTED

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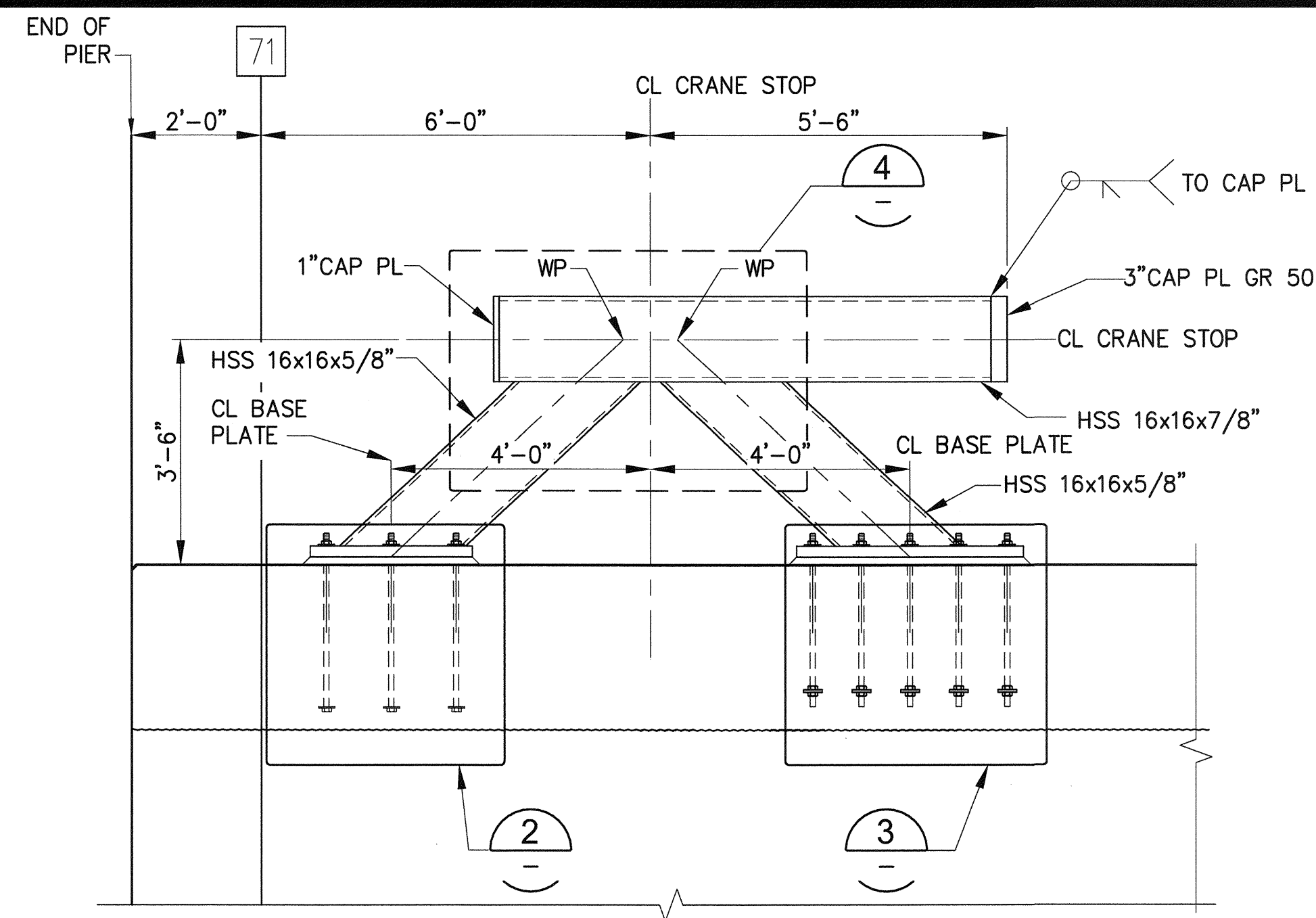
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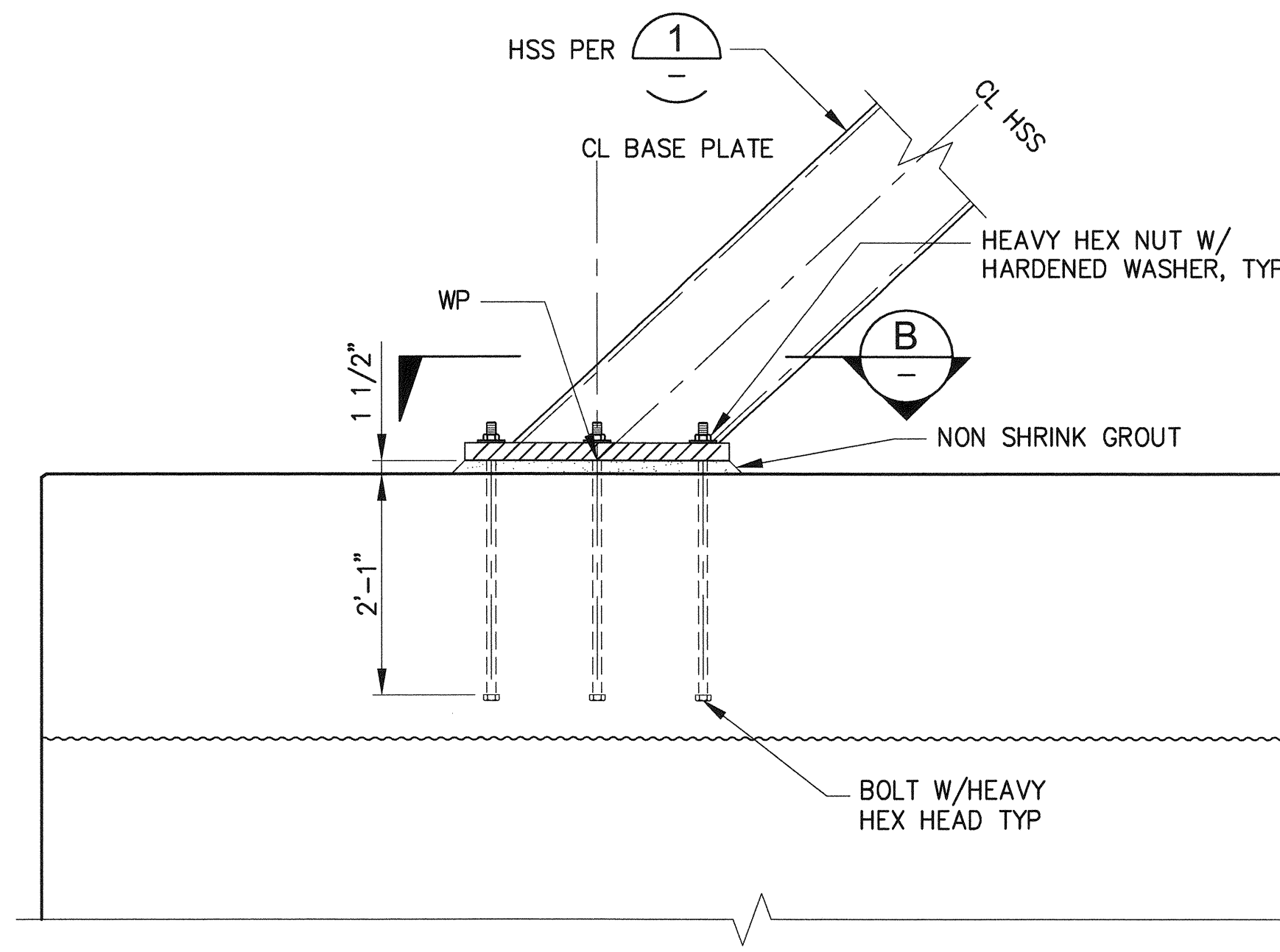
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P.O. BOX 1887 TACOMA, WA 98401 (253)395-5641

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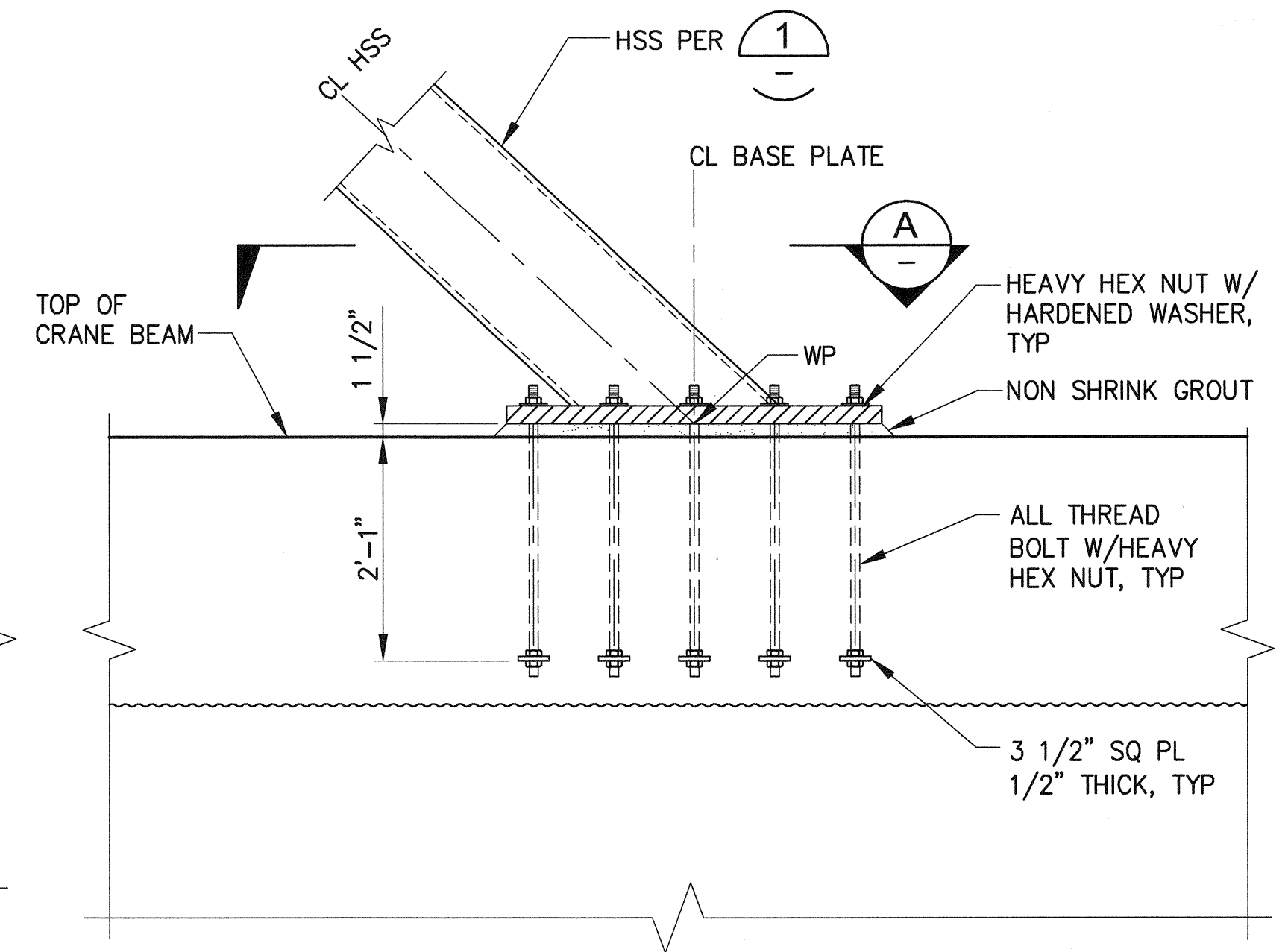


ELEVATION-CRANE STOPS LANDSIDE AND WATERSIDE

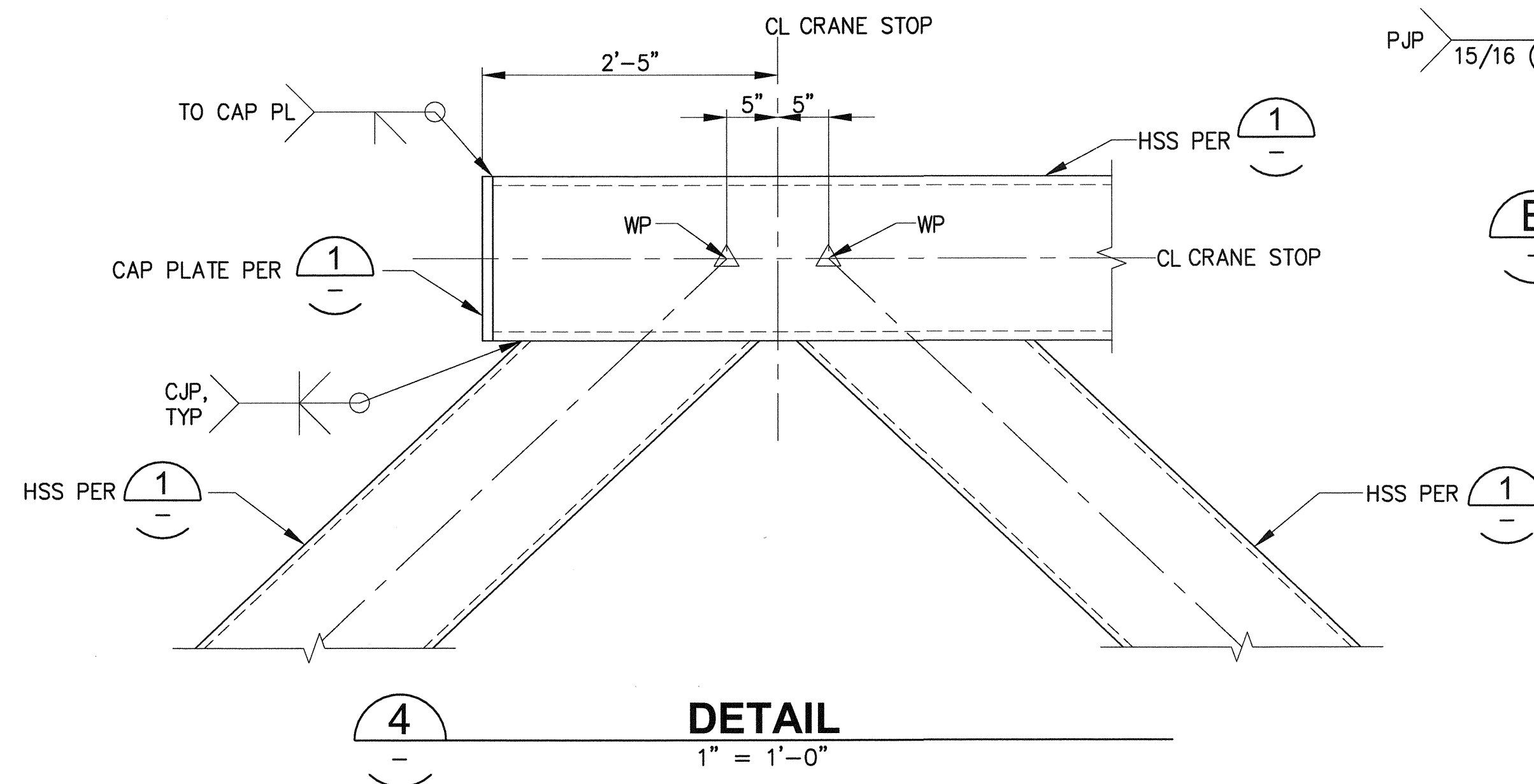
S5.1, S14.1, S16.1, S15.2, S27.45, S27.48 $1/2'' = 1'-0''$



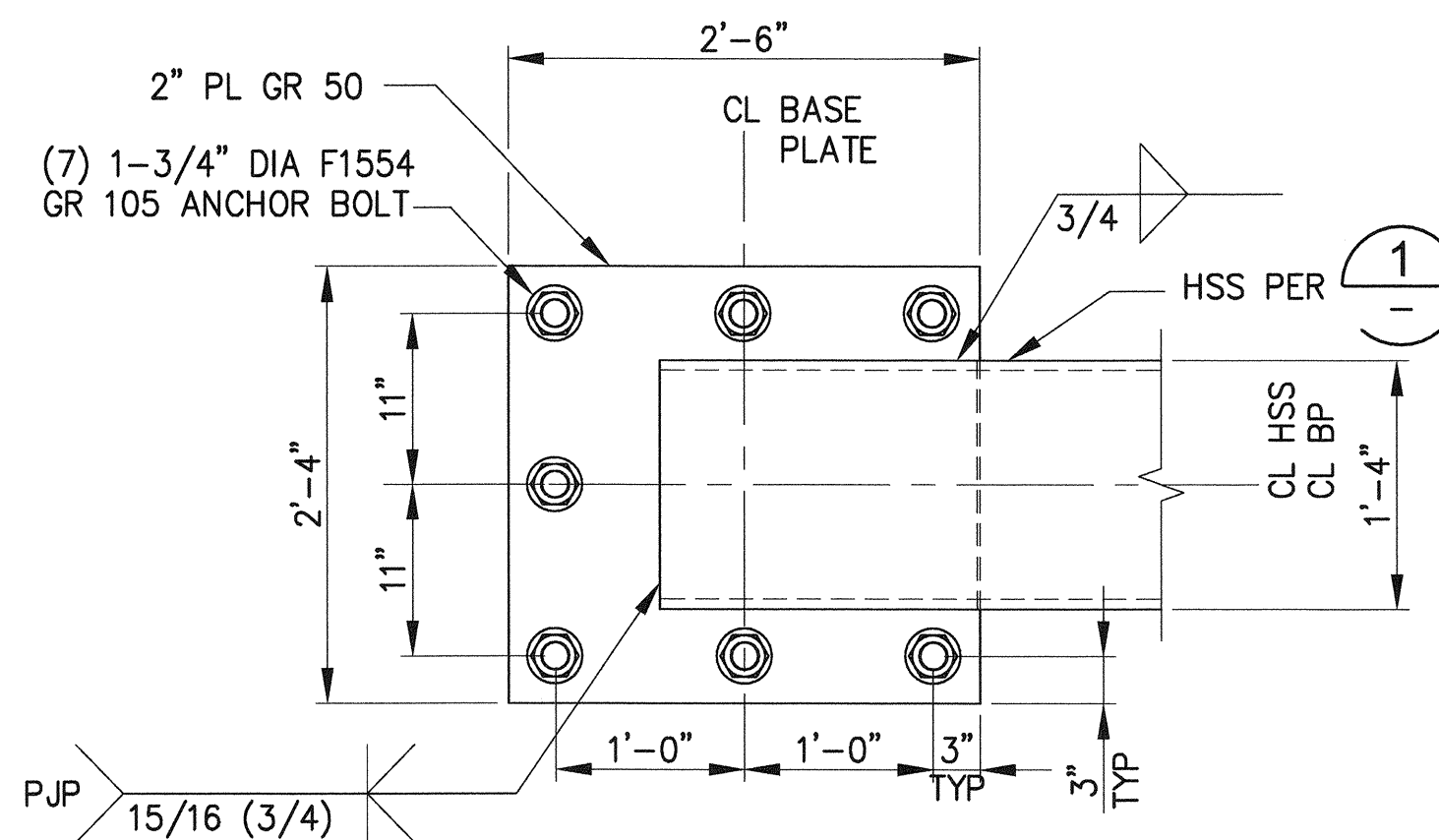
DETAIL- CRANE STOP BASE PLATE
2 ANCHORING- BACK POST

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


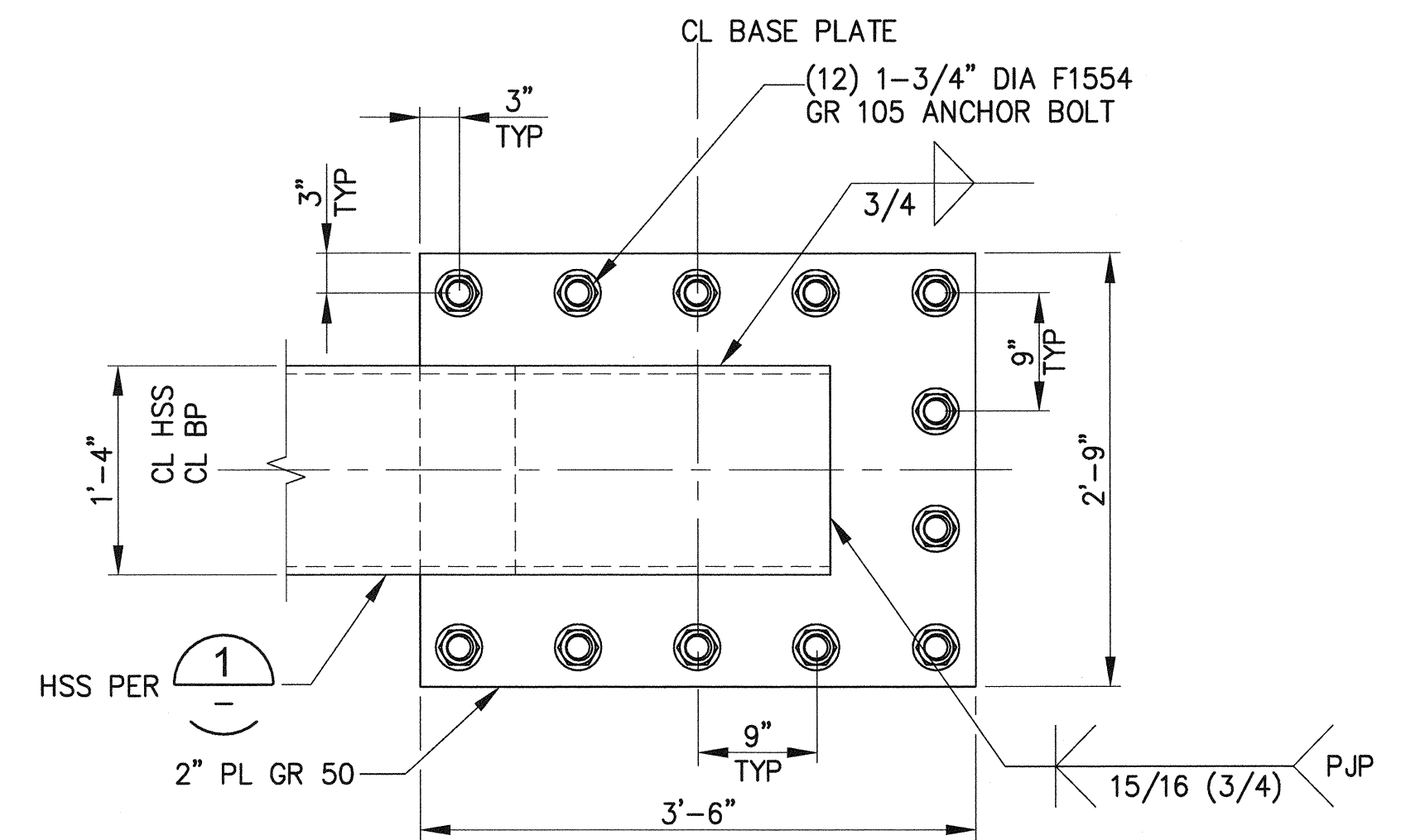
DETAIL- CRANE STOP BASE PLATE ANCHORING - FRONT POST

$$3/4" = 1'-0"$$


DETAIL
1" = 1'-0"

