

COMBI WALL DETAIL AT WEST END

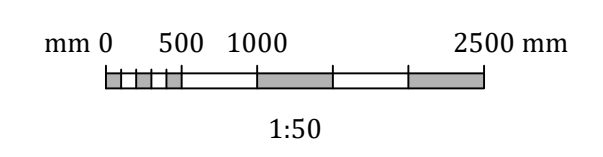
1:50
NOTE: SHORE MOORING PLATFORM AND TT261 FOUNDATION NOT SHOWN

COMBI WALL DETAIL AT EAST END

1:50
SEE WEST END FOR SIMILAR DETAILS NOT SHOWN

PRELIMINARY
DO NOT USE FOR CONSTRUCTION
Last Saved: Feb. 16/23 6:01pm

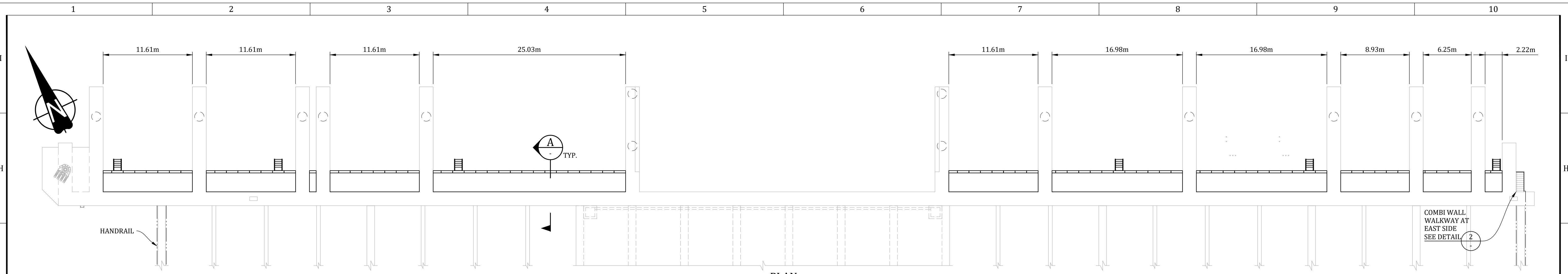
- LEGEND:**
- EXISTING BULKHEAD WALL COPE BEAM, WALE, ANCHOR ROD AND ANCHOR WALL TO REMAIN
 - EXISTING BULKHEAD WALL COPE BEAM, WALE, ANCHOR ROD AND ANCHOR WALL TO BE DEMOLISHED
 - CUT LINE
 - WAIL, COPE BEAM AND ANCHOR WALL (OPTIONAL) REMOVED FOR BARRIER WALL INSTALLATION



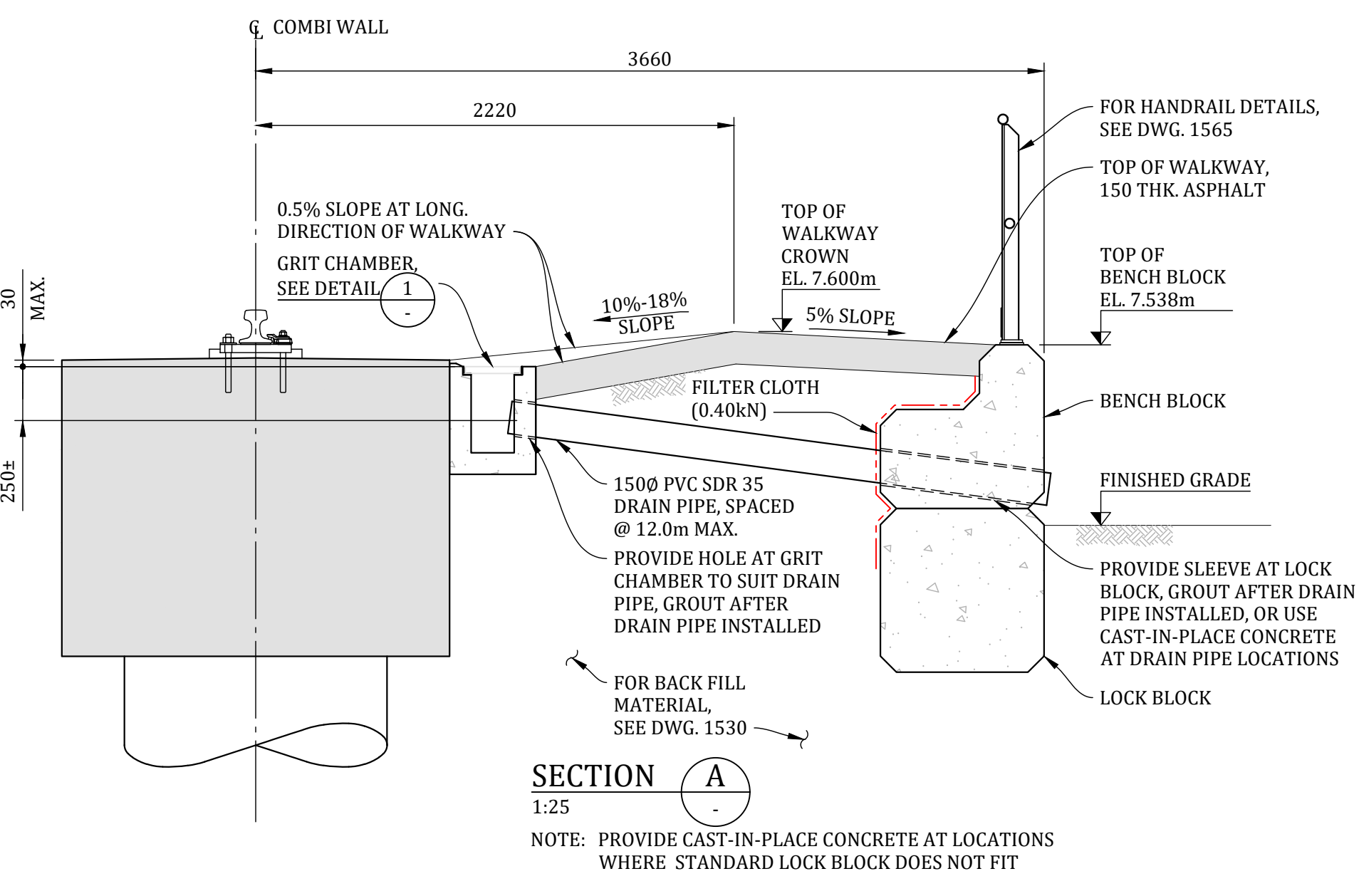
- NOTES:**
1. FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.
 2. CONTRACTOR SHALL DESIGN AND SELECT THE MATERIAL AND CONFIGURATION OF THE BARRIER WALL TO SUIT EXCAVATION, SETTLEMENT SEPARATION, DEWATERING, SURCHARGE LOAD AND HYDROSTATIC LOAD DURING CONSTRUCTION.
 3. INSTALL CONCRETE PILE PLUG TO TOP OF PILE IN PILE K1 TO K5 AND K70 TO K74 PRIOR TO CUTTING EXISTING BULKHEAD WALL WALES. INSTALL PILE KB1, KB2 AND KB3 AND WELD TO VERTICAL PILES PRIOR TO CUTTING EXISTING BULKHEAD WALL WALES.
 4. CONTRACTOR TO STABILIZE EXISTING BULKHEAD WALL TO REMAIN DURING DEMOLISHING, EXCAVATION AND CONSTRUCTION.

U:\VVR\317071\00041_NEP_B2SHIPLOFDN\11_DRAWINGS\15_I_AND_E\02_MARINE\317071-00041-03-MA-DGA-1530-1531.DWG DATE: 2023-02-16

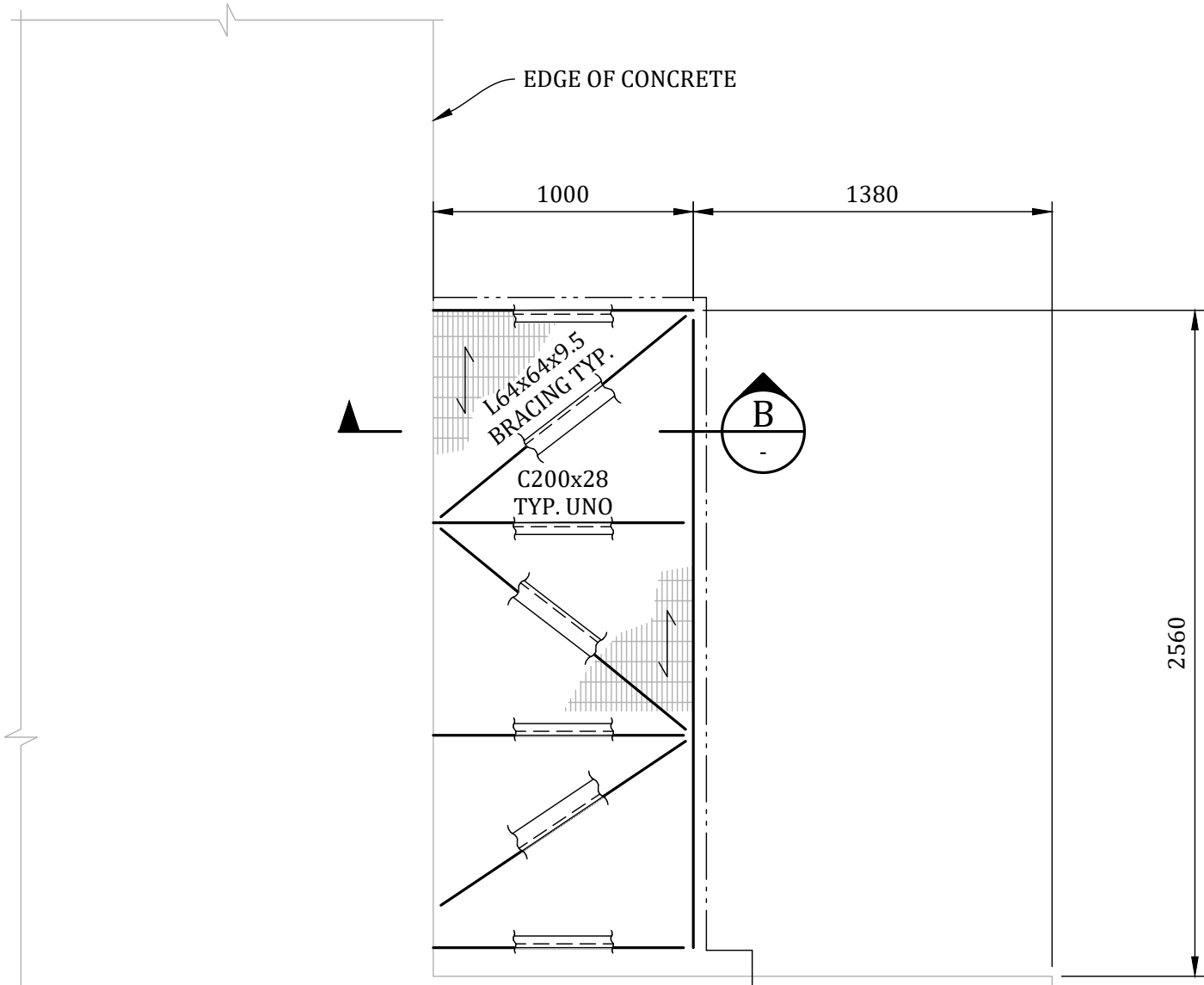
PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 <small>*This drawing is prepared for the use of the contractual customer of Worley Canada Services Ltd. and Worley Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.*</small>		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL	
SYSTEM: POTASH				OEM:				COMBI WALL	
ASSET: 251								DETAILS	
DISCIPLINE: STRUCTURAL		REV: 2023-02-16		DESCRIPTION: ISSUED FOR CLIENT REVIEW		DRAWN: GL		SCALE: SHOWN	
		REV: YYYY-MM-DD		DESCRIPTION: ISSUES / REVISIONS		DRAWN: AMT		SHEET OF: 1 1	
				VENDOR P2P:				DRAWING NO. 317071-00041-03-MA-DGA-1531	
								REV: A	



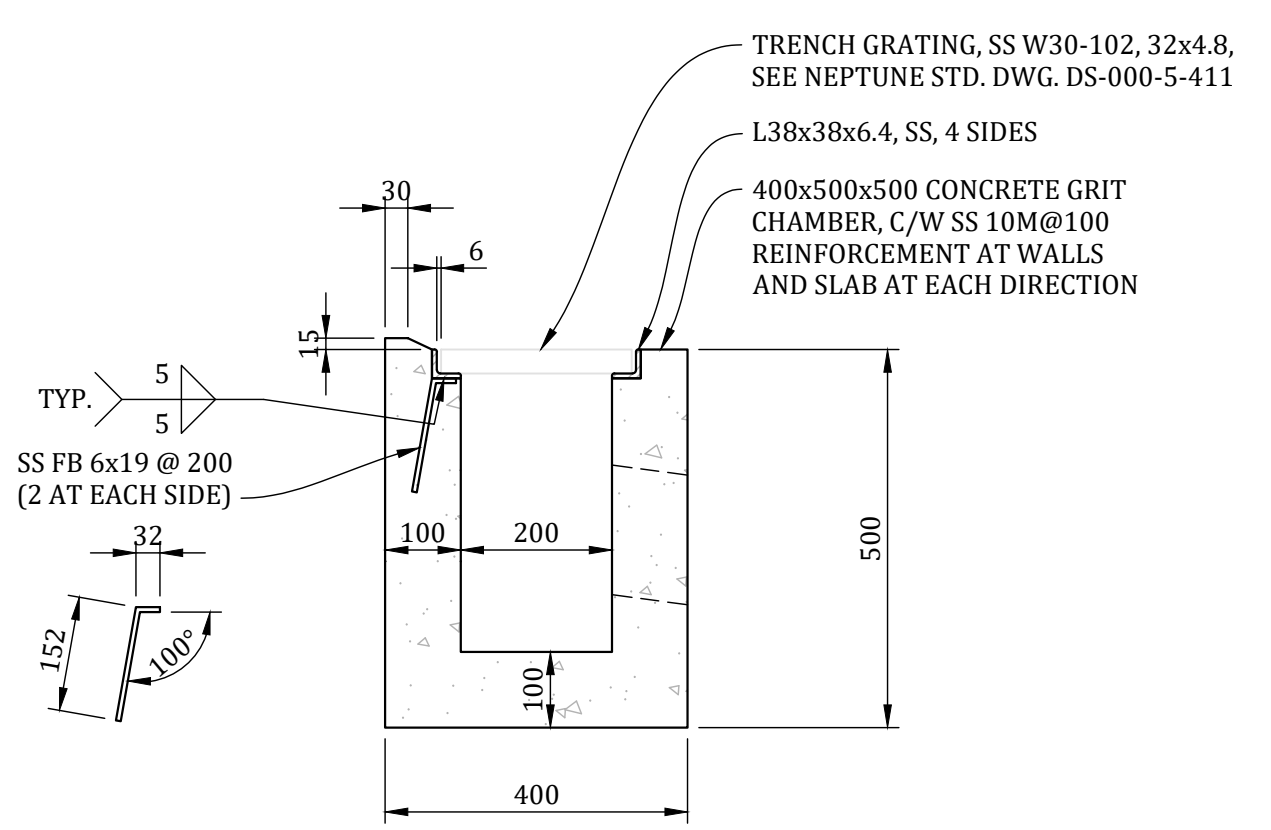
PLAN
1:250



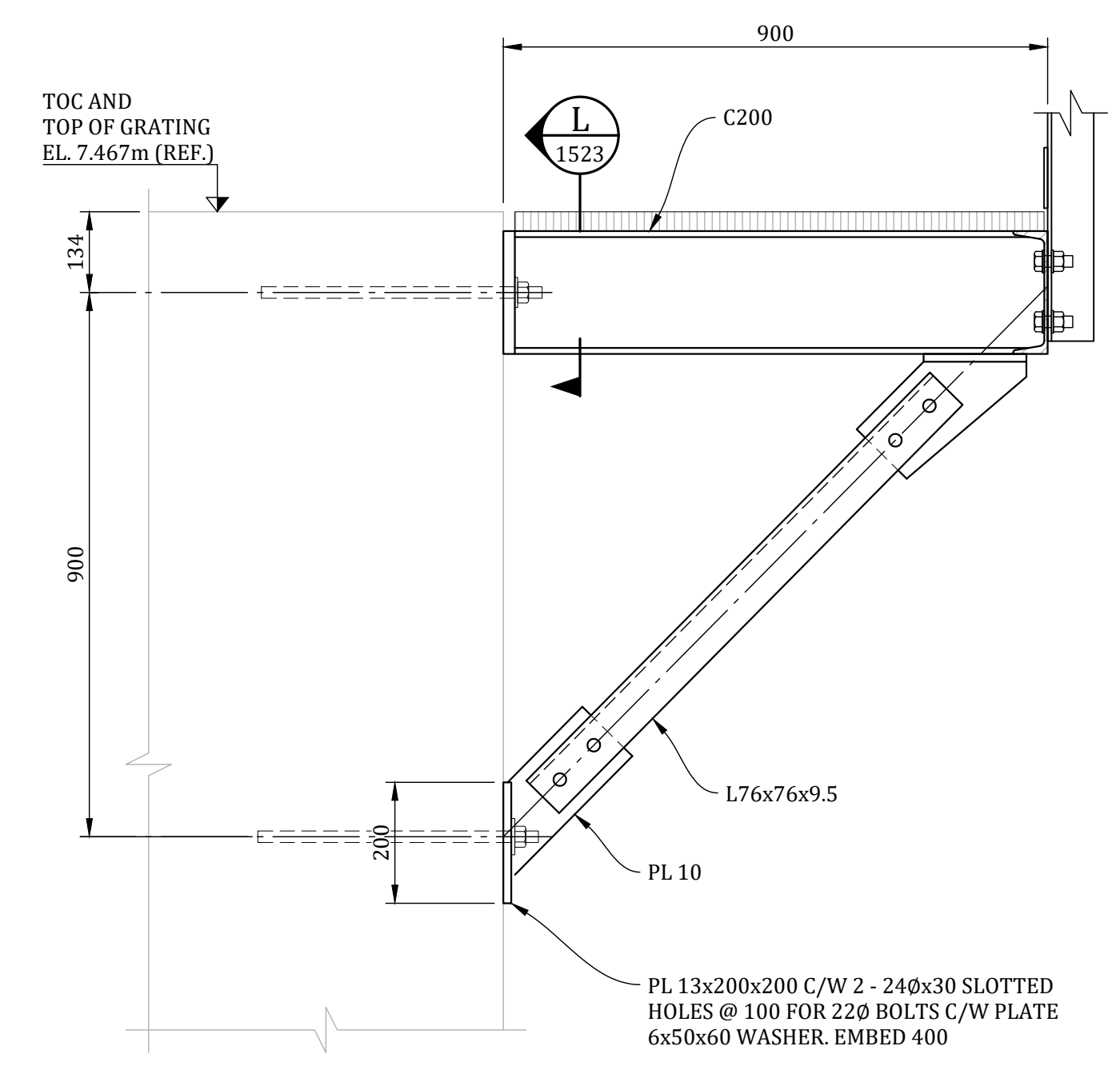
SECTION A
1:25



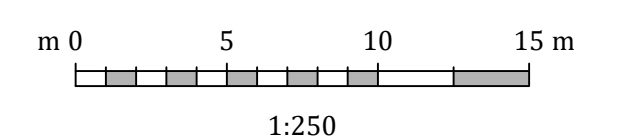
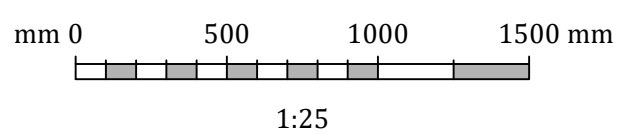
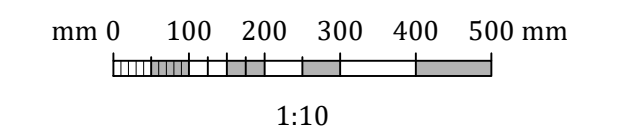
DETAIL 2
1:25



DETAIL 1
1:10



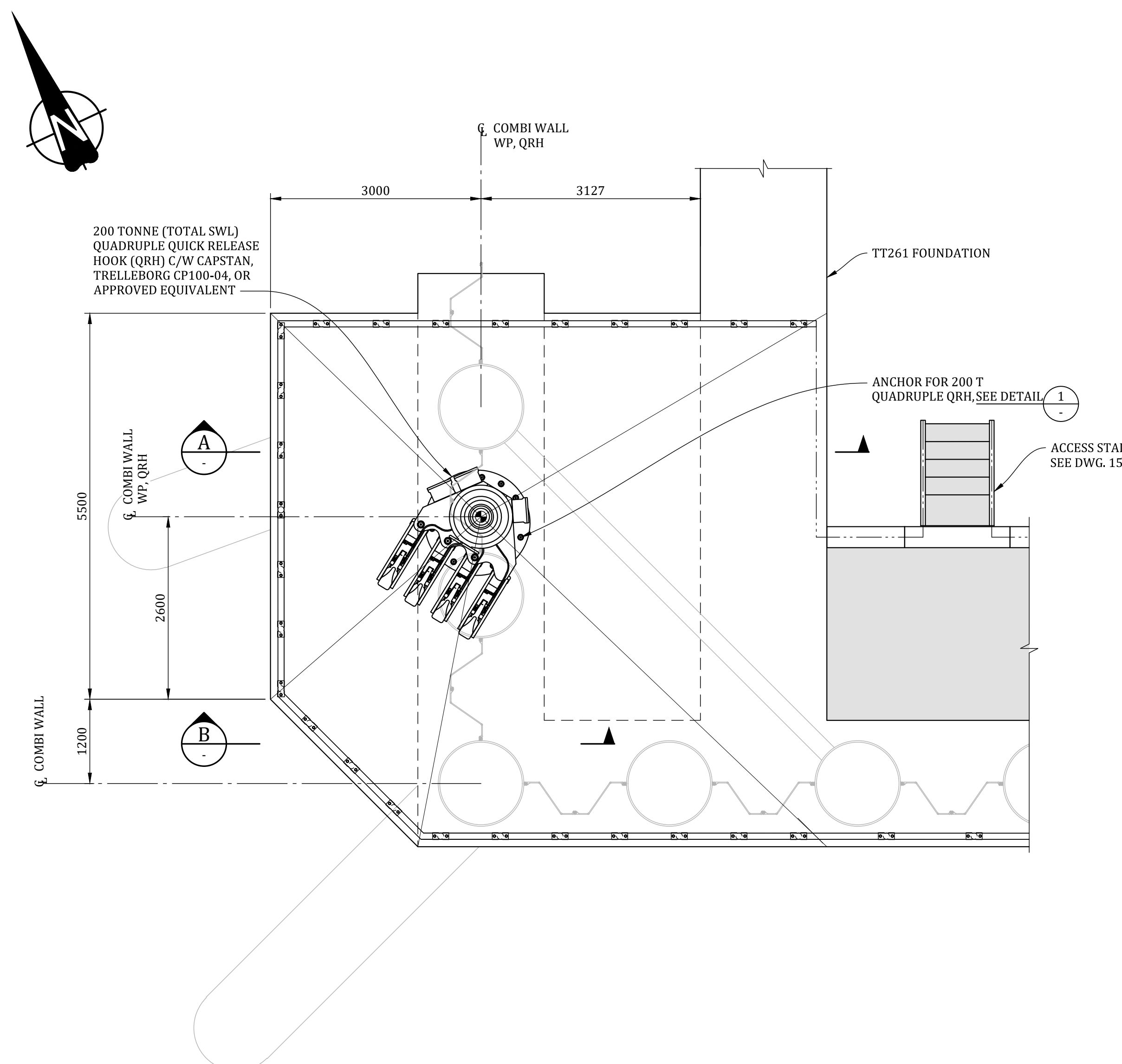
SECTION B
1:10



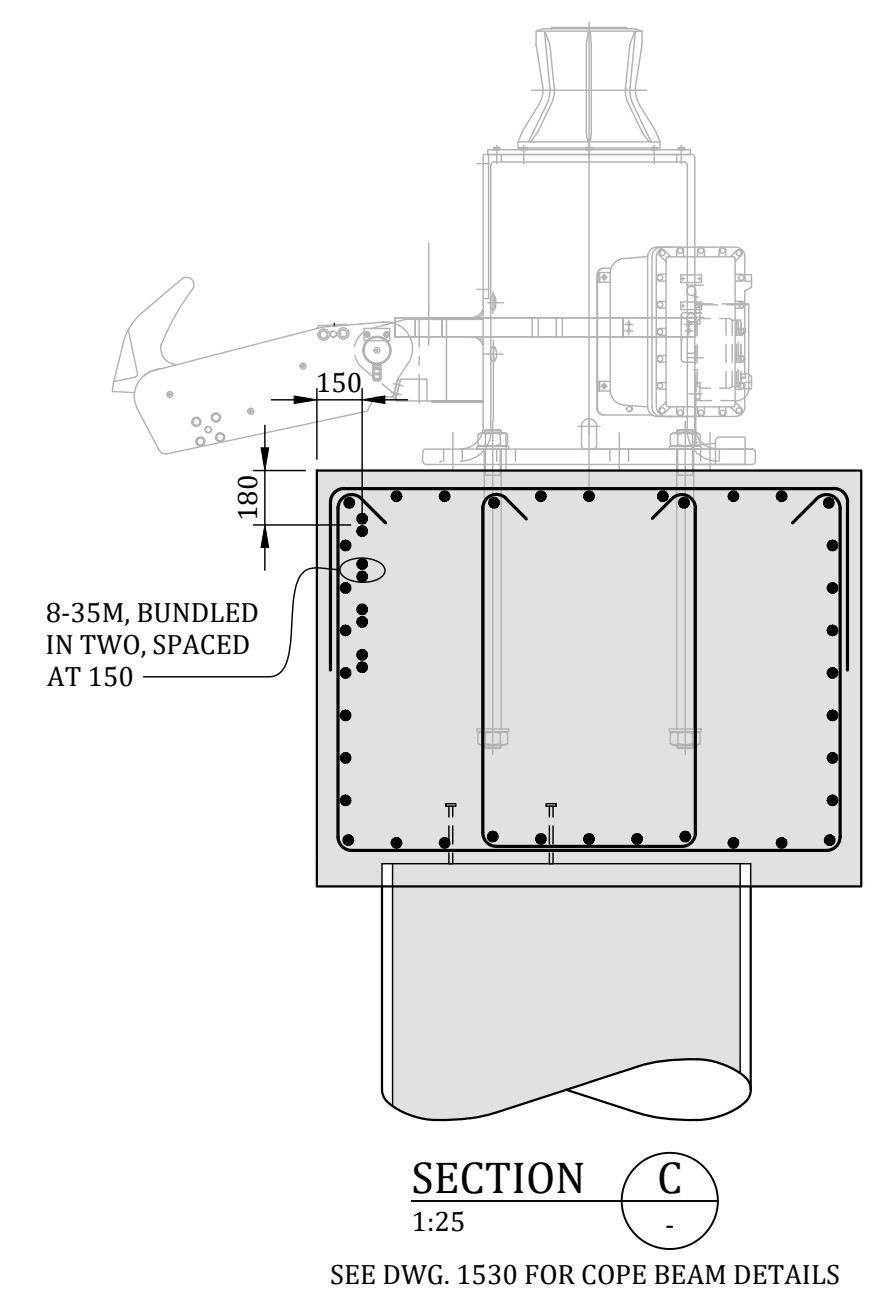
PRELIMINARY
DO NOT USE FOR CONSTRUCTION
Last Saved: Feb. 16/23 5:00pm

- NOTES:**
- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.
 - WALKWAY GRATING AND ATTACHMENT CLIPS SHALL BE FISHER AND LUDLOW SERRATED GRATING TYPE 30-102 BEARING BAR SIZE 32X5 SS 304/304L.
 - ALL HANDRAILS AND GRATING SHALL BE ISOLATED FROM THE METAL STRUCTURE USING A MINIMUM TWO COATS OF EPOXY PAINT WHERE HANDRAILS TOUCH THE METAL STRUCTURES.
 - ALL HANDRAIL BOLTS AND NUTS SHALL HAVE PLASTIC FLANGED SLEEVES.
 - ISOLATION PRODUCTS USED MUST NOT AFFECT THE STRUCTURAL STABILITY OF THE CONNECTIONS AND MUST NOT SHRINK OR DETERIORATE OVER THE SERVICE LIFE OF THE STRUCTURE.
 - GRATING PANELS SHALL BE CONNECTED WITH A MINIMUM OF FOUR FASTENERS FOR SINGLE PANEL (OR EVERY 1m²).
 - LATERAL RESTRAINT OF THE GRATING PANELS SHALL BE PROVIDED BY STRUCTURAL STEEL KICK PLATES (OR OTHER STRUCTURAL STEEL) LOCATED AROUND THE GRATING, OR BY STAINLESS STEEL TIES; TYING THE GRATING PANELS TOGETHER WITH CABLE SEALS WITH A BREAKING STRENGTH OF 10.67 kN.

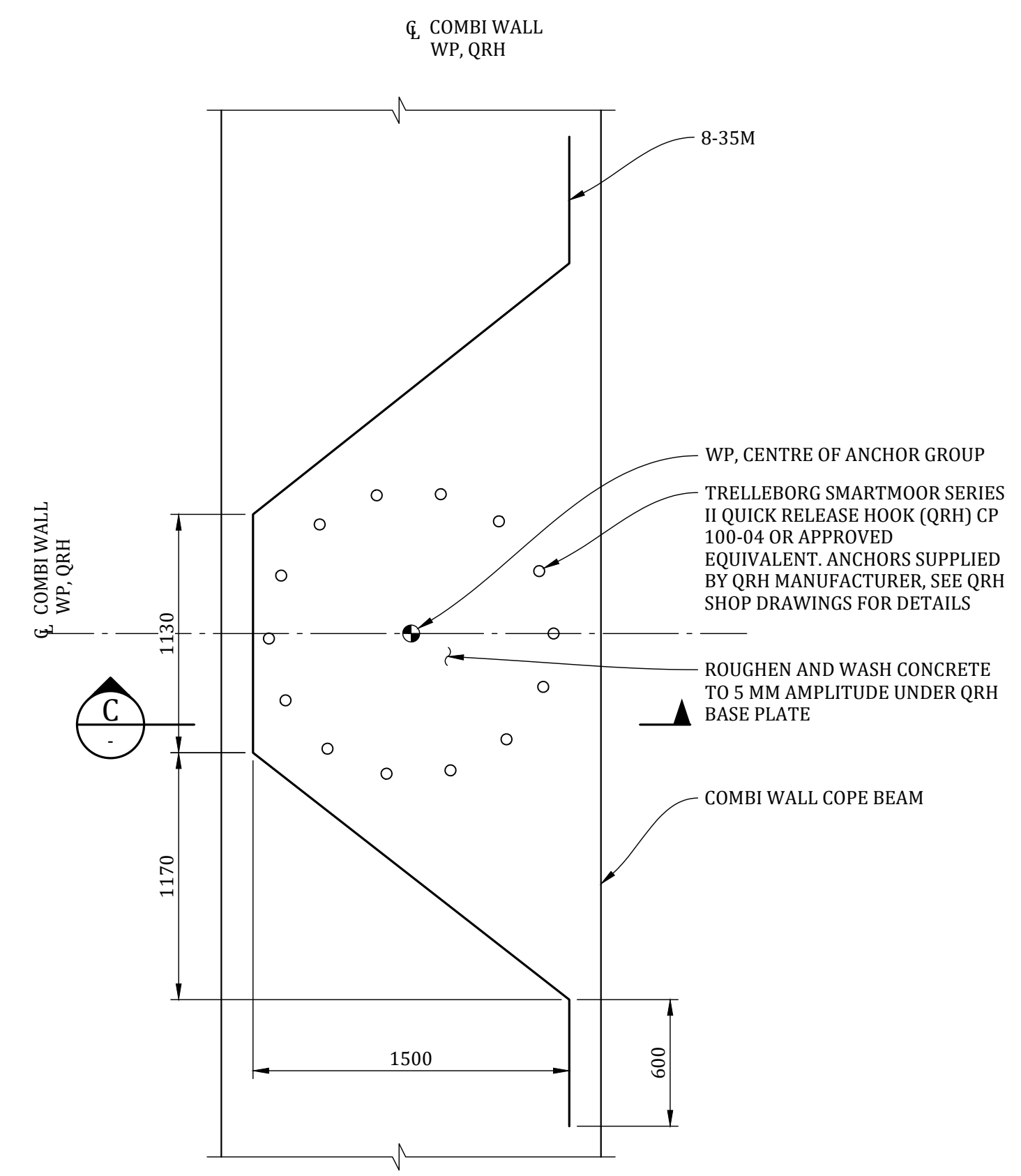
PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 *This drawing is prepared for the use of the contractual customer of Worley Canada Services Ltd. and Worley Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.*		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL COMBI WALL WALKWAY - PLAN AND DETAILS			
SYSTEM: POTASH											
ASSET: 251											
DISCIPLINE: STRUCTURAL											
DRAWING NO.	DRAWING DESCRIPTION / TITLE	REV	YYYY-MM-DD	DESCRIPTION	DRAWN	APPROVED					
REFERENCE DRAWINGS / DESIGN STANDARDS		ISSUES / REVISIONS		VENDOR P2P:							
1	2	3	4	5	6	7	8	9	10	11	12



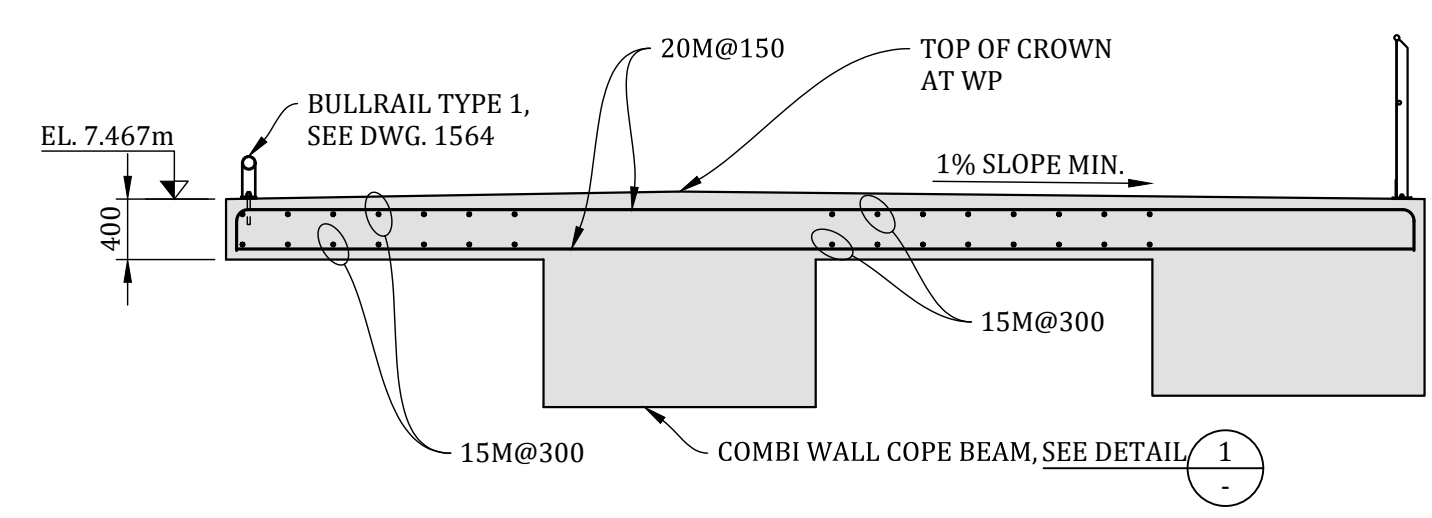
PLAN - SHORE MOORING 3
1:50



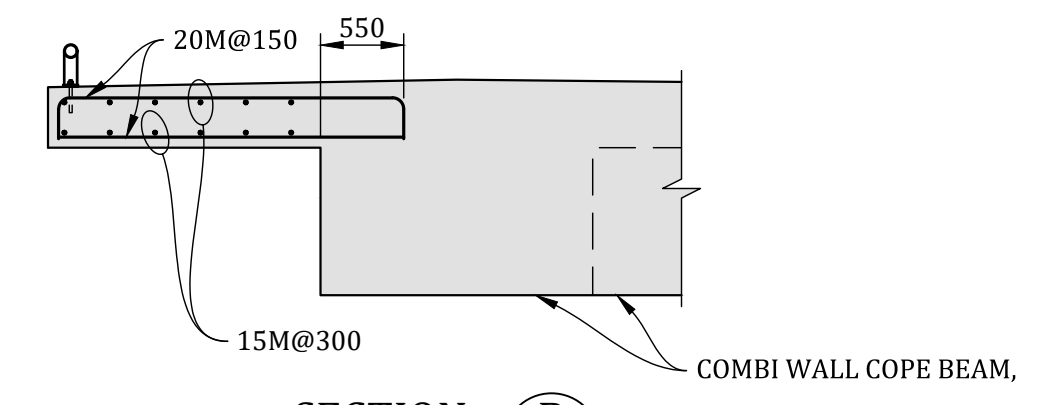
SECTION C
1:25
SEE DWG. 1530 FOR COPE BEAM DETAILS



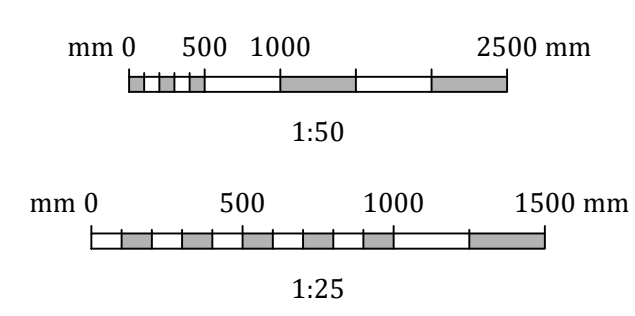
DETAIL 1 ANCHORS AT SHORE MOORING 3
1:25
NOTE: PILE, SLAB AND COPE BEAM REINFORCEMENT NOT SHOWN FOR CLARITY



SECTION A
1:50
NOTE: TT261 FOUNDATION REINFORCEMENT NOT SHOWN FOR CLARITY



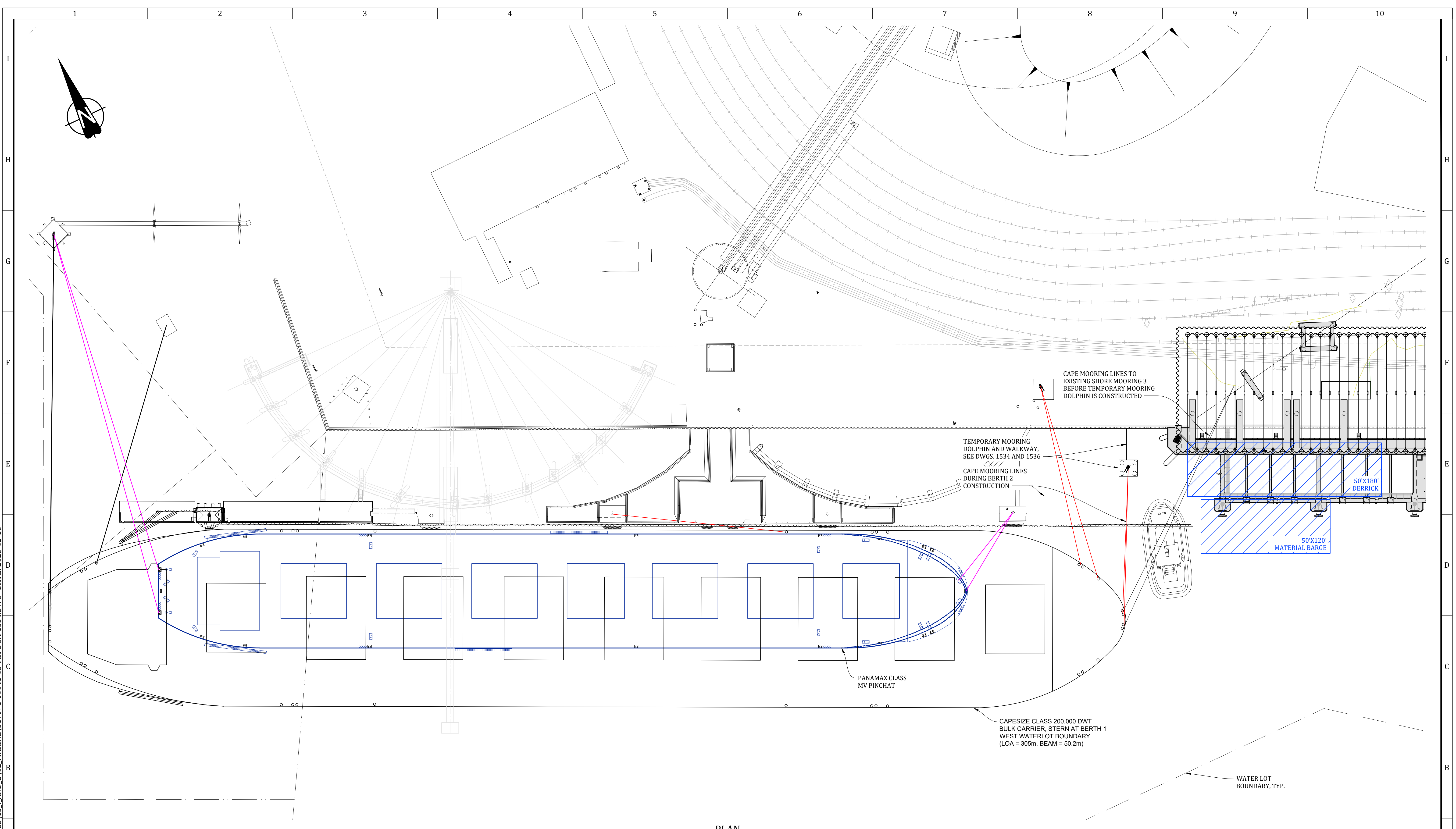
SECTION B
1:50
NOTE: DETAILS SIMILAR TO SECTION A, UNLESS NOTED OTHERWISE



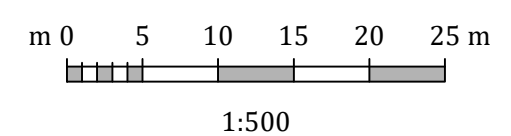
PRELIMINARY
DO NOT USE FOR CONSTRUCTION
Last Saved: Feb. 16/23 3:30pm

- NOTES:**
- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-MA-DGA-1001, AND 1002.
 - CONFIRM WITH QRH ANCHOR SHOP DRAWINGS FOR DETAILED ANCHOR SIZE AND LAYOUT.

PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 <small>Worley Group</small>		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL			
SYSTEM: POTASH								SHORE MOORING 3			
ASSET: 251								PLAN AND DETAILS			
DISCIPLINE: STRUCTURAL		REV: A		2023-02-16		ISSUED FOR CLIENT REVIEW		GL		AMT	
REFERENCE DRAWINGS / DESIGN STANDARDS		REV: YYY-MM-DD		DESCRIPTION		DRAWN		APPROVED		REV: A	
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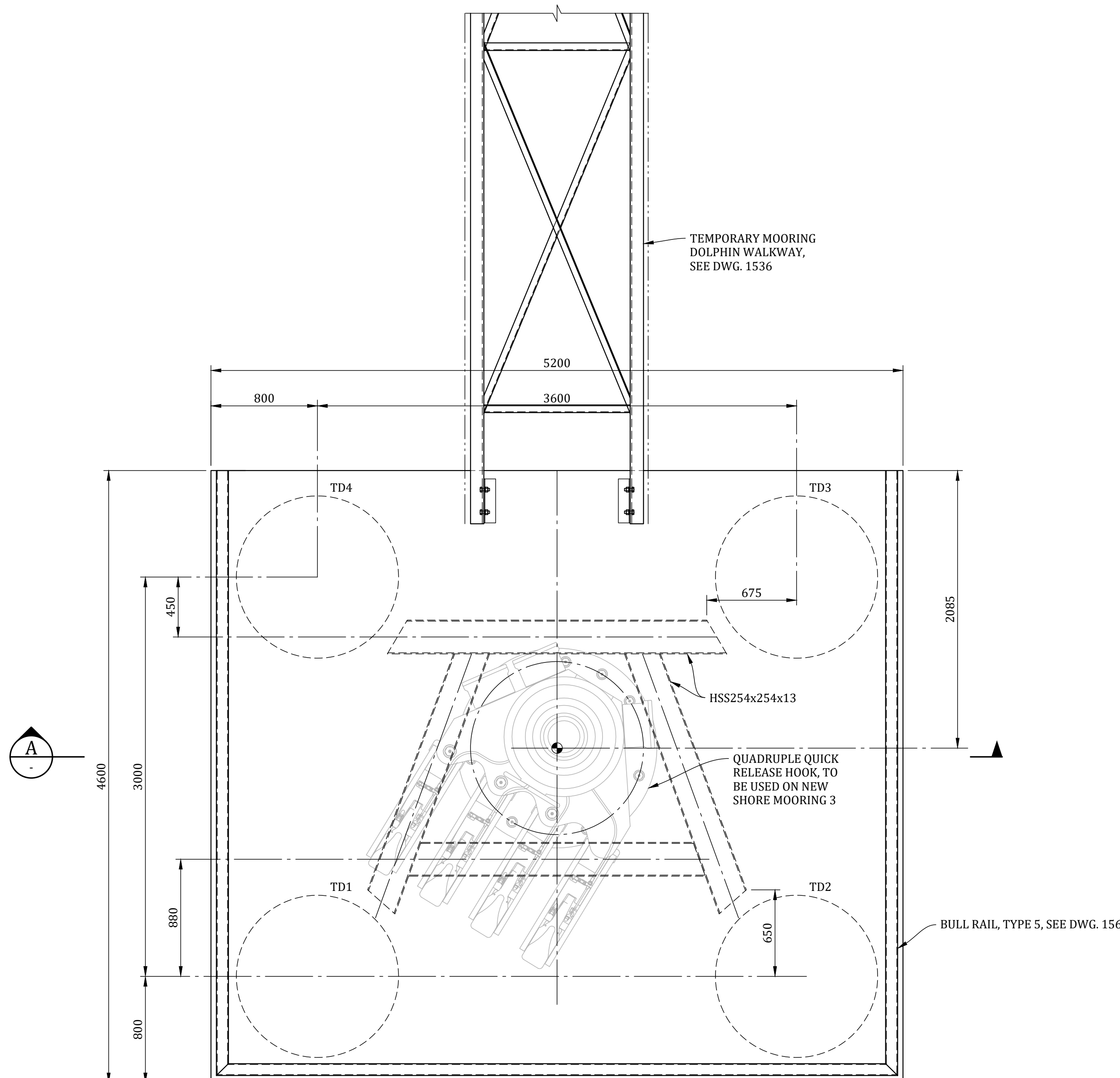
PLAN
1:500



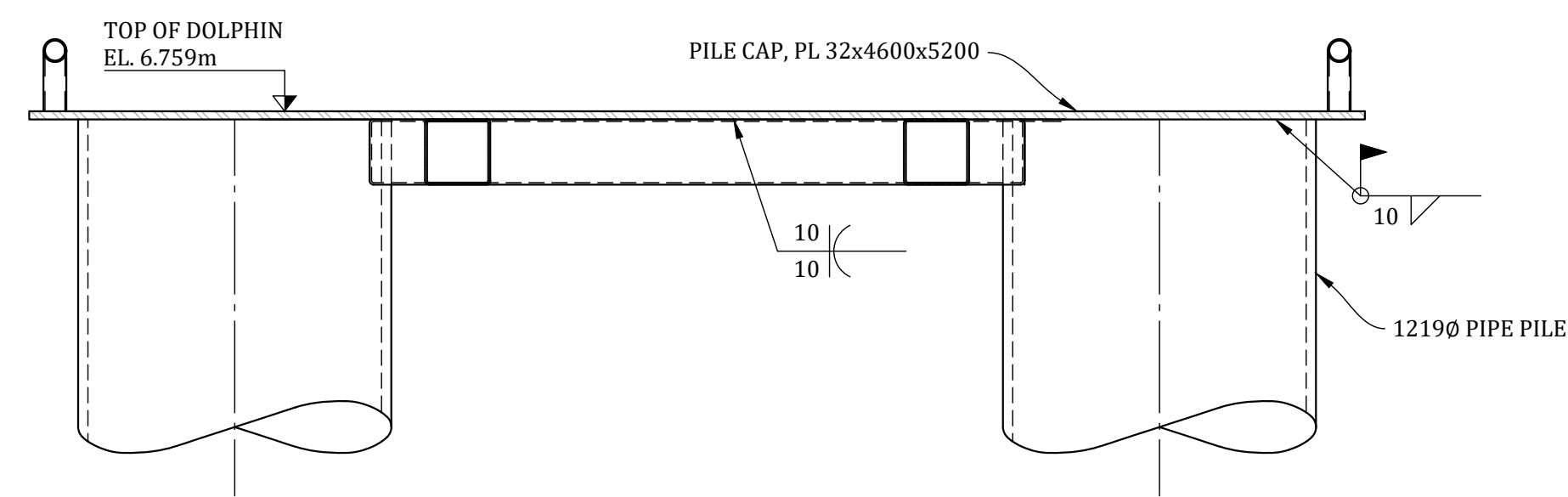
PRELIMINARY
DO NOT USE FOR CONSTRUCTION
Last Saved: Feb. 16/23 5:02pm

- NOTES:**
- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.
 - MOORING LINES SHOWN ARE SCHEMATIC AND MAY REPRESENT MORE THAN ONE LINE.

