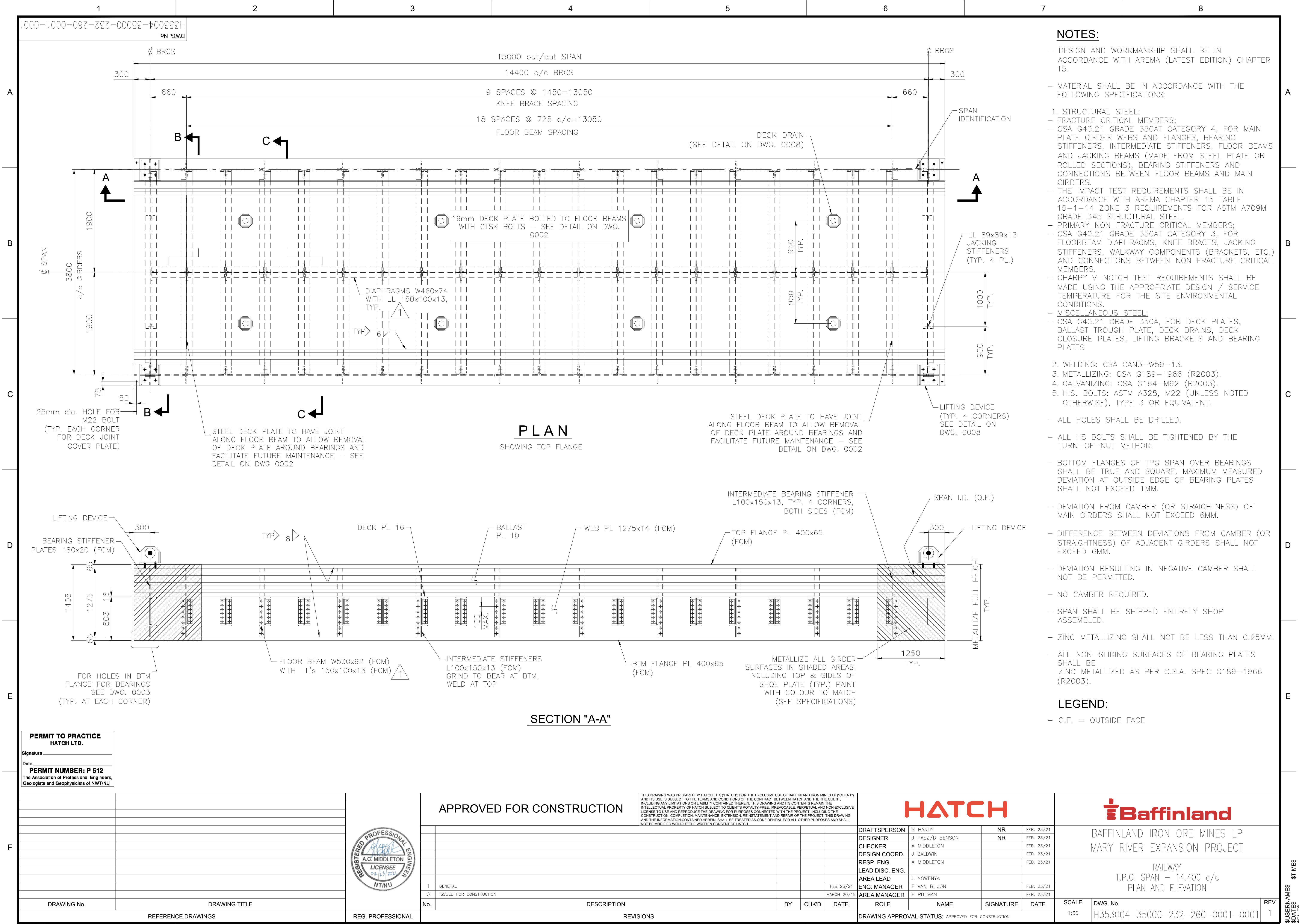
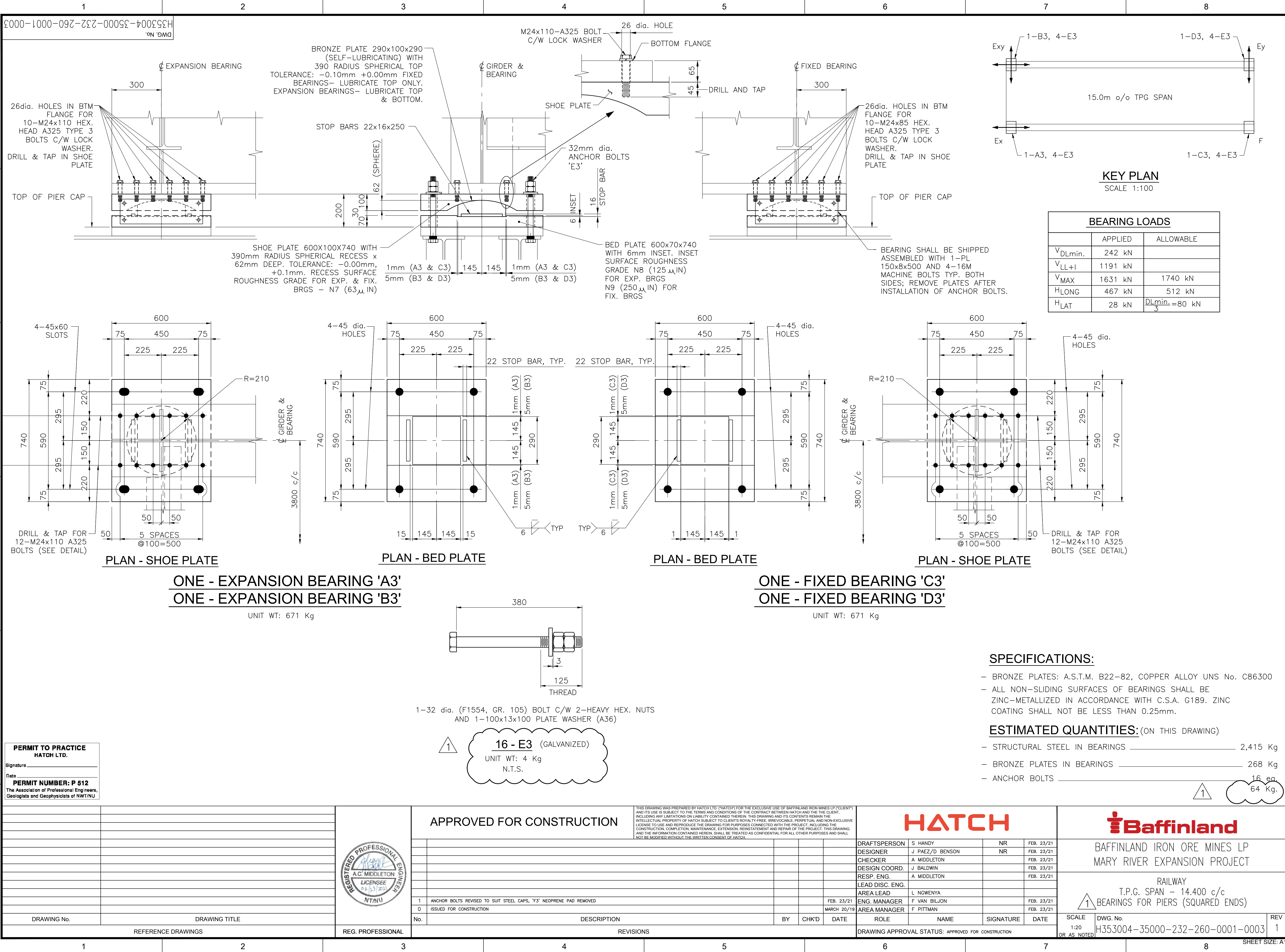