$$1'' = 1' - 0'$$


**SECTION- CRANE STOP
BASE PLATE- BACK POST**

$$1'' = 1' - 0''$$


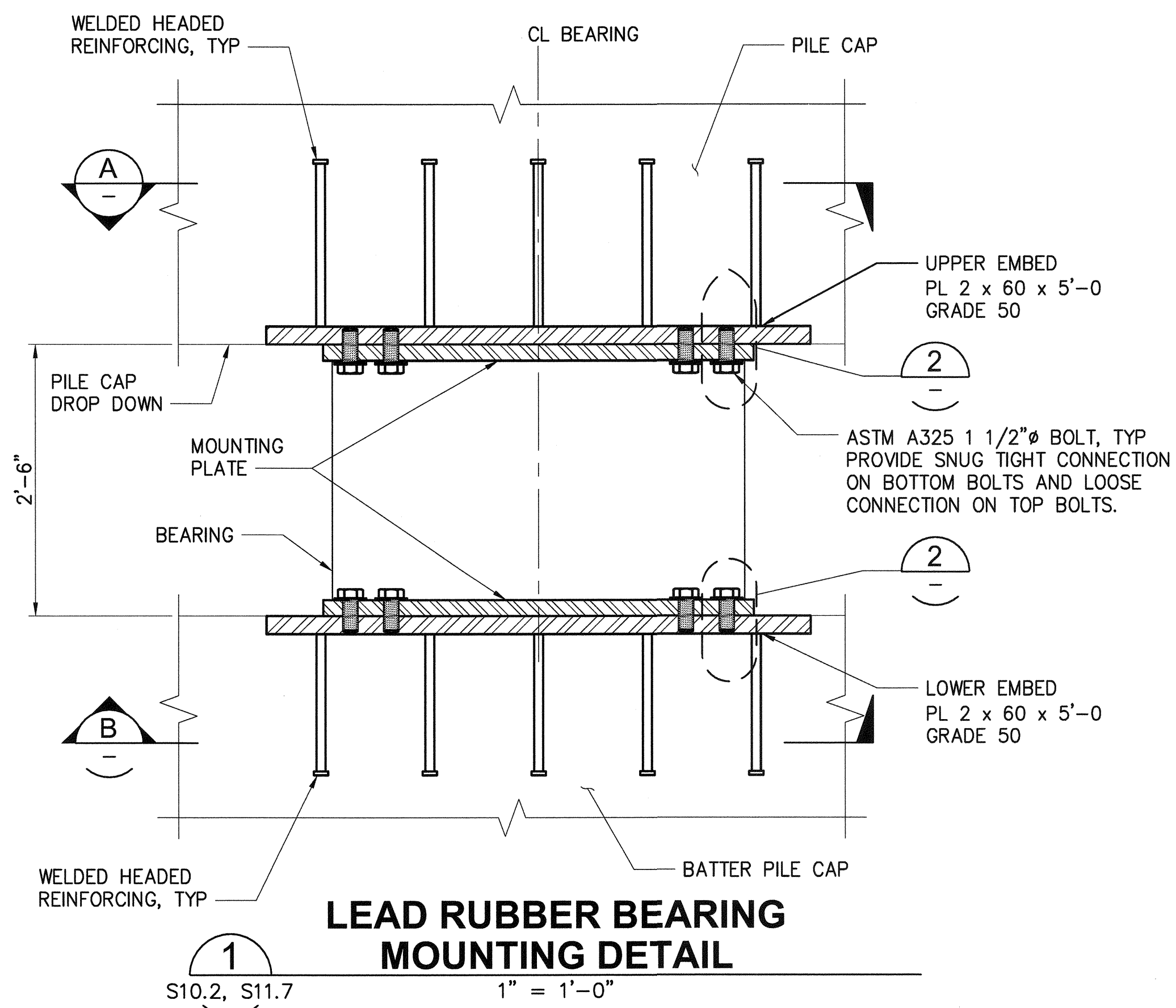
SECTION- CRANE STOP BASE PLATE- FRONT POST

$$1'' = 1' - 0''$$

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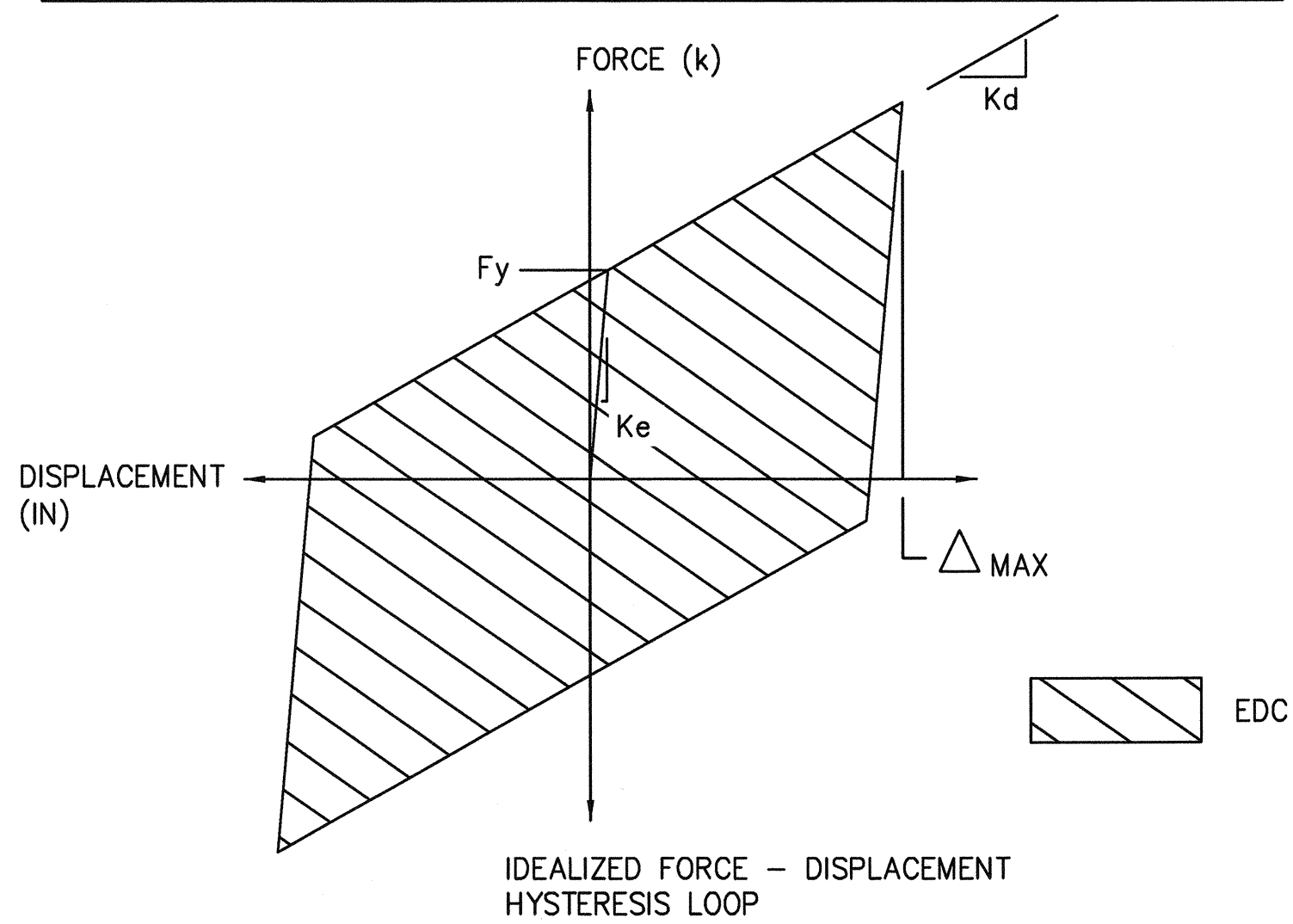
BINDING EDGE



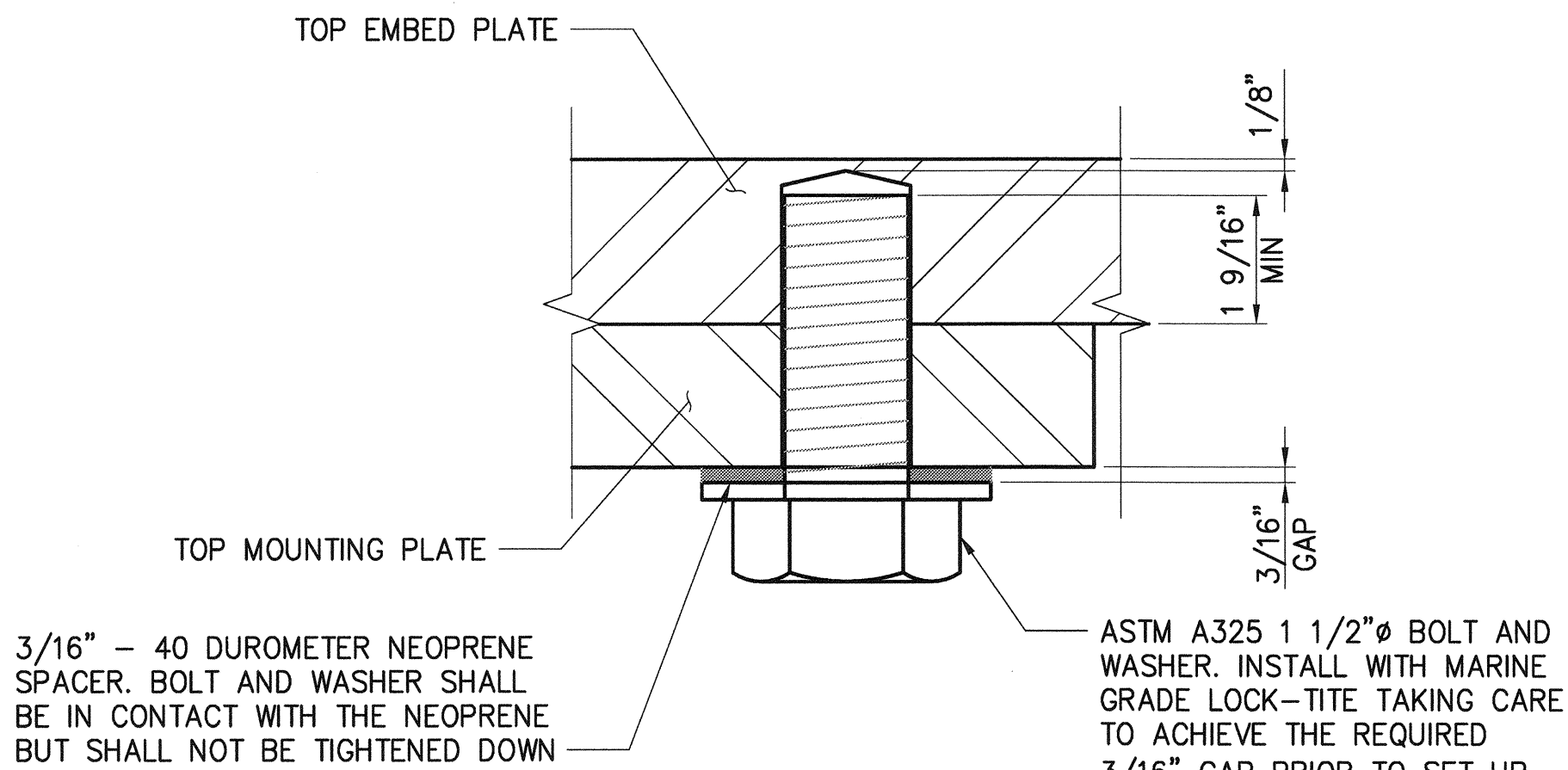
LEAD RUBBER BEARING MOUNTING DETAIL

NOTE:
SEE SPECIFICATIONS FOR COATING
REQUIREMENTS TOP AND BOTTOM
MOUNTING PLATES AND UPPER
AND LOWER EMBED PLATES.

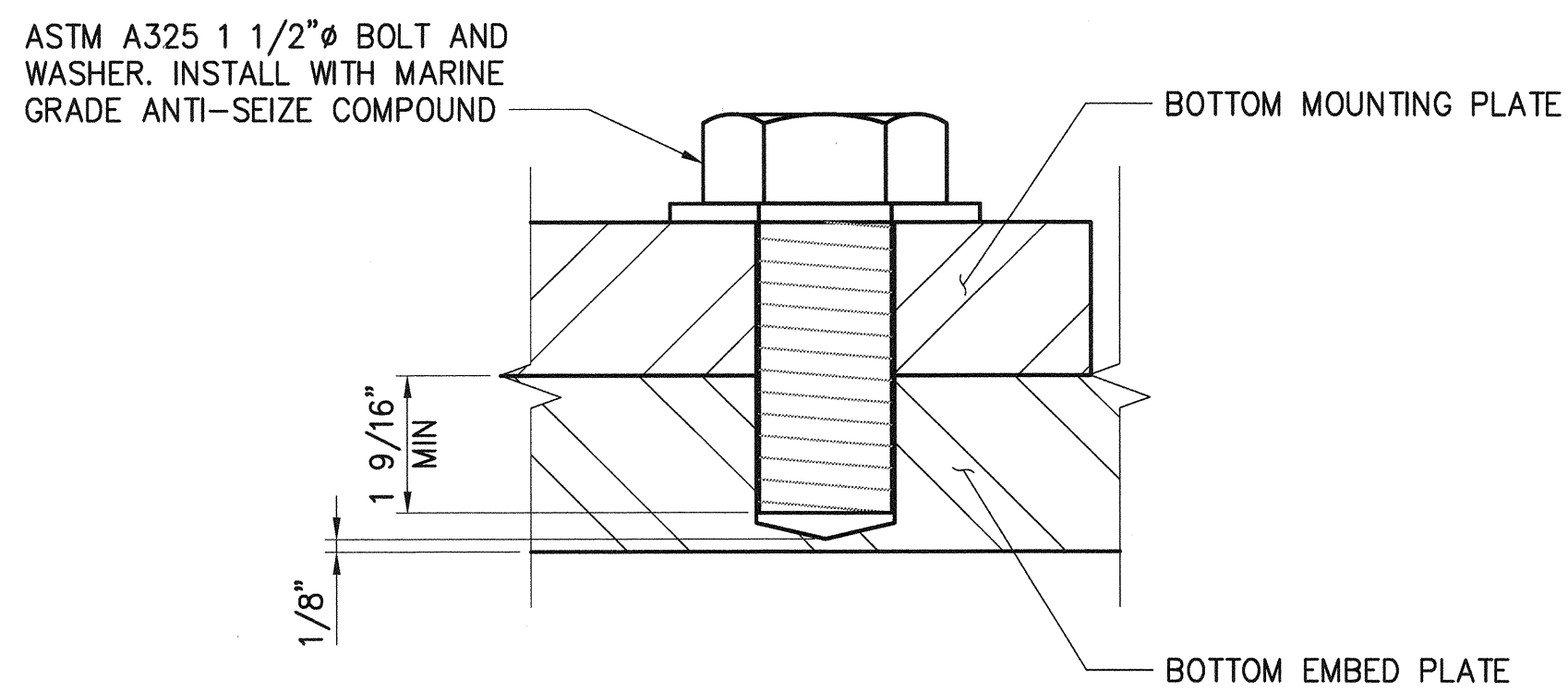
LEAD RUBBER BEARING PROPERTY	TARGET VALUES
RUBBER DIAMETER, D	45.5 IN
HEIGHT, H	30 IN
YELD STIFFNESS, Kd	6.0 KIP/IN
ELASTIC STIFFNESS, Ke	114.6 KIP/IN
MINIMUM VERTICAL STIFFNESS, Kv	16,000 KIP/IN
MINIMUM YIELD FORCE, Fy	202.5 KIP
MAXIMUM SEISMIC DISPLACEMENT, max Δ	28 IN
AXIAL LOAD RANGE ON BEARING AT AMOR, P	0 KIP TO 2000 KIP
MINIMUM ENERGY DISSIPATION PER CYCLE PER BEARING, EDC	21991 IN-KIP



LEAD RUBBER BEARING PERFORMANCE REQUIREMENTS

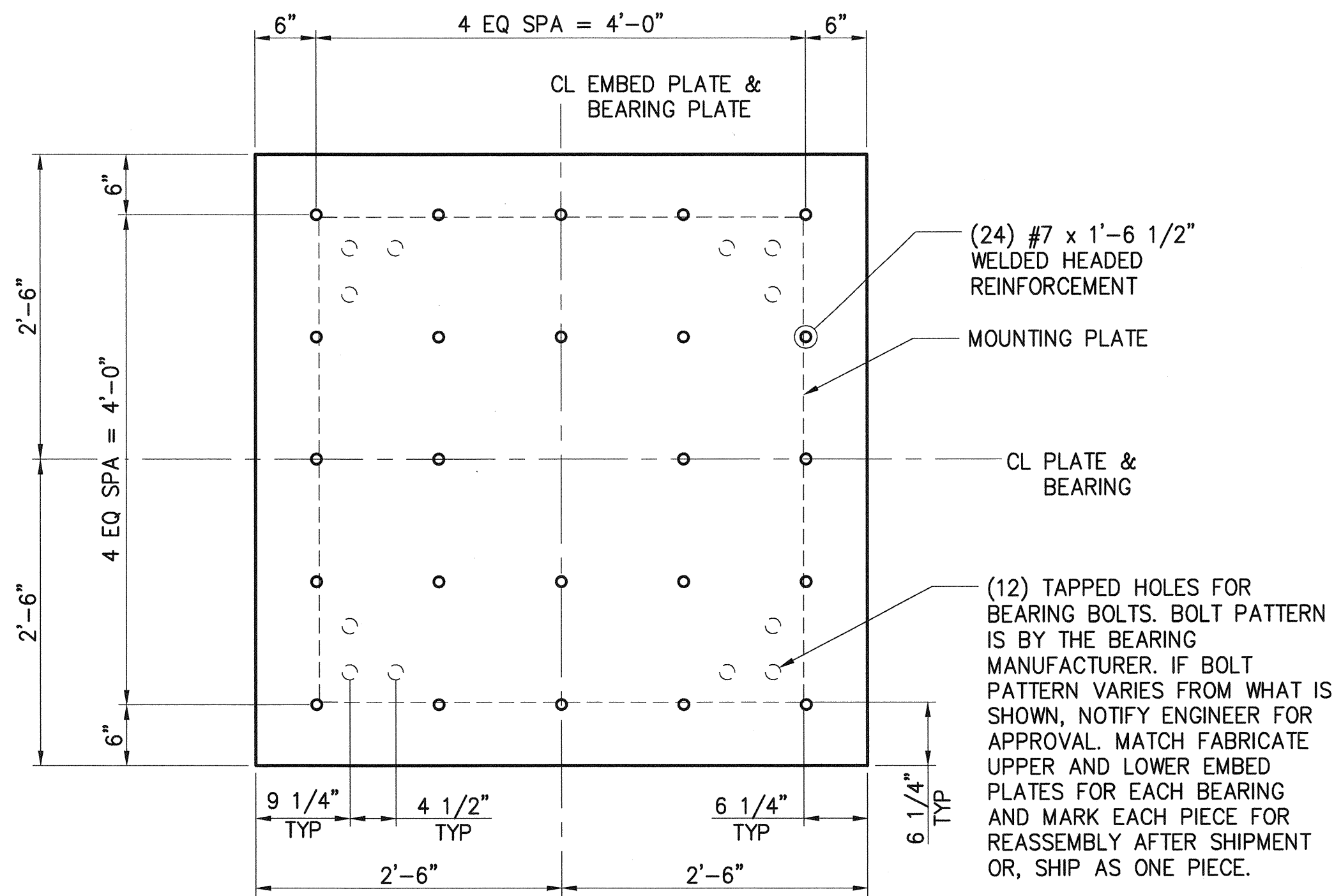


LOOSE BOLT CONDITION

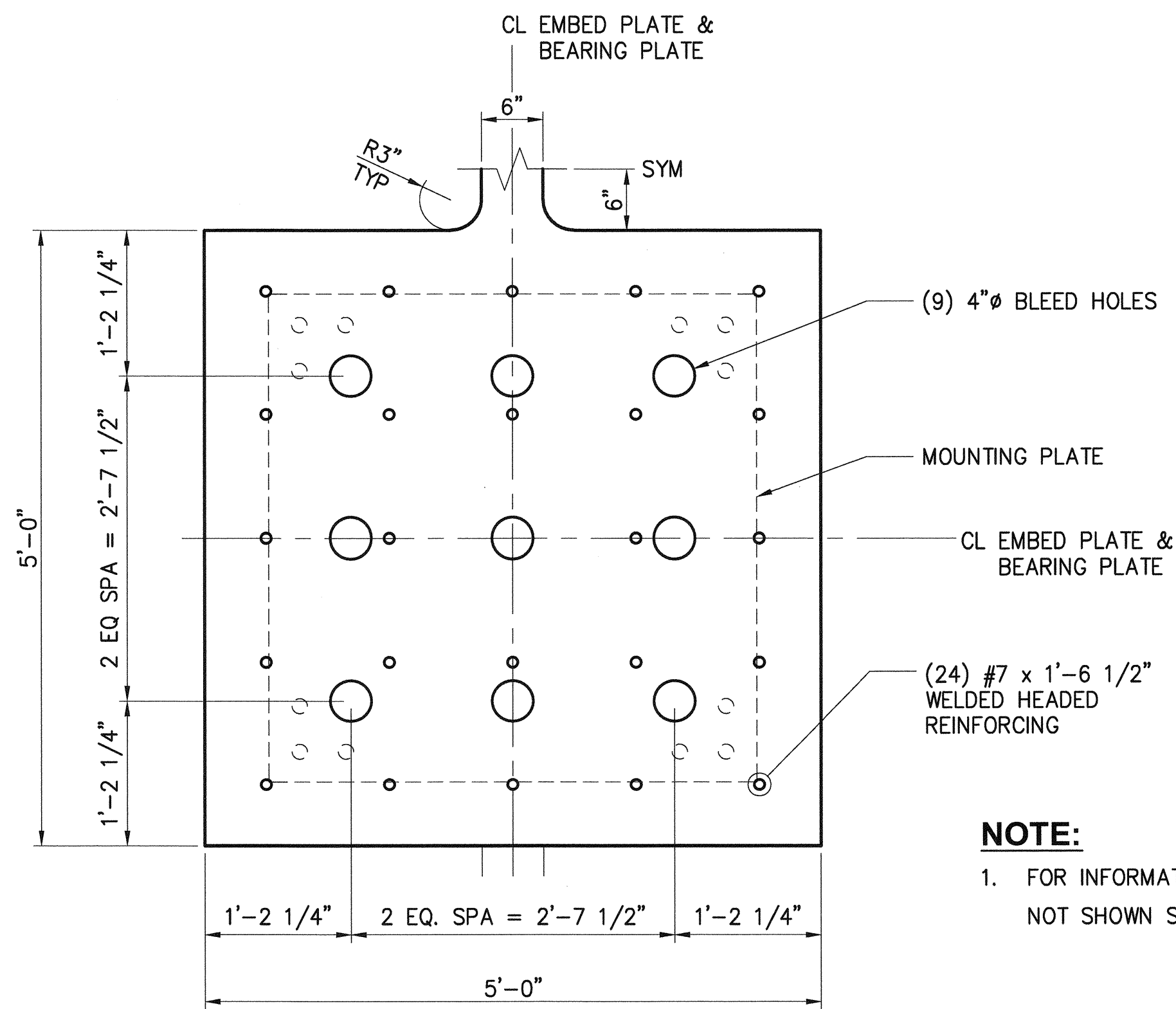


SNUG TIGHT BOLT CONDITION

2 BOLT CONNECTION DETAILS
6" = 1'-0"



UPPER EMBED PLATE
1" = 1'-0"



