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Nunavut

BAKER LAKE

WATER SUPPLY IMPROVEMENTS
BAKER LAKE, NU

ISSUED FOR CONSTRUCTION
REVISED MARCH 15, 2011

NU JOB NO. 07-3023
FSC JOB NO. 20070650

LIST OF DRAWINGS

BAKER LAKE

Nunavut

NO.	REVISION DESCRIPTION	DATE ISSUED
04	ISSUED FOR TENDER	2011/03/25
03	100% SUBMISSION	2008/06/13
02	75% SUBMISSION	2008/03/28
01	50% SUBMISSION	2008/02/26
00	ISSUED FOR REVIEW	2007/12

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Date 25 March 11
PERMIT NUMBER: P0457
The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

REGISTERED PROFESSIONAL ENGINEER
W. J. ORR
25 March 11
N.W.T.
2007 08 28

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PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

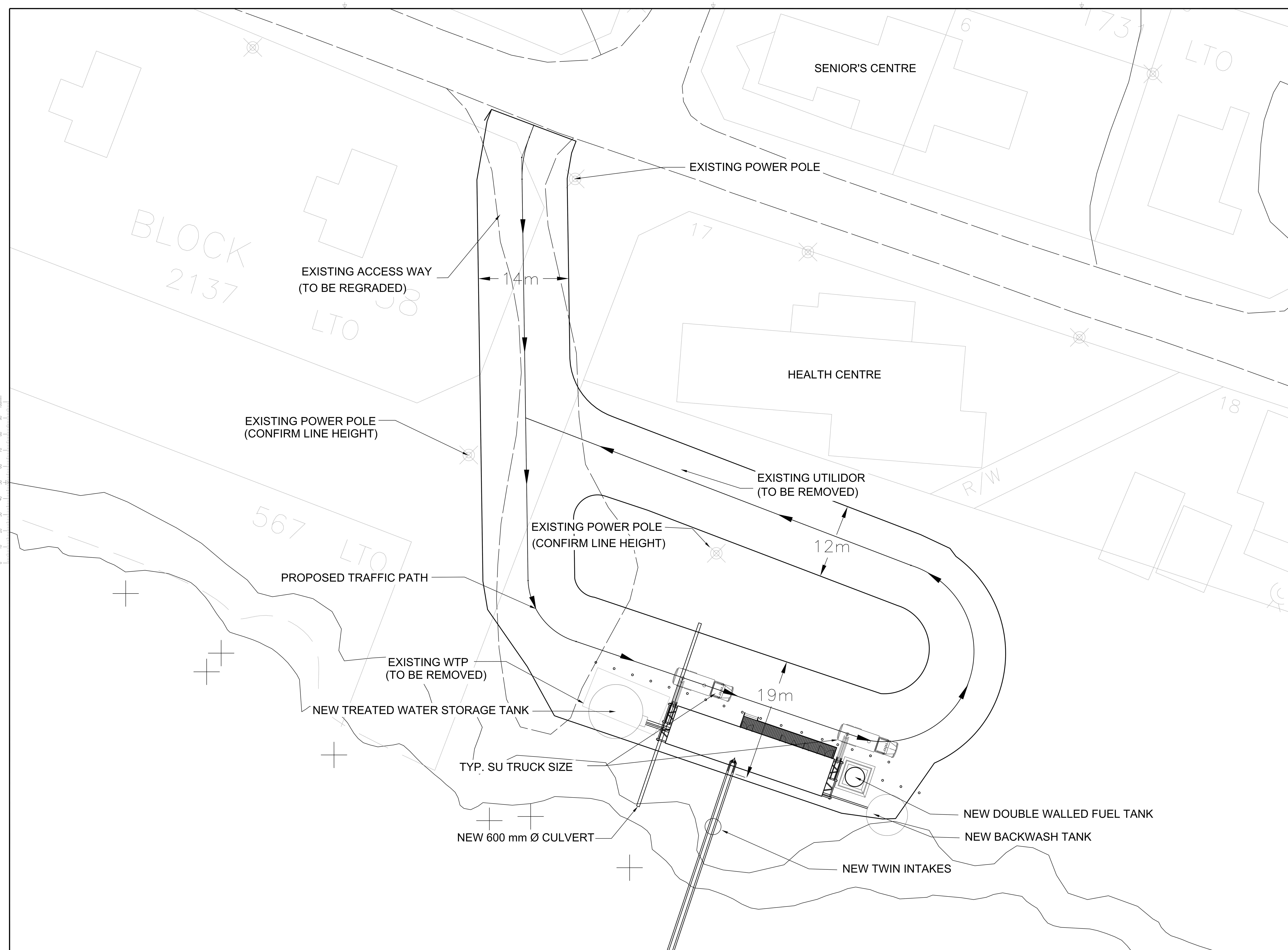
LOCATION
BAKER LAKE, NU

DRAWING TITLE
PROJECT LOCATION

DRAWN BY	SCALE
GS	1:2500
CHECKED BY	CLIENT PROJECT NO.
WO	07-3023

FSC PROJECT NO.
2007-0650

DRAWING NO.
C1
OF 9



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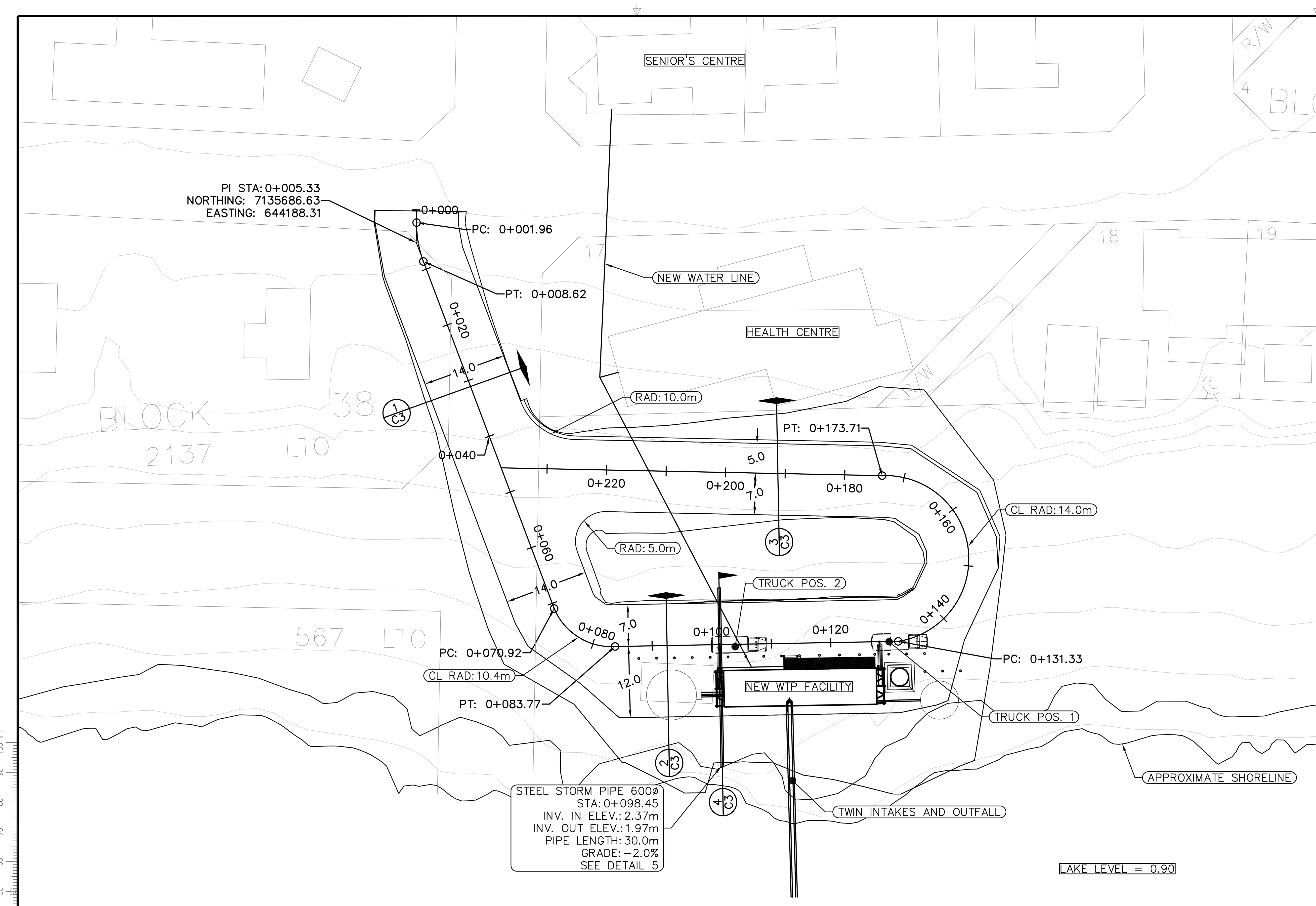
PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

