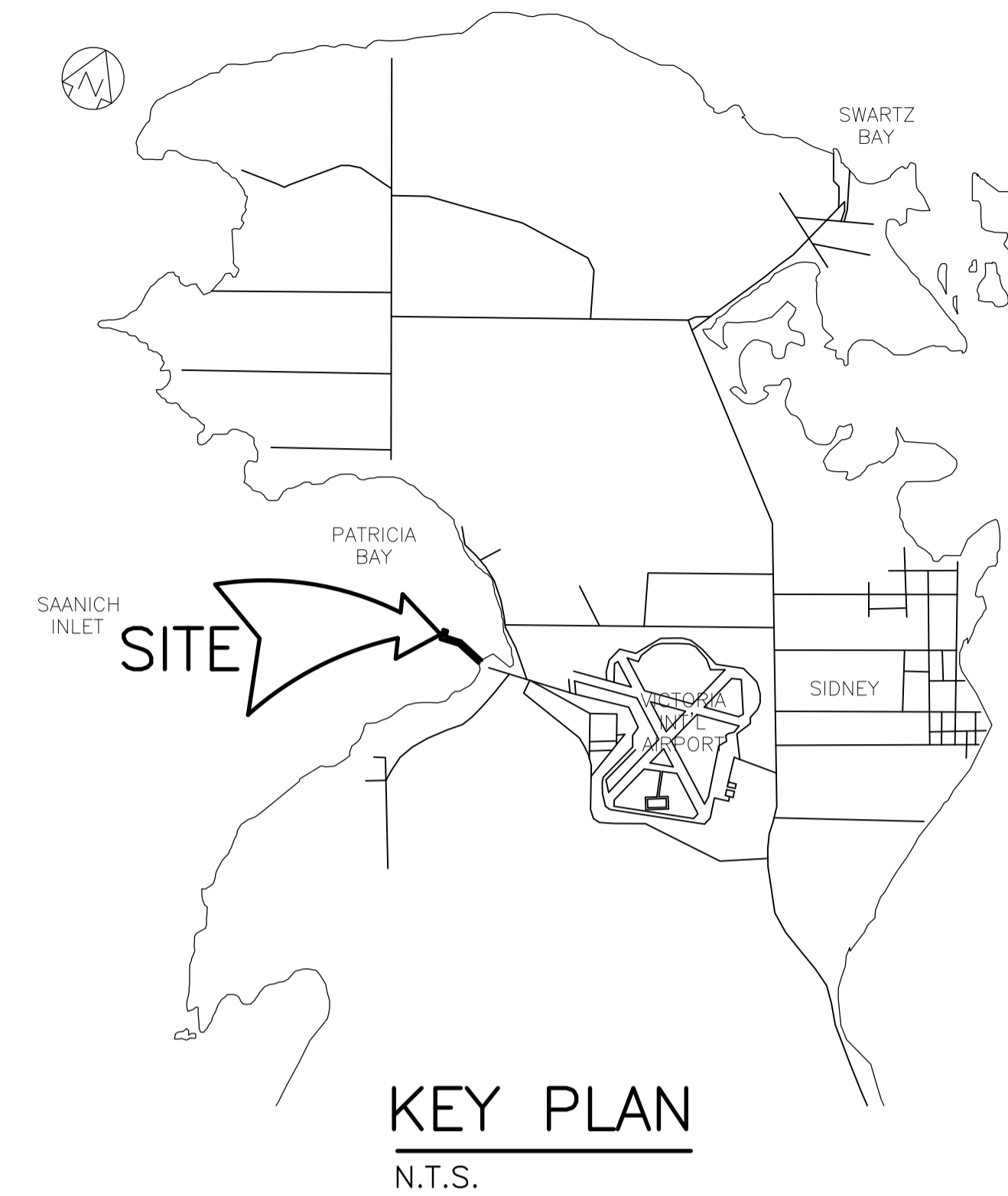


Public Works and
Government Services
Canada

Institute of Ocean Sciences (IOS) Timber and Concrete Floats A,B1,B2,C & D Installation



DRAWING No:

TITLE:

C-000	COVER SHEET
C-001	PLAN – DEMOLITION
C-002	DETAILS – DEMOLITION
C-003	SITE PLAN – PROPOSED UPGRADES
C-004	PLAN – FIXED WHARF AND FLOAT D
C-005	SECTIONS AND DETAILS – FIXED WHARF
C-006	PLAN – CAUSEWAY AND FLOATS A,B1,B2 AND C
C-007	SECTIONS AND DETAILS – CAUSEWAY AND FLOATS
C-008	DETAILS – SHEET 1
C-009	DETAILS – SHEET 2
C-010	DETAILS – SHEET 3

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4		
3	ISSUED FOR TENDER	16/07/15
2	ISSUED FOR PRE-TENDER REVIEW	16/04/11
1	ISSUED FOR 99% REVIEW	16/02/10
0	ISSUED FOR 60% REVIEW	15/12/31

Client/client

FISHERIES AND OCEANS

Project title/Titre du projet

**INSTITUTE OF OCEAN SCIENCES
TIMBER AND CONCRETE FLOATS
A,B1,B2,C & D INSTALLATION**

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Designed by/Concept par
SUNNY MANGAT / DECEMBER 15, 2015

Drawn by/Dessiné par
M.KRAMER / DECEMBER 15, 2015

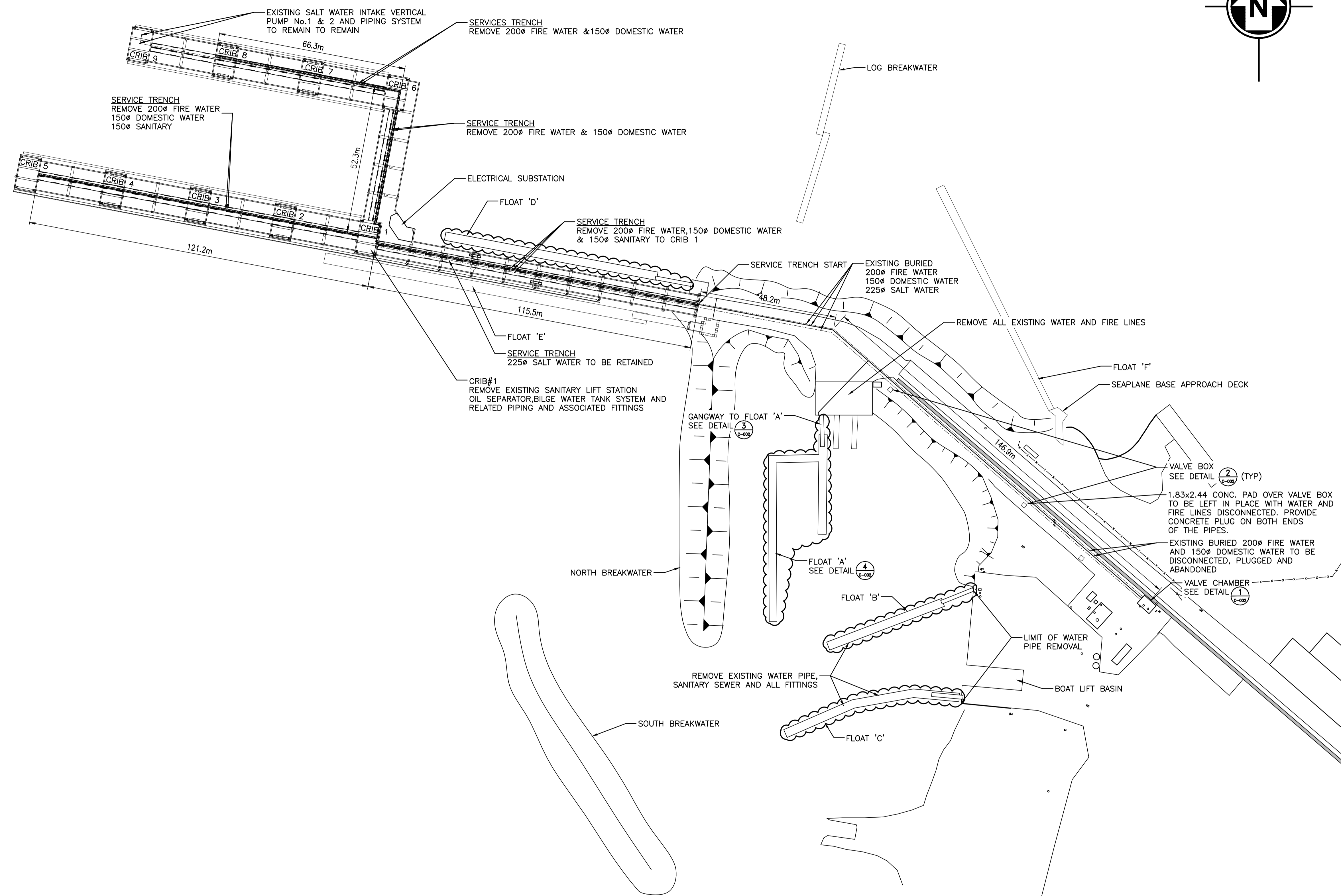
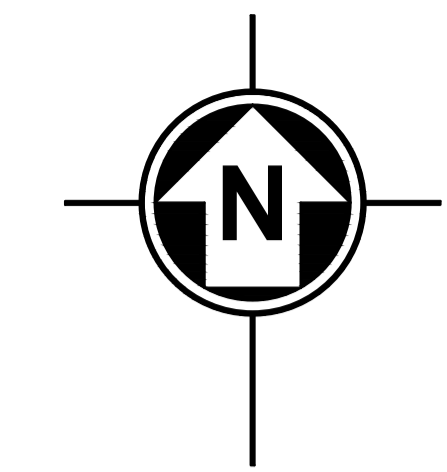
PWGSC Project Manager/Administrateur de Projets TPSGC
JERRY CHEN

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

Drawing title/Titre du dessin

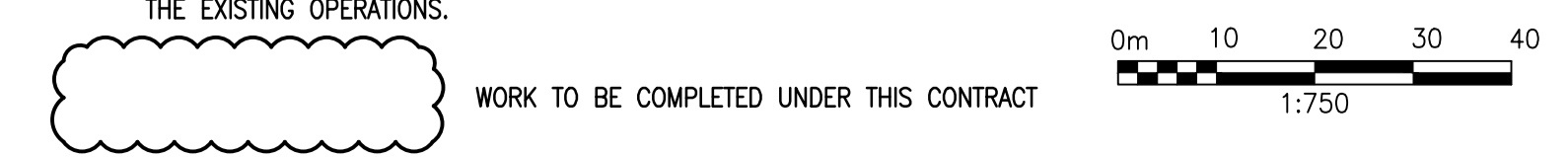
COVER SHEET

Project No./No. du projet 9R306-02	Sheet/Fauille C-000 OF 10	Revision no./La Révision no. 3
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DEMOLITION PLAN
1:750

- NOTES:**
- ALL PIPE SIZES ARE MILLIMETRES (mm). ALL DIMENSIONS SHOWN ARE METRES (m).
 - PROTECT EXISTING WATER PIPING AND ASSOCIATED WORKS AT TIE-IN LOCATIONS ON LAND.
 - ALL MATERIAL REMOVED SHALL BE DISPOSED OF IN AN ENVIRONMENTALLY ACCEPTABLE MANNER.
 - COORDINATE WITH THE DEPARTMENTAL REPRESENTATIVE FOR PIPING INSTALLATION AND RELATED WORK.
 - THE SIZES OF THE EXISTING FIXED WHARF DECK PANELS ARE AS FOLLOWS:
 GALLERY/TRENCH - 2.91 x 1.5 x 0.15m
 CRIB TYPE 1 - 3.96 x 1.74 x 0.228m
 CRIB TYPE 3 - 3.96 x 1.74 x 0.228m
 - FIXED WHARF DECK PANEL REMOVAL MAY BE REQUIRED FOR NEW WORKS.
 - CONTRACTOR TO FIELD CONFIRM ALL PIPING SYSTEM LAYOUTS PRIOR TO BIDDING THE WORK.
 - CONTRACTOR TO COORDINATE AND SCHEDULE THE WORK TO ENSURE THAT THERE IS NO DISRUPTION TO THE EXISTING OPERATIONS.



Revision/	Description/Description	Date/Date
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4		
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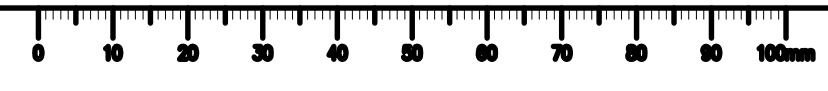
Client/client
FISHERIES AND OCEANS

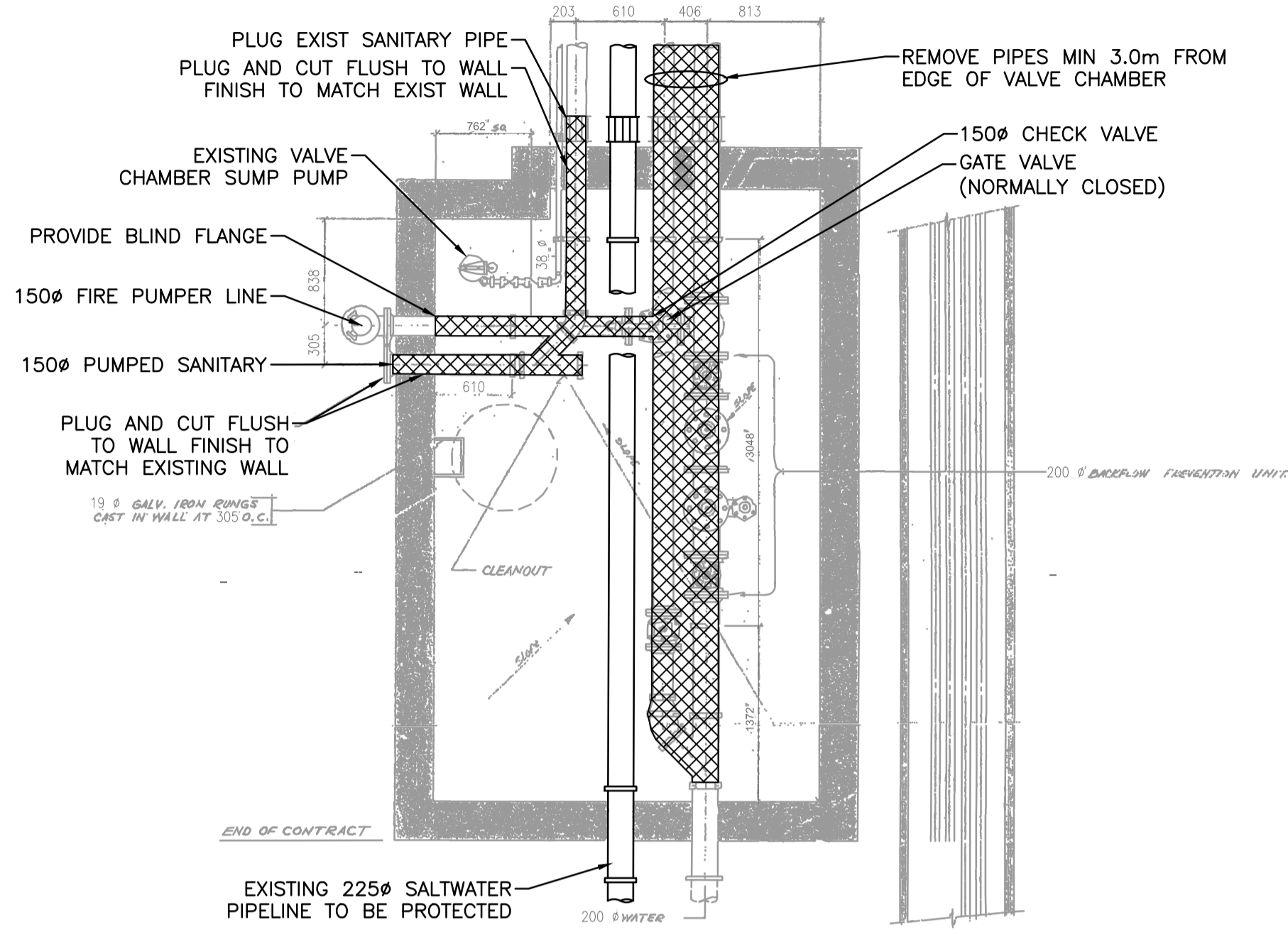
Project title/Titre du projet
**INSTITUTE OF OCEAN SCIENCES
 TIMBER AND CONCRETE FLOATS
 A,B1,B2,C & D INSTALLATION**

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 Designed by/Concept par
 SUNNY MANGAT / DECEMBER 15, 2015
 Drawn by/Designé par
 M.KRAMER / DECEMBER 15, 2015
 PWGSC Project Manager/Administrateur de Projets TPSGC
 JERRY CHEN
 Regional Manager, Architectural and Engineering Services
 Gestionnaire régionale, Services d'architecture et de génie, TPSGC

Drawing title/Titre du dessin
**PLAN
 DEMOLITION**

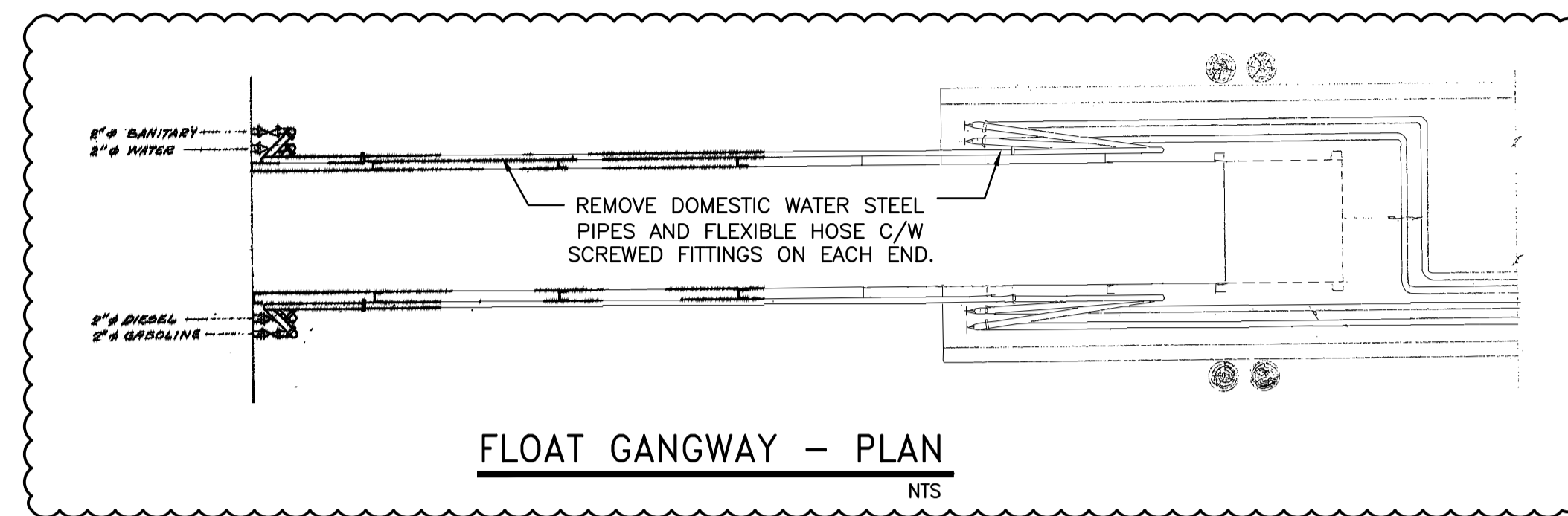
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9R306-02	C-001	3
	OF 10	





