

DESIGN CRITERIA

- 1.0 PROJECT DATUM AND TIDE ELEVATIONS
- 1.1 ALL ELEVATIONS ON THE DRAWING ARE REFERENCED TO HYDROGRAPHIC DATUM, UNLESS NOTED OTHERWISE. THE RELATIVE ELEVATIONS OF HYDROGRAPHIC DATUM TO GEODETIC DATUM IS:  
0.0 GEODETIC = 3.048 TIDE AND CHART.
- 1.2 TIDE ELEVATIONS AT THE SITE ARE AS FOLLOWS:

	GEODETIC	HYDROGRAPHIC
HIGHER HIGH WATER LEVEL (LARGE TIDE)	H.H.W.L. 0.252	3.3
LOWER LOW WATER LEVEL (LARGE TIDE)	L.L.W.L. -3.048	0.0

DESCRIPTION OF WORK

- 1.1 REPLACE FENDER AND RUBBING PILES A INDICATED ON DRAWINGS. PROVIDE U.H.M.W. RUB STRIPS TO ALL RUBBING PILES. REATTACH PILE CHAINS AS NOTED.
- 1.2 REPLACE PILE WALERS AND ASSOCIATED STEEL, BRACKETS, REPLACE FENDER PILE WALERS, AS INDICATED DRAWINGS.
- 1.3 REPLACE MISCELLANEOUS STRUCTURAL TIMBERS & BRACING AS INDICATED.

GENERAL NOTES:

- 1.0 GENERAL
- 1.1 HMC DOCKYARD ESQUIMALT IS AN ACTIVE NAVAL BASE. THE CONTRACTOR SHALL COORDINATE HIS ACTIVITIES WITH THE ENGINEER. NO DISRUPTION TO NAVAL OPERATIONS WILL BE PERMITTED. LOCATION OF CONTRACTOR'S SITE OFFICE AND MATERIALS STORAGE SHALL BE APPROVED BY THE ENGINEER.
- 1.2 PROVIDE ALL TEMPORARY BRACING AND SHORING REQUIRED TO MAINTAIN STRUCTURAL INTEGRITY OF THE JETTY DURING CONSTRUCTION.
- 1.3 THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE TECHNICAL SPECIFICATIONS. IN THE EVENT OF A CONFLICT, THE CONFLICT SHALL BE BROUGHT TO THE ATTENTION OF THE CONSULTANT.
- 1.4 ITEMS THAT ARE INCIDENTAL TO THE WORK SUCH AS TEMPORARY REMOVAL AND REINSTATE OF STRUCTURAL TIMBERS, ASPHALT OVERLAY, HARDWARE, ATTACHMENTS, ELECTRICAL CONDUIT AND OTHER MISCELLANEOUS ITEMS SHALL BE INCLUDED IN THE TENDER PRICE. ALL ITEMS TEMPORARILY REMOVED SHALL BE REINSTATED AS PER ORIGINAL.
- 1.5 THE CONTRACTOR IS TO VERIFY THE SCOPE OF WORK AND ALL DIMENSIONS PRIOR TO COMMENCING WORK.
- 1.6 ALL WORK SHALL CONFORM TO THE BC BUILDING CODE AND WCB INDUSTRIAL HEALTH AND SAFETY REGULATIONS.
- 1.7 SUBMIT DETAILS OF PROPOSED WORK METHODS TO THE ENGINEER FOR APPROVAL PRIOR TO PROCEEDING WITH THE WORK. OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO CUTTING, DEMOLISHING, OR REMOVAL OF ANY MATERIAL FROM THE SITE.
- 1.8 ALL REPLACED TIMBERS AND PILES TO BE PROPERLY DISPOSED OF OFFSITE.
- 1.9 CONTRACTOR TO PROVIDE A HEALTH AND SAFETY PLAN FOR THIS PROJECT.
- 1.10 FOR SECURITY REASONS, THE CONTRACTOR'S BARGE, VESSELS AND EQUIPMENT MAY BE SUBJECT TO SEARCH UPON ARRIVAL TO THE SITE. THE CONTRACTOR SHALL ALLOW FOR ANY DELAYS CAUSED BY THE SEARCH IN THE BID PRICE.
- 1.11 DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ELEVATIONS ARE IN METERS AND ARE REFERENCED TO CHART DATUM.
- 1.12 THE STRUCTURES DEPICTED ON THESE DRAWINGS ARE BASED ON THE ORIGINAL CONSTRUCTION DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE IF ANY MODIFICATIONS THAT HAVE BEEN MADE TO THE ORIGINAL STRUCTURES WILL MAKE INSTALLATION OF WORK MORE DIFFICULT THAN SHOWN. NO COMPENSATION SHALL BE GIVEN FOR FAILURE TO DO SO.
- 1.13 ALL PILE DRIVING & ASSOCIATED WORK TO BE DONE USING A BARGE-MOUNTED CRANE OF SUFFICIENT SIZE & CAPACITY. NO CRANE WORK ALLOWED FROM THE JETTY DECK.
- 2.0 TIMBER
- 2.1 SAWN TIMBER SHALL BE #1 COAST DOUGLAS FIR AND SHALL BE GIVEN A FULL CELL CREOSOTE OIL TREATMENT IN ACCORDANCE WITH CSA 080, TO A NET RETENTION OF 225kg. PER CUBIC METRE (14pcf), UNLESS NOTED OTHERWISE.
- 2.2 DECK PLANKS, GUARDRAILS, AND RISERS SHALL BE GIVEN SALT PRESERVATIVE TREATMENT IN ACCORDANCE WITH CSA 080 TO A NET RETENTION OF 6kg PER CUBIC METRE (0.4pcf).
- 2.3 LUMBER GRADES TO CONFORM TO CSA-0141 SOFTWOOD LUMBER.
- 2.4 ALL LUMBER ULESS OTHERSIES NOTED SHALL BE PROPERLY AIR DRIED AND SEASONED TO CONTAIN NO MORE THAN 20% MOISTURE.
- 2.5 ALL TIMBER WORK SHALL CONFORM TO CSA 086.
- 2.6 UNLESS TIMBERS ARE TREATED BY A RECOGNIZED CITW TREATMENT PLANT IN ACCORDANCE WITH THE BULLETIN "BEST MANAGEMENT PRACTICES FOR THE USE OF TREATED WOOD IN AQUATIC ENVIRONMENTS" BY WESTERN PRESERVERS INSTITUTE AND CANADIAN INSTITUTE OF TREATED WOOD (CITW), ALL CREOSOTE TREATED TIMBER SHALL BE AGED FOR AT LEAST 45 DAYS FOLLOWING TREATMENT PRIOR TO USE IN WORK. CONTRACTOR TO PROVIDE CERTIFICATES OF TREATMENT PROCEDURES.
- 2.7 CUT ENDS OF TIMBER MEMBERS DESIGNATED FOR FIELD CUTTING SHALL BE TREATED WITH TWO SEPARATE COATS OF HOT CREOSOTE OIL, OR OTHER TREATMENT AS APPROVED BY THE ENGINEER, AND ONE COAT OF APPROVED MASTIC TO MINIMUM 6mm THICKNESS, UNO.
- 2.8 BOLT HOLES TO BE PROVIDE DRIVING FIT. BOLT HOLES THROUGH TREATED MEMBERS TO BE TREATED WITH TWO COATS OF PRESERVATIVE AND BOLTS TO BE DIPPED IN PRESERVATIVE BEFORE BOLTS PLACED.
- 2.9 COUNTERBORES AND TAPS IN CREOSOTED TIMBER SHALL BE TREATED WITH TWO SEPARATE COATS OF HOT CREOSOTED OIL, OR OTHER TREATMENT AS APPROVED BY THE ENGINEER, AND SHALL BE FILLED WITH MASTIC AFTER BOLTS ARE PLACED.
- 2.10 ALL HOLES LEFT IN EXISTING TIMBER MEMBERS AFTER REMOVAL OF BOLTS, LAG SCREWS, ETC. SHALL BE SEALED WITH MASTIC.