LOWER EMBED PLATE
1" = 1'-0"

NOTE:

1. FOR INFORMATION
NOT SHOWN SEE (A)

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Tacoma, Washington 98407
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2407 North 31st Street, Suite 100
Tacoma, Washington 98407
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SCOTT B. RUHLMAN
PROFESSIONAL ENGINEER
STATE OF WASHINGTON
LICENSE NO. 14545

APPROVED:

SEK
CHECKED BY:

DATE: 3-28-16

TAH

PROJ. ENGR. DATE: Mar 24, 2016

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TACOMA, WA 98401-1837

PIER 4 PHASE 2
RECONFIGURATION
LEAD RUBBER BEARING DETAILS

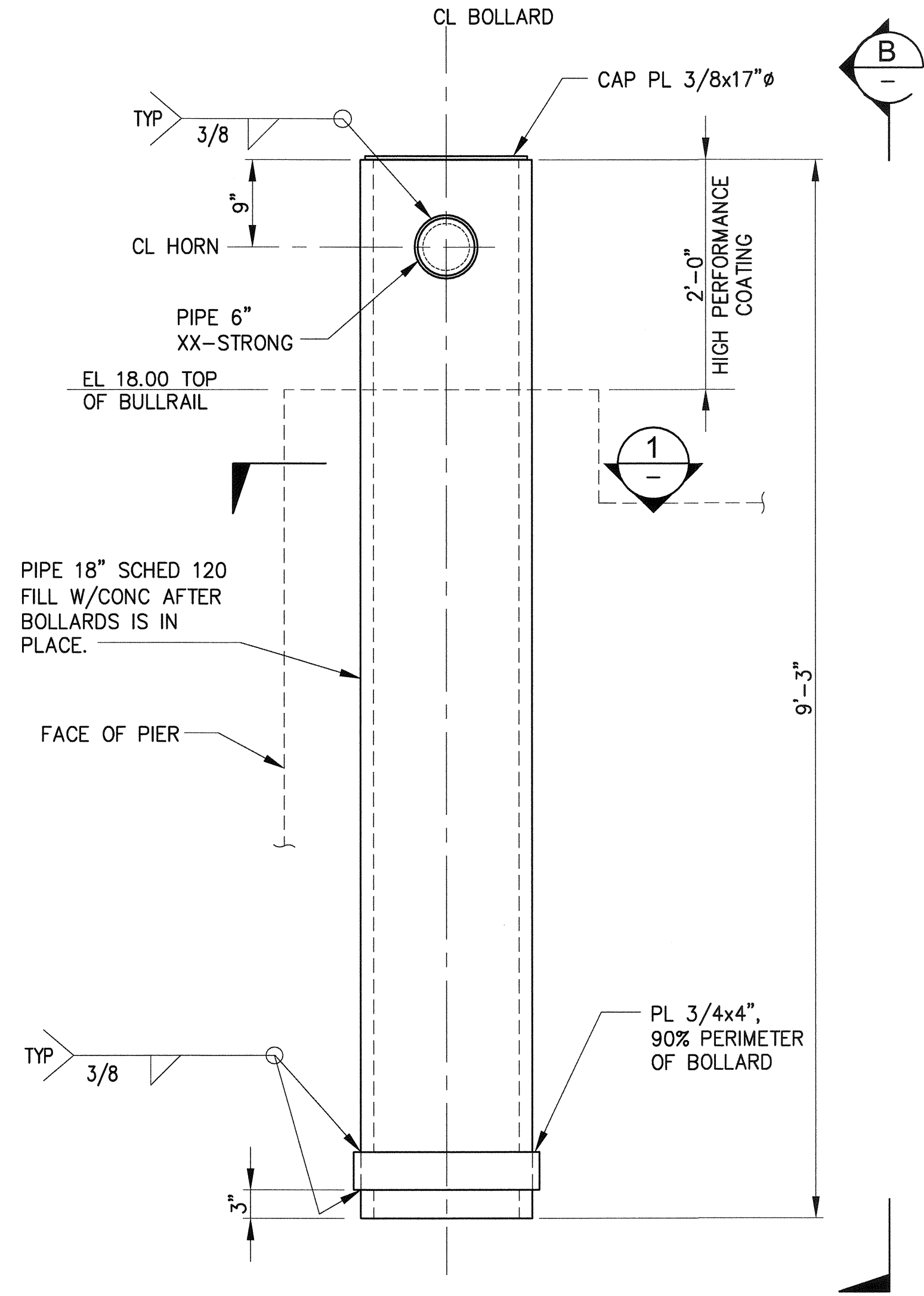
TOWNSHIP: 27N
RANGE: 3E
SECTION: 27
DATE-HRZ: WAB3-SF
VERT: MLLW 19 39' @ Tide 22 1933
PARCEL: AS NOTED
DRAWING SCALE:

6552
S37.2
SH 371 OF 499

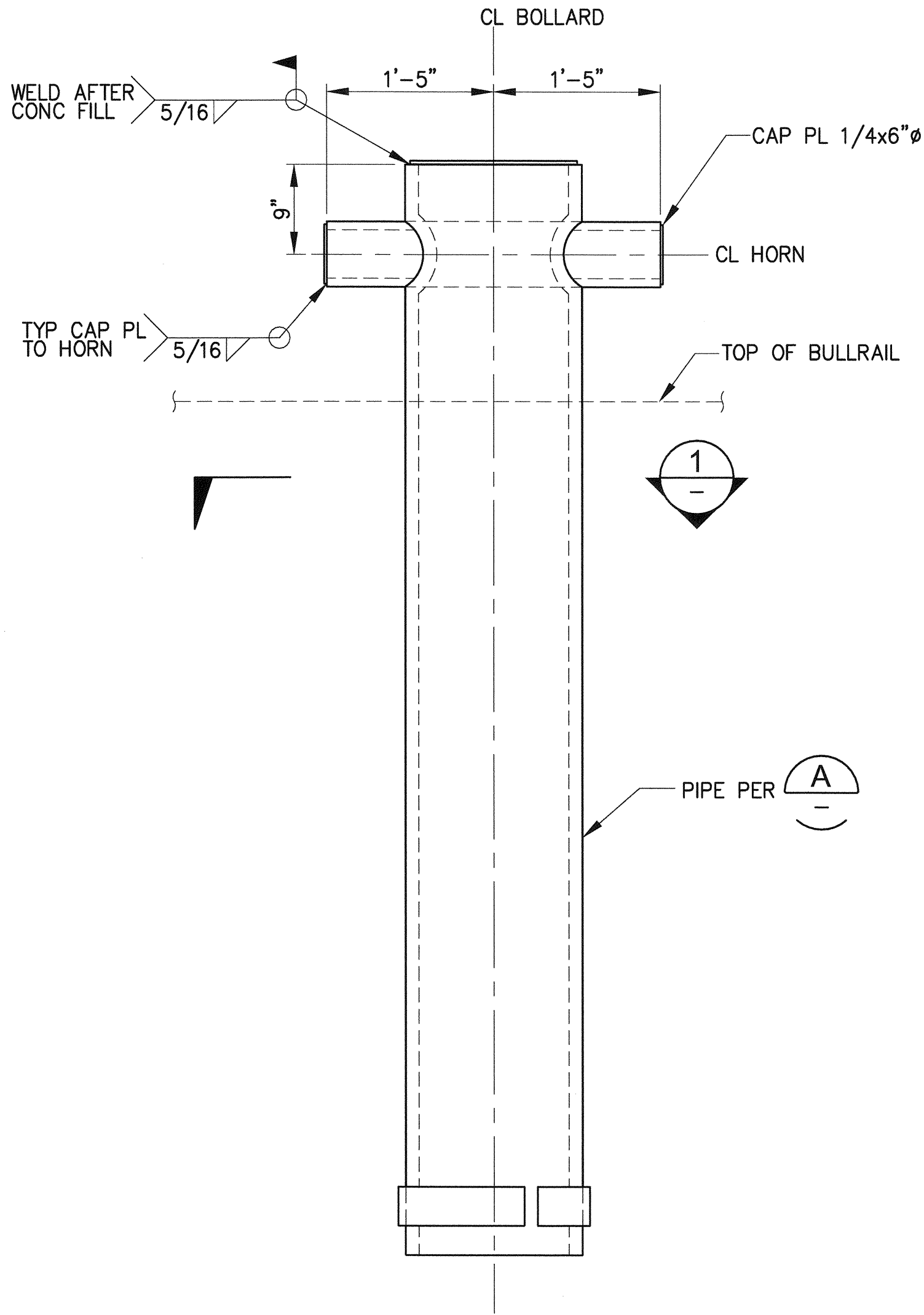
CONT/CONS: 070136
M. ID: 091251
PHASE: BID

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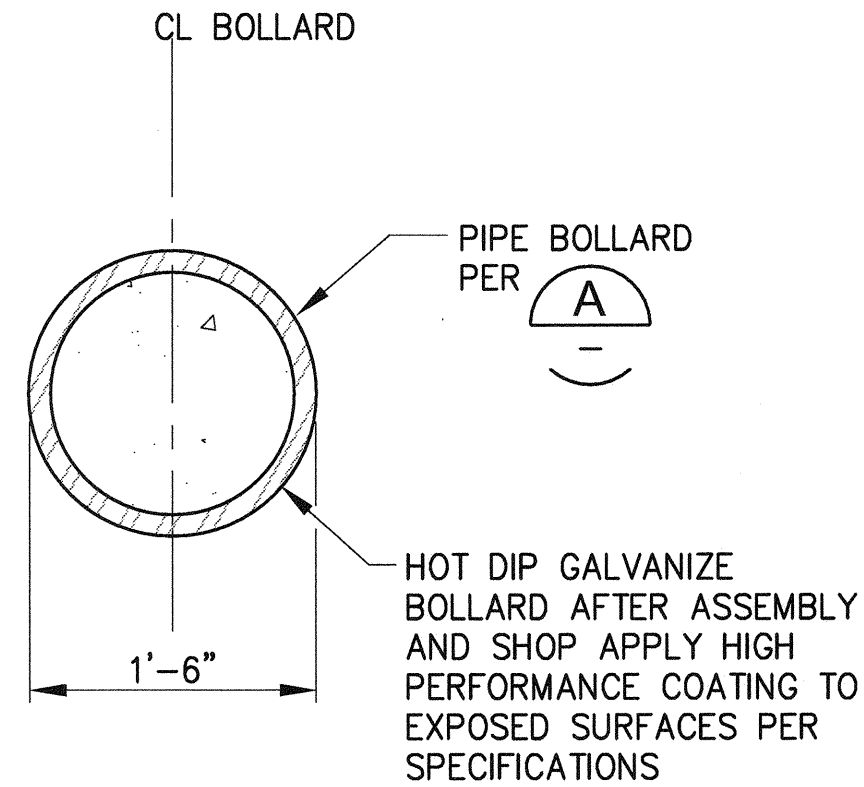
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SECTION A
PIER BOLLARD TYPE 1 - 100 TON
S3.1, S3.2, S5.1, S18.1, S9.9, S9.10, S9.11, S10.11
1"=1'-0"



SECTION B
PIER BOLLARD TYPE 1 - 100 TON
1"=1'-0"



DETAIL 1
1"=1'-0"

6552
S38.1
SH 372 OF 499

CONTRACT/CONS: 070136
M. ID: 091251
PHASE: BID

**PIER 4 PHASE 2
RECONFIGURATION**
BOLLARD DETAILS - PIER BOLLARD TYPE 1

TOWNSHIP: 21N
RANGE: 3E
SECTION: 27
DATE-HRZ: WAB3-SF
PARCEL: MLLW 19.39' @ Tide 22 1933
DRAWING SCALE: AS NOTED

APPROVED: *[Signature]*
DIRECTOR
3-28-16

CHECKED BY: TAH
DATE: 3-28-16
PROJ. ENGR: tienoms
DATE: Mar 24, 2016
PORT ADDRESS: ONE SITCUM PLAZA
TACOMA, WA 98401-1837



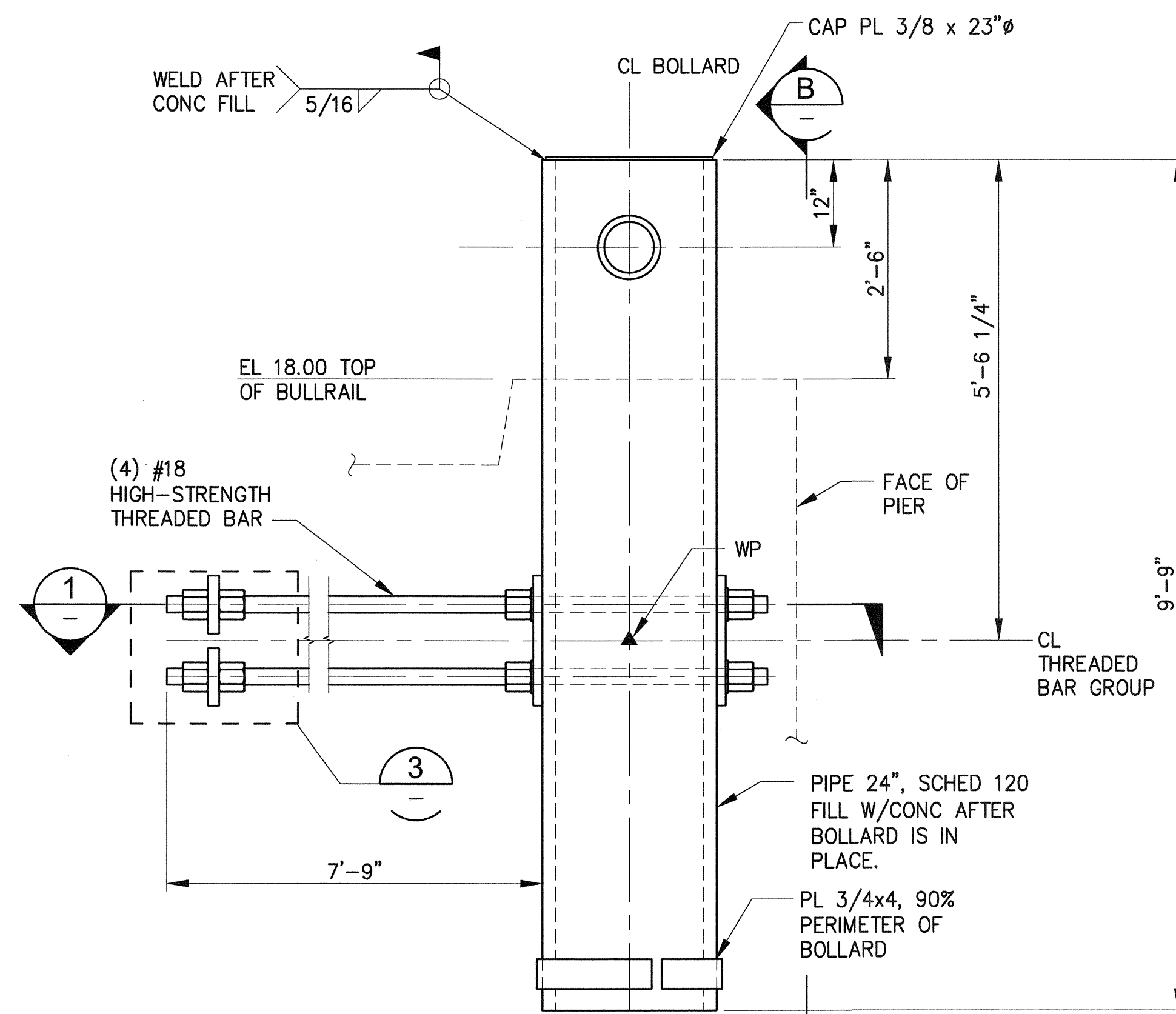
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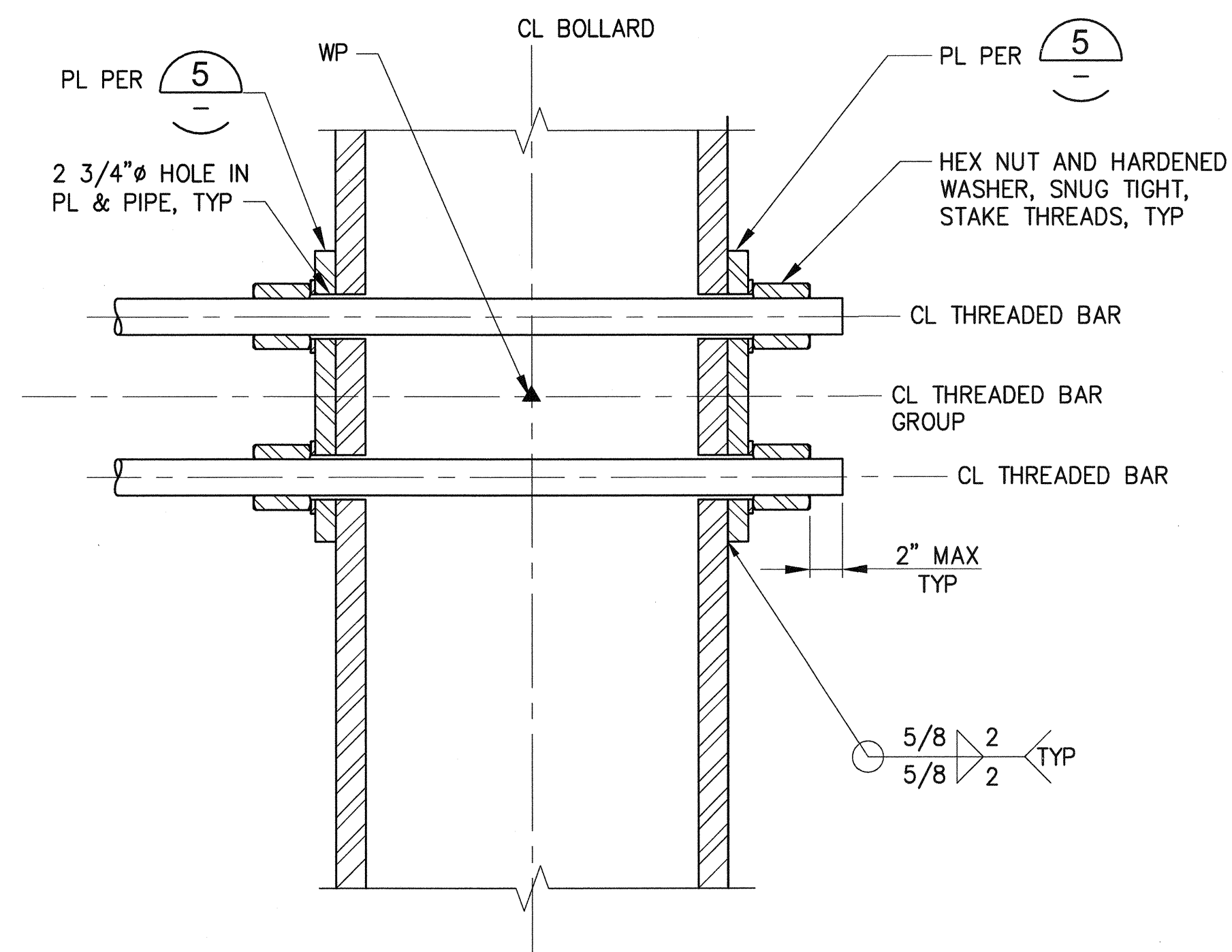
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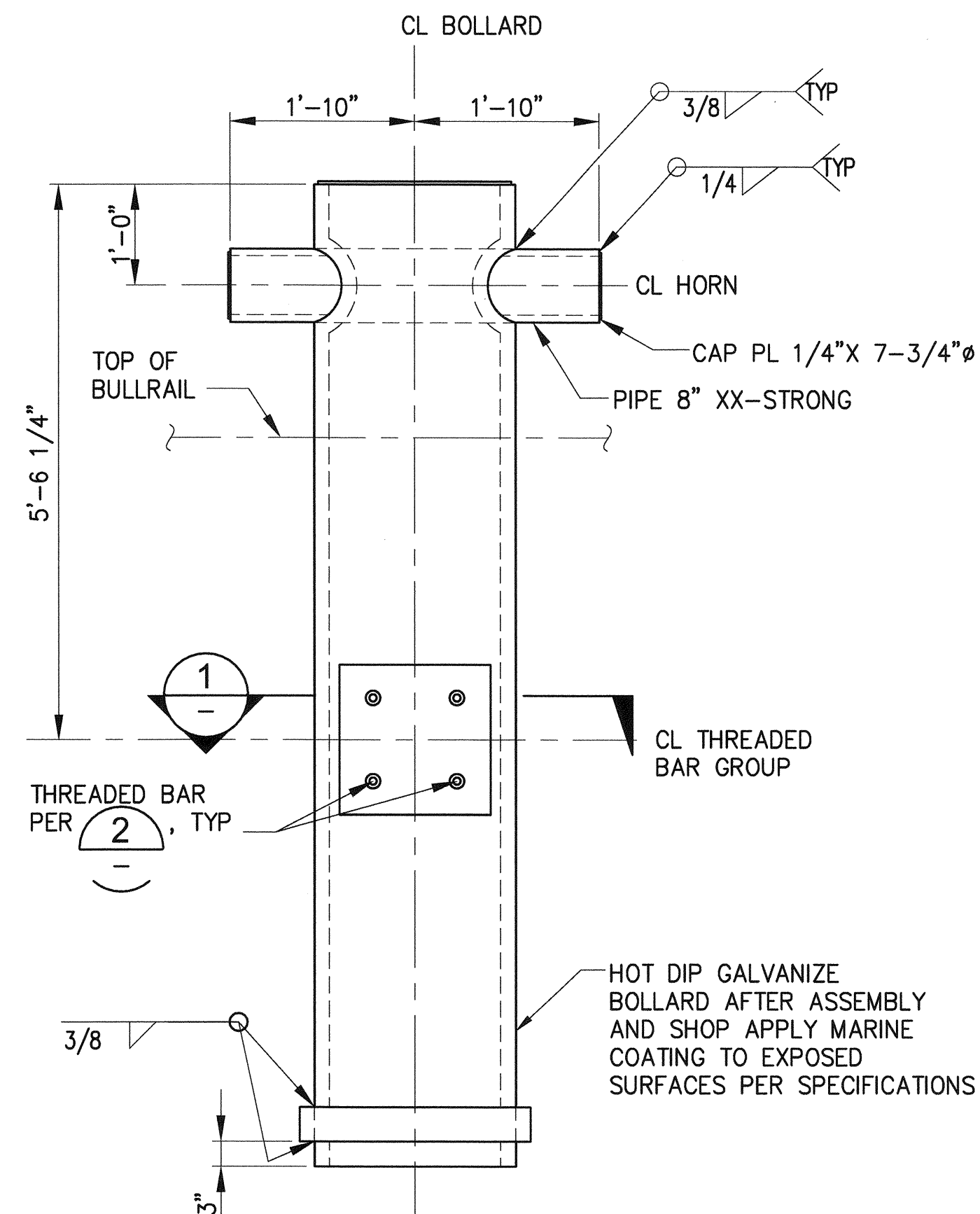