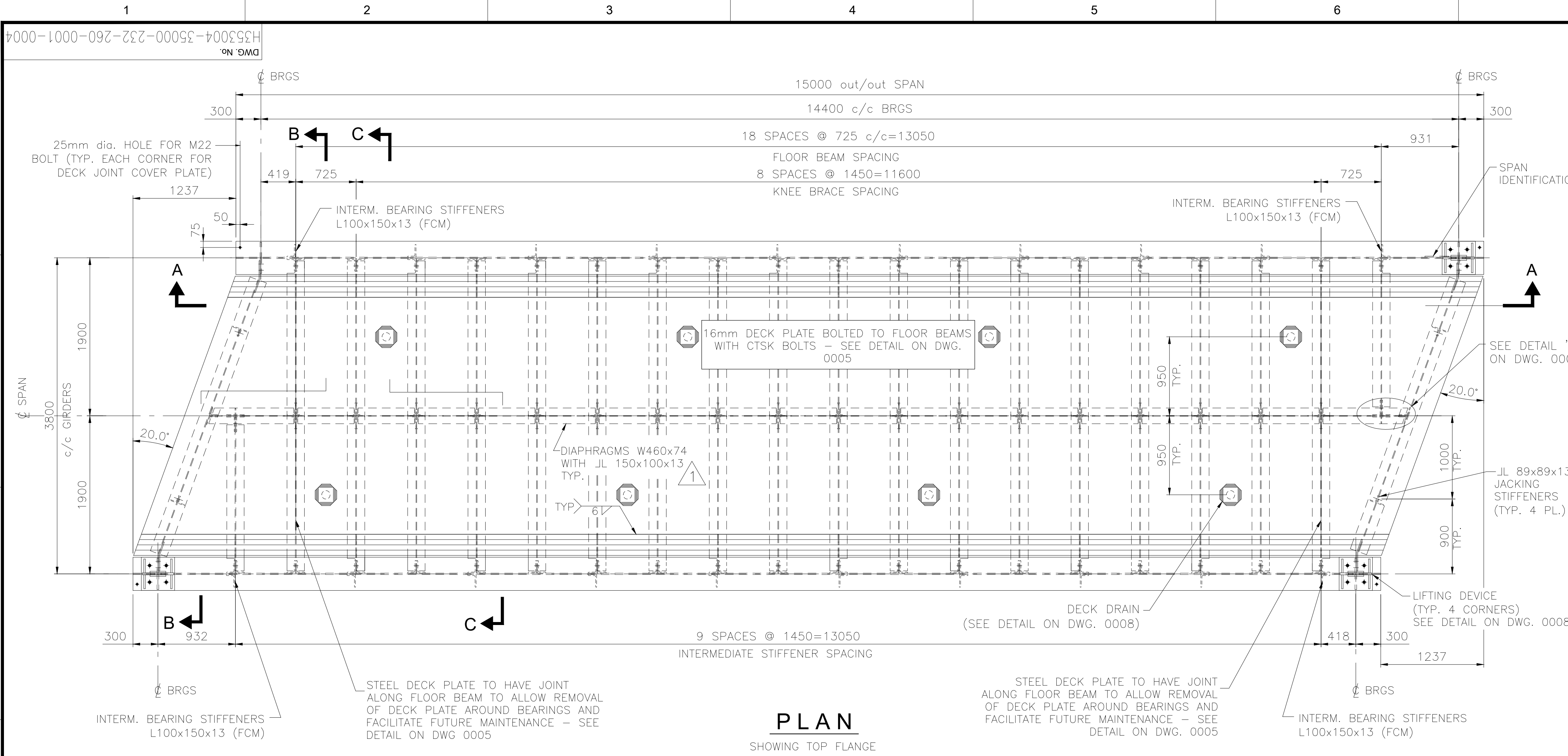
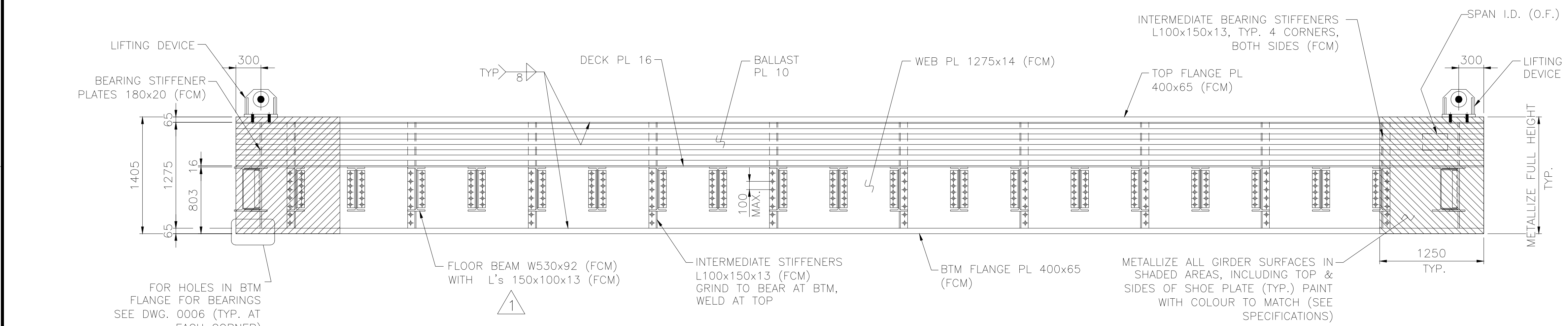








