



Public Works and
Government Services
Canada

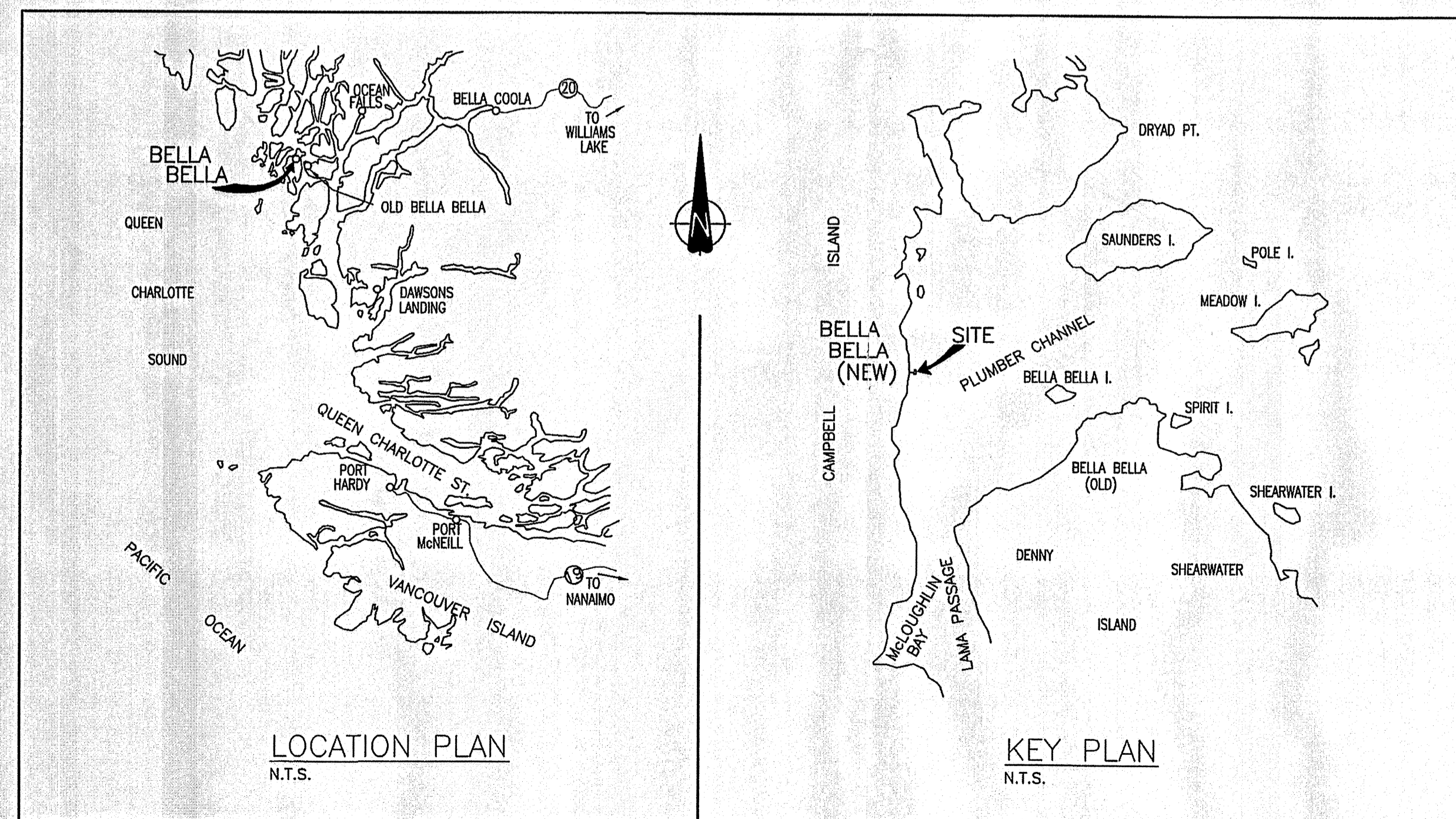
Travaux publics et
Services gouvernementaux
Canada

REAL PROPERTY SERVICES
Pacific Region

SERVICES IMMOBILIERS
Région de Pacifique

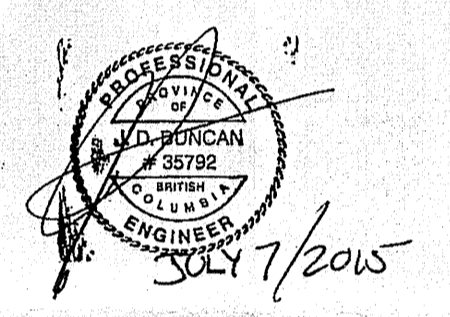
BELLA BELLA WHARF RESTORATION TRANSPORT CANADA HARBOURS AND PORTS

Project No. R.064106.001



Public Works and
Government Services
Canada
REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Région de Pacifique

HEROLD
ENGINEERING LIMITED
Consulting Engineers
3701 Shenton Rd, Nanaimo, BC V9T 2H1
Tel: 250-751-8558 Fax: 250-751-8559
Email: mail@heroldengineering.com PROJ | 2428-063



5		
4		
3	RE-ISSUED FOR TENDER	2015/07/07
2	ISSUED FOR TENDER	2014/05/15
1	ISSUED FOR 99% REVIEW	2014/02/20
0	ISSUED FOR 30% REVIEW	2013/11/21
Revisions/Revisions	Description/Description	Date/Date

Client/client
**TRANSPORT CANADA
HARBOURS AND PORTS**

800 BARRARD ST
VANCOUVER, B.C.

Project title/Titre du projet

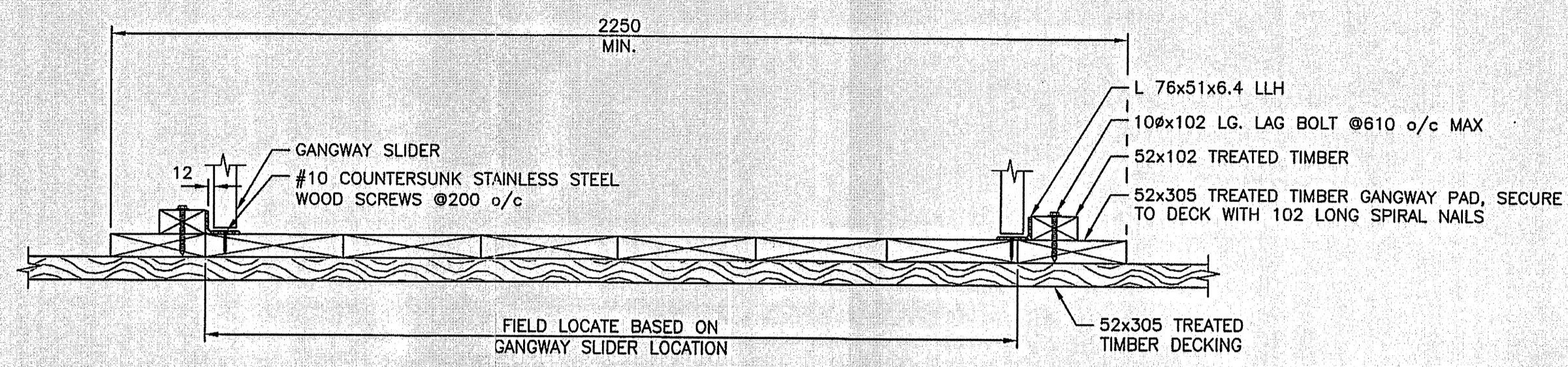
**BELLA BELLA
WHARF RESTORATION**

Consultant Signature Only
Designed by/Consept par
T.M.W.
Drawn by/Dessiné par
PHU NOV 2015
PWSC Project Manager/Administrateur de Projets TPWSC
JIMMY WONG
Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPWSC

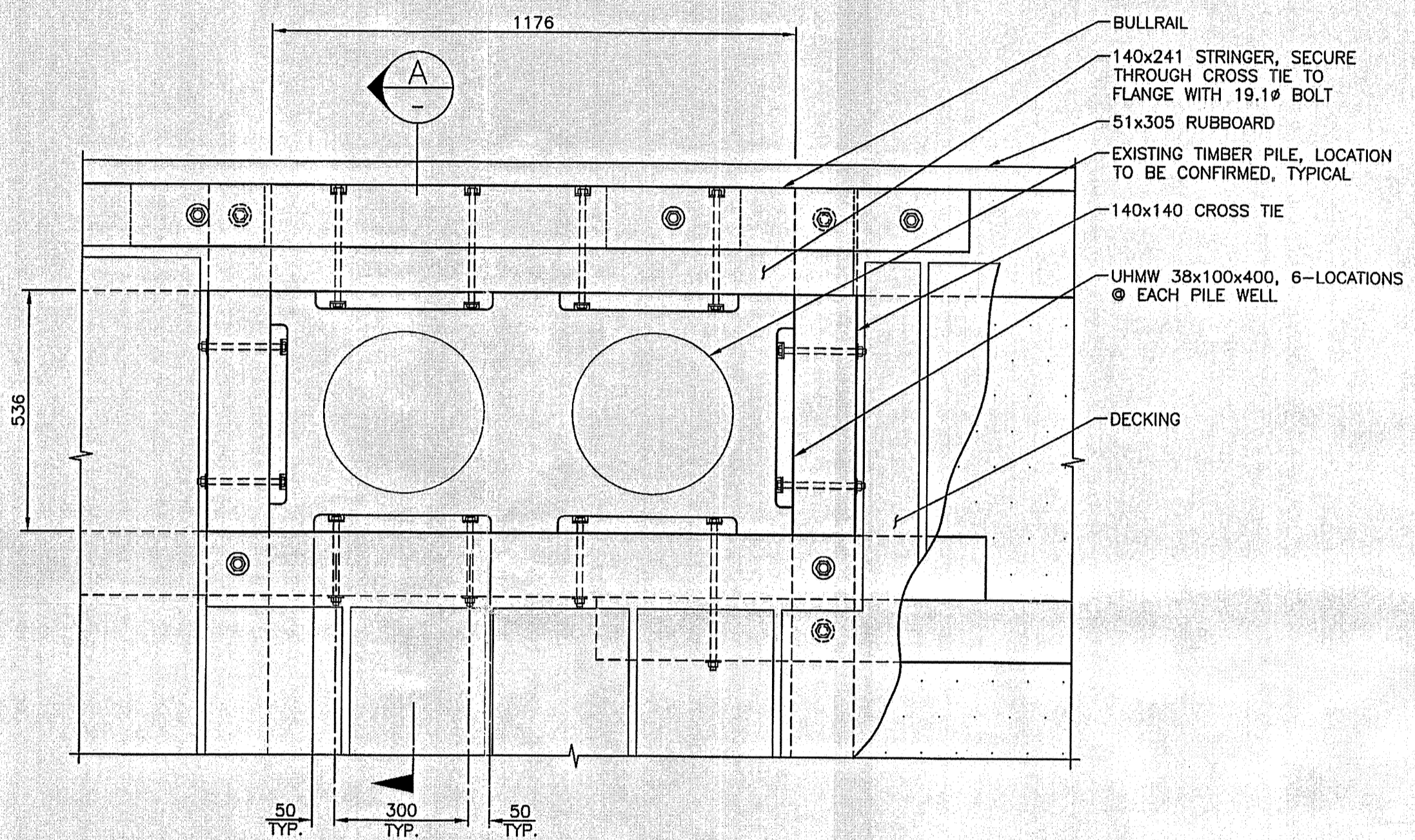
Drawing title/Titre du dessin
TITLE SHEET

Project No./No. du projet
R.064106.001
Sheet/Feuille
01
OF 9
Revision no./
Le Révision
no.
2