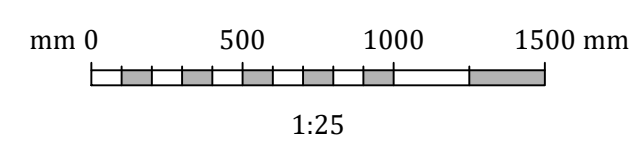
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A		2023-02-16		ISSUED FOR CLIENT REVIEW		AAL		AMT		REV		YYYY-MM-DD		DESCRIPTION		DRAWN		APPROVED	
1		2		3		4		5		6		7		8		9		10	
DRAWING NO.		DRAWING DESCRIPTION / TITLE		PROJECT / W.O.: B2 MARINE WORKS		SYSTEM: POTASH		ASSET: 251		DISCIPLINE: STRUCTURAL		ENGINEERING SEAL:		VENDOR: Neptune TERMINALS <small>THIS DRAWING IS THE PROPERTY OF NEPTUNE BULK TERMINALS (CANADA) LTD. NEITHER THIS DRAWING NOR ANY PORTION THEREOF SHALL BE REPRODUCED WITHOUT WRITTEN PERMISSION FROM NEPTUNE BULK TERMINALS (CANADA) LTD.</small>		SCALE: SHOWN		SHEET 1 OF 1	
1		2		3		4		5		6		7		8		9		10	



TEMPORARY MOORING DOLPHIN PLAN
1:25



SECTION A
1:25
NOTE: QUICK RELEASE HOOK NOT SHOWN FOR CLARITY

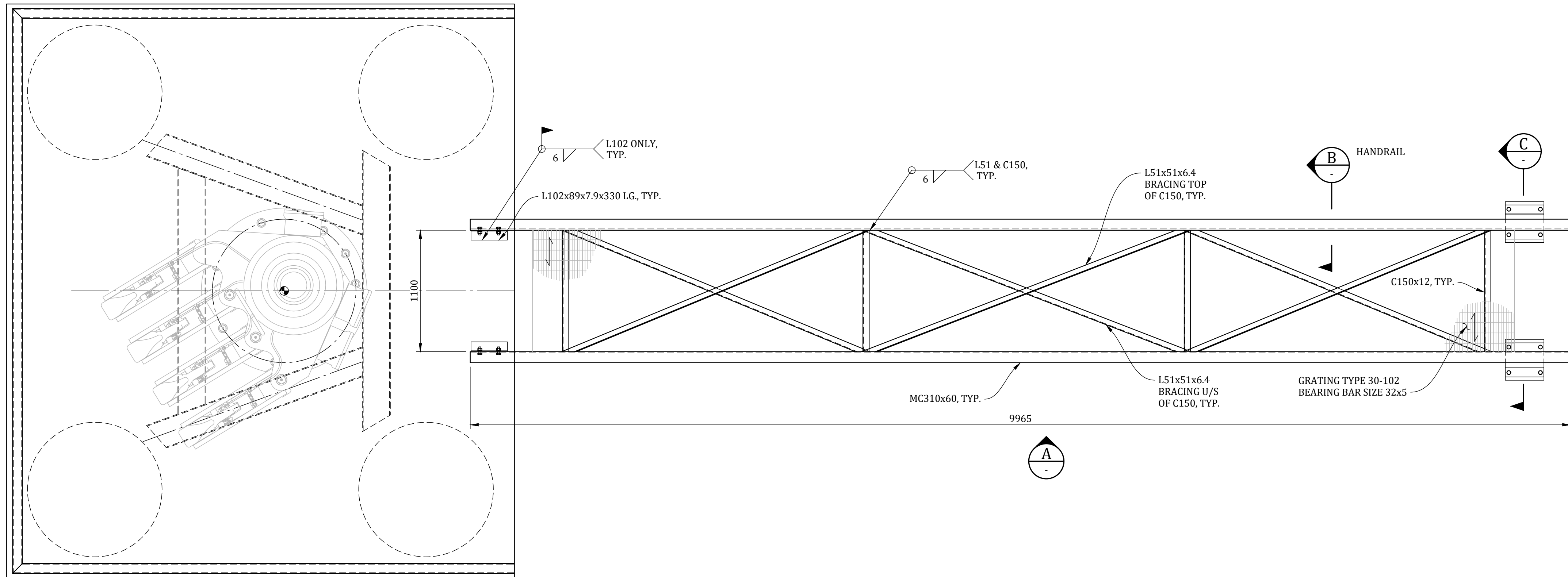
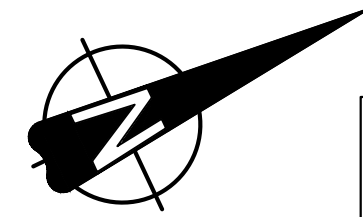


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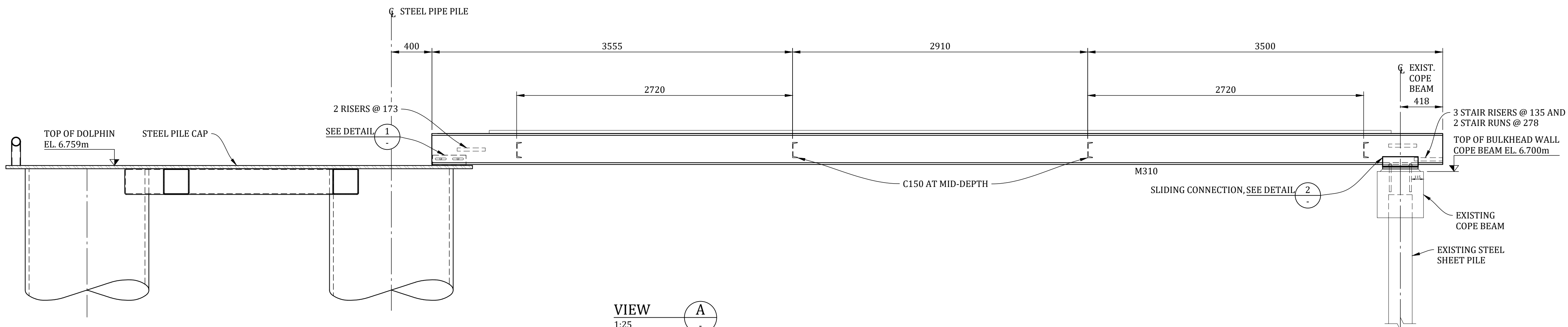
- NOTES:**
- FOR GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.
 - FOR PILE LIST, SEE DWG. 317071-00041-03-MA-DGA-1514.

DRAWING NO.		DRAWING DESCRIPTION / TITLE		PROJECT / W.O.:	B2 MARINE WORKS	ENGINEERING SEAL:	VENDOR:	ISSUED AS RECORD COPY? (YES/NO)	NO	TITLE:	BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL BERTH 1 TEMPORARY MOORING DOLPHIN PLAN AND DETAILS				
SYSTEM:		POTASH		ASSET:	251		Advisian Worley Group 317071-00041 <small>*This drawing is prepared for the use of the contractual customer of Worley Canada Services Ltd. and Worley Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.*</small>								
DISCIPLINE:		STRUCTURAL		REV:	A	2023-02-16	ISSUED FOR CLIENT REVIEW	AAL	AMT	SCALE:	SHOWN	SHEET	OF	DRAWING NO.	REV:
REFERENCE DRAWINGS / DESIGN STANDARDS				REV:	YYYY-MM-DD	DESCRIPTION	DRAWN	APPROVED	VENDOR P2P:	1	1	317071-00041-03-MA-DGA-1535	A		
				ISSUES / REVISIONS											

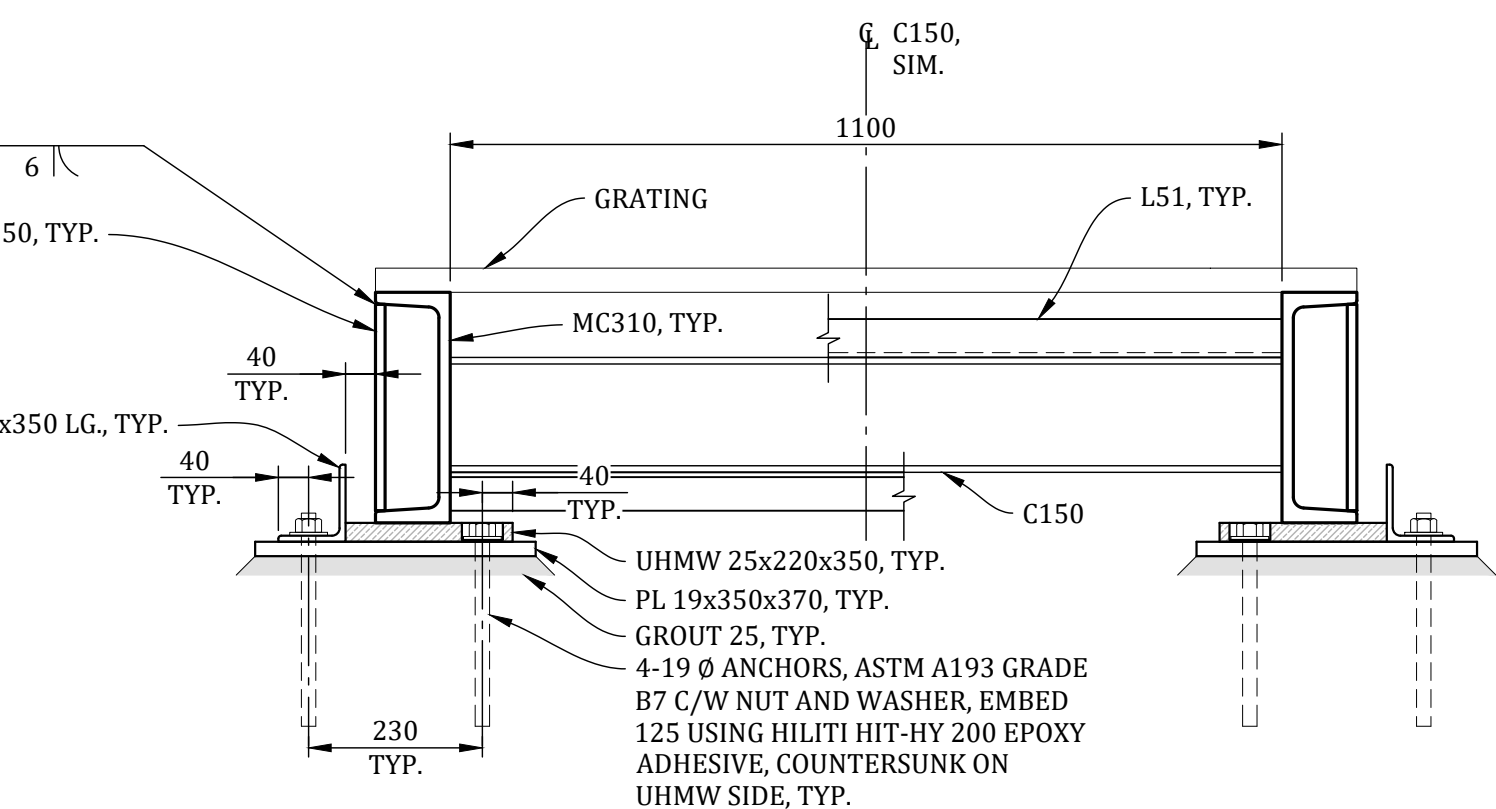
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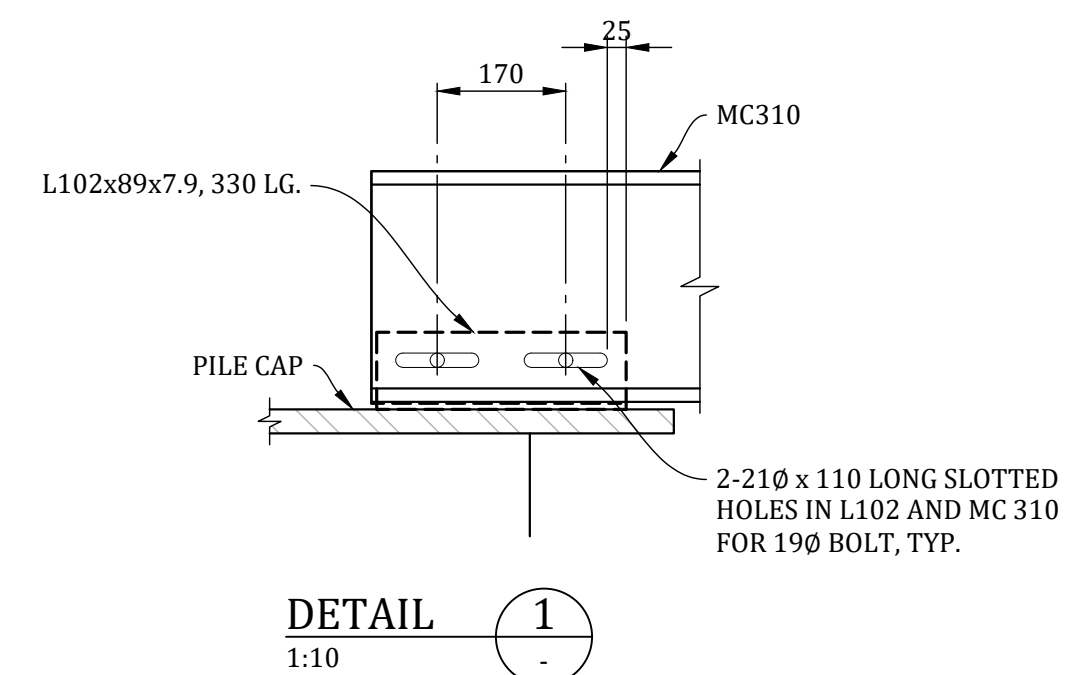
PLAN - WALKWAY TO TEMPORARY MOORING DOLPHIN
1:25



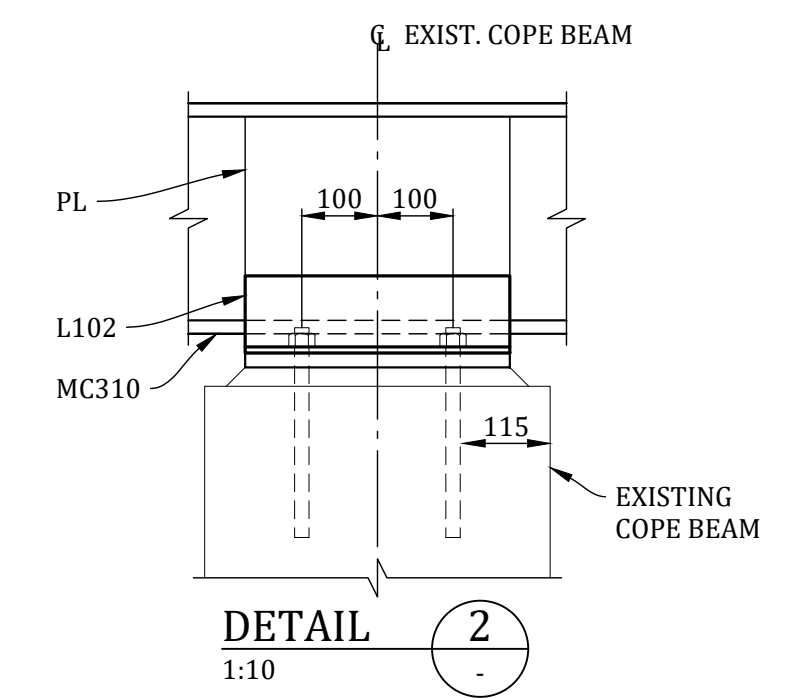
VIEW A
1:25
NOTE: QUICK RELEASE HOOK AND HANDRAIL NOT SHOWN FOR CLARITY



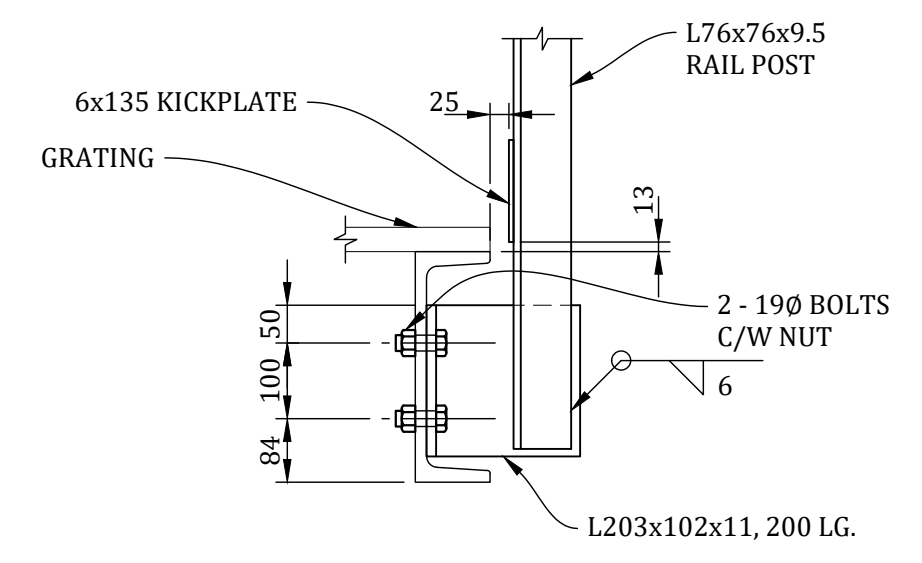
SECTION C
1:10



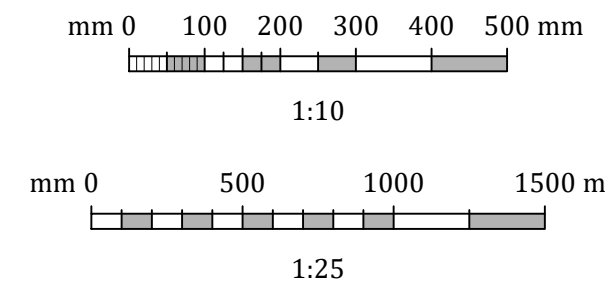
DETAIL 1
1:10



DETAIL 2
1:10



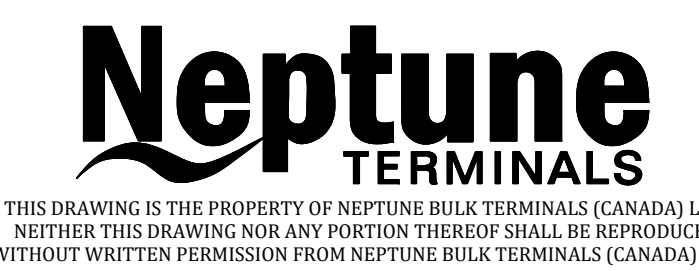
SECTION B HANDRAIL
1:10



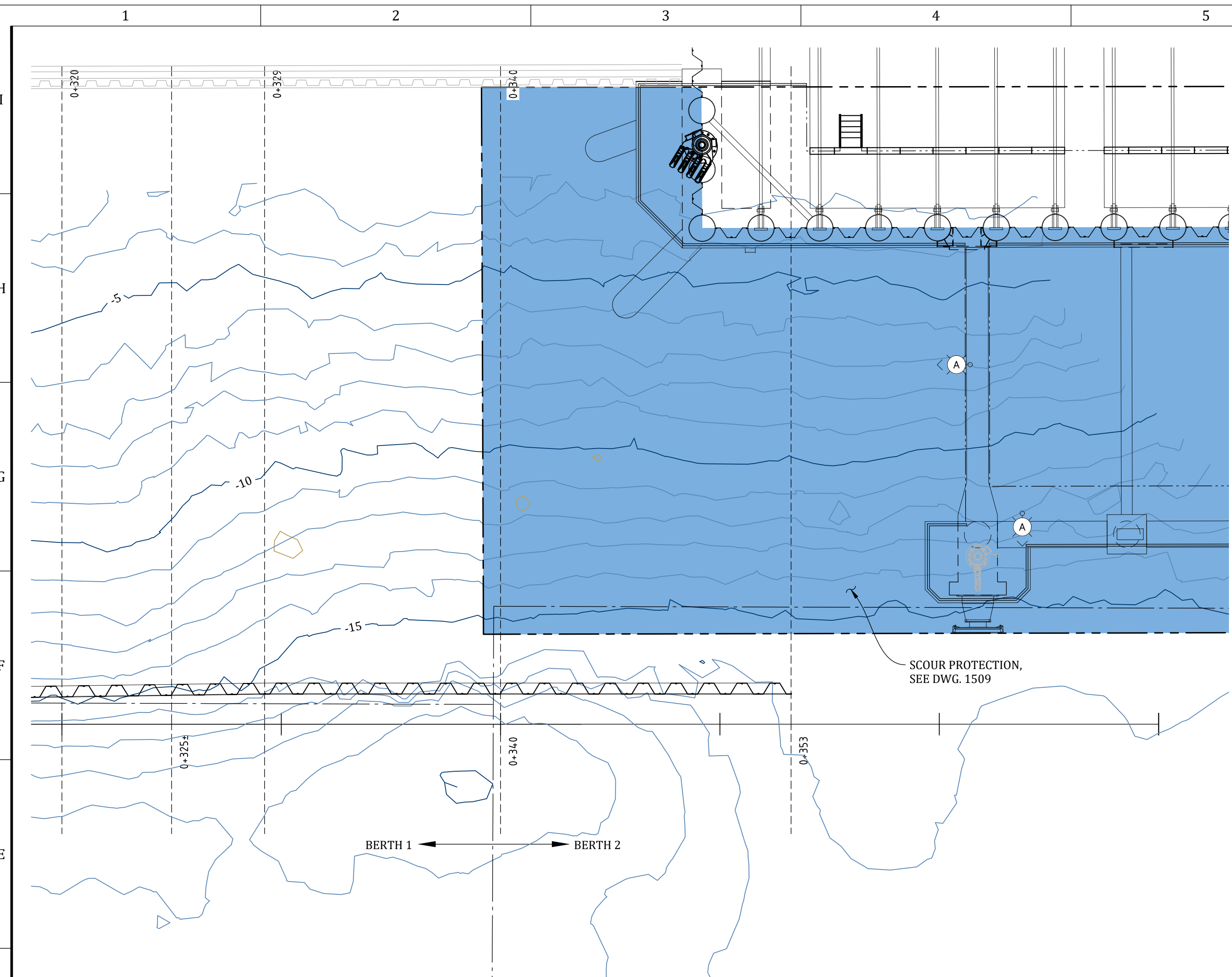
PRELIMINARY
DO NOT USE FOR CONSTRUCTION
Last Saved: Feb. 16/23 5:52pm

NOTES:
1. FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.

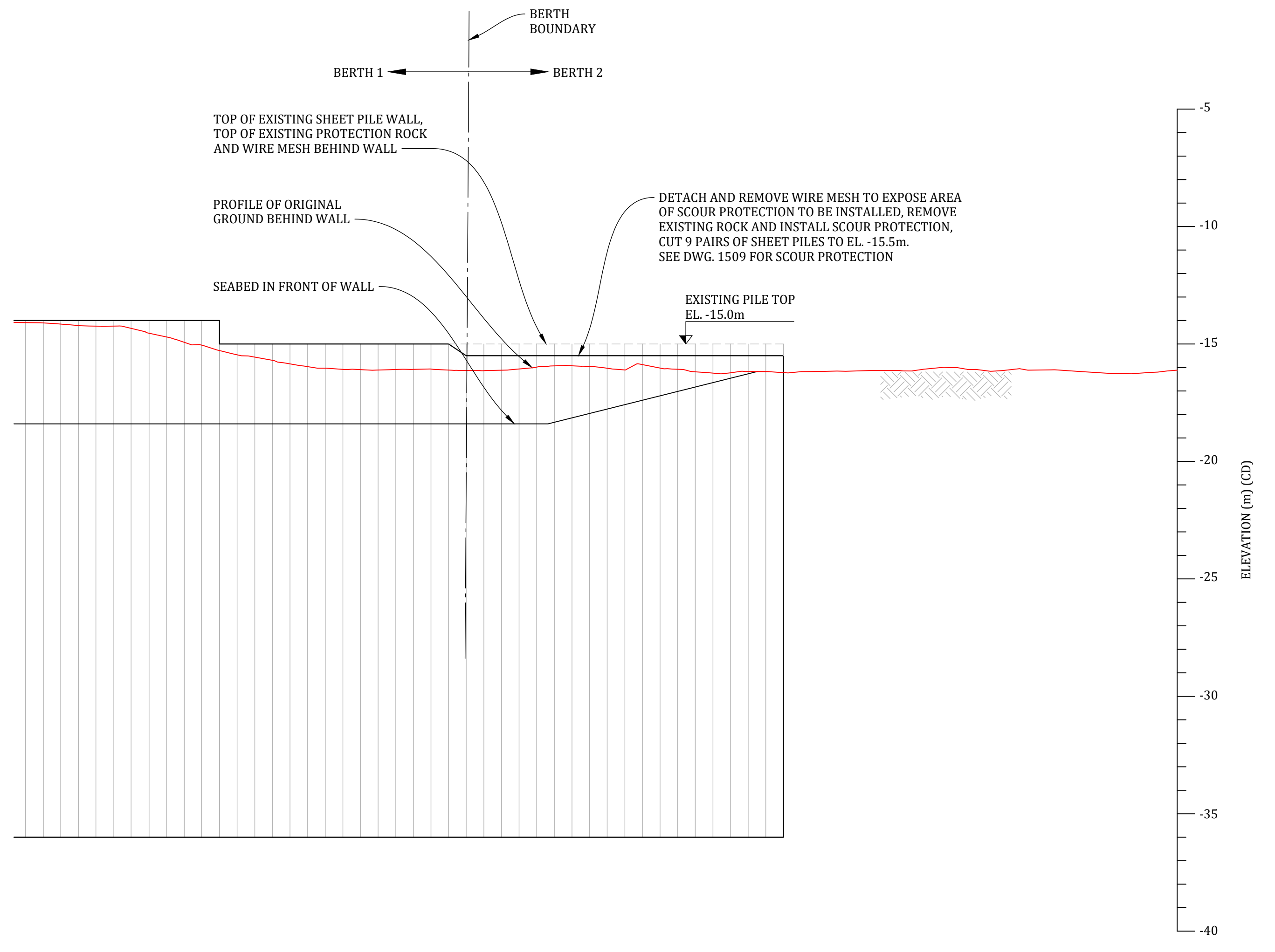
PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 <small>WorleyParsons</small>		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL BERTH 1 TEMPORARY MOORING DOLPHIN WALKWAY PLAN AND DETAILS			
SYSTEM: POTASH											
ASSET: 251											
DISCIPLINE: STRUCTURAL											
DRAWING NO.	DRAWING DESCRIPTION / TITLE	REV	YYYY-MM-DD	DESCRIPTION	DRAWN	APPROVED					
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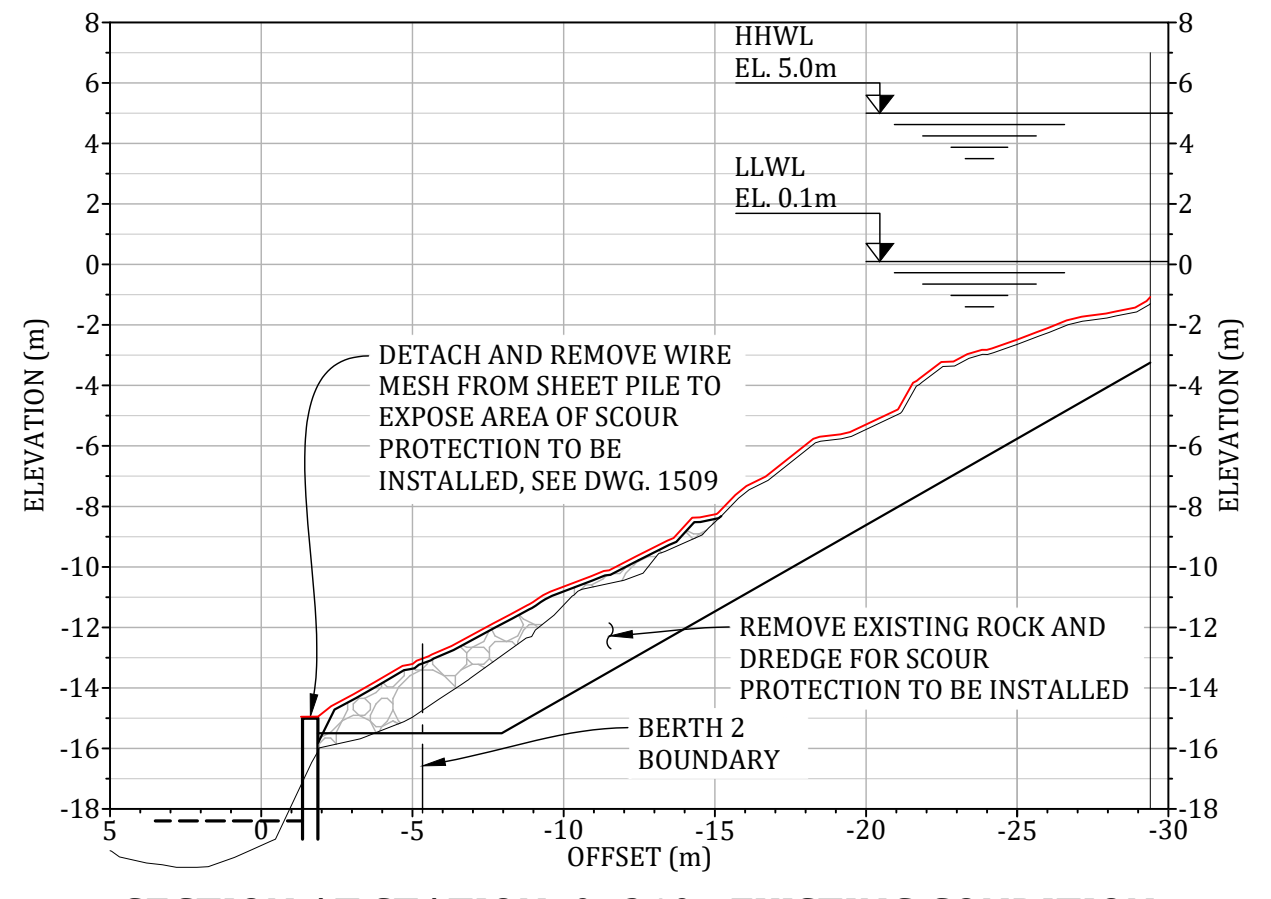
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SHEET 1 OF 1
DRAWING NO. 317071-00041-03-MA-DGA-1536
REV: A



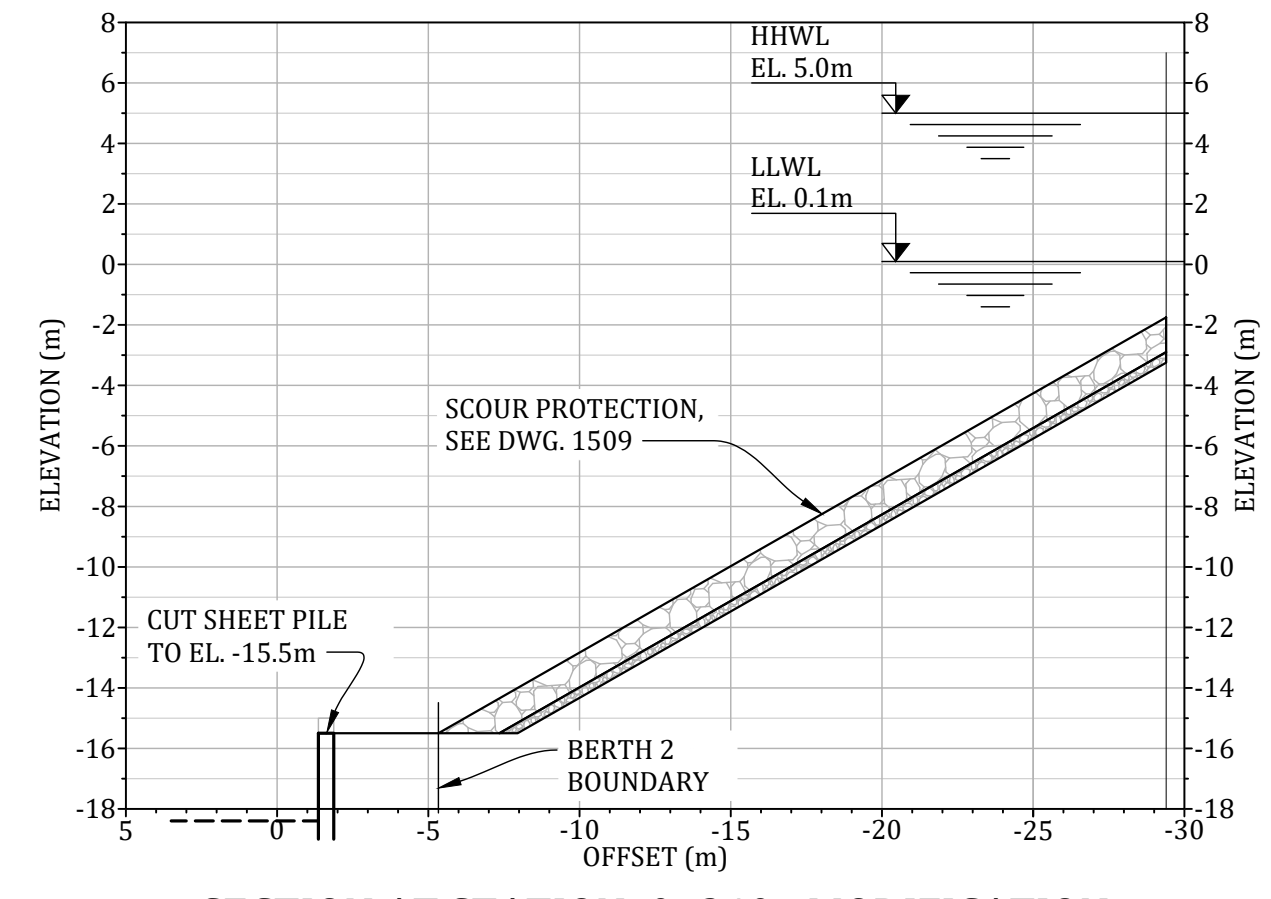
PLAN
1:150



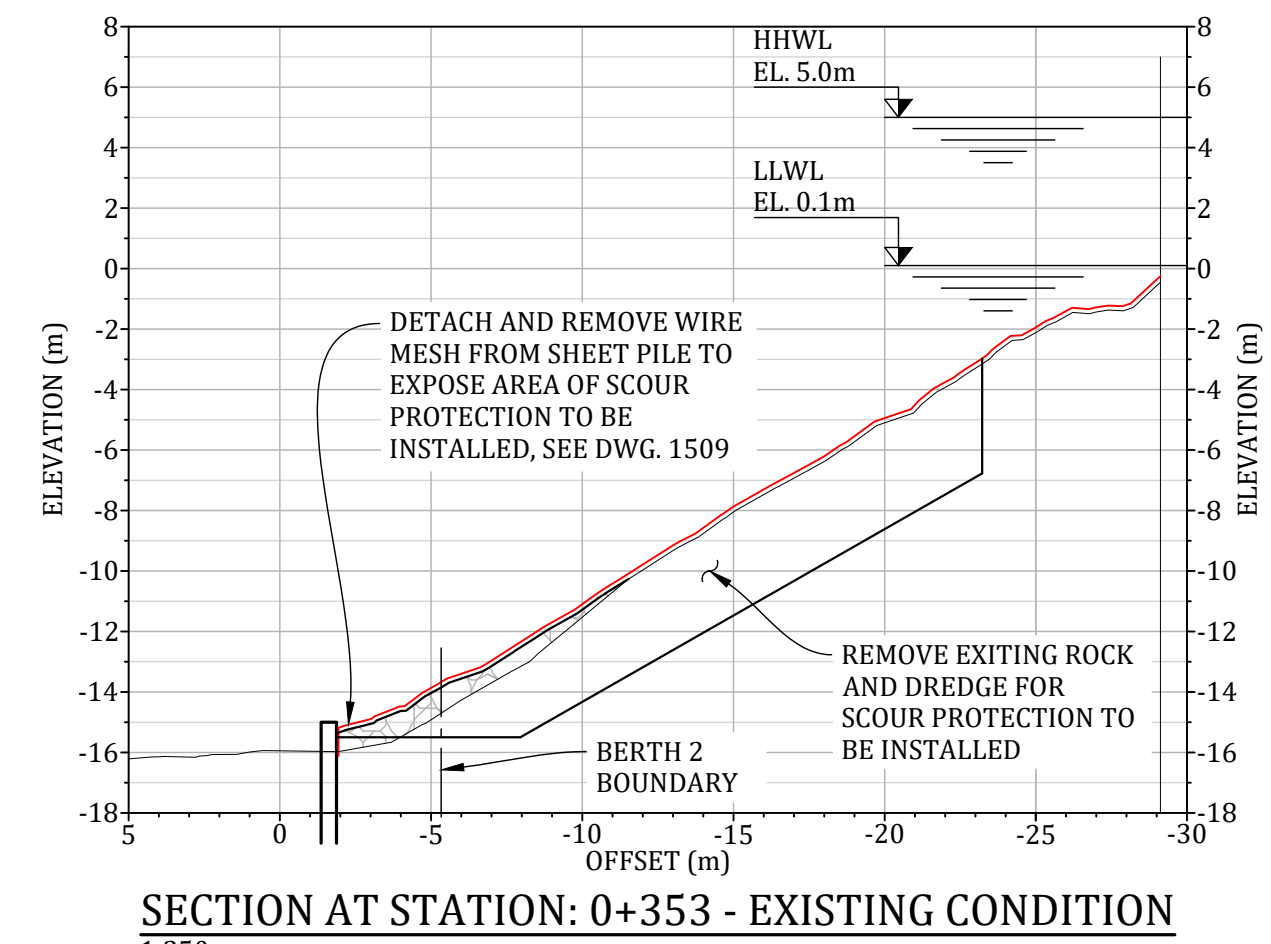
ELEVATION
1:150



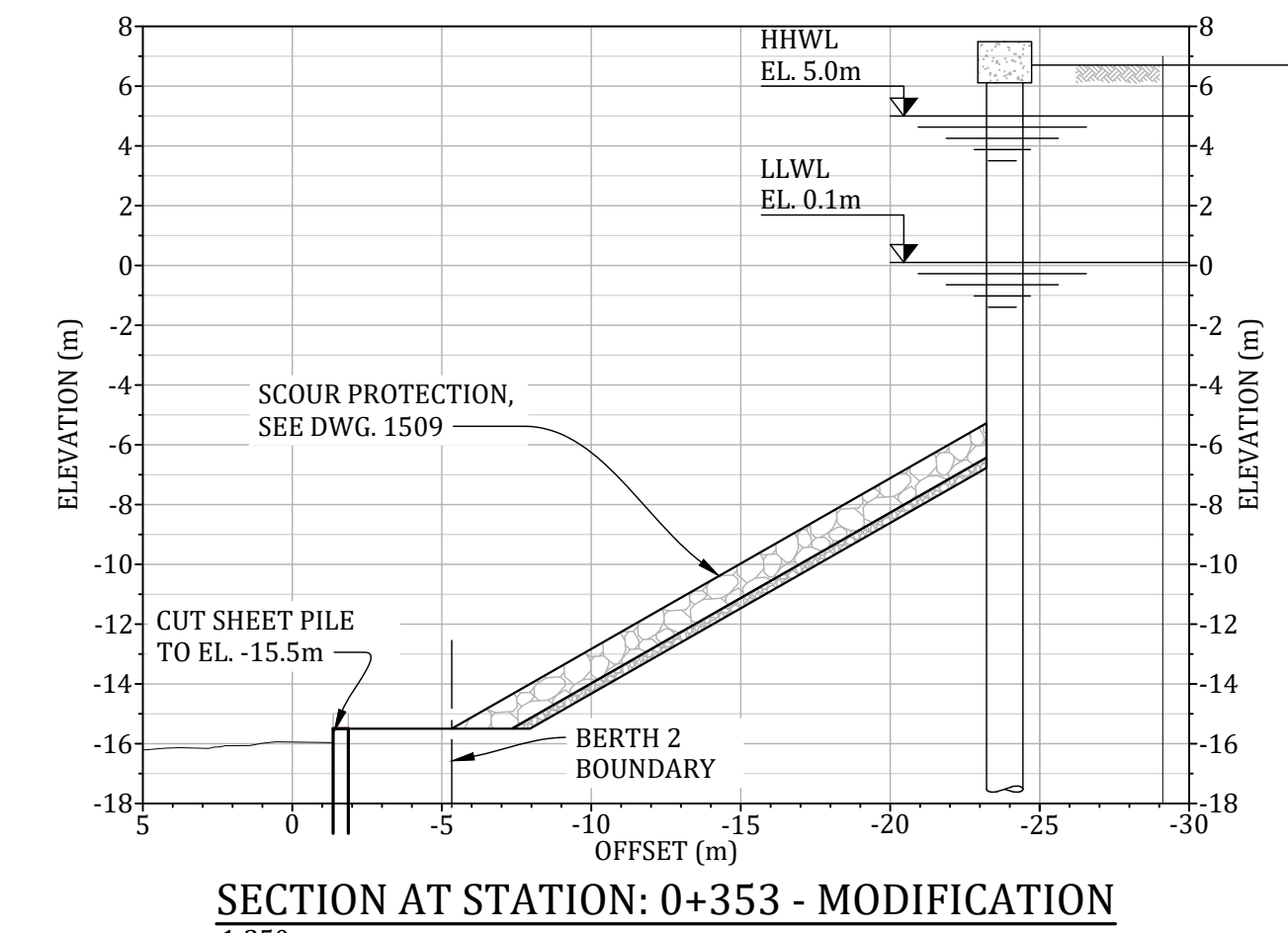
SECTION AT STATION: 0+340 - EXISTING CONDITION
1:250



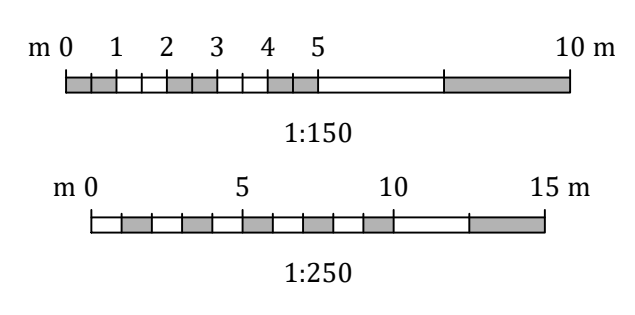
SECTION AT STATION: 0+340 - MODIFICATION
1:250