LOCATION
BAKER LAKE, NU

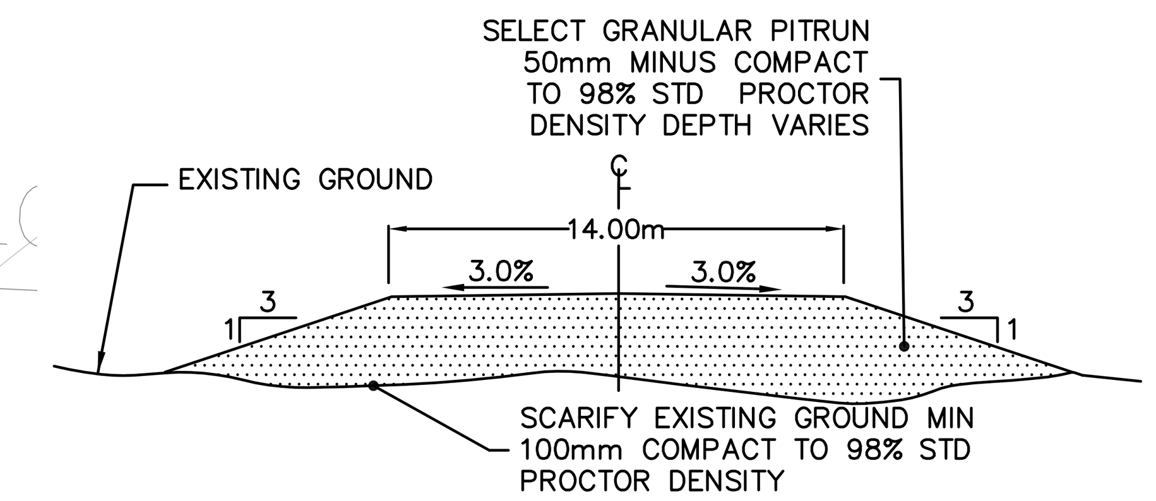
DRAWING TITLE
SITE LAYOUT

DRAWN BY	GS	SCALE	1:250
CHECKED BY	WO	CLIENT PROJECT NO.	07-3023
FSC PROJECT NO.	2007-0650		
DRAWING NO.	C2	OF	9

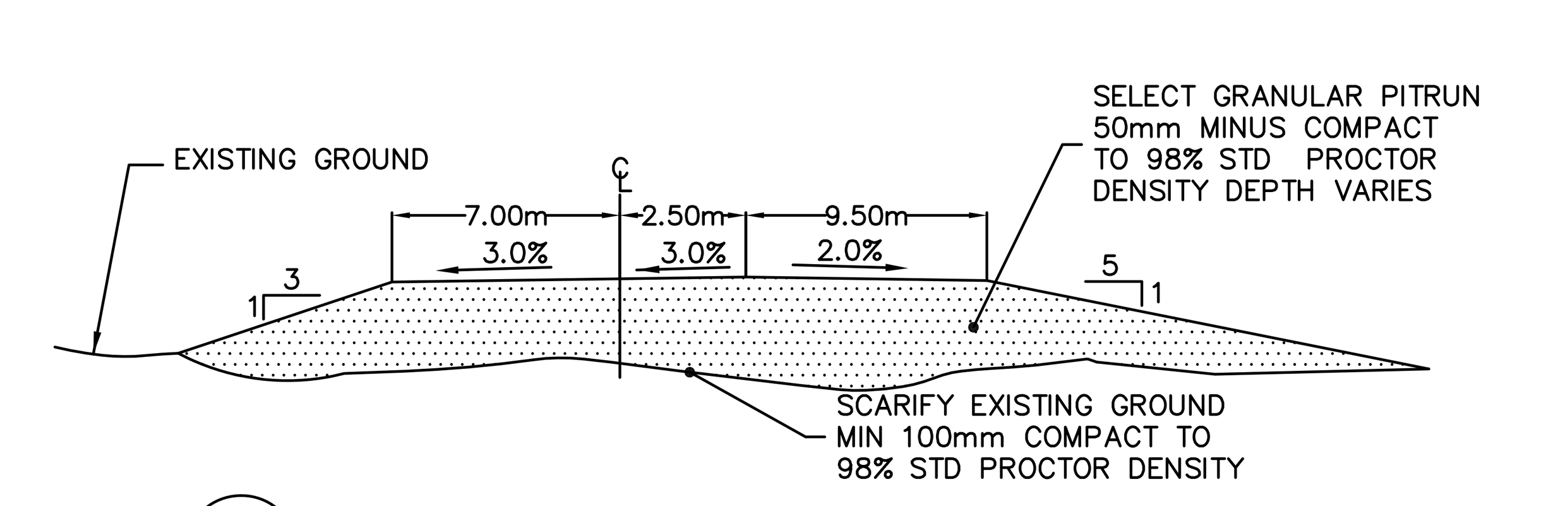
FSC – Arch-D – 24x36



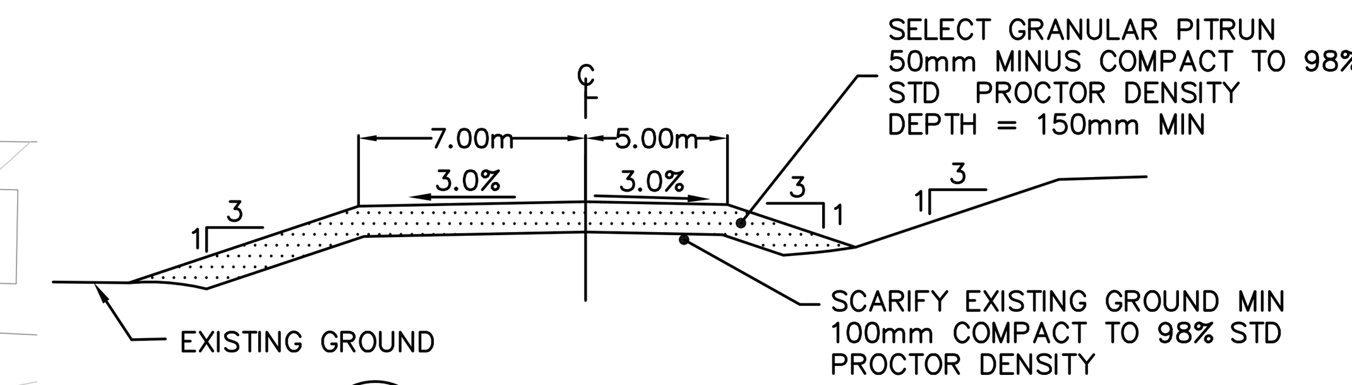
WATER TREATMENT TURNAROUND
SCALE: 1:500



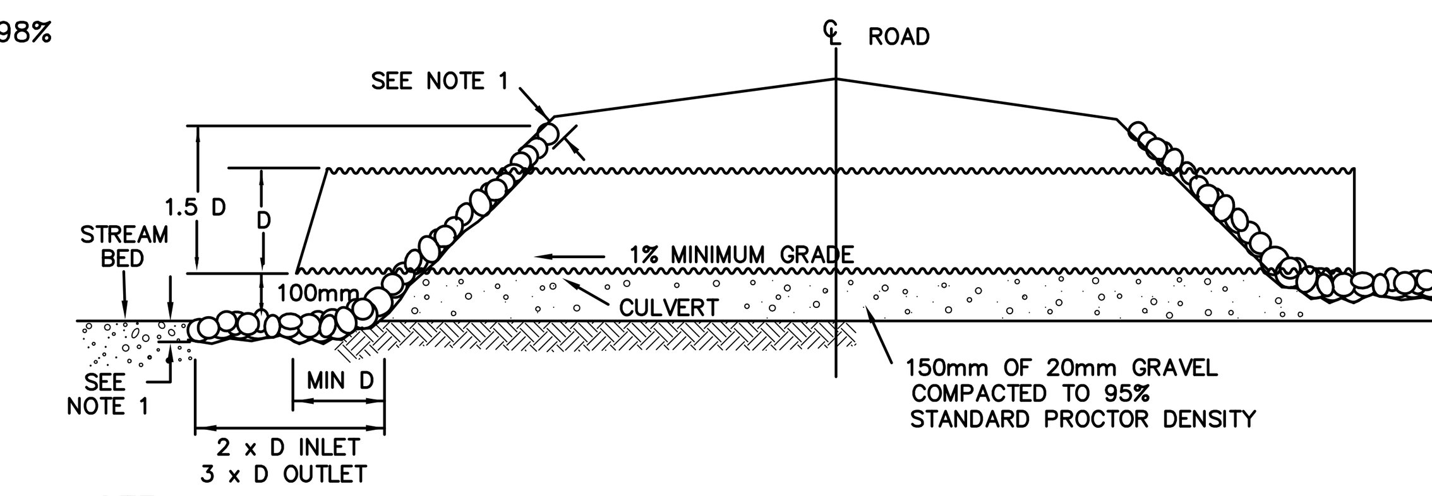
1/C3 TYPICAL ROADWAY FILL SECTION
STA 0+000 – 0+084
N.T.S.



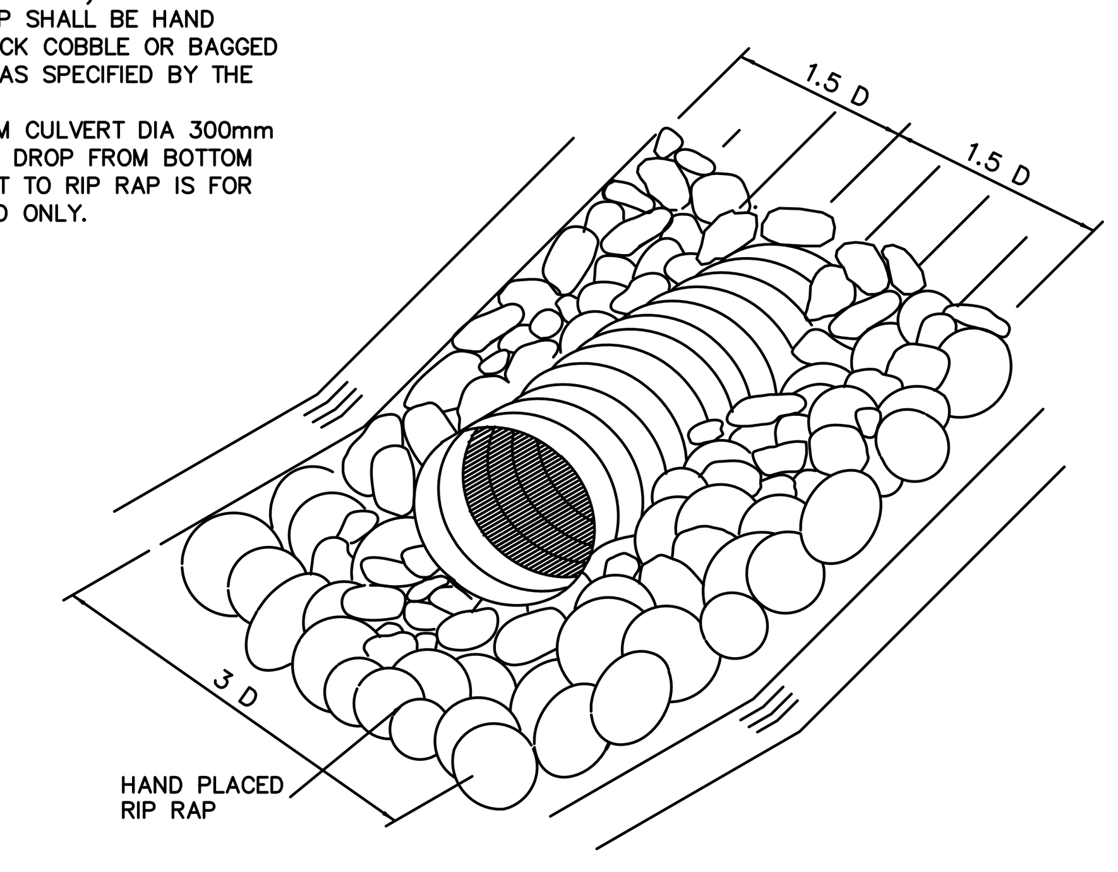
2/C3 TYPICAL TRUCKFILL PAD WIDENING SECTION
STA 0+084 – 0+135
N.T.S.



3/C3 TYPICAL CUT SECTION
STA 0+135 – 0+237.7
N.T.S.

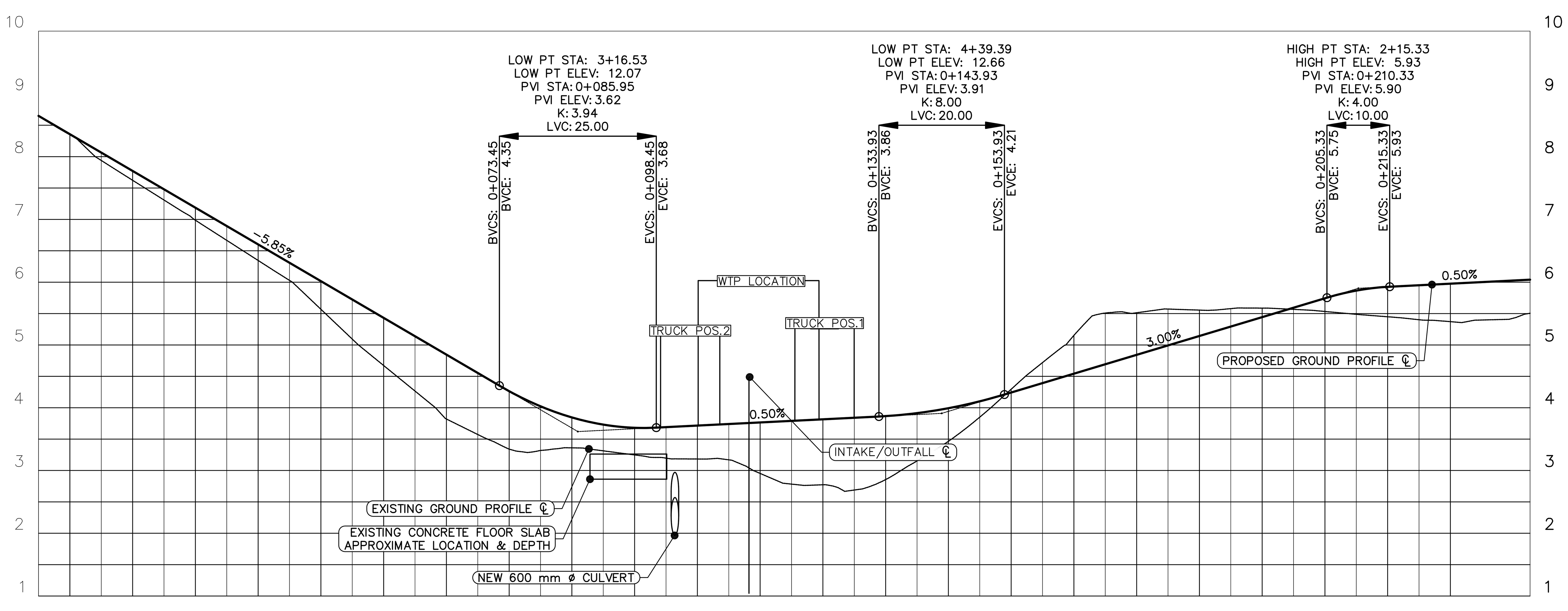


NOTE:
1. THICKNESS 300mm (D SMALLER THAN 1400mm) THICKNESS 600mm (D=1400–2000mm)
2. RIP RAP SHALL BE HAND PLACED ROCK COBBLE OR BAGGED CONCRETE AS SPECIFIED BY THE ENGINEER.
3. MINIMUM CULVERT DIA 300mm
4. 100mm DROP FROM BOTTOM OF CULVERT TO RIP RAP IS FOR OUTLET END ONLY.