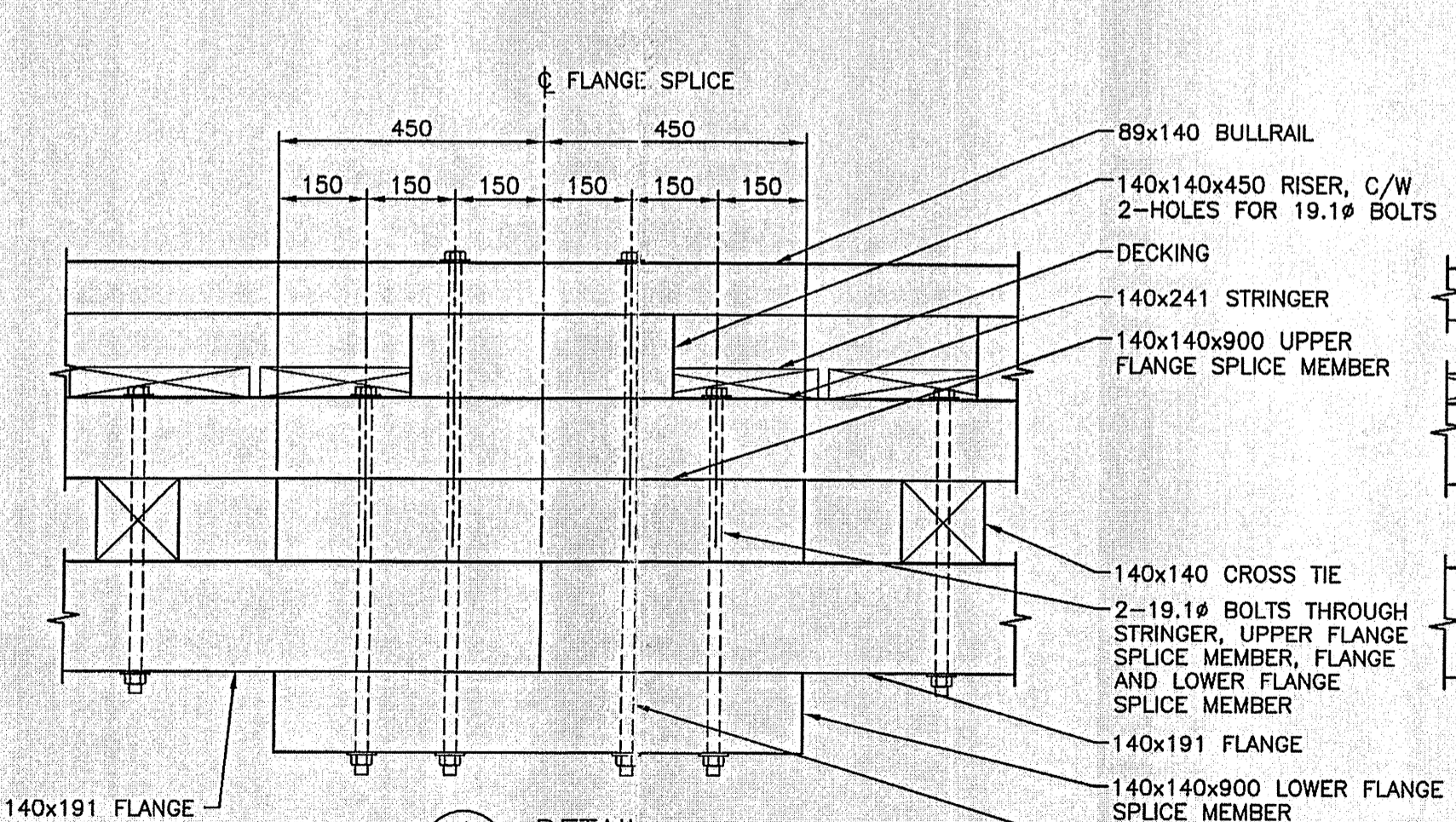




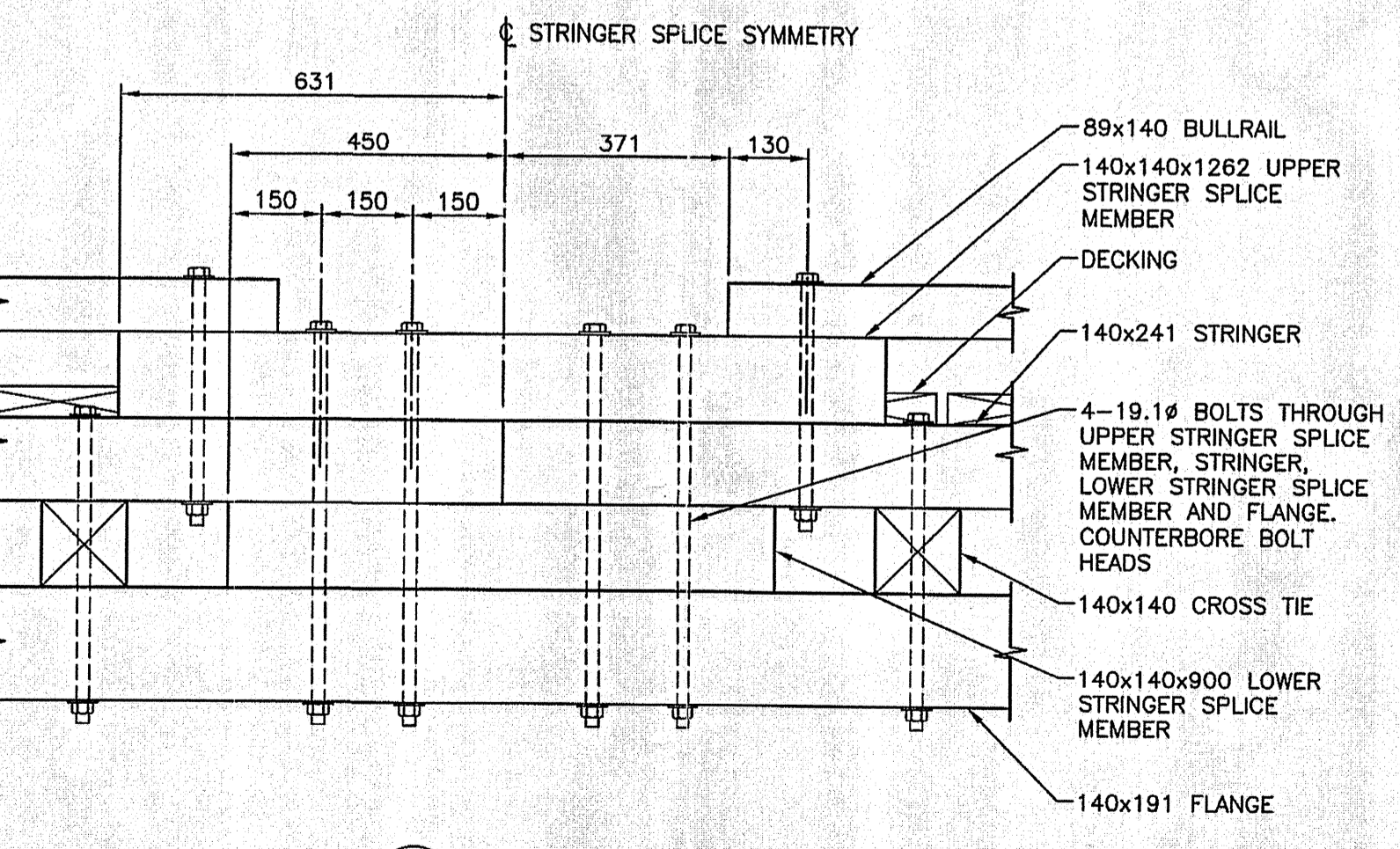
5
08
1:10
NOTE: FLOAT FRAMING NOT SHOWN
DETAIL - GANGWAY PAD & GUIDES



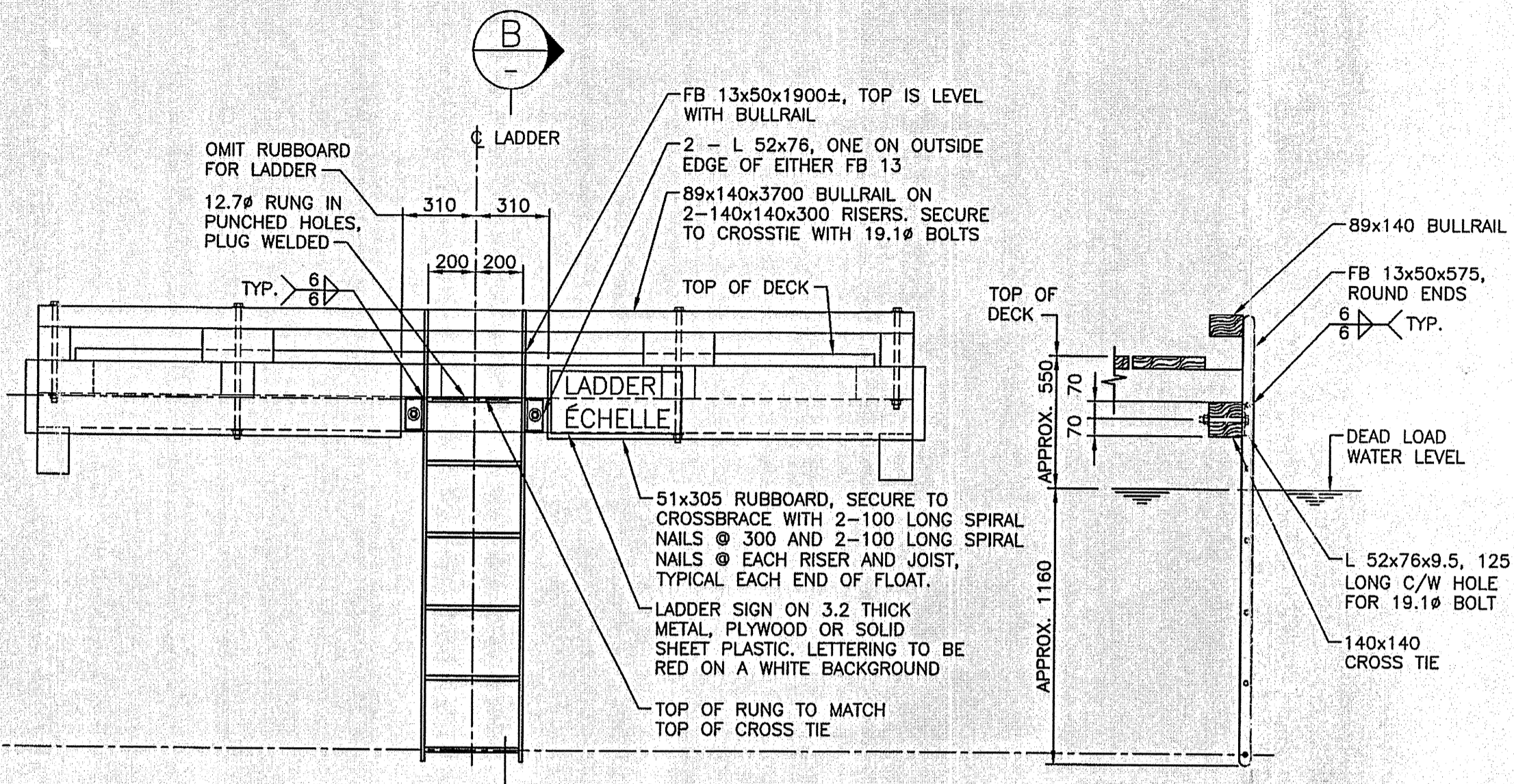
3
08
1:10
PILE WELL GUARD TIMBERS NOT SHOWN
DETAIL - MOORING WELL



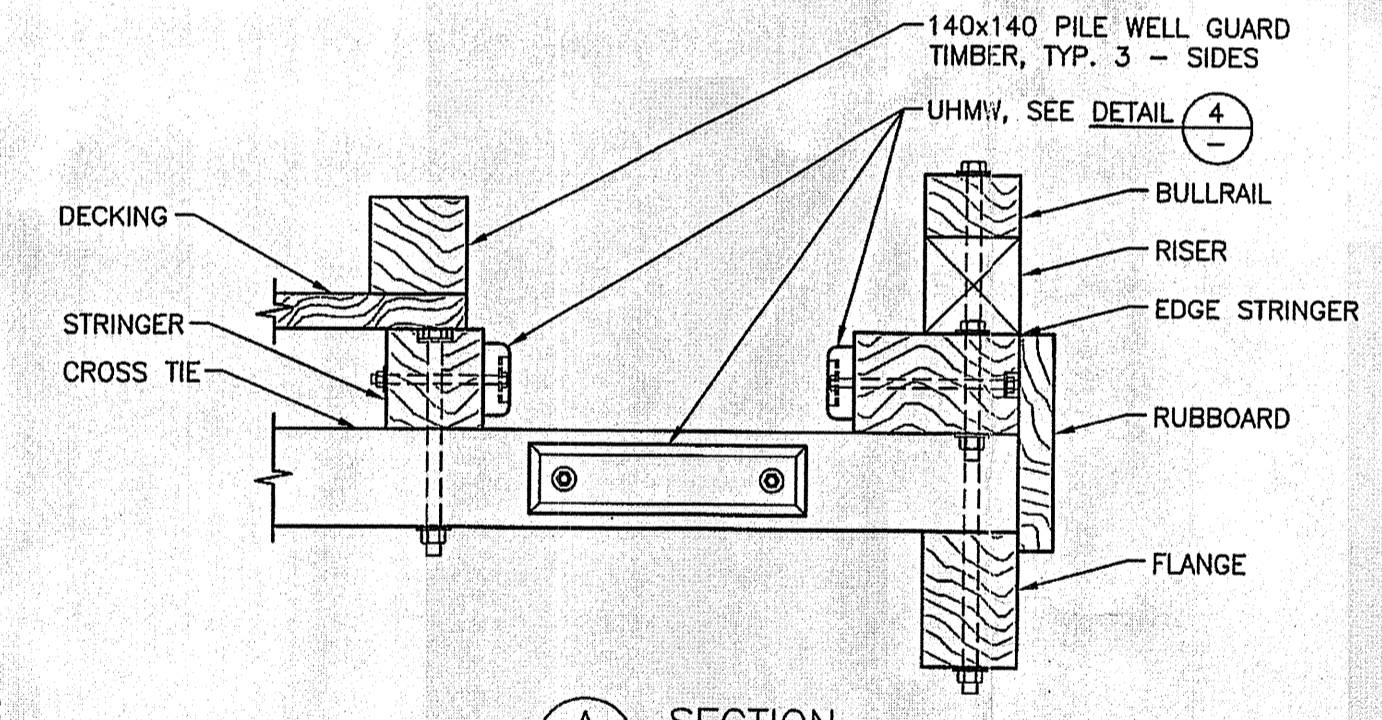
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1:10
NOTE: RUBBOARD NOT SHOWN FOR CLARITY.



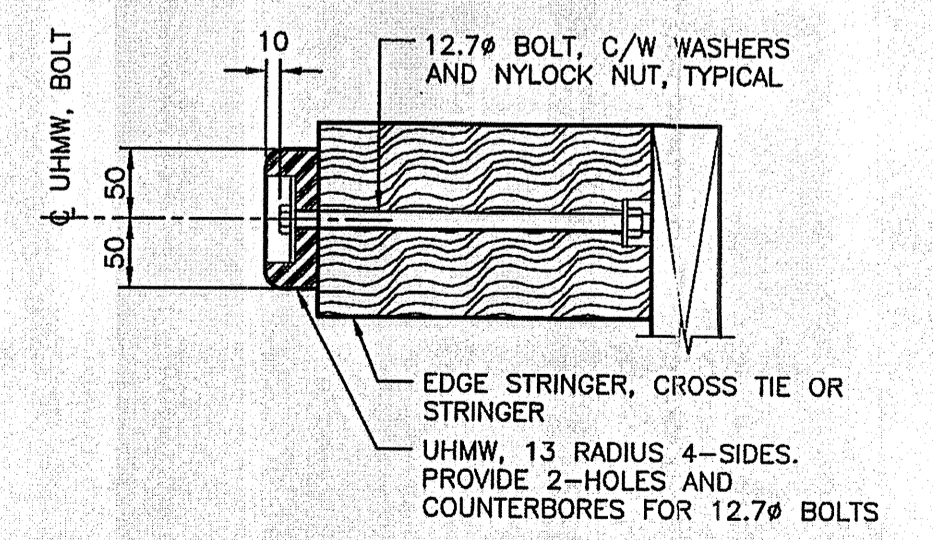
2
08
1:10
NOTE: RUBBOARD NOT SHOWN FOR CLARITY.



VIEW E
1:20
NOTE: ENTIRE LADDER ASSEMBLY TO BE HOT DIPPED GALVANIZED.



A SECTION
1:10
NOTE: PILE NOT SHOWN FOR CLARITY.