PLAN
SHOWING TOP FLANGE



SECTION "A-A"

- NOTES:**
- DESIGN AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH AREMA (LATEST EDITION) CHAPTER 15.
 - MATERIAL SHALL BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS;
 - 1. STRUCTURAL STEEL:
 - FRACTURE CRITICAL MEMBERS:
 - CSA G40.21 GRADE 350AT CATEGORY 4, FOR MAIN PLATE GIRDER WEBS AND FLANGES, BEARING STIFFENERS, INTERMEDIATE STIFFENERS, FLOOR BEAMS AND JACKING BEAMS (MADE FROM STEEL PLATE OR ROLLED SECTIONS), BEARING STIFFENERS AND CONNECTIONS BETWEEN FLOOR BEAMS AND MAIN GIRDERS.
 - THE IMPACT TEST REQUIREMENTS SHALL BE IN ACCORDANCE WITH AREMA CHAPTER 15 TABLE 15-1-14 ZONE 3 REQUIREMENTS FOR ASTM A709M GRADE 345 STRUCTURAL STEEL.
 - PRIMARY NON FRACTURE CRITICAL MEMBERS:
 - CSA G40.21 GRADE 350AT CATEGORY 3, FOR FLOORBEAM DIAPHRAGMS, KNEE BRACES, JACKING STIFFENERS, WALKWAY COMPONENTS (BRACKETS, ETC.) AND CONNECTIONS BETWEEN NON FRACTURE CRITICAL MEMBERS.
 - CHARPY V-NOTCH TEST REQUIREMENTS SHALL BE MADE USING THE APPROPRIATE DESIGN / SERVICE TEMPERATURE FOR THE SITE ENVIRONMENTAL CONDITIONS.
 - MISCELLANEOUS STEEL:
 - CSA G40.21 GRADE 350A, FOR DECK PLATES, BALLAST TROUGH PLATE, DECK DRAINS, DECK CLOSURE PLATES, LIFTING BRACKETS AND BEARING PLATES
 - 2. WELDING: CSA CAN3-W59-13.
 - 3. METALLIZING: CSA G189-1966 (R2003).
 - 4. GALVANIZING: CSA G164-M92 (R2003).
 - 5. H.S. BOLTS: ASTM A325, M22 (UNLESS NOTED OTHERWISE), TYPE 3 OR EQUIVALENT.

ALL HOLES SHALL BE DRILLED.

ALL HS BOLTS SHALL BE TIGHTENED BY THE TURN-OF-NUT METHOD.

BOTTOM FLANGES OF TPG SPAN OVER BEARINGS SHALL BE TRUE AND SQUARE. MAXIMUM MEASURED DEVIATION AT OUTSIDE EDGE OF BEARING PLATES SHALL NOT EXCEED 1MM.

DEVIATION FROM CAMBER (OR STRAIGHTNESS) OF MAIN GIRDERS SHALL NOT EXCEED 6MM.

DIFFERENCE BETWEEN DEVIATIONS FROM CAMBER (OR STRAIGHTNESS) OF ADJACENT GIRDERS SHALL NOT EXCEED 6MM.

DEVIATION RESULTING IN NEGATIVE CAMBER SHALL NOT BE PERMITTED.

NO CAMBER REQUIRED.

SPAN SHALL BE SHIPPED ENTIRELY SHOP ASSEMBLED.

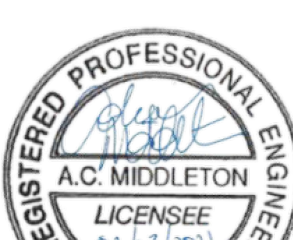
ZINC METALLIZING SHALL NOT BE LESS THAN 0.25MM.

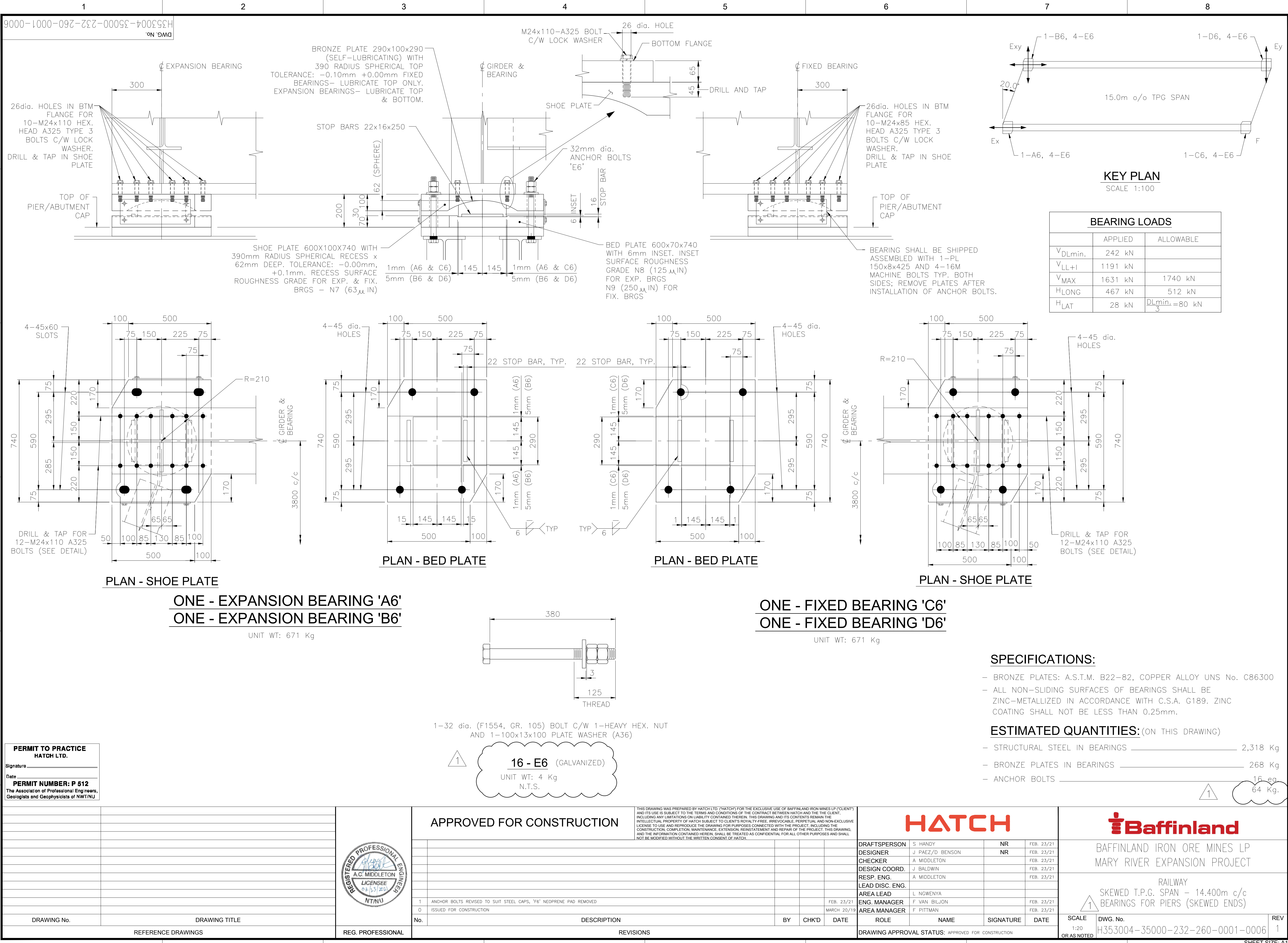
ALL NON-SLIDING SURFACES OF BEARING PLATES SHALL BE ZINC METALLIZED AS PER C.S.A. SPEC G189-1966 (R2003).