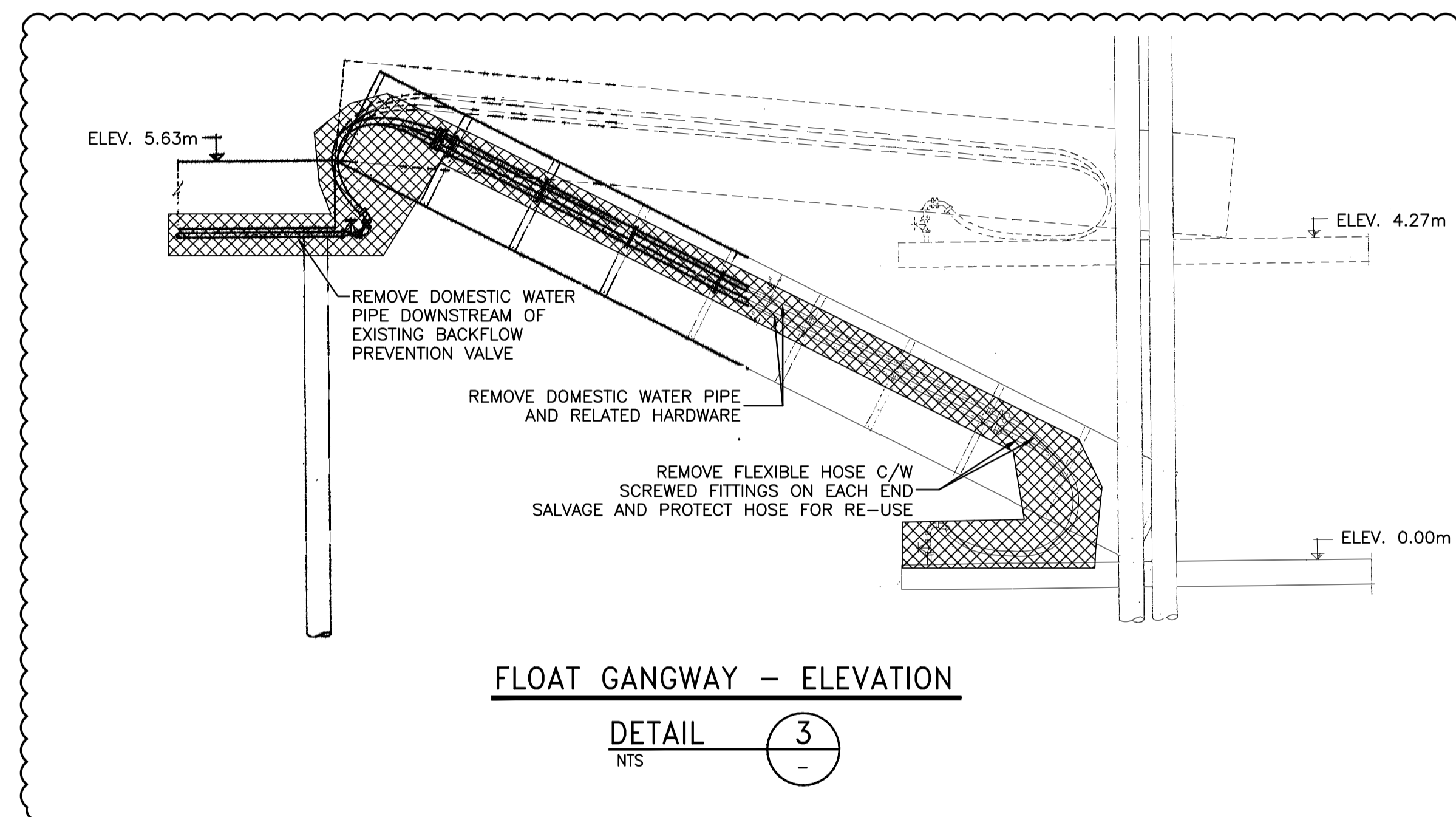
VALVE CHAMBER - PLAN

DETAIL 1
 NTS



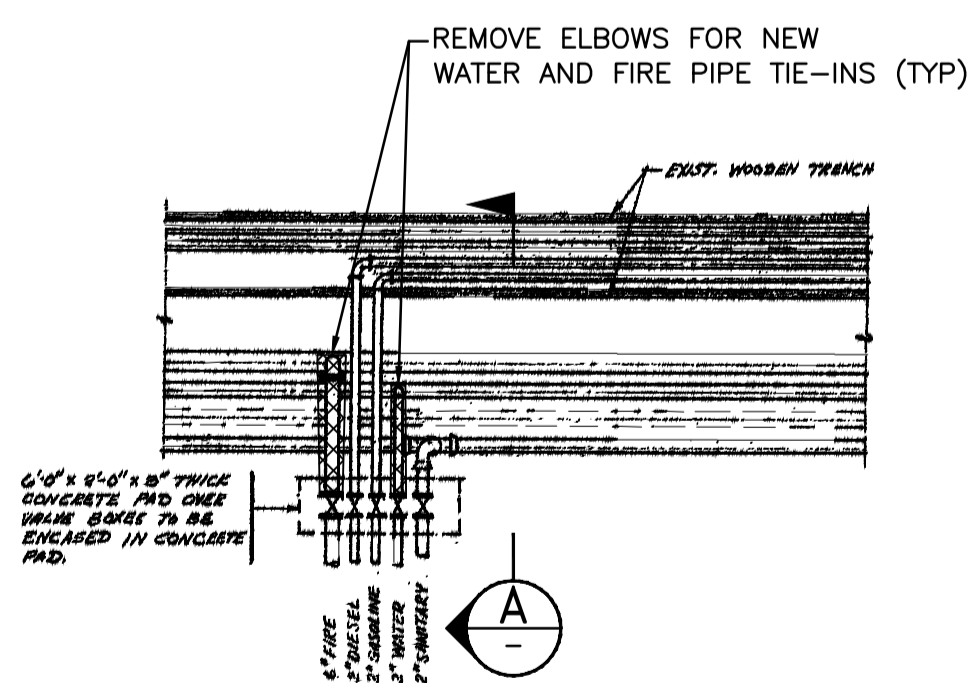
FLOAT GANGWAY - PLAN

NTS



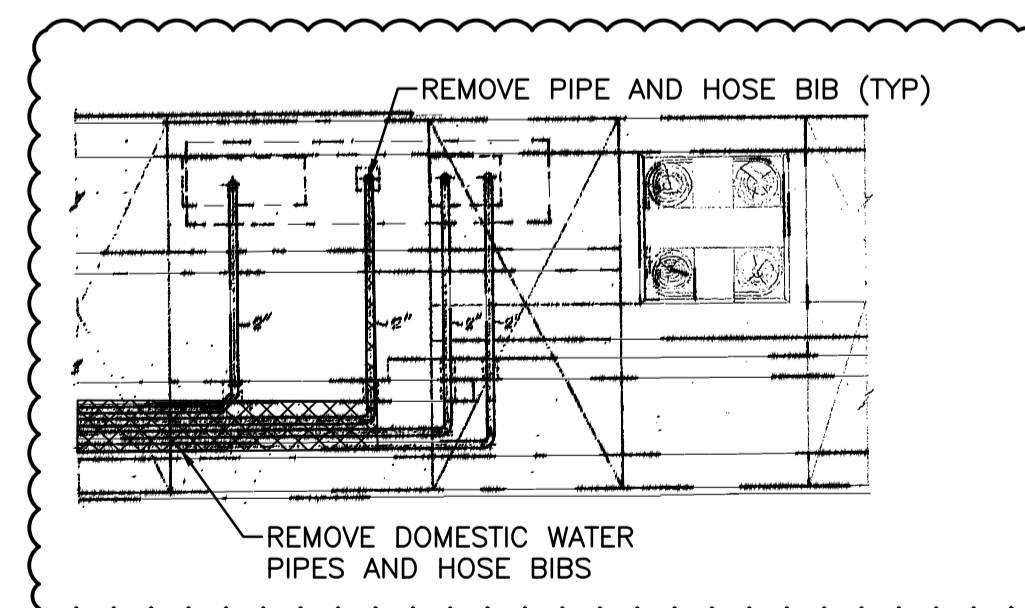
FLOAT GANGWAY - ELEVATION

DETAIL 3
 NTS



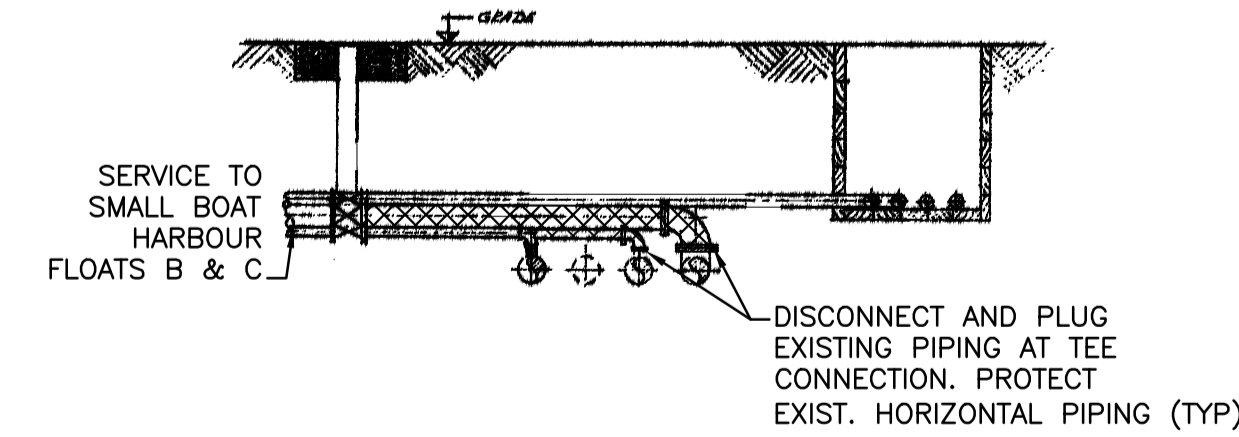
VALVE BOX - PLAN

DETAIL 2
 NTS



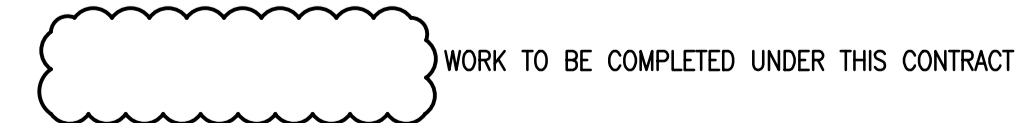
FLOAT - PLAN

DETAIL 4
 NTS



SECTION A

NTS



Revision/	Description/Description	Date/Date
5		
4		
3	ISSUED FOR TENDER	16/07/15
2	ISSUED FOR PRE-TENDER REVIEW	16/04/11
1	ISSUED FOR 99% REVIEW	16/02/10
0	ISSUED FOR 60% REVIEW	15/12/31

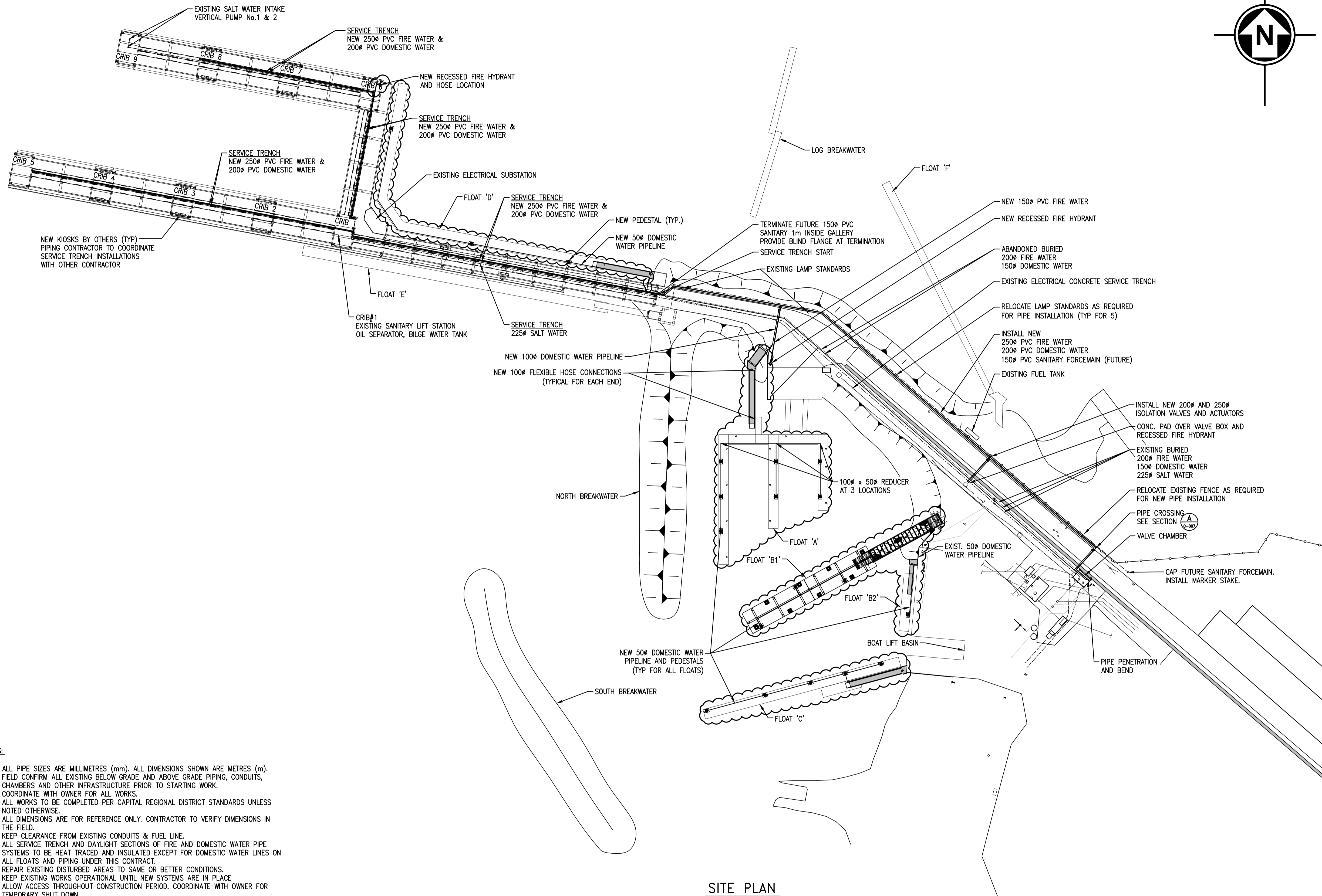
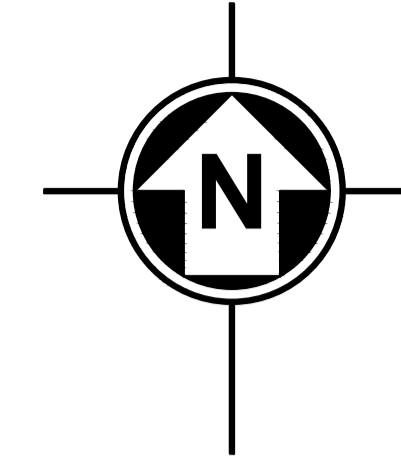
Client/client
FISHERIES AND OCEANS

Project title/Titre du projet
**INSTITUTE OF OCEAN SCIENCES
 TIMBER AND CONCRETE FLOATS
 A, B1, B2, C & D INSTALLATION**

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 Designed by/Concept par
 SUNNY MANGAT / DECEMBER 15, 2015
 Drawn by/Designé par
 M. KRAMER / DECEMBER 15, 2015
 PWGSC Project Manager/Administrateur de Projets TPSGC
 JERRY CHEN
 Regional Manager, Architectural and Engineering Services
 Gestionnaire régionale, Services d'architecture et de génie, TPSGC

Drawing title/Titre du dessin
DEMOLITION PLAN - DETAILS

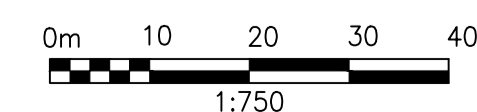
Project No./No. du projet	Sheet/Fauille	Revision no./La Révision no.
9R306-02	C-002 OF 10	3



- NOTES:**
1. ALL PIPE SIZES ARE MILLIMETRES (mm). ALL DIMENSIONS SHOWN ARE METRES (m).
 2. FIELD CONFIRM ALL EXISTING BELOW GRADE AND ABOVE GRADE PIPING, CONDUITS, CHAMBERS AND OTHER INFRASTRUCTURE PRIOR TO STARTING WORK.
 3. COORDINATE WITH OWNER FOR ALL WORKS.
 4. ALL WORKS TO BE COMPLETED PER CAPITAL REGIONAL DISTRICT STANDARDS UNLESS NOTED OTHERWISE.
 5. ALL DIMENSIONS ARE FOR REFERENCE ONLY. CONTRACTOR TO VERIFY DIMENSIONS IN THE FIELD.
 6. KEEP CLEARANCE FROM EXISTING CONDUITS & FUEL LINE.
 7. ALL SERVICE TRENCH AND DAYLIGHT SECTIONS OF FIRE AND DOMESTIC WATER PIPE SYSTEMS TO BE HEAT TRACED AND INSULATED EXCEPT FOR DOMESTIC WATER LINES ON ALL FLOATS AND PIPING UNDER THIS CONTRACT.
 8. REPAIR EXISTING DISTURBED AREAS TO SAME OR BETTER CONDITIONS.
 9. KEEP EXISTING WORKS OPERATIONAL UNTIL NEW SYSTEMS ARE IN PLACE.
 10. ALLOW ACCESS THROUGHOUT CONSTRUCTION PERIOD. COORDINATE WITH OWNER FOR TEMPORARY SHUT DOWN.
 11. ALL EXISTING HYDRANTS TO BE REPLACED WITH NEW FLUSH TYPE HYDRANTS.
 12. NO DISSIMILAR METALS PERMITTED. USE MARINE GRADE FASTENERS.
 13. ALL INSTALLED DOMESTIC WATER SYSTEM COMPONENTS SHALL MEET NSF 61 REQUIREMENTS.
 14. SEAL ANY EXISTING OPENING IF NOT SUITABLE FOR RE-USE, CORE NEW OPENINGS AS REQUIRED.
 15. APPLY ISOLATION COATING TO ALUMINUM SURFACES TO EMBEDDED IN CONCRETE.
 16. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.
 17. HILTI ANCHOR BOLTS AS NEEDED.
 18. COORDINATE WITH OTHERS FOR TIE-IN WITH NEW KIOSKS.
 19. ELECTRICAL CONNECTION FOR HEAT TRACING PROVIDED UNDER SEPARATE ELECTRICAL CONTRACT. ALLOW FOR HEAT TRACE AND CONTROLLER INSTALLATION IN THE CONTRACT. COORDINATE WITH THE OTHER CONTRACTOR. NO HEAT TRACE AND INSULATION UNDER THIS CONTRACT.
 20. CORE HOLES FOR WATER PIPE PENETRATIONS FOR ROUTING AS NEEDED. AVOID PENETRATION OF FLOATS' STRUCTURAL SUPPORT MEMBERS.
 21. AT EACH PIPE PENETRATION THROUGH CONCRETE PROVIDE FLEXIBLE COUPLING WITH 1304 S.S. FASTENERS. PROVIDE TWO COATS OF EPOXY COATING ON THE COUPLING. SEE DETAIL 8, DRAWING C-008.

SITE PLAN
1:750

- LEGEND**
- DECK MOUNTED PEDESTAL C/W HOSE BIBS BY OTHERS. COORDINATE WITH OTHERS FOR THE TIE-IN.
 - WORK TO BE COMPLETED UNDER THIS CONTRACT



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4		
3	ISSUED FOR TENDER	16/07/15
2	ISSUED FOR PRE-TENDER REVIEW	16/04/11
1	ISSUED FOR 95% REVIEW	16/02/10
0	ISSUED FOR 60% REVIEW	15/12/31
Revision/Revision	Description/Description	Date/Date

Client/client
FISHERIES AND OCEANS

Project title/Titre du projet

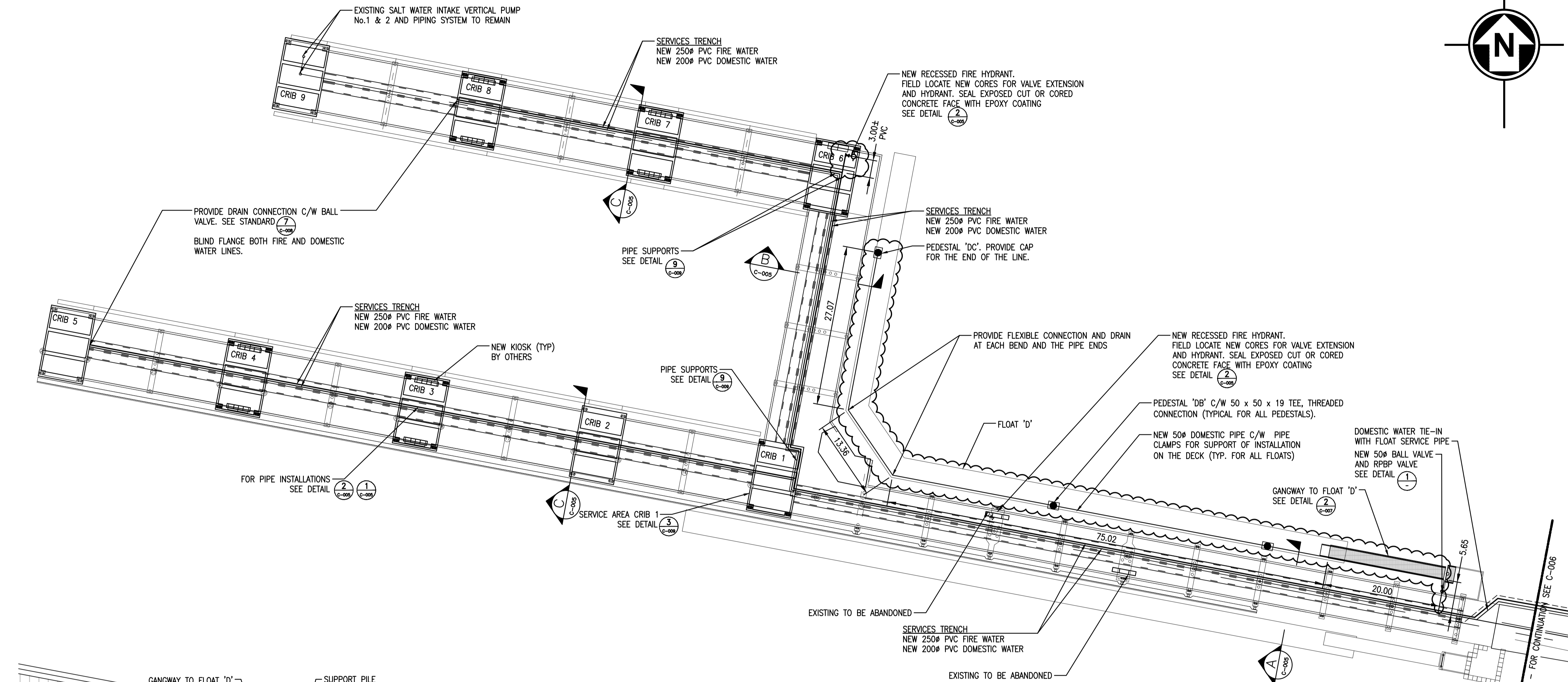
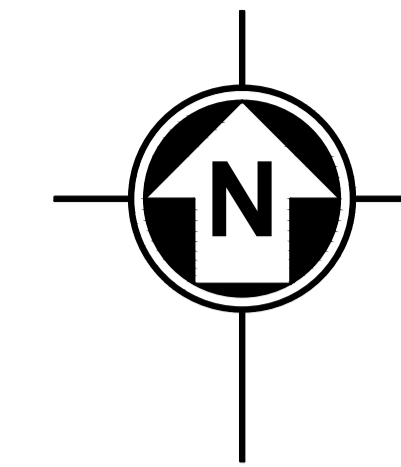
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 TIMBER AND CONCRETE FLOATS
 A, B1, B2, C & D INSTALLATION**

Consultant Signature Only
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 Designed by/Concept par
 SUNNY MANGAT / DECEMBER 15, 2015
 Drawn by/Dessiné par
 M.KRAMER / DECEMBER 15, 2015
 PWGSC Project Manager/Administrateur de Projets TPSGC
 JERRY CHEN
 Regional Manager, Architectural and Engineering Services
 Gestionnaire régionale, Services d'architectural et de génie, TPSGC