SECTION AT STATION: 0+353 - EXISTING CONDITION
1:250



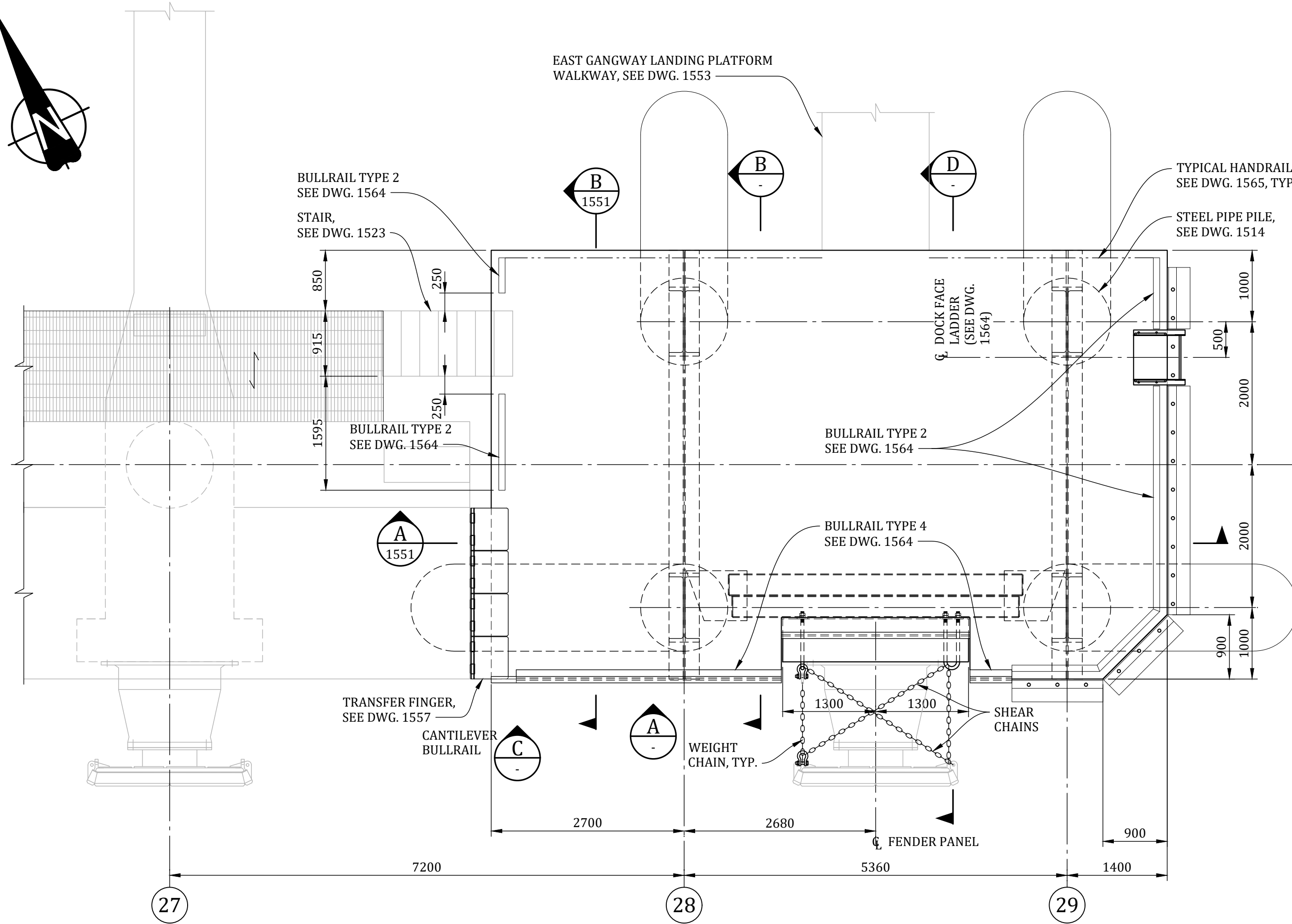
SECTION AT STATION: 0+353 - MODIFICATION
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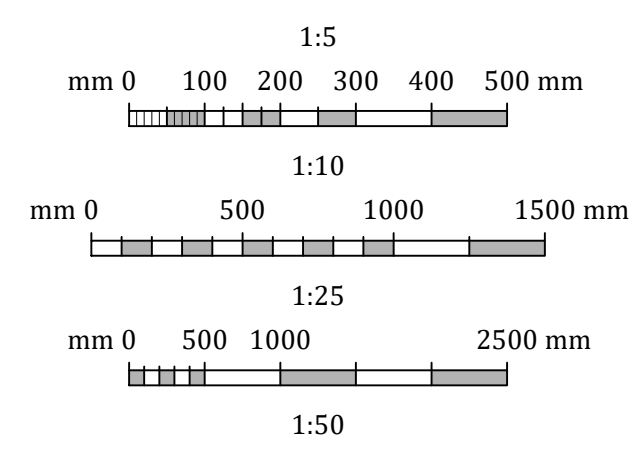
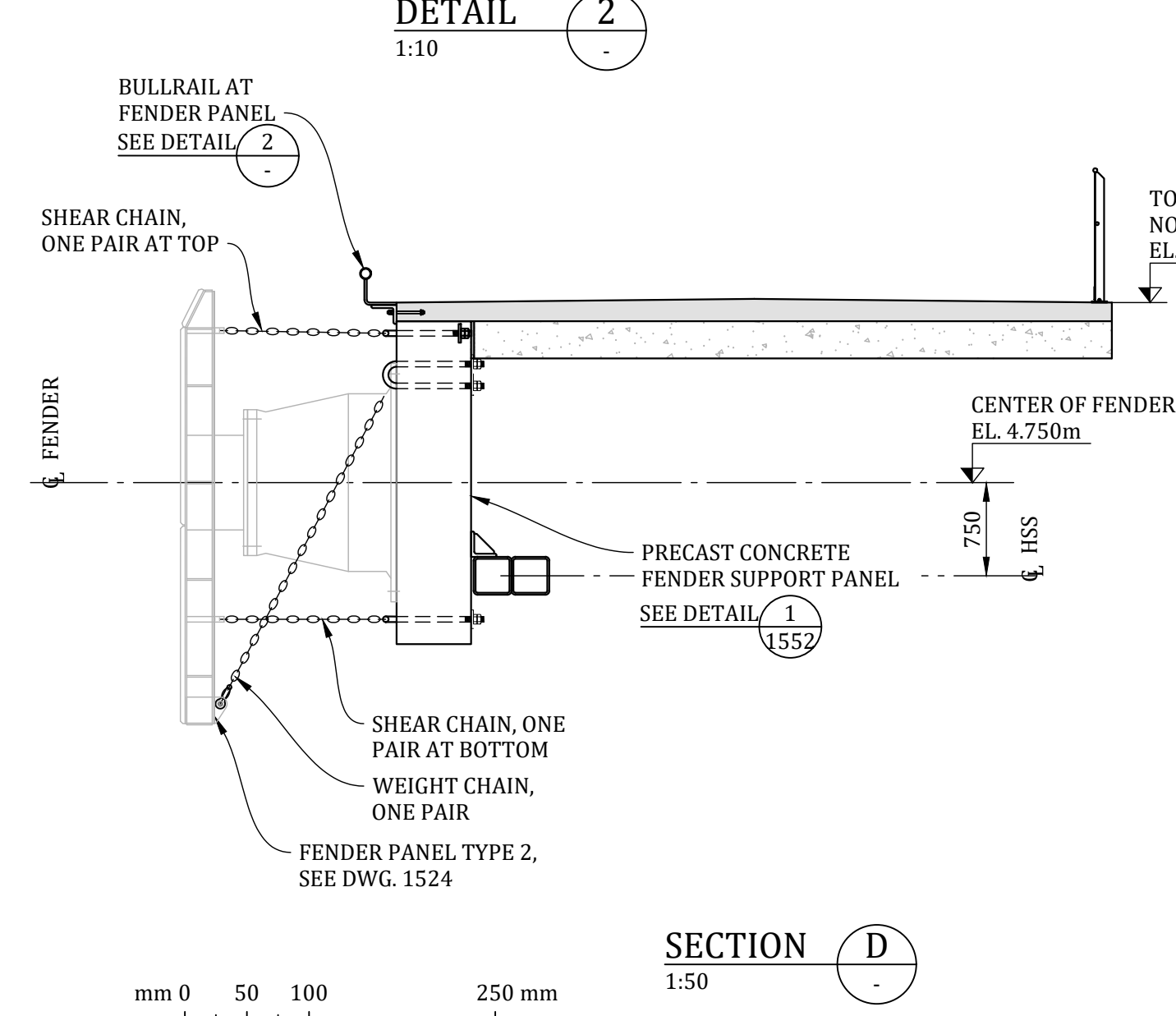
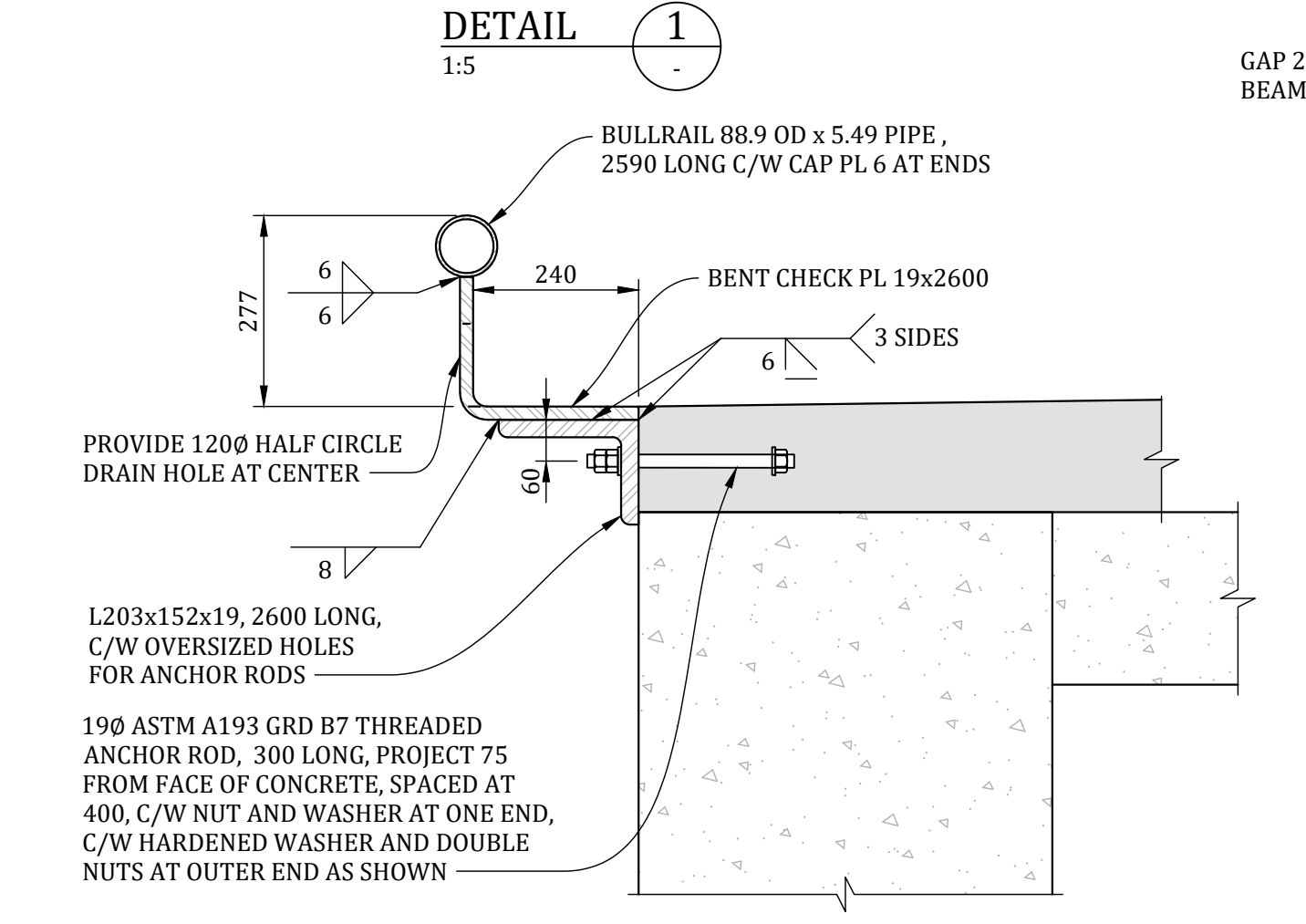
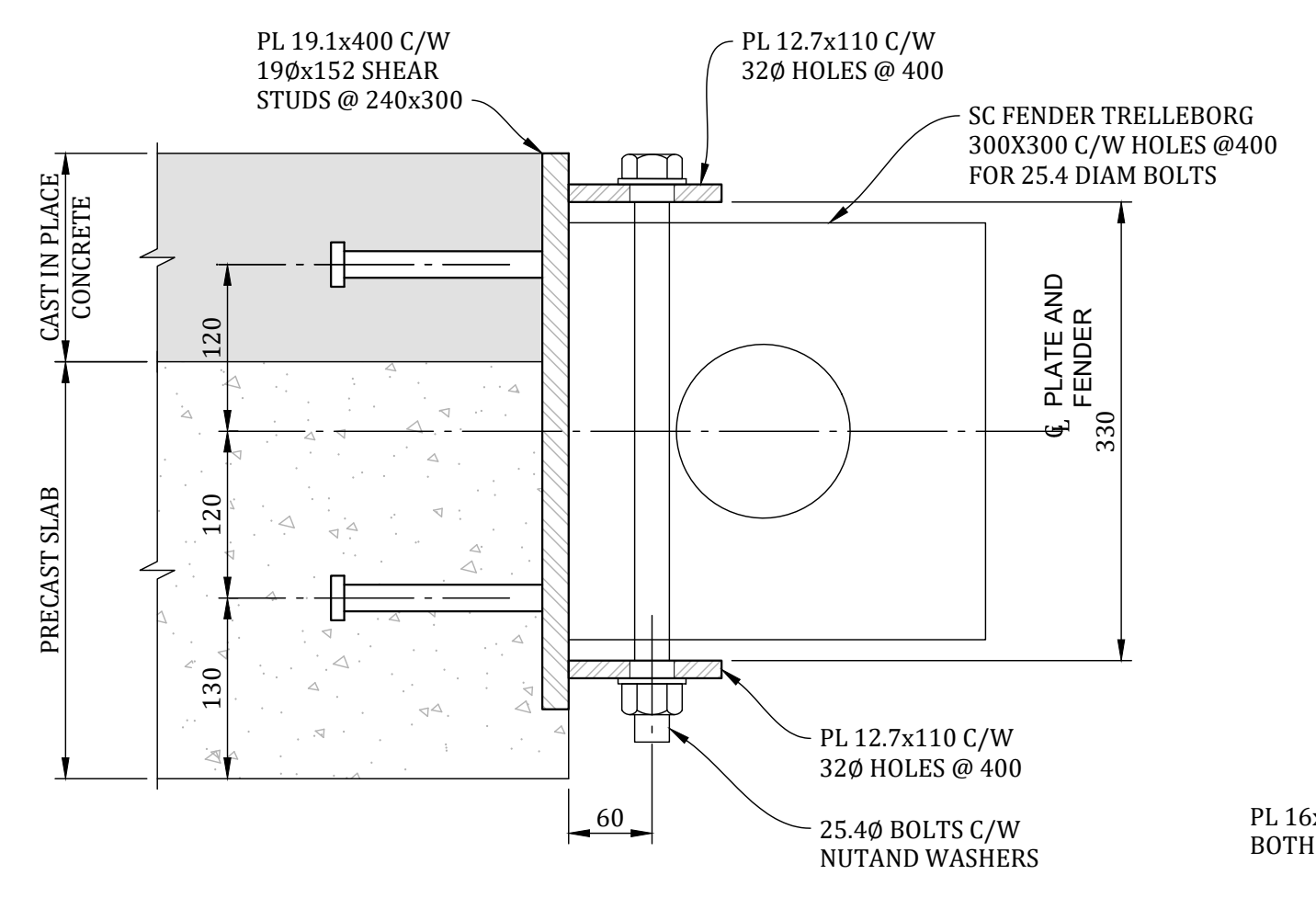
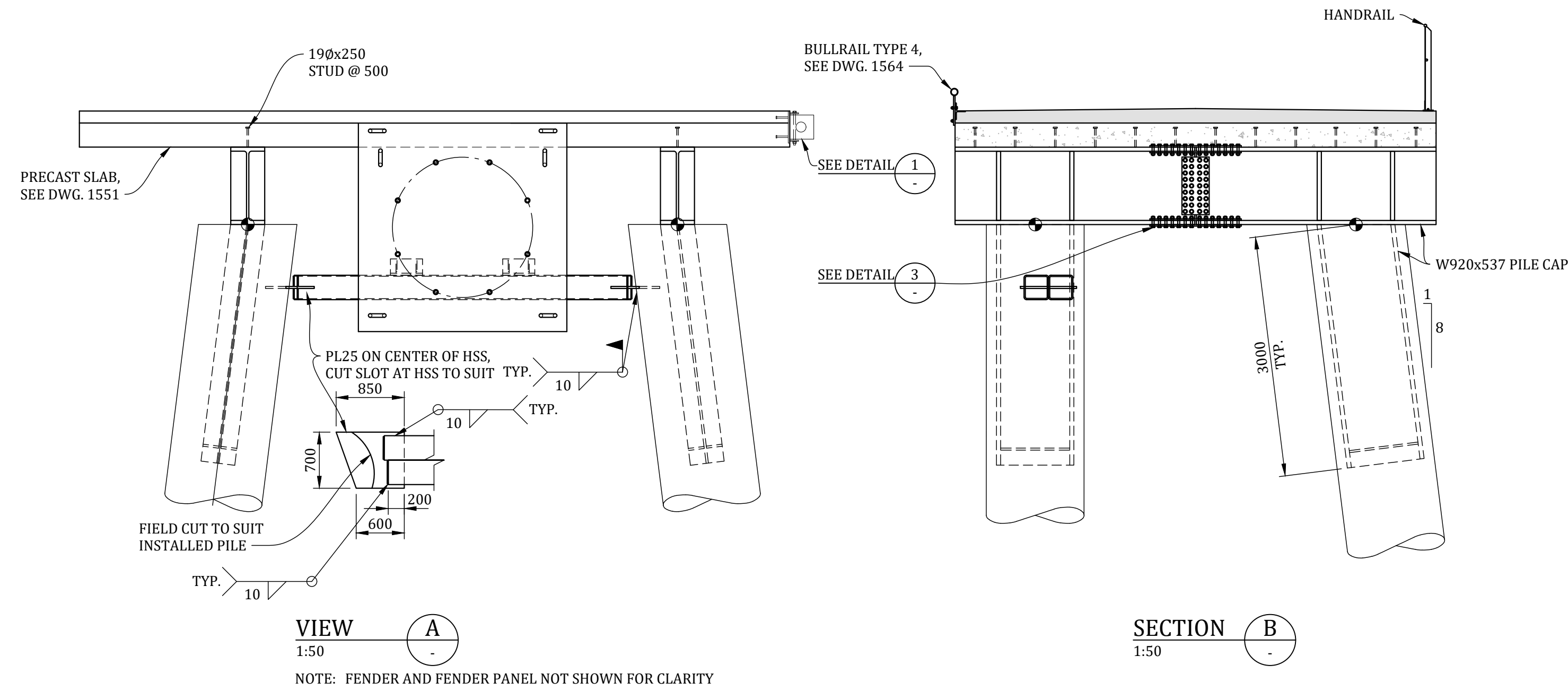
PRELIMINARY
DO NOT USE FOR CONSTRUCTION
Last Saved: Feb. 16/23 5:22pm

PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL MARINE STRUCTURES			
SYSTEM: POTASH								BERTH 1 PONY WALL MODIFICATION - PLAN AND SECTIONS			
ASSET: 221		REV: A		2022-02-16		ISSUED FOR CLIENT REVIEW		AAL		AMT	
DISCIPLINE: STRUCTURAL		REV: YYY-MM-DD		DESCRIPTION		DRAWN		APPROVED		VENDOR P2P:	
DRAWING NO. REFERENCE DRAWINGS / DESIGN STANDARDS		ISSUES / REVISIONS		VENDOR P2P:		OEM:		SCALE: SHOWN SHEET 1 OF 1 DRAWING NO. 317071-00041-03-MA-DGA-1537 REV: A			

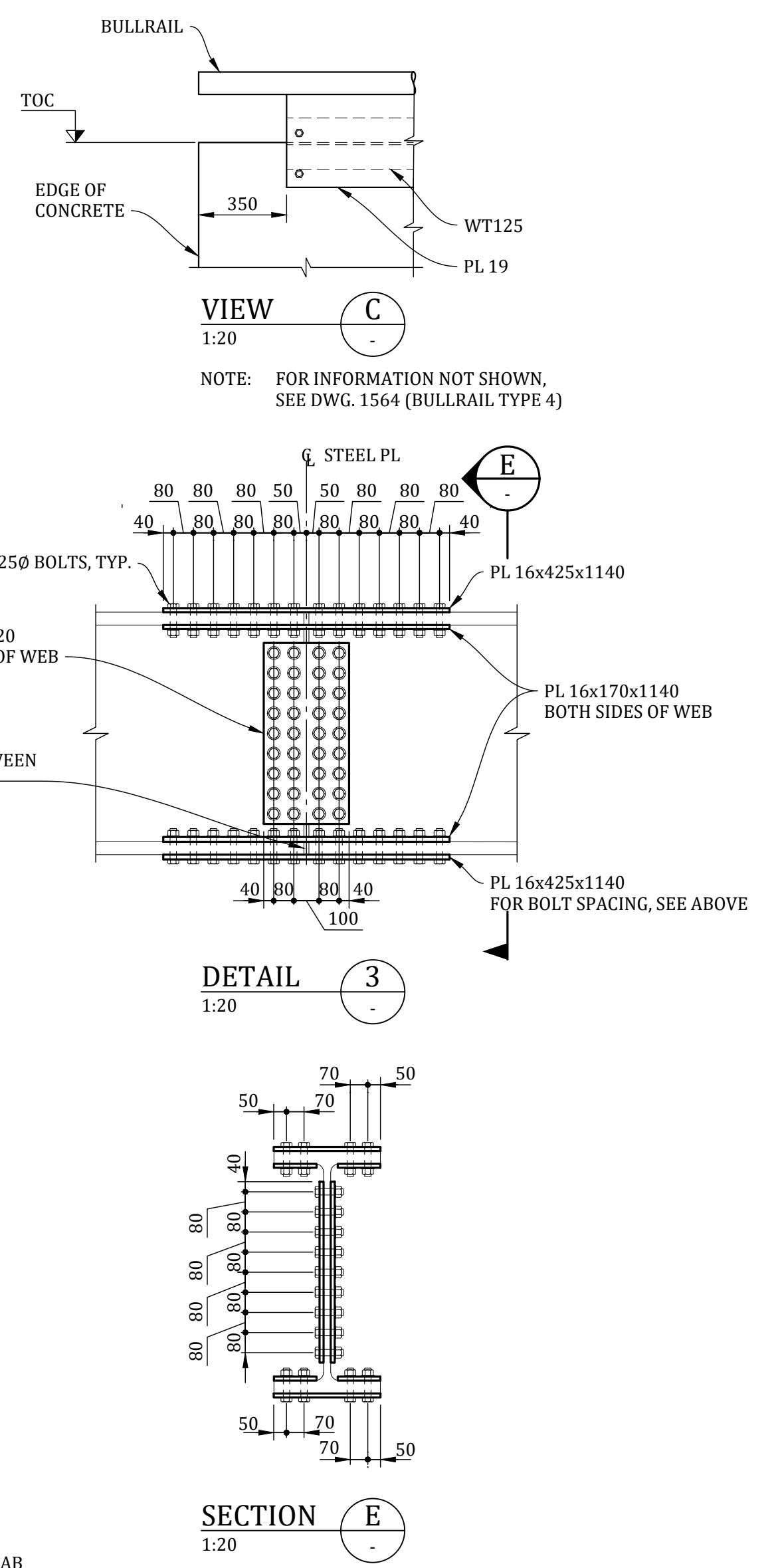
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PLAN - EAST GANGWAY LANDING PLATFORM
1:50



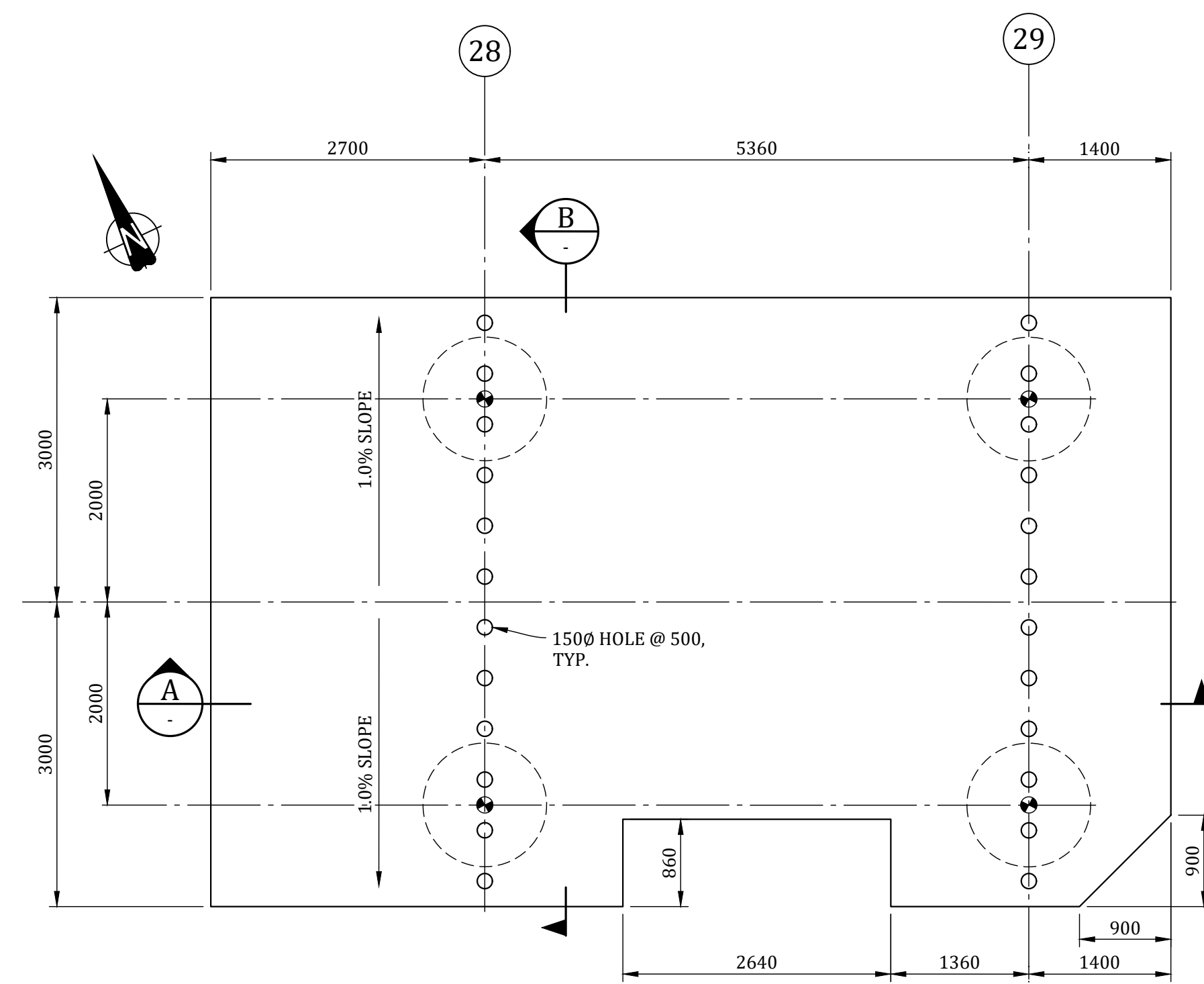
PRELIMINARY
DO NOT USE FOR CONSTRUCTION
Last Saved: Feb. 16/23 5:20pm



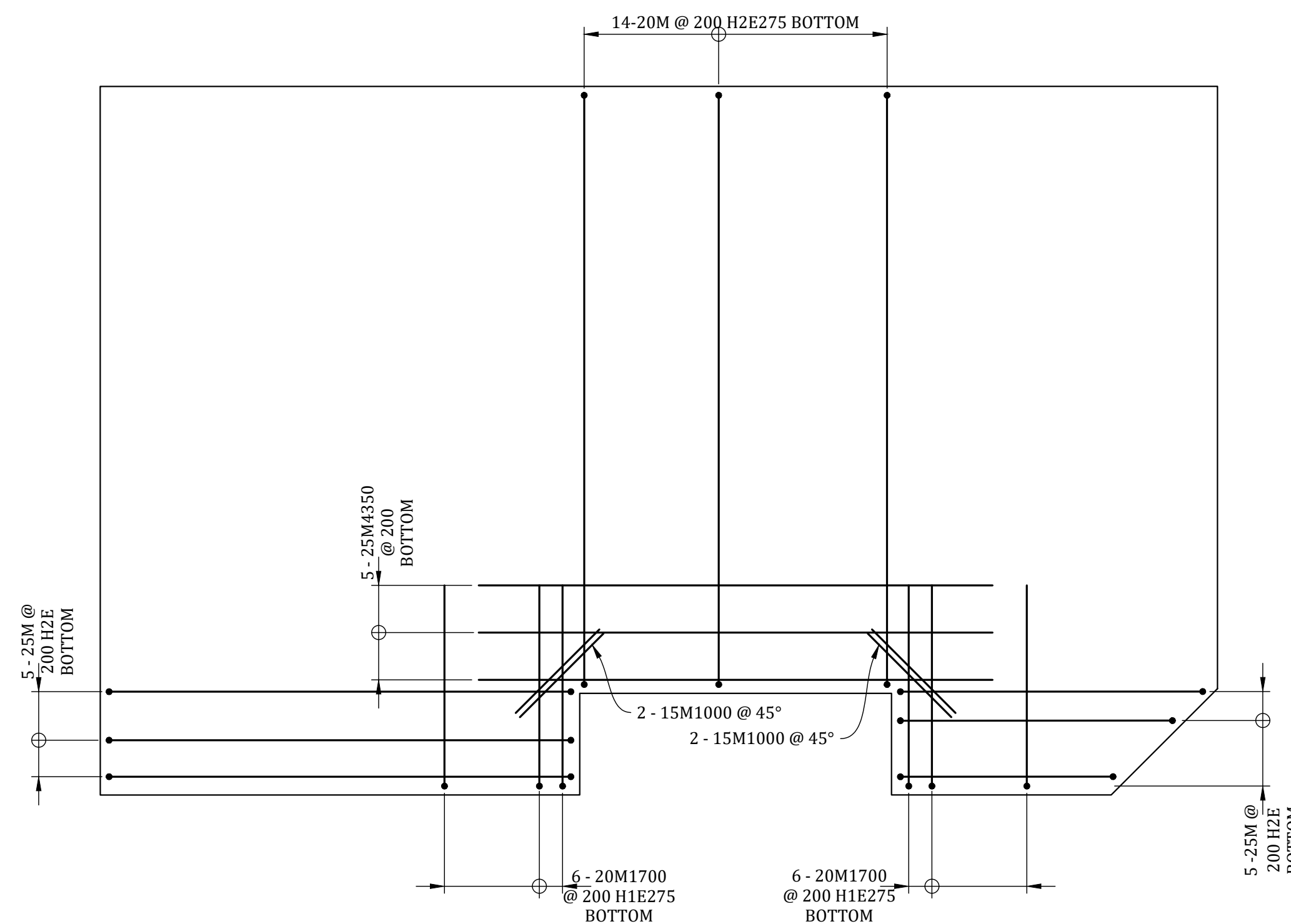
- NOTES:**
- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.
 - FOR PILE DETAILS, SEE DWG. 317071-00041-03-MA-DGA-1514.
 - FOR FENDER PANEL CHAIN INFORMATION, SEE DWG. 317071-00041-03-MA-DGA-1524.

PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL	
SYSTEM: POTASH				317071-00041 *This drawing is prepared for the use of the contractual customer of Worley Canada Services Ltd. and Worley Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.*				EAST GANGWAY LANDING PLATFORM	
ASSET: 251		A 2023-02-16 ISSUED FOR CLIENT REVIEW		OEM:				PLAN AND SECTIONS	
DISCIPLINE: STRUCTURAL		REV YYYY-MM-DD DESCRIPTION		DRAWN APPROVED		Neptune TERMINALS		SCALE: SHEET OF DRAWING NO. REV:	
REFERENCE DRAWINGS / DESIGN STANDARDS		ISSUES / REVISIONS		VENDOR P2P:		THIS DRAWING IS THE PROPERTY OF NEPTUNE BULK TERMINALS (CANADA) LTD. NEITHER THIS DRAWING NOR ANY PORTION THEREOF SHALL BE REPRODUCED WITHOUT WRITTEN PERMISSION FROM NEPTUNE BULK TERMINALS (CANADA) LTD.		SHOWN 1 1 317071-00041-03-MA-DGA-1550 A	

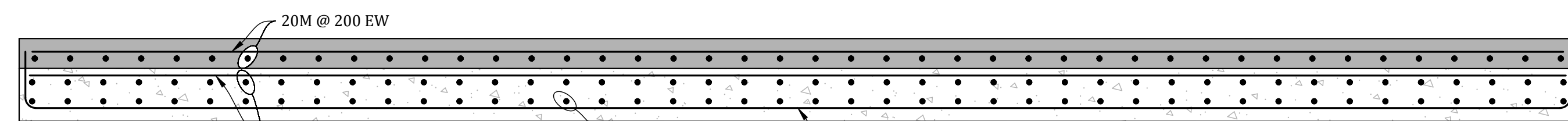
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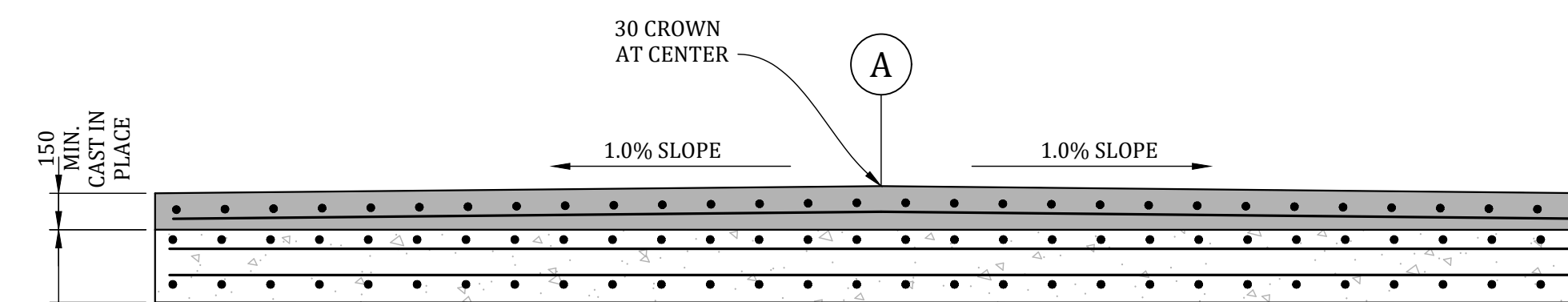
PLAN - PRECAST SLAB
1:50



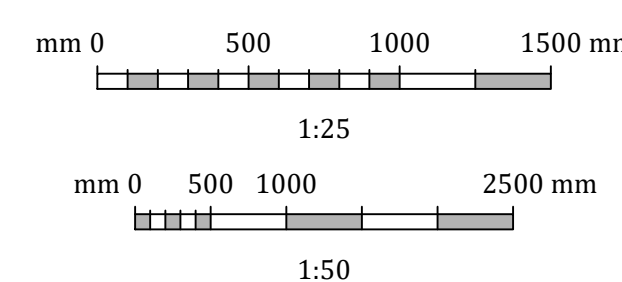
PLAN - ADDITIONAL REINFORCEMENT -
BLOCKOUT AT PRECAST SLAB
1:40



SECTION A
1:25
1551



SECTION B
1:25
1551



PRELIMINARY
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Last Saved: Feb. 16/23 5:20pm

NOTES:

- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.

PROJECT / W.O.: B2 MARINE WORKS
SYSTEM: POTASH
ASSET: 251
DISCIPLINE: STRUCTURAL

REV	YYYY-MM-DD	DESCRIPTION	DRAWN	APPROVED
A	2023-02-16	ISSUED FOR CLIENT REVIEW	CH	AMT

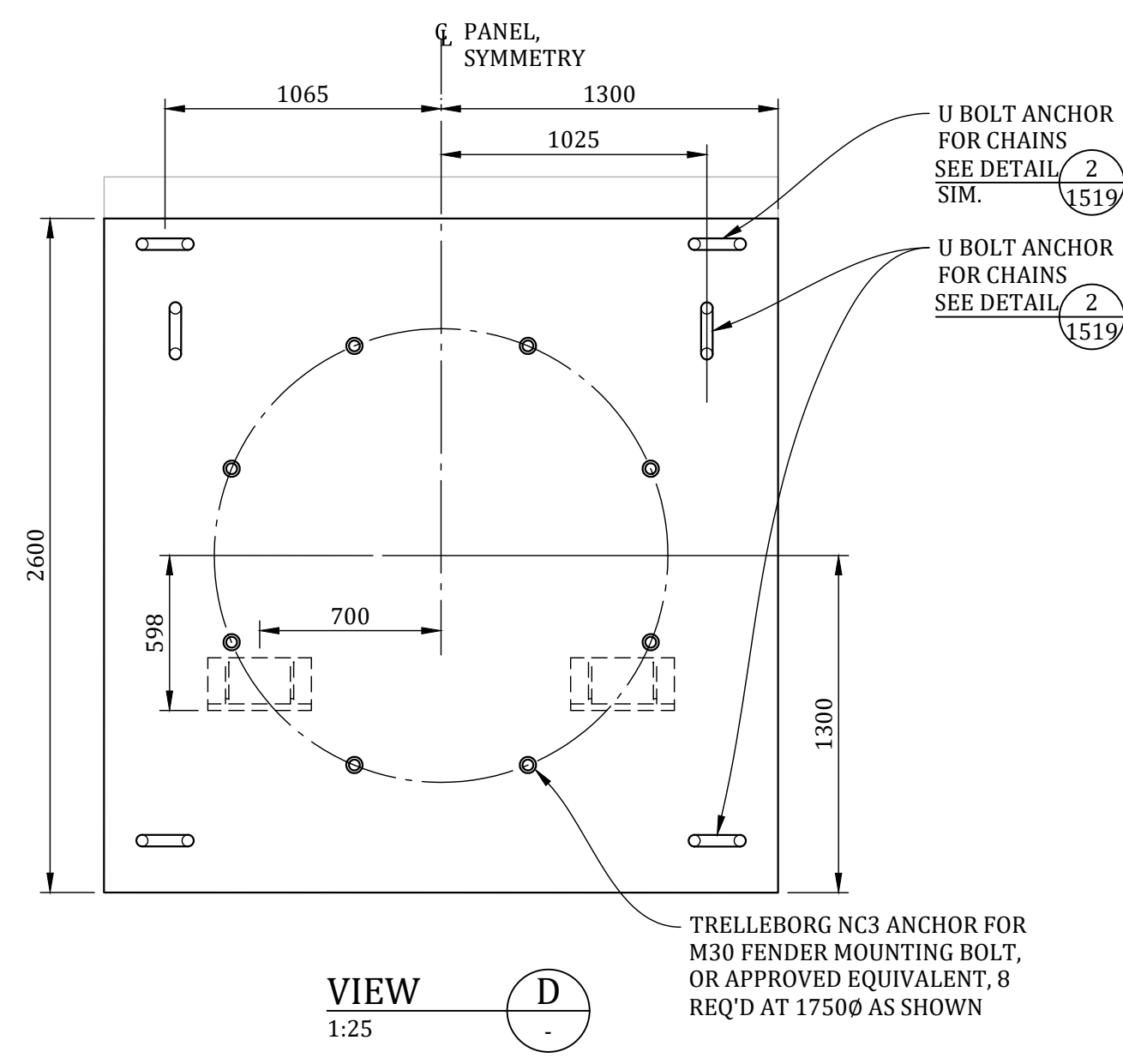
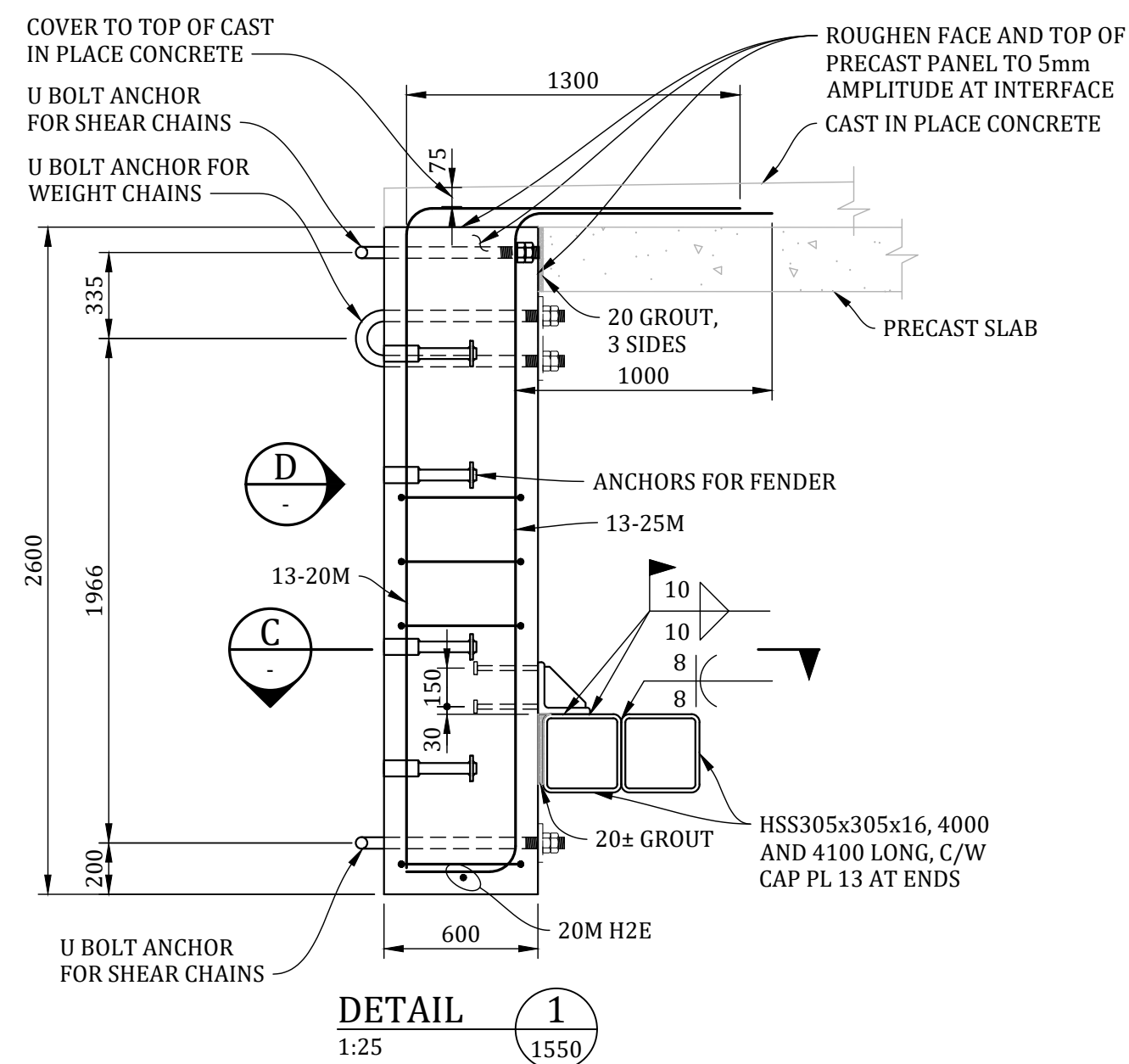
ENGINEERING SEAL:
VENDOR P2P:

VENDOR: **Advisian**
317071-00041
Worley Group
This drawing is prepared for the use of the contractual customer of Worley Canada Services Ltd. and Worley Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.
OEM:

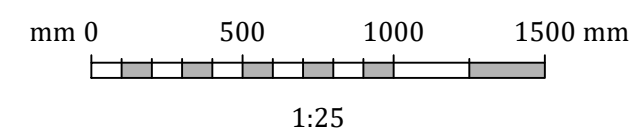
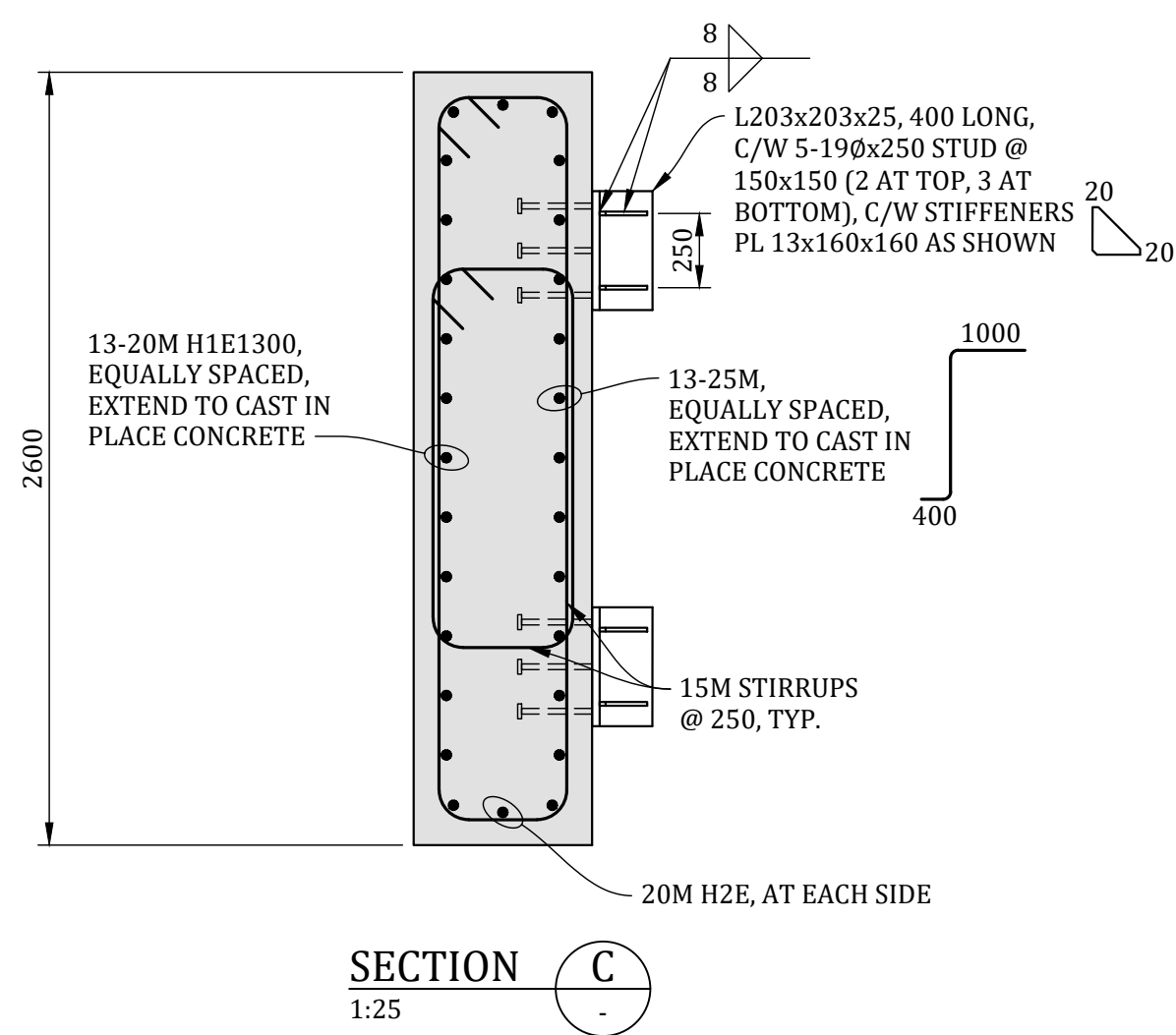
ISSUED AS RECORD COPY? (YES/NO) NO
Neptune TERMINALS
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TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL EAST GANGWAY LANDING PLATFORM DETAILS - SHEET 1		SCALE: SHOWN	SHEET OF 1 1	DRAWING NO. 317071-00041-03-MA-DGA-1551	REV: A
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U:\YVR\317071\00041_NEP_B2SHIPLOADER\11_DRAWINGS\15_I_AND_E\02_MARINE\317071-00041-03-MA-DGA-1551-1552.DWG DATE: 2023-02-16



NOTE: CONFIRM WITH RUBBER FENDER AND CHAIN SHOP DRAWINGS PRIOR TO FABRICATION AND INSTALLATION OF FENDER FIXING INSERTS AND CHAIN LUGS



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NOTES:
1. FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.

DRAWING NO.	DRAWING DESCRIPTION / TITLE
1	REFERENCE DRAWINGS / DESIGN STANDARDS

PROJECT / W.O.:	B2 MARINE WORKS
SYSTEM:	POTASH
ASSET:	251
DISCIPLINE:	STRUCTURAL

REV	YYYY-MM-DD	DESCRIPTION	DRAWN	APPROVED
A	2023-02-16	ISSUED FOR CLIENT REVIEW	GL	AMT
ISSUES / REVISIONS				

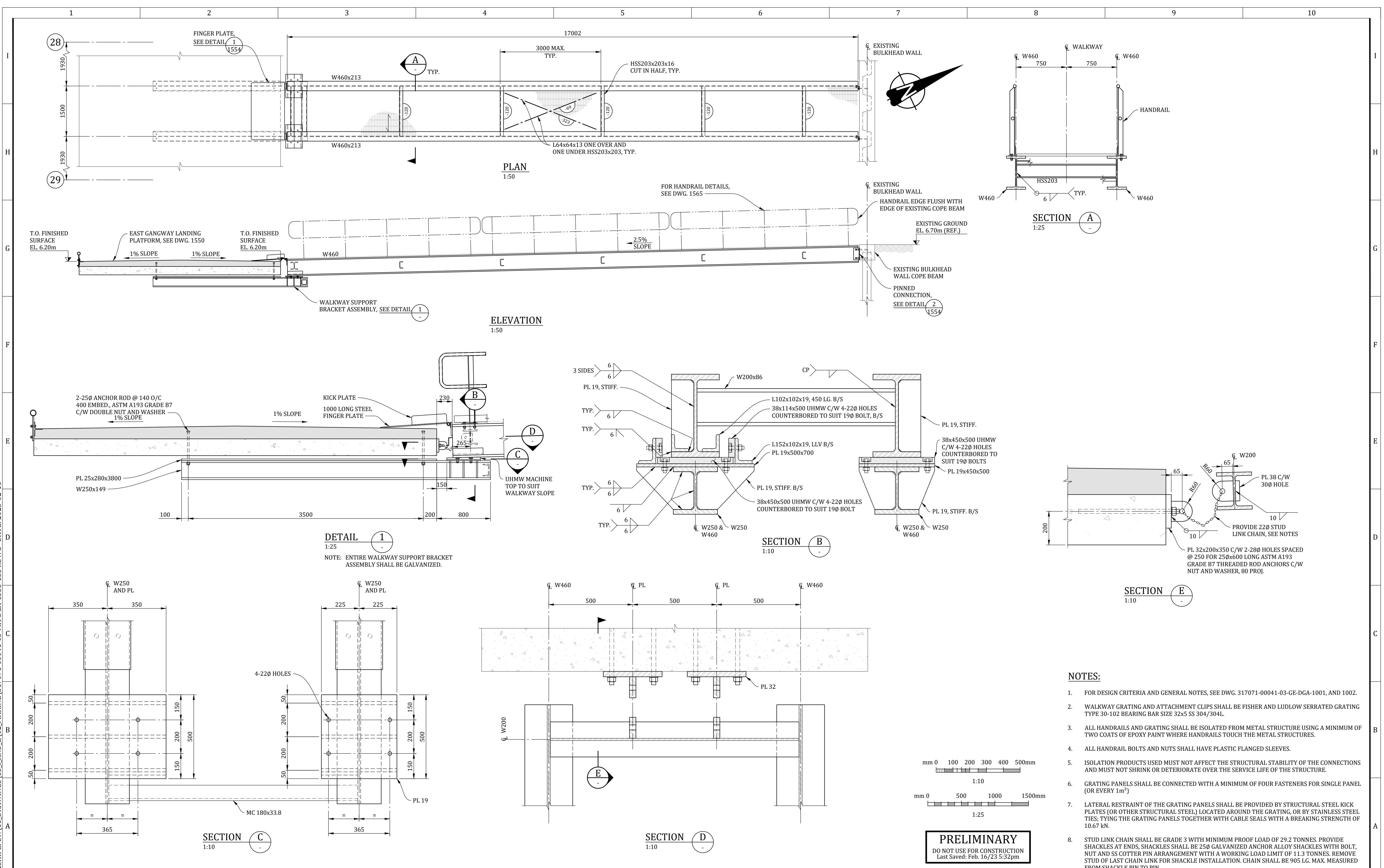
ENGINEERING SEAL:
VENDOR P2P:

VENDOR: **Advisian**
317071-00041
This drawing is prepared for the use of the contractual customer of Worley Canada Services Ltd. and Worley Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.
OEM:

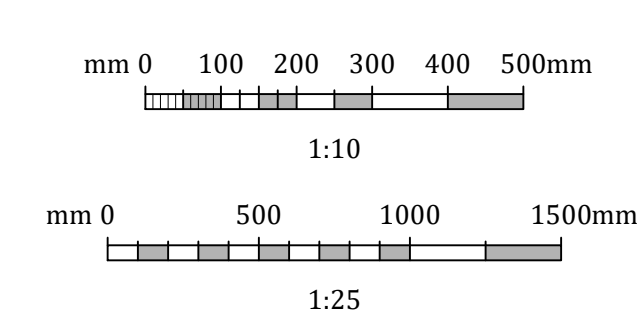
ISSUED AS RECORD COPY? (YES/NO) NO
Neptune TERMINALS
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TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL EAST GANGWAY LANDING PLATFORM DETAILS - SHEET 2			
SCALE: SHOWN	SHEET 1	OF 1	DRAWING NO. 317071-00041-03-MA-DGA-1552
REV: A			

U:\VVR\317071\00041_NEP_B2SHIPLOADER\11_DRAWINGS\15_I_AND_E\02_MARINE\317071-00041-03-MA-DGA-1550-1551-1552.DWG DATE: 2023-02-16

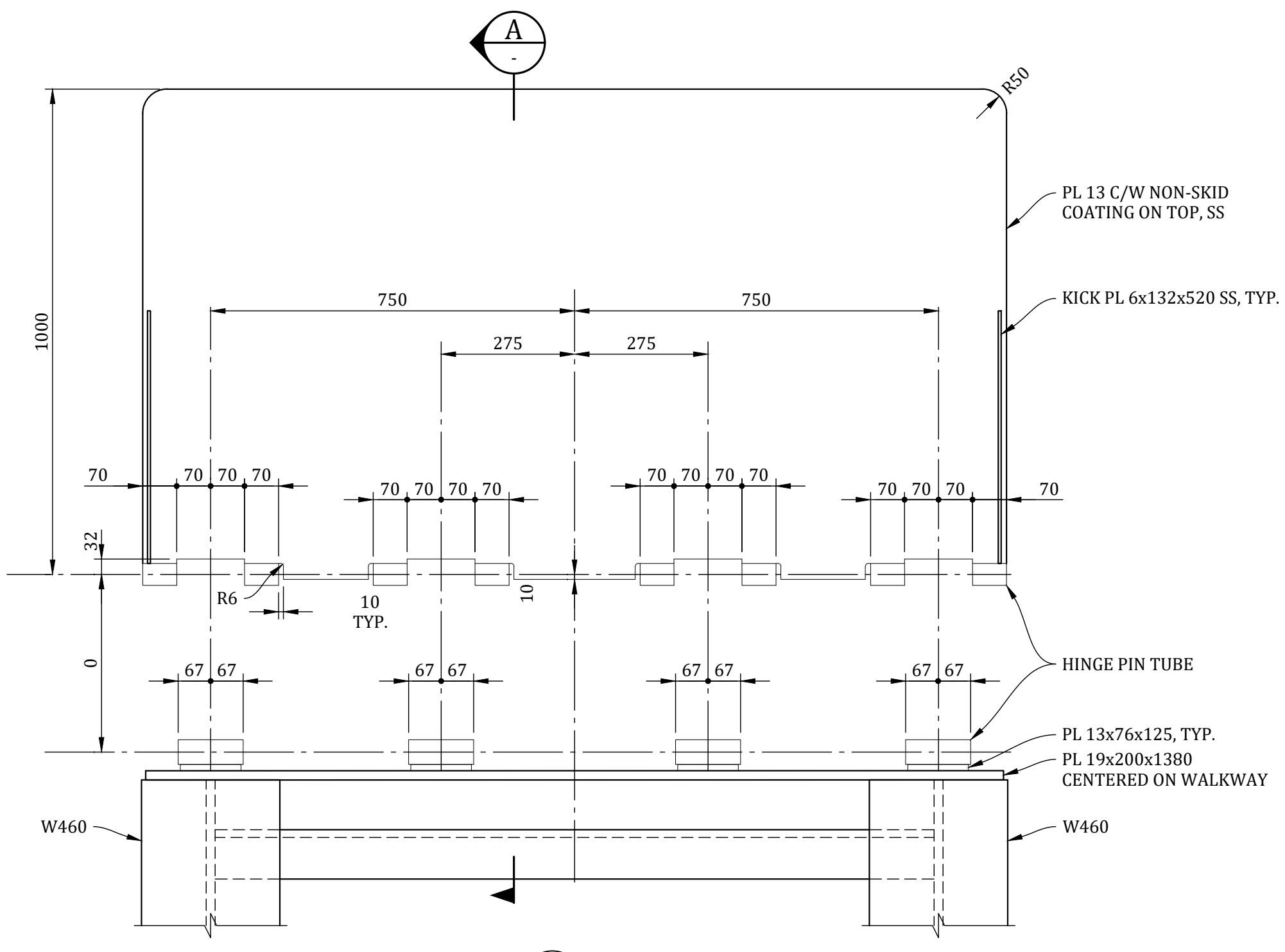


- NOTES:**
- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.
 - WALKWAY GRATING AND ATTACHMENT CLIPS SHALL BE FISHER AND LUDLOW SERRATED GRATING TYPE 30-102 BEARING BAR SIZE 32x55 SS 304/304L.
 - ALL HANDRAILS AND GRATING SHALL BE ISOLATED FROM METAL STRUCTURE USING A MINIMUM OF TWO COATS OF EPOXY PAINT WHERE HANDRAILS TOUCH THE METAL STRUCTURES.
 - ALL HANDRAIL BOLTS AND NUTS SHALL HAVE PLASTIC FLANGED SLEEVES.
 - ISOLATION PRODUCTS USED MUST NOT AFFECT THE STRUCTURAL STABILITY OF THE CONNECTIONS AND MUST NOT SHRINK OR DETERIORATE OVER THE SERVICE LIFE OF THE STRUCTURE.
 - GRATING PANELS SHALL BE CONNECTED WITH A MINIMUM OF FOUR FASTENERS FOR SINGLE PANEL (OR EVERY 1m²).
 - LATERAL RESTRAINT OF THE GRATING PANELS SHALL BE PROVIDED BY STRUCTURAL STEEL KICK PLATES (OR OTHER STRUCTURAL STEEL) LOCATED AROUND THE GRATING, OR BY STAINLESS STEEL TIES; TYING THE GRATING PANELS TOGETHER WITH CABLE SEALS WITH A BREAKING STRENGTH OF 10.67 kN.
 - STUD LINK CHAIN SHALL BE GRADE 3 WITH MINIMUM PROOF LOAD OF 29.2 TONNES. PROVIDE SHACKLES AT ENDS, SHACKLES SHALL BE 250 GALVANIZED ANCHOR ALLOY SHACKLES WITH BOLT, NUT AND SS COTTER PIN ARRANGEMENT WITH A WORKING LOAD LIMIT OF 11.3 TONNES. REMOVE STUD OF LAST CHAIN LINK FOR SHACKLE INSTALLATION. CHAIN SHALL BE 905 LG. MAX. MEASURED FROM SHACKLE PIN TO PIN.