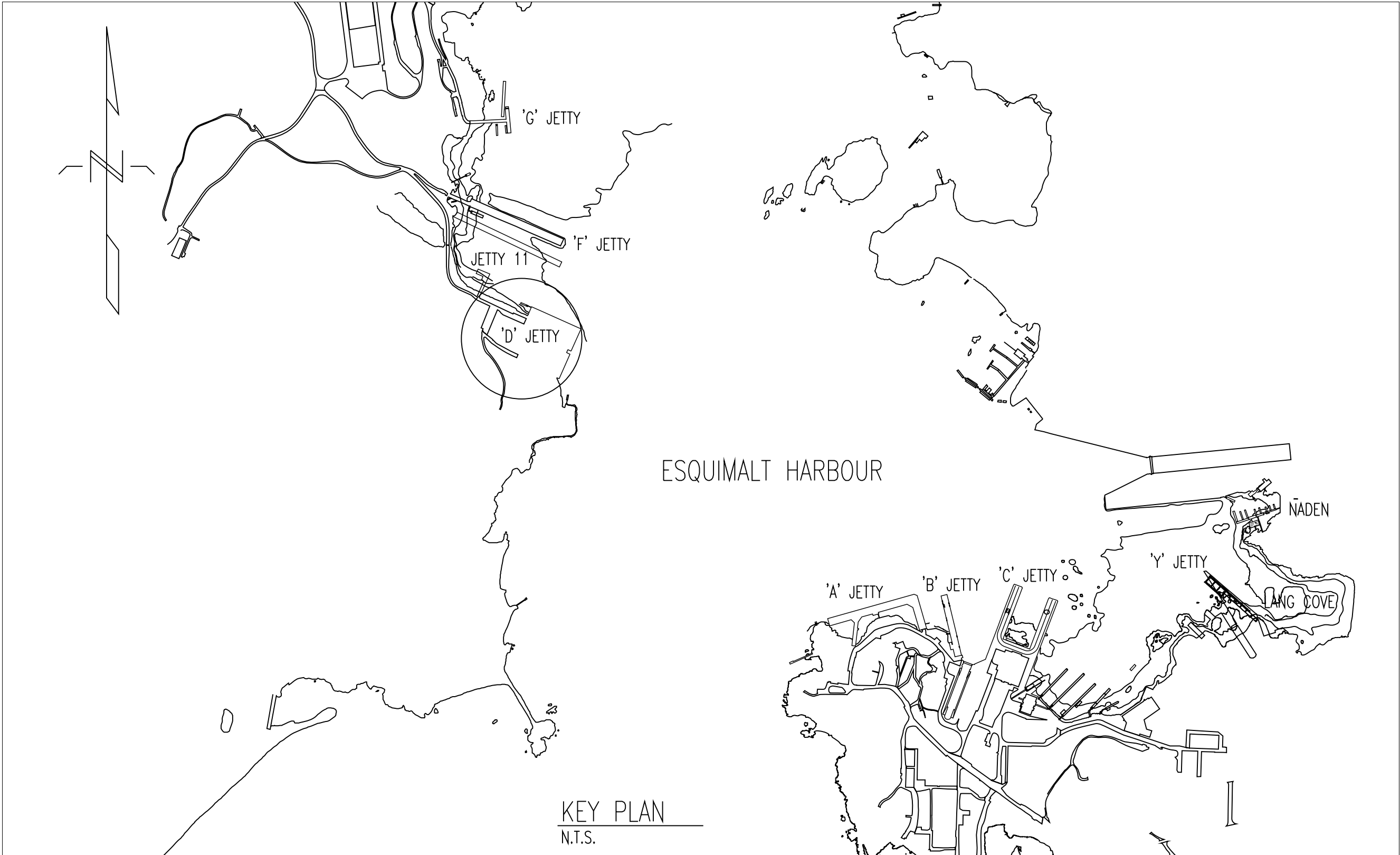
D JETTY REPAIRS

- 3.0 TIMBER PILES
- 3.1 TIMBER BEARING PILES SHALL BE SIZE 36 (#14) (LENGTHS AS INDICATED ON PLANS) COAST DOUGLAS FIR IN ACCORDANCE WITH CSA STANDARD 056. PILES SHALL BE GIVEN FULL CELL CREOSOTE OIL TREATMENT TO A NET RETENTION OF 225kg. PER CUBIC METRE (14pcf) IN ACCORDANCE WITH CSA 080, UNLESS NOTED OTHERWISE.
- 3.2 TIMBER FENDER PILES SHALL BE SIZE 33 (#13) COAST DOUGLAS FIR IN ACCORDANCE WITH CSA STANDARD 056. PILES SHALL BE GIVEN FULL CELL CREOSOTE OIL TREATMENT TO A NET RETENTION OF 225kg. PER CUBIC METRE (14pcf) IN ACCORDANCE WITH CSA 080, UNLESS NOTED OTHERWISE.
- 3.3 UNLESS PILES ARE TREATED BY A RECOGNISED CITW TREATMENT PLANT IN ACCORDANCE WITH THE BULLETIN "BEST MANAGEMENT PRACTISES FOR THE USE OF TREATED WOOD IN AQUATIC ENVIRONMENTS" BY WESTERN PRESERVERS INSTITUTE AND CANADIAN INSTITUTE OF TREATED WOOD (CITW), ALL CREOSOTE TREATED TIMBER SHALL BE AGED FOR AT LEAST 45 DAYS FOLLOWING TREATMENT PRIOR TO USE IN THE WORK. CONTRACTOR TO PROVIDE CERTIFICATES OF TREATMENT PROCEDURES.
- 3.4 HANDLE ALL TREATED PILES WITH CARE TO AVOID BREAKING THROUGH THE TREATED SURFACE. TREAT ALL CUTS AND BREAKS WITH TWO COATS OF SPECIFIED TREATMENT.
- 3.5 DRIVE TIMBER PILES USING A HAMMER WHICH DELIVERS A DRIVING ENERGY BETWEEN 25 AND 30 KILOJOULES (18500 AND 22000 FOOT POUNDS). DRIVE FENDER PILE TIPS DOWN TO A MINIMUM DEPTH OF PENETRATION OF 4.5m. DRIVE BEARING PILE TIPS DOWN TO A MINIMUM DEPTH OF PENETRATION OF 7.5m.
- 3.6 DRIVE PILES TO THE FOLLOWING TOLERANCES:

LOCATION IN PLAN	75mm
PLUMB	1 IN 50
- 3.7 ALL HOLES DRILLED INTO PILES SHALL BE TREATED WITH TWO COATS OF CREOSOTE OIL BEFORE INSTALLING FASTENERS.
- 3.8 MAINTAIN ACCURATE RECORDS OF DRIVING FOR EACH PILE, INCLUDING TYPE AND MAKE OF HAMMER, STROKE OR RELATED DRIVING ENERGY, PILE SIZE, GROSS LENGTH AND PENETRATION POSITION, THE NUMBER OF BLOWS PER 300mm FOR THE ENTIRE LENGTH OF PILE. RECORDS TO BE TURNED OVER TO ENGINEER UPON COMPLETION.
- 3.9 BAND HEADS OF PILES WITH STEEL OR WIRE MESH TO PREVENT SPLITTING DURING HARD DRIVING.
- 3.10 AFTER CUT-OFF, TREAT TOPS OF ALL TIMBER PILES WITH TWO COATS OF HOT CREOSOTE OIL, OR OTHER TREATMENT AS APPROVED BY THE ENGINEER, AND ONE COAT OF APPROVED MASTIC AT LEAST 6mm THICK. IN ADDITION, TOPS OF ALL PILES SHALL BE COVERED WITH A SHEET OF 22 GAUGE ANNEALED CORROSION RESISTANT ALUMINUM CUT 150mm LARGER THAN THE DIAMETER OF THE PILE TOP. THE OVERHANGING EDGES SHALL BE CRIMPED AND TURNED DOWN AND SECURED TO THE PILES WITH 8 ALUMINUM ROOFING NAILS. THE SHEET SHALL NOT BE CUT TO FACILITATE FITTING. NO CREOSOTE SHALL BE PERMITTED TO SPILL INTO THE WATER.
- 3.11 USE VIBRO-HAMMER OF EQUIVALENT METHOD TO EXTRACT PILES DESIGNATED FOR REPLACEMENT.
- 4.0 FASTENERS AND MISCELLANEOUS DETAILS
- 4.1 BOLTS, NUTS, AND WASHERS THROUGH TIMBER SHALL CONFORM TO ASTM A307; DRIFT PINS SHALL CONFORM TO CSA G40.21 GRADE 260W; ALL SPIKES, NAILS, AND STAPLES TO CONFORM TO CSA STANDARD B111; AND ALL LAG SCREWS TO CONFORM TO CSA STANDARD B34.
- 4.2 ALL MISCELLANEOUS METAL AND FASTENERS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH CSA STANDARD G164, UNLESS OTHERWISE NOTED.
- 4.3 PLATE WASHERS SHALL BE PLACED UNDER THE HEADS AND NUTS OF ALL BOLTS, EYEBOLTS AND HEADS OF LAG SCREWS BEARING AGAINST TIMBER. MINIMUM SIZE OF WASHER SHALL BE AS FOLLOWS:

19# FASTENER - 9x75#
25# FASTENER - 12x100#
32# FASTENER - 16x125#
- 5.0 STRUCTURAL & MISCELLANEOUS STEEL NOTES
- 5.1 FABRICATE AND INSTALL STEELWORK TO CAN/CSA-S16-01. SUBMIT SHOP DRAWINGS SHOWING ALL DETAILS AND MATERIAL SPECIFICATION FOR REVIEW PRIOR TO FABRICATION.
- 5.2 PROVIDE STRUCTURAL STEEL TO CAN/CSA G40.21 WITH THE FOLLOWING GRADES:

STRUCTURAL ROLLED SHAPES	350W
INCLUDING ANGLES:	300W
PLATES:	350W
HSS SECTIONS (CLASS C):	350W
- 5.3 WELD TO CAN/CSA W59 BY FABRICATORS CERTIFIED TO CSA W47.1 DIV. 1 OR DIV. 2.1.1.
- 5.4 MINIMUM WELDS FOR CONNECTIONS SHALL BE 6mm FILLET WELD U.N.O. WELDS SHALL BE BE GROUND SMOOTH.
- 5.5 NO BURNING OF HOLES IN STEEL SHALL BE PERMITTED.
- 5.6 PAINT STEELWORK IN ACCORDANCE WITH THE SPECIFICATION U.N.O. ALL STEEL WORK TO BE SHOP PAINTED. FIELD TOUCH UP ANY DAMAGE TO COATING. NO BLASTING ON JETTY.
- 5.7 GALVANIZING IN ACCORDANCE WITH CAN/CSA 164.
- 6.0 ENVIRONMENTAL
- 6.1 ALL WORK OF THIS PROJECT SHALL CONFORM TO THE REQUIRMENTS OF "BEST MANAGEMENT PRACTICES FOR PILE DRIVING AND RELATED OPERATIONS - BC MARINE AND PILE DRIVING CONTRACTORS ASSOCIATION" - LATEST EDITION.
- 6.2 THE CONTRACTOR MUST INSTALL AN OIL CONTAINMENT BOOM AND SILT/DEBRIS CURTAIN COMPLETELY AROUND THE AREA OF WORK. THESE DEVICES MUST BE MAINTAINED FOR EFFECTIVENESS AND REMAIN IN PLACE THROUGHOUT THE DURATION OF THE PROJECT.
- 6.3 CONTRACTOR MUST EMPLOY PILE DRIVING METHODS TO MITIGATE HARM TO FISH AND USE DEBRIS CONTROL DEVICES WHEN DRILLING OR WORKING OVER WATER. EFFECTIVENESS OF MITIGATION WILL BE MONITORED.
- 6.4 ALL DEBRIS, SAWDUST AND SHAVINGS FALLING INTO THE WATER CAUSED BY DRILLING AND CUTTING OF TREATED TIMBER AND PILES SHALL BE CONTAINED AND PROMTLY CLEANED UP AND PROPERLY DISPOSED OF.
- 6.5 ALL TREATED TIMBER AND PILES SHALL CONFORM TO THE "BEST MANAGEMENT PRACTICES FOR THE USE OF THE TREATED WOOD IN AQUATIC ENVIRONMENT." CONTRACTOR TO PROVIDE CERTIFICATES.
- 6.6 ALL CONCRETE PRODUCTS AND DEBRIS MUST BE PREVENTED FROM FALLING IN THE WATER BY APPROVED MEANS. CONTRACTOR TO PROVIDE METHOD TO THE ENGINEER PRIOR TO STARTING WORK.
- 6.7 NO WASHING OF CONCRETE TRUCKS OR EQUIPMENT WILL BE PERMITTED ON-SITE.
- 6.8 ALL ITEMS DESIGNATED FOR REMOVAL OR REPLACEMENT SHALL BE PROPERLY DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.



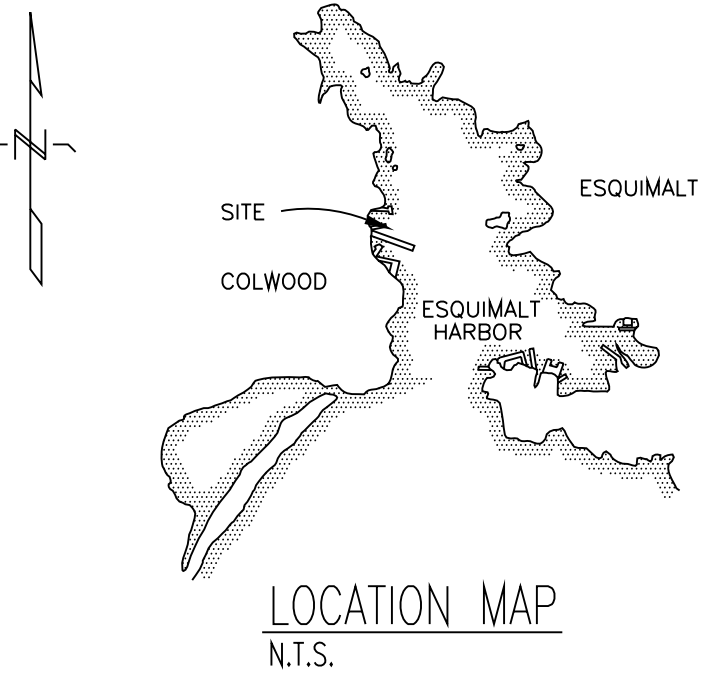
DRAWING LIST

DRAWING No.

