

# STRUCTURAL NOTES

## CODES AND STANDARDS

- ALL METHODS AND MATERIALS SHALL CONFORM TO BOTH THE INTERNATIONAL BUILDING CODE (IBC) (2019 EDITION) AND THE INTERNATIONAL EXISTING BUILDING CODE (IEBC) (2019 EDITION) AS AMENDED AND ADOPTED BY THE CITY OF ANCHORAGE.
- REINFORCED CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF "SPECIFICATIONS FOR CONCRETE CONSTRUCTION" (ACI 301-20) AND "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-19).
- STRUCTURAL AND MISCELLANEOUS STEEL FABRICATION AND ERECTION THEREOF SHALL CONFORM TO THE "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (AISC 303) AND "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS" (AISC 360).
- WELDING OF STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO "STRUCTURAL WELDING CODE - STEEL" (AWS D1.1).
- WELDING OF REINFORCING STEEL SHALL CONFORM TO "STRUCTURAL WELDING CODE - REINFORCING STEEL" (AWS D1.4).
- ALL METHODS AND MATERIALS SHALL CONFORM TO THE STATE OF ALASKA 2019 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION AS PREPARED BY THE ALASKA DEPARTMENT OF TRANSPORTATION (ADOT) AND THE AMERICAN PUBLIC WORKS ASSOCIATION (APWA) ALASKA CHAPTER.

## GENERAL

- THESE NOTES CONTAIN GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL VERIFY INFORMATION PROVIDED WITH THE SPECIFICATIONS AND OTHER DOCUMENTS AND BRING ANY CONFLICTS TO THE ATTENTION OF THE ENGINEER BEFORE BEGINNING AFFECTED WORK. THE ENGINEER WILL RESOLVE ANY SUCH CONFLICT.
- ALL DIMENSIONS AND DETAILS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO FABRICATION AND CONSTRUCTION.
- ALL SHOP DRAWINGS FOR PRECAST CONCRETE ELEMENTS, REINFORCING STEEL, MISCELLANEOUS STEEL, AND FENDER SYSTEM SHALL BE SUBMITTED TO THE ENGINEER AND WILL BE REVIEWED BY THE ENGINEER PRIOR TO FABRICATION. FOR ADDITIONAL ITEMS REFER TO TECHNICAL SPECIFICATIONS.
- ALL ELEVATIONS REFER TO MEAN LOWER LOW WATER (MLLW) EL 0.00 FT AS DEFINED BY THE U.S. ARMY CORPS OF ENGINEERS. SEE SURVEY CONTROL DRAWINGS FOR HORIZONTAL AND VERTICAL SURVEY CONTROL.
- EXISTING FEATURES SHOWN ON THESE DRAWINGS ARE BASED ON AS-BUILT DATA AND RECENT SURVEYS. THE LOCATIONS OF EXISTING UTILITIES AND OTHER FEATURES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO PERFORMING THE ASSOCIATED WORK. USE A LOCATOR SERVICE AND EXCAVATE TO EXPOSE UTILITY LINES.
- THE CONTRACTOR SHALL BRING ANY CONFLICTS BETWEEN EXISTING UTILITIES AND THE WORK TO THE ENGINEER'S ATTENTION PRIOR TO START OF CONSTRUCTION ON THE AFFECTED WORK.
- ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS TO EXISTING FEATURES, STRUCTURES, AND UTILITIES THAT ARE TO REMAIN, SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

## REINFORCED CONCRETE

- REINFORCING STEEL
  - PRESTRESSING STEEL SHALL BE UNCOATED LOW-RELAXATION SEVEN-WIRE STRAND CONFORMING TO ASTM A 416, GRADE 270.
  - ALL REINFORCING STEEL SHALL BE DEFORMED STEEL BARS CONFORMING TO ASTM A 615, GRADE 60, UNLESS NOTED OTHERWISE. SEE SPECIFICATIONS.
  - ALL DOWELS FOR PILING SHALL BE OF WELDABLE QUALITY AND SHALL CONFORM TO ASTM A 706, GRADE 60.
  - EPOXY COATED REINFORCEMENT SHALL CONFORM TO ASTM A 934.
  - WIRE FOR SPIRAL REINFORCEMENT SHALL CONFORM TO ASTM A 82.
  - SEE SPECIFICATIONS FOR HIGH-STRENGTH BAR, WELDED HEADED STUD, MECHANICAL COUPLER, AND HEADED REINFORCEMENT REQUIREMENTS.
  - SPLICING OF LONGITUDINAL REINFORCEMENT OVER 40 FT IN LENGTH, EXCEPT AS SPECIFICALLY NOTED ON THE DRAWINGS, WILL BE PERMITTED UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" (ACI 318) STAGGERED THREE LAP LENGTHS WITH NO MORE THAN 50% OF THE BARS BEING SPLICED AT ANY ONE LOCATION. BAR SPLICES SHALL COMPLY WITH ACI 318.
  - PROVIDE CORNER BARS AT ALL CORNERS. CORNER BARS SHALL MATCH THE NUMBER/SPACING AND DIAMETER OF ALL HORIZONTAL REINFORCEMENT AT THE CORNER. TERMINATED STRAIGHT BARS SHALL EXTEND THE FULL AVAILABLE LENGTH INTO ADJOINING MEMBERS. SPLICE CORNER BAR TO TERMINATED STRAIGHT BAR WITH MINIMUM SPLICE LENGTH BELOW.
  - DETAIL ALL REINFORCING STEEL IN ACCORDANCE WITH ACI 315, LATEST EDITION. ALL REINFORCING STEEL BENDS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. USE SEISMIC HOOK DETAILS FOR ALL TIES AND STIRRUPS UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
  - ALTERNATE ENDS OF HORIZONTAL TIES (CROSS TIES WITH 135 DEGREE HOOK AND 90 DEGREE HOOK) EXCEPT WHEN PLACED AGAINST HARDENED CONCRETE WHERE THE 90 DEGREE HOOK SHALL BE PLACED AT THE HARDENED CONCRETE FACE.
- PRECAST CONCRETE
 

	MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS
PRECAST PRESTRESSED CONCRETE PILES	6000 PSI
PRECAST PRESTRESSED CONCRETE GIRDERS	PER SCHEDULE, SEE SHEET S-525
- CAST-IN-PLACE CONCRETE
 

	MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS
A. UNLESS NOTED OTHERWISE	5000 PSI
- ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4", UNLESS OTHERWISE NOTED.
- CONSTRUCTION JOINTS SHALL BE PROVIDED ONLY AS NOTED ON THE DRAWINGS AND AS SPECIFICALLY PERMITTED BY THE ENGINEER. ROUGHEN EXISTING CONCRETE RECEIVING NEW CONCRETE TO A MINIMUM 1/4" AMPLITUDE IN ACCORDANCE WITH THE SPECIFICATIONS. CLEAN AND REMOVE LAITANCE, THEN DAMPEN FOR AT LEAST 12 HOURS BEFORE PLACING NEXT POUR.

## GROUT, MORTAR, DOWEL ADHESIVE, AND CRACK REPAIRS

- SEE SPECIFICATIONS.

## MISCELLANEOUS STEEL

- MISCELLANEOUS AND STRUCTURAL STEEL SHAPES AND PLATES, EXCEPT AS NOTED OTHERWISE, SHALL CONFORM TO THE SPECIFICATIONS.
- BOLTS AND NUTS SHALL CONFORM TO ASTM A 307, UNLESS NOTED OTHERWISE.
- ANCHOR BOLT OR ANCHOR RODS SHALL CONFORM TO ASTM F 1554, GRADE 55, UNLESS NOTED OTHERWISE.
- FOR ITEMS TO BE COATED, GALVANIZED, OR GALVANIZED AND COATED, REFER TO THE SPECIFICATIONS. REPAIR DAMAGE TO COATINGS AND GALVANIZING IN ACCORDANCE WITH THE SPECIFICATIONS.
- PROVIDE BLEED HOLES IN EMBEDDED PLATES AND SHAPES AT 24-IN. ON CENTER MAXIMUM.
- ALL MISCELLANEOUS PIPE SHALL CONFORM TO ASTM A 53 GRADE B OR ASTM A 106 GRADE B OR C UNLESS NOTED OTHERWISE.
- ALL MISCELLANEOUS STEEL INCLUDING FASTENERS, BOLTS AND NUTS, MUST BE HOT DIP GALVANIZED, UNLESS OTHERWISE NOTED. GALVANIZE ITEMS AFTER FABRICATION TO THE EXTENT POSSIBLE. GALVANIZING ACCIDENTALLY DAMAGED AND/OR DAMAGED BY WELDING IN THE FIELD MUST BE RESTORED WITH A GALVANIZED COMPOUND APPLIED IN THE FIELD.
- WELDING SHALL CONFORM TO AWS D1.1 AND AWS D1.4 STANDARDS. WELDING ELECTRODES SHALL CONFORM TO AWS A5.1 OR A5.5 SERIES E70XX.
- TIE DOWN MATERIALS
 

LINK AND ANCHOR PLATE	ASTM A709, HPS 70W
PIN	ASTM A311, GR. 70
WIDE FLANGE	ASTM A992, GR. 50
WIDE FLANGE STIFFENERS	ASTM A572, GR. 50
- CRANE STOP MATERIALS
 

ANCHOR BOLTS	F1554, GR. 105
PLATES	ASTM 572, GR. 50
WT SHAPE	ASTM A992, GR. 50
- PIN SOCKET MATERIALS
 

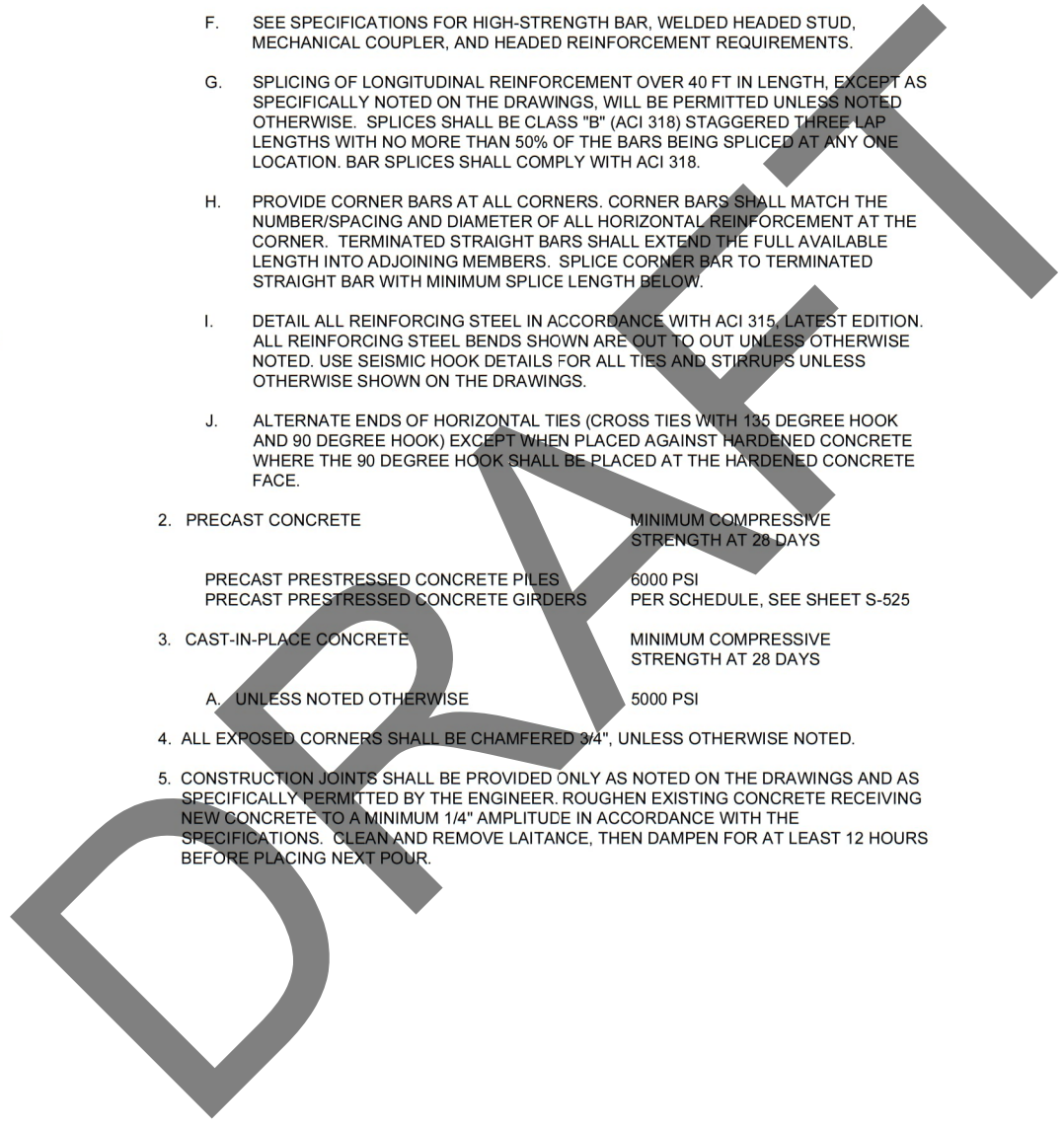
WELDED HEADED CONCRETE ANCHORS	ASTM A108
PLATES	ASTM 572, GR. 50

## PILING

- PILES SHALL BE DRIVEN TO THE REQUIRED TIP ELEVATIONS AND MINIMUM CAPACITIES INDICATED. SEE SPECIFICATIONS.

## LOAD PATH

- VERTICAL LOADS:  
LOADS ARE DISTRIBUTED THROUGH CONCRETE CRANE BEAMS AND DECK SYSTEM TO, PILE CAPS, PILE CAPS AND CRANE BEAMS TO PILES, PILES TO SOIL IN FRICTION AND END BEARING.
- HORIZONTAL LOADS:  
LOADS, INCLUDING SEISMIC FORCES, SOIL PRESSURE, SHIP IMPACT, AND MOORING FORCES ARE TRANSMITTED THROUGH THE DECK ACTING AS A DIAPHRAGM TO THE PILES.



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<b>VERIFY SCALES</b> BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	REV    DATE    DESCRIPTION    BY    APVD	GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)    AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)				STRUCTURAL  STRUCTURAL NOTES - SHEET 1	PORT OF ALASKA	
	REVISIONS						DSGN    DR    CHK    APVD JRG    JDM    JRG    JRG	CONSULTANT

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# DESIGN CRITERIA

## DESIGN LOADS:

### 1. UNIFORM LIVE LOAD ON PIER (MATCH EXISTING):

- A. 1000 PSF DECK
- B. 800 PSF PILES

UNIFORM LIVE LOAD SHALL NOT BE APPLIED WITHIN 4' OF A CRANE RAIL CONCURRENT WITH RAIL MOUNTED CRANE LOADS

### 2. BERTHING:

#### A. VESSELS

1. MATSON ANCHORAGE  
LENGTH OVERALL (LOA): 710 FEET  
BEAM: 78 FEET  
DRAFT: 33.9 FEET  
DISPLACEMENT: 38,500 LT  
APPROACH ANGLE: 10 DEGREES  
PERPENDICULAR VELOCITY: 0.16 KNOTS (0.26 FT/S)

2. MATSON MAUNALEI  
LENGTH OVERALL (LOA): 691 FEET  
BEAM: 98 FEET  
DRAFT: 37.4 FEET  
DISPLACEMENT: 46,000 LT  
APPROACH ANGLE: 10 DEGREES  
PERPENDICULAR VELOCITY: 0.16 KNOTS (0.26 FT/S)

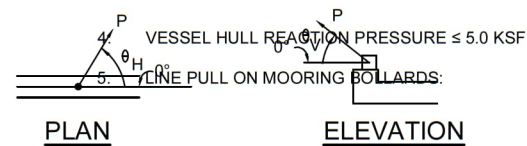
3. PROJECTED MATSON SHIP  
LENGTH OVERALL (LOA): 919 FEET  
BEAM: 137 FEET  
DRAFT: 45.3 FEET  
DISPLACEMENT: 100,000 LT  
APPROACH ANGLE: 10 DEGREES  
PERPENDICULAR VELOCITY: 0.16 KNOTS (0.26 FT/S)

4. NORWEGIAN ENCORE  
LENGTH OVERALL (LOA): 1,094 FEET  
BEAM: 136 FEET  
DRAFT: 28.5 FEET  
DISPLACEMENT: 80,160 LT  
APPROACH ANGLE: 10 DEGREES  
PERPENDICULAR VELOCITY: 0.24 KNOTS (0.40 FT/S)

5. USNS BOB HOPE  
LENGTH OVERALL (LOA): 949 FEET  
BEAM: 106 FEET  
DRAFT: 37.1 FEET  
DISPLACEMENT: 67,500 LT  
APPROACH ANGLE: 10 DEGREES  
PERPENDICULAR VELOCITY: 0.24 KNOTS (0.40 FT/S)

#### B. FENDER REQUIREMENTS

1. MINIMUM BERTHING ENERGY = XXX KIP-FT
2. MAXIMUM BERTHING REACTION = XXX KIPS



LOCATION	LINE PULL P	RANGE OF HORIZONTAL ANGLE $\theta_H$	RANGE OF VERTICAL ANGLE $\theta_V$
BOLLARD	150 TONS	0° TO 180°	-30° TO 30°

### 6. CONTAINER CRANE LOADS:

WHEEL LOADS ARE EXPRESSED AS EQUIVALENT UNIFORM DISTRIBUTION LOADS BASED ON EIGHT WHEELS PER CORNER SPACED AT 4'-11" ON CENTER.

UNIFORM DISTRIBUTED LOADS		SERVICE LOAD (KLF)		STRENGTH LOAD (KLF)	
		LANDSIDE	WATERSIDE	LANDSIDE	WATERSIDE
WHARF OPERATING AREAS	VERTICAL	36	32	45	41
	LATERAL TO CRANE RAIL	1.8	1.9	2.1	2.3
CRANE STOWAGE AREAS*	VERTICAL	45	38	67	57
	LATERAL TO CRANE RAIL	3.3	3.6	4.9	5.3

\*STOWED WIND, WITH STOW PINS AND TIE DOWNS ENGAGED

#### A. PIN SOCKETS (PARALLEL TO CRANE LOAD):

P = 245 KIPS PER RAIL (SERVICE)  
P = 395 KIP PER RAIL (STRENGTH)

#### B. CRANE STOPS (HORIZONTAL LOADS):

WITHOUT STABILITY STOOLS:  
P = 650 KIPS PER STOP (SERVICE)  
P = 780 KIPS PER STOP (STRENGTH)

WITH STABILITY STOOLS:  
P = 925 KIPS PER STOP (SERVICE)  
P = 1110 KIPS PER STOP (STRENGTH)

#### C. CRANE TIE-DOWNS (UPLIFT LOAD PER CORNER):

P = 480 KIPS (SERVICE)  
P = 770 KIPS (STRENGTH)

### 7. LOAD COMBINATIONS:

PER TMC, LOAD COMBINATIONS ARE FROM THE 2019 IEBC AND 2019 IBC. VESSEL LOADS (BERTHING, MOORING) HAVE BEEN INCLUDED PER CHAPTER 31F OF 2010 CBC.

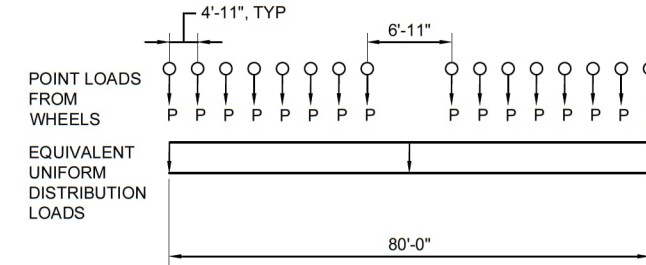
#### LRFD (STRENGTH DESIGN & STRUCTURAL CAPACITY CHECK)

- U1 = 1.2D + 1.6L + 1.5CLop + 1.2B + 1.6W + 1.2C + 1.6H (OPERATING)
- U2 = 1.2D + 1.6L + 1.3CLst + 1.2B + 1.6Wst + 1.2C + 1.6H (STOWED, VESSEL NOT MOORED)
- U3 = 1.2D + 1.6L + 1.0CLov + 1.2B + 1.0LATG + 1.2C + 1.6H (OVERLOAD)
- U4 = 1.2D + 1.2CLd + 1.2B + 1.6W + 1.2C + 1.6H + 1.6BE (BERTHING)
- U5 = 1.2D + 1.6L + 1.2B + 1.6W + 1.5CLop + 1.2C + 1.6H + 1.6M (MOORING)
- U6 = 1.4(D+L+EQ) (EXTREME)
- U7 = 0.9D ± 1.4EQ (EXTREME)

#### ASD (GEOTECHNICAL PILE CAPACITY & STRUCTURE SERVICEABILITY)

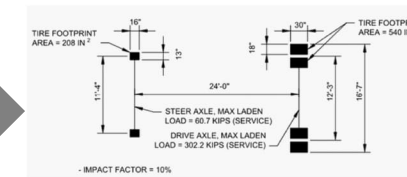
- S1 = 1.0D + 1.0L + 1.0CLop + 1.0B + 1.0W + 1.0C + 1.0H (OPERATING)
- S2 = 1.0D + 1.0L + 1.0CLst + 1.0B + 1.0Wst + 1.0C + 1.0H (STOWED, VESSEL NOT MOORED)
- S3 = 1.0D + 1.0L + 1.0CLov + 1.0B + 1.0LATG + 1.0C + 1.0H (OVERLOAD)
- S4 = 1.0D + 1.0CLd + 1.0B + 1.0W + 1.0C + 1.0H + 1.0BE (BERTHING)
- S5 = 1.0D + 1.0L + 1.0B + 1.0W + 1.0CLop + 1.0C + 1.0H + 1.0M (MOORING)
- S6 = D + L + EQ
- S7 = 0.85D ± EQ

### 8. CONTAINER CRANE WHEEL LOAD DIAGRAM



### 9. CONCENTRATED LIVE LOAD (MATCH EXISTING):

- A. AASHTO HS25 TRUCK
- B. CONTAINER HANDLERS TAYLOR TETCP 1100I OR EQUIVALENT



### 10. SPECIAL INSPECTION:

- A. SPECIAL INSPECTION WILL BE PROVIDED BY THE PORT. COORDINATE SPECIAL INSPECTION WITH THE ENGINEER.
- B. THE ELEMENTS REQUIRING SPECIAL INSPECTION PER IEBC & IBC CHAPTER 17 ARE AS FOLLOWS:

1. CONCRETE
2. BOLTS AND ANCHORS INSTALLED IN CONCRETE
3. DRILLED-IN DOWELS
4. REINFORCING STEEL
5. STRUCTURAL WELDING
6. PILING

#### LEGEND:

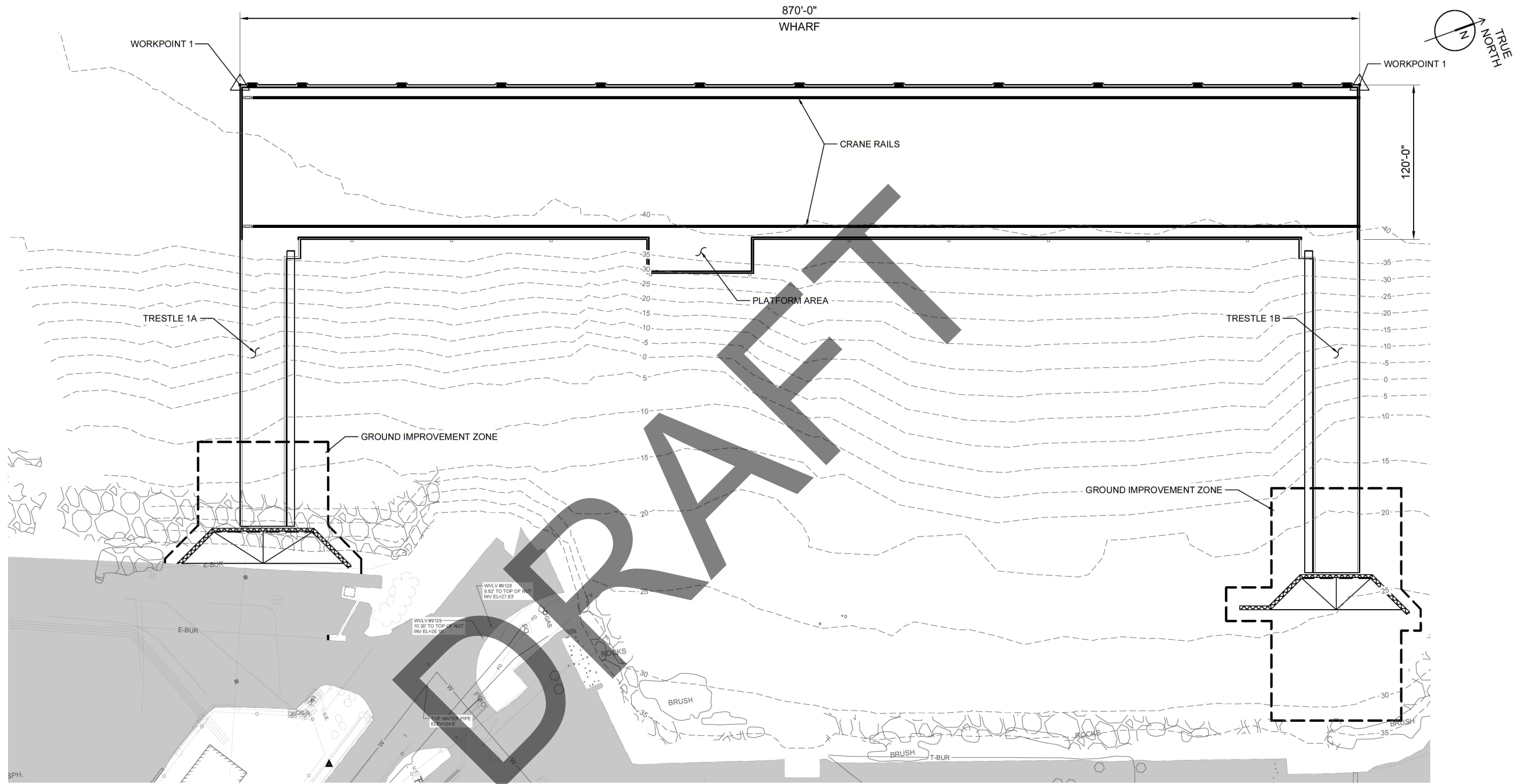
- B - BOUYANCY LOAD
- BE - BERTHING LOAD
- C - CURRENT LOAD
- D - STRUCTURE DEAD LOAD
- CLd - CONTAINER CRANE DEAD LOAD
- EQ - EARTHQUAKE LOAD (INCLUDES CLeq)
- H - SOIL LOAD
- L - UNIFORM LIVE LOAD OR CONCENTRATED LIVE LOAD
- LATG - LATERAL GANTRY LOAD
- CLop - CONTAINER CRANE OPERATING LOAD (INCLUDES CLd)
- CLov - CONTAINER CRANE OVERLOAD (INCLUDES CLd)
- CLst - CONTAINER CRANE LOAD UNDER STOWED (WIND) CONDITIONS (INCLUDES CLd)
- CLeq - CONTAINER CRANE DEAD LOAD INCLUDING VERTICAL EQ
- M - MOORING LOAD
- W - WIND LOAD (55 MPH)
- Wst - STOWED WIND LOAD (85 MPH)

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<p>VERIFY SCALES</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWING</p> <p>IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APVD</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV	DATE	DESCRIPTION	BY	APVD						<div style="display: flex; justify-content: space-around;"> </div> <p style="font-size: 8px;">GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)    AK BUSINESS LICENSE # 2164152(GHD) - 113311(WSP)</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <tr> <td>DSGN</td> <td>DR</td> <td>CHK</td> <td>APVD</td> </tr> <tr> <td>JRG</td> <td>JDM</td> <td>JRG</td> <td>JRG</td> </tr> </table> <p style="text-align: center; font-size: 8px;">CONSULTANT</p>	DSGN	DR	CHK	APVD	JRG	JDM	JRG	JRG				<p style="font-size: 12px; font-weight: bold;">STRUCTURAL</p> <p style="font-size: 10px;">STRUCTURAL NOTES - SHEET 2</p>	<p style="font-size: 10px;">PORT OF ALASKA</p> <p style="font-size: 10px;">PORT OF ALASKA MODERNIZATION PROGRAM</p> <p style="font-size: 12px; font-weight: bold;">CARGO TERMINAL 1 DESIGN</p> <p style="font-size: 8px;">ANCHORAGE, ALASKA</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <tr> <td>HORIZ SCALE: AS SHOWN</td> <td>DATE: 11/17/23</td> </tr> <tr> <td>VERT SCALE: AS SHOWN</td> <td>SHEET: OF</td> </tr> </table> <p style="font-size: 12px; font-weight: bold; text-align: right;">T1-S-002</p>	HORIZ SCALE: AS SHOWN	DATE: 11/17/23	VERT SCALE: AS SHOWN	SHEET: OF
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**SITE LAYOUT**  
SCALE: 1" = 40'

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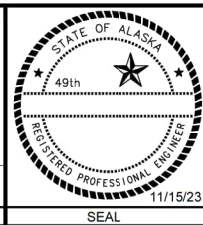
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REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

WSP  
CONSULTANT

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG



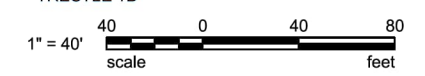
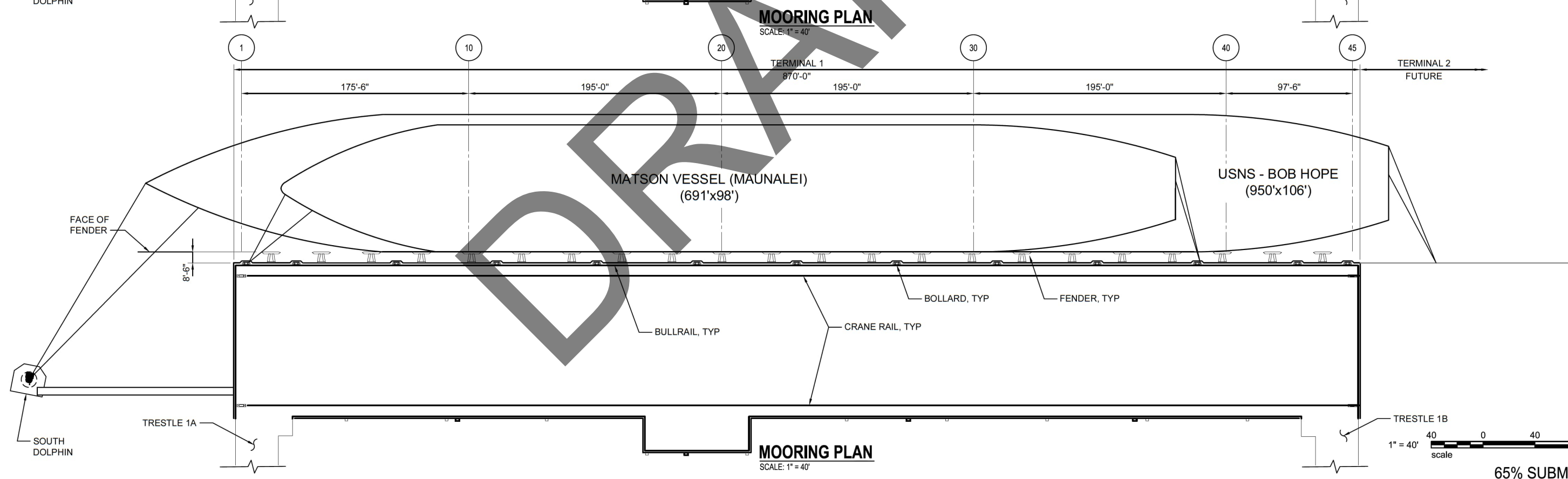
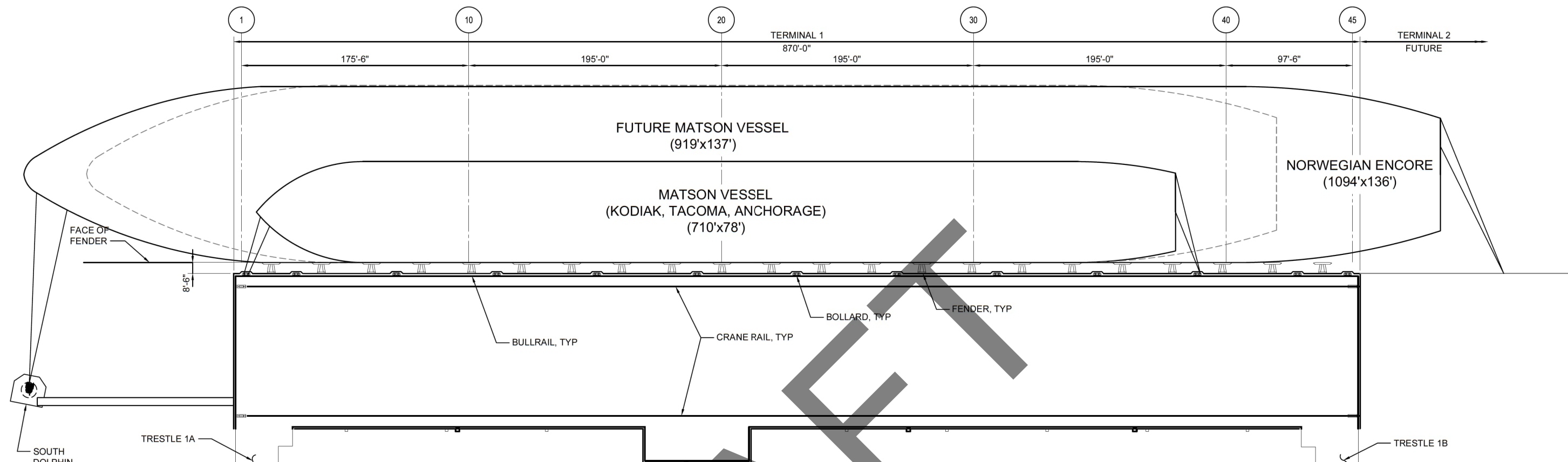
STRUCTURAL  
SITE LAYOUT

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-201
VERT SCALE: AS SHOWN	SHEET: OF	

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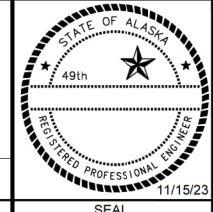


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AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

DR JDM  
CHK JRG  
APVD JRG  
CONSULTANT

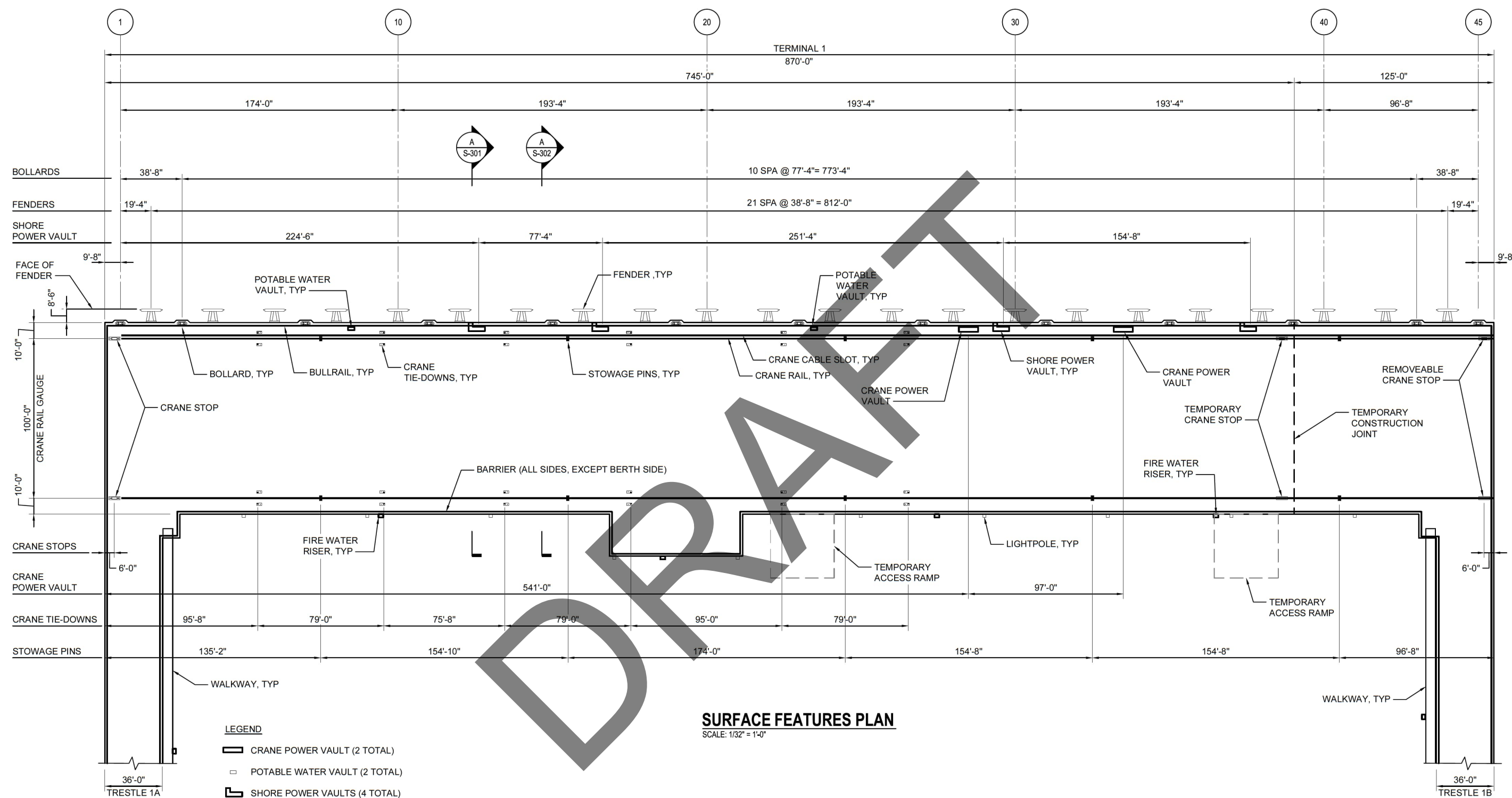
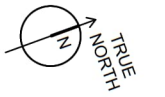


STRUCTURAL  
MOORING PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
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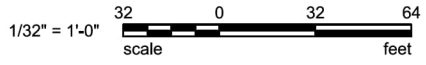
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**SURFACE FEATURES PLAN**  
SCALE: 1/32" = 1'-0"

- LEGEND**
- CRANE POWER VAULT (2 TOTAL)
  - POTABLE WATER VAULT (2 TOTAL)
  - SHORE POWER VAULTS (4 TOTAL)
  - FIRE WATER RISER (6 TOTAL)



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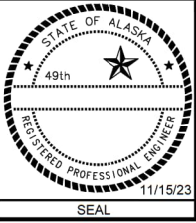
REV	DATE	DESCRIPTION	BY	APVD

VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT



**STRUCTURAL**  
WHARF AND TRESTLES - SURFACE  
FEATURES PLAN

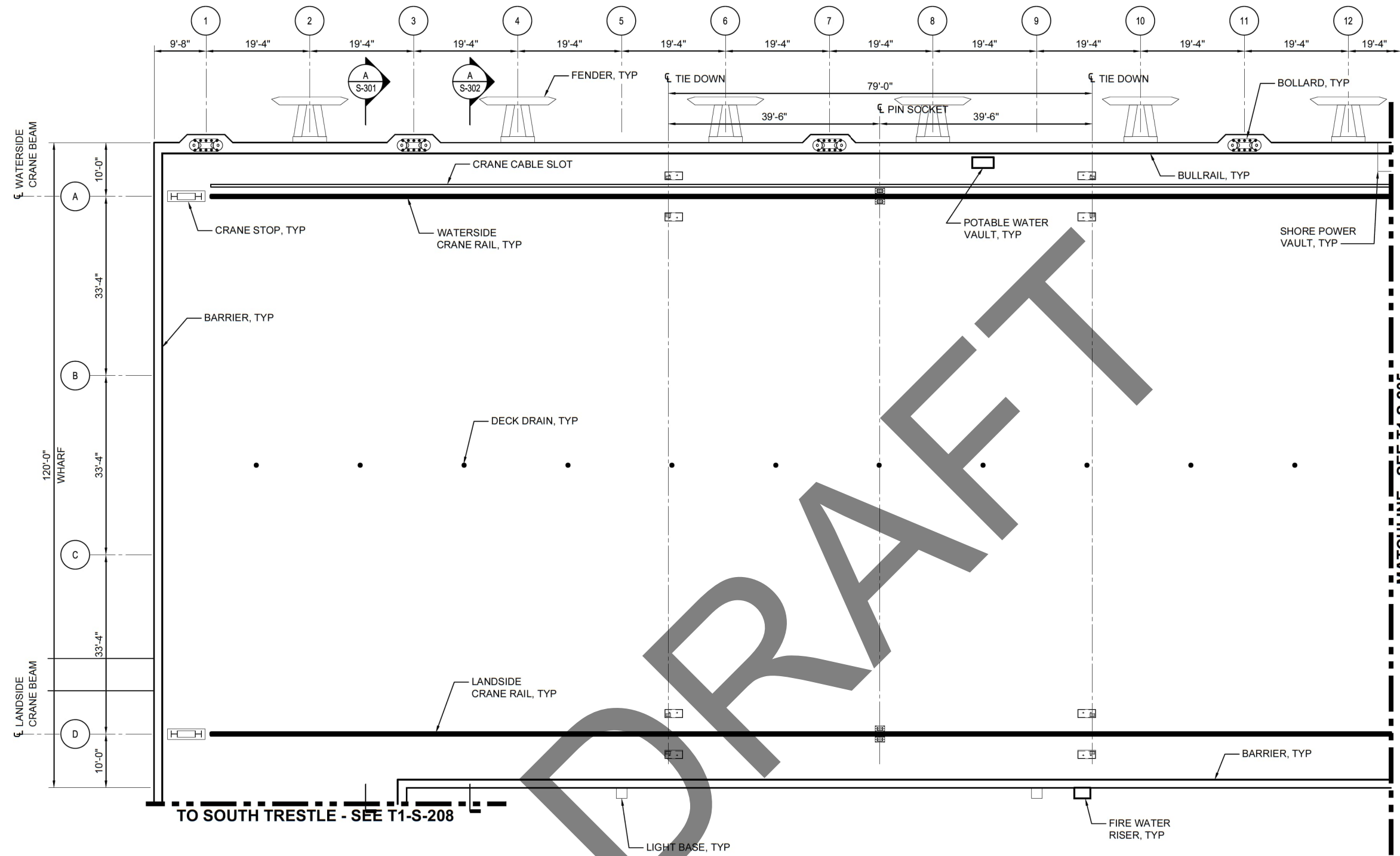
PORT OF ALASKA  
PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE: 11/17/23	<b>T1-S-203</b>
VERT SCALE: AS SHOWN	SHEET: OF	

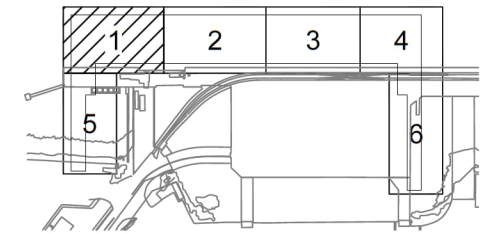
\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



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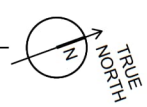


DRAFT



**KEY PLAN**

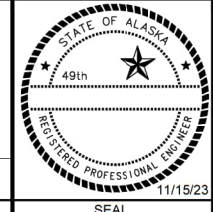
**SURFACE FEATURES PLAN**  
SCALE: 3/32" = 1'-0"



65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

<b>GHD</b>		<b>wsp</b>	
GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)      AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)			
DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG
CONSULTANT			

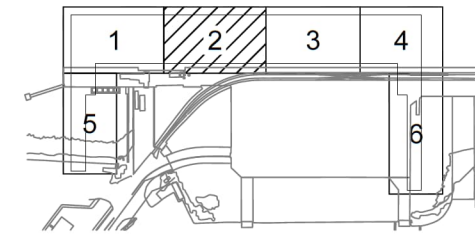
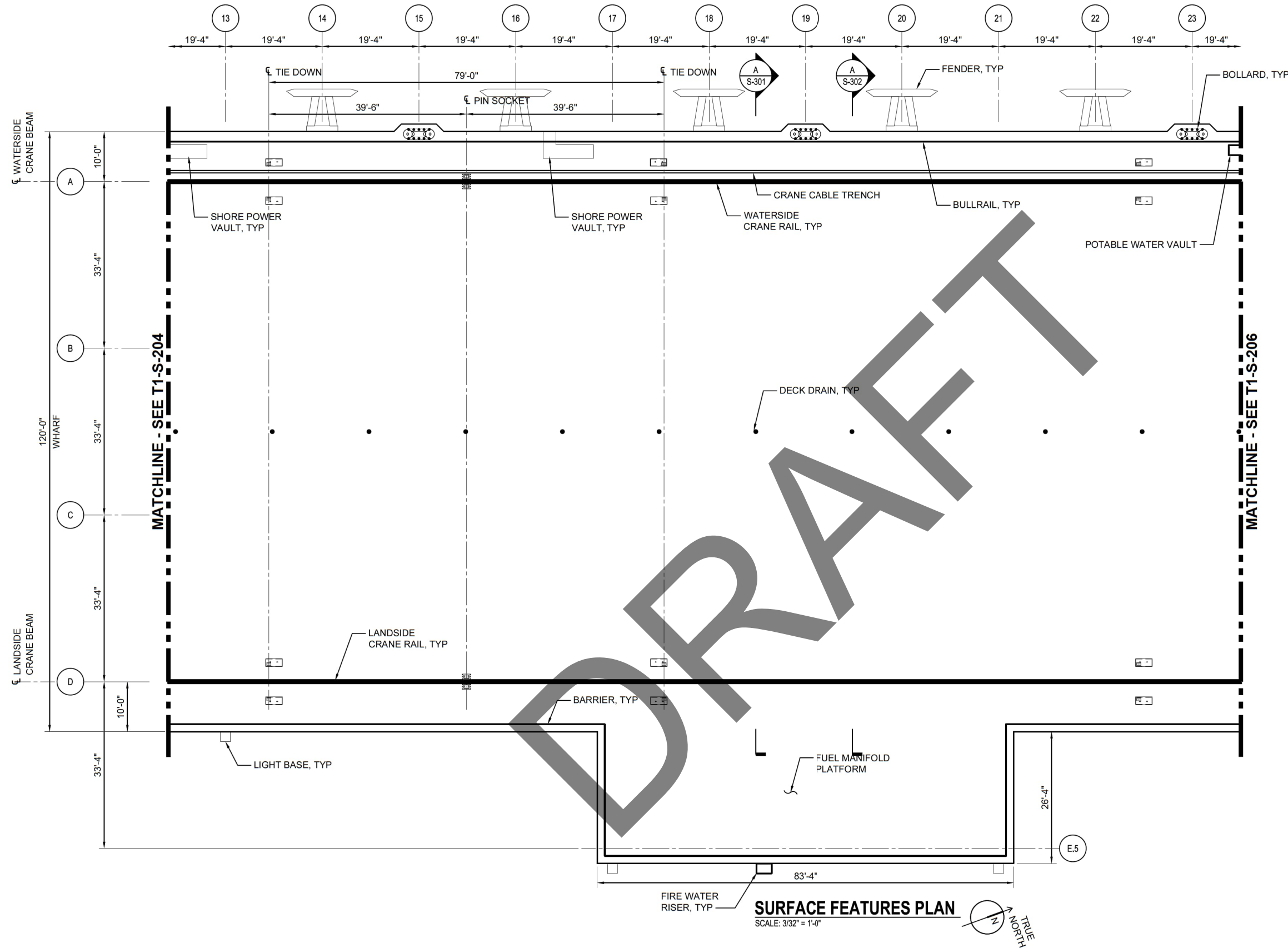


**STRUCTURAL**  
WHARF - SURFACE FEATURES PARTIAL  
PLAN - SHEET 1

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	<b>T1-S-204</b>
VERT SCALE: AS SHOWN	SHEET: OF	

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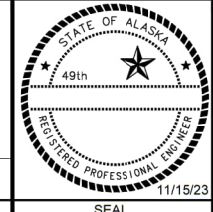


65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

DR JDM  
CHK JRG  
APVD JRG



**STRUCTURAL**

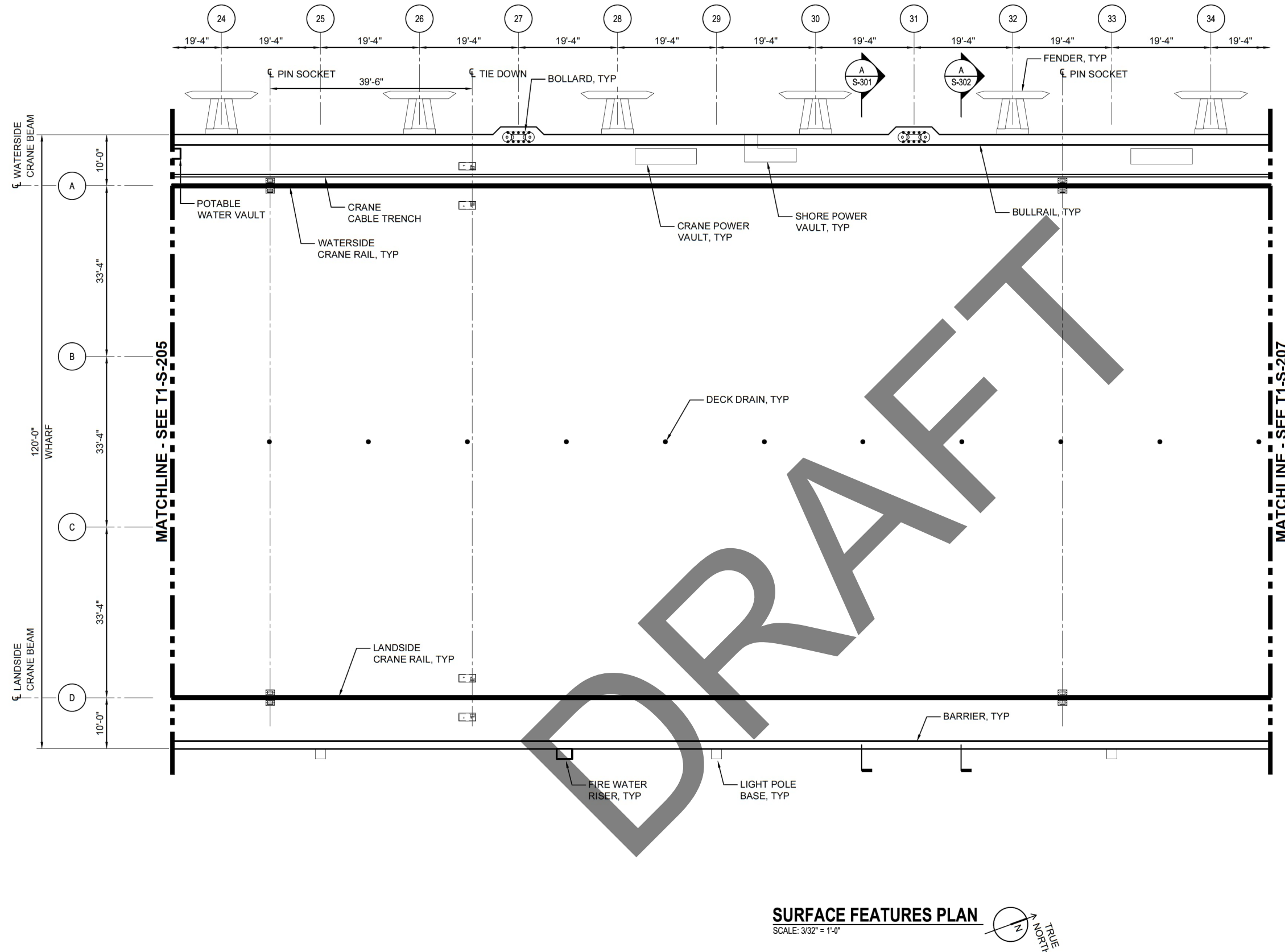
WHARF - SURFACE FEATURES PARTIAL  
PLAN - SHEET 2

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-205
VERT SCALE: AS SHOWN	SHEET: OF	

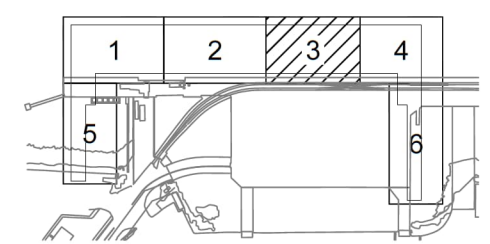
\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



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DRAFT



**SURFACE FEATURES PLAN**  
 SCALE: 3/32" = 1'-0"  
 TRUE NORTH

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV  
 1400 W. BENSON BLVD, SUITE 400  
 ANCHORAGE, ALASKA 99503  
 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
 DSGN: JRG

WSP  
 2164152(GHD) - 113511(WSP)  
 DR: JDM  
 CHK: JRG  
 APVD: JRG

SEAL

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM

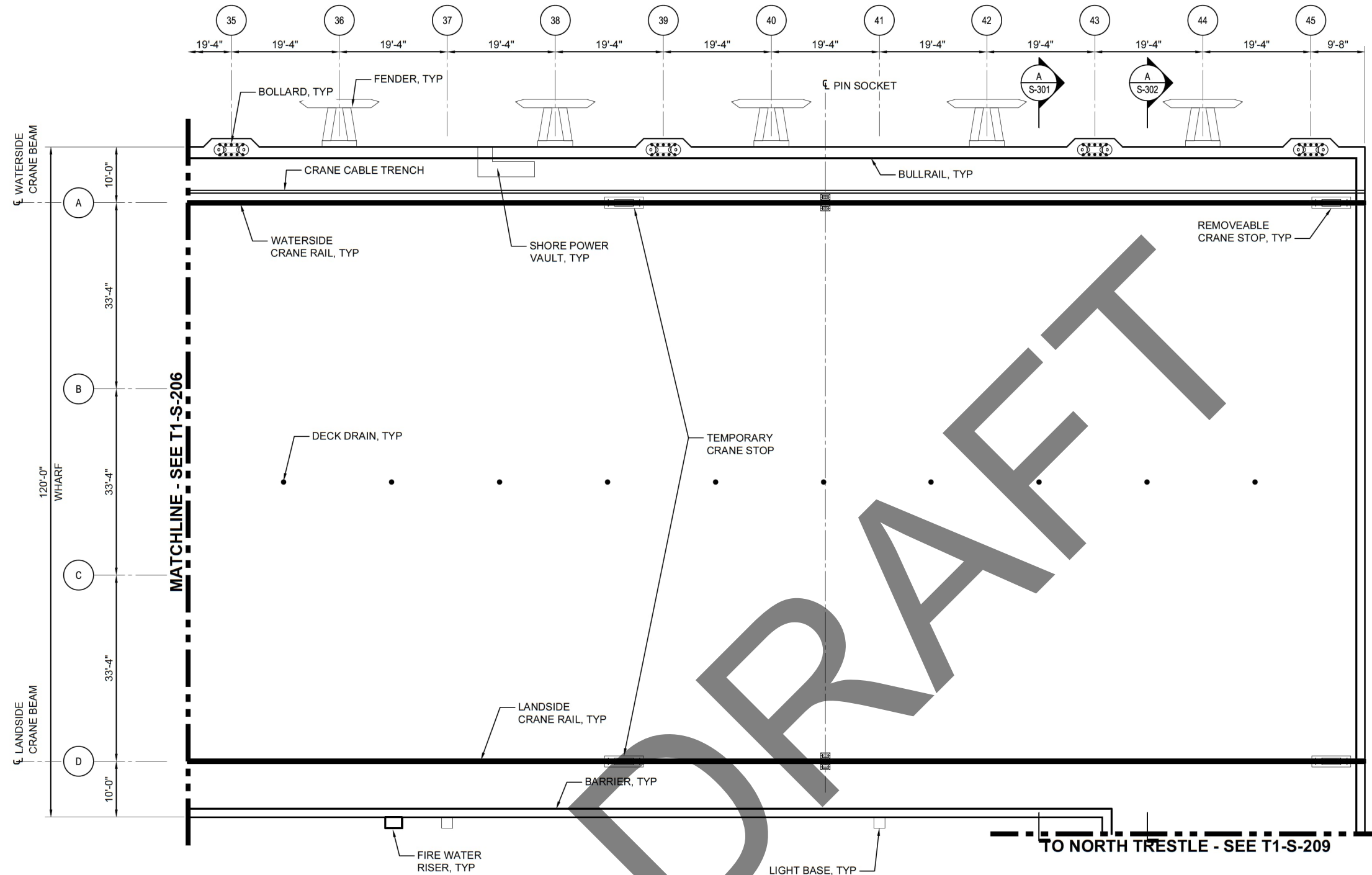
**STRUCTURAL**

WHARF - SURFACE FEATURES PARTIAL  
 PLAN - SHEET 3

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-206
VERT SCALE: AS SHOWN	SHEET: OF	

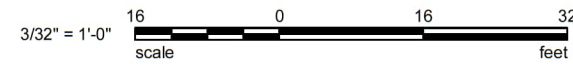
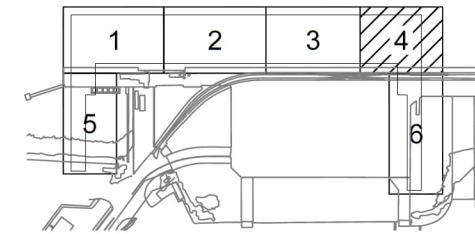
\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

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DRAFT

**SURFACE FEATURES PLAN**  
 SCALE: 3/32" = 1'-0"



65% SUBMITTAL

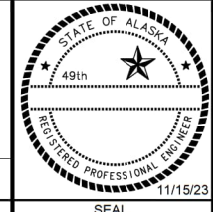
REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV  
 1400 W. BENSON BLVD, SUITE 400  
 ANCHORAGE, ALASKA 99503  
 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT



**STRUCTURAL**

WHARF - SURFACE FEATURES PARTIAL  
 PLAN - SHEET 4

PORT OF ALASKA

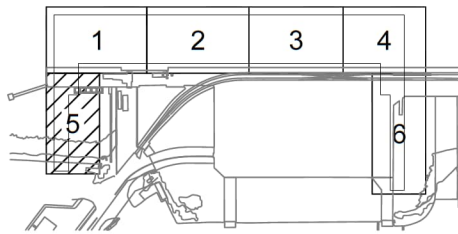
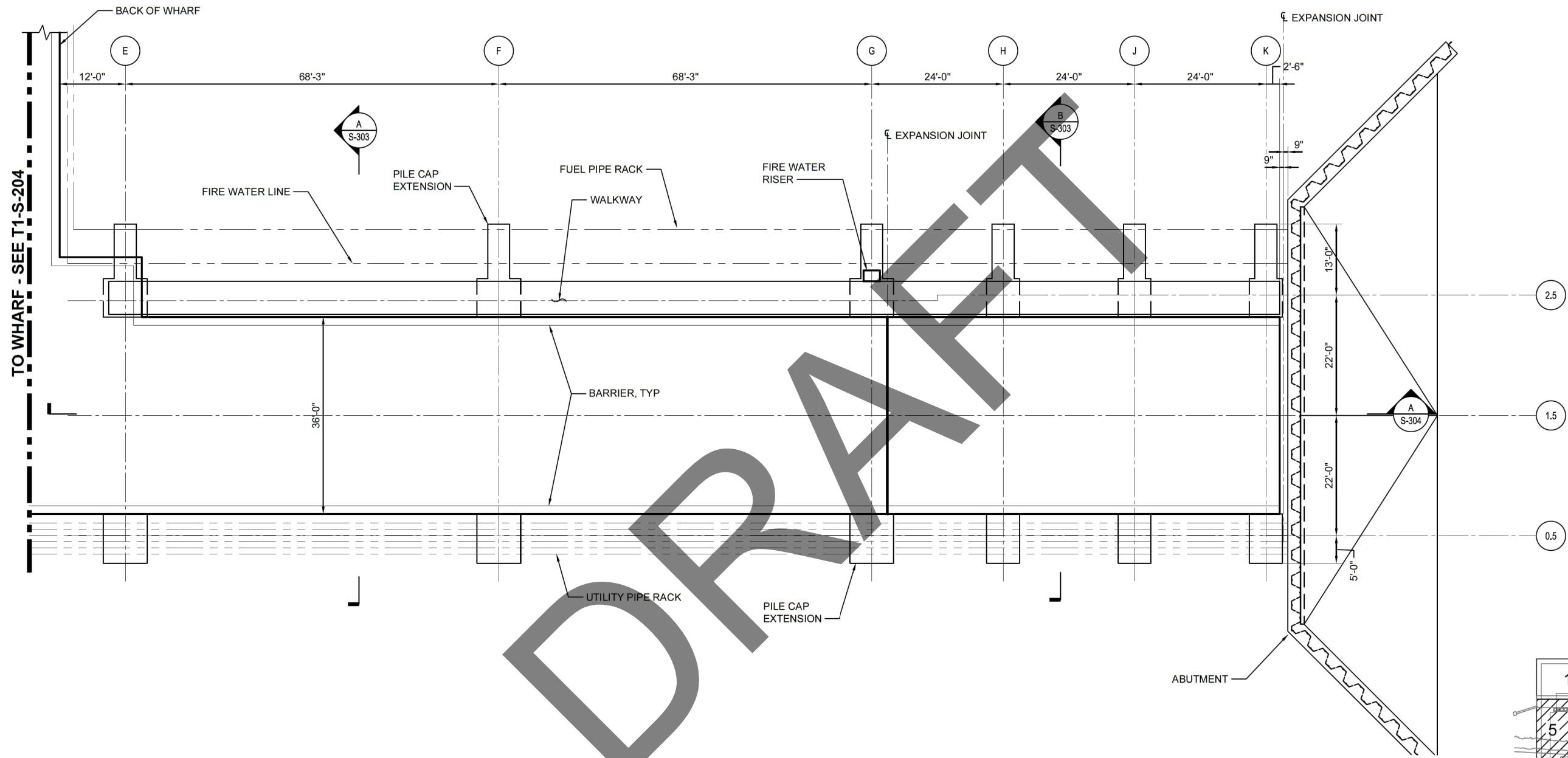
PORT OF ALASKA MODERNIZATION PROGRAM  
 CARGO TERMINAL 1 DESIGN  
 ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE: 11/17/23	<b>T1-S-207</b>
VERT SCALE: AS SHOWN	SHEET: OF	

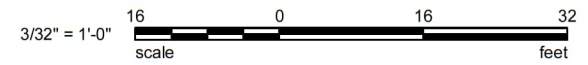
\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



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**SURFACE FEATURES PLAN - TRESTLE 1A**  
SCALE: 3/32" = 1'-0"



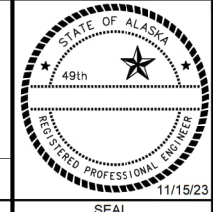
65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

WSP

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG
CONSULTANT			



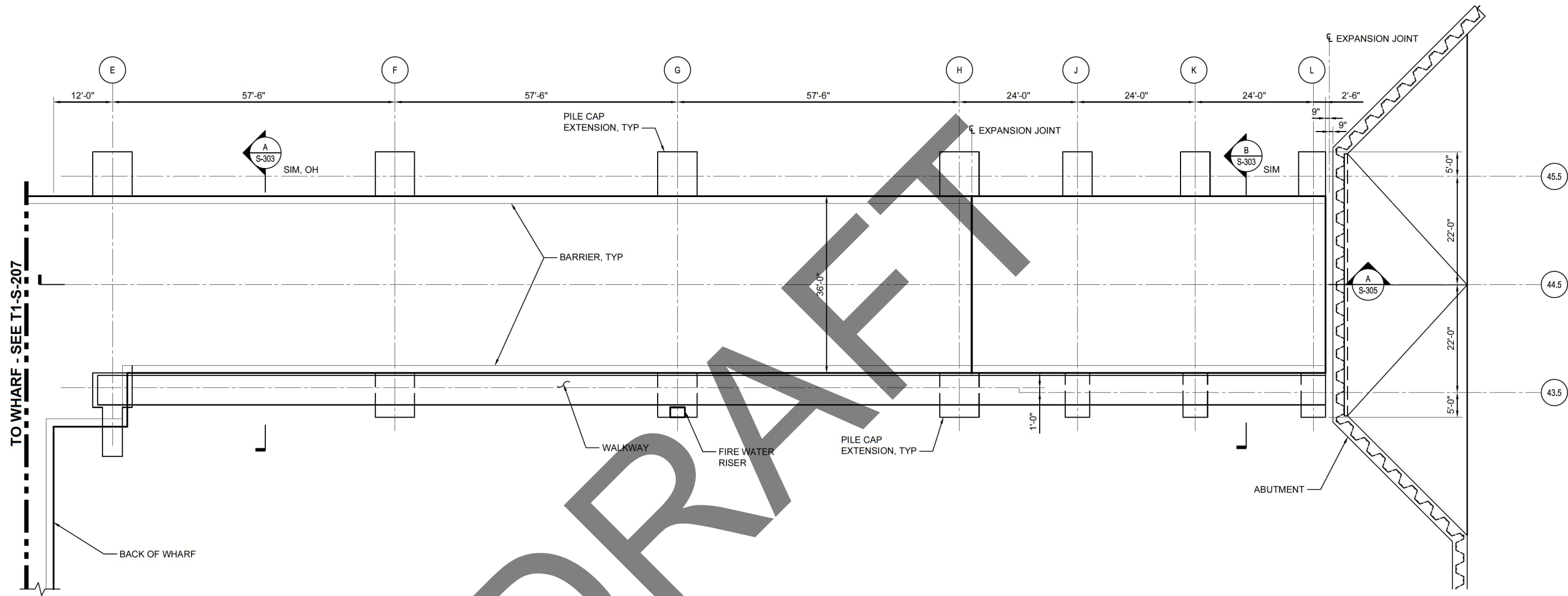
**STRUCTURAL**

TRESTLE 1A - SURFACE FEATURES PLAN

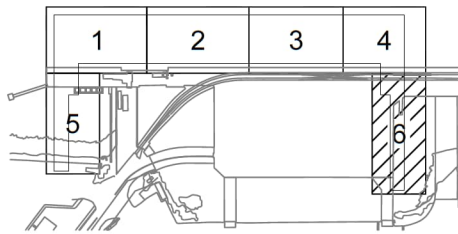
PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-208
VERT SCALE: AS SHOWN	SHEET: OF	

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DRAFT



**SURFACE FEATURES PLAN - TRESTLE 1B**  
SCALE: 3/32" = 1'-0"



65% SUBMITTAL

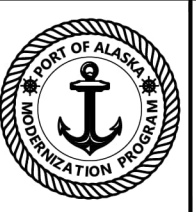
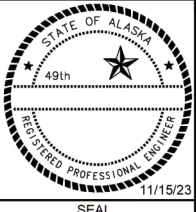
REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

WSP

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG
CONSULTANT			



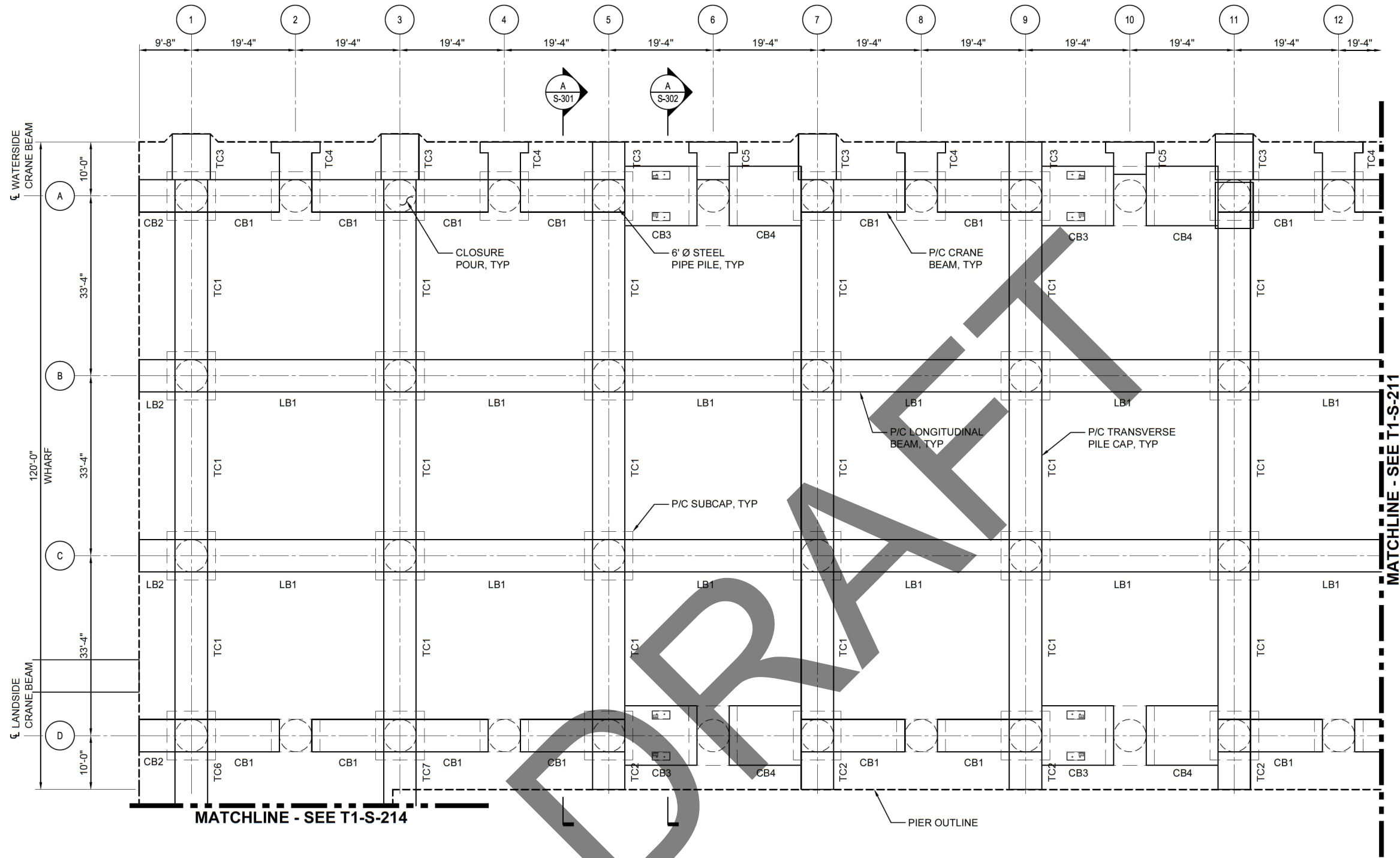
STRUCTURAL  
TRESTLE 1B - SURFACE FEATURES PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-209
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