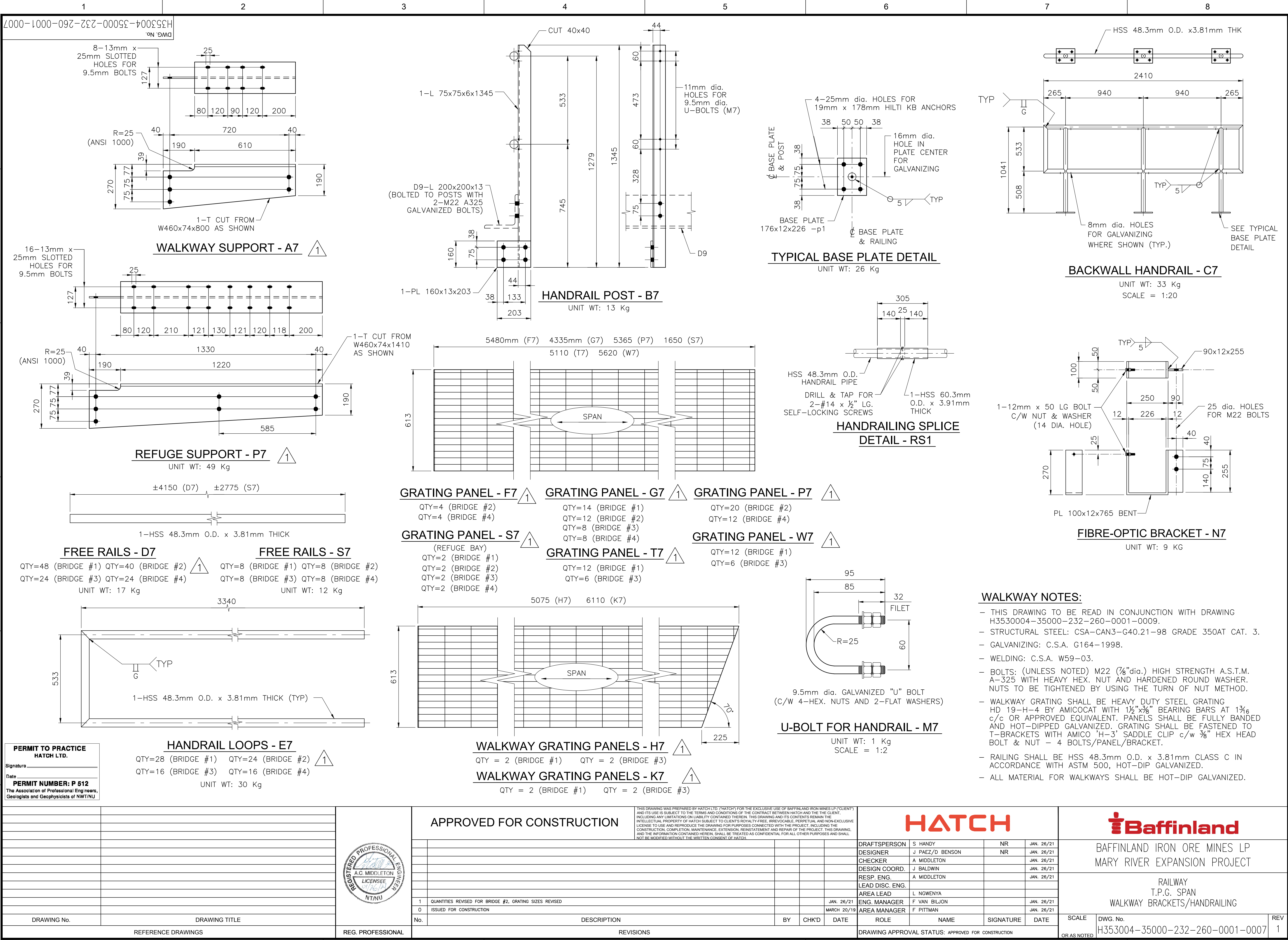
LEGEND:

O.F. = OUTSIDE FACE

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					APPROVED FOR CONSTRUCTION				THIS DRAWING WAS PREPARED BY HATCH LTD. ("HATCH") FOR THE EXCLUSIVE USE OF BAFFINLAND IRON MINES LP ("CLIENT") AND ITS USE IS SUBJECT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN HATCH AND THE CLIENT. INCLUDING ANY LIMITATIONS ON LIABILITY CONTAINED THEREIN. THIS DRAWING AND ITS CONTENTS REMAIN THE INTELLECTUAL PROPERTY OF HATCH SUBJECT TO CLIENT'S ROYALTY-FREE, IRREVOCABLE, PERPETUAL AND NON-EXCLUSIVE LICENSE TO USE AND REPRODUCE THE DRAWING FOR PURPOSES CONNECTED WITH THE PROJECT, INCLUDING THE CONSTRUCTION, COMPLETION, MAINTENANCE, EXTENSION, REINSTATEMENT AND REPAIR OF THE PROJECT. THIS DRAWING, AND THE INFORMATION CONTAINED HEREIN, SHALL BE TREATED AS CONFIDENTIAL FOR ALL OTHER PURPOSES AND SHALL NOT BE MODIFIED WITHOUT THE WRITTEN CONSENT OF HATCH.							
									DRAFTSPERSON		S. HANDY	NR	FEB. 23/21	BAFFINLAND IRON ORE MINES LP MARY RIVER EXPANSION PROJECT		
									DESIGNER		J. PAEZ/D. BENSON	NR	FEB. 23/21			
									CHECKER		A. MIDDLETON		FEB. 23/21			
									DESIGN COORD.		J. BALDWIN		FEB. 23/21			
									RESP. ENG.		A. MIDDLETON		FEB. 23/21			
									LEAD DISC. ENG.					RAILWAY SKEWED T.P.G. SPAN - 14.400m c/c PLAN AND ELEVATION		
									AREA LEAD		L. NGWENYA					
									ENG. MANAGER		F. VAN BILJON		FEB. 23/21			
									AREA MANAGER		F. PITTMAN		FEB. 23/21			
								ROLE		NAME	SIGNATURE	DATE				
DRAWING No.		DRAWING TITLE		REG. PROFESSIONAL		REVISIONS				DRAWING APPROVAL STATUS: APPROVED FOR CONSTRUCTION				SCALE	DWG. No.	REV
														1:30	H353004-35000-232-260-0001-0004	1
		REFERENCE DRAWINGS														