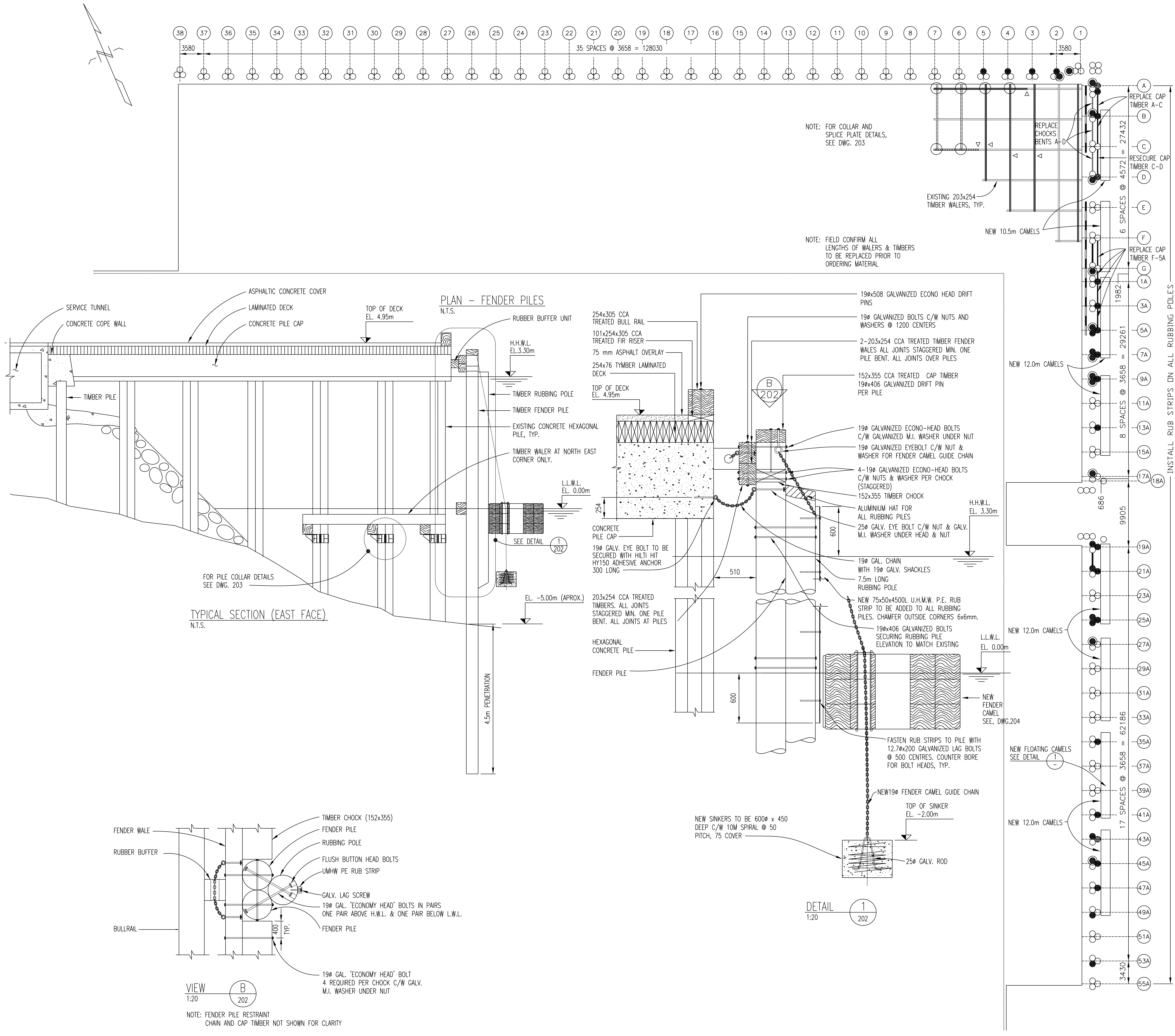
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DESCRIPTION

GENERAL NOTES  
PLAN AND SECTION  
DETAILS  
FENDER CAMELS  
FENDER CAMEL DETAILS



PF-70001			
3	APR11/06	AS-BUILT	AJE
2	MAR06/06	ISSUED FOR TENDER	MRR
1	JAN24/06	ISSUE FOR CLIENT REVIEW	MRR
No	DATE	REVISION	REVISION
			APPR
<div>Westmar</div> <div>Consulting Engineers</div> <div>Westmar Project: 05673</div>			
SCALE - ÉCHELLE		AS SHOWN	
PROJECT - PROJET			
CFB ESQUIMALT (COLWOOD) B.C.			
D JETTY REPAIRS			
TRADE - MÉTIER		DATE	
		JAN 2006	
SUBJECT - SUJET			
GENERAL NOTES			
PRODUCTION		CONCURRENCE - ASSENTIMENT	
DESIGNED ÉTUDE	MRR		
DRAWN DESSINÉ	RZ		
CHECKED VÉRIFIÉ	AJE		
COORDINATION		APPROVED BY - APPROUVE PAR	
		FSM	
DWG NO. - DESSIN NO.			
L-C260/5-9502/13-201			
Canada			



REPLACE FENDER CHOCKS BETWEEN	
FENDER No.	FENDER No.
A	B
B	C
C	D
F	G
19A	21A


REPLACE FENDER WALE	
FENDER No.	FENDER No.
A	C
C	D
E	G
1A	5A

REPLACE FENDER PILES	
FENDER No.	FENDER No.
1A	S. PILE
	E. PILE
5A	N. PILE
	S. PILE
7A	N. PILE
	S. PILE
13A	S. PILE
19A	N. PILE
21A	N. PILE
25A	N. PILE
	S. PILE
49A	S. PILE
53A	S. PILE
C	N. PILE
	S. PILE


REPLACE RUB POLES	
FENDER No.	
A	
B	
C	
D	
E	
F	
G	
1A	
2	
3	
3A	
4	
5	
5A	
7A	
9A	
13A	
19A	
21A	
25A	
35A	
41A	
43A	
45A	
47A	

MISCELLANEOUS FENDER REPAIRS	
LOCATION	REPAIR REQUIRED
BENT No/PILE No.	
A NORTH	REPLACE RESTRAINT CHAIN EYEBOLT AT THE CONCRETE PILE CAP
B NORTH	REPLACE RESTRAINT CHAIN EYEBOLT AT THE CONCRETE PILE CAP
D SOUTH	REPLACE RESTRAINT CHAIN EYEBOLT AT THE CONCRETE PILE CAP
G SOUTH	REPLACE RESTRAINT CHAIN & RESTRAINT CHAIN EYEBOLT AT THE CONCRETE PILE CAP
1A NORTH	RESECURE RESTRAINT CHAIN
5A NORTH	INSTALL RESIN PLUG
7A SOUTH	REPLACE RESTRAINT CHAIN EYEBOLT AT THE FENDER PILE
9A NORTH	REPLACE RESTRAINT CHAIN & RESTRAINT CHAIN EYEBOLT AT THE CONCRETE PILE CAP
	REPLACE RESTRAINT CHAIN & RESTRAINT CHAIN EYEBOLT AT THE CONCRETE PILE CAP AND INSTALL TWO RESIN PLUG
17A NORTH	REPLACE RESTRAINT CHAIN & EYEBOLT AT THE CONCRETE PILE CAP
27A NORTH	INSTALL RESIN PLUG
45A NORTH	REPLACE RESTRAINT CHAIN EYEBOLT AT THE CONCRETE PILE CAP
1 WEST	REPLACE RESTRAINT CHAIN
2 RUB	REPLACE UHMW RUB STRIP
3 RUB	REPLACE UHMW RUB STRIP
4 RUB	REPLACE UHMW RUB STRIP
5 RUB	REPLACE UHMW RUB STRIP
21A ALL	REPLACE PILES AS REQUIRED

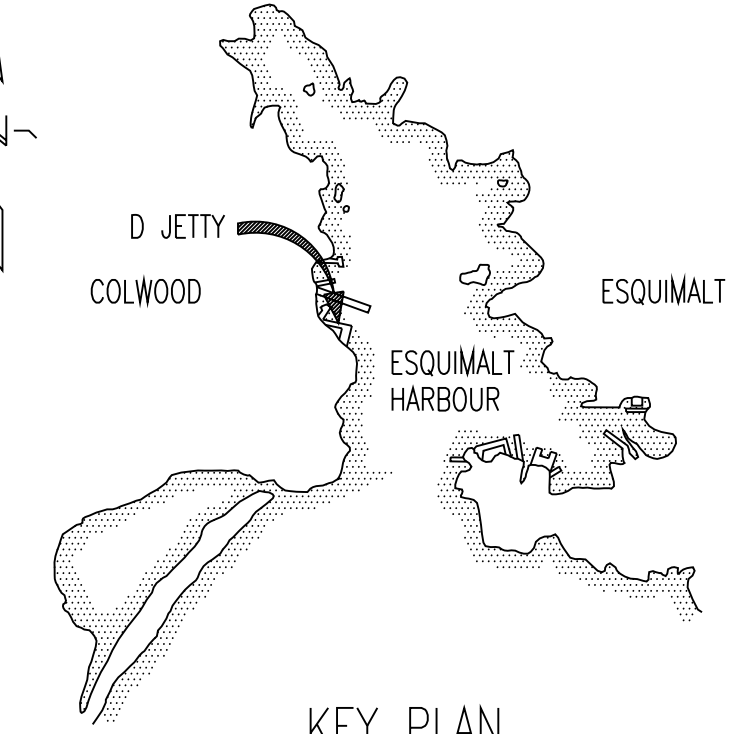
- NOTE:
- REPLACE MISSING OR DAMAGED ALUMINUM HATS ON ALL FENDER PILES AND RUB POLES ON THE EAST FACE WHICH ARE NOT INDICATED FOR REPLACEMENT
  - FOR ADDITIONAL PILE TABLE INFORMATION SEE DWG. -13-203.



NATIONAL DEFENCE



DÉFENSE NATIONALE



KEY PLAN  
N.T.S.

LEGEND

EXISTING TO REMAIN

REPLACE

PILE TO BE REPAIRED

REPLACE LENGTH OF 203x254 TIMBER WALER

REPLACE EXISTING PILE COLLAR

SPLICE IN TIMBER WALER

REPLACE FENDER CHOCK

REPLACE FENDER WALE

PF-70000

3	APR11/07	AS-BUILT	AJE
2	MAR07/06	ISSUED FOR TENDER	MRR
1	JAN24/06	ISSUE FOR CLIENT REVIEW	MRR

No	DATE	REVISION	REVISION	APPR

Westmar

Consulting Engineers

Westmar Project: 05673

SCALE - ÉCHELLE

AS SHOWN

PROJECT - PROJET

CFB ESQUIMALT (COLWOOD) B.C.