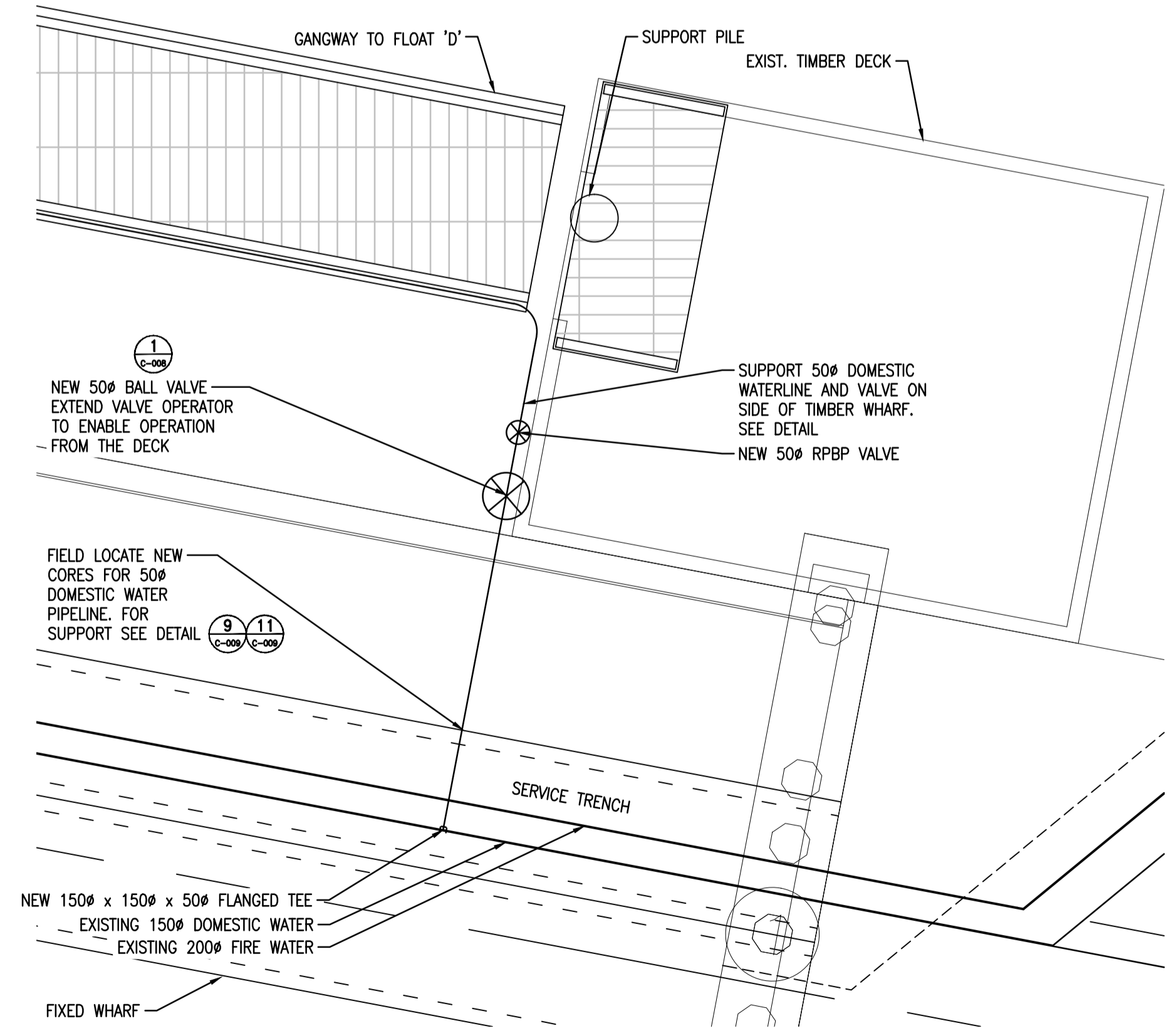
Drawing title/Titre du dessin
**SITE PLAN
 PROPOSED UPGRADES**

Project No./No. du projet	Sheet/Fauille	Revision no./La Révision no.
9R306-02	C-003 OF 10	3

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PLAN - FIXED WHARF AND FLOAT D
1:400



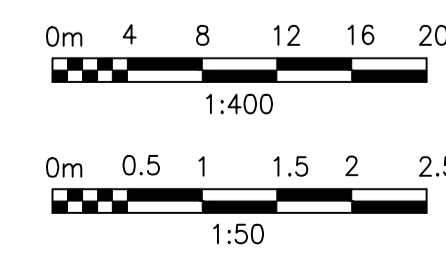
DETAIL 1
1:50

NOTES:

1. ALL PIPE SIZES ARE MILLIMETRES (mm). ALL DIMENSIONS SHOWN ARE METRES (m)
2. FIELD LOCATE ALL EXISTING CONDUITS & SERVICE PIPING. PROTECT EXISTING AND MAINTAIN MIN. CLEARANCE FROM EXISTING.
3. ROUTE NEW PIPING SAME ROUTE AS EXISTING UNLESS IDENTIFIED OTHERWISE.
4. PROVIDE DRAIN CONNECTION AT EVERY CRIB & ALL LOW POINTS.
5. ALL WORKS & MATERIAL TO CONFORM WITH CRD'S STANDARDS UNLESS SPECIFIED OTHERWISE.
6. ALL FIRE SUPPLY SYSTEM SHALL BE MIN. RATED FOR 175 PSI.
7. ALL PIPE SUPPORTS SHALL BE ALUMINUM MARINE GRADE CONSTRUCTION.
8. ALL FIRE SUPPLY AND WATER PIPING IN THE FIXED WHARF TO BE HEAT TRACED AND INSULATED.
9. PIPE SUPPORTS ARE NOT DETAILED OUT COMPLETELY. CONTRACTOR TO PROVIDE SHOP DRAWINGS OF FINAL LAYOUT.
10. WHERE FLOOR SUPPORTED OR ROOF SUPPORTED PIPE SUPPORT NOT FEASIBLE PROVIDE SIDE WALL SUPPORTS.
11. FIELD ROUTE PIPING. CORE NEW WALL PENETRATION HOLES WHERE REQUIRED. FINISH CORES WITH SMOOTH SURFACE AND EPOXY COATING.
12. REMOVE EXISTING VALVES WHERE NOT SPECIFIED AND RE-INSTALL NEW VALVES AND BACKFLOW PREVENTION ASSEMBLIES OF SAME STYLE BUT ONE SIZE LARGER DIAMETER. VALVES SHALL HAVE FLANGED CONNECTIONS.
13. PIPE CLAMP SLEEVES AND FLEXIBLE COUPLINGS TO BE USED WHEREVER PIPE PENETRATES THROUGH DECK.
14. ALLOW FOR INSULATION FOR ALL PENETRATIONS.
15. PROVIDE RESTRAINED JOINTS AT EACH BEND.
16. WHERE VALVES ARE ABOVE THE OPERATING LEVEL PROVIDE CHAIN OPERATOR FOR EASE OF OPERATION FROM FLOOR LEVEL. FOR ISOLATION VALVES PROVIDE 50mm OPERATING NUT AND OPERATING KEY. SECURE VALVE SPINDLE FROM NEAREST CONCRETE STRUCTURE.
17. PROVIDE EXPANSION JOINT FOR ALL PIPE RUNS LONGER THAN 15m.

LEGEND

- DECK MOUNTED PEDESTAL C/W HOSE BIBS BY OTHERS. COORDINATE WITH OTHERS FOR THE TIE-IN.
- ☁ WORK TO BE COMPLETED UNDER THIS CONTRACT



Revision/	Description/Description	Date/Date
5		
4		
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0	ISSUED FOR 60% REVIEW	15/12/31

Client/client
FISHERIES AND OCEANS

Project title/Titre du projet

**INSTITUTE OF OCEAN SCIENCES
 TIMBER AND CONCRETE FLOATS
 A, B1, B2, C & D INSTALLATION**

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 M. KRAMER / DECEMBER 15, 2015

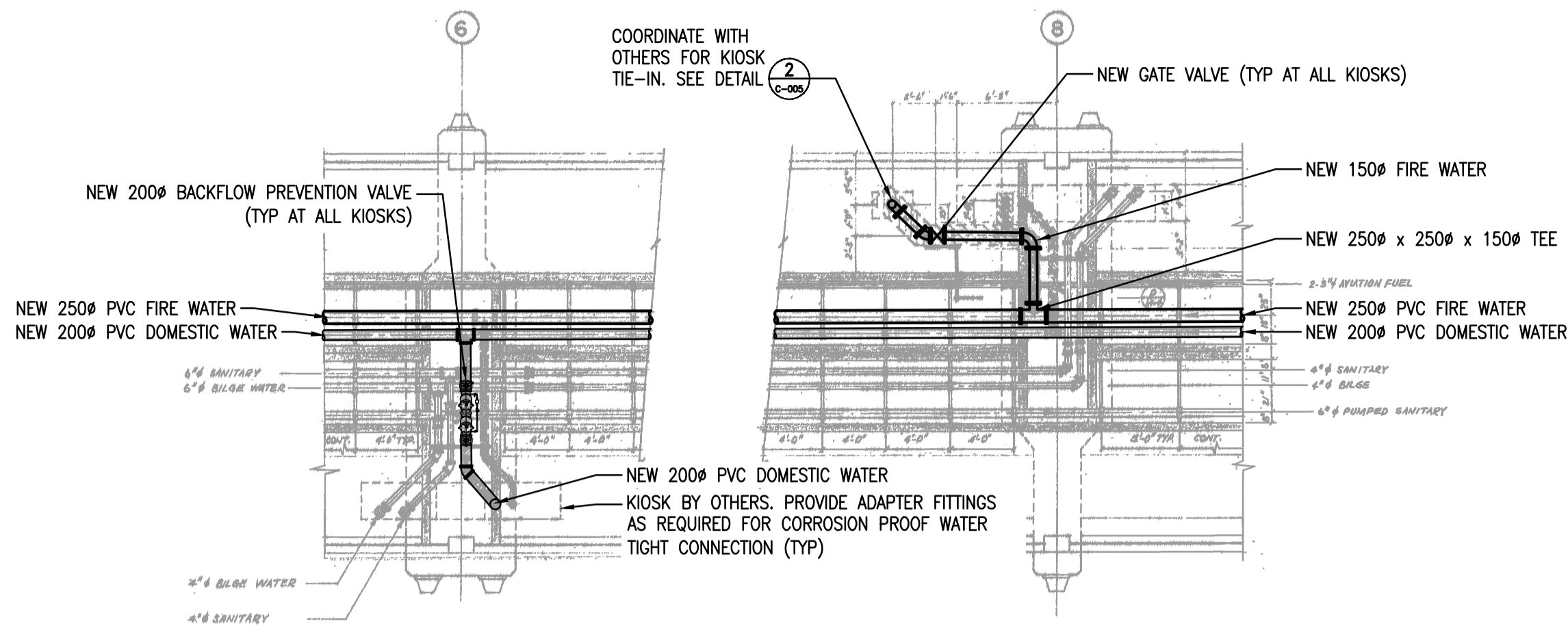
PWGSC Project Manager/Administrateur de Projets TPSGC
 JERRY CHEN

Regional Manager, Architectural and Engineering Services
 Gestionnaire régional, Services d'architecture et de génie, TPSGC

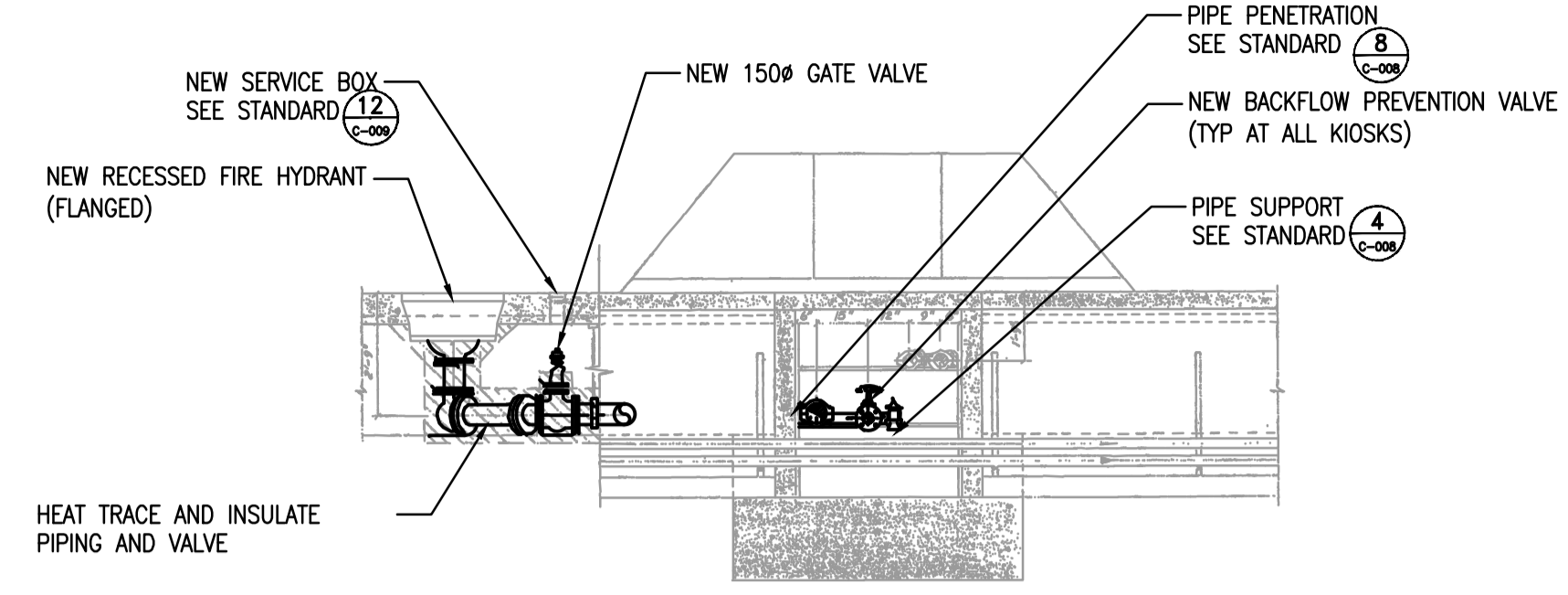
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**PLAN
 FIXED WHARF AND FLOAT D**

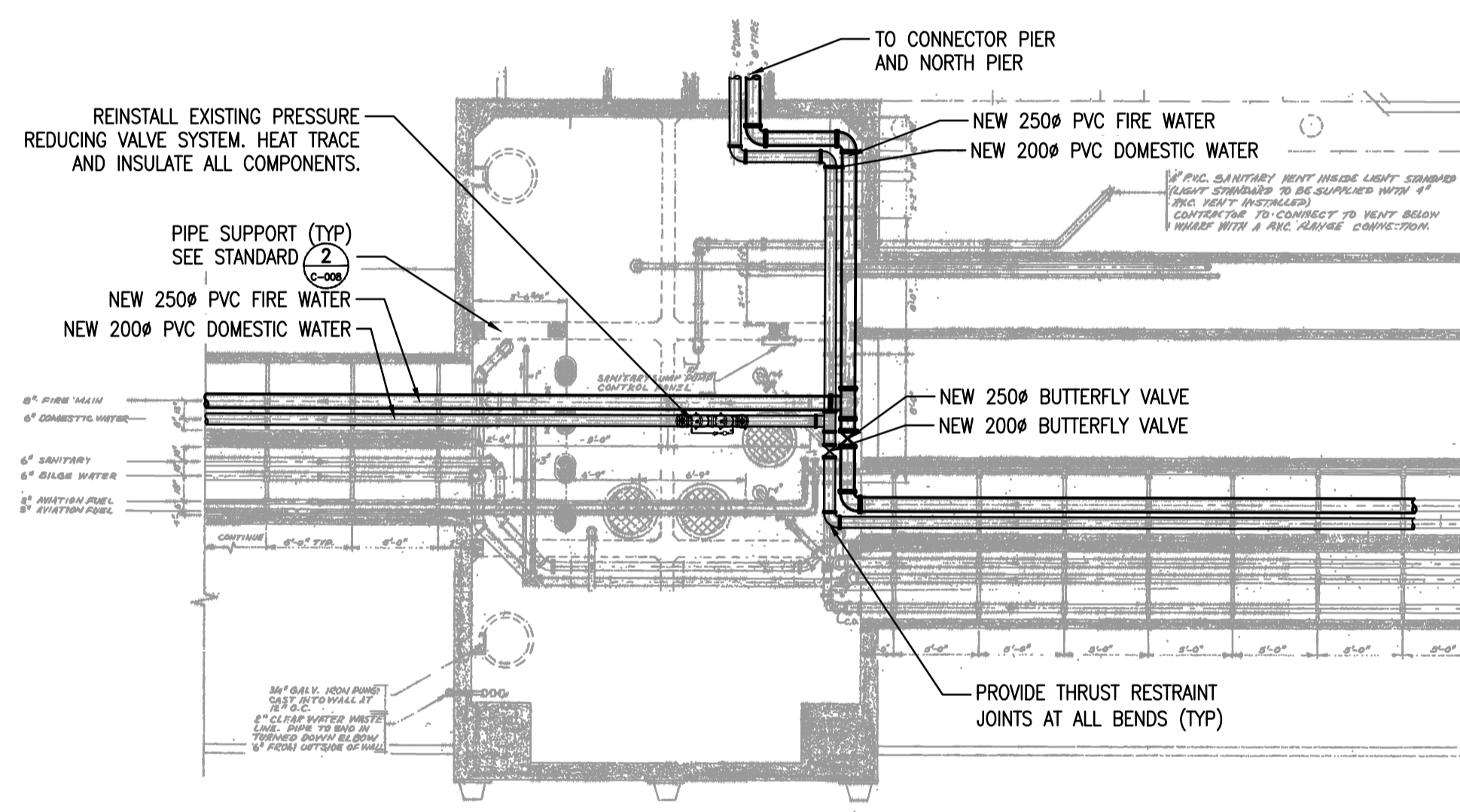
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9R306-02	C-004	3
	OF 10	



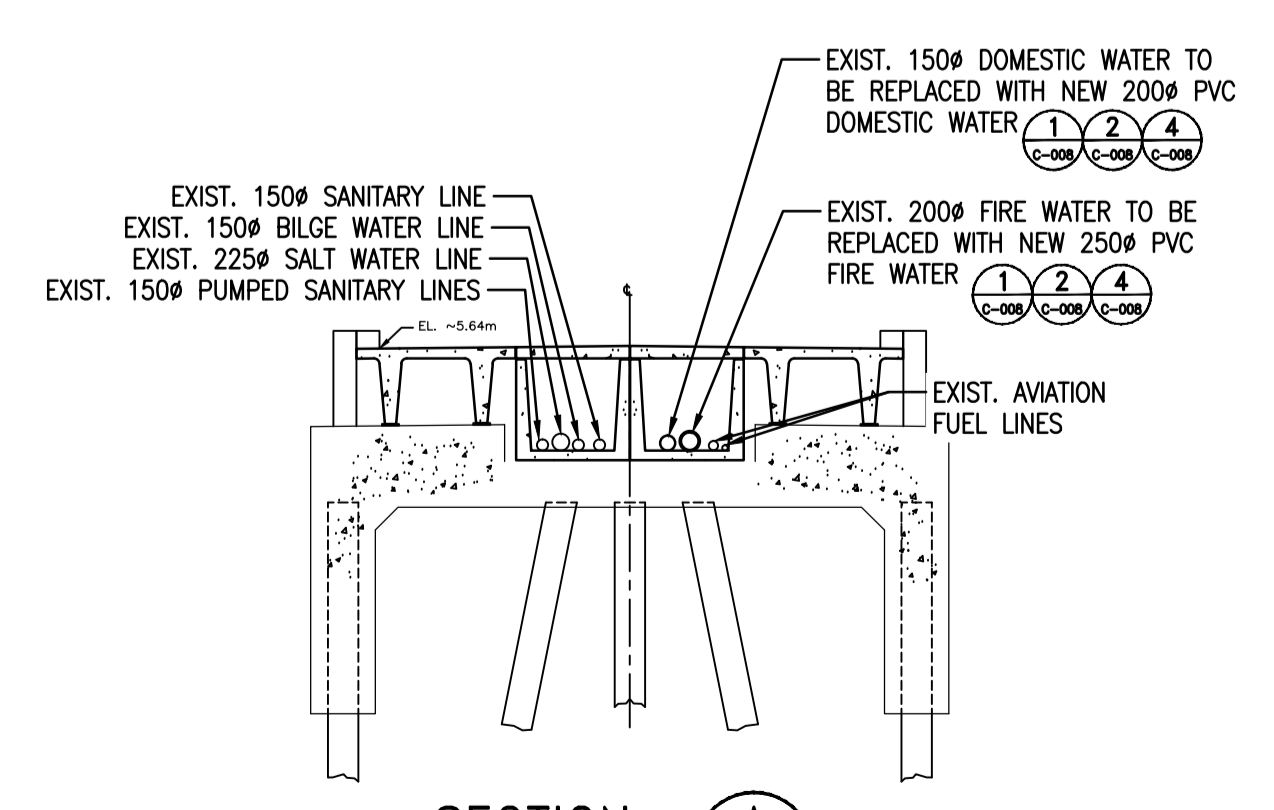
CRIB INSTALLATION - PLAN
DETAIL 1
 1:100 TYPICAL FOR 12 KIOSKS



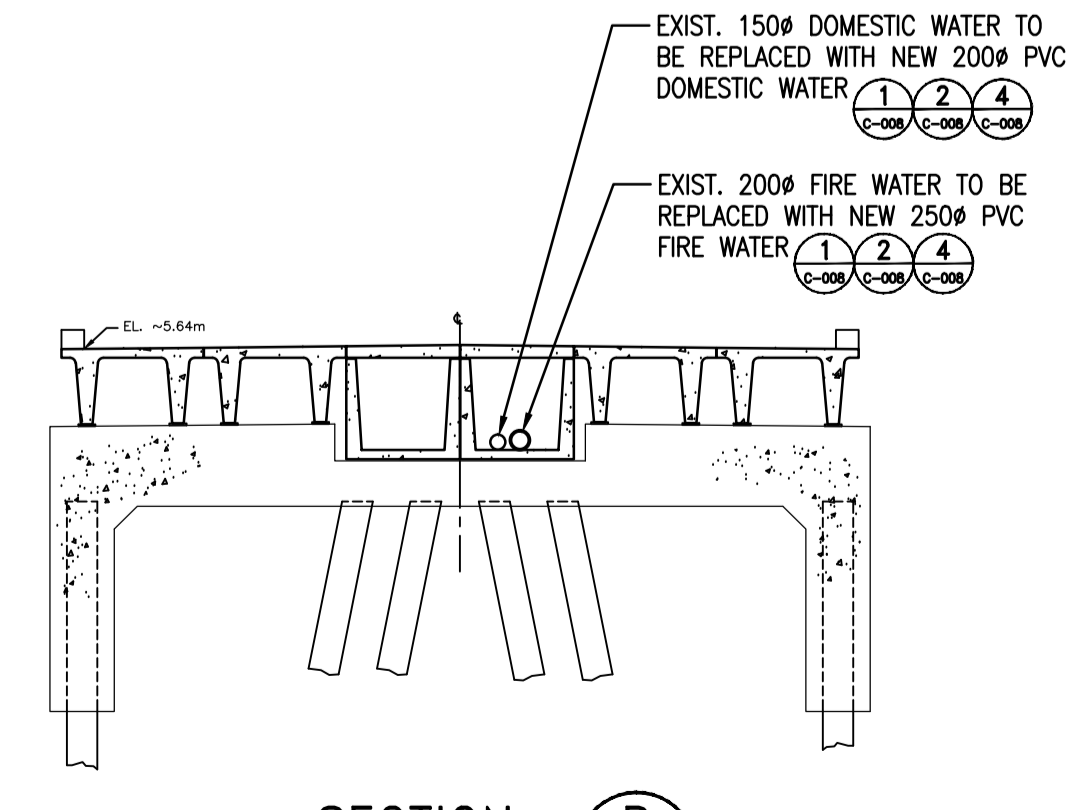
CRIB INSTALLATION - SECTION
DETAIL 2
 1:50 TYPICAL FOR 10 KIOSKS
 NOTE: TWO (2) TO BE PROVIDED UNDER PHASE 1