A

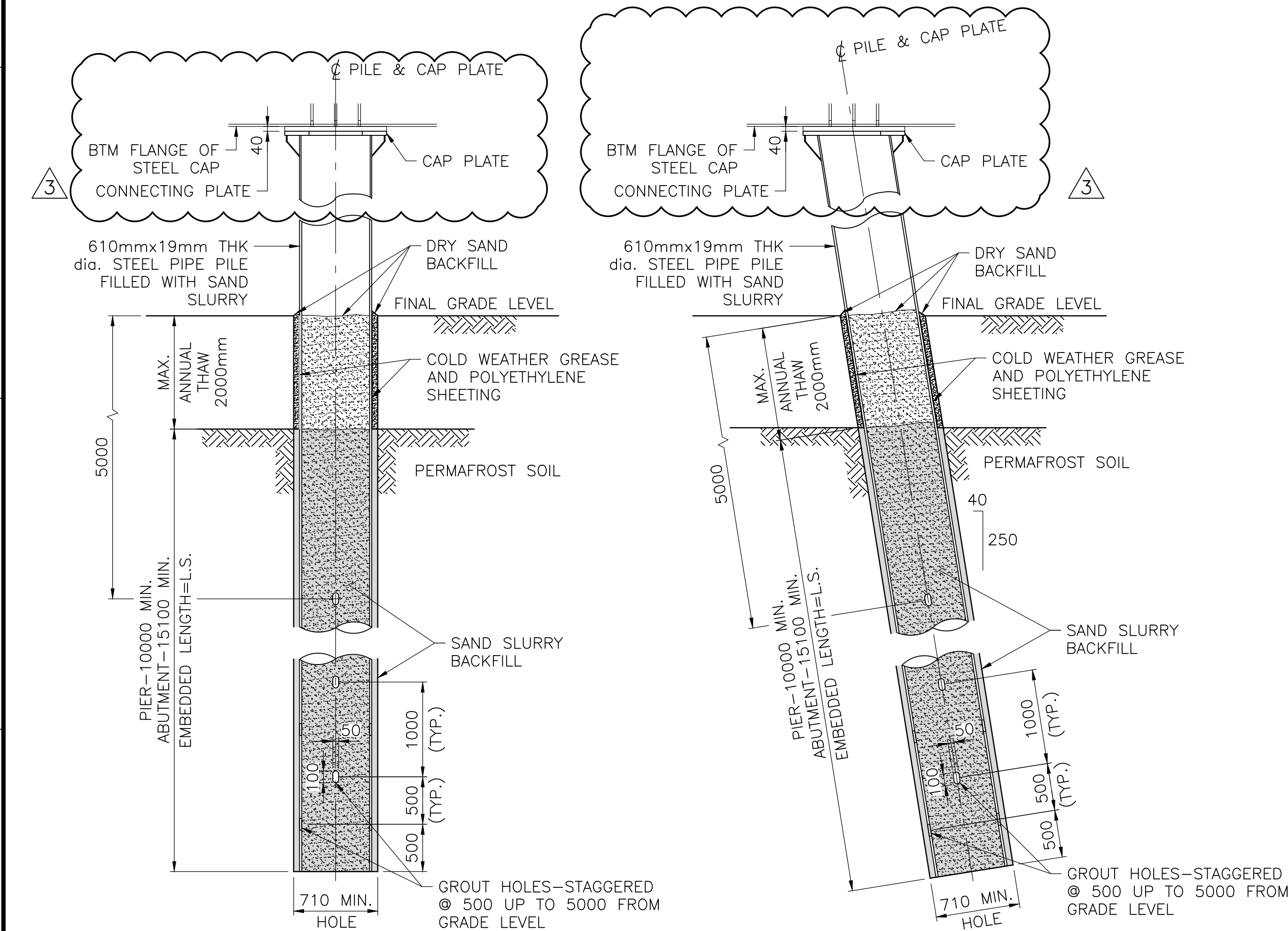
B

C

D

E

F



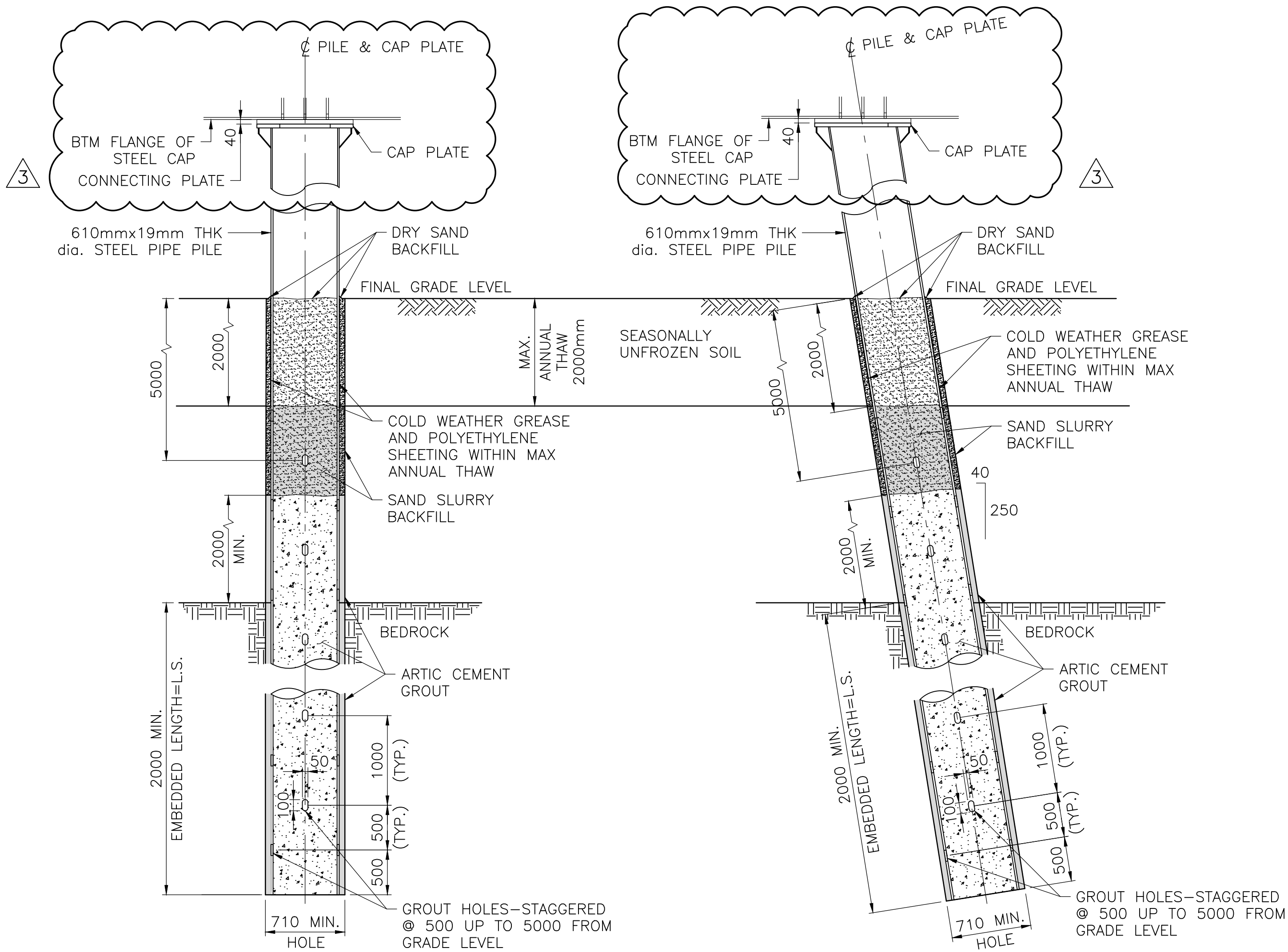
ADFREEZE PLAIN STEEL PILE-TYPE 'ADPR' - VERTICAL

ADFREEZE PLAIN STEEL PILE-TYPE 'ADPR' - BATTERED

TYPICAL PILE PIPE INSTALLATION DETAIL-ADFREEZE PILE

N.T.S.

(FOR BRIDGE #82.340)



GROUTED ROCK SOCKETED STEEL PILE-TYPE GRS' - VERTICAL

GROUTED ROCK SOCKETED STEEL PILE-TYPE GRS' - BATTERED

TYPICAL PILE PIPE INSTALLATION DETAIL-ROCK SOCKETED PILE

N.T.S.