D JETTY REPAIRS

TRADE - MÉTIER	STRUCTURAL	DATE	MAR06/06
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SUBJECT - SUJET

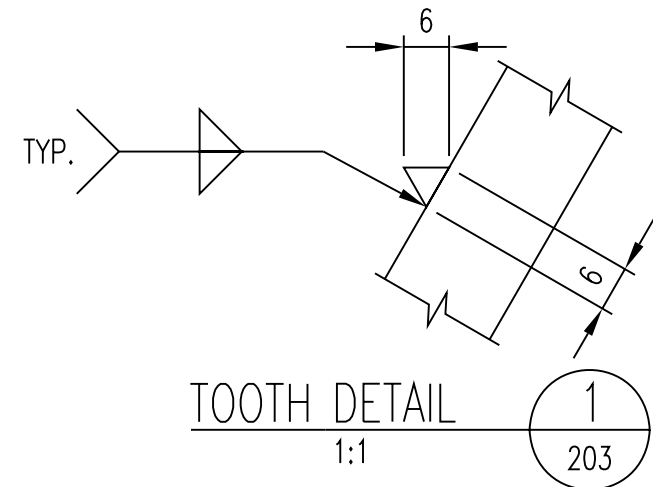
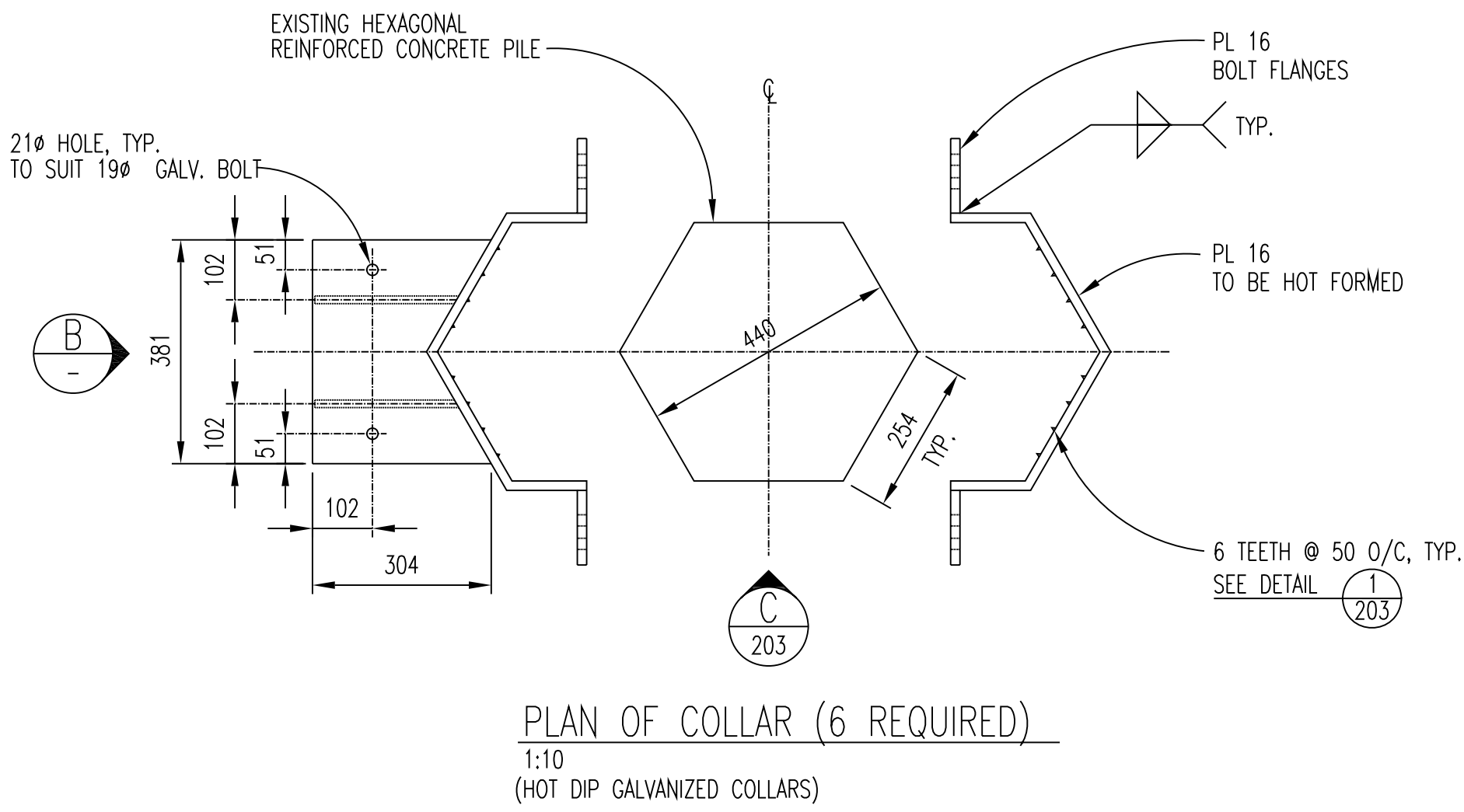
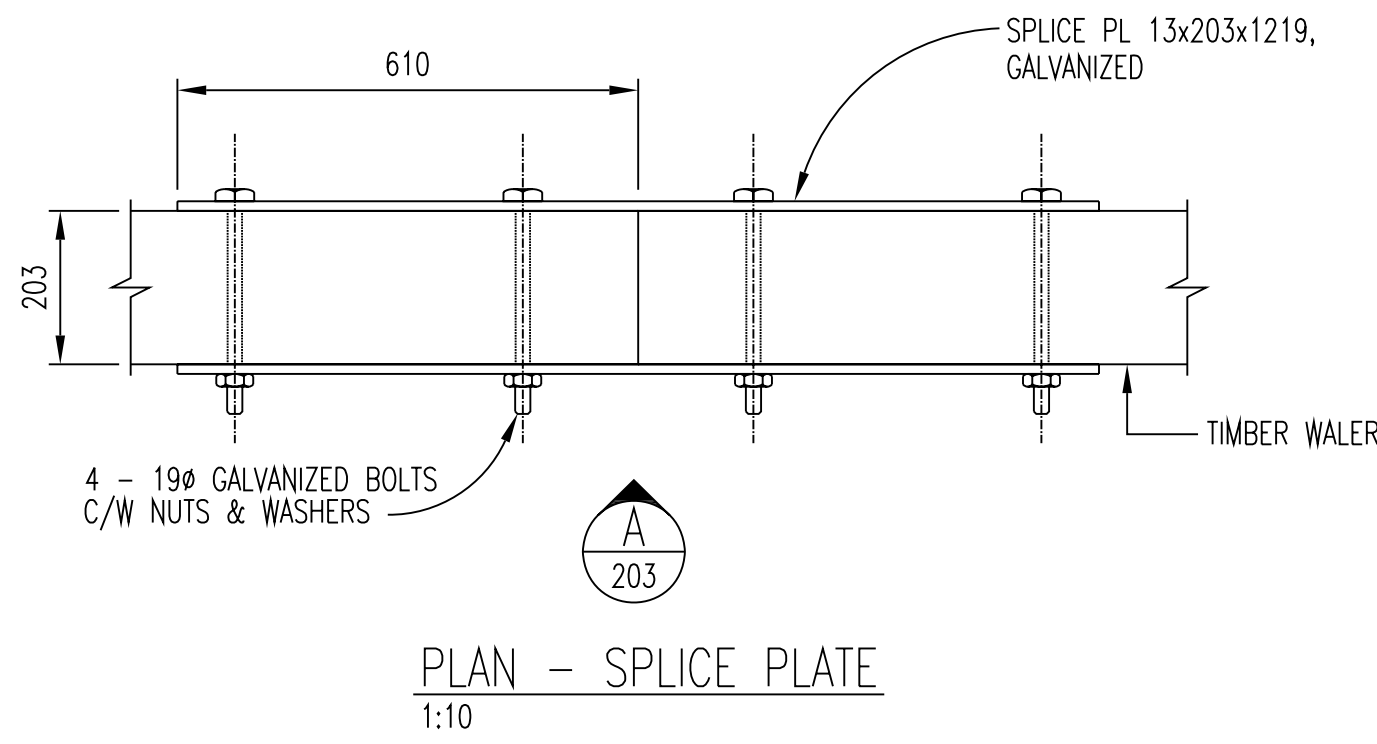
PLAN AND SECTION

PRODUCTION	CONCURRENCE - ASSENTIMENT
DESIGNED	ÉTUDIÉ
DRAWN	DESSINÉ
CHECKED	VÉRIFIÉ
COORDINATION	APPROVED BY - APPROUVE PAR

DWG NO. - DESSIN NO.

L-C260/5-9502/13-202

Canada

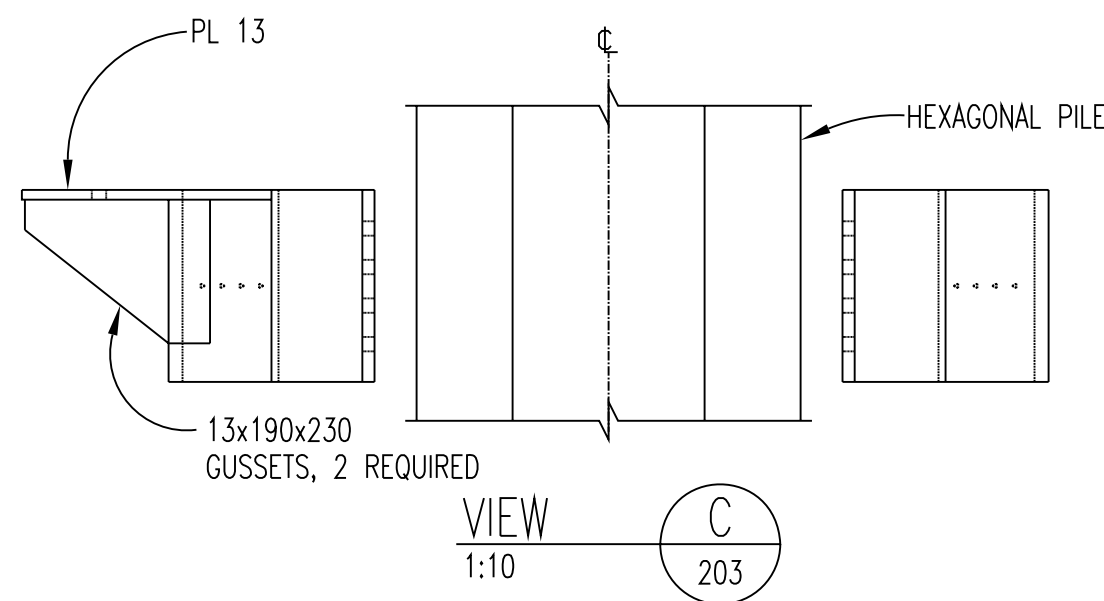
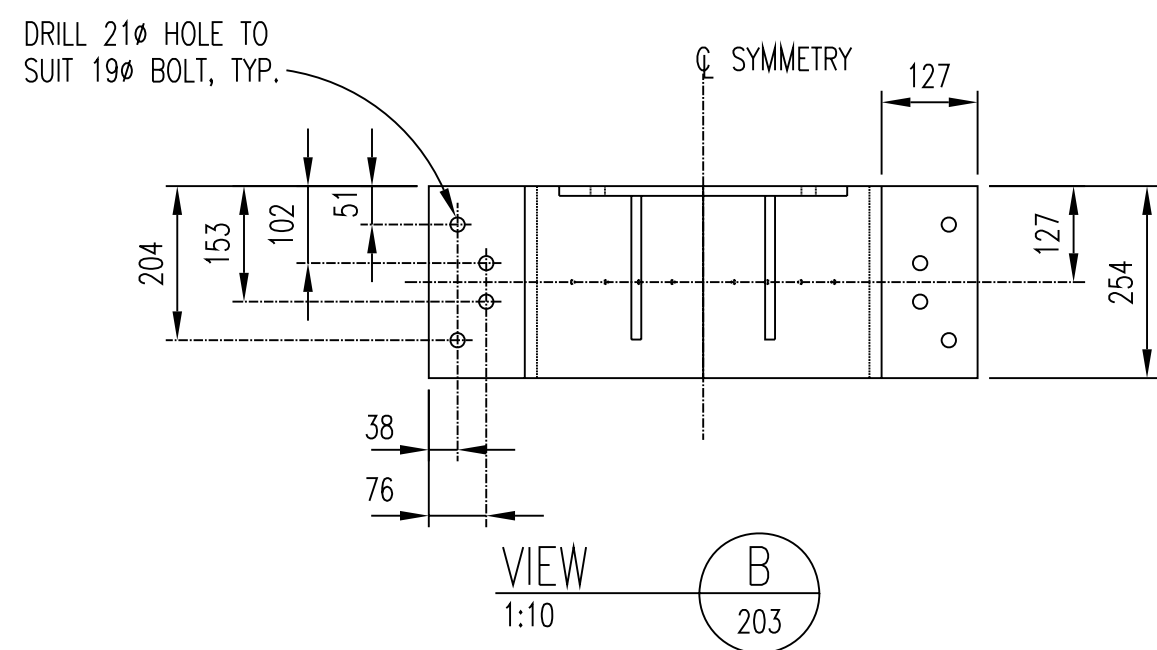
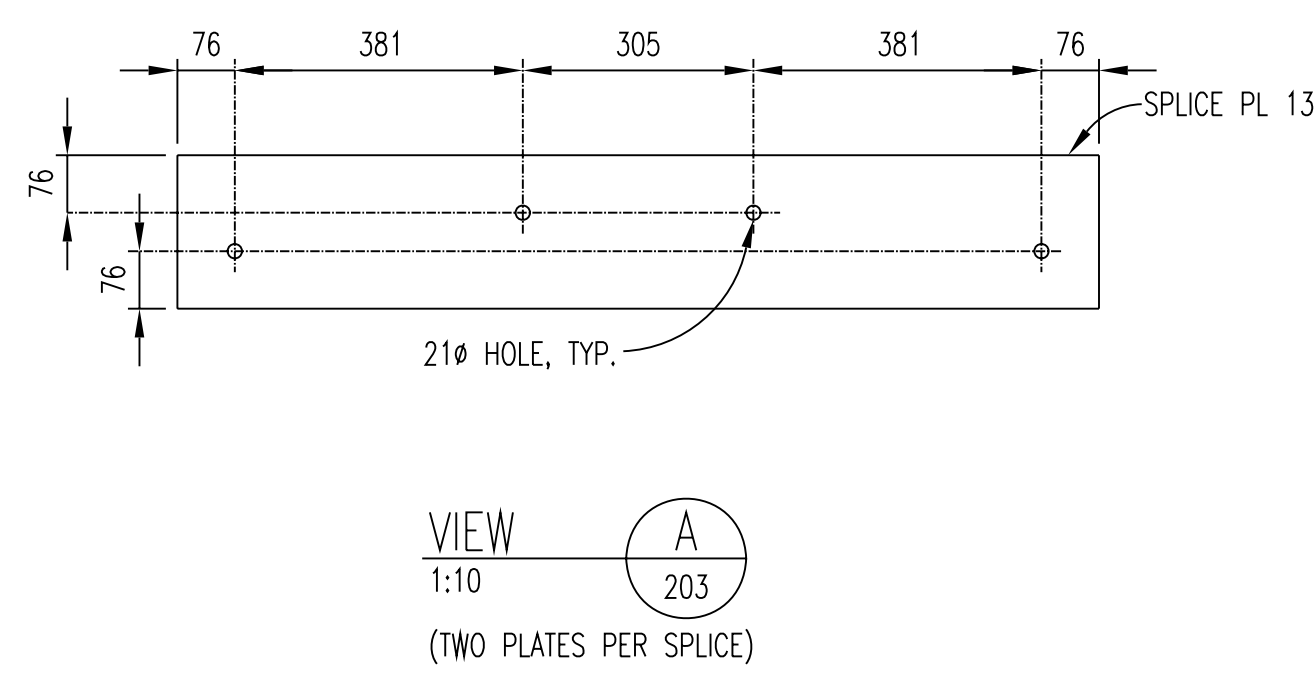