4
1:5

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES / Services Immobiliers
Pacific Region / Région de Pacifique

HEROLD ENGINEERING LIMITED
Consulting Engineers

3701 Shenton Rd, Nanaimo, BC V9T 2H1
Tel: 250-751-8558 Fax: 250-751-8559
Email: mail@heroldengineering.com PROJ# 242-063

PROCESSED BY
J.D. DUNCAN
REGISTERED PROFESSIONAL ENGINEER
SULY 7, 2015

6		
4		
3	RE-ISSUED FOR TENDER	2016/07/07
2	ISSUED FOR TENDER	2014/05/15
1	ISSUED FOR 90% REVIEW	2014/02/20
0	ISSUED FOR 50% REVIEW	2013/11/01
Revision/	Description/Description	Date/Date

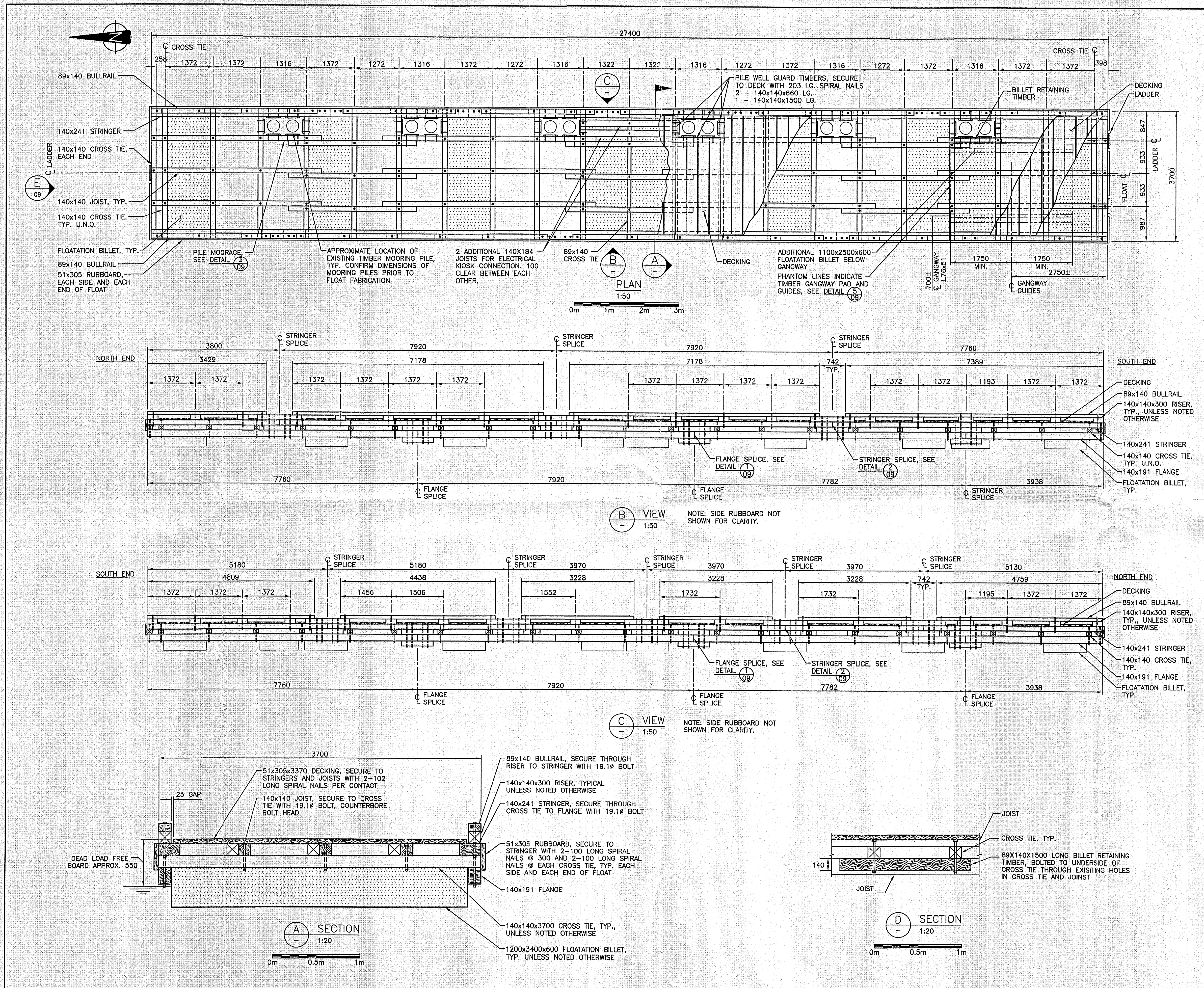
Client/client
**TRANSPORT CANADA
HARBOURS AND PORTS**
800 BARRARD ST
VANCOUVER, B.C.

Project title/Titre du projet
**BELLA BELLA
WHARF RESTORATION**

Consultant Signature Only
Designed by/Concept par
T.M.W.
Drawn by/Dessiné par
P.H.U. OCT 2013
PWSG: Project Manager/Administrateur de Projets TPSSG
JIMMY WONG
Regional Manager, Architectural and Engineering Services
Gestionnaire régional, Services d'architecture et de génie, TPSSG

Drawing title/Titre du dessin
**FLOAT 'A'
REPLACEMENT
SHEET 2**

Project No./No. du projet	Sheet/Fauille	Revision no./Loi Révision
R.064106.001	09 OF 09	2



Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Région de Pacifique

HEROLD ENGINEERING LIMITED
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Email: mail@heroldengineering.com PROJECT / 2428-003

PROFESSIONAL ENGINEER
J. A. DUNN
JULY 7, 2015

6		
4		
3	ISSUED FOR TENDER	20140807
2	ISSUED FOR TENDER	20140515
1	ISSUED FOR RFP REVIEW	20140509
0	ISSUED FOR 20% REVIEW	20140101
Revision/Évaluation	Description/Description	Date/Date

TRANSPORT CANADA
HARBOURS AND PORTS

800 BARRARD ST
VANCOUVER, B.C.

Project title/Titre du projet

BELLA BELLA
WHARF RESTORATION

Consultant Signature Only

Designed by/Concept par
TMW

Drawn by/Dessiné par
PHU OCT 2013

PWSC Project Manager/Administrateur de Projets TPSC
JIMMY WONG

Regional Manager, Architectural and Engineering Services
Géraliste régionale, Services d'architectural et de génie, TPSC

Drawing title/Titre du dessin

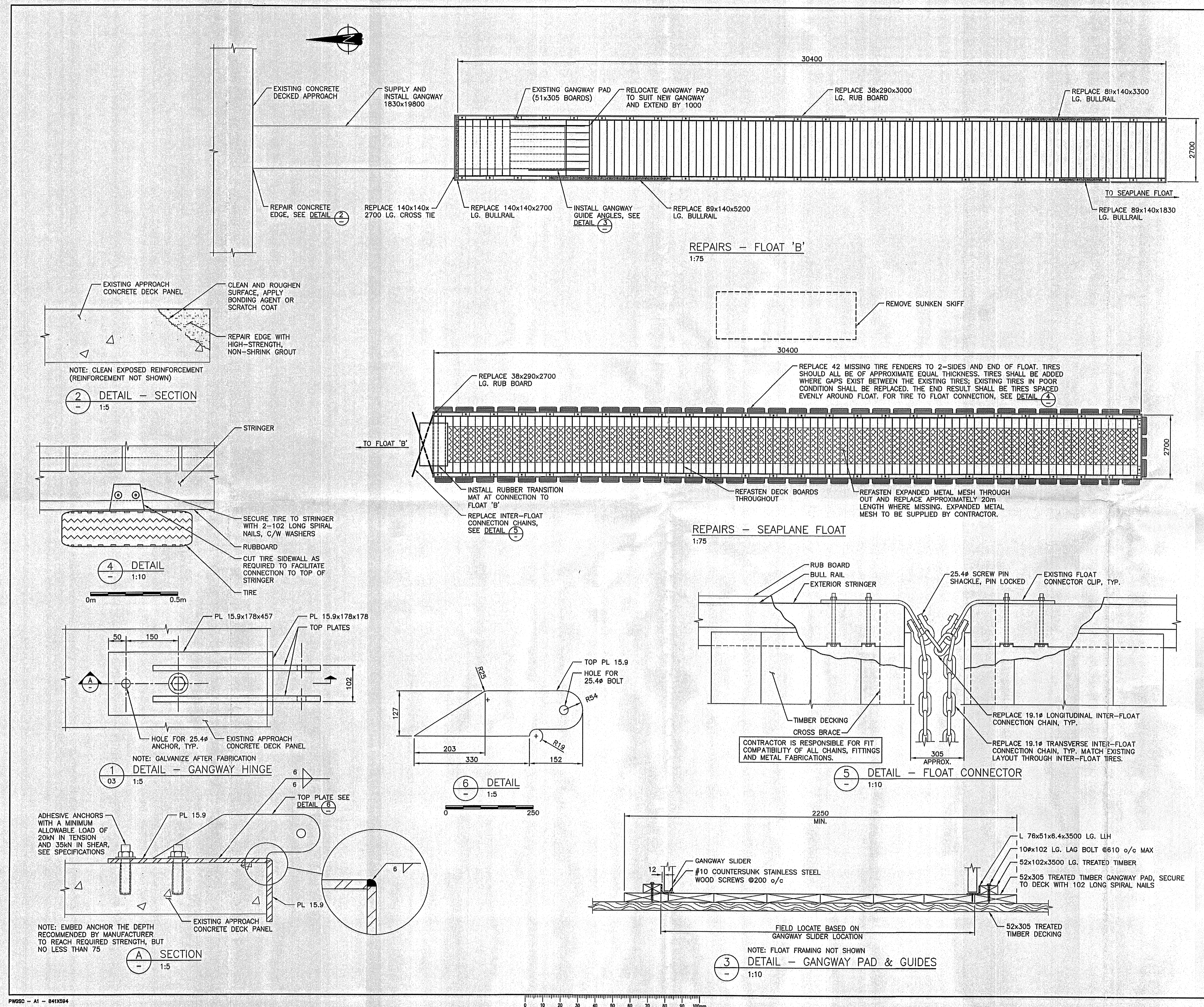
FLOAT 'A'
REPLACEMENT
SHEET 1

Project No./No. du projet
R.064106.001

Sheet/Feuille
08
OF 09

Revision no./La Révision no.
2

PROFESSIONAL ENGINEER
 J.D. BUNYAN
 3027 7, 2015



Revision/Revised	Description/Description	Date/Date
6		
4		
3	RE-ISSUED FOR TENDER	2016/07/07
2	ISSUED FOR TENDER	2014/05/15
1	ISSUED FOR 90% REVIEW	2014/02/20
0	ISSUED FOR 30% REVIEW	2013/11/21