SECTION
PIER BOLLARD TYPE 2 - 200 TON

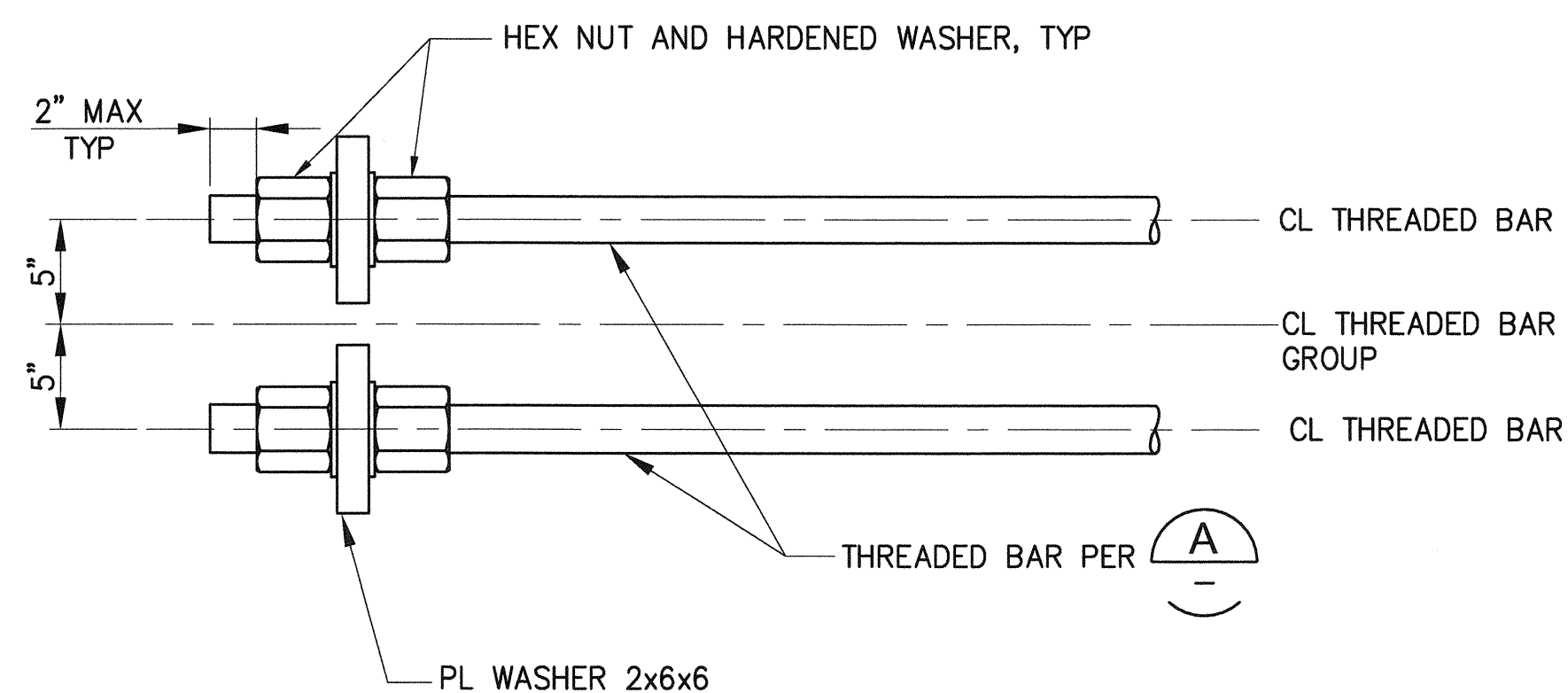
S3.2, S5.1, S18.1, S9.12, S9.13, S10.4, S10.10 3/4"-1'-0"



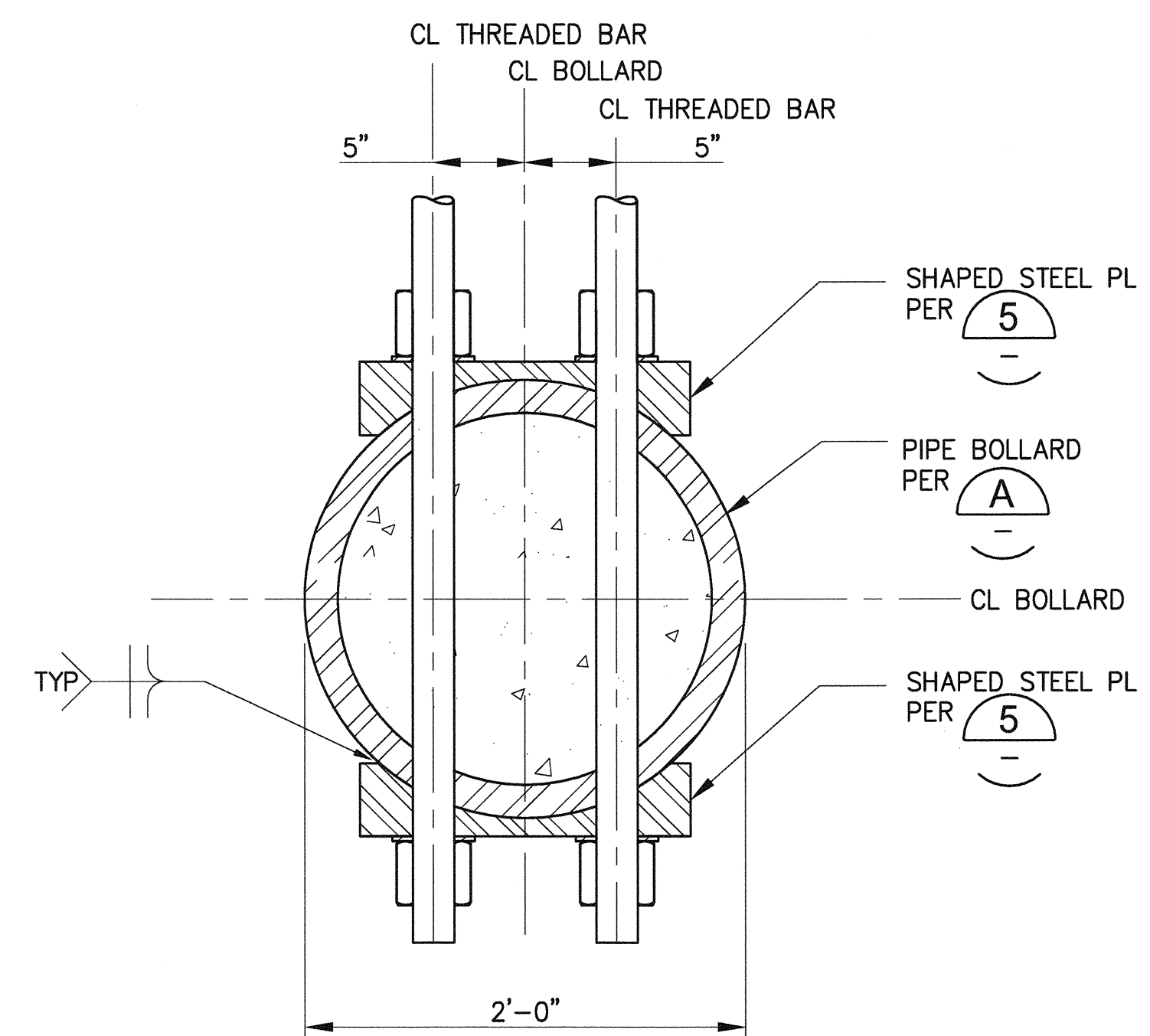
DETAIL
1 1/2" = 1'-0"



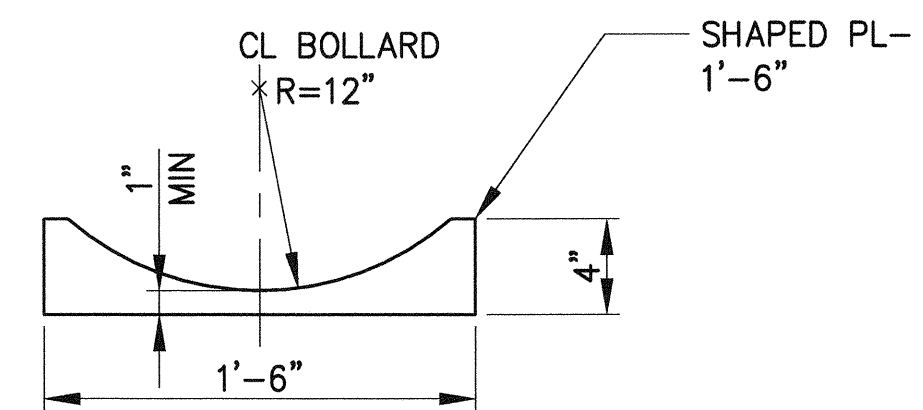
SECTION
3/4"=1'-0"



DETAIL
1 1/2"=1'-0"

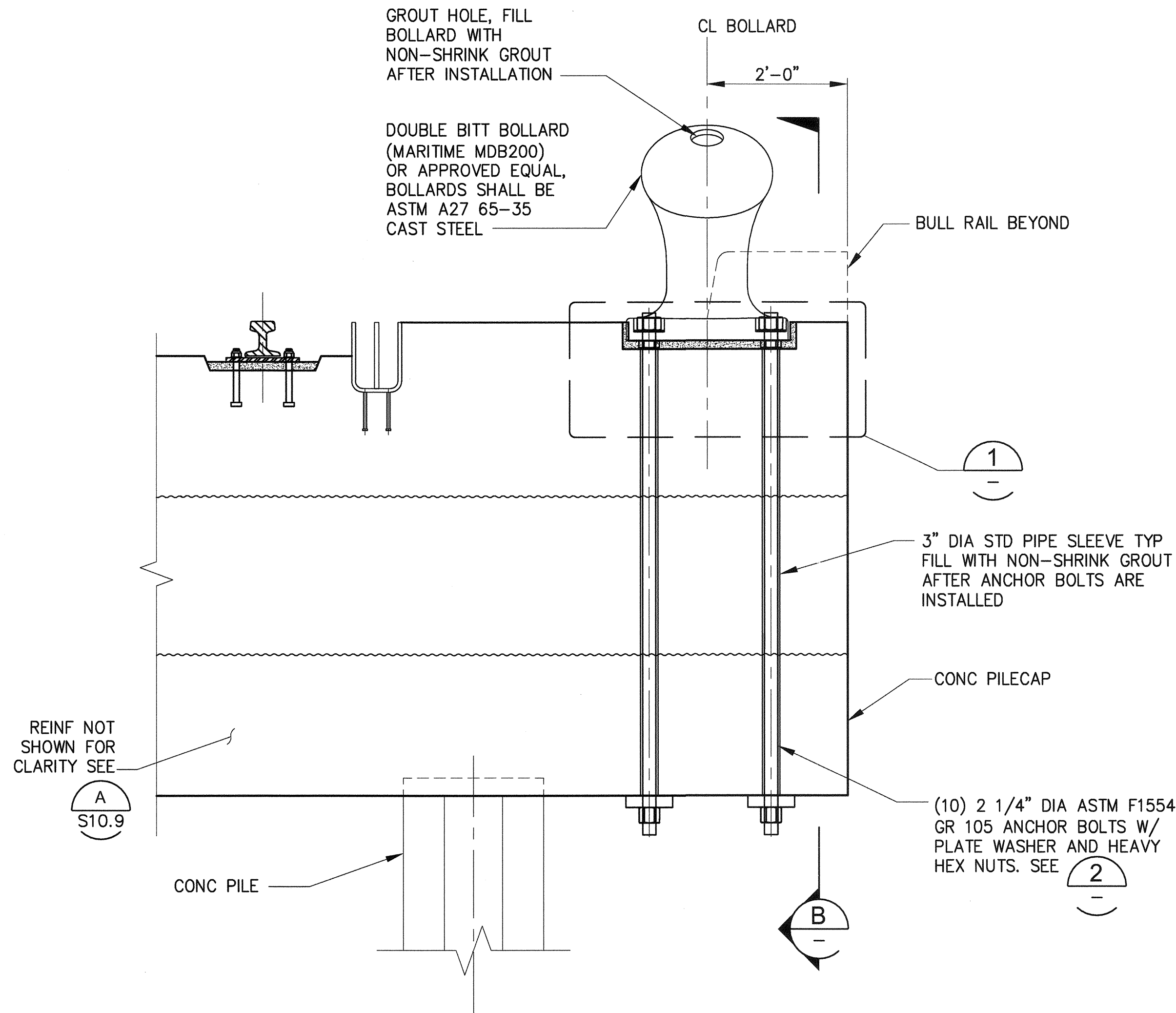


DETAIL
1 1/2" = 1' - 0"

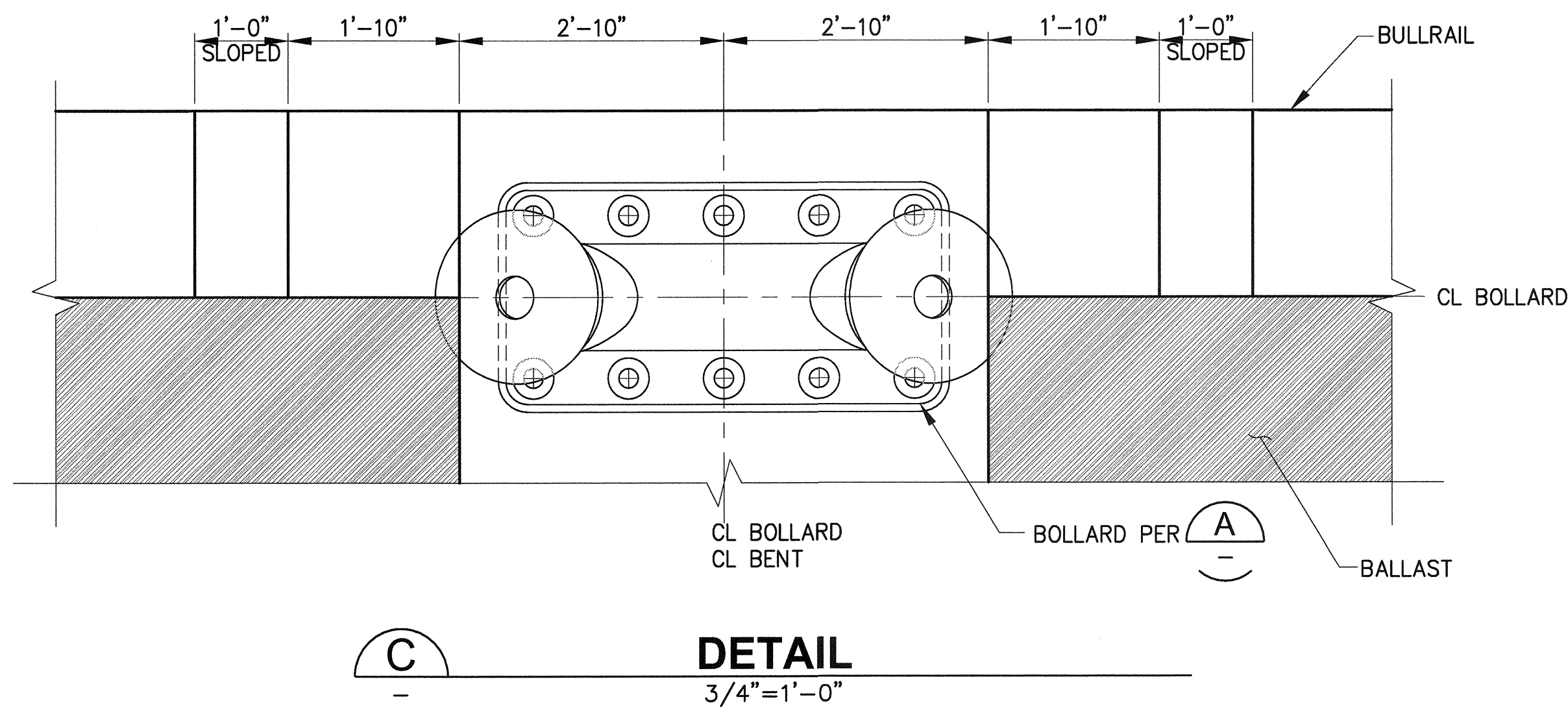


DETAIL -
SHAPE PLATE

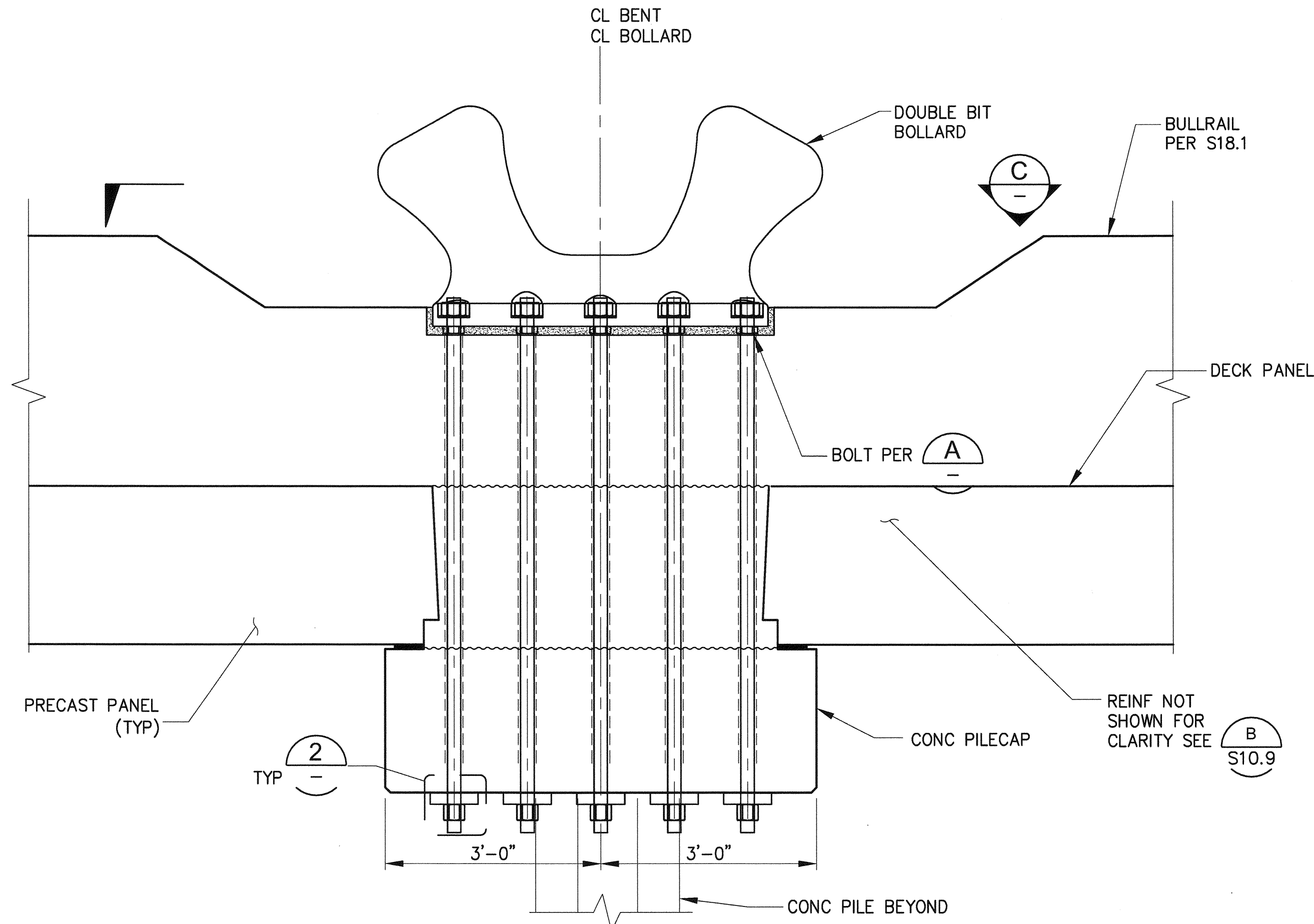
5
-
1'-1/2"=1'-0"