REPLACE CAP TIMBER	
FENDER No.	FENDER No.
A	B
B	C
F	G
G	1A
1A	3A
3A	5A

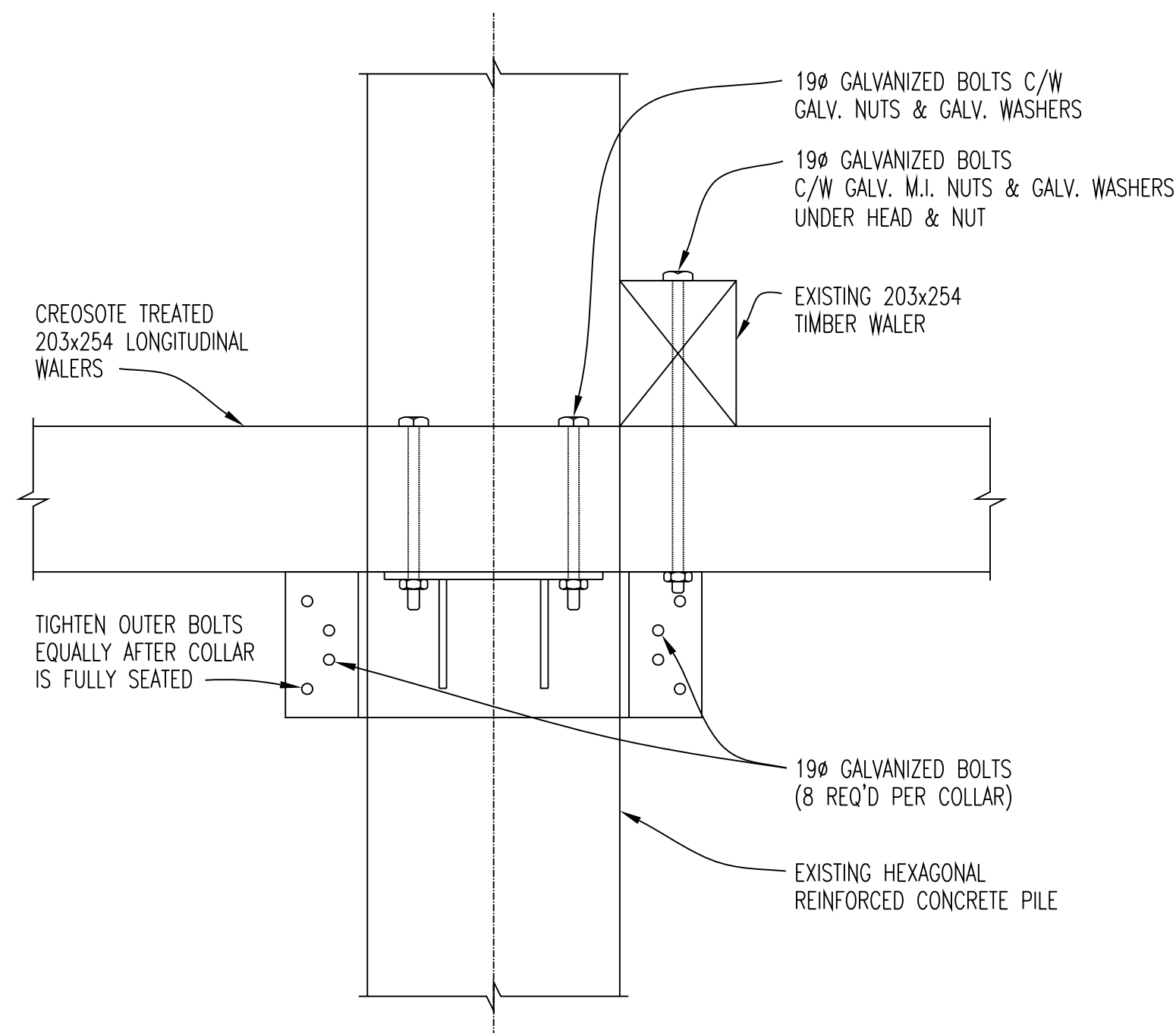
RE-SECURE CAP TIMBER	
FENDER No.	FENDER No.
C	D

REPLACE TIMBER WALER	
PILE No.	PILE No.
1-A	1-F
3-A	3-E
3-A	7-A
4-A	4-E
5-A	5-D
5-C	7-C

REPLACE TIMBER WALER COLLARS	
PILE No.	
4-A	
5-A	
6-A	
6-C	
7-A	
7-C	



PILE DRIVING RECORDS								
PILE #	PILE LOCATION	PILE SIZE AND TYPE	ORIGINAL PILE LENGTH (FT)	CUTOFF LENGTH (FT)	INSTALLED PILE LENGTH (FT)	SEABED (MEASURED TOP DOWN)	PILE EMBEDMENT (FT)	
1	2-A	#13 FENDER	55	2	53	38	15	
2	1	#13 FENDER	55	2	53	38	15	
3	1-A N	#13 FENDER	55	2	53	38	15	
4	1-C N	#13 FENDER	55	2	53	36	17	
5	1-C N	#13 FENDER	55	2	53	35	18	
6	1-C S	#13 FENDER	55	2	53	35	18	
7	1-D S	#13 FENDER	55	2	53	35	18	
8	1-G S	#13 FENDER	55	4	51	32	19	
9	1-5A N	#13 FENDER	55	4	51	32	19	
10	1-5A S	#13 FENDER	55	4	51	31	20	
11	1-7A N	#13 FENDER	55	8	47	31	16	
12	1-7A S	#13 FENDER	55	8	47	31	16	
13	1-9A N	#13 FENDER	55	10	45	31	14	
14	1-9A-S	#13 FENDER	55	10	45	31	14	
15	1-17A N	#13 FENDER	55	10	45	31	14	
16	1-19A N	#13 FENDER	45	2	43	30	13	
17	1-19A S	#13 FENDER	45	2	43	30	13	
18	1-21A N	#13 FENDER	45	2	43	28	15	
19	1-25A N	#13 FENDER	45	5	40	28	12	
20	1-25A S	#13 FENDER	45	5	40	28	12	
21	1-43A N	#13 FENDER	45	5	40	26	14	
22	1-45A N	#13 FENDER	45	5	40	24	16	
23	1-49A S	#13 FENDER	45	10	35	24	11	
24	1-53A S	#13 FENDER	45	10	35	24	11	
TOTAL			1230		1112			



DETAIL OF WALER CONNECTION  
ON BRACKET  
1:10



PF-70000			
3	APR11/06	AS-BUILT	AJE
2	MAR06/06	ISSUED FOR TENDER	MRR
1	JAN24/06	ISSUE FOR CLIENT REVIEW	MRR
No	DATE	REVISION	REVISION
			APPR

**Westmar**  
Consulting Engineers  
Westmar Project: 05673

SCALE - ÉCHELLE	AS SHOWN
PROJECT - PROJET	CFB ESQUIMALT (COLWOOD) B.C.