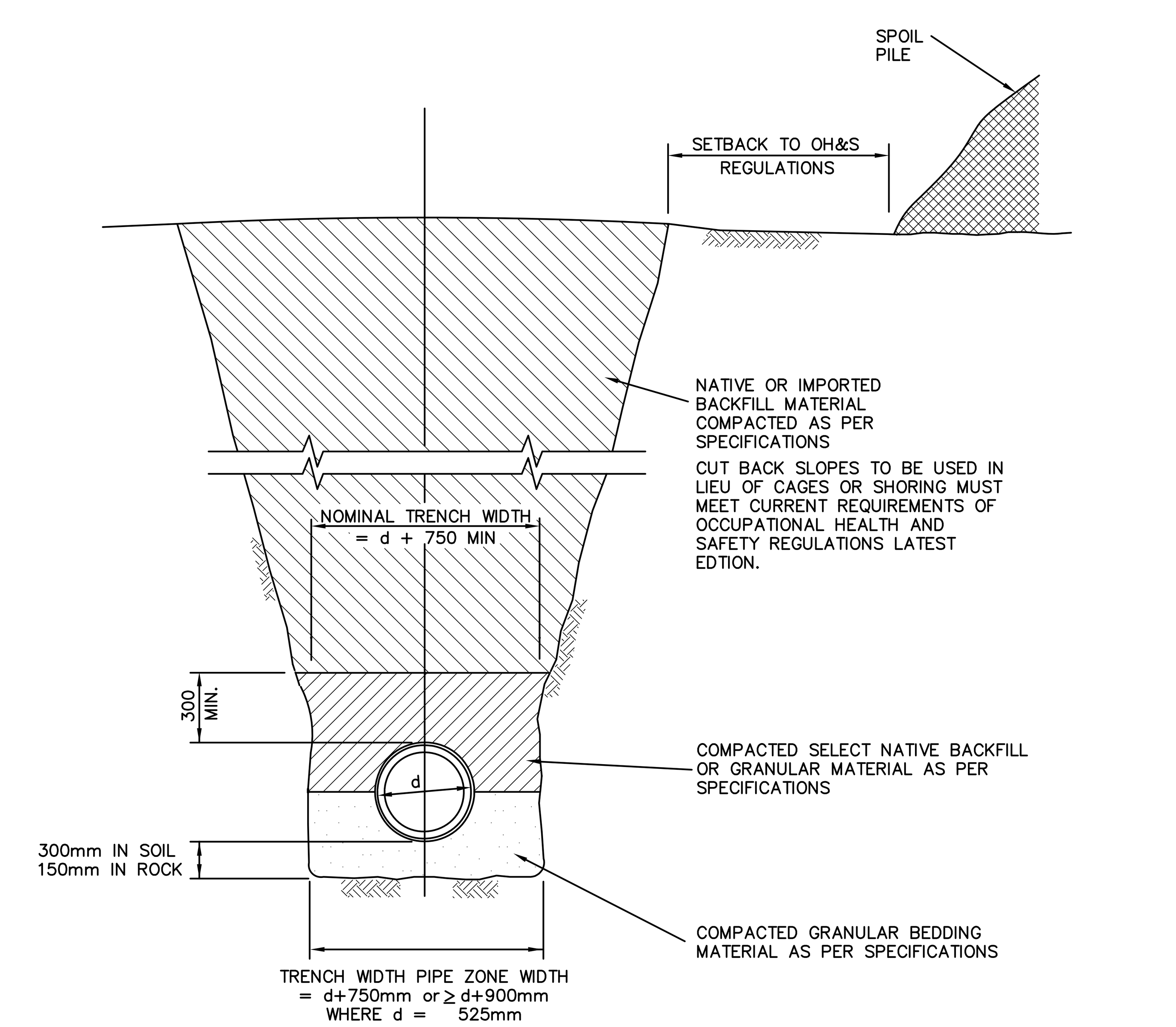
ISOMETRIC VIEW
CULVERT INLET AND OUTLET

4/C3 CULVERT INLET AND OUTLET
SCALE NTS



	0+000	0+010	0+020	0+030	0+040	0+050	0+060	0+070	0+080	0+090	0+100	0+110	0+120	0+130	0+140	0+150	0+160	0+170	0+180	0+190	0+200	0+210	0+220	0+230	0+237.70
	8.65	8.06	7.48	6.89	6.31	5.72	5.14	4.55	4.02	3.73	3.69	3.74	3.79	3.84	3.91	4.10	4.39	4.69	4.99	5.29	5.59	5.87	5.95	6.00	6.04
	8.649	7.939	7.309	6.666	6.029	5.093	4.265	3.573	3.320	3.313	3.197	3.170	2.783	2.689	3.153	3.850	4.720	5.508	5.572	5.579	5.567	5.488	5.402	5.397	5.505

WATER TREATMENT TURNAROUND PROFILE
SCALE: H: 1:500, V 1:50



NOTE:
1. ALL DIMENSIONS ARE IN MILLIMETRES
2. CONTRACTOR SHALL CONTACT OCCUPATIONAL HEALTH AND SAFETY BOARD TO DETERMINE CURRENT CUT–BACK SLOPE REQUIREMENTS
3. d= PIPE OUTSIDE DIAMETER

5/C3 TYPICAL TRENCHING CROSS SECTION
SCALE NTS

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The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

REGISTERED PROFESSIONAL ENGINEER W. J. ORR NWT

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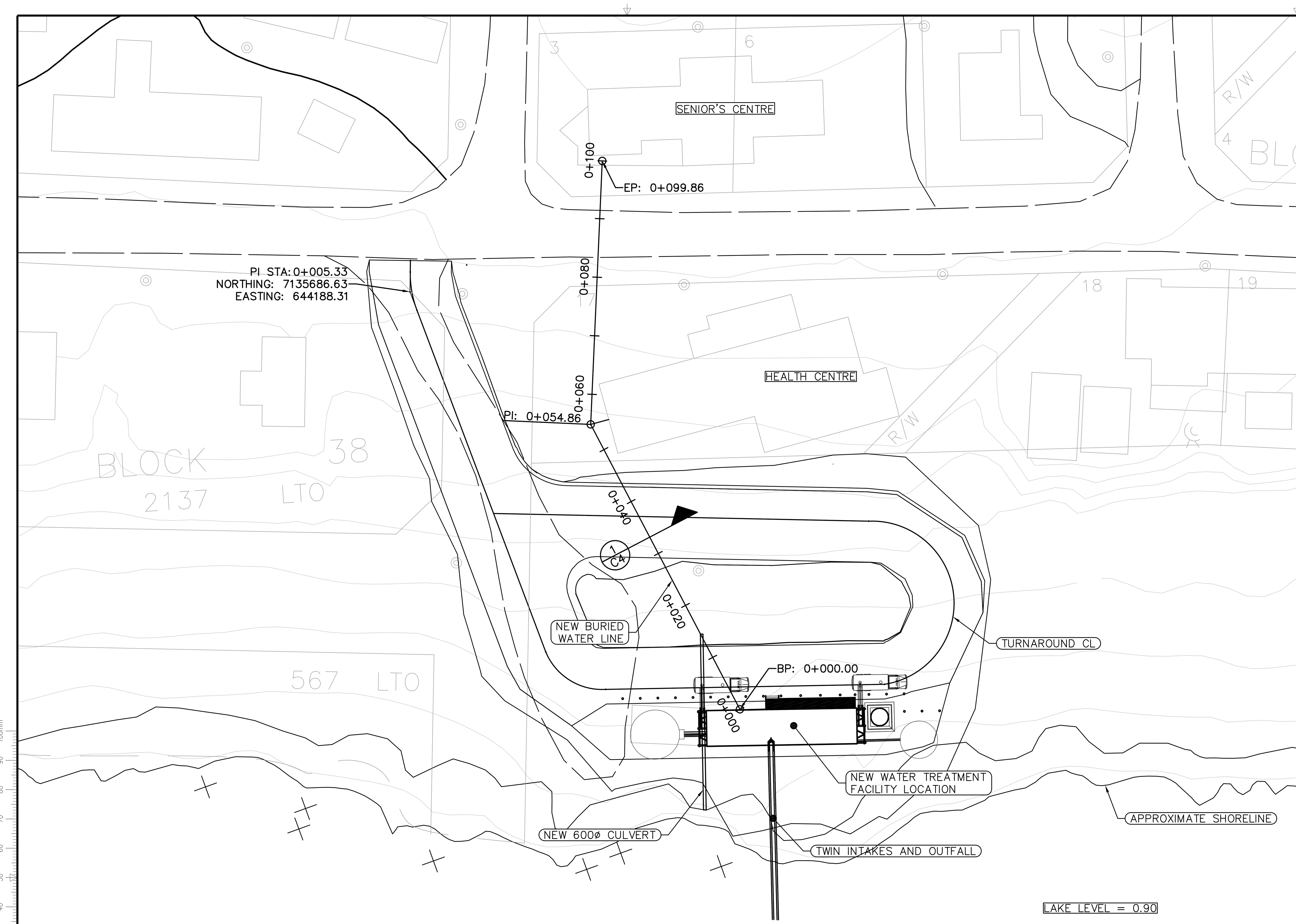
PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