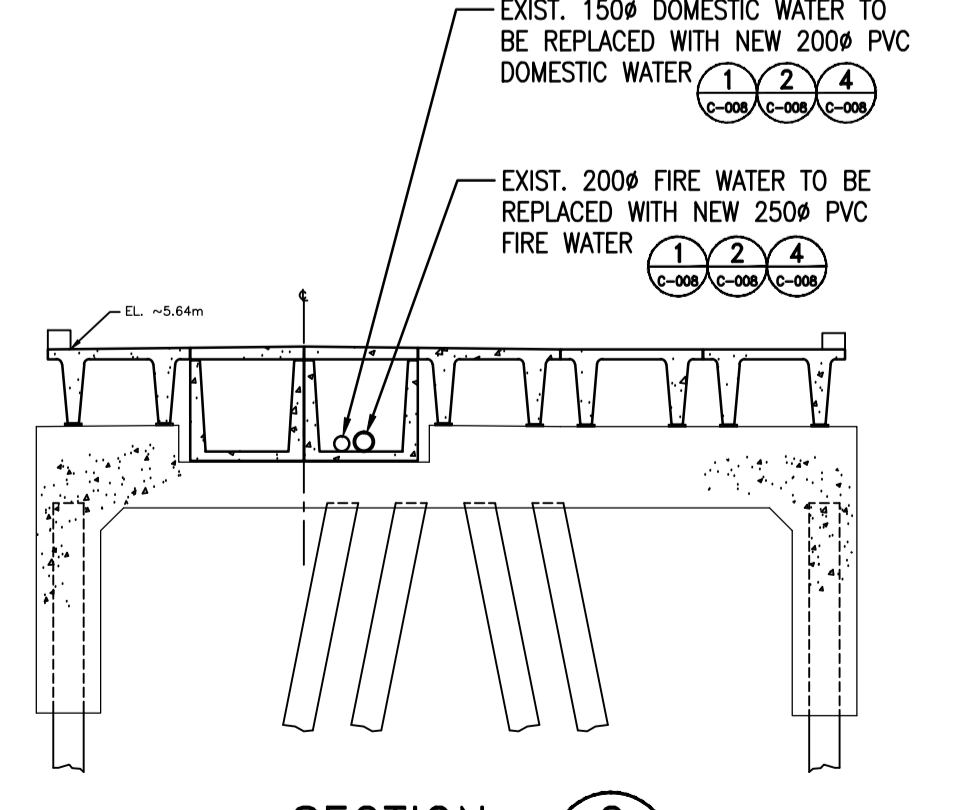
DETAIL 3
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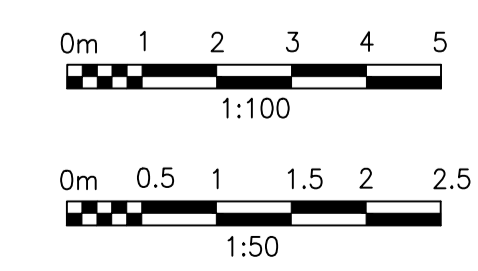
SECTION A
 1:100 C-004



SECTION B
 1:100 C-004



SECTION C
 1:100 C-004



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4		
3	ISSUED FOR TENDER	16/07/15
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Revision/	Description/Description	Date/Date

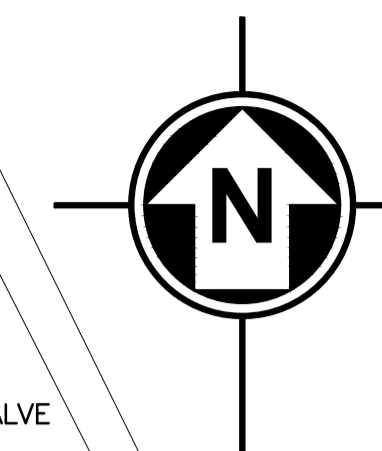
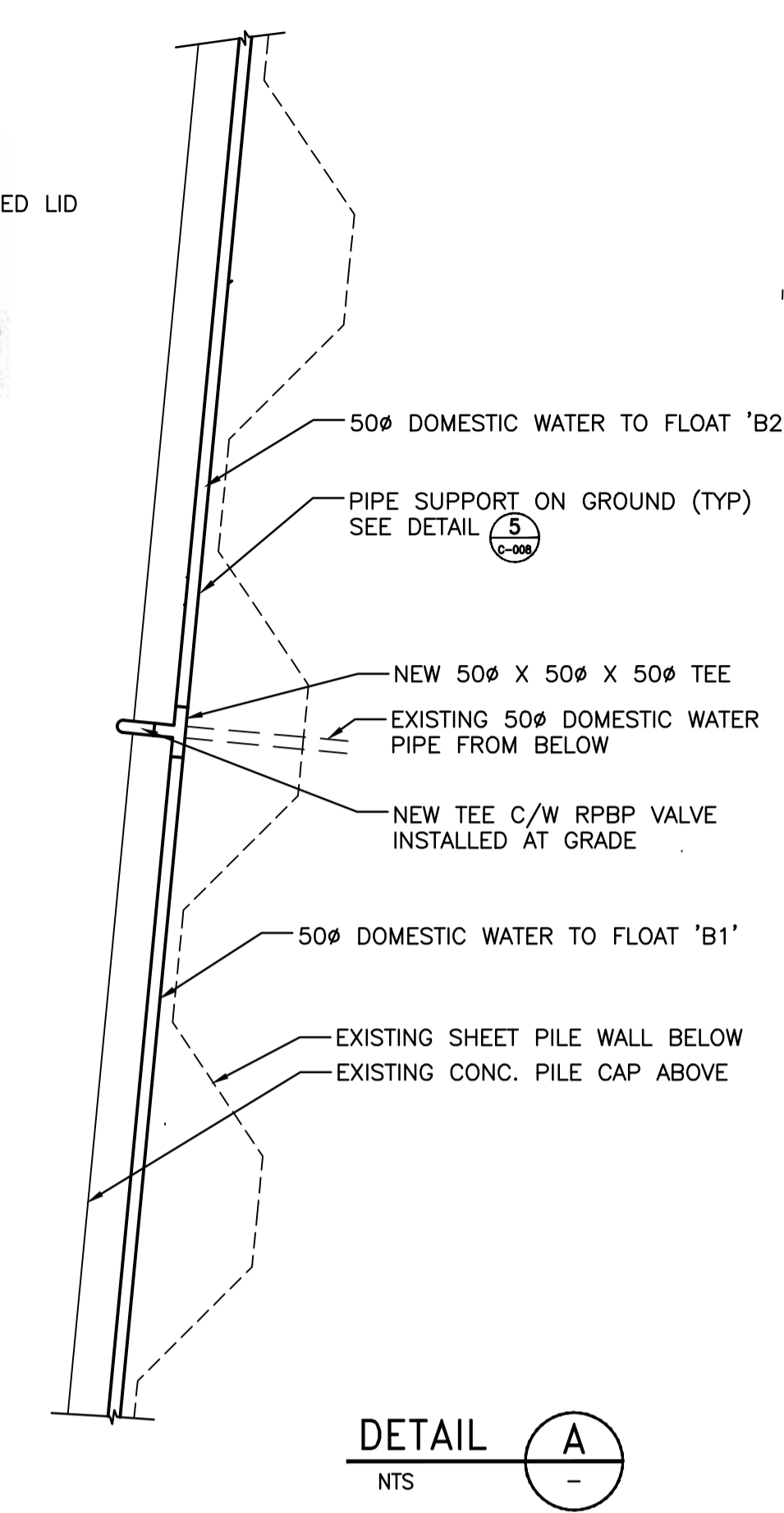
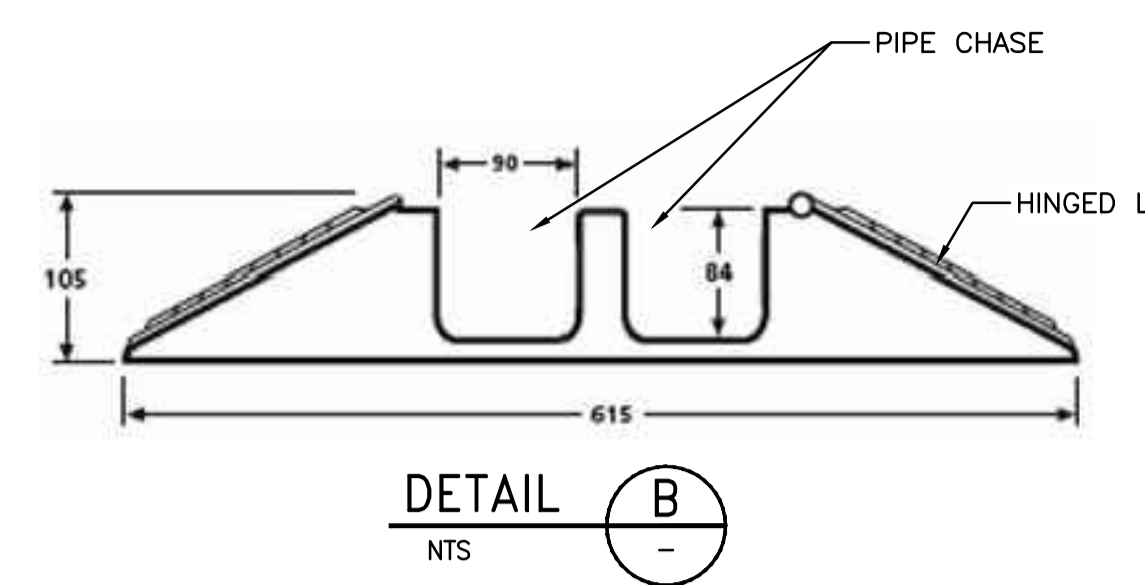
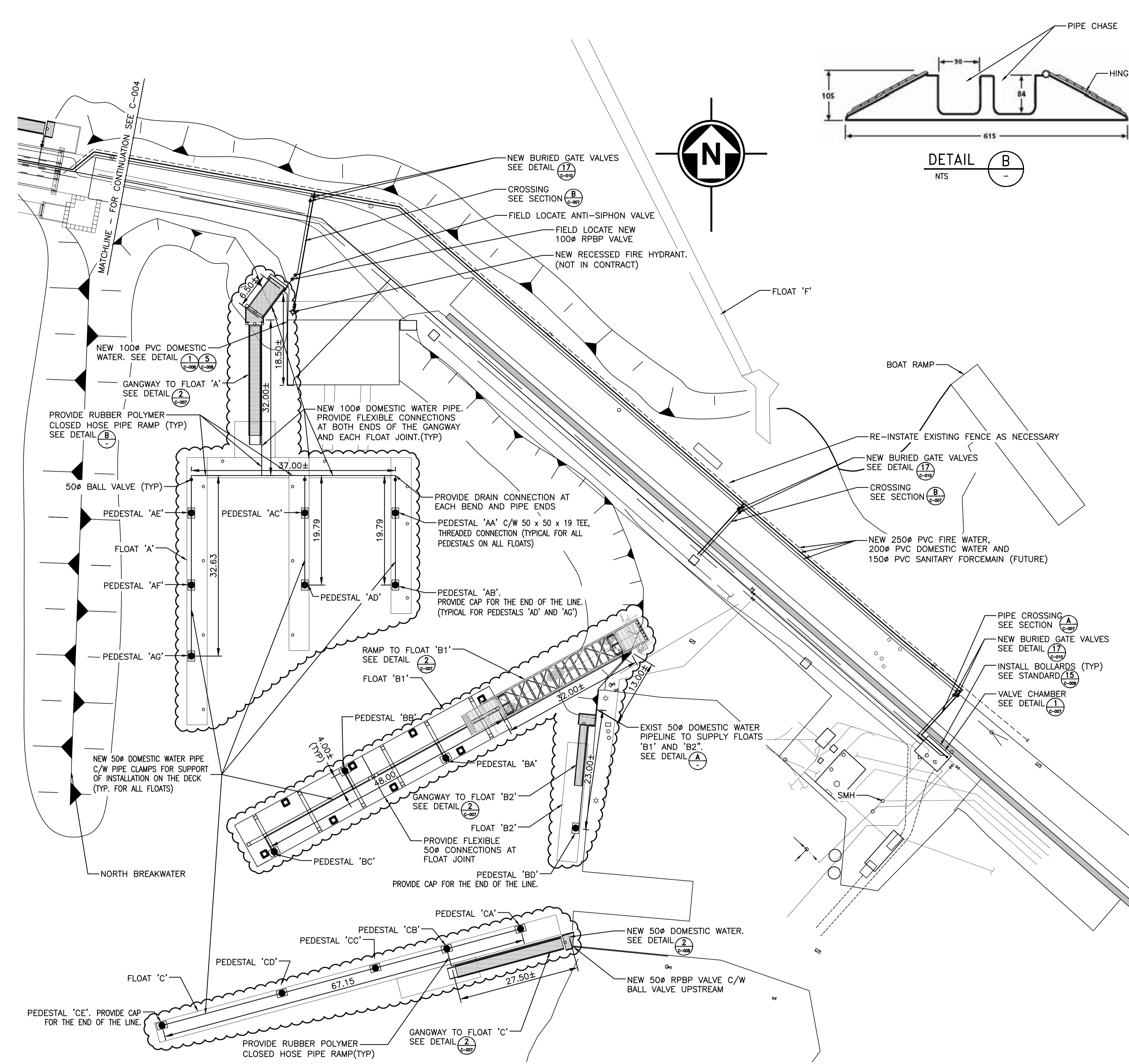
Client/client
FISHERIES AND OCEANS

Project title/Titre du projet
**INSTITUTE OF OCEAN SCIENCES
 TIMBER AND CONCRETE FLOATS
 A,B1,B2,C & D INSTALLATION**

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 SUNNY MANGAT / DECEMBER 15, 2015
 Drawn by/Dessiné par
 M.KRAMER / DECEMBER 15, 2015
 PWGSC Project Manager/Administrateur de Projets TPSGC
 JERRY CHEN
 Regional Manager, Architectural and Engineering Services
 Questionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin
**SECTIONS AND DETAILS
 FIXED WHARF**

Project No./No. du projet	Sheet/Fauille	Revision no./La Révision no.
9R306-02	C-005	3
	OF 10	



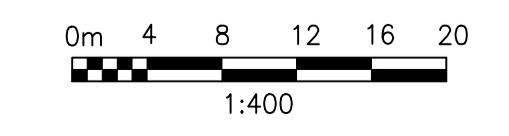
PLAN - CAUSEWAY AND FLOATS A,B1,B2 AND C
 1:400

NOTES:

1. ALL PIPE SIZES ARE MILLIMETRES (mm). ALL DIMENSIONS SHOWN ARE METRES (m).
2. FIELD LOCATE ALL EXISTING CONDUITS & SERVICE PIPING. PROTECT EXISTING AND MAINTAIN MIN. CLEARANCE FROM EXISTING.
3. ROUTE NEW PIPING SAME ROUTE AS EXISTING UNLESS IDENTIFIED OTHERWISE.
4. PROVIDE DRAIN CONNECTION AT EVERY CRIB & ALL LOW POINTS PER DETAIL 7 ON C-008.
5. PROVIDE AIR VENT. VALVES AT EVERY CRIB & ALL HIGH POINTS AS NECESSARY.
6. ALL WORKS & MATERIAL TO CONFORM WITH CRD'S STANDARDS UNLESS SPECIFIED OTHERWISE.
7. ALL FLOATING DOCK UTILITY LINES SHALL BE MIN. 50mm ABOVE WATER LEVEL.
8. PROVIDE THRUST RESTRAINTS AT ALL BENDS PER CRD STANDARDS.
9. ALL FIRE SUPPLY SYSTEM SHALL BE MIN. RATED FOR 175 PSI.
10. ALL PIPE SUPPORTS SHALL BE ALUMINUM MARINE GRADE CONSTRUCTION CW 1/2" CONC. WEDGE ANCHORS.
11. ALL BURIED JOINTS OF THE WATERMAIN AND FIREMAIN TO BE WRAPPED WITH HEAT SHRINK PLASTIC OR PACKED WITH PETROLEUM COMPOUND AND WRAPPED WITH PETROLEUM TAPE. ALL WORK ON WATER PIPING TO BE COMPLETED PER ANSI/AWWA C214, C209, C217-90
12. ALL CHLORINATION AND FLUSHING PRESSURE TESTING PER AWWA AND MINISTRY OF HEALTH STANDARDS.
13. ALL FITTINGS AND VALVE CONNECTIONS TO BE FLANGED.
14. ALL FLEXIBLE HOSE CONNECTIONS TO BE SIMILAR TO EXISTING.
15. WORK UNDER THIS CONTRACT IS FOR ALL FLOATS AS INDICATED AND ASSOCIATED TIE-INS TO WATER SUPPLY ONLY
16. PROVIDE EXPANSION JOINT FOR ALL PIPE RUNS LONGER THAN 15m.

LEGEND

- DECK MOUNTED PEDESTAL C/W HOSE BIBS BY OTHERS. COORDINATE WITH OTHERS FOR THE TIE-IN.
- WORK TO BE COMPLETED UNDER THIS CONTRACT



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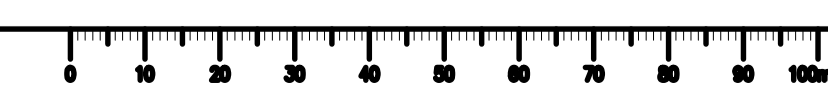
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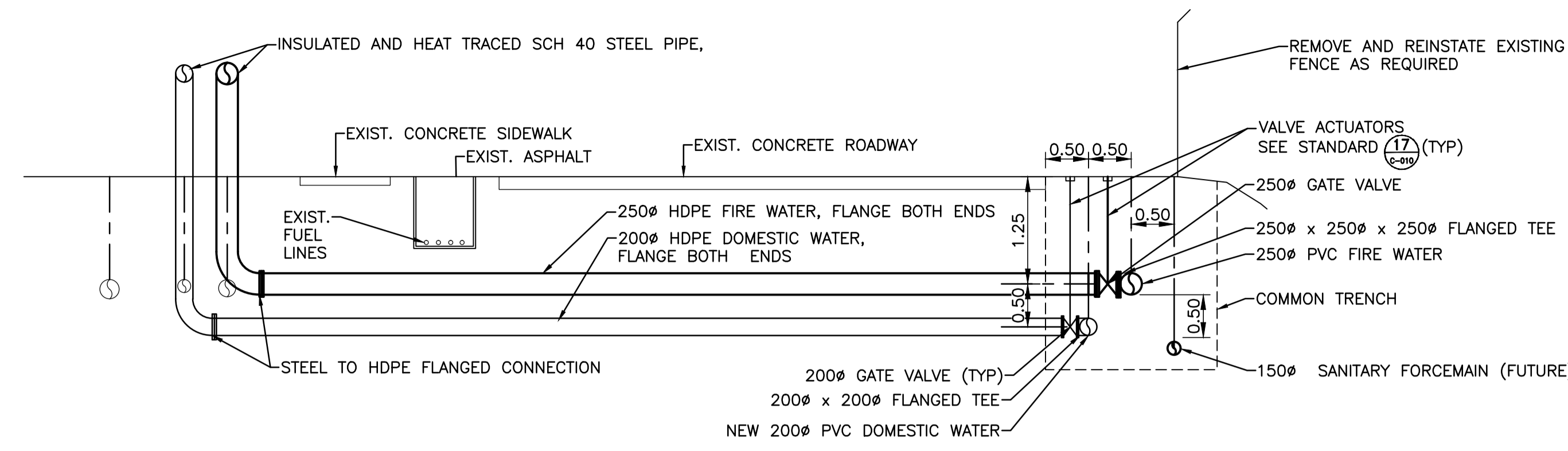
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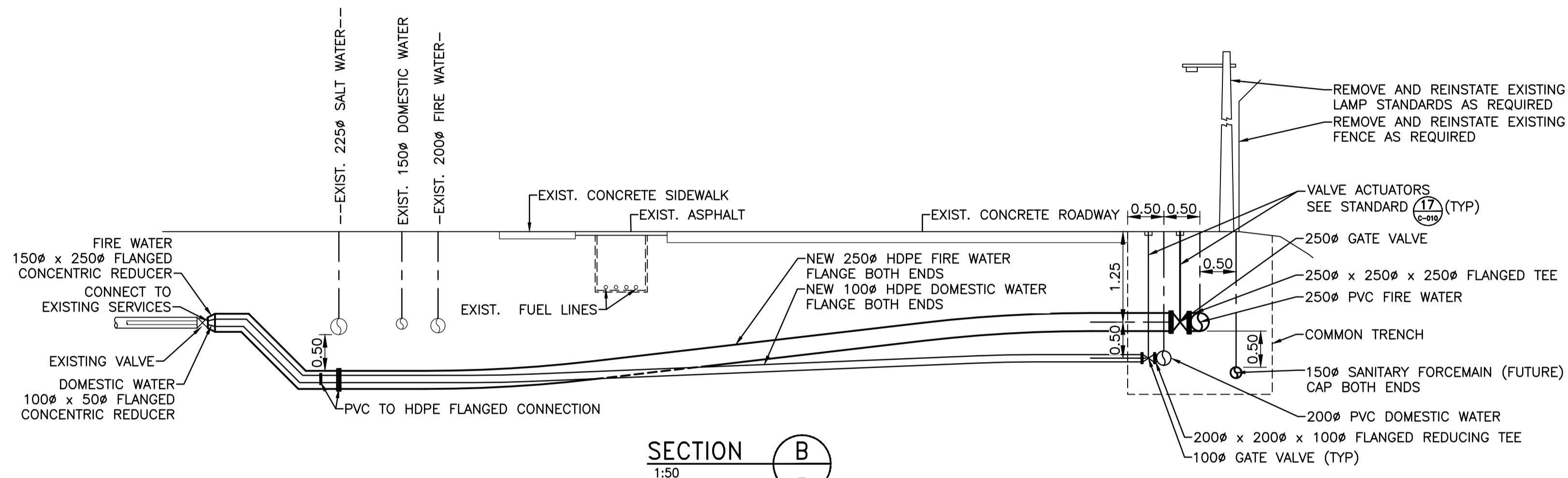
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**PLAN
 CAUSEWAY AND FLOATS A,B1,B2 AND C**