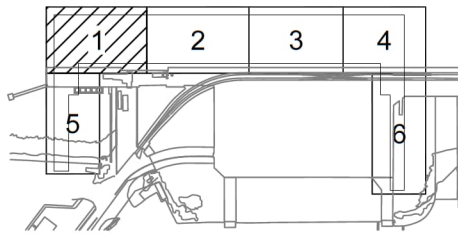
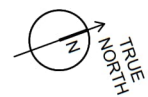
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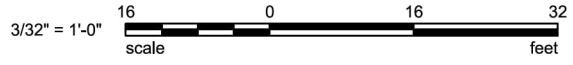
MATCHLINE - SEE T1-S-214

MATCHLINE - SEE T1-S-211

**PILE AND PILECAP PLAN**  
SCALE: 3/32" = 1'-0"



**KEY PLAN**



65% SUBMITTAL

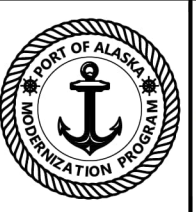
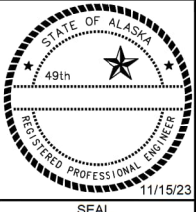
REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT



**STRUCTURAL**

WHARF - PILE, SUBCAP, AND BEAM PARTIAL  
PLAN - SHEET 1

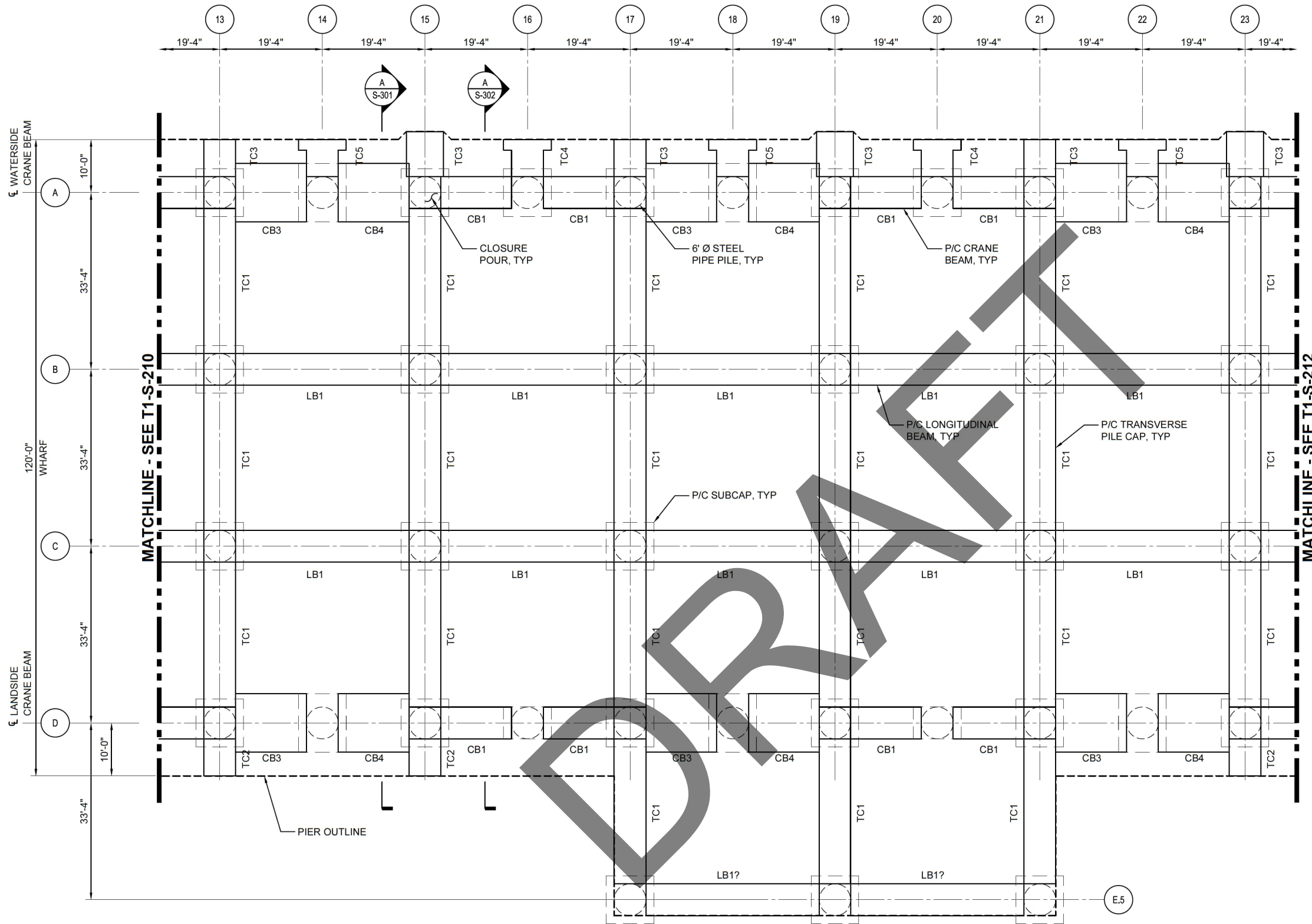
PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM  
**CARGO TERMINAL 1 DESIGN**  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE: 11/17/23	<b>T1-S-210</b>
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

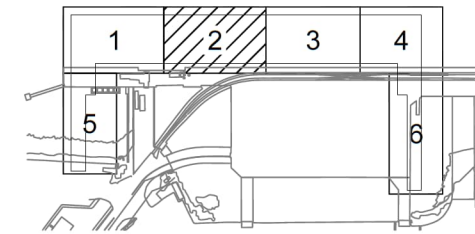
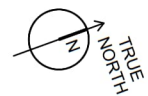
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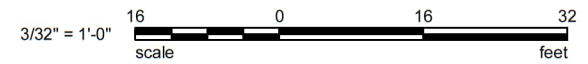
MATCHLINE - SEE T1-S-210

MATCHLINE - SEE T1-S-212

**PILE AND PILECAP PLAN**  
SCALE: 3/32" = 1'-0"



**KEY PLAN**



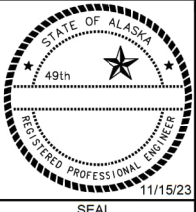
65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

GHD-WSP JV  
 1400 W. BENSON BLVD, SUITE 400  
 ANCHORAGE, ALASKA 99503  
 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)    AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT



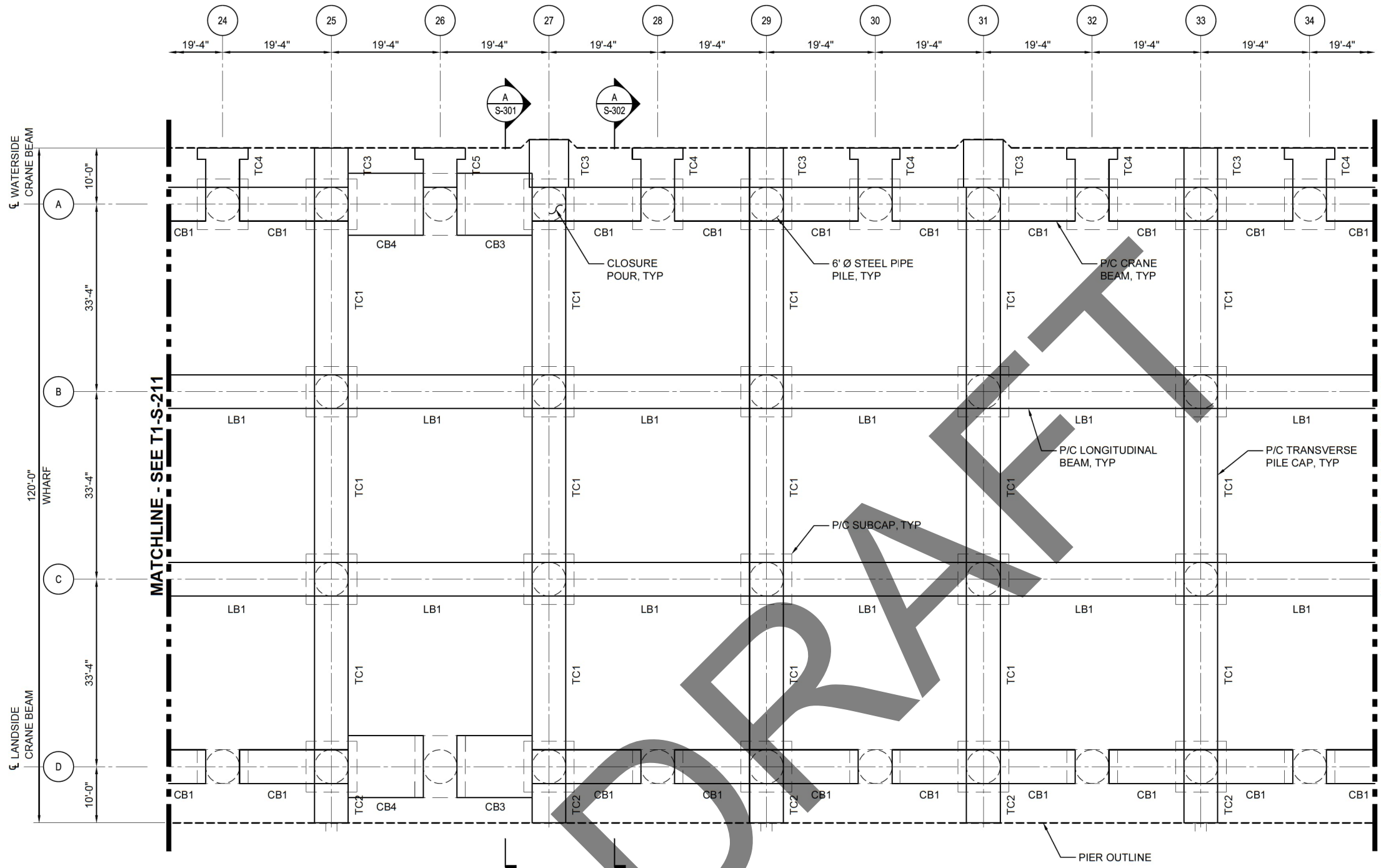
STRUCTURAL  
WHARF - PILE, SUBCAP, AND BEAM PARTIAL  
PLAN - SHEET 2

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-211
VERT SCALE: AS SHOWN	SHEET: OF	

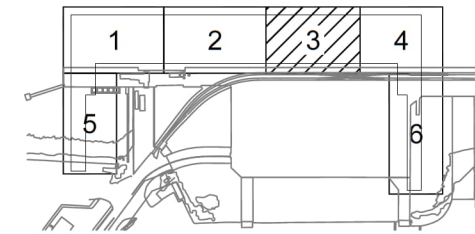
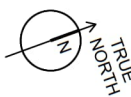
\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



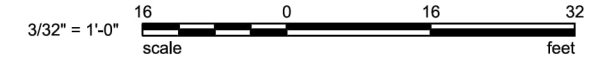
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**PILE AND PILECAP PLAN**  
SCALE: 3/32" = 1'-0"



**KEY PLAN**



65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

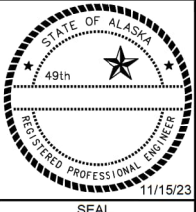
  

REVISIONS

GHD-WSP JV  
 1400 W. BENSON BLVD, SUITE 400  
 ANCHORAGE, ALASKA 99503  
 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)    AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT



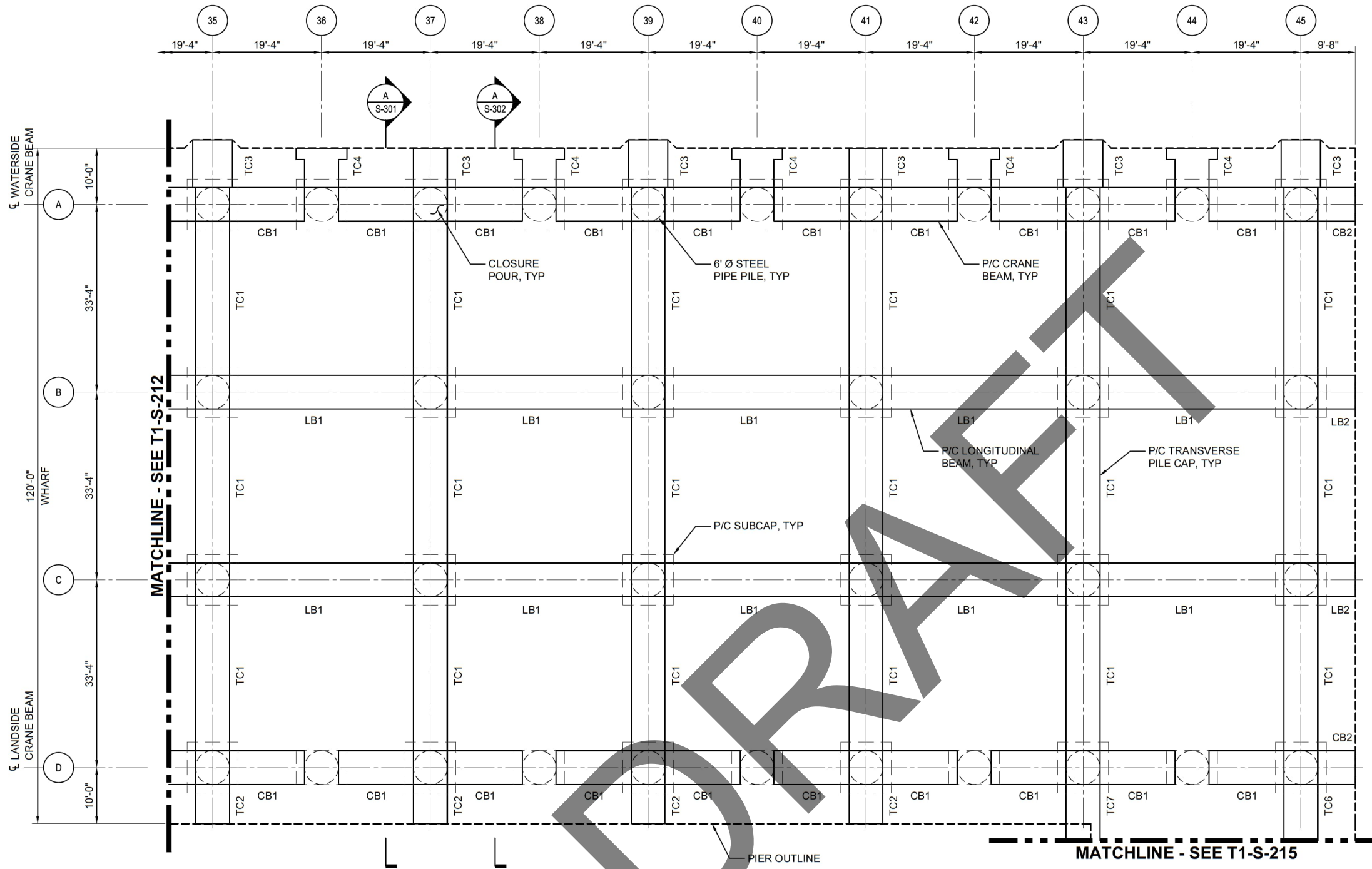
STRUCTURAL

WHARF - PILE, SUBCAP, AND BEAM PARTIAL  
PLAN - SHEET 3

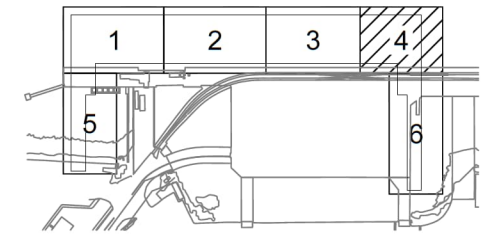
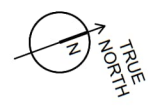
PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-212
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

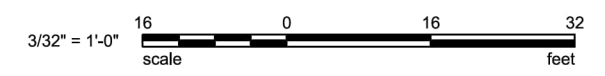
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**PILE AND PILECAP PLAN**  
SCALE: 3/32" = 1'-0"



**KEY PLAN**



65% SUBMITTAL

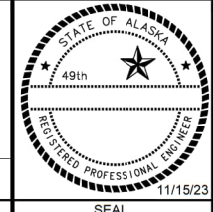
REV	DATE	DESCRIPTION	BY	APVD

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

WSP

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT



**STRUCTURAL**

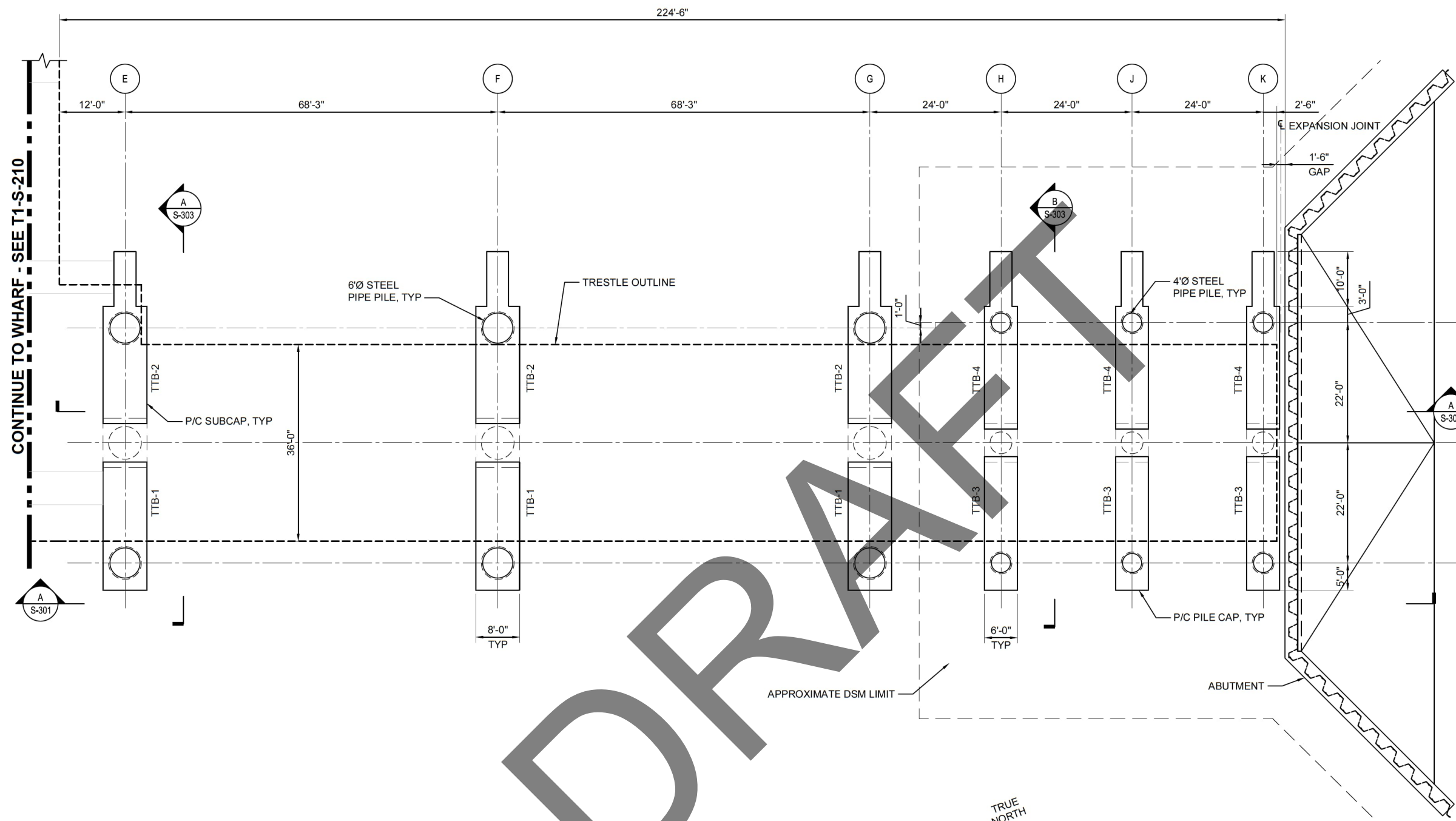
WHARF - PILE, SUBCAP, AND BEAM PARTIAL  
PLAN - SHEET 4

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
<b>CARGO TERMINAL 1 DESIGN</b>		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	<b>T1-S-213</b>
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

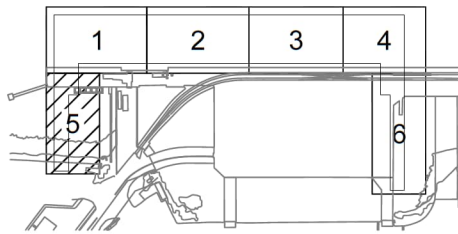


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DRAFT

**PILE AND PILECAP PLAN - TRESTLE 1A**  
SCALE: 3/32" = 1'-0"



**KEY PLAN**



65% SUBMITTAL

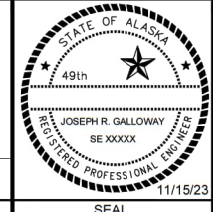
REV	DATE	DESCRIPTION	BY	APVD

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

WSP

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT

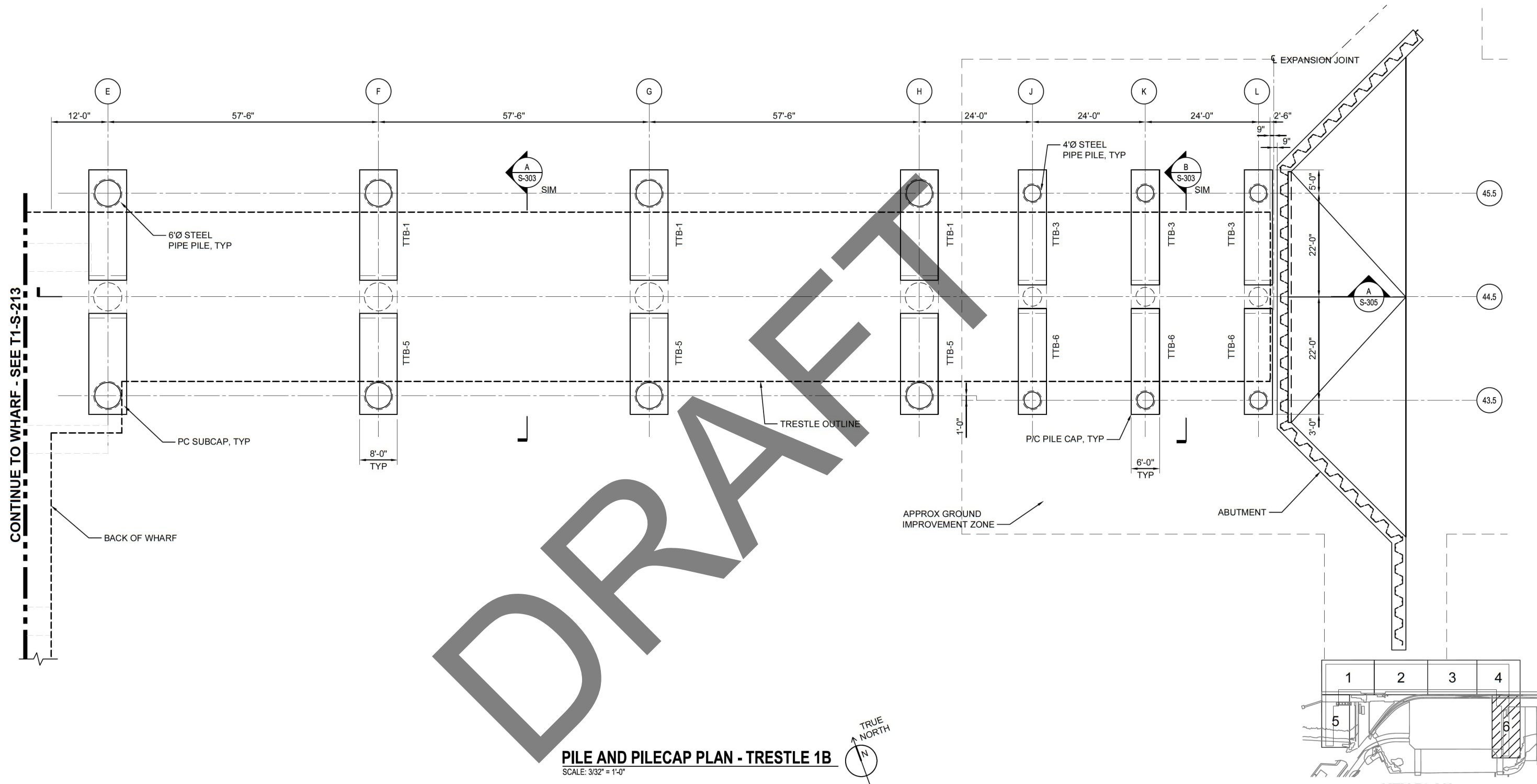


**STRUCTURAL**  
TRESTLE 1A - PILE, SUBCAP AND BEAM PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-214
VERT SCALE: AS SHOWN	SHEET: OF	

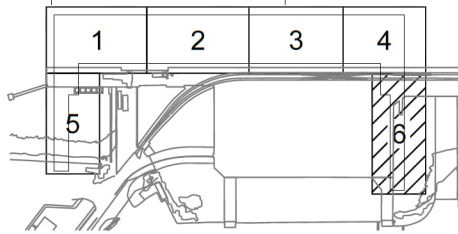
\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

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DRAFT

**PILE AND PILECAP PLAN - TRESTLE 1B**  
SCALE: 3/32" = 1'-0"



**KEY PLAN**





65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

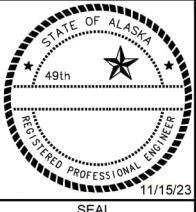
  

REVISIONS

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG
CONSULTANT			

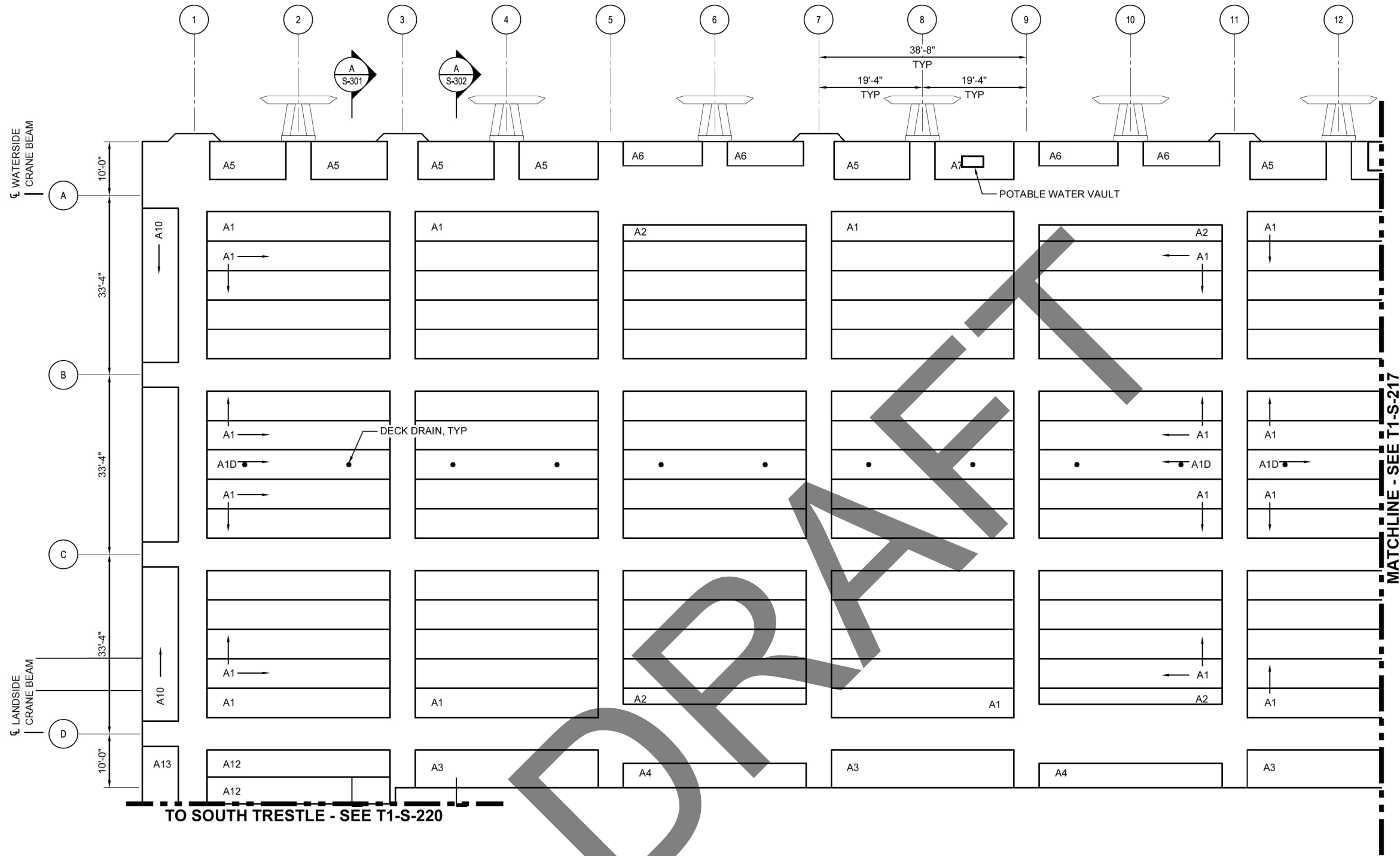


**STRUCTURAL**  
TRESTLE 1B - PILE, SUBCAP AND BEAM PLAN

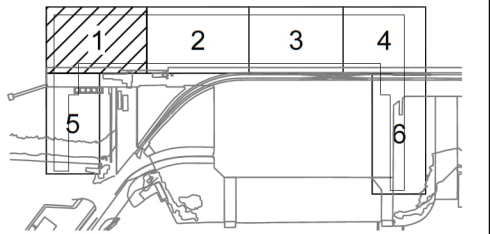
PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-215
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

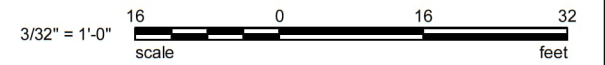
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**DECK PLAN**  
SCALE: 3/32" = 1'-0"  
TRUE NORTH



**KEY PLAN**



65% SUBMITTAL

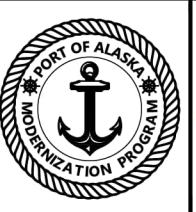
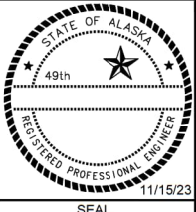
REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113311(WSP)

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT



**STRUCTURAL**

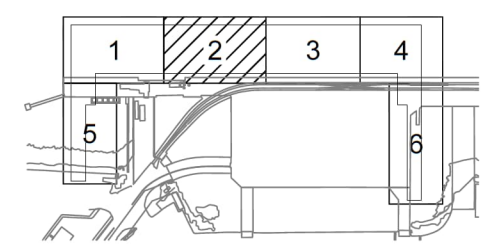
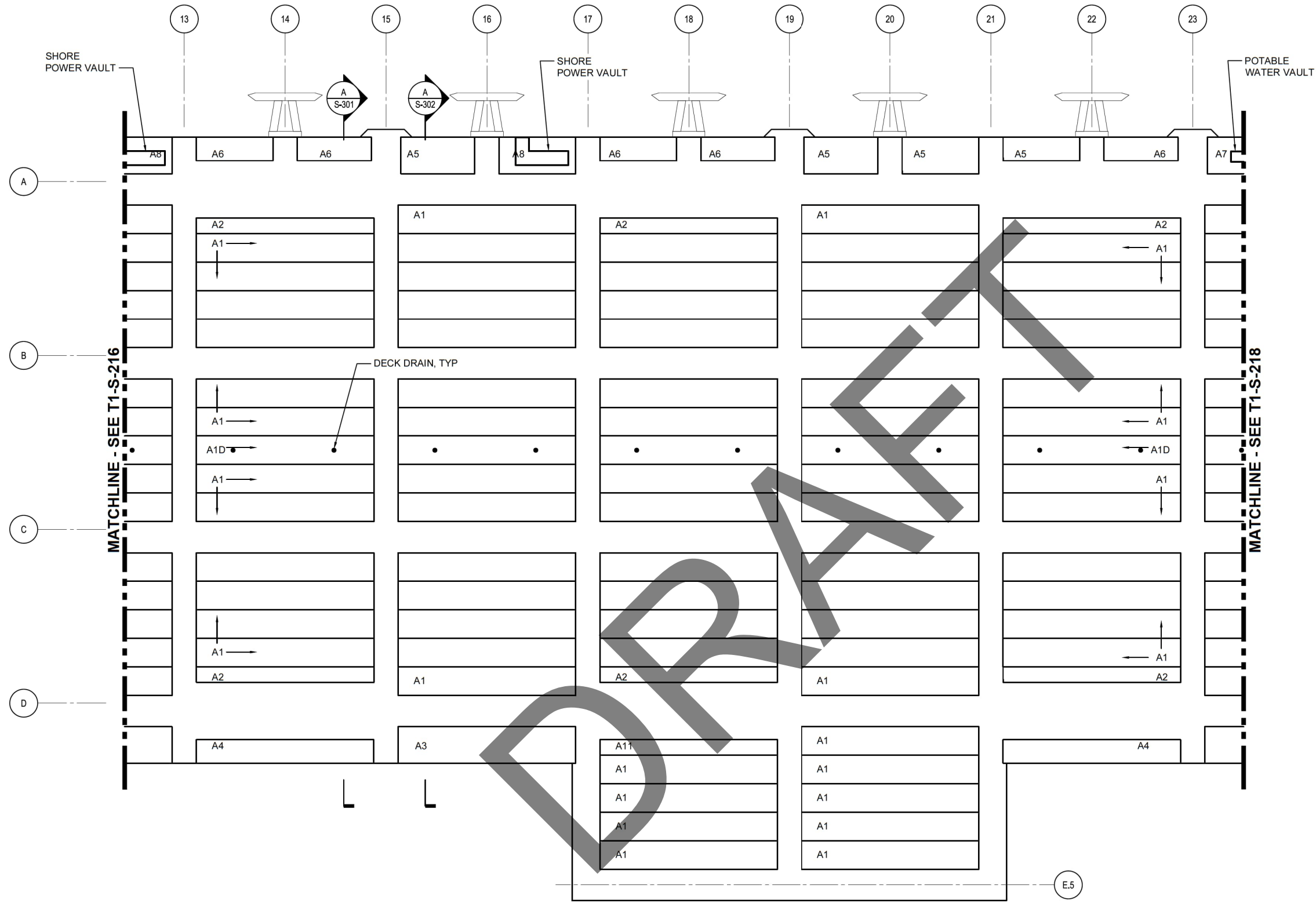
WHARF - PRECAST DECK FRAMING PARTIAL  
PLAN - SHEET 1

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-216
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



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**KEY PLAN**

**DECK PLAN**  
SCALE: 3/32" = 1'-0"  
TRUE NORTH



65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

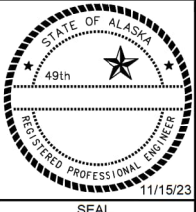
REVISIONS

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

WSP

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT



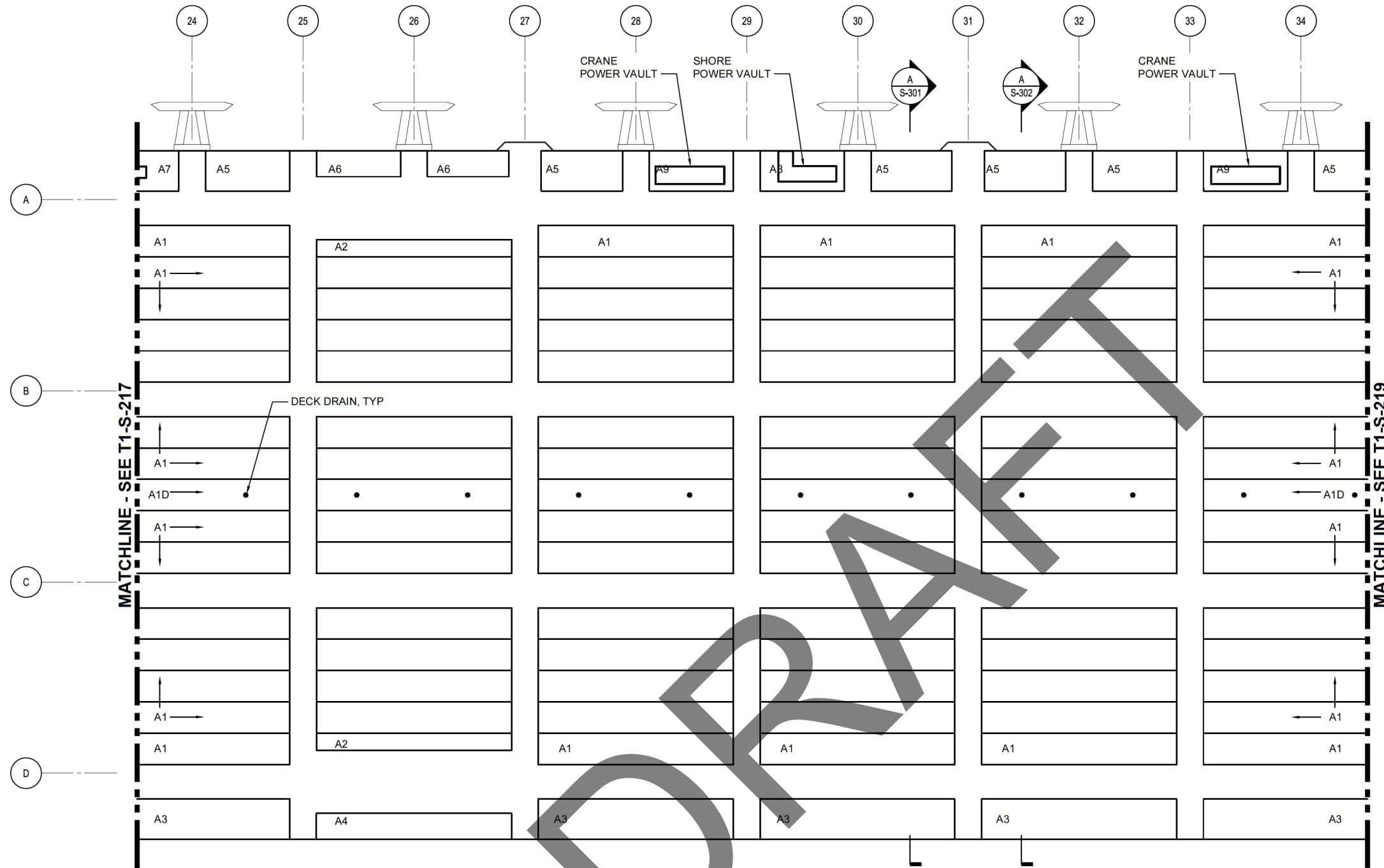
**STRUCTURAL**

WHARF - PRECAST DECK FRAMING PARTIAL  
PLAN - SHEET 2

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
<b>CARGO TERMINAL 1 DESIGN</b>		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	<b>T1-S-217</b>
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

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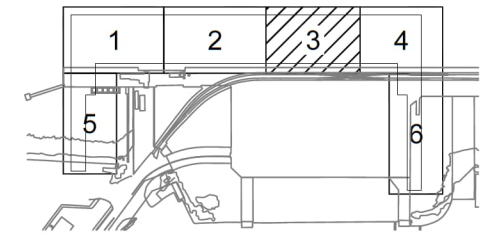


MATCHLINE - SEE T1-S-217

MATCHLINE - SEE T1-S-219

DECK DRAIN, TYP

**DECK PLAN**  
SCALE: 3/32" = 1'-0"  
NORTH



**KEY PLAN**



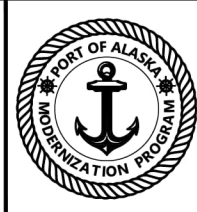
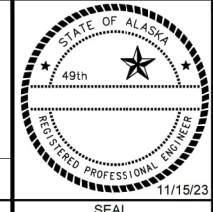
65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

WSP

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG
CONSULTANT			



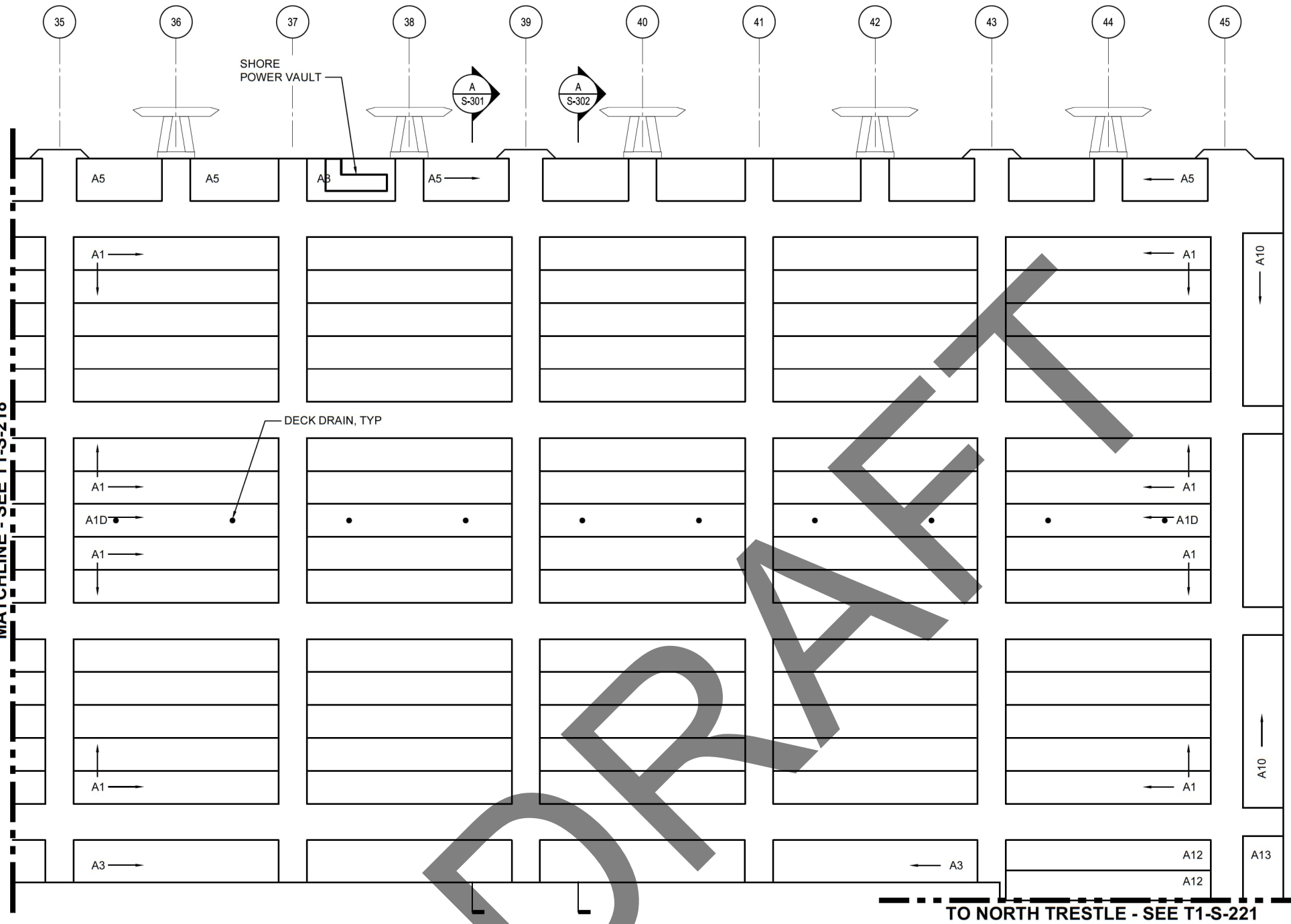
**STRUCTURAL**  
WHARF - PRECAST DECK FRAMING PARTIAL  
PLAN - SHEET 3

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
<b>CARGO TERMINAL 1 DESIGN</b>		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	<b>T1-S-218</b>
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

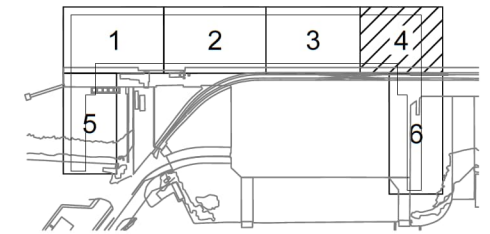
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MATCHLINE - SEE T1-S-218

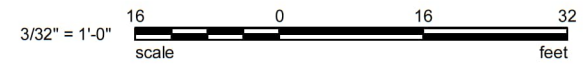


DRAFT

**DECK PLAN**  
SCALE: 3/32" = 1'-0"  
TRUE NORTH



**KEY PLAN**



65% SUBMITTAL

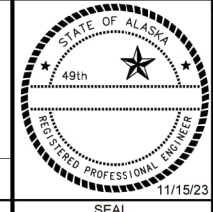
REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

WSP

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG
CONSULTANT			



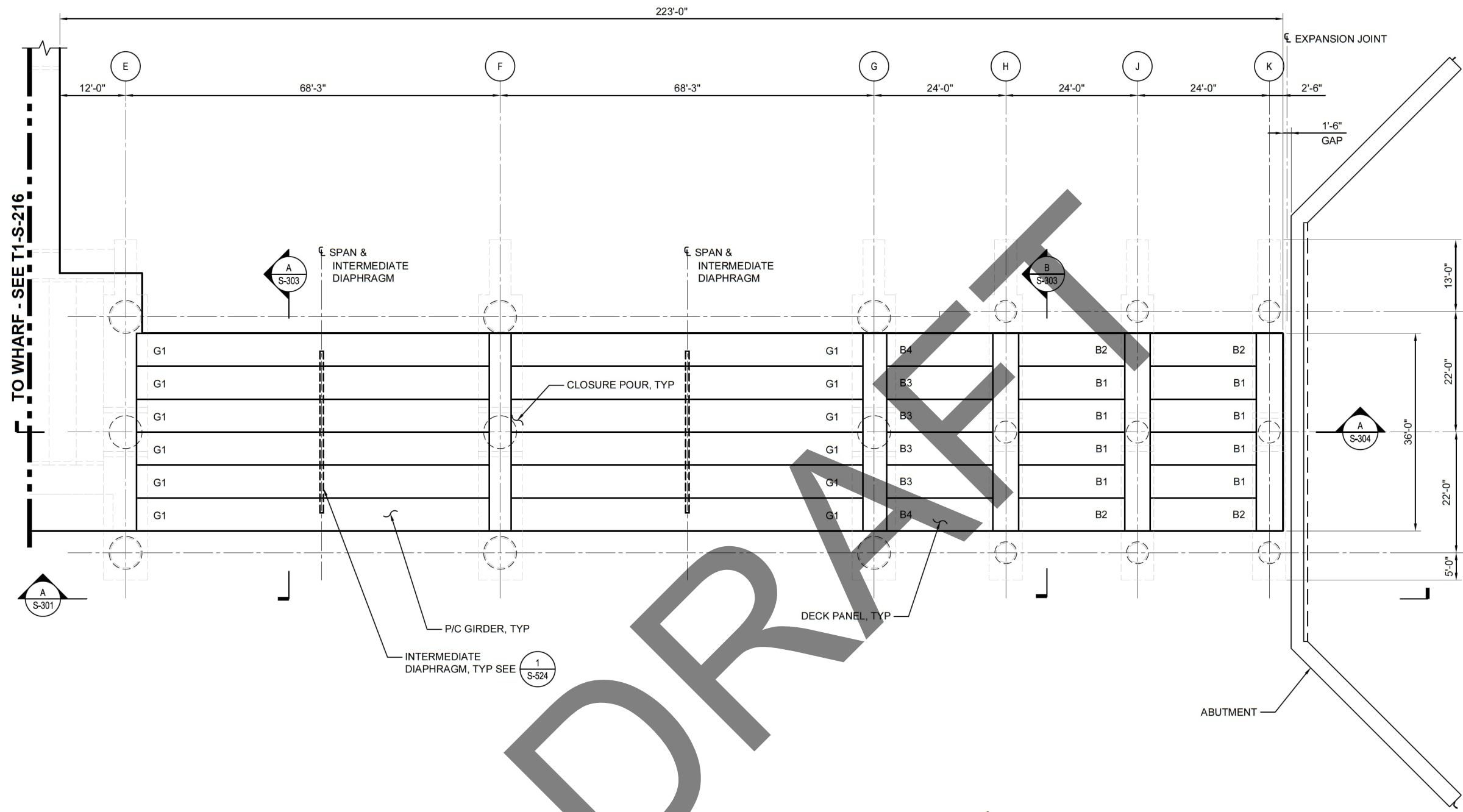
**STRUCTURAL**  
WHARF - PRECAST DECK FRAMING PARTIAL  
PLAN - SHEET 4

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-219
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

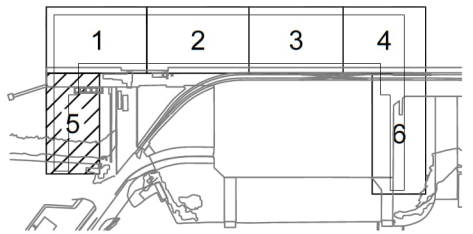
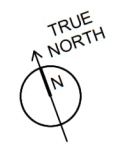


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DRAFT

**TRESTLE 1A - DECK PLAN**  
SCALE: 3/32" = 1'-0"



**KEY PLAN**



65% SUBMITTAL

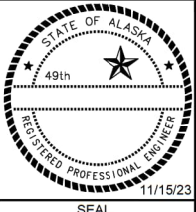
REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT



STRUCTURAL

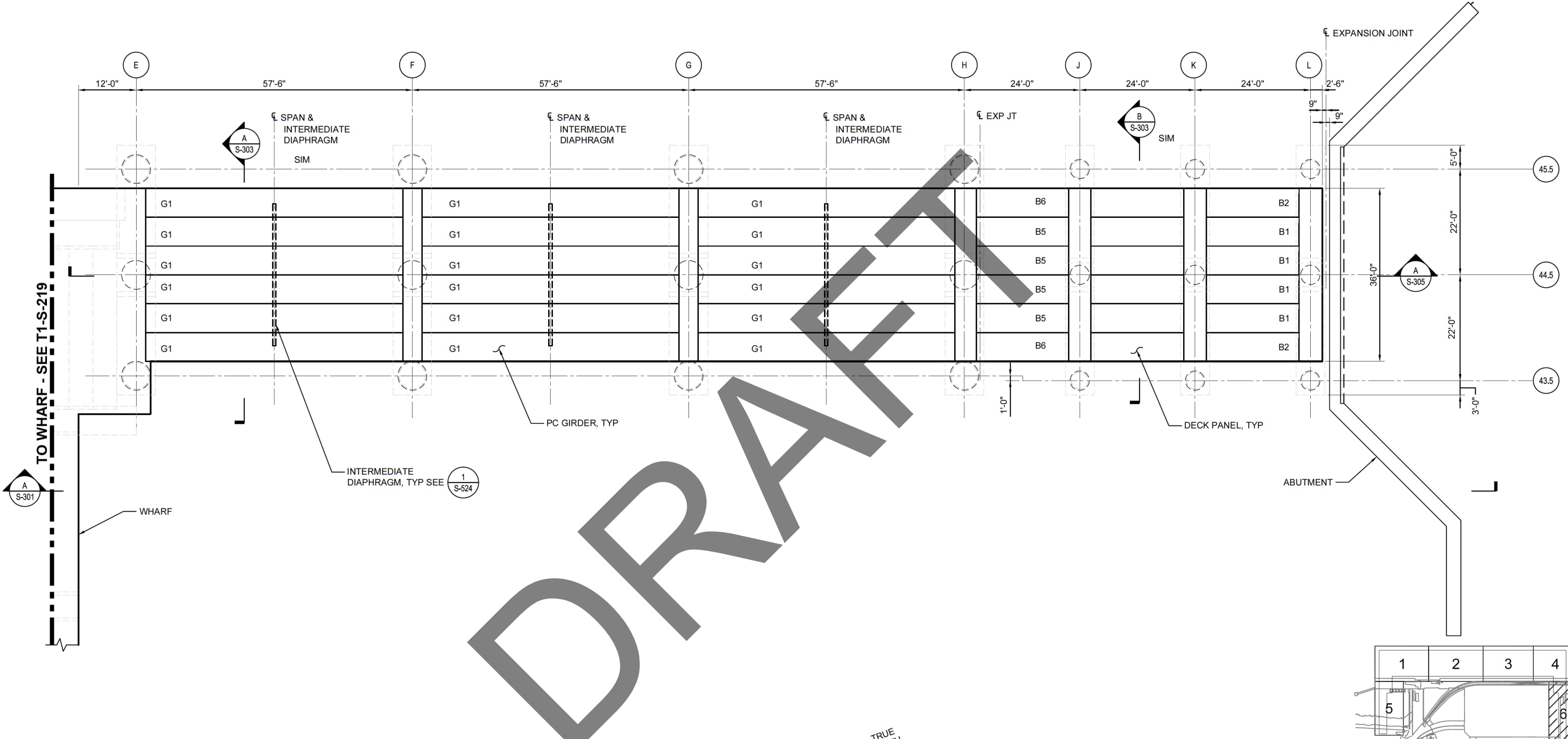
TRESTLE 1A - DECK FRAMING PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-220
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

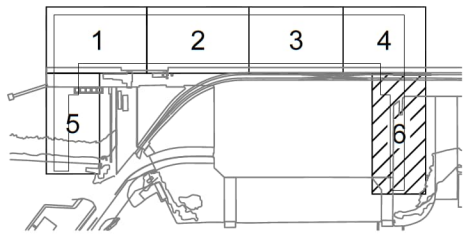
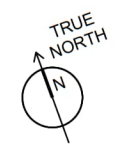
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TO WHARF - SEE T1-S-219



DRAFT

**TRESTLE 1B - DECK PLAN**  
SCALE: 3/32" = 1'-0"



**KEY PLAN**



65% SUBMITTAL

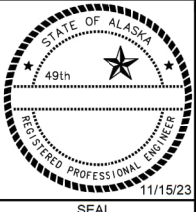
REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113311(WSP)

WSP

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT

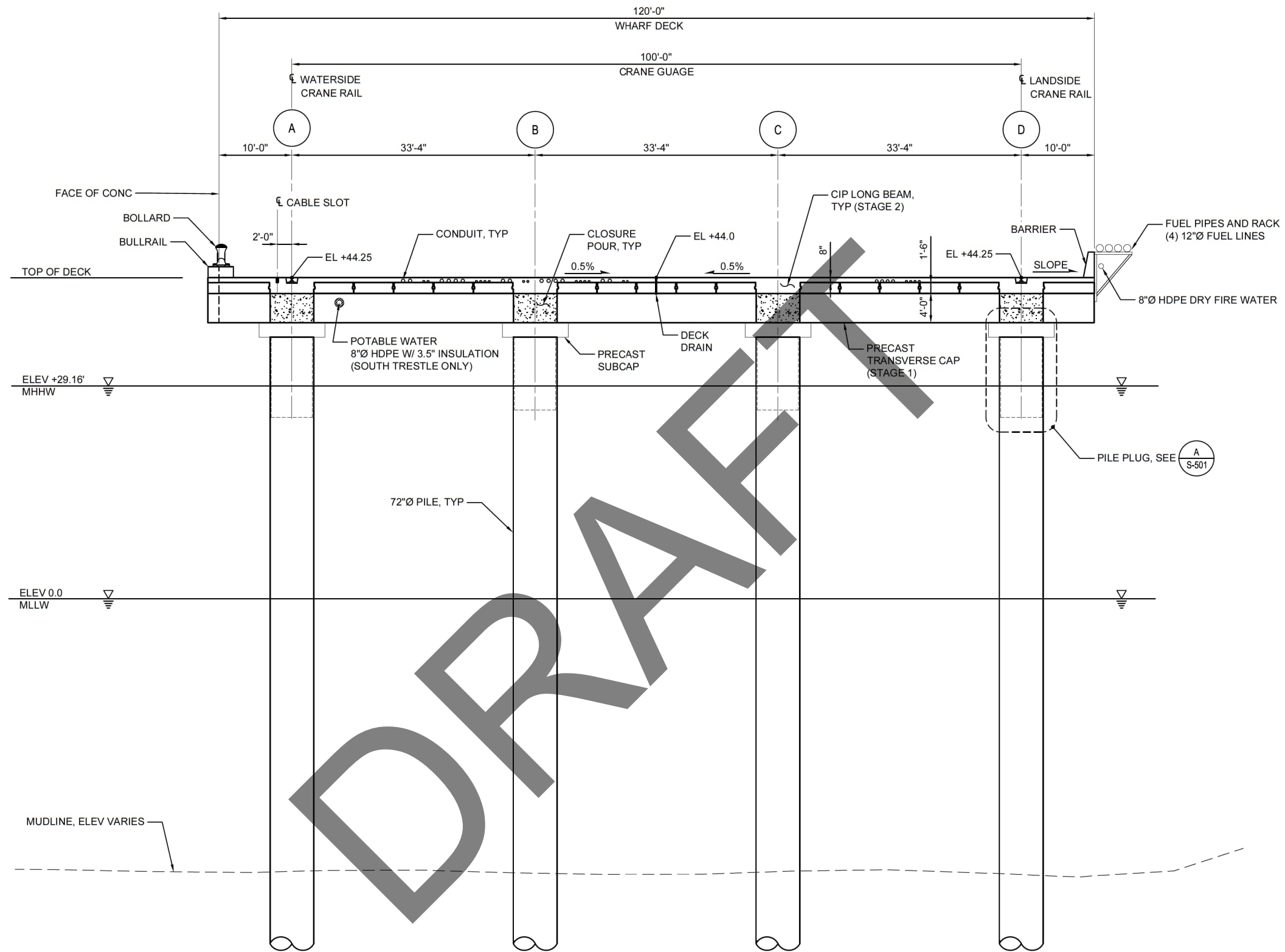


STRUCTURAL

TRESTLE 1B - DECK FRAMING PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-221
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



**A SECTION - WHARF @ BOLLARD LOCATIONS**  
SCALE: 1/8" = 1'-0"



65% SUBMITTAL

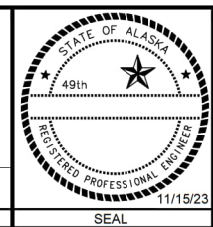
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REV	DATE	DESCRIPTION	BY	APVD

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

WSP  
CONSULTANT

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

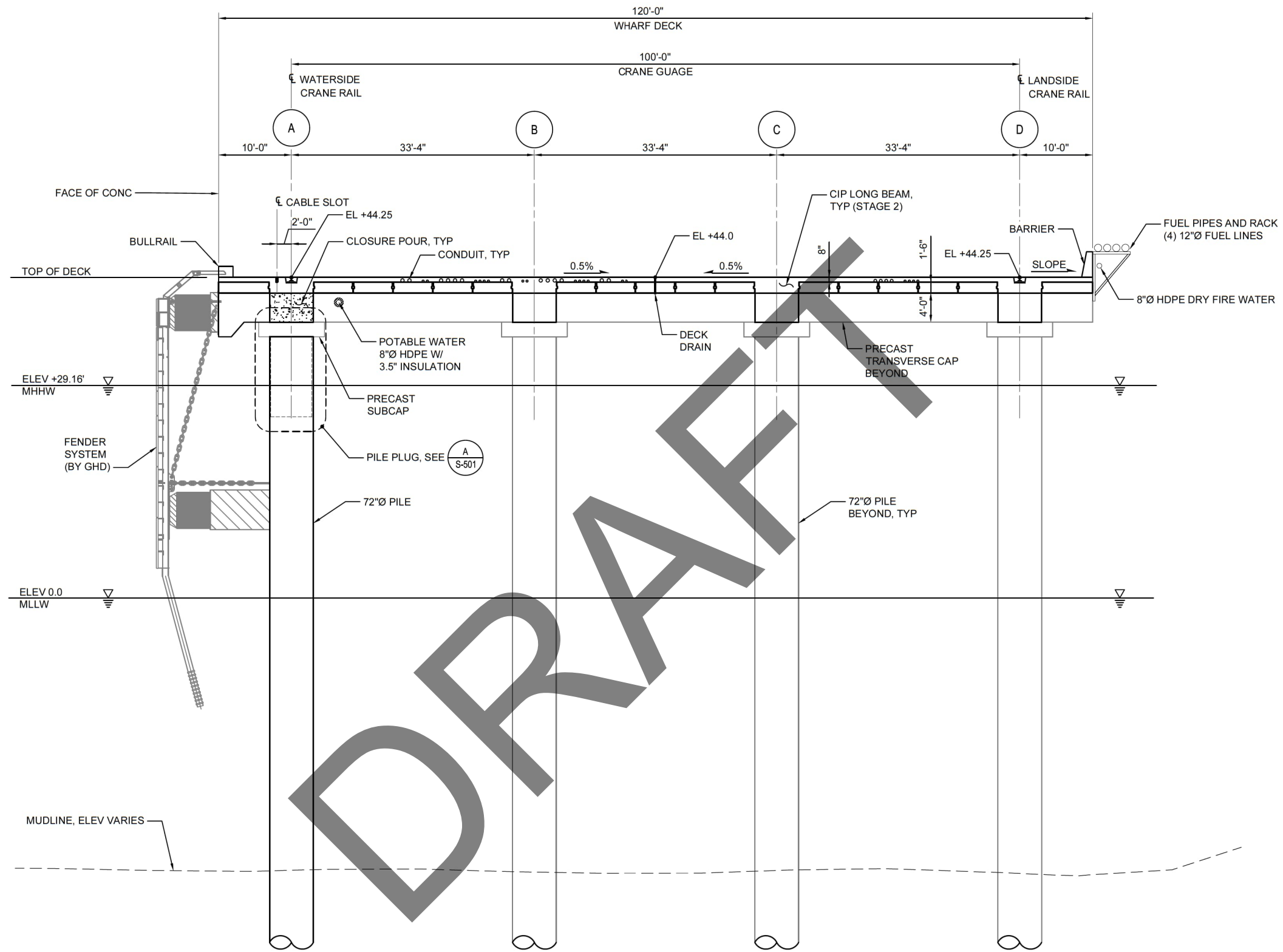


**STRUCTURAL**  
WHARF CROSS SECTION @ BOLLARD LOCATION

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-301
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*





**A SECTION - WHARF @ FENDER LOCATIONS**  
SCALE: 1/8" = 1'-0"



65% SUBMITTAL

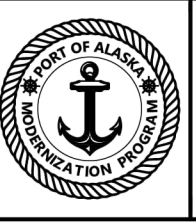
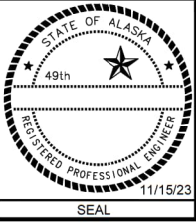
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REV	DATE	DESCRIPTION	BY	APVD

GHD-WSP JV  
 1400 W. BENSON BLVD, SUITE 400  
 ANCHORAGE, ALASKA 99503  
 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)    AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT



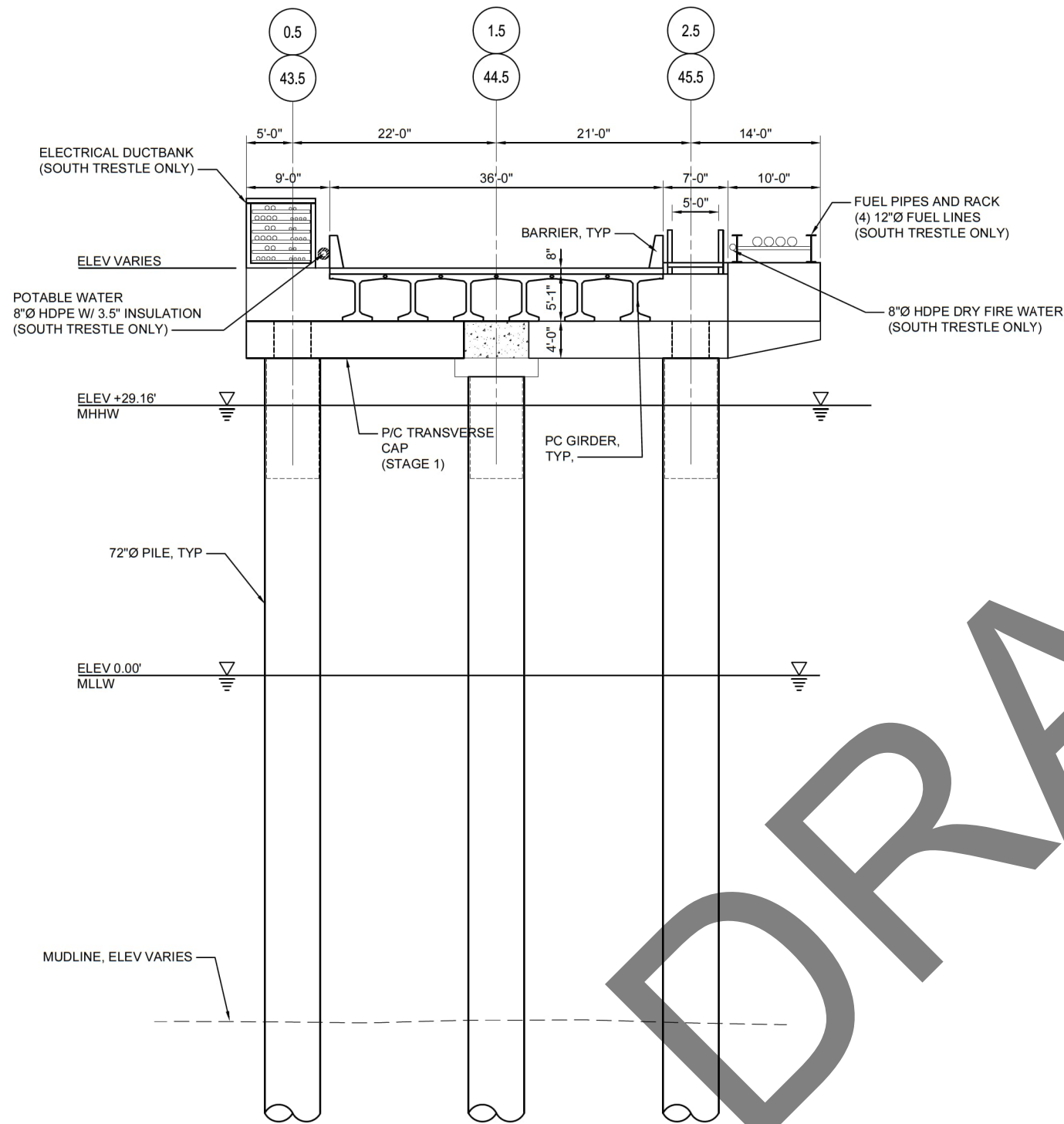
STRUCTURAL

WHARF CROSS SECTION @ FENDER LOCATION

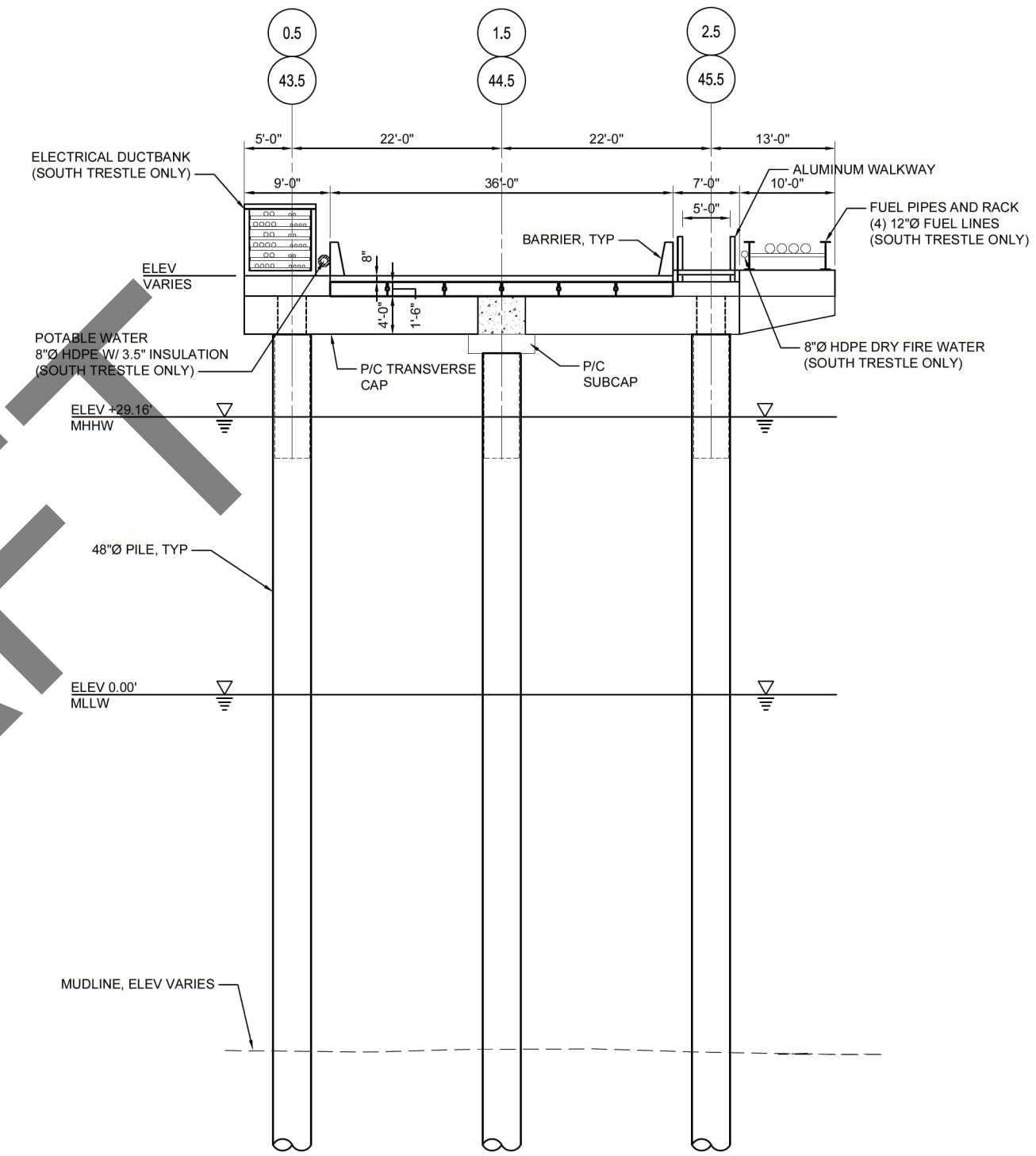
PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-302
VERT SCALE: AS SHOWN	SHEET:      OF	

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**A SECTION - TRESTLE**  
SCALE: 1/8" = 1'-0"