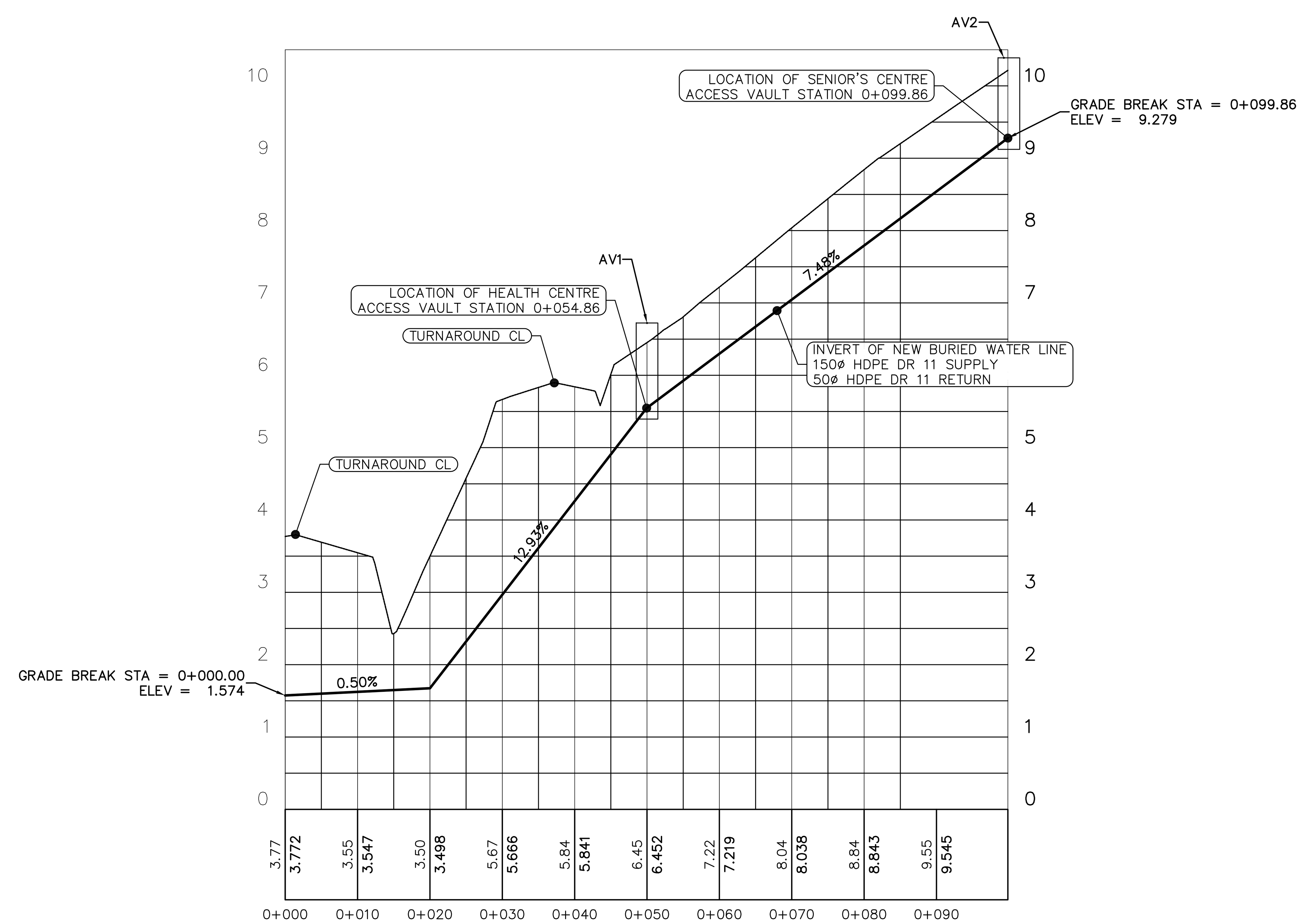
LOCATION
BAKER LAKE, NU

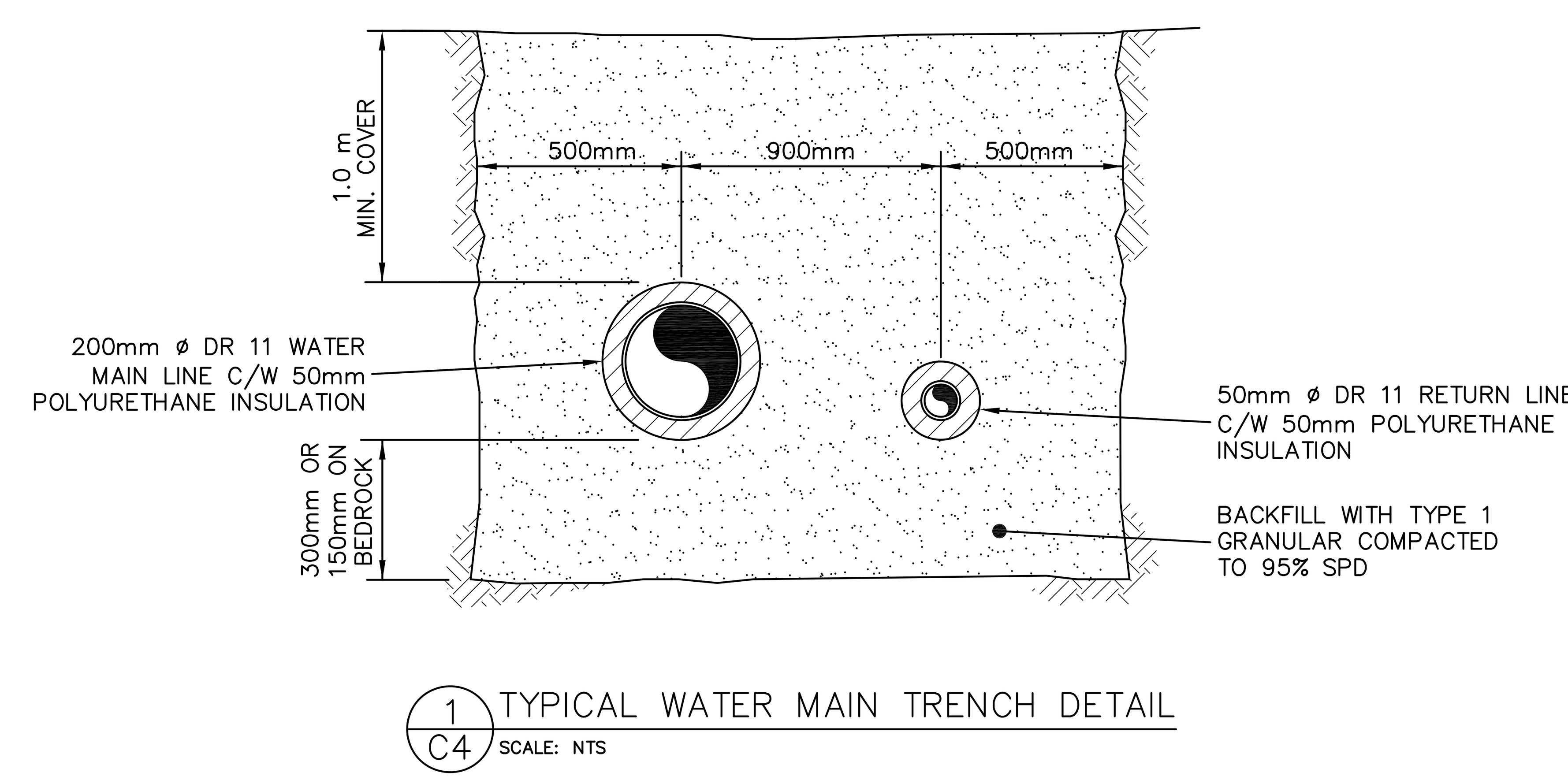
DRAWING TITLE
PLAN AND PROFILE OF TRUCKFILL LOOP

DRAWN BY: GS/FG	SCALE: 1:500
CHECKED BY: WO	CLIENT PROJECT NO.: 07-3023
FSC PROJECT NO.: 2007-0650	
DRAWING NO.: C3	OF 9



BURRIED WATER LINE – PROFILE





1 / C4 TYPICAL WATER MAIN TRENCH DETAIL

SCALE: NTS

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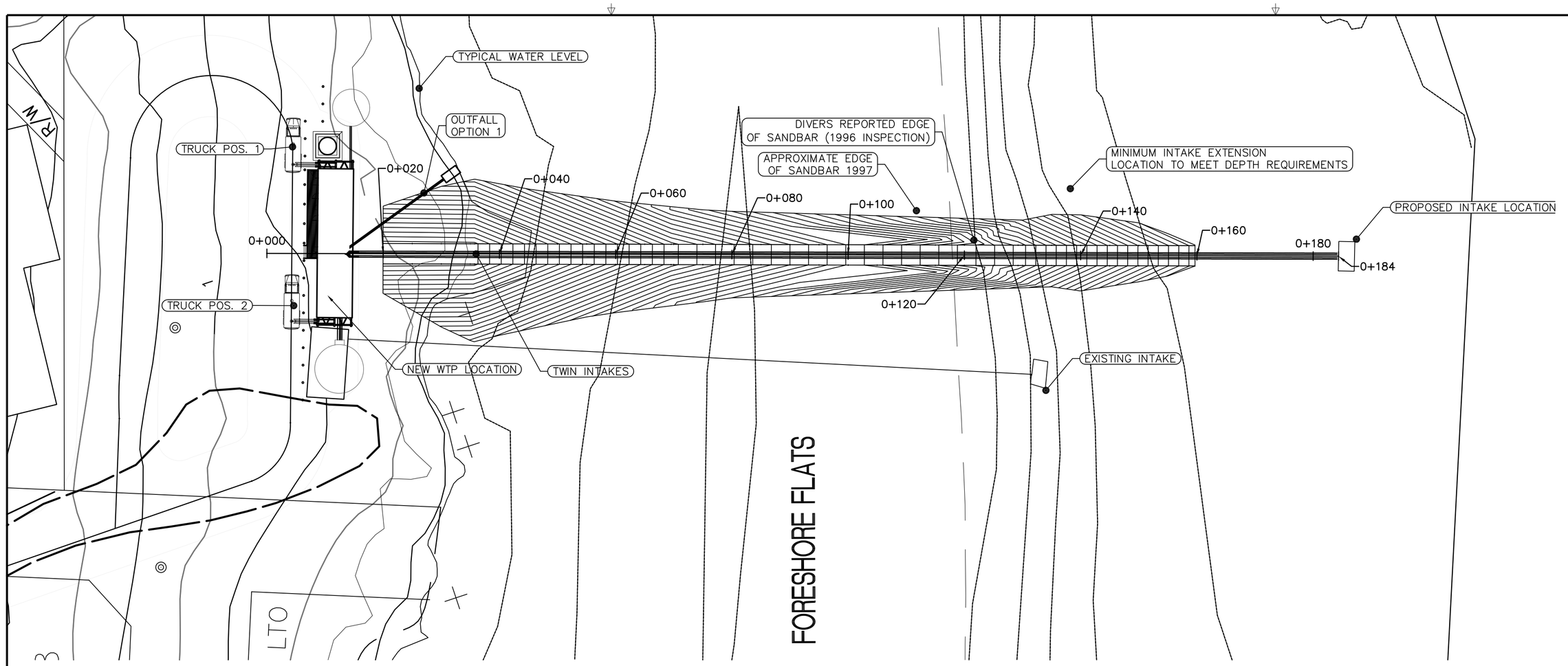
PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

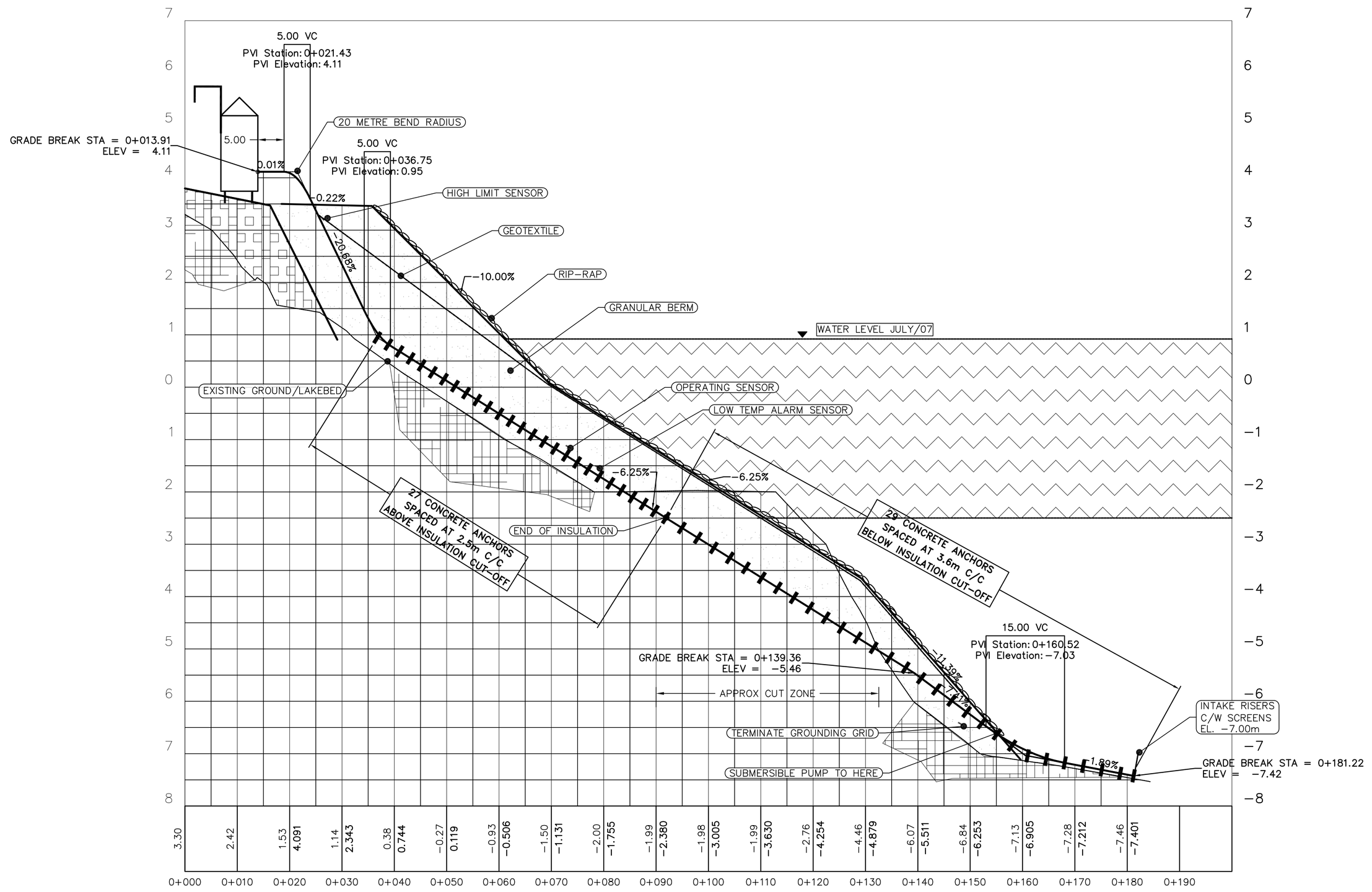
LOCATION
BAKER LAKE, NU

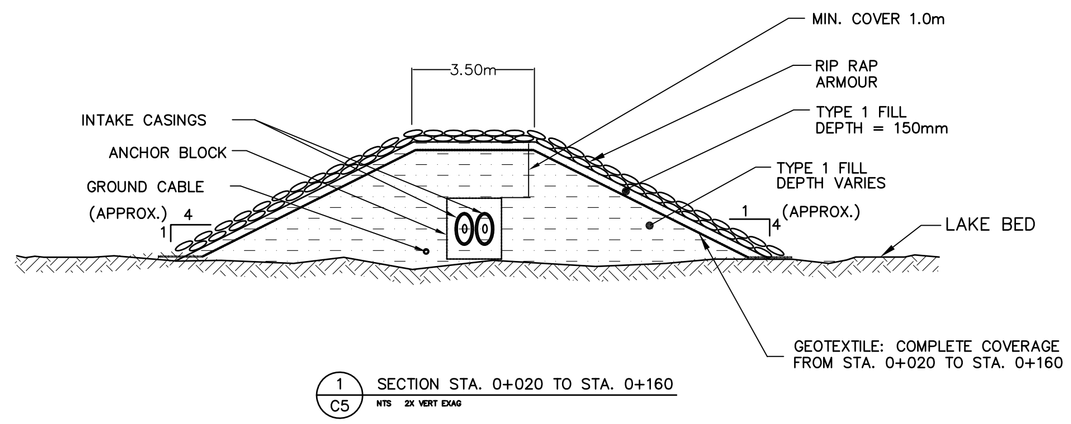
DRAWING TITLE
PLAN AND PROFILE OF BURIED WATER LINE

DRAWN BY	GS/FG	SCALE	1:500
CHECKED BY	WO	CLIENT PROJECT NO.	07-3023
FSC PROJECT NO.	2007-0650		
DRAWING NO.	C4		OF 9

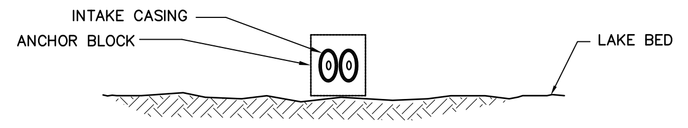


INTAKE – PROFILE

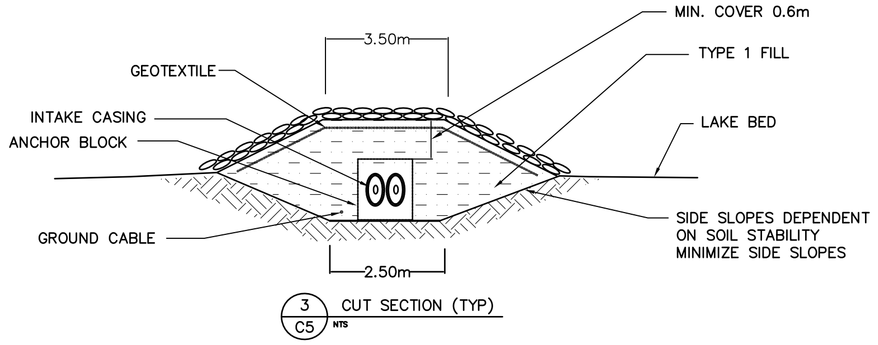




1 C5 SECTION STA. 0+020 TO STA. 0+160
NTS 2X VERT EXAG



2 C5 SECTION STA. 0+160 TO STA. 0+180 NTS



3 C5 CUT SECTION (TYP) NTS

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REGISTERED PROFESSIONAL ENGINEER
W. J. ORR
25 MARCH 11
NWT
2007 CANADA