Project No./No. du projet 9R306-02	Sheet/Fauille C-006	Revision no./La Révision no. 3
		OF 10

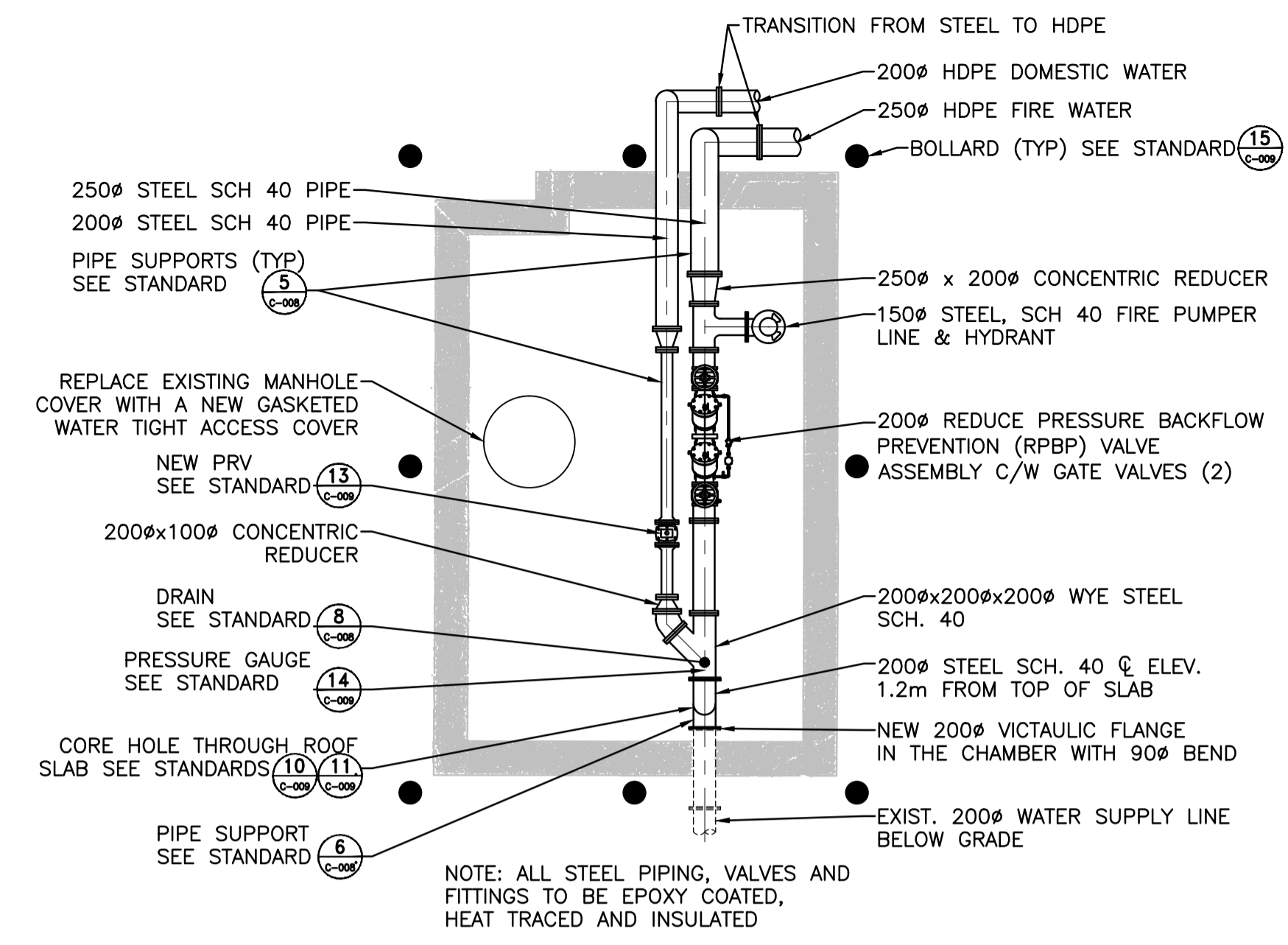




SECTION A
1:50

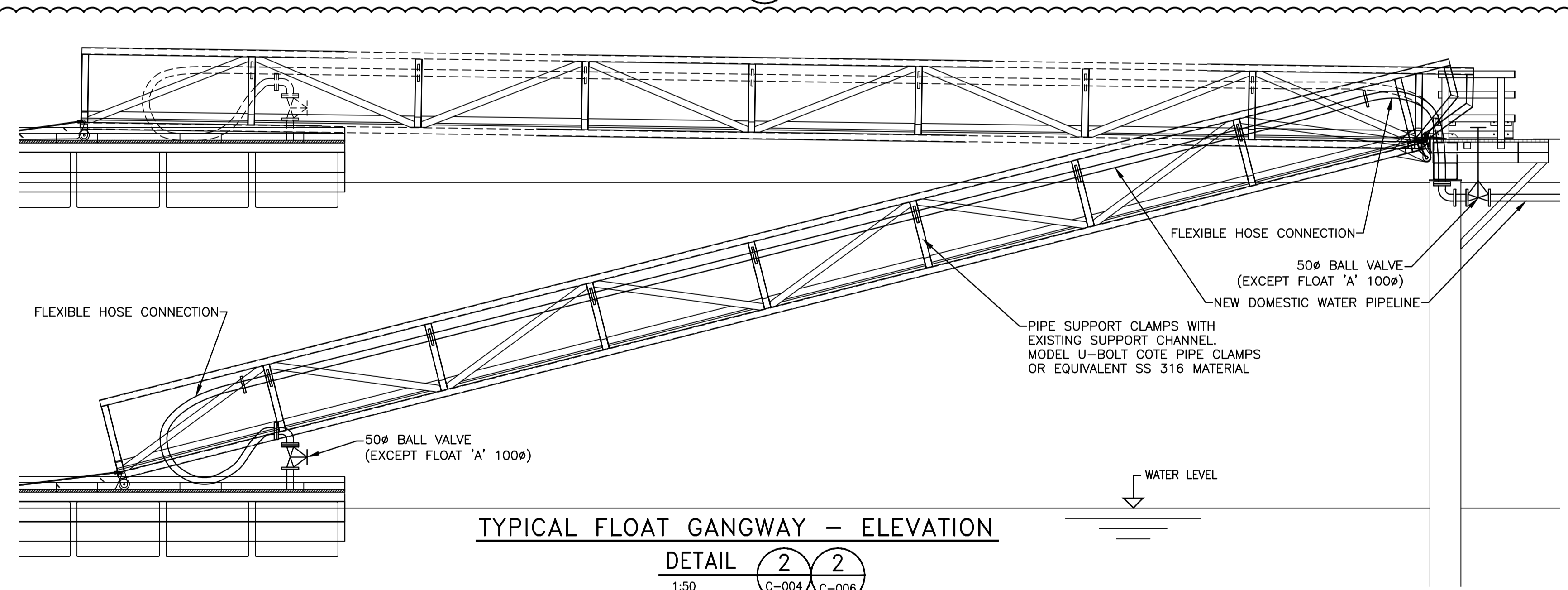


SECTION B
1:50



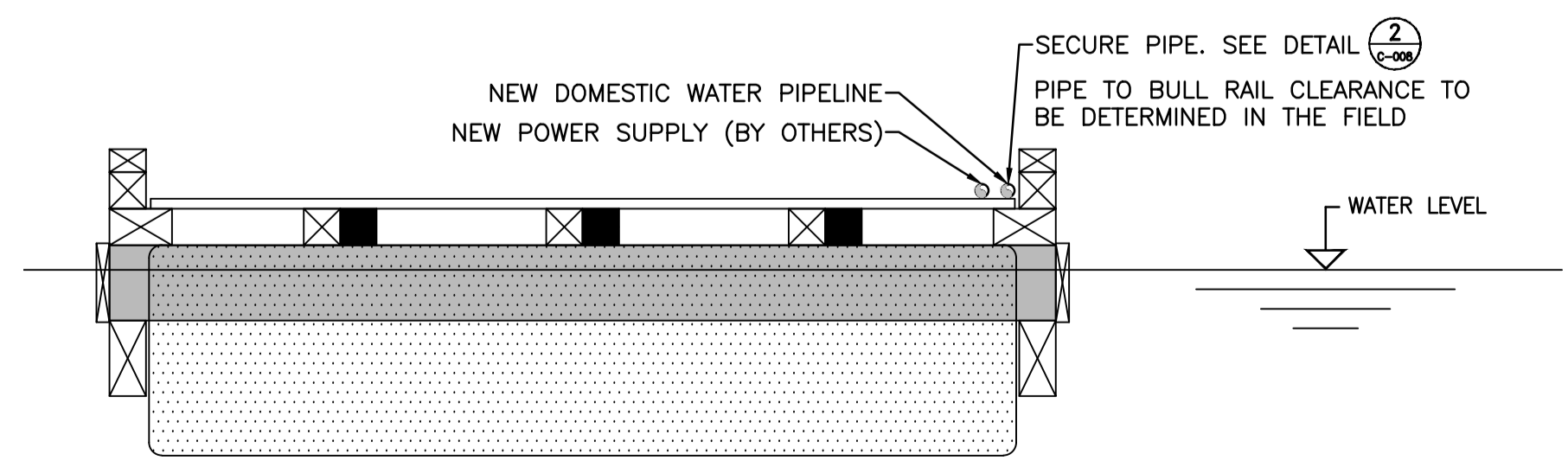
VALVE CHAMBER - PLAN

DETAIL 1
1:50



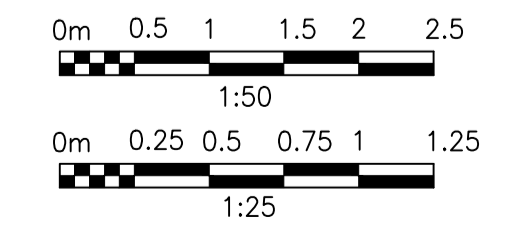
TYPICAL FLOAT GANGWAY - ELEVATION

DETAIL 2
1:50



TYPICAL FLOAT SECTION (EXCEPT B1)
SCALE 1:25

WORK TO BE COMPLETED UNDER THIS CONTRACT



5		
4		
3	ISSUED FOR TENDER	16/07/15
2	ISSUED FOR PRE-TENDER REVIEW	16/04/11
1	ISSUED FOR 99% REVIEW	16/02/10
0	ISSUED FOR 60% REVIEW	15/12/11
Revision/	Description/Description	Date/Date

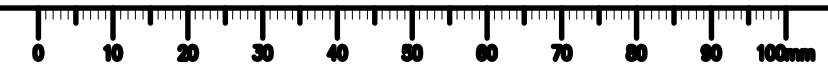
Client/client
FISHERIES AND OCEANS

Project title/Titre du projet
**INSTITUTE OF OCEAN SCIENCES
 TIMBER AND CONCRETE FLOATS
 A, B1, B2, C & D INSTALLATION**

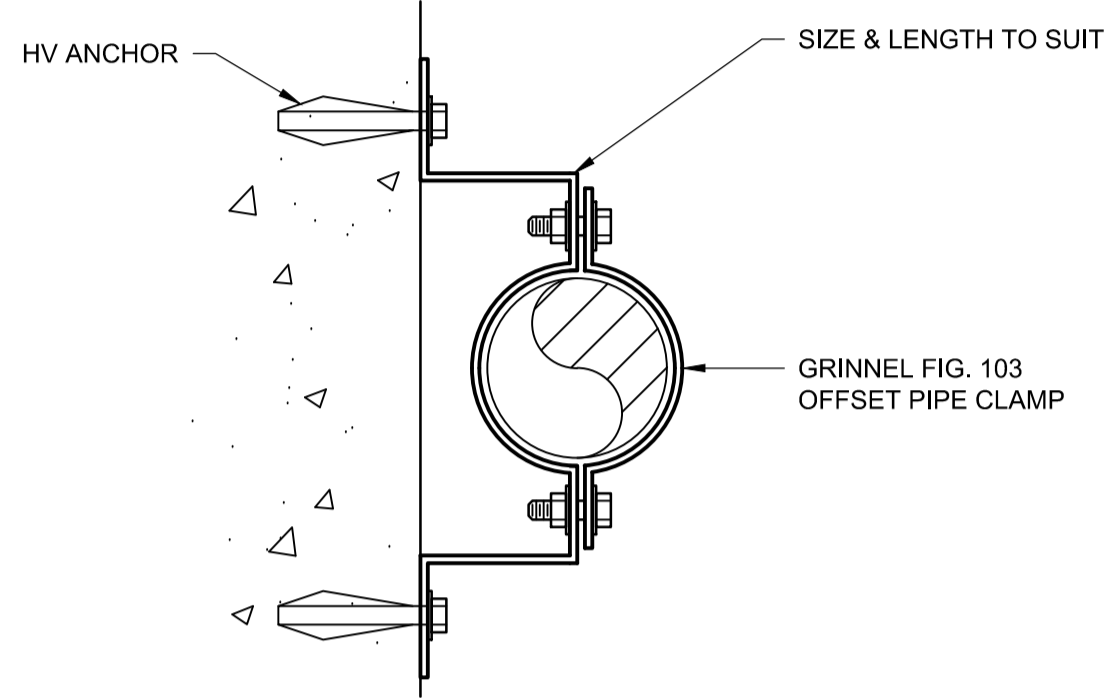
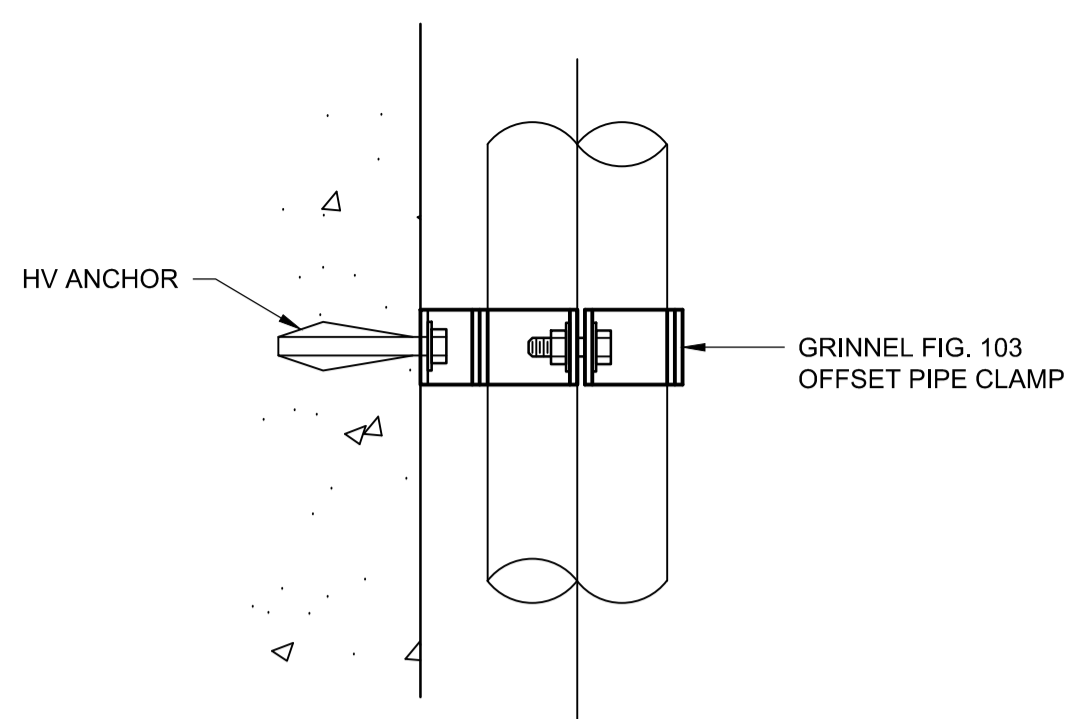
Consultant Signature Only
 -
 Designed by/Concept par
 HENRI GIOVANETTI / DECEMBER 15, 2015
 Drawn by/Dessiné par
 M. KRAMER / DECEMBER 15, 2015
 PWGSC Project Manager/Administrateur de Projets TPSGC
 JERRY CHEN
 Regional Manager, Architectural and Engineering Services
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Drawing title/Titre du dessin
**SECTIONS AND DETAILS
 CAUSEWAY AND FLOATS**

Project No./No. du projet	Sheet/Fauille	Revision no./La Révision no.
9R306-02	C-007	3
	OF 10	

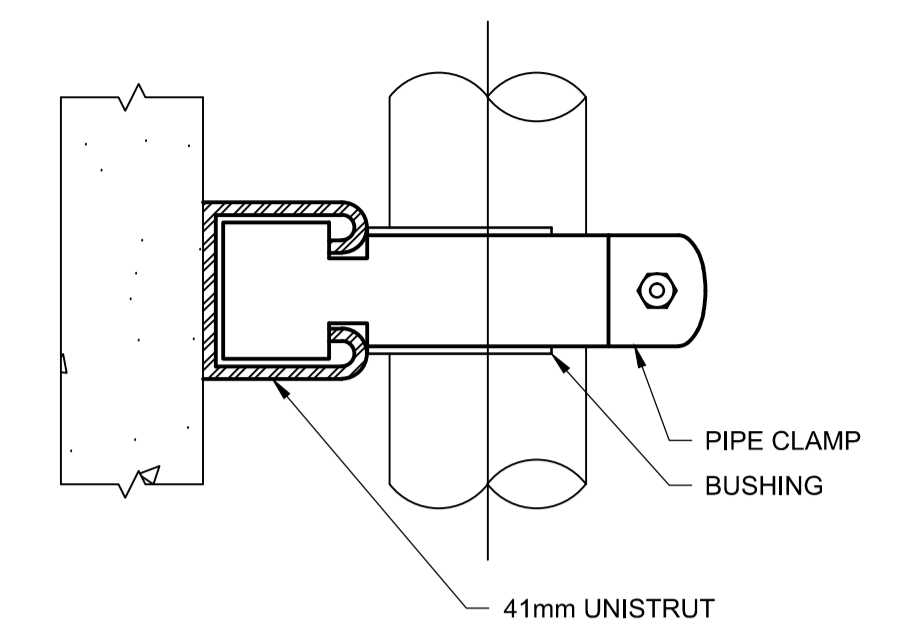


NOTES:
 1. ALL PIPE SUPPORT MATERIAL TO BE GALVANIZED STEEL

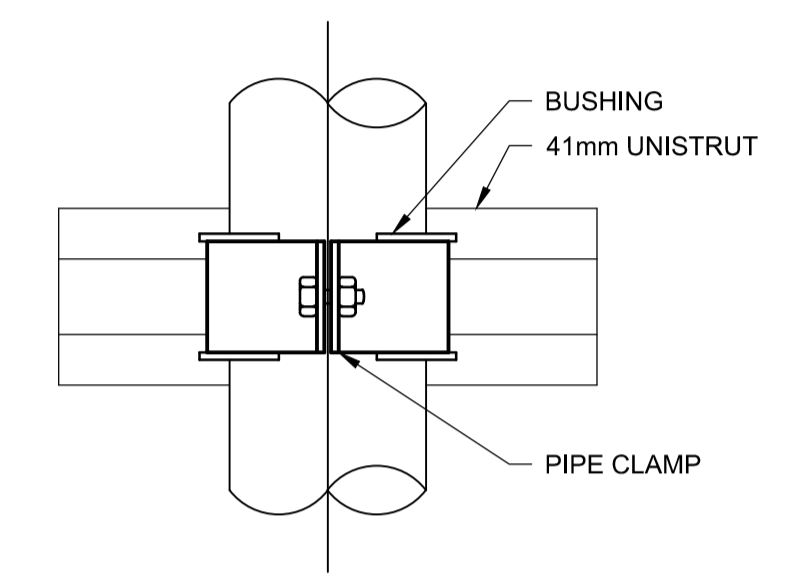


- NOTES:
- SUITABLE FOR PIPES 250 TO 3000
 - GALVANIZE ALL METAL PARTS AND HARDWARE
 - SUITABLE FOR WALL OR FLOOR SUPPORTED PIPE
 - FOR WOOD STRUCTURE SUPPORTED PIPE PROVIDE SS316 75mm SCREWS C/W WASHERS INSTEAD OF HV ANCHORS