**B SECTION - TRESTLE**  
SCALE: 1/8" = 1'-0"

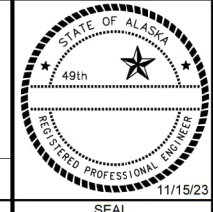


65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DR JDM  
CHK JRG  
APVD JRG

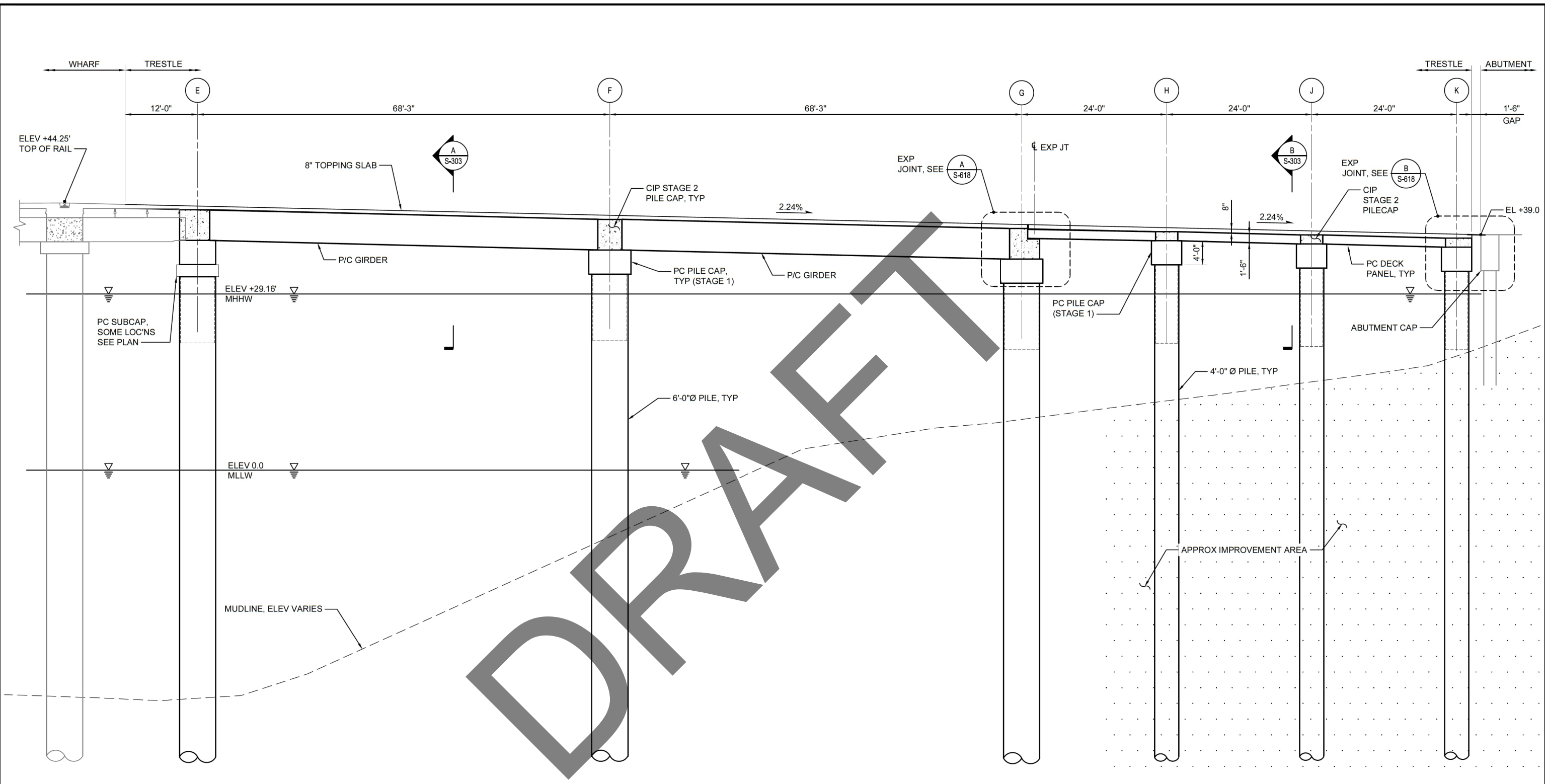


STRUCTURAL  
TRESTLE CROSS SECTION

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-303
VERT SCALE: AS SHOWN	SHEET: OF	

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DRAFT

**A SECTION - TRESTLE 1A**  
SCALE: 1/8" = 1'-0"


65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

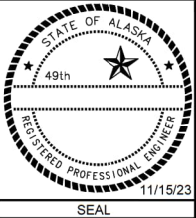


GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
AK BUSINESS LICENSE # 2164152(GHD) - 113311(WSP)



DR JDM  
CHK JRG  
APVD JRG

CONSULTANT

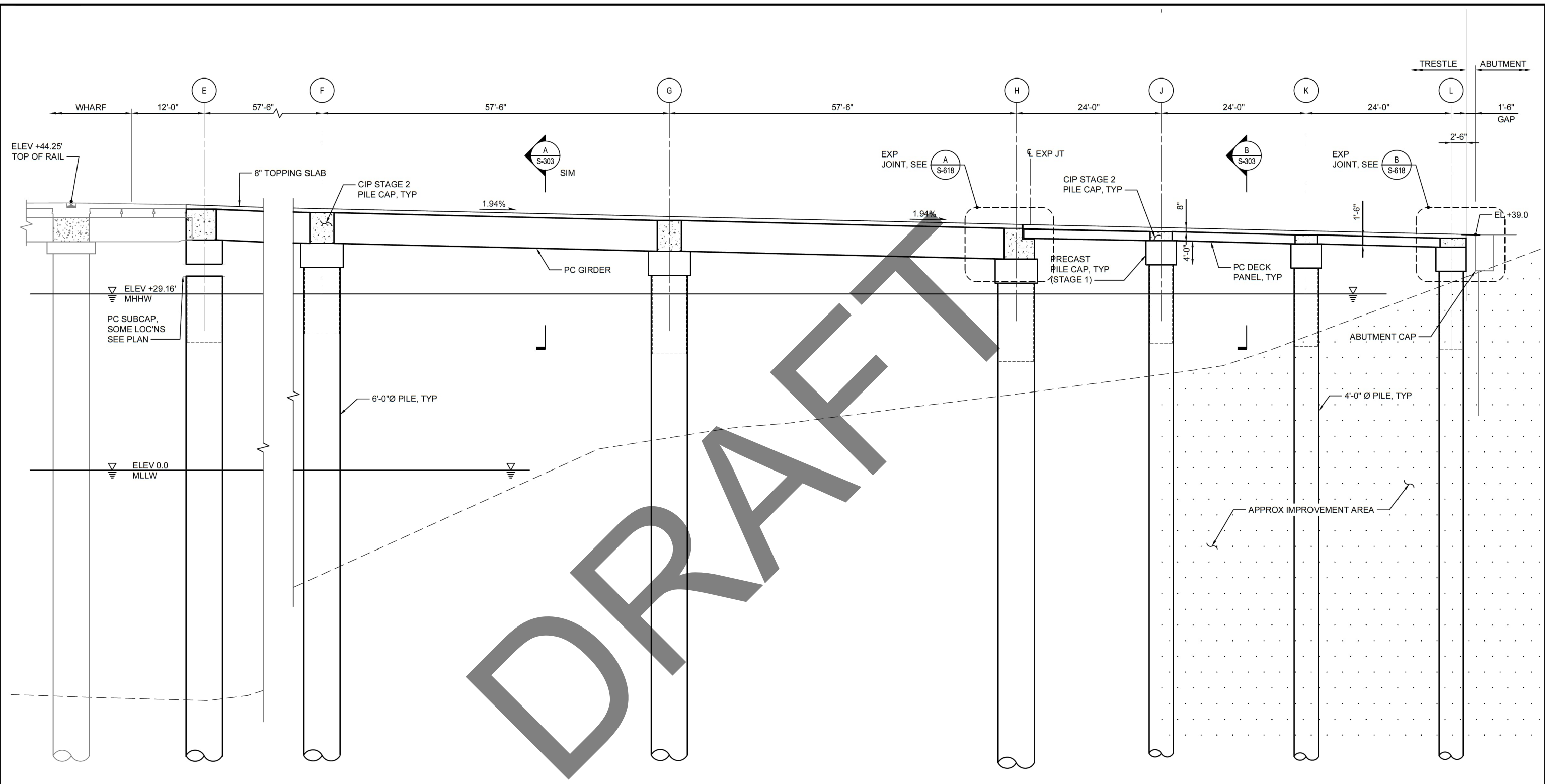


STRUCTURAL  
TRESTLE 1A - LONGITUDINAL SECTION

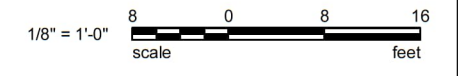
PORT OF ALASKA	
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA	
HORIZ SCALE: AS SHOWN	DATE: 11/17/23
VERT SCALE: AS SHOWN	SHEET: OF
T1-S-304	



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**A SECTION - TRESTLE 1B**  
SCALE: 1/8" = 1'-0"

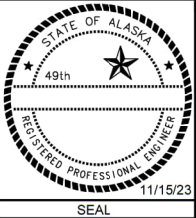


65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

<b>GHD</b>		<b>wsp</b>	
GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)    AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)			
DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG
CONSULTANT			

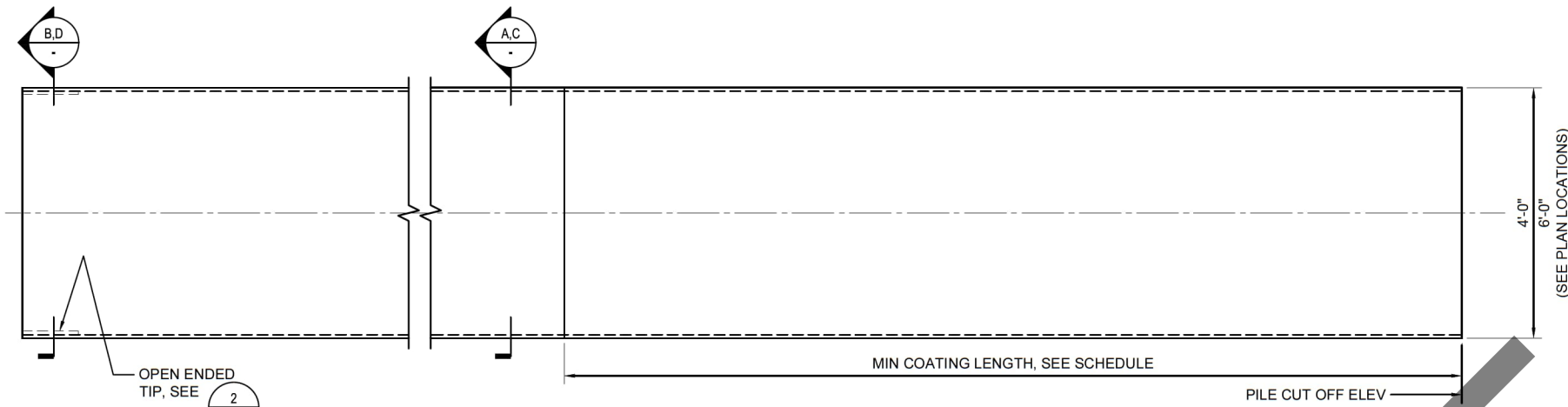


STRUCTURAL  
TRESTLE 1B - LONGITUDINAL SECTION

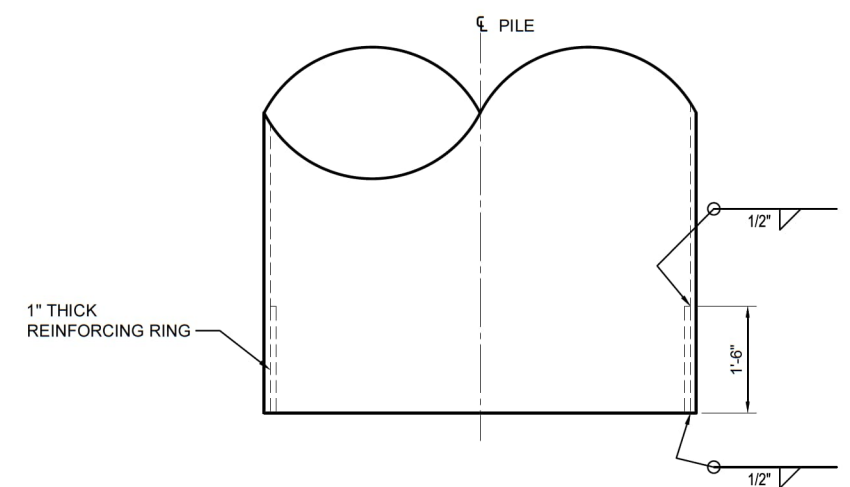
PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-305
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

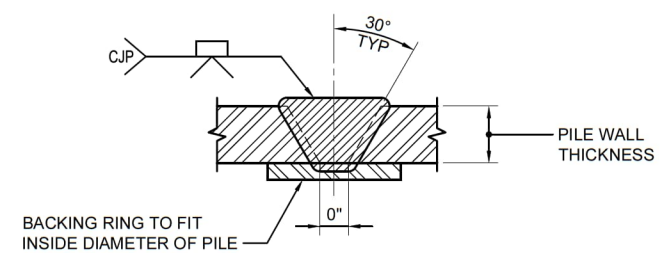
Last Saved by: USJM675471 on: Nov 10, 2023 5:26 PM. File: C:\Users\USJM675471\WSP\_03651\POA Cargo T1 Replacement - Files\CADD01\_CoordinationDwg\08\_T1-S-401.dwg



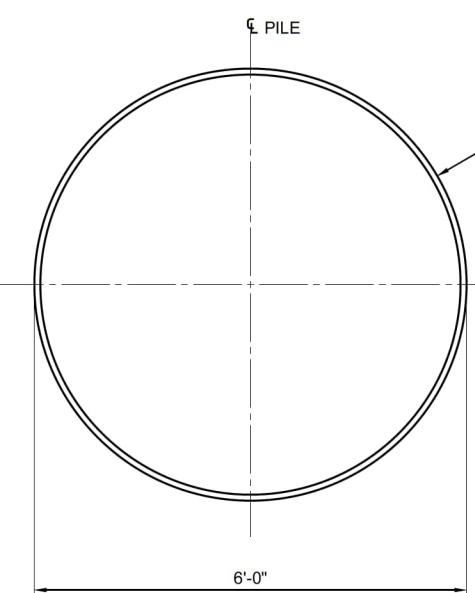
**1** **DETAIL - STEEL PIPE PILE**  
SCALE: 1/2" = 1'-0"



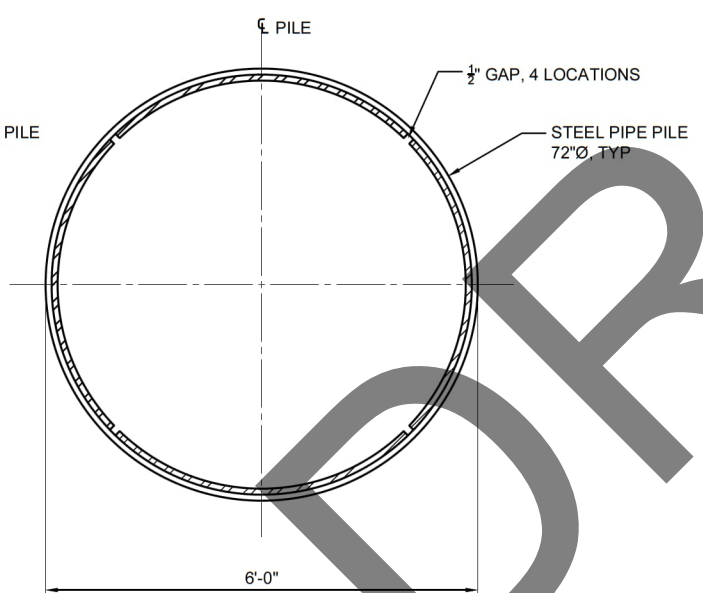
**2** **DETAIL - TIP REINFORCEMENT (IF NEEDED)**  
SCALE: 3/4" = 1'-0"



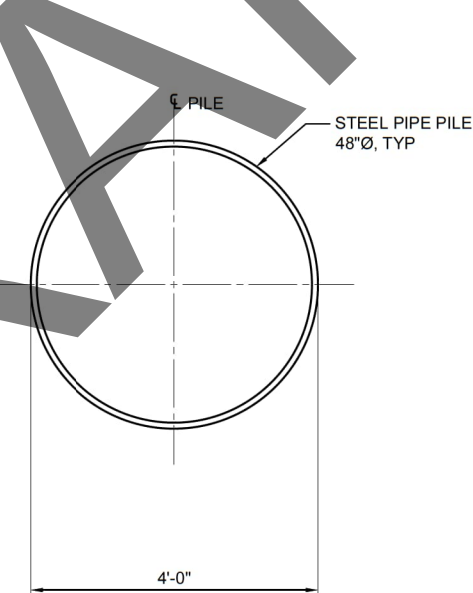
**3** **DETAIL - SPLICE**  
SCALE: 1" = 1'



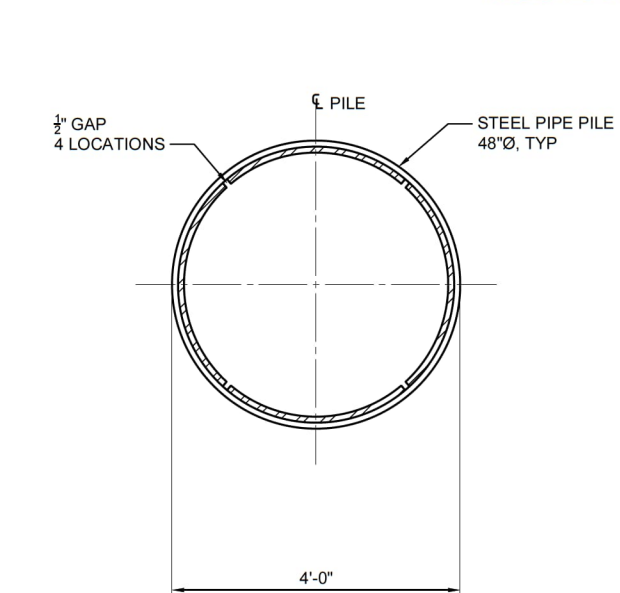
**A** **SECTION - WHARF PILE**  
SCALE: 3/4" = 1'-0"



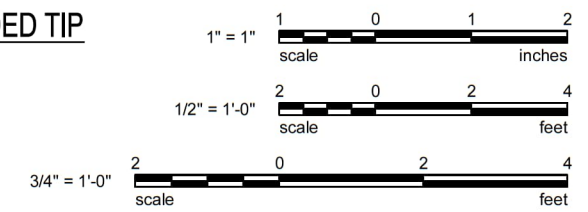
**B** **SECTION - WHARF PILE - OPEN ENDED TIP**  
SCALE: 3/4" = 1'-0"



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



**D** **SECTION - TRESTLE PILE - OPEN ENDED TIP**  
SCALE: 3/4" = 1'-0"



65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

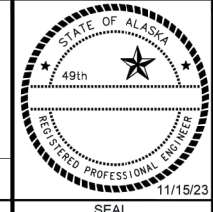
**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503

AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113311(WSP)

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT



**STRUCTURAL**

STEEL PIPE PILE DETAILS

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-401
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



Table with columns: PILE ID, DIAMETER, APPROXIMATE EXISTING MUDDLINE ELEV., PILE CUT-OFF ELEV., STEEL PIPE TIP ELEV., DRIVING ALLOWANCE, OVERDRIVE LENGTH, UPPER SEGMENT (LENGTH, THICKNESS), LOWER SEGMENT (LENGTH, THICKNESS), ORDER PILE LENGTH, MIN COATING ELEV., COATING LENGTH, ANODE QTY, ANODE ID. Rows A1 to B45.

Table with columns: PILE ID, DIAMETER, APPROXIMATE EXISTING MUDDLINE ELEV., PILE CUT-OFF ELEV., STEEL PIPE TIP ELEV., DRIVING ALLOWANCE, OVERDRIVE LENGTH, UPPER SEGMENT (LENGTH, THICKNESS), LOWER SEGMENT (LENGTH, THICKNESS), ORDER PILE LENGTH, MIN COATING ELEV., COATING LENGTH, ANODE QTY, ANODE ID. Rows C1 to E.521.

65% SUBMITTAL

Revision table with columns: REV, DATE, DESCRIPTION, BY, APVD. Includes a note: 'BAR IS ONE INCH ON ORIGINAL DRAWING' and 'IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.'

Logos for GHD and WSP. Text: 'GHD-WSP JV, 1400 W. BENSON BLVD, SUITE 400, ANCHORAGE, ALASKA 99503. AK ENGINEERING LICENSE # 197742(GHD) - AEOC236(WSP). AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)'. Includes roles for DSGN, DR, CHK, APVD.

Professional Engineer Seal for the State of Alaska, No. 49th, Registered Professional Engineer, SEAL.



STRUCTURAL  
WHARF PILE SCHEDULE

PORT OF ALASKA  
PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA  
HORIZ SCALE: AS SHOWN  
VERT SCALE: AS SHOWN  
DATE: 11/17/23  
SHEET: OF  
T1-S-403



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SOUTH TRESTLE															
PILE ID	PILE DIAMETER OD (in)	APPROXIMATE EXISTING MUDDLINE ELEV.	PILE CUT-OFF ELEV. (ft)	STEEL PIPE TIP ELEV (ft)	DRIVING ALLOWANCE ± (ft)	OVERDRIVE LENGTH (ft)	UPPER SEGMENT		LOWER SEGMENT		ORDER PILE LENGTH (ft)	MIN COATING ELEV (ft)	COATING LENGTH (ft)	ANODE QTY	ANODE ID
							LENGTH (FT)	THICKNESS (IN)	LENGTH (FT)	THICKNESS (IN)					
E 0.5	72	-39.29	34.05	-146	10	10	130	2	75	1	205	-87	145.00	1	
E 1.5	72	-39.29	34.05	-146	10	10	130	2	75	1	205	-87	145.00	1	
E 2.5	72	-39.29	34.05	-146	10	10	130	2	75	1	205	-87	145.00	1	
F 0.5	72	-9.83	32.46	-186	10	10	130	2	110	1	240	-87	140.00	1	
F 1.5	72	-9.83	32.46	-186	10	10	130	2	110	1	240	-87	140.00	1	
F 2.5	72	-9.83	32.46	-186	10	10	130	2	110	1	240	-87	140.00	1	
G 0.5	72	9.92	30.94	-116	10	10	130	2	40	1	170	-87	140.00	1	
G 1.5	72	9.92	30.94	-116	10	10	130	2	40	1	170	-87	140.00	1	
G 2.5	72	9.92	30.94	-116	10	10	130	2	40	1	170	-87	140.00	1	
H 0.5	48	13.37	33.99	-111.05	10	10	N/A	N/A	170	1	170	-25.05	80.00	1	
H 1.5	48	13.37	33.99	-111.05	10	10	N/A	N/A	170	1	170	-25.05	80.00	1	
H 2.5	48	13.37	33.99	-111.05	10	10	N/A	N/A	170	1	170	-25.05	80.00	1	
J 0.5	48	16.37	33.46	-109.95	10	10	N/A	N/A	165	1	165	-18.95	75.00	1	
J 1.5	48	16.37	33.46	-109.95	10	10	N/A	N/A	165	1	165	-18.95	75.00	1	
J 2.5	48	16.37	33.46	-109.95	10	10	N/A	N/A	165	1	165	-18.95	75.00	1	
K 0.5	48	25.9	32.92	-50.40	10	10	N/A	N/A	105	1	105	-9.4	65.00	1	
K 1.5	48	25.9	32.92	-50.40	10	10	N/A	N/A	105	1	105	-9.4	65.00	1	
K 2.5	48	25.9	32.92	-50.40	10	10	N/A	N/A	105	1	105	-9.4	65.00	1	

NORTH TRESTLE															
PILE ID	PILE DIAMETER OD (in)	APPROXIMATE EXISTING MUDDLINE ELEV.	PILE CUT-OFF ELEV. (ft)	STEEL PIPE TIP ELEV (ft)	DRIVING ALLOWANCE ± (ft)	OVERDRIVE LENGTH (ft)	UPPER SEGMENT		LOWER SEGMENT		ORDER PILE LENGTH (ft)	MIN COATING ELEV (ft)	COATING LENGTH (ft)	ANODE QTY	ANODE ID
							LENGTH (FT)	THICKNESS (IN)	LENGTH (FT)	THICKNESS (IN)					
E 43.5	72	-38.55	34.88	-146	10	10	130	2	75	1	205	-87	145.00	1	
E 44.5	72	-38.55	34.88	-146	10	10	130	2	75	1	205	-87	145.00	1	
E 45.5	72	-38.55	34.88	-146	10	10	130	2	75	1	205	-87	145.00	1	
F 43.5	72	-14.27	33.55	-186	10	10	130	2	110	1	240	-87	145.00	1	
F 44.5	72	-14.27	33.55	-186	10	10	130	2	110	1	240	-87	145.00	1	
F 45.5	72	-14.27	33.55	-186	10	10	130	2	110	1	240	-87	145.00	1	
G 43.5	72	4.95	32.26	-116	10	10	130	2	40	1	170	-87	140.00	1	
G 44.5	72	4.95	32.26	-116	10	10	130	2	40	1	170	-87	140.00	1	
G 45.5	72	4.95	32.26	-116	10	10	130	2	40	1	170	-87	140.00	1	
H 43.5	72	16.38	30.96	-121	10	10	130	2	45	1	175	-87	140.00	1	
H 44.5	72	16.38	30.96	-121	10	10	130	2	45	1	175	-87	140.00	1	
H 45.5	72	16.38	30.96	-121	10	10	130	2	45	1	175	-87	140.00	1	
J 43.5	48	19.81	34.01	-111	10	10	N/A	N/A	170	1	170	-25	80.00	1	
J 44.5	48	19.81	34.01	-111	10	10	N/A	N/A	170	1	170	-25	80.00	1	
J 45.5	48	19.81	34.01	-111	10	10	N/A	N/A	170	1	170	-25	80.00	1	
K 43.5	48	21.54	33.46	-107.46	10	10	N/A	N/A	165	1	165	-16.46	70.00	1	
K 44.5	48	21.54	33.46	-107.46	10	10	N/A	N/A	165	1	165	-16.46	70.00	1	
K 45.5	48	21.54	33.46	-107.46	10	10	N/A	N/A	165	1	165	-16.46	70.00	1	
L 43.5	48	23.23	32.92	-47.76	10	10	N/A	N/A	105	1	105	-6.76	60.00	1	
L 44.5	48	23.23	32.92	-47.76	10	10	N/A	N/A	105	1	105	-6.76	60.00	1	
L 45.5	48	23.23	32.92	-47.76	10	10	N/A	N/A	105	1	105	-6.76	60.00	1	

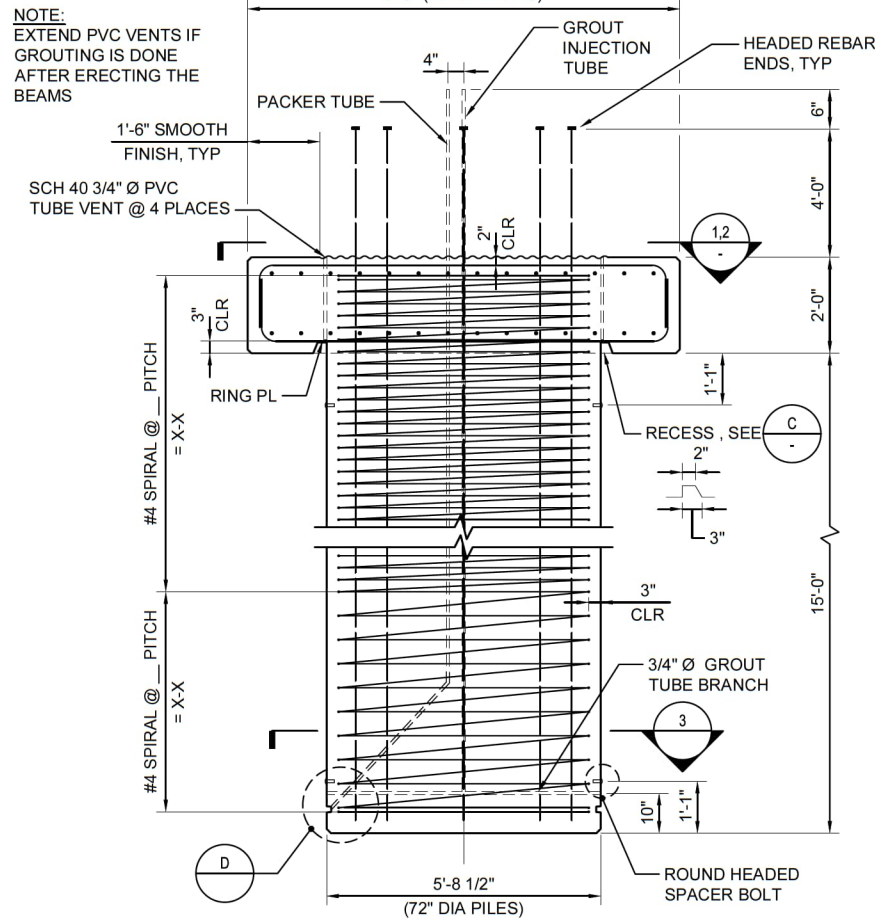
DRAFT

65% SUBMITTAL

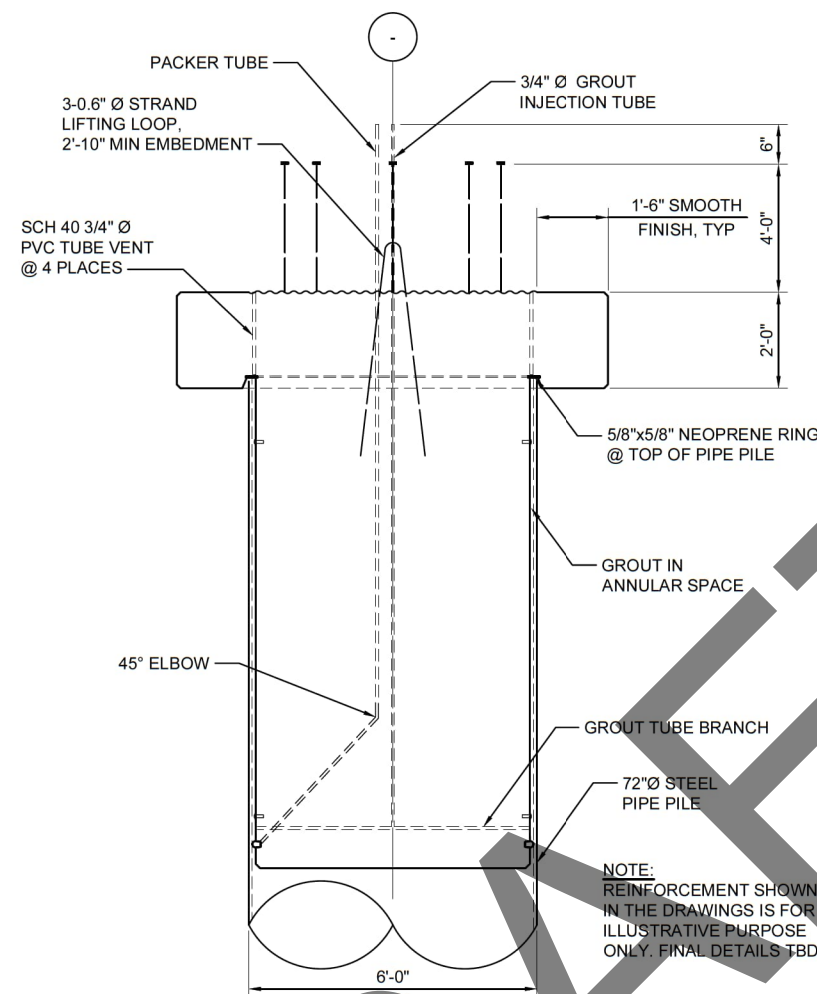
<p><b>VERIFY SCALES</b></p> <p>BAR IS ONE INCH ON ORIGINAL DRAWING</p> <p>0 1"</p> <p>IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.</p>	<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APVD</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	REV	DATE	DESCRIPTION	BY	APVD																					<p style="font-size: 8px;">GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)</p> <p>DSGN: JRG    DR: JDM    CHK: JRG    APVD: JRG</p> <p style="font-size: 8px;">CONSULTANT</p>	<p style="font-size: 8px;">SEAL 11/15/23</p>			<p>STRUCTURAL</p> <p>TRESTLE PILE SCHEDULE</p>	<p>PORT OF ALASKA</p> <p>PORT OF ALASKA MODERNIZATION PROGRAM</p> <p>CARGO TERMINAL 1 DESIGN</p> <p>ANCHORAGE, ALASKA</p>	<p>HORIZ SCALE: AS SHOWN VERT SCALE: AS SHOWN</p>	<p>DATE: 11/17/23 SHEET: OF</p>	<p>T1-S-404</p>
REV	DATE	DESCRIPTION	BY	APVD																															

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

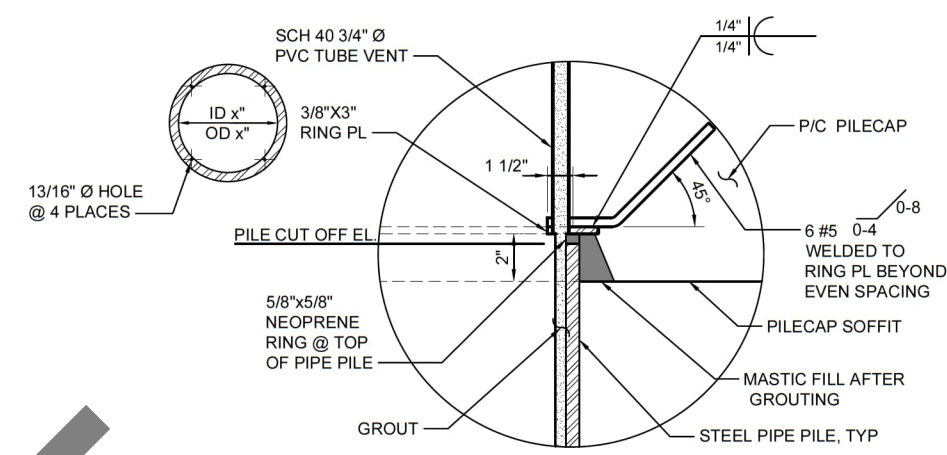
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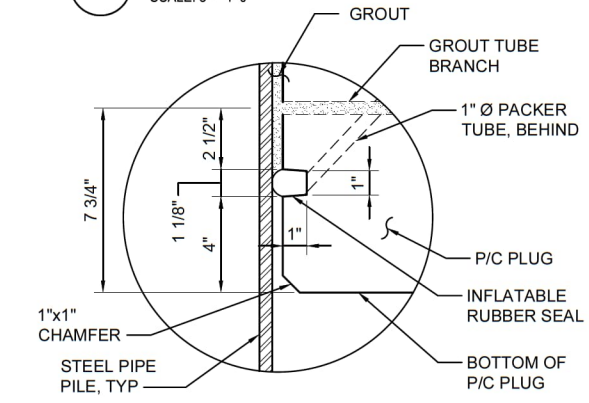
**A SECTION - 72" DIA PILE P/C PLUG AND SUBCAP**  
SCALE: 1/2" = 1'-0"



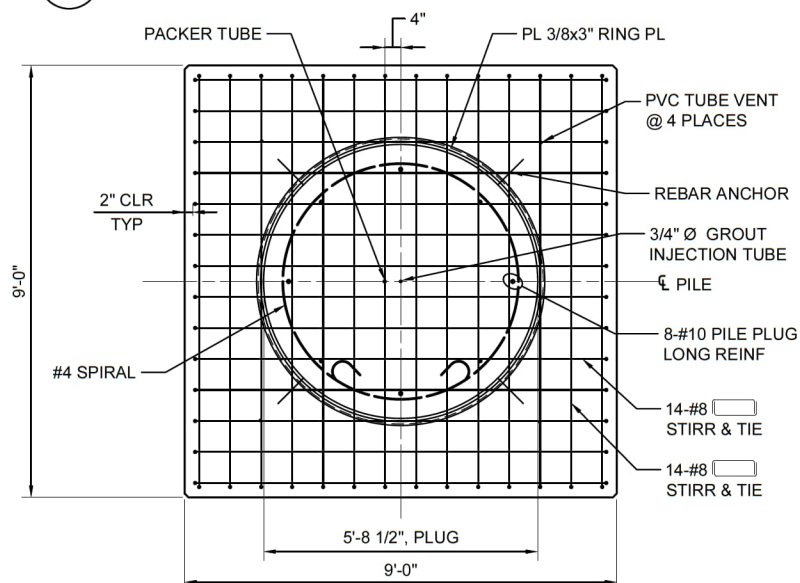
**B DETAIL - P/C PLUG AND SUBCAP INSTALLATION**  
SCALE: 1/2" = 1'-0"



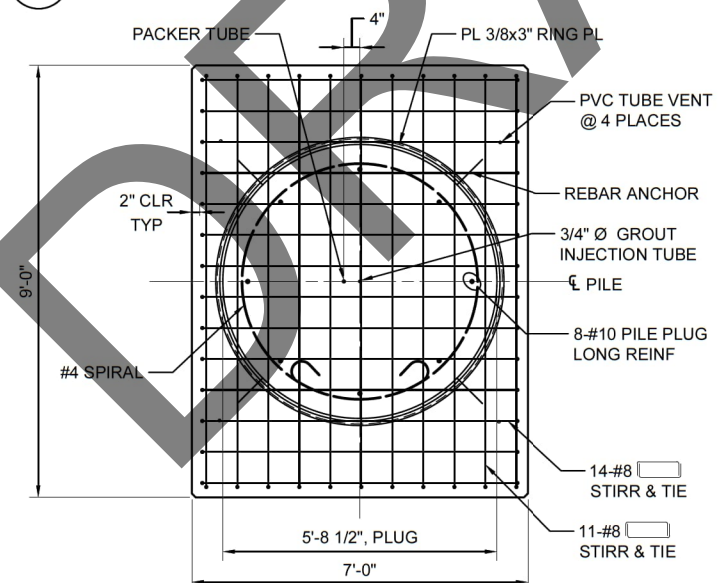
**C DETAIL @ TOP RECESS**  
SCALE: 3" = 1'-0"



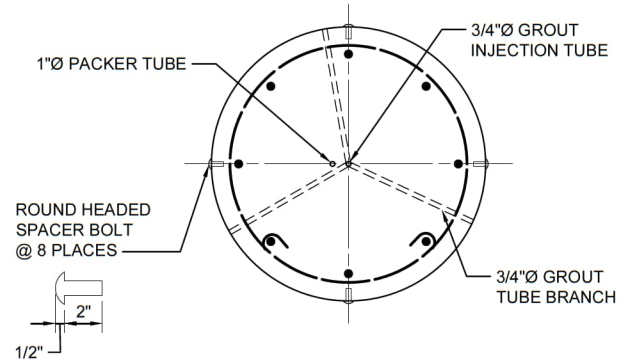
**D DETAIL @ BOTTOM**  
SCALE: 3" = 1'-0"



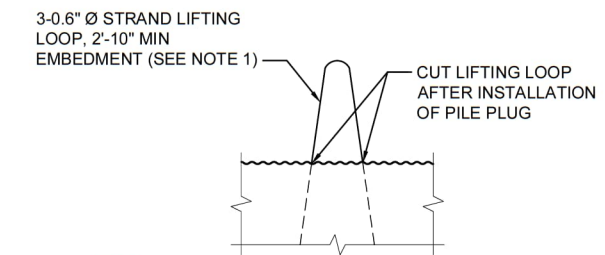
**1 PLAN - TYP 72" DIA PILE P/C SUBCAP REINF**  
SCALE: 1/2" = 1'-0"



**2 PLAN - 72" DIA PILE P/C SUBCAP REINF**  
SCALE: 1/2" = 1'-0"  
WS & LS CRANE BEAM AND TRESTLE PILES

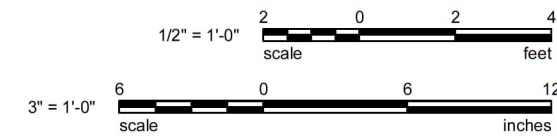


**3 PLAN - TYP BOTTOM OF P/C PLUG**  
SCALE: 1/2" = 1'-0"



**NOTE:**  
1. LIFTING LOOP LOCATIONS TO BE DETERMINED BY CONTRACTOR CONSIDERING ALL LOADS IMPARTED TO THE PRECAST UNIT. ALL MODES OF LIFTING (FABRICATION AND FIELD) ARE TO BE CONSIDERED.

**5 DETAIL - LIFTING LOOP**  
SCALE: NTS



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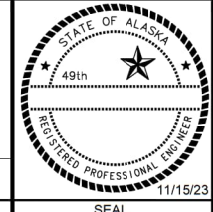
REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AEC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

DSGN: JRG DR: JDM CHK: JRG APVD: JRG

CONSULTANT



STRUCTURAL  
WHARF PRECAST SUBCAP DETAILS

PORT OF ALASKA  
PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

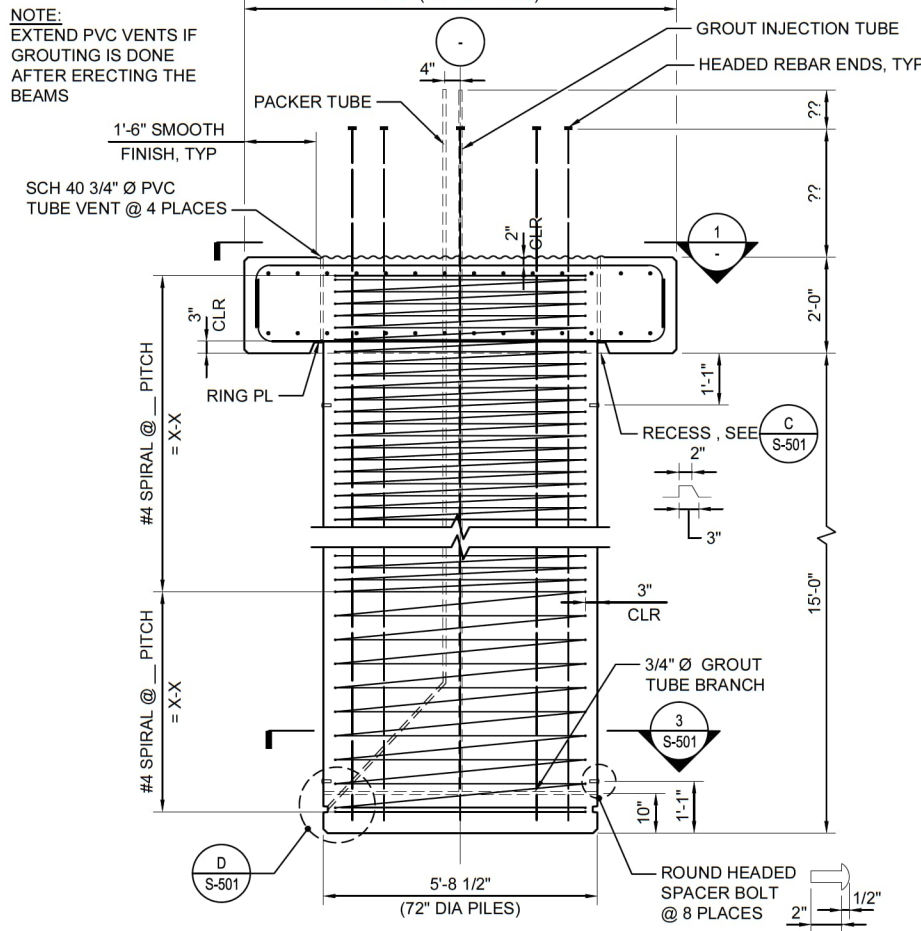
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VERT SCALE: AS SHOWN SHEET: OF

T1-S-501

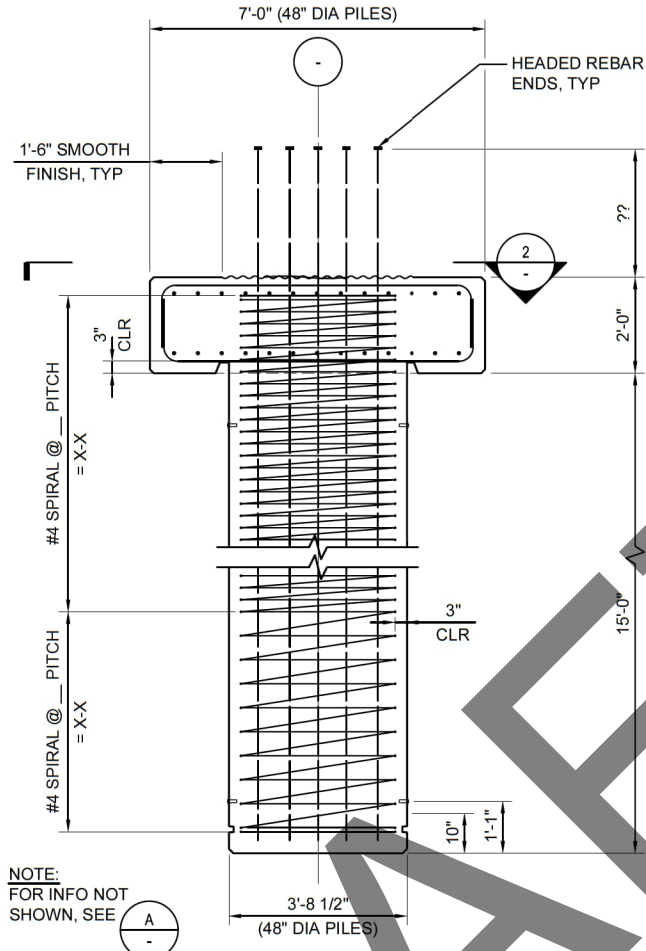
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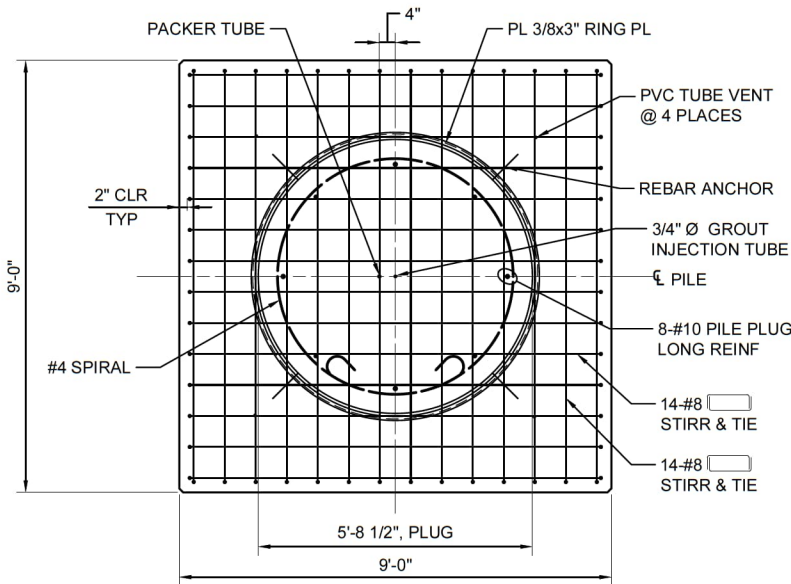
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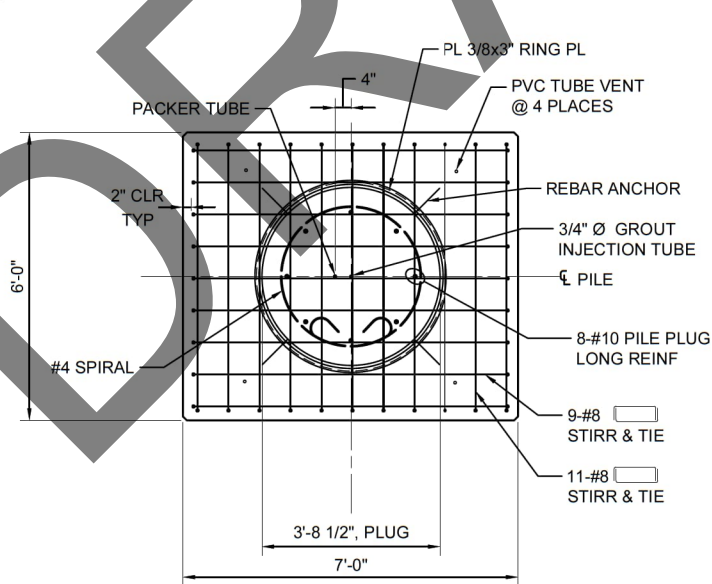
**A SECTION - TRESTLE 72" DIA PILE P/C PLUG AND SUBCAP**  
SCALE: 1/2" = 1'-0"



**B SECTION - TRESTLE 48" DIA PILE P/C PLUG AND SUBCAP**  
SCALE: 1/2" = 1'-0"



**1 PLAN - TRESTLE 72" DIA PILE P/C SUBCAP REINF**  
SCALE: 1/2" = 1'-0"



**2 PLAN - TRESTLE 48" DIA PILE P/C SUBCAP REINF**  
SCALE: 1/2" = 1'-0"



65% SUBMITTAL

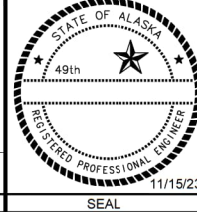
REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AEC236(WSP) 2164152(GHD) - 1113311(WSP)

DR: JDM, CHK: JRG, APVD: JRG

CONSULTANT



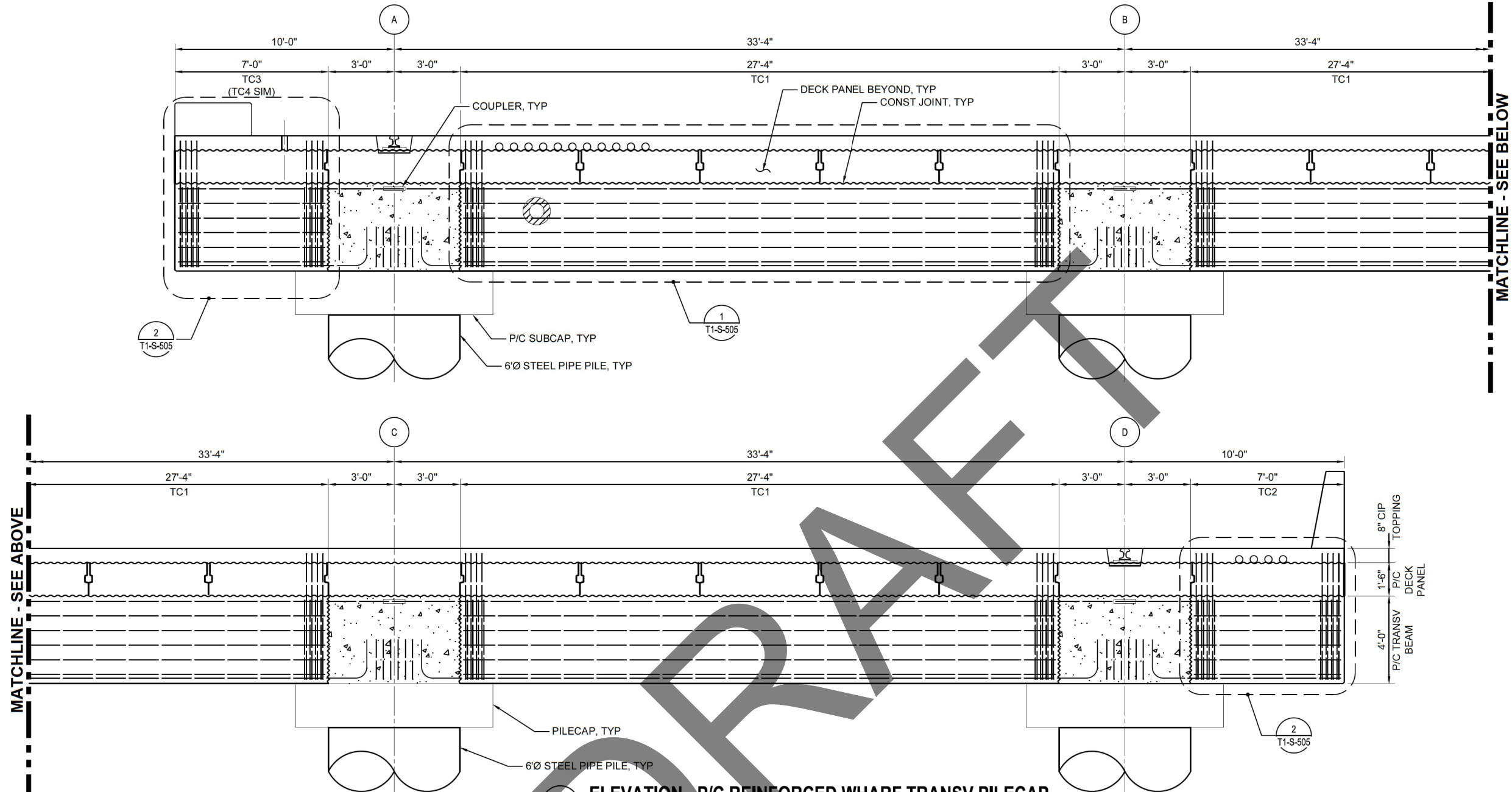
STRUCTURAL  
TRESTLE PRECAST SUBCAP DETAILS

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-502
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



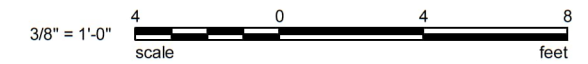
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**1 ELEVATION - P/C REINFORCED WHARF TRANSV PILECAP**  
SCALE: 3/8" = 1'-0"

- NOTES:**
- P/C DECK PANEL AND CIP TOPPING REINF NOT SHOWN FOR CLARITY.
  - P/C PLUG REINF NOT SHOWN FOR CLARITY.
  - CIP CLOSURE POUR REINFORCEMENT NOT SHOWN FOR CLARITY.
  - P/C CRANE BEAM AND LONGITUDINAL BEAM PROJECTING REINF SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

PRECAST REINFORCED CRANE BEAM SCHEDULE																		
ID, DESCRIPTION, AND QUANTITY			BEAM DIMENSIONS						MILD STEEL REINFORCEMENT							SHEAR REINFORCEMENT		
ID. No.	DESCRIPTION	QUANTITY	NOMINAL LENGTH (FT)	COMPONENT LENGTH (FT)	WIDTH (FT)	DEPTH (FT)	OFFSET @ 'ME' (FT)	OFFSET @ 'UME' (FT)	BOTTOM STEEL BAR SIZE AND NUMBER	ROWS OF MIDDLE BARS	MIDDLE BAR SIZE AND NUMBER IN EACH ROW	TOP STEEL BAR SIZE AND NUMBER	NUMBER OF BOTTOM BARS PROJECTING AT EACH END	LENGTH OF PROJECTING BOTTOM BARS AT EACH END (IN)	NUMBER OF TOP BARS W/ COUPLERS AT EACH END	STIRRUP SIZE	STIRRUP SPACING (IN)	STIRRUP PROJECTION (IN)
TC1	TYPICAL INTERIOR TRANS BEAM	68	33'-4"	27'-4"	6'-0"	4'-0"	3'-0"	3'-0"	16 - #10	4	2 - #6	10 - #10	10	21	10	#5	SEE DWG	SEE DWG
TC2	LANDSIDE OVERHANG BEAM	21	10'-0"	7'-0"	6'-0"	4'-0"	3'-0"	3'-0"	8 - #8	4	2 - #6	14 - #10	10	21	10	#6	SEE DWG	SEE DWG
TC3	WATERSIDE OVERHANG BEAM	23	10'-0"	7'-0"	6'-0"	4'-0"	3'-0"	3'-0"	8 - #8	4	2 - #6	14 - #10	10	21	10	#5	SEE DWG	SEE DWG
TC4	EXTERIOR TRANS BEAM	6	33'-4"	27'-4"	6'-0"	4'-0"	3'-0"	3'-0"	16 - #10	4	2 - #6	10 - #10	10	21	14	#5	SEE DWG	SEE DWG



65% SUBMITTAL

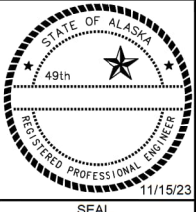
REV	DATE	DESCRIPTION	BY	APVD

VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

DR: JDM  
CHK: JRG  
APVD: JRG

CONSULTANT



**STRUCTURAL**

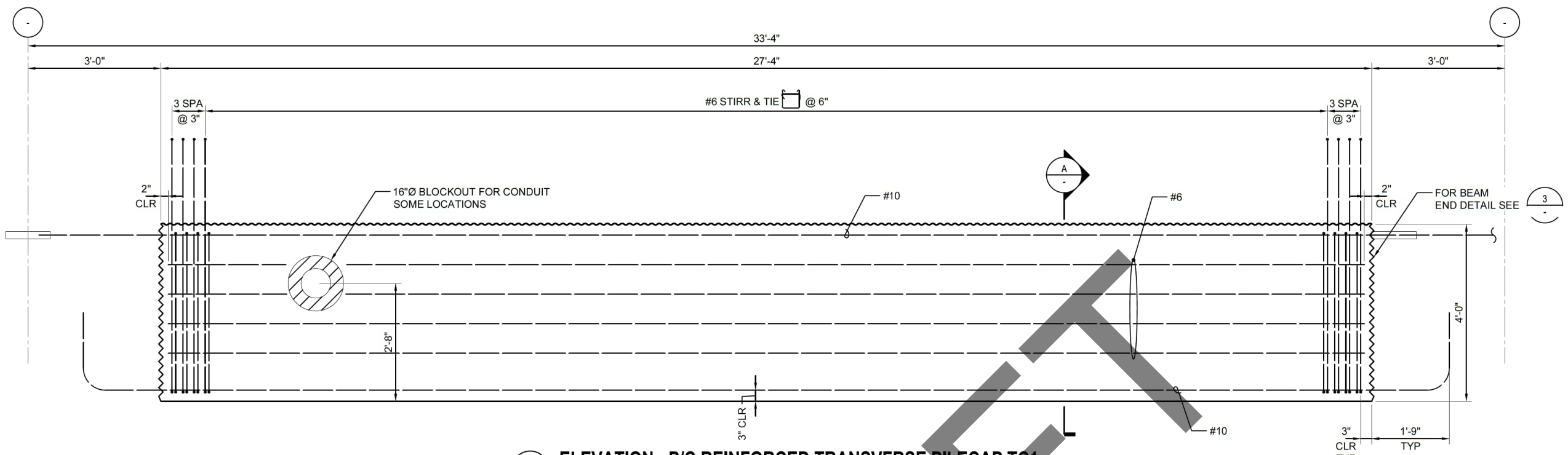
WHARF - PRECAST TRANSVERSE PILECAP  
DETAILS - SHEET 1

PORT OF ALASKA

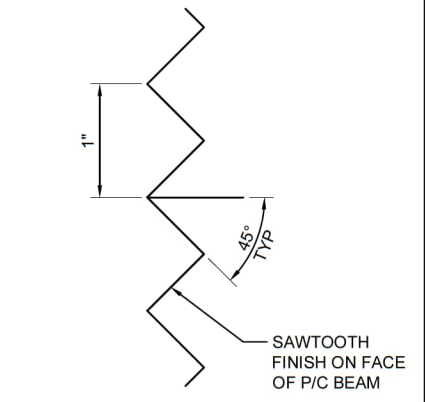
PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-504
VERT SCALE: AS SHOWN	SHEET: OF	

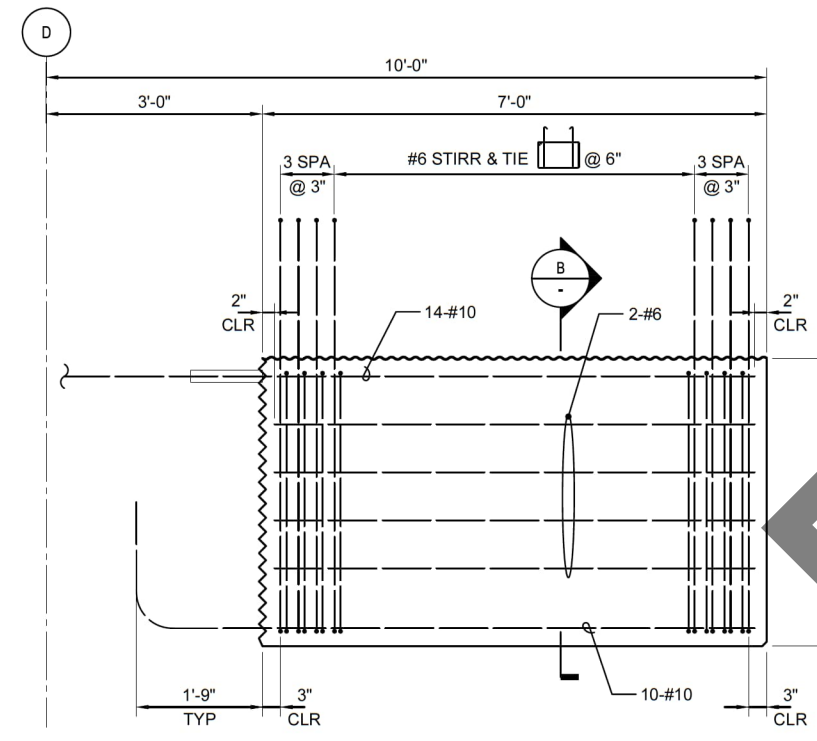
\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



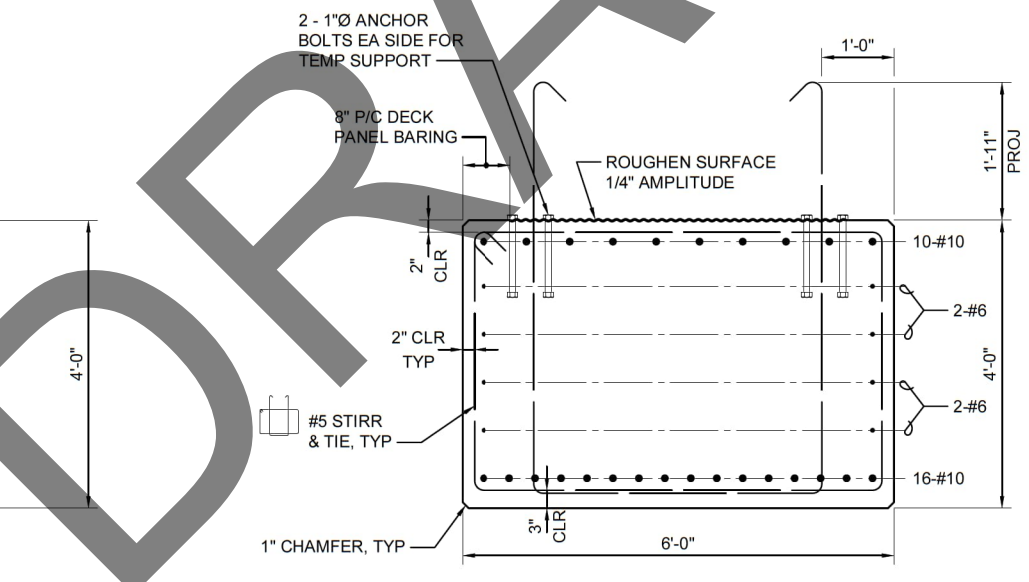
**1 ELEVATION - P/C REINFORCED TRANSVERSE PILECAP TC1**  
SCALE: 3/4" = 1'-0"



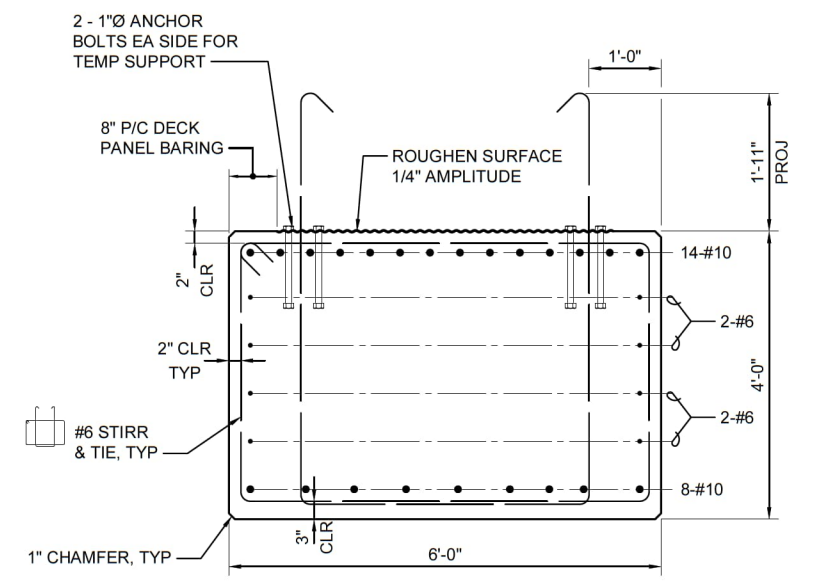
**3 DETAIL - P/C PILECAP END DETAIL**  
SCALE: NTS



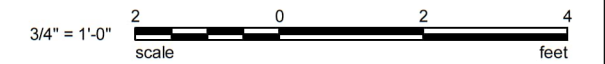
**2 ELEVATION - P/C REINFORCED TRANSVERSE PILECAP TC2 & TC3**  
SCALE: 3/4" = 1'-0"



**A SECTION - TRANSVERSE PILECAP TC1**  
SCALE: 3/4" = 1'-0"



**B SECTION - TRANSVERSE PILECAP TC2 & TC3**  
SCALE: 3/4" = 1'-0"



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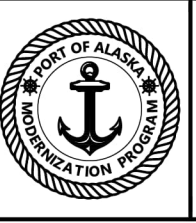
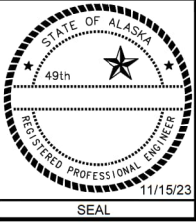
REV	DATE	DESCRIPTION	BY	APVD

**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN: JRG DR: JDM CHK: JRG APVD: JRG

CONSULTANT



STRUCTURAL  
WHARF - PRECAST TRANSVERSE PILECAP  
DETAILS - SHEET 2

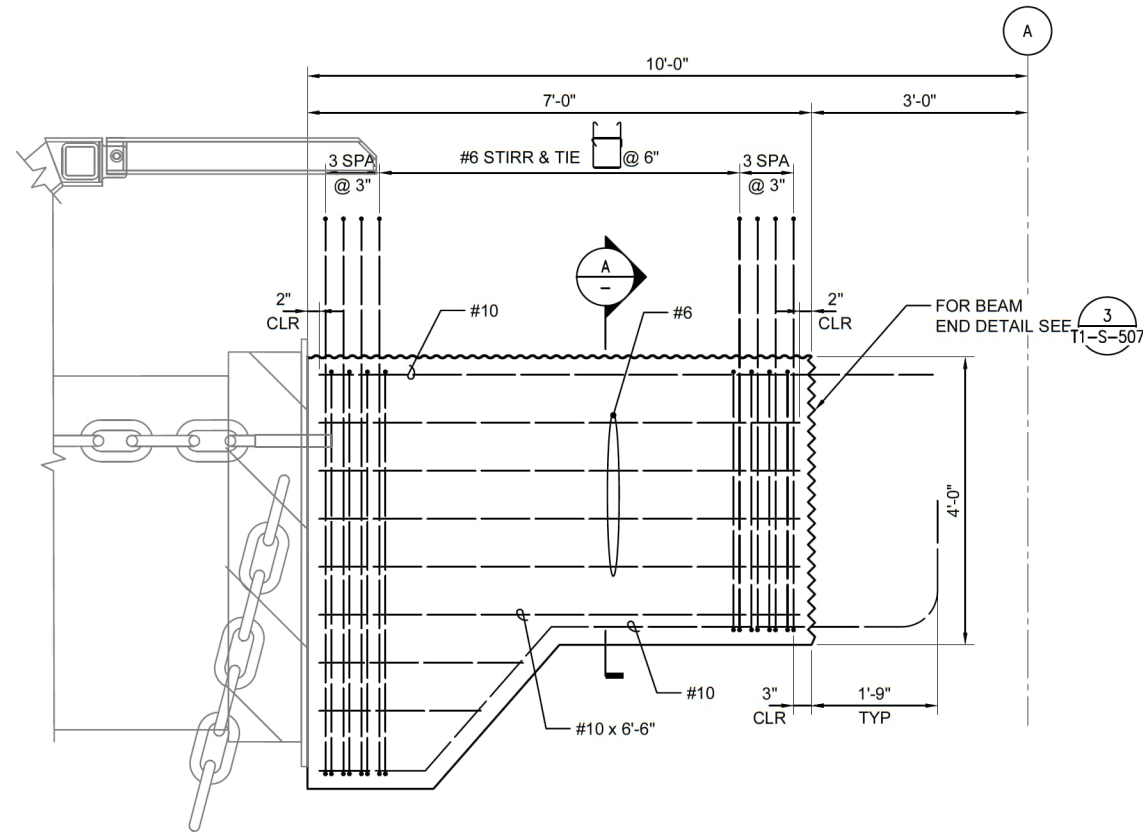
PORT OF ALASKA  
PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN DATE: 11/17/23  
VERT SCALE: AS SHOWN SHEET: OF

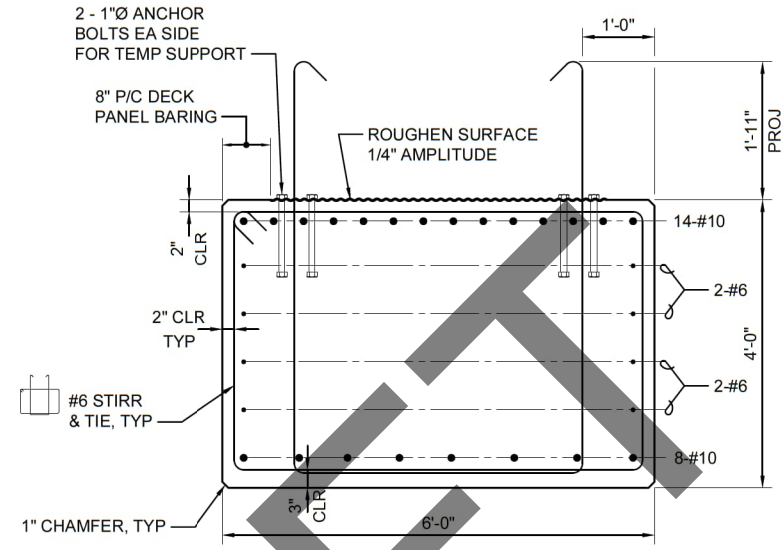
T1-S-505

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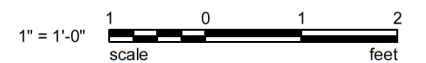