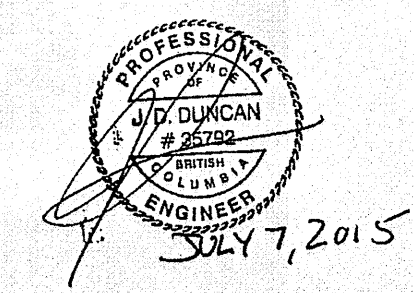
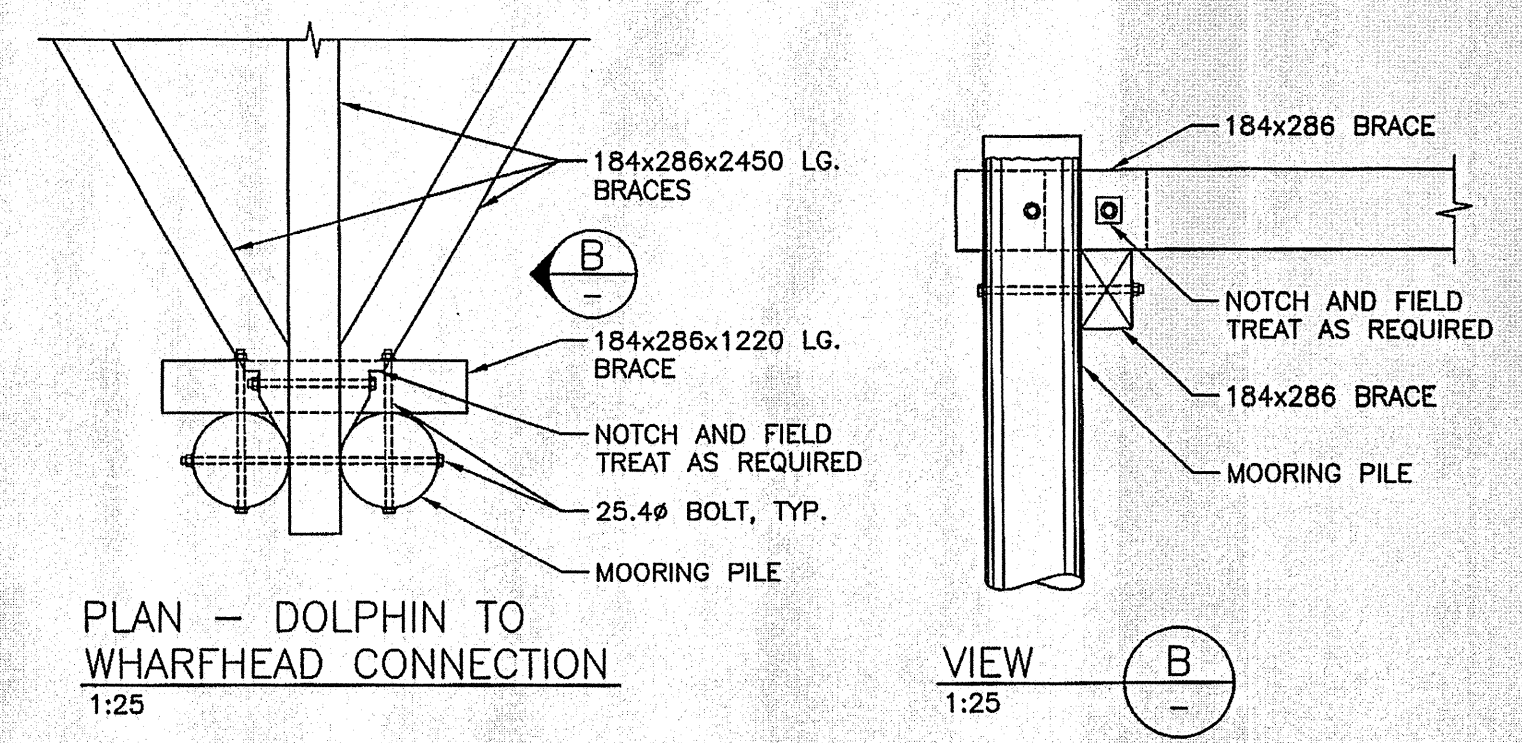
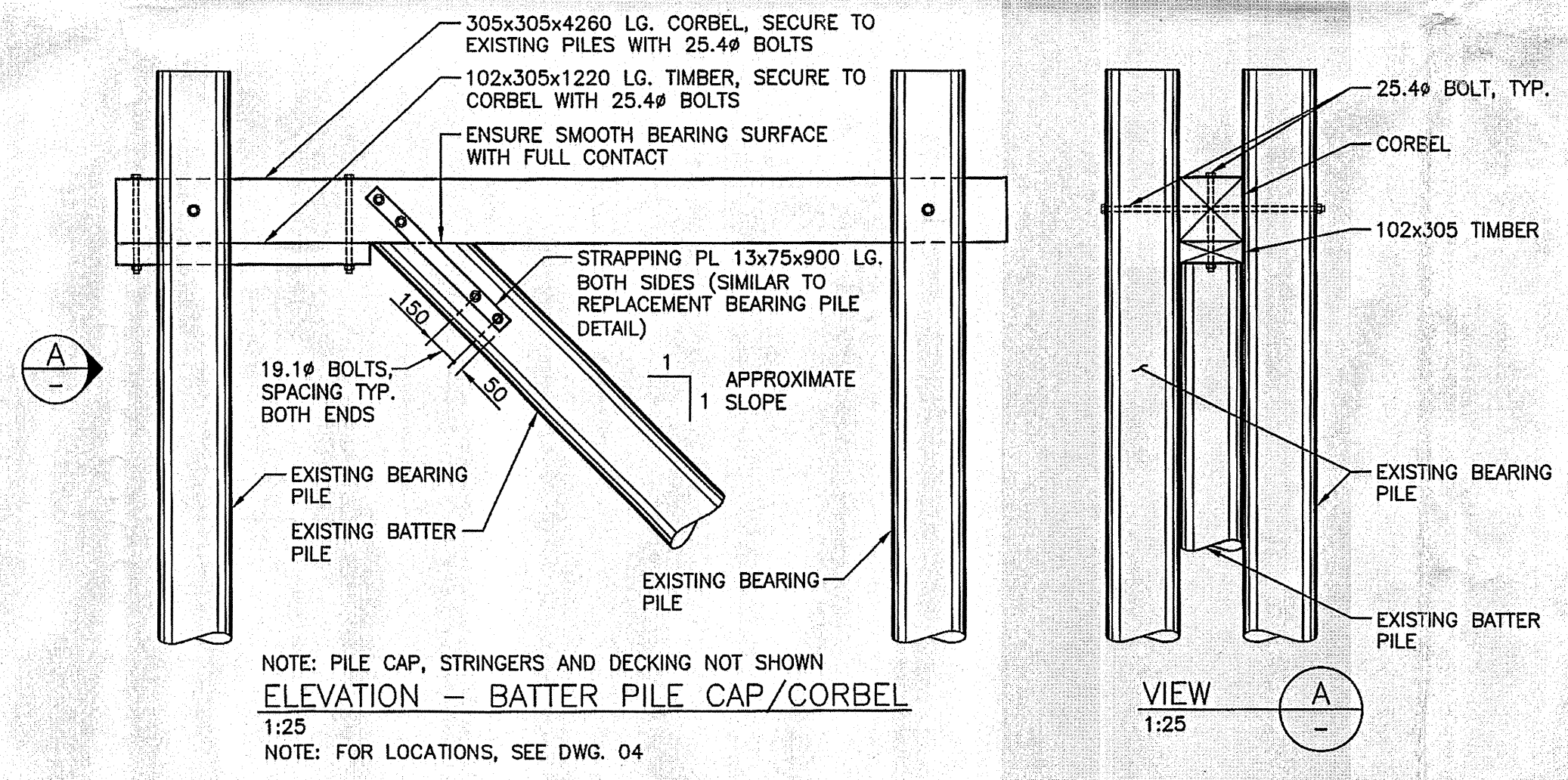
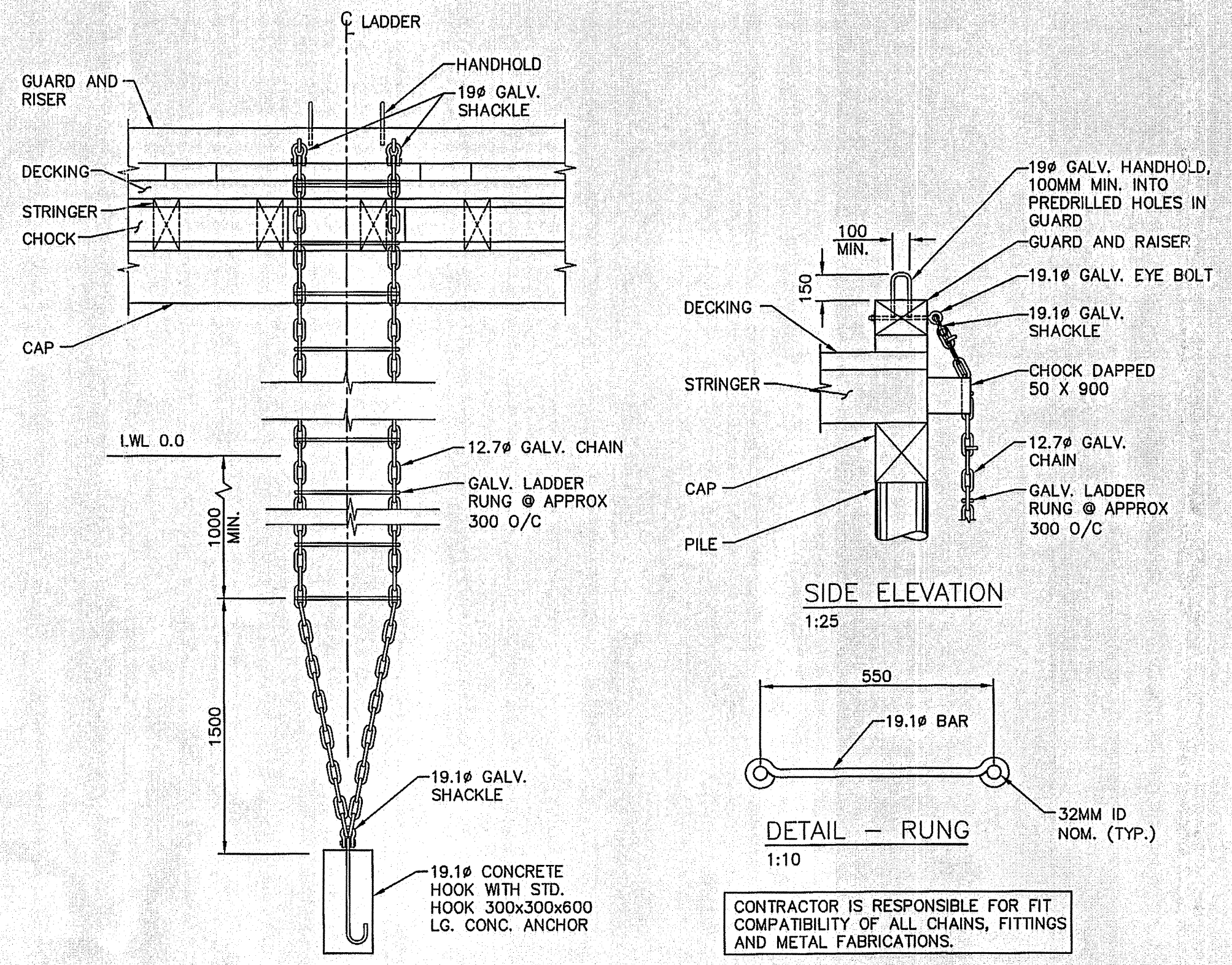
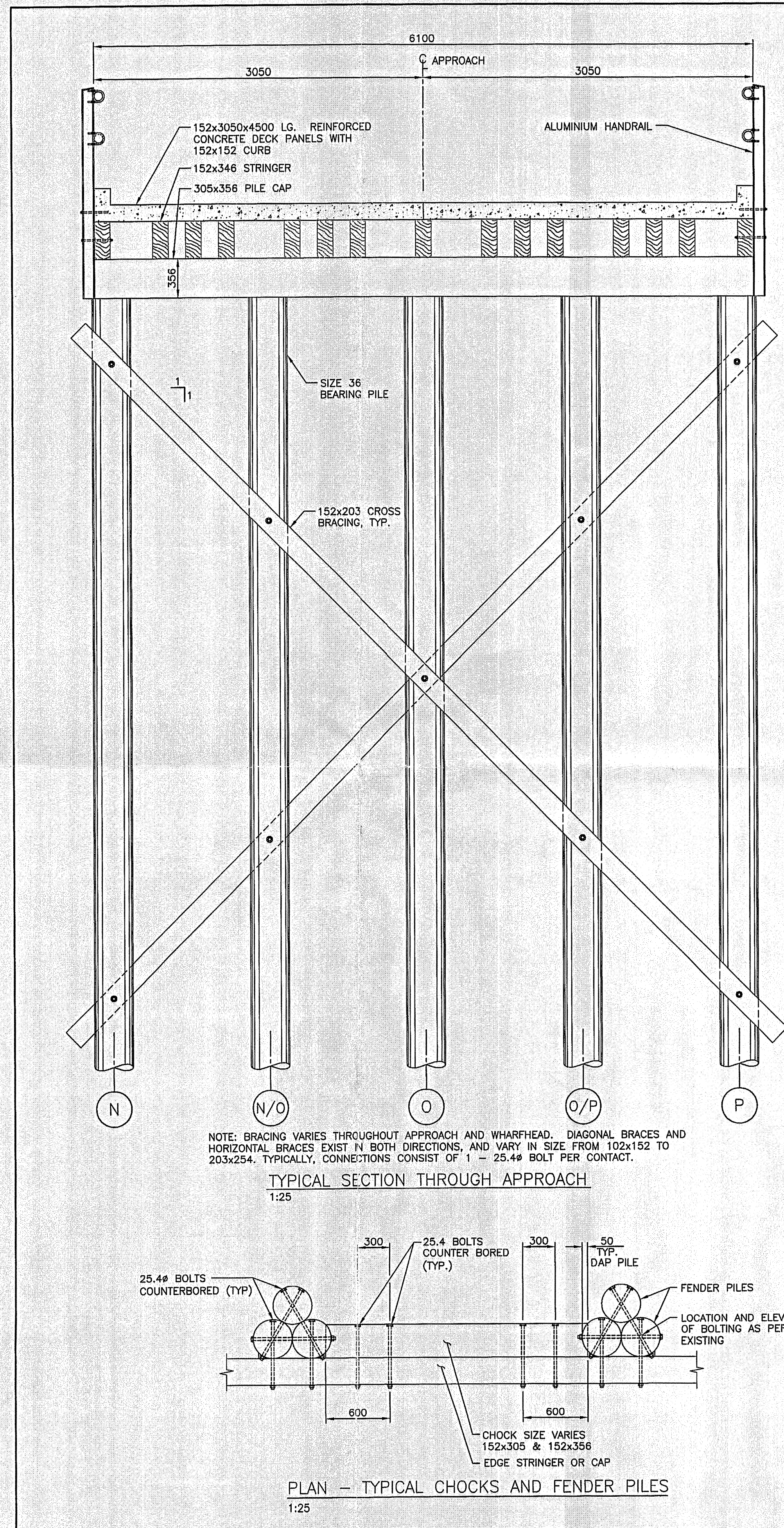
TRANSPORT CANADA
HARBOURS AND PORTS
 800 BURREARD ST
 VANCOUVER, B.C.

Project title/Titre du projet
BELLA BELLA WHARF RESTORATION

Consultant Signature Only
 Designed by/Concept par
 TMW
 Drawn by/Dessiné par
 PHU OCT 2013
 PWSC Project Manager/Administrateur de Projets TPSC
JIMMY WONG
 Regional Manager, Architectural and Engineering Services
 Gestionnaire régional, Services d'architecture et de génie, TPSC

Drawing title/Titre du dessin
FLOAT 'B' AND SEAPLANE FLOAT REPAIR LOCATION PLAN AND REPAIR DETAILS

Project No./No. du projet
R.064106.001
 Sheet/Feuille
07
 OF 09
 Revision no./La Révision no.
2



Revision/Revisions	Description/Description	Date/Date
5		
4		
3	RE ISSUED FOR TENDER	20160927
2	ISSUED FOR TENDER	20160218
1	ISSUED FOR 80% REVIEW	20140902
0	ISSUED FOR 35% REVIEW	20131201