OFFSET PIPE SUPPORT (1) NTS

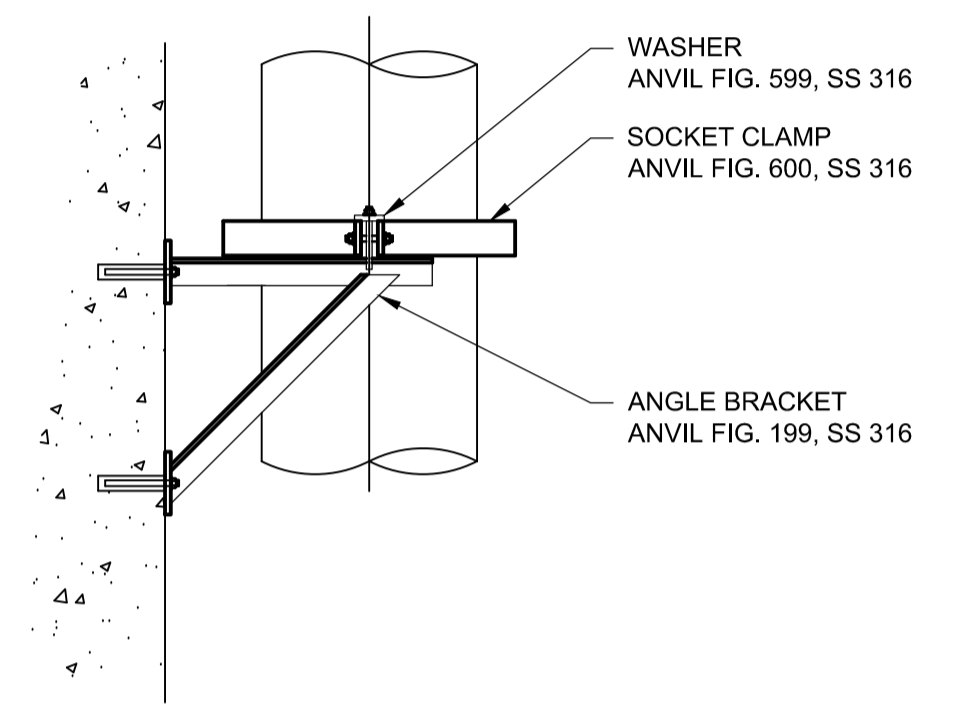
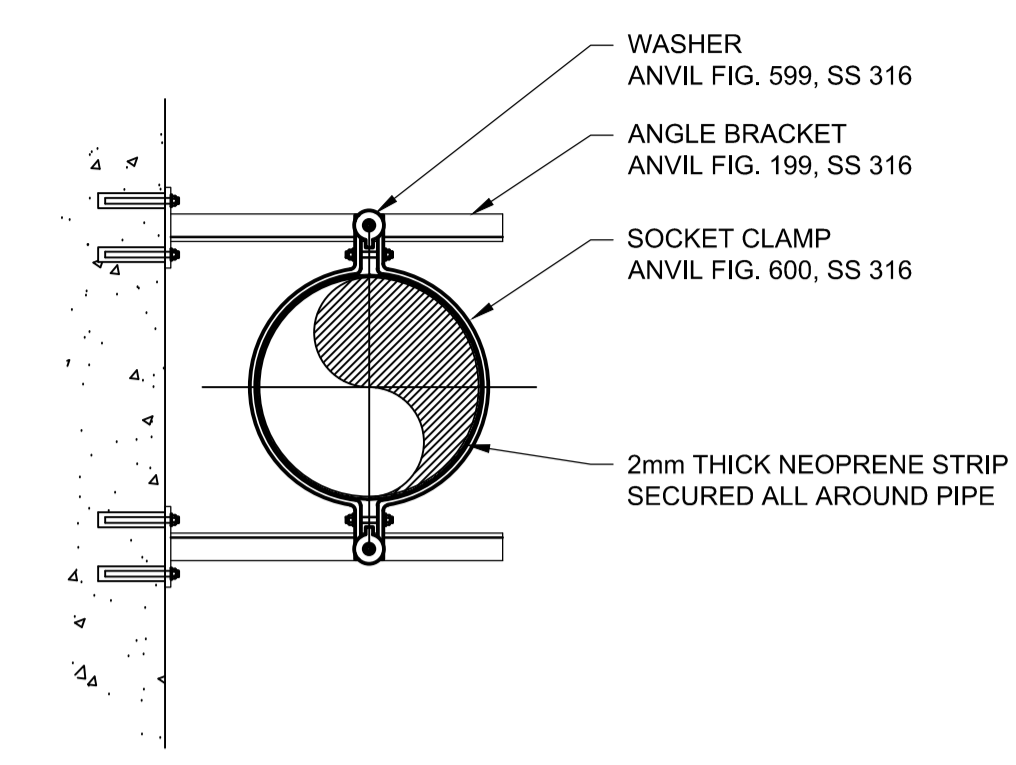


PLAN

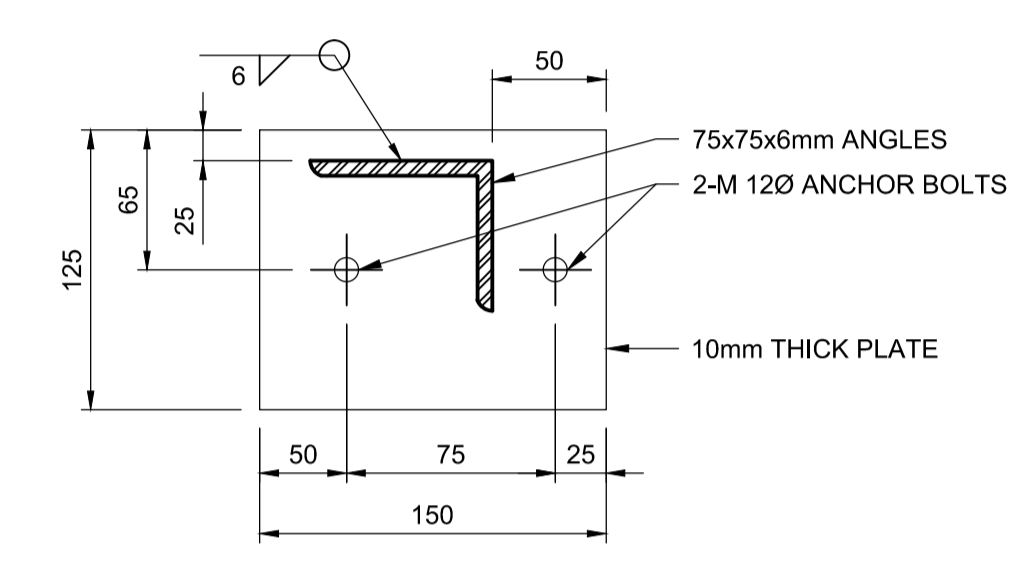
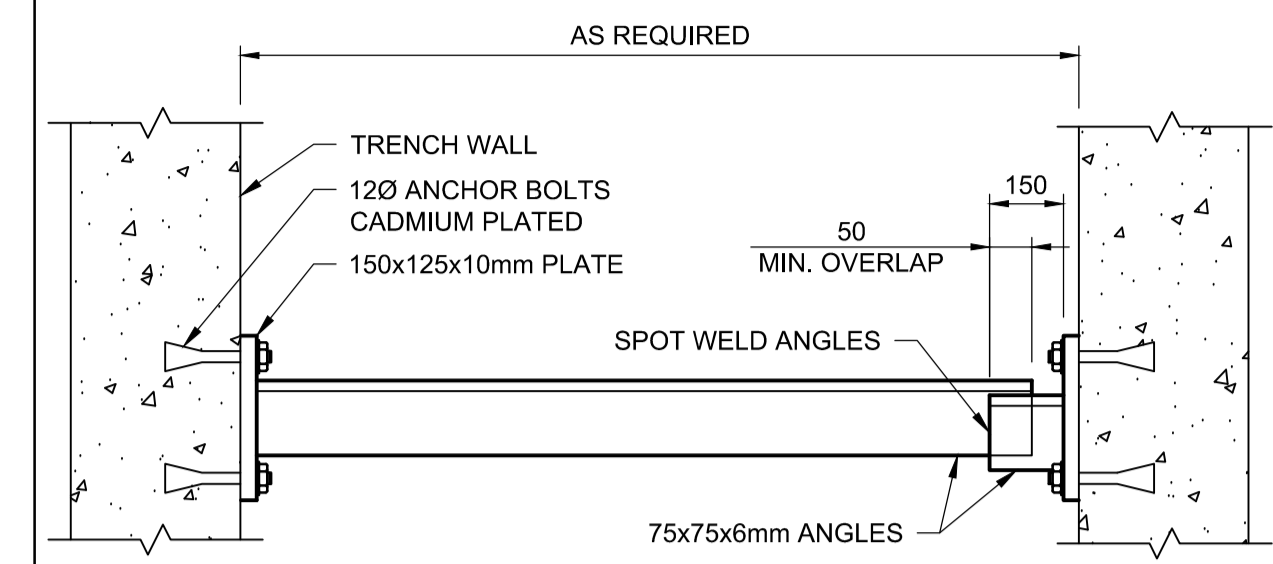


SECTION

WALL MOUNTED PIPE SUPPORT (2) NTS

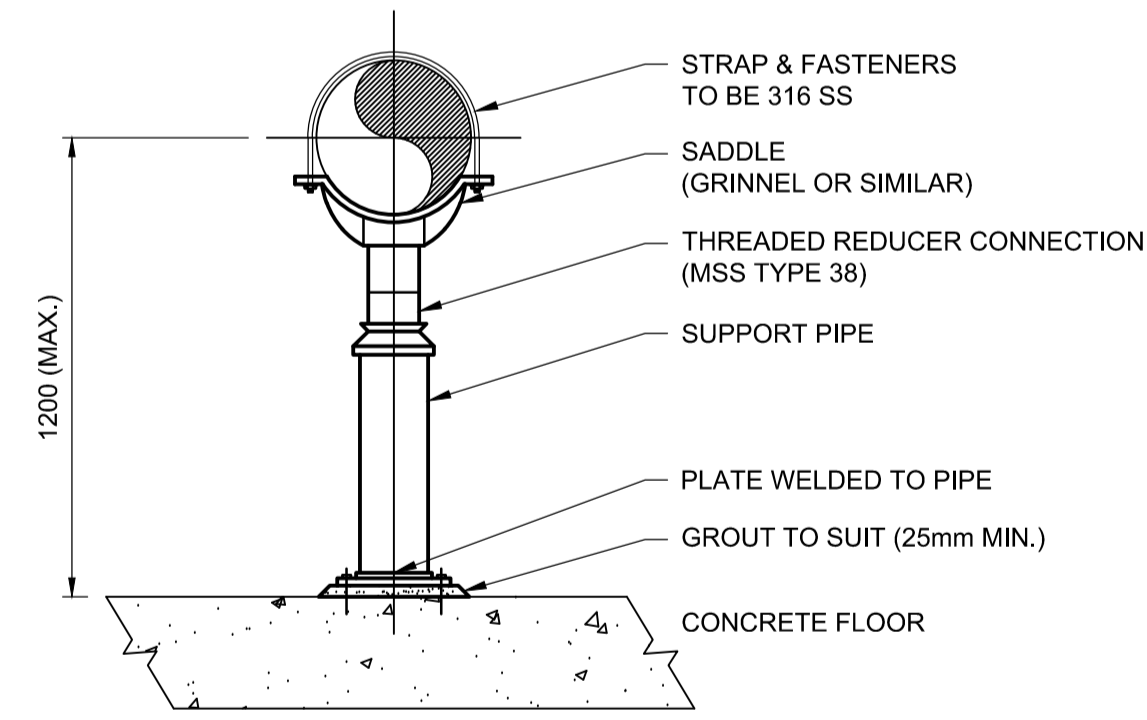


VERTICAL PIPE SUPPORT (3) NTS



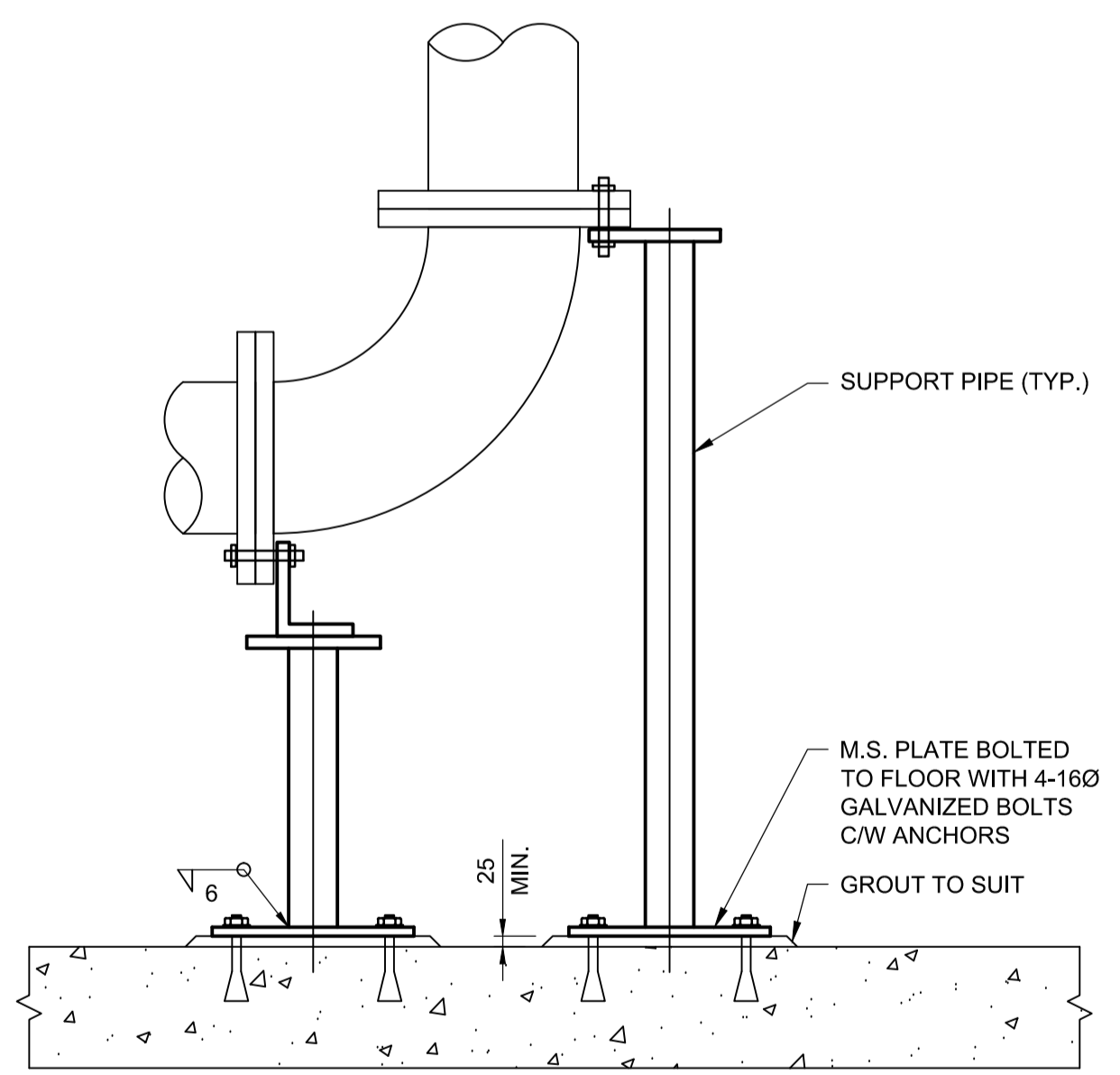
NOTE: ALL PARTS TO BE GALVANIZED.

TRENCH PIPE SUPPORT (4) NTS



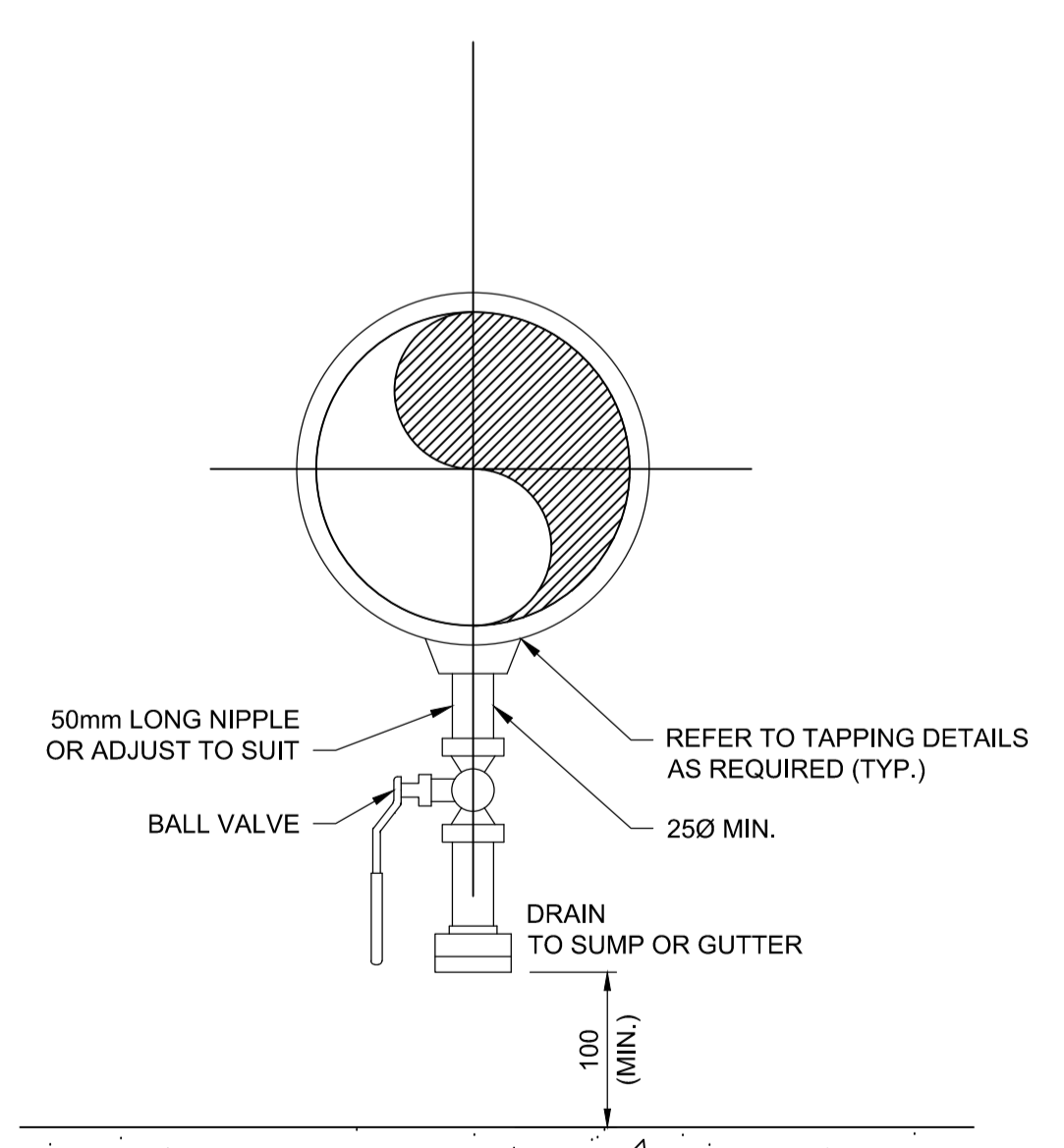
PIPE SIZE (mm)	SUPPORT PIPE (mm)	PLATE SIZE (mm)
50	38	150 X 150 X 9.5
75	50	250 X 250 X 9.5
100	75	250 X 250 X 9.5
150	100	250 X 250 X 9.5
200	150	250 X 250 X 9.5
250	200	300 X 300 X 9.5

ADJUSTABLE PIPE SUPPORT (5) NTS



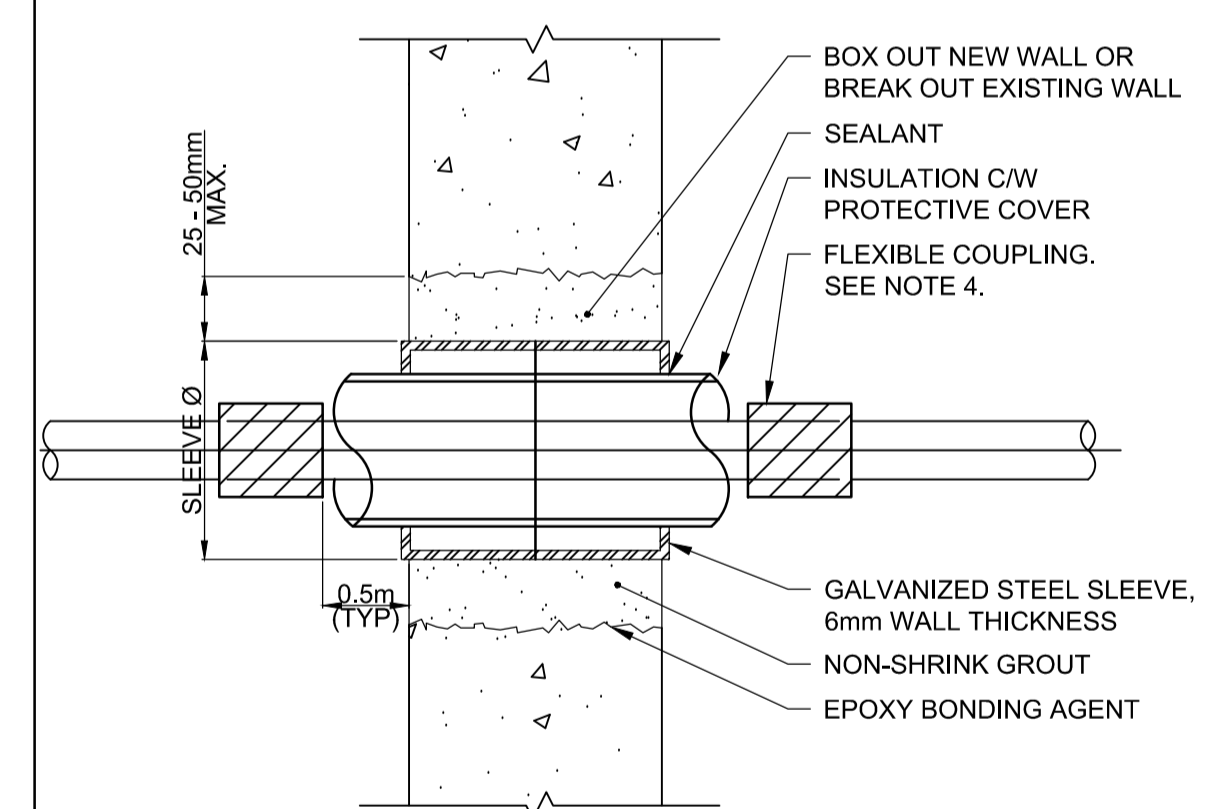
PIPE SIZE (mm)	SUPPORT PIPE (mm)	PLATE SIZE (mm)	MAXIMUM SUPPORT PIPE LENGTH (mm)
100	50 SCH 40	150 X 150 X 10	1525
150	50 SCH 40	150 X 150 X 10	1525
200	100 SCH 40	250 X 250 X 10	1625
250	100 SCH 40	250 X 250 X 10	1625
300	100 SCH 40	250 X 250 X 10	1830
350	100 SCH 40	250 X 250 X 10	1830
400	100 SCH 40	250 X 250 X 10	1830
500	100 SCH 40	250 X 250 X 10	1830
600	150 SCH 40	300 X 300 X 10	1830
750	150 SCH 40	300 X 300 X 10	1830
900	150 SCH 40	300 X 300 X 10	1830

BASE ELBOW SUPPORT (6) NTS



NOTE: WHEN SERVICE PIPE IS MORE THAN 1800 mm ABOVE FLOOR, DRAIN SHALL BE PIPED DOWN NEAREST WALL WITH A VALVE 1200 mm ABOVE FINISHED FLOOR.