**1** ELEVATION - P/C REINFORCED TRANSVERSE PILECAP TC4  
SCALE: 3/4" = 1'-0"



**A** SECTION - TRANSVERSE PILECAP TC4  
SCALE: 3/4" = 1'-0"

DRAFT



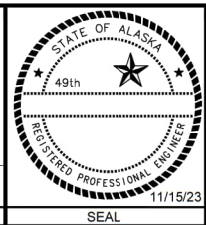
65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT



**STRUCTURAL**

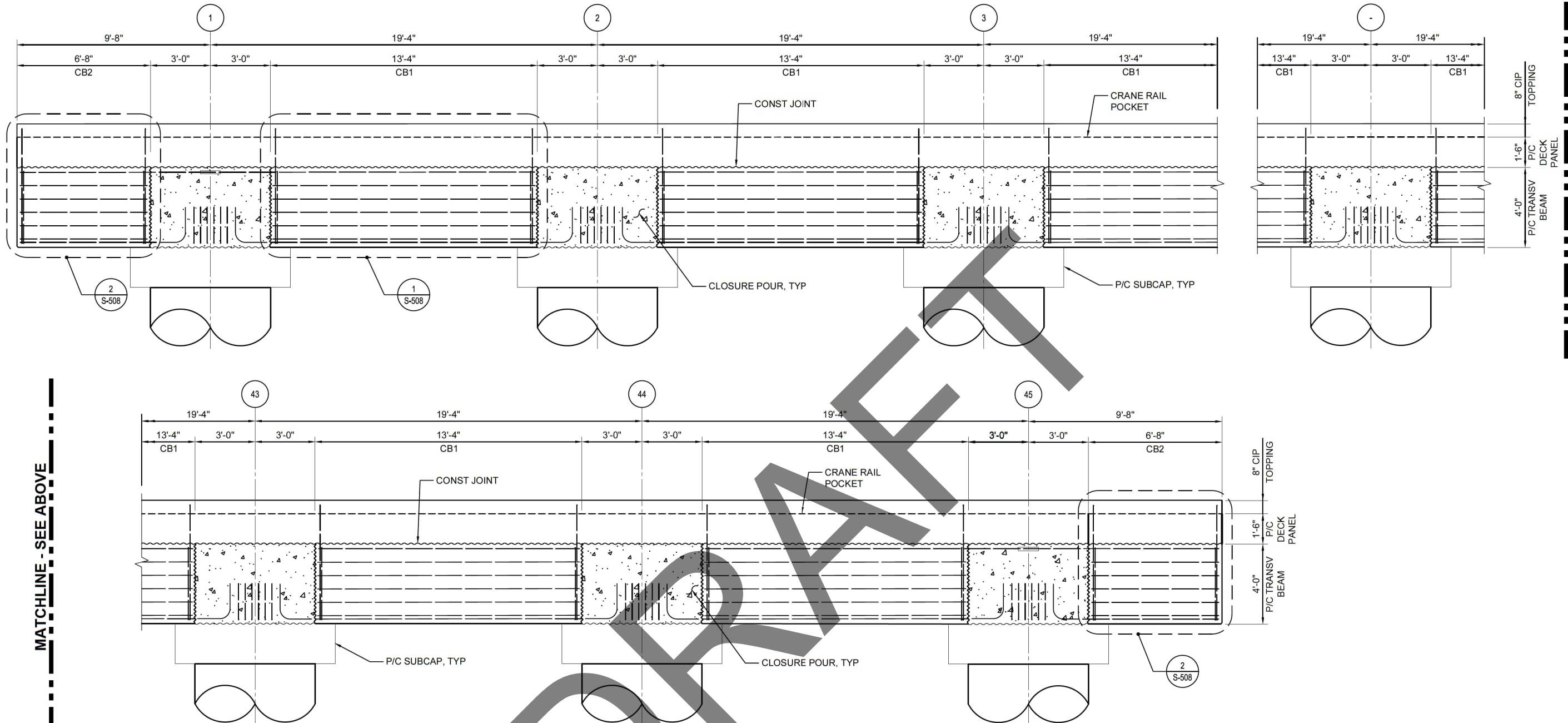
WHARF - PRECAST TRANSVERSE PILECAP  
DETAILS - SHEET 3

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	
VERT SCALE: AS SHOWN	SHEET: OF	T1-S-506

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



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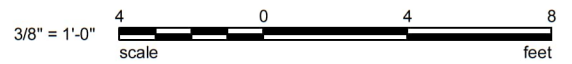
MATCHLINE - SEE ABOVE

MATCHLINE - SEE BELOW

**1 ELEVATION - P/C REINFORCED CRANE BEAM (GRID LINE 'A' & 'D')**  
SCALE: 3/8" = 1'-0"

- NOTES:**
1. P/C DECK PANEL AND CIP TOPPING REINF NOT SHOWN FOR CLARITY.
  2. P/C PLUG PROJECTING REINF NOT SHOWN FOR CLARITY.
  3. CIP CLOSURE POUR REINFORCEMENT NOT SHOWN FOR CLARITY.
  4. P/C CRANE BEAM PROJECTING REINF SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

PRECAST REINFORCED CRANE BEAM SCHEDULE																		
ID, DESCRIPTION, AND QUANTITY			BEAM DIMENSIONS						MILD STEEL REINFORCEMENT							SHEAR REINFORCEMENT		
ID. No.	DESCRIPTION	QUANTITY	NOMINAL LENGTH (FT)	COMPONENT LENGTH (FT)	WIDTH (FT)	DEPTH (FT)	OFFSET @ 'ME' (FT)	OFFSET @ 'UME' (FT)	BOTTOM STEEL BAR SIZE AND NUMBER	ROWS OF MIDDLE BARS	MIDDLE BAR SIZE AND NUMBER IN EACH ROW	TOP STEEL BAR SIZE AND NUMBER	NUMBER OF BOTTOM BARS PROJECTING AT EACH END	LENGTH OF PROJECTING BOTTOM BARS AT EACH END	NUMBER OF TOP BARS W/ COUPLERS AT EACH END	STIRRUP SIZE	TYP STIRRUP SPACING	STIRRUP PROJECTION (IN)
CB1	CRANE BEAM	44	19'-4"	13'-4"	6'-0"	4'-0"	2'-6"	2'-6"	14 - #10	4	2 - #6	10 - #8	10	21"	10	#5	6"	SEE DWG
CB2	CRANE BEAM ENDS																	



65% SUBMITTAL

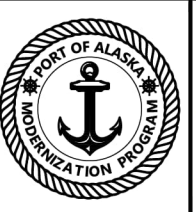
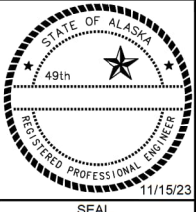
REV	DATE	DESCRIPTION	BY	APVD

VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING  
0 1"  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113311(WSP)

DSGN: JRG DR: JDM CHK: JRG APVD: JRG  
CONSULTANT



**STRUCTURAL**  
WHARF - PRECAST CRANE BEAM DETAILS - SHEET 1

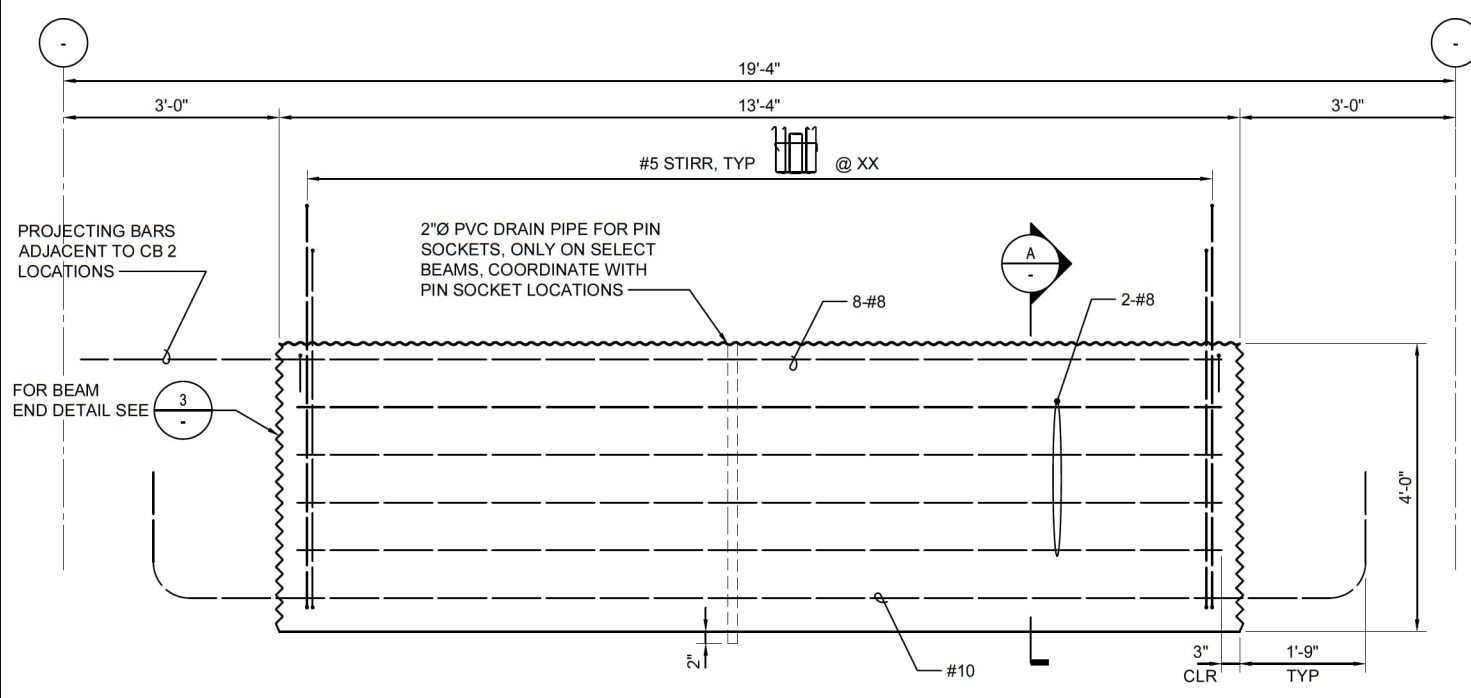
PORT OF ALASKA  
PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN DATE: 11/17/23  
VERT SCALE: AS SHOWN SHEET: OF

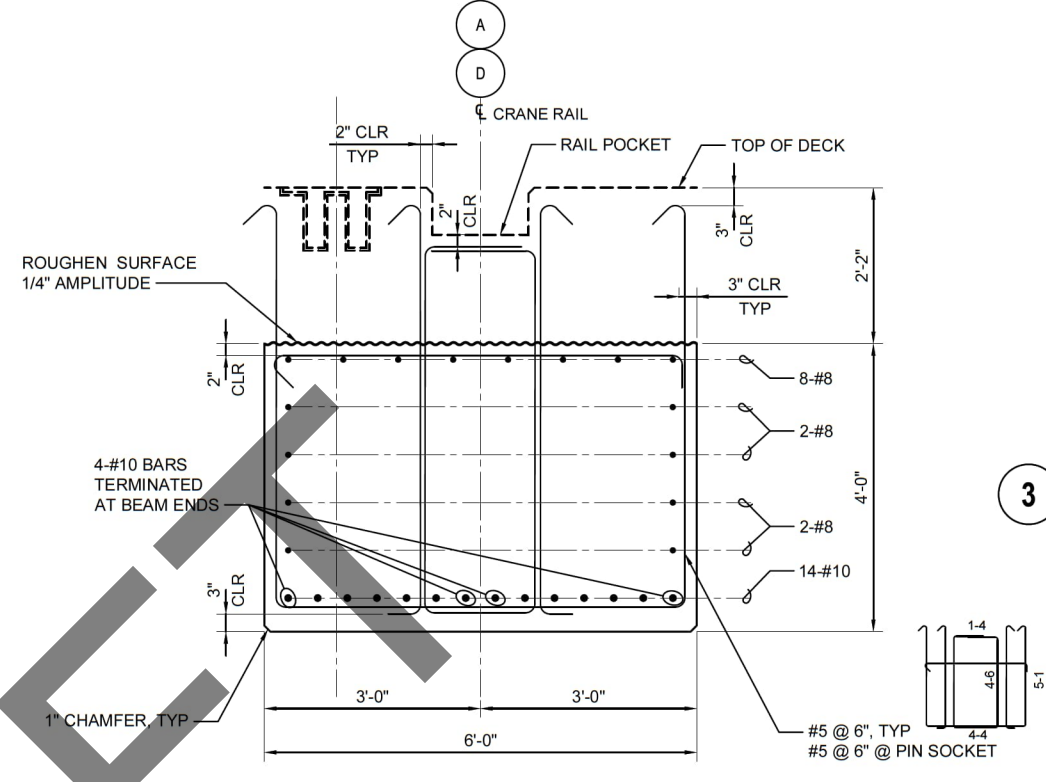
T1-S-507

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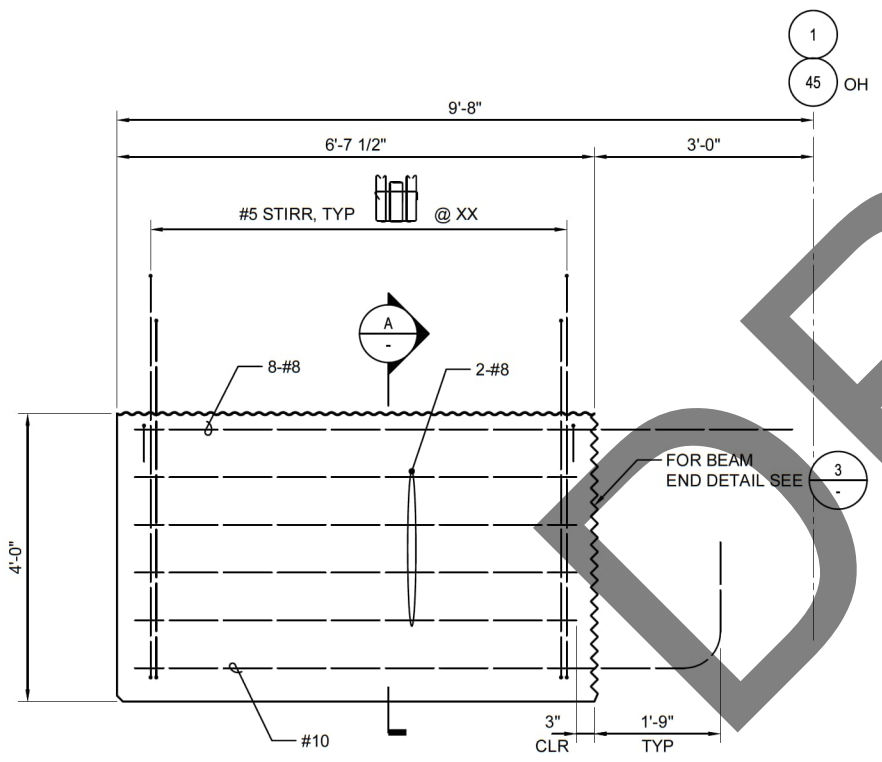


**1 ELEVATION - P/C REINFORCED CRANE BEAM CB1**  
SCALE: 3/4" = 1'-0"

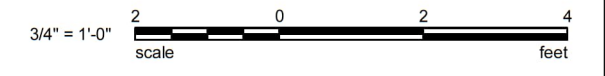


**A SECTION - CRANE BEAM**  
SCALE: 3/4" = 1'-0"

**3 DETAIL - P/C BEAM END DETAIL**  
SCALE: NTS



**2 ELEVATION - P/C REINFORCED CRANE BEAM CB2**  
SCALE: 3/4" = 1'-0"



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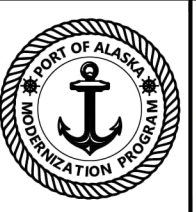
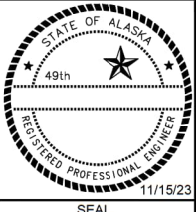
REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN: JRG DR: JDM CHK: JRG APVD: JRG

CONSULTANT



STRUCTURAL  
WHARF - PRECAST CRANE BEAM DETAILS - SHEET 2

PORT OF ALASKA  
PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

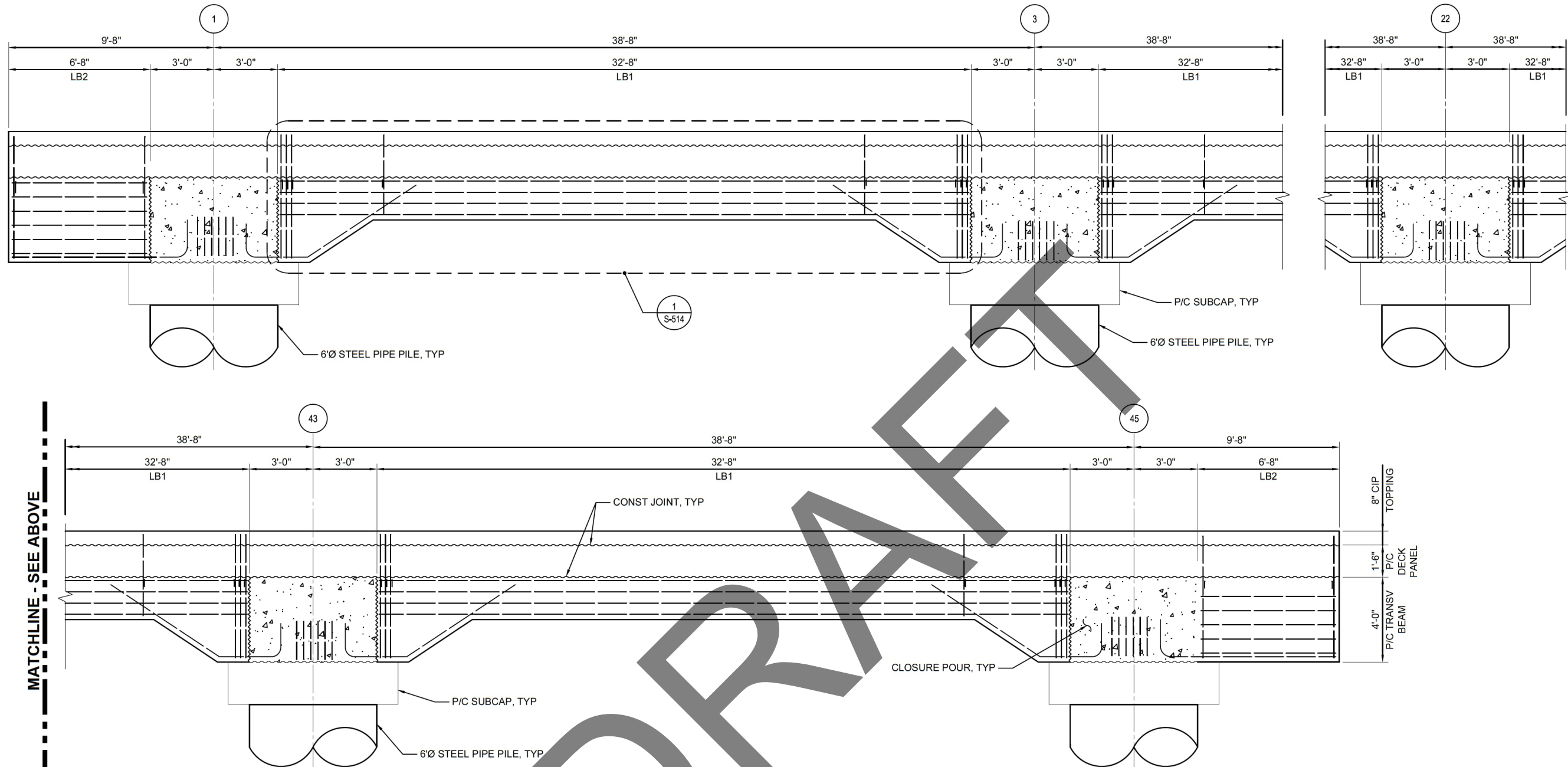
HORIZ SCALE: AS SHOWN DATE: 11/17/23  
VERT SCALE: AS SHOWN SHEET: OF

T1-S-508

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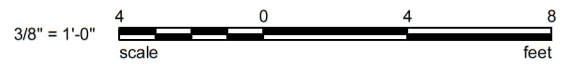
MATCHLINE - SEE ABOVE

MATCHLINE - SEE BELOW

**1 ELEVATION - P/C REINFORCED WHARF LONGITUDINAL BEAM (GRID LINE 'B' & 'C')**  
SCALE: 3/8" = 1'-0"

- NOTES:**
1. P/C DECK PANEL AND CIP TOPPING REINF NOT SHOWN FOR CLARITY.
  2. P/C PLUG PROJECTING REINF NOT SHOWN FOR CLARITY.
  3. CIP CLOSURE POUR REINFORCEMENT NOT SHOWN FOR CLARITY.
  4. P/C CRANE BEAM PROJECTING REINF SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

PRECAST REINFORCED LONGITUDINAL BEAM SCHEDULE																		
ID, DESCRIPTION, AND QUANTITY			BEAM DIMENSIONS					MILD STEEL REINFORCEMENT								SHEAR REINFORCEMENT		
ID. No.	DESCRIPTION	QUANTITY	NOMINAL LENGTH (FT)	COMPONENT LENGTH (FT)	WIDTH (FT)	DEPTH (FT)	OFFSET @ 'ME' (FT)	OFFSET @ 'UM' (FT)	BOTTOM STEEL BAR SIZE AND NUMBER	ROWS OF MIDDLE BARS	MIDDLE BAR SIZE AND NUMBER IN EACH ROW	TOP STEEL BAR SIZE AND NUMBER	NUMBER OF BOTTOM BARS PROJECTING AT EACH END	LENGTH OF PROJECTING BOTTOM BARS AT EACH END	NUMBER OF TOP BARS W/ COUPLERS AT EACH END	STIRRUP SIZE	TYP STIRRUP SPACING	STIRRUP PROJECTION (IN)
LB1	LONGITUDINAL BEAMS																	
LB2	LONGITUDINAL BEAM ENDS																	



65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

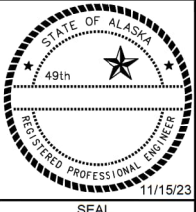
REVISIONS

**GHD**

**wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

DSGN: JRG DR: JDM CHK: JRG APVD: JRG  
CONSULTANT



**STRUCTURAL**

WHARF PRECAST LONGITUDINAL BEAM  
DETAILS - SHEET 1

PORT OF ALASKA

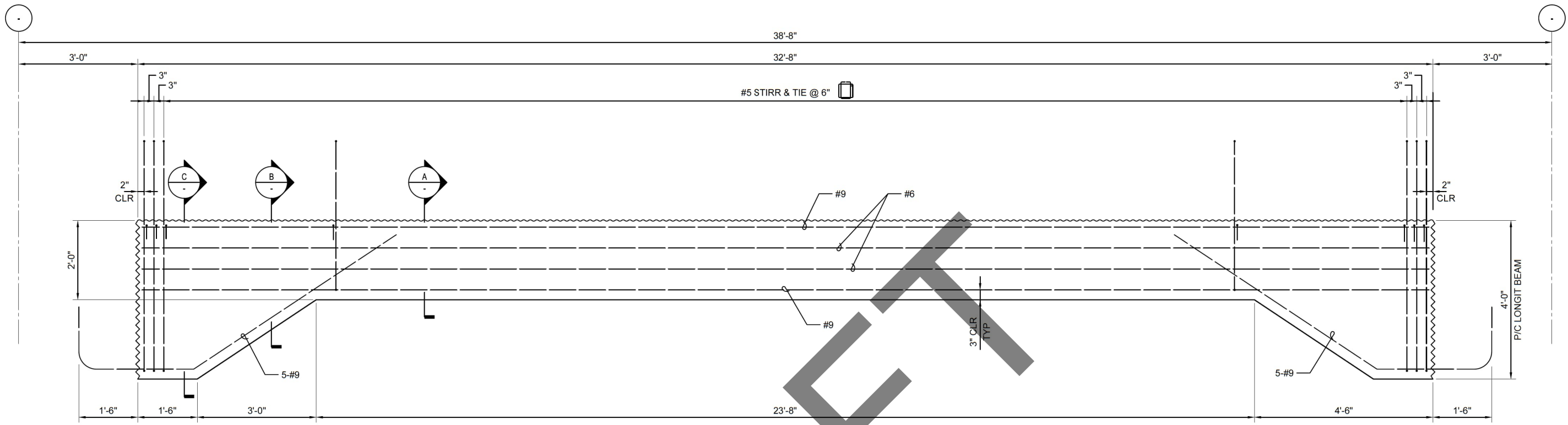
PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE: 11/17/23	<b>T1-S-513</b>
VERT SCALE: AS SHOWN	SHEET: OF	

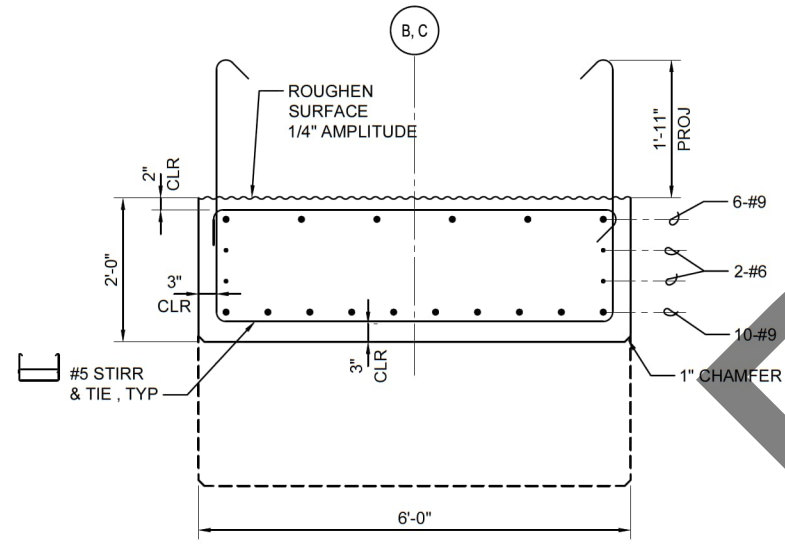
\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



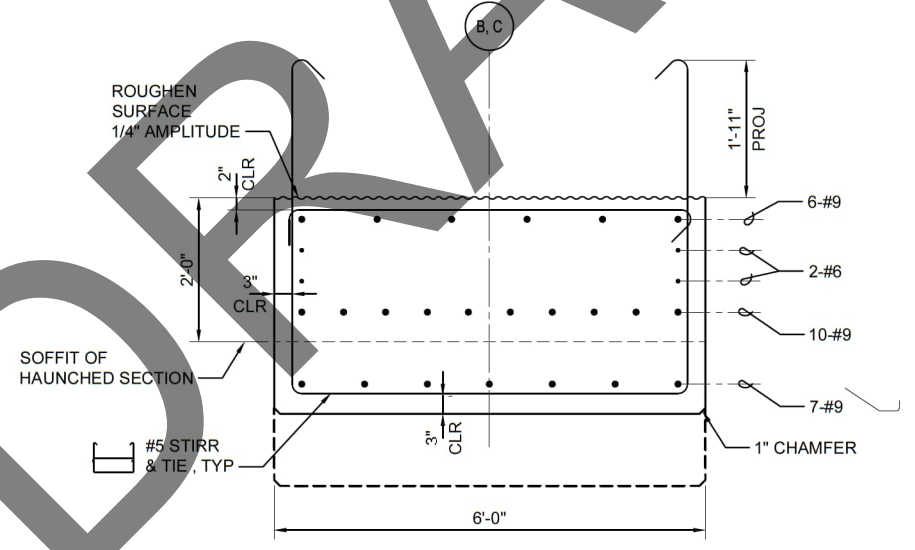
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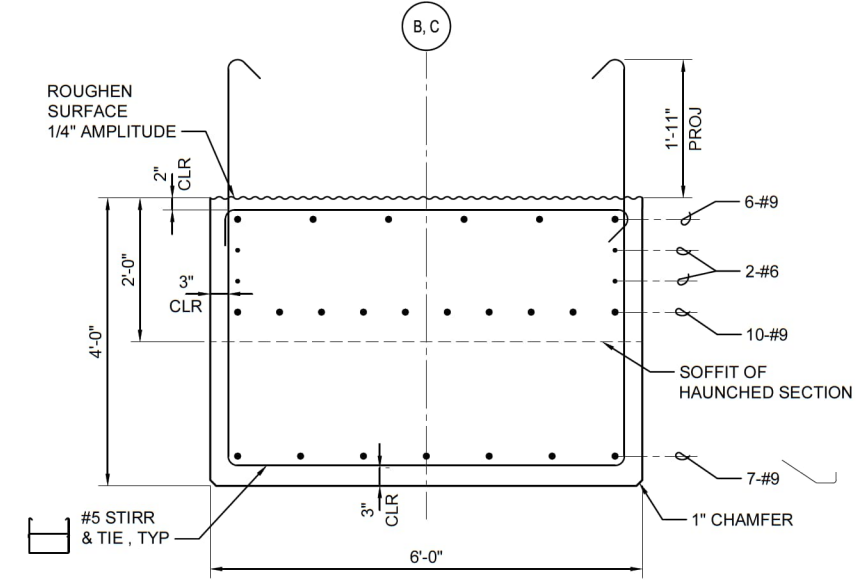
**1 ELEVATION - LONGITUDINAL BEAM LB1**  
SCALE: 3/4" = 1'-0"



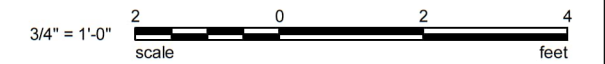
**A SECTION**  
SCALE: 3/4" = 1'-0"



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



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



65% SUBMITTAL

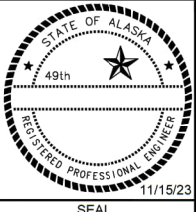
REV	DATE	DESCRIPTION	BY	APVD

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

WSP

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT



**STRUCTURAL**

WHARF PRECAST LONGITUDINAL BEAM  
DETAILS - SHEET 2

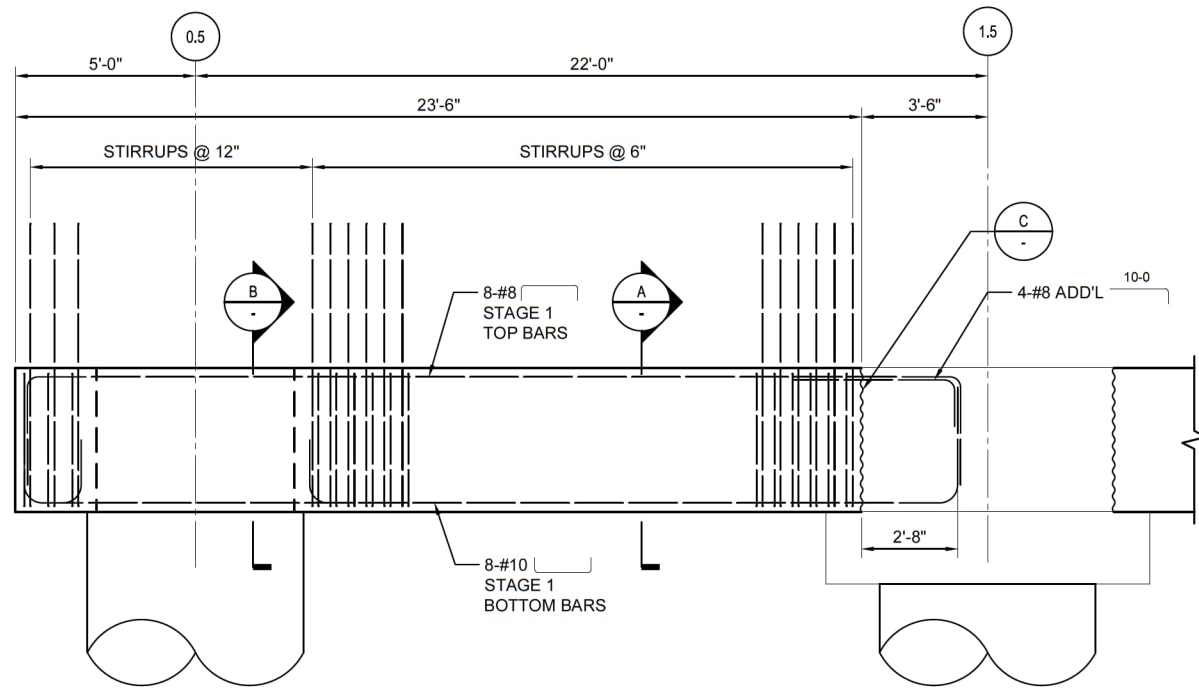
PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

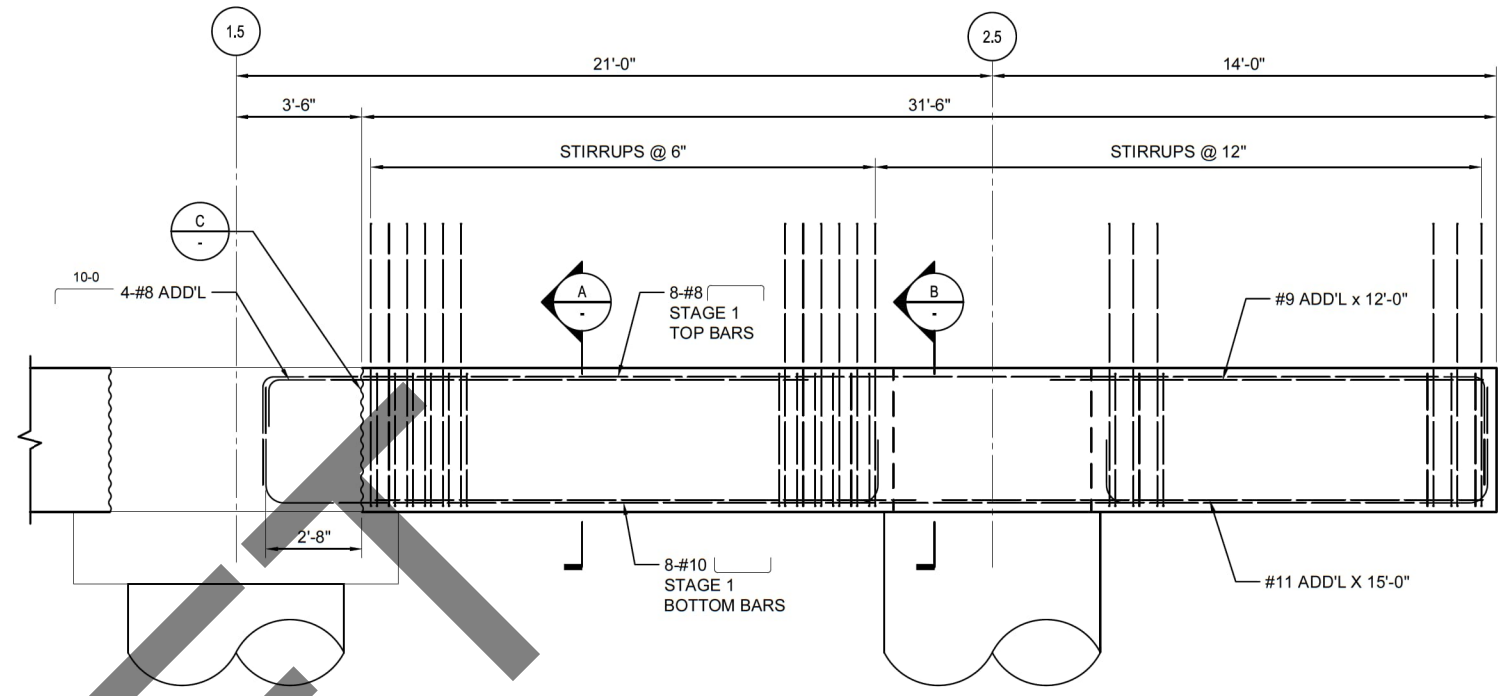
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-514
VERT SCALE: AS SHOWN	SHEET: OF	

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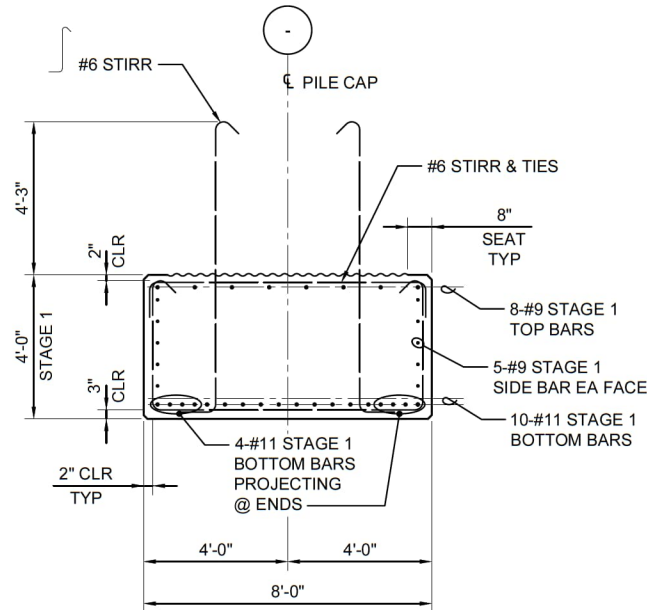
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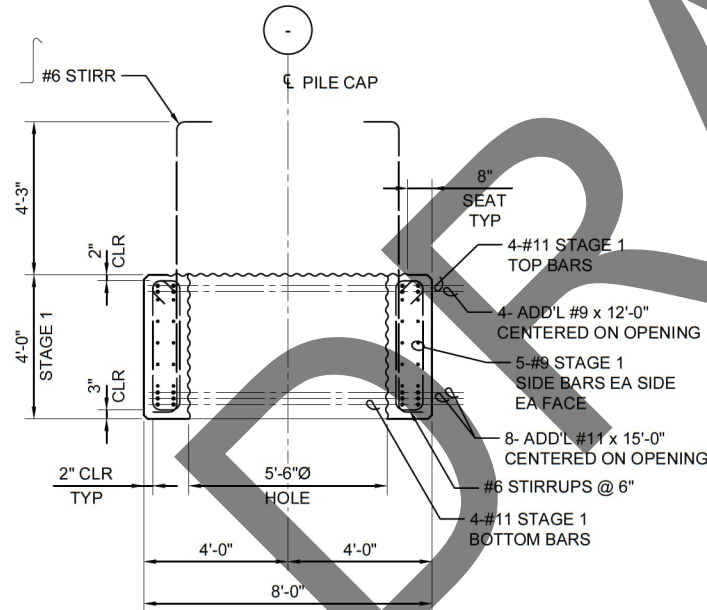
**1 ELEVATION - P/C TRESTLE 1A TRANSV PILE CAP TTB-1**  
SCALE: 3/8" = 1'-0"



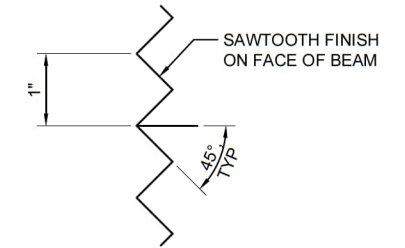
**2 ELEVATION - P/C TRESTLE 1A TRANSV PILE CAP TTB-2**  
SCALE: 3/8" = 1'-0"



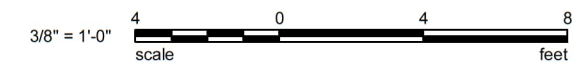
**A SECTION TYPICAL**  
SCALE: 3/8" = 1'-0"



**B SECTION @ HOLES**  
SCALE: 3/8" = 1'-0"



**C DETAIL - BEAM END**  
SCALE: NTS



65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

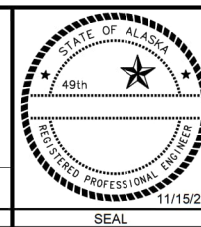
REVISIONS

**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN: JRG DR: JDM CHK: JRG APVD: JRG

CONSULTANT



STRUCTURAL  
TRESTLE 1A - PRECAST TRANSVERSE  
PILECAP DETAILS - SHEET 1

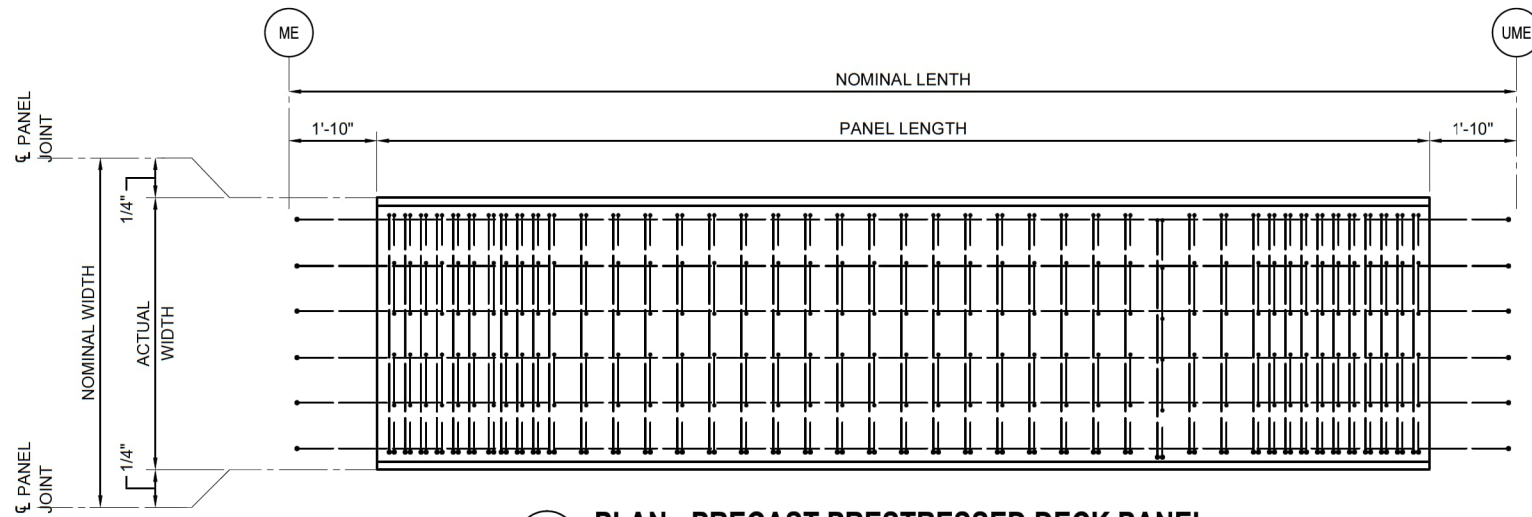
PORT OF ALASKA  
PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN DATE: 11/17/23  
VERT SCALE: AS SHOWN SHEET: OF

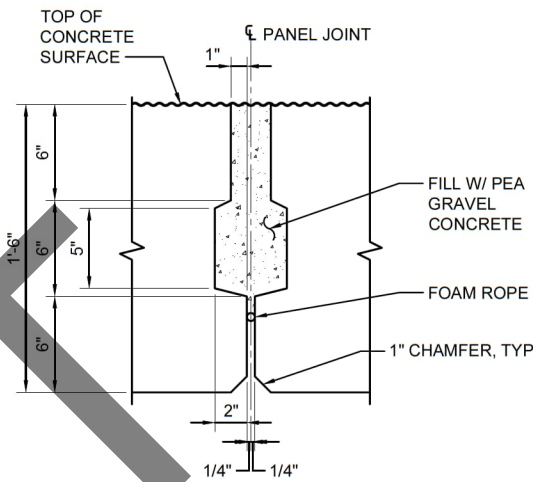
T1-S-515

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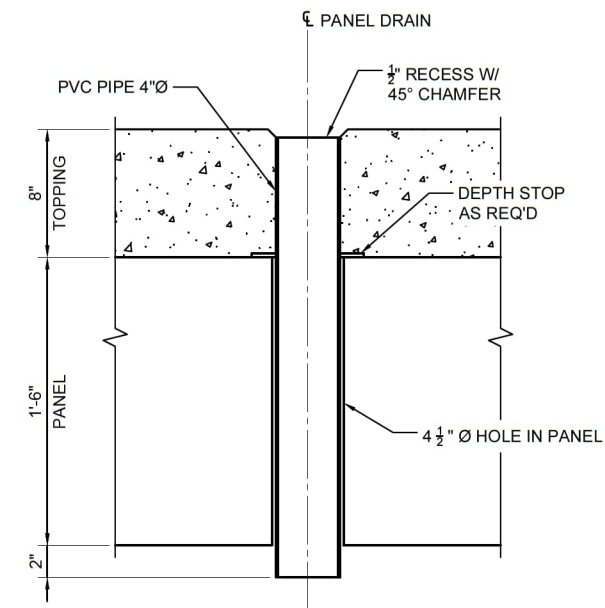
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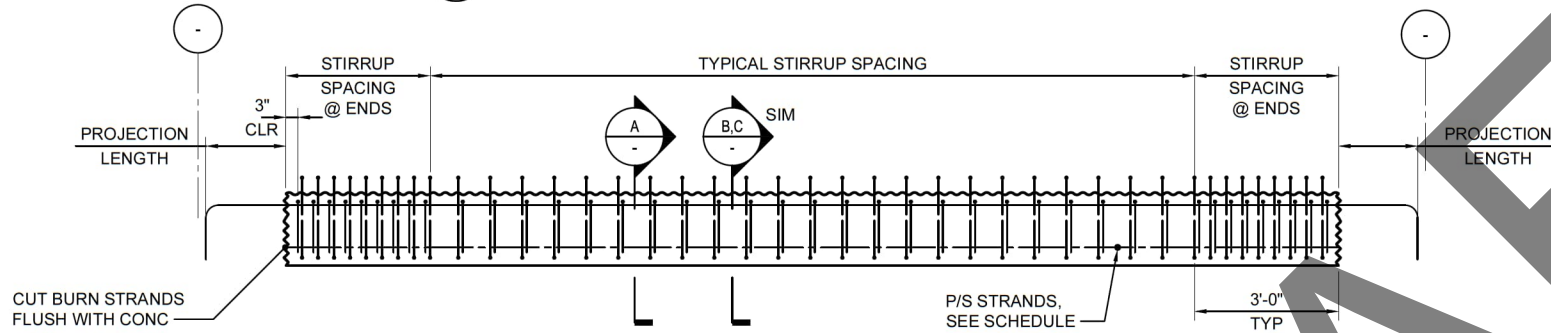
**1 PLAN - PRECAST PRESTRESSED DECK PANEL**  
SCALE: 1/2" = 1'-0"



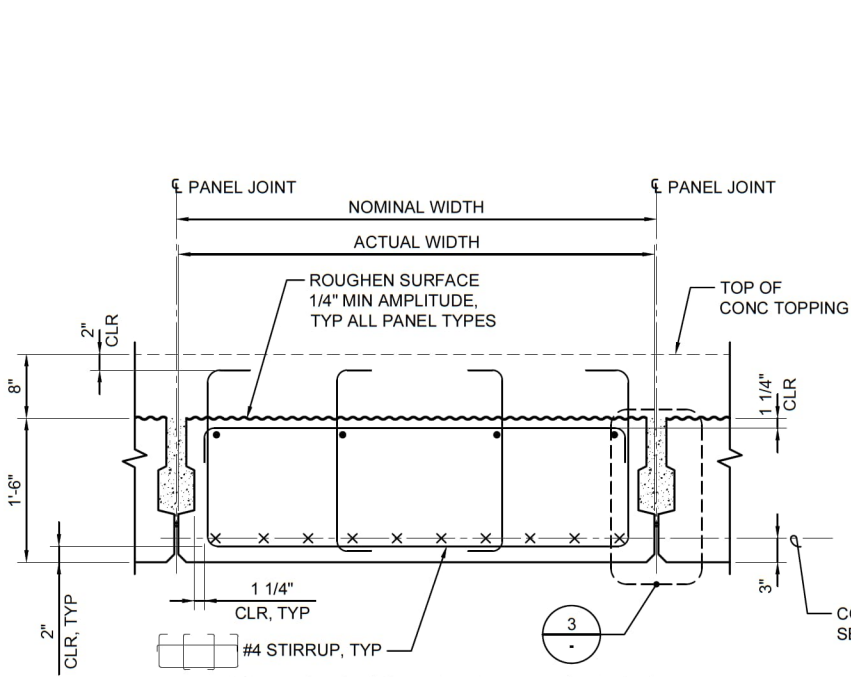
**3 DETAIL - TYP DECK PANEL SHEAR KEY**  
SCALE: 2" = 1'-0"



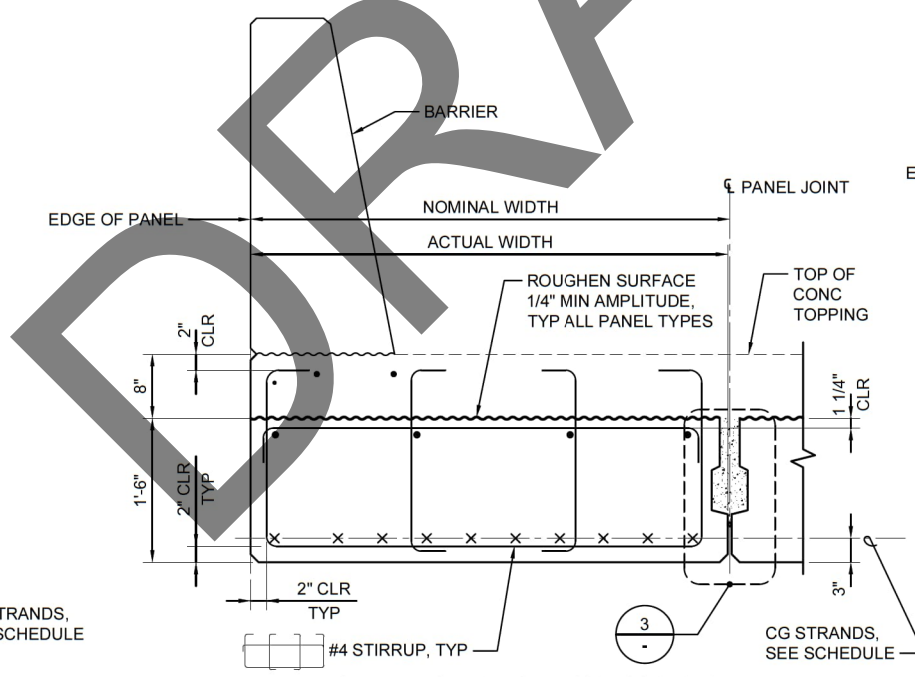
**4 DETAIL - DECK DRAIN**  
SCALE: 2" = 1'-0"



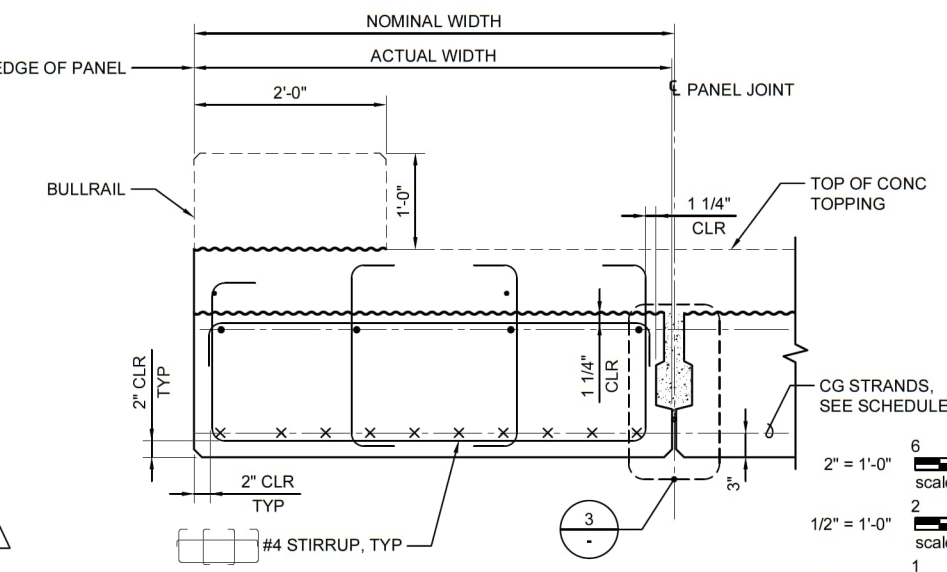
**2 ELEVATION - PRECAST PRESTRESSED DECK PANEL**  
SCALE: 1/2" = 1'-0"



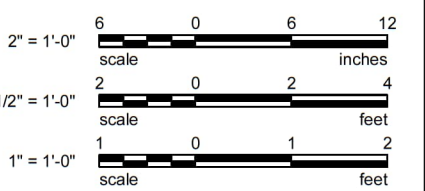
**A SECTION - INTERIOR PANEL**  
SCALE: 1" = 1'-0"



**B SECTION - EDGE PANEL**  
SCALE: 1" = 1'-0"



**C SECTION - EDGE PANEL AT CURB**  
SCALE: 1" = 1'-0"



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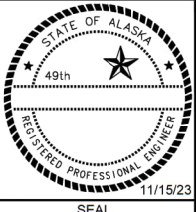
REV	DATE	DESCRIPTION	BY	APVD

**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN: JRG DR: JDM CHK: JRG APVD: JRG

CONSULTANT



STRUCTURAL  
WHARF PRECAST PRESTRESSED DECK  
PANEL DETAILS

PORT OF ALASKA  
PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

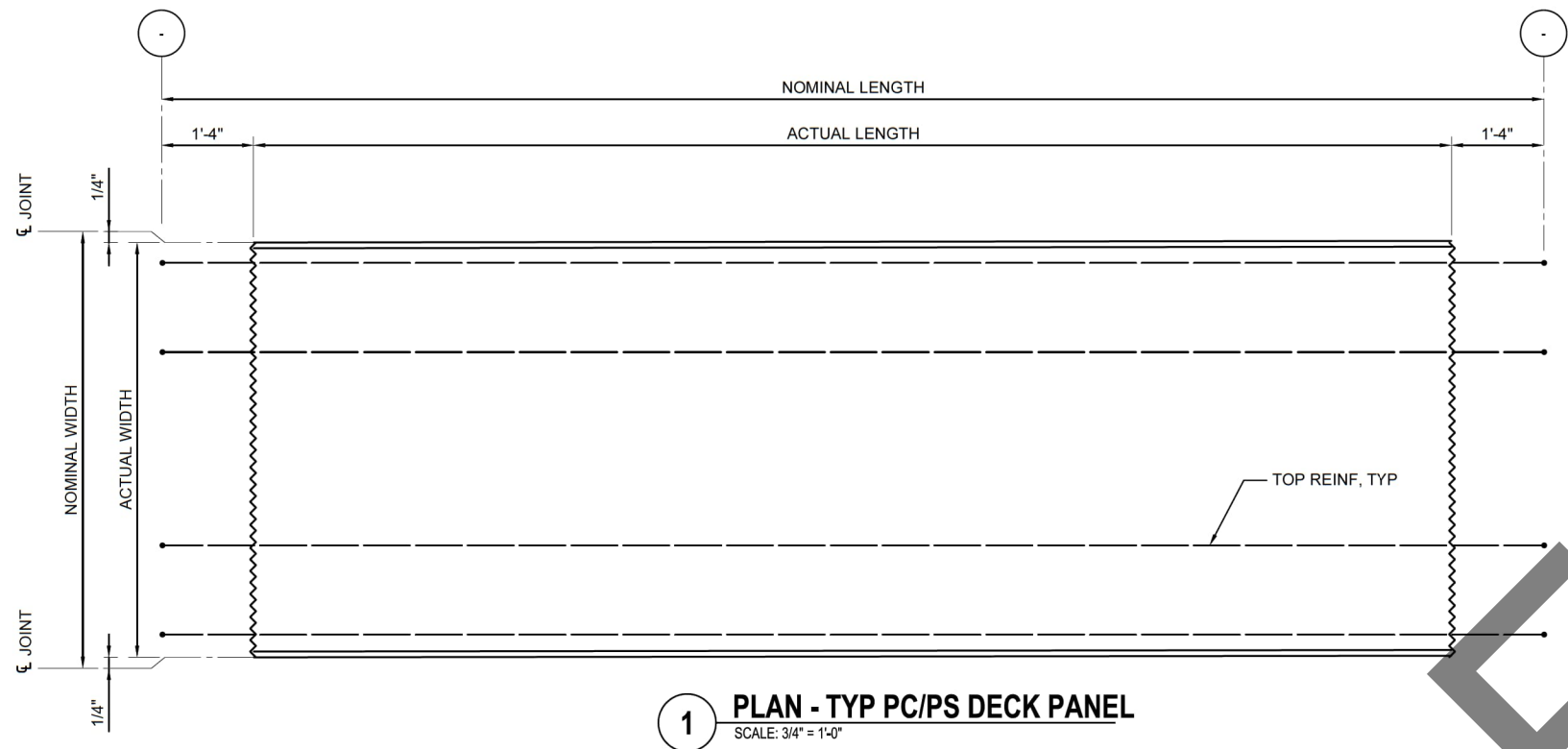
HORIZ SCALE: AS SHOWN DATE: 11/17/23  
VERT SCALE: AS SHOWN SHEET: OF

T1-S-519

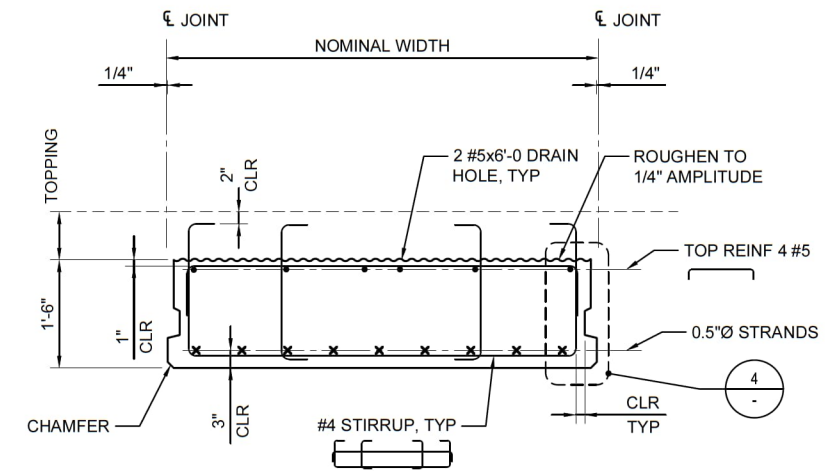
\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



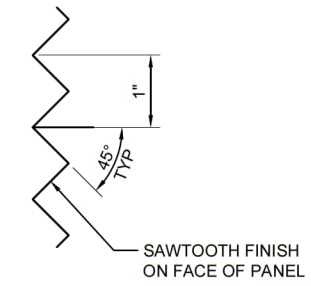
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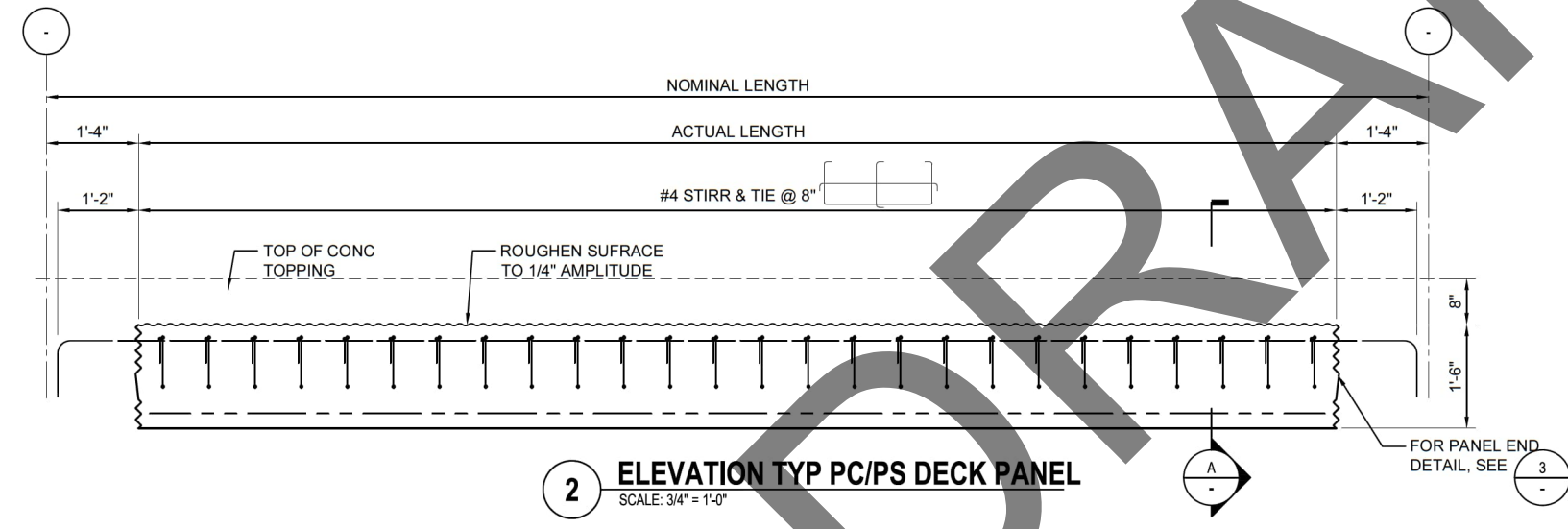
**1 PLAN - TYP PC/PS DECK PANEL**  
SCALE: 3/4" = 1'-0"



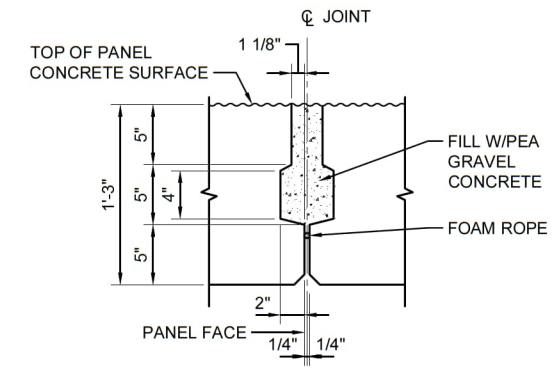
**A SECTION - TYP PC/PS DECK PANEL**  
SCALE: 3/4" = 1'-0"



**3 DETAIL - PANEL END**  
SCALE: NTS



**2 ELEVATION TYP PC/PS DECK PANEL**  
SCALE: 3/4" = 1'-0"



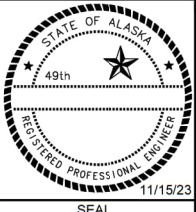
**4 DETAIL - PANEL SHEAR KEY**  
SCALE: 1 1/2" = 1'-0"

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REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
AK BUSINESS LICENSE # 2164152(GHD) - 113311(WSP)

DR JDM  
CHK JRG  
APVD JRG



**STRUCTURAL**

TRESTLE PRECAST DECK PANEL DETAILS

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM

**CARGO TERMINAL 1 DESIGN**

ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-520
VERT SCALE: AS SHOWN	SHEET: OF	

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CARGO TERMINAL 1 DESIGN - WHARF PRECAST PRESTRESSED DECK PANEL SCHEDULE



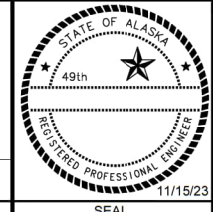


ID, DESCRIPTION, AND QUANTITY			PANEL DIMENSIONS							PRESTRESS			TOP MILD STEEL REINFORCEMENT			SHEAR REINFORCEMENT			
ID. No.	DESCRIPTION	QUANTITY	NOMINAL LENGTH (FT)	PANEL LENGTH (FT)	NOMINAL WIDTH (FT)	ACTUAL WIDTH (FT)	PANEL THICKNESS (FT)	OFFSET @ 'ME' (FT)	OFFSET @ 'UME' (FT)	NUMBER OF 0.6 INCH DIA STRANDS	PRESTRESS FORCE AT RELEASE (KIPS)	EFFECTIVE PRESTRESS FORCE (kN)	BAR SIZE AND NUMBER	PROJECT ON @ 'ME' (FT)	PROJECT ON @ 'UME' (FT)	STIRRUP SIZE	TYP STIRRUP SPACING (IN)	STIRRUP SPACING @ ENDS (IN)	STIRRUP PROJECTION (IN)
A1	TYPICAL INTERIOR PANEL	308	39'-0"	34'-0"	5'-5 5/8"	5'-5 1/8"	1'-6"	2'-4"	2'-4"	14	656	492	4 - #7	1'-2"	1'-2"	#4	8"	4"	6"
A1D	TYPICAL INTERIOR PANEL WITH DRAIN	22	39'-0"	34'-0"	5'-5 5/8"	5'-5 1/8"	1'-6"	2'-4"	2'-4"	14	656	492	4 - #7	1'-2"	1'-2"	#4	8"	4"	6"
A2	ADJACENT TO TIE DOWN	X	39'-0"	34'-0"	5'-5 5/8"	5'-5 1/8"	1'-6"	2'-4"	2'-4"	16	750	562	6 - #7	1'-2"	1'-2"	#4	8"	4"	6"
A3	TYPICAL LANDSIDE EDGE PANEL	X	39'-0"	34'-0"	5'-5 5/8"	5'-5 1/8"	1'-6"	2'-4"	2'-4"	16	750	562	6 - #7	1'-2"	1'-2"	#4	8"	4"	6"
A4	LANDSIDE EDGE PANEL AT TIE DOWN	X	39'-0"	34'-0"	5'-5 5/8"	5'-5 1/8"	1'-6"	2'-4"	2'-4"	16	750	562	6 - #7	1'-2"	1'-2"	#4	8"	4"	6"
A5	TYPICAL WATERSIDE EDGE PANEL	X	39'-0"	34'-0"	5'-5 5/8"	5'-5 1/8"	1'-6"	2'-4"	2'-4"	16	750	562	6 - #7	1'-2"	1'-2"	#4	8"	4"	6"
A6	WATERSIDE EDGE PANEL AT TIE DOWN	X																	
A7	AT POTABLE WATER VAULT	2																	
A8	AT SHORE POWER VAULT	4																	
A9	AT CRANE POWER VAULT	2																	
A10	TYPICAL TRANSVERSE OVERHANG WHARF PANEL	6	33'-4"	28'-8"	6'-8"	6'-7 3/4"	1'-6"	2'-4"	2'-4"	16	750	562	6 - #7	1'-2"	1'-2"	#4	8"	4"	6"
A11	AT TIE DOWN AND PLATFORM	X																	
A12	AT TRESTLE CONNECTION	X																	

CARGO TERMINAL 1 DESIGN - TRESTLE PRECAST PRESTRESSED DECK PANEL SCHEDULE

ID, DESCRIPTION, AND QUANTITY			PANEL DIMENSIONS							PRESTRESS			TOP MILD STEEL REINFORCEMENT			SHEAR REINFORCEMENT			
ID. No.	DESCRIPTION	QUANTITY	NOMINAL LENGTH (FT)	PANEL LENGTH (FT)	NOMINAL WIDTH (FT)	ACTUAL WIDTH (FT)	PANEL THICKNESS (FT)	OFFSET @ 'ME' (FT)	OFFSET @ 'UME' (FT)	NUMBER OF 0.6 INCH DIA STRANDS	PRESTRESS FORCE AT RELEASE (KIPS)	EFFECTIVE PRESTRESS FORCE (kN)	BAR SIZE AND NUMBER	PROJECT ON @ 'ME' (FT)	PROJECT ON @ 'UME' (FT)	STIRRUP SIZE	TYP STIRRUP SPACING (IN)	STIRRUP SPACING @ ENDS (IN)	STIRRUP PROJECTION (IN)
B1	TYPICAL INTERIOR	16																	
B2	TYPICAL EDGE	8																	
B3	INTERIOR AT JOINT	8																	
m	EDGE AT JOINT	4																	

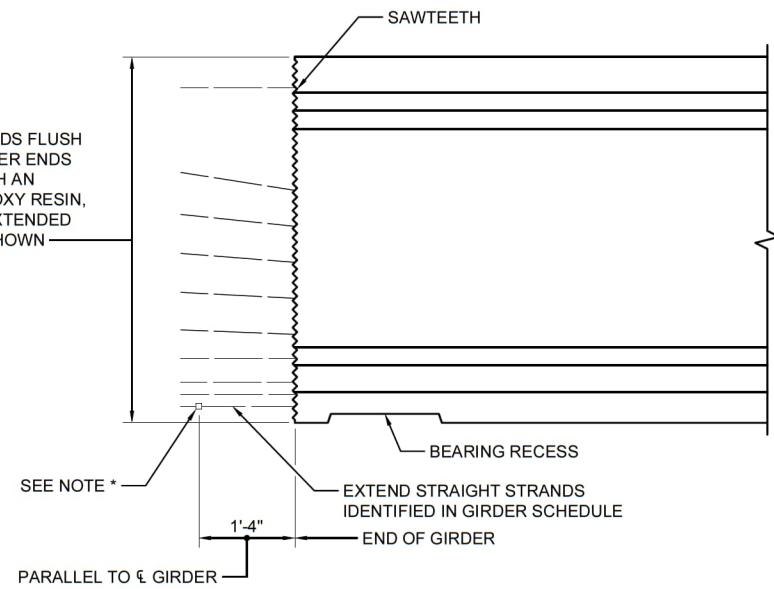
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<p><b>VERIFY SCALES</b></p> <p>BAR IS ONE INCH ON ORIGINAL DRAWING</p> <p>0 = 1"</p> <p>IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.</p>	<table border="1"> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APVD</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	REV	DATE	DESCRIPTION	BY	APVD						  <p>GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)</p> <p>DSGN: JRG    DR: JDM    CHK: JRG    APVD: JRG</p> <p>CONSULTANT</p>	 <p>STATE OF ALASKA 49th REGISTERED PROFESSIONAL ENGINEER SEAL 11/15/23</p>			<p>STRUCTURAL</p> <p>WHARF &amp; TRESTLE PRECAST DECK PANEL SCHEDULE</p>	<p>PORT OF ALASKA</p> <p>PORT OF ALASKA MODERNIZATION PROGRAM</p> <p>CARGO TERMINAL 1 DESIGN</p> <p>ANCHORAGE, ALASKA</p>		
	REV	DATE	DESCRIPTION	BY	APVD														
<p>REVISIONS</p>		<p>HORIZ SCALE: AS SHOWN    DATE: 11/17/23</p> <p>VERT SCALE: AS SHOWN    SHEET: OF</p>		<p>T1-S-521</p>															

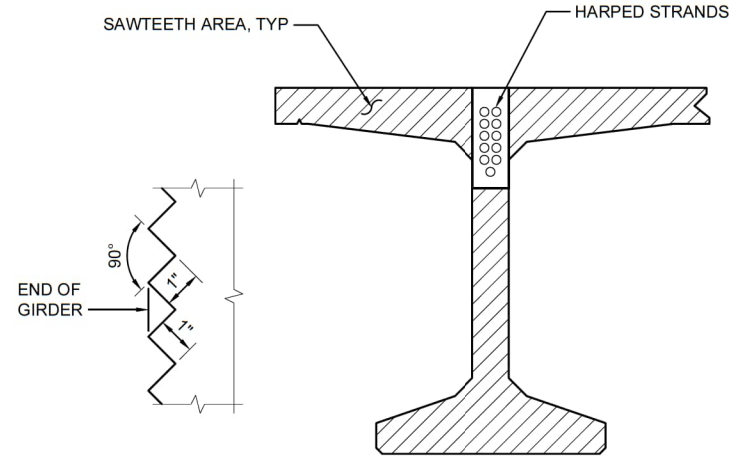
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CUT ALL STRANDS FLUSH WITH THE GIRDER ENDS AND PAINT WITH AN APPROVED EPOXY RESIN, EXCEPT FOR EXTENDED STRANDS AS SHOWN



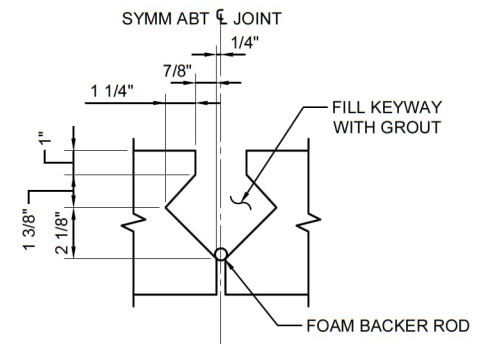
**1 END TYPE A**  
SCALE: 3/4" = 1'-0"

\* 1 11/16"Ø MIN. STRAND CHUCK OR ASTM A108 2 3/4"Ø x 1 1/8" STRAND ANCHOR. ANCHOR STRAND WITH WEDGES BEFORE GIRDER ERECTION. VERIFY WEDGES ARE SEATED TIGHTLY IMMEDIATELY BEFORE PLACING DIAPHRAGM CONCRETE.