(FOR BRIDGES #15.913, #59.400 & #98.534)



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3	REVISED PILE CAPS, BRIDGE LOCATIONS #2, #3 & #4 REVISED	FEB. 23/21
2	REVISED PILE FILL	SEPT 26/19
1	GENERAL REVISION	MAY 10/19
0	ISSUED FOR CONSTRUCTION	MARCH 20/19

No. DESCRIPTION BY CHK'D DATE

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DRAFTSPERSON	S HANDY	NR	FEB. 23/21
DESIGNER	J PAEZ/D BENSON	NR	FEB. 23/21
CHECKER	A MIDDLETON		FEB. 23/21
DESIGN COORD.	J BALDWIN		FEB. 23/21
RESP. ENG.	A MIDDLETON		FEB. 23/21
LEAD DISC. ENG.			
AREA LEAD	L NGWENYA		
ENG. MANAGER	F VAN BILJON		FEB. 23/21
AREA MANAGER	F PITTMAN		FEB. 23/21
ROLE	NAME	SIGNATURE	DATE

DRAWING APPROVAL STATUS: APPROVED FOR CONSTRUCTION



BAFFINLAND IRON ORE MINES LP
MARY RIVER EXPANSION PROJECT

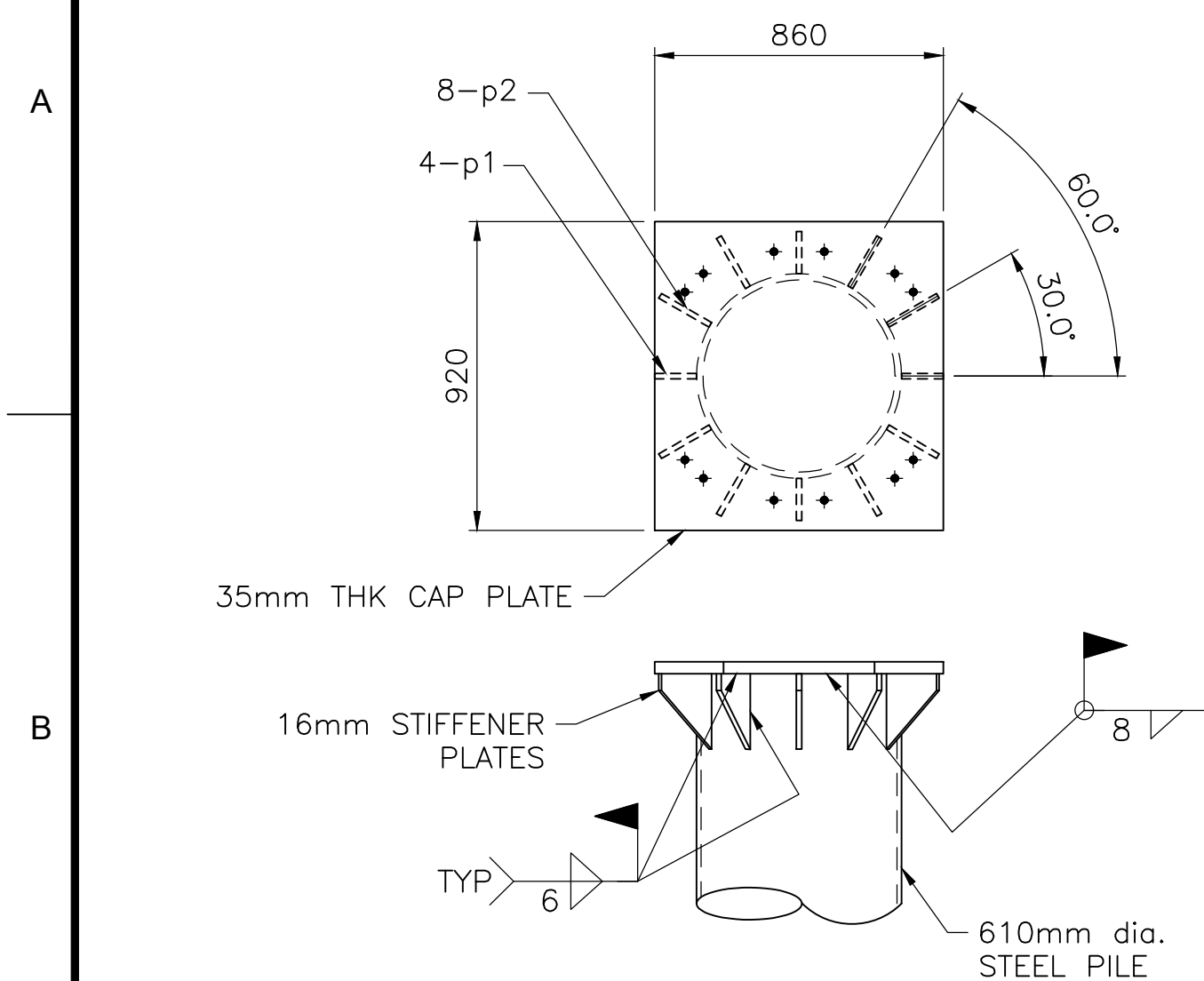