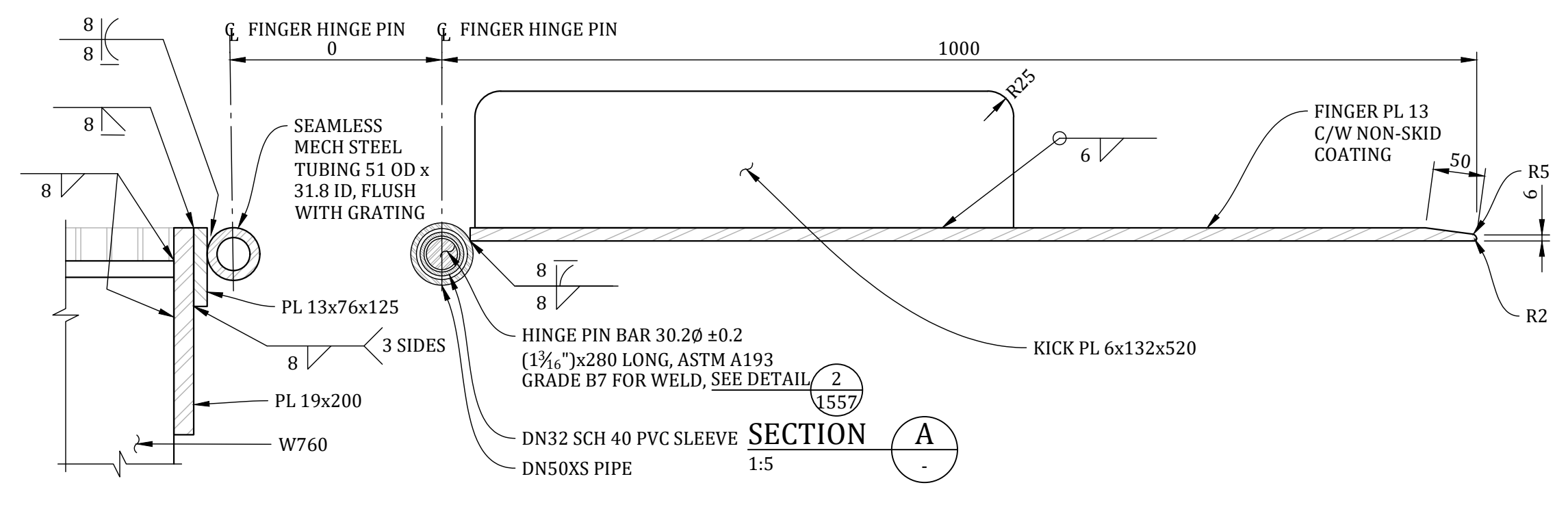


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Last Saved: Feb. 16/23 5:32pm

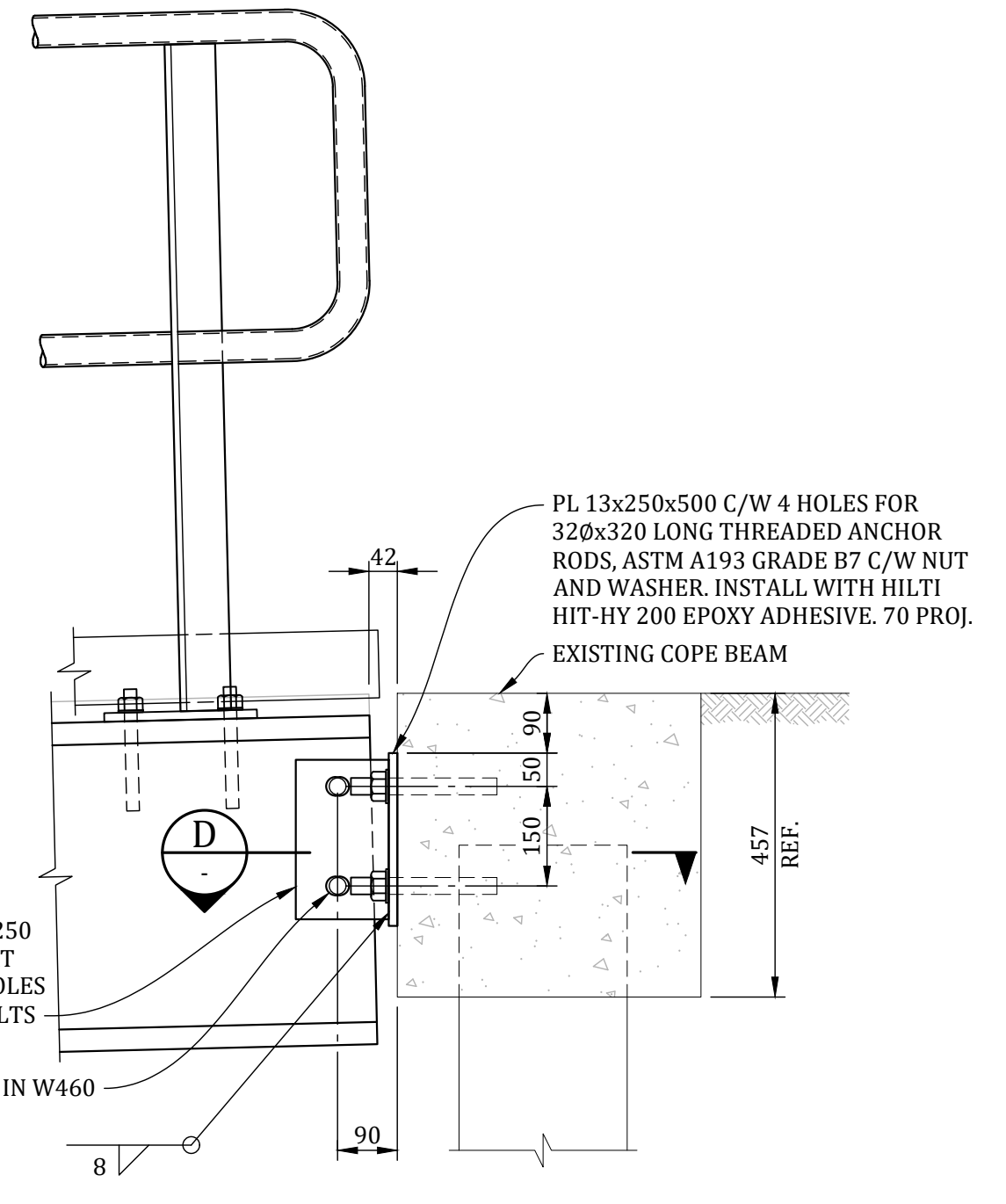
PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 <small>*This drawing is prepared for the use of the contractual customer of Worley Canada Services Ltd. and Worley Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.*</small>		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL EAST GANGWAY LANDING PLATFORM - WALKWAY PLAN AND DETAILS			
SYSTEM: POTASH								SCALE: SHEET OF DRAWING NO. REV: SHOWN 1 1 317071-00041-03-MA-DGA-1553 A			
ASSET: 251		A 2023-02-16 ISSUED FOR CLIENT REVIEW		AAL AMT							
DISCIPLINE: STRUCTURAL		REV YYYY-MM-DD DESCRIPTION		DRAWN APPROVED							
REFERENCE DRAWINGS / DESIGN STANDARDS		ISSUES / REVISIONS		VENDOR P2P:							



DETAIL 1 FINGER ASSEMBLY
1:10

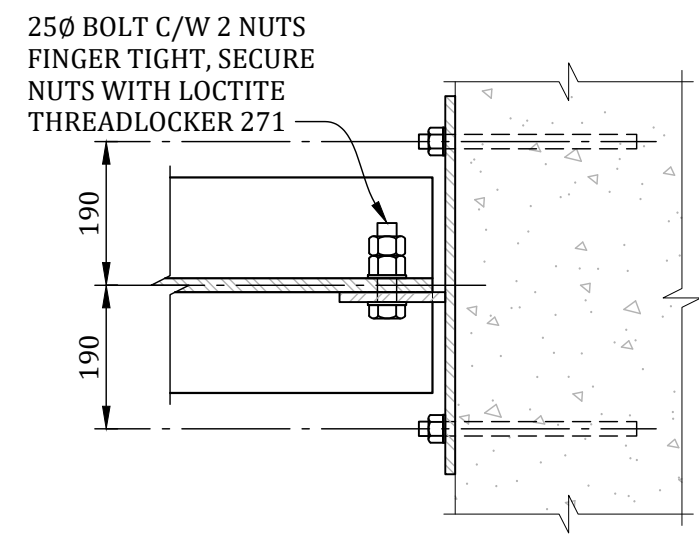


SECTION A
1:5



DETAIL 2
1:10

NOTE: CONTRACTOR SHALL INSPECT THE CONDITION OF THE COPE BEAM CONCRETE AND SHALL NOTIFY THE ENGINEER IF THE CONCRETE IS NOT SUITABLE FOR ANCHOR INSTALLATION



SECTION D
1:10

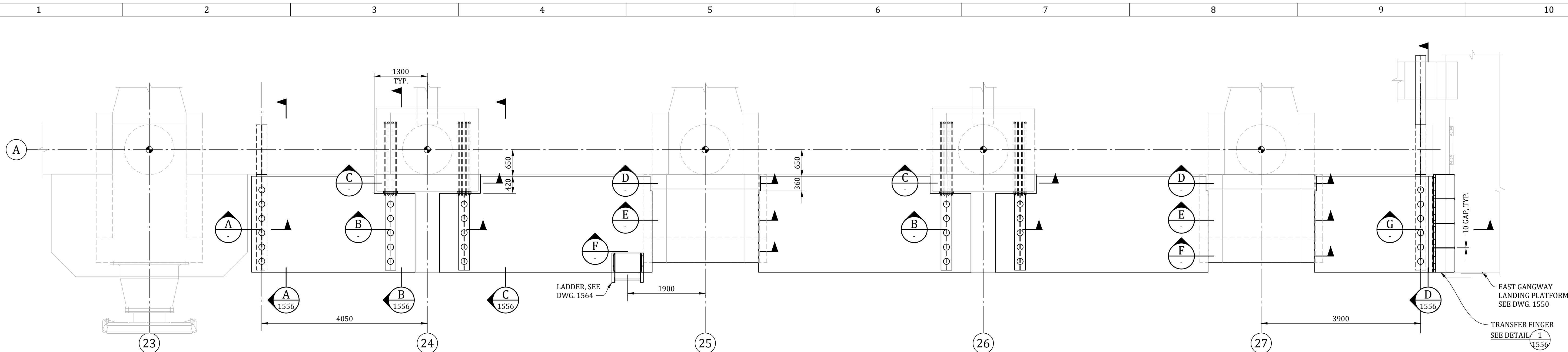


- NOTES:**
- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.
 - ALL HANDRAILS AND GRATING SHALL BE ISOLATED FROM METAL STRUCTURE USING A MINIMUM OF TWO COATS OF EPOXY PAINT WHERE HANDRAILS TOUCH THE METAL STRUCTURES.
 - ISOLATION PRODUCTS USED MUST NOT AFFECT THE STRUCTURAL STABILITY OF THE CONNECTIONS AND MUST NOT SHRINK OR DETERIORATE OVER THE SERVICE LIFE OF THE STRUCTURE.

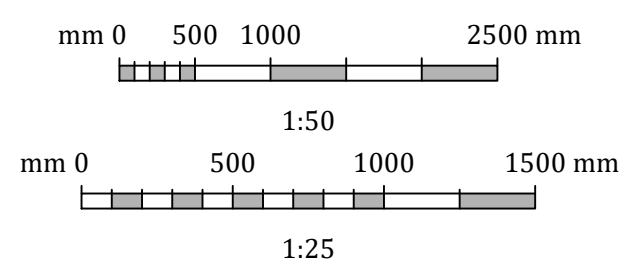
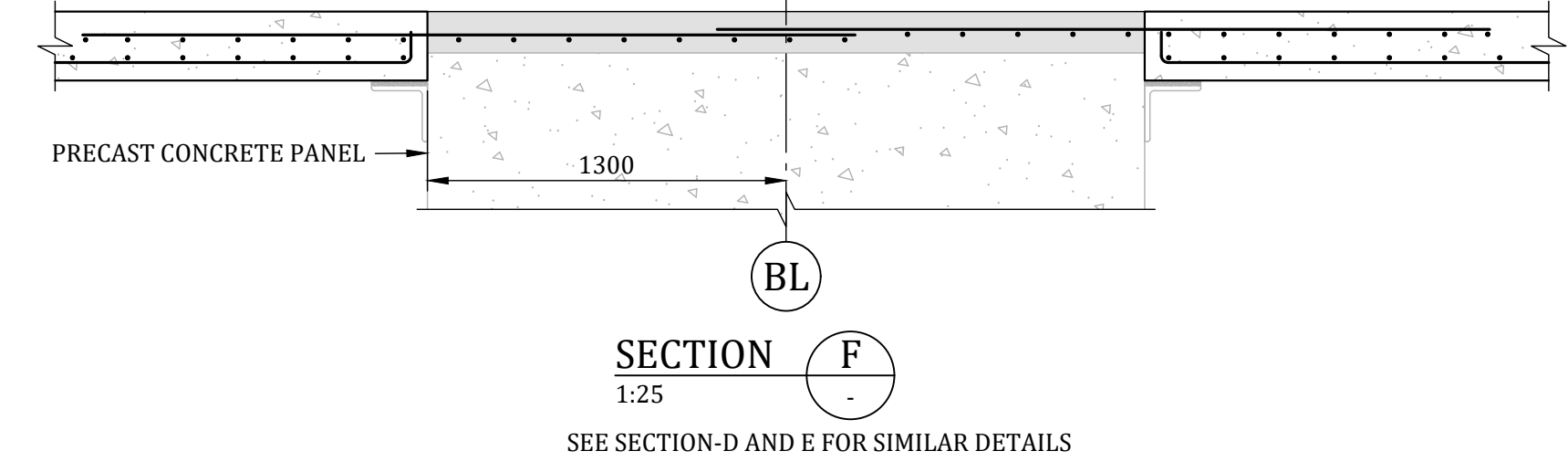
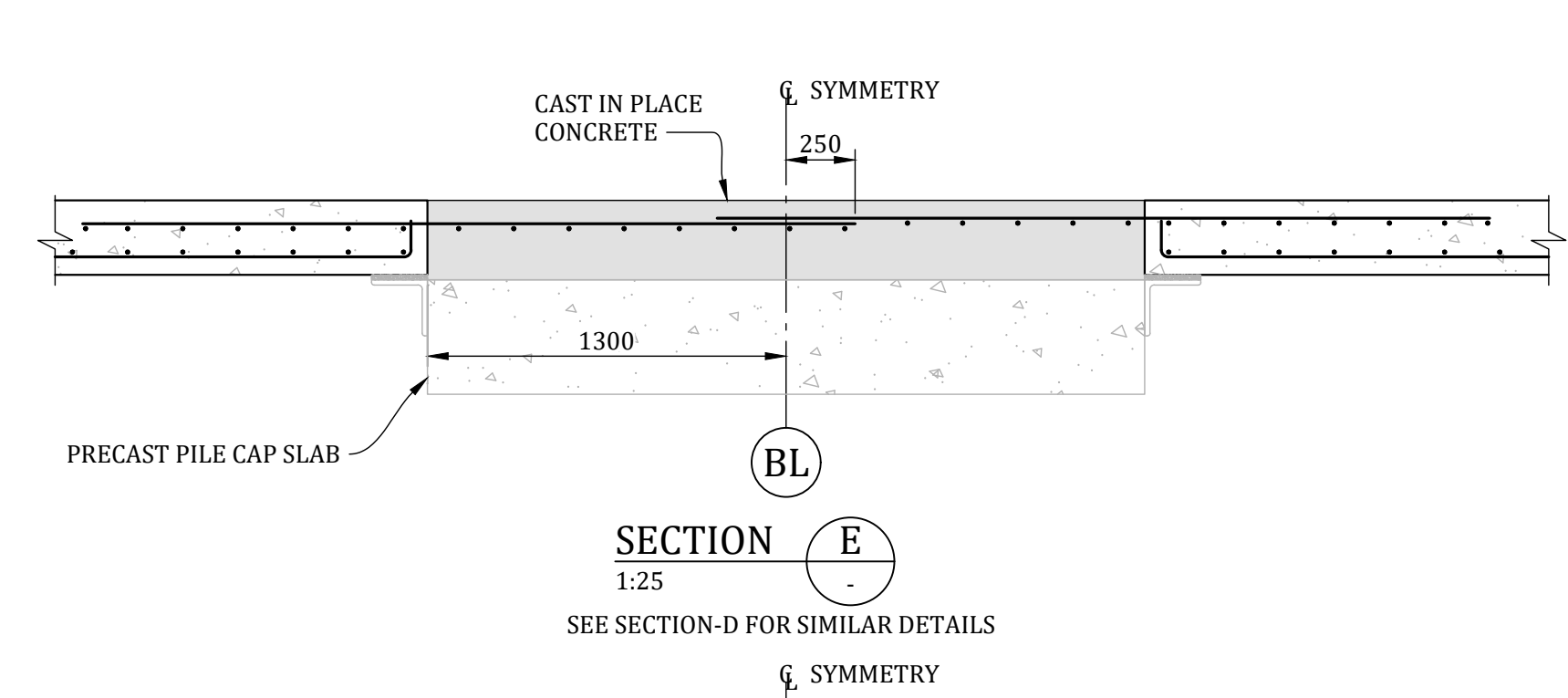
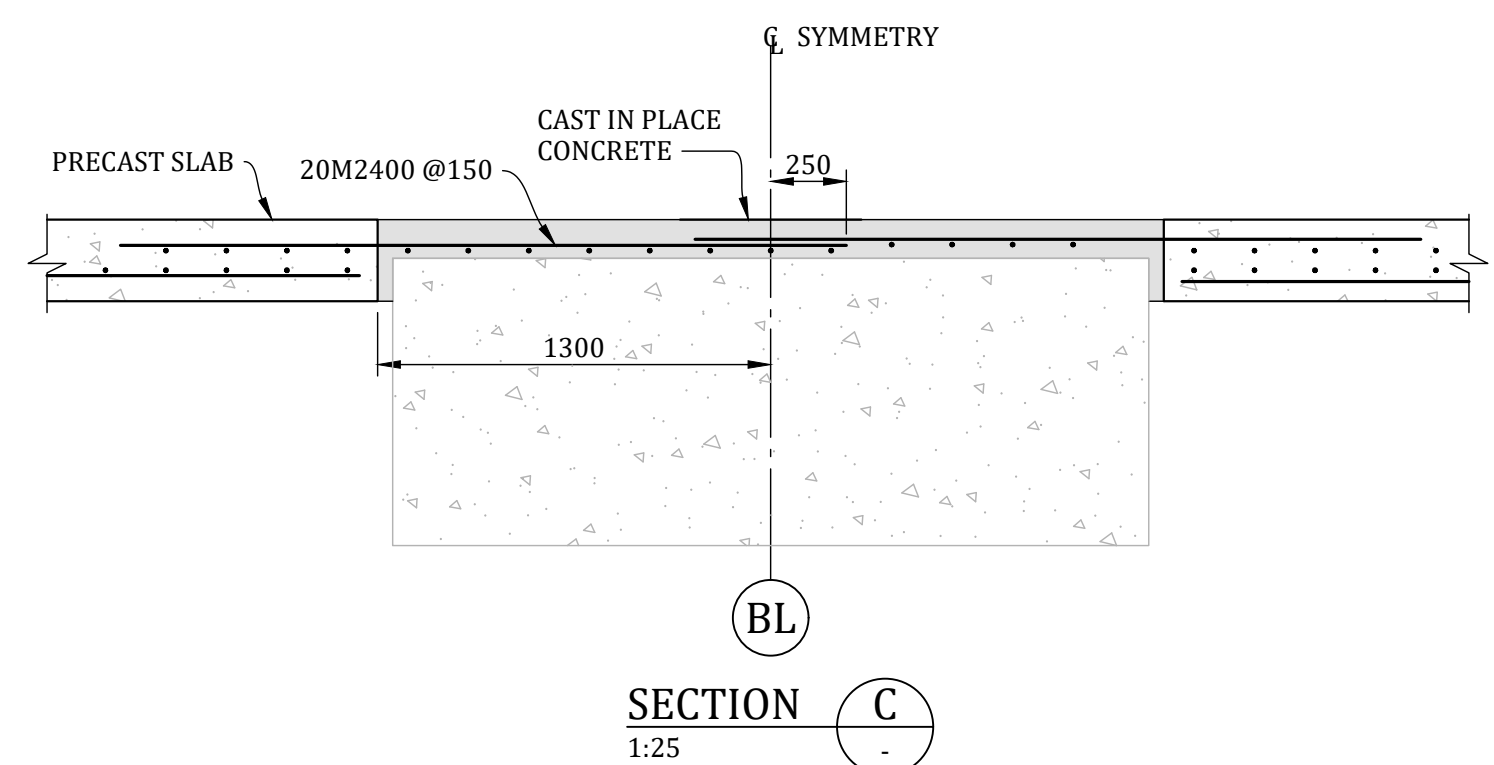
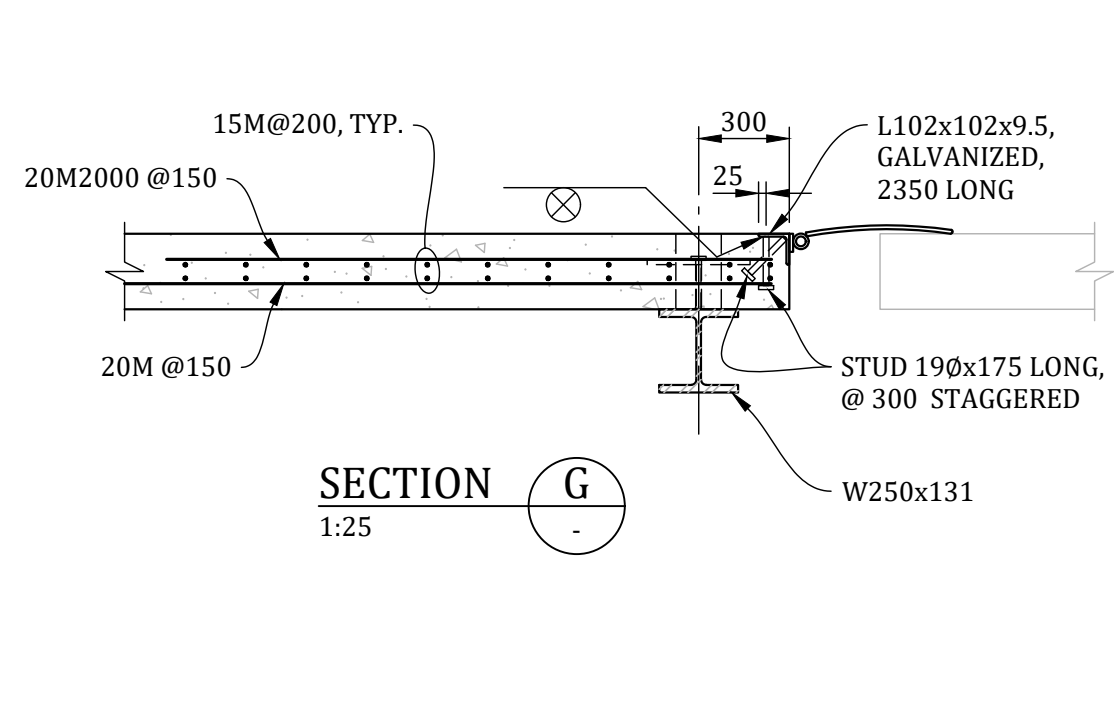
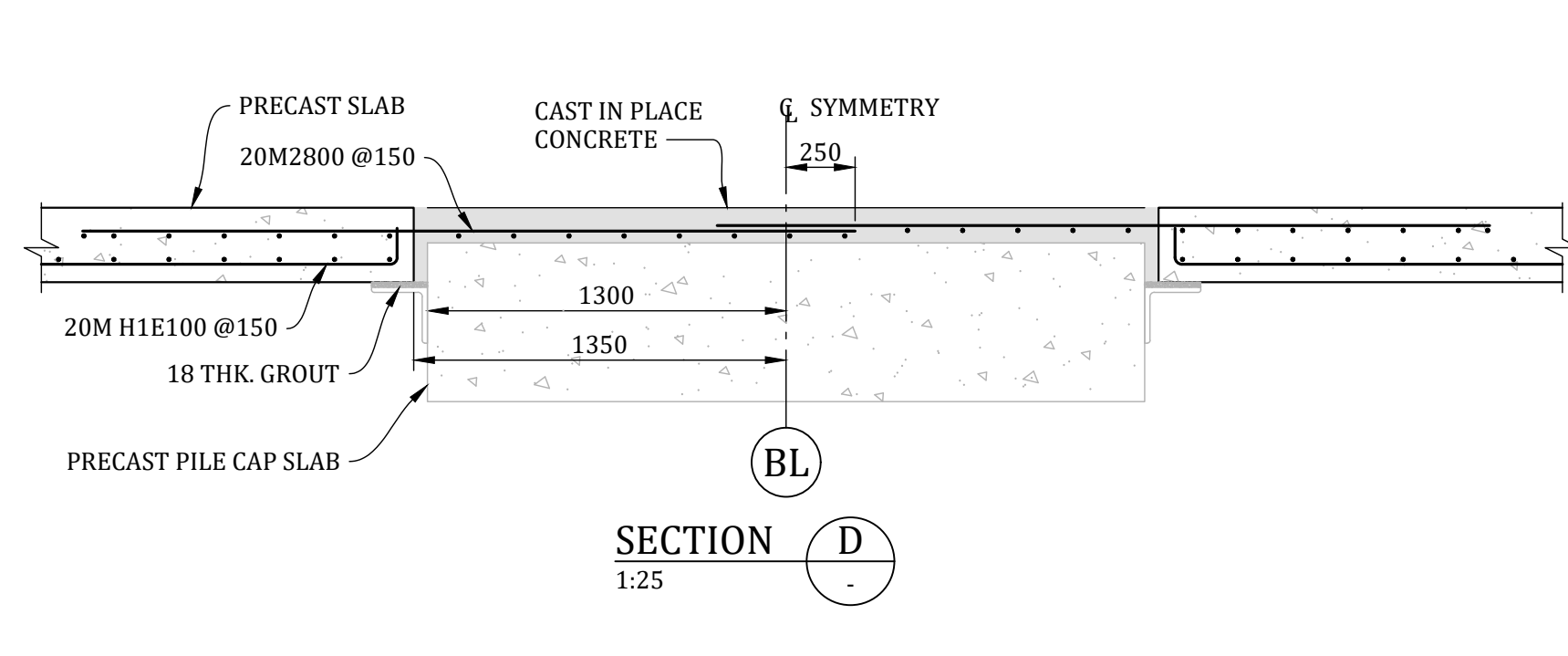
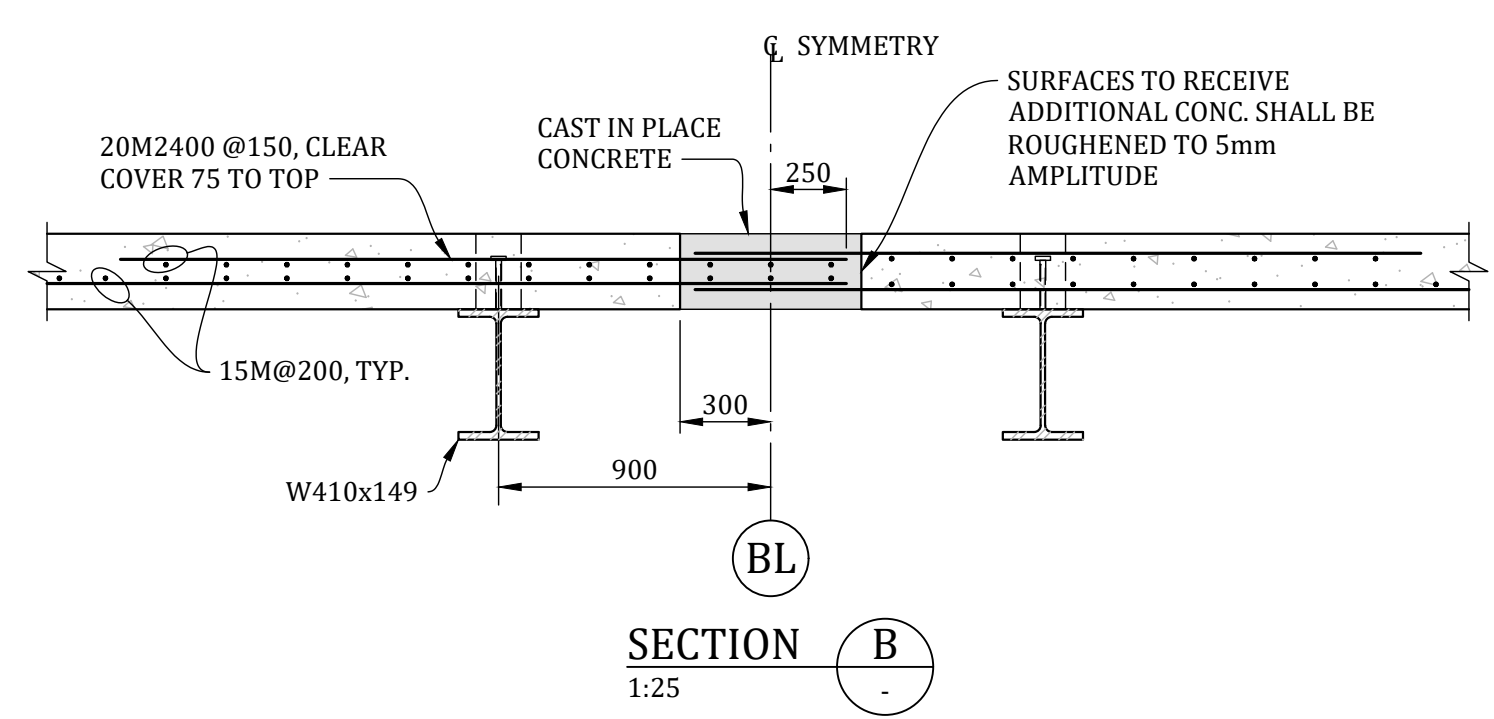
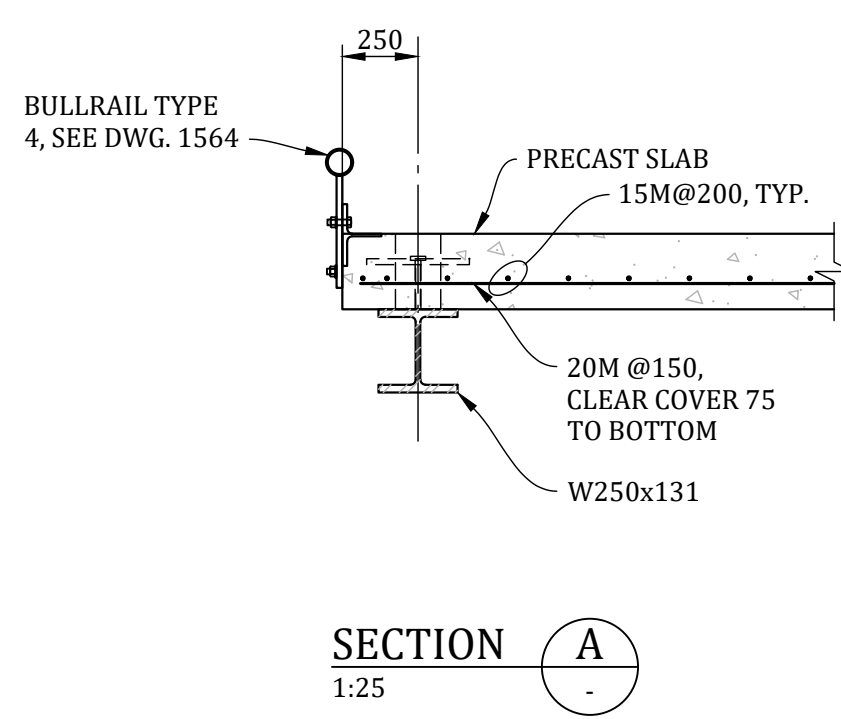
PRELIMINARY
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Last Saved: Feb. 16/23 5:32pm

PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 <small>*This drawing is prepared for the use of the contractual customer of Worley Canada Services Ltd. and Worley Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.*</small>		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL EAST GANGWAY LANDING PLATFORM - WALKWAY DETAILS			
SYSTEM: POTASH											
ASSET: 251											
DISCIPLINE: STRUCTURAL											
DRAWING NO.	DRAWING DESCRIPTION / TITLE	REV	YYYY-MM-DD	DESCRIPTION	DRAWN	APPROVED	SCALE: SHOWN		SHEET 1 OF 1	DRAWING NO. 317071-00041-03-MA-DGA-1554	REV: A
REFERENCE DRAWINGS / DESIGN STANDARDS		ISSUES / REVISIONS		VENDOR P2P:							

U:\YVR\317071\00041_NEP_B2SHIPLOADER\11_DRAWINGS\15_I_AND_E\02_MARINE\317071-00041-03-MA-DGA-1553-1554.DWG DATE: 2023-02-16



PLAN - WEST GANGWAY LAND PLATFORM
1:50

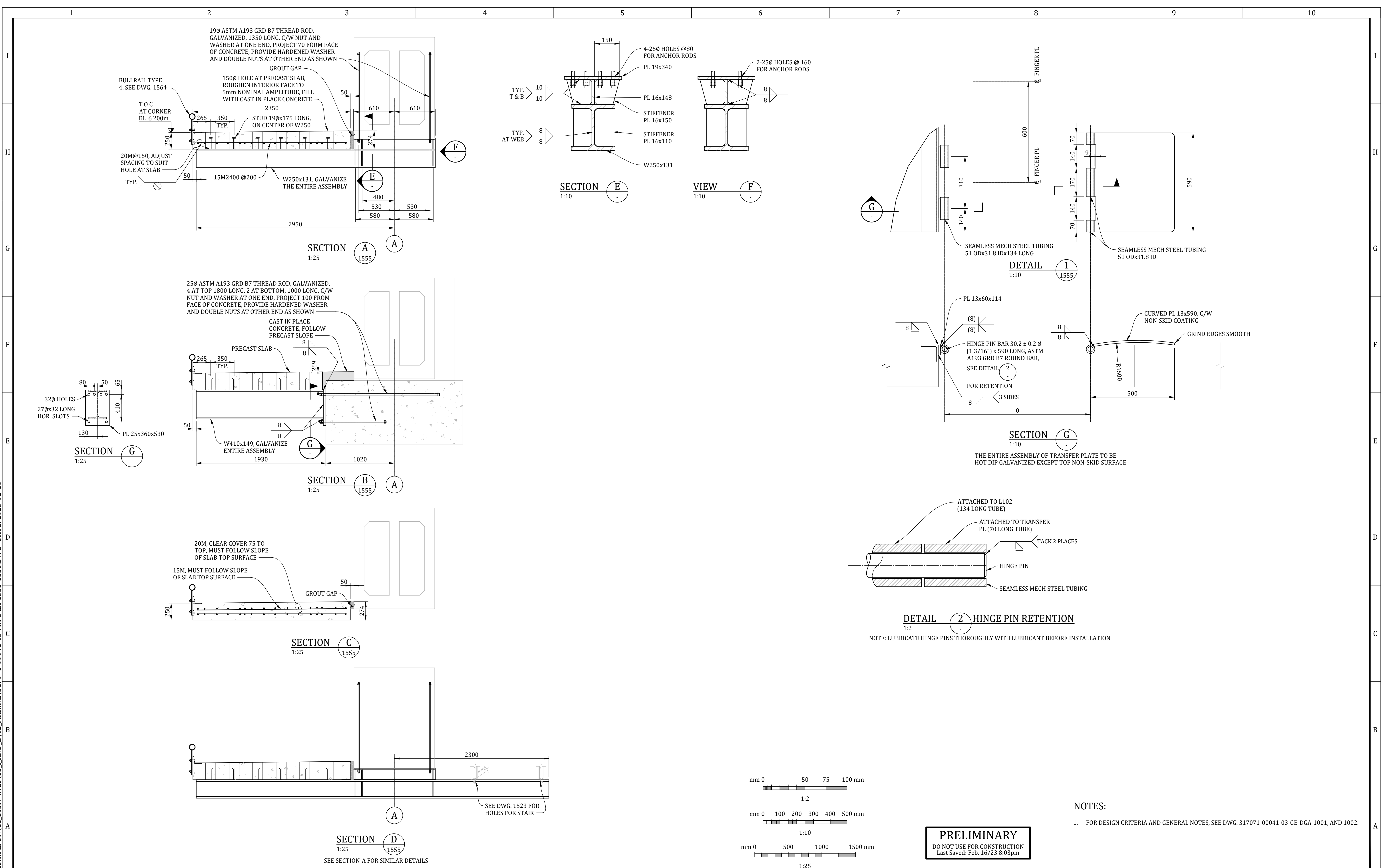


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Last Saved: Feb. 16/23 8:03pm

NOTES:
1. FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.

PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 <small>WorleyParsons</small>		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL SHIPLOADER FOUNDATION WEST GANGWAY LANDING PLATFORM - SHEET 1			
SYSTEM: POTASH								SCALE: SHOWN SHEET 1 OF 1 DRAWING NO. 317071-00041-03-MA-DGA-1555 REV: A			
ASSET: 251		REV: A 2023-02-16 ISSUED FOR CLIENT REVIEW		GL AMT							
DISCIPLINE: STRUCTURAL		REV: YYYY-MM-DD DESCRIPTION		DRAWN APPROVED							
REFERENCE DRAWINGS / DESIGN STANDARDS		ISSUES / REVISIONS		VENDOR P2P:							

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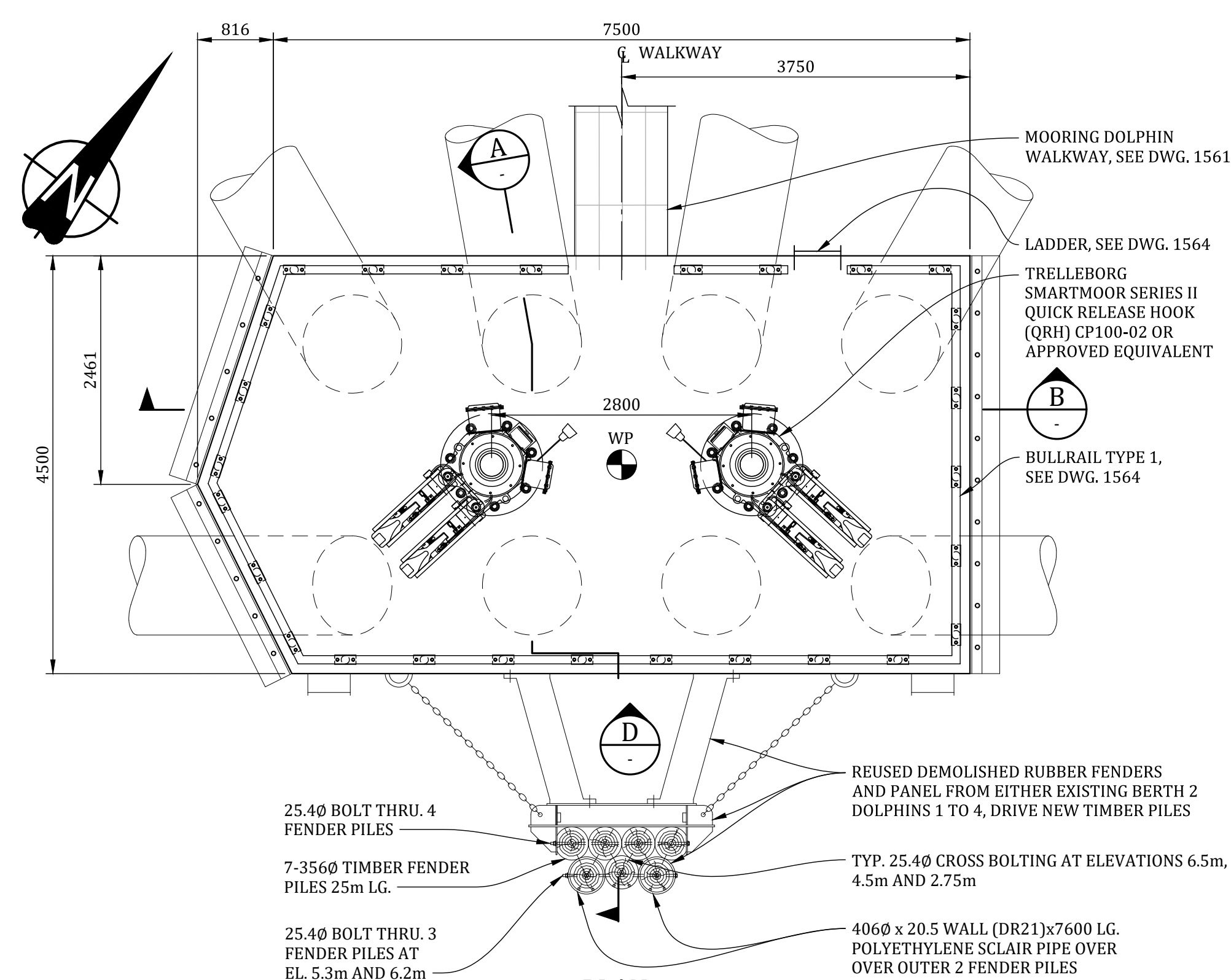


NOTES:
 1. FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.