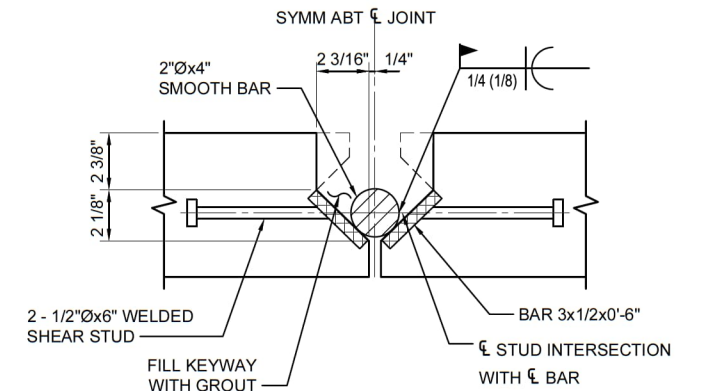


**2 SAWTEETH DETAIL**  
SCALE: 3/4" = 1'-0"

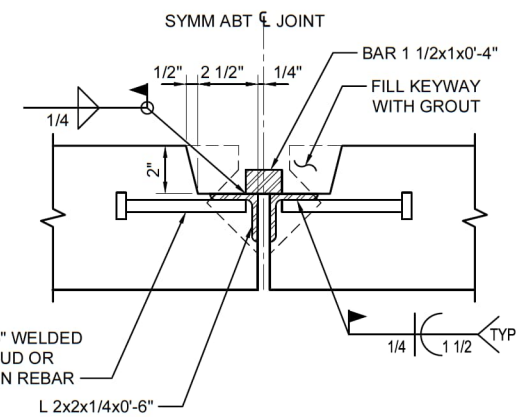
SAWTEETH SHALL BE FULL WIDTH OVER AREA SHOWN



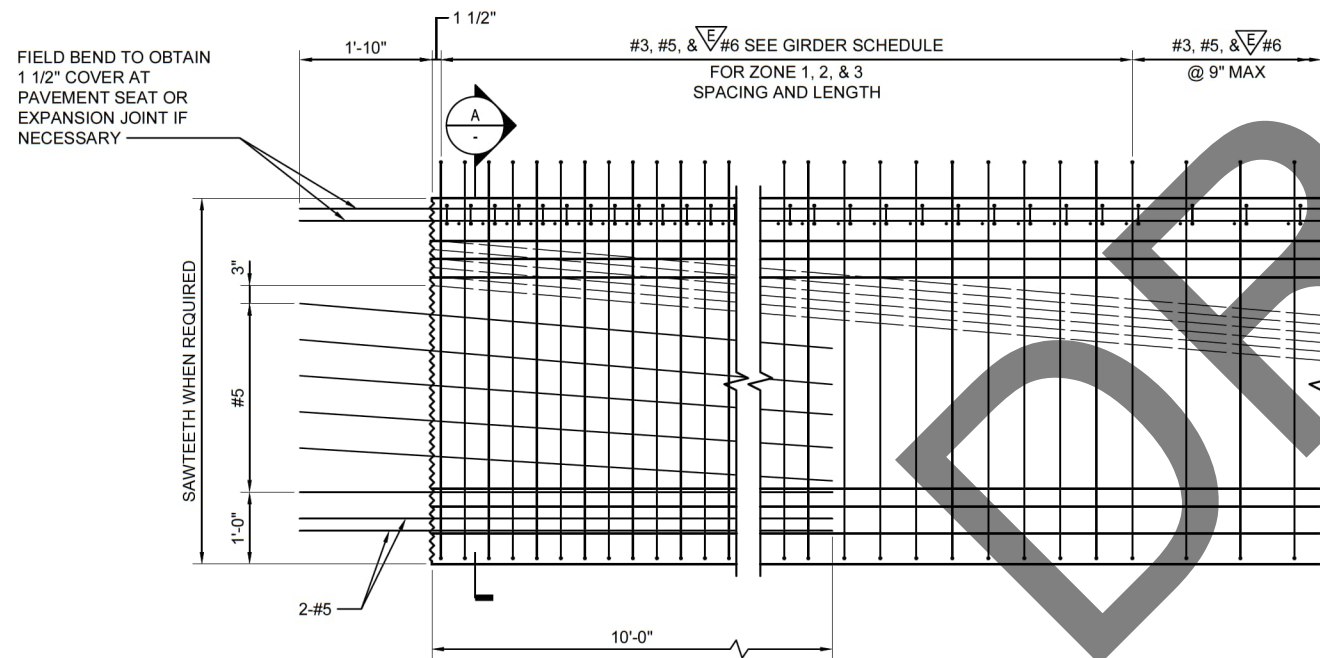
**3 KEYWAY DETAIL**  
SCALE: 3" = 1'-0"



**4 WELD TIE DETAIL**  
SCALE: 3" = 1'-0"

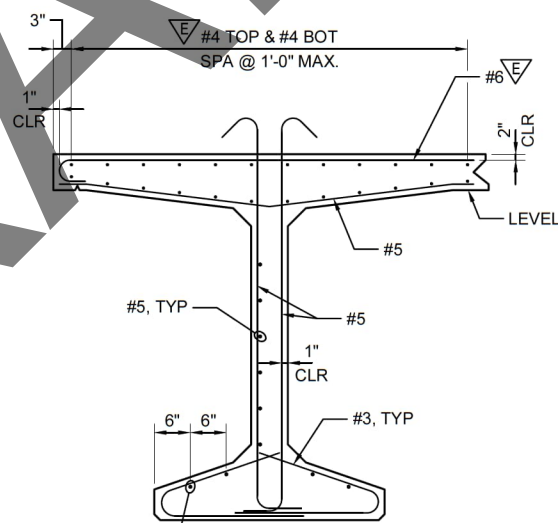


**5 ALT. WELD TIE DETAIL**  
SCALE: 3" = 1'-0"



**6 REINFORCEMENT END ELEVATION**  
SCALE: 3/4" = 1'-0"

STRAIGHT AND TEMPORARY STRANDS NOT SHOWN FOR CLARITY



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

NOTE: EXTERIOR GIRDER SHOWN, INTERIOR GIRDER SIMILAR



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REV	DATE	DESCRIPTION	BY	APVD

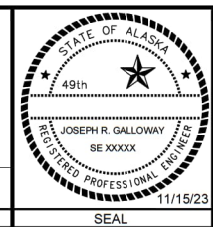
REVISIONS

**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503

AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
AK BUSINESS LICENSE # 2164152(GHD) - 113311(WSP)

DSGN: JRG DR: JDM CHK: JRG APVD: JRG  
CONSULTANT



STRUCTURAL  
WF DECK GIRDER DETAILS - SHEET 1

PORT OF ALASKA  
PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

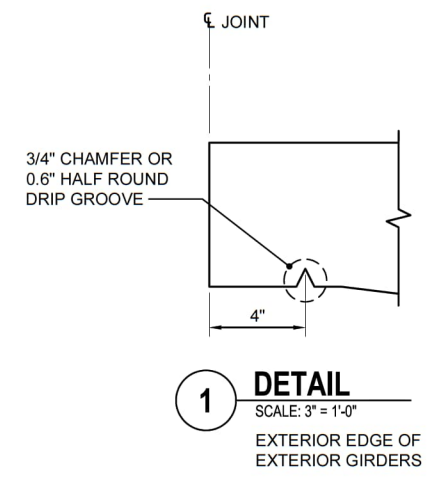
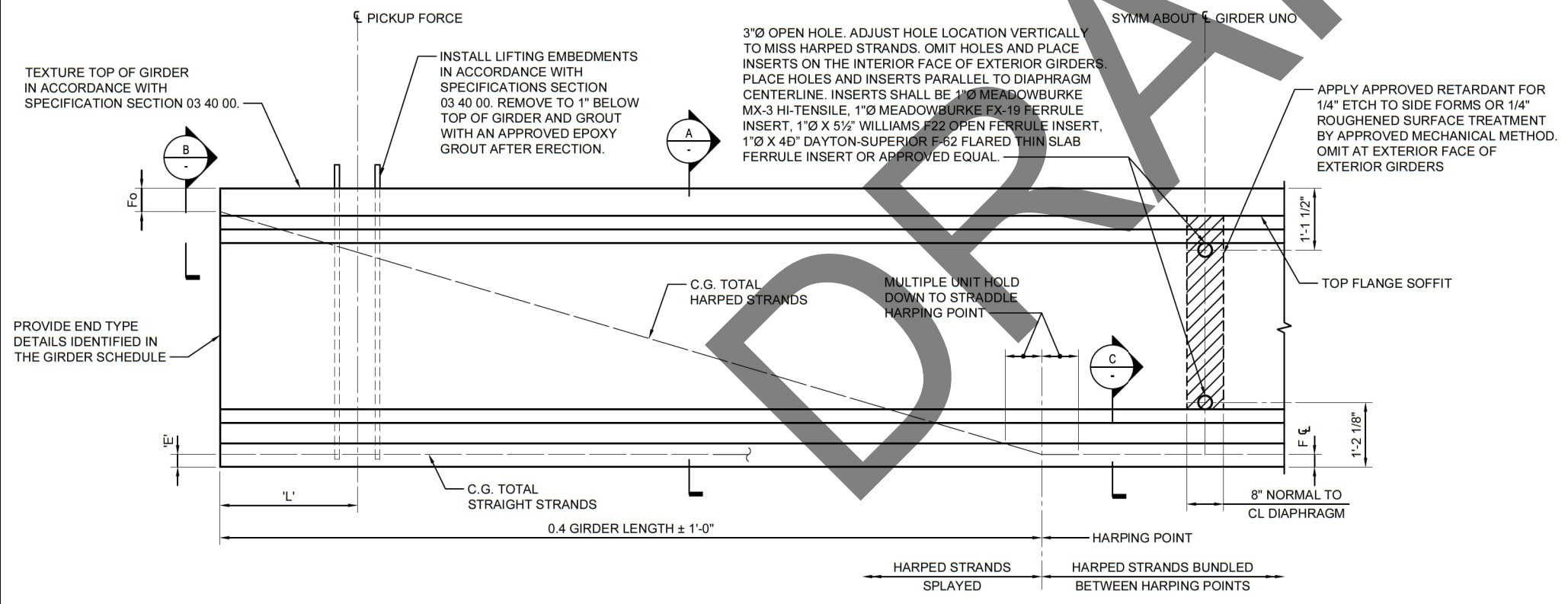
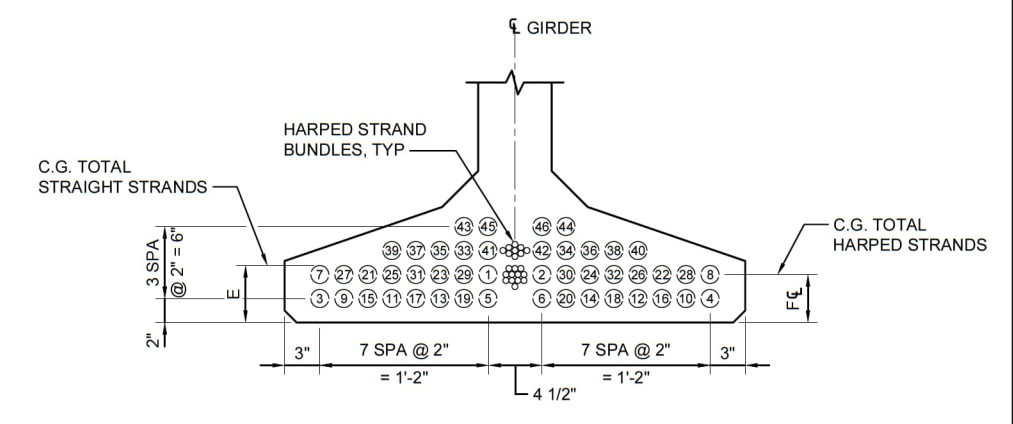
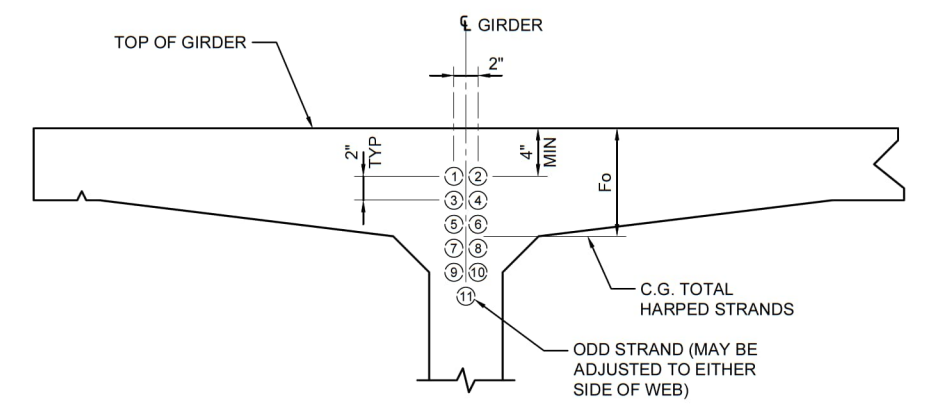
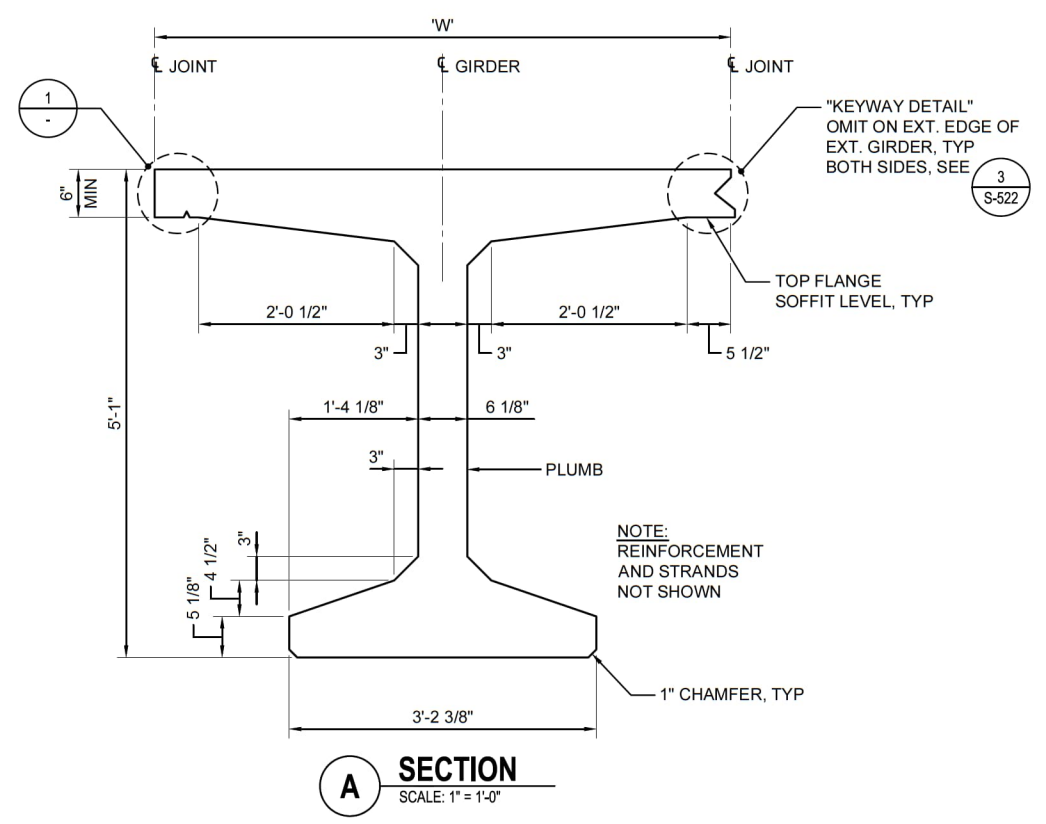
HORIZ SCALE: AS SHOWN DATE: 11/17/23  
VERT SCALE: AS SHOWN SHEET: OF

T1-S-522

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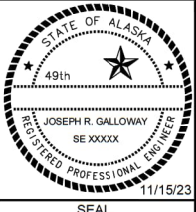
REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT



STRUCTURAL

WF DECK GIRDER DETAILS - SHEET 2

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM

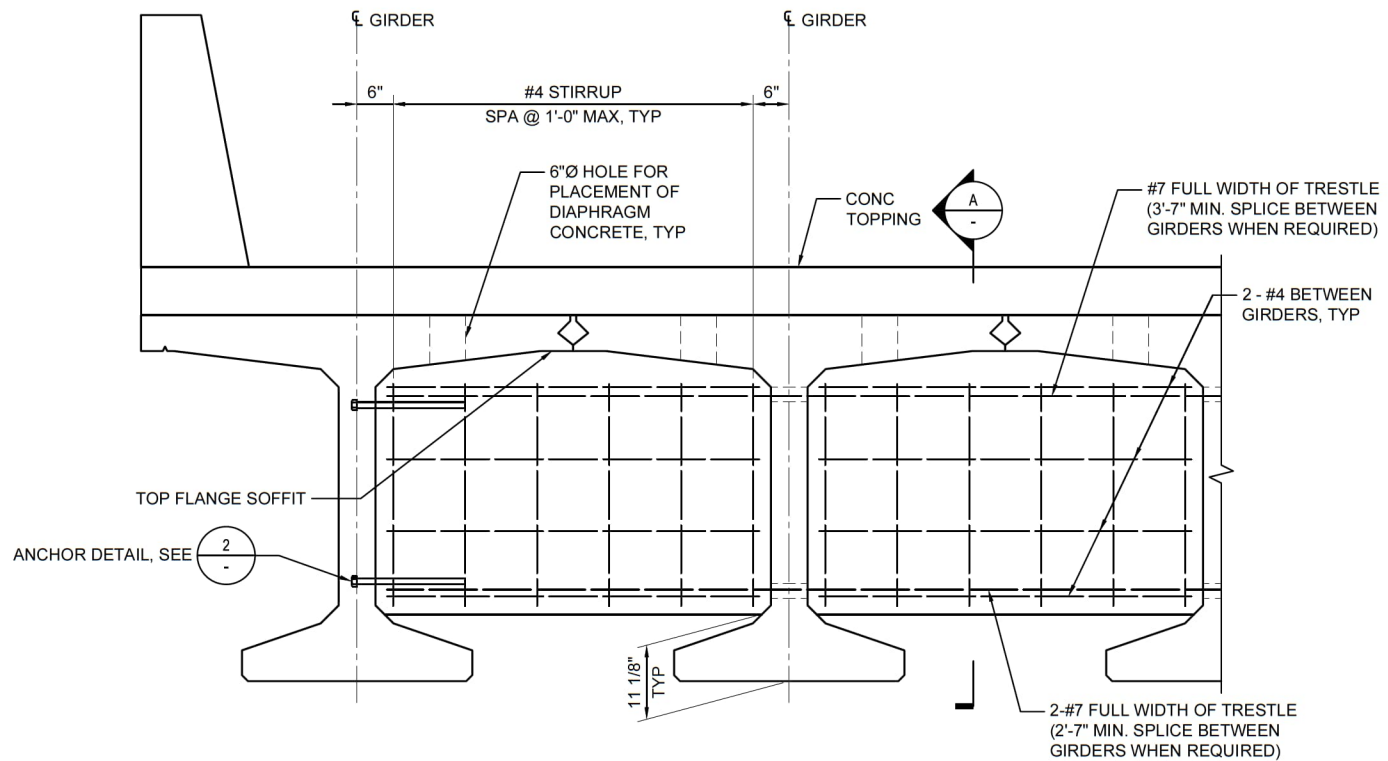
CARGO TERMINAL 1 DESIGN

ANCHORAGE, ALASKA

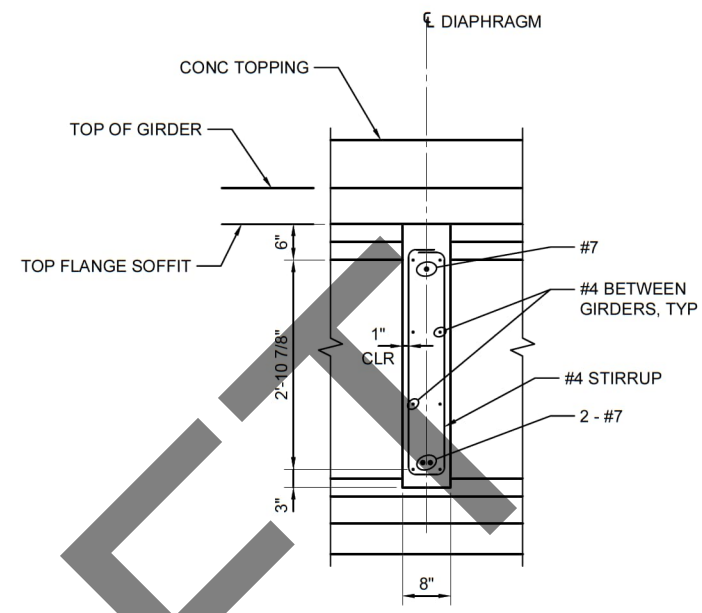
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-523
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

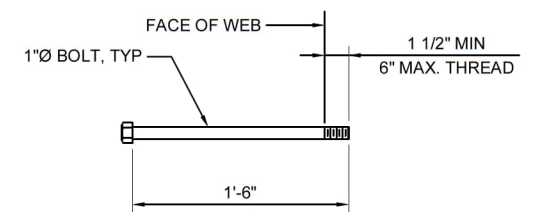
DRAFT



**1 ELEVATION - FULL DEPTH INTERMEDIATE DIAPHRAGM**  
 SCALE: 3/4" = 1'-0"  
 DIMENSION ARE ALONG DIAPHRAGM



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



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





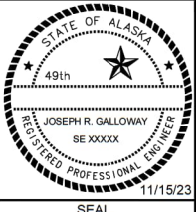
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REV	DATE	DESCRIPTION	BY	APVD

REVISIONS



GHD-WSP JV  
 1400 W. BENSON BLVD, SUITE 400  
 ANCHORAGE, ALASKA 99503  
 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)    AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT




STRUCTURAL

WF INTERMEDIATE DECK GIRDER DETAILS

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN

ANCHORAGE, ALASKA

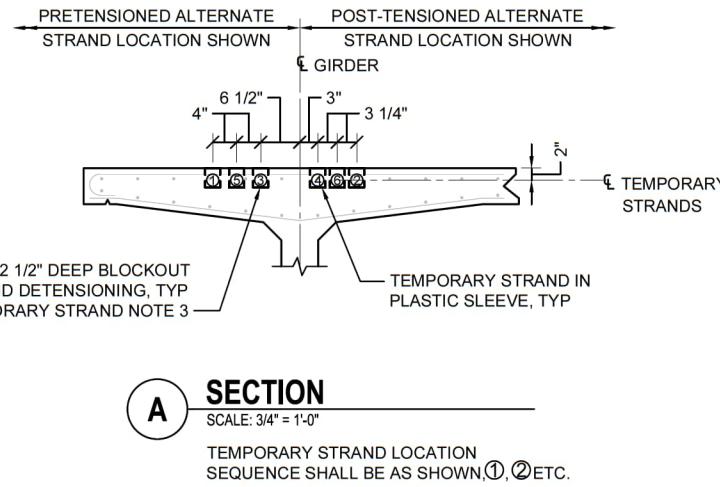
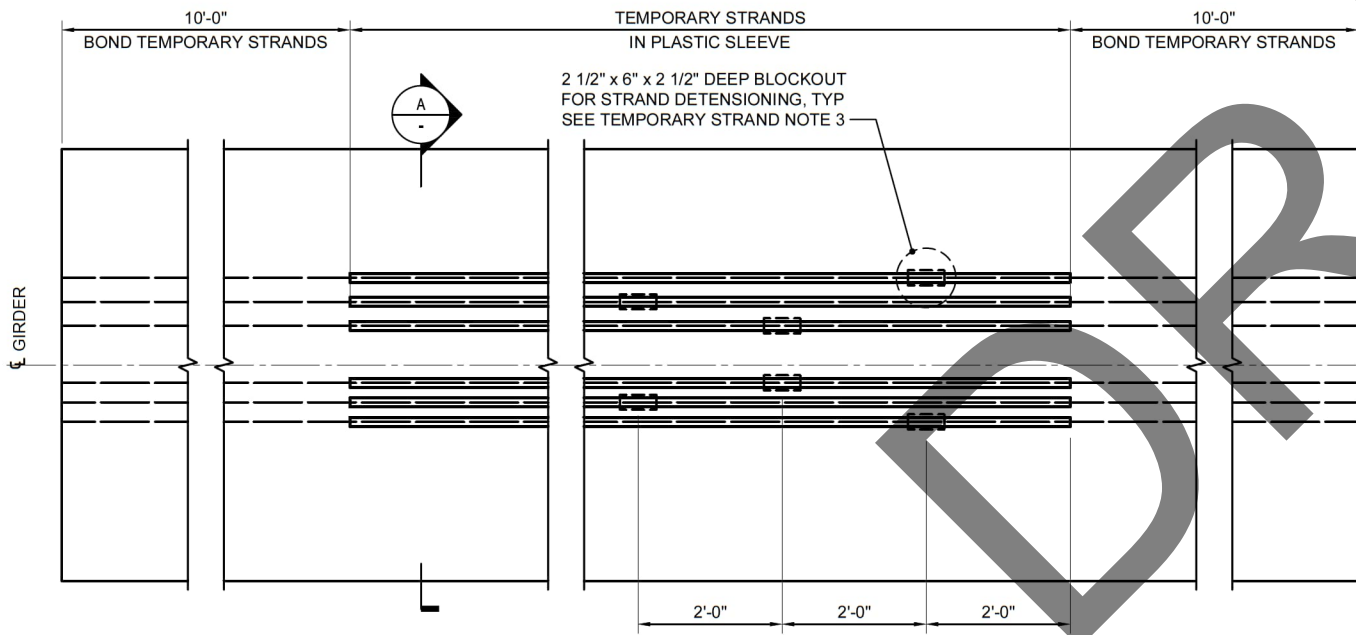
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-524
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



## GIRDER SCHEDULE

SPAN	GIRDER	GIRDER SERIES	TOP FLANGE WIDTH W	PLAN LENGTH (ALONG GIRDER GRADE) (SEE GIRDER NOTE 1)	GIRDER END DETAILS								MIN. CONC. COMP. STRENGTH		NUMBER OF STRANDS (SEE GIRDER NOTE 2)			LOCATION OF C.G. STRANDS			STRAIGHT STRANDS TO EXTEND		MIDSPAN VERTICAL DEFLECTION D		REINFORCEMENT DETAILS						SHIPPING AND HANDLING DETAILS					
					END 1 TYPE	END 2 TYPE	Ld	θ <sub>1</sub>	θ <sub>2</sub>	P <sub>1</sub>	P <sub>2</sub>	@ 28-DAYS F <sub>c</sub> (KSI)	@ RELEASE F <sub>c</sub> (KSI)	STRAIGHT	HARPED	TEMPORARY	E	F <sub>ℓ</sub>	F <sub>o</sub>	END 1	END 2	LOWER BOUND @ 40 DAYS	UPPER BOUND @ 120 DAYS	SPACING	LENGTH	SPACING	LENGTH	SPACING	LENGTH	MAXIMUM MIDSPAN VERTICAL DEFLECTION AT SHIPPING	L	L <sub>1</sub>	L <sub>2</sub>	K <sub>θ</sub> MINIMUM SHIPPING SUPPORT ROTATIONAL SPRING CONSTANT (KIP-IN/RAD)	W <sub>cc</sub> MINIMUM SHIPPING SUPPORT CTR-TO-CTR. WHEEL SPACING	
					ZONE 1	ZONE 2	ZONE 3																													
1A-1	1-6	WF61DG	6'-0"	57'-3"	A	A	-	90	90	-	-	8.5	5.5	30	5	6	2 7/8"	4	2'-1"	3 TO 6 13 TO 16	3 TO 6 13 TO 16	5/8"	1 3/8"	3"	6'-9"	4"	13'-4"	6"	7'-6"	1 1/4"	3'-0"	5'-1"	5'-1"	40,000	6'-0"	
1A-2	1-6	WF61DG	6'-0"	57'-3"	A	A	-	90	90	-	-	8.5	5.5	30	5	6	2 7/8"	4	2'-1"	3 TO 6 13 TO 16	3 TO 6 13 TO 16	5/8"	1 3/8"	3"	6'-9"	4"	13'-4"	6"	7'-6"	1 1/4"	3'-0"	5'-1"	5'-1"	40,000	6'-0"	
1B-1	1-6	WF61DG	6'-0"	46'-6"	A	A	-	90	90	-	-	7.5	4.5	22	3	4	2 1/2"	4	2'-8"	3 TO 6 13 TO 16	3 TO 6 13 TO 16	3/8"	3/4"	3"	6'-9"	4"	10'-0"	6"	5'-6"	3/4"	3'-0"	5'-1"	5'-1"	40,000	6'-0"	
1B-2	1-6	WF61DG	6'-0"	46'-6"	A	A	-	90	90	-	-	7.5	4.5	22	3	4	2 1/2"	4	2'-8"	3 TO 6 13 TO 16	3 TO 6 13 TO 16	3/8"	3/4"	4"	7'-0"	5"	5'-0"	6"	7'-0"	3/4"	3'-0"	5'-1"	5'-1"	40,000	6'-0"	
1B-3	1-6	WF61DG	6'-0"	46'-6"	A	A	-	90	90	-	-	7.5	4.5	22	3	4	2 1/2"	4	2'-8"	3 TO 6 13 TO 16	3 TO 6 13 TO 16	3/8"	3/4"	3"	6'-9"	4"	10'-0"	6"	5'-6"	3/4"	3'-0"	5'-1"	5'-1"	40,000	6'-0"	



**1 PLAN - PRETENSIONED TEMPORARY TOP STRANDS ALTERNATE**  
SCALE: 3/4" = 1'-0"  
SEE GIRDER SCHEDULE FOR NUMBER OF TEMPORARY STRANDS REQUIRED.

### GIRDER NOTES

- PLAN LENGTH SHALL BE INCREASED AS NECESSARY TO COMPENSATE FOR SHORTENING DUE TO PRESTRESS AND SHRINKAGE.
- ALL PRETENSIONED AND TEMPORARY STRANDS SHALL BE 0.60 ASSHTO M203 GRADE 270 LOW RELAXATION STRANDS, JACKED TO 202.5 KSI (43.94 KIPS PER STRAND).
- STRUCTURAL STEEL SHAPES AND ASSEMBLIES SHALL BE ASTM A36, THEY SHALL BE PAINTED WITH A PRIMER COAT IN ACCORDANCE WITH SPECIFICATION SECTION 03 40 00. WELD TIES SHALL BE PAINTED WITH A FIELD PRIMER COAT OF AN ORGANIC ZINC PAINT AFTER FIELD WELDING.

### TEMPORARY STRAND NOTES:

- TEMPORARY TOP STRANDS SHALL BE EITHER PRETENSIONED OR POST-TENSIONED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 03 40 00.
- CUT TEMPORARY STRANDS IN NUMBERED SEQUENCE SHOWN IN SECTION 'A', THIS SHEET.
- FORM BLOCKOUT WITH EXPANDED POLYSTYRENE. REMOVE POLYSTYRENE JUST PRIOR TO CUTTING THE TEMPORARY STRANDS AND PREVENT MOISTURE FROM ENTERING THE BLOCKOUT, TYP.

**A SECTION**  
SCALE: 3/4" = 1'-0"  
TEMPORARY STRAND LOCATION SEQUENCE SHALL BE AS SHOWN, ①, ② ETC.

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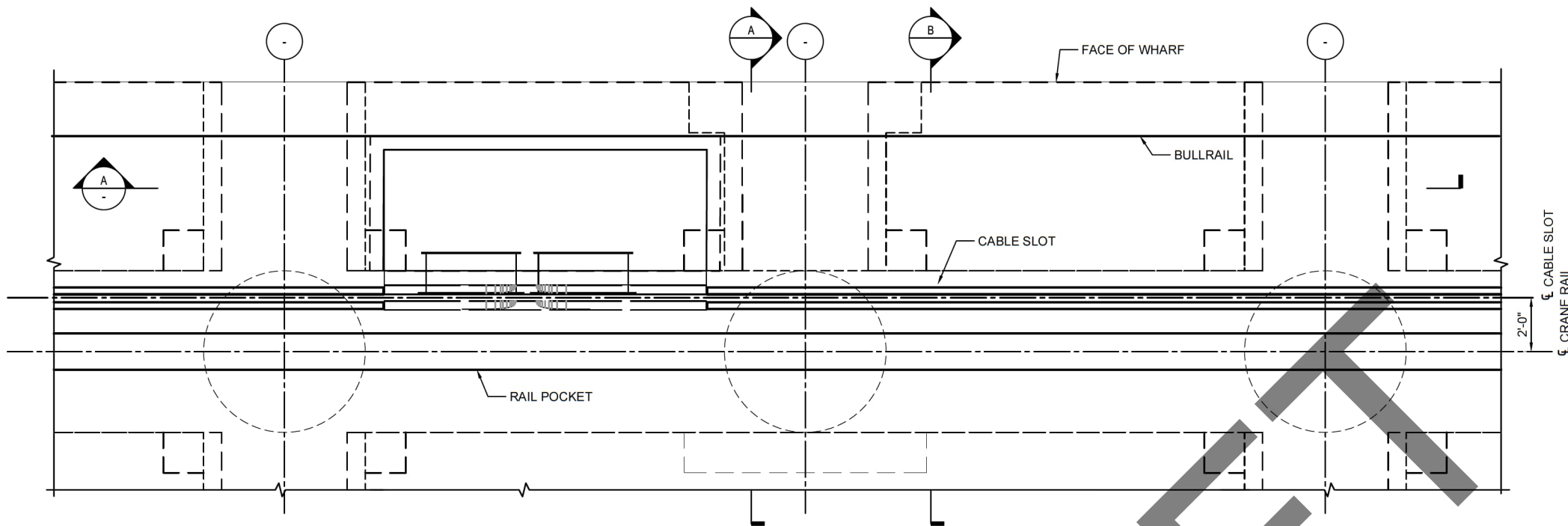
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<b>VERIFY SCALES</b> BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APVD</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV	DATE	DESCRIPTION	BY	APVD						  GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)    AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)				STRUCTURAL  GIRDER NOTES AND SCHEDULE	PORT OF ALASKA  PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA
REV	DATE	DESCRIPTION	BY	APVD													
REVISIONS	DSGN: JRG    DR: JDM    CHK: JRG    APVD: JRG CONSULTANT	SEAL: 11/15/23	DATE: 11/17/23 SHEET: OF	T1-S-525													

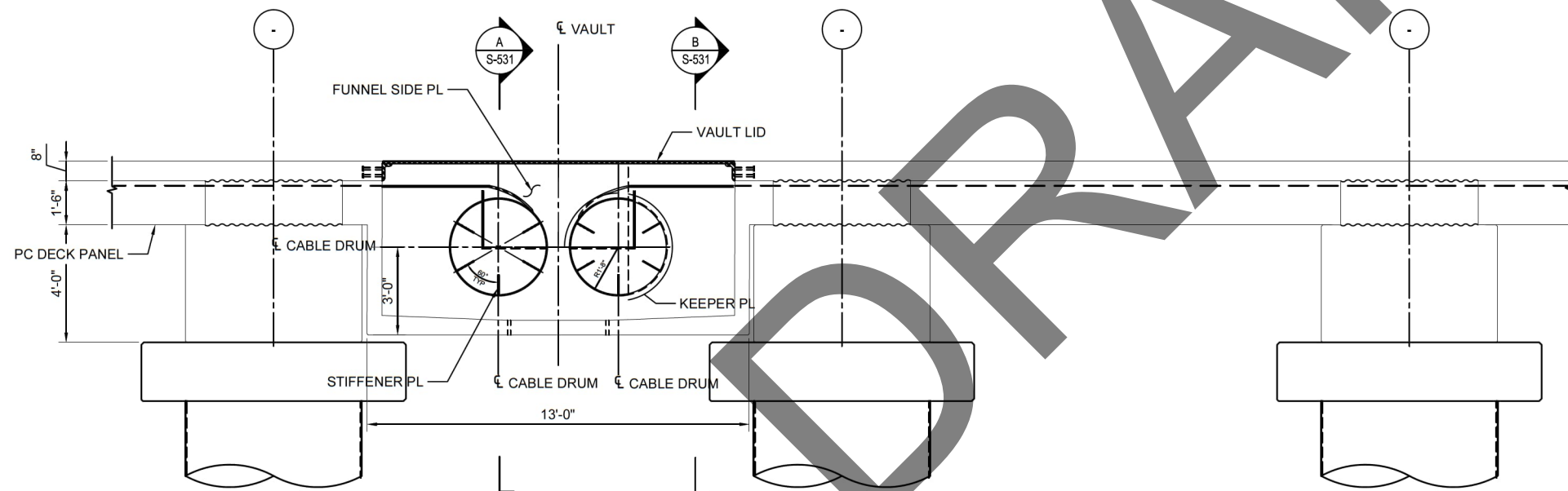
\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



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**1 PLAN - CRANE POWER VAULT**  
SCALE:



**A SECTION - CRANE POWER VAULT**  
SCALE:

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

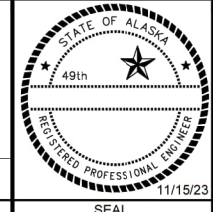
REVISIONS

**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

DSGN: JRG DR: JDM CHK: JRG APVD: JRG

CONSULTANT

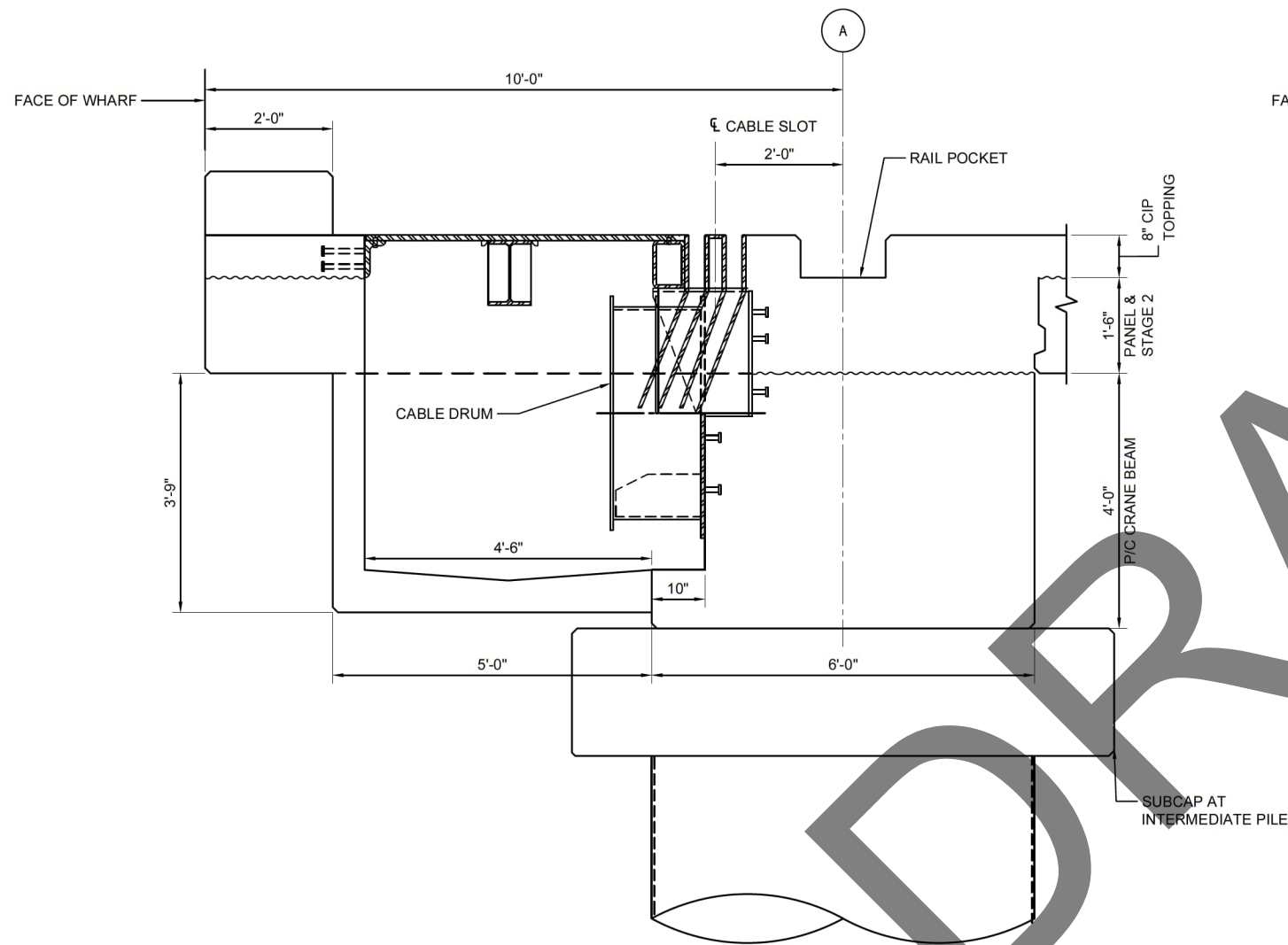


STRUCTURAL  
PRECAST CRANE POWER VAULT DETAILS - SHEET 1

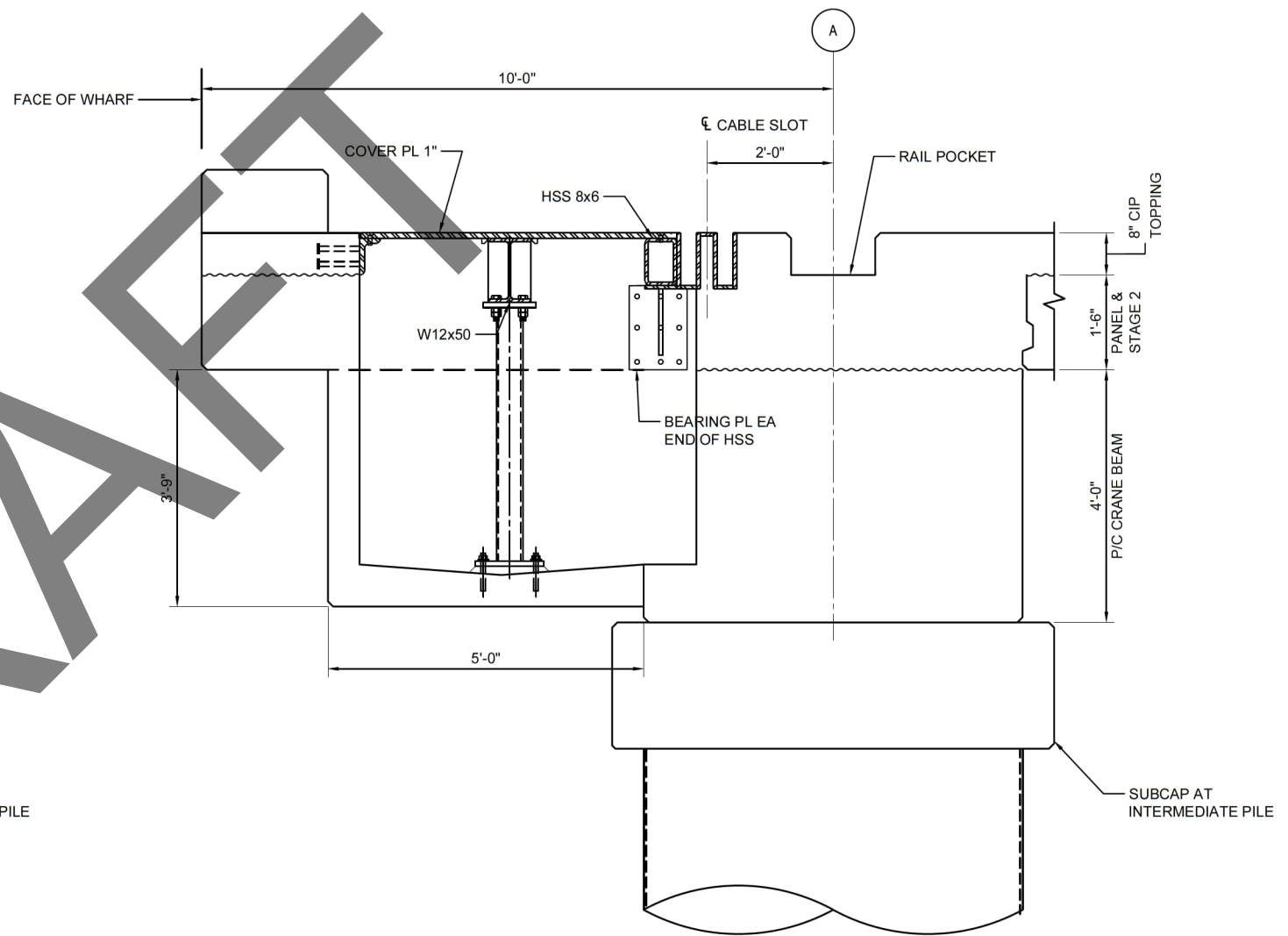
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CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-530
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

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



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

65% SUBMITTAL

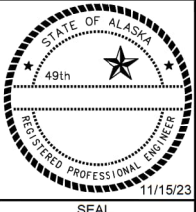
REV	DATE	DESCRIPTION	BY	APVD

**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT

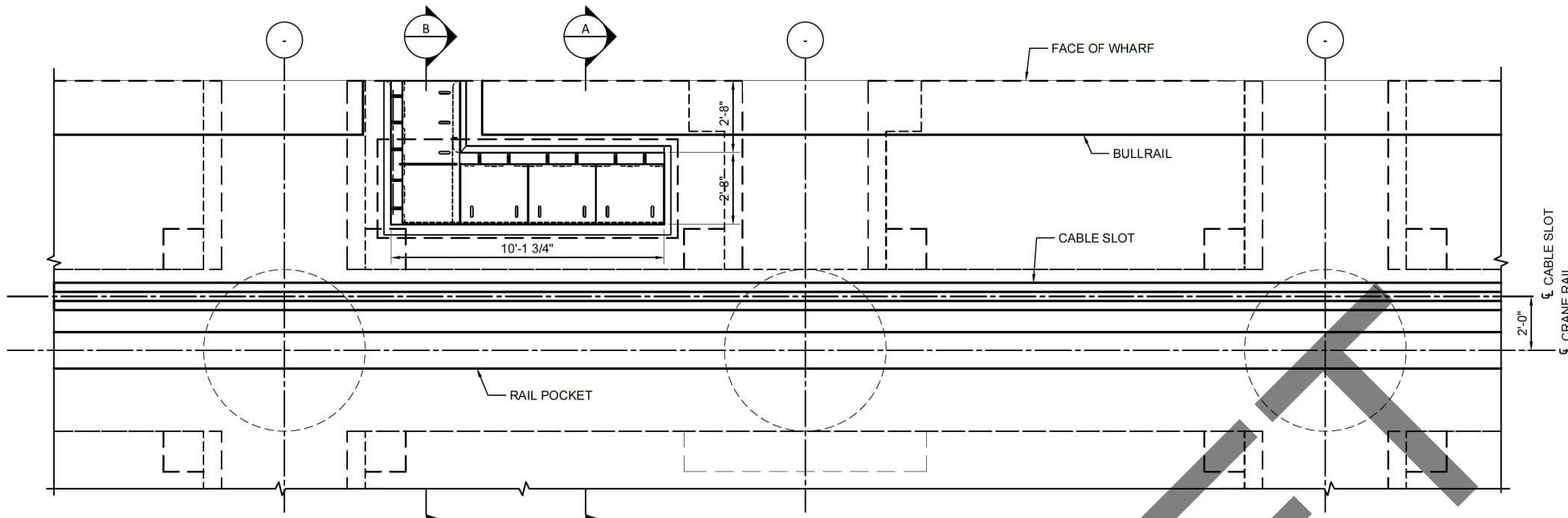


STRUCTURAL  
PRECAST CRANE POWER VAULT DETAILS - SHEET 2

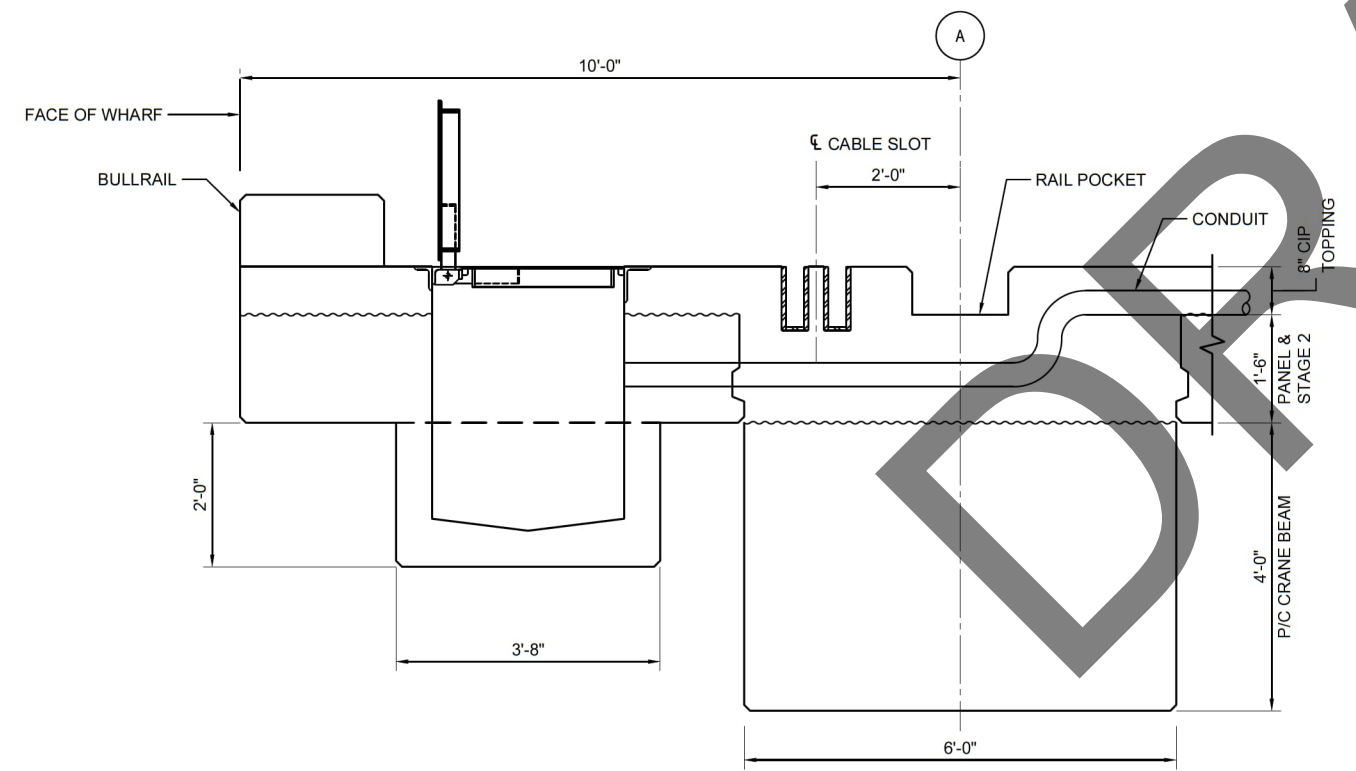
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PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	OF
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

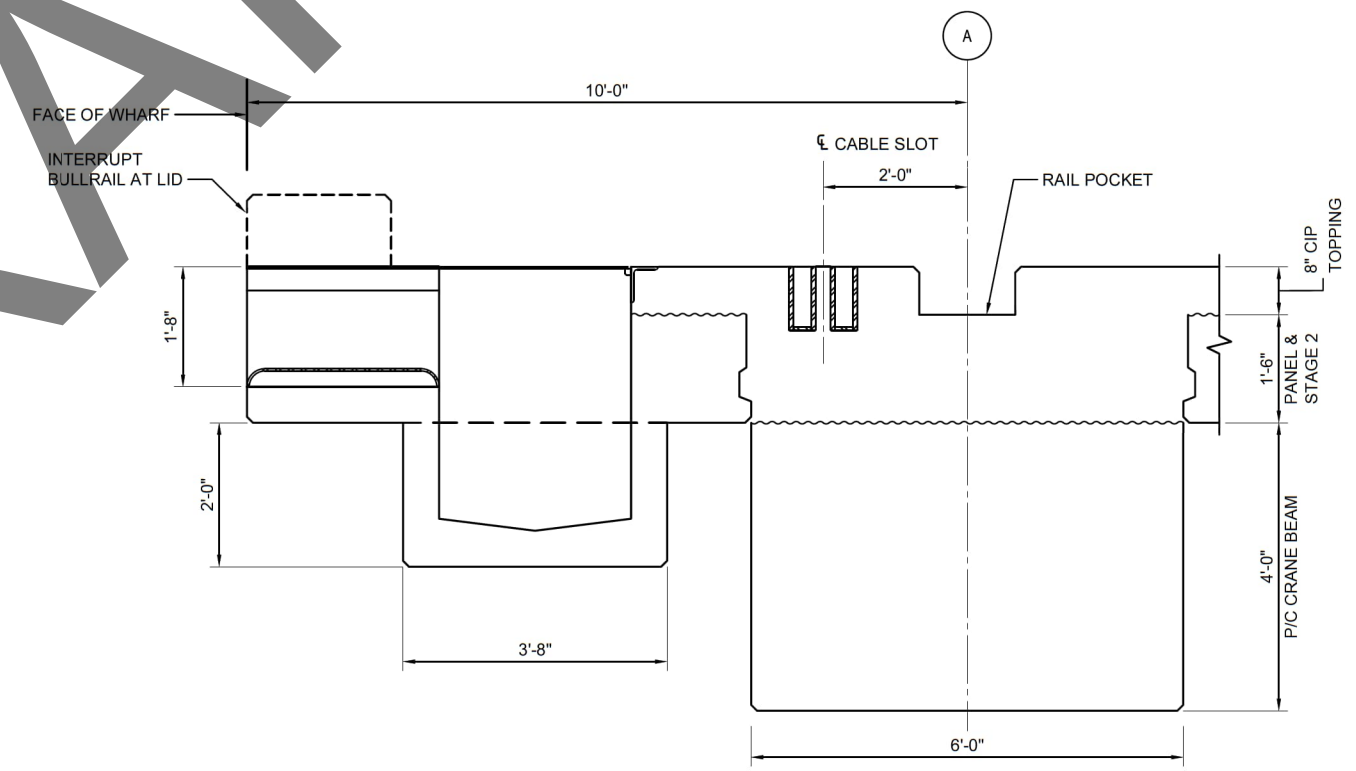
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**1 PLAN - SHORE POWER VAULT**  
SCALE:



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



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

65% SUBMITTAL

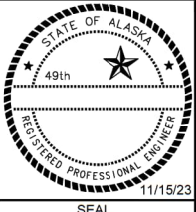
REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN: JRG DR: JDM CHK: JRG APVD: JRG

CONSULTANT



STRUCTURAL  
SHORE POWER VAULT DETAILS - SHEET 1

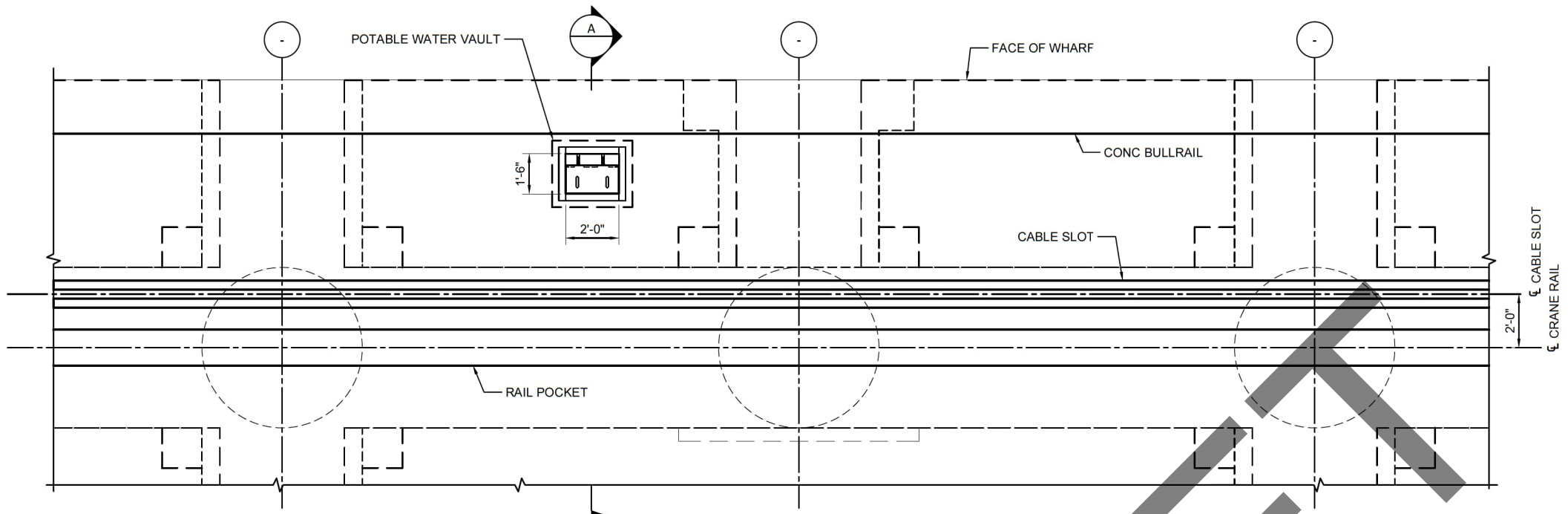
PORT OF ALASKA  
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CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN DATE: 11/17/23  
VERT SCALE: AS SHOWN SHEET: OF

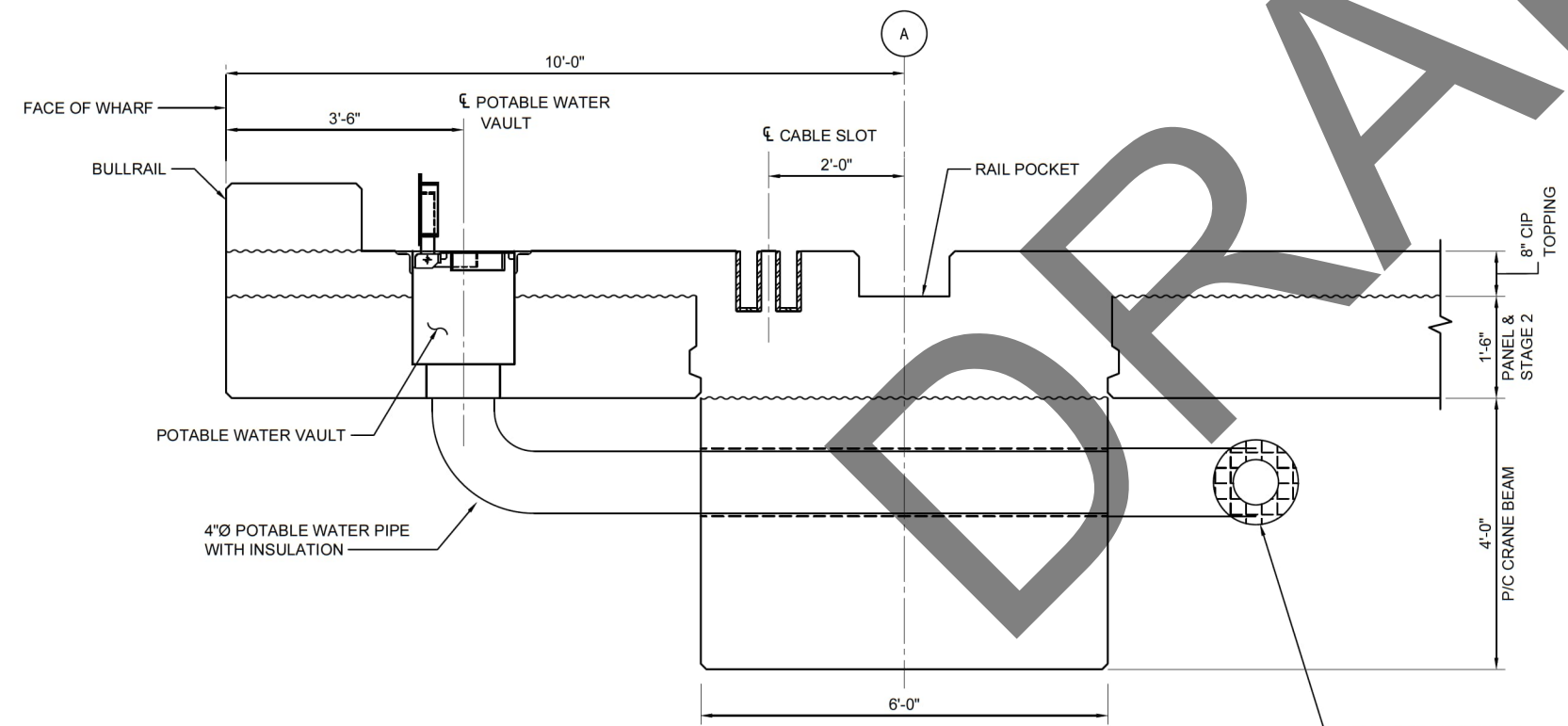
T1-S-535

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1 PLAN - POTABLE WATER VAULT  
SCALE:

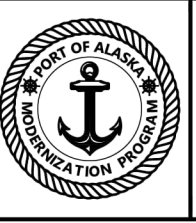
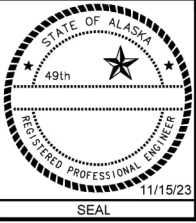


A SECTION - POTABLE WATER VAULT  
SCALE: 3/4" = 1'-0"

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65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

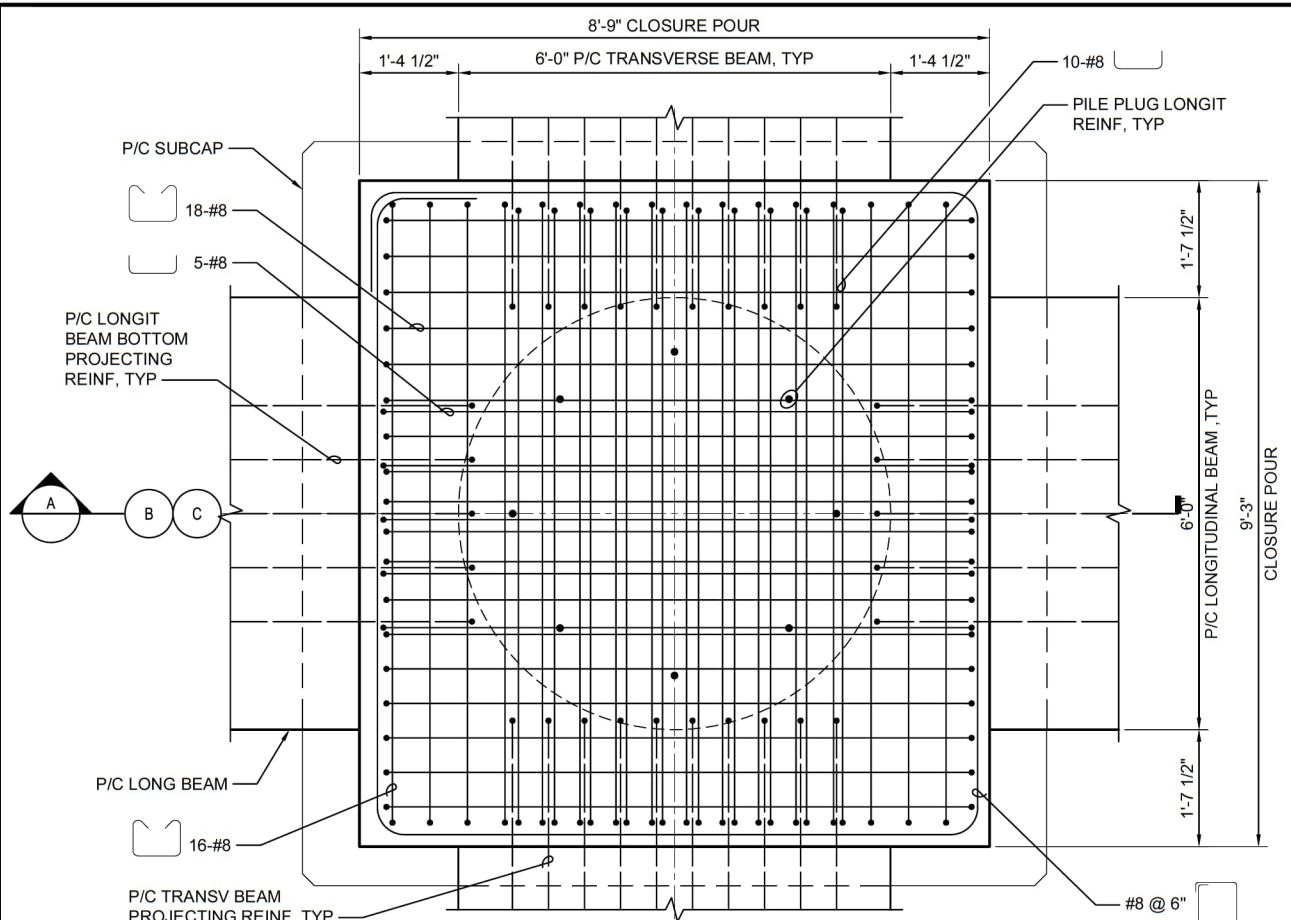


STRUCTURAL  
POTABLE WATER VAULT DETAILS

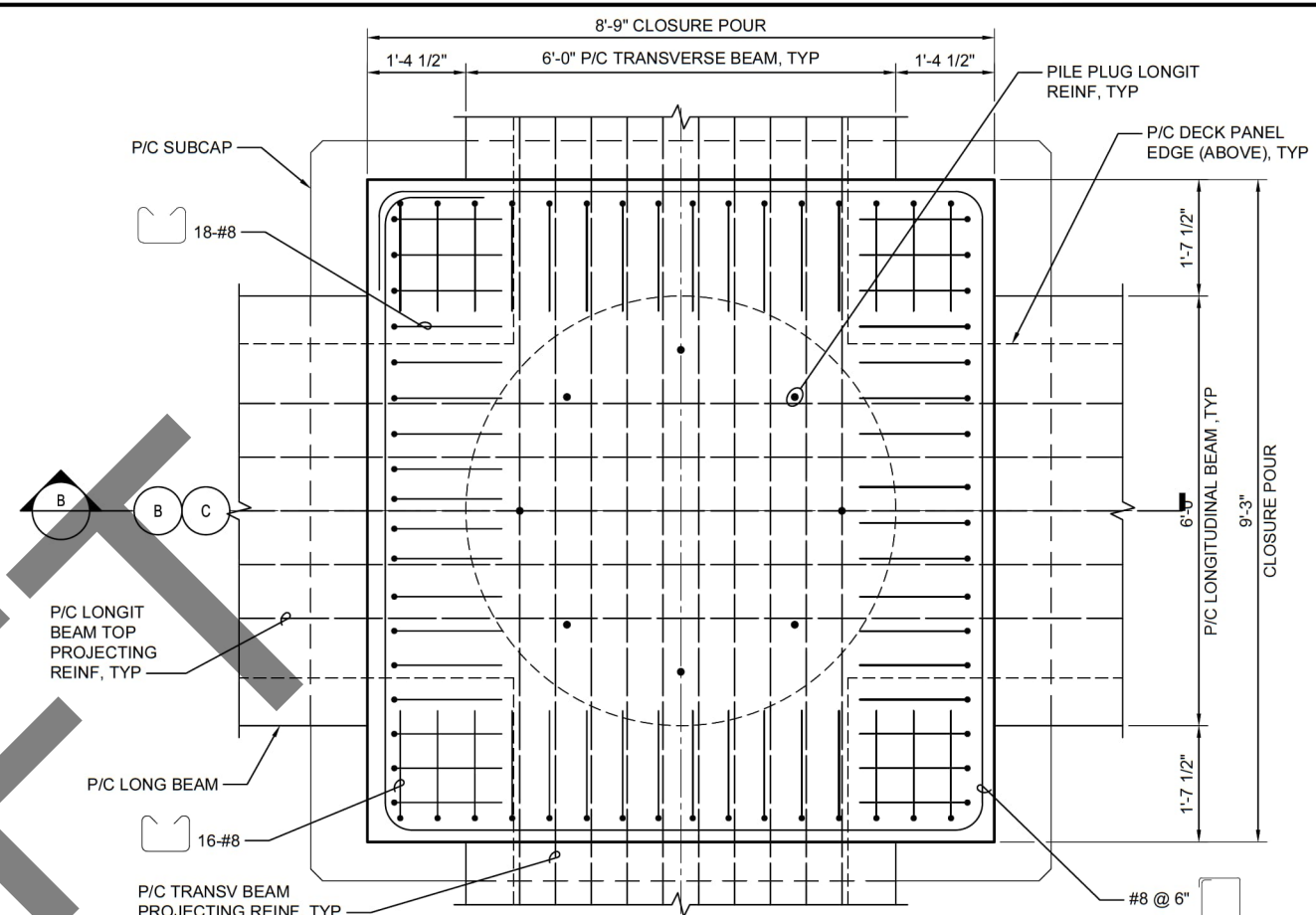
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CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-540
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

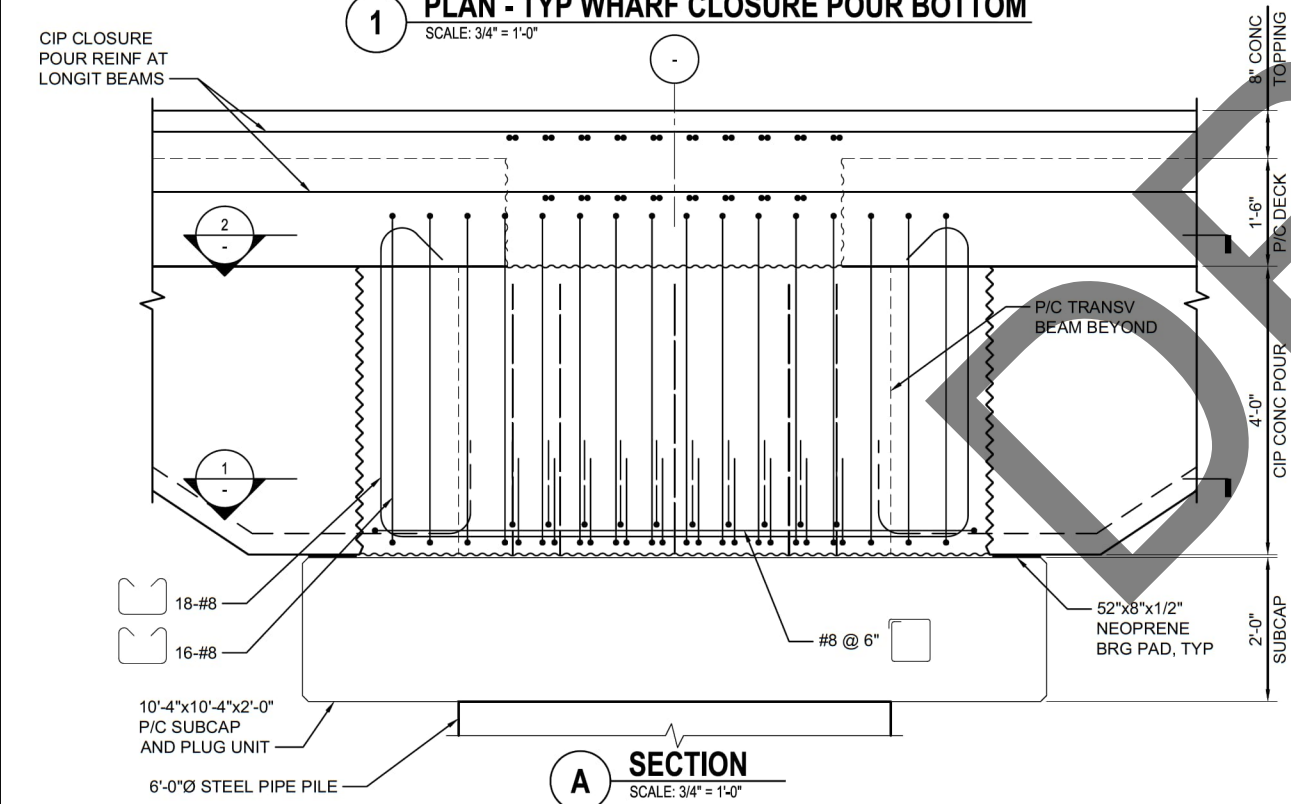
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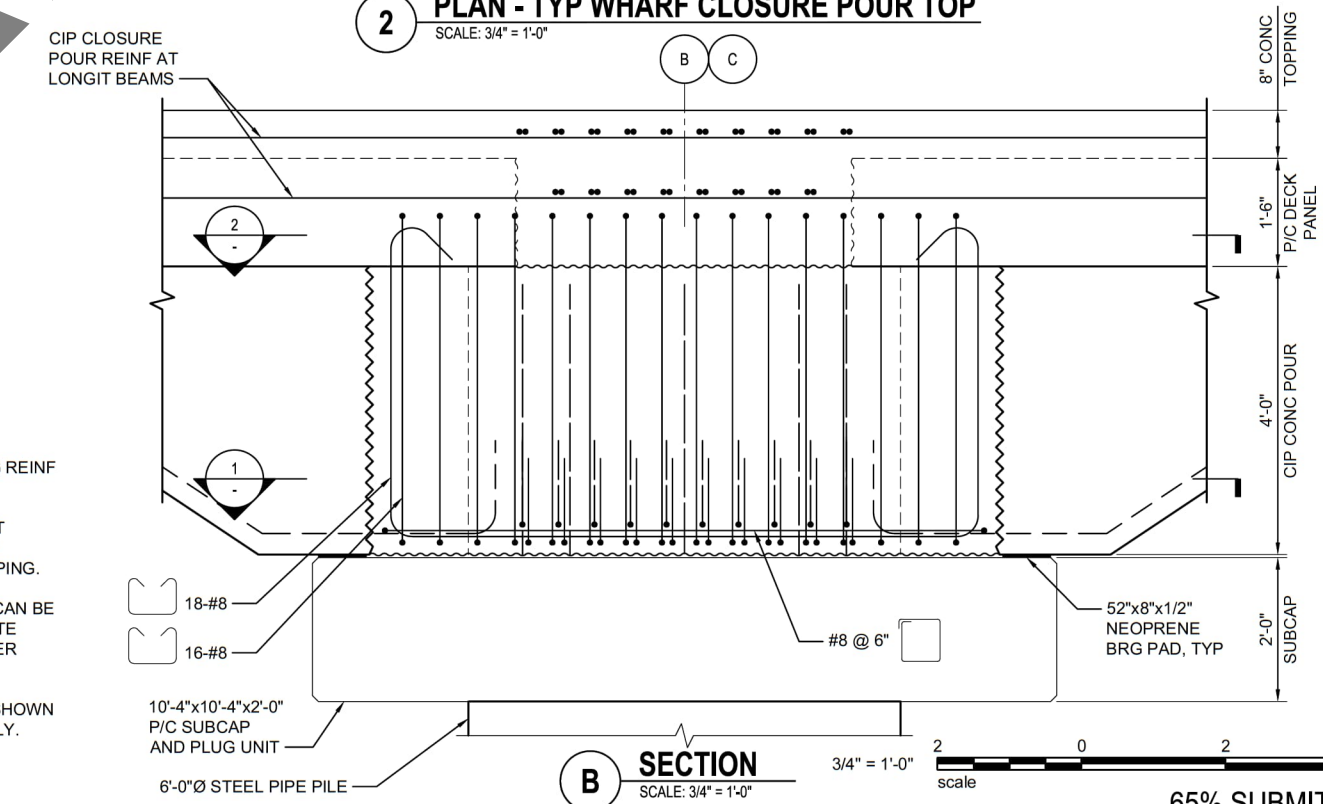
**1 PLAN - TYP WHARF CLOSURE POUR BOTTOM**  
SCALE: 3/4" = 1'-0"



**2 PLAN - TYP WHARF CLOSURE POUR TOP**  
SCALE: 3/4" = 1'-0"

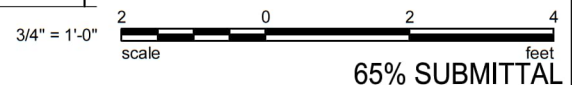


**A SECTION**  
SCALE: 3/4" = 1'-0"



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

- NOTES:**
- P/C DECK PANEL AND CIP TOPPING REINF NOT SHOWN FOR CLARITY.
  - CIP CLOSURE POUR MUST BE CAST BEFORE PLACEMENT OF P/C DECK PANELS AND CASTING OF CIP TOPPING.
  - CIP CLOSURE POUR DIMENSIONS CAN BE FIELD ADJUSTED TO ACCOMMODATE JOINT REINF CAGE AND P/C MEMBER OFFSETS.
  - LONGIT REINF ABOVE P/C BEAMS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.