TRADE - MÉTIER	STRUCTURAL	DATE	JAN 2006
SUBJECT - SUJET	DETAILS		

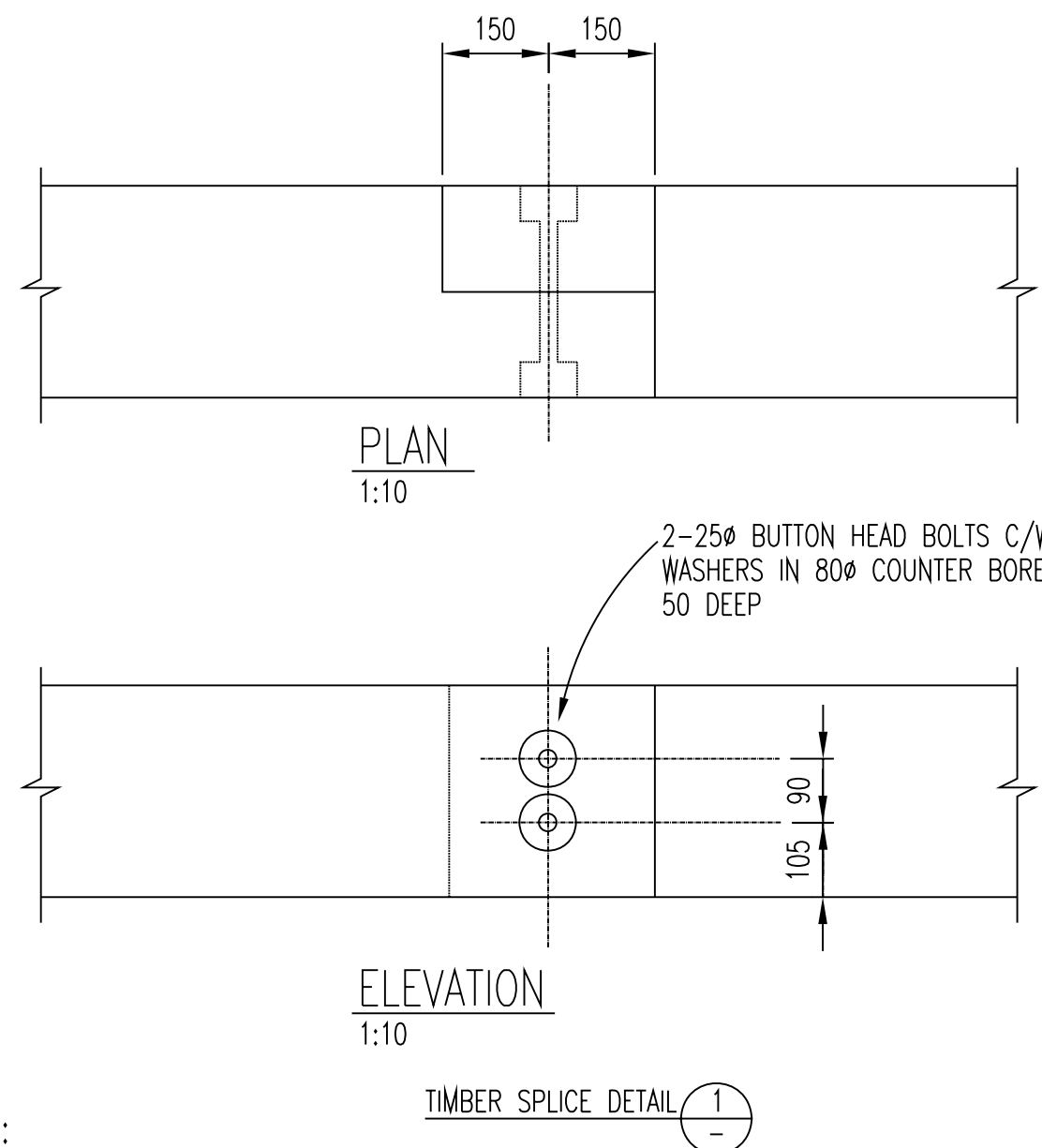
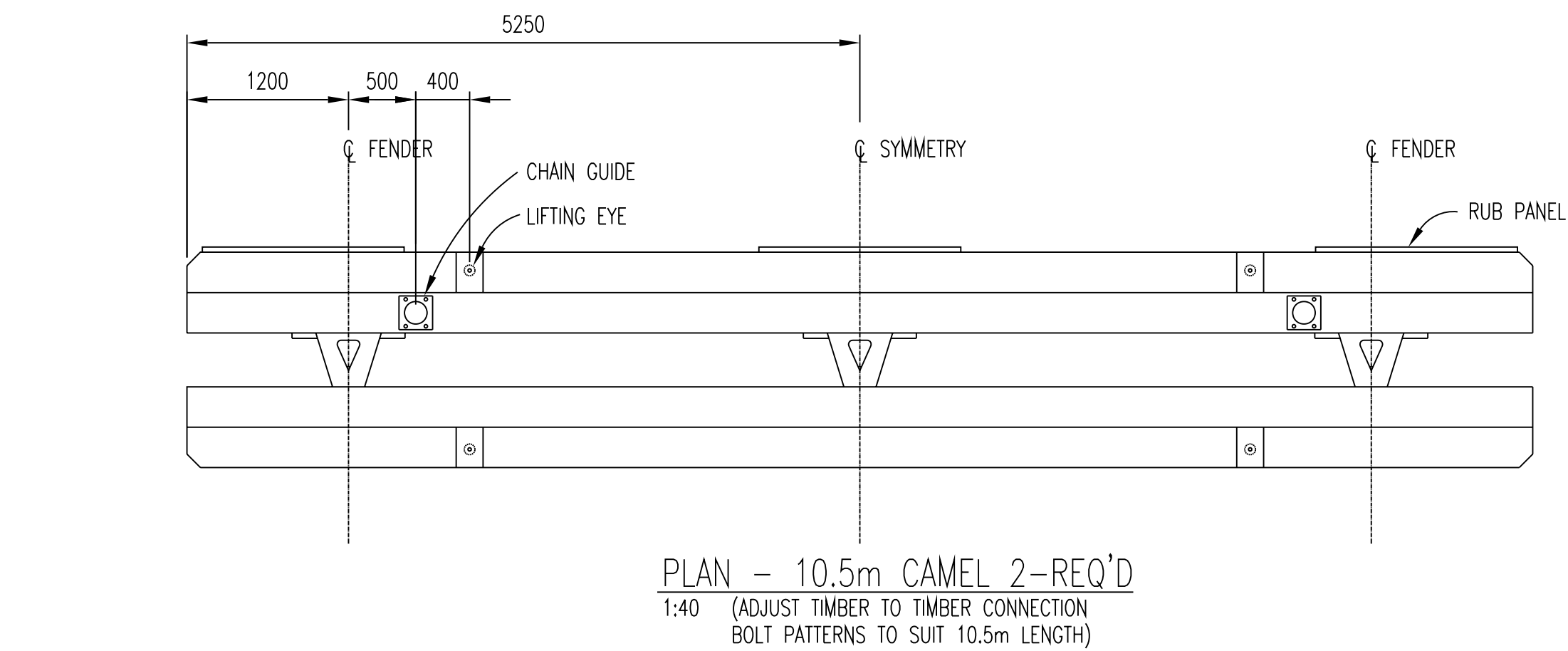
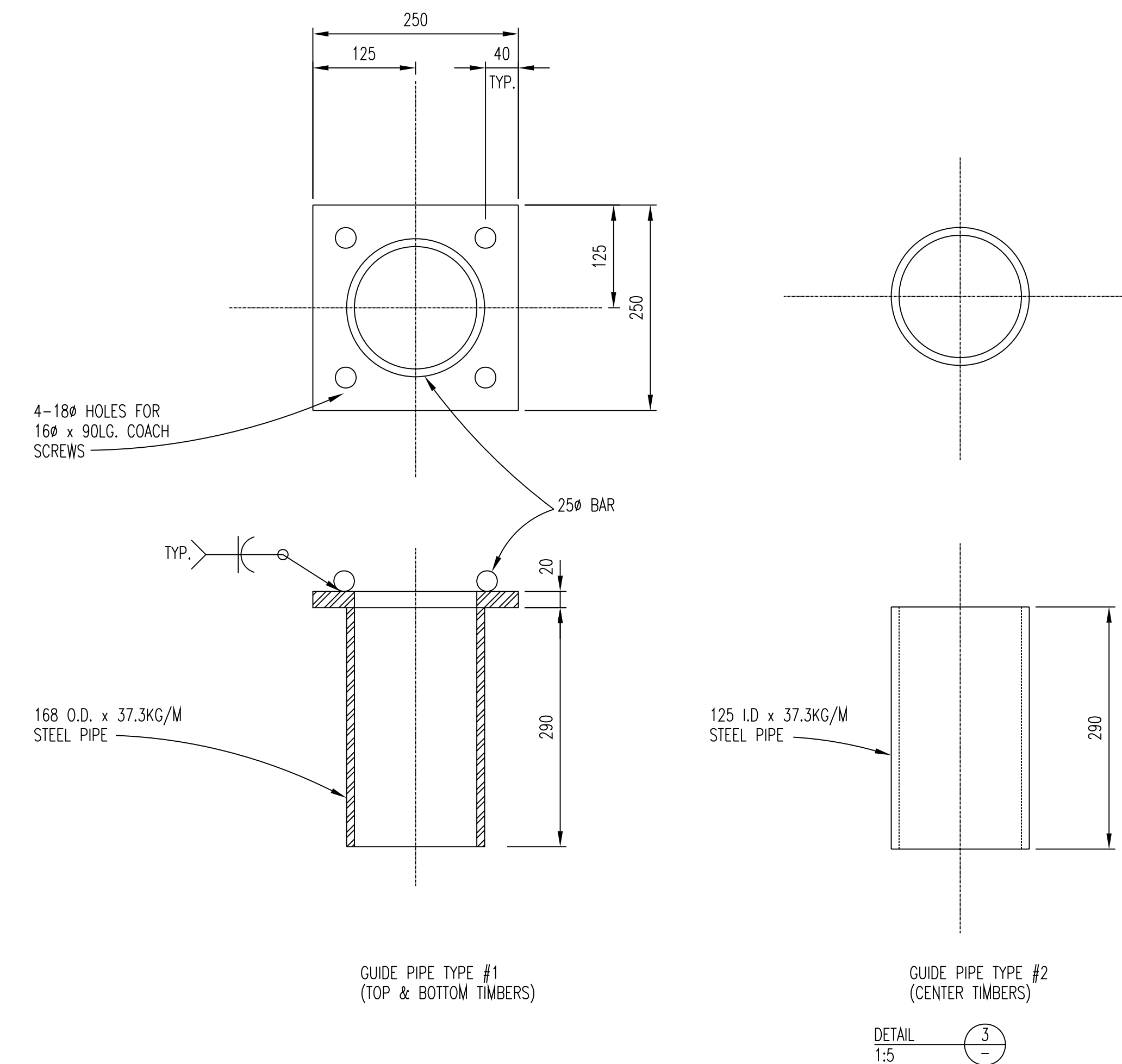
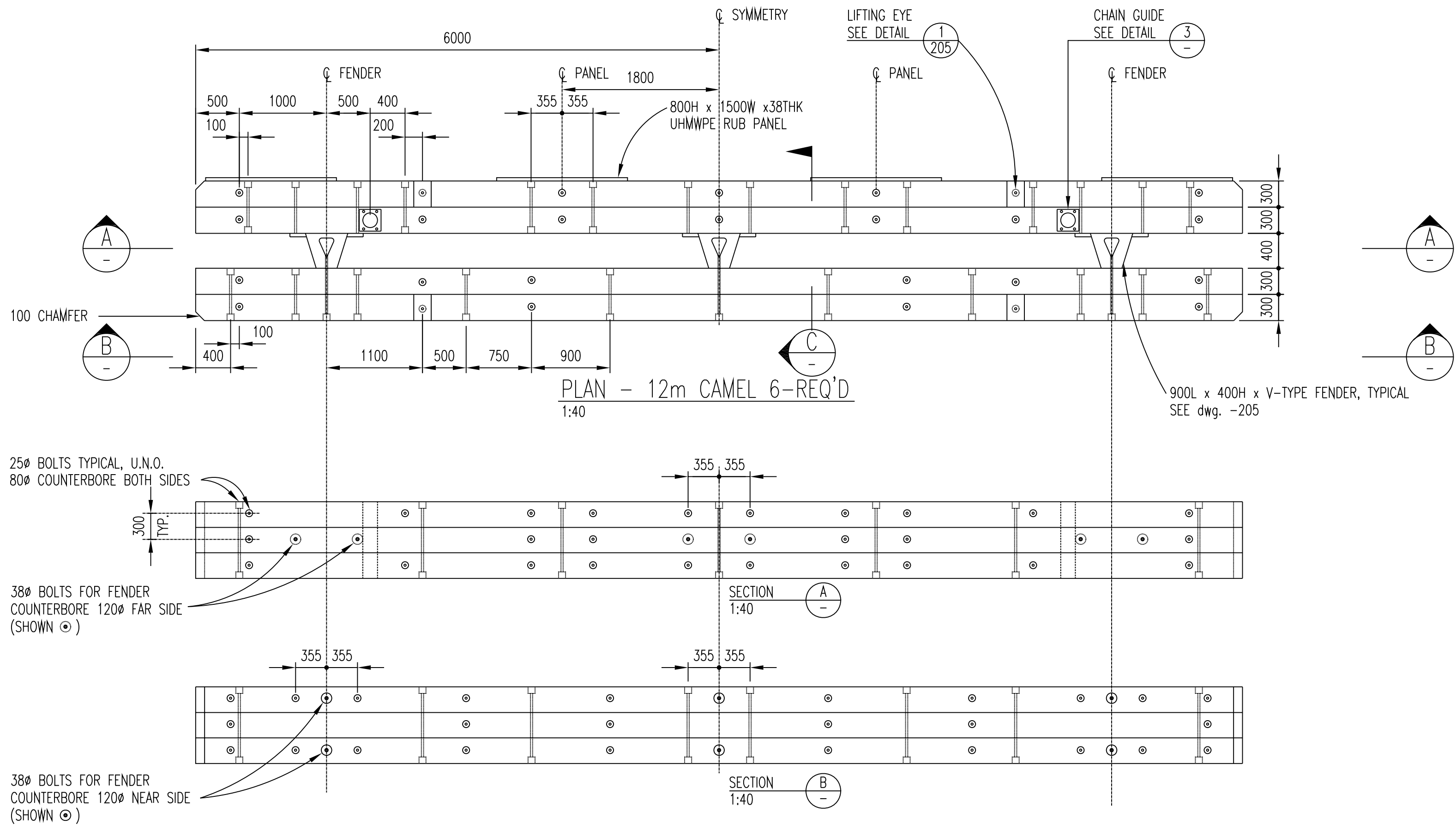
PRODUCTION	CONCURRENCE - ASSENTIMENT		
DESIGNED ÉTUDE	MRR		
DRAWN DESSINÉ	RZ		
CHECKED VÉRIFIÉ	AJE		
COORDINATION	APPROVED BY - APPROUVÉ PAR		
			FSM