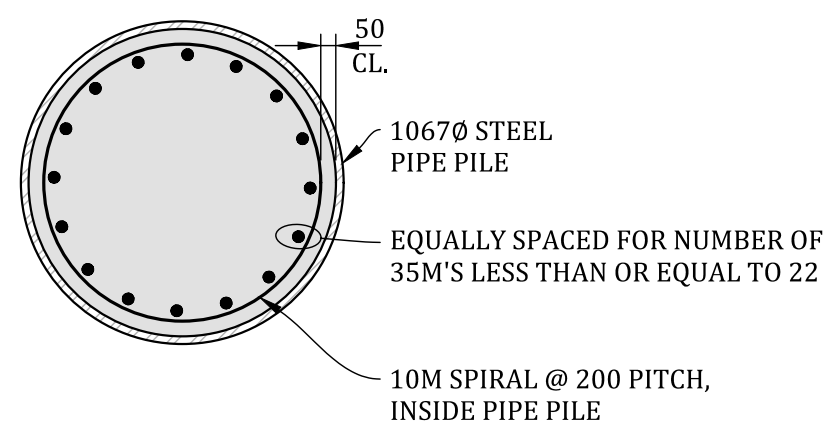
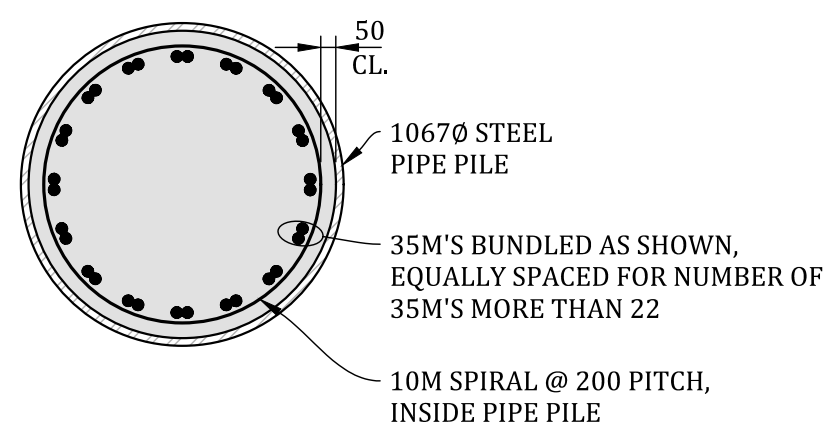
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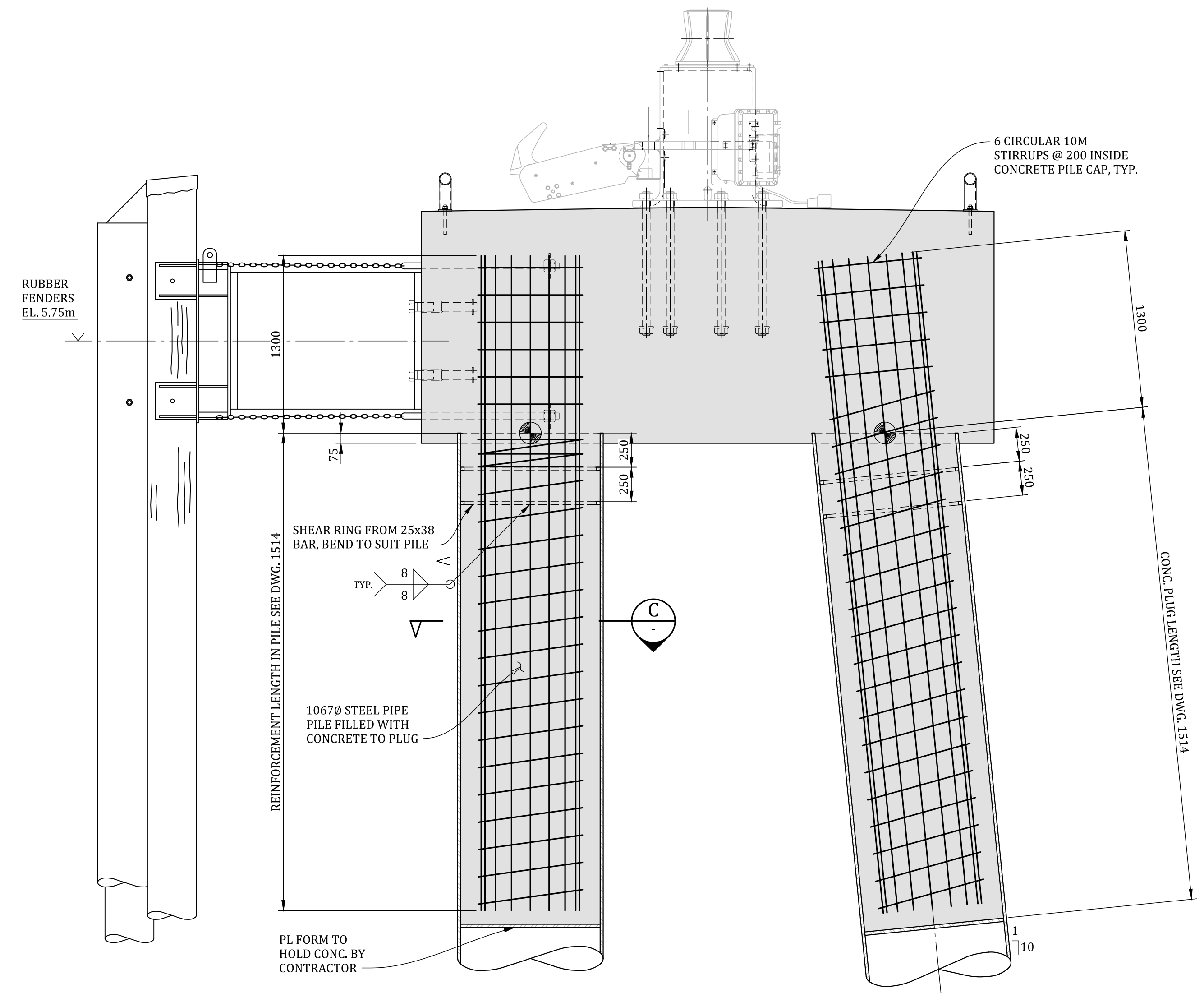
PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 <small>WorleyParsons *This drawing is prepared for the use of the contractual customer of WorleyParsons Services Ltd. and WorleyParsons Services Ltd. assumes no liability to any other party for any representations contained in this drawing.*</small>		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL SHIPLOADER FOUNDATION WEST GANGWAY LANDING PLATFORM - SHEET 2						
SYSTEM: POTASH						 <small>THIS DRAWING IS THE PROPERTY OF NEPTUNE BULK TERMINALS (CANADA) LTD. NEITHER THIS DRAWING NOR ANY PORTION THEREOF SHALL BE REPRODUCED WITHOUT WRITTEN PERMISSION FROM NEPTUNE BULK TERMINALS (CANADA) LTD.</small>		SCALE: SHOWN		SHEET OF: 1 1		DRAWING NO. 317071-00041-03-MA-DGA-1556		REV: A
ASSET: 251		DISCIPLINE: STRUCTURAL		REV: A				2023-02-16		ISSUED FOR CLIENT REVIEW		GL		AMT
DRAWING NO.		DRAWING DESCRIPTION / TITLE		REV: YYYY-MM-DD		DESCRIPTION		DRAWN		APPROVED		VENDOR P2P:		
REFERENCE DRAWINGS / DESIGN STANDARDS				ISSUES / REVISIONS										



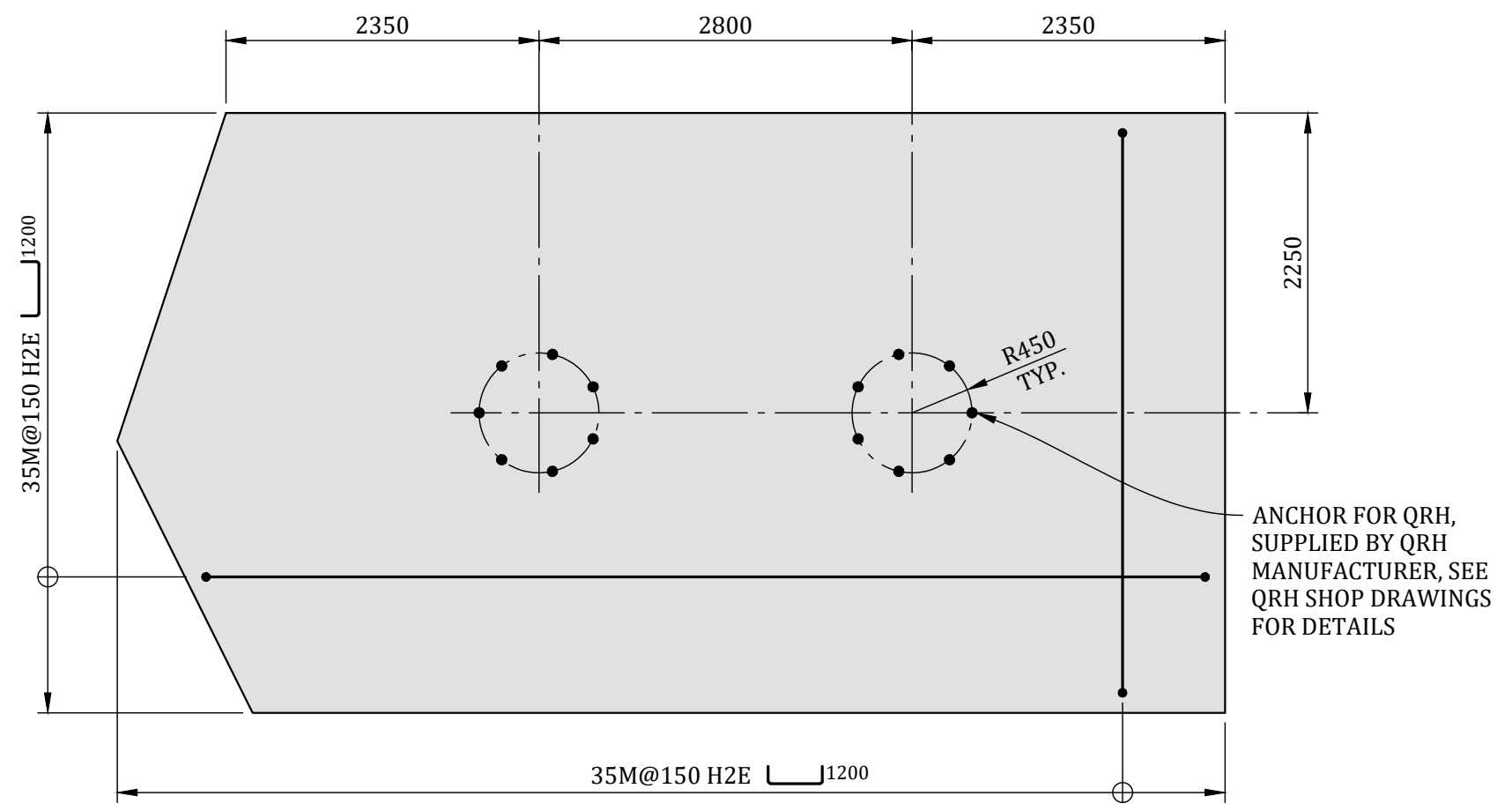
PLAN
1:50



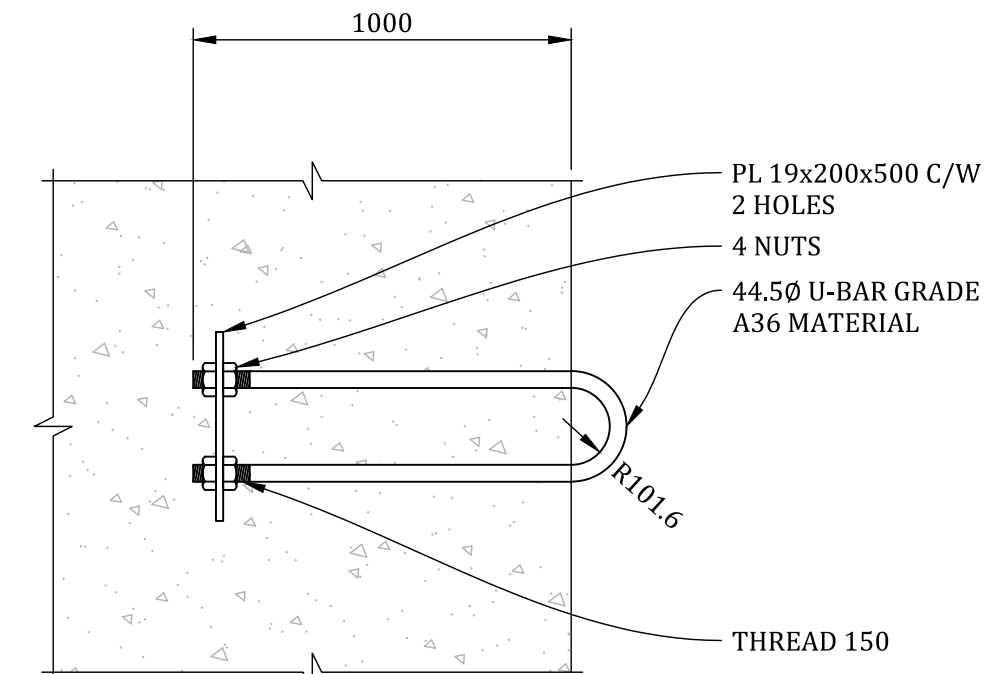
SECTION C
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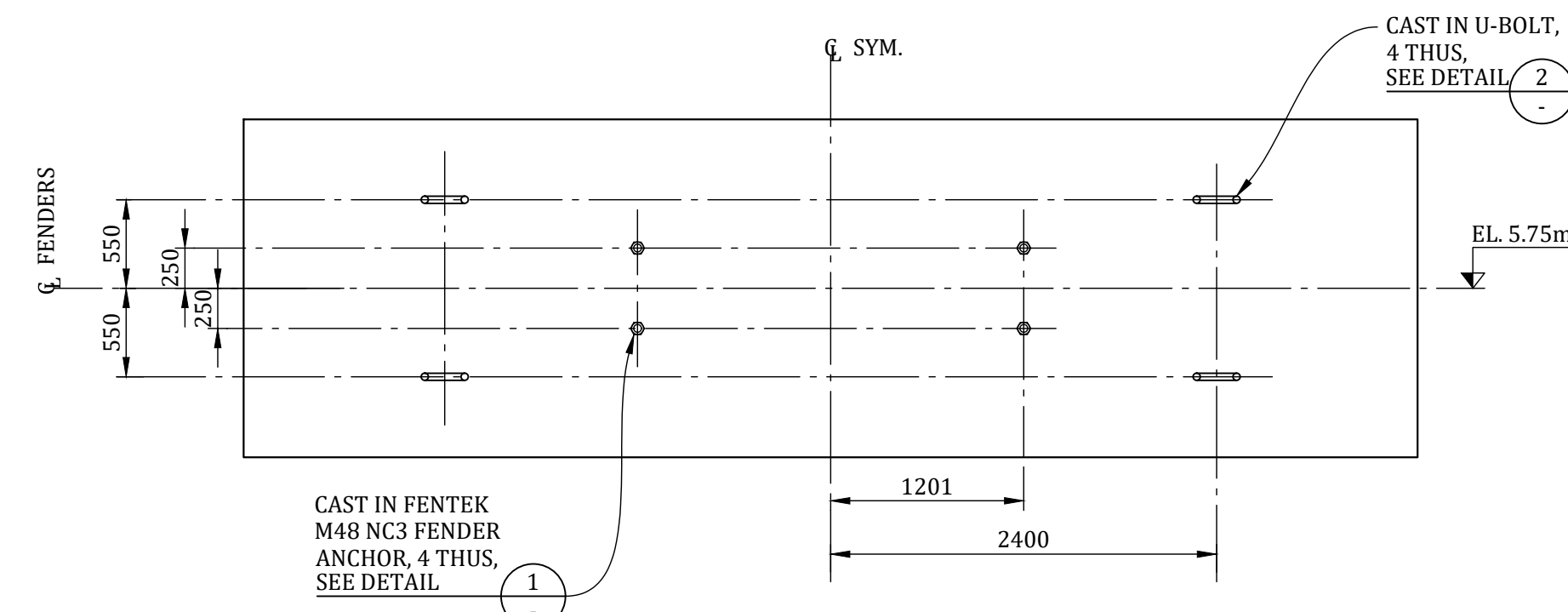
SECTION A
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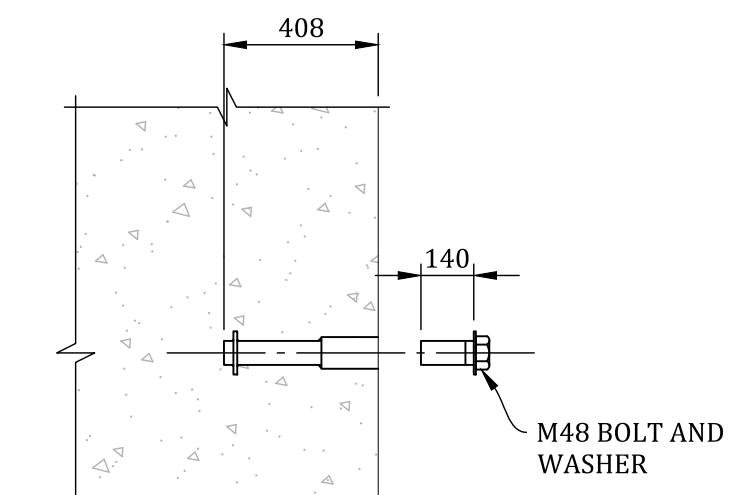
PLAN - REINFORCEMENT
1:50



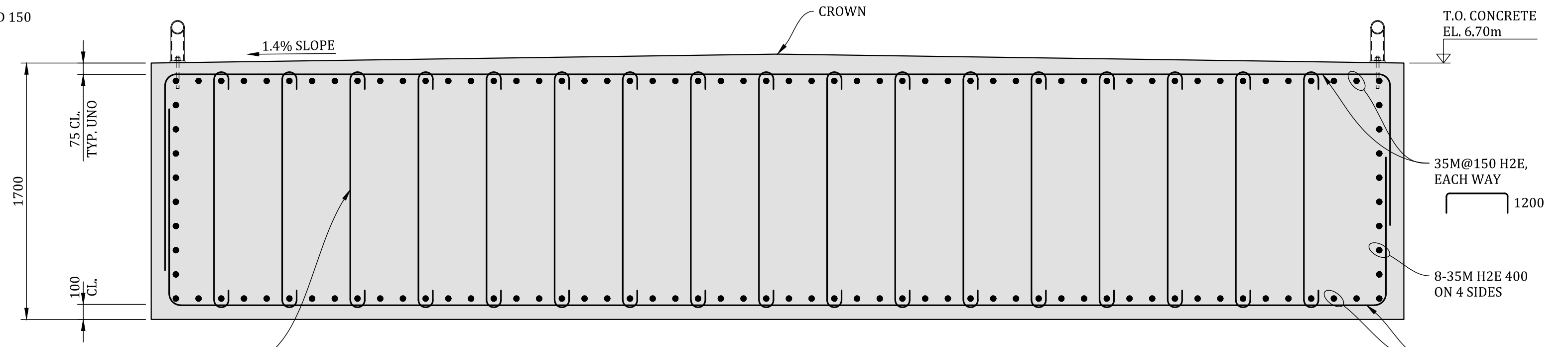
DETAIL 2
1:20



VIEW D EMBEDMENT DETAILS
1:40

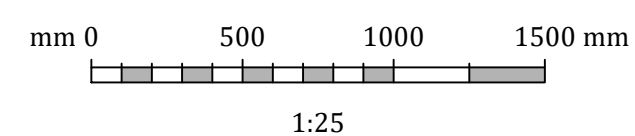


DETAIL 1
1:20



SECTION B
1:25

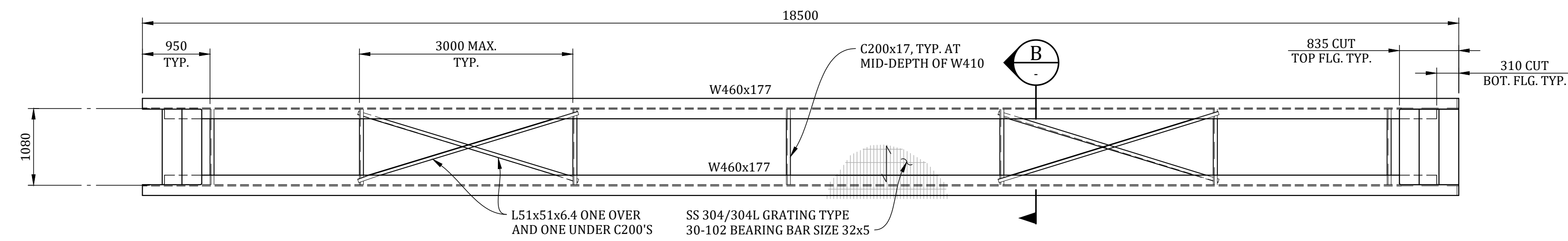
NOTE: PILES NOT SHOWN FOR CLARITY



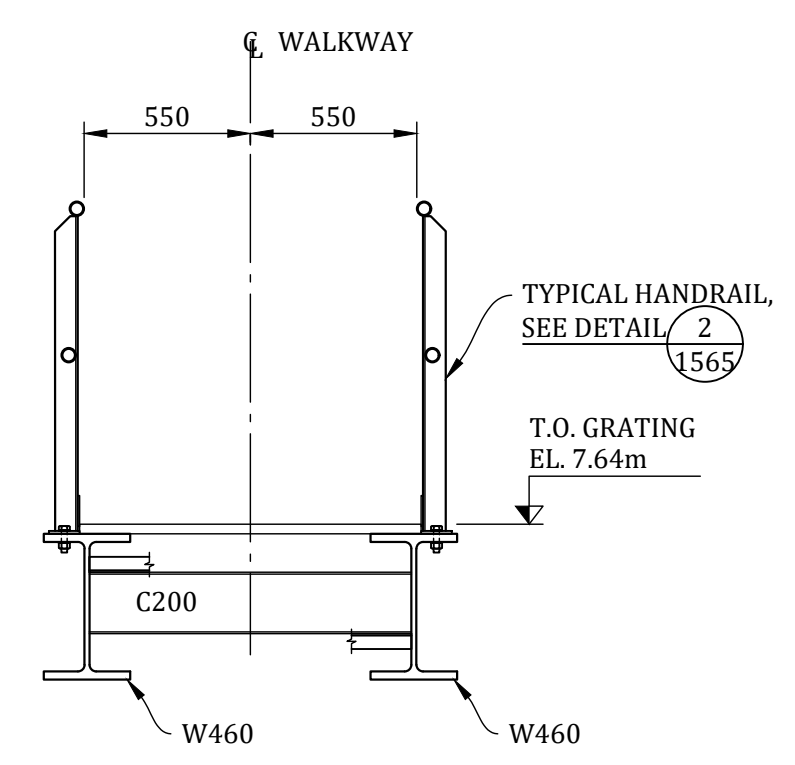
PRELIMINARY
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Last Saved: Feb. 16/23 5:39pm

- NOTES:**
- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.
 - FOR PILE PLAN, SEE DWG. 317071-00041-03-MA-DGA-1513.
 - FOR DETAILS OF PILE, SHEAR KEYS AND PLUG REINFORCEMENT, SEE DWG. 317071-00041-03-MA-DGA-1514.

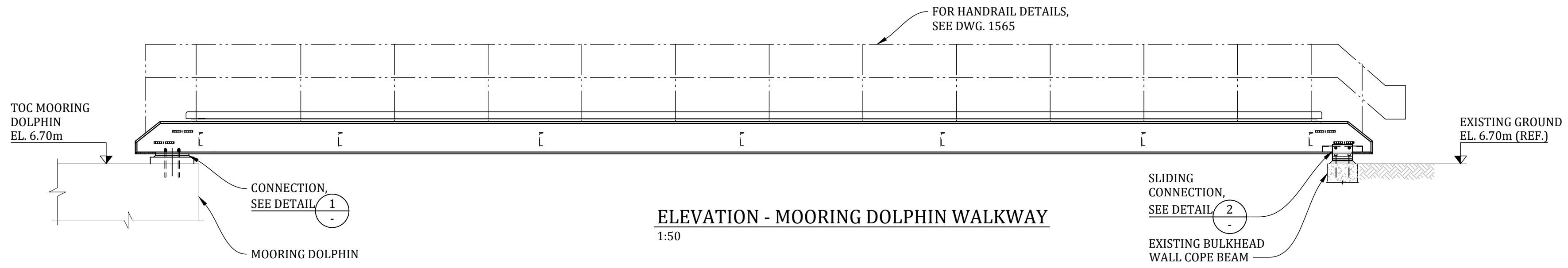
PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian Worley Group 317071-00041 *This drawing is prepared for the use of the contractual customer of Worley Canada Services Ltd. and Worley Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.*		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL MOORING DOPHIN PLAN AND DETAILS			
SYSTEM: POTASH		AAL AMT		OEM:		Neptune TERMINALS		SCALE: SHEET OF DRAWING NO. REV: SHOWN 1 1 317071-00041-03-MA-DGA-1560 A			
ASSET: 259		REV: 2023-02-16 ISSUED FOR CLIENT REVIEW		DESCRIPTION		THIS DRAWING IS THE PROPERTY OF NEPTUNE BULK TERMINALS (CANADA) LTD. NEITHER THIS DRAWING NOR ANY PORTION THEREOF SHALL BE REPRODUCED WITHOUT WRITTEN PERMISSION FROM NEPTUNE BULK TERMINALS (CANADA) LTD.					
DISCIPLINE: STRUCTURAL		REV: YYYY-MM-DD		DRAWN APPROVED		VENDOR P2P:					
REFERENCE DRAWINGS / DESIGN STANDARDS		ISSUES / REVISIONS									



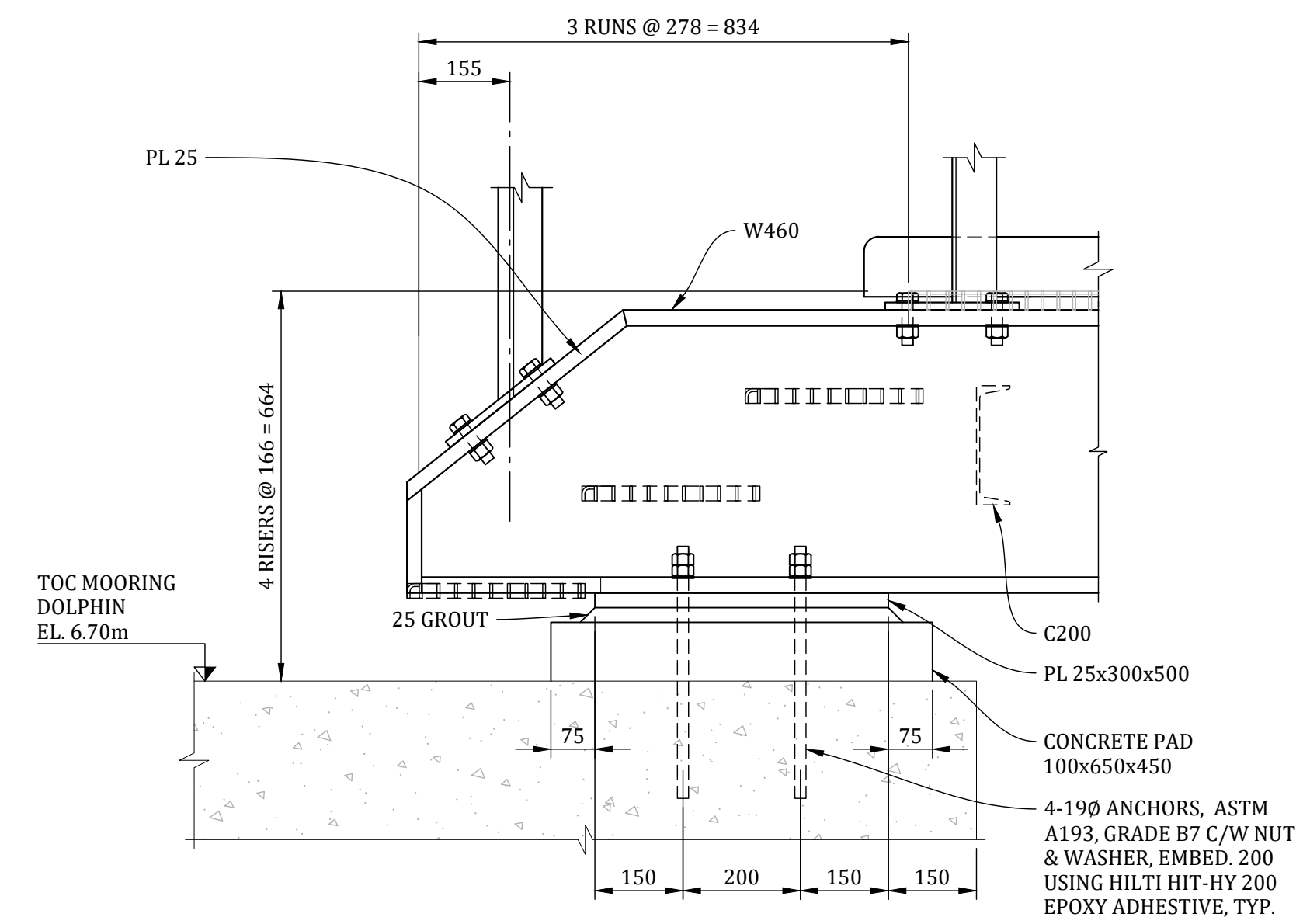
PLAN - MOORING DOLPHIN WALKWAY
1:50



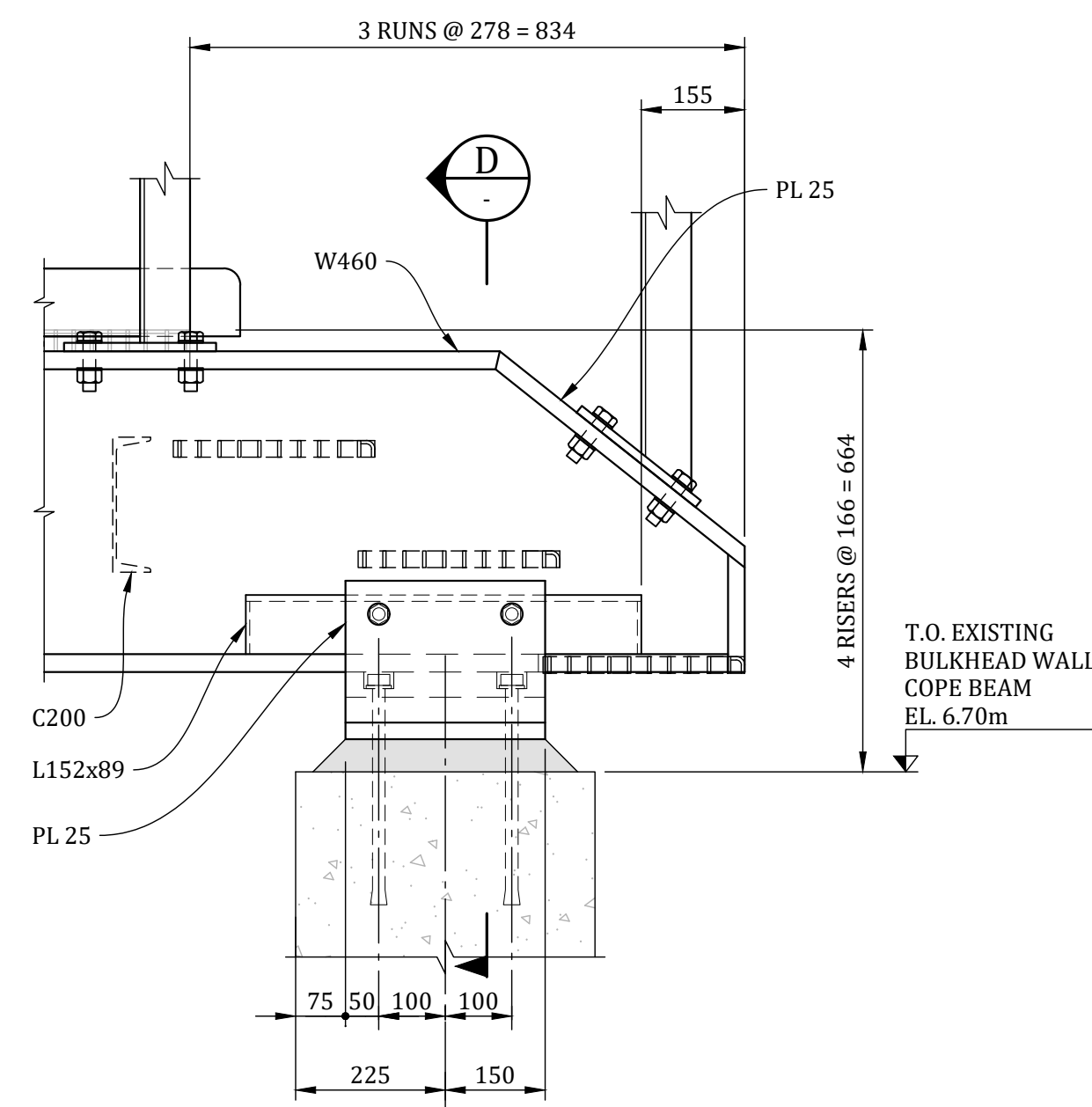
SECTION B
1:25



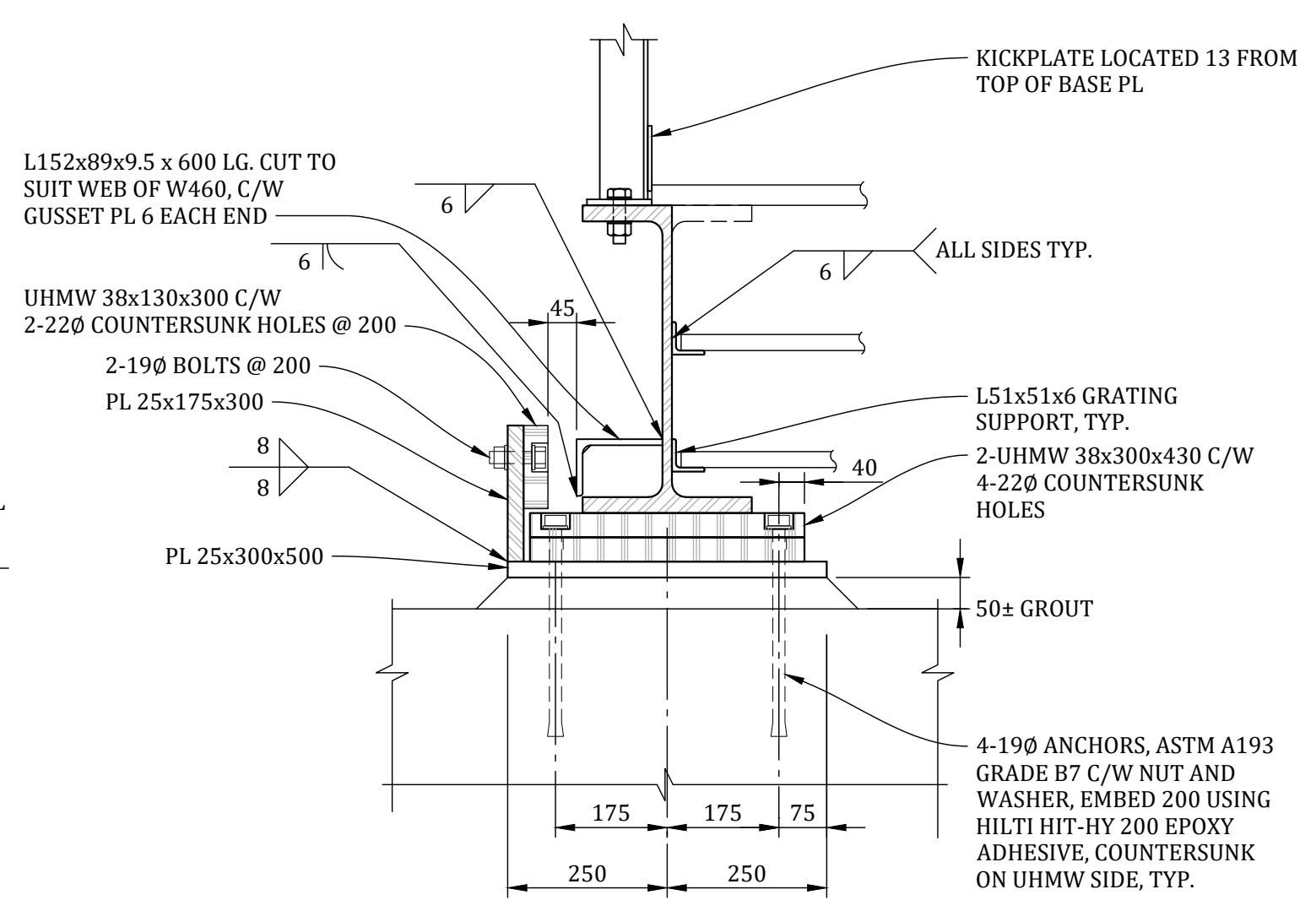
ELEVATION - MOORING DOLPHIN WALKWAY
1:50



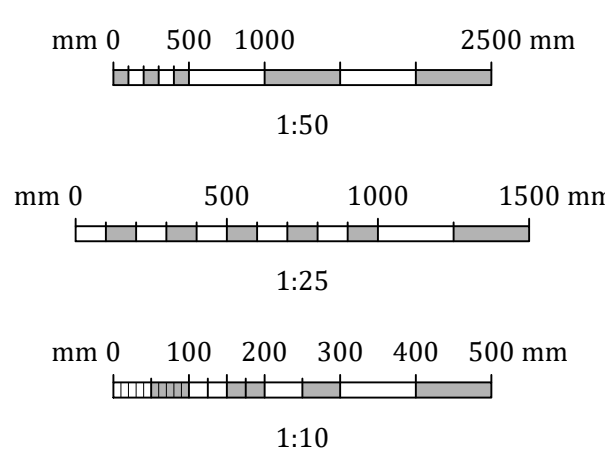
DETAIL 1
1:10



DETAIL 2 SLIDING CONNECTION
1:10



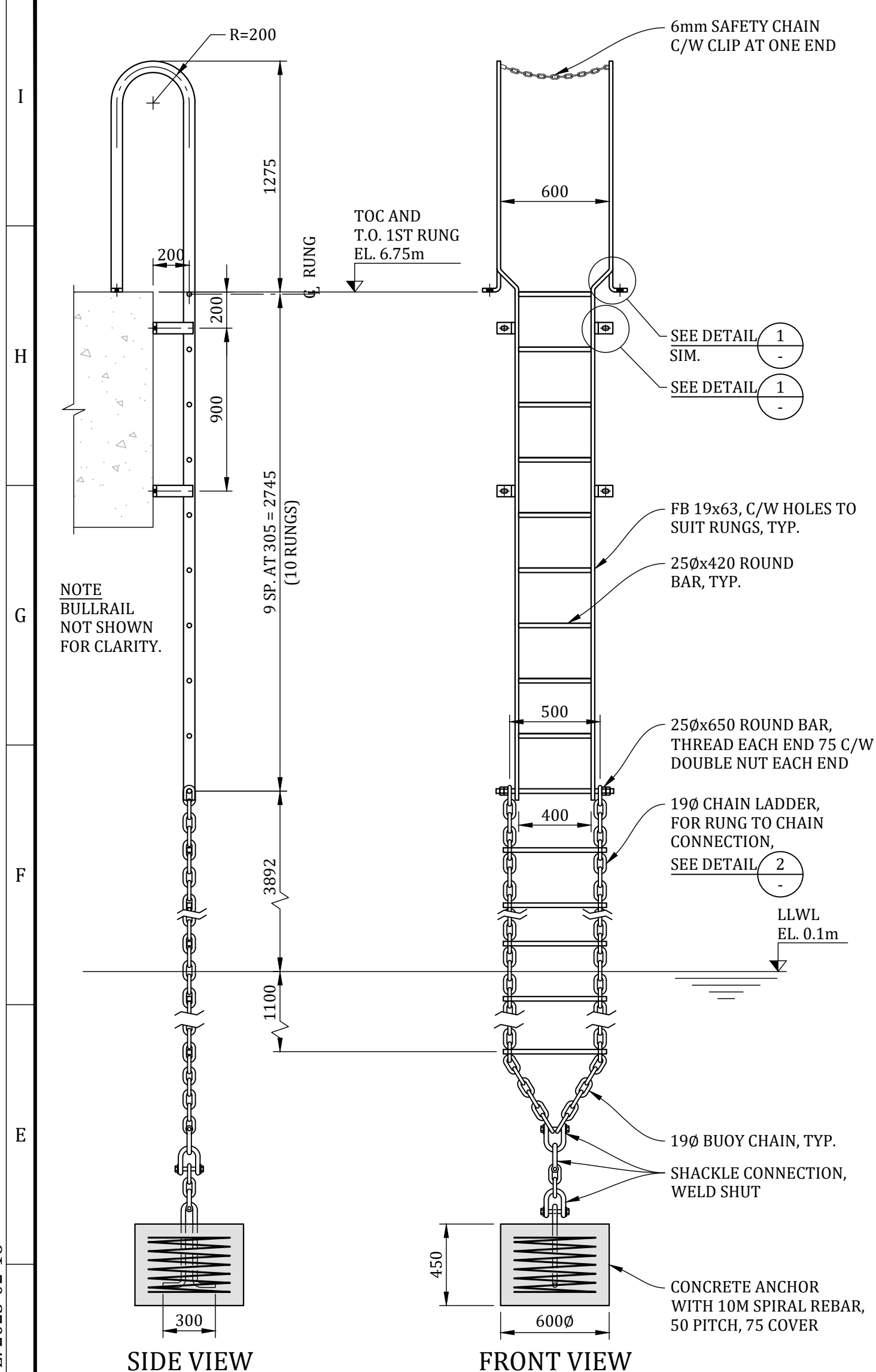
SECTION D
1:10



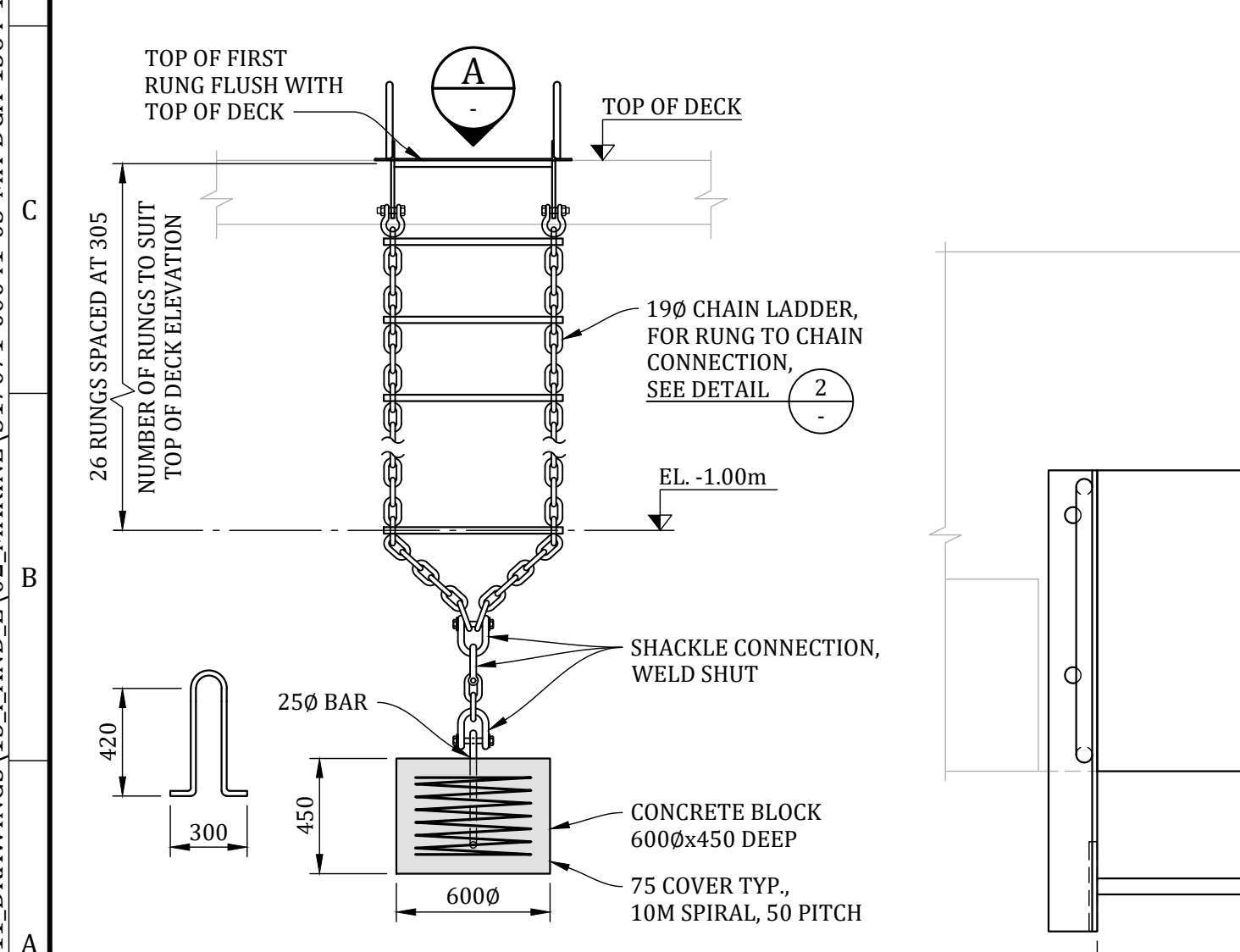
PRELIMINARY
DO NOT USE FOR CONSTRUCTION
Last Saved: Feb. 16/23 7:37pm

- NOTES:**
- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.
 - FOR HANDRAIL DETAILS, SEE DWG. 317071-00041-03-MA-DGA-1565.
 - THE CONTRACTOR MAY ELECT TO SUBMIT AN ALTERNATIVE MOORING DOLPHIN WALKWAY DESIGN FOR REVIEW AND APPROVAL.

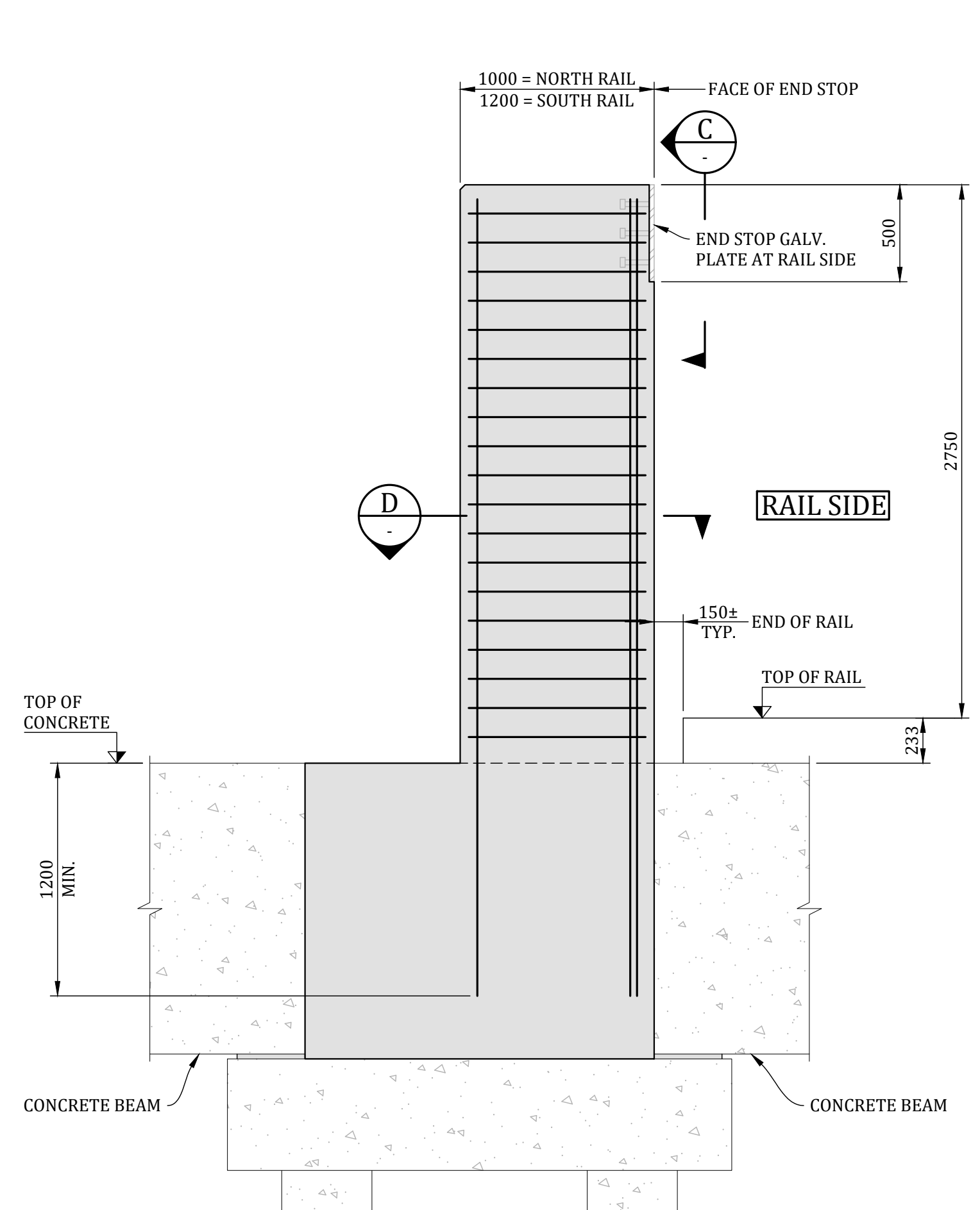
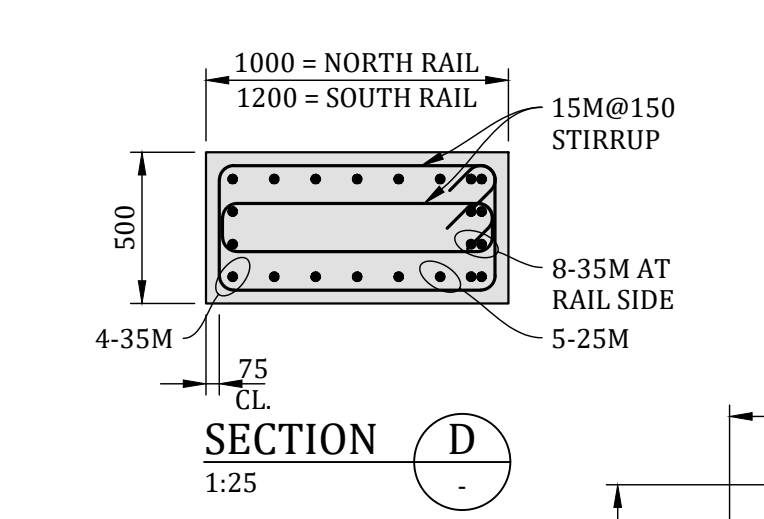
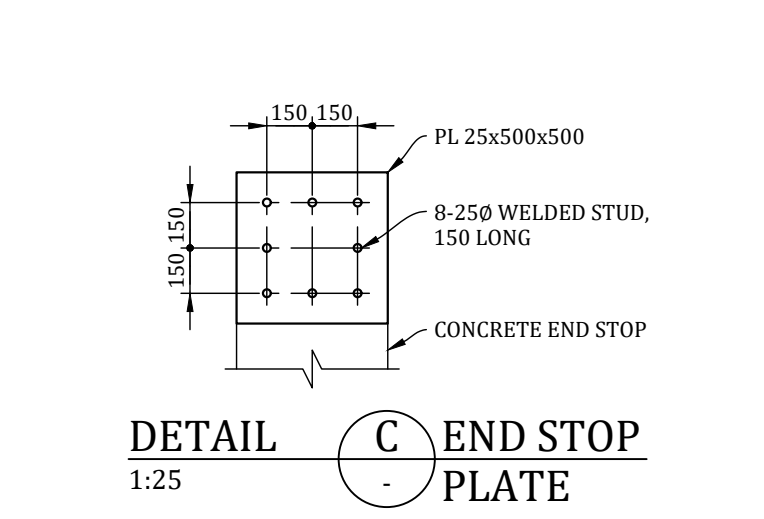
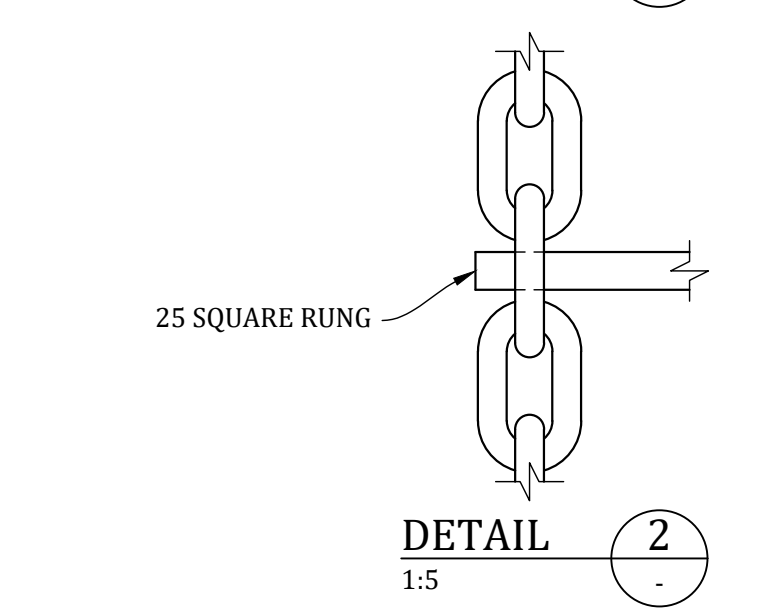
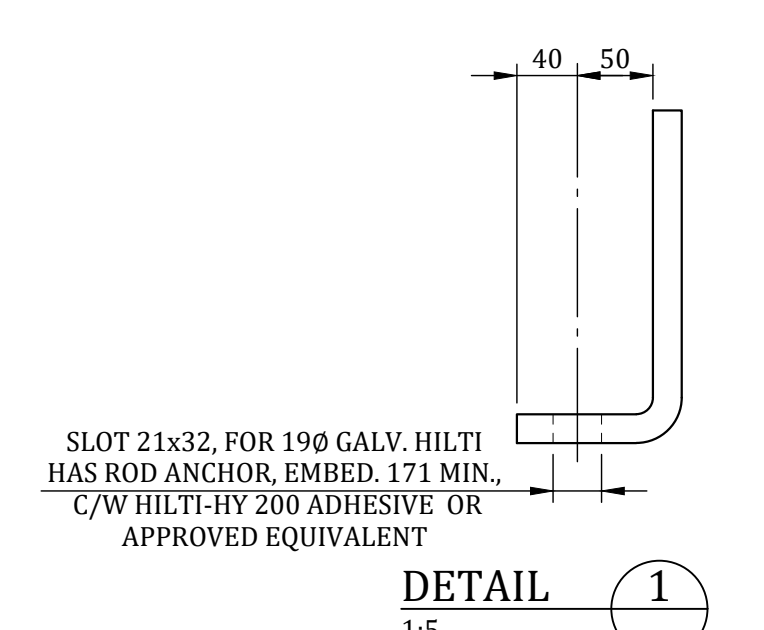
PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 *This drawing is prepared for the use of the contractual customer of Worley Canada Services Ltd. and Worley Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.*		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL MOORING DOLPHIN WALKWAY PLAN AND DETAILS			
SYSTEM: POTASH								SCALE: SHOWN SHEET 1 OF 1 DRAWING NO. 317071-00041-03-MA-DGA-1561 REV: A			
ASSET: 259											
DISCIPLINE: STRUCTURAL											
DRAWING NO.	DRAWING DESCRIPTION / TITLE	REV	YYYY-MM-DD	DESCRIPTION	DRAWN	APPROVED	VENDOR P2P:				
REFERENCE DRAWINGS / DESIGN STANDARDS		ISSUES / REVISIONS									



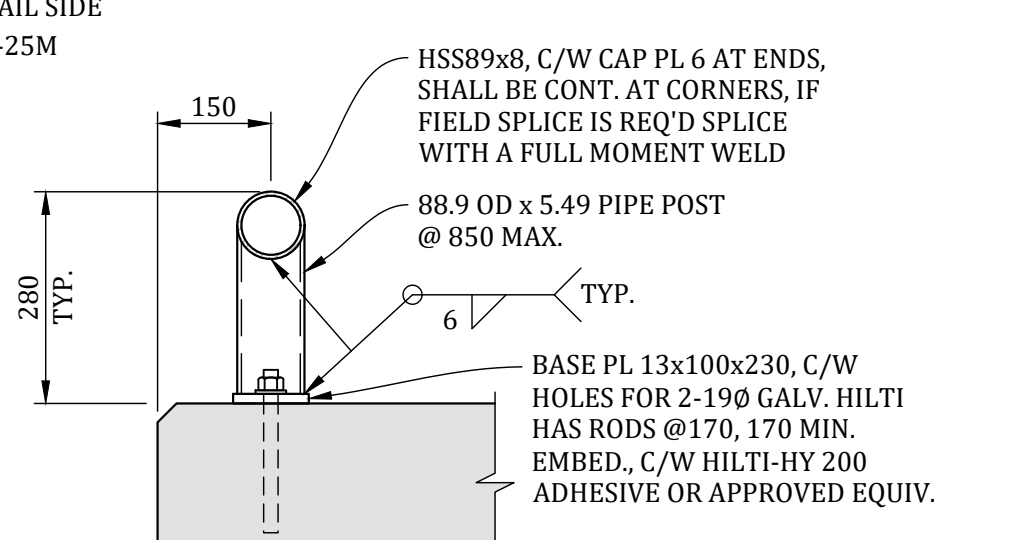
MOORING DOLPHIN LADDER DETAIL
1:25
NOTE: ENTIRE ASSEMBLY TO BE HOT DIP GALVANIZED. PAINT LADDER TOPS ABOVE THE DECK SAFETY YELLOW



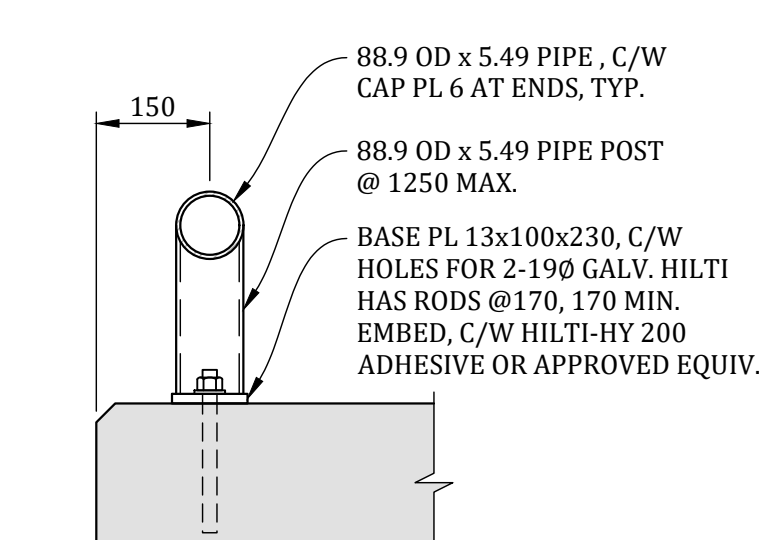
DOCK FACE LADDER DETAIL
1:25
NOTE: ENTIRE LADDER ASSEMBLY TO BE HOT DIP GALVANIZED.
NOTE: (8 LOCATIONS)



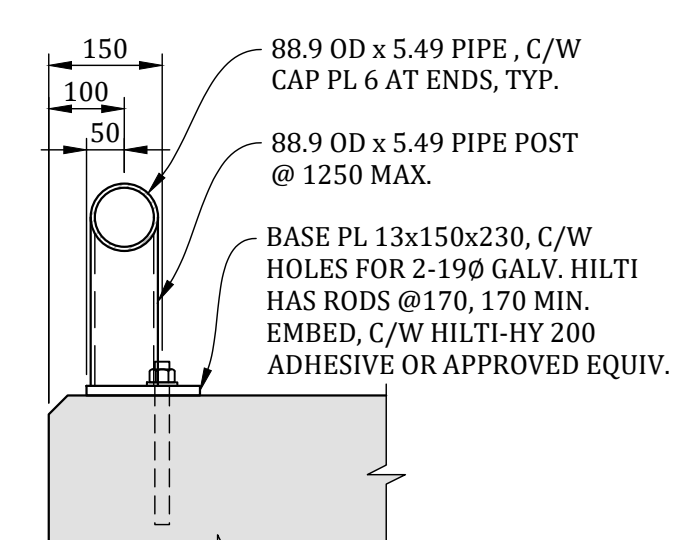
ELEVATION - END STOP
1:25
NOTE: SUPPORT BRACKET AND PILE NOT SHOWN FOR CLARITY.