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T 867.920.2060 | F 867.920.2358

PROJECT TITLE

NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

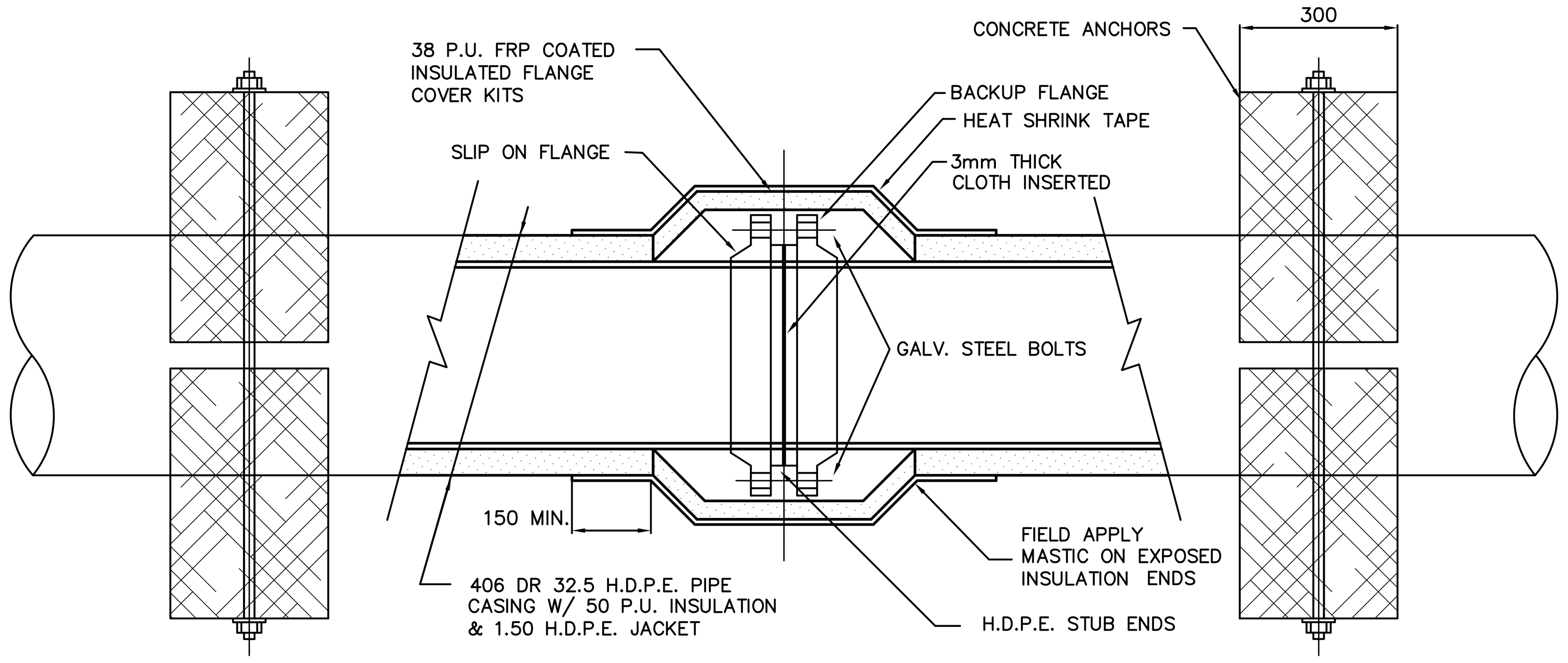
LOCATION
BAKER LAKE, NU

DRAWING TITLE
PLAN AND PROFILE OF WATER INTAKE LINE

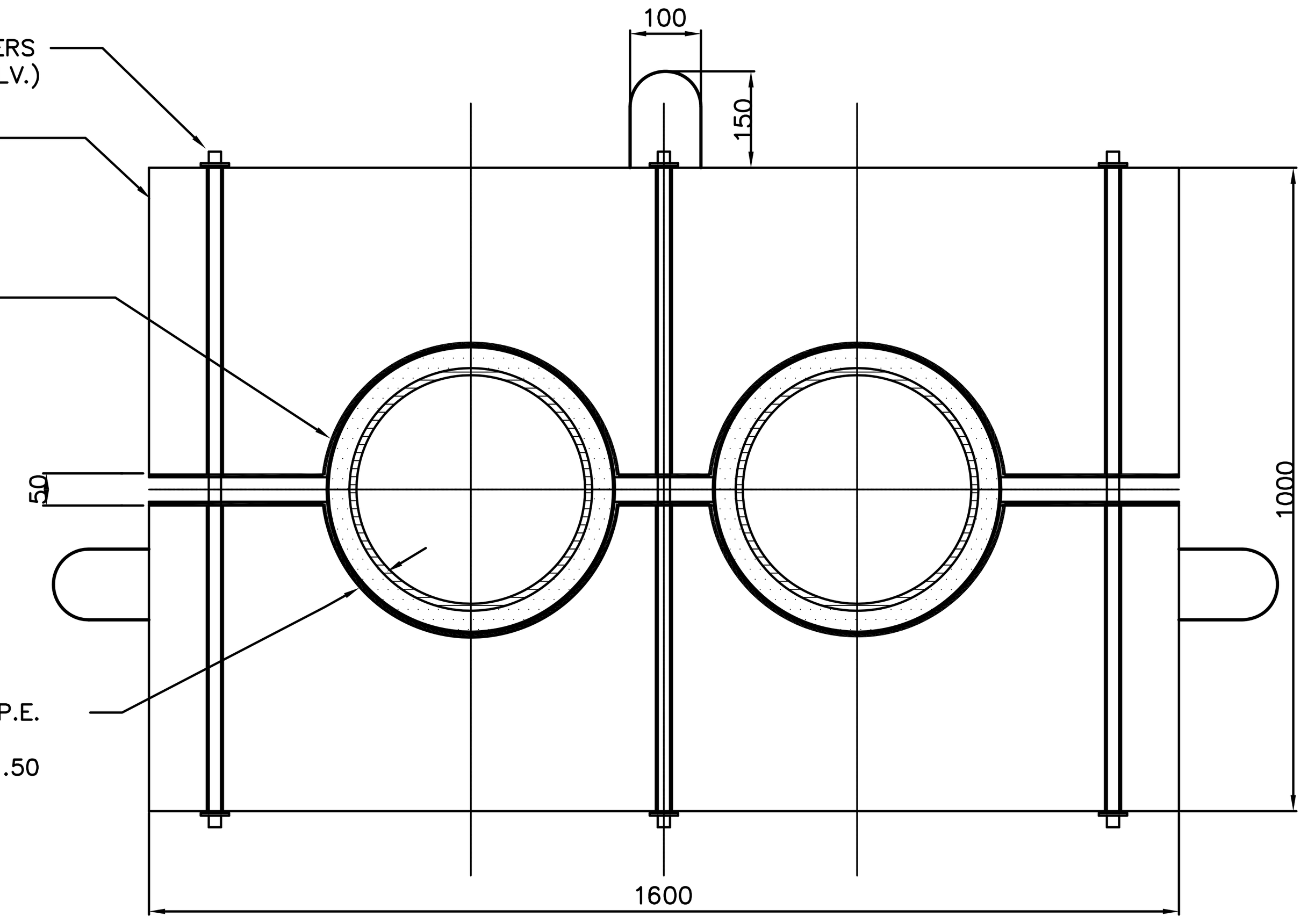
DRAWN BY: GS/FG	SCALE: 1:500
CHECKED BY: WO	CLIENT PROJECT NO.: 07-3023
FSC PROJECT NO.: 2007-0650	
DRAWING NO.: C5	