Client/client

TRANSPORT CANADA
HARBOURS AND PORTS

800 BURREAD ST
VANCOUVER, B.C.

Project title/Titre du projet

BELLA BELLA
WHARF RESTORATION

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Designed by/Concept par
TMW

Drawn by/Dessiné par
PHU OCT 2013

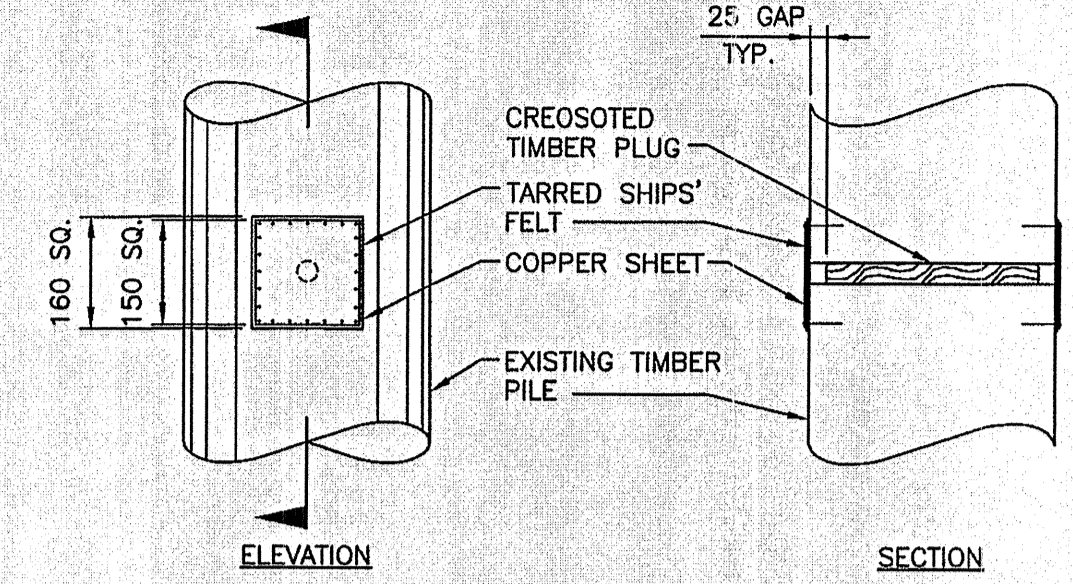
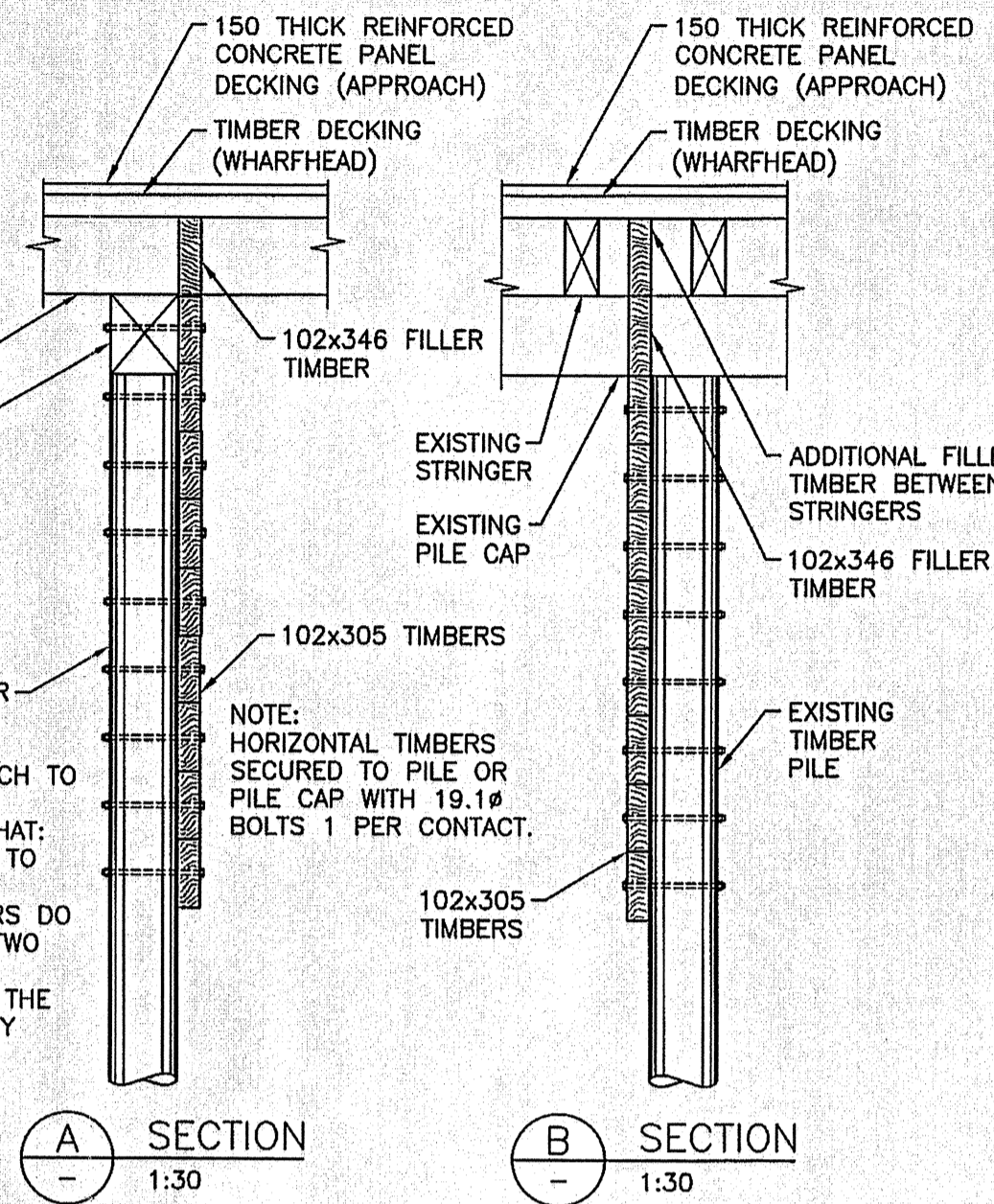
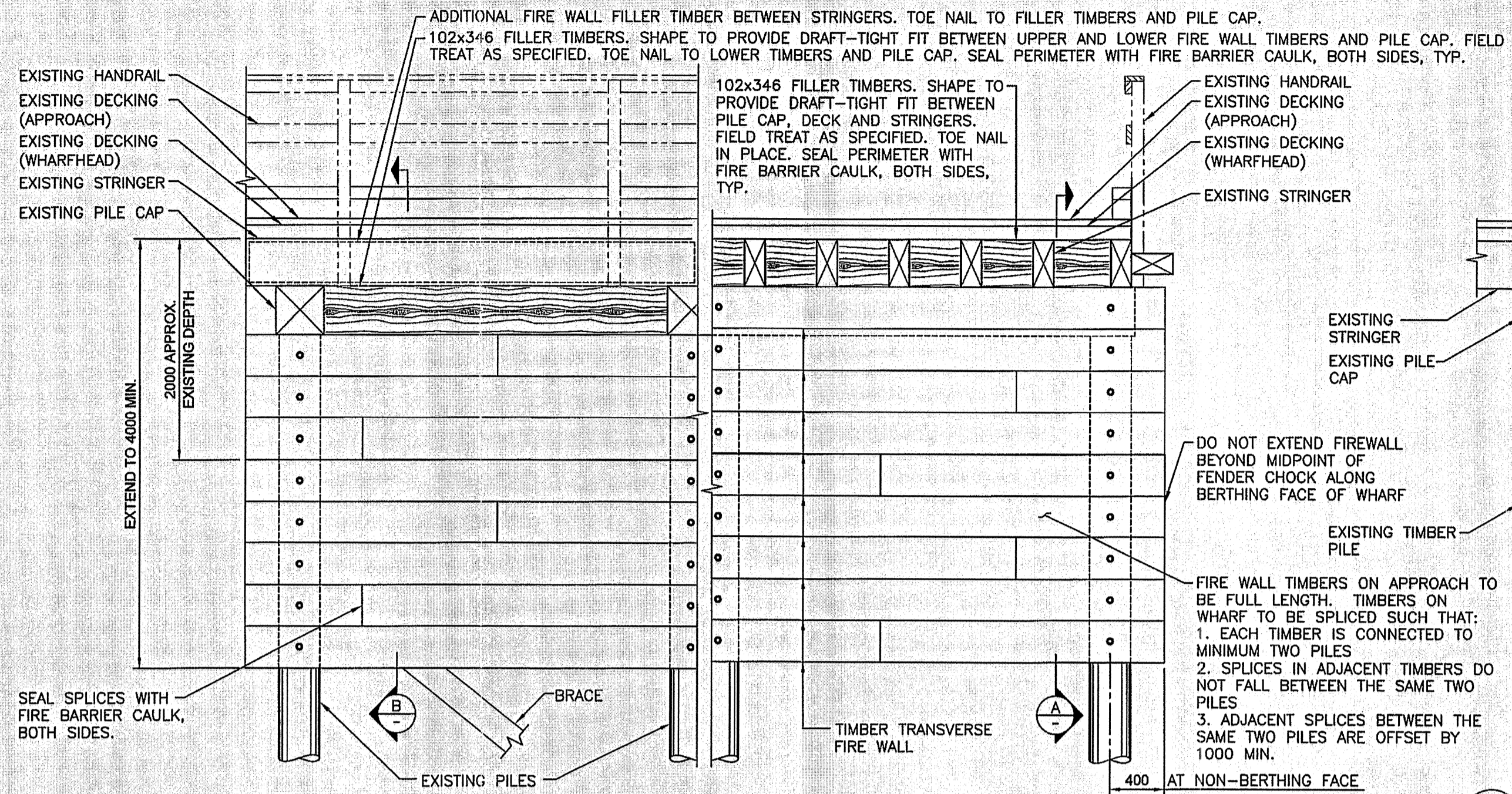
PWOSC Project Manager/Administrateur de Projets TPSSC
JIMMY WONG

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, services d'architectural et de génie, TPSSC

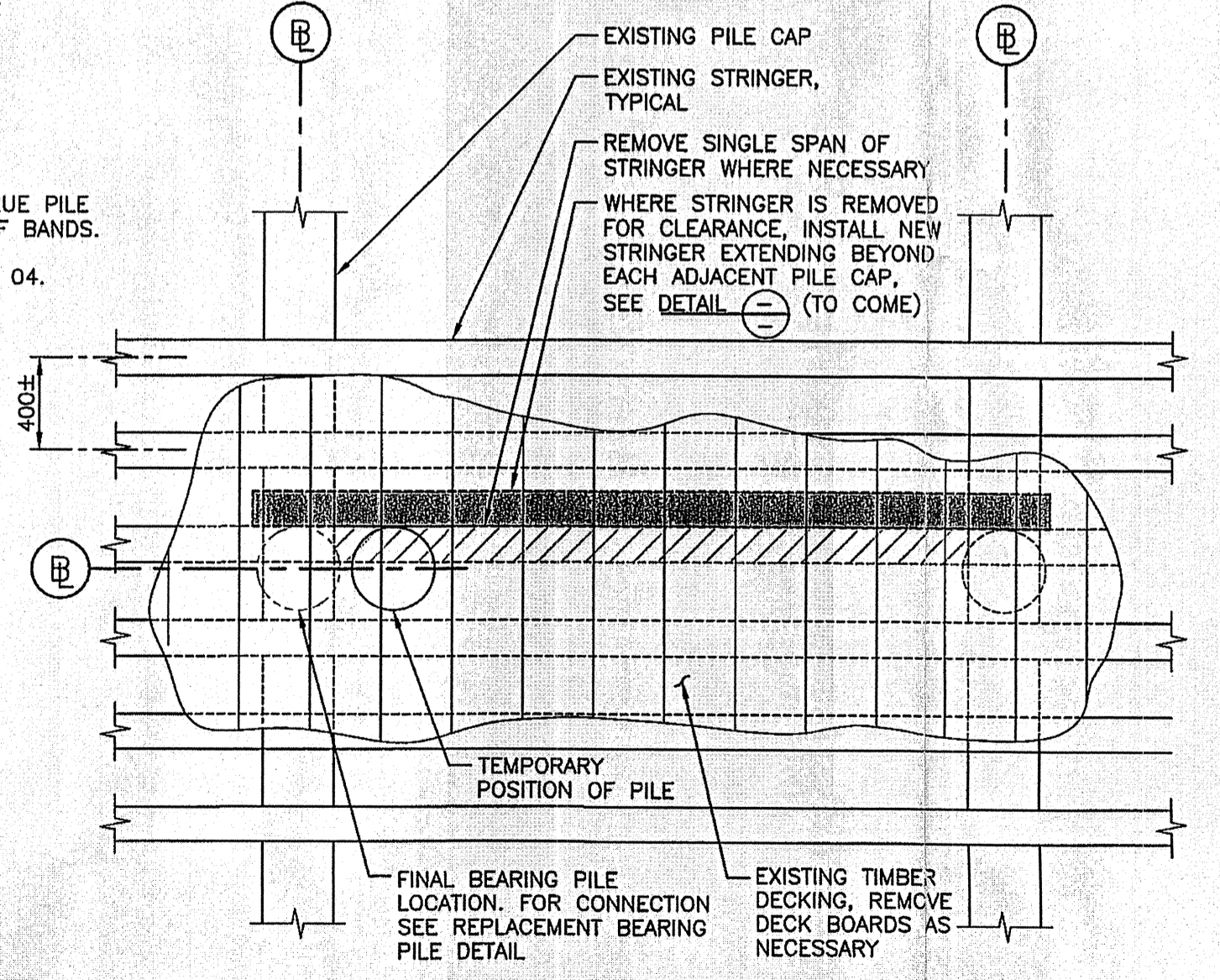
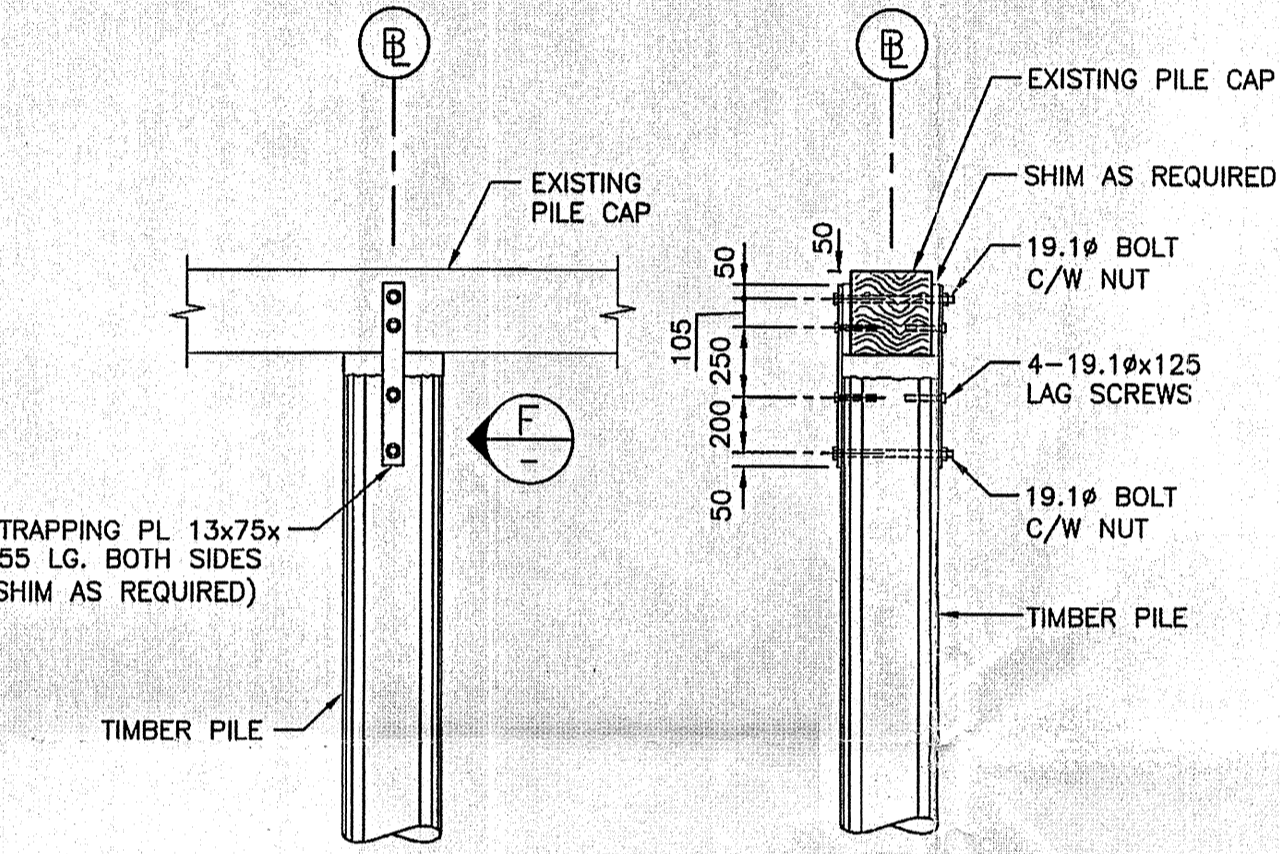
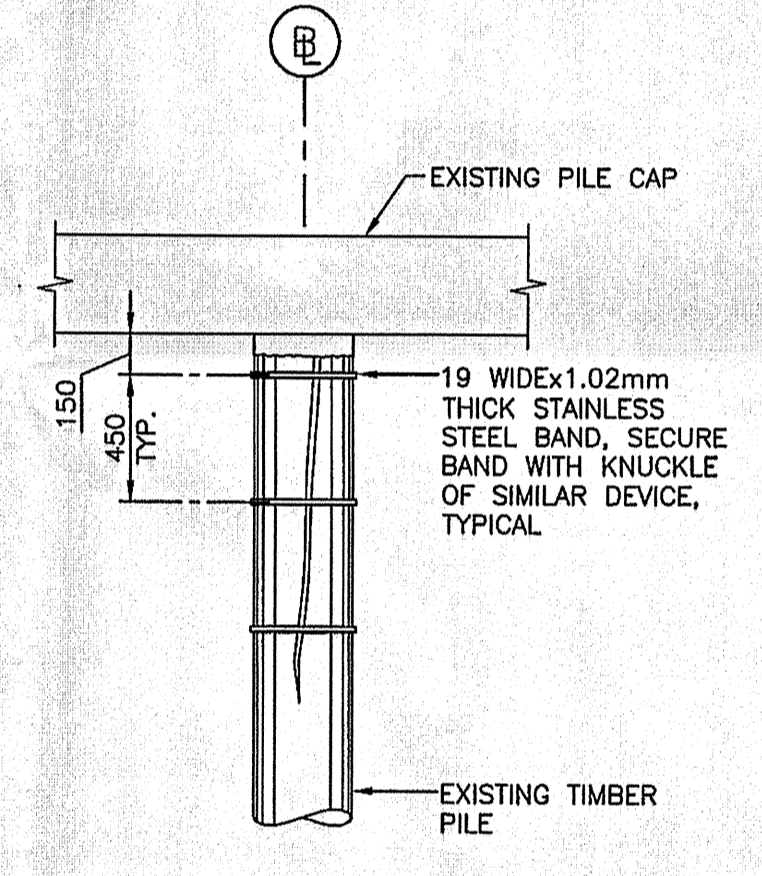
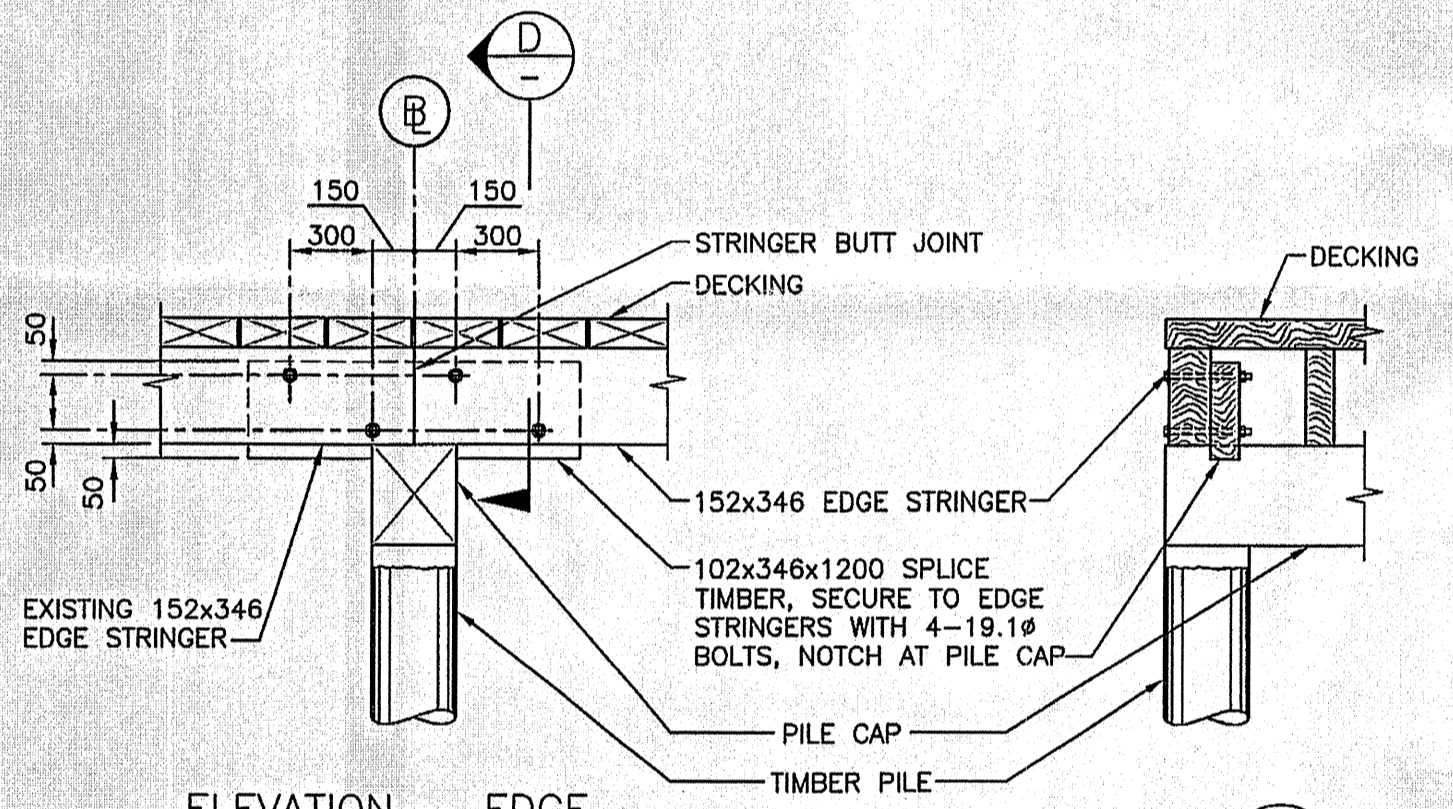
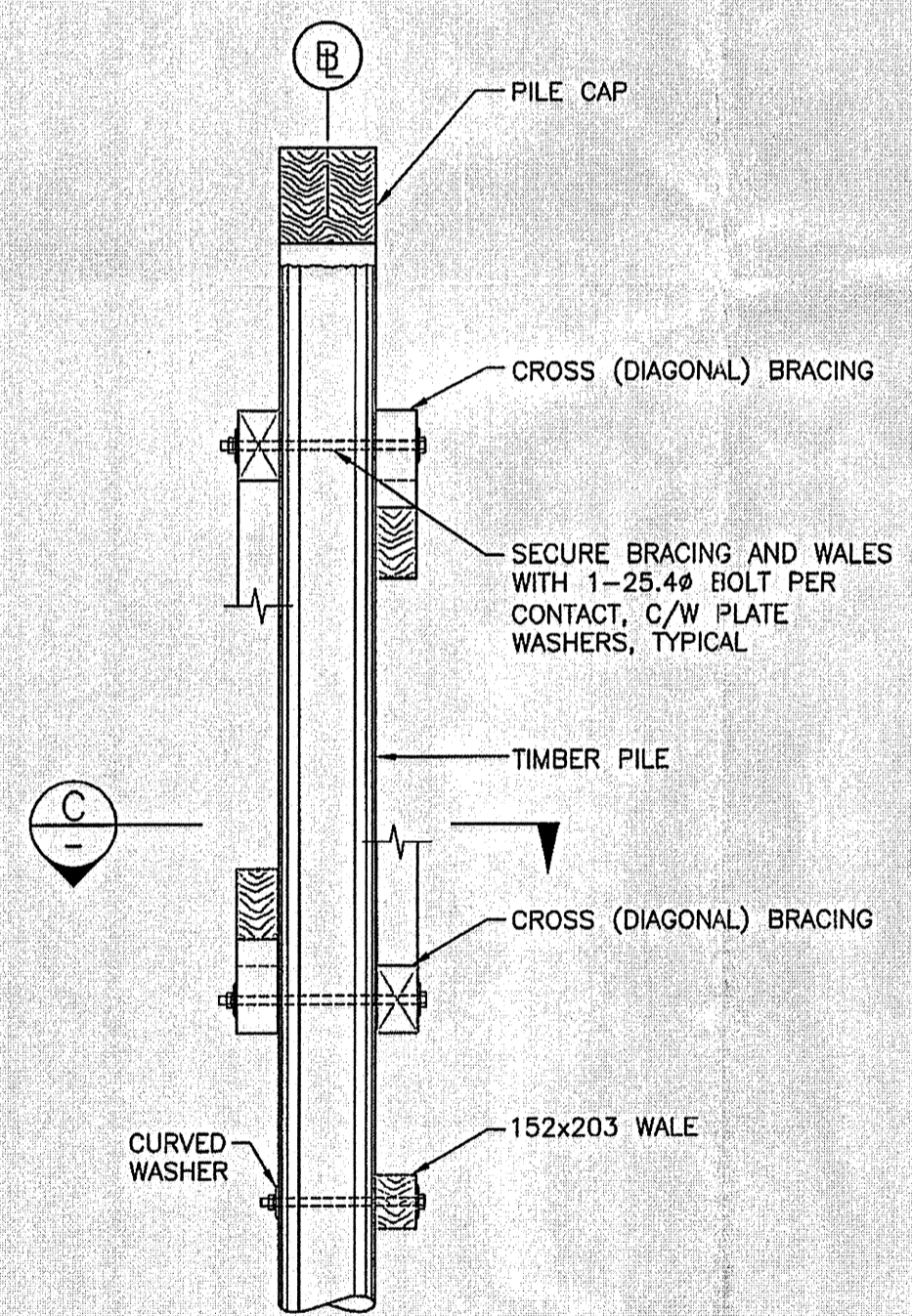
Drawing title/Titre du dessin