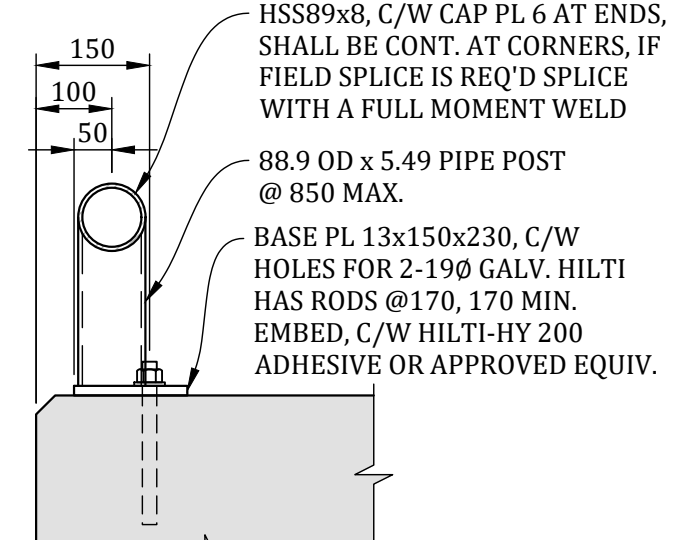
BULLRAIL TYPE 1
FOR BULLRAIL AT QRH PLATFORM, SHORE MOORING 3, MOORING DOLPHIN AND SERVICE PLATFORM SOUTH/NORTH DIRECTION



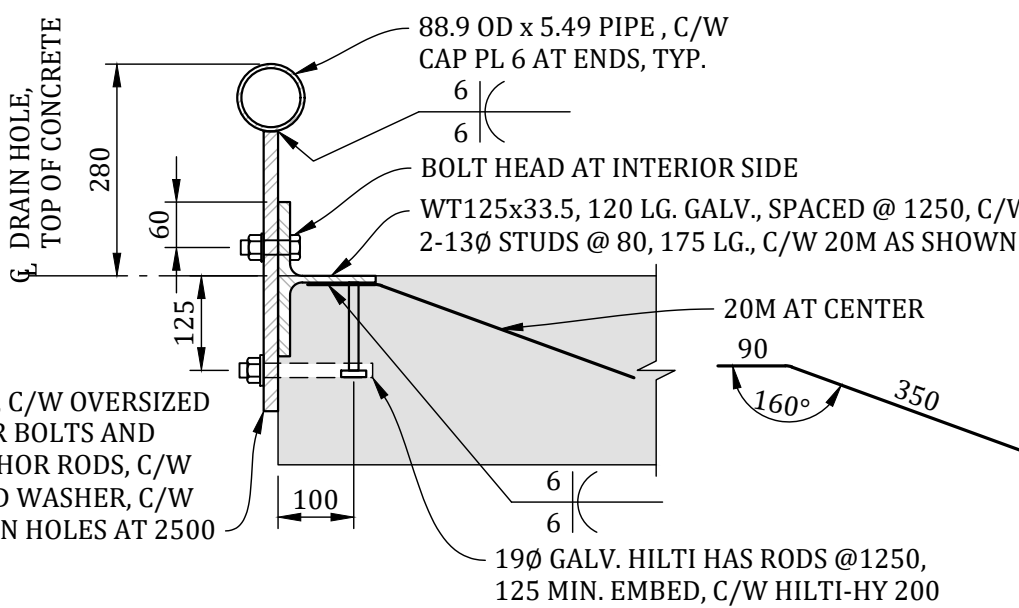
BULLRAIL TYPE 2
FOR BULLRAIL AT COPE BEAM AND EGLP



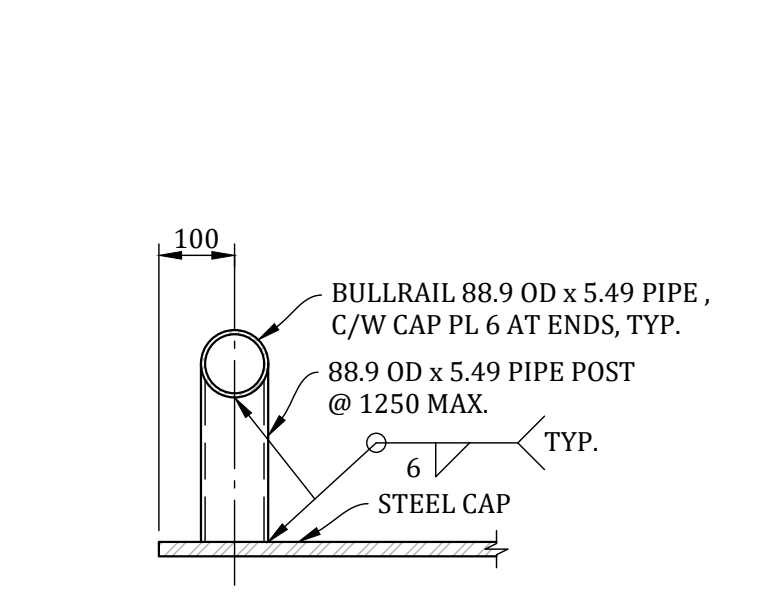
BULLRAIL TYPE 3
FOR BULLRAIL AT SOUTH RAIL BEAM



BULLRAIL TYPE 3A
FOR BULLRAIL AT SERVICE PLATFORM WEST/EAST DIRECTION

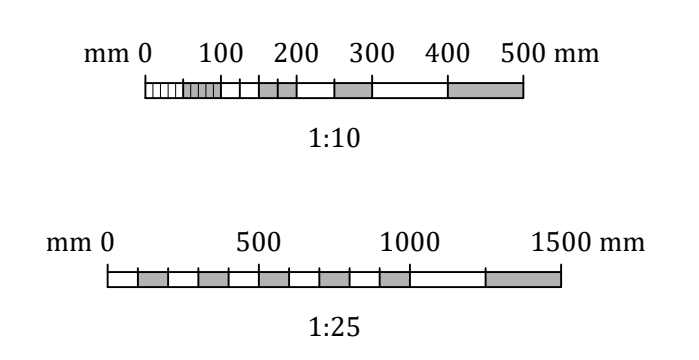


BULLRAIL TYPE 4
FOR BULLRAIL AT GANGWAY LANDING PLATFORMS



BULLRAIL TYPE 5
FOR BULLRAIL AT TEMPORARY MOORING DOLPHIN

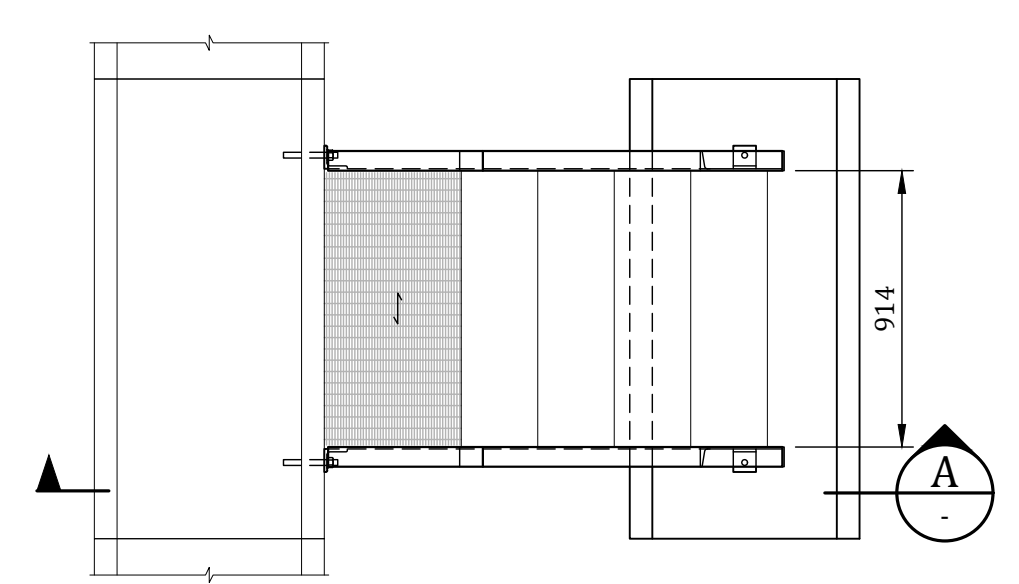
DETAIL 3: 1:10 BULLRAIL
NOTE: ENTIRE ASSEMBLY OF BULLRAIL TO BE HOT DIP GALVANIZED AND PAINTED SAFETY YELLOW



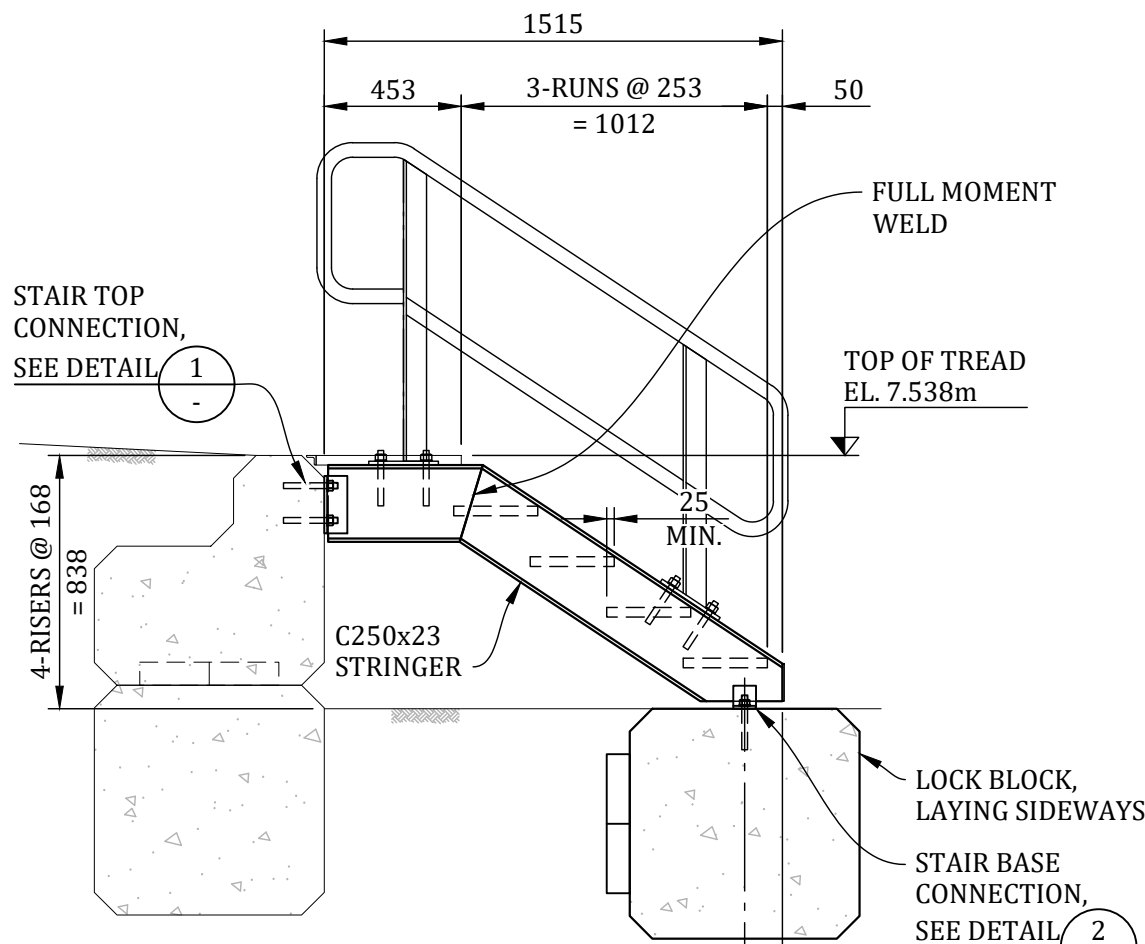
- NOTES:**
- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.
 - FOR HANDRAIL DETAILS, SEE NBT DWG. DS-000-5-403-13.
 - FOR GRATING DETAILS, SEE NBT DWG. DS-000-5-405-22.

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DO NOT USE FOR CONSTRUCTION
Last Saved: Feb. 16/23 5:48pm

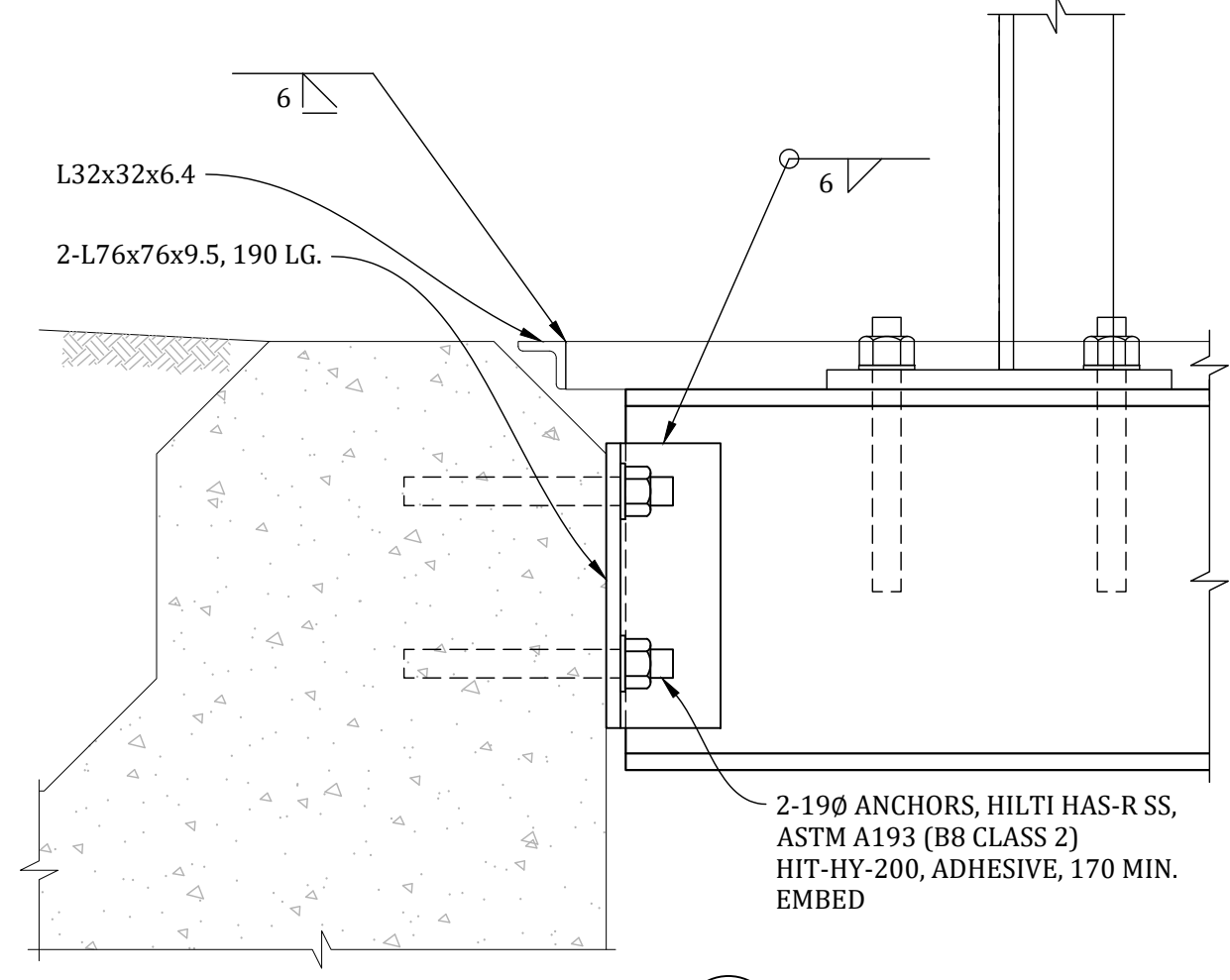
PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 *This drawing is prepared for the use of the contractual customer of Worthy Canada Services Ltd. and Worthy Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.*		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL	
SYSTEM: POTASH								MISCELLANEOUS DETAILS	
ASSET: 251								SHEET 1	
DRAWING NO. DRAWING DESCRIPTION / TITLE		DISCIPLINE: STRUCTURAL		REV. YYY-MM-DD DESCRIPTION		DRAWN APPROVED		SCALE: SHOWN	
REFERENCE DRAWINGS / DESIGN STANDARDS		ISSUES / REVISIONS		VENDOR P2P:		DRAWING NO. 317071-00041-03-MA-DGA-1564		REV: A	



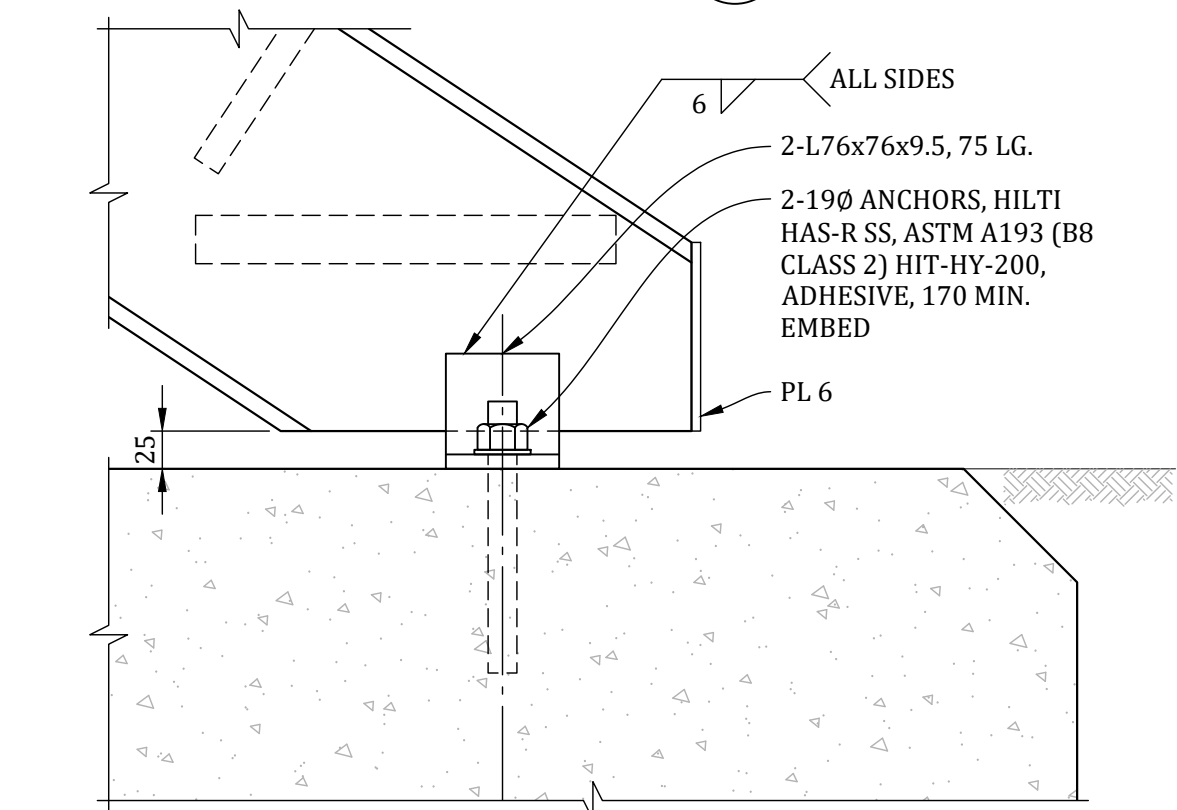
PLAN - ACCESS STAIR
1:25



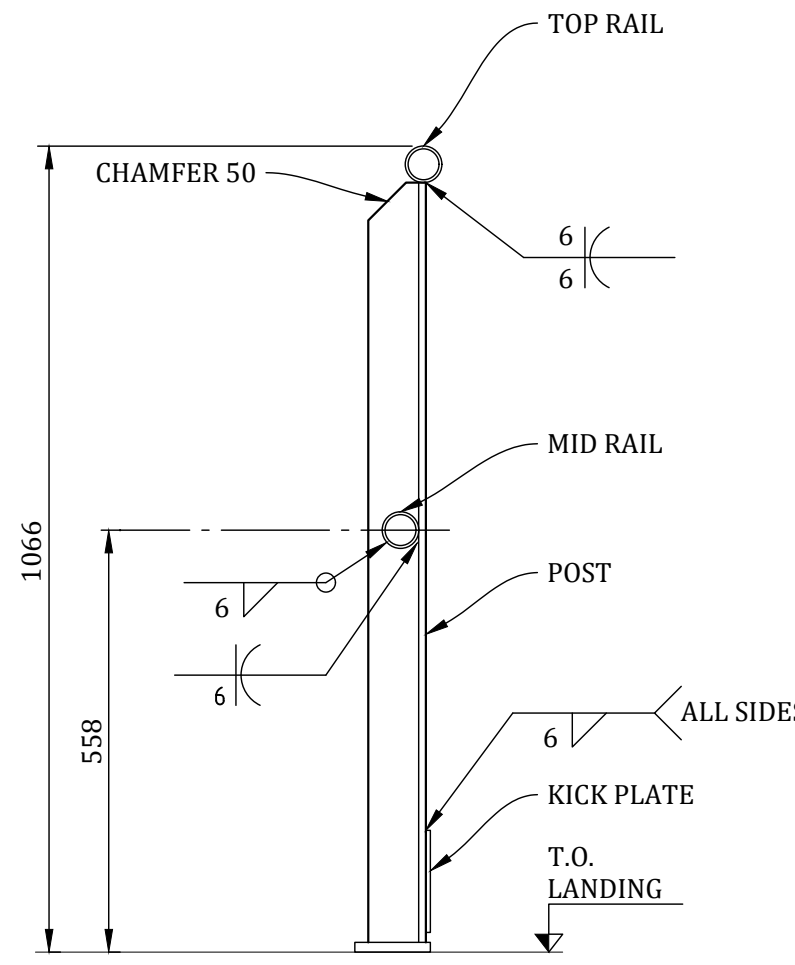
SECTION A
1:25



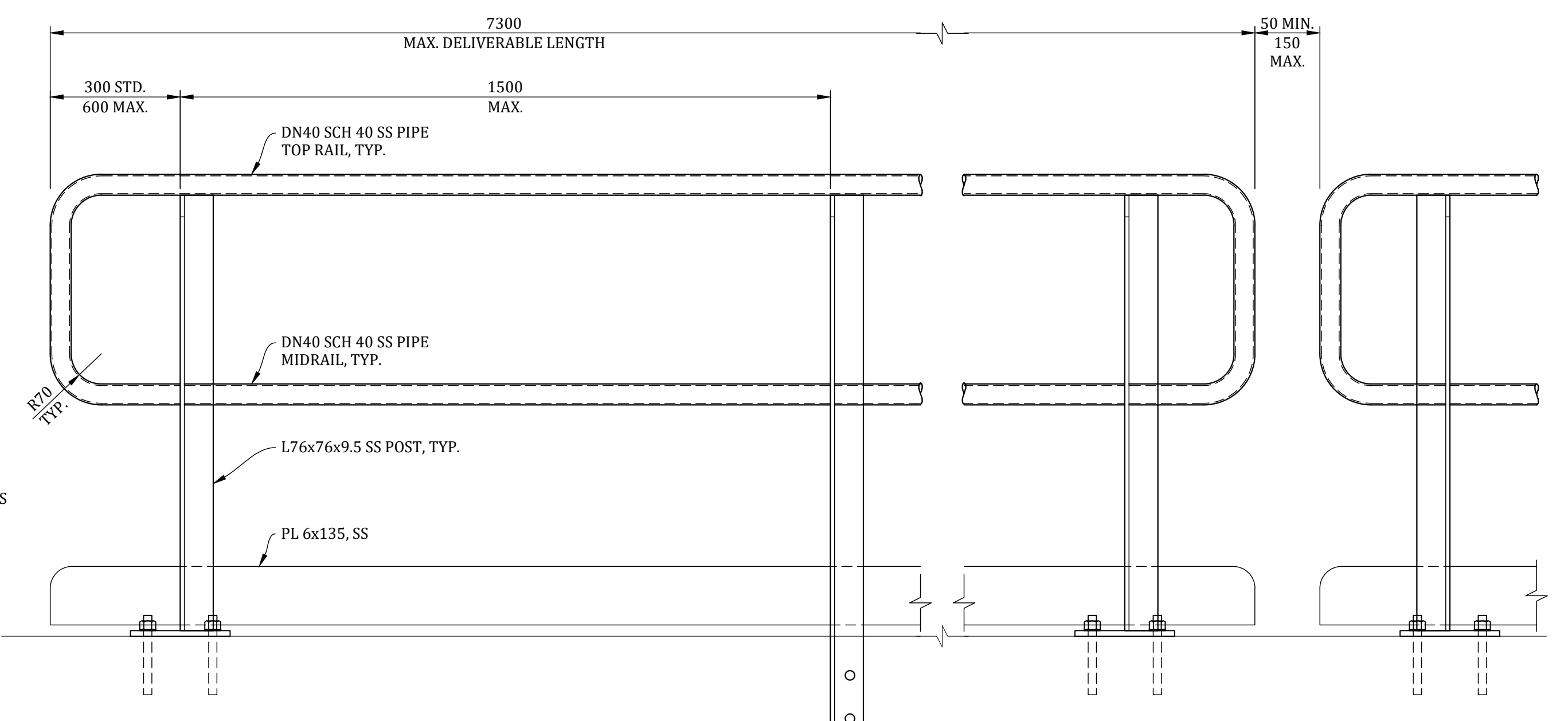
DETAIL 1
1:5



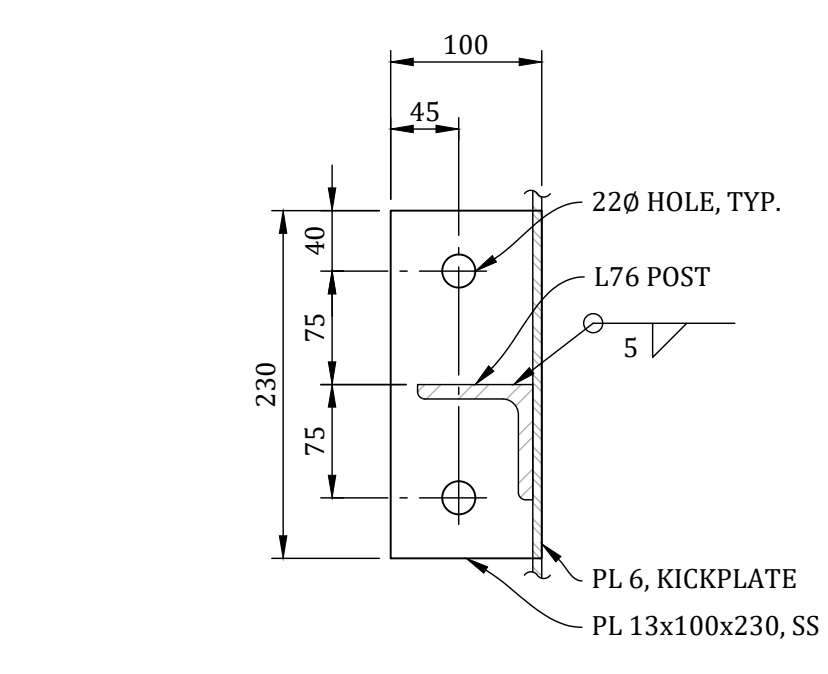
DETAIL 2
1:5



SECTION - TYPICAL HANDRAIL
1:10

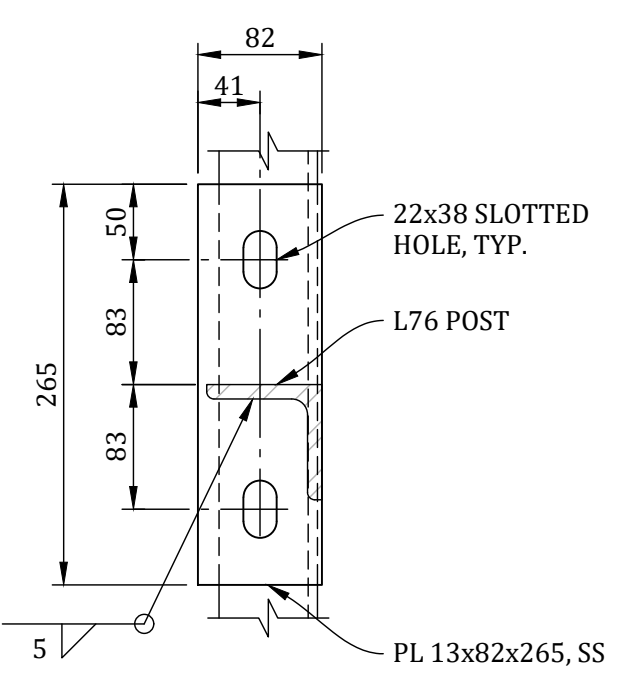


ELEVATION - TYPICAL HANDRAIL
1:10
NOTE: ENTIRE ASSEMBLY OF HANDRAIL TO BE STAINLESS STEEL AND PAINTED YELLOW.

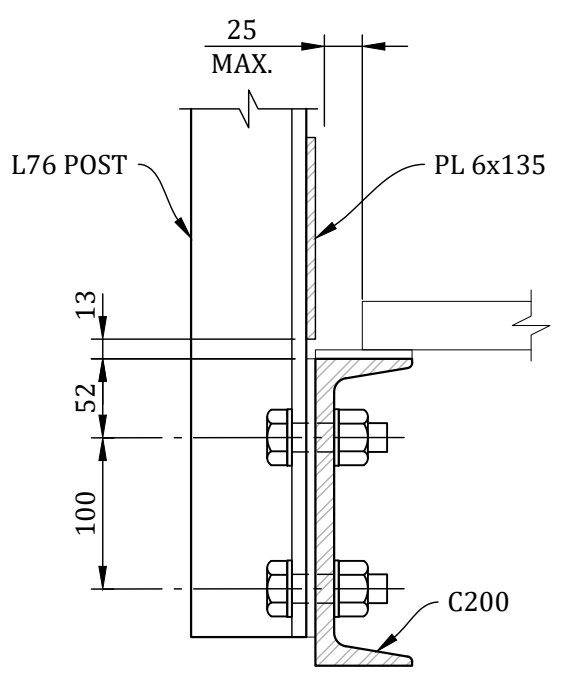


SECTION B
1:5

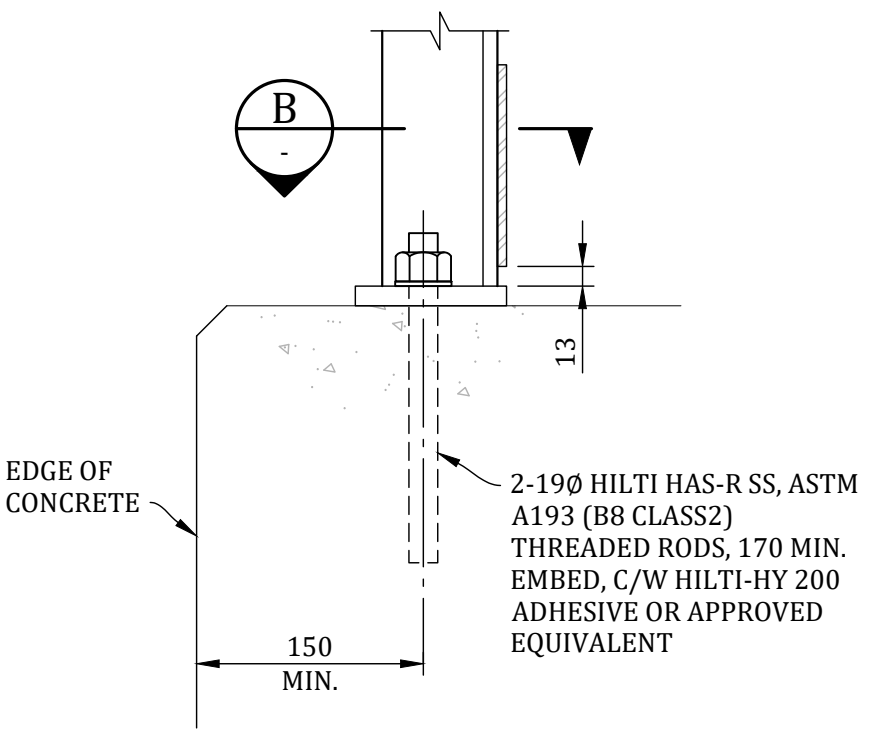
NOTE: CONCRETE NOT SHOWN FOR CLARITY



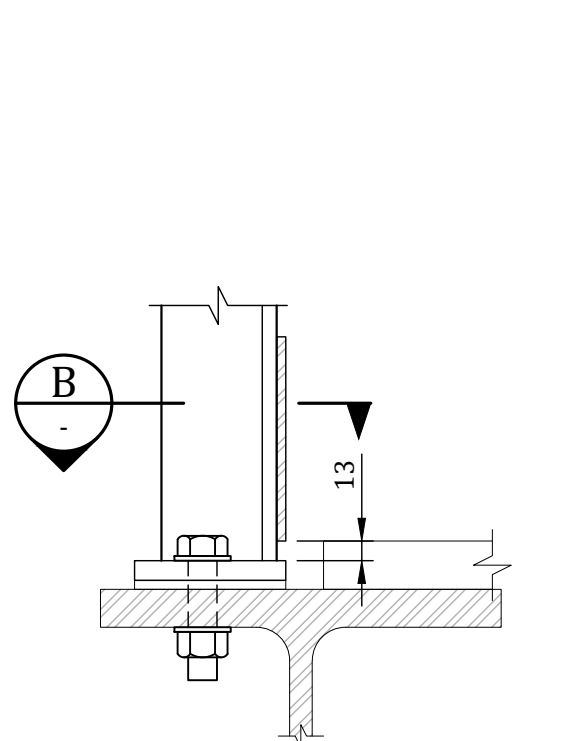
SECTION C
1:5



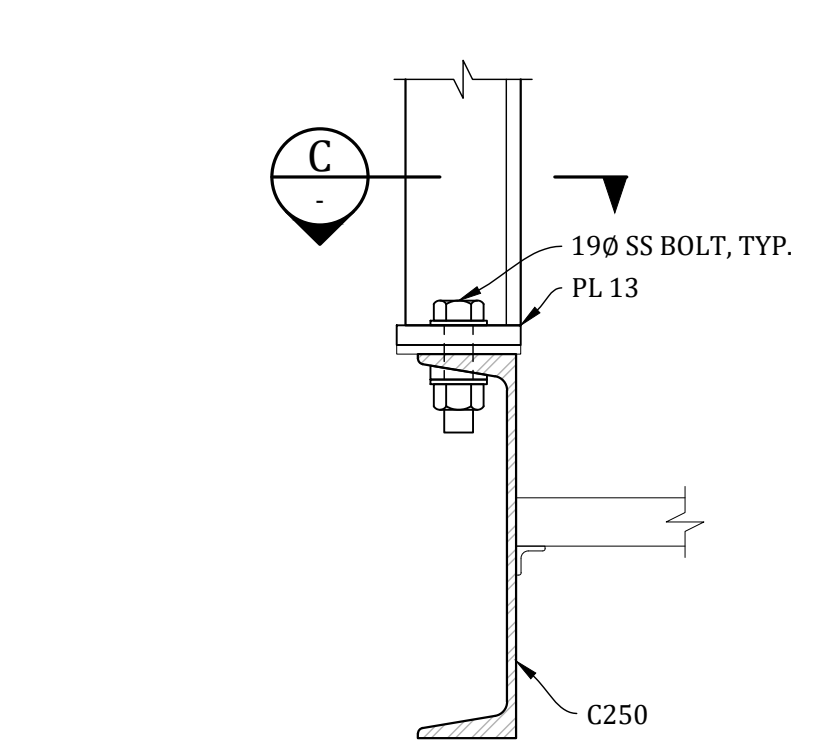
CHANNEL CONNECTION DETAIL TYPE 1
1:5



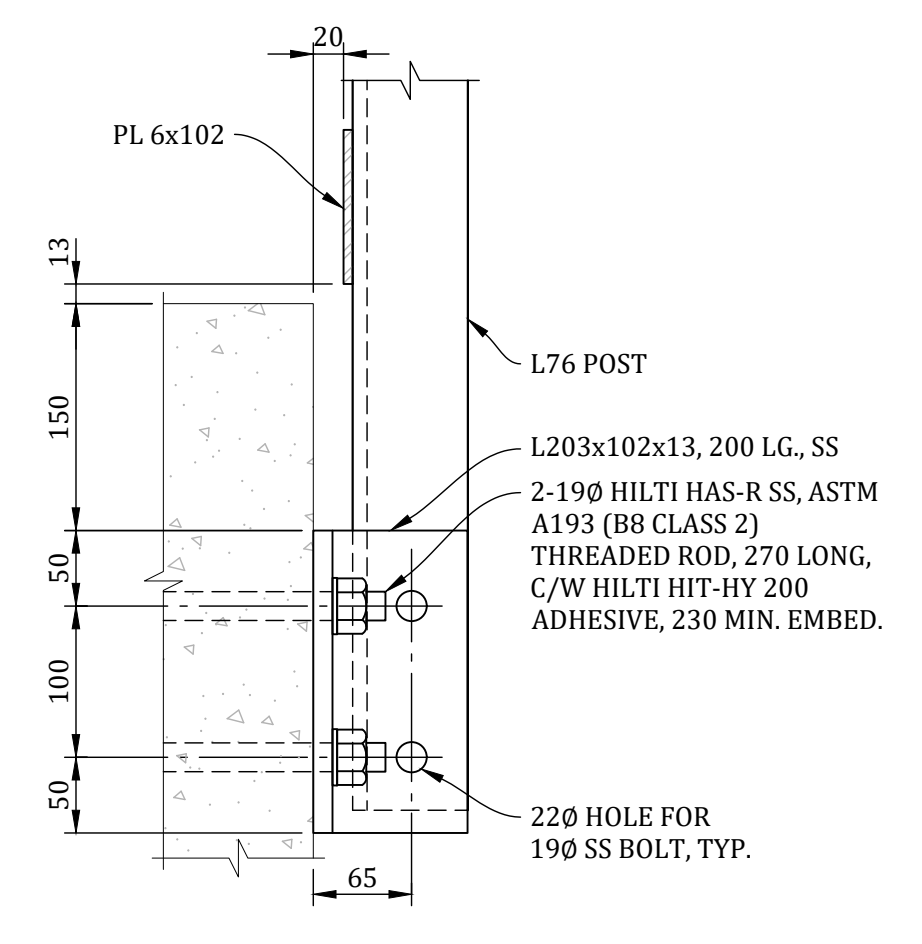
CONCRETE CONNECTION DETAIL
1:5



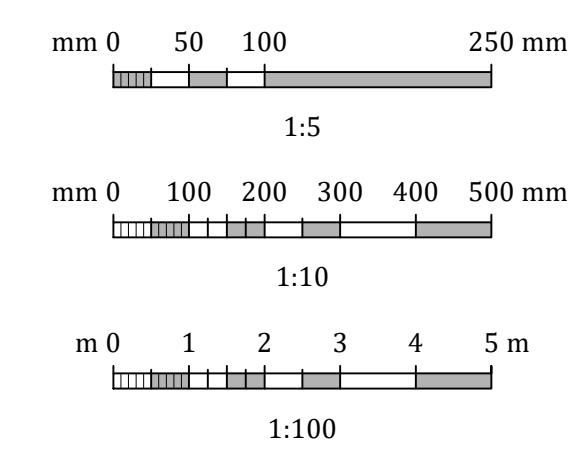
WIDE FLANGE CONNECTION DETAIL
1:5



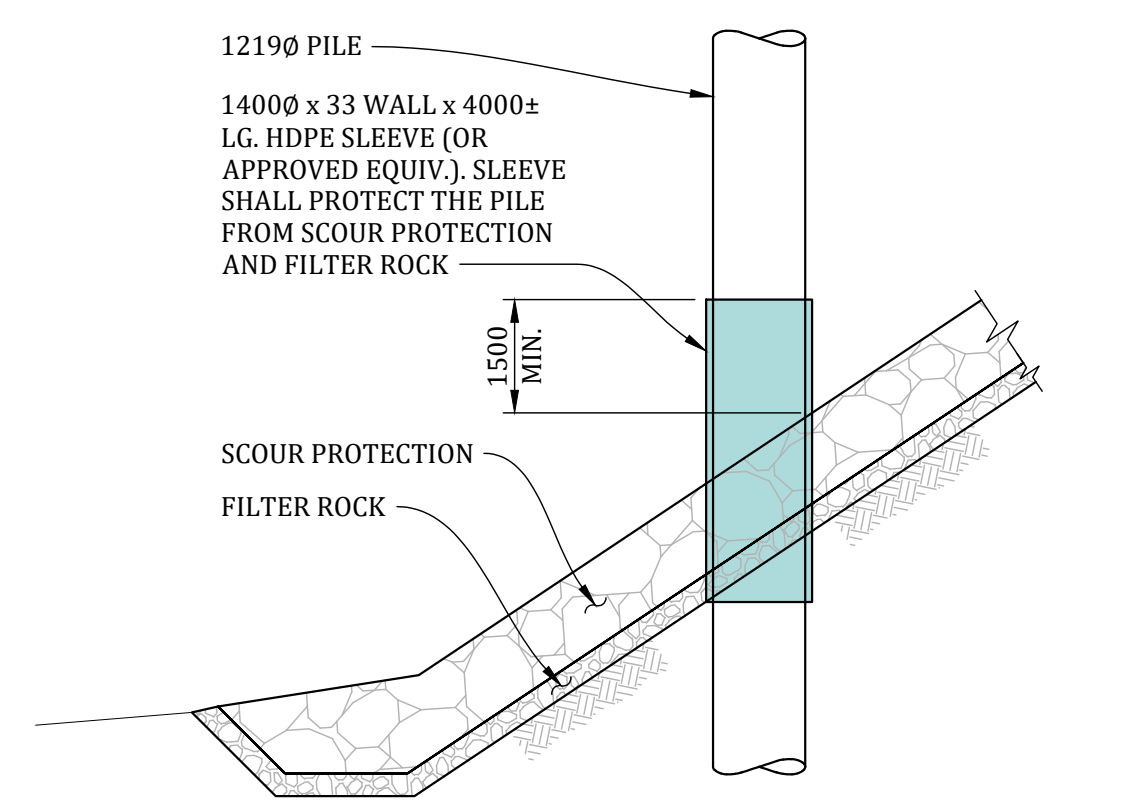
CHANNEL CONNECTION DETAIL TYPE 2
1:5



BENTS 1 AND 27 CONNECTION DETAIL
1:5



NOTES:
1. FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.