DRAIN CONNECTION (7) NTS



- NOTES:
- NEW OR EXISTING CONCRETE OR MASONRY WALLS.
 - INSULATED PIPE
 - CONDITION
a) DRY TO DRY
 - PROVIDE FLEXIBLE COUPLING (SAME PRESSURE RATING AS THE PIPE) ON EACH END OF THE CONCRETE WALL PENETRATION. COUPLING SHALL PROVIDE BOTH ANGULAR AND AXIAL DEFLECTION CAPABILITY.

NOMINAL PIPE I.D. (mm)	INSULATION THICKNESS	WALL SLEEVE Ø (mm)
32	25	100
38	25	125
50	25	125
65	25	150
75	25	150
100	25	200
150	25	250
200	25	300

WALL PENETRATION - INSULATED PIPE (8) NTS

Revision/Revision	Description/Description	Date/Date
5		
4		
3	ISSUED FOR TENDER	16/07/15
2	ISSUED FOR PRE-TENDER REVIEW	16/04/11
1	ISSUED FOR 99% REVIEW	16/02/10
0	ISSUED FOR 60% REVIEW	15/12/18

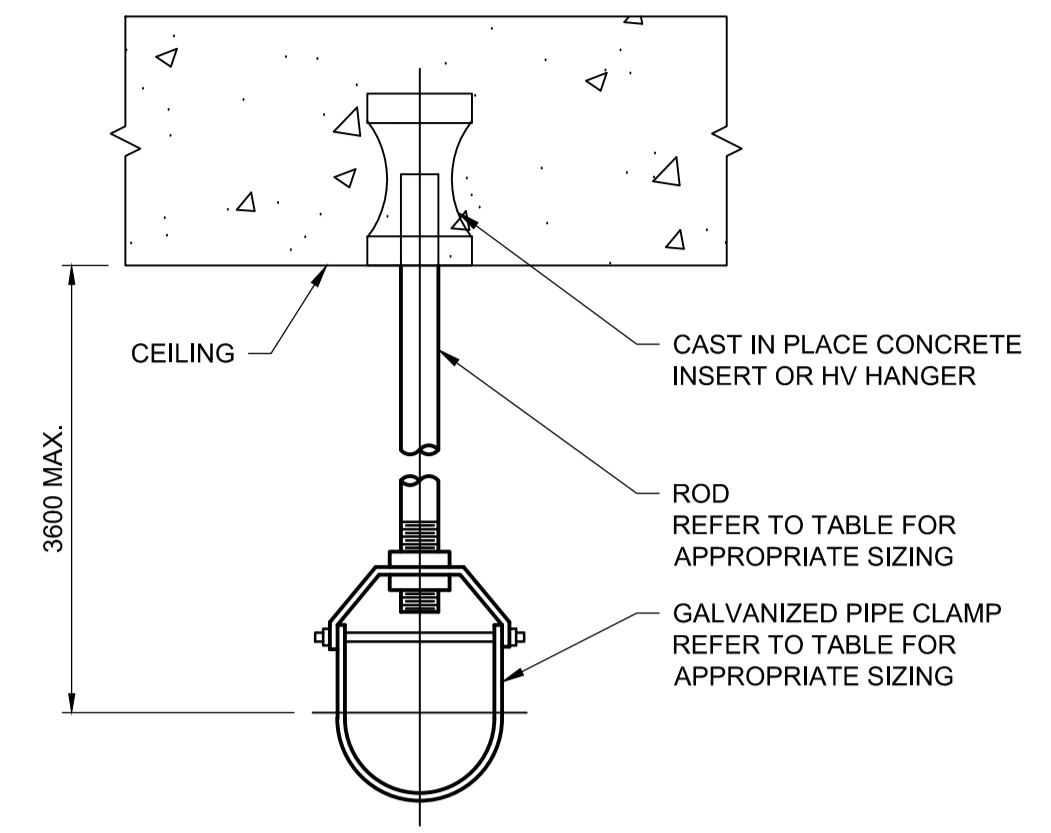
Client/client
FISHERIES AND OCEANS

Project title/Titre du projet
**INSTITUTE OF OCEAN SCIENCES
 TIMBER AND CONCRETE FLOATS
 A,B1,B2,C & D INSTALLATION**

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 Designed by/Concept par
 SUNNY MANGAT / DECEMBER 15, 2015
 Drawn by/Desiné par
 M.KRAMER / DECEMBER 15, 2015
 PWGSC Project Manager/Administrateur de Projets TPSGC
 JERRY CHEN
 Regional Manager, Architectural and Engineering Services
 Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin
DETAILS - SHEET 1

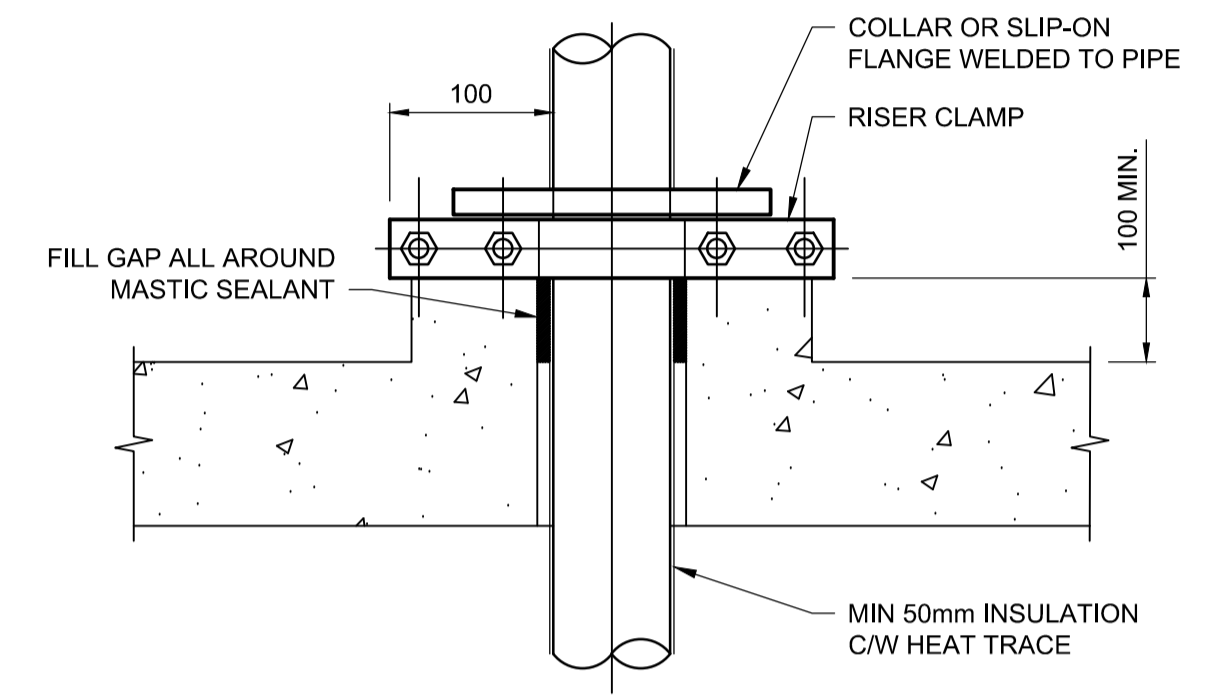
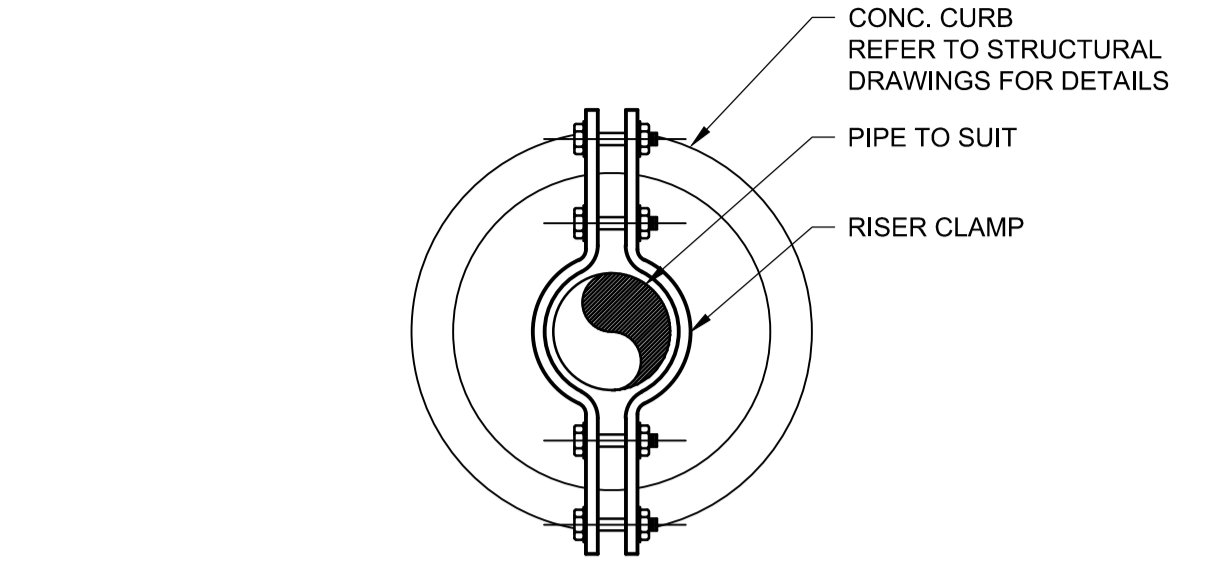
Project No./No. du projet	Sheet/Fauille	Revision no./La Révision no.
9R306-02	C-008	3
	OF 10	



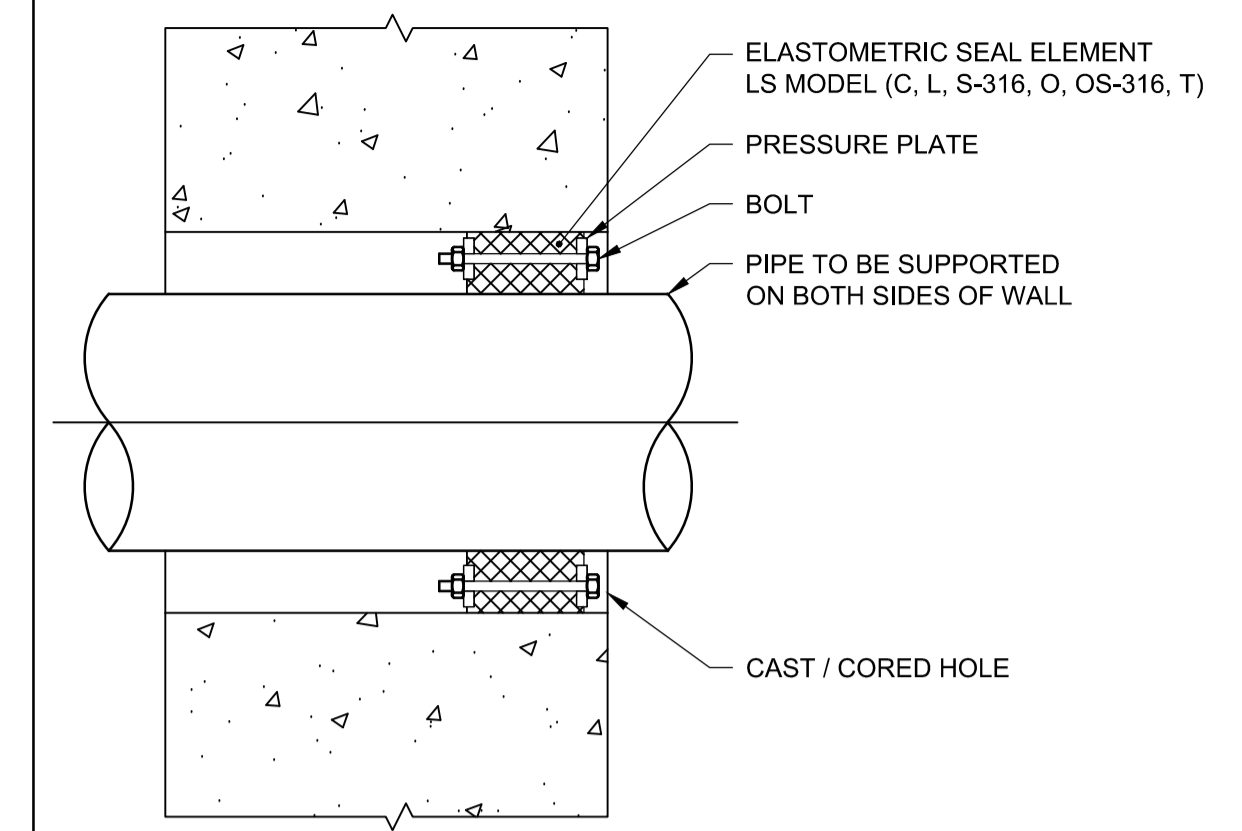
PIPE SIZE (mm)	ROD SIZE (mm)	MAX LOAD (kg)
25	9.4	280
50	9.4	280
75	12.0	510
100	16.0	800
150	20.0	1230
200	22.0	1710
250	25.0	2250
300	25.0	2250
350	25.0	2250
400	25.0	2250
450	25.0	2250
500	32.0	3630
600	32.0	3630

GRINNEL OR SIMILAR, SAFETY FACTOR = 5

SINGLE PIPE HANGER (9) NTS



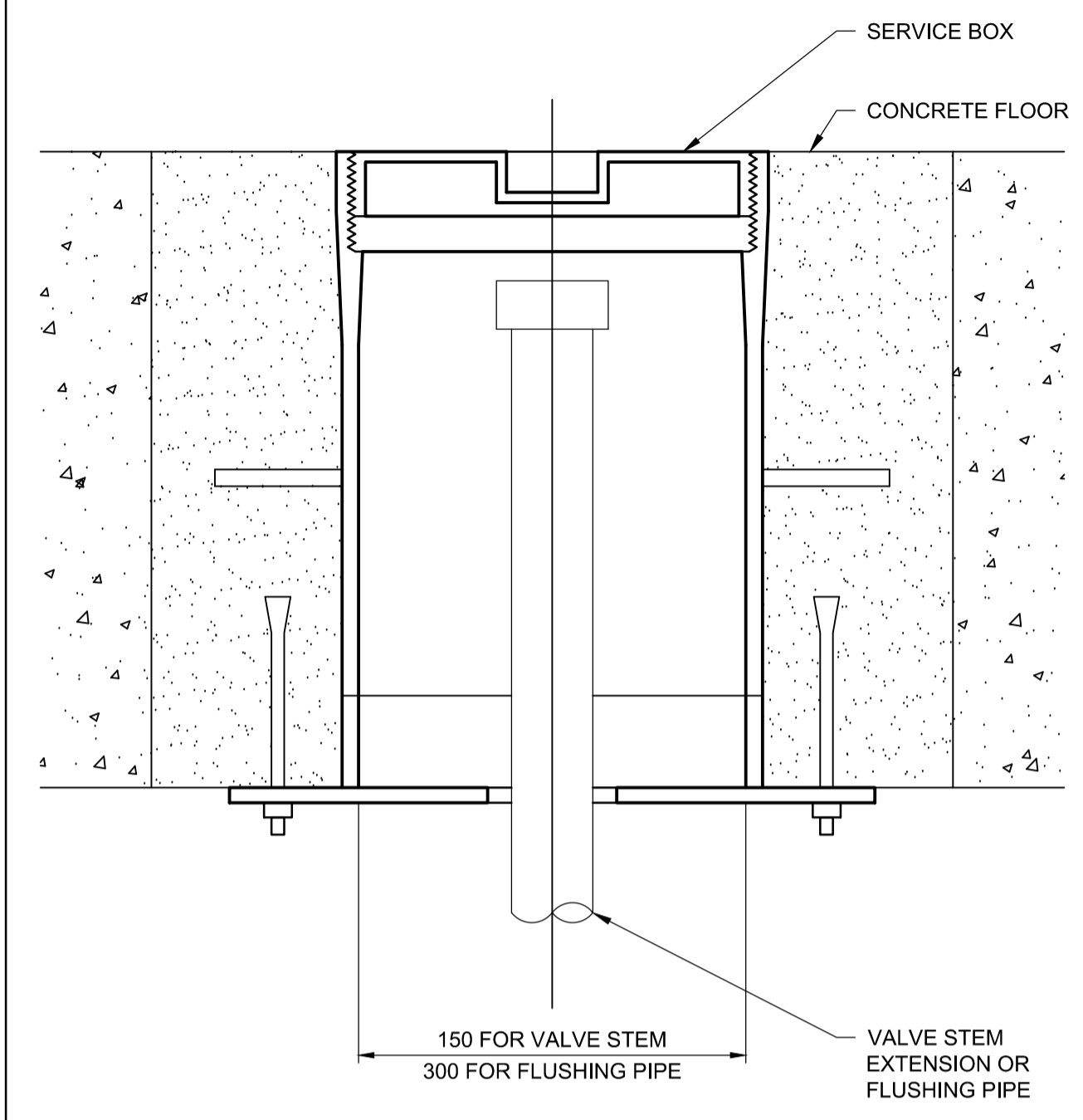
FLOOR PENETRATION SUPPORT (10) NTS



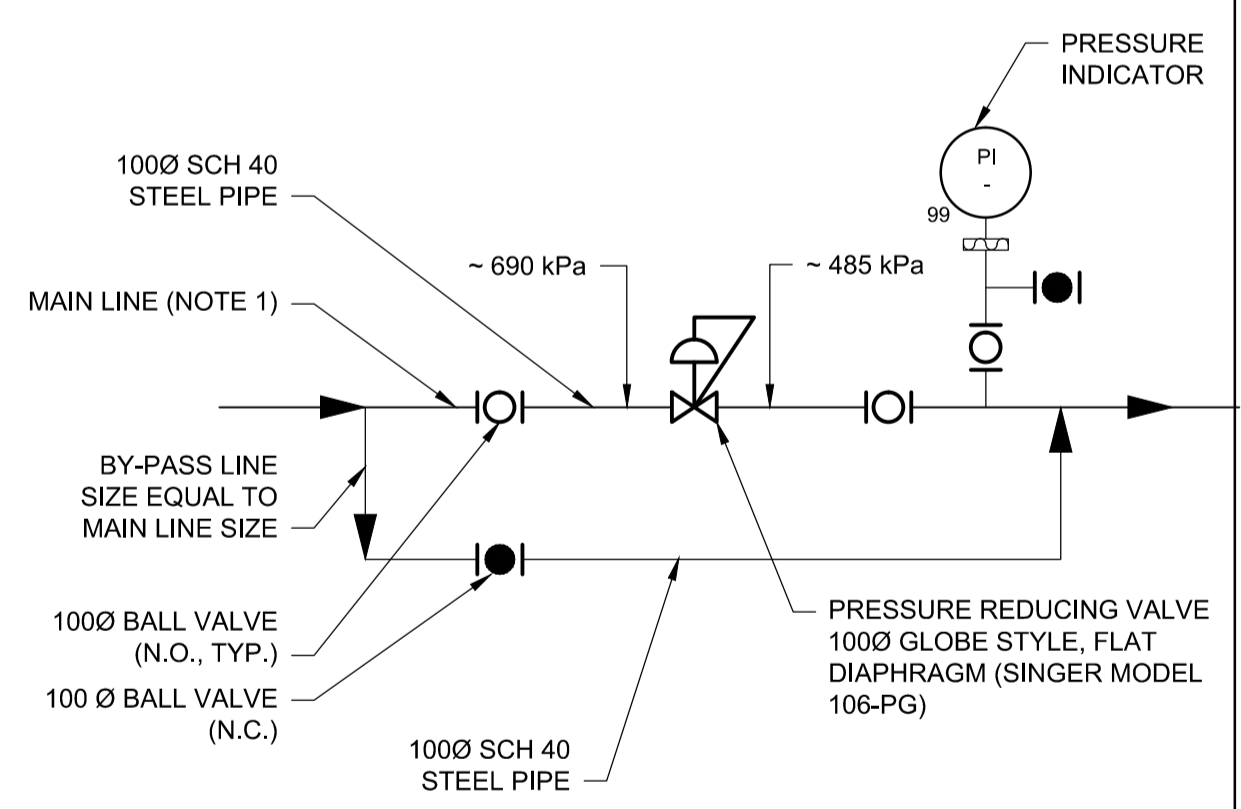
LS MODEL	SEAL ELEMENT	BOLTS / NUTS	PRESSURE PLATE
C	EPDM (BLACK)	ZINC DICHROMATE/ORGANIC COATED CARBON STEEL BOLT	REINFORCED NYLON POLYMER
L	EPDM (BLACK)	ZINC DICHROMATE/ORGANIC COATED CARBON STEEL BOLT	REINFORCED NYLON POLYMER
O	NITRILE	ZINC DICHROMATE/ORGANIC COATED CARBON STEEL BOLT	REINFORCED NYLON POLYMER
T	SILICONE	ZINC DICHROMATE/ORGANIC COATED CARBON STEEL BOLT	STEEL ZINC DICHROMATE
(C,L,O) + S-316*	SEE MODEL OPTIONS	316 STAINLESS STEEL	REINFORCED NYLON POLYMER

- NOTES:**
- CONCRETE WALL
 - STEEL, STAINLESS STEEL, DUCTILE IRON, PVC OR FRP PIPE, NON-INSULATED
 - CONDITION
 - DRY TO DRY
 - WET TO DRY
 - HORIZONTAL OR VERTICAL
 - INTERIOR TO EXTERIOR