DWG NO - DESSIN NO.  
L-C260/5-9502/13-203

Canada

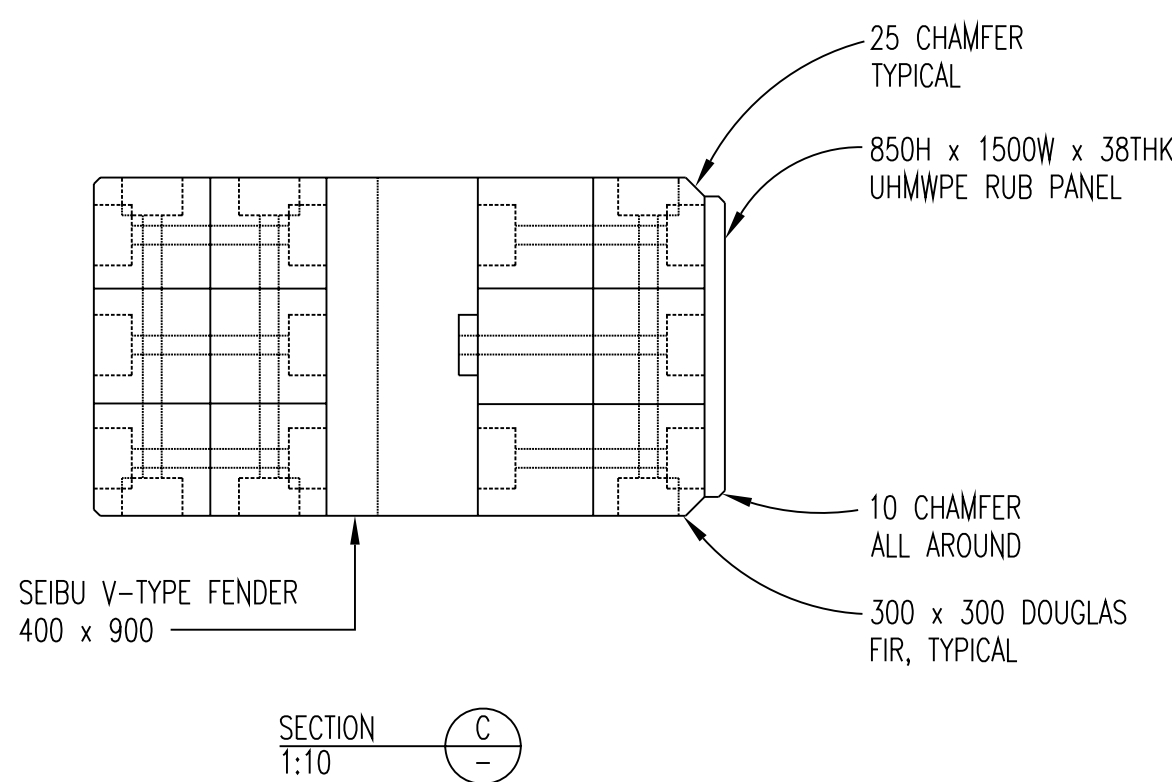
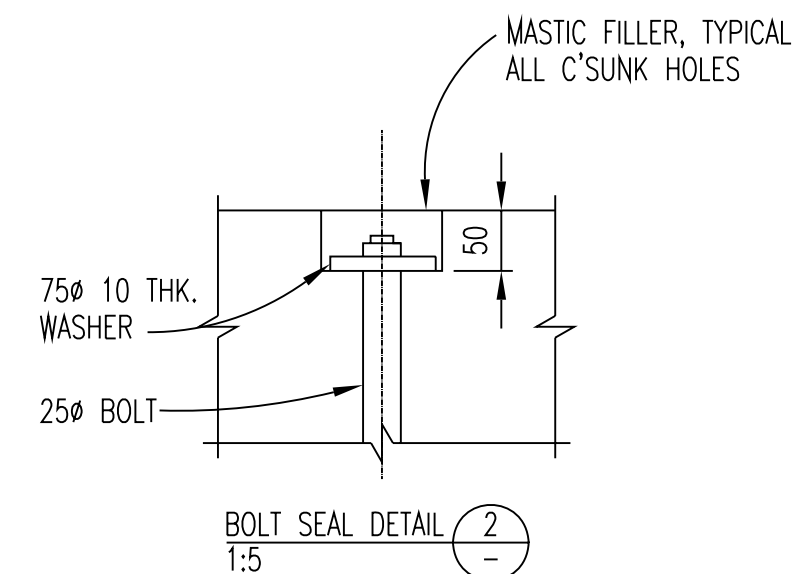


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Last Saved: Aug. 07/07 9:45am Plotted: Feb. 17/12



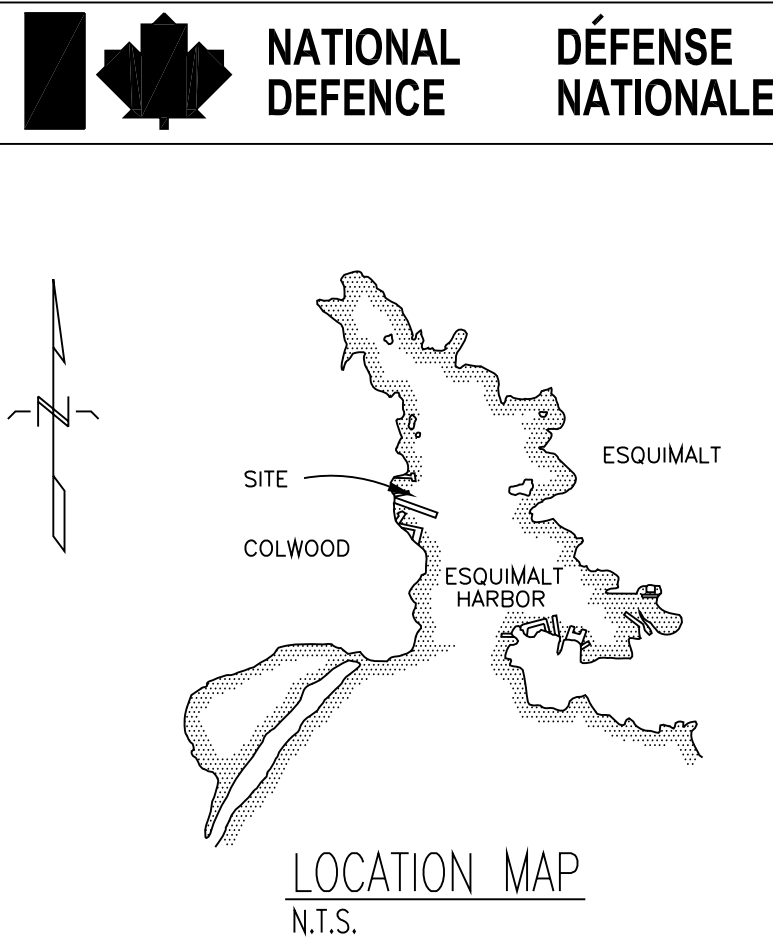
NOTE:

- ONLY ONE SPLICE PERMITTED IN EACH LENGTH OF TIMBER
- STAGGER SPLICES, MIN. 2m SPACING
- MAX ONE THIRD OF TIMBERS SPLICED AT ANY SECTION



NOTES:

1. FOR NOTES, SEE DWG. 205



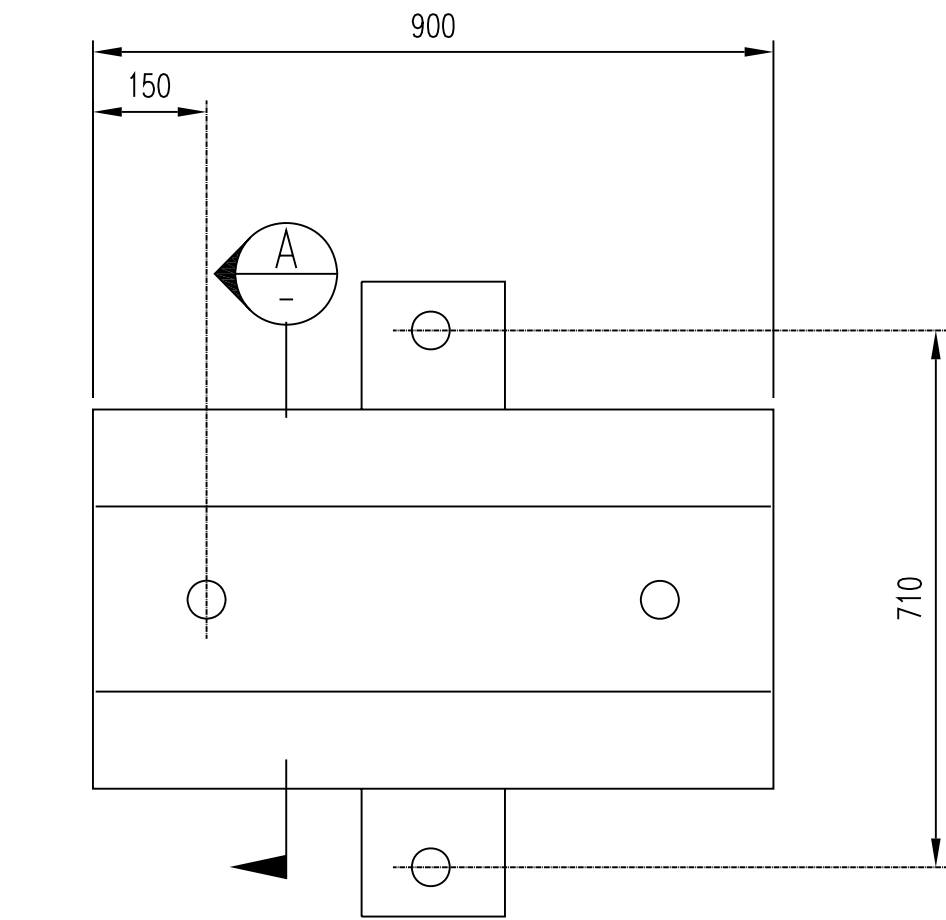
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1	MAR07/06	ISSUED FOR TENDER		MRR
No	DATE	REVISION	REVISION	APPR
SCALE - ÉCHELLE		SHOWN		
PROJECT - PROJET		CFB ESQUIMALT B.C.		
D JETTY				
TRADE - MÉTIER		STRUCTURAL		DATE MAR07/06
SUBJECT - SUJET		FENDER CAMELS		
PRODUCTION		CONCURRENCE - ASSENTIMENT		
DESIGNED ÉTUDE				
DRAWN DESSINÉ		D.YUSISHEN		
CHECKED VÉRIFIÉ				
COORDINATION		APPROVED BY - APPROUVE PAR		
		FSM		
DWG NO. - DESSIN NO.				
C260-5-9502-13-204				
Canada				