OF 9

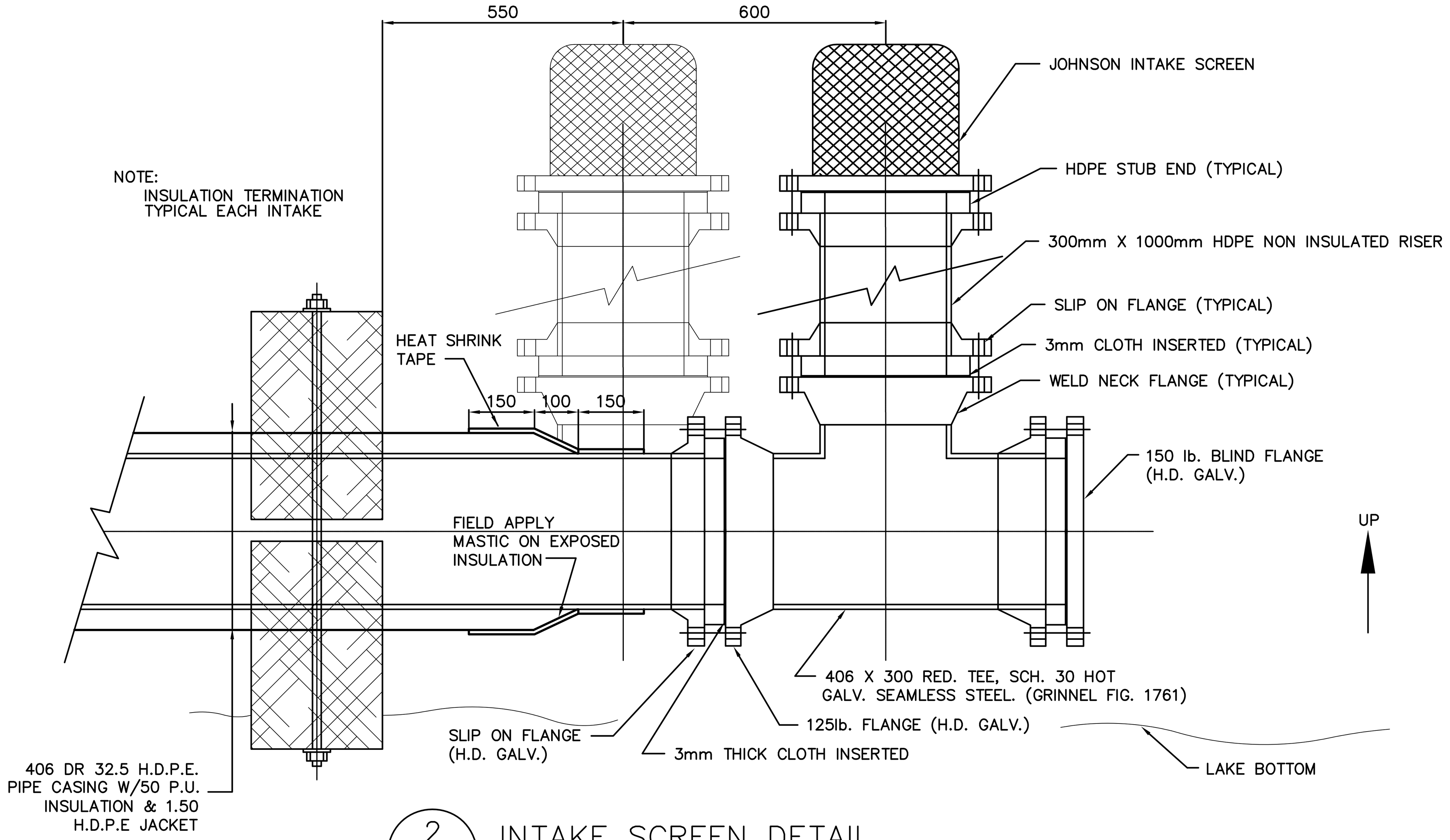
FSC – Arch–D – 24x36
FOLD LINE



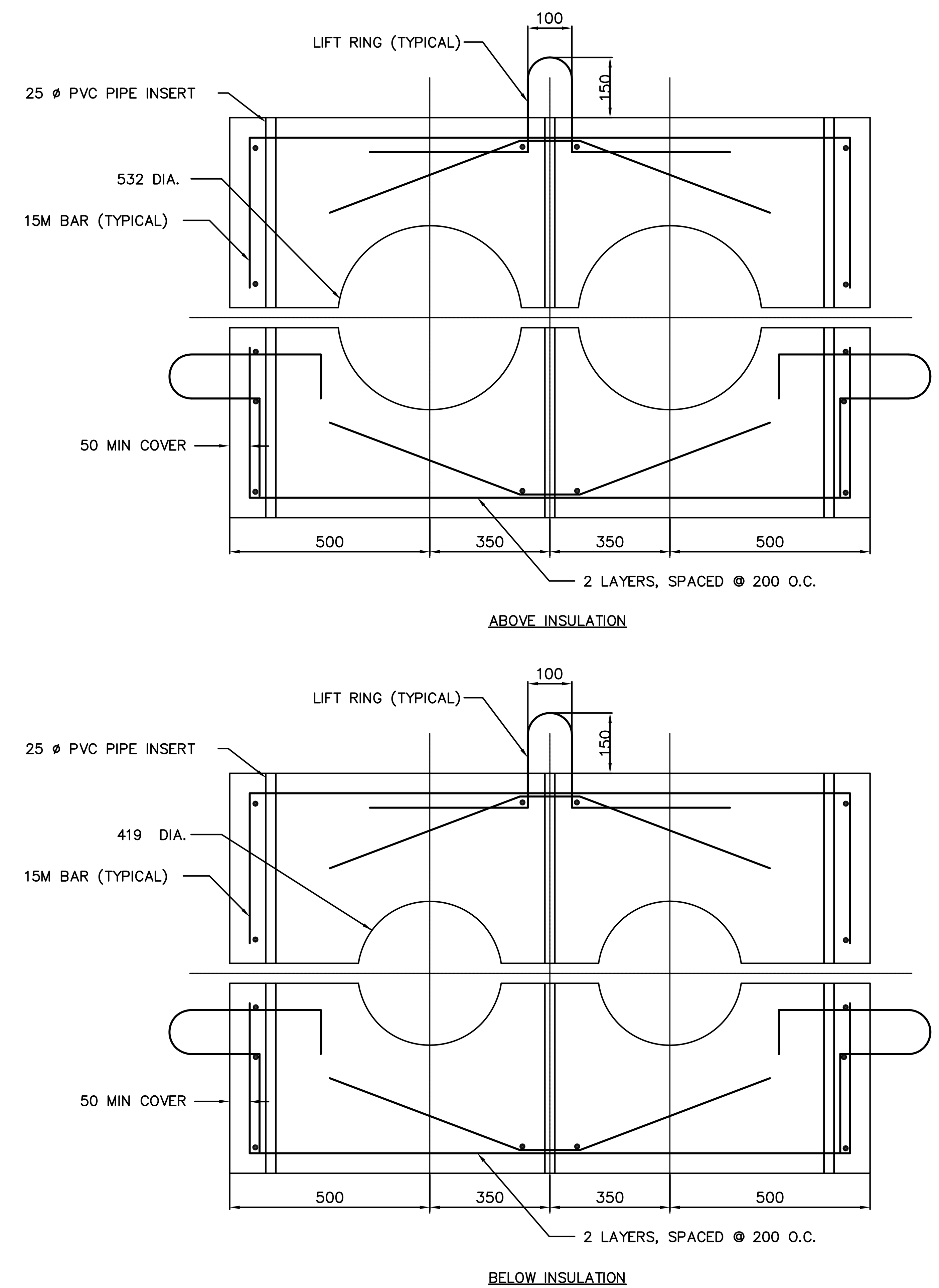
1 / C6 INTAKE CASING JOINT DETAIL
SCALE: NTS



3 / C6 INTAKE CONCRETE ANCHOR DETAIL
SCALE: NTS



2 / C6 INTAKE SCREEN DETAIL
SCALE: NTS



4 / C6 INTAKE CONCRETE ANCHOR REINFORCEMENT DETAIL
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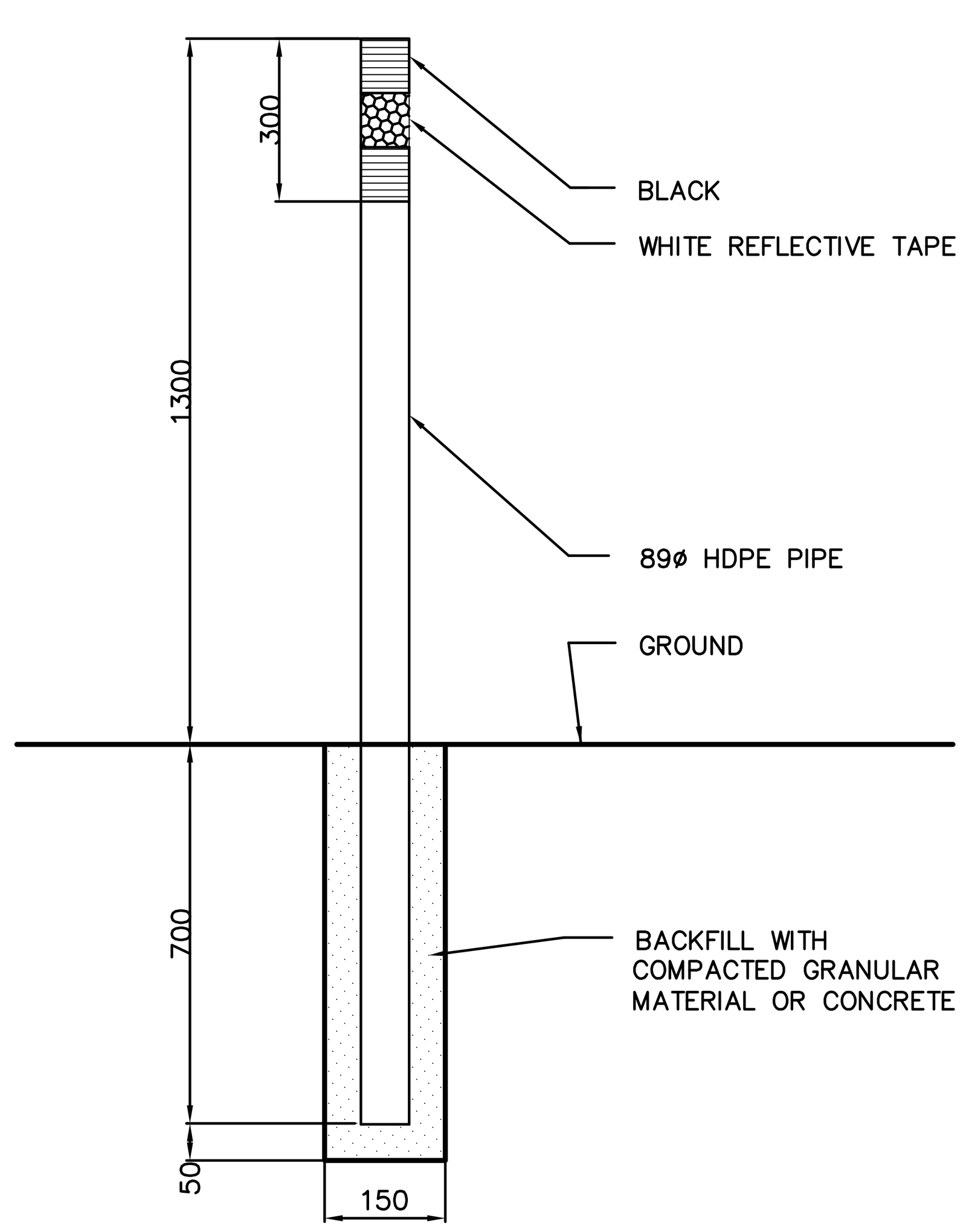

5 / C6 MARKER POST DETAIL
SCALE: NTS

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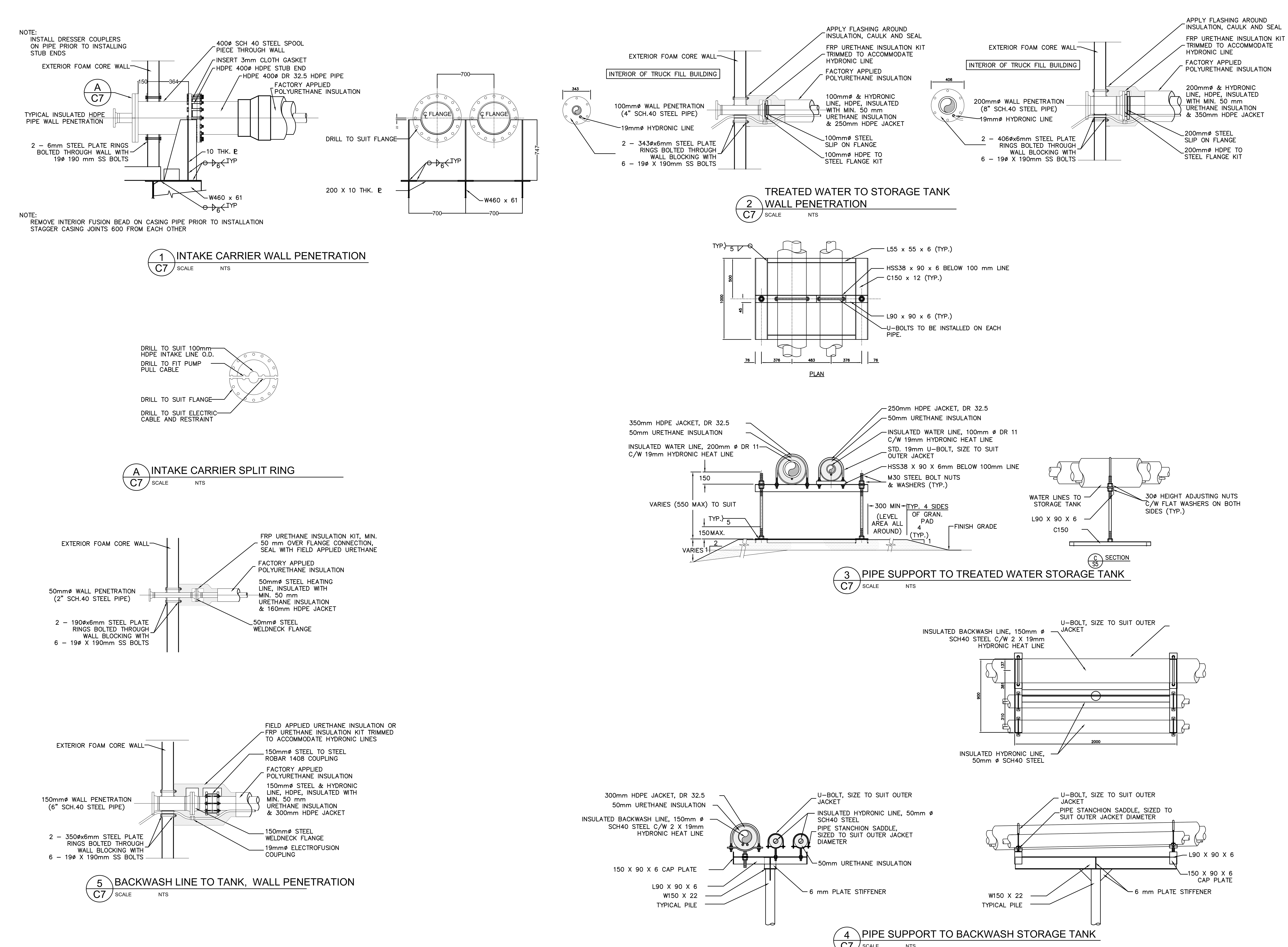
PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

LOCATION
BAKER LAKE, NU

DRAWING TITLE
INTAKE LINES DETAILS

DRAWN BY	SCALE
GS/FG	AS SHOWN
CHECKED BY: WO	CLIENT PROJECT NO.: 07-3023
FSC PROJECT NO.: 2007-0650	
DRAWING NO.: C6	OF 9



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PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