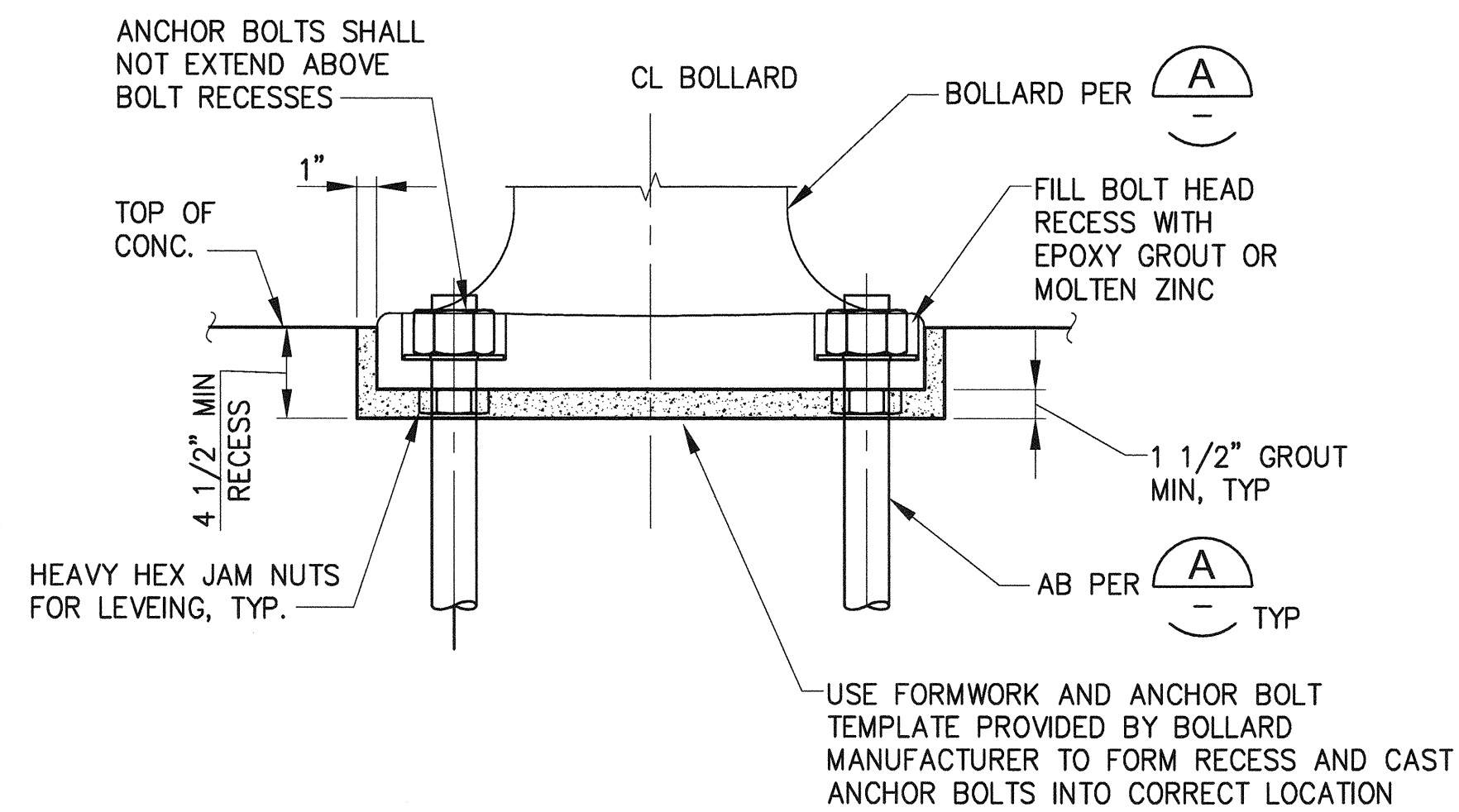
A SECTION - PIER DOUBLE BITT BOLLARD - 200 TON
S3.1, S9.2-S9.6, S9.8, S10.9, S18.1 $3/4"=1'-0"$



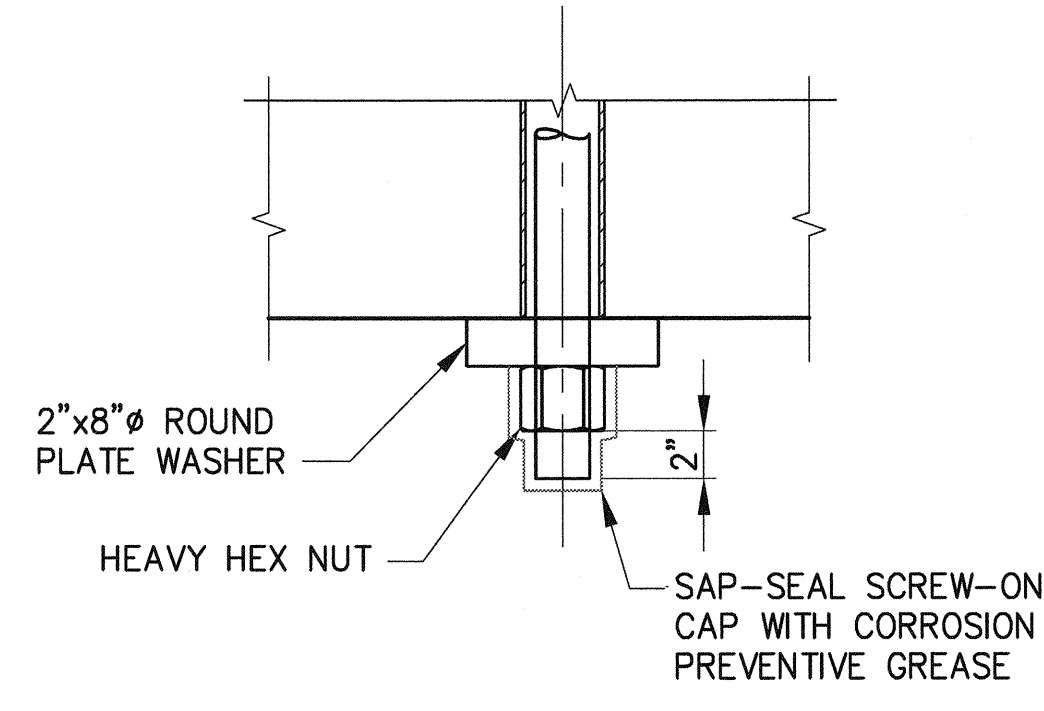
DETAIL C
 $3/4"=1'-0"$



B SECTION
 $3/4"=1'-0"$



1 DETAIL
 $1 1/2"=1'-0"$



2 DETAIL
 $1 1/2"=1'-0"$

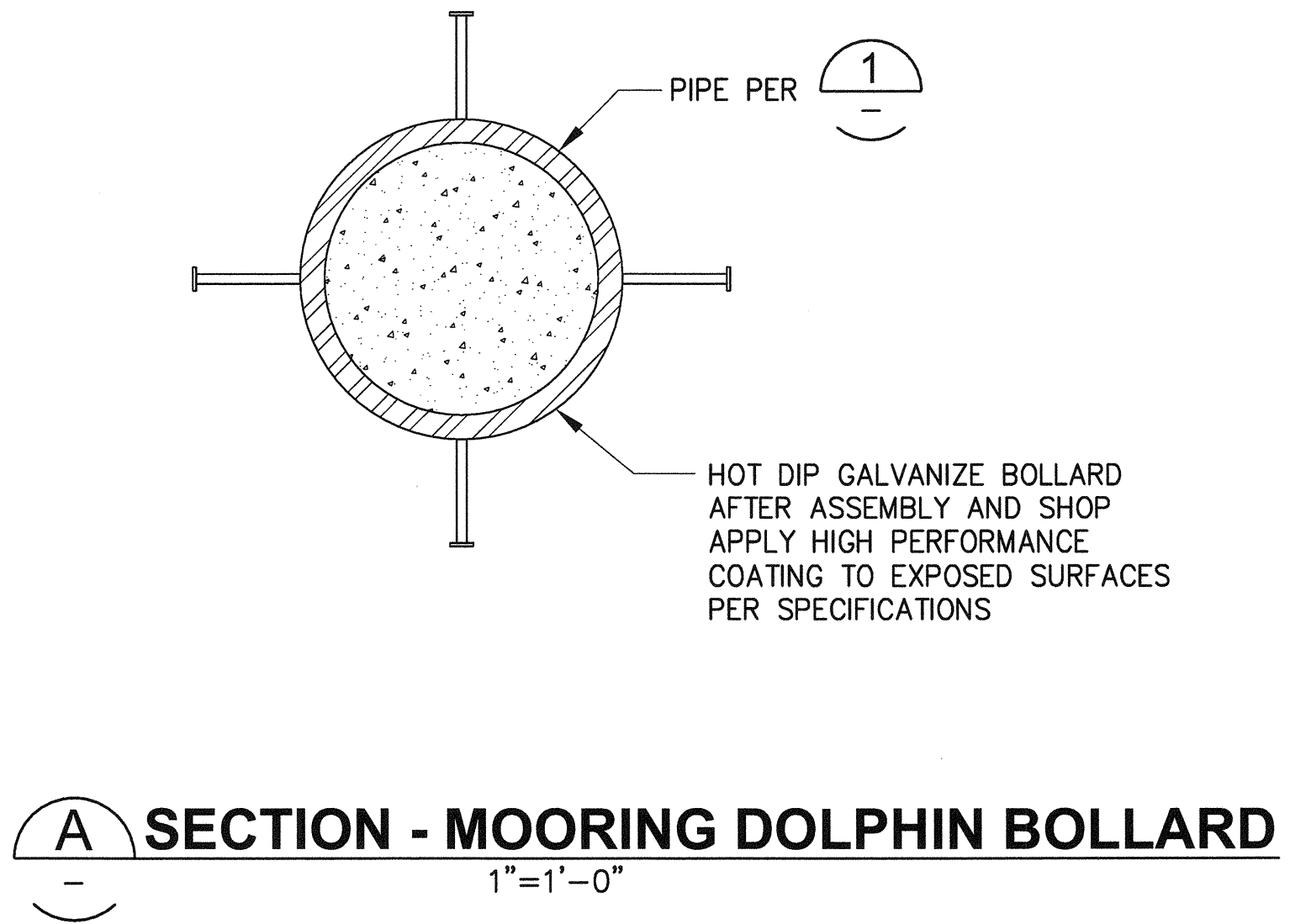
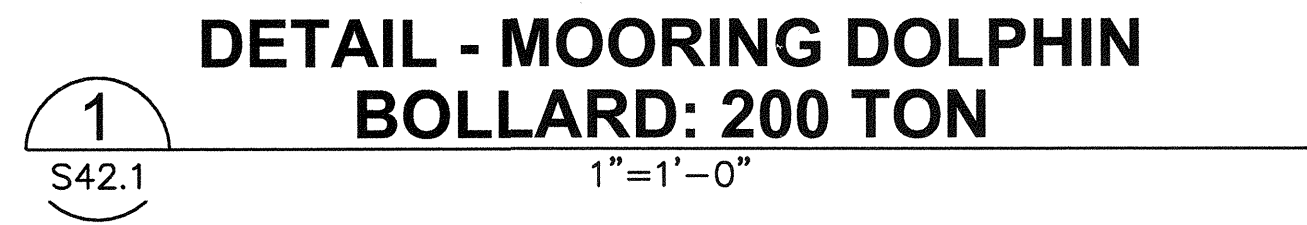
 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162	DATE:
	APPR:
BY:	REVISION:
MARK:	PHASE:

APPROVED: <i>[Signature]</i> DIRECTOR ENG. DATE: 3-28-16	CHECKED BY: <i>[Signature]</i> DATE:
PRINTED BY: <i>[Signature]</i> DATE: Mar 24, 2016	PROJ. ENGR. DATE:
PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	AS NOTED

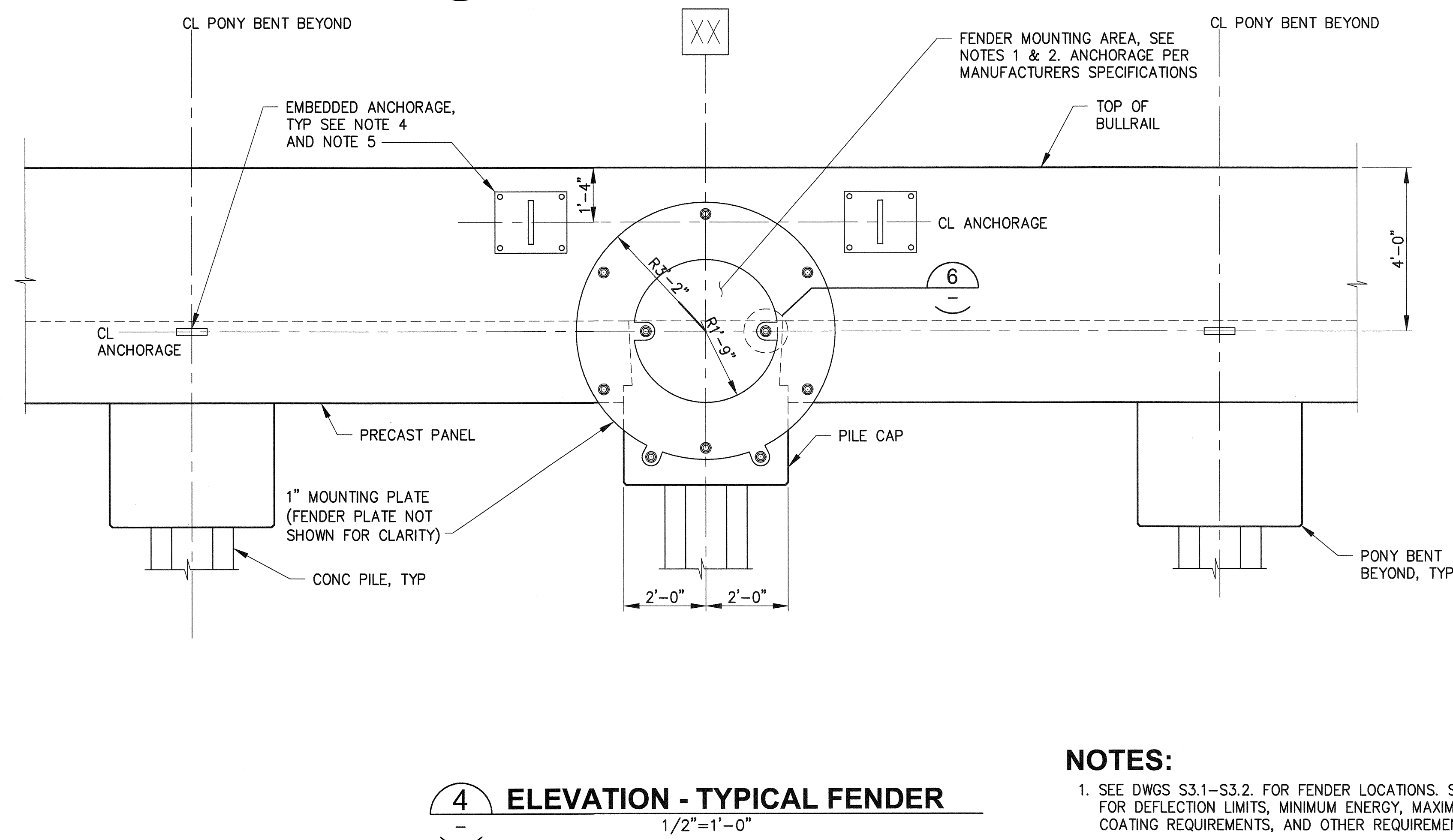
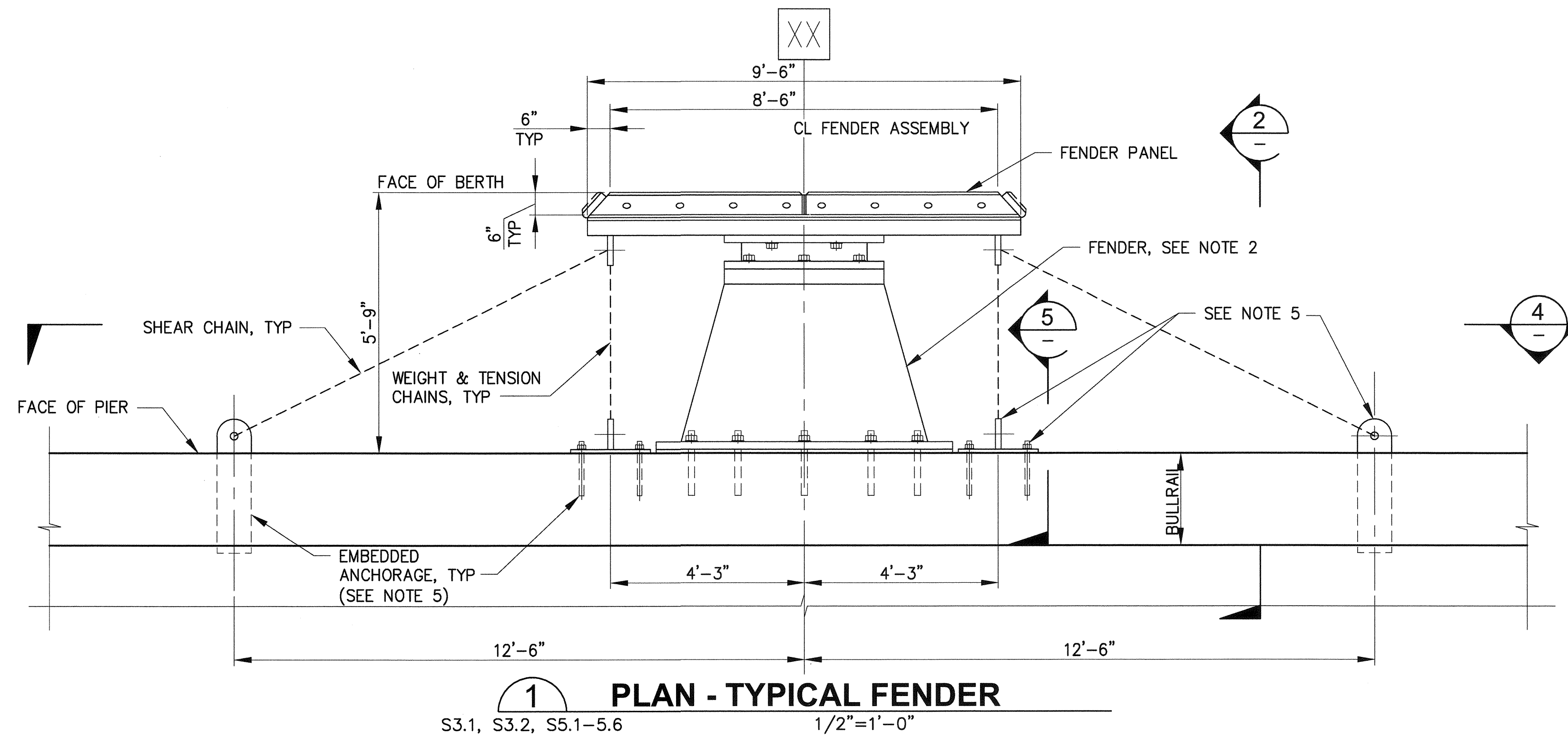
PIER 4 PHASE 2 RECONFIGURATION BOLLARD DETAILS - PIER DOUBLE BITT BOLLARD	RANGE: 3E SECTION: 27 TOWNSHIP: 21N DAT-HRZ: WA83-SF VERT: MLLW 19.39' @ Tide 22 1933 DRAWING SCALE: AS NOTED
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6552 S38.3 SH 374 OF 489	CONT/CONS: 070136 M. ID: 091251 PHASE: BID
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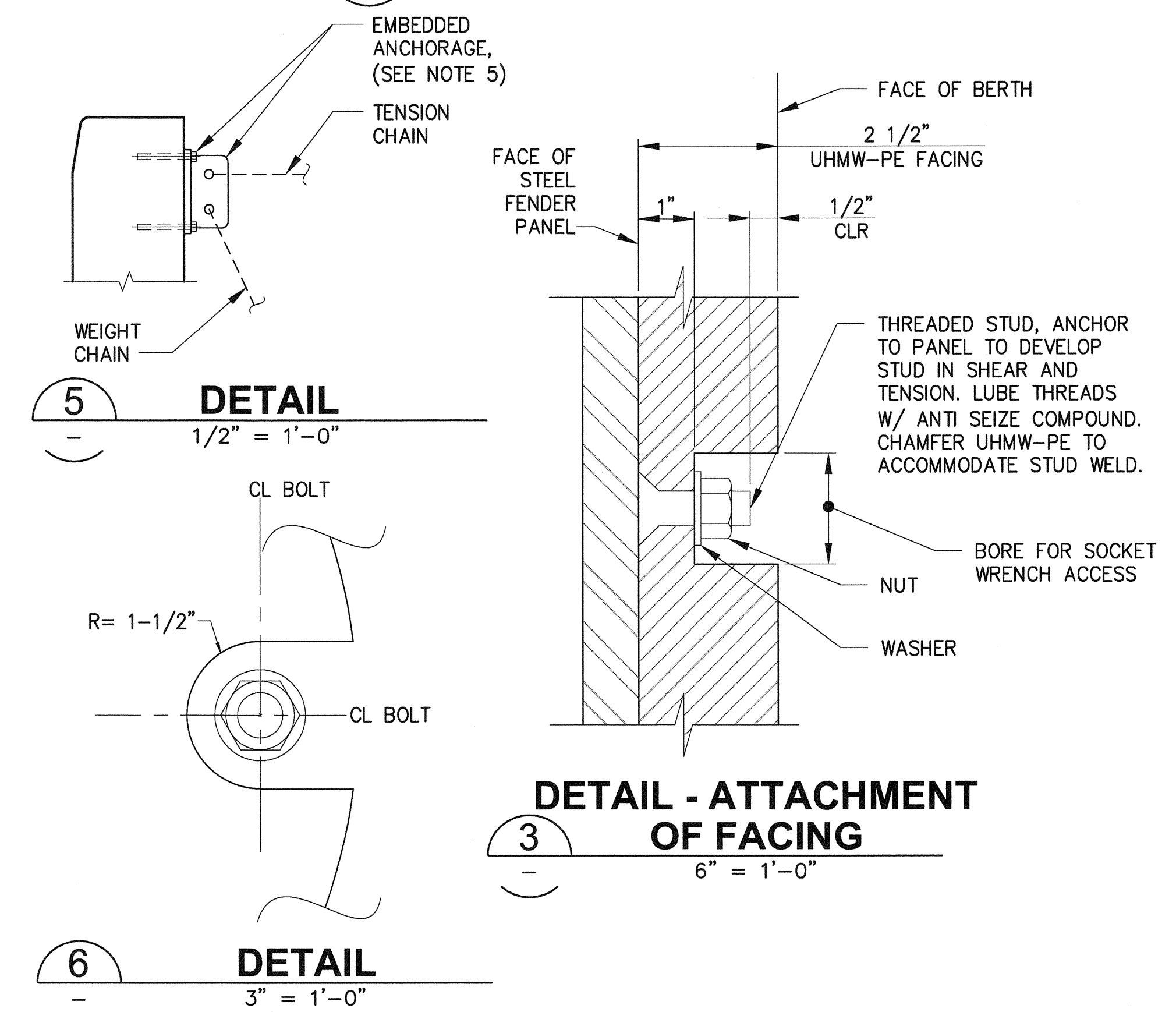
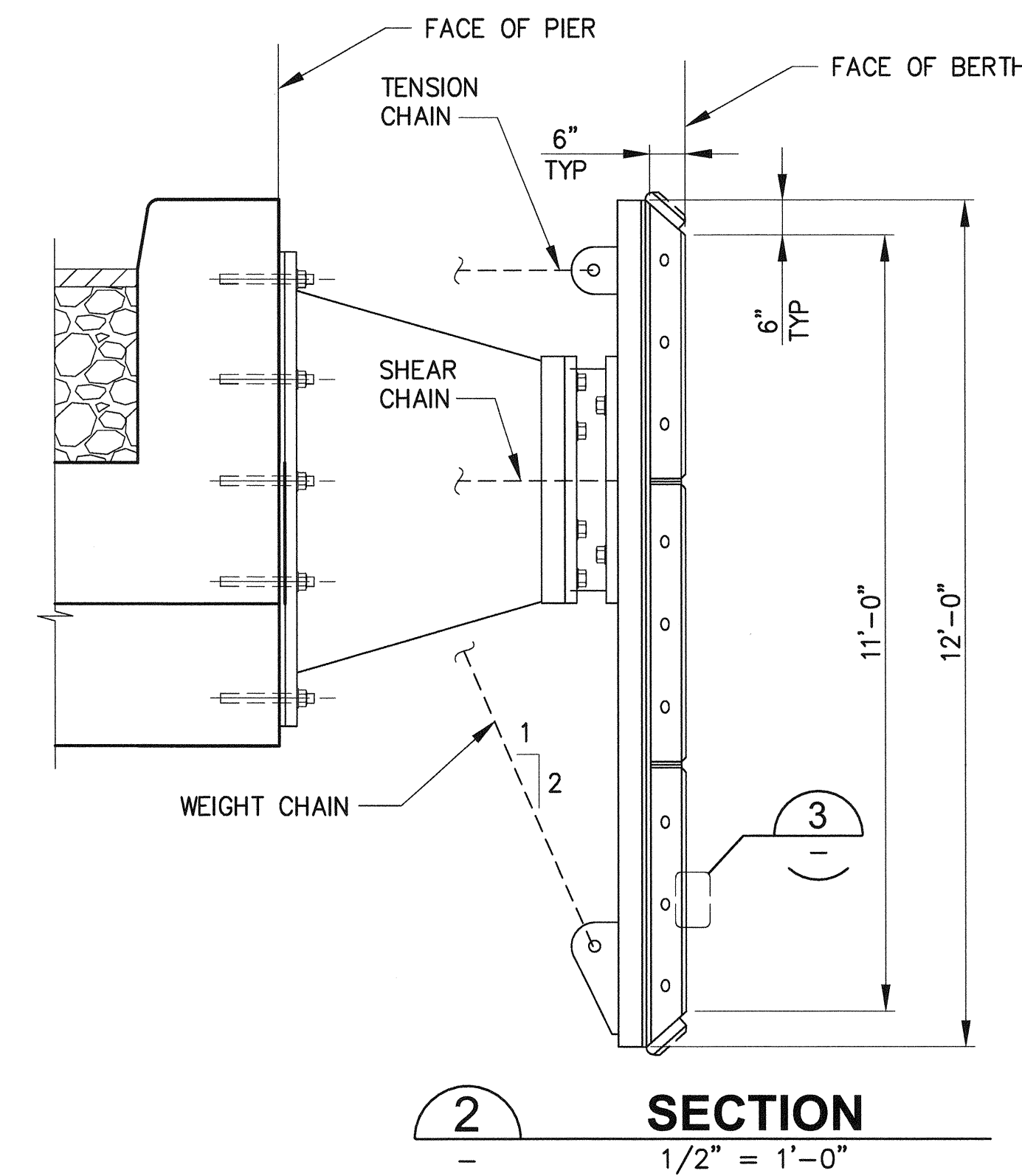