PF76-96/97-7754

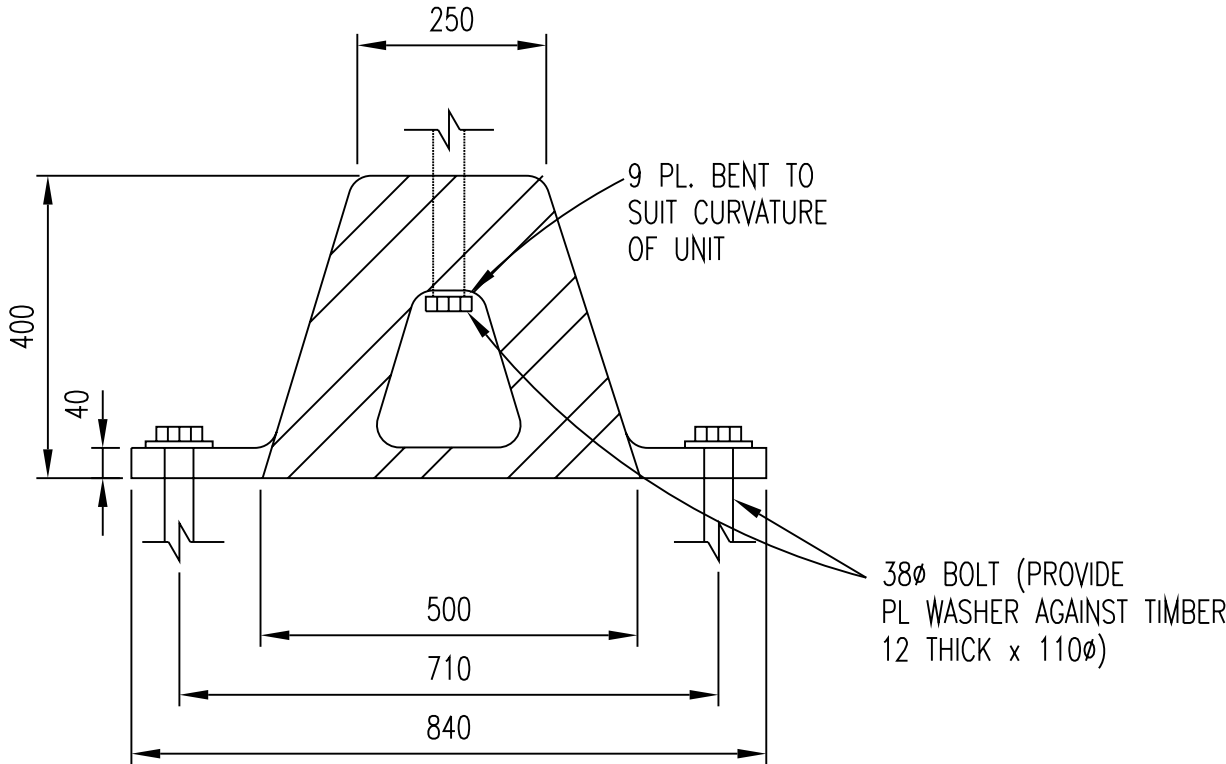
2	APR11/07	AS-BUILT	AJE
1	MAR06/06	ISSUED FOR TENDER	MRR
No	DATE	REVISION	RÉVISION
			APPR

SCALE - ÉCHELLE	SHOWN
PROJECT - PROJET	CFB ESQUIMALT B.C.
	D JETTY
TRADE - MÉTIER	STRUCTURAL
DATE	MAR06/06

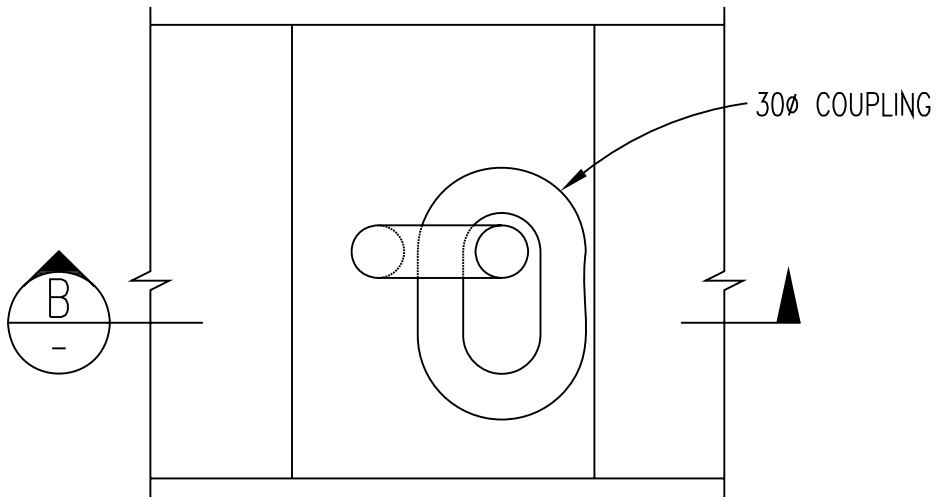
SUBJECT - SUJET		
FENDER CAMEL DETAILS		
PRODUCTION	CONCURRENCE - ASSENTIMENT	
DESIGNED ÉTUDE		
DRAWN DESSINÉ	D.YUSISHEN	
CHECKED VÉRIFIÉ		
COORDINATION	APPROVED BY - APPROUVE PAR	FSM



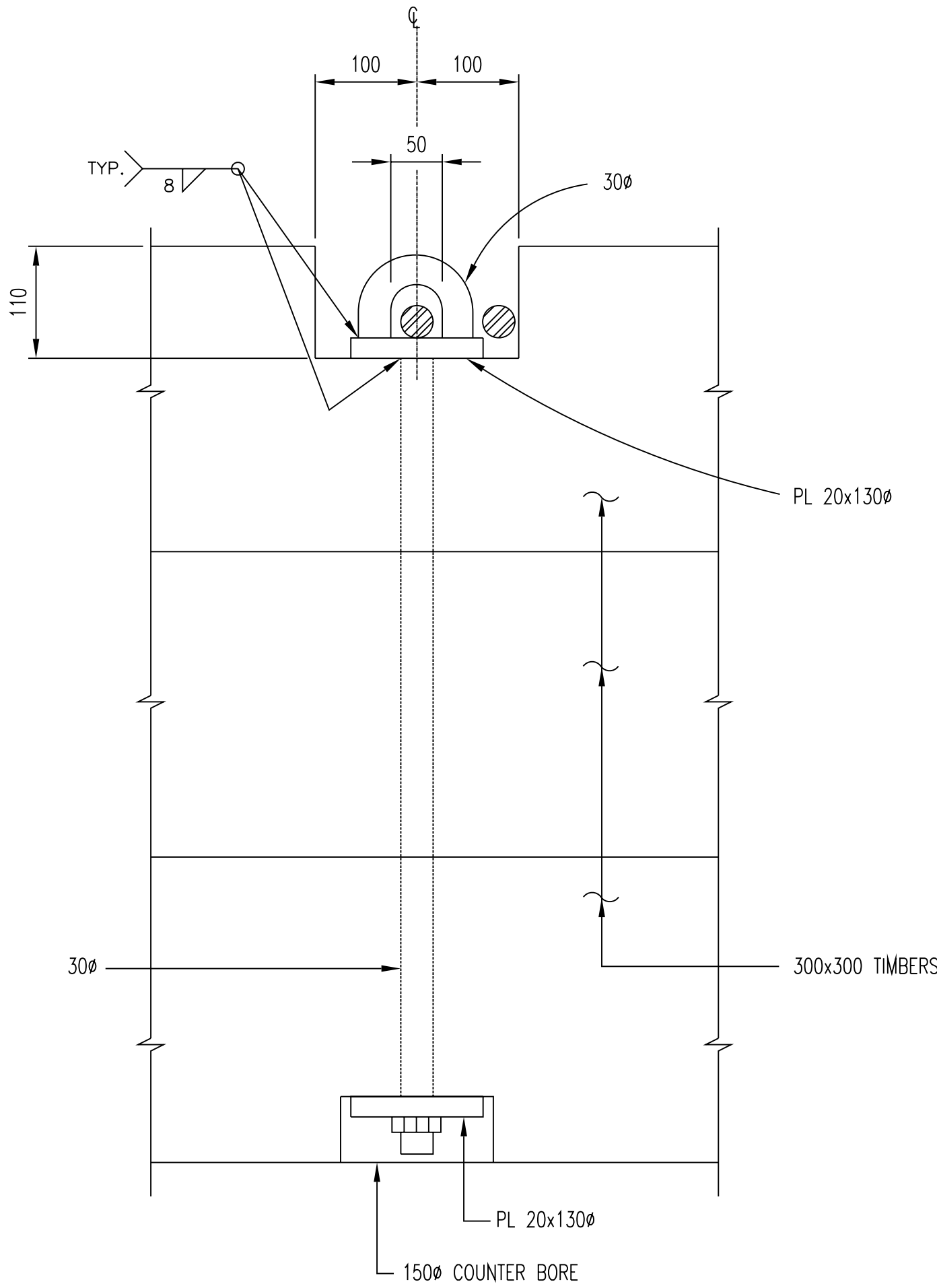
PLAN - V-FENDER  
1:10



SECTION A-A  
1:10



LIFTING EYE BOLT  
DETAIL 1:5  
1/204



SECTION B-B  
1:5

NOTES:

- CREOSOTE TREAT ALL TIMBER AFTER CUTTING AND DRILLING AS REQUIRED FOR FINAL ASSEMBLY WITH 200kg. PER CUBIC METER.
- ALL HARDWARE INCLUDING NUTS, BOLTS, WASHERS, BRACKETS, CHAINS, SHACKLES, AND ANGLES SHALL BE HOT DIPPED GALVANIZED SUITABLE FOR MARINE STRUCTURES.
- ALL TIMBER TO BE DOUGLAS FIR, ROUGH SAWN.
- RUBBING PANELS TO BE FASTENED WITH 12mm x 150mm GALV. LAG BOLTS @ 300mm OC BOTH WAYS. MIN. EDGE DISTANCE TO BE 76mm. COUNTERSINK HOLES TO PROVIDE 12mm CLEARANCE OVERHEAD.