CORED PENETRATION - LINKSEAL (11) NTS

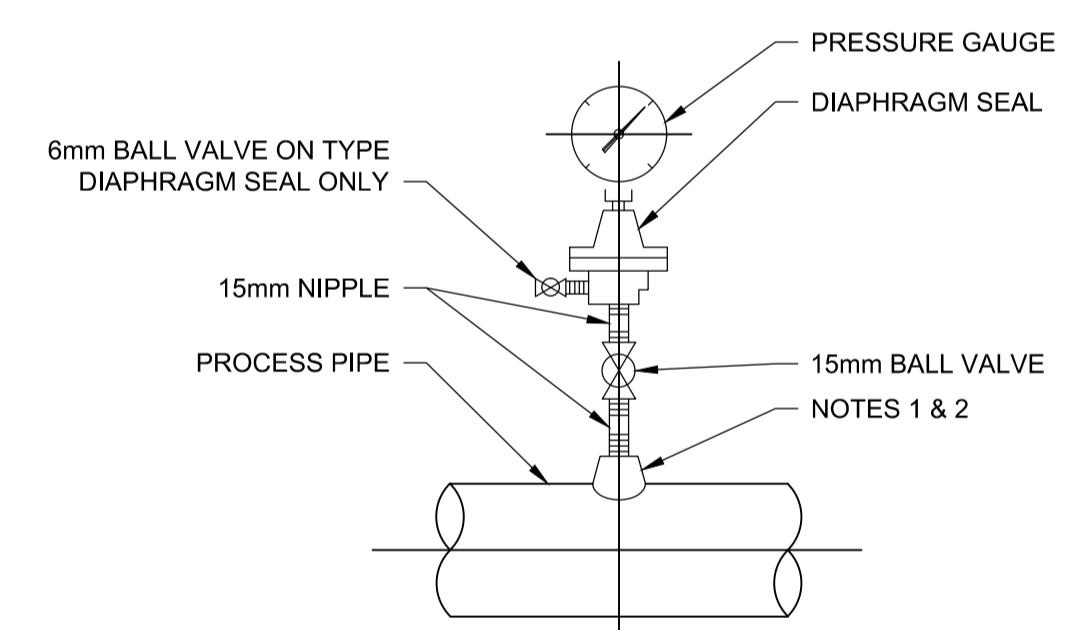


SERVICE BOX (12) NTS

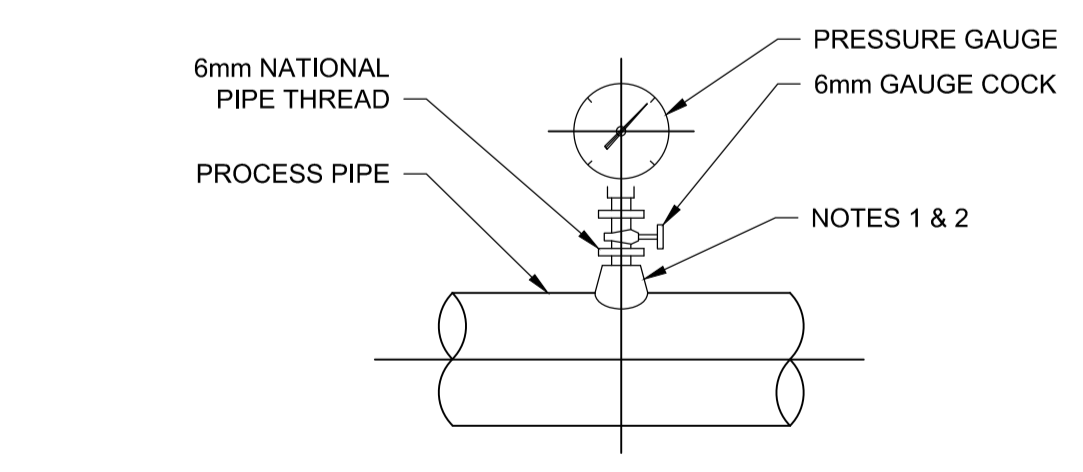


- NOTES:**
- TYPICAL ARRANGEMENT FOR LINE SIZES FROM 150 - 1500.
 - ENSURE THAT PIPING AROUND VALVES IS WELL SUPPORTED.

PRV INSTALLATION (13) NTS



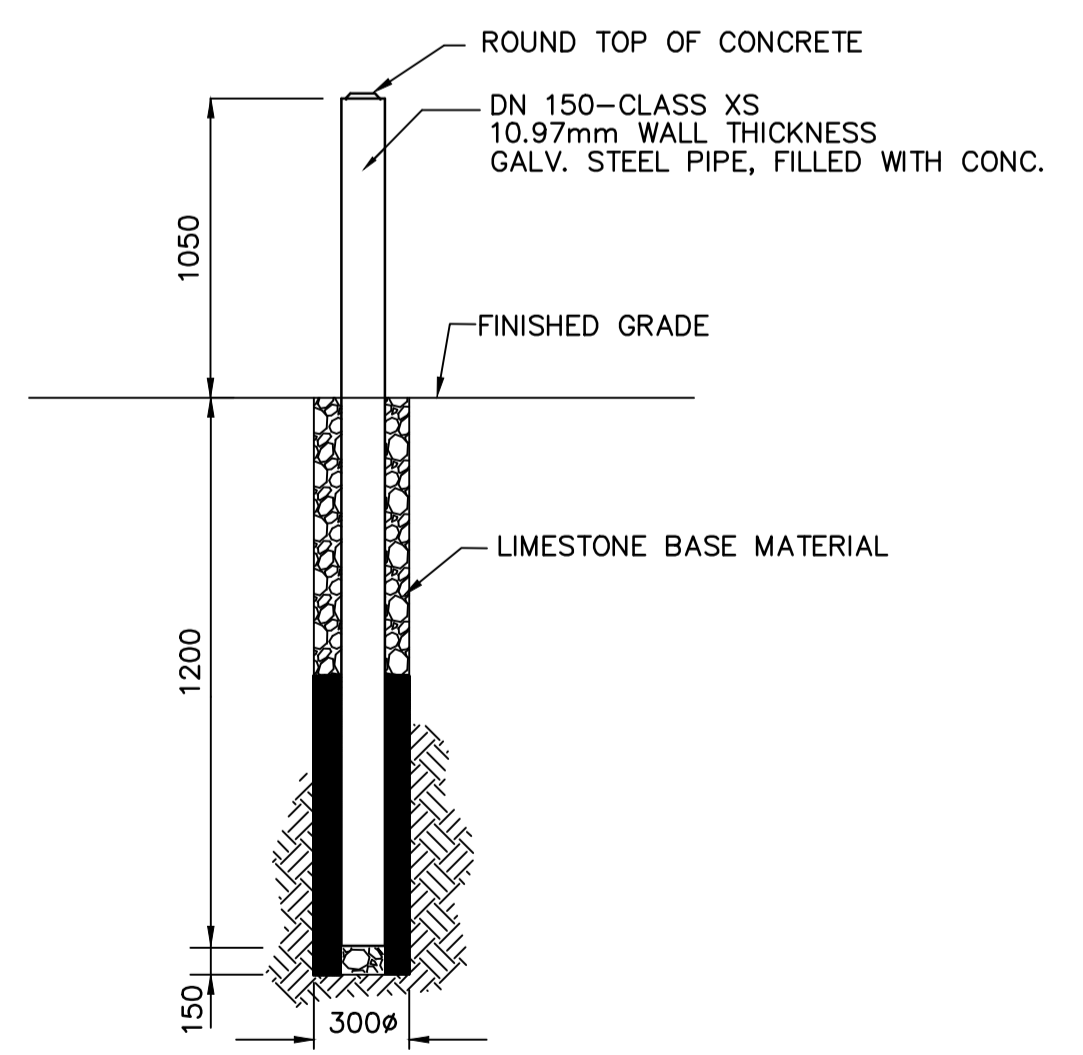
DIAPHRAGM PRESSURE GAUGE



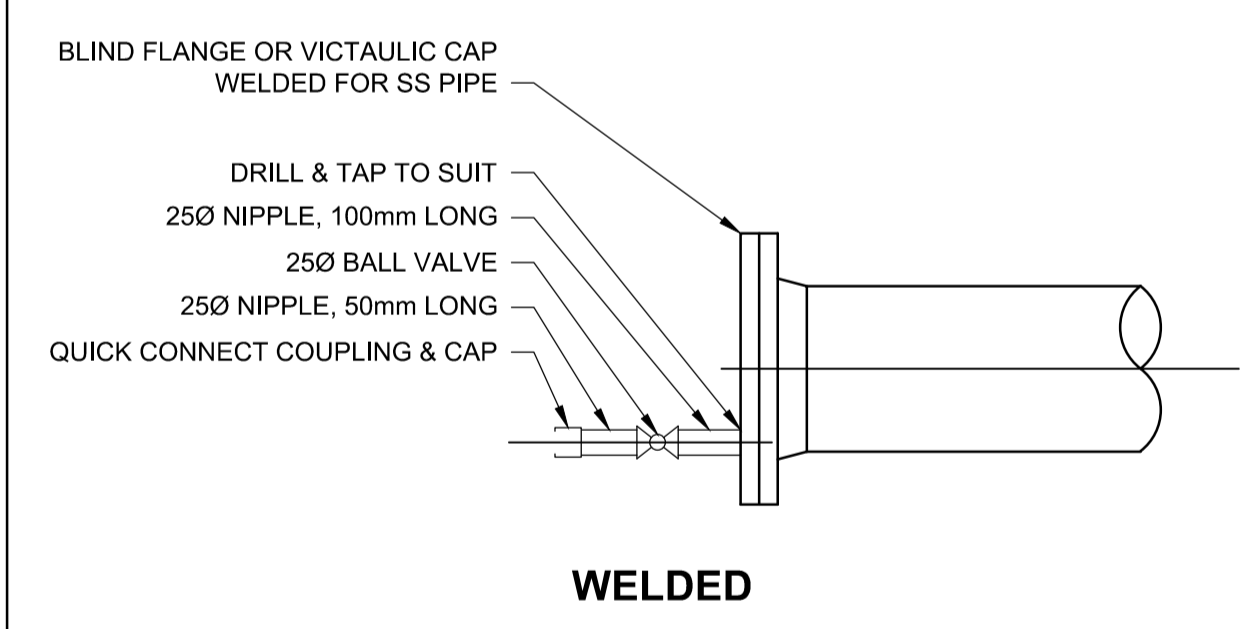
PRESSURE GAUGE

- NOTES:**
- FOR STEEL, GALVANIZED STEEL, AND PVC 65mm AND SMALLER USE A BUSHING IN A TEE.
 - FOR DUCTILE IRON AND FIBERGLASS REINFORCED PLASTIC PIPE, ALL SIZES, USE PIPE SADDLE WITH BUSHING.
 - FOR STEEL AND STAINLESS STEEL PIPES 80mm AND LARGER, AND PRESSURE VESSELS, USE THRED-O-LET AS SHOWN.
 - PROVIDE SNUBBER FOR POSITIVE DISPLACEMENT PUMP INSTALLATIONS.

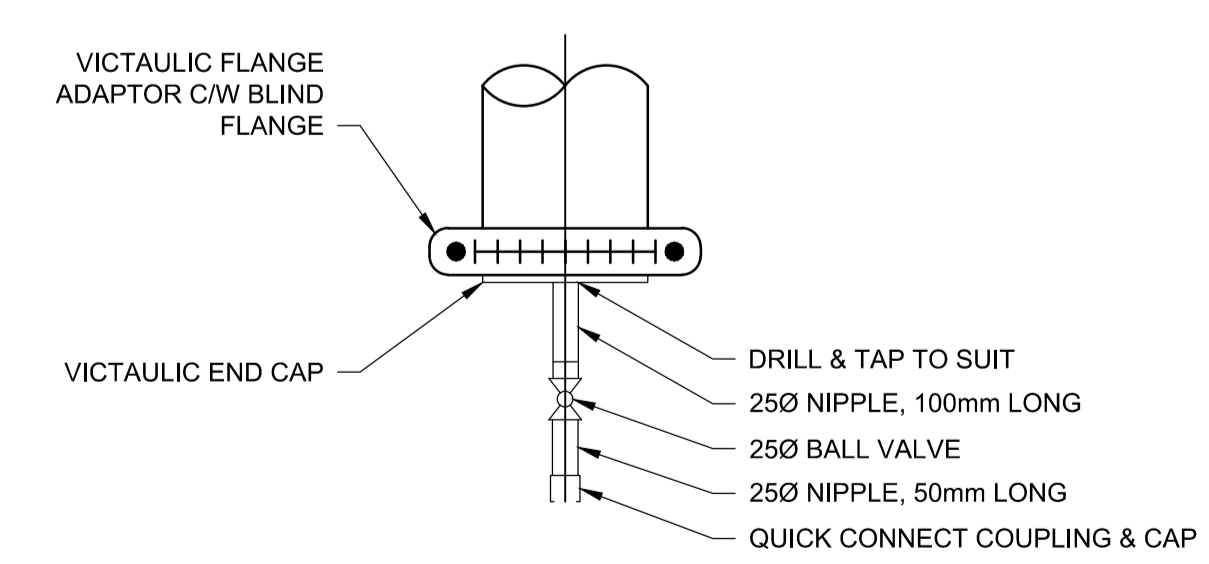
PRESSURE GAUGE (14) NTS



BOLLARD INSTALLATION (15) NTS



WELDED



VICTAULIC

PIPE FLUSHING CONNECTIONS (16) NTS

Revision/Revision	Description/Description	Date/Date
5		
4		
3	ISSUED FOR TENDER	16/07/15
2	ISSUED FOR PRE-TENDER REVIEW	16/04/11
1	ISSUED FOR 99% REVIEW	16/02/10
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Client/client
FISHERIES AND OCEANS

Project title/Titre du projet

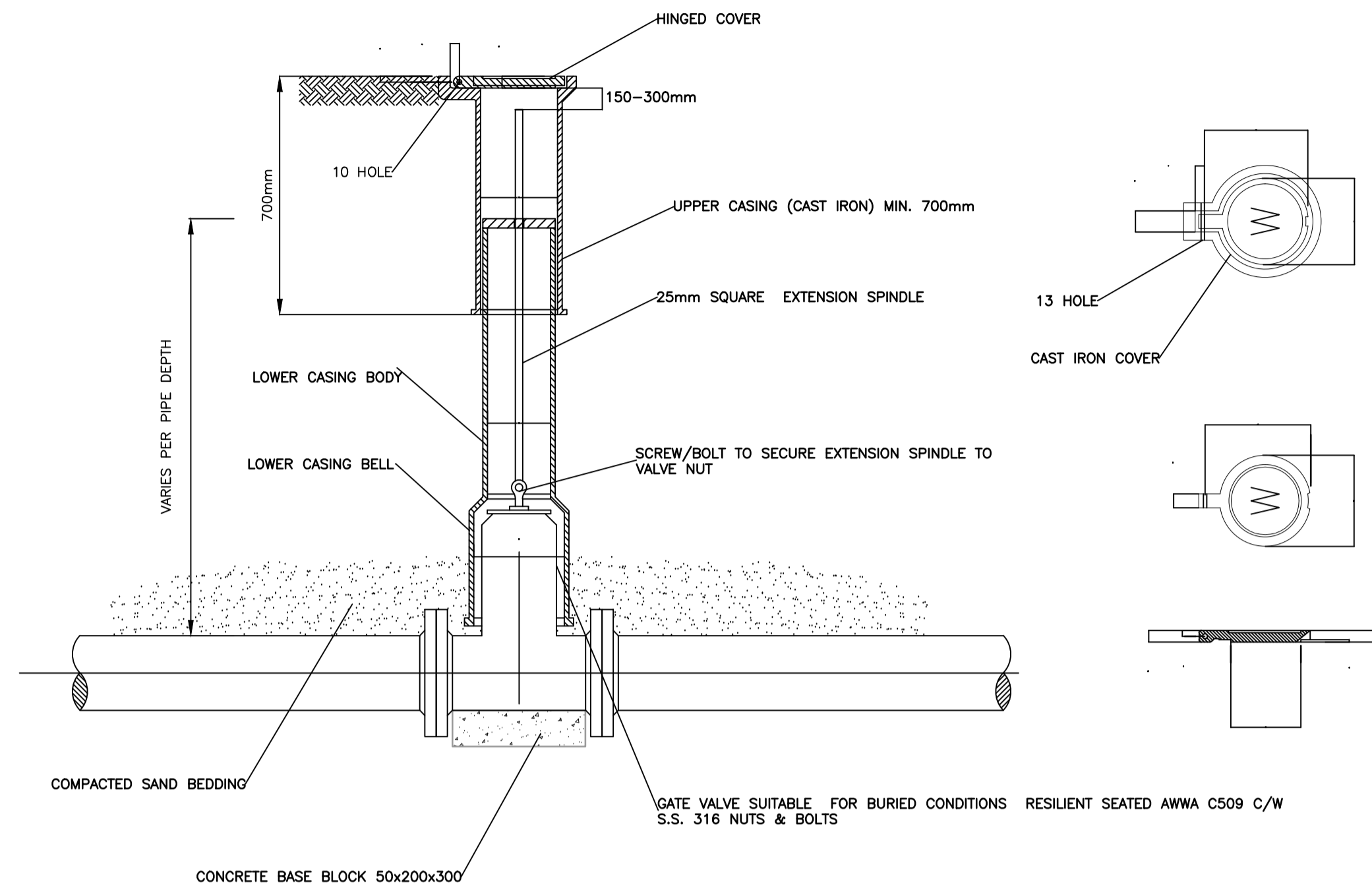
**INSTITUTE OF OCEAN SCIENCES
 TIMBER AND CONCRETE FLOATS
 A,B1,B2,C & D INSTALLATION**

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 Designed by/Concept par
 SUNNY MANGAT / DECEMBER 15, 2015
 Drawn by/Dessiné par
 M.KRAMER / DECEMBER 15, 2015
 PWGSC Project Manager/Administrateur de Projets TPSGC
 JERRY CHEN
 Regional Manager, Architectural and Engineering Services
 Gestionnaire régionale, Services d'architectural et de génie, TPSGC

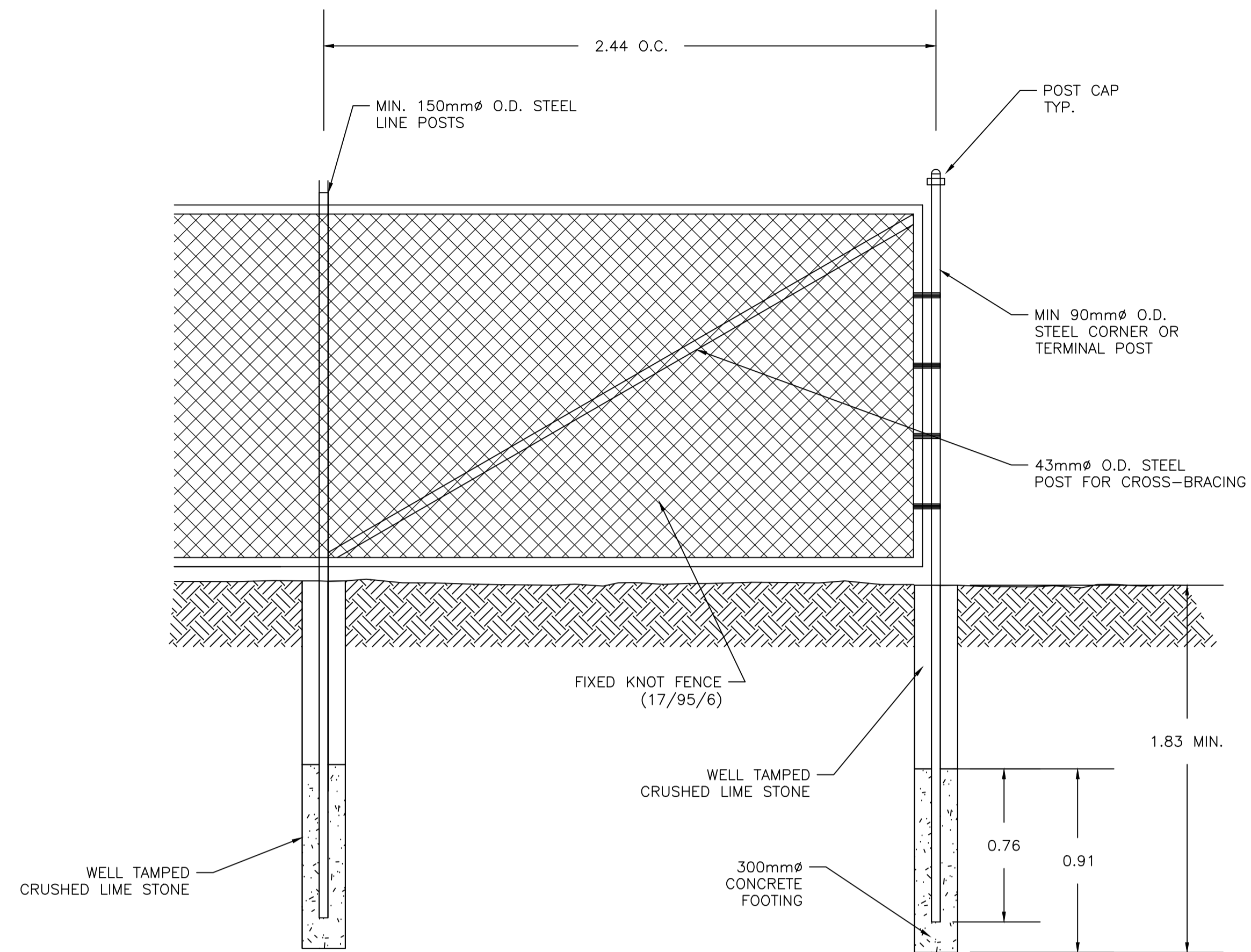
Drawing title/Titre du dessin
DETAILS - SHEET 2

Project No./No. du projet	Sheet/Fauille	Revision no./La Révision no.
9R306-02	C-009	3
	OF 10	





GATE VALVE INSTALLATION (17)
 NTS -



FENCE INSTALLATION (18)
 NTS -

Revision/	Description/Description	Date/Date
5		
4		
3	ISSUED FOR TENDER	16/07/15
2	ISSUED FOR PRE-TENDER REVIEW	16/04/11
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 PWGSC Project Manager/Administrateur de Projets TPSGC
 JERRY CHEN
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 Gestionnaire régional, Services d'architecture et de génie, TPSGC

Drawing title/Titre du dessin
DETAILS - SHEET 3

Project No./No. du projet	Sheet/Fauille	Revision no./La Révision no.
9R306-02	C-010 OF 10	3