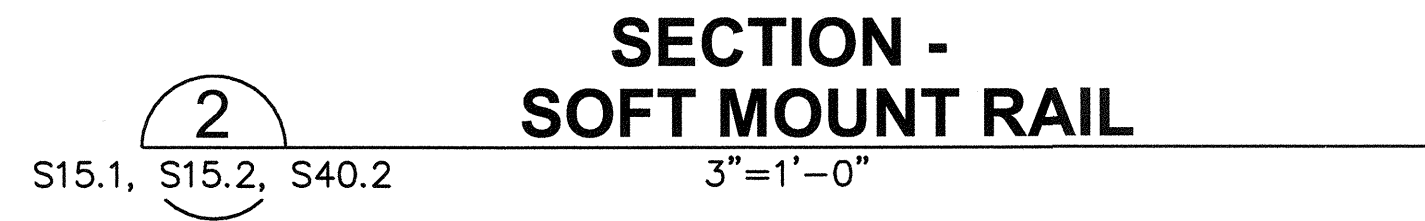
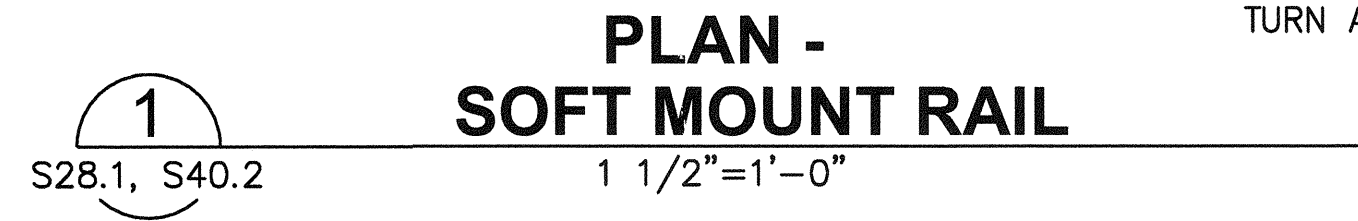
6552 S38.4 SH 375 OF 499										PIER 4 PHASE 2 RECONFIGURATION BOLLARD DETAILS - MOORING DOLPHIN BOLLARD										APPROVED: <i>[Signature]</i> 3-21-16 DIRECTOR ENG. DATE PRINTED BY: tlemons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837										 91-52-2										kpff 2407 North 31st Street, Suite 100 Tacoma, WA 98401-1837 (253) 386-0150 Fax (253) 386-0162										 Port of Tacoma P.O. BOX 1887 TACOMA, WA 98401 (253)386-6641									
CONT/CONS: 0701/36			TOWNSHIP: 21N			RANGE: 3E			SECTION: 27			APPR: ☐			DATE: ☐																																												
M. ID: 091251			DAT-HRZ: WA83-SF			VERT: MILLW 19 39' @ Tide 22 1933			DRAWING SCALE: AS NOTED			MARK: ☐			REVISION: ☐																																												
PHASE: BID			PARCEL:									BY: ☐																																															



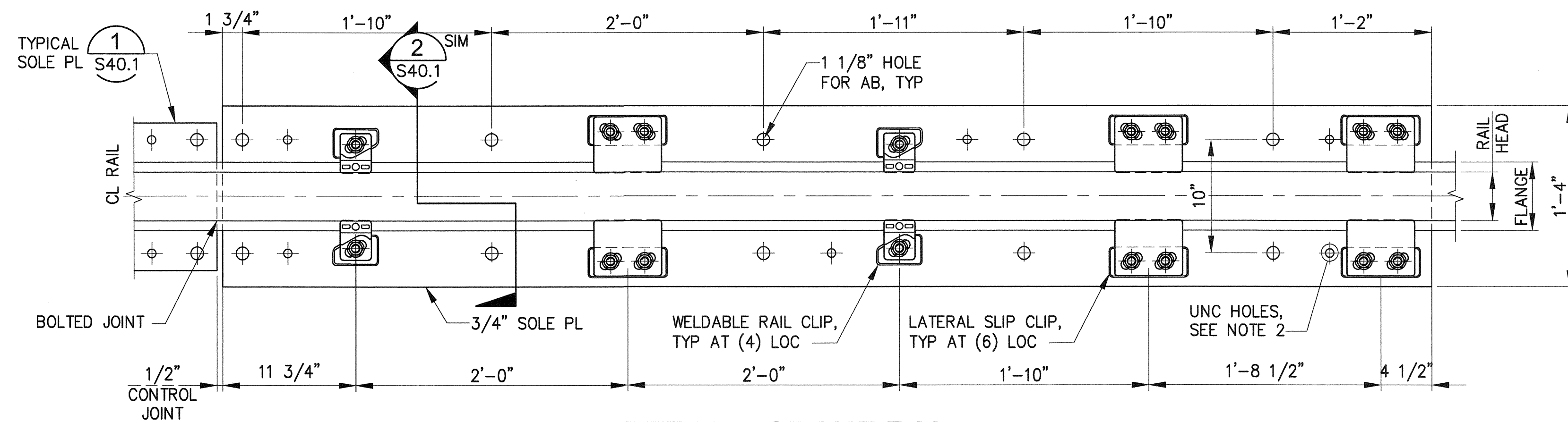
NOTES:

1. SEE DWGS S3.1—S3.2. FOR FENDER LOCATIONS. SEE SPECIFICATIONS FOR DEFLECTION LIMITS, MINIMUM ENERGY, MAXIMUM REACTION COATING REQUIREMENTS, AND OTHER REQUIREMENTS.
2. FENDER SHOWN IS REPRESENTATIVE OF AN ACCEPTABLE PRODUCT. OTHER PRODUCTS THAT FIT WITHIN THE AREA ALLOWED FOR FENDER ASSEMBLY AND MEET SPECIFIED ENERGY AND REACTION PERFORMANCE CHARACTERISTICS MAY BE ACCEPTED SUBJECT TO ENGINEER'S PRIOR APPROVAL.
3. COORDINATE LOCATION OF EMBEDDED ITEMS WITH PLACEMENT OF REINFORCING STEEL AND OTHER APPURTENANCES LOCATED ALONG FACE OF PIER AND BULLRAIL DURING SUBMITTAL PREPARATION.



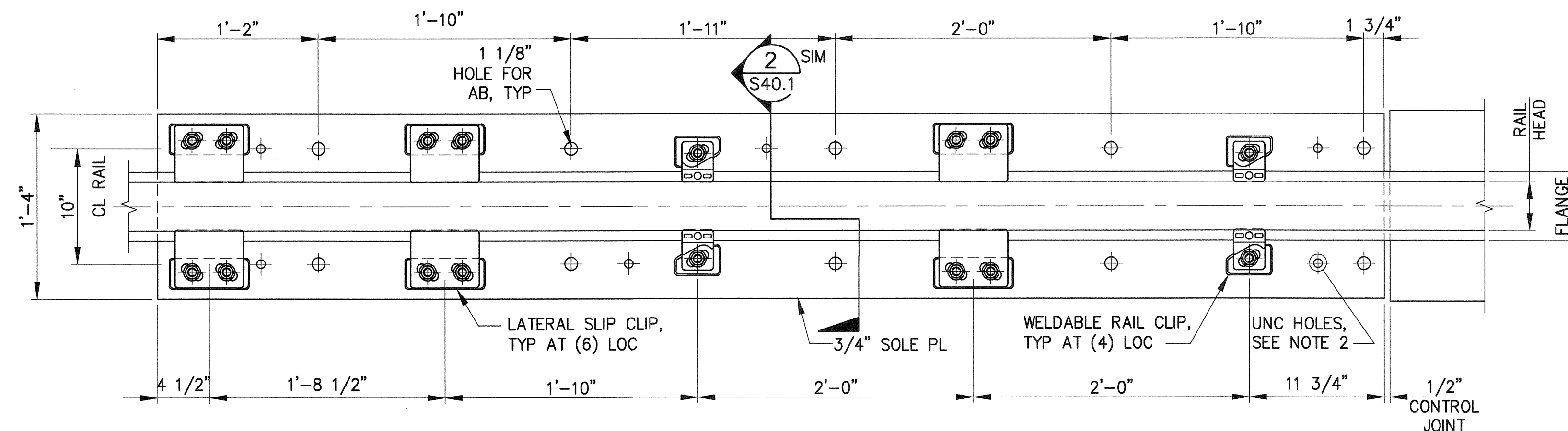


1. SOLE PLATES AND RAIL CLIP ASSEMBLIES SHALL BE HOT DIP GALVANIZED
2. SEE CIVIL DRAWINGS FOR PAVING DETAILS ADJACENT TO CRANE RAILS.
3. REPAIR DAMAGED GALVANIZING AT FIELD WELDS ACCORDING TO THE SPECIFICATION.



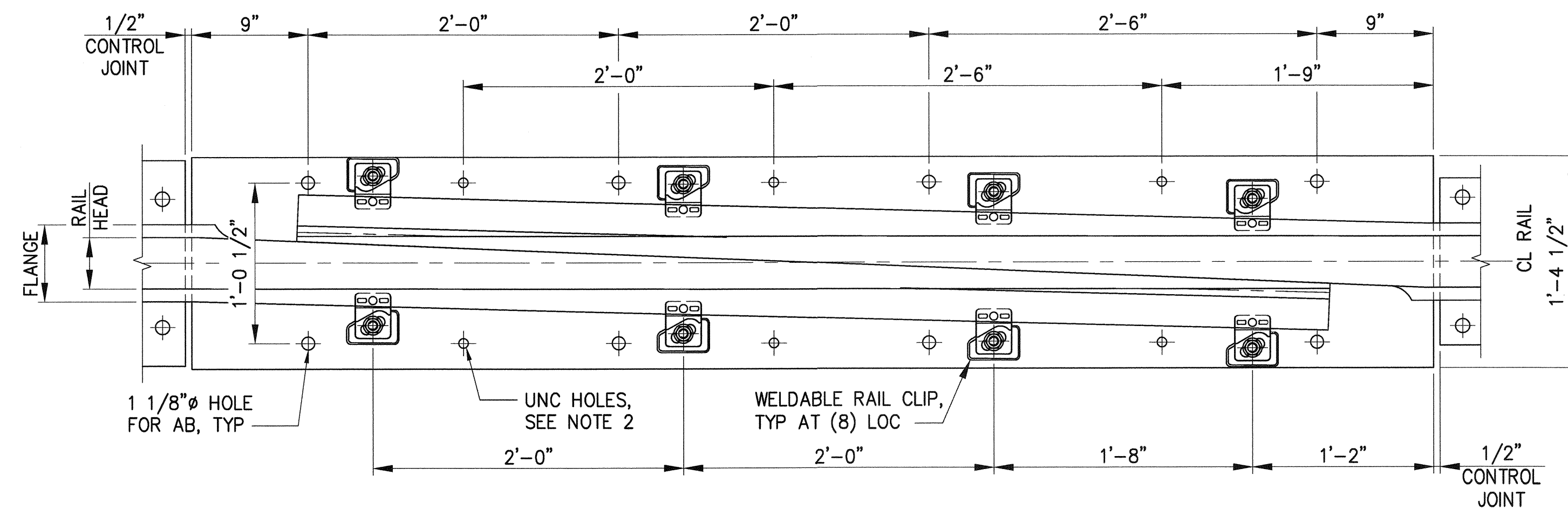
DETAIL - CRANE RAIL AT ISOLATION JOINT

1
S28.1

$$1\frac{1}{2}'' = 1' - 0''$$


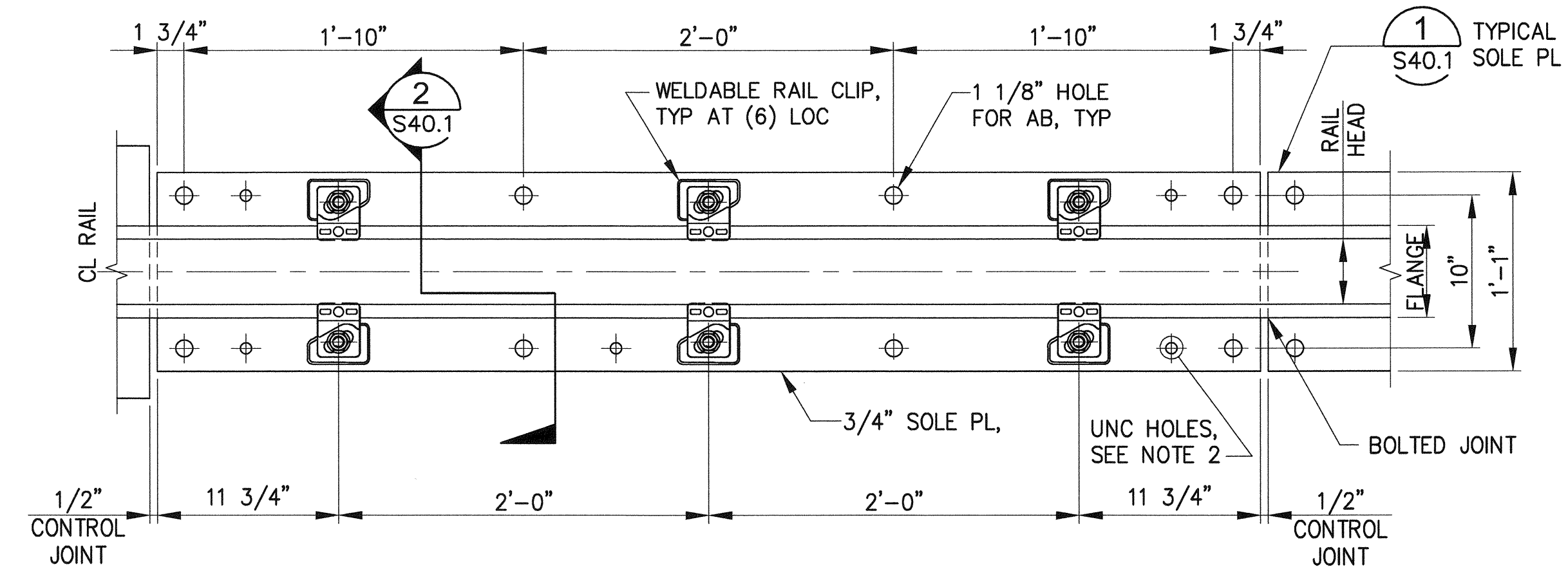
DETAIL - CRANE RAIL AT ISOLATION JOINT

2
S28

$$1\ 1/2'' = 1' - 0''$$


DETAIL - CRANE RAIL AT ISOLATION JOINT

3
S28.

$$1\ 1/2'' = 1' - 0''$$


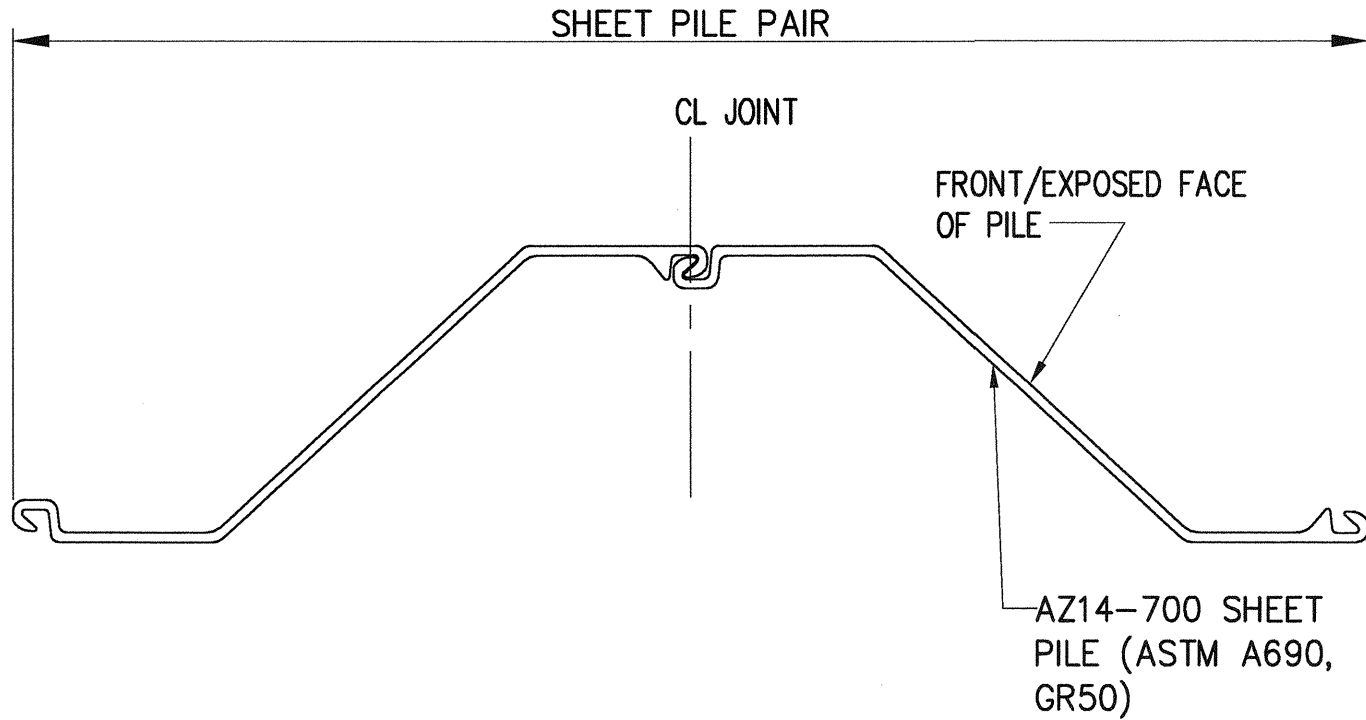
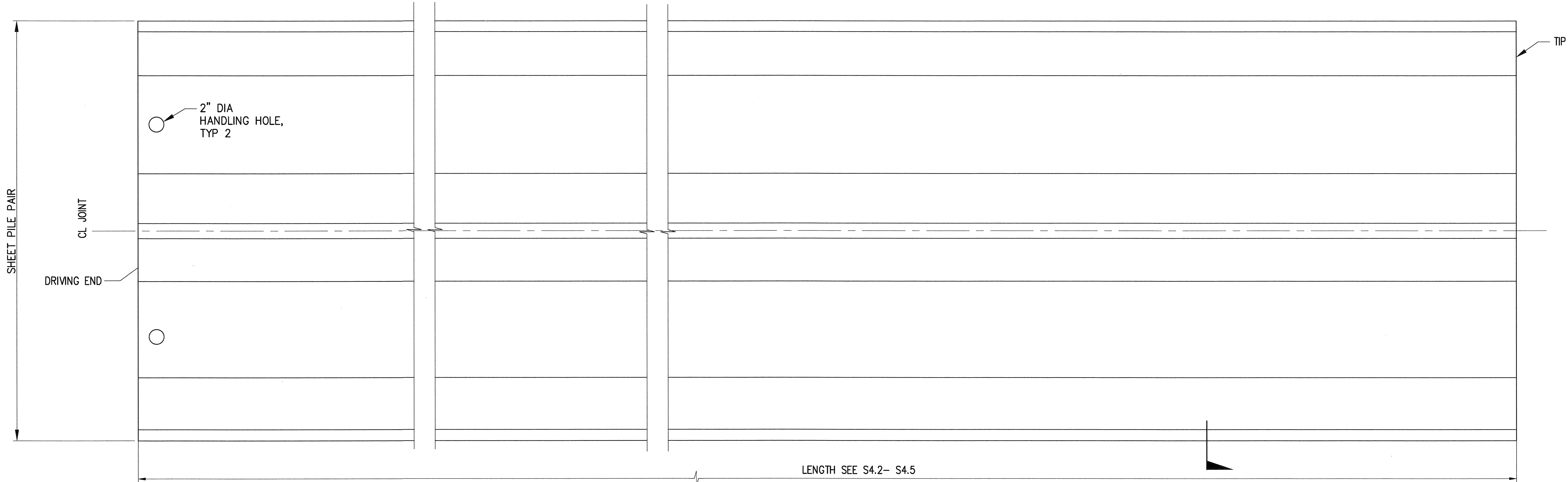
DETAIL - CRANE RAIL AT ISOLATION JOINT