APPROACH AND WHARFHEAD
REPAIRS DETAILS SHEET 2

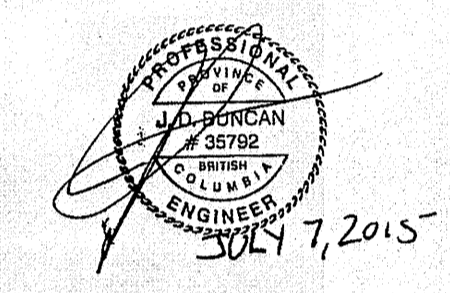
Project No./No. du projet	Sheet/Fauille	Revision no./La Révision no.
R.064106.001	06 OF 09	2



- TREAT HOLE WITH CREOSOTE.
- PLUG HOLE WITH TIGHT-FITTING CREOSOTED TIMBER PLUG.
- PATCH BOTH ENDS OF HOLE WITH FIBERGLASS-REINFORCED ROOF PATCHING COMPOUND.
- COVER BOTH ENDS OF HOLE WITH 150x150 PATCH OF TARRER SHIPS' FELT. COVER BOTH ENDS OF HOLE WITH 150x150 PATCH OF 3mm HARD OR ANNEALED COPPER SHEET OVER SHIPS' FELT AND SECURE EACH SIDE WITH 38 LONG COPPER OR SILICON-BRONZE BOAT NAILS SPACED 25 APART AROUND THE PERIMETER



- NOTES:
1. REMOVE MINIMUM AREA OF TIMBER DECKING AS REQUIRED TO PERMIT PILE REMOVAL AND INSTALLATION.
2. AVOID CUTTING EXISTING TREATED STRINGERS.
3. IF DECKING IS DAMAGED DURING REMOVAL REPLACE IN KIND.



Revision/	Description/Description	Date/Date
5		
4		
3	RE-ISSUED FOR TENDER	20140707
2	ISSUED FOR TENDER	20140515
1	ISSUED FOR RFP REVIEW	20140520
0	ISSUED FOR RFP REVIEW	20131121

Client/client: **TRANSPORT CANADA HARBOURS AND PORTS**
800 BARRARD ST VANCOUVER, B.C.

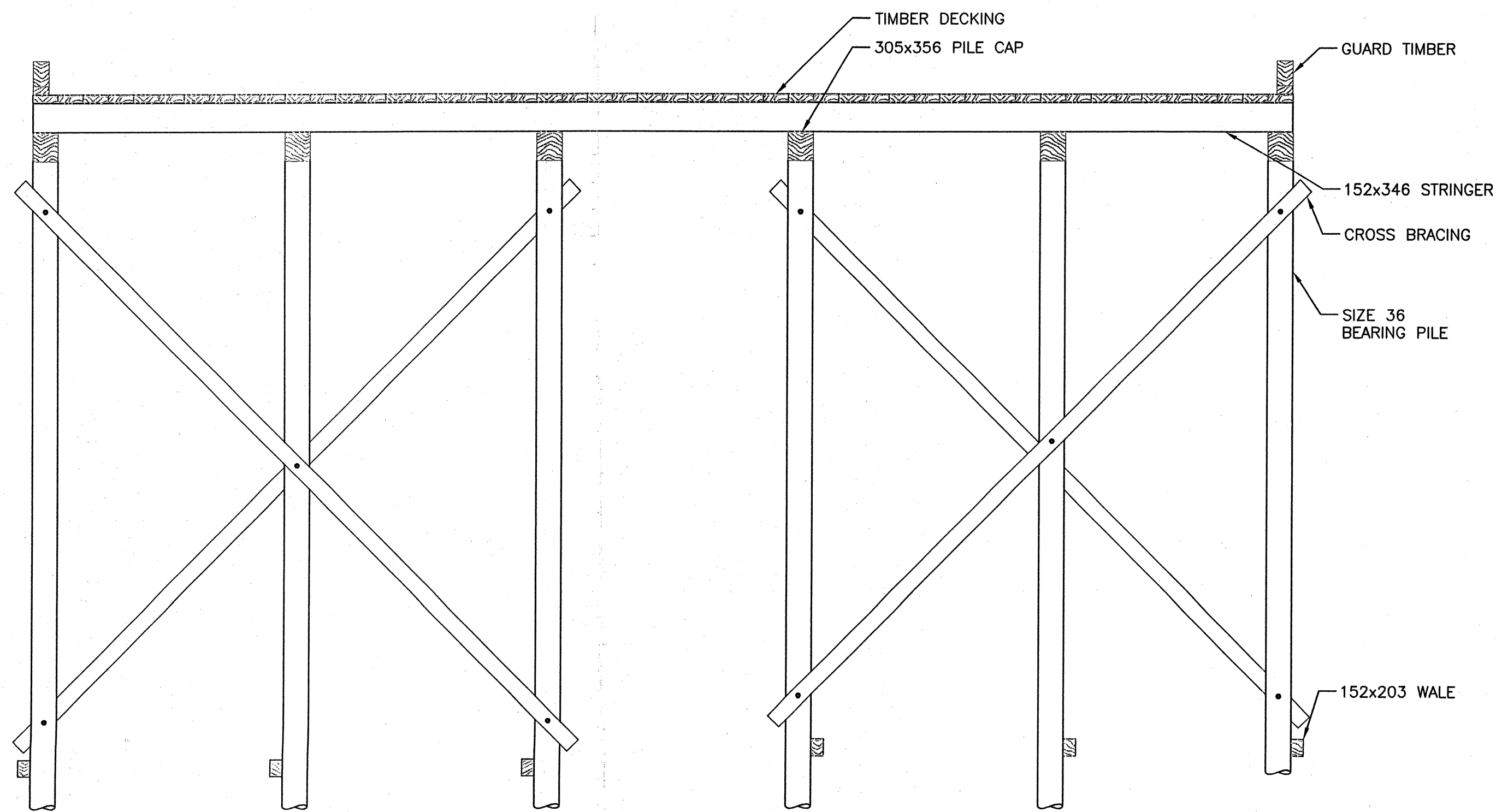
Project title/Titre du projet: **BELLA BELLA WHARF RESTORATION**

Consultant Signature Only
Designed by/Concept par: **TBW**
Drawn by/Dessiné par: **PHU OCT 2013**
PWSSC Project Manager/Administrateur de Projets TPSSC: **JIMMY WONG**
Regional Manager, Architectural and Engineering Services, Gabilmonne régionale, Services d'architectural et de génie, TPSSC