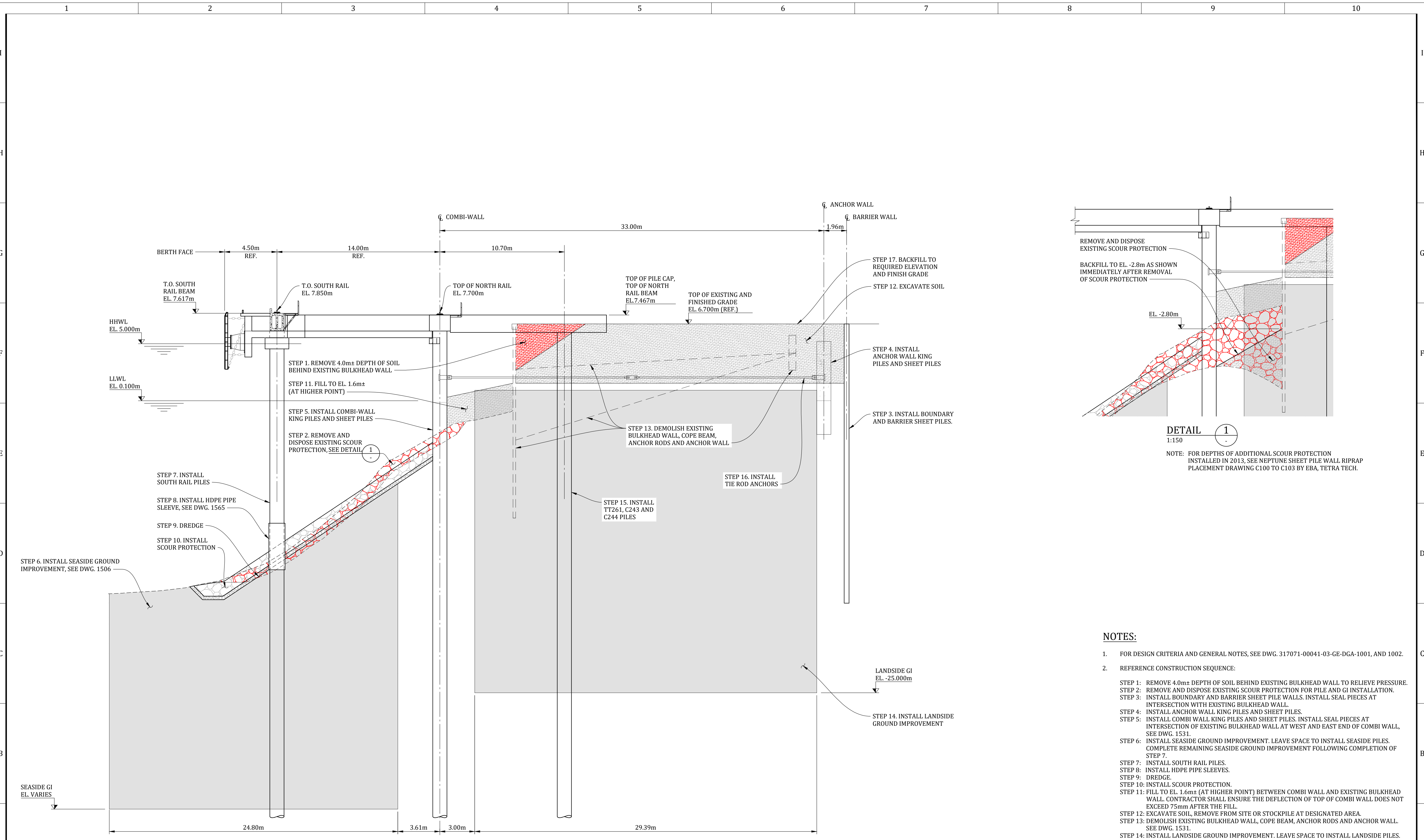


HDPE PIPE SLEEVE FOR PILE COATING PROTECTION
1:100

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Last Saved: Feb. 16/23 5:48pm

PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 <small>*This drawing is prepared for the use of the contractual customer of Worley Canada Services Ltd. and Worley Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.*</small>		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL MISCELLANEOUS DETAILS SHEET 2			
SYSTEM: POTASH		AAL		OEM:		Neptune TERMINALS		SCALE: SHEET OF DRAWING NO. REV: SHOWN 1 1 317071-00041-03-MA-DGA-1565 A			
ASSET: 251		AMT		VENDOR P2P:		THIS DRAWING IS THE PROPERTY OF NEPTUNE BULK TERMINALS (CANADA) LTD. NEITHER THIS DRAWING NOR ANY PORTION THEREOF SHALL BE REPRODUCED WITHOUT WRITTEN PERMISSION FROM NEPTUNE BULK TERMINALS (CANADA) LTD.					
DISCIPLINE: STRUCTURAL		REV		DESCRIPTION		DRAWN		ISSUES / REVISIONS			
DRAWING NO.		2023-02-16		ISSUED FOR CLIENT REVIEW		AAL					
DRAWING DESCRIPTION / TITLE		YYYY-MM-DD		DESCRIPTION		DRAWN					
REFERENCE DRAWINGS / DESIGN STANDARDS											

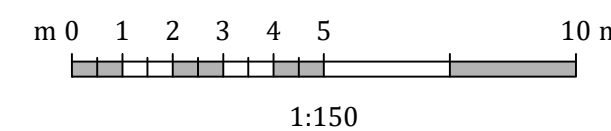
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CONSTRUCTION SEQUENCE - TYPICAL SECTION

1:150

NOTE: CONSTRUCTION SEQUENCE SHOWN AS REFERENCE. CONSTRUCTION SEQUENCE SHALL BE DETERMINED BY CONTRACTOR

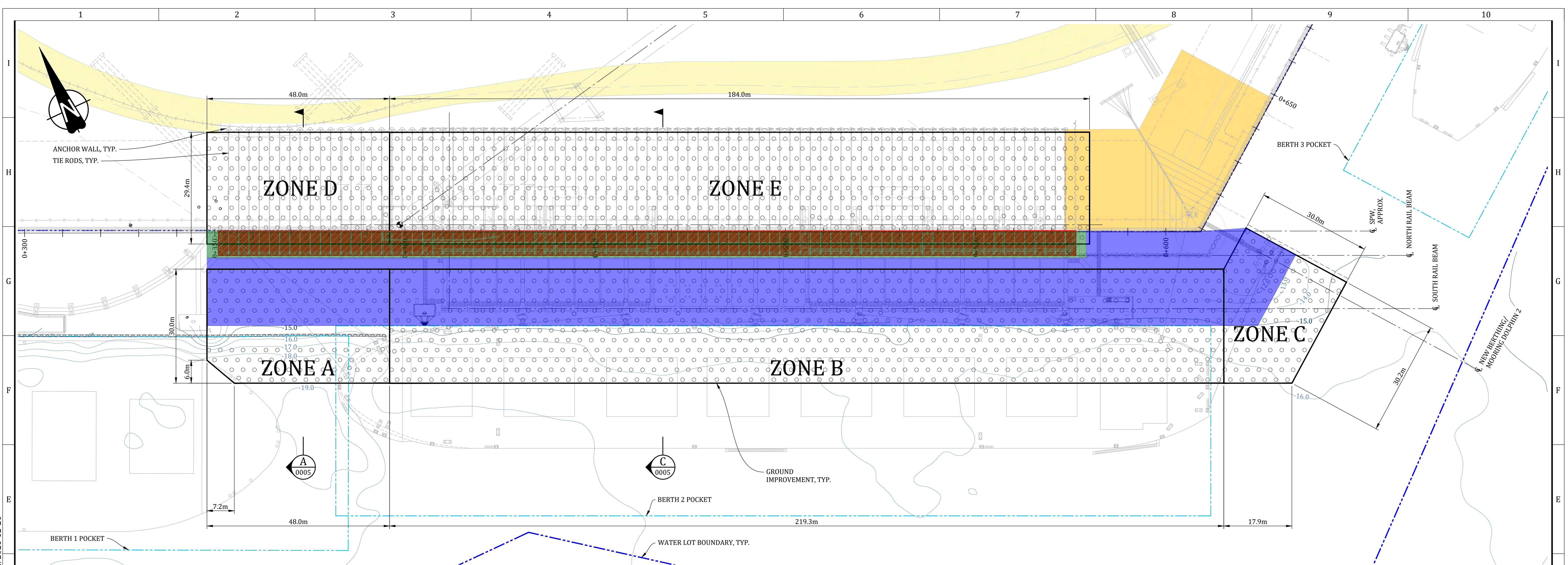


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DO NOT USE FOR CONSTRUCTION
Last Saved: Feb. 15/23 2:30pm

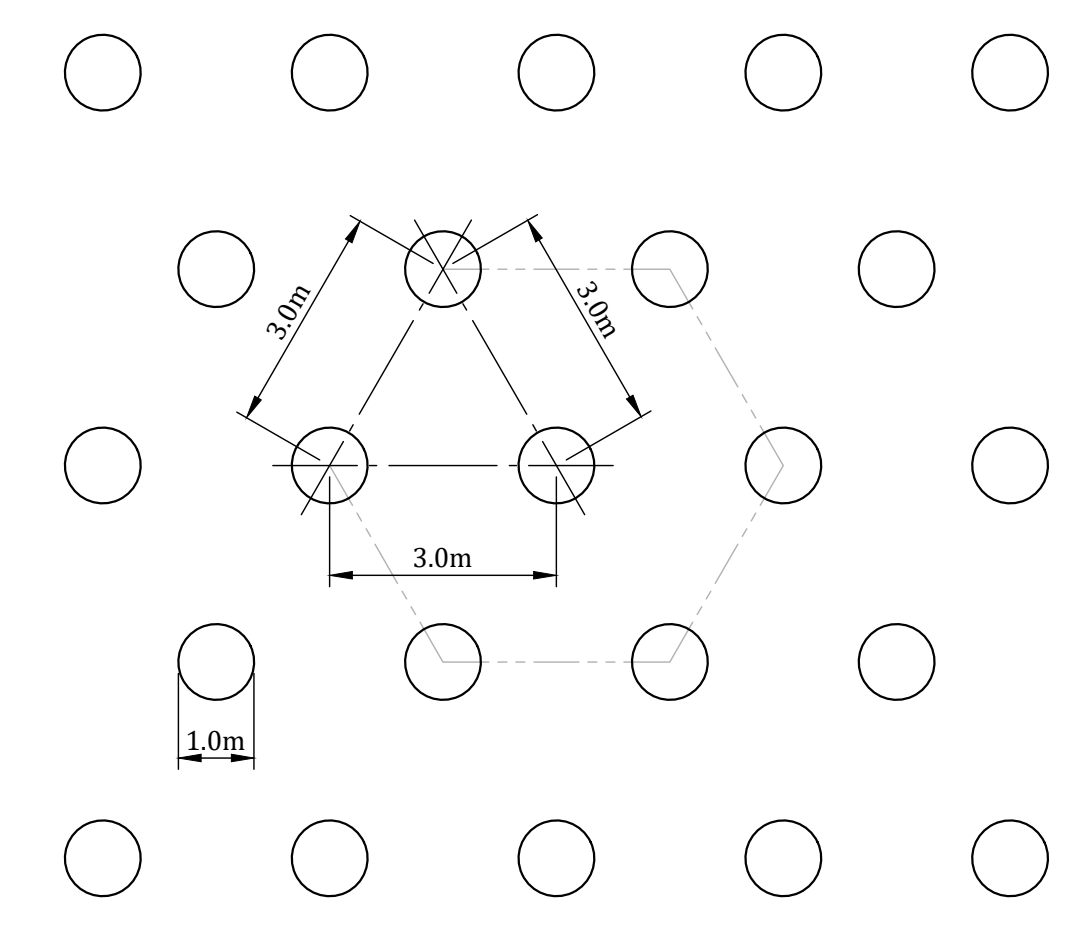
NOTES:

- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-03-GE-DGA-1001, AND 1002.
- REFERENCE CONSTRUCTION SEQUENCE:
 - STEP 1: REMOVE 4.0m± DEPTH OF SOIL BEHIND EXISTING BULKHEAD WALL TO RELIEVE PRESSURE.
 - STEP 2: REMOVE AND DISPOSE EXISTING SCOUR PROTECTION FOR PILE AND GI INSTALLATION.
 - STEP 3: INSTALL BOUNDARY AND BARRIER SHEET PILE WALLS. INSTALL SEAL PIECES AT INTERSECTION WITH EXISTING BULKHEAD WALL.
 - STEP 4: INSTALL ANCHOR WALL KING PILES AND SHEET PILES.
 - STEP 5: INSTALL COMBI WALL KING PILES AND SHEET PILES. INSTALL SEAL PIECES AT INTERSECTION OF EXISTING BULKHEAD WALL AT WEST AND EAST END OF COMBI WALL, SEE DWG. 1531.
 - STEP 6: INSTALL SEASIDE GROUND IMPROVEMENT. LEAVE SPACE TO INSTALL SEASIDE PILES. COMPLETE REMAINING SEASIDE GROUND IMPROVEMENT FOLLOWING COMPLETION OF STEP 7.
 - STEP 7: INSTALL SOUTH RAIL PILES.
 - STEP 8: INSTALL HDPE PIPE SLEEVES.
 - STEP 9: DREDGE.
 - STEP 10: INSTALL SCOUR PROTECTION.
 - STEP 11: FILL TO EL. 1.6m± (AT HIGHER POINT) BETWEEN COMBI WALL AND EXISTING BULKHEAD WALL. CONTRACTOR SHALL ENSURE THE DEFLECTION OF TOP OF COMBI WALL DOES NOT EXCEED 75mm AFTER THE FILL.
 - STEP 12: EXCAVATE SOIL, REMOVE FROM SITE OR STOCKPILE AT DESIGNATED AREA.
 - STEP 13: DEMOLISH EXISTING BULKHEAD WALL, COPE BEAM, ANCHOR RODS AND ANCHOR WALL. SEE DWG. 1531.
 - STEP 14: INSTALL LANDSIDE GROUND IMPROVEMENT. LEAVE SPACE TO INSTALL LANDSIDE PILES. COMPLETE REMAINING LANDSIDE GROUND IMPROVEMENT FOLLOWING COMPLETION OF STEPS 15.
 - STEP 15: INSTALL TT261, C243 AND C244 FOUNDATION PILES.
 - STEP 16: INSTALL TIE ROD ANCHORS.
 - STEP 17: BACKFILL TO REQUIRED ELEVATION AND FINISH GRADE
- CONTRACTOR SHALL STABILIZE EXISTING BULKHEAD WALL AND NEW COMBI WALL DURING DEMOLITION, EXCAVATION, AND CONSTRUCTION.

PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian Worley Group 317071-00041 <small>*This drawing is prepared for the use of the contractual customer of Worley Canada Services Ltd. and Worley Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.*</small>		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT - MARINE AND CIVIL CONSTRUCTION SEQUENCE SECTION			
SYSTEM: POTASH											
ASSET: 221											
DISCIPLINE: STRUCTURAL		REV: A		2023-02-16		ISSUED FOR CLIENT REVIEW		GL		AMT	
DRAWING NO. 1		DRAWING DESCRIPTION / TITLE 2		ISSUES / REVISIONS 4		DRAWN		APPROVED		VENDOR P2P: 5	
REFERENCE DRAWINGS / DESIGN STANDARDS										SCALE: SHOWN	
										SHEET 1 OF 1	
										DRAWING NO. 317071-00041-02-CI-DGA-1577	
										REV: A	



PLAN
1:500



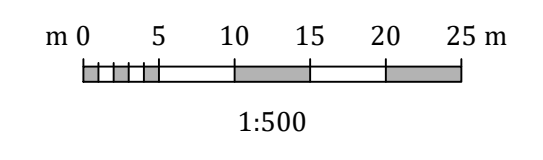
PLAN - VIBRO STONE COLUMNS
1:100
NOTES:
- STONE COLUMNS TO BE CONSTRUCTED WITH 'BOTTOM FEED' TECHNIQUE
- STONE COLUMN REPLACEMENT RATIO SHALL BE 10%, TO BE CONFIRMED BY A FIELD TRIAL
- STONE COLUMN NOMINAL SPACING = 3.0m ON AN EQUILATERAL TRIANGULAR GRID
- STONE COLUMN DIAMETER SHALL BE 1.0m
- STONE COLUMN GRID SPACING AND DIAMETER TO BE CONFIRMED BY A FIELD TRIAL

STONE COLUMNS		
ZONE	AREA (m ²)	NO. OF COLUMNS
A	1420	156
B	6580	856
C	905	120
D	1410	176
E	5410	676
TOTAL	15725	1984

BERTH 2 MARINE INFILL	
ZONE	AREA (m ²)
A	1445

BERTH 2 RIPRAP TEMPORARY REMOVAL		
ZONE	AREA (m ²)	VOLUME (m ³)
B	7000	5040

BERTH 2 RIPRAP REINSTATE		
ZONE	AREA (m ²)	VOLUME (m ³)
C	5380	3880



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	PROJECT / W.O.: B2 MARINE WORKS			ENGINEERING SEAL:	VENDOR: Advisian <small>Worley Group 317071-00041 *This drawing is prepared for the use of the contractual customer of Worley Canada Services Ltd. and Worley Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.*</small>	ISSUED AS RECORD COPY? (YES/NO) NO	TITLE: BERTH 2 SHIPLOADER PROJECT COMBI-WALL CONCEPT DESIGN GROUND IMPROVEMENT		
	SYSTEM: POTASH					Neptune TERMINALS <small>THIS DRAWING IS THE PROPERTY OF NEPTUNE BULK TERMINALS (CANADA) LTD. NEITHER THIS DRAWING NOR ANY PORTION THEREOF SHALL BE REPRODUCED WITHOUT WRITTEN PERMISSION FROM NEPTUNE BULK TERMINALS (CANADA) LTD.</small>			
	ASSET: 221						SCALE: SHOWN	SHEET 1 OF 1	
DRAWING NO.	DRAWING DESCRIPTION / TITLE	DISCIPLINE: STRUCTURAL	REV	YYYY-MM-DD	DESCRIPTION	DRAWN	APPROVED	DRAWING NO. 01-MA-DSK-0004	REV: A
REFERENCE DRAWINGS / DESIGN STANDARDS			ISSUES / REVISIONS						

U:\YVR\317071\00041_NEP_B2SHIPLOADER\11_DRAWINGS\15_I_AND_E\02_MARINE\COMBIWALL\317071-00041-01-MA-DSK-0004.DWG DATE: 2021-12-21



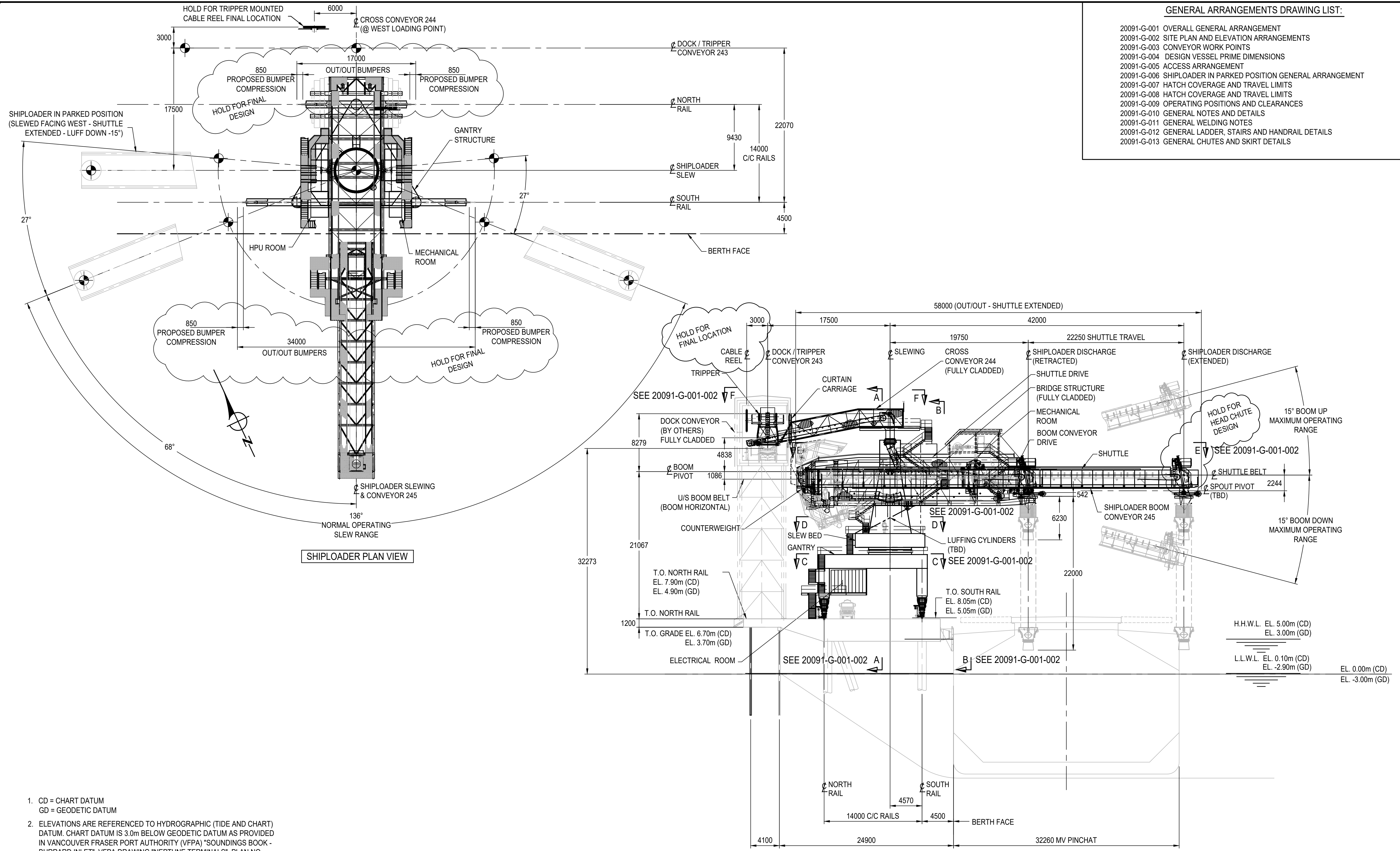
Doc Title:
Doc Ref #:
Doc Rev #:

B2 Design Drawing Report
REP-B2D2-0003
1

APPENDIX F: MARINE STRUCTURES (EMS TECH)

GENERAL ARRANGEMENTS DRAWING LIST:

- 20091-G-001 OVERALL GENERAL ARRANGEMENT
- 20091-G-002 SITE PLAN AND ELEVATION ARRANGEMENTS
- 20091-G-003 CONVEYOR WORK POINTS
- 20091-G-004 DESIGN VESSEL PRIME DIMENSIONS
- 20091-G-005 ACCESS ARRANGEMENT
- 20091-G-006 SHIPLOADER IN PARKED POSITION GENERAL ARRANGEMENT
- 20091-G-007 HATCH COVERAGE AND TRAVEL LIMITS
- 20091-G-008 HATCH COVERAGE AND TRAVEL LIMITS
- 20091-G-009 OPERATING POSITIONS AND CLEARANCES
- 20091-G-010 GENERAL NOTES AND DETAILS
- 20091-G-011 GENERAL WELDING NOTES
- 20091-G-012 GENERAL LADDER, STAIRS AND HANDRAIL DETAILS
- 20091-G-013 GENERAL CHUTES AND SKIRT DETAILS



1. CD = CHART DATUM
GD = GEODETIC DATUM
2. ELEVATIONS ARE REFERENCED TO HYDROGRAPHIC (TIDE AND CHART) DATUM. CHART DATUM IS 3.0m BELOW GEODETIC DATUM AS PROVIDED IN VANCOUVER FRASER PORT AUTHORITY (VFPA) "SOUNDINGS BOOK - BURRARD INLET". VFPA DRAWING "NEPTUNE TERMINALS", PLAN NO. H2017-006, SHEET 21 OF 32, DATED MARCH 2017.
3. EXISTING BENCHMARK LOCATIONS WERE TAKEN FROM ADVISIAN SITE PLAN DRAWING 04-MA-DGA-001 AND 04-MA-DGA-002.

DRAWING NO.	REFERENCE	REV.	REVISION DESCRIPTION	BY	CHKD	DATE

THIRD ANGLE PROJECTION

SCALE (A1 Sheet): 1:250

DATE: MAY 27, 2021

DRAWN BY: TJB

CHECKED BY: RDD

STATUS: **NOT FOR CONSTRUCTION**

PROJECT: NEPTUNE - BERTH 2 NEW SHIPLOADER

OWNER/OPERATOR:

Neptune TERMINALS

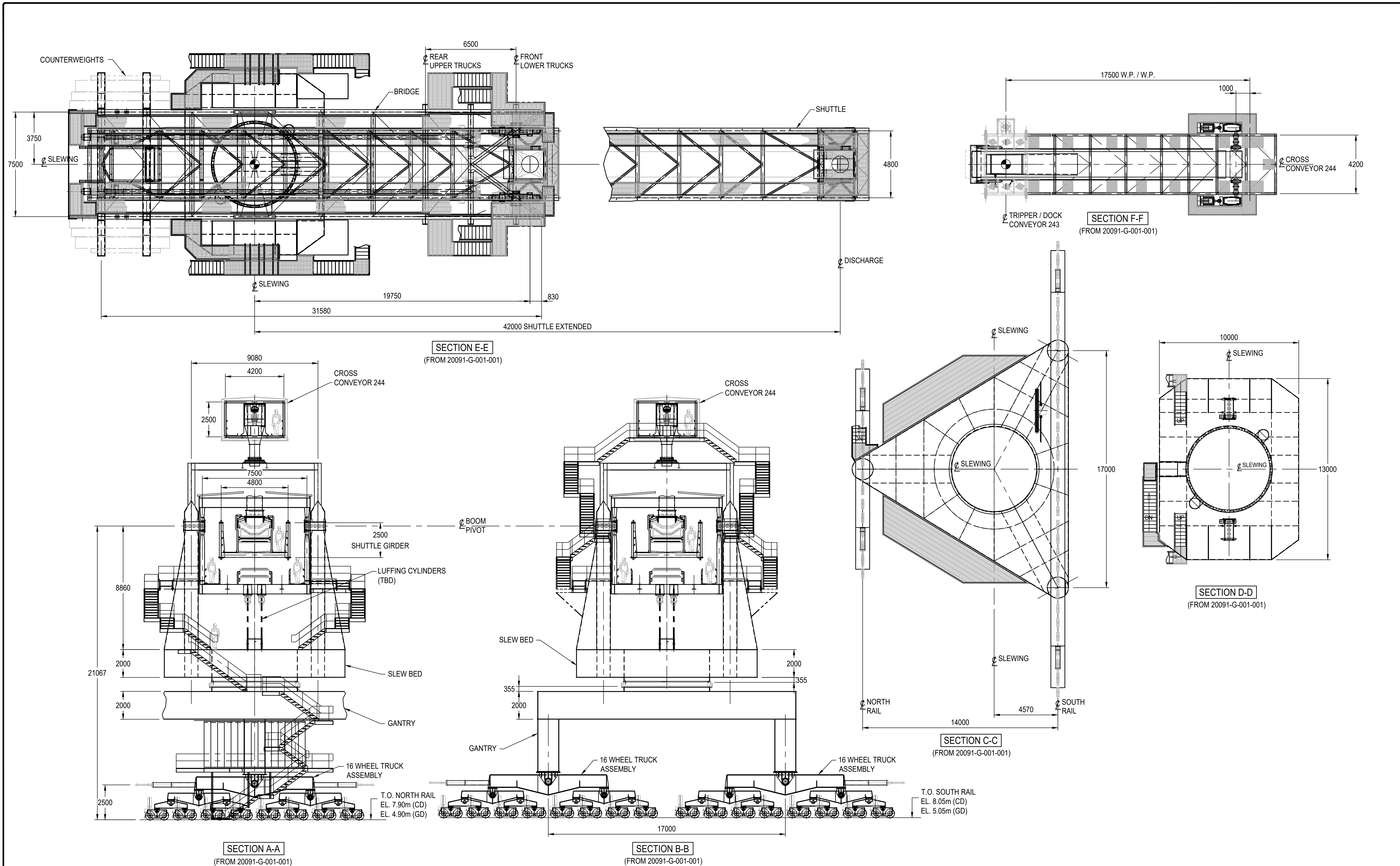
DRAWING TITLE:

B2 SHIPLOADER 250 OVERALL GENERAL ARRANGEMENT AND SECTIONS

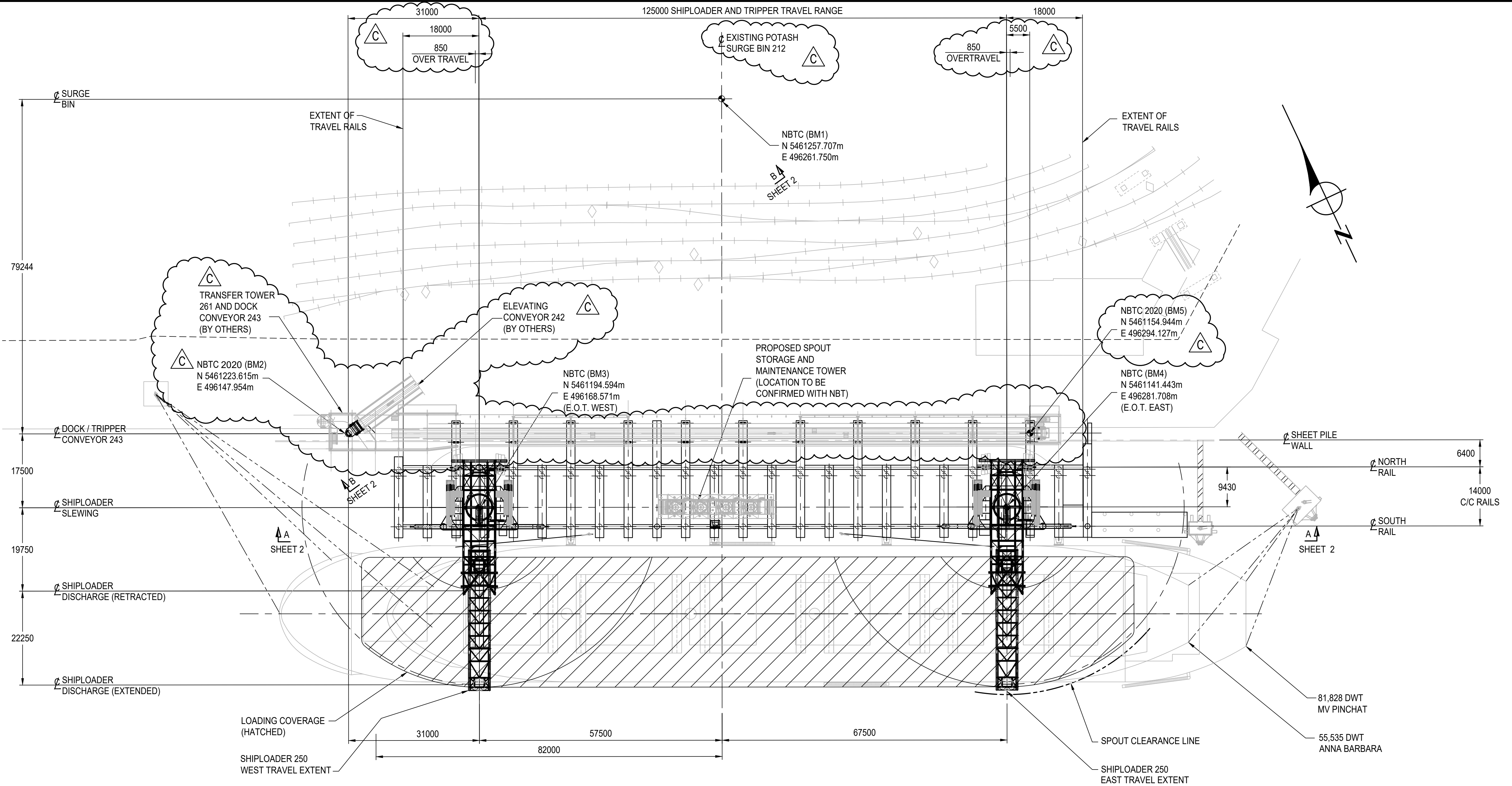
EMTS - TECH INC.
mobile equipment and bulk material handling systems

BELLEVILLE - ONTARIO - CANADA
PHONE 613-966-6611 FAX 613-966-6710

DRAWING NUMBER	SHT.	CONT.	REV.
20091-G-001	1	2	C



<p>OWNER/OPERATOR: Neptune TERMINALS</p>																								
<p>DRAWING TITLE: B2 SHIPLOADER 250 OVERALL GENERAL ARRANGEMENT AND SECTIONS</p>																								
<p>SCALE (A1 Sheet): 1:125</p> <p>DATE: JUNE 25, 2021</p> <p>DRAWN BY: TJB</p> <p>CHECKED BY: RDD</p>																								
<p>STATUS: NOT FOR CONSTRUCTION</p> <p>PROJECT: NEPTUNE - BERTH 2 NEW SHIPLOADER</p>																								
<p>CONFIDENTIALITY: THIS DRAWING, IN DESIGN AND DETAIL, IS THE PROPERTY OF EMS-TECH INC. AND MUST NOT BE USED EXCEPT IN CONNECTION WITH EMS-TECH INC. WORK. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.</p>																								
<p>REVISIONS:</p> <table border="1"> <thead> <tr> <th>REV.</th> <th>DESCRIPTION</th> <th>BY</th> <th>CHKD</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>B</td> <td>GENERAL UPDATE / REVISED PER CLIENT COMMENTS</td> <td>TJB</td> <td>RDD</td> <td>OCT. 01/21</td> </tr> <tr> <td>A</td> <td>ISSUED FOR CLIENT REVIEW</td> <td>TJB</td> <td>RDD</td> <td>JUN. 30/21</td> </tr> </tbody> </table>										REV.	DESCRIPTION	BY	CHKD	DATE	B	GENERAL UPDATE / REVISED PER CLIENT COMMENTS	TJB	RDD	OCT. 01/21	A	ISSUED FOR CLIENT REVIEW	TJB	RDD	JUN. 30/21
REV.	DESCRIPTION	BY	CHKD	DATE																				
B	GENERAL UPDATE / REVISED PER CLIENT COMMENTS	TJB	RDD	OCT. 01/21																				
A	ISSUED FOR CLIENT REVIEW	TJB	RDD	JUN. 30/21																				
<p>DRAWING NUMBER: 20091-G-001</p> <p>SHT. CONT. REV. 2 2 B</p>																								
<p>EMMS - TECH INC. mobile equipment and bulk material handling systems</p> <p>BELLEVILLE - ONTARIO - CANADA PHONE 613-966-6611 FAX 613-966-6710</p>																								



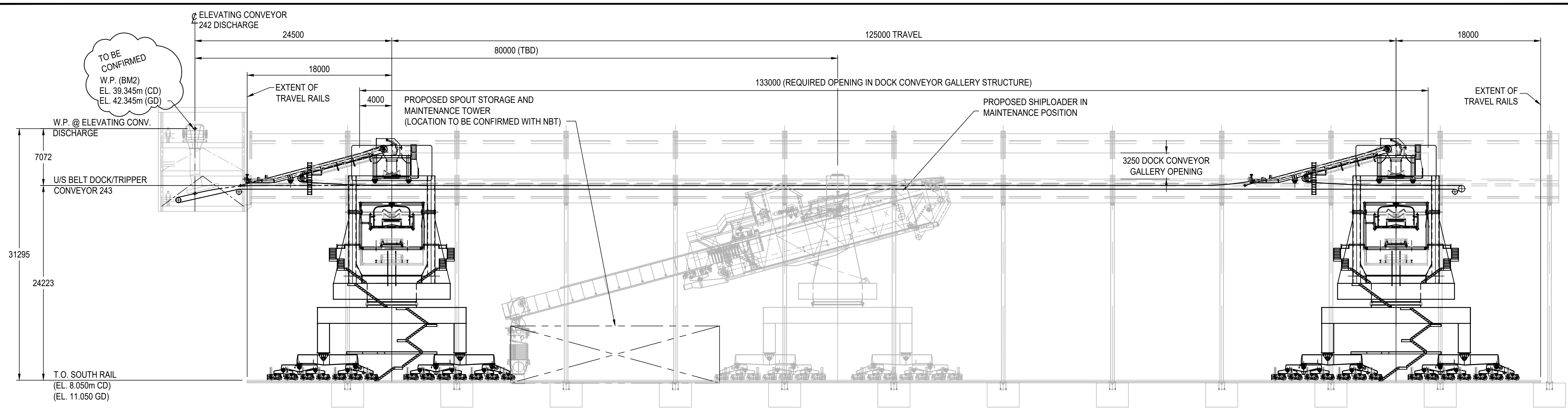
SITE PLAN

- EXISTING SURGE BIN BENCHMARK LOCATION BM1 TAKEN FROM ADVISIAN SITE PLAN DRAWINGS 04-MA-DGA-001 & 04-MA-DGA-002
- NBT 2020 BENCHMARK LOCATIONS BM2 AND BM5 TAKEN FROM CWA DRAWING 21028-243-55-001.
- THIS PLAN SHOWS NBTC GROUND LEVEL MEASURED DISTANCES. TO CONVERT GROUND LEVEL NBTC COORDINATES TO UTM NAD83 ZONE 10 NORTH COORDINATES FIRST ADD 2172.427 TO NORTHING AND 197.590 TO EASTING THEN SCALE ABOUT 0,0 BY A COMBINED SCALE FACTOR OF 0.99960240.

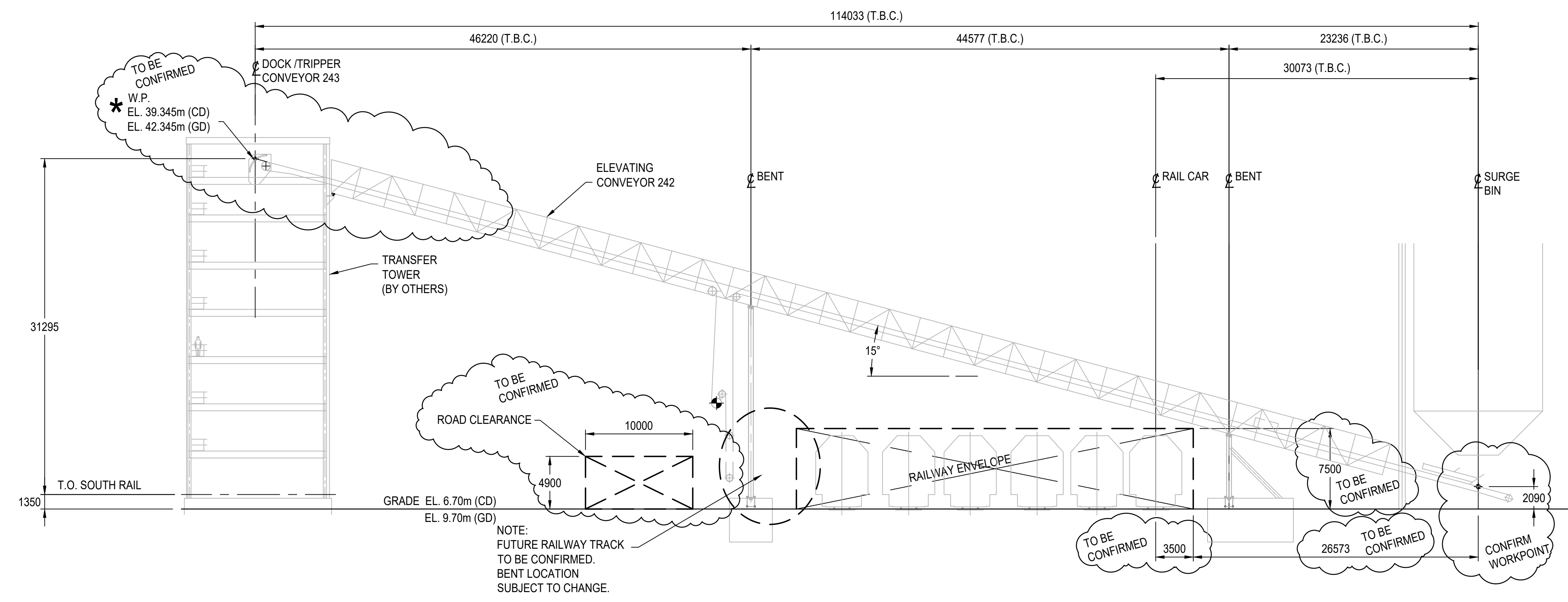
NOTE:
DRAWING 0,0 COORDINATES SET TO NBT LOCAL COORDINATES SYSTEM.
ADVISIAN SITE PLAN AND 0,0 REFERENCE POINT ON NO PLOT LAYER.
TO SEE ADVISIAN SITE PLAN TURN ON 'NBT NO PLOT' LAYER

No Comment
CMR 220114

<p>THIRD ANGLE PROJECTION</p>										<p>SCALE (A1 Sheet): 1:500</p>		<p>STATUS: NOT FOR CONSTRUCTION</p>		<p>DRAWING TITLE: SITE PLAN AND ELEVATION ARRANGEMENTS</p>																																																																																																																							
<p>DATE: MAY 13, 2021</p>										<p>PROJECT: NEPTUNE - BERTH 2 NEW SHIPLOADER</p>		<p>OWNER/OPERATOR: Neptune TERMINALS</p>																																																																																																																									
<p>DRAWN BY: TJB</p>										<p>PHONE 613-966-8611 FAX 613-966-6710</p>		<p>DRAWING NUMBER: 20091-G-002</p>																																																																																																																									
<p>CHECKED BY: RDD</p>										<p>REV. 1 2 C</p>		<p>CONT. 1 2 C</p>																																																																																																																									
<p>CONFIDENTIALITY: THIS DRAWING, IN DESIGN AND DETAIL, IS THE PROPERTY OF EMS-TECH INC. AND MUST NOT BE USED EXCEPT IN CONNECTION WITH EMS-TECH INC. WORK. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.</p>										<p>REV. 1 2 C</p>		<p>REV. 1 2 C</p>																																																																																																																									
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DRAWING NO.	REFERENCE	REV.	REVISION DESCRIPTION	BY	CHKD	DATE	REV.	REVISION DESCRIPTION	BY	CHKD	DATE																																																																																																																										



DOCK CONVEYOR / TRIPPER - ELEVATION



ELEVATING CONVEYOR 242 - ELEVATION

1. CD = CHART DATUM
GD = GEODETIC DATUM
2. ELEVATIONS ARE REFERENCED TO HYDROGRAPHIC (TIDE AND CHART) DATUM. CHART DATUM IS 3.0m BELOW GEODETIC DATUM AS PROVIDED IN VANCOUVER FRASER PORT AUTHORITY (VFPA) "SOUNDINGS BOOK - BURRARD INLET". VFPA DRAWING "NEPTUNE TERMINALS", PLAN NO. H2017-006, SHEET 21 OF 32, DATED MARCH 2017.
3. EXISTING BENCHMARK LOCATIONS WERE TAKEN FROM ADVISIAN SITE PLAN DRAWING 04-MA-DGA-001 AND 04-MA-DGA-002.

PRELIMINARY

OWNER/OPERATOR:
Neptune
TERMINALS

DRAWING TITLE:
B2 SHIPLOADER 250
SITE PLAN AND
ELEVATION ARRANGEMENTS

DRAWING NUMBER	SHT.	CONT.	REV.
20091-G-002	2	2	B

DRAWING NO.	REFERENCE	REV.	REVISION DESCRIPTION	BY	CHKD	DATE

THIRD ANGLE PROJECTION

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SCALE (A1 Sheet):
1:250

DATE:
MAY 13, 2021

DRAWN BY:
TJB

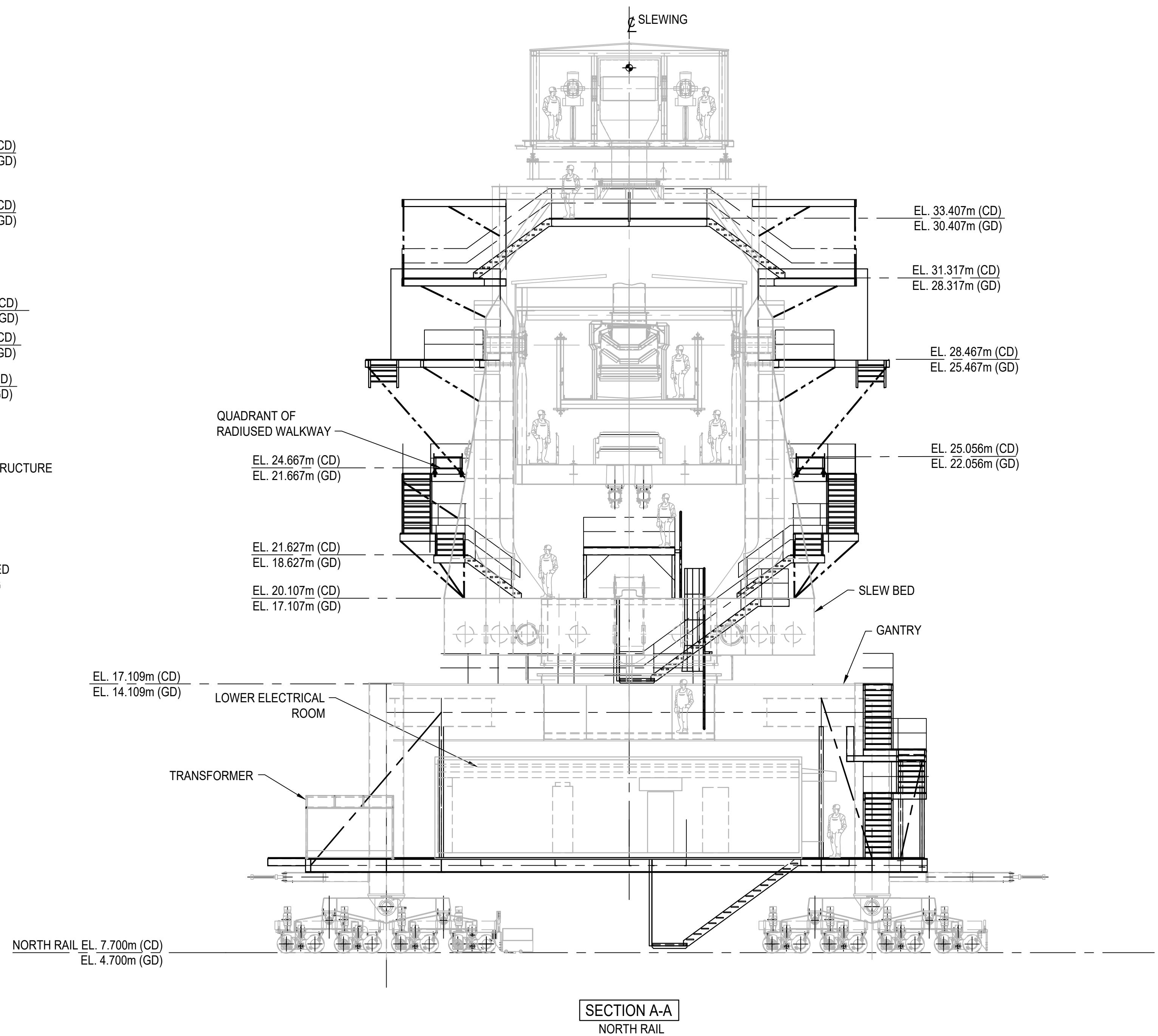
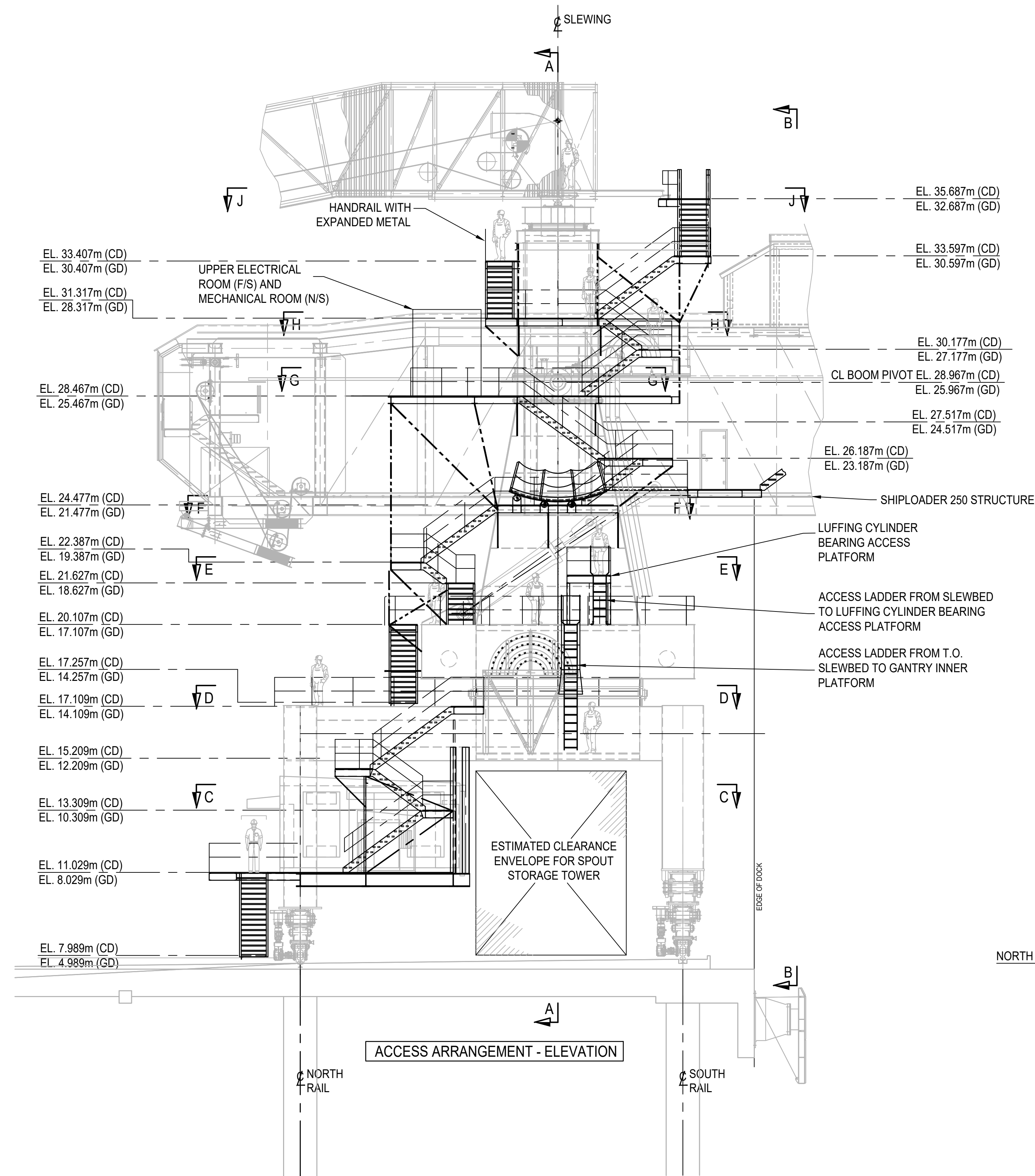
CHECKED BY:
RDD

STATUS:
NOT FOR CONSTRUCTION

PROJECT:
NEPTUNE - BERTH 2
NEW SHIPLOADER

EMS - TECH INC.
mobile equipment and bulk material handling systems

BELLEVILLE - ONTARIO - CANADA
PHONE 613-966-6611 FAX 613-966-6710



PRELIMINARY

OWNER/OPERATOR:
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TERMINALS

DRAWING NO.	REFERENCE	REV.	REVISION DESCRIPTION	BY	CHKD	DATE

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SCALE (A1 Sheet):
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DATE:
JUNE 29, 2021