4
S28.

$$1\frac{1}{2}'' = 1' - 0''$$

NOTES:

1. SEE S40.1 FOR NOTES.
2. SEE S40.1 FOR INFORMATION ON UNC HOLES.



SECTION A
1 1/2" = 1'-0"

S4.1, S4.2, S4.3, S4.4, S4.5

1

TYPICAL SHEET PILE PAIR
1 1/2"=1'-0"

6552

S41.1

SH 379 OF 499

CONT/CONS: 070136

M. ID: 091251

PHASE: BID

PIER 4 PHASE 2

RECONFIGURATION
STEEL SHEET PILE DETAILS

TOWNSHIP: 21N

DAT-HRZ: WA83-SF

PARCEL:

RANGE: 3E

SECTION: 27

DRAWING SCALE: AS NOTED

APPROVED:

[Signature]
3-28-16

DIRECTOR

ENG. DATE

PRINTED BY: ttenor

PORT ADDRESS: ONE SITCUM PLAZA

SEK

CHECKED BY

DATE

TAH

PROJ. ENGR

DATE

Mar 24, 2016

SEK

CHECKED BY

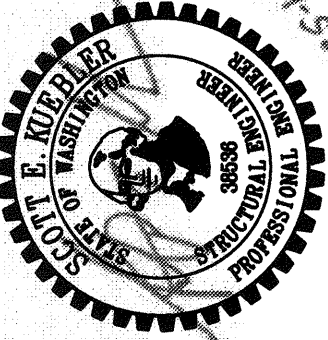
DATE

TAH

PROJ. ENGR

DATE

Mar 24, 2016



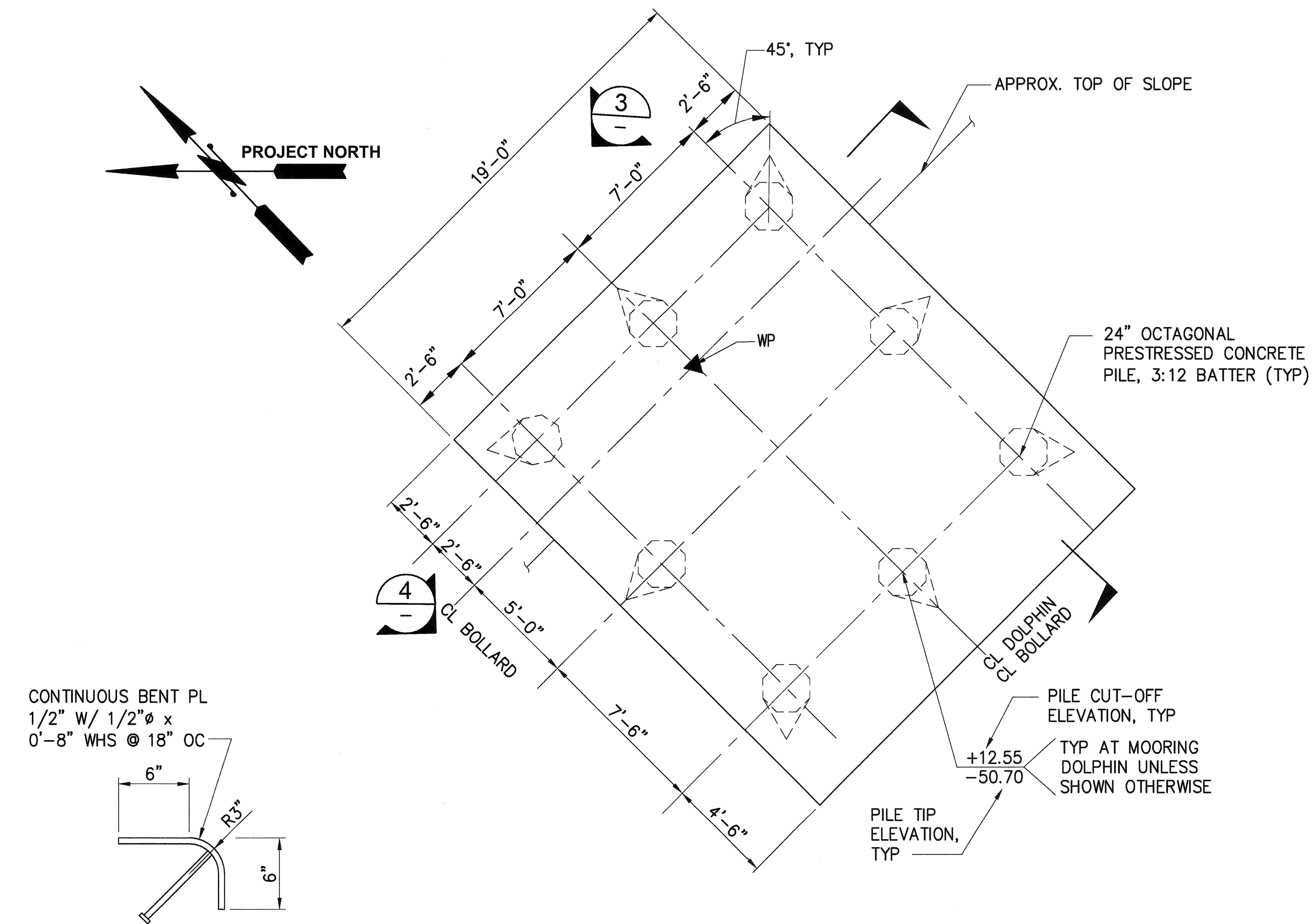
kpff
Port of Tacoma
P.O. BOX 1837 TACOMA, WA 98401 (253) 396-0162

2407 North 31st Street, Suite 100
Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162

MARK: REVISION: BY: APPR: DATE:

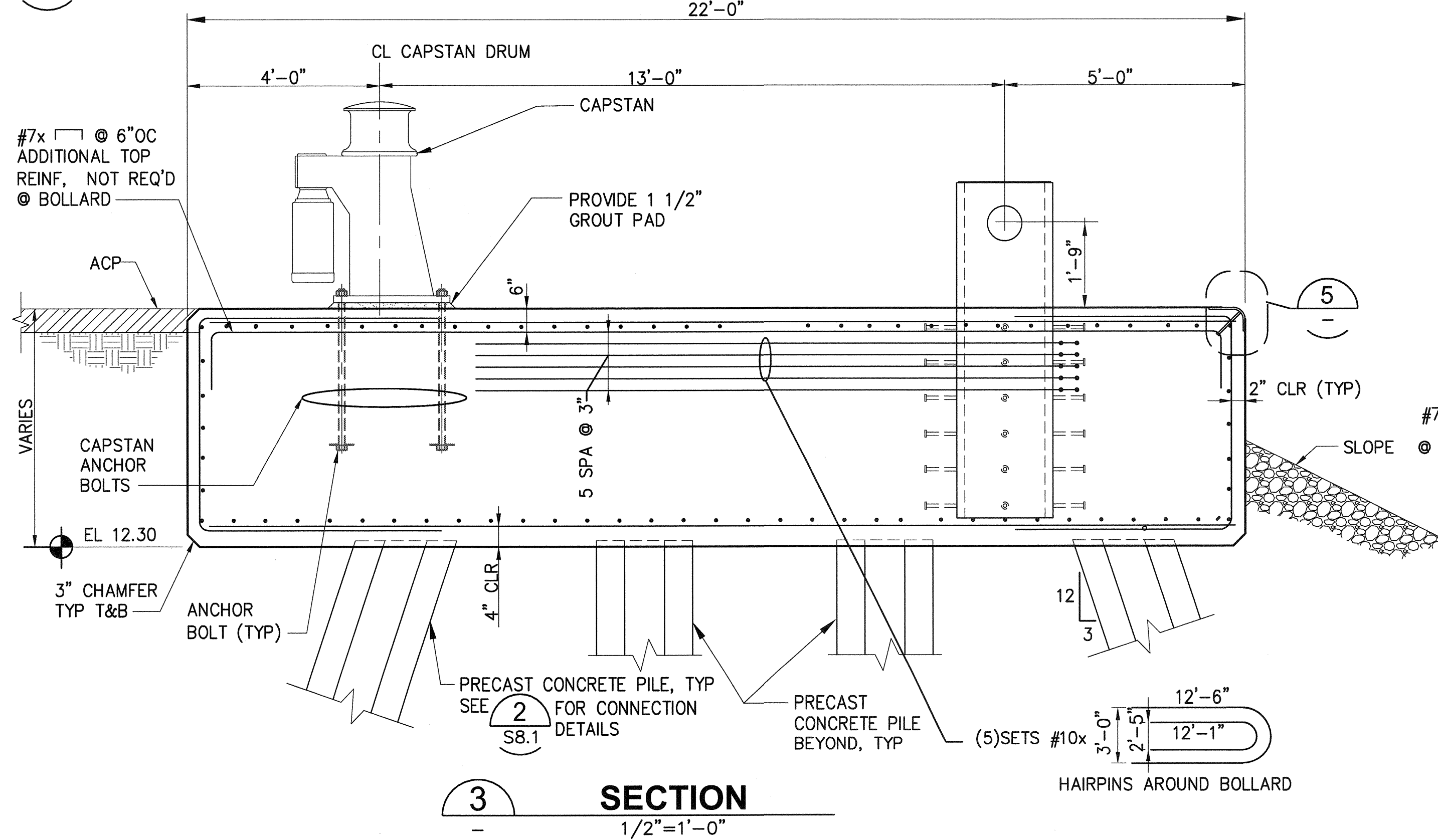
BY: DATE:

DATE:

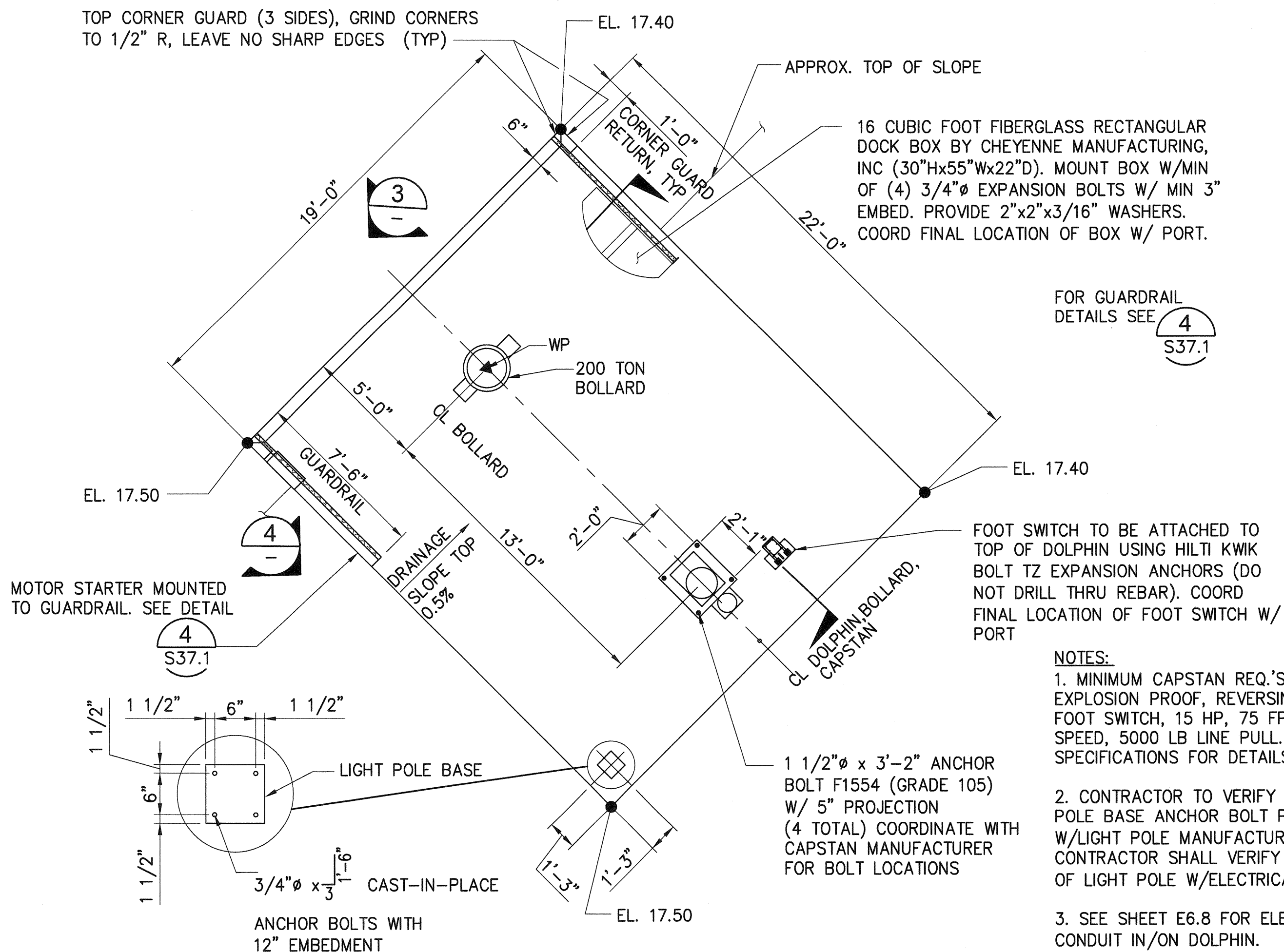


5
TYPICAL CORNER GUARD
1 1/2"=1'-0"

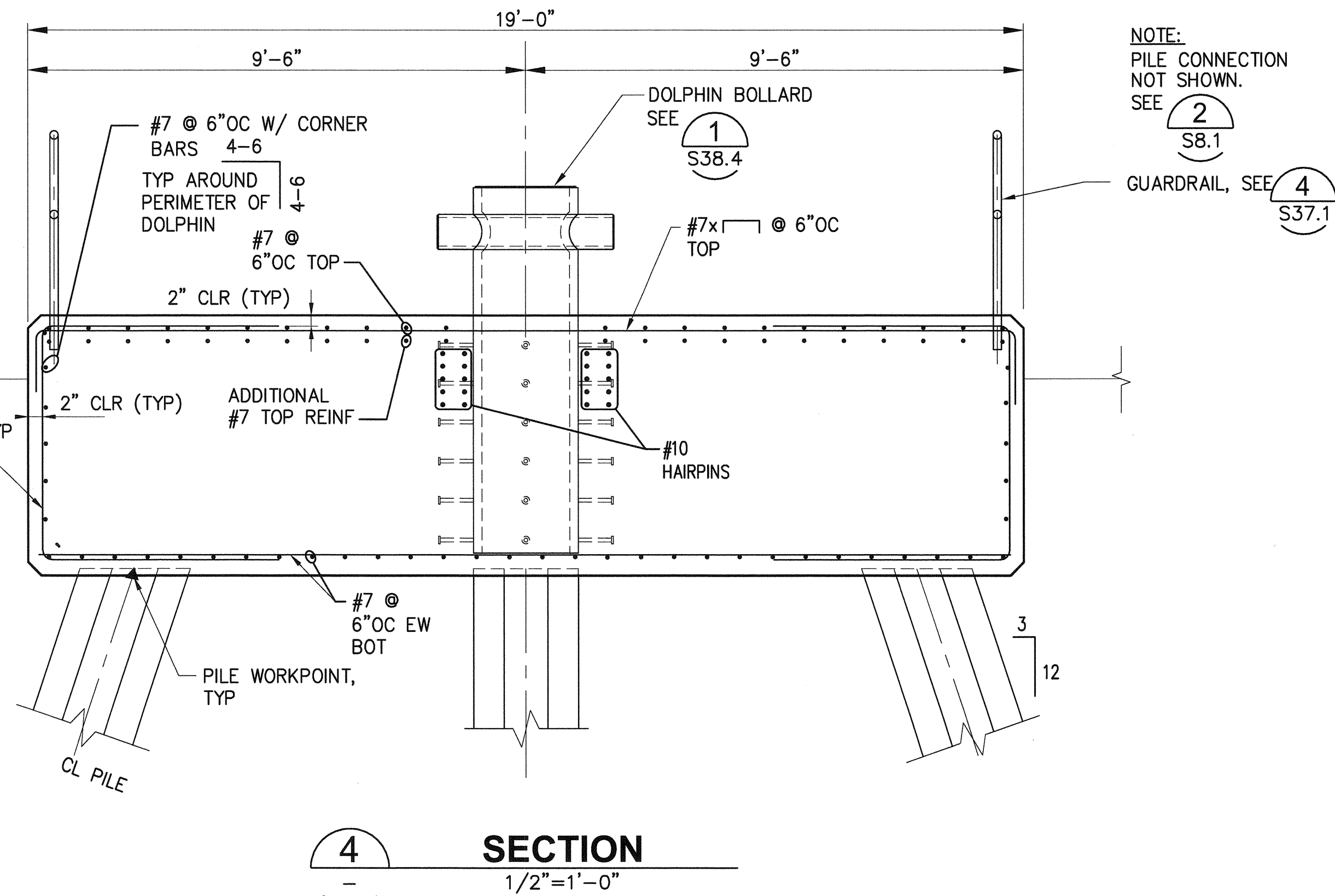
1
PILING PLAN - MOORING DOLPHIN
1/4"=1'-0"



3
SECTION
1/2"=1'-0"



2
PLAN - MOORING DOLPHIN
1/4"=1'-0"



4
SECTION
1/2"=1'-0"

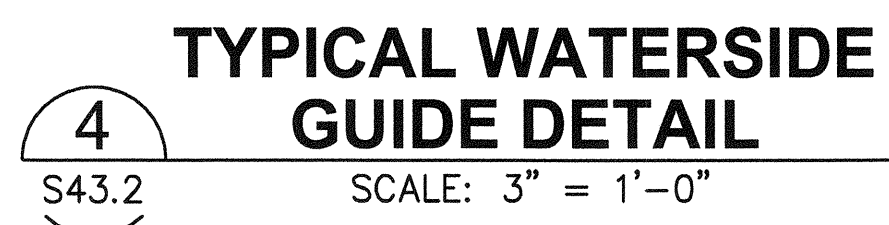
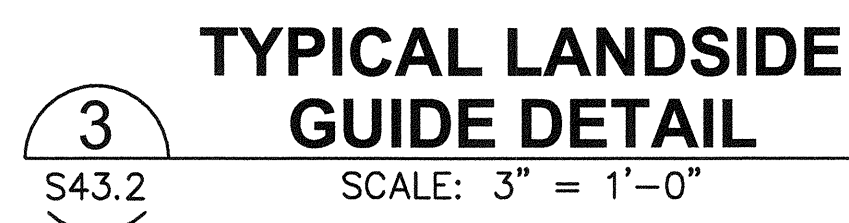
- NOTES:**
1. MINIMUM CAPSTAN REQ.'S: EXPLOSION PROOF, REVERSING MOTOR FOOT SWITCH, 15 HP, 75 FPM LINE SPEED, 5000 LB LINE PULL. SEE SPECIFICATIONS FOR DETAILS.
 2. CONTRACTOR TO VERIFY LIGHT POLE BASE ANCHOR BOLT PATTERN W/LIGHT POLE MANUFACTURER. CONTRACTOR SHALL VERIFY LOCATION OF LIGHT POLE W/ELECTRICAL.
 3. SEE SHEET E6.8 FOR ELECTRICAL CONDUIT IN/ON DOLPHIN.