Drawing title/Titre du dessin: **APPROACH AND WHARFHEAD REPAIR DETAILS SHEET 1**

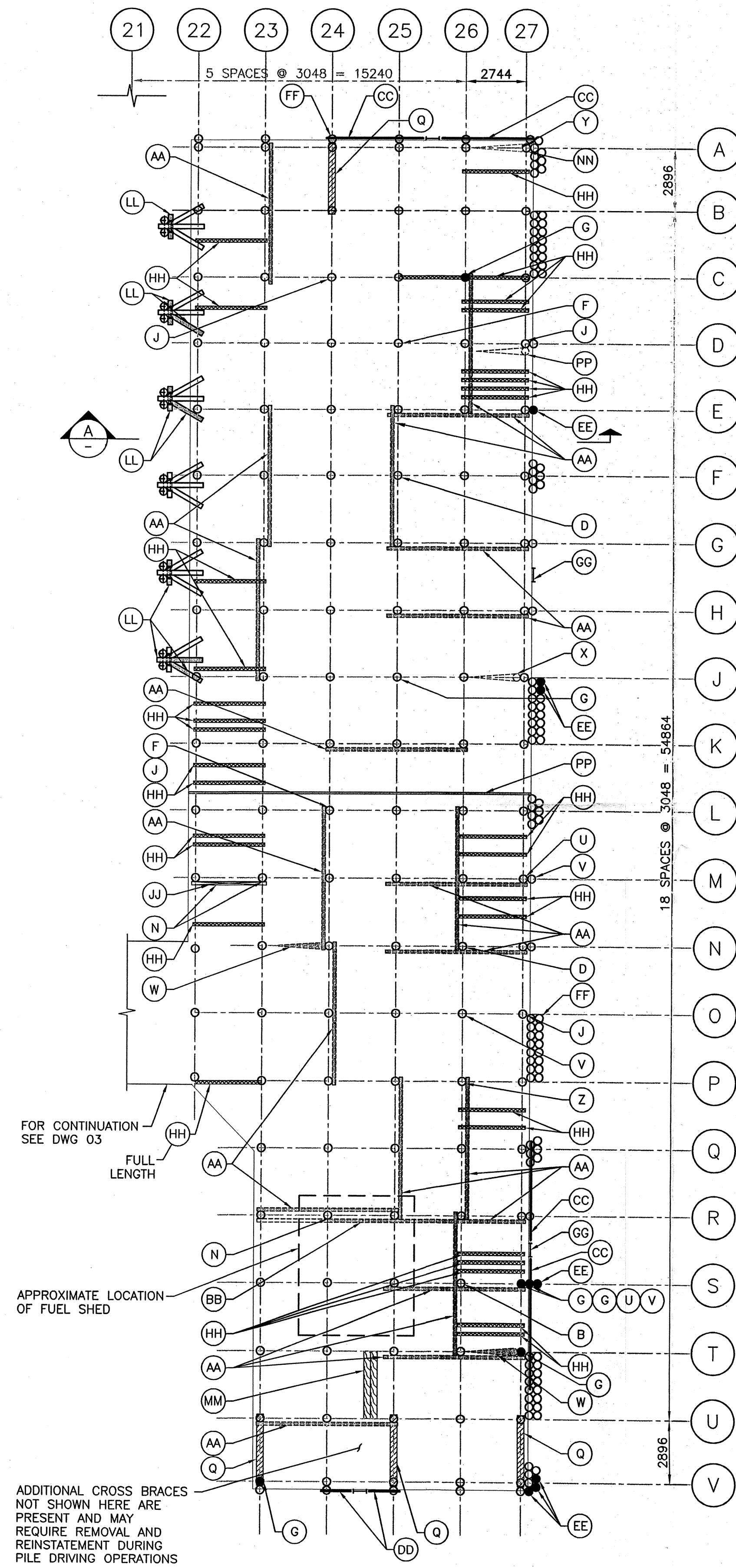
Project No./No. du projet: R.064106.001	Sheet/Feuille: 05 OF 09	Revision no./Lo Révision no.: 2
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APPROACH AND WHARF REPAIRS			
SYMBOL	LETTER	DESCRIPTION	SHEET
	A	BAND PILE - TOP 1.0m	
	B	BAND PILE - TOP 1.5m	
	C	BAND PILE - TOP 0.6m	
	D	PLUG BOLT HOLE ON BEARING PILE	
	E	PLUG MULTIPLE BOLT HOLE ON BEARING PILE	
	F	PLUMB AND STRAP PILE	
	G	REPLACE BEARING PILE	
	H	REPLACE SHIM ON BEARING PILE	
	J	INSTALL SHIM ON BEARING PILE	
	K	REPLACE BOLTED CONNECTION OF BEARING PILE	
	L	REMOVE ABANDONED CROSS BRACE	
	M	REPLACE CROSS BRACE BOTTOM CONNECTION	
	N	REPLACE CROSS BRACE SPACER (TIMBER - 152x203x400)	
	P	REPLACE LIGHT STANDARD TOP CONNECTION HARDWARE	
▨	Q	REPLACE PILE CAP (356x305)	
—	R	REPAIR ELECTRICAL DISTRIBUTION PANEL LOCK MECHANISM	
—	S	EXTEND FIRE WALL	
—	T	REMOVE "NO VEHICLES" SIGN AND STRAIGHTEN OR REPLACE GATE POST	
—	U	INSTALL SHIM ON BATTER PILE	
—	V	REMOVE ABANDONED PILE(S)	
—	W	REPLACE BATTER PILE	
—	X	PLUG MULTIPLE HOLES ON BATTER PILE CORBEL	
—	Y	REPLACE BATTER PILE CAP/CORBEL	
—	Z	REMOVE PIPE SLEEVE AND PLUG HOLE	
▨	AA	REPLACE CROSS BRACE (152x203x8600 LG.)	
▨	BB	REPLACE CROSS BRACE (152x203x4300 LG.)	
▨	CC	REPLACE FENDER CHOCK (152x305)	
▨	DD	REPLACE FENDER CHOCK (152x356)	
•	EE	REPLACE FENDER PILE	
•	FF	REPLACE FENDER PILE BOLT	
—	GG	REPLACE CHAIN LADDER	
—	HH	REPLACE STRINGER (152x343)	
—	JJ	REPLACE WALE (152x203)	
—	KK	REPLACE HEAVY STRINGER (305x343)	
—	LL	REPLACE MOORING DOLPHIN BRACES	
▨	MM	REPLACE DECK BOARDS (102x305)	
▨	NN	REPLACE BATTER PILE CORBEL	
▨	PP	REMOVE AND REPLACE WHARFHEAD FIREWALL	

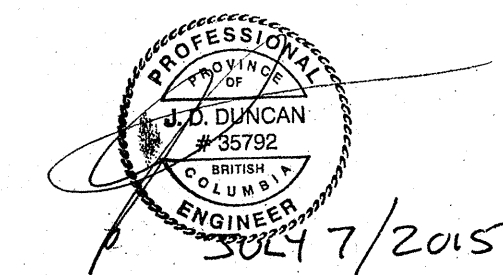
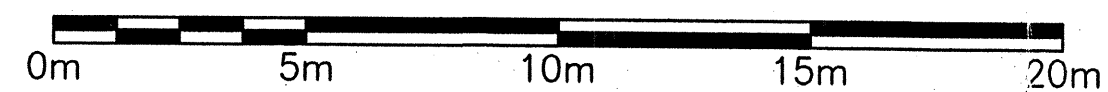


SECTION A-A
1:50

FOR NOTES, SEE DWG. 03



PLAN - WHARFHEAD
1:150



Revision/Description	Date/Date
6	
4	
3	RE-ISSUED FOR TENDER 20150707
2	ISSUED FOR TENDER 20140915
1	ISSUED FOR 80% REVIEW 20140902
0	ISSUED FOR 30% REVIEW 20131121

TRANSPORT CANADA
HARBOURS AND PORTS

800 BARRARD ST
VANCOUVER, B.C.

Project title/Titre du projet

BELLA BELLA
WHARF RESTORATION

Consultant Signature Only

Designed by/Concept par
TMW

Drawn by/Dessiné par
PHU OCT 2013

PWSC Project Manager/Administrateur de Projets TPSC
JIMMY WONG

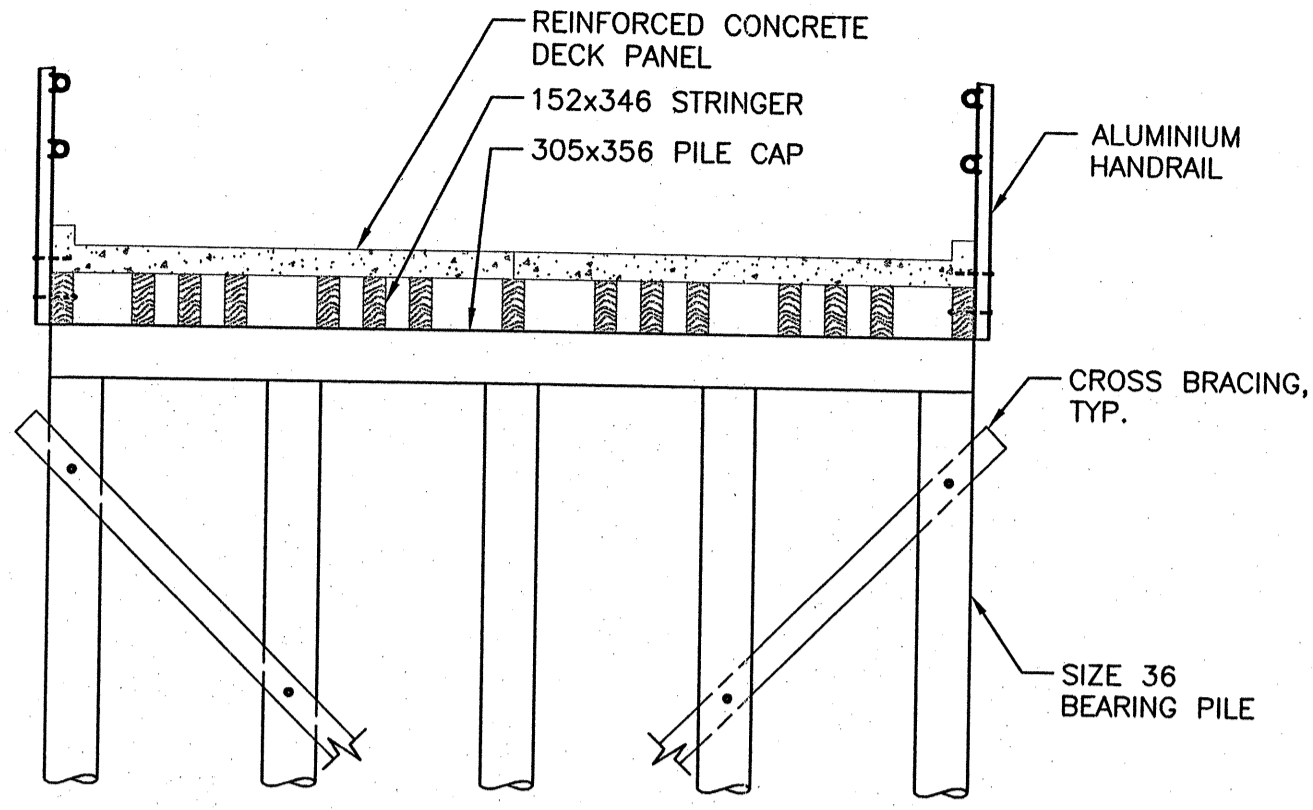
Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architecture et de génie, TPSC