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STATUS:
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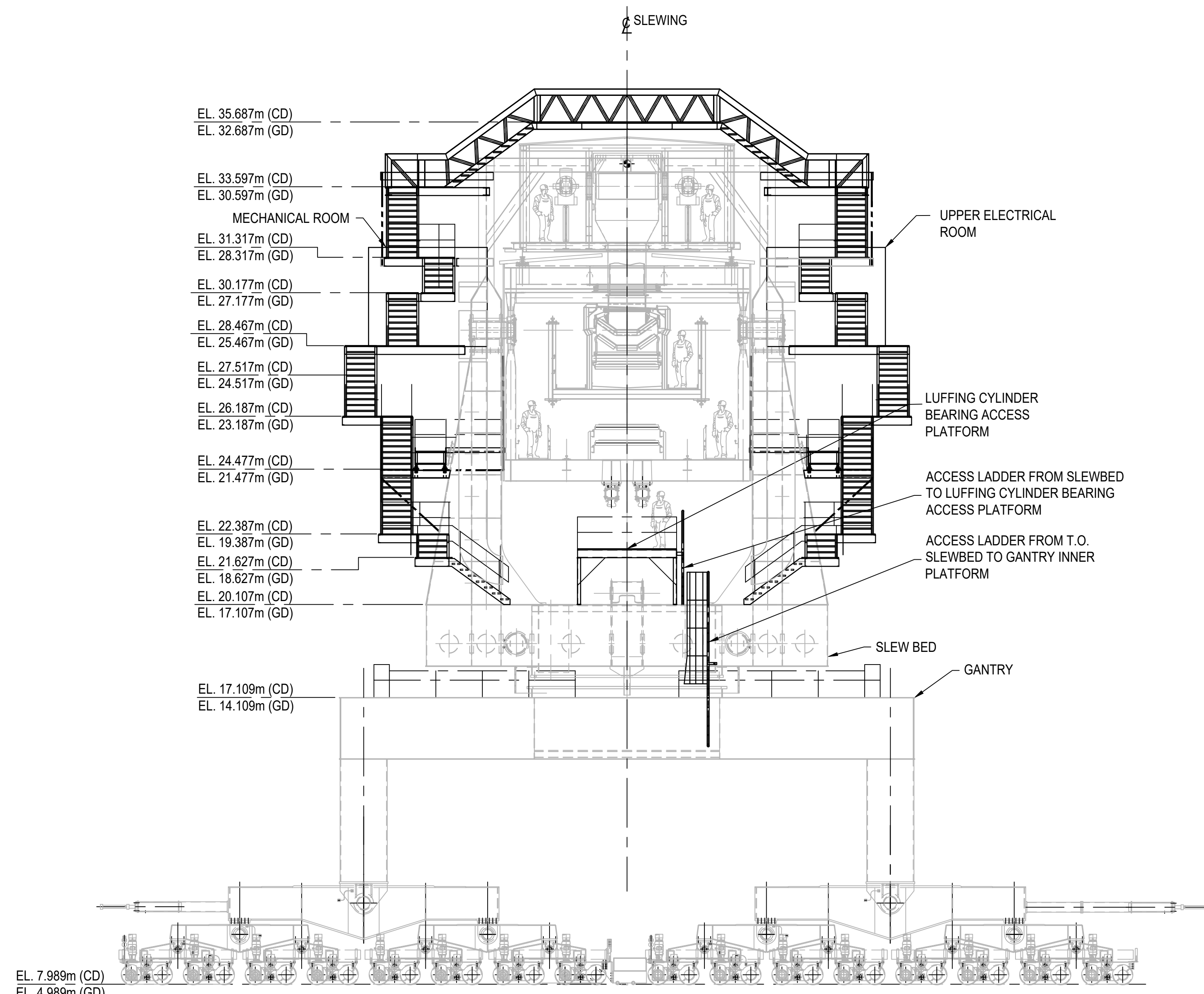
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NEPTUNE - BERTH 2
NEW SHIPLOADER

EMS - TECH INC.
mobile equipment and bulk material handling systems

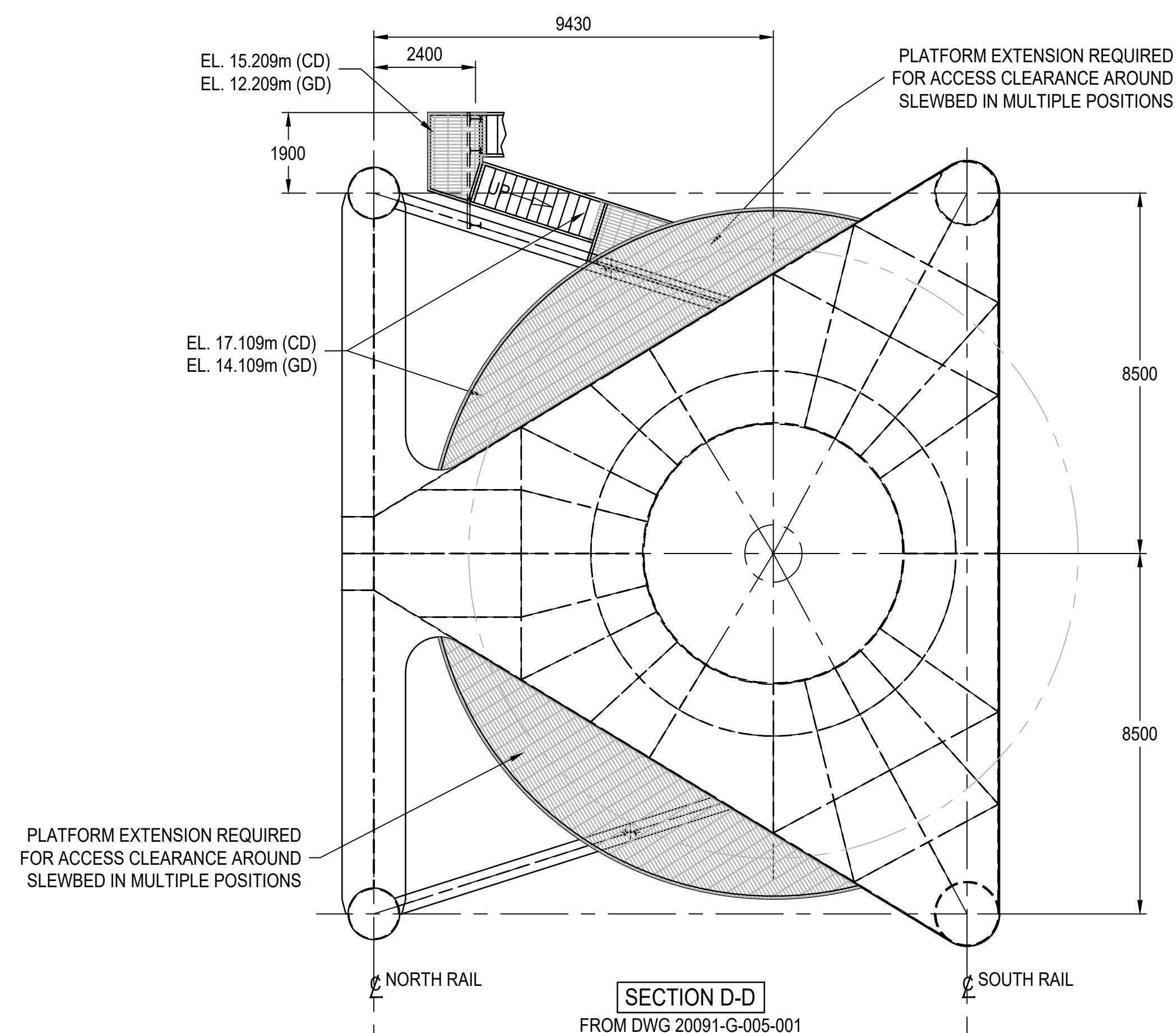
BELLEVILLE - ONTARIO - CANADA
PHONE 613-966-6611 FAX 613-966-6710

DRAWING TITLE:
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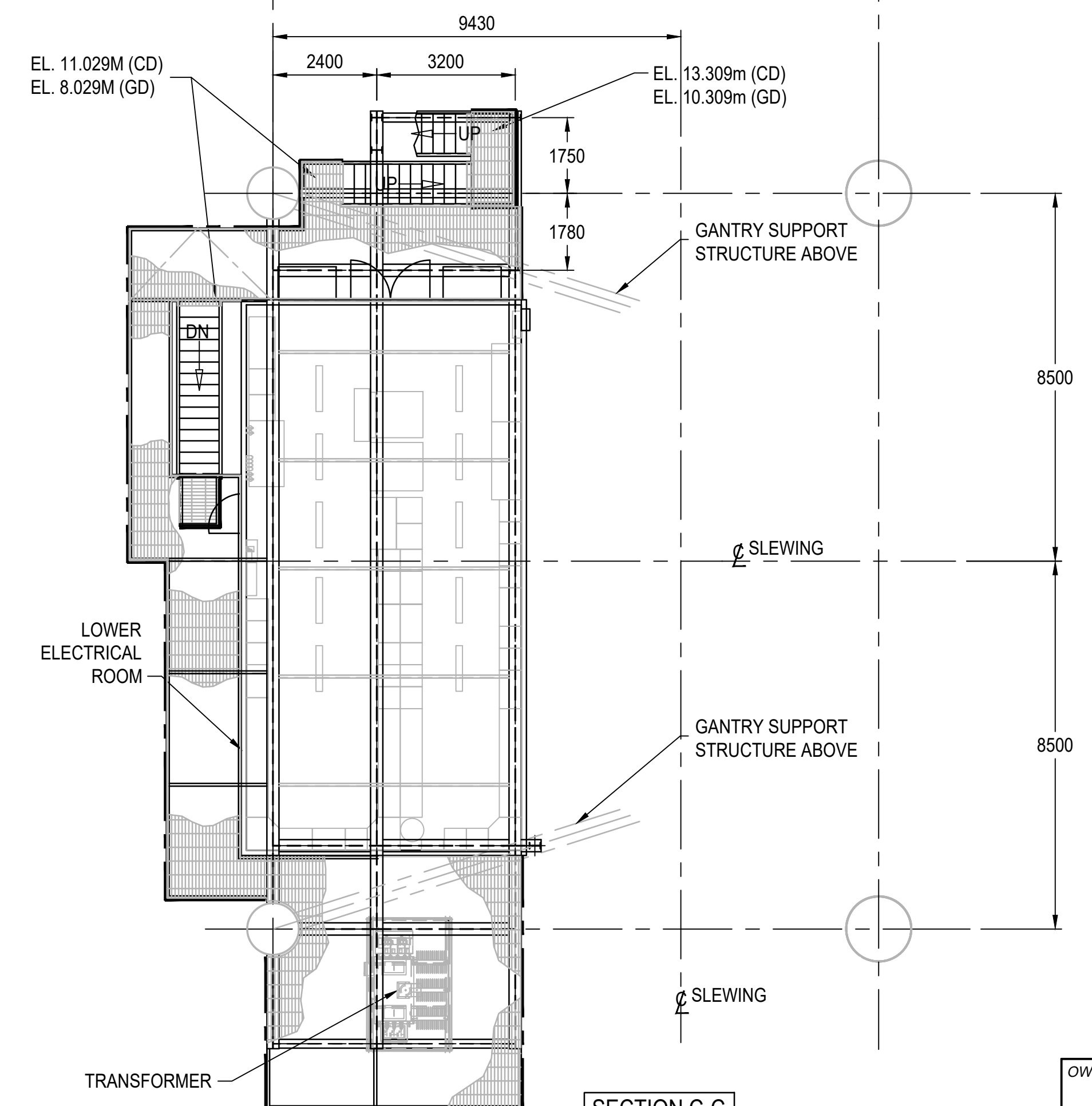
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20091-G-005	1	2	C



SECTION B-B
FROM 20091-G-005-001



SECTION D-D
FROM DWG 20091-G-005-001



SECTION C-C
FROM DWG 20091-G-005-001

PRELIMINARY

OWNER/OPERATOR:
Neptune
TERMINALS

DRAWING TITLE:
**B2 SHIPLoader 250
ACCESS
ARRANGEMENT**

DRAWING NO.	REFERENCE	REV.	REVISION DESCRIPTION	BY	CHKD	DATE

THIRD ANGLE PROJECTION

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SCALE (A1 Sheet):
1:100

DATE:
JUNE 29, 2021

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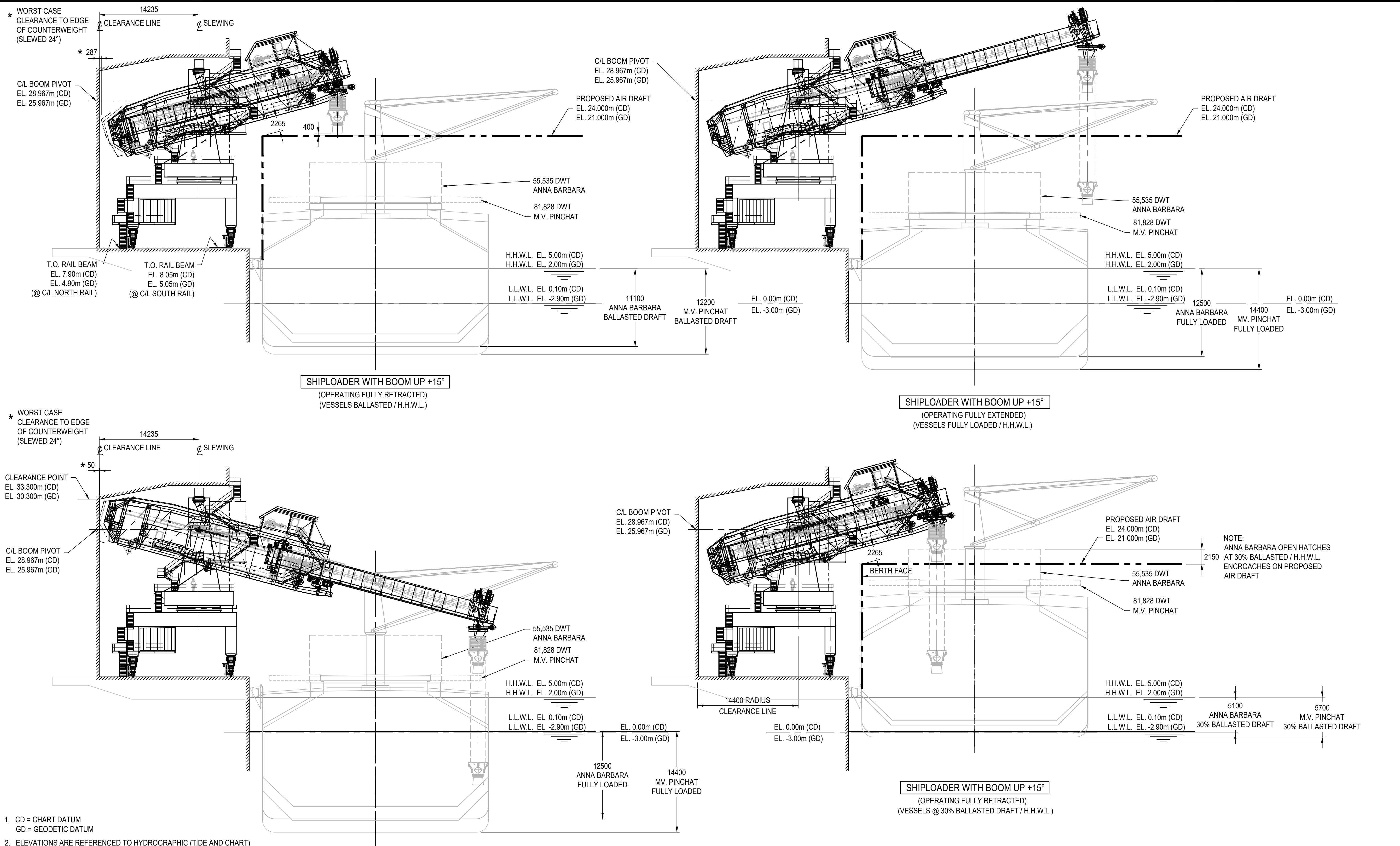
STATUS:
**NOT FOR
CONSTRUCTION**

PROJECT:
**NEPTUNE - BERTH 2
NEW SHIPLoader**

EMS - TECH INC.
mobile equipment and bulk
material handling systems

BELLEVILLE - ONTARIO - CANADA
PHONE 613-966-6611 FAX 613-966-6710

DRAWING NUMBER	SHT.	CONT.	REV.
20091-G-005	2	3	C



1. CD = CHART DATUM
GD = GEODETIC DATUM

2. ELEVATIONS ARE REFERENCED TO HYDROGRAPHIC (TIDE AND CHART) DATUM. CHART DATUM IS 3.0m BELOW GEODETIC DATUM AS PROVIDED IN VANCOUVER FRASER PORT AUTHORITY (VFPA) "SOUNDINGS BOOK - BURRARD INLET". VFPA DRAWING "NEPTUNE TERMINALS", PLAN NO. H2017-006, SHEET 21 OF 32, DATED MARCH 2017.

3. EXISTING BENCHMARK LOCATIONS WERE TAKEN FROM ADVISIAN SITE PLAN DRAWING 04-MA-DGA-001 AND 04-MA-DGA-002.

NOTE:
ANNA BARBARA OPEN HATCHES
AT 30% BALLASTED / H.H.W.L.
ENCROACHES ON PROPOSED
AIR DRAFT

DRAWING NO.	REFERENCE	REV.	REVISION DESCRIPTION	BY	CHKD	DATE

THIRD ANGLE PROJECTION

SCALE (A1 Sheet): 1:250

DATE: MAY 04, 2021

DRAWN BY: TJB

CHECKED BY: RDD

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STATUS: **NOT FOR CONSTRUCTION**

PROJECT: NEPTUNE - BERTH 2 NEW SHIPLOADER

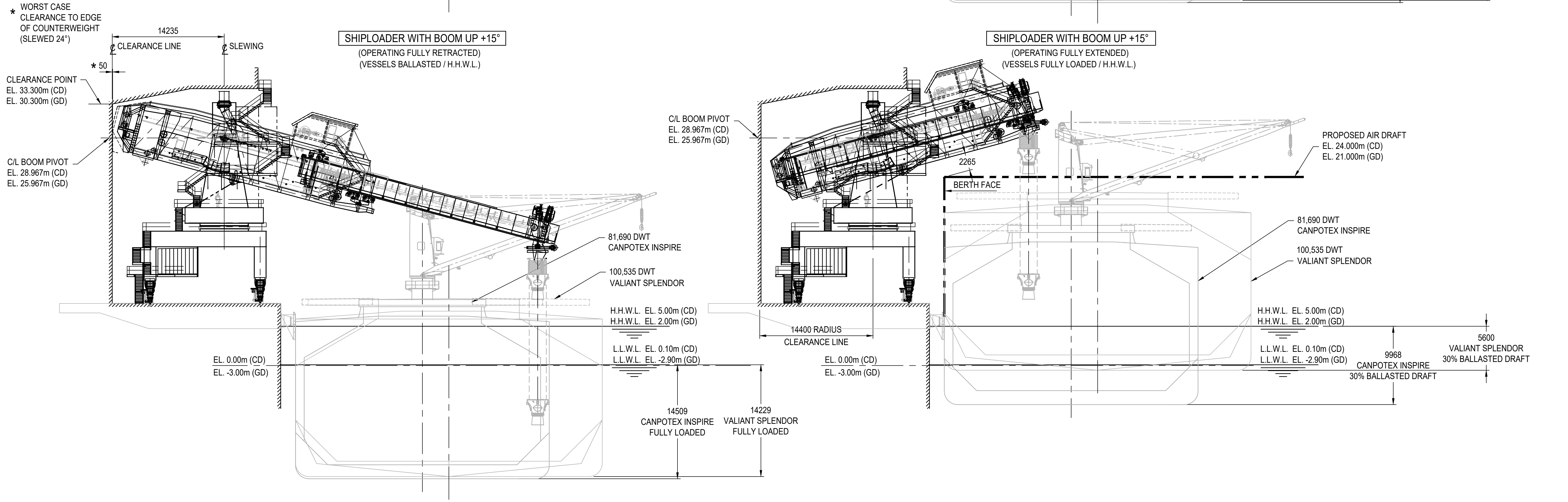
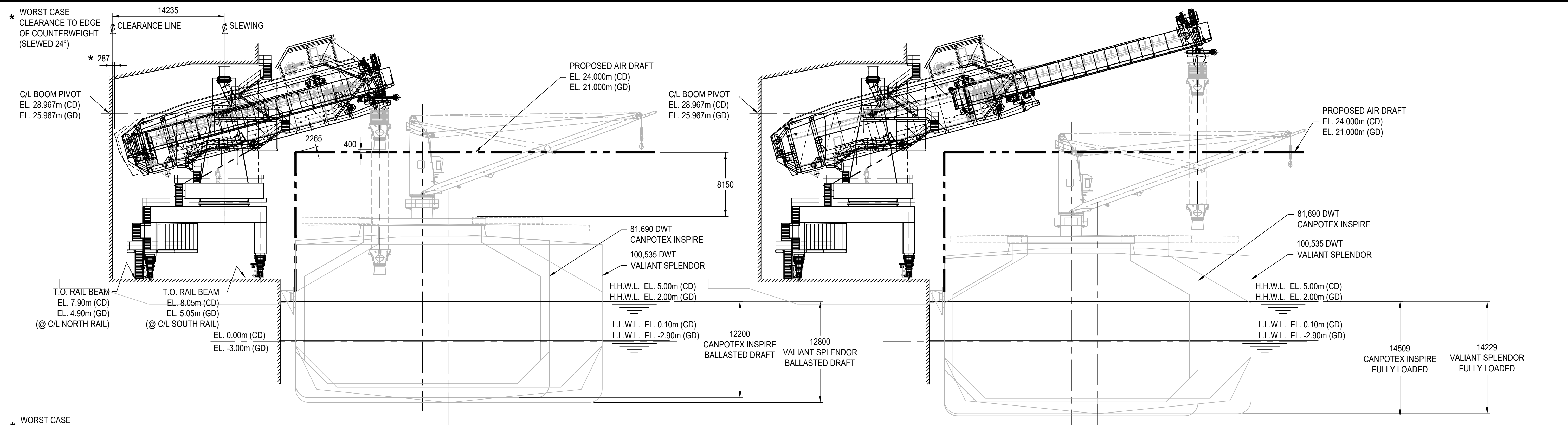
OWNER/OPERATOR: **Neptune TERMINALS**

DRAWING TITLE: B2 SHIPLOADER 250 OPERATING POSITIONS AND CLEARANCES

EMS - TECH INC.
mobile equipment and bulk material handling systems

BELLEVILLE - ONTARIO - CANADA
PHONE 613-966-6611 FAX 613-966-6710

DRAWING NUMBER	SHT.	CONT.	REV.
20091-G-009	1	2	C



1. CD = CHART DATUM
GD = GEODETIC DATUM

2. ELEVATIONS ARE REFERENCED TO HYDROGRAPHIC (TIDE AND CHART) DATUM. CHART DATUM IS 3.0m BELOW GEODETIC DATUM AS PROVIDED IN VANCOUVER FRASER PORT AUTHORITY (VFPA) "SOUNDINGS BOOK - BURRARD INLET". VFPA DRAWING "NEPTUNE TERMINALS", PLAN NO. H2017-006, SHEET 21 OF 32, DATED MARCH 2017.

3. EXISTING BENCHMARK LOCATIONS WERE TAKEN FROM ADVISIAN SITE PLAN DRAWING 04-MA-DGA-001 AND 04-MA-DGA-002.

OWNER/OPERATOR:
Neptune
TERMINALS

DRAWING NO.	REFERENCE	REV.	REVISION DESCRIPTION	BY	CHKD	DATE

THIRD ANGLE PROJECTION

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SCALE (A1 Sheet):
1:250

DATE:
SEP. 22, 2021

DRAWN BY:
SPJ

CHECKED BY:
TJB

STATUS:
NOT FOR CONSTRUCTION

PROJECT:
NEPTUNE - BERTH 2
NEW SHIPLOADER

EMS - TECH INC.
mobile equipment and bulk material handling systems

BELLEVILLE - ONTARIO - CANADA
PHONE 613-966-6611 FAX 613-966-6710

DRAWING TITLE:
B2 SHIPLOADER 250
OPERATING POSITIONS
AND CLEARANCES

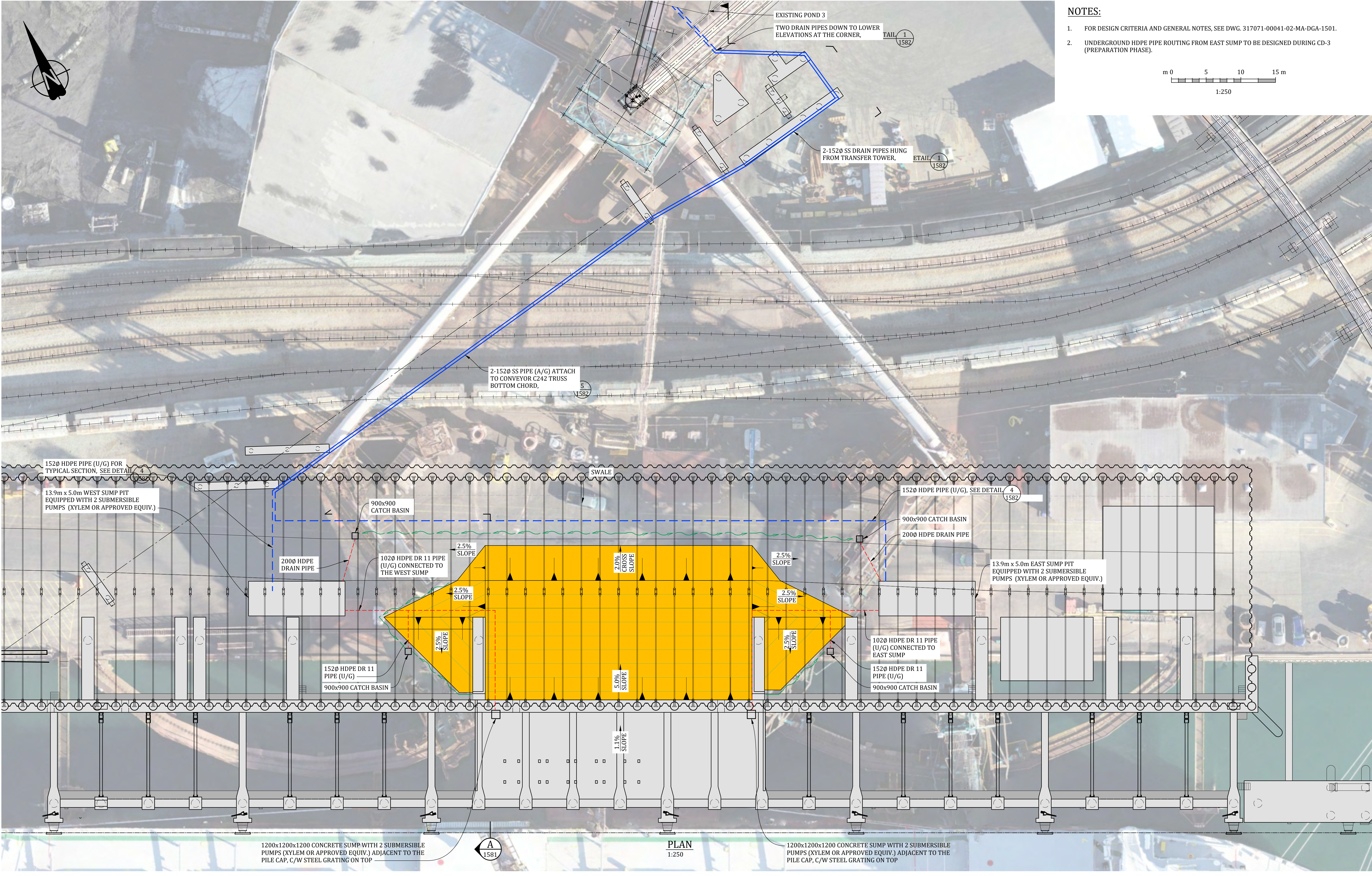
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20091-G-009	2	-	A



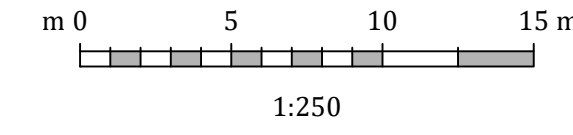
Doc Title:
Doc Ref #:
Doc Rev #:

B2 Design Drawing Report
REP-B2D2-0003
1

APPENDIX G: B2 LOT GRADING AND UTILITIES (ADVISIAN)



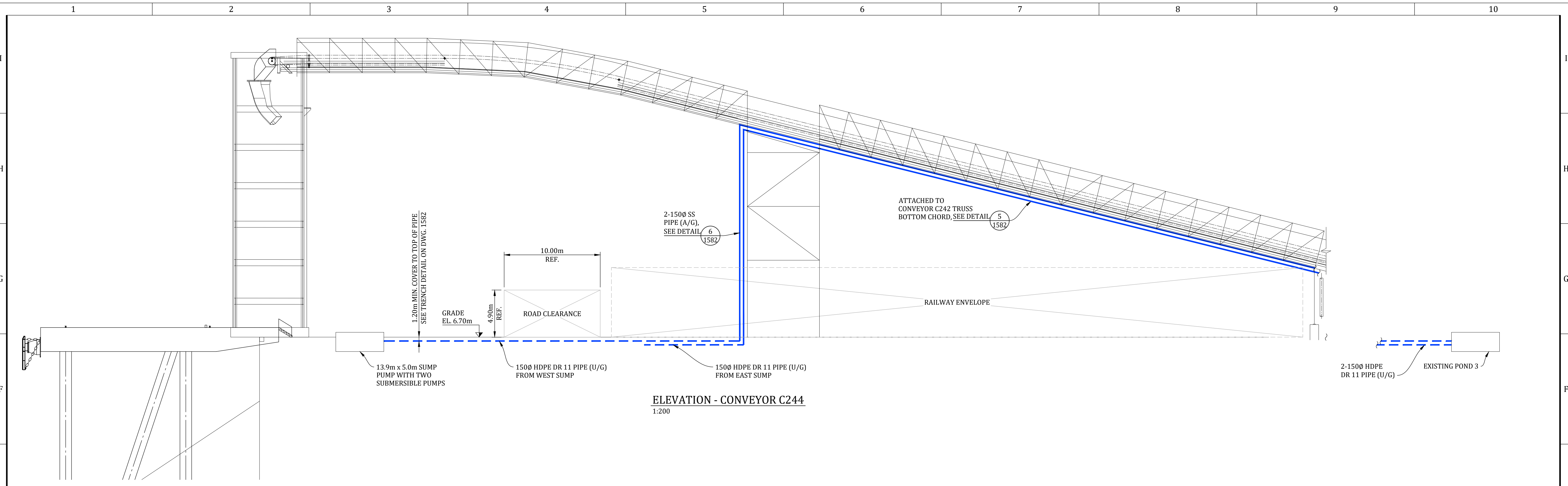
- NOTES:**
- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-02-MA-DGA-1501.
 - UNDERGROUND HDPE PIPE ROUTING FROM EAST SUMP TO BE DESIGNED DURING CD-3 (PREPARATION PHASE).



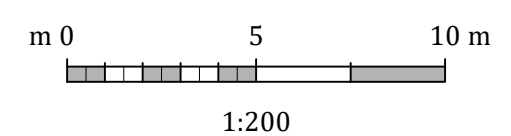
PLAN
1:250

PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian Worley Group 317071-00041 <small>*This drawing is prepared for the use of the contractual customer of Worley Canada Services Ltd. and Worley Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.*</small>		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT			
SYSTEM: POTASH		AAL		AMT		OEM: PRELIMINARY DO NOT USE FOR CONSTRUCTION Last Saved: Apr. 08/22 1:57pm		MARINE STRUCTURES			
ASSET: 251		A		2022-04-08		ISSUED FOR CLIENT REVIEW		SITE DRAINAGE - PLAN			
DISCIPLINE: CIVIL		REV		YYYY-MM-DD		DESCRIPTION		DRAWN		APPROVED	
DRAWING NO.		DRAWING DESCRIPTION / TITLE		ISSUES / REVISIONS		VENDOR P2P:		SCALE: SHOWN		SHEET OF: 1 1	
REFERENCE DRAWINGS / DESIGN STANDARDS		A		1581				DRAWING NO. 317071-00041-02-MA-DGA-1580		REV: A	

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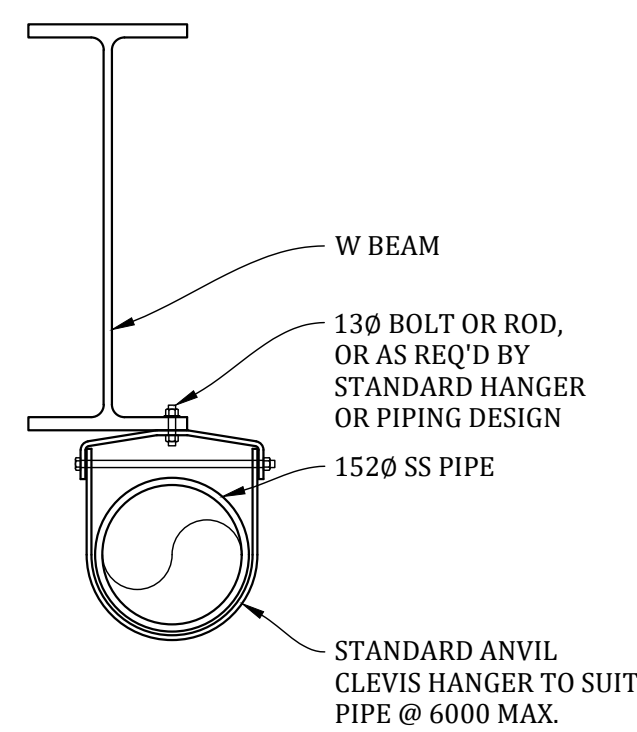
ELEVATION - CONVEYOR C244
1:200



- NOTES:**
- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-02-MA-DGA-1501.

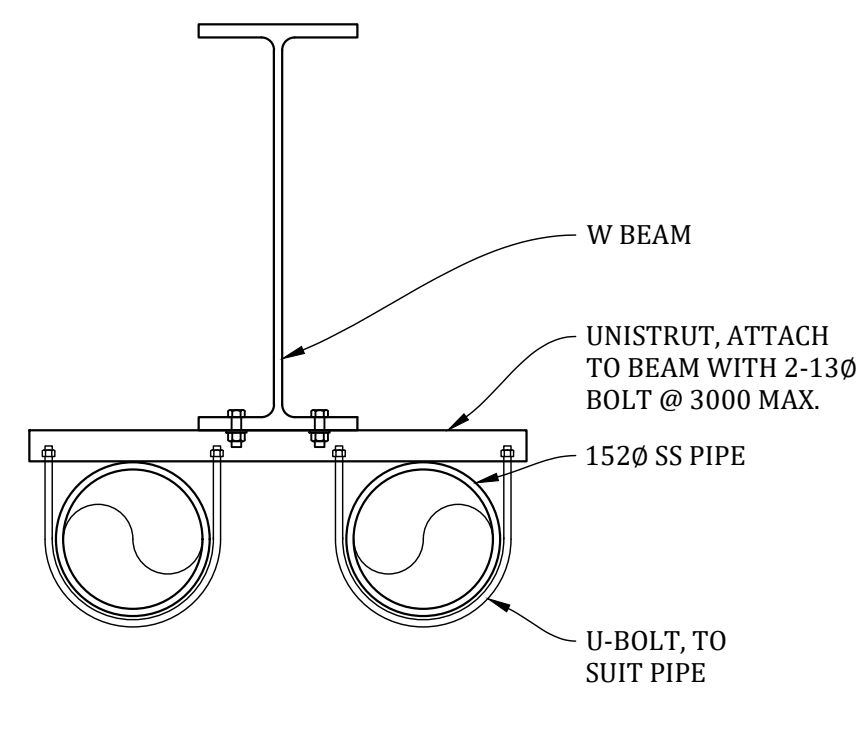
PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 <small>*This drawing is prepared for the use of the contractual customer of Worley Canada Services Ltd. and Worley Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.*</small>		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT							
SYSTEM: POTASH								MARINE STRUCTURES							
ASSET: 251								SITE DRAINAGE - ELEVATION							
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DRAWING NO.		DRAWING DESCRIPTION / TITLE		ISSUES / REVISIONS		VENDOR P2P:									
REFERENCE DRAWINGS / DESIGN STANDARDS															

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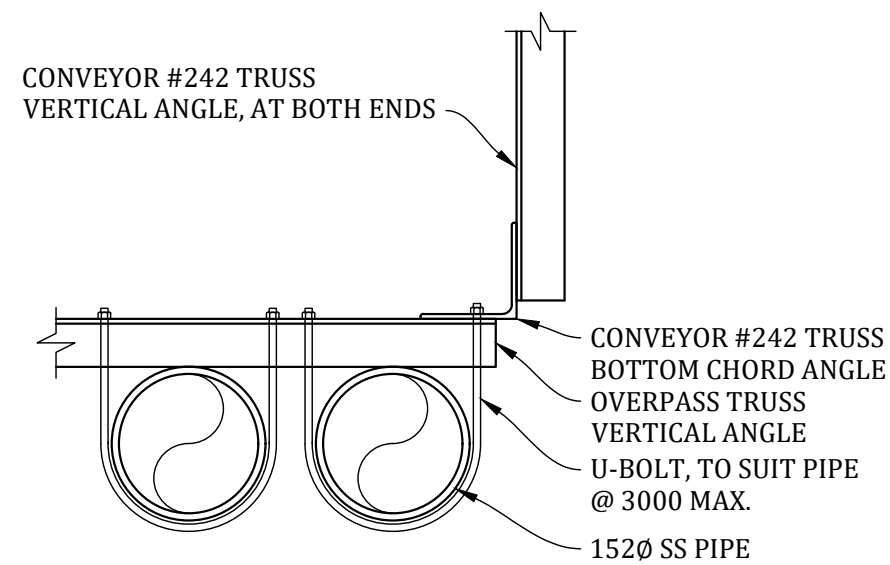


OPTION-1

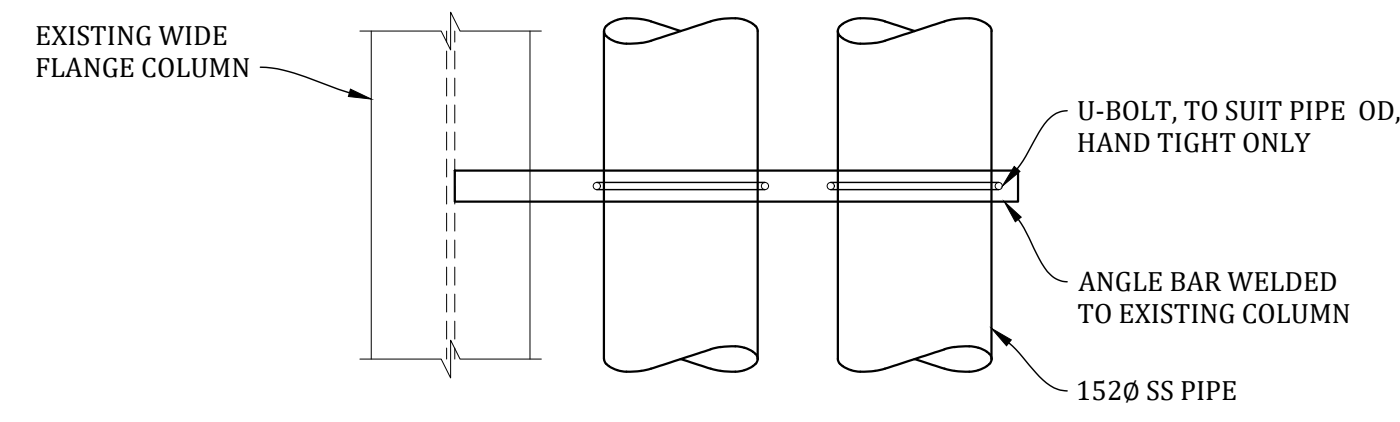
DETAIL 1
1:10 1581



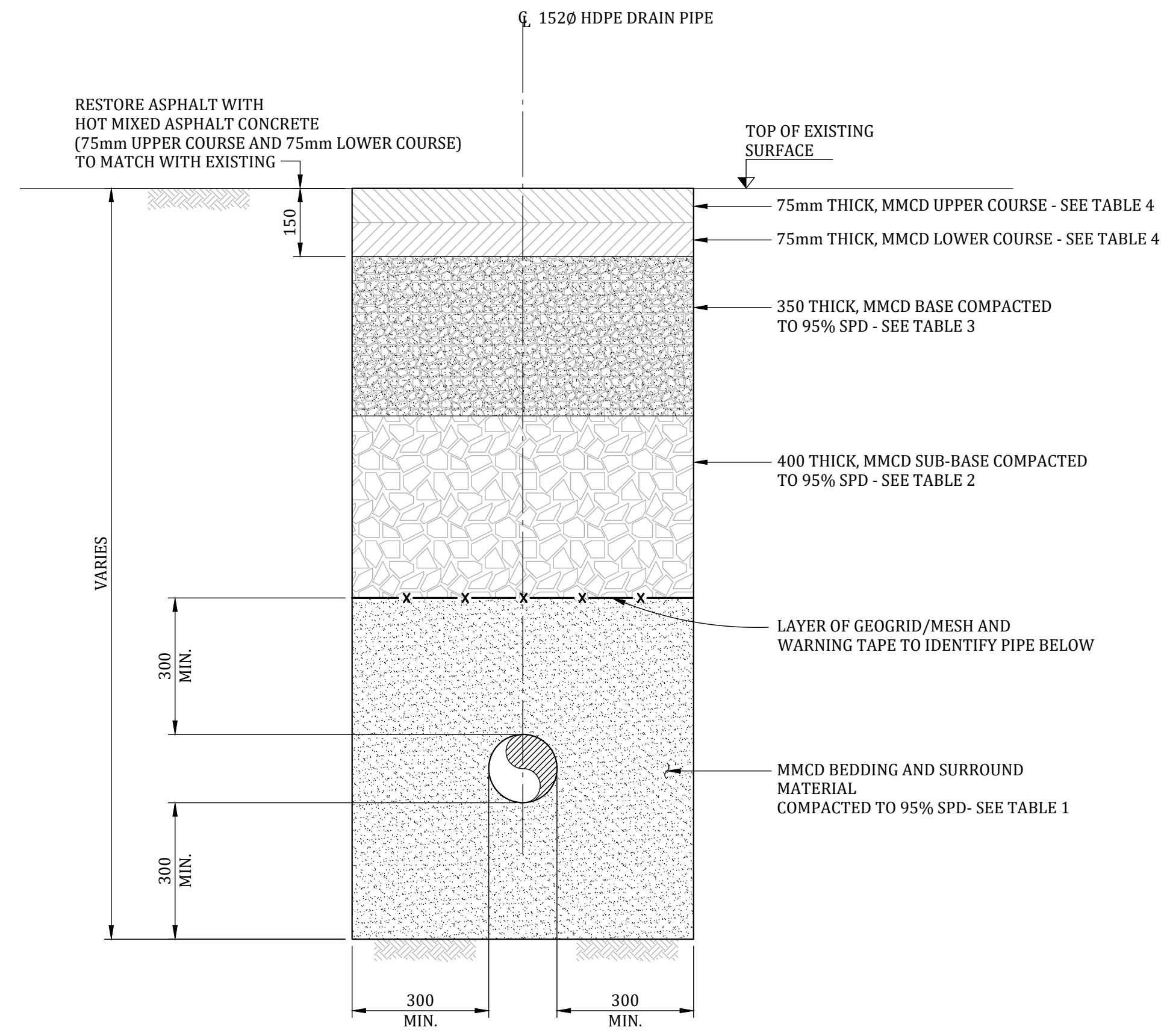
OPTION-2



DETAIL 5 SECTION VIEW
1:10 1581



DETAIL 6 EXISTING COLUMN PIPE SUPPORT, TYPICAL
1:10 1581



TYPICAL SECTION AT PIPE TRENCH
1:10

GRANULAR PIPE BEDDING AND SURROUND MATERIAL:

* CRUSHED OR GRADED GRAVELS TO CONFORM TO FOLLOWING GRADATIONS

SIEVE DESIGNATION	PERCENT PASSING	
	TYPE 1	TYPE 2
25.00mm	100	100
19.00mm	90-100	90-100
12.50mm	65-85	70-100
9.50mm	50-75	-
4.75mm	25-50	40-70
2.36mm	10-35	25-52
1.18mm	6-26	15-38
0.60mm	3-17	6-27
0.30mm	-	3-20
0.075mm	0-5	0-8

* TYPE 1: STANDARD GRADATION
** TYPE 2: TO BE USED ONLY IN DRY TRENCH CONDITIONS AND WITH CONTRACT ADMINISTRATOR'S PRIOR APPROVAL

TABLE 1

CRUSHED GRANULAR SUB-BASE

TO BE 75mm CRUSHED GRAVEL CONFORMING TO THE FOLLOWING GRADATIONS:

SIEVE DESIGNATION	PERCENT PASSING
80mm	-
75mm	100
38mm	60-100
25mm	-
19mm	35-80
12.5mm	-
9.5mm	26-60
4.75mm	20-40
2.36mm	15-30
1.18mm	10-20
0.6mm	5-15
0.3mm	3-10
0.18mm	-
0.15mm	-
0.075mm	0-5

TABLE 2

GRANULAR BASE

TO BE 19mm CRUSHED GRAVEL CONFORMING TO THE FOLLOWING GRADATIONS:

SIEVE DESIGNATION	PERCENT PASSING
19mm	100
12.5mm	75-100
9.5mm	60-90
4.75mm	40-70
2.36mm	27-55
1.18mm	16-42
12.5mm	-
9.5mm	26-60
4.75mm	20-40
2.36mm	15-30
1.18mm	10-20
0.6mm	5-15
0.3mm	3-10
0.18mm	-
0.15mm	-
0.075mm	0-5

TABLE 3

GRADATIONS TO BE WITHIN LIMITS SPECIFIED WHEN TESTED TO ASTM C136 AND ASTM C117

SIEVE DESIGNATION	HOT MIX ASPHALT PAVING				FINE MIX
	PERCENT PASSING				
	LOWER COURSE #1	LOWER COURSE #2	UPPER COURSE #1	UPPER COURSE #2	
25.0mm	100	-	-	-	-
19.0mm	-	100	100	-	-
12.5mm	70-85	84-99	84-99	100	-
9.5mm	-	73-88	73-88	-	100
4.75mm	40-65	50-68	50-68	55-75	80-100
2.36mm	32-53	35-55	35-55	38-58	64-89
1.18mm	26-44	27-46	27-46	28-47	48-76
0.6mm	18-36	18-36	18-36	20-36	32-60
0.3mm	10-26	10-26	10-26	10-26	16-42
0.15mm	4-17	4-17	4-17	4-17	6-23
0.075mm	3-8	3-8	3-8	3-8	4-10

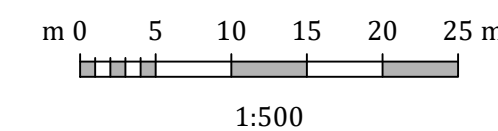
* FOOTNOTE TO ASPHALT MIX-TYPE SELECTION
LOWER COURSE #1: ARTERIAL AND COLLECTOR, LOWER COURSE ONLY
LOWER COURSE #2: LOCAL, LOWER COURSE ONLY
UPPER COURSE #1: ARTERIAL AND COLLECTOR, UPPER COURSE ONLY
UPPER COURSE #2: LOCAL, SURFACE COURSE ONLY
FINE MIX: SKIM PATCH ON EXISTING ASPHALT SURFACE

TABLE 4

NOTES:

- FOR DESIGN CRITERIA AND GENERAL NOTES, SEE DWG. 317071-00041-02-MA-DGA-1501.
- ALL CONSTRUCTION AND MATERIAL ASSOCIATED WITH THE CIVIL INFRASTRUCTURE WORKS ILLUSTRATED ON THESE DRAWINGS SHALL BE IN ACCORDANCE WITH:
 - APPLICABLE CONTRACT DOCUMENTS AND ALL SPECIFICATIONS.
 - MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (PLATINUM, 2009)
- THE CONTRACTOR SHALL EXPOSE AND VERIFY THE LOCATION OF ALL EXISTING SERVICES PRIOR TO CONSTRUCTION AND NOTIFY THE CONSULTANT OF ANY DISCREPANCIES, CONFLICTS OR OMISSIONS.
- CONTRACTOR SHALL PROTECT EXISTING SURVEY MONUMENTS AND PROPERTY PINS. ANY DISTURBED MONUMENTS OR PINS SHALL BE REPLACED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
- PIPE BEDDING MATERIAL SHALL BE IN ACCORDANCE WITH MMCD PIPE BEDDING AND SURROUND MATERIAL.
- GRANULAR PIPE BEDDING SHALL BE PLACED FROM THE BOTTOM OF THE TRENCH TO 300mm MINIMUM ABOVE THE TOP OF THE PIPE.
- THE CONTRACTOR SHALL PROVIDE EVIDENCE TO THE CONSULTANT THAT THE COMPACTION OF THE BEDDING AND PIPE SURROUND MATERIAL AND TRENCH BACKFILL MEETS PROJECT SPECIFICATIONS (MINIMUM 95% SPD).
- EXISTING SURFACE SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION SUBSEQUENT TO CONSTRUCTION.
- THE CONTRACTOR SHALL TAKE EXTRA CARE WHILE PLACING MATERIAL AROUND THE PIPE NOT TO DAMAGE THE PIPE.
- FOR MATERIAL GRADATIONS, REFER TO MMCD (PLATINUM 2009) AND TABLES SHOWN ON THIS DRAWING

PRELIMINARY
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PROJECT / W.O.: B2 MARINE WORKS		ENGINEERING SEAL:		VENDOR: Advisian 317071-00041 *This drawing is prepared for the use of the contractual customer of Worley Canada Services Ltd. and Worley Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing.*		ISSUED AS RECORD COPY? (YES/NO) NO		TITLE: BERTH 2 SHIPLOADER PROJECT MARINE STRUCTURES SITE DRAINAGE - PIPE SUPPORT DETAILS			
SYSTEM: POTASH		AAL AMT		OEM:		Neptune TERMINALS		SCALE: SHEET OF DRAWING NO. REV: SHOWN 1 1 317071-00041-02-MA-DGA-1582 A			
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