 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162	 P.O. BOX 1837 TACOMA, WA 98401 (253) 396-5841	
	DATE:	APPR:
MARK:	REVISION:	BY:
APPROVED: <i>Scott E. Ruppel</i> 3-28-16 DIRECTOR ENG. DATE: 11/20/16 PRINTED BY: 11/20/16 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	PIER 4 PHASE 2 RECONFIGURATION MOORING DOLPHIN DETAILS	
6552 S42.1 SH 380 OF 499 CONT/CONS: 07/01/36 M. ID: 091251 PHASE: BID	TOWNSHIP: 21N RANGE: 3E DAT-HRZ: WA83-SF VERT: MLLW 19.39' @ Tide 22 1933 PARCEL: AS NOTED	SECTION: 27 DRAWING SCALE: AS NOTED





NOTE:
1. STEEL BALLAST VOLUME SHALL BE 3456 CU IN EACH (980 LBS OF STEEL). THE BALLAST MAY BE IN COMBINATIONS OF 1/2" OR LARGER PLATE ARRANGED TO MEET GEOMETRICAL REQUIREMENTS SHOWN. BALLAST CONFIGURATION SHALL BE THE SAME IN EACH LOCATION. ALL BALLAST SHALL BE AFFIXED TO THE FRAMING WITH SEAL WELDS AND SHALL BE PAINTED.




$$1/16'' = 1' - 0''$$

FOR BID PURPOSES, THE CONTRACTOR SHALL ASSUME
AN AVERAGE DEPTH OF REPAIR AREA OF 1 1/2"

10 BENT NUMBERS FROM RECORD DRAWINGS

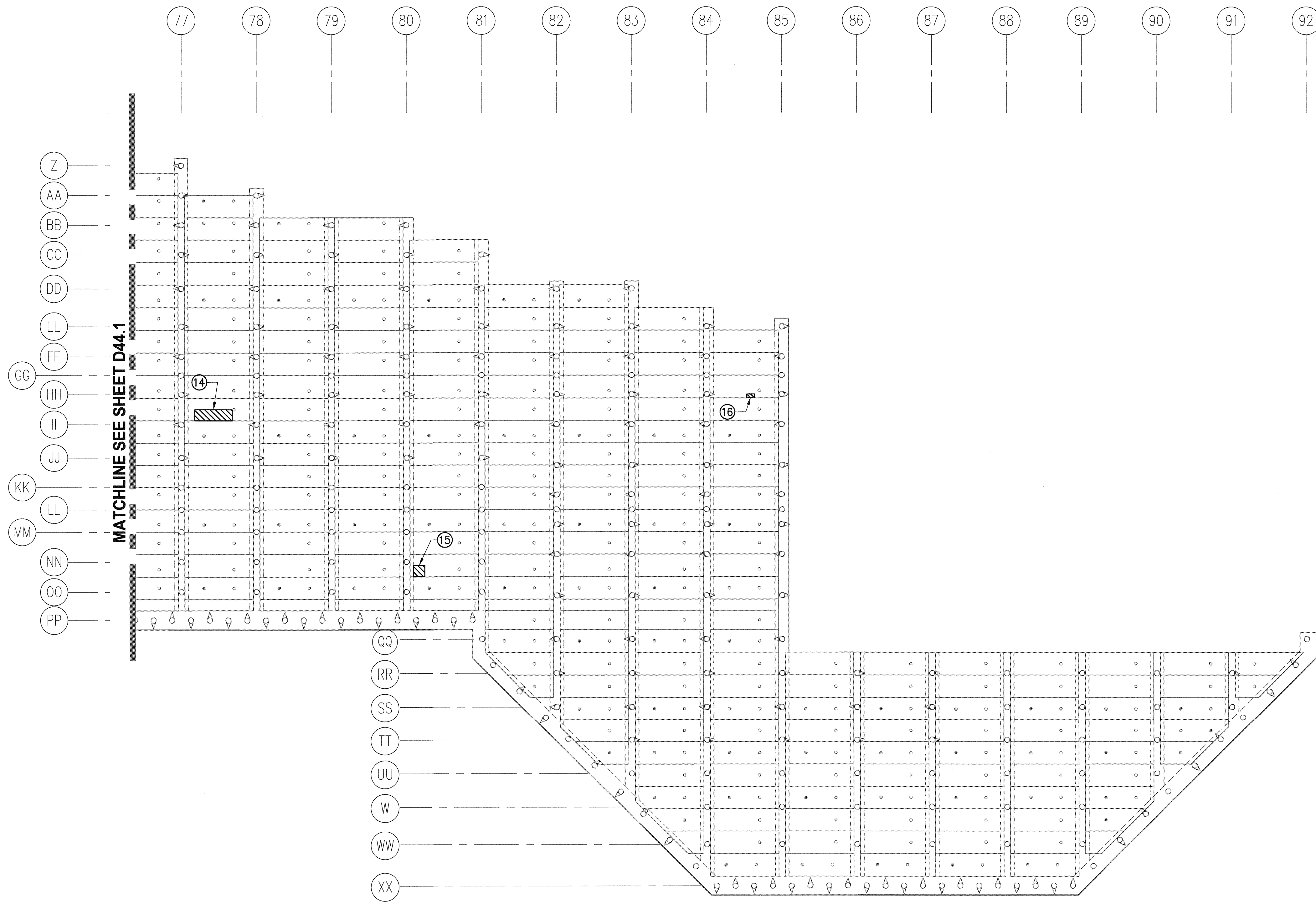
- DECK DRAIN
- SUBSURFACE DRAIN

 INDICATES EXISTING DELAMINATION OR SPALL TO BE REPAIRED

 REPAIR ID SEE TABLE 1 ABOVE

1. THE DIMENSIONS INDICATED FOR EACH REPAIR AREA REPRESENT THE ESTIMATED HORIZONTAL PLAN DIMENSIONS OF THE REPAIR PATCH BOUNDED BY THE SAW-CUT BOUNDARY AT EACH LOCATION. DIMENSIONS, LOCATIONS, AND QUANTITY OF SPALLS AND DELAMINATIONS TO BE REPAIRED ARE PROVIDED TO ESTABLISH A BASELINE FOR BID. ALL REPAIR AREAS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PER THE SPECIFICATIONS PRIOR TO STARTING WORK. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
2. SEE DRAWING S44.3 AND SPECIFICATIONS FOR REPAIR DETAILS AND REQUIREMENTS.





MATCHLINE SEE SHEET D44.1

LEGEND:

- 10 BENT NUMBERS FROM RECORD DRAWINGS

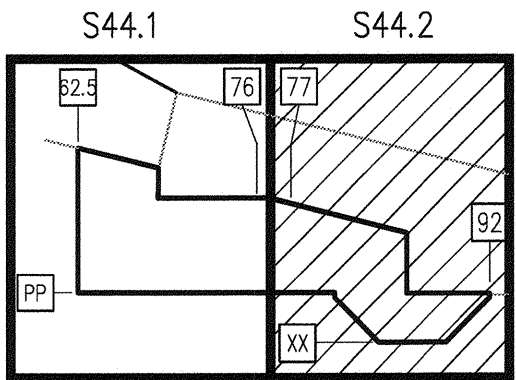
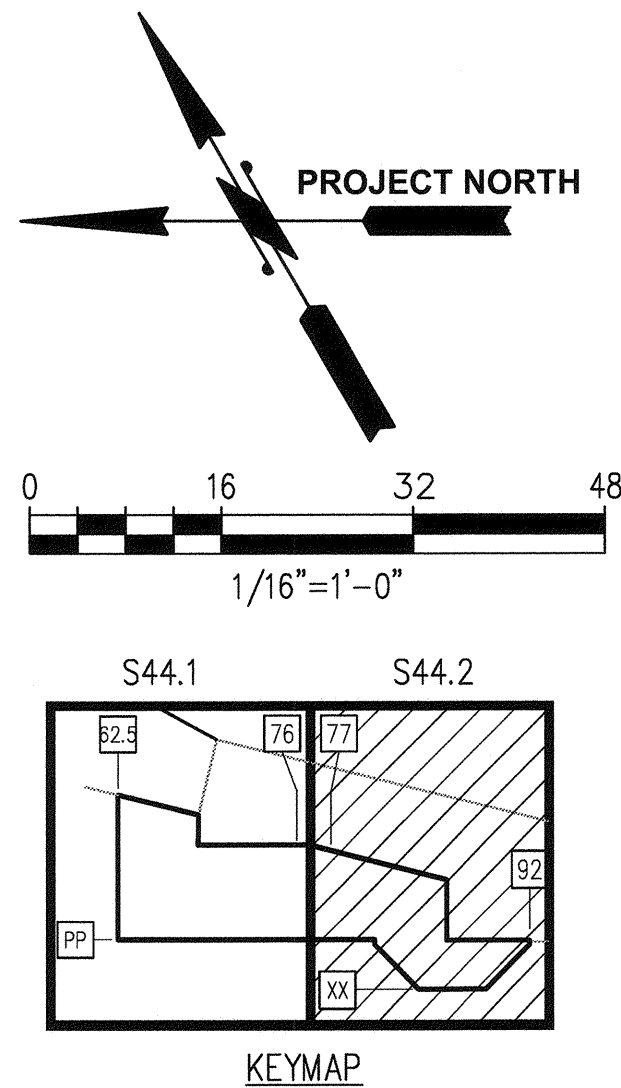
 - DECK DRAIN
 - SUBSURFACE DRAIN

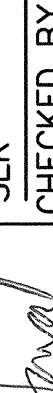
 INDICATES EXISTING DELAMINATION OR SPALL TO BE REPAIRED

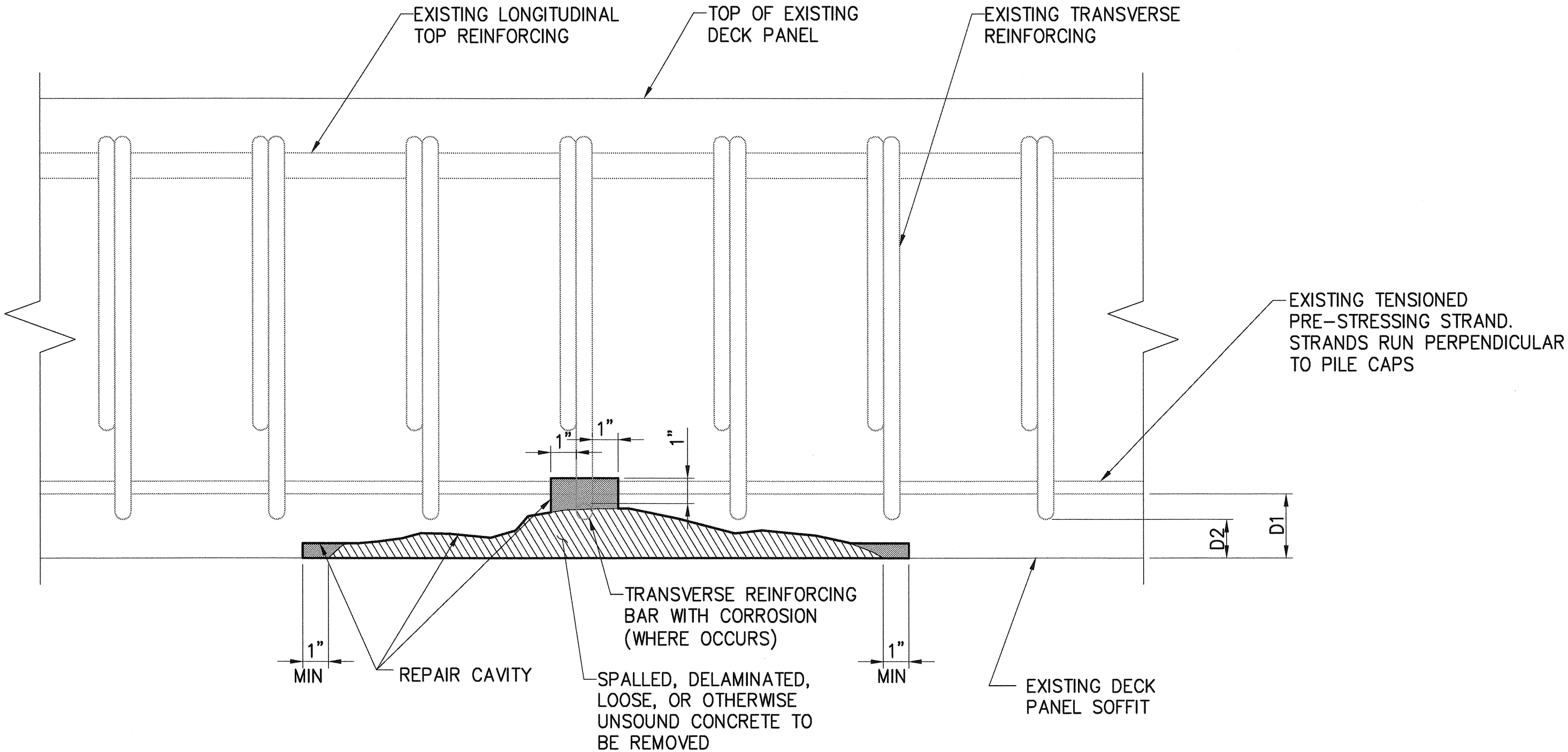
 # REPAIR ID SEE TABLE 1 ON S44.1

NOTES:

1. THE DIMENSIONS INDICATED FOR EACH REPAIR AREA REPRESENT THE ESTIMATED HORIZONTAL PLAN DIMENSIONS OF THE REPAIR PATCH BOUNDED BY THE SAW-CUT BOUNDARY AT EACH LOCATION. DIMENSIONS, LOCATIONS, AND QUANTITY OF SPALLS AND DELAMINATIONS TO BE REPAIRED ARE PROVIDED TO ESTABLISH A BASELINE FOR BID. ALL REPAIR AREAS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PER THE SPECIFICATIONS PRIOR TO STARTING WORK. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
2. SEE DRAWING S44.3 AND SPECIFICATIONS FOR REPAIR DETAILS AND REQUIREMENTS.



6552 S44.2 SH 385 OF 499 PIER 4 PHASE 2 RECONFIGURATION STRUCTURAL REPAIR PLANS - SHEET 2										APPROVED:  3-28-16 SEK CHECKED BY DATE TAH PROJ. ENGR DATE										DIRECTOR ENG. DATE PRINTED BY: HERRONS Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA DRAWING SCALE: AS NOTED TACOMA, WA 98401-1837										 kpff 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162										 Port of Tacoma P.O. BOX 1897 TACOMA, WA 98401 (253) 393-5861										MARK: REVISION: BY: APPR: DATE: 									
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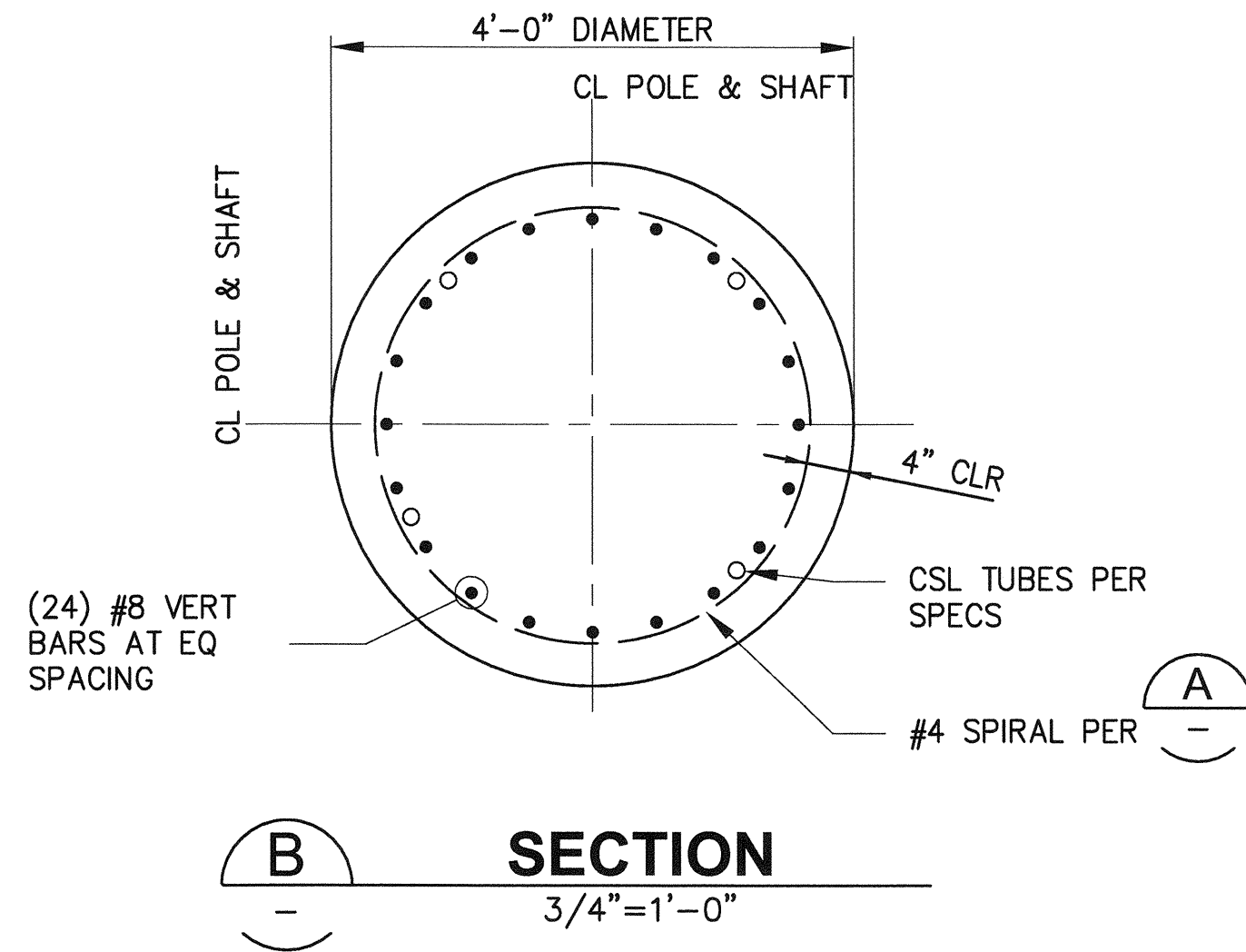
RECOMMENDED REPAIR SEQUENCE (SEE SPECIFICATIONS)

1. LOCATE EACH DESIGNATED REPAIR ON THE STRUCTURE AND DETERMINE THE ACTUAL REPAIR PERIMETER BY HAMMER SOUNDING TO DETERMINE IF UNSEEN SUBSURFACE DELAMINATIONS EXIST IN ADDITION TO VISUAL SPALLS. FOLLOWING THE HAMMER SOUNDING, THE CONTRACTOR SHALL MARK THE OUTLINE OF THE ACTUAL REPAIR AREA, NOTIFY THE ENGINEER, AND SHALL PROVIDE ACCESS FOR THE ENGINEER'S INSPECTION PRIOR TO PROCEEDING WITH REPAIRS.
2. USING NDT METHODS, DETERMINE THE ACTUAL CONCRETE COVER OVER THE PRE-STRESSING STRAND (DIMENSION D1) AND TRANSVERSE REINFORCING (DIMENSION D2) IN THE ESTIMATED REPAIR AREA. DO NOT EXPOSE MORE THAN 12" OF PRE-STRESSING STRAND AT ANY TIME DURING REPAIR WITHOUT DIRECTION FROM ENGINEER.
3. CHIP AND REMOVE LOOSE CONCRETE TO SOUND SUBSTRATE WITHIN REPAIR AREA.
4. REMOVE ADDITIONAL CONCRETE TO PROVIDE 1" MIN CLEAR AROUND REINFORCING BARS (NOT STRANDS) AT LOCATIONS WHERE HALF OR MORE OF A BAR'S DIAMETER IS EXPOSED.
5. THE EDGES OF THE REPAIR BOUNDARY SHALL EXTEND AT LEAST 1" BEYOND THE PLAN EXTENTS OF SPALLS, DELAMINATIONS, OR OTHERWISE UNSOUND CONCRETE. THE EDGES OF THE ACTUAL REPAIR AREA SHALL BE FORMED BY STRAIGHT BOUNDARY LINES TO EITHER A SQUARE OR RECTANGULAR PLAN SHAPE. BOUNDARY LINES SHALL BE PARALLEL TO DECK PANEL EDGES AND PILE CAPS.
6. VERTICALLY SAWCUT THE REPAIR AREA BOUNDARY TO A DEPTH OF 1/2" MIN TO 3/4" MAX, BUT NOT MORE THAN D2. USE CARE TO PREVENT DAMAGE TO REINFORCING STEEL AND PRE-STRESSING STRAND. DAMAGE TO REINFORCING OR STRAND SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE PORT.
7. PREPARE REPAIR CAVITY BY REMOVING ALL CONCRETE FROM WITHIN THE REPAIR AREA BOUNDARY TO THE DEPTH OF THE SAWCUTS. ROUGHEN EXPOSED CONCRETE SURFACE.
8. WHERE TRANSVERSE REINFORCING IS CORRODED AND HAS LOST MORE THAN 25% OF ORIGINAL CROSS SECTION, SPLICE IN NEW BAR OF SAME SIZE AS EXISTING. PROVIDE LAP SPLICE TO REMAINING REINFORCING ON EACH SIDE.
9. PROVIDE NOTIFICATION TO PORT AND PROVIDE ACCESS TO ENGINEER FOR INSPECTION OF REPAIR AREAS PRIOR TO PLACING REPAIR MATERIALS.
10. PREPARE EXPOSED REINFORCEMENT FOR PLACING REPAIR MATERIAL.
11. PLACE REPAIR MATERIAL AND CURE PER MANUFACTURER'S INSTRUCTIONS AND THE SPECIFICATIONS. COMPLETED PATCH SHALL PROVIDE FOR MINIMUM 1 1/2" OF COVER OVER TRANSVERSE REINFORCING STEEL.

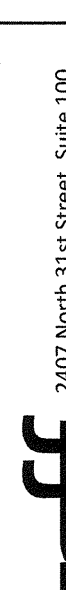
1 DECK PANEL SOFFIT REPAIR
NTS

6552 S44.3 SH 386 OF 499	PIER 4 PHASE 2 RECONFIGURATION STRUCTURAL REPAIR DETAILS				APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR ENG. DATE: 3-28-16 PRINTED BY: 3-28-16 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SEC CHECKED BY: <i>[Signature]</i> DATE: <i>[Signature]</i> TAH PROJ. ENGR. DATE: 3-28-16 DATE: 3-28-16	Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401 (253)386-3441	kprff	MARK: REVISION: BY: DATE:
	TOWNSHIP: 21N	RANGE: 3E	SECTION: 27	DATE: 091251					
	DAT-HRZ:	VERT:	PARCEL:	PHASE: BID					
	DRAWING SCALE: AS NOTED								

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- ## NOTES:
1. SEE CIVIL DRAWINGS FOR POLE LOCATIONS.
 2. SEE ELECTRICAL DRAWINGS FOR CONDUITS AND GROUND WIRES TO BE EMBEDDED IN SHAFT.
 3. THE SHAFTS FOR POLES WYL03, WYL04, AND WYL05 MAY ENCOUNTER DIFFICULT DRILLING IN VICINITY OF THE FORMER SLIP 2 BERM. THE CONTRACTOR SHALL REVIEW AVAILABLE RECORD DRAWINGS AND PLAN DRILLING OPERATIONS ACCORDINGLY.

6552 \$45.1 SH 387 OF 499										PIER 4 PHASE 2 RECONFIGURATION HIGH-MAST LIGHT POLE FOUNDATION DETAILS										APPROVED: <i>[Signature]</i> 3-28-16 DIRECTOR ENG. DATE										SEK CHECKED BY DATE TAH PROJ. ENGR DATE										  2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162  P.O. BOX 1837 TACOMA, WA 98401 (253)396-0461																			
CONT/CONS: 070136 M. ID: 091251 PHASE: BID										TOWNSHIP: 21N DAT-HRZ: WA83-SF PARCEL:										RANGE: 3E VERT: MLLW 19.39' @ Tide 22 1933 DRAWING SCALE: AS NOTED										SECTION: 27 PRINTED BY: ttemons Mar 24, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837										MARK: REVISION: BY: APPR: DATE:																			

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