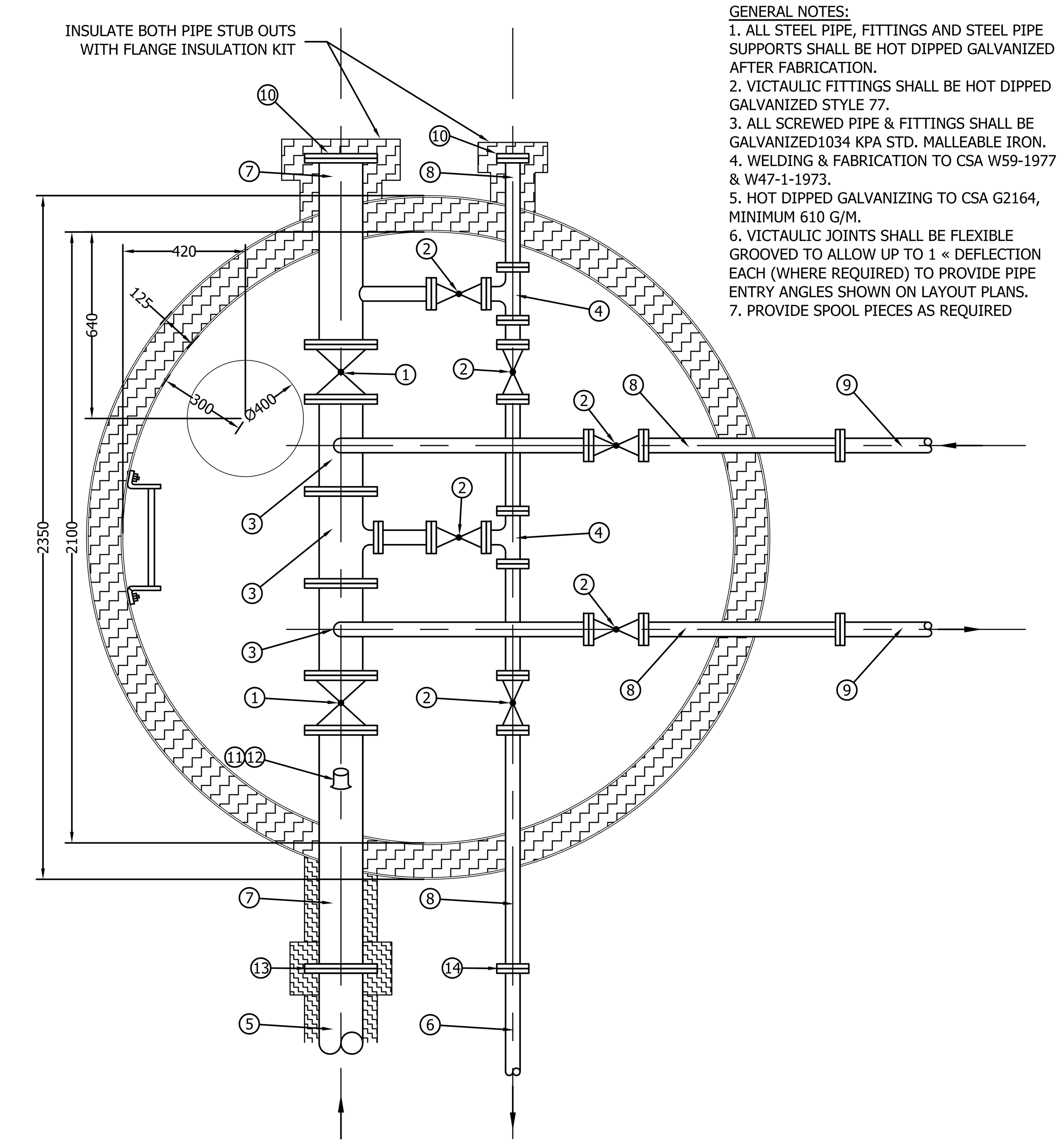
LOCATION
BAKER LAKE, NU

DRAWING TITLE
BUILDING WALL PENETRATION AND PIPE SUPPORT DETAILS
-

DRAWN BY	SCALE
IGM	AS NOTED
CHECKED BY	CLIENT PROJECT NO.
–	07-3023

FSC PROJECT NO.
2007-0650

DRAWING NO.
C7

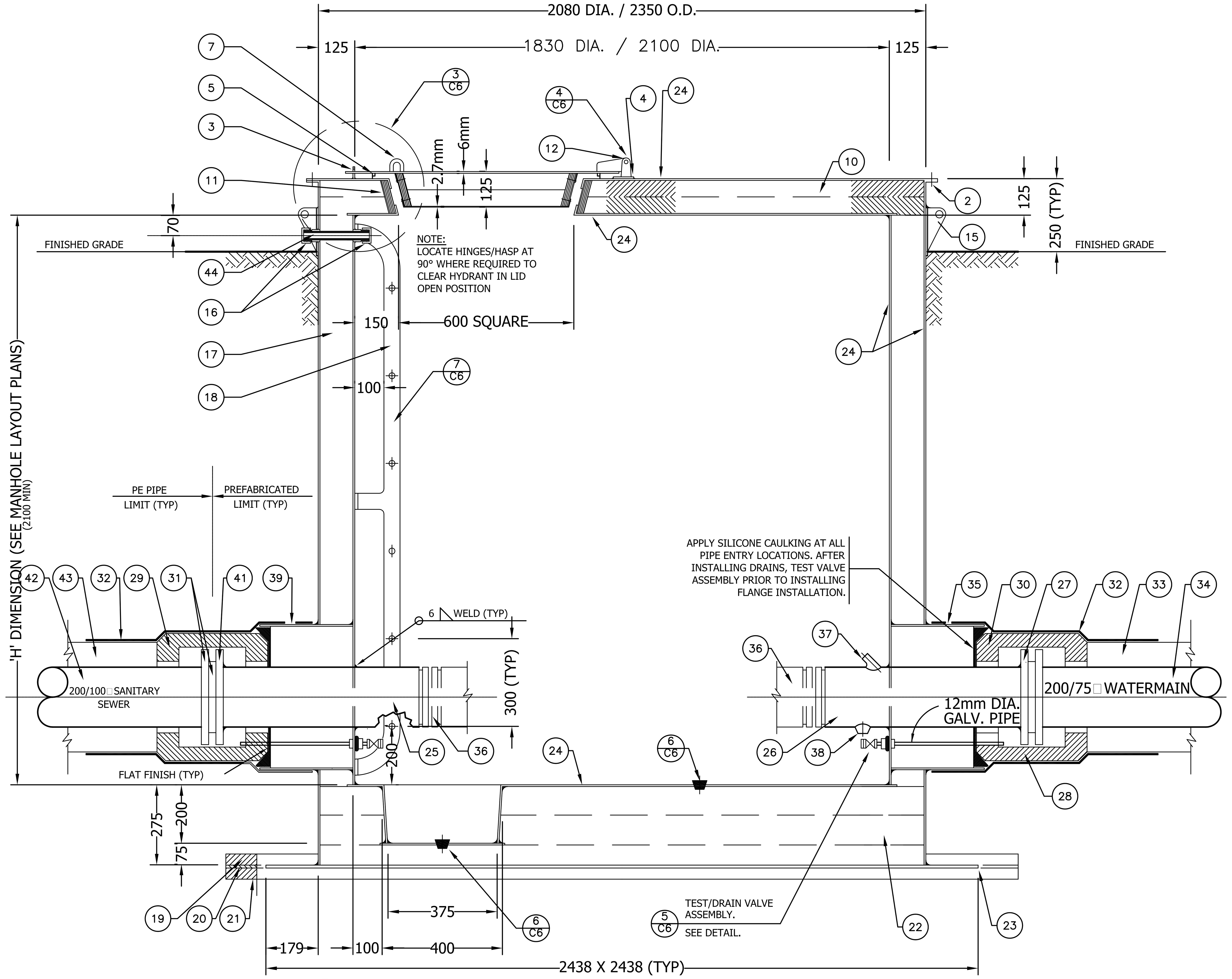


1 C9 NEW INTERMIEDIATE ACCESS VAULT AV1
SCALE: NTS

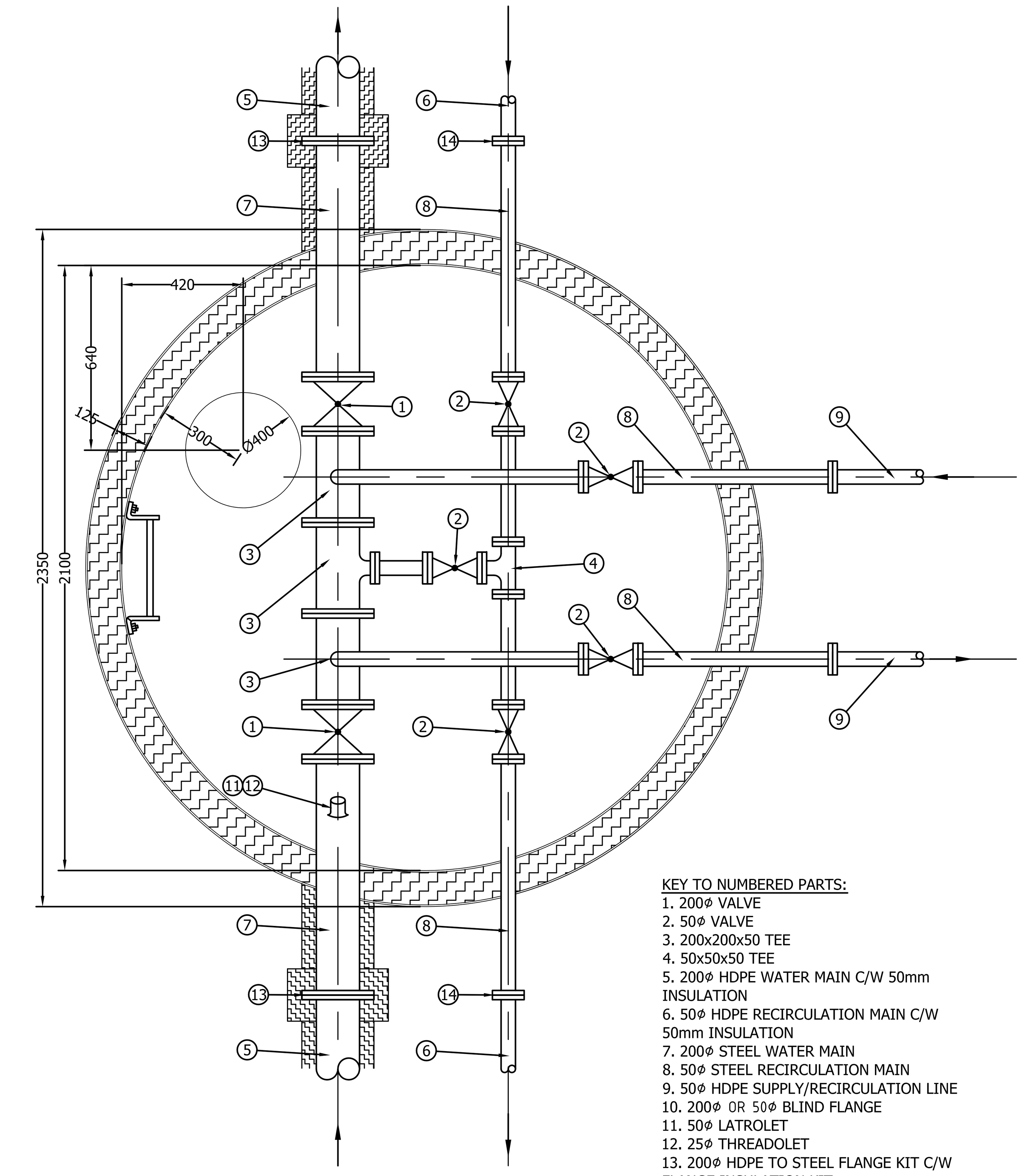
GENERAL NOTES:
1. ALL STEEL PIPE, FITTINGS AND STEEL PIPE SUPPORTS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
2. VICTAULIC FITTINGS SHALL BE HOT DIPPED GALVANIZED STYLE 77.
3. ALL SCREWED PIPE & FITTINGS SHALL BE GALVANIZED1034 KPA STD. MALLEABLE IRON.
4. WELDING & FABRICATION TO CSA W59-1977 & W47-1-1973.
5. HOT DIPPED GALVANIZING TO CSA G2164, MINIMUM 610 G/M.
6. VICTAULIC JOINTS SHALL BE FLEXIBLE GROOVED TO ALLOW UP TO 1 ∘ DEFLECTION EACH (WHERE REQUIRED) TO PROVIDE PIPE ENTRY ANGLES SHOWN ON LAYOUT PLANS.
7. PROVIDE SPOOL PIECES AS REQUIRED

KEY TO NUMBERED PARTS;