65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

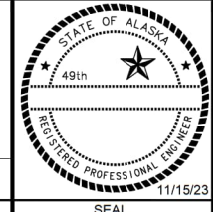
VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

DSGN: JRG DR: JDM CHK: JRG APVD: JRG

CONSULTANT



STRUCTURAL  
WHARF - STAGE 1 CLOSURE POUR DETAILS  
- SHEET 1

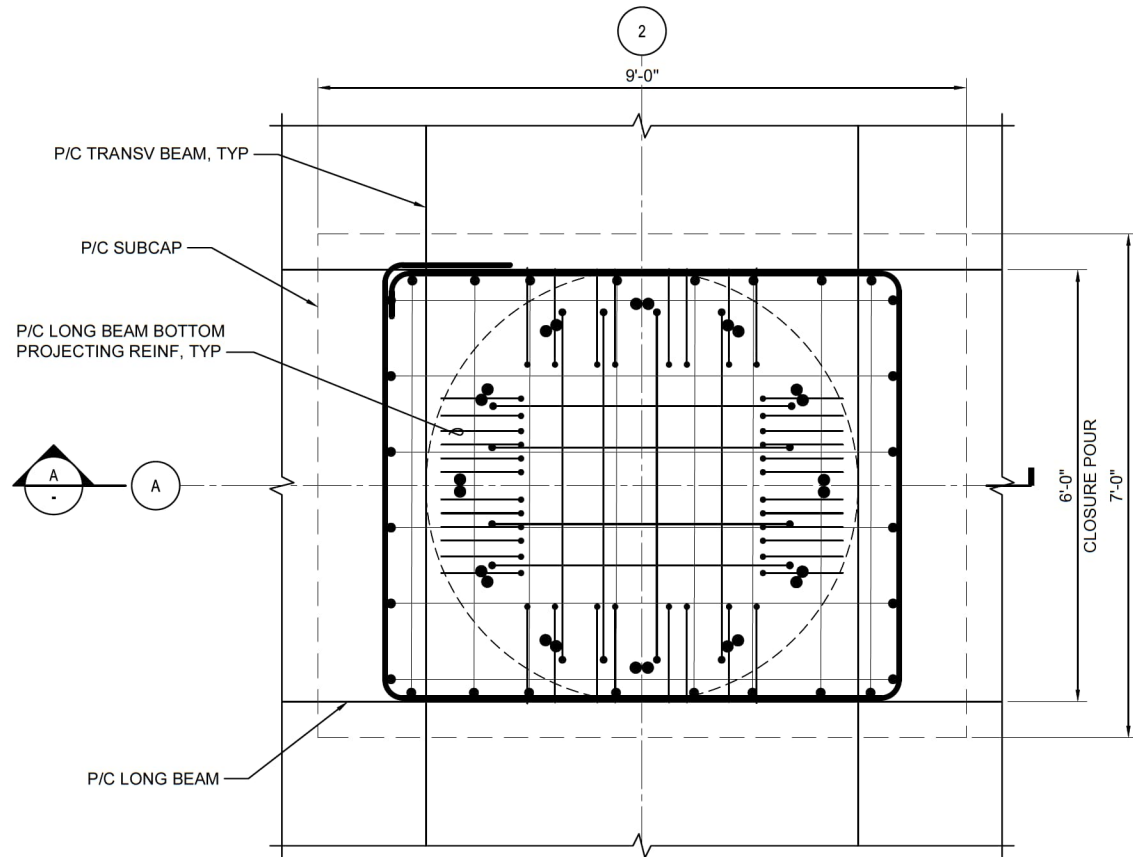
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PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN DATE: 11/17/23  
VERT SCALE: AS SHOWN SHEET: OF

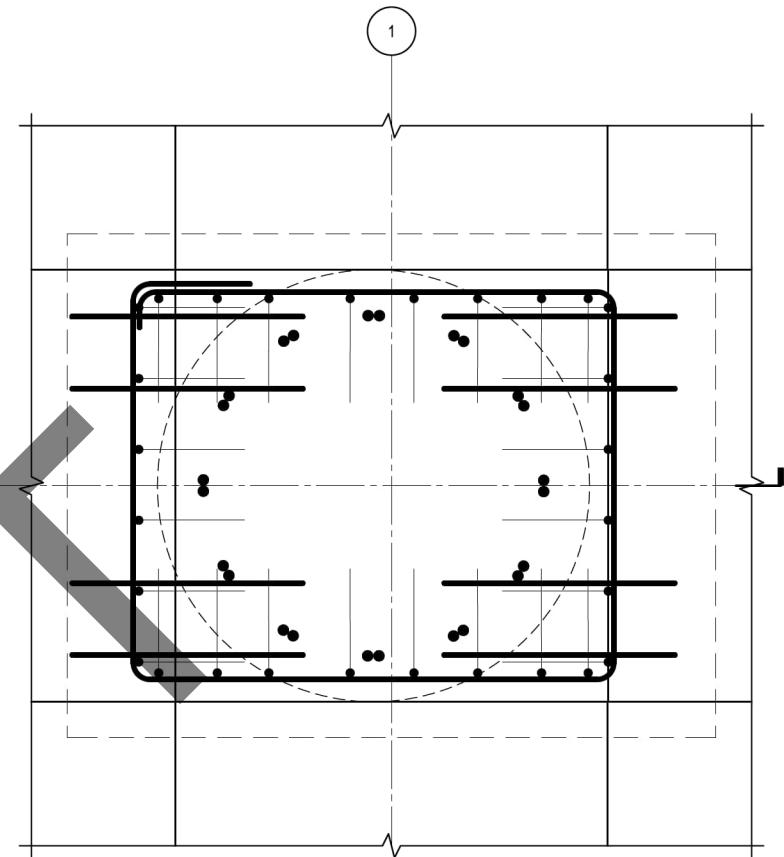
T1-S-601

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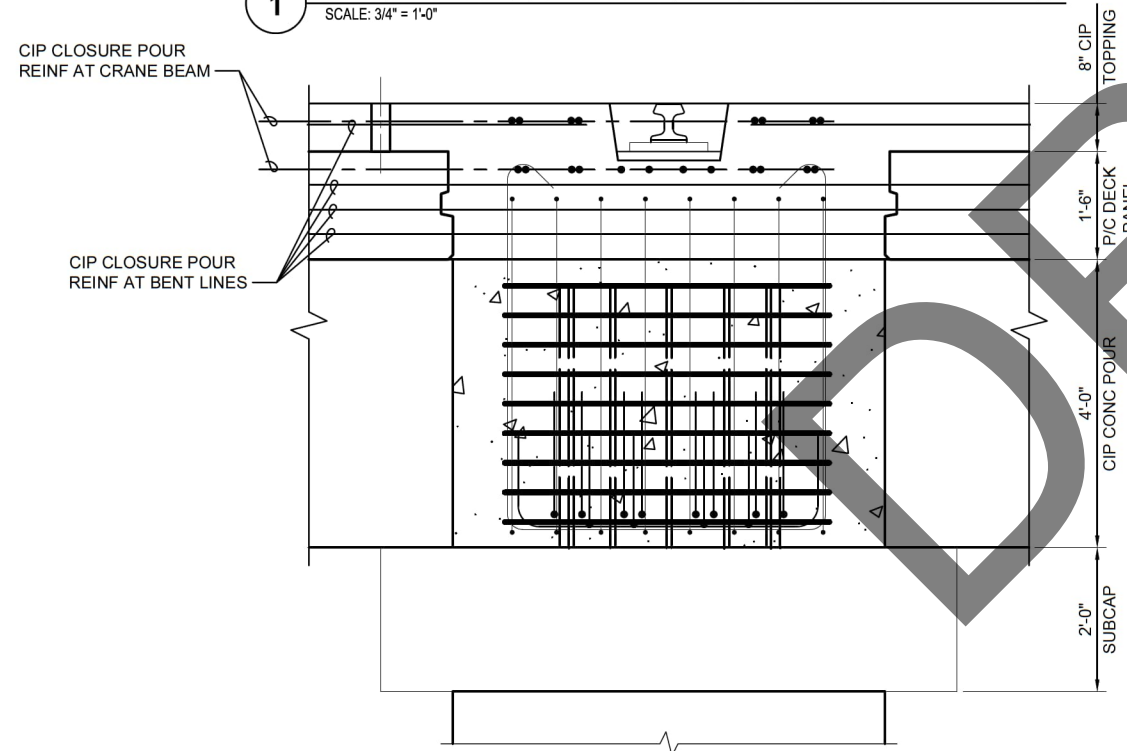
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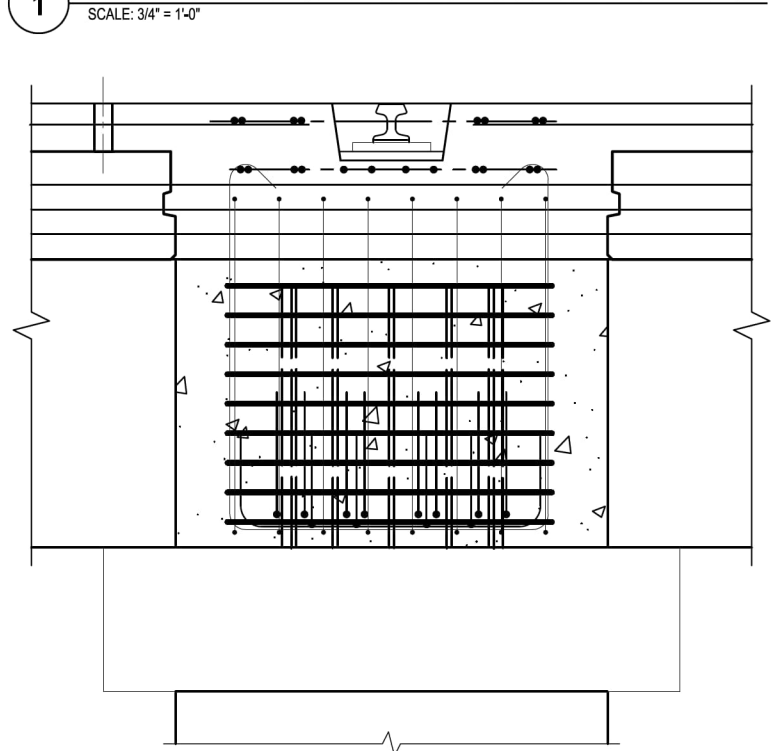
**1 PLAN - WHARF CRANE BEAM CLOSURE POUR BOTTOM**  
SCALE: 3/4" = 1'-0"



**1 PLAN - WHARF CRANE BEAM CLOSURE POUR TOP**  
SCALE: 3/4" = 1'-0"



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



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

65% SUBMITTAL

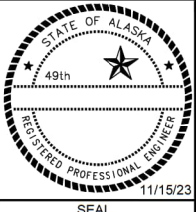
REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

DR JDM  
CHK JRG  
APVD JRG

CONSULTANT



**STRUCTURAL**

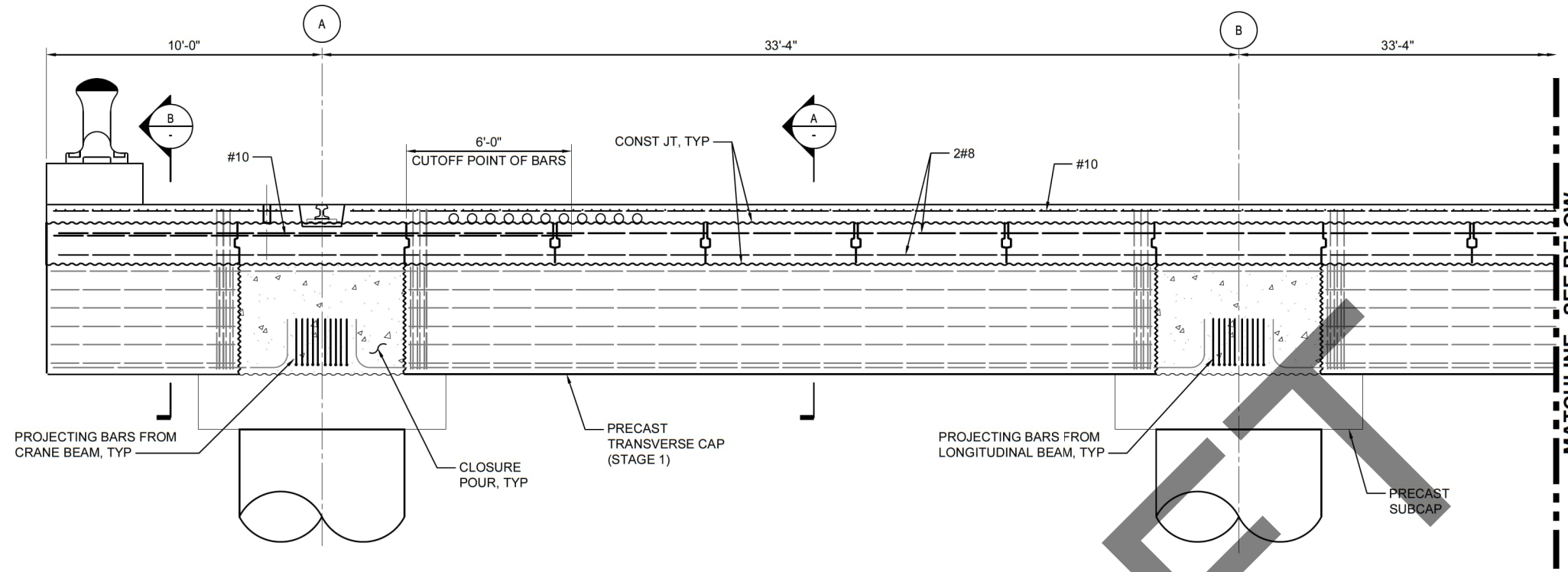
WHARF - STAGE 1 CLOSURE POUR DETAILS  
- SHEET 2

PORT OF ALASKA	
PORT OF ALASKA MODERNIZATION PROGRAM	
CARGO TERMINAL 1 DESIGN	
ANCHORAGE, ALASKA	
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VERT SCALE: AS SHOWN	SHEET: OF
T1-S-602	

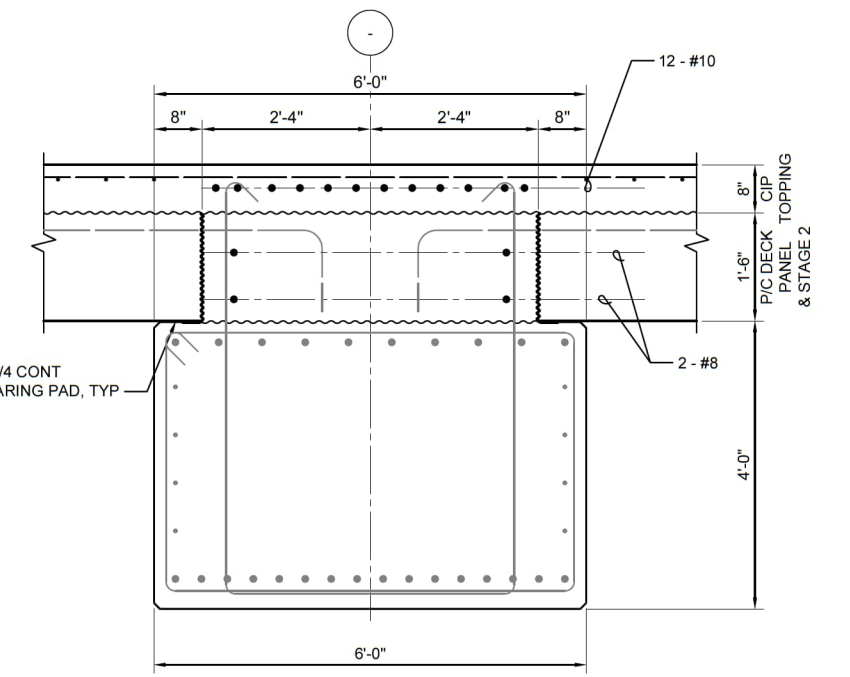
\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



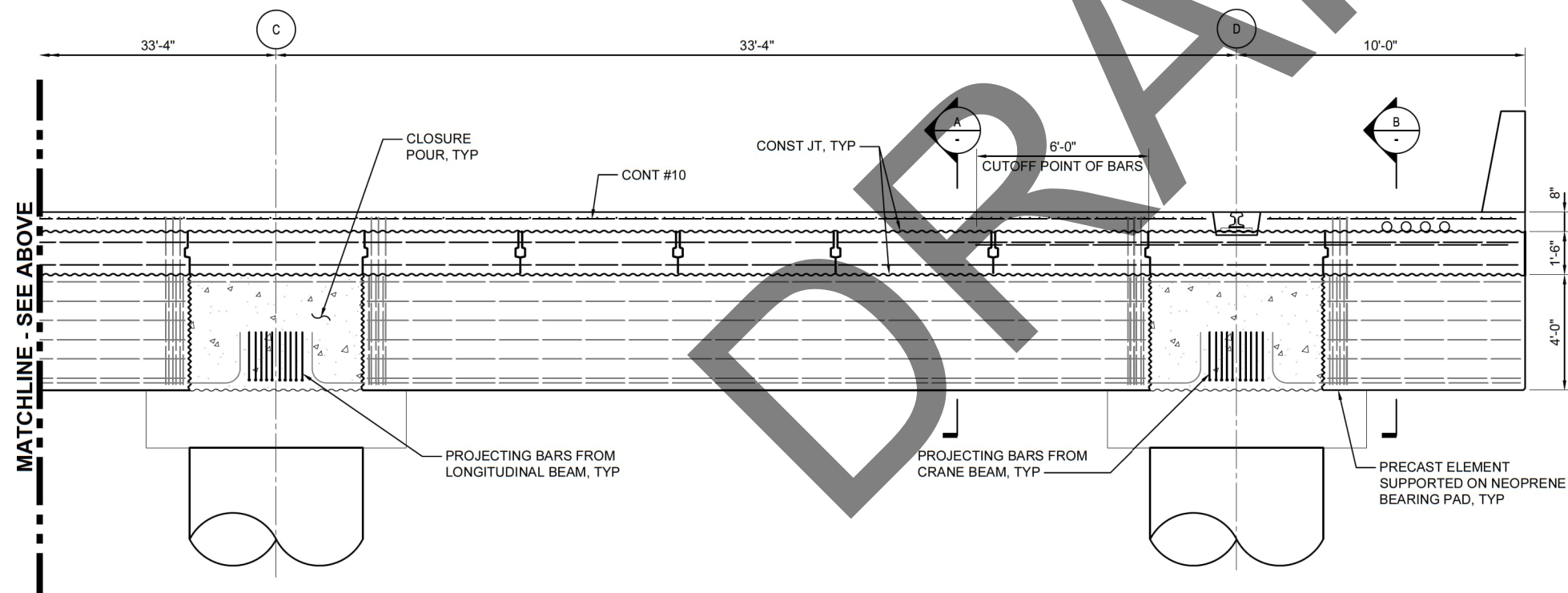
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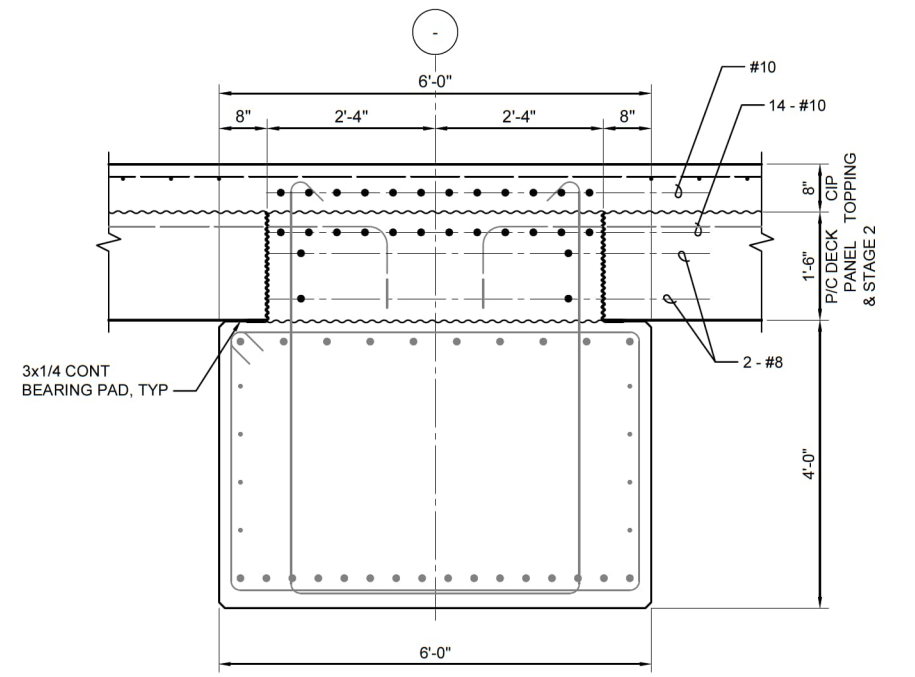
**A ELEVATION - TRANSVERSE PILE CAP BUILT UP SECTION**  
SCALE:



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



**A ELEVATION - TRANSVERSE PILE CAP BUILT UP SECTION**  
SCALE:



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

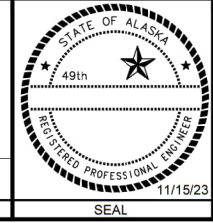
65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

		GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)    AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)	
		DSGN JRG	DR JDM
CONSULTANT		SEAL 11/15/23	

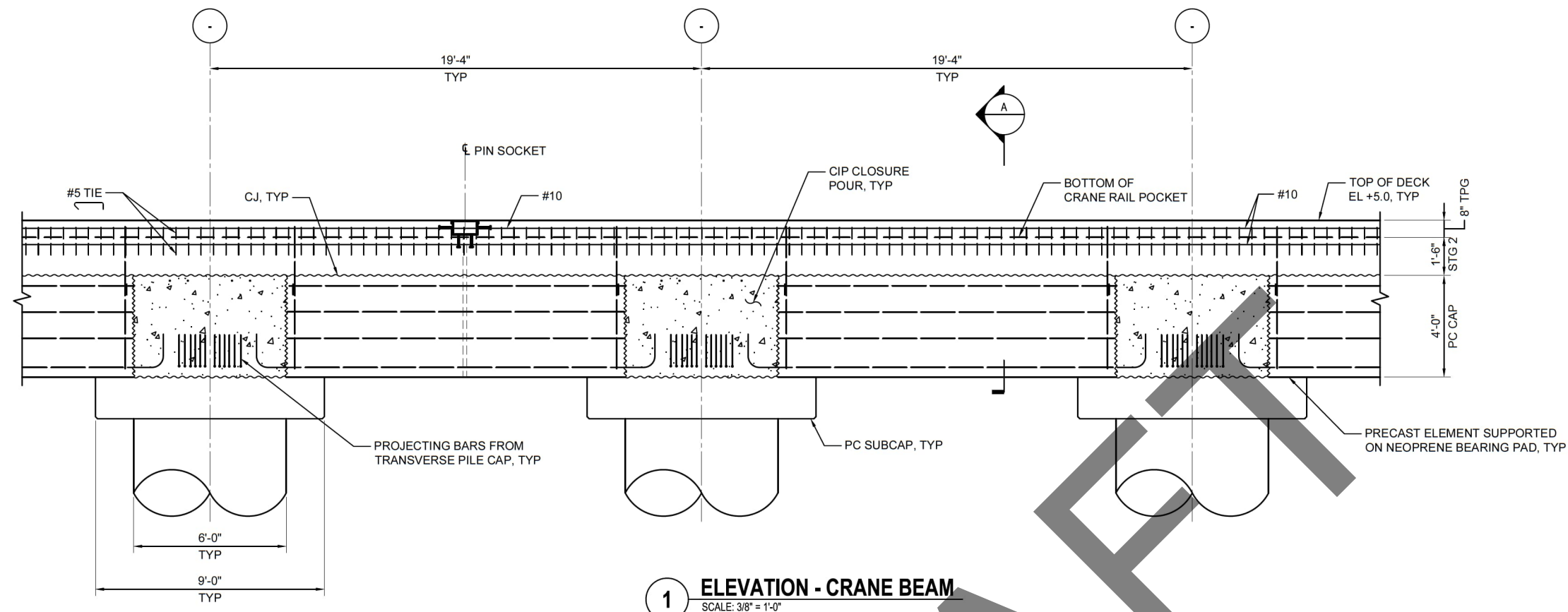


STRUCTURAL  
WHARF - TRANSVERSE PILECAP BUILT UP SECTIONS

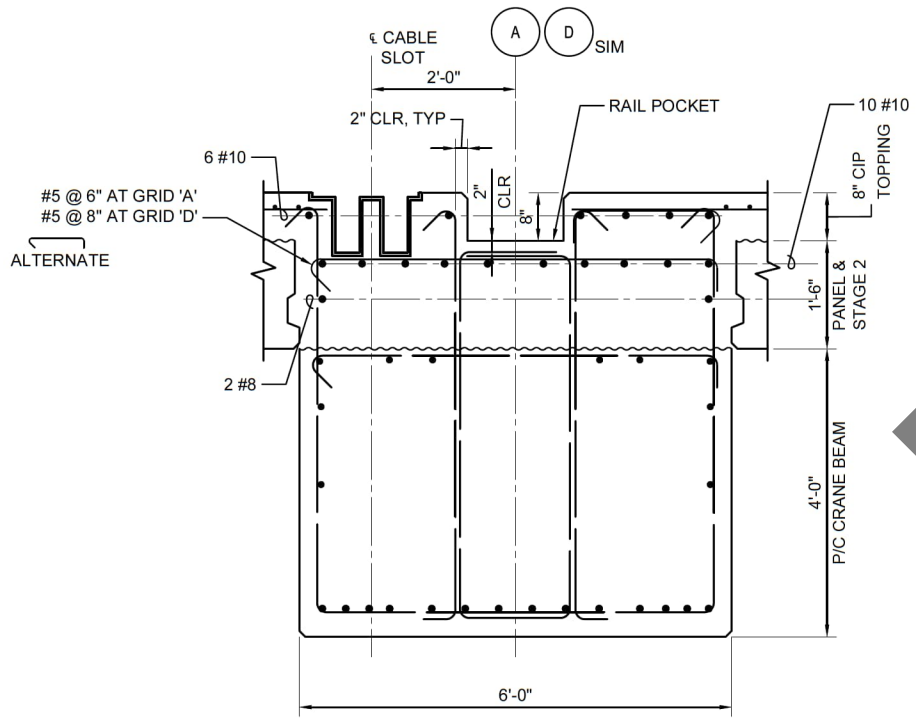
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CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
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VERT SCALE: AS SHOWN	SHEET: OF	

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- NOTES:**
1. P/C DECK PANEL REINF NOT SHOWN FOR CLARITY.
  2. CIP TOPPING REINF SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.
  3. P/C TRANSVERSE BEAM PROJECTING REINFORCEMENT SHOWN HERE IS FOR ILLUSTRATIVE PURPOSES ONLY.
  4. CIP CLOSURE POUR REINFORCEMENT NOT SHOWN FOR CLARITY.
  5. PLACEMENT OF REINFORCEMENT SHALL BE COORDINATED WITH LOCATION OF RAIL ANCHOR BOLTS SLEEVES.



65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

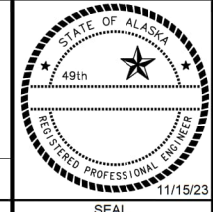
**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503

AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN: JRG DR: JDM CHK: JRG APVD: JRG

CONSULTANT



STRUCTURAL

WHARF - CRANE BEAM BUILT UP SECTIONS

PORT OF ALASKA

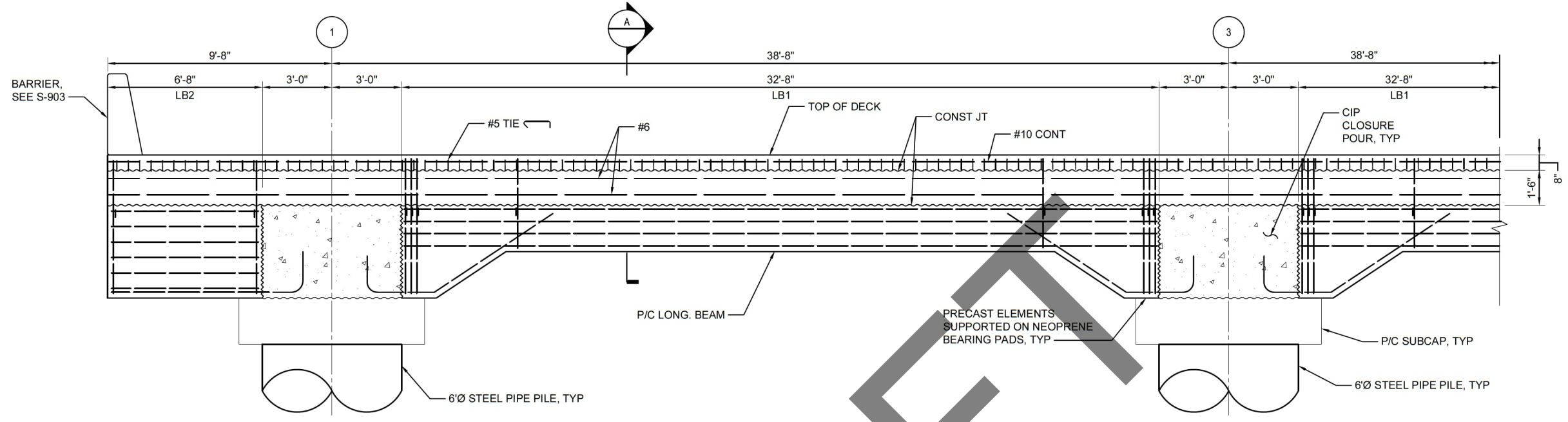
PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN DATE: 11/17/23  
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T1-S-606

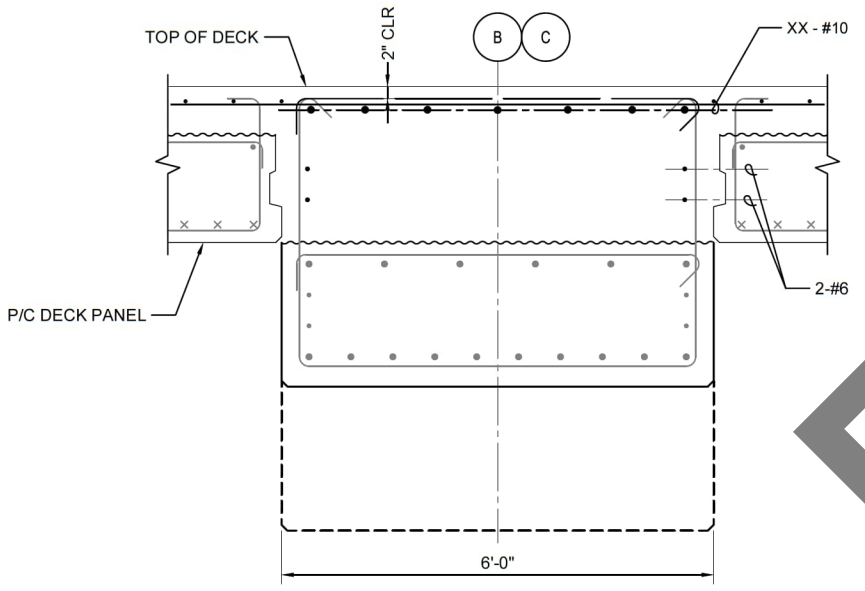
\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

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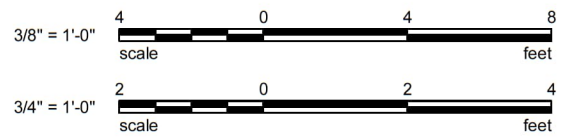
- NOTES:**
1. P/C DECK PANEL REINF NOT SHOWN FOR CLARITY.
  2. CIP TOPPING REINF SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.
  3. P/C TRANSVERSE BEAM PROJECTING REINFORCEMENT SHOWN HERE IS FOR ILLUSTRATIVE PURPOSES ONLY.
  4. CIP CLOSURE POUR REINFORCEMENT NOT SHOWN FOR CLARITY.
  5. PLACEMENT OF REINFORCEMENT SHALL BE COORDINATED WITH LOCATION OF RAIL ANCHOR BOLTS SLEEVES.

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



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

DRAFT



65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

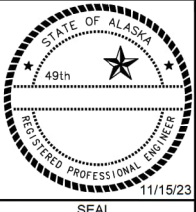
VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING  
0 1"  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN: JRG DR: JDM CHK: JRG APVD: JRG

CONSULTANT



STRUCTURAL

WHARF - LONGITUDINAL BEAM BUILT UP SECTIONS

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

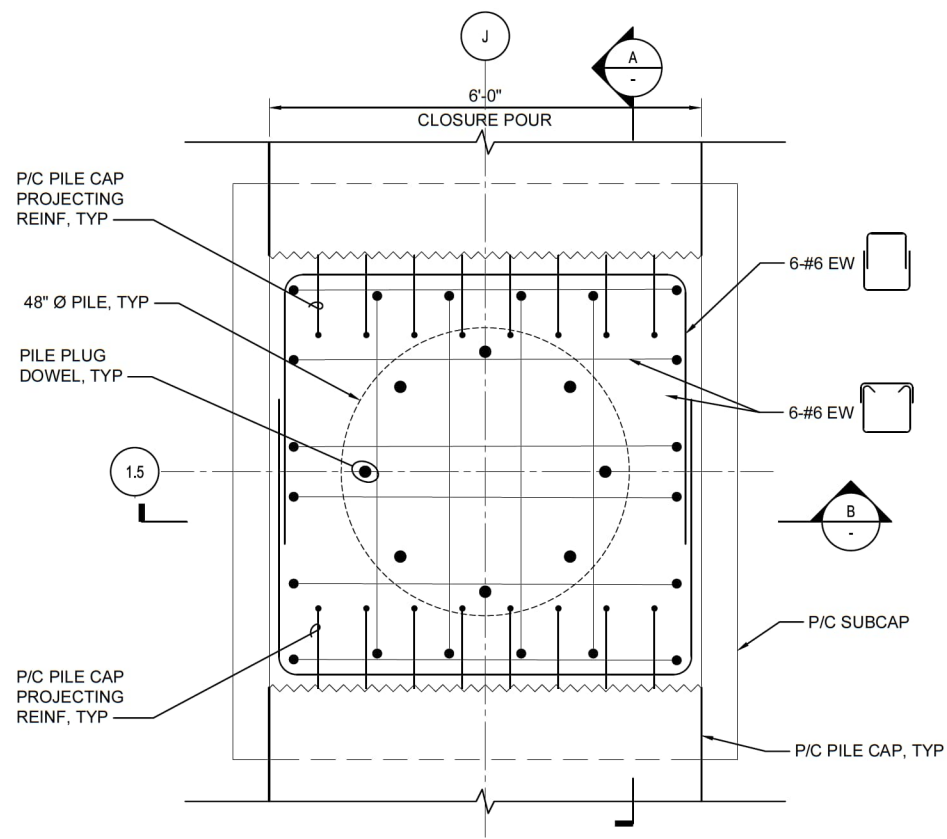
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VERT SCALE: AS SHOWN SHEET: OF

T1-S-607

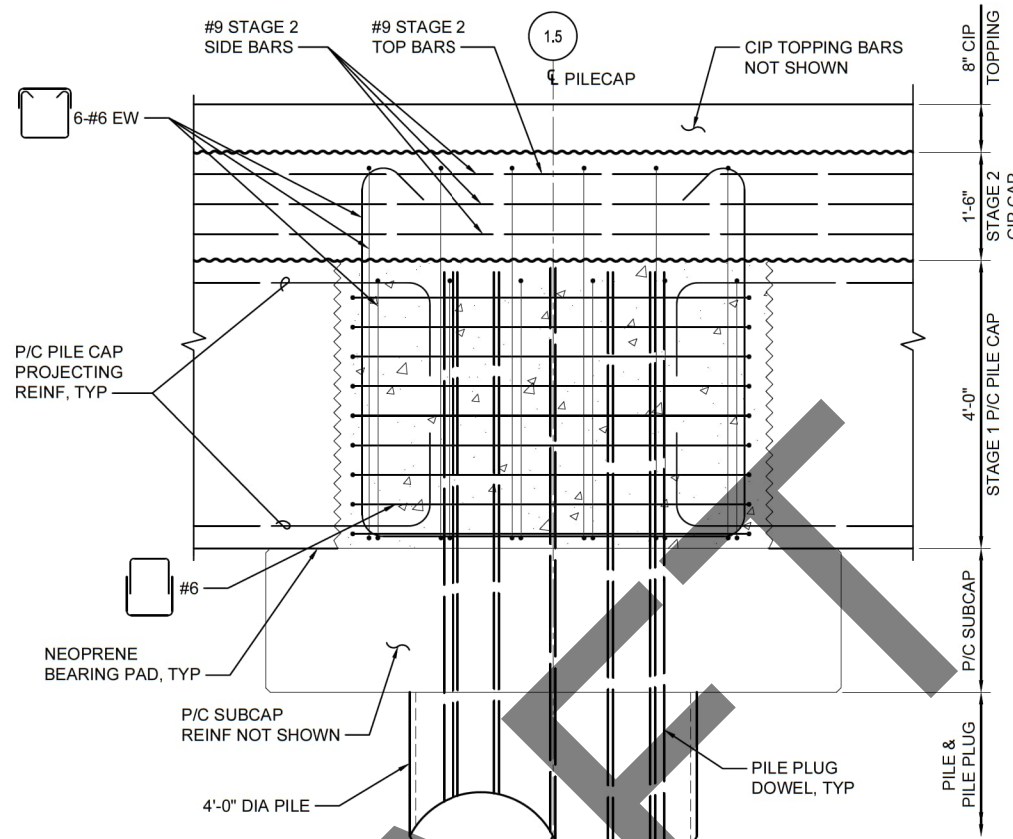
\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



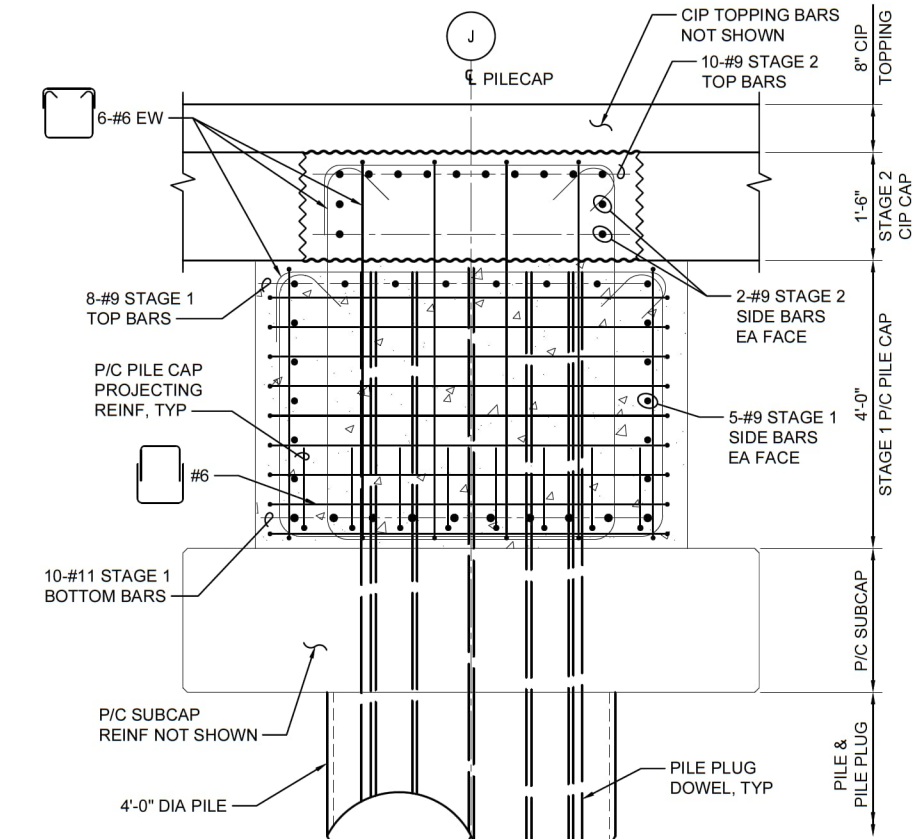
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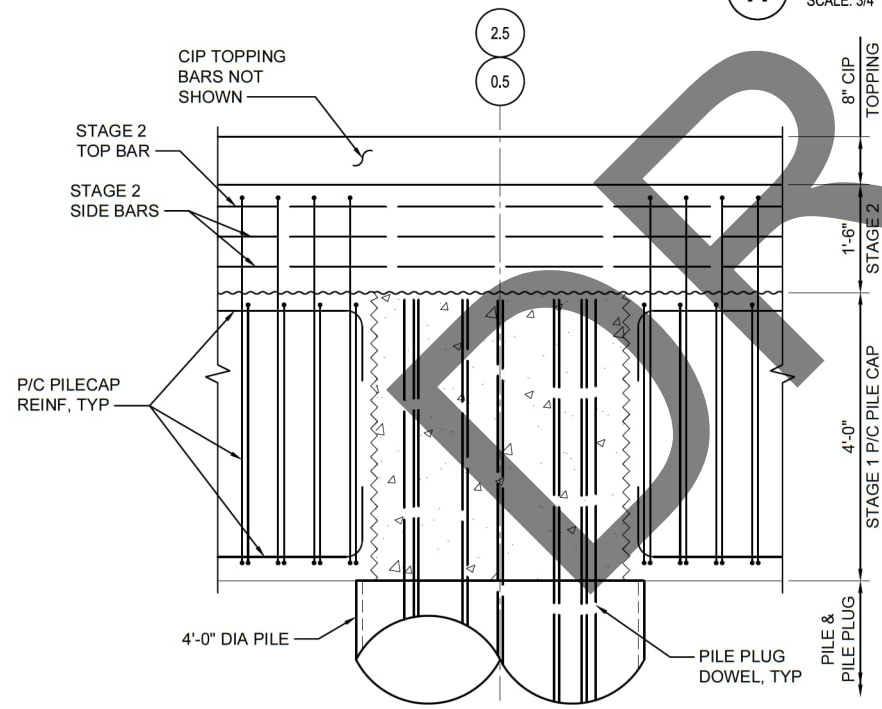
**1 PLAN - TRESTLE CLOSURE POUR TYPE 1**  
SCALE: 3/4" = 1'-0"



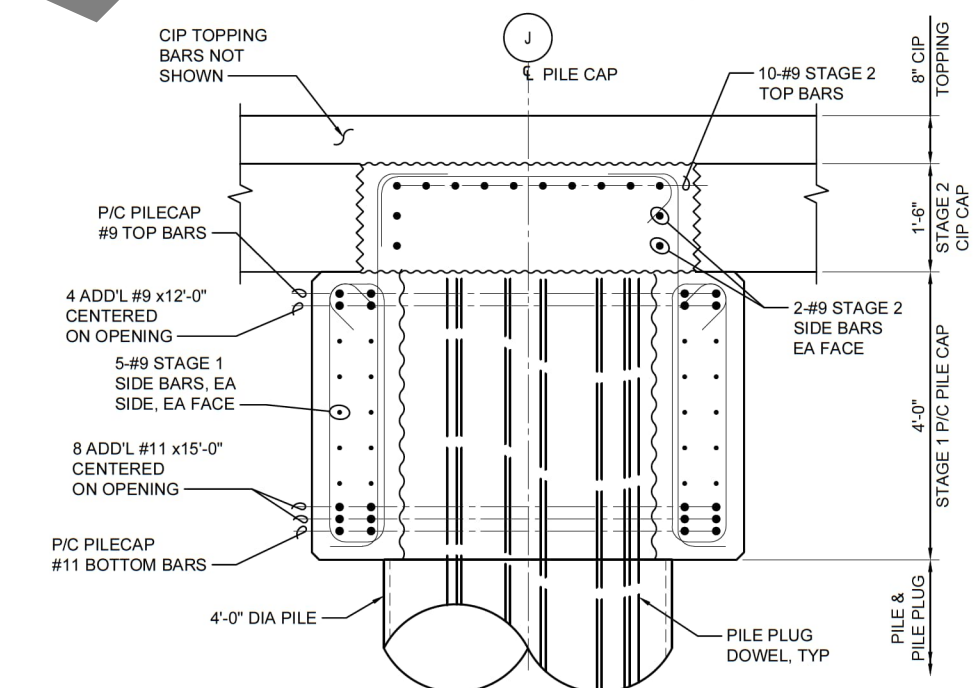
**A SECTION - TRESTLE CLOSURE POUR TYPE 1**  
SCALE: 3/4" = 1'-0"



**B SECTION - TRESTLE CLOSURE POUR TYPE 1**  
SCALE: 3/4" = 1'-0"



**C SECTION - TRESTLE CLOSURE POUR TYPE 2**  
SCALE: 3/4" = 1'-0"

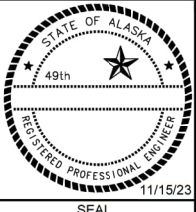


**D SECTION - TRESTLE CLOSURE POUR TYPE 2**  
SCALE: 3/4" = 1'-0"

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)    AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)			
DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG
CONSULTANT			

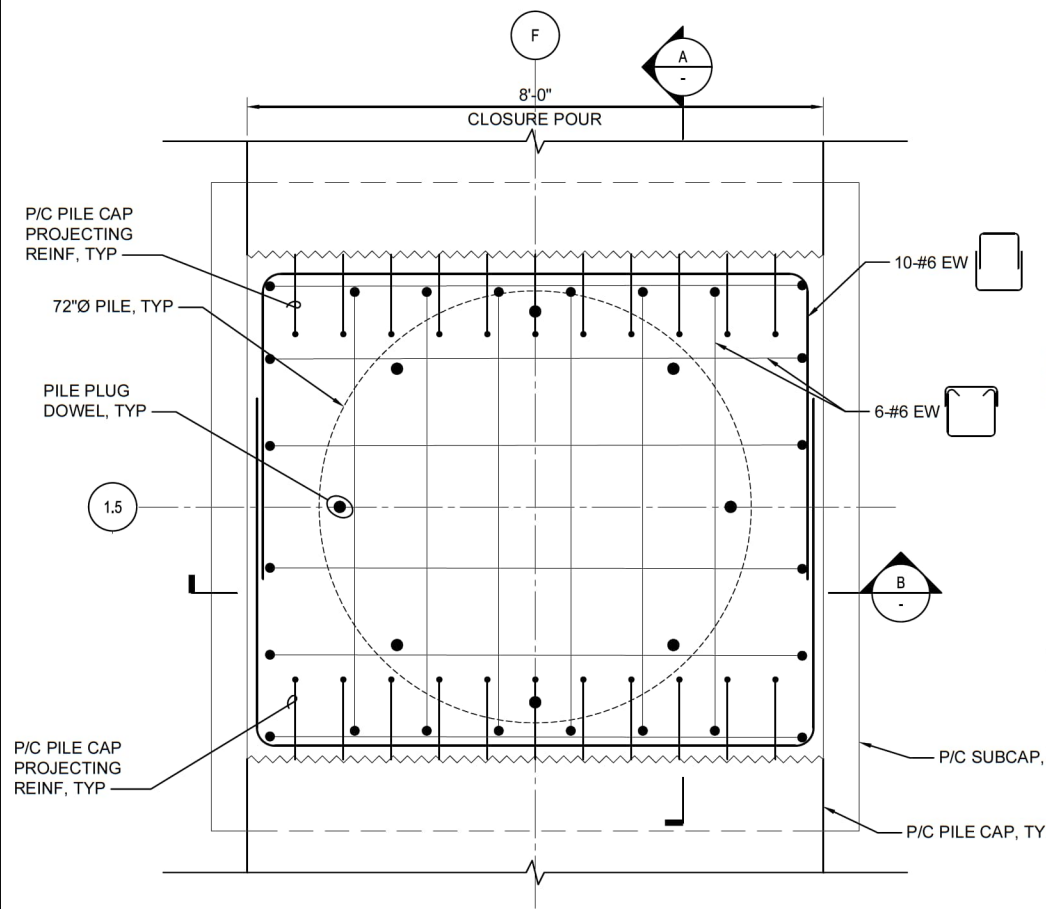


STRUCTURAL  
TRESTLES 1A & 1B - STAGE 1 CLOSURE  
POUR  
DETAILS - SHEET 1

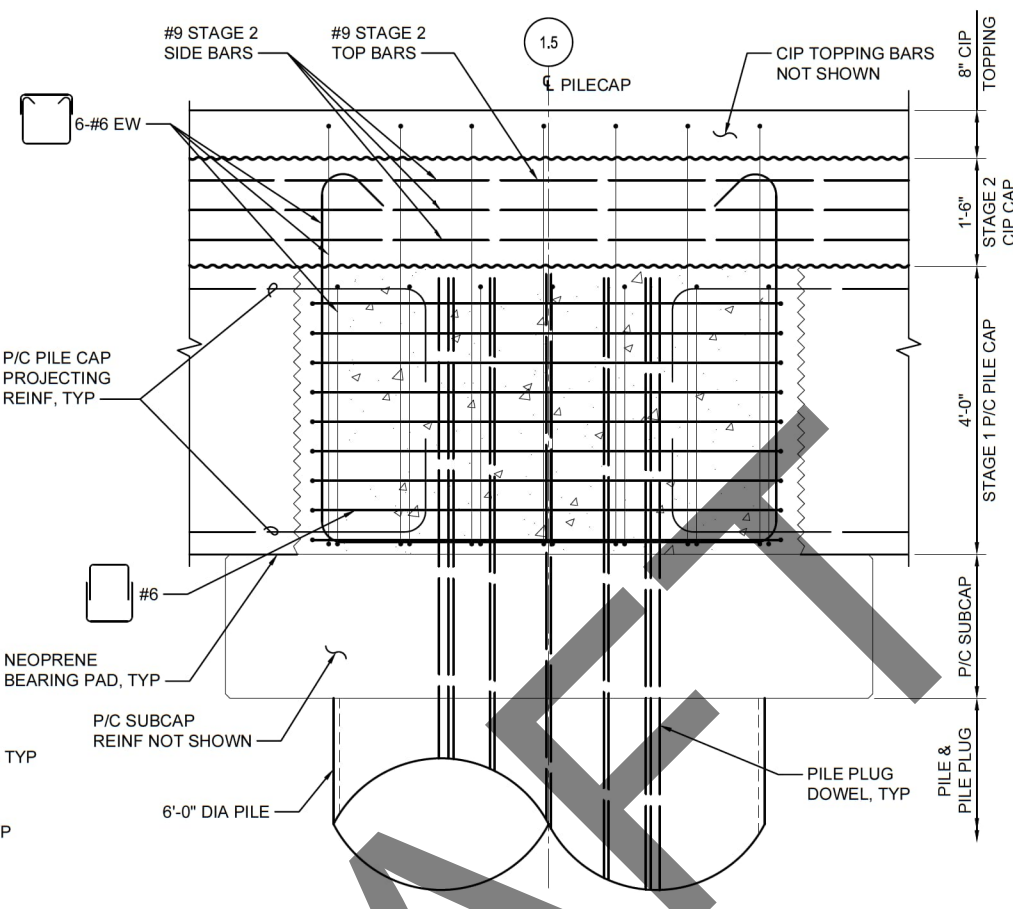
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PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-608
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

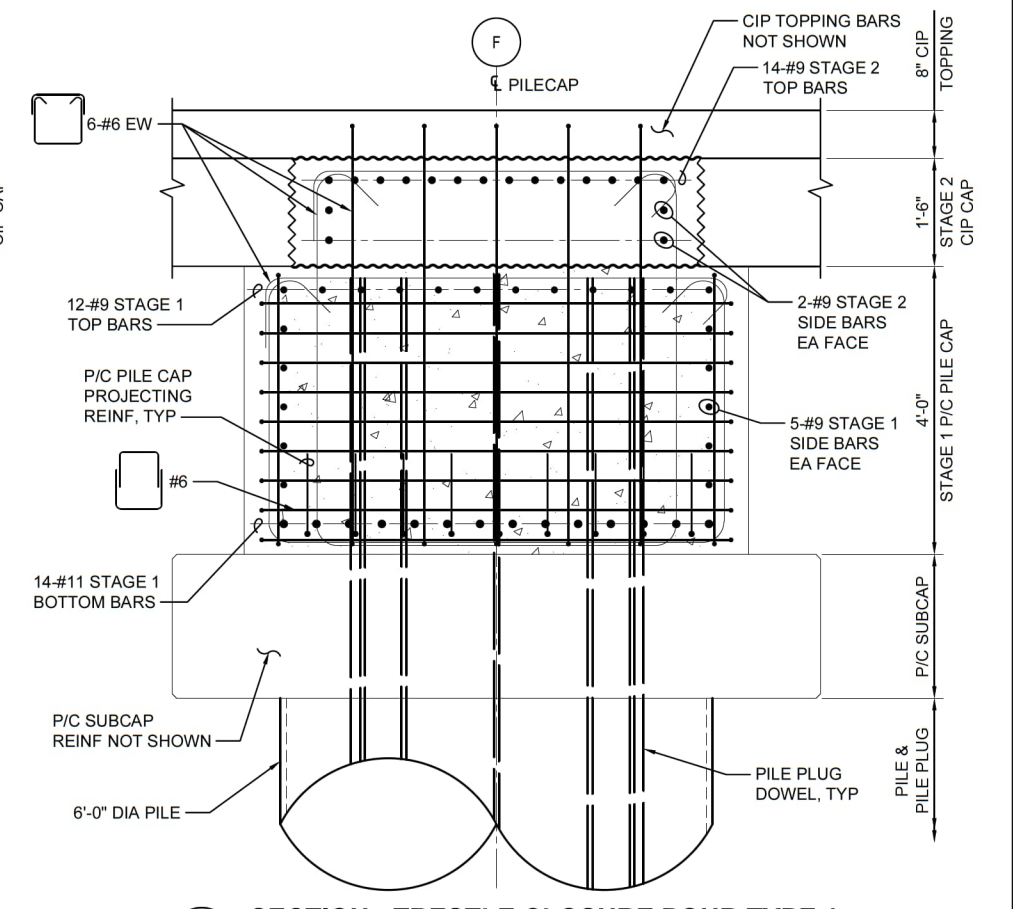
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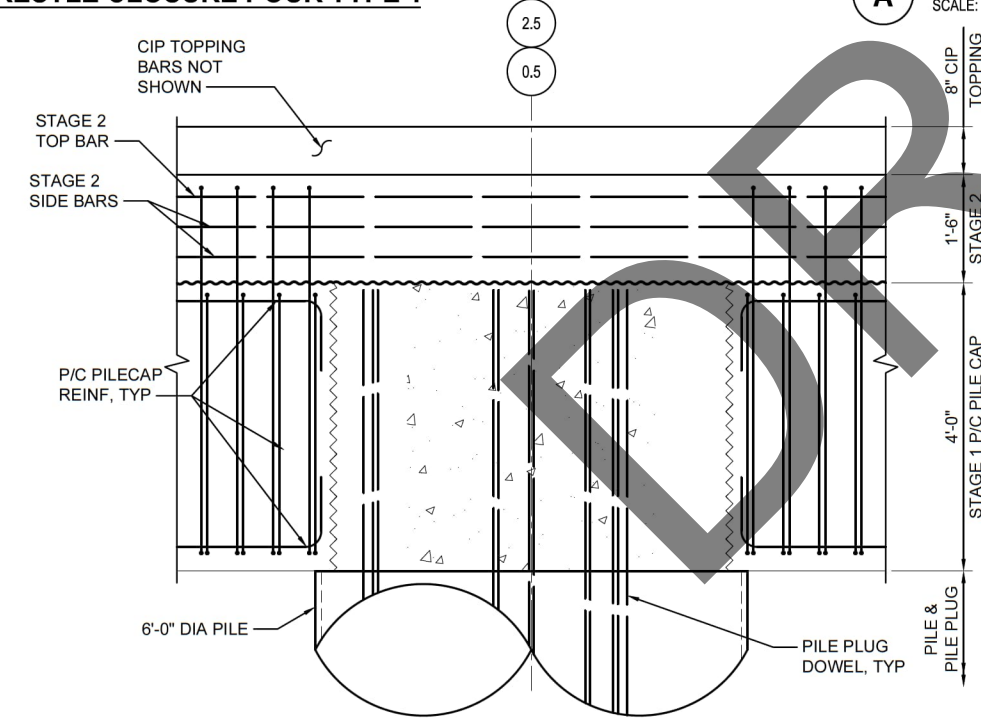
**1 PLAN - TRESTLE CLOSURE POUR TYPE 1**  
SCALE: 3/4" = 1'-0"



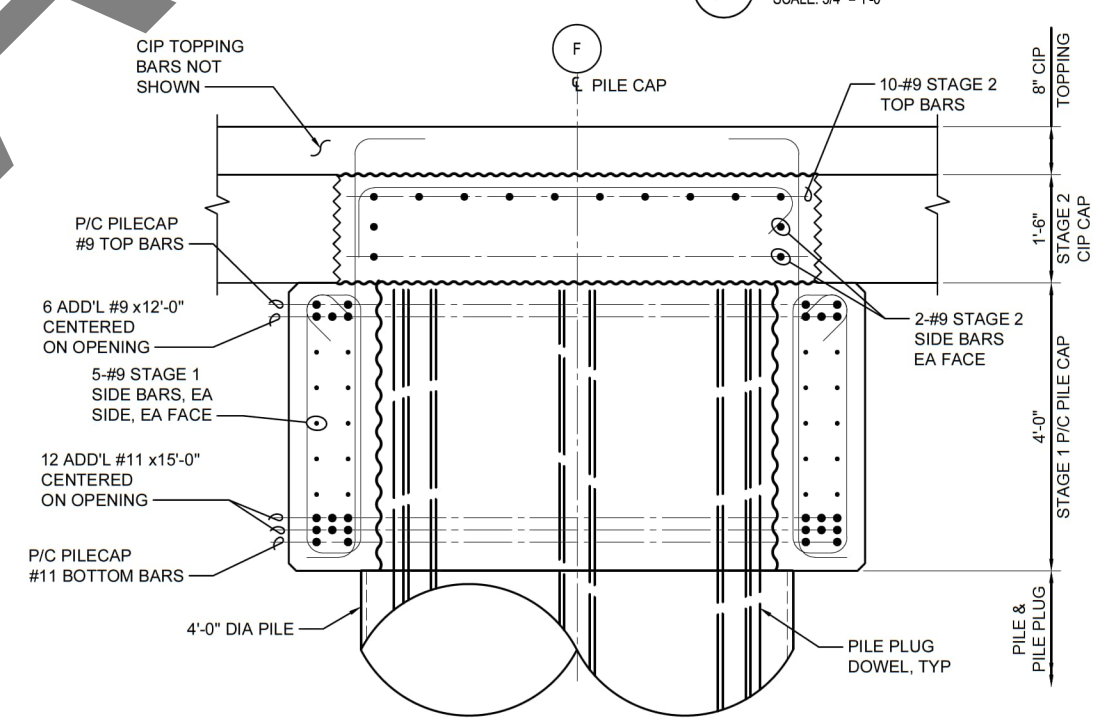
**A SECTION - TRESTLE CLOSURE POUR TYPE 1**  
SCALE: 3/4" = 1'-0"



**B SECTION - TRESTLE CLOSURE POUR TYPE 1**  
SCALE: 3/4" = 1'-0"



**C SECTION - TRESTLE CLOSURE POUR TYPE 2**  
SCALE: 3/4" = 1'-0"



**D SECTION - TRESTLE CLOSURE POUR TYPE 2**  
SCALE: 3/4" = 1'-0"

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

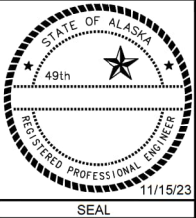
  

REVISIONS

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

WSP

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG
CONSULTANT			



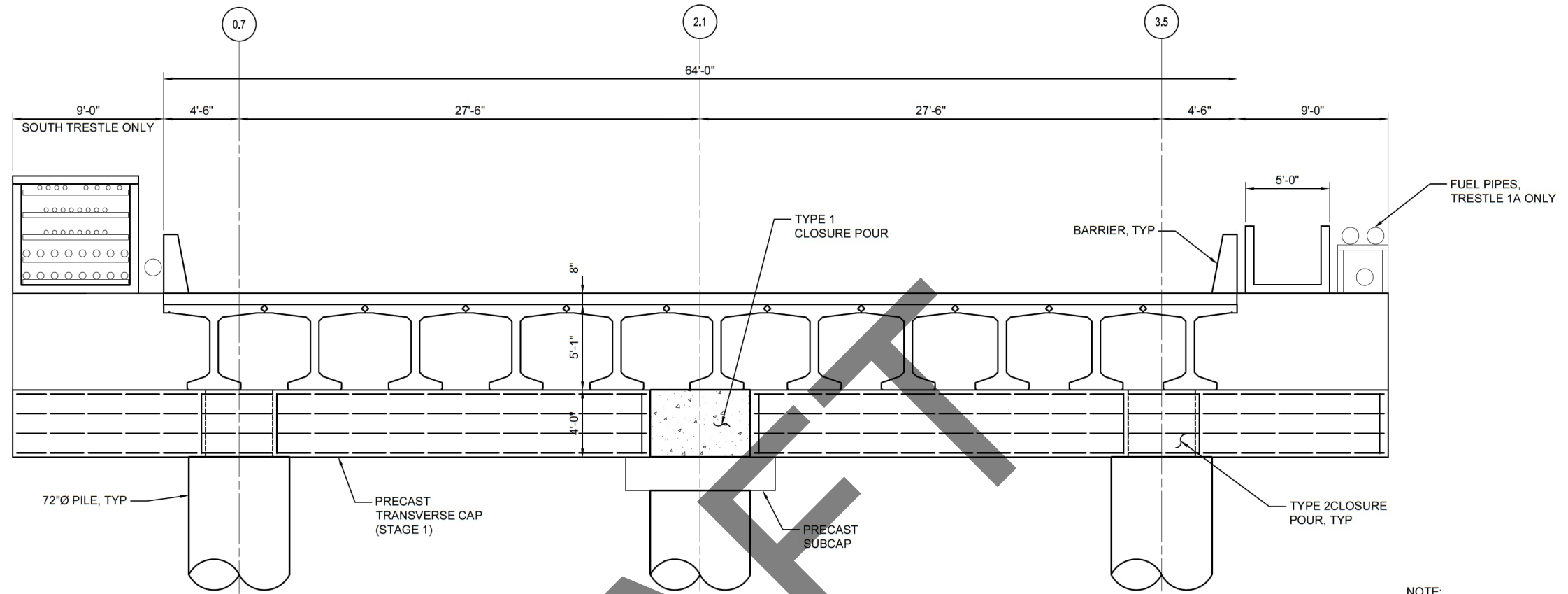
**STRUCTURAL**  
TRESTLES 1A & 1B - STAGE 1 CLOSURE  
POUR  
DETAILS - SHEET 2

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-609
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