RAILWAY
STANDARD DETAILS
STEEL PILE INSTALLATION

SCALE AS NOTED DWG. No. H353004-35000-232-260-0001-0010 REV 3

SHEET SIZE: A1

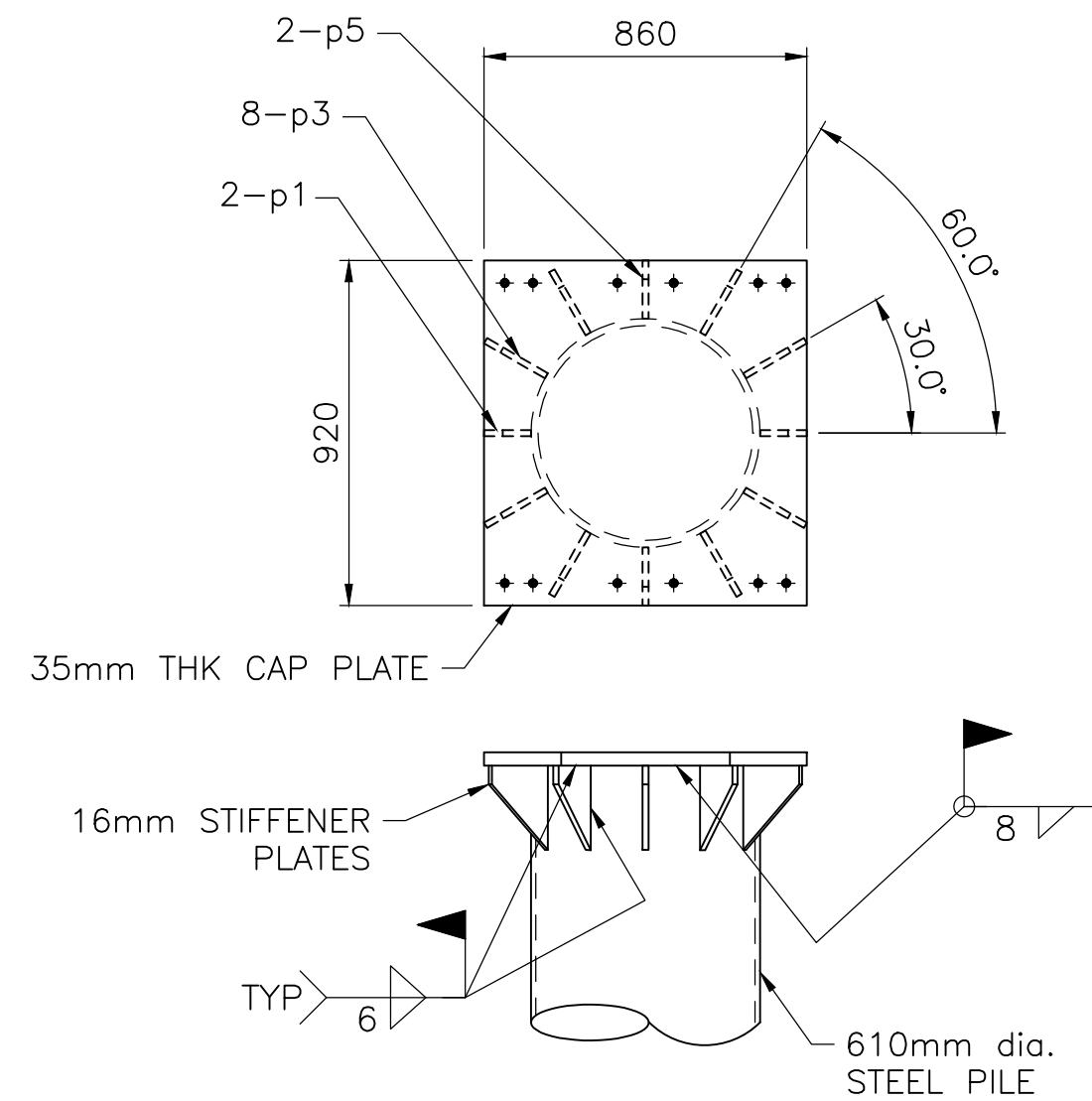
SUBMITTALS
STIMES
FILES

DWG. No. H353004-35000-232-260-0001-0011

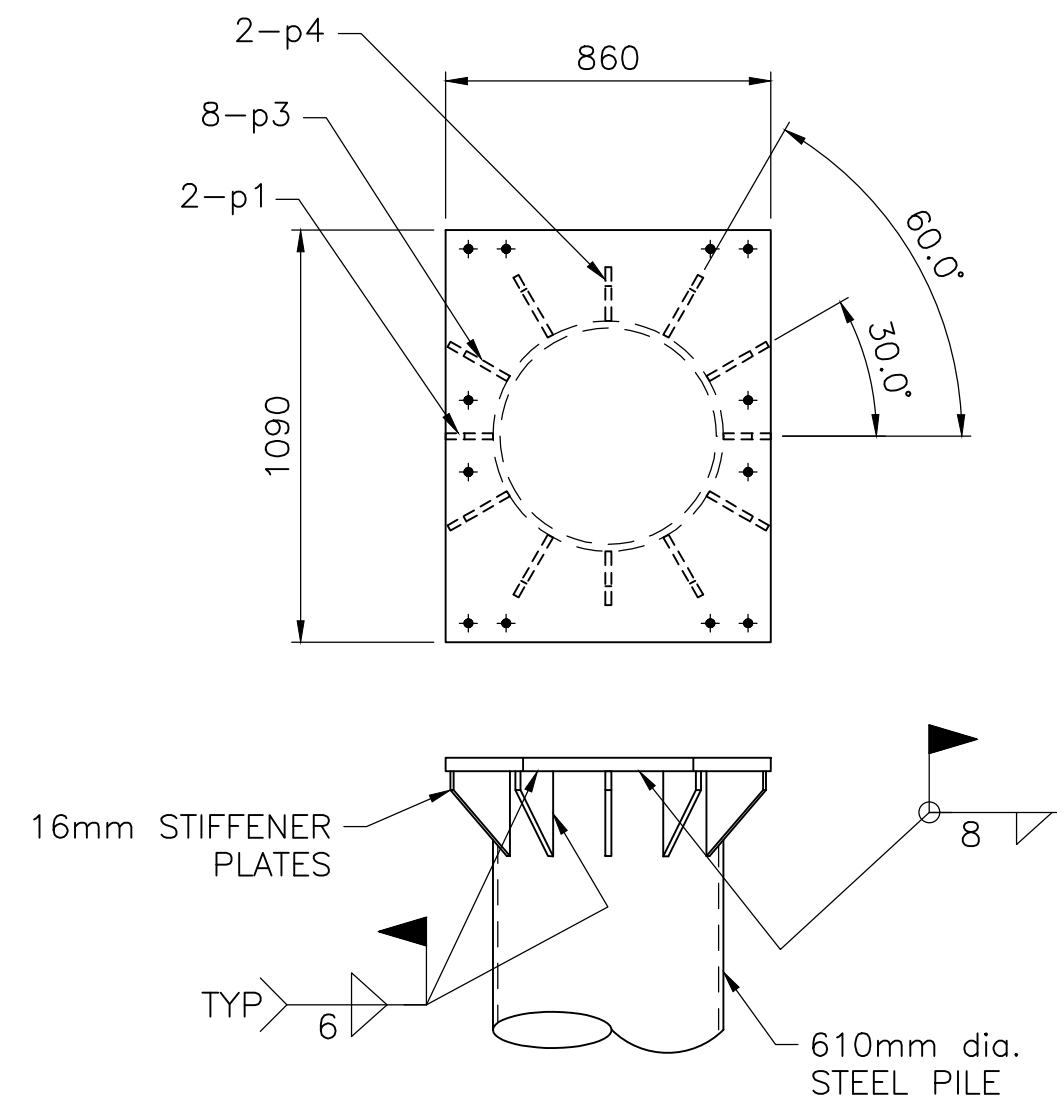


PILE CAP DETAIL

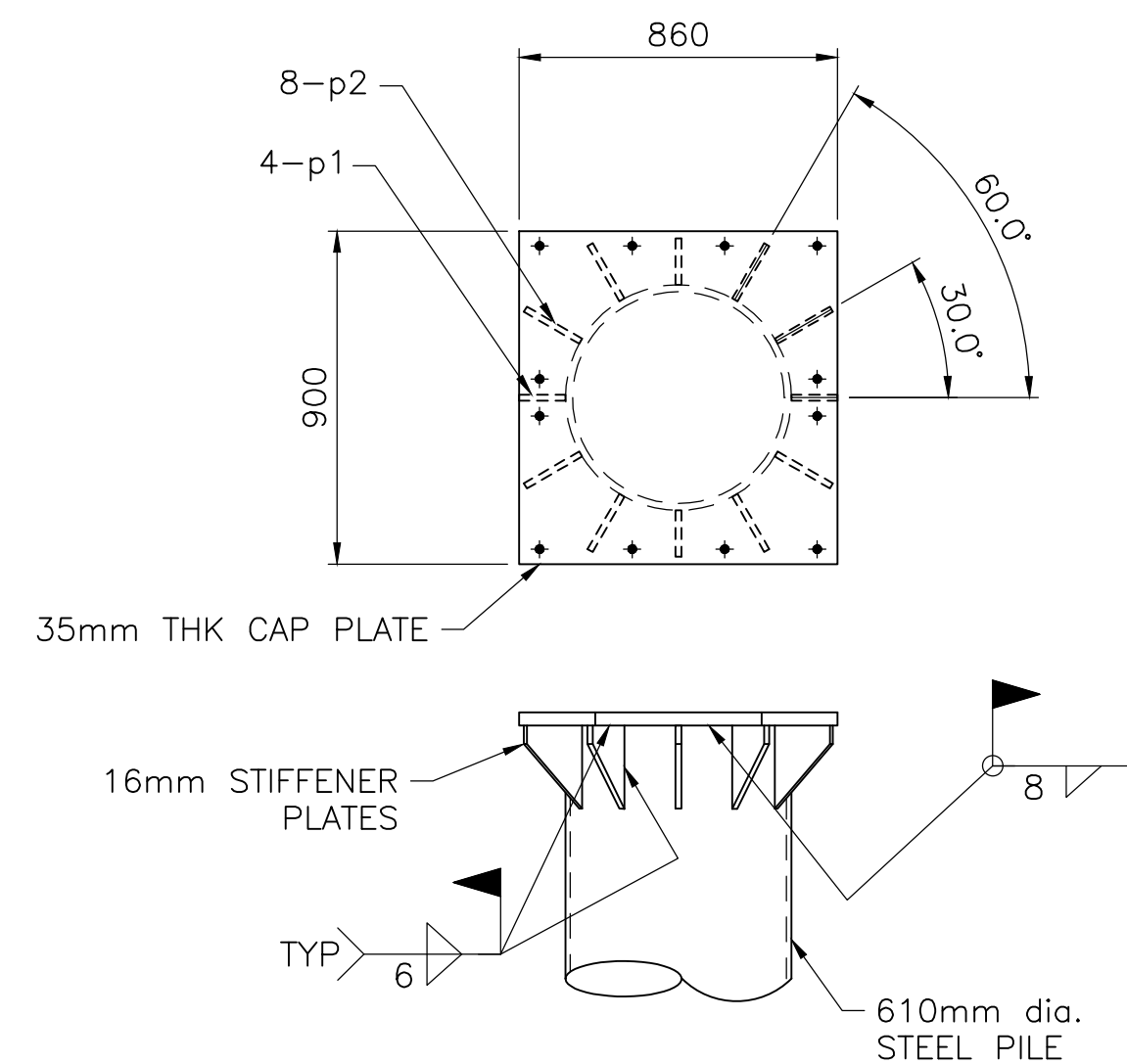
(FOR 8-PILE PIER CAPS)



PILE CAP DETAIL
(FOR 10-PILE PIER CAPS—8 INTERIOR PILES ONLY)



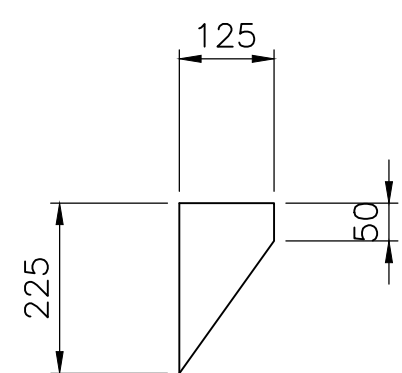
PILE CAP DETAIL
(FOR 10-PILE PIER CAPS-2 END PILES ONLY)



PILE CAP DETAIL

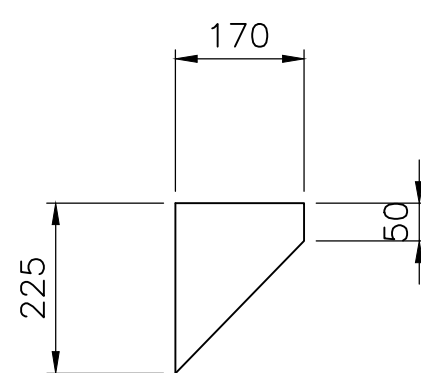
(FOR 6-PILE ABUTMENT CAPS)

GENERAL BOLT PATTERNS SHOWN; 12 BOLTS BETWEEN
CAP PLATE AND CONNECTING PLATE TO BE DETERMINED
AND DRILLED IN THE FIELD; CAP PLATES CAN BE
ENLARGED FOR PILE PLACEMENT TOLERANCES



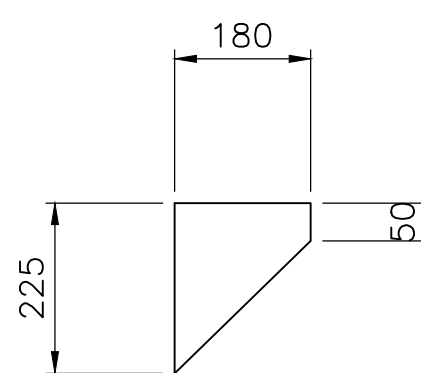
STIFFENER PLATE p1

SCALE 1:10



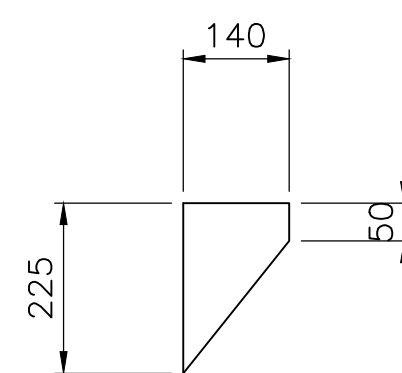
STIFFENER PLATE p2

SCALE 1:10



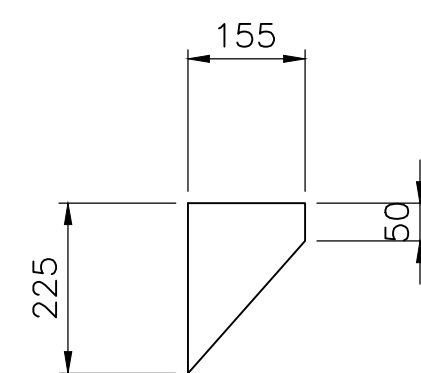
STIFFENER PLATE p3

SCALE 1:10



STIFFENER PLATE p4

SCALE 1:10



STIFFENER PLATE p5

SCALE 1:10

NOTE:

IT IS RECOMMENDED THAT THE CONTRACTOR
UNDERTAKES A CONSTRUCTABILITY REVIEW OF THIS
DRAWING AND SUGGEST REVISIONS AS REQUIRED

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HATCH



BAFFINLAND IRON ORE MINES LP
MARY RIVER EXPANSION PROJECT

RAILWAY
STANDARD DETAILS
STEEL PILE CAP DETAILS

SCALE
1:20
OR AS NOTED

DWG. No.	
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H353004-35000-232-260-0001-0011

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\$DATES	
\$FILES	