1. GASKET 50mm X 3mm, COMPRESSIBLE NEOPRENE RUBBER
2. 12mmØ GALVANIZED STEEL BOLTS, NUTS, AND WASHERS 210mm EQUAL SPACING.
3. HASP ASSEMBLY (DETAIL 5-C9)
4. 50mm X 60mm X 12mm STEEL HINGE BASE PLATE WELDED TO ACCESS VAULT TOP
5. 10mm X 38mm 35 DUROMETER SOFT NATURAL RUBBER STRIP (REVERSIBLE) GASKET TO ACHIVE AIRTIGHT & WATERPROOF SEAL ALL AROUND (DETAIL 4-C9)
6. 50mm X 4mm STEEL BAR WELDED TO LID
7. LIFTING EYE 12mmØ STEEL X 40mm INSIDE LOOP
8. 6mm GALVANIZED STEEL NUT. COUNTERSUNK SHEET METAL SCREWS @ 100mm CENTERS
9. 6mm X 19mm GALVANIZED STEEL CONTERSUNK SHEET METAL SCREWS @ 100mm CENTERS
10. POLYURETHANE SHEET INUSLATION, 240 kPa CUT TO SIZE
11. 20mm THICK HIGH DENSITY POLYETHYLENE
12. HINGES SPACED @ 400mm APPART.
13. ~~THUNDER LINE CORP. LINK-SEAL MODEL LS-500-C (200X350) OR APPROVED EQUAL TO FIT ITEMS 14 & 40~~
14. ~~200mmØ CRANE MCAVITY M-67 "IN-LINE" FIRE HYDRANT~~
15. LIFTING LUGS - TWO PER ACCESS VAULT. 150mm X 75mm X 12mm THICK WITH 38mmØ LIFTING EYE, C/W 200 X 200 X 12 STEEL REINFORCING PLATE CURVED TO RADIUS, CONTINUOUSLY WELDED.
16. 65mmØ THREADED STEEL HALF NIPPLE CONDUIT SLEEVE (FOR EXTENSION CORD OR SUMP PUMP DISCHARGE) IN APPROPRIATE LOCATION, C/W THREADED GALVANIZED STEEL CAPS
17. SPRAYED PLYURETHANE INSULATION 240kPa.
18. LADDER LENGTH AS REQURIED. 450m WIDE MADE FROM 65mm X 12mm FLAT BAR VERTICALS & SUPPORTS WITH 20mmØ RUNGS. WELDED CONSTRUCTION THROUGHOUT ALL EDGES TO BE GROUND SMOOTH GALVANIZED AFTER FABRICATION. FASTEN WITH STEEL STUDS WELDED TO INNER WALL.
19. 38mm THICK STYROFOAM, 4 PIECES, OUTER EDGE TO MATCH ITEM 21 - DOW CHEMICAL HI 60, 410 kPa COMPRESSIVE STRENGTH.
20. FILLER PIECE 10mm THICK STYROFOAM DOW CHEMICAL HI 60
21. 38mm THICK X 2438 X 2438 STYROFOAM DOW CHEMICAL HI 60
22. POLYURETHANE SHEET INSULATION CUT TO SIZE, 240kPa
23. 10mm THICK X2438 X 2438 SQUARE STEEL BASE PLATE
24. 6mm THICK STEEL PLATE ACCESS VAULT CONSTRUCTION
25. 200mmØ/100mmØ SANITARY SEWER ENTRY, SCHEDULE 80 STEEL PIPE SPOOL PIECE.
26. 200mmϕ/50mmØ WATERMAIN ENTRY. SCHEDULE 80 STEEL PIPE SPOOL PIECE.
27. 200mmϕ/50mmØ WELDED STEEL SLIP-ON FLANGE.
28. 200mmϕ (IP SIZE) DR 17 PE/50mmØ SERIES DR 17 STUB END, ASA 125# CAST IRON (DUCTILE) METAL BACKUP FLANGE, CADMIUM PLATED NUTS, BOLTS AND WASHERS AND STUB END GASKET
29. FLANGE INSULATION KIT, 407mm OD FOR 150mmØ PE PIPE, 470mm OD FOR 200mmØ PE PIPE. (MASTIC COAT INNER SURFACES) AND FRP COATING.
30. FLANGE INSULATION KIT, 290mm OD FOR 50mmØ PE PIPE, 407mm OD FOR 150mmØ PE PIPE, 535 MM OD FOR 250mmØ PE PIPE, (MASTIC COAT INNER SURFACES) AND FRP COATING.
31. 200mmØ/150mmØ (I.P. SIZE) DR 17 PE/50mmØ DR 17 PE STUB END, ASA 125# CAST IRON (DUCTILE) METAL BACKUP FLANGE, CADMIUM PLATED NUTS, BOLTS & WASHERS, AND STUB END GASKET
32. RAYCHEM THERMACLAD HEAT SHRINK TAPE, 2 LAYERS MIN. 50% OVERLAP EACH WRAP.
33. 50mm THICK POLYURETHANE INSULATION HALVES OR PE PIPE PRE-INSULATION TO SUIT PIPE SIZES
34. 200/75Ø (IP SIZE) PE WATERMAIN OR 50mmØ (IP SIZE) PE WATERMAIN
35. STEEL RING SECTION WELDED TO ACCESS VAULT OUTER WALL 6mm THICK X 407mm OD FOR 150mm
36. HOT DIPPED GALVANIZED STEEL PIPING.
37. 50mmØ LATROLET
38. 25mmØ THREADOLET
39. STEEL RING SECTION WELDED TO ACCESS VAULT OUTER WALL 6mm THICK X 407mm OD FOR 150mmØ SEWER LINE, 470mm OD FOR 200Ø SEWER LINE.
40. 350mmØ SCHEDULE 10 (346mm ID) STEEL PIPE X 100m LONG WELDED TO ACCESS VAULT TO PLATE
41. 200mmØ/150mmØ WELDED STEEL SLIP-ON FLANGE
42. 200mmØ - 100mmØ (IP SIZE) PE SEWER MAIN.
43. 50mm THICK POLYURETHANE INSULATION HALVES OR PE PIPE PRE-INSULATION TO SUIT PIPE SIZES
44. POLYETHYLENE LINER TUBE, PACK WITH STYROFOAM INSULATION.

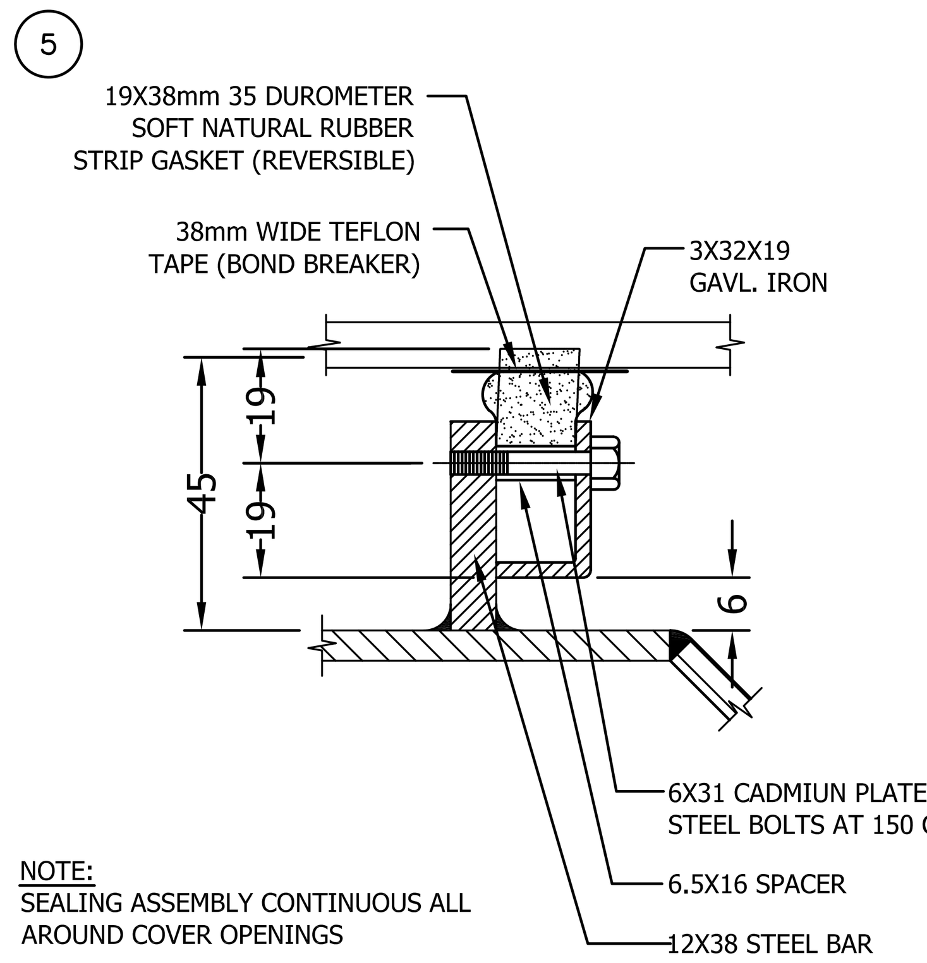


3 C9 ACCESS VAULT CONSTRUCTION DETAILS
SCALE: NTS



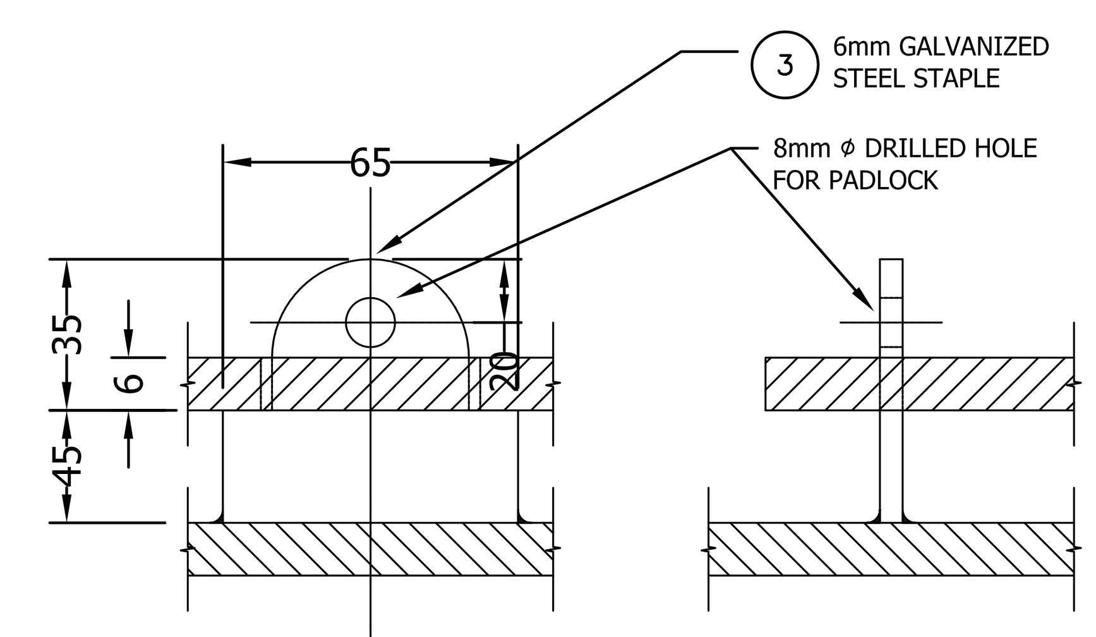
2 C9 NEW END ACCESS VAULT AV2
SCALE: NTS

KEY TO NUMBERED PARTS:
1. 200ϕ VALVE
2. 50ϕ VALVE
3. 200x200x50 TEE
4. 50x50x50 TEE
5. 200ϕ HDPE WATER MAIN C/W 50mm INSULATION
6. 50ϕ HDPE RECIRCULATION MAIN C/W 50mm INSULATION
7. 200ϕ STEEL WATER MAIN
8. 50ϕ STEEL RECIRCULATION MAIN
9. 50ϕ HDPE SUPPLY/RECIRCULATION LINE
10. 200ϕ OR 50ϕ BLIND FLANGE
11. 50ϕ LATROLET
12. 25ϕ THREADOLET
13. 200ϕ HDPE TO STEEL FLANGE KIT C/W FLANGE INSULATION KIT
14. 50ϕ HDPE TO STEEL FLANGE KIT C/W FLANGE INSULATION KIT



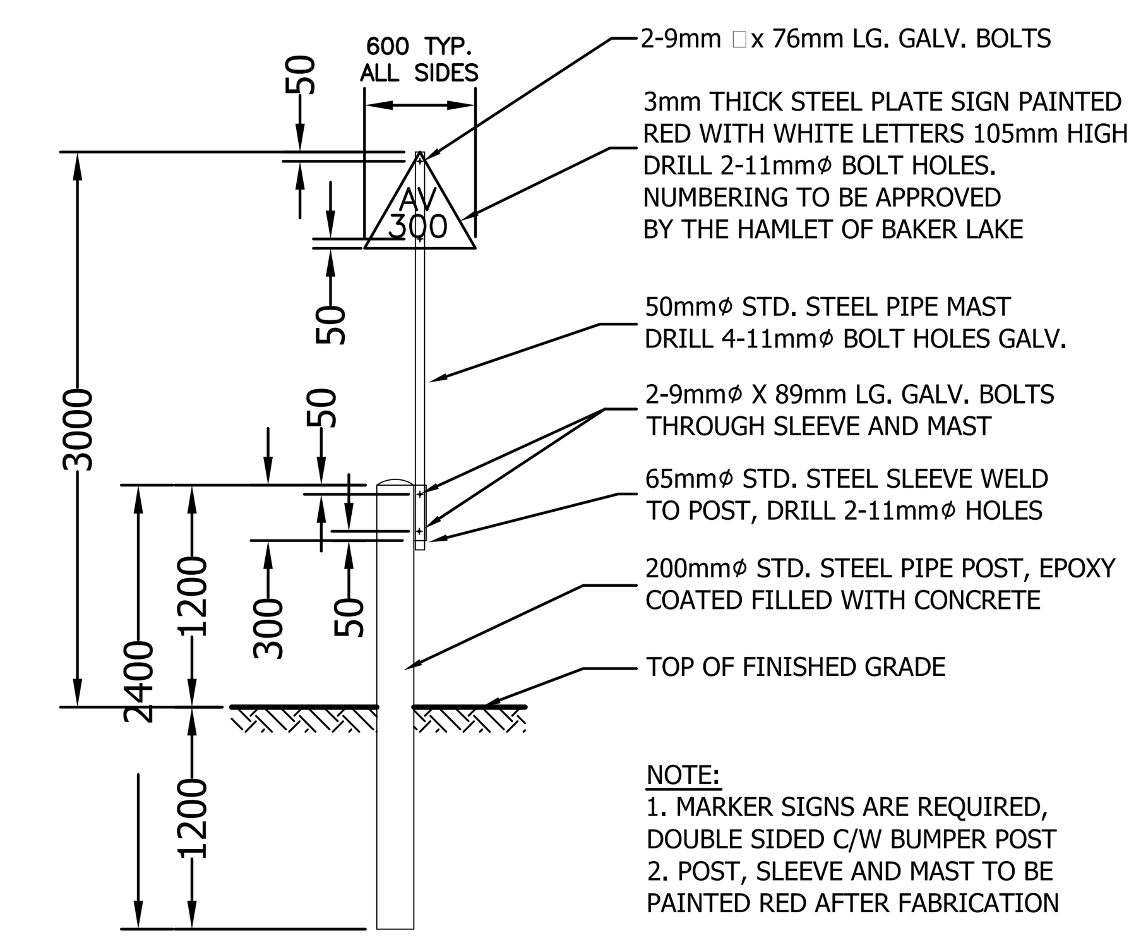
NOTE:
SEALING ASSEMBLY CONTINUOUS ALL AROUND COVER OPENINGS

4 C9 SEALING DETAILS
SCALE: NTS