Drawing title/Titre du dessin

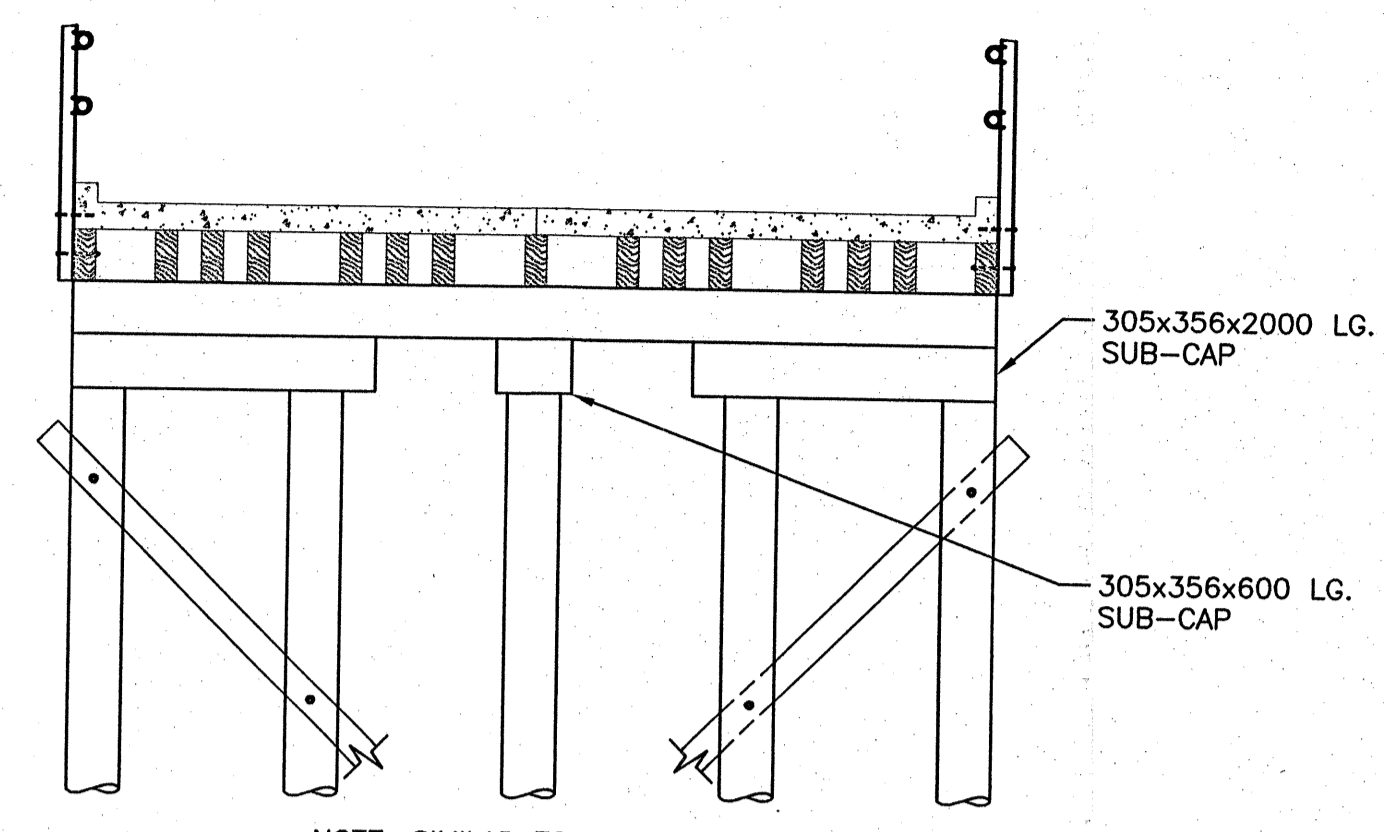
WHARFHEAD
REPAIR LOCATION PLAN

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
R.064106.001	04	2

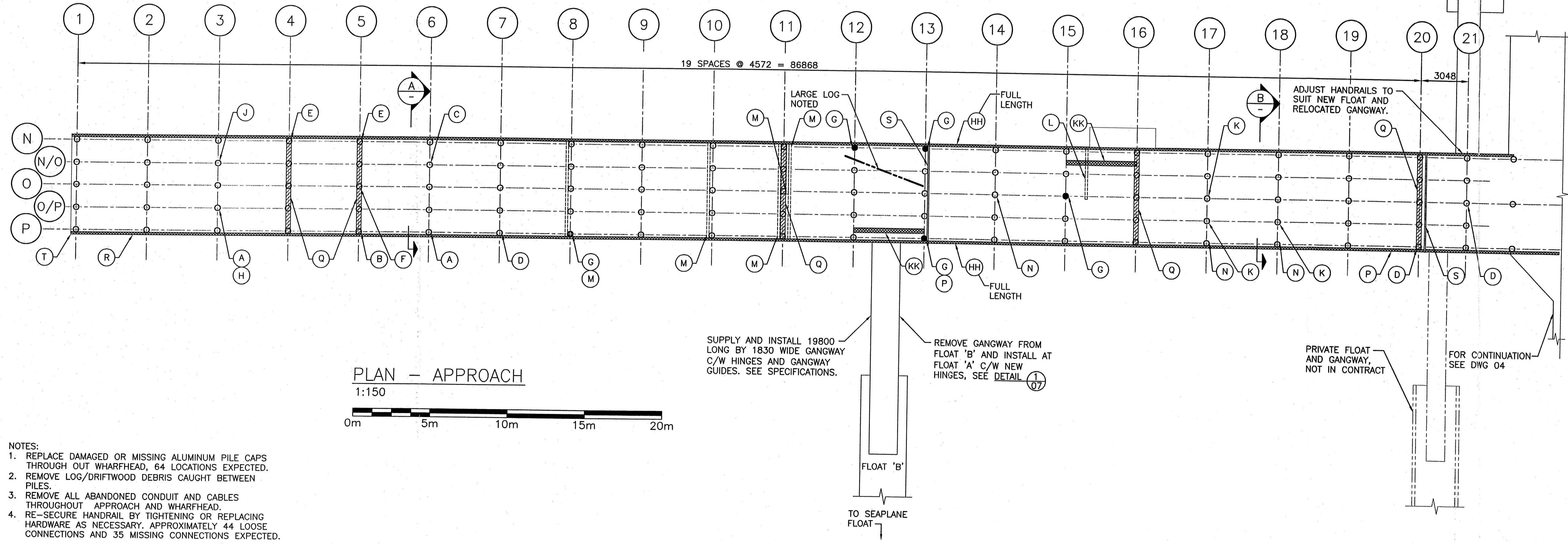
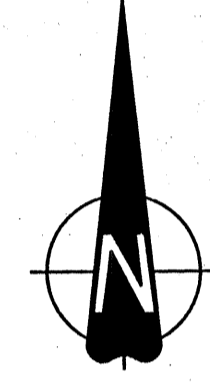
APPROACH AND WHARF REPAIRS			
SYMBOL	LETTER	DESCRIPTION	SHEET
	A	BAND PILE -- TOP 1.0m	
	B	BAND PILE -- TOP 1.5m	
	C	BAND PILE -- TOP 0.6m	
	D	PLUG BOLT HOLE ON BEARING PILE	
	E	PLUG MULTIPLE BOLT HOLE ON BEARING PILE	
	F	PLUMB AND STRAP PILE	
●	G	REPLACE BEARING PILE	
	H	REPLACE SHIM ON BEARING PILE	
	J	INSTALL SHIM ON BEARING PILE	
	K	REPLACE BOLTED CONNECTION OF BEARING PILE	
	L	REMOVE ABANDONED CROSS BRACE	
	M	REPLACE CROSS BRACE BOTTOM CONNECTION	
	N	REPLACE CROSS BRACE SPACER (TIMBER - 152x203x400)	
	P	REPLACE LIGHT STANDARD TOP CONNECTION HARDWARE	
▨	Q	REPLACE PILE CAP (356x305)	
▨	R	REPAIR ELECTRICAL DISTRIBUTION PANEL LOCK MECHANISM	
—	S	EXTEND FIRE WALL	
	T	REMOVE "NO VEHICLES" SIGN AND STRAIGHTEN OR REPLACE GATE POST	
	U	INSTALL SHIM ON BATTER PILE	
	V	REMOVE ABANDONED PILE(S)	
—	W	REPLACE BATTER PILE	
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	Z	REMOVE PIPE SLEEVE AND PLUG HOLE	
▨	AA	REPLACE CROSS BRACE (152x203x8600 LG.)	
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▨	DD	REPLACE FENDER CHOCK (152x356)	
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▨	LL	REPLACE MOORING DOLPHIN BRACES	
▨	MM	REPLACE DECK BOARDS (102x305)	
▨	NN	REPLACE BATTER PILE CORBEL	
▨	PP	REMOVE AND REPLACE WHARFHEAD FIREWALL	



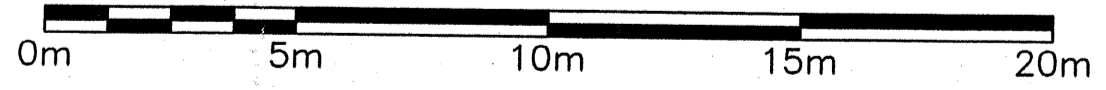
(A) SECTION
1:50



(B) SECTION
1:50



PLAN - APPROACH
1:150



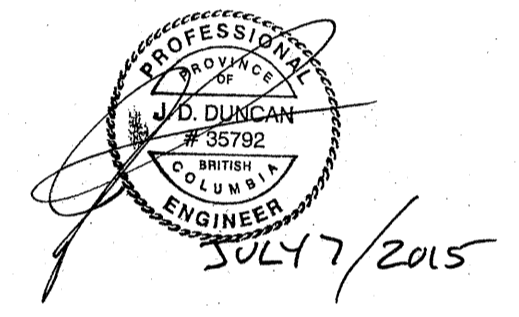
- NOTES:
- REPLACE DAMAGED OR MISSING ALUMINUM PILE CAPS THROUGH OUT WHARFHEAD, 64 LOCATIONS EXPECTED.
 - REMOVE LOG/DRIFTWOOD DEBRIS CAUGHT BETWEEN PILES.
 - REMOVE ALL ABANDONED CONDUIT AND CABLES THROUGHOUT APPROACH AND WHARFHEAD.
 - RE-SECURE HANDRAIL BY TIGHTENING OR REPLACING HARDWARE AS NECESSARY. APPROXIMATELY 44 LOOSE CONNECTIONS AND 35 MISSING CONNECTIONS EXPECTED.

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES / Pacific Region / SERVICES IMMOBILIERS / Région de Pacifique

HEROLD ENGINEERING LIMITED
Consulting Engineers

3701 Shenton Rd, Nanaimo, BC V9T 2H1
Tel: 250-751-8558 Fax: 250-751-8559
Email: mail@heroldengineering.com PROJECT # 2428-063



Revision/	Description/Description	Date/Date
5		
4		
3	RE-ISSUED FOR TENDER	20150707
2	ISSUED FOR TENDER	20140515
1	ISSUED FOR 90% REVIEW	20140320
0	ISSUED FOR 30% REVIEW	20131121

Client/client
**TRANSPORT CANADA
HARBOURS AND PORTS**

800 BARRARD ST
VANCOUVER, B.C.

Project title/Titre du projet
**BELLA BELLA
WHARF RESTORATION**

Designed by/Conçue par
TMW

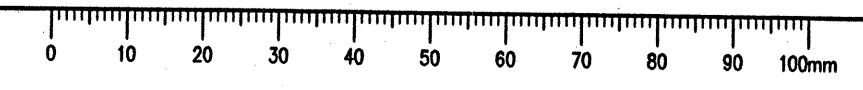
Drawn by/Dessiné par
PHU OCT 2013

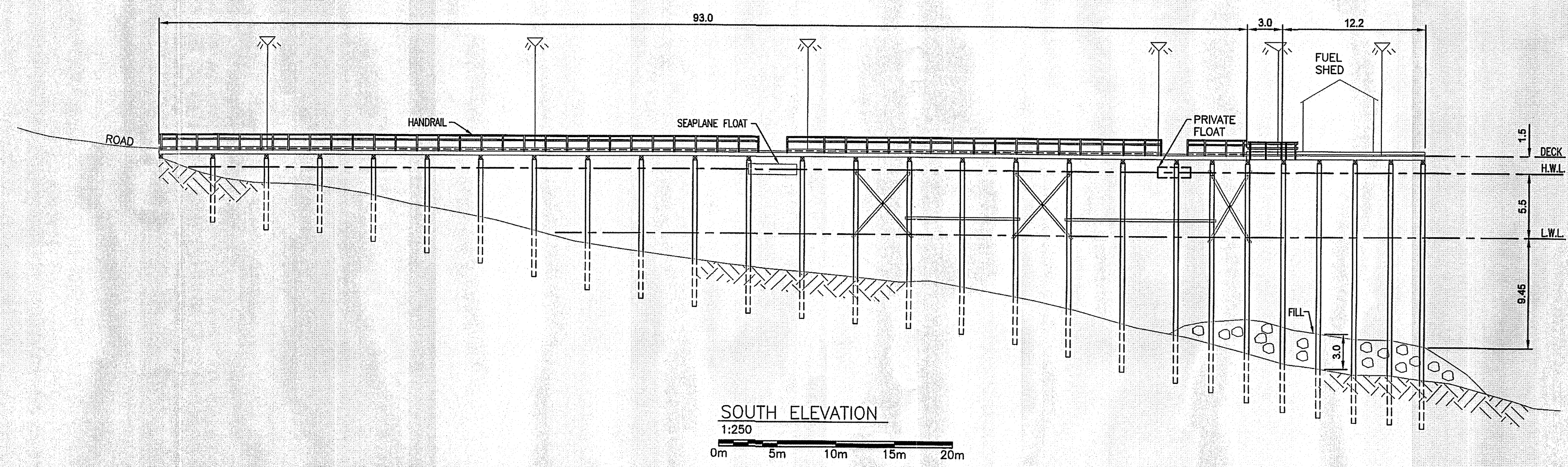
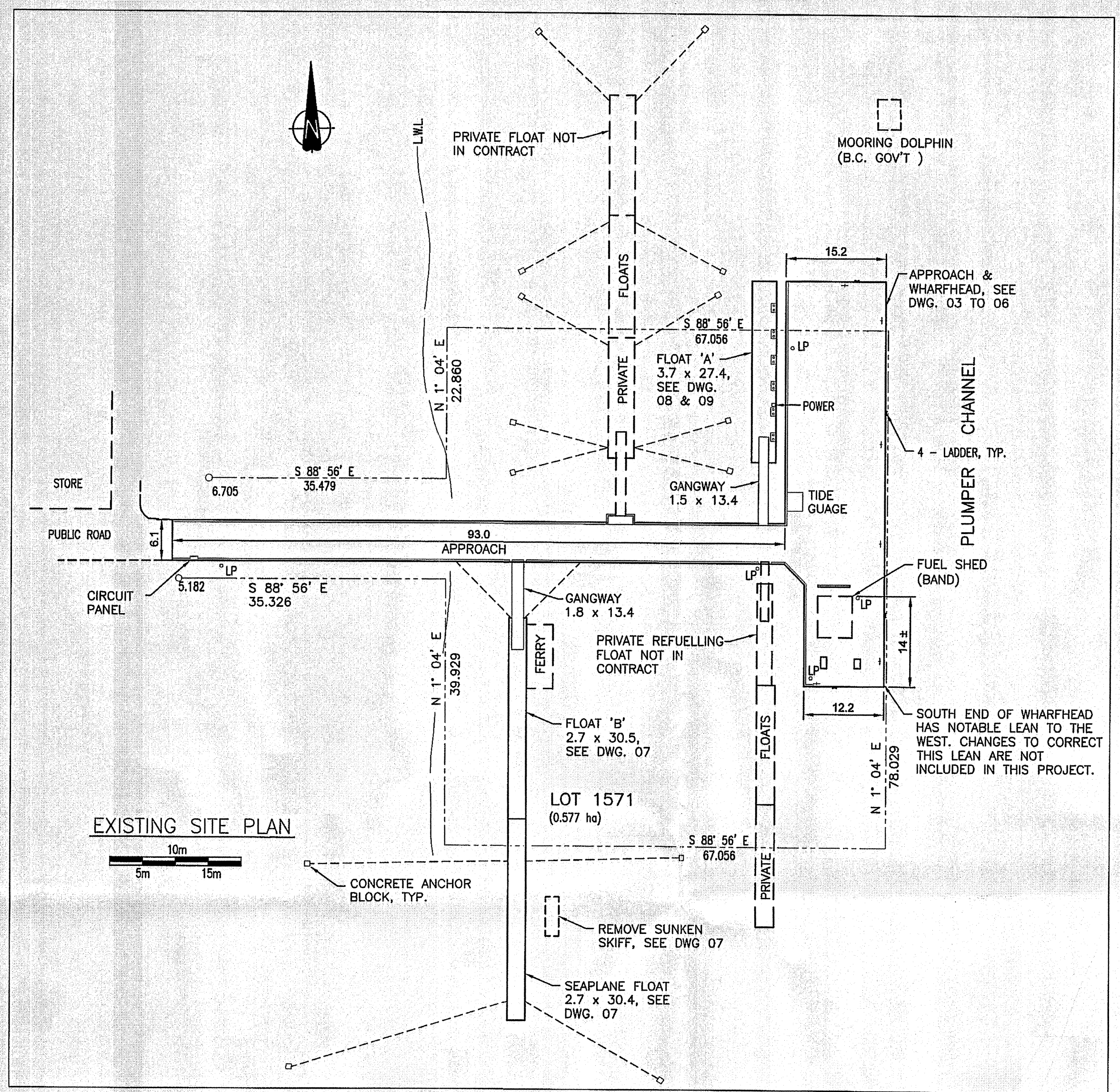
PWGC Project Manager/Administrateur de Projets TPSGC
JIMMY WONG

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin
**APPROACH
REPAIR LOCATION PLAN**

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PROFESSIONAL ENGINEER
 J. D. DUNCAN
 3047/2015

Revision/Revisions	Description/Description	Date/Date
5		
4		
3	REISSUED FOR TENDER	2016/07/02
2	ISSUED FOR TENDER	2014/09/18
1	ISSUED FOR 90% REVIEW	2014/03/20
0	ISSUED FOR 30% REVIEW	2013/11/21

TRANSPORT CANADA
HARBOURS AND PORTS
 800 BURRARD ST
 VANCOUVER, B.C.

Projet/Titre du projet
BELLA BELLA WHARF RESTORATION

Consultant Signature Only
 Designed by/Concept par
 TMW
 Drawn by/Desainé par
 PHU OCT 2013
 PWGSC Project Manager/Administrateur de Projets TP500
 JIMMY WONG
 Regional Manager, Architectural and Engineering Services
 Gestionnaire régional, Services d'architecture et de génie, TP500

Drawing title/Titre du dessin
GENERAL ARRANGEMENT

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
R.064106.001	02 OF 09	2