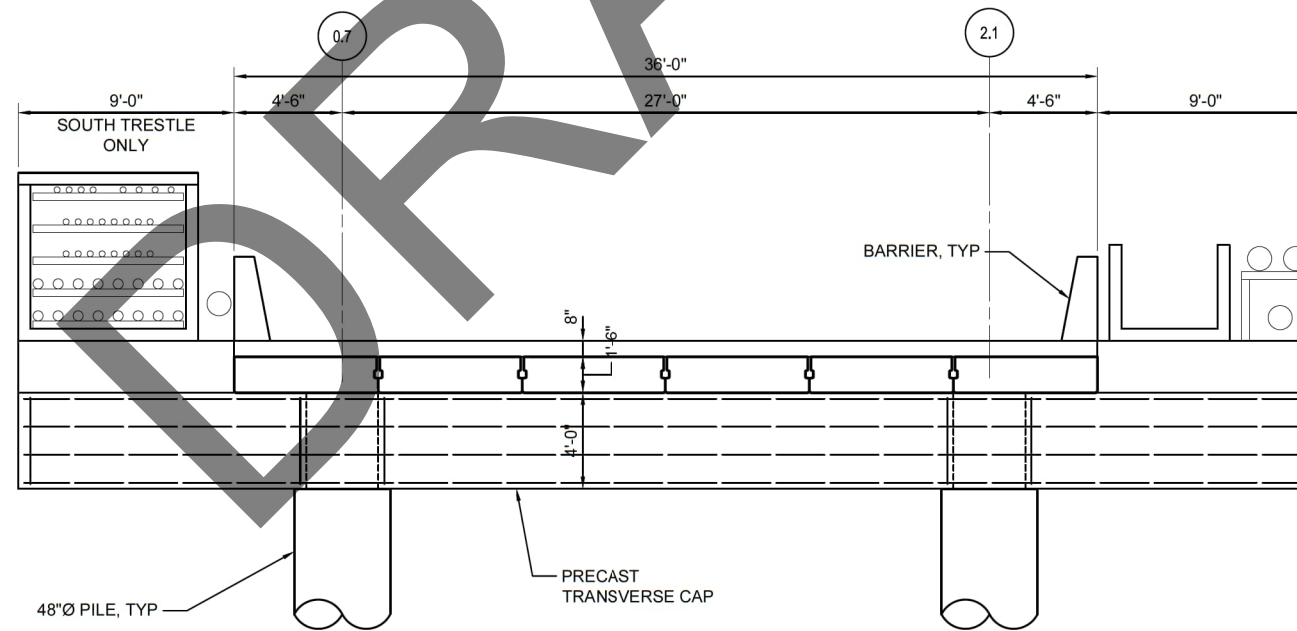


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NOTE:  
TRESTLE 1A SHOWN, TRESTLE 1B  
SIM, OPPOSITE HAND

**A** ELEVATION - TYPICAL TRESTLE @ GIRDERS  
SCALE: 1/8" = 1'-0"



**B** ELEVATION - TYPICAL TRESTLE @ DECK PANELS  
SCALE: 1/8" = 1'-0"



65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

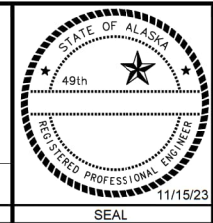
**VERIFY SCALES**  
BAR IS ONE INCH ON ORIGINAL DRAWING  
0 1"  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

REVISIONS

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT

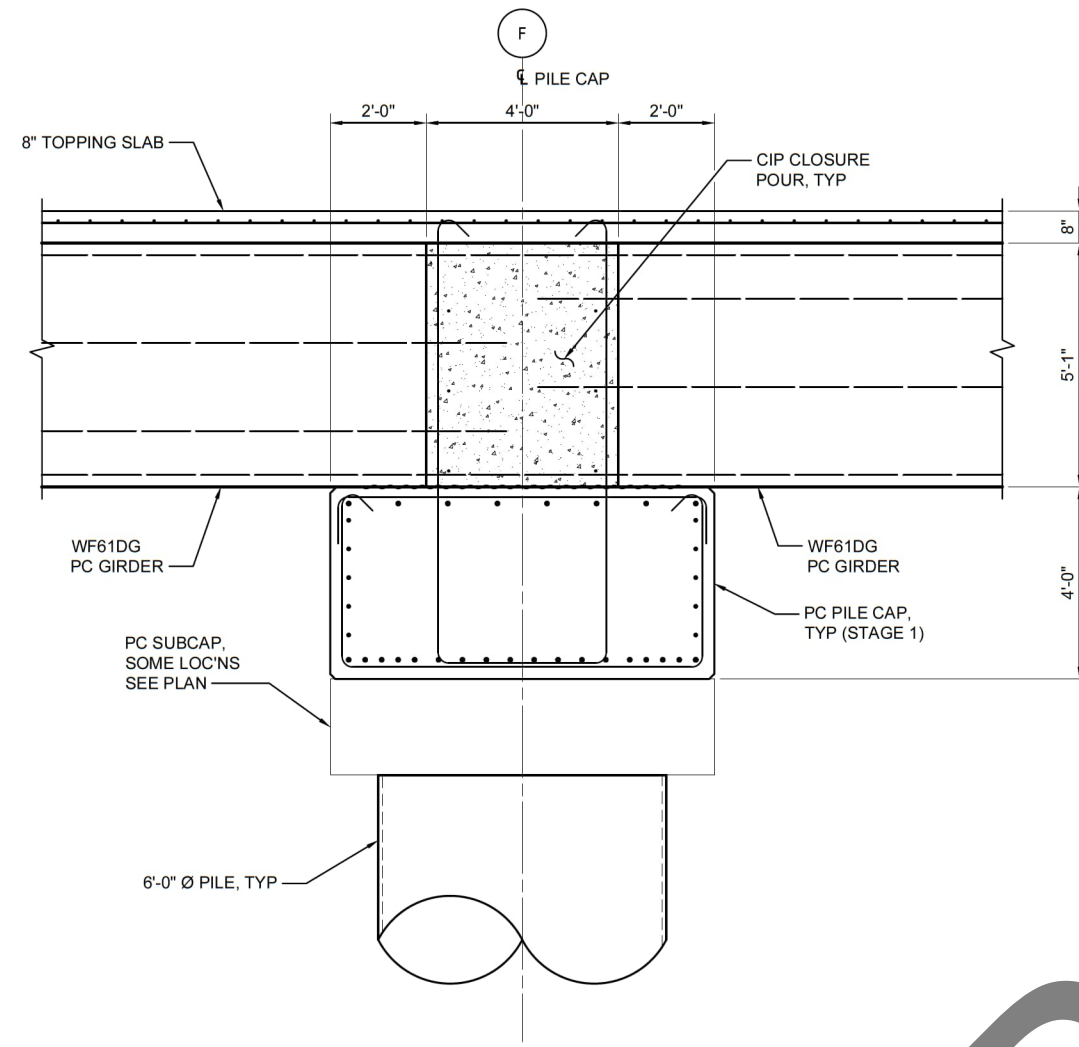


**STRUCTURAL**  
TRESTLES 1A & 1B - BUILT UP SECTIONS - SHEET 1

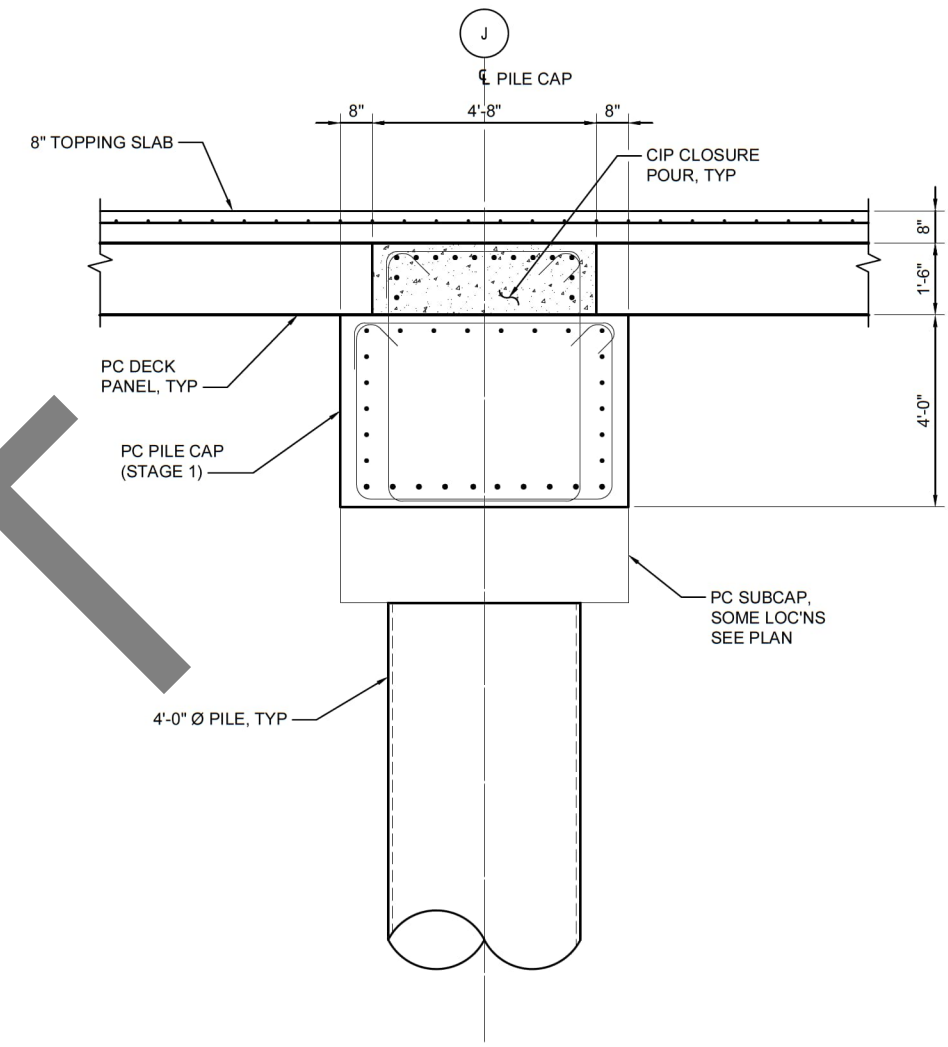
PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-611
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*





**A SECTION- TRESTLE @ GIRDER**  
SCALE: 1/2" 1'-0"



**B SECTION- TRESTLE @ DECK PANEL**  
SCALE: 1/2" 1'-0"

DRAFT

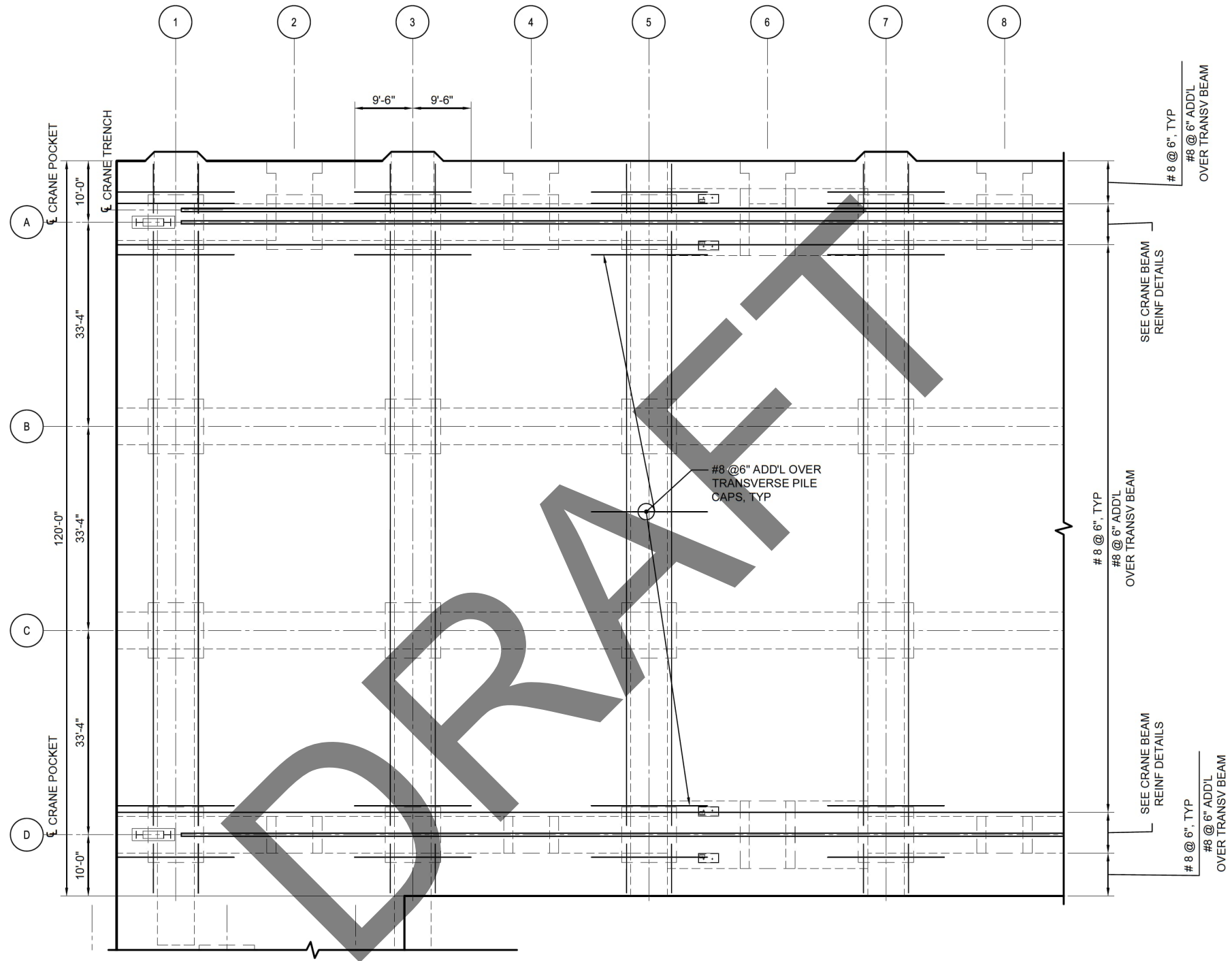
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65% SUBMITTAL

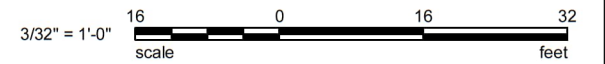
<p><b>VERIFY SCALES</b></p> <p>BAR IS ONE INCH ON ORIGINAL DRAWING</p> <p>IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APVD</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	REV	DATE	DESCRIPTION	BY	APVD																					<p style="font-size: 8px;">GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)    AK BUSINESS LICENSE # 2164152(GHD) - 113311(WSP)</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <tr> <td>DSGN</td> <td>DR</td> <td>CHK</td> <td>APVD</td> </tr> <tr> <td>JRG</td> <td>JDM</td> <td>JRG</td> <td>JRG</td> </tr> </table> <p style="font-size: 8px;">CONSULTANT</p>	DSGN	DR	CHK	APVD	JRG	JDM	JRG	JRG	<p style="font-size: 8px;">SEAL</p>			<p><b>STRUCTURAL</b></p> <p>TRESTLES 1A &amp; 1B - BUILT UP SECTIONS - SHEET 2</p>	<p>PORT OF ALASKA</p> <p>PORT OF ALASKA MODERNIZATION PROGRAM</p> <p><b>CARGO TERMINAL 1 DESIGN</b></p> <p>ANCHORAGE, ALASKA</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <tr> <td>HORIZ SCALE: AS SHOWN</td> <td>DATE: 11/17/23</td> </tr> <tr> <td>VERT SCALE: AS SHOWN</td> <td>SHEET: OF</td> </tr> </table> <p style="text-align: right; font-weight: bold;">T1-S-612</p>	HORIZ SCALE: AS SHOWN	DATE: 11/17/23	VERT SCALE: AS SHOWN	SHEET: OF
REV	DATE	DESCRIPTION	BY	APVD																																								
DSGN	DR	CHK	APVD																																									
JRG	JDM	JRG	JRG																																									
HORIZ SCALE: AS SHOWN	DATE: 11/17/23																																											
VERT SCALE: AS SHOWN	SHEET: OF																																											

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**1 PLAN - CIP TOPPING REINFORCEMENT**  
SCALE: 3/32" = 1'-0"



65% SUBMITTAL

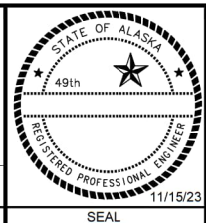
REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

WSP

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT



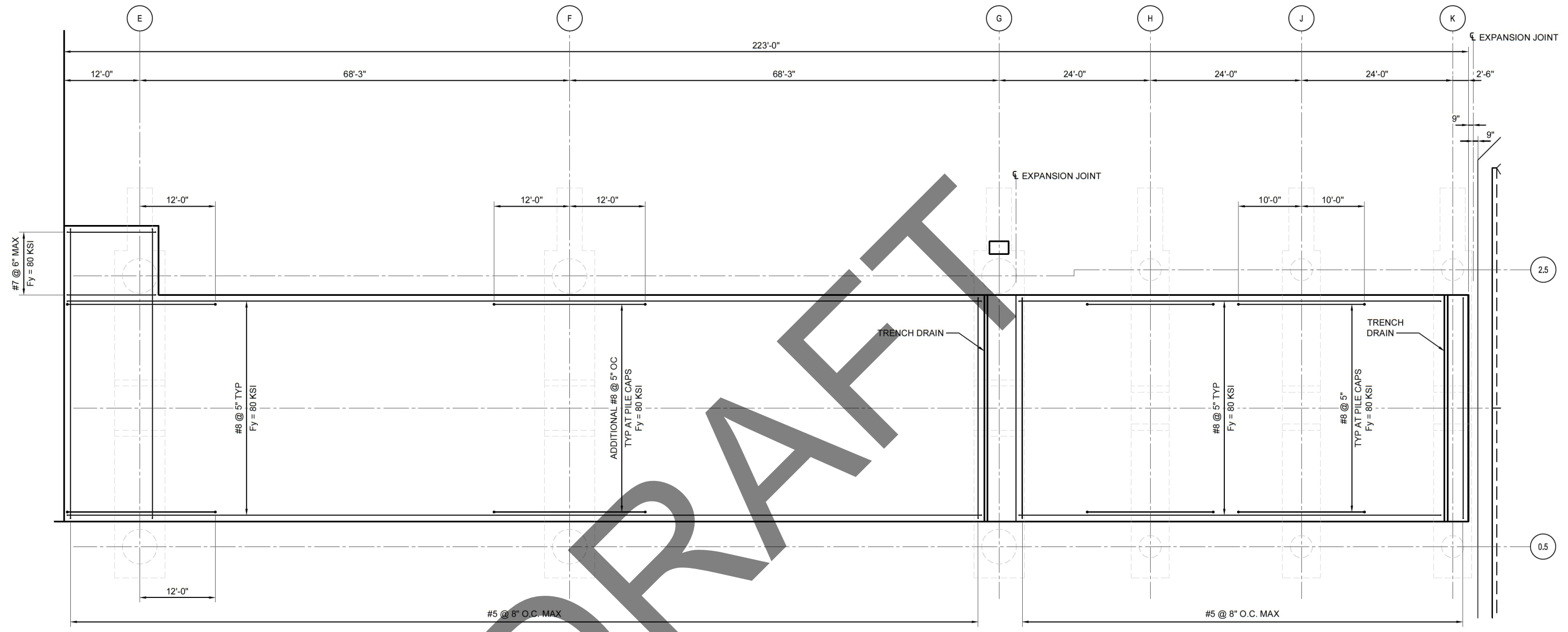
STRUCTURAL

WHARF - TOPPING DETAILS

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-614
VERT SCALE: AS SHOWN	SHEET: OF	

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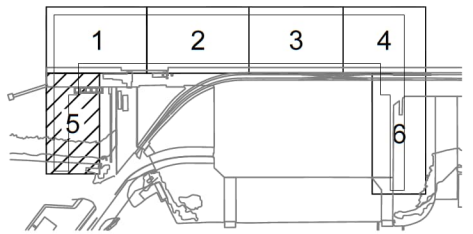
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DRAFT

**TRESTLE 1A - DECK REINFORCEMENT PLAN**

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



**KEY PLAN**



65% SUBMITTAL

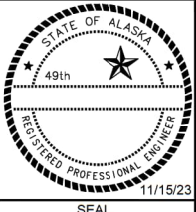
REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT



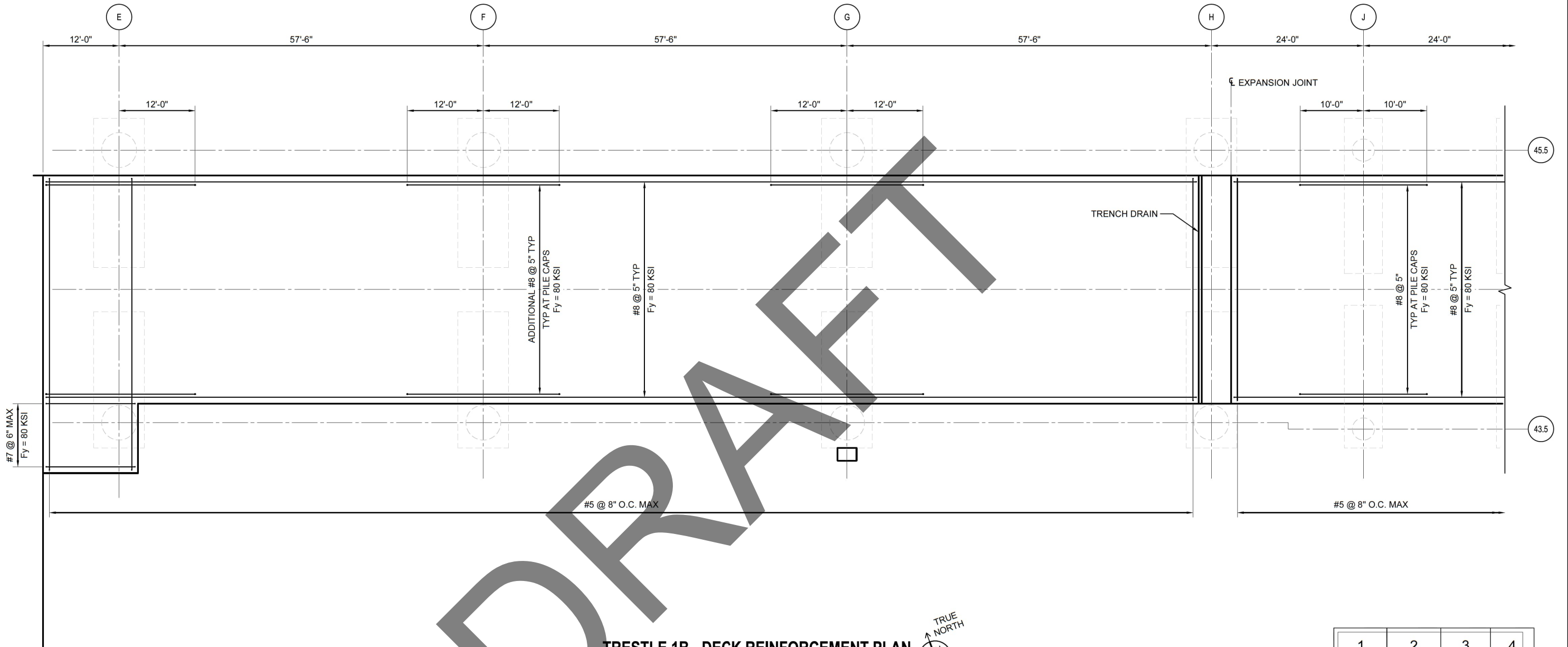
STRUCTURAL  
TRESTLE 1A  
DECK REINFORCEMENT PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-615
VERT SCALE: AS SHOWN	SHEET: OF	

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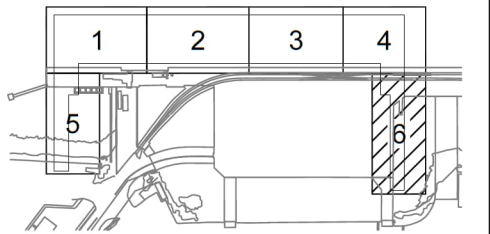
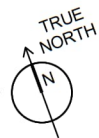


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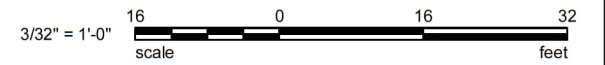


**TRESTLE 1B - DECK REINFORCEMENT PLAN**

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



**KEY PLAN**

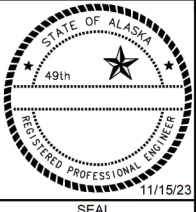


65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)      AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)			
DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG
CONSULTANT			

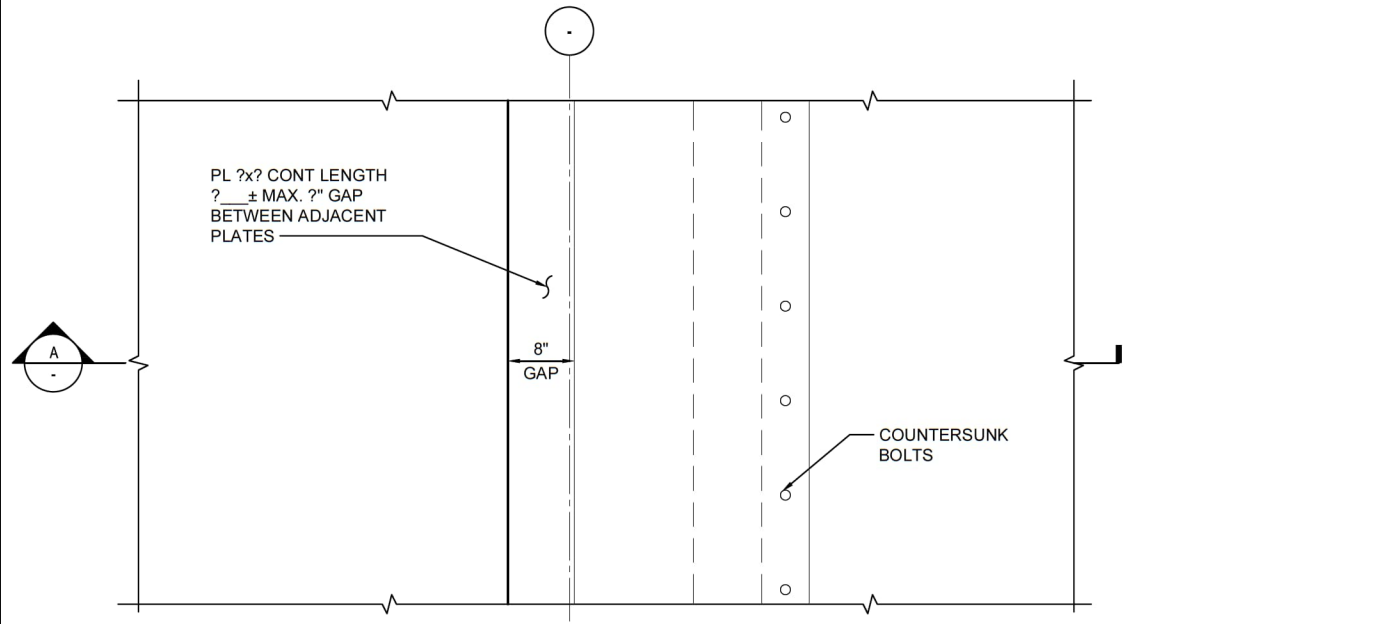


STRUCTURAL  
TRESTLE 1B  
DECK REINFORCEMENT PLAN

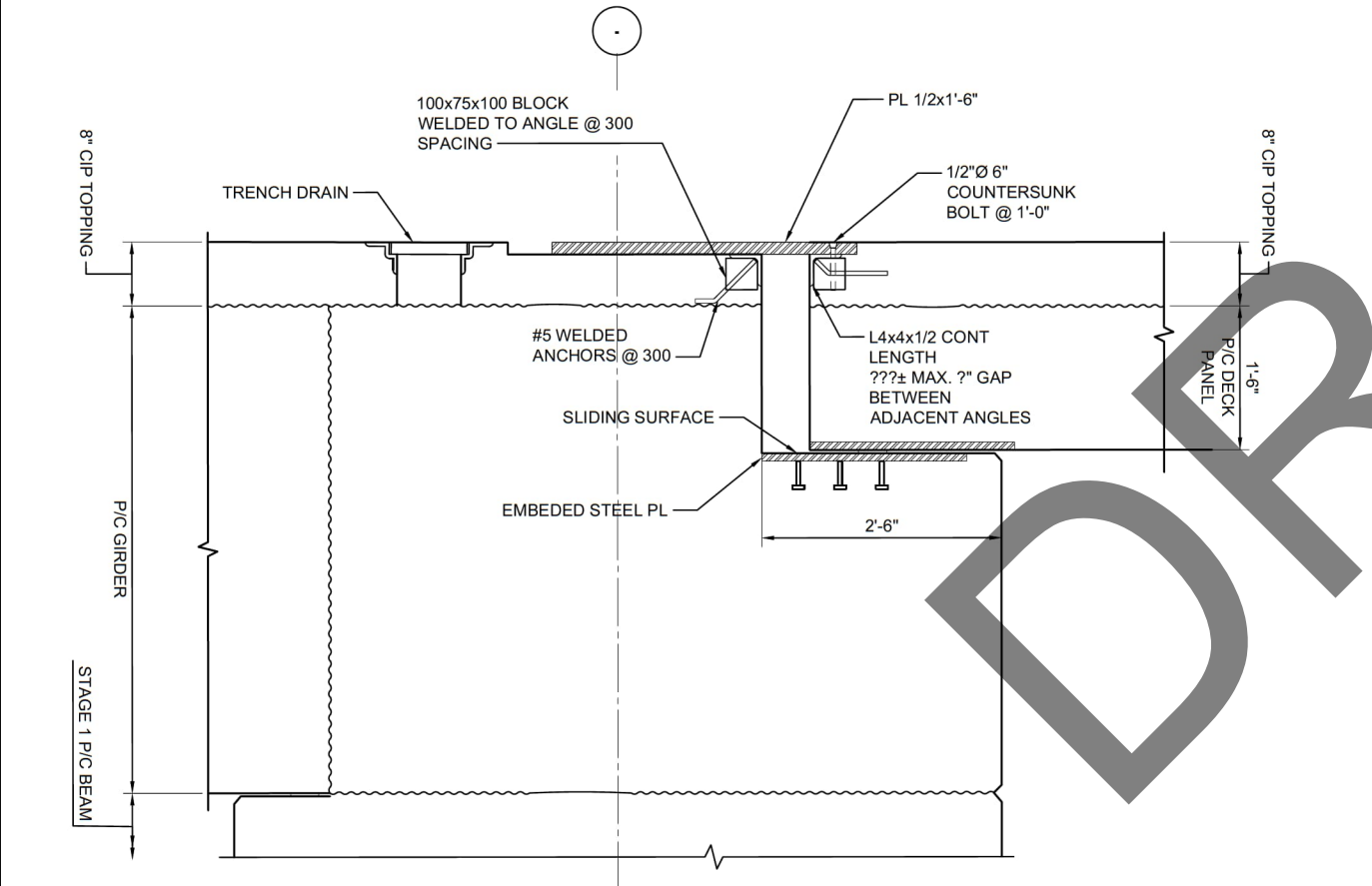
PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-616
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

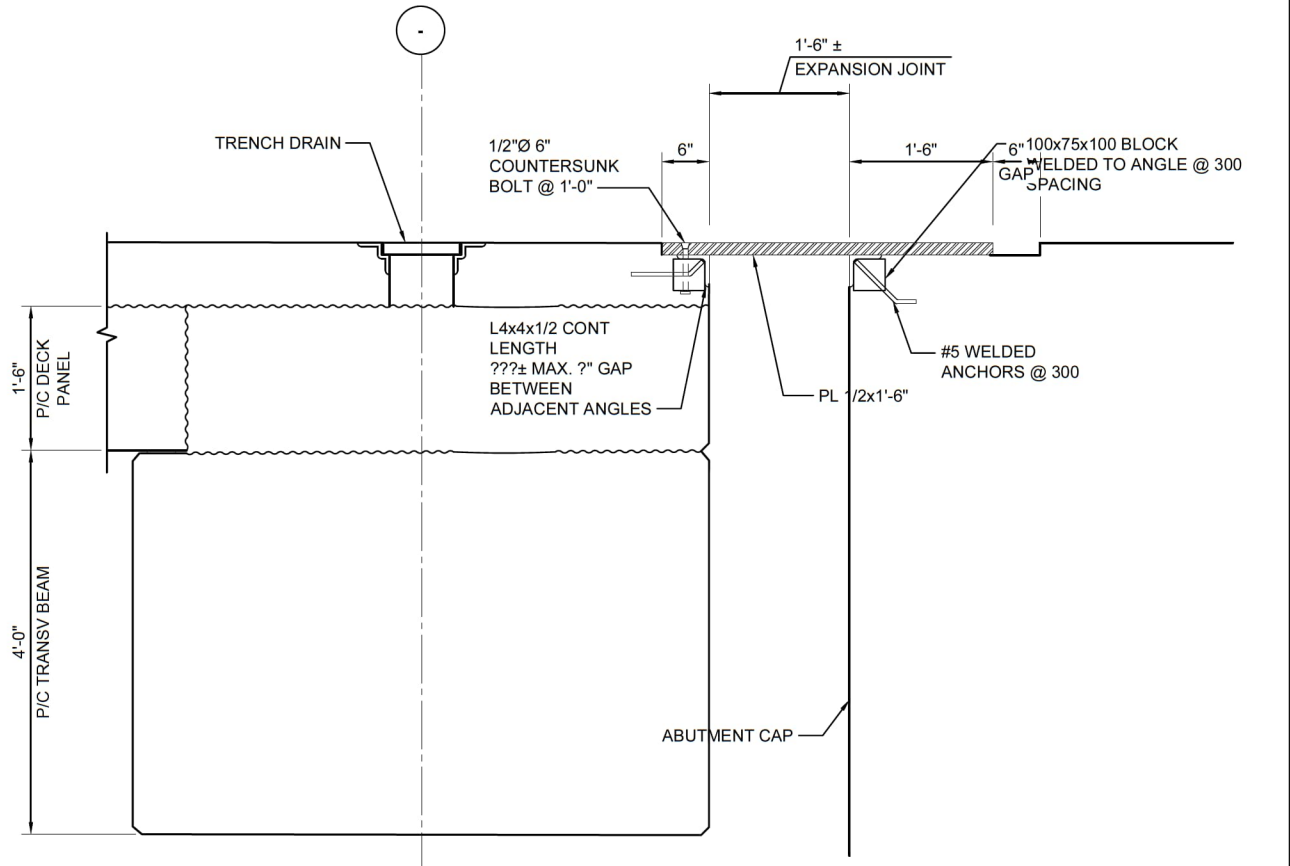
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**1 PLAN - TRESTLE JOINT**  
SCALE: 1" = 1'-0"



**A SECTION - TRESTLE EXP JOINT**  
SCALE: 1" = 1'-0"



**B SECTION - ABUTMENT - TRESTLE INTERFACE**  
SCALE: 1" = 1'-0"

**NOTE:**  
PILECAP & TOPPING REINF NOT SHOWN FOR CLARITY.

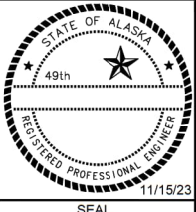
REV	DATE	DESCRIPTION	BY	APVD

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)    AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

WSP

DSGN	DR	CHK	APVD
JRG	JDM	JRG	JRG

CONSULTANT



STRUCTURAL

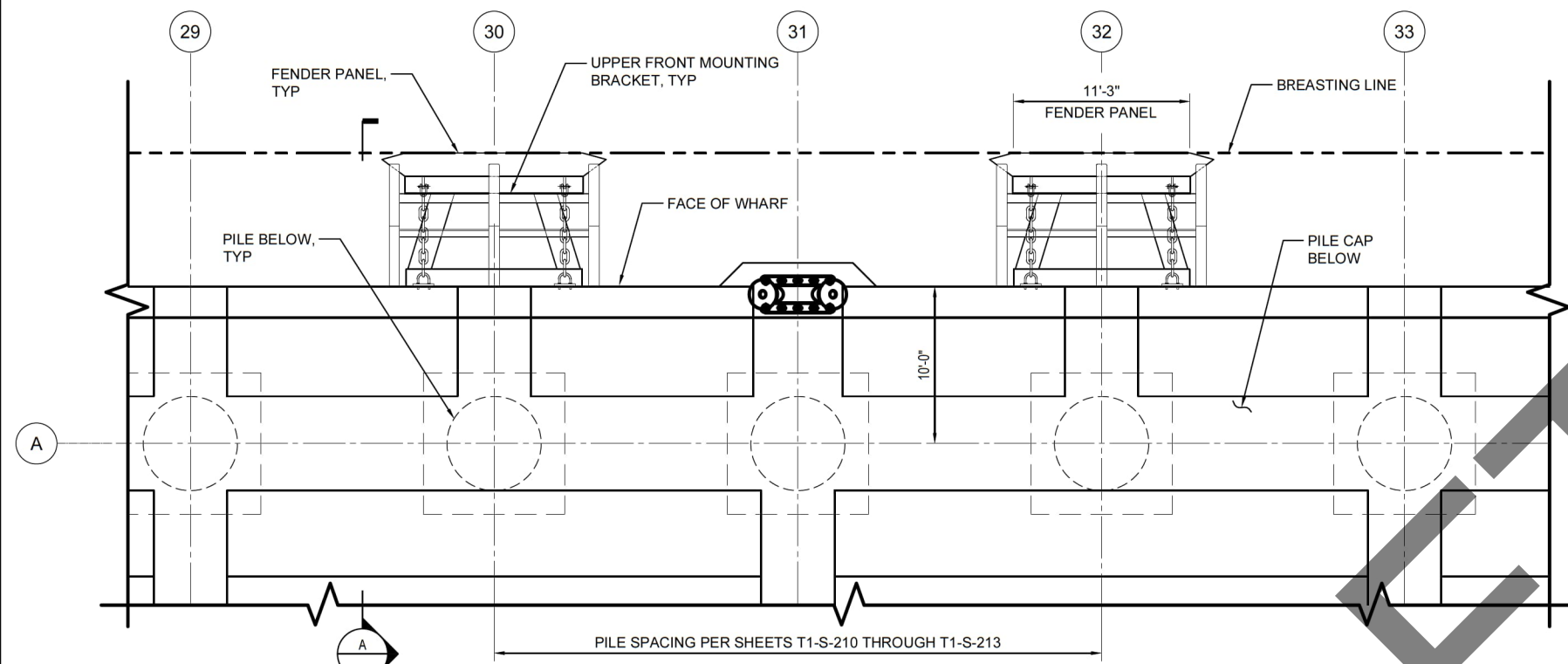
EXPANSION JOINT DETAILS

PORT OF ALASKA	
PORT OF ALASKA MODERNIZATION PROGRAM	
CARGO TERMINAL 1 DESIGN	
ANCHORAGE, ALASKA	
HORIZ SCALE: AS SHOWN	DATE: 11/17/23
VERT SCALE: AS SHOWN	SHEET: OF
T1-S-618	

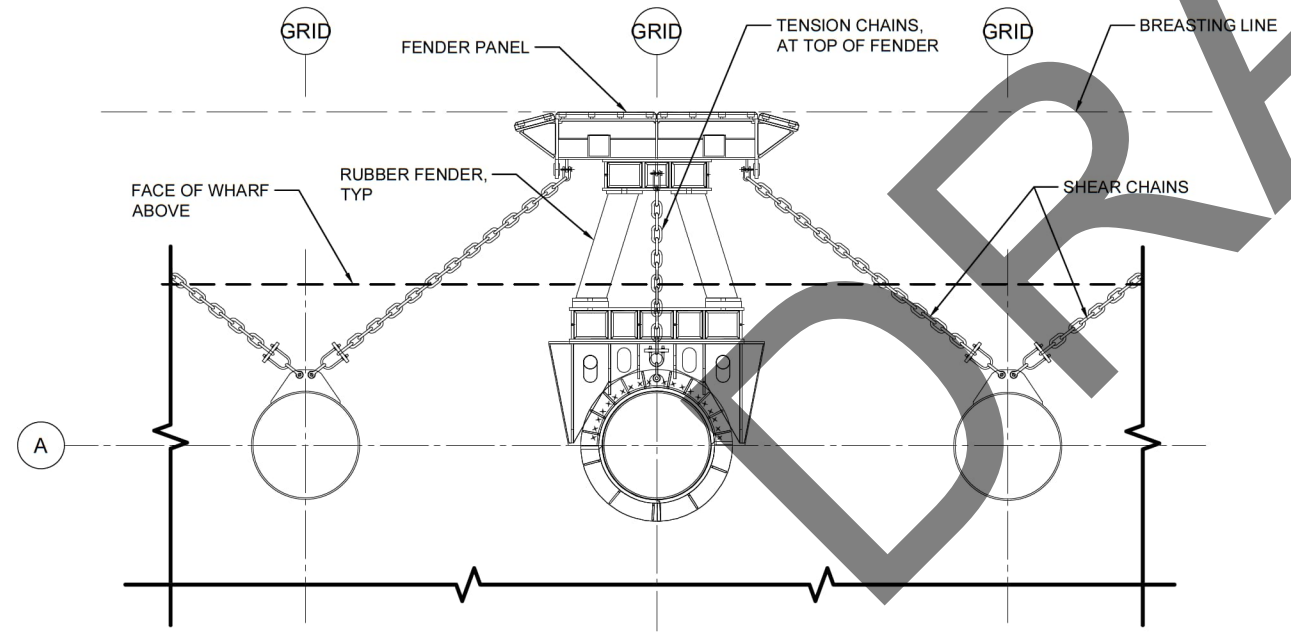
65% SUBMITTAL

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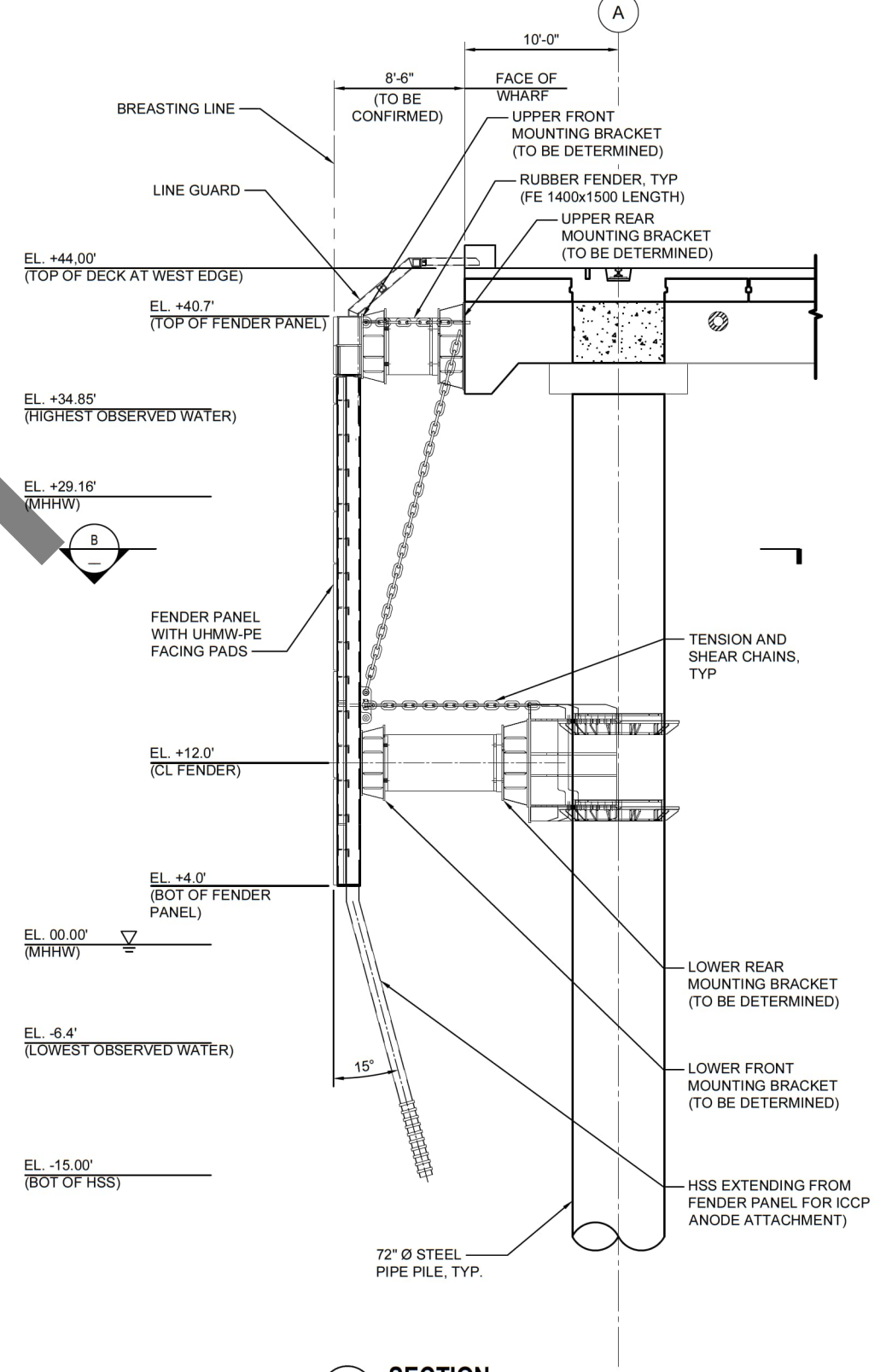
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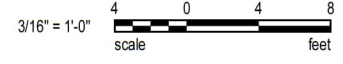
**PARTIAL PLAN**  
SCALE: 3/16"=1'-0"



**B SECTION**  
SCALE: 3/16"=1'-0"



**A SECTION**  
SCALE: 3/16"=1'-0"



65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

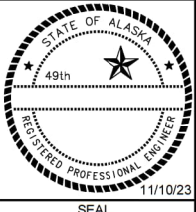
**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503

AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN DR M. CAMBA CHK APVD

CONSULTANT



STRUCTURAL  
FENDER SYSTEM  
PLAN AND SECTIONS

PORT OF ALASKA  
PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN DATE: SEPT. 1, 2023  
VERT SCALE: NA SHEET: OF

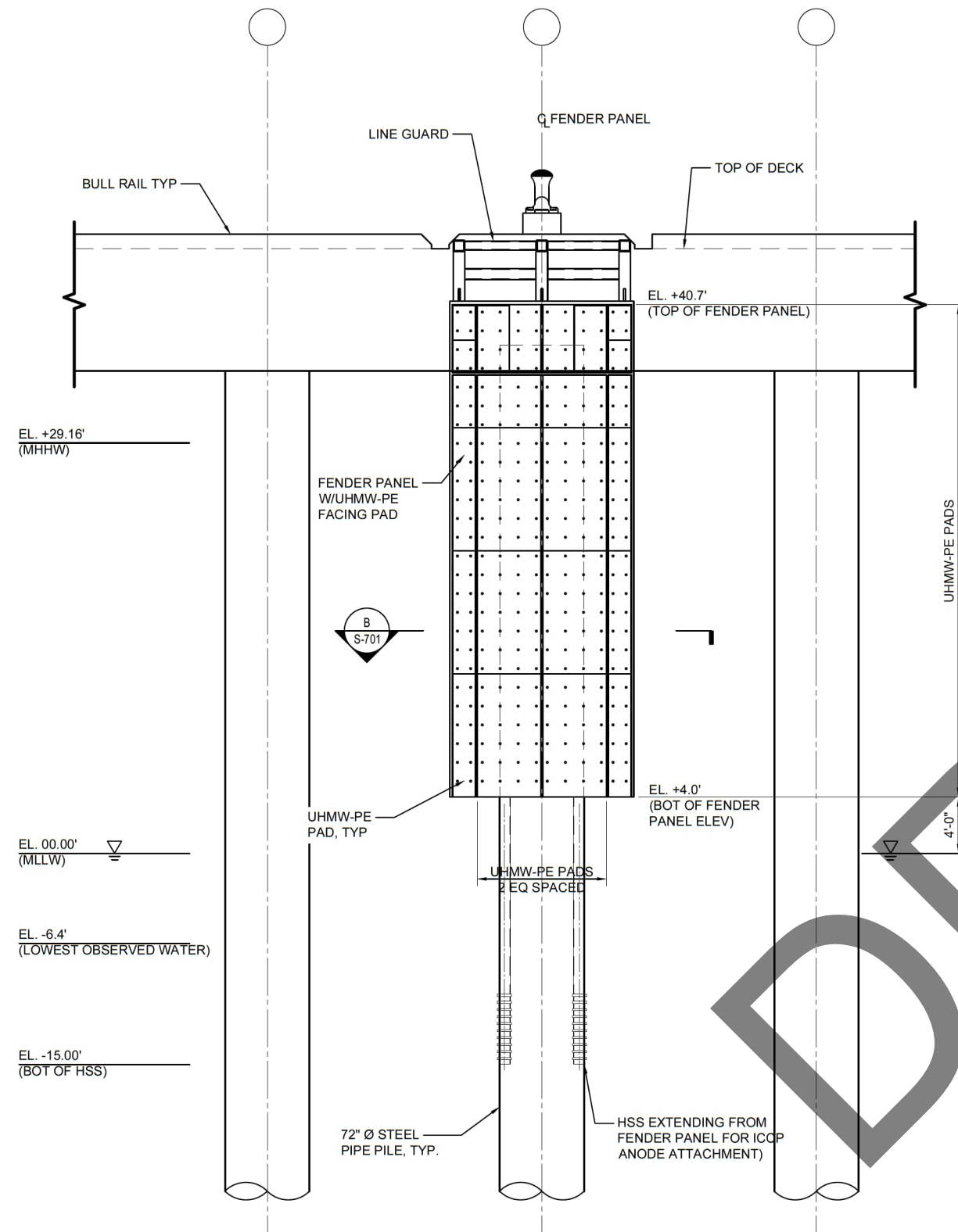
T1-S-701

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

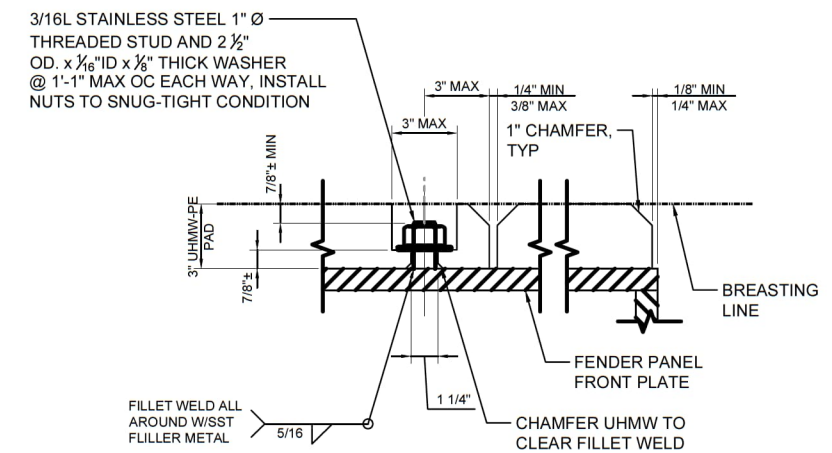
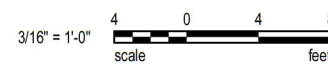


**NOTES**

1. UHMW-PE FACING PADS SHALL BE YELLOW IN COLOR AND VIRGIN GRADE.
2. FOR ICCP SYSTEM DETAILS, SEE CP DRAWING.



**LOADING PLATFORM - TYPICAL ELEVATION**  
SCALE: 3/16"=1'-0"



**1 UHMW-PE FACING PAD CONNECTION DETAIL**  
SCALE: 3/16"=1'-0"

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REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

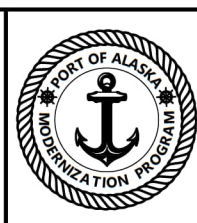
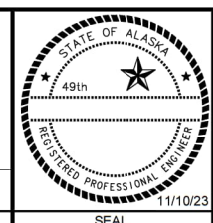
**GHD**

**wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN	DR	CHK	APVD
	M. CAMBA		

CONSULTANT



STRUCTURAL

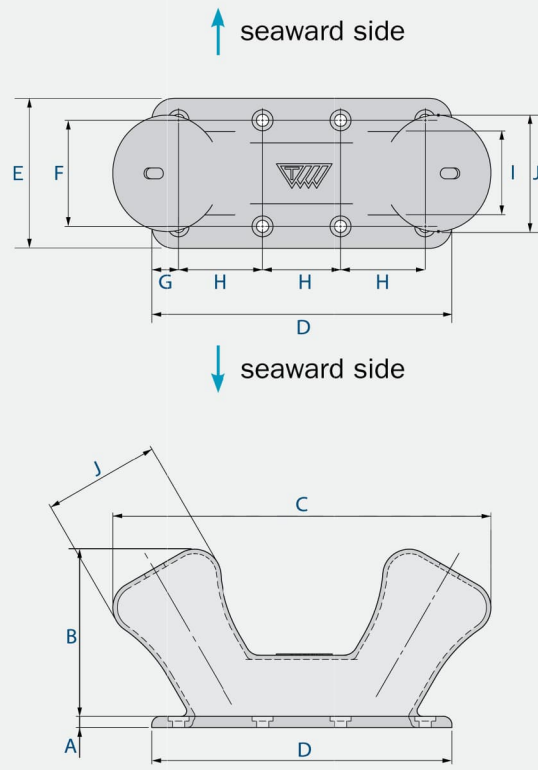
FENDER PANEL ELEVATION, SECTIONS AND DETAILS

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE: SEPT 1, 2023	T1-S-702
VERT SCALE: NA	SHEET: OF	

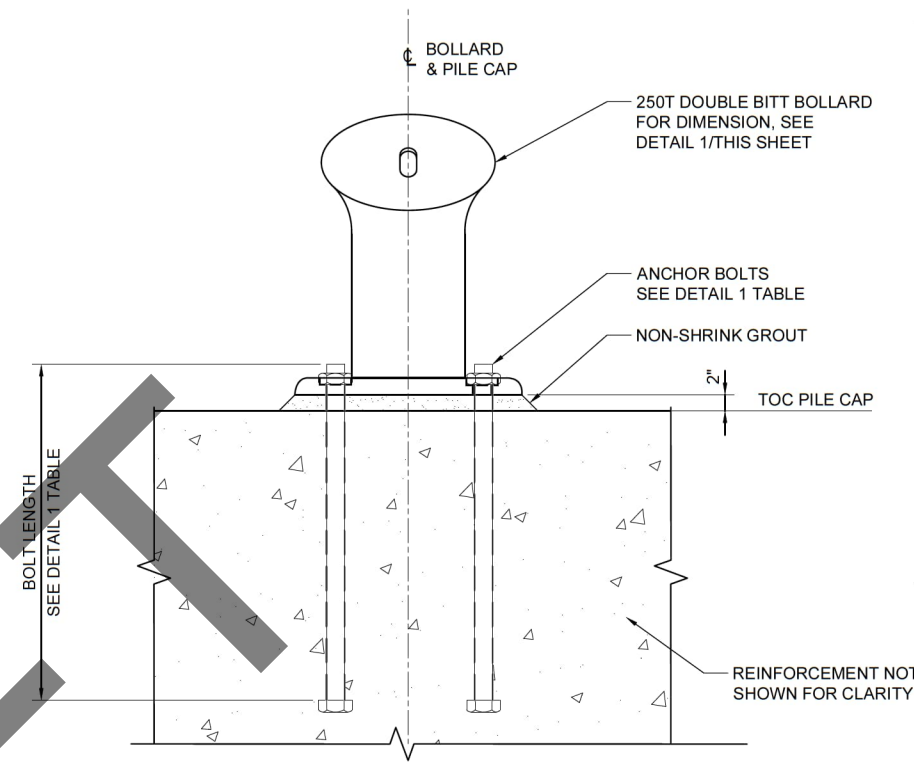
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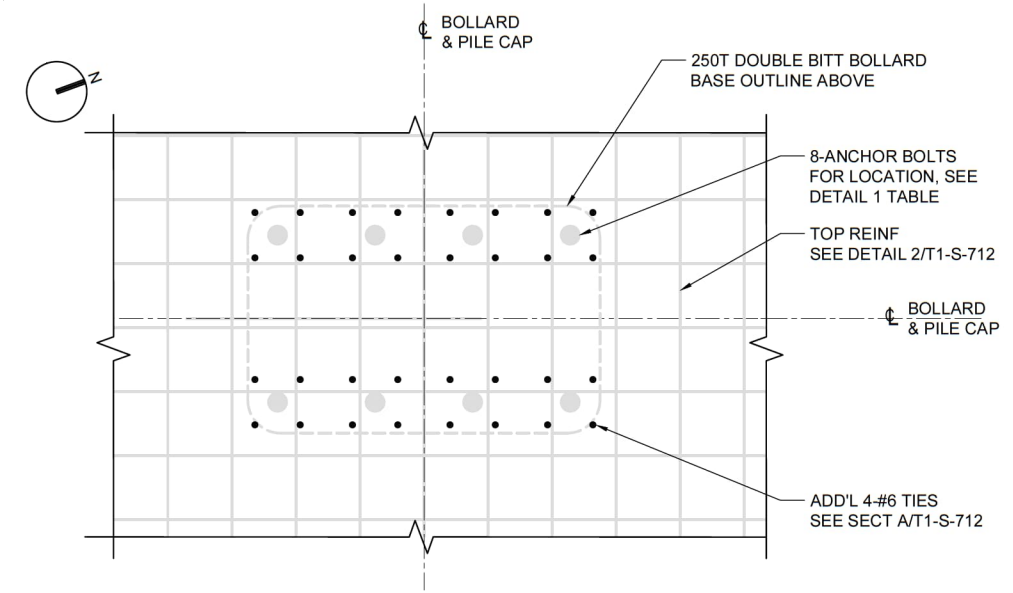
DIMENSION	BOLLARD CAPACITY (Tonnes)							
	20	30	50	75	100	125	150	200
A	5/8"	13/16"	1"	1-3/16"	1-9/16"	1-3/4"	1-7/8"	2-3/16"
B	11-7/16"	13-3/4"	16-9/16"	20-1/16"	23-5/8"	27-9/16"	29-1/2"	33-1/16"
C	25-9/16"	30-1/2"	36-1/4"	44-1/2"	51-3/8"	59-7/16"	64-15/16"	72-1/16"
D	21-1/4"	24 "	28-3/8"	34-1/4"	40-3/16"	46-1/16"	50"	56-5/16"
E	11 "	12-3/16"	14-3/16"	17-5/16"	20-1/2"	23-1/4"	25-3/16"	28-3/8"
F	7-1/2"	8-11/16"	10-5/8"	13 "	15-3/8"	17-5/16"	19-5/16"	20-7/8"
G	1-3/4"	1-3/4"	1-3/4"	2-3/16"	2-9/16"	2-15/16"	2-15/16"	3-3/4"
H	5-7/8"	7-1/16"	8-1/4"	7-1/2"	8-3/4"	10-1/16"	11 "	12-3/16"
I	5-1/8"	6-5/16"	8-1/4"	9-1/16"	10-5/8"	12-3/16"	13-3/8"	14-3/16"
J	7-7/8"	9-1/16"	11 "	13 "	14-9/16"	16-15/16"	18-7/8"	20-1/8"
Bolt	3/4"	1"	1-1/8"	1-3/8"	1-5/8"	1-5/8"	1-7/8"	2-1/4"
Bolt Length	12"	12"	18"	20"	24"	30"	35"	43"
P	1-1/4"	1-9/16"	1-13/16"	1-3/4"	2-3/16"	2-3/8"	2-1/2"	2-3/4"
Quantity	8	8	8	10	10	10	10	10

P = bollard base recess mounting depth = hold-down bolt protrusion height [units: inches]

**1 BOLLARD DIMENSIONS**  
SCALE: NTS

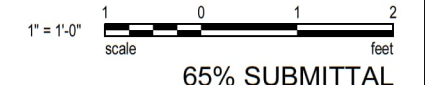


**2 BOLLARD CONNECTION TO MOORING DOLPHIN PILE CAP**  
SCALE: NTS



**3 BOLLARD ANCHOR BOLTS ADDITIONAL REINF PLAN**  
SCALE: 1" = 1'-0"

- NOTES**
1. MOORING BOLLARD SHALL BE 250 METRIC TONNE DOUBLE BITT BOLLARD BY TRELLEBORG, OR APPROVED EQUAL, INSTALL PER PROJECT SPECIFICATIONS AND MANUFACTURER'S DIRECTIONS.
  2. COORDINATE PLACEMENT OF ANCHOR RODS WITH TYPICAL REINFORCING OF MOORING DOLPHIN PILE CAP, AND WITH ADDITIONAL ANCHORAGE REINFORCING BARS. REBAR LOCATIONS MAY BE ADJUSTED TO PREVENT CONFLICTS.
  3. PROVIDE MINIMUM 1" SEPARATION BETWEEN ANCHOR RODS AND REINFORCING BARS TO PREVENT CONTACT OF DISSIMILAR METALS.
  4. COORDINATE BASE GEOMETRY WITH THE GEOMETRY AND DETAILS OF THE APPROVED BOLLARD PROVIDED.
  5. MOORING ANCHORAGE LOAD IS 250T = 552KIP
  6. MOORING ANGLES (IN DEGREES):  
HORIZONTAL = 0 TO 180  
VERTICAL = +45 TO -25



65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
DR I. GOEL

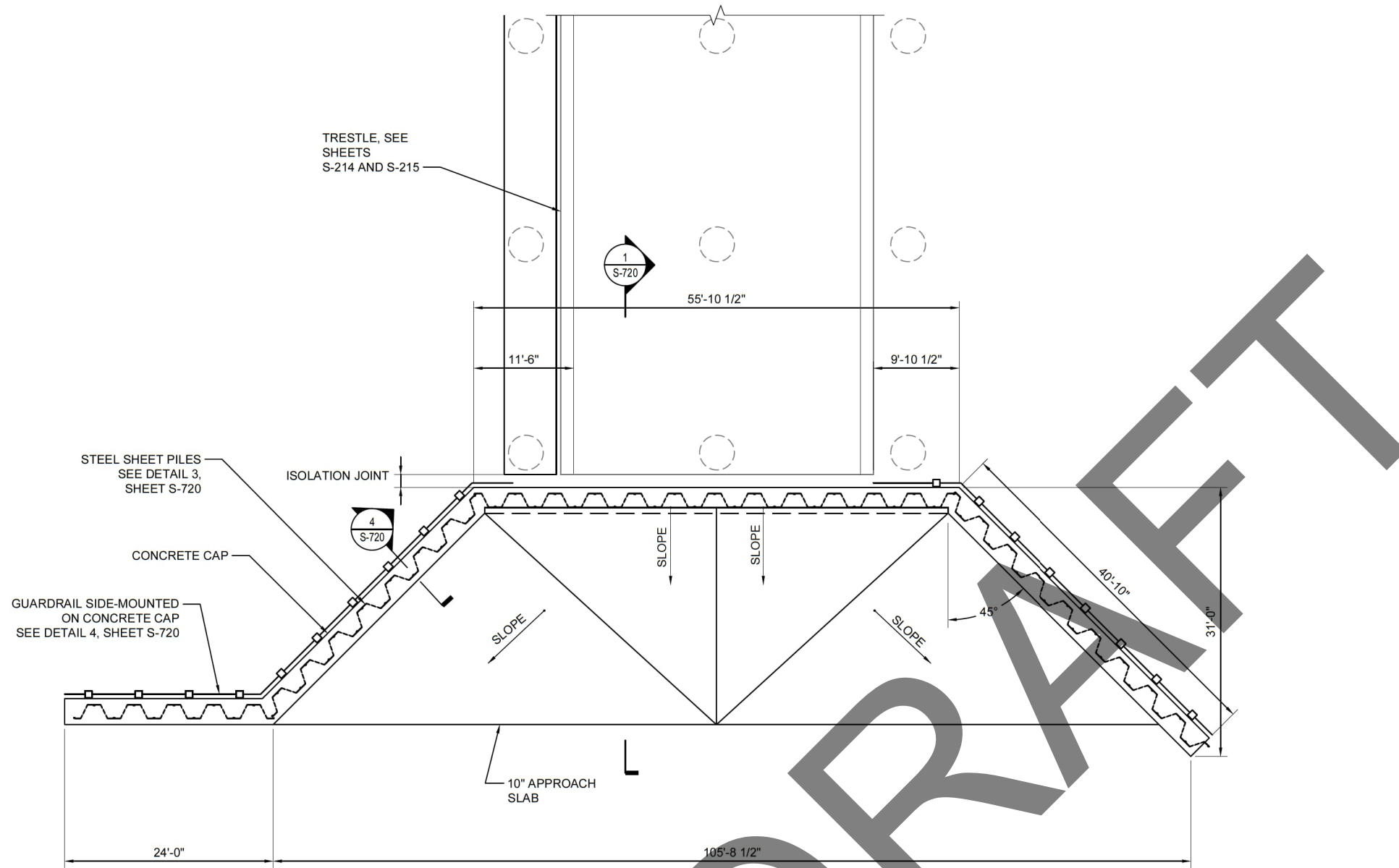
2164152(GHD) - 113511(WSP)  
CHK M. CAMBA  
APVD

SEAL

**STRUCTURAL**  
APPURTENANCES  
250T DOUBLE BITT BOLLARD -  
MOORING HARDWARE DETAILS

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: AS NOTED	DATE:	<b>T1-S-717</b>
VERT SCALE:	SHEET: OF	

Last Saved by: Bathom on: Nov 15, 2023 12:23 AM File: C:\Users\mcamba\ACCDocs\GHD\Projects\POA-Terminal Replacement\Project Files\01 WIP\Drawings\T1-S-718.dwg





**1 NORTH TRESTLE ABUTMENT PLAN**  
 SCALE: 1/8" = 1'-0"  
 1/8" = 1'-0" scale

DRAFT

65% SUBMITTAL

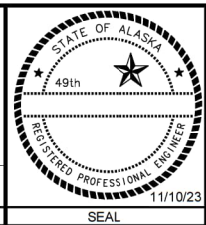
REV	DATE	DESCRIPTION	BY	APVD

GHD-WSP JV  
 1400 W. BENSON BLVD, SUITE 400  
 ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN	DR	CHK	APVD
	M. CAMBA		

CONSULTANT



STRUCTURAL

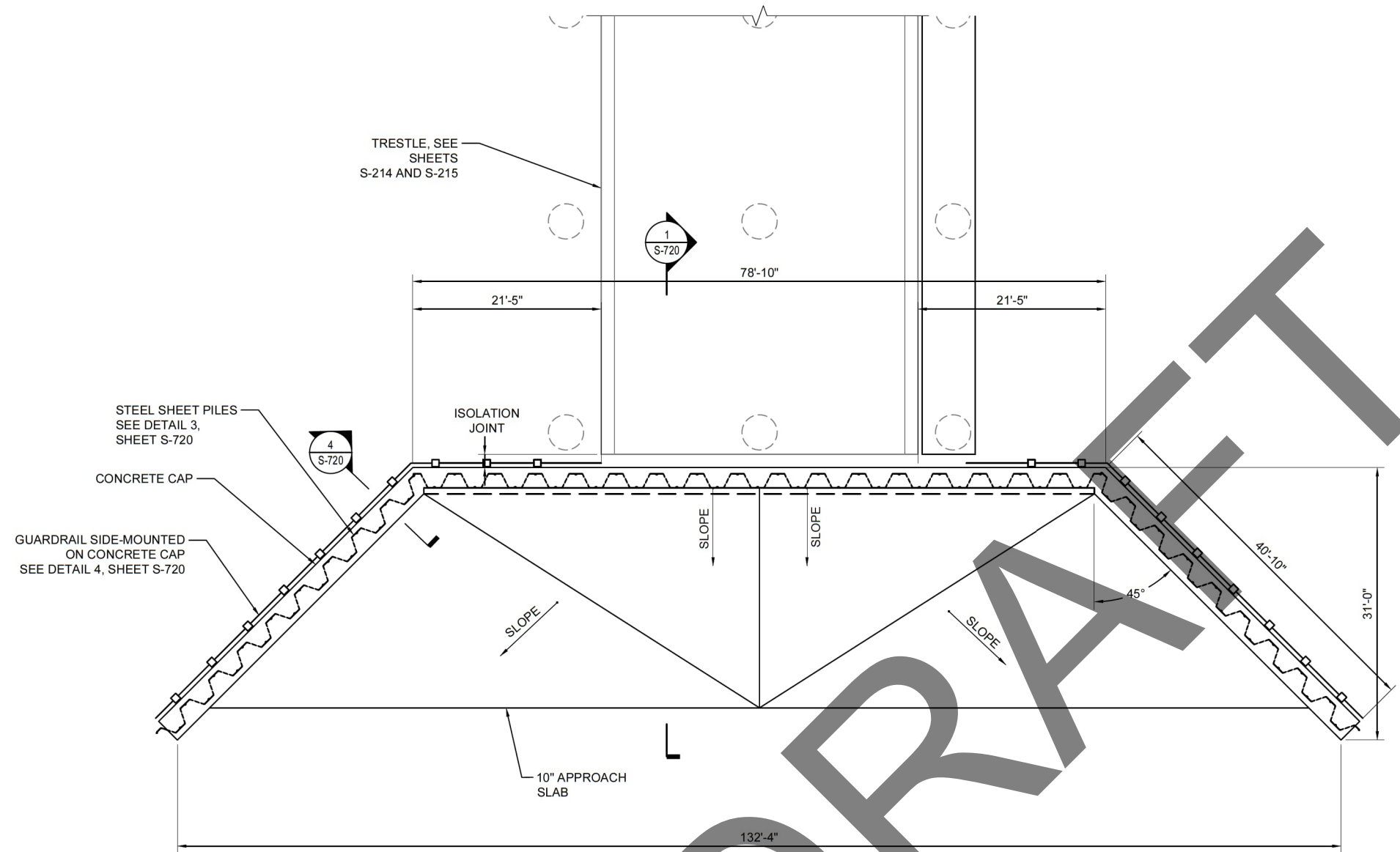
NORTH TRESTLE ABUTMENT PLAN

PORT OF ALASKA	
PORT OF ALASKA MODERNIZATION PROGRAM	
CARGO TERMINAL 1 DESIGN	
ANCHORAGE, ALASKA	
HORIZ SCALE: AS NOTED	DATE: SEPT 1, 2023
VERT SCALE:	SHEET: OF
T1-S-718	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



Last Saved by: Bathom on: Nov 15, 2023 12:22 AM File: C:\Users\mcamba\ACCDocs\GHD\Projects\Port of Alaska\Terminal Replacement\Project Files\01 WIP\Drawings\T1-S-719.dwg



**1 SOUTH TRESTLE ABUTMENT PLAN**  
 SCALE: 1/8" = 1'-0"  
 1/8" = 1'-0" scale feet

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

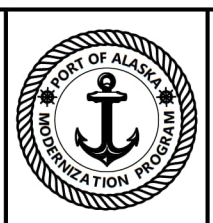
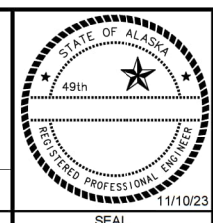
**GHD** **wsp**

GHD-WSP JV  
 1400 W. BENSON BLVD, SUITE 400  
 ANCHORAGE, ALASKA 99503

AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113311(WSP)

DSGN DR M. CAMBA CHK APVD

CONSULTANT



STRUCTURAL

SOUTH TRESTLE ABUTMENT PLAN

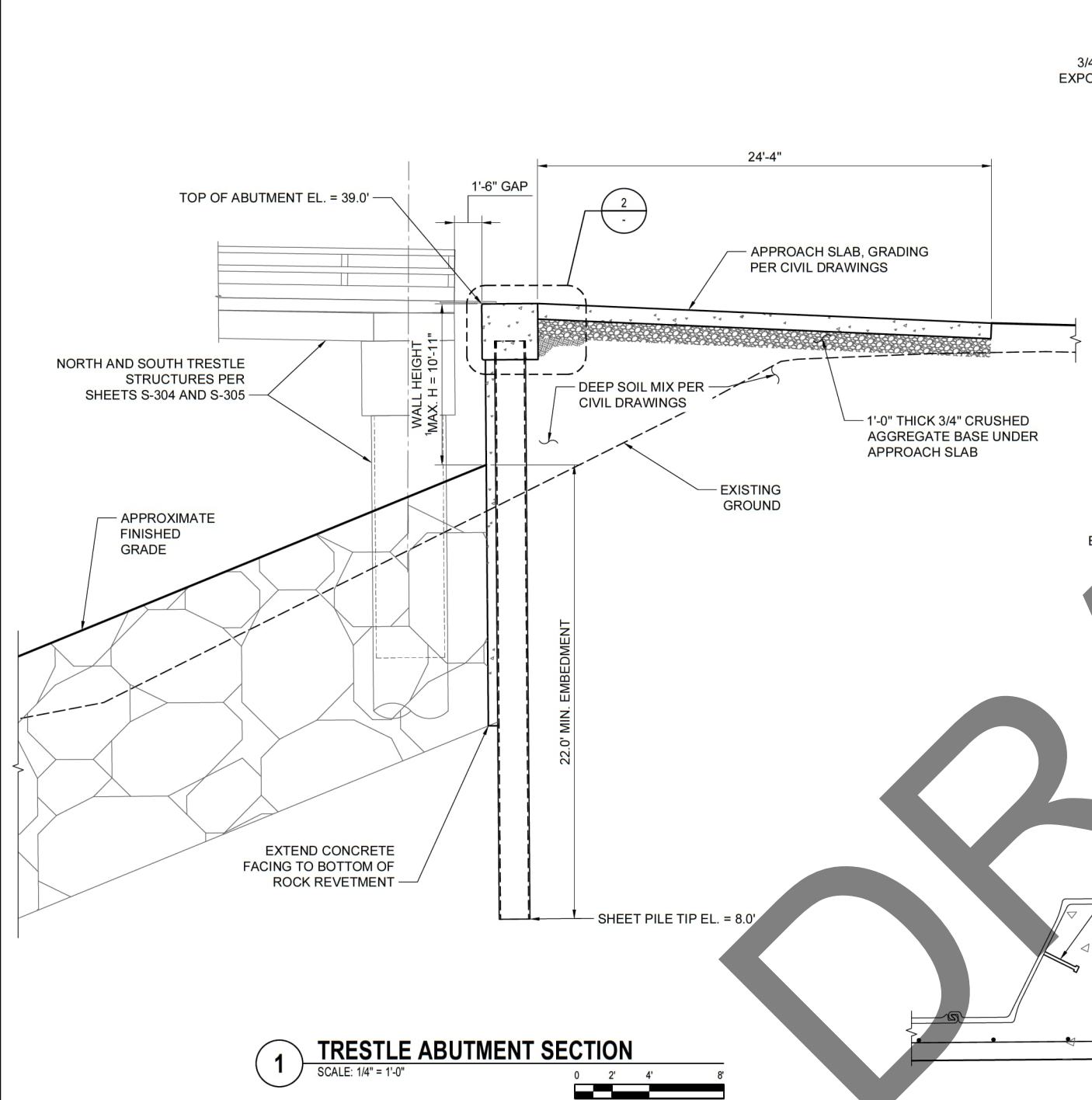
PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS NOTED	DATE: SEPT 1, 2023	T1-S-719
VERT SCALE:	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

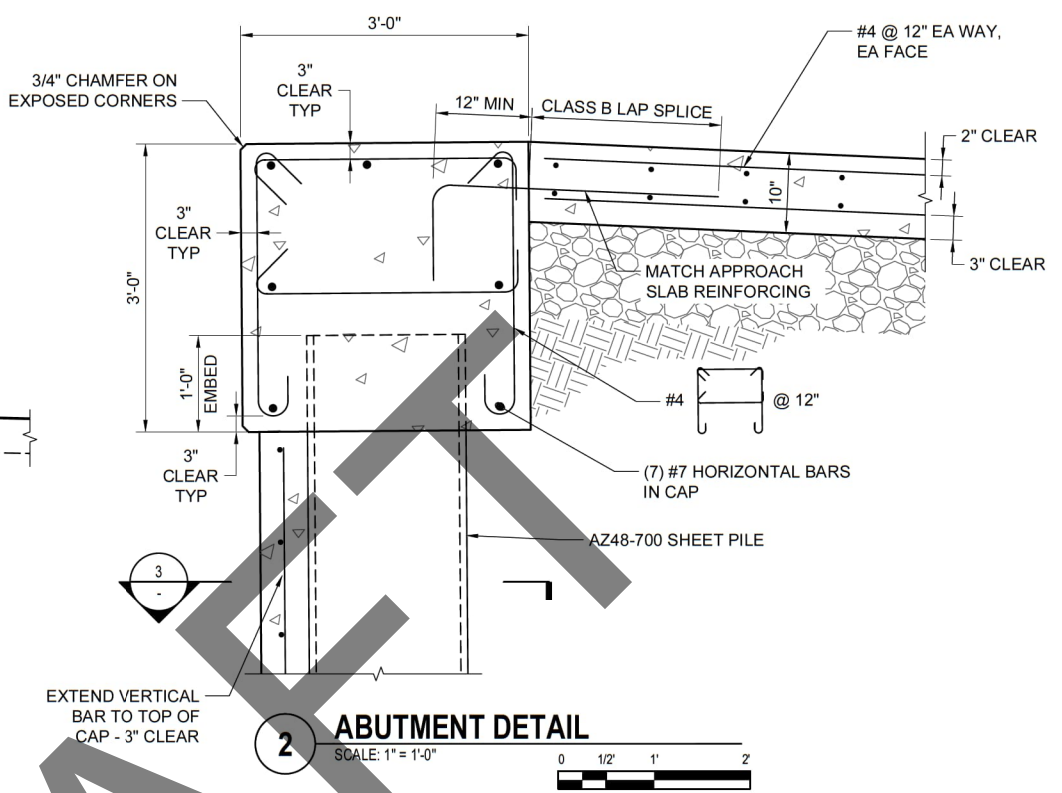
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**NOTES**

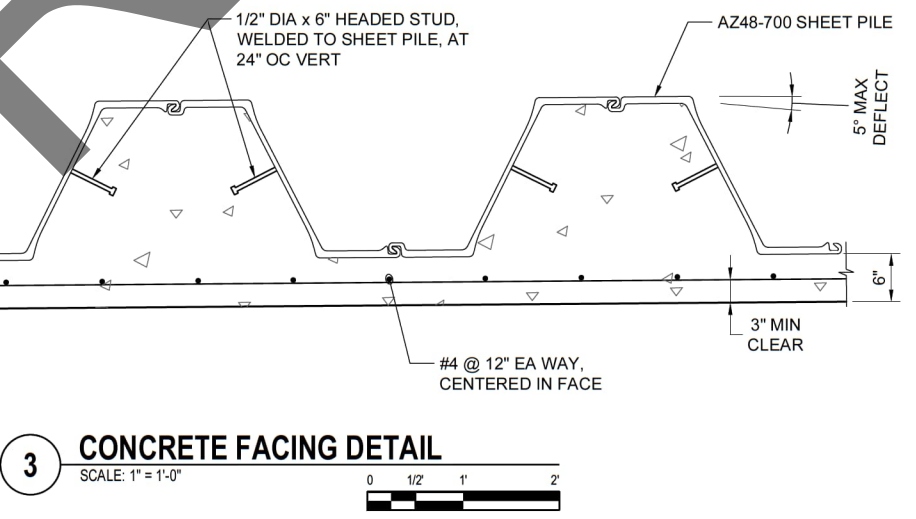
- THE USE OF EPOXY ANCHORS IS PERMITTED WITH 3/4" DIA. HDG F1554 ANCHORS WITH SET-3G EPOXY AND MIN. 8" EMBEDMENT.



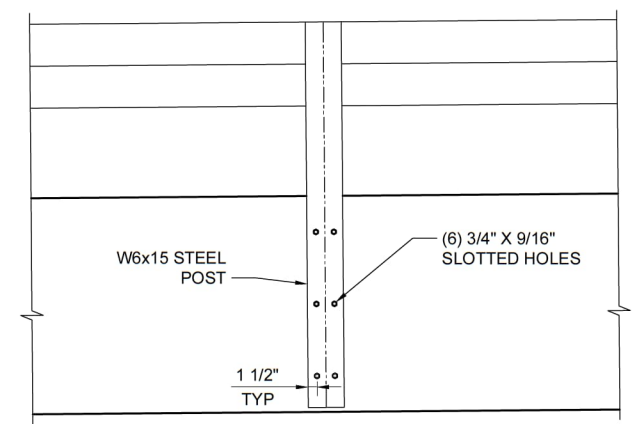
**1 TRESTLE ABUTMENT SECTION**  
SCALE: 1/4" = 1'-0"



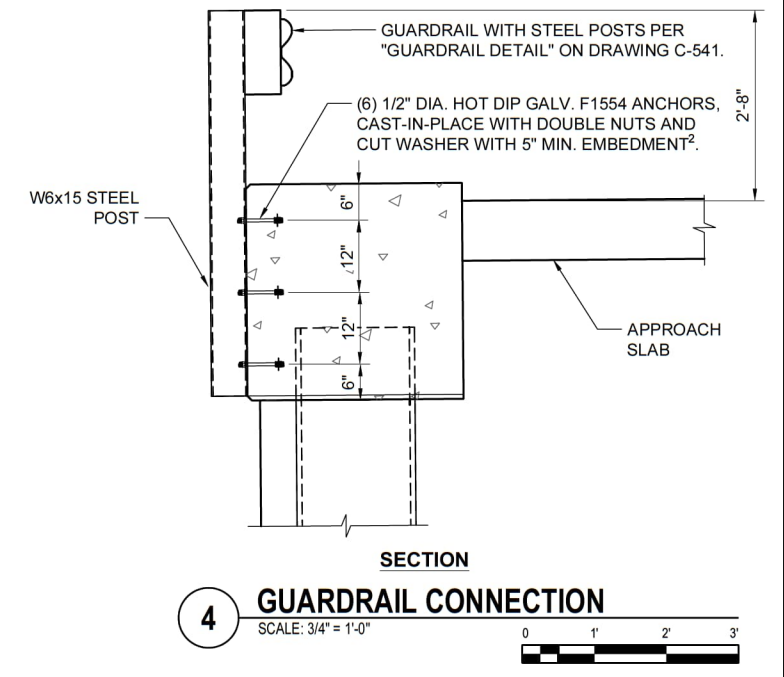
**2 ABUTMENT DETAIL**  
SCALE: 1" = 1'-0"



**3 CONCRETE FACING DETAIL**  
SCALE: 1" = 1'-0"



**ELEVATION**



**4 GUARDRAIL CONNECTION**  
SCALE: 3/4" = 1'-0"

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

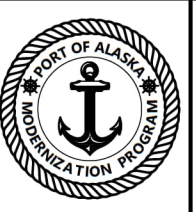
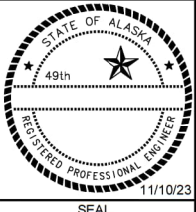
**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503

AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN DR M. CAMBA CHK APVD

CONSULTANT



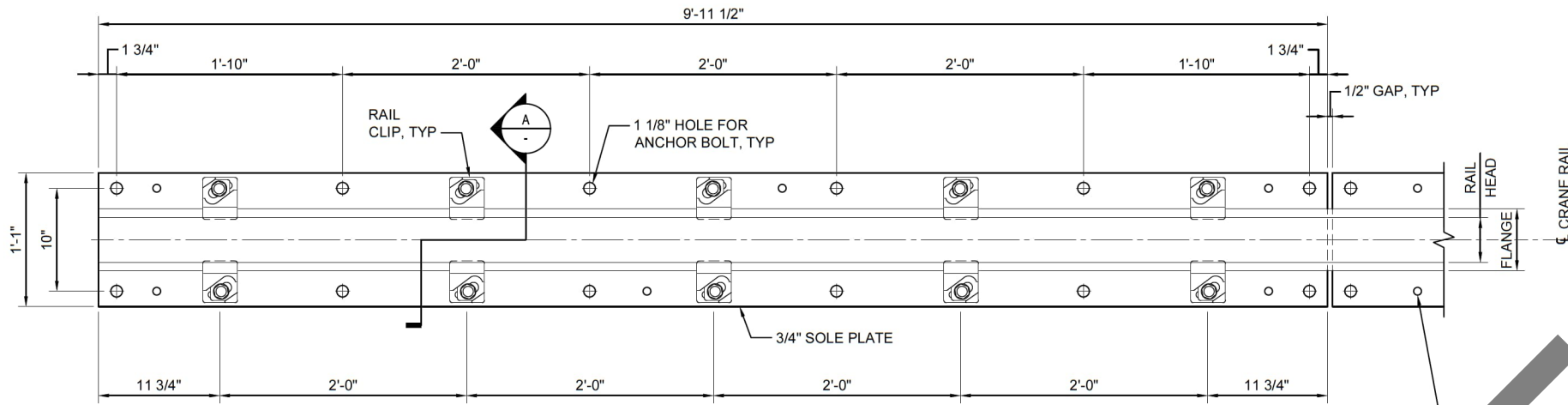
STRUCTURAL  
SECTIONS AND DETAILS

PORT OF ALASKA  
PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

HORIZ SCALE: AS NOTED DATE: SEPT 1, 2023  
VERT SCALE: SHEET: OF

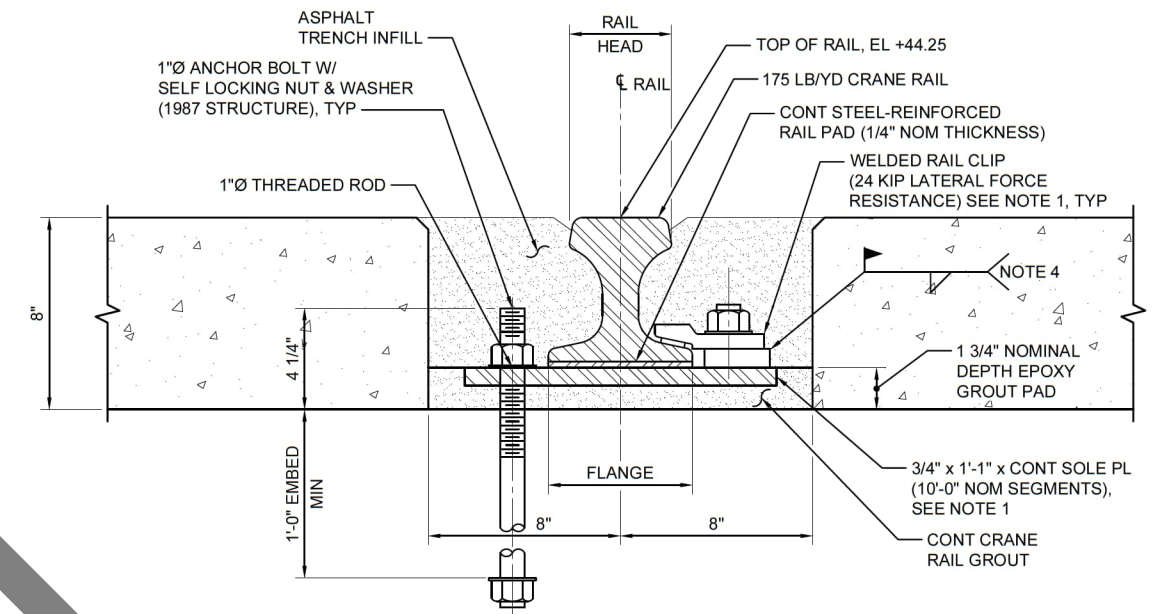
T1-S-720

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



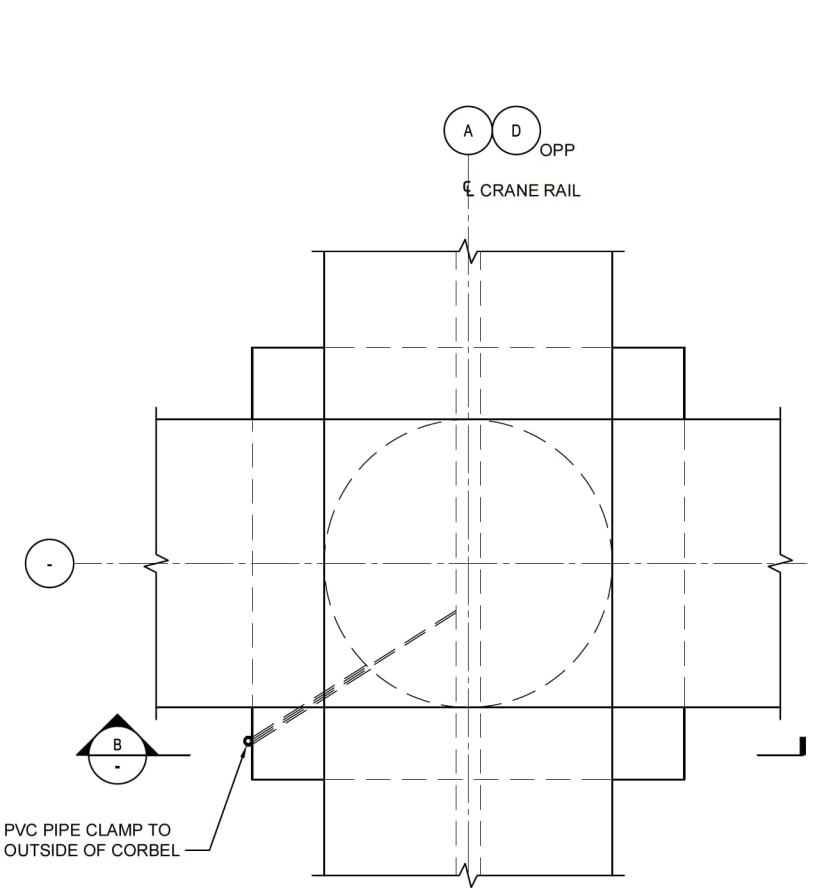
**1 PLAN - SOFT MOUNT SYSTEM**  
SCALE: 1 1/2" = 1'-0"

DRILL AND TAP 3/4"-10 UNC HOLES (10 THREADS PER INCH) FOR BOLTS. SET ELEVATION USING GREASED BOLTS. BACK OFF BOLTS ONE FULL TURN AFTER EPOXY GROUT HAS SET.

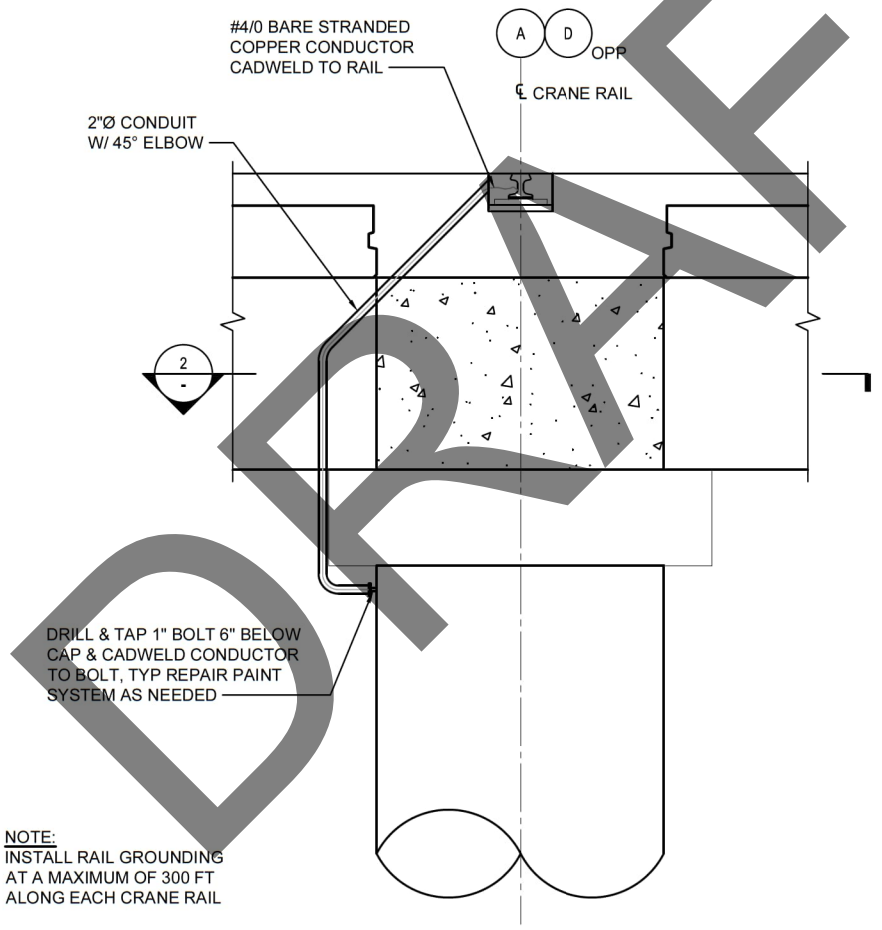


**A SECTION - SOFT MOUNT RAIL**  
SCALE: 3" = 1'-0"

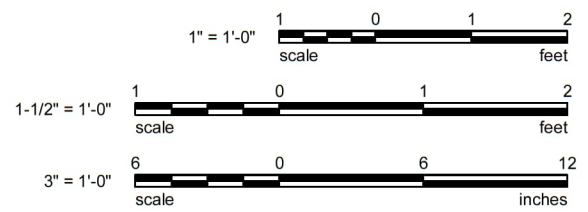
- NOTES:**
- SOLE PLATES AND RAIL CLIP ASSEMBLIES SHALL BE HOT-DIP GALVANIZED.
  - WELD RAIL CLIP PER MANUFACTURER'S REQUIREMENTS.



**2 PLAN - RAIL GROUNDING**  
SCALE: 1" = 1'-0"



**B SECTION - RAIL GROUNDING**  
SCALE: 1" = 1'-0"



65% SUBMITTAL

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REV	DATE	DESCRIPTION	BY	APVD

VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING  
0 1"  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

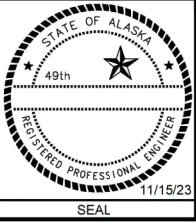
**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503

AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN DR CHK APVD  
JRG JDM JRG JRG

CONSULTANT



STRUCTURAL  
WHARF - STS CRANE RAIL AND CABLE SLOT  
DETAILS

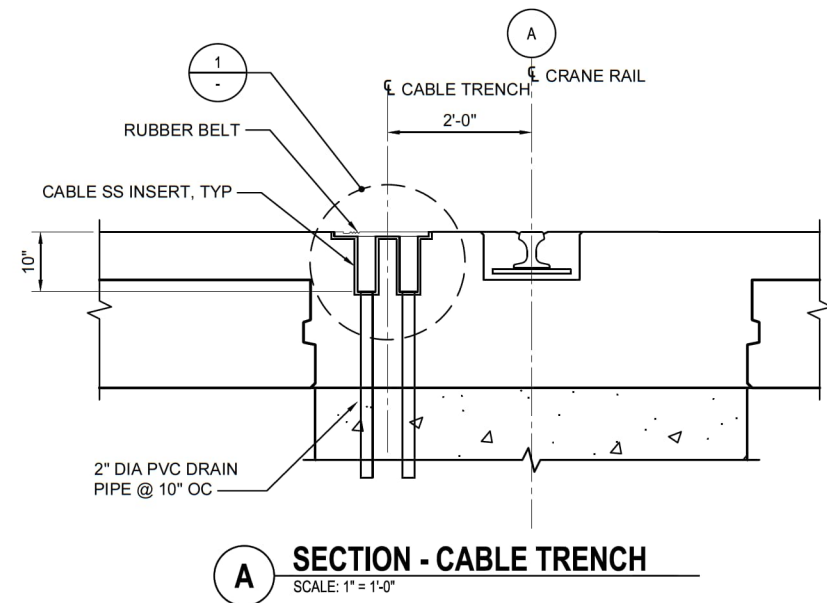
PORT OF ALASKA  
PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN DATE: 11/17/23  
VERT SCALE: AS SHOWN SHEET: OF

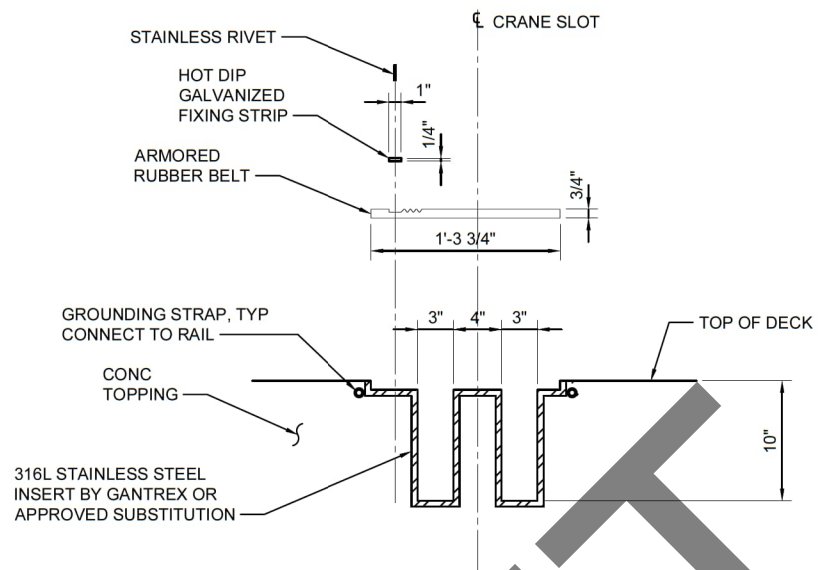
T1-S-801

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*





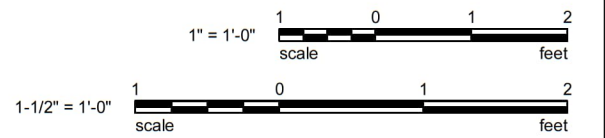
**A SECTION - CABLE TRENCH**  
SCALE: 1" = 1'-0"



**1 DETAIL - CABLE TRENCH SLOT**  
SCALE: 1 1/2" = 1'-0"

NOTE:  
CONTRACTOR TO VERIFY DEPTH OF  
TRENCH WITH CHANNEL SUPPLIER

DRAFT



65% SUBMITTAL

Last Saved by: USD5675545 on: Nov 11, 2023 11:55 PM File: C:\Users\USJMG75471\WSP\_0365\POA Cargo T1 Replacement - Files\CADD\01\_Coordination\Drawings\08\_T1-S-802.dwg

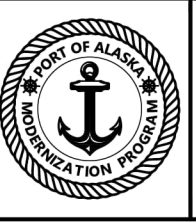
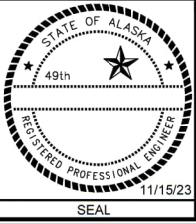
REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)  
AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DR JDM  
CHK JRG  
APVD JRG

CONSULTANT

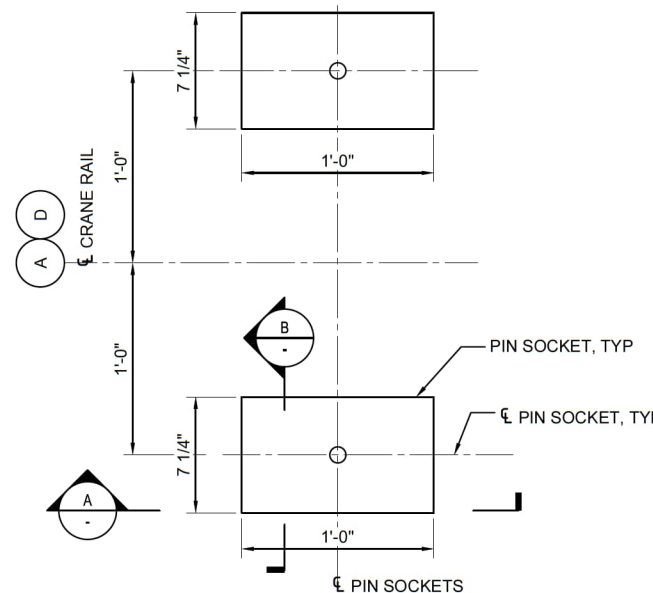


STRUCTURAL  
CRANE CABLE SLOT DETAILS

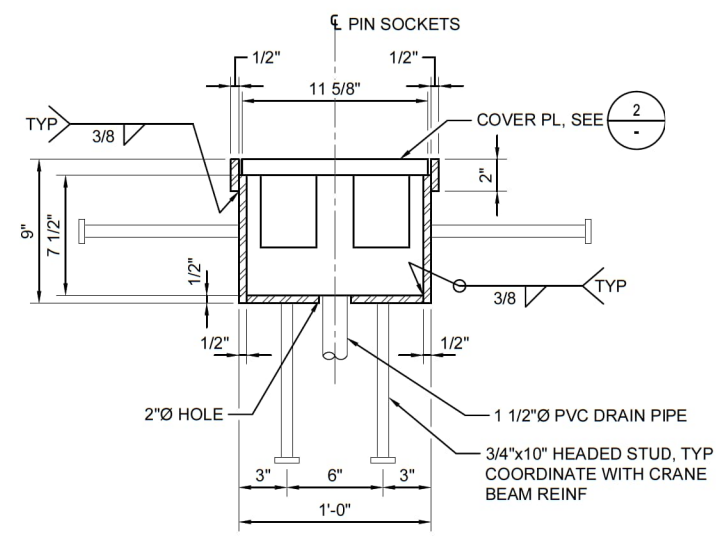
PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 11/17/23	T1-S-802
VERT SCALE: AS SHOWN	SHEET: OF	

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

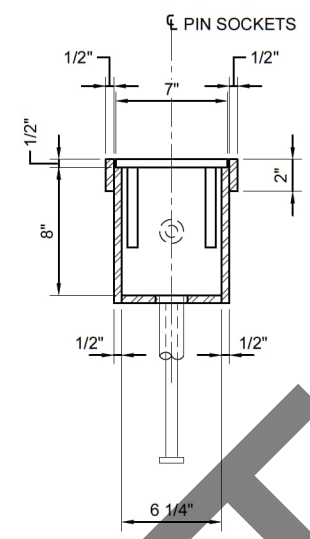
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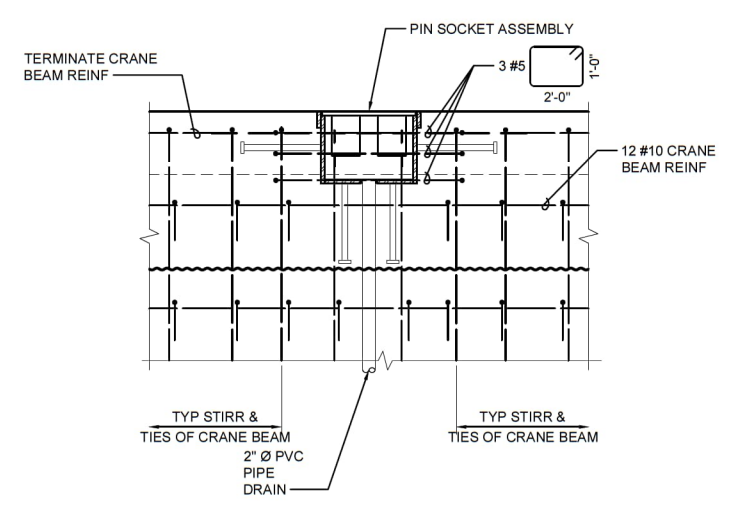
**1 PLAN - PIN SOCKET SETTING OUT DATA**  
SCALE: 2" = 1'-0"



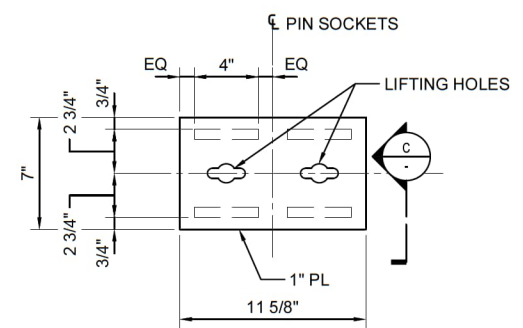
**A SECTION**  
SCALE: 2" = 1'-0"



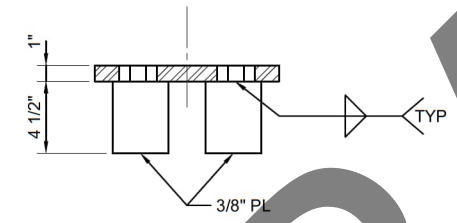
**B SECTION**  
SCALE: 2" = 1'-0"



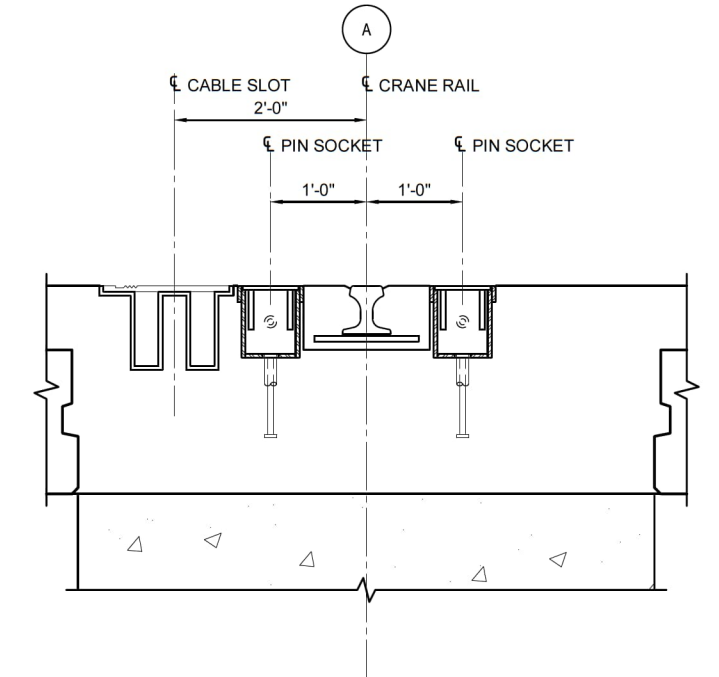
**D DETAIL - REINFORCING**  
SCALE: 1" = 1'-0"



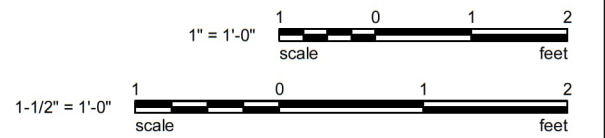
**2 PLAN - PIN SOCKET COVER PLATE**  
SCALE: 2" = 1'-0"



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



**A SECTION - PIN SOCKET**  
SCALE: 1" = 1'-0"



**NOTES:**

- FOR LOCATION OF PIN SOCKET IN PLAN SEE S-204 THRU S-207.
- ALL MATERIAL SHALL BE ASTM A 36M.
- ALL WELDS SHALL BE 3/8" FILLET UNLESS NOTED OTHERWISE.
- ALL MATERIAL SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A 123M OR A 153M AS APPLICABLE.
- ANY DAMAGE TO GALVANIZING SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A 780, ANNEX A1 MATERIALS.
- ADJUST CRANE BEAM REINFORCEMENT TO FIT PVC DRAIN PIPE.

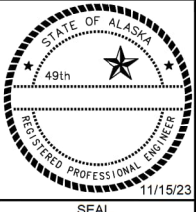
REV	DATE	DESCRIPTION	BY	APVD

**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN: JRG DR: JDM CHK: JRG APVD: JRG

CONSULTANT



STRUCTURAL  
CRANE PIN SOCKET DETAILS

PORT OF ALASKA  
PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

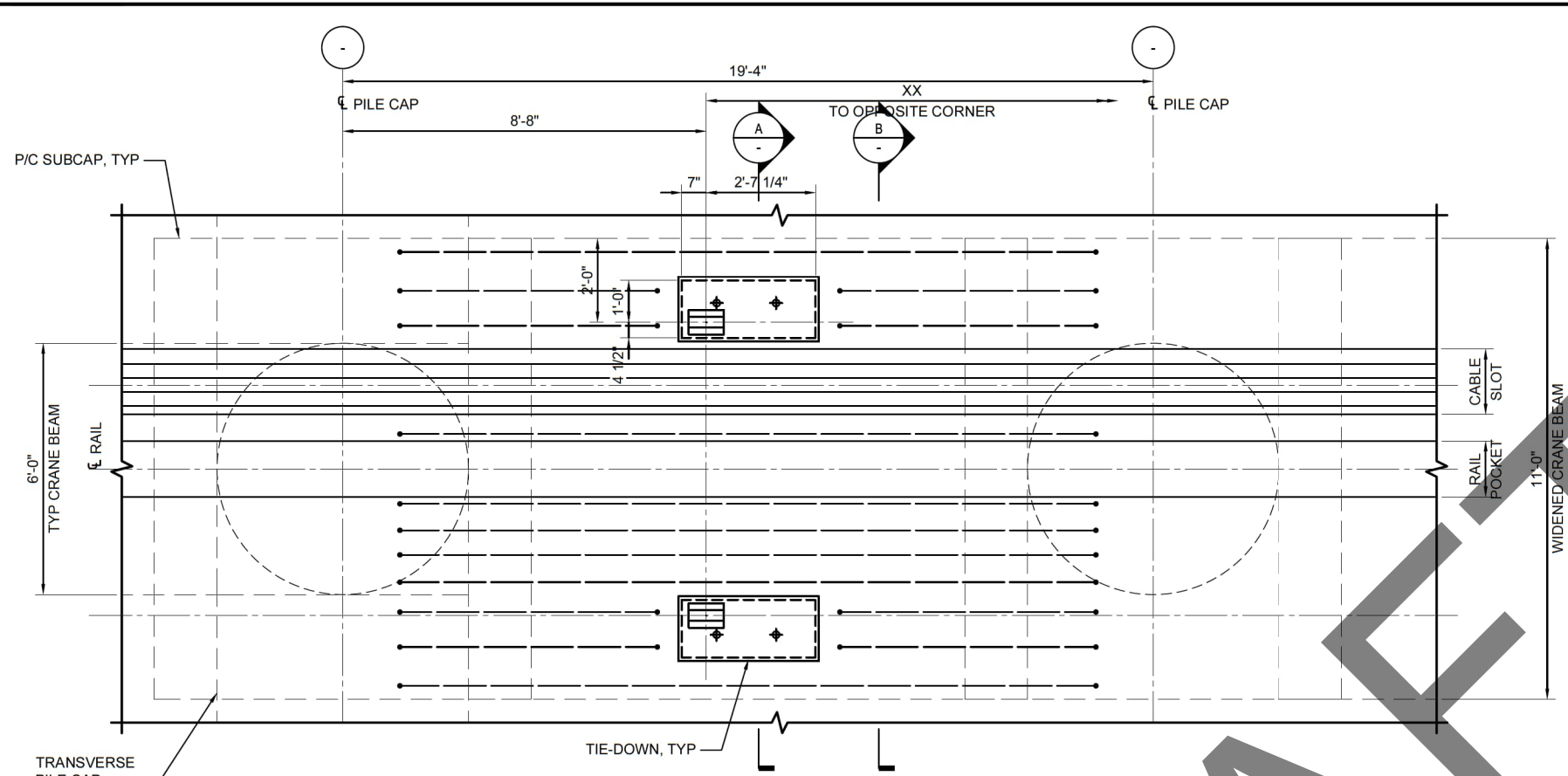
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VERT SCALE: AS SHOWN SHEET: OF

T1-S-803

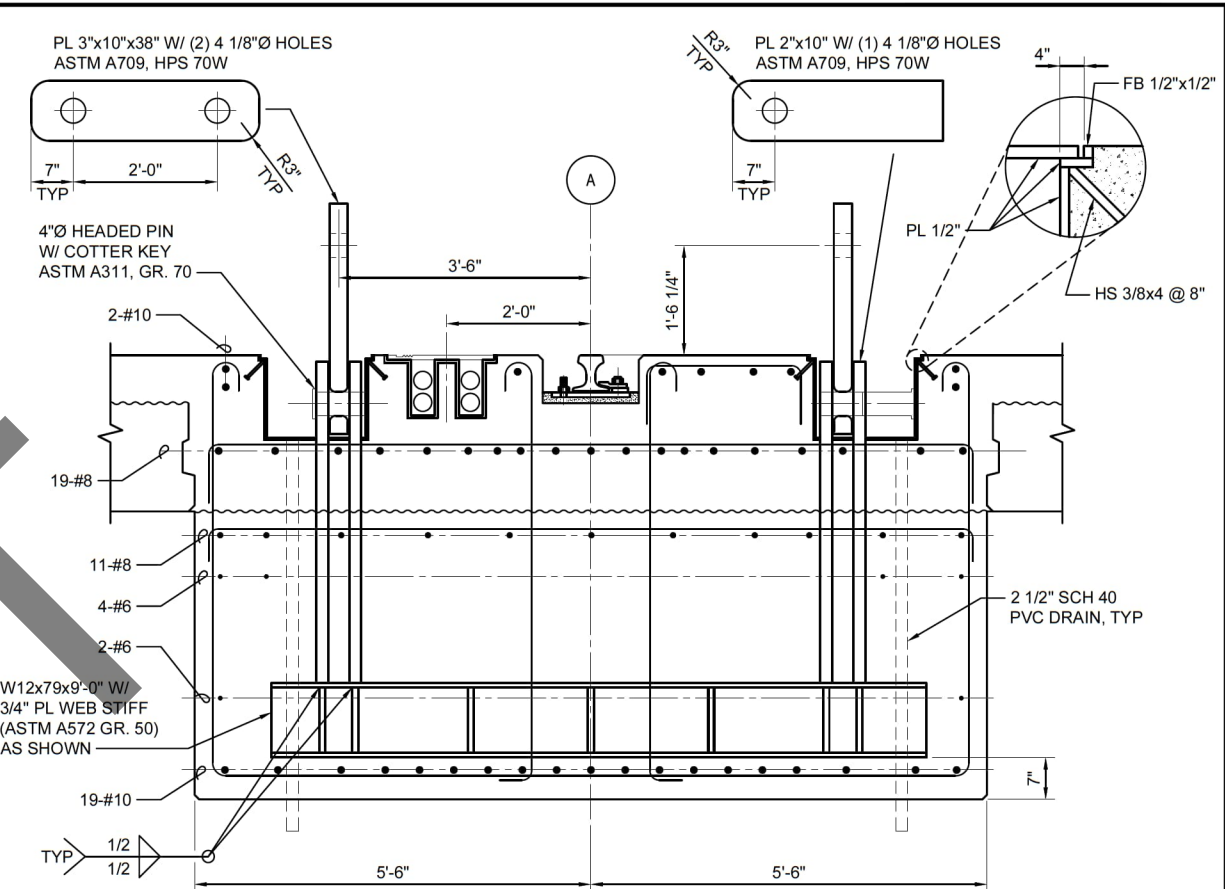
65% SUBMITTAL

\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*

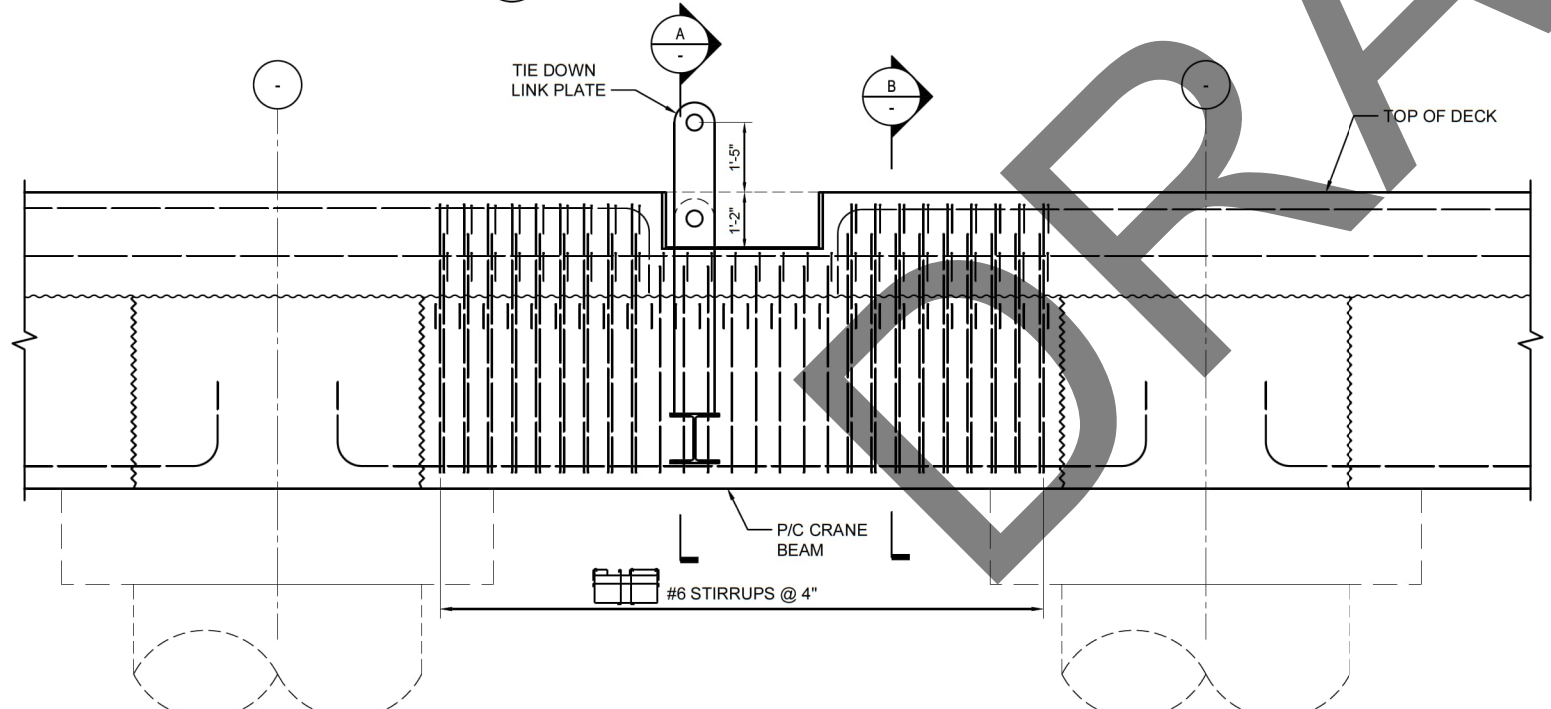
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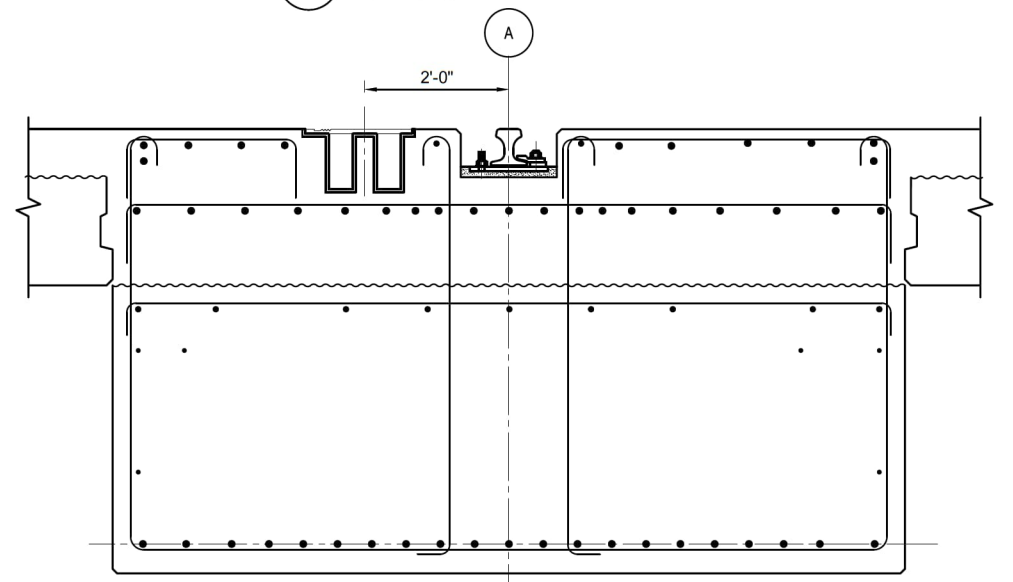
**1 PLAN - CRANE TIE-DOWN**  
SCALE: 1/2" = 1'-0"



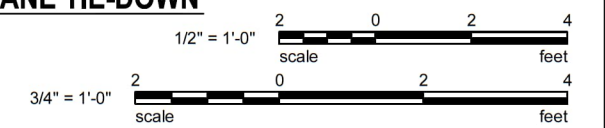
**A SECTION - CRANE TIE-DOWN**  
SCALE: 3/4" = 1'-0"



**2 ELEVATION - CRANE TIE-DOWN**  
SCALE: 1/2" = 1'-0"



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



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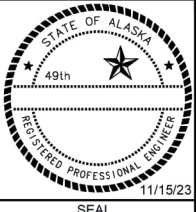
REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN: JRG DR: JDM CHK: JRG APVD: JRG

CONSULTANT



STRUCTURAL  
CRANE TIE DOWN ASSEMBLY DETAILS - SHEET 1

PORT OF ALASKA  
PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

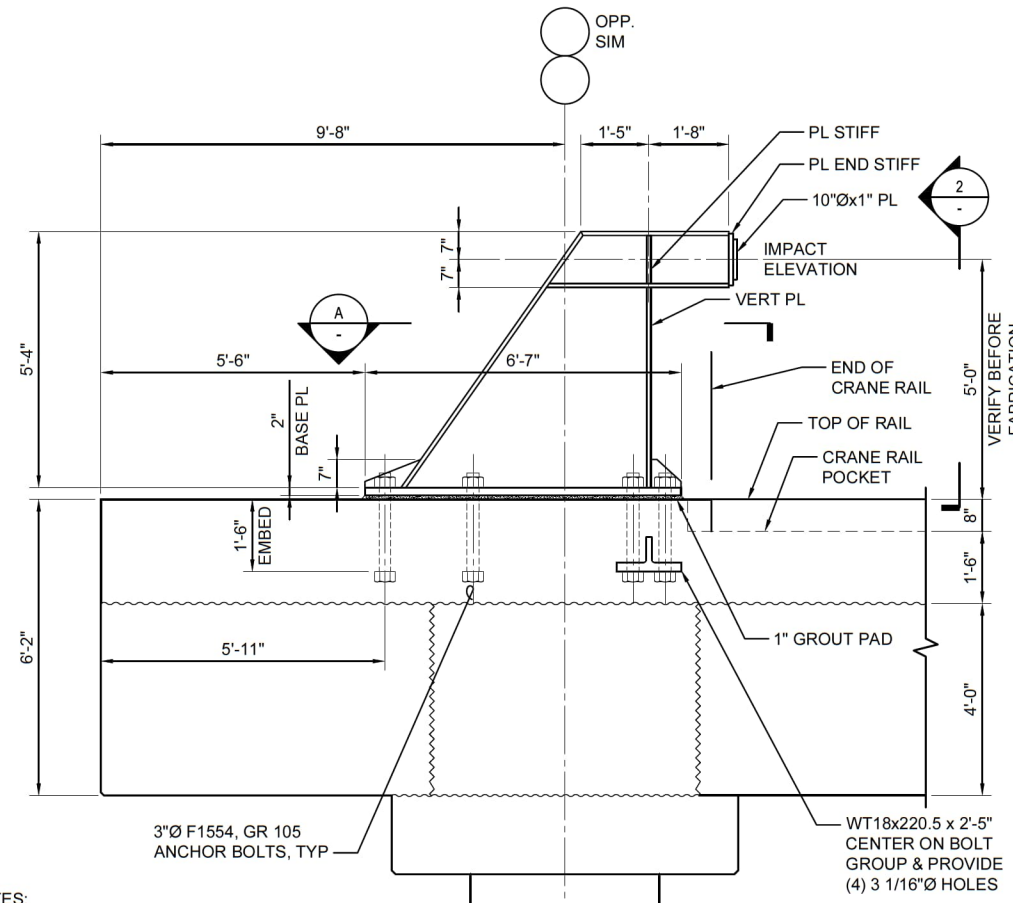
HORIZ SCALE: AS SHOWN DATE: 11/17/23  
VERT SCALE: AS SHOWN SHEET: OF

T1-S-804

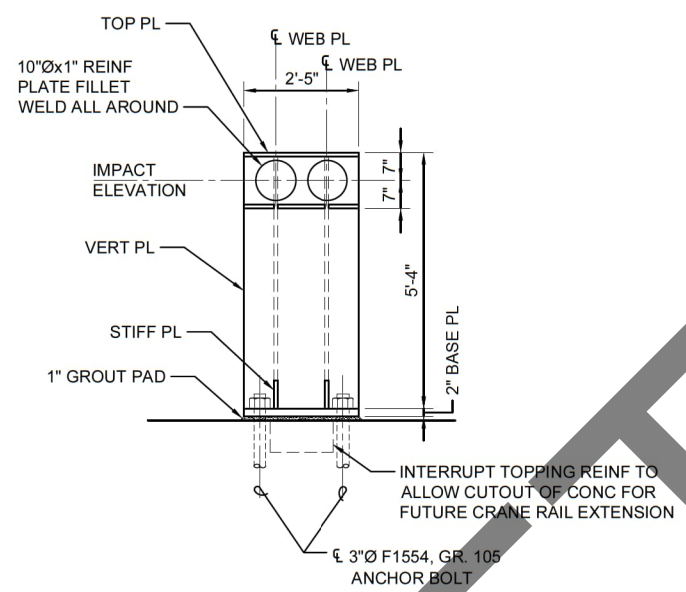
\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



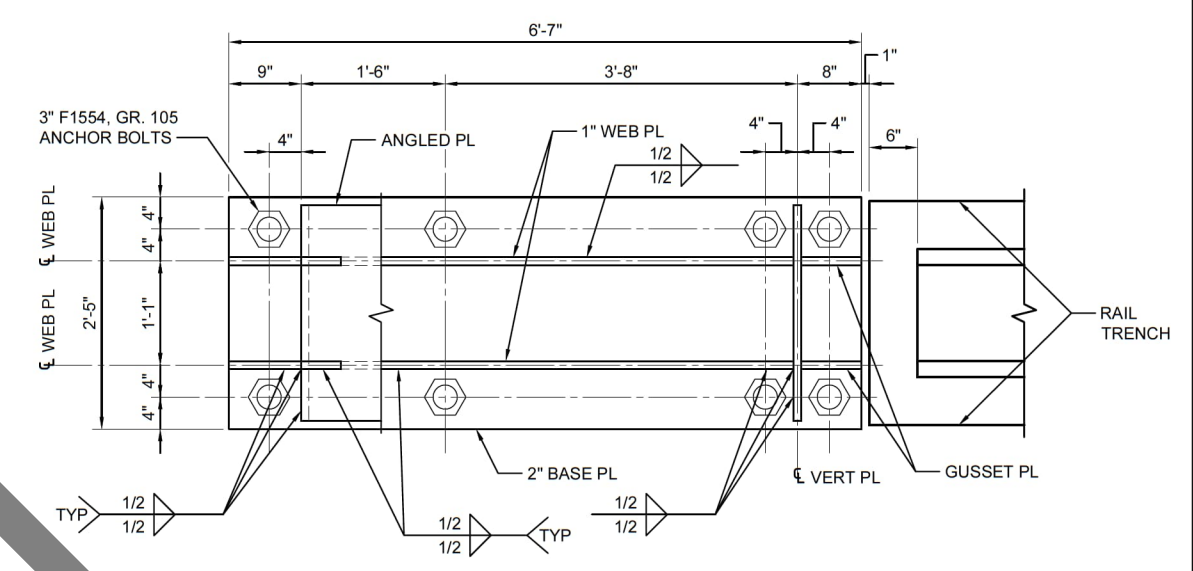
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**1 ELEVATION - CRANE STOP**  
SCALE: 1/2" = 1'-0"



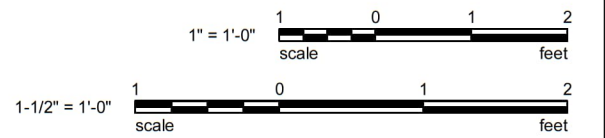
**2 ELEVATION - CRANE STOP**  
SCALE: 1/2" = 1'-0"



**A SECTION - CRANE STOP**  
SCALE: 1" = 1'-0"

- NOTES:**
- FABRICATE CRANE STOP FROM PL 1", TYP UNLESS OTHERWISE NOTED.
  - ALL WELDS 1/2" FILLET UNLESS OTHERWISE NOTED.

DRAFT



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REV	DATE	DESCRIPTION	BY	APVD

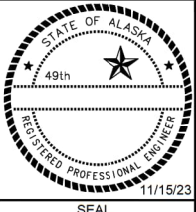
VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN: JRG DR: JDM CHK: JRG APVD: JRG

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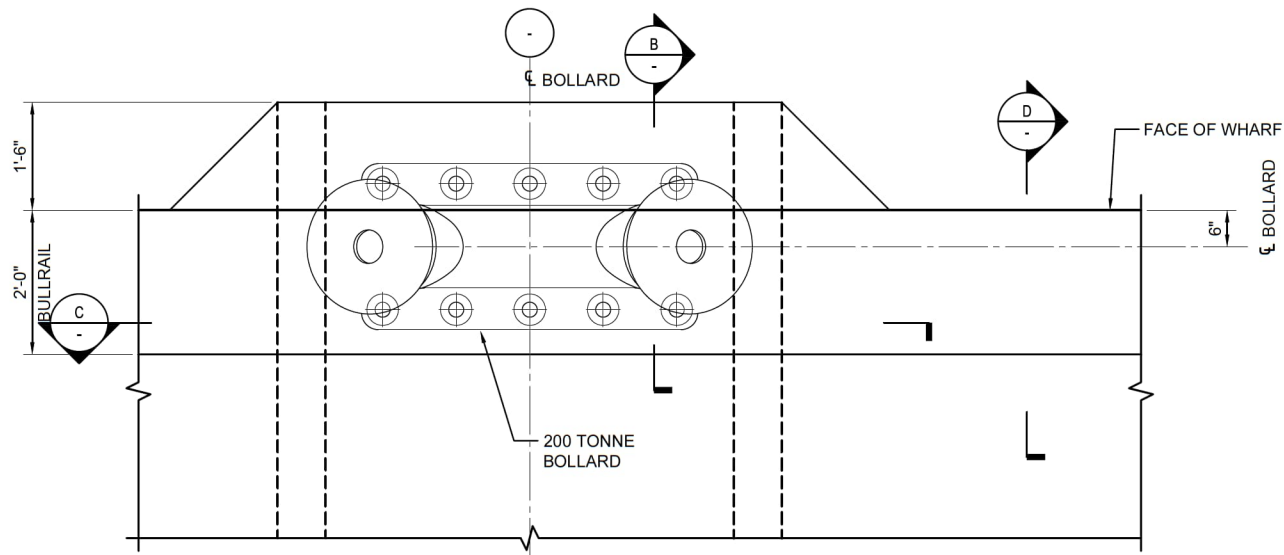
STRUCTURAL  
CRANE STOP DETAILS

PORT OF ALASKA  
PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

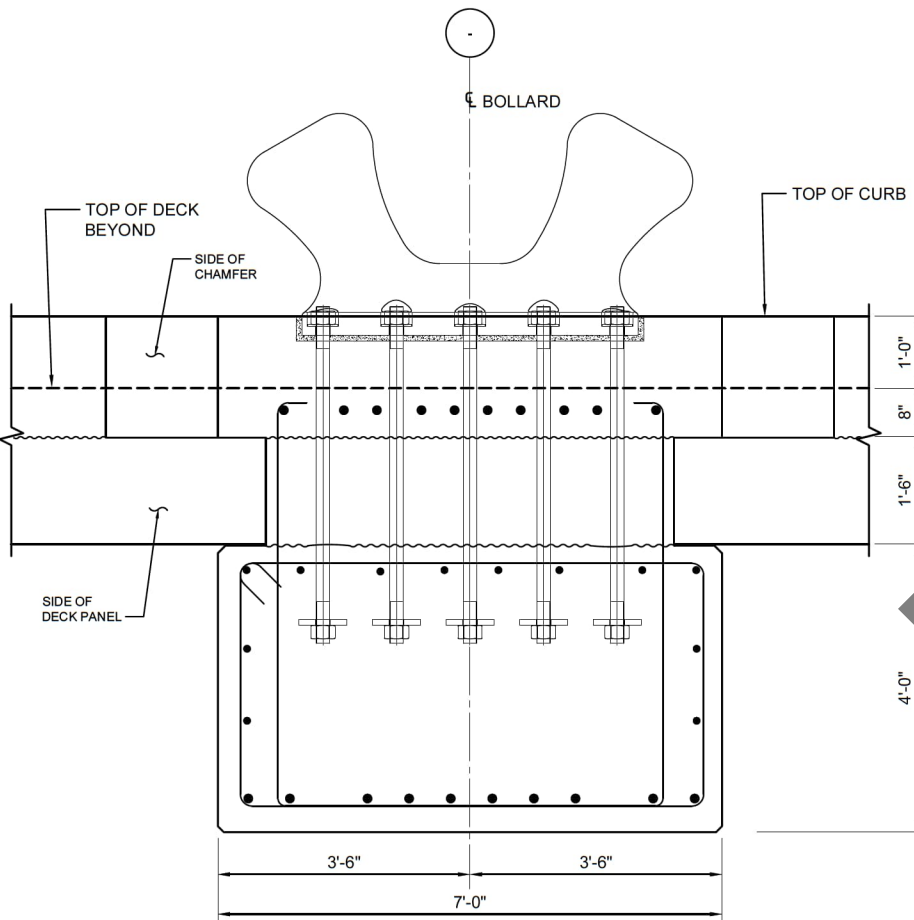
HORIZ SCALE: AS SHOWN DATE: 11/17/23  
VERT SCALE: AS SHOWN SHEET: OF

T1-S-806

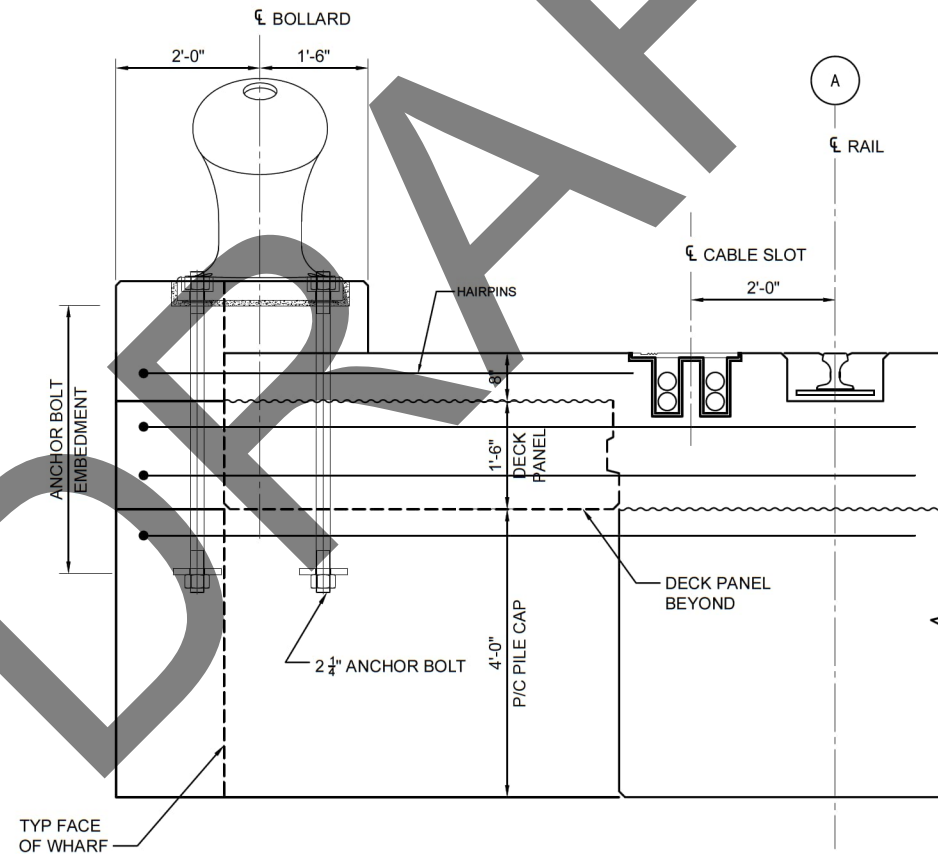
\*\*\*PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS\*\*\*



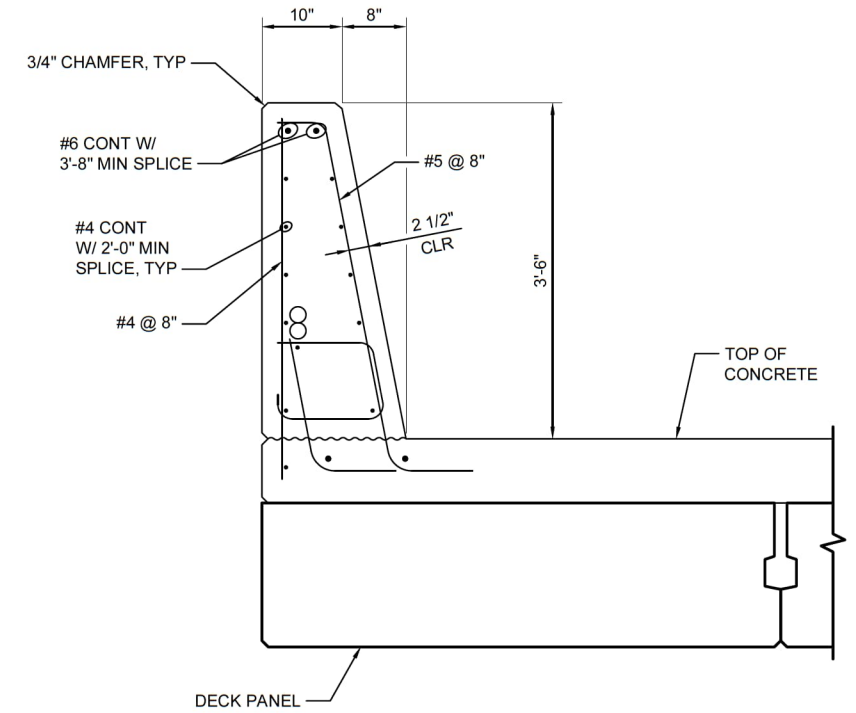
**1 PLAN - BOLLARD INSTALLTION**  
SCALE: 3/4" = 1'-0"



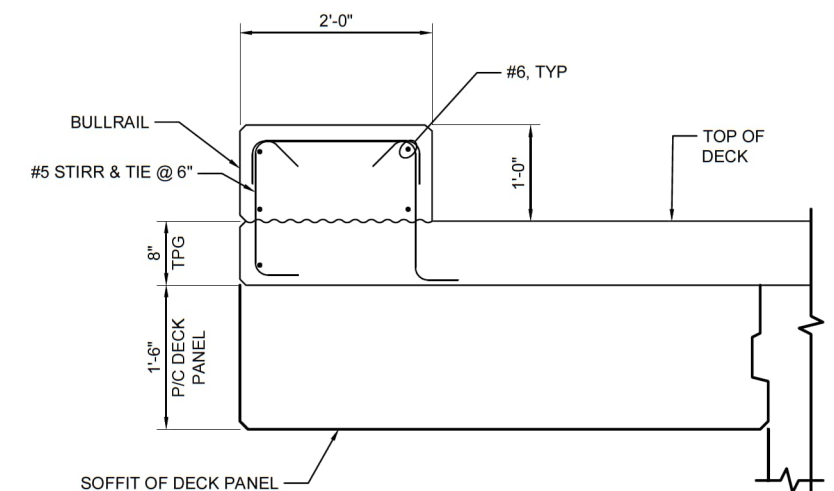
**C SECTION - BOLLARD INSTALLTION**  
SCALE: 3/4" = 1'-0"



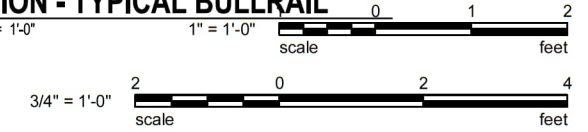
**B SECTION - BOLLARD INSTALLTION**  
SCALE: 3/4" = 1'-0"



**A SECTION - BARRIER (PERMANENT)**  
SCALE: 1" = 1'-0"



**D SECTION - TYPICAL BULLRAIL**  
SCALE: 1" = 1'-0"



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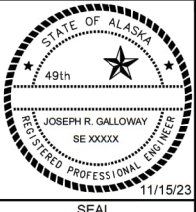
REV	DATE	DESCRIPTION	BY	APVD

**GHD** **wsp**

GHD-WSP JV  
1400 W. BENSON BLVD, SUITE 400  
ANCHORAGE, ALASKA 99503  
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN: JRG DR: JDM CHK: JRG APVD: JRG

CONSULTANT



**STRUCTURAL**

BOLLARD, CURB, AND BARRIER DETAILS

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM  
CARGO TERMINAL 1 DESIGN  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN DATE: 11/17/23  
VERT SCALE: AS SHOWN SHEET: OF

T1-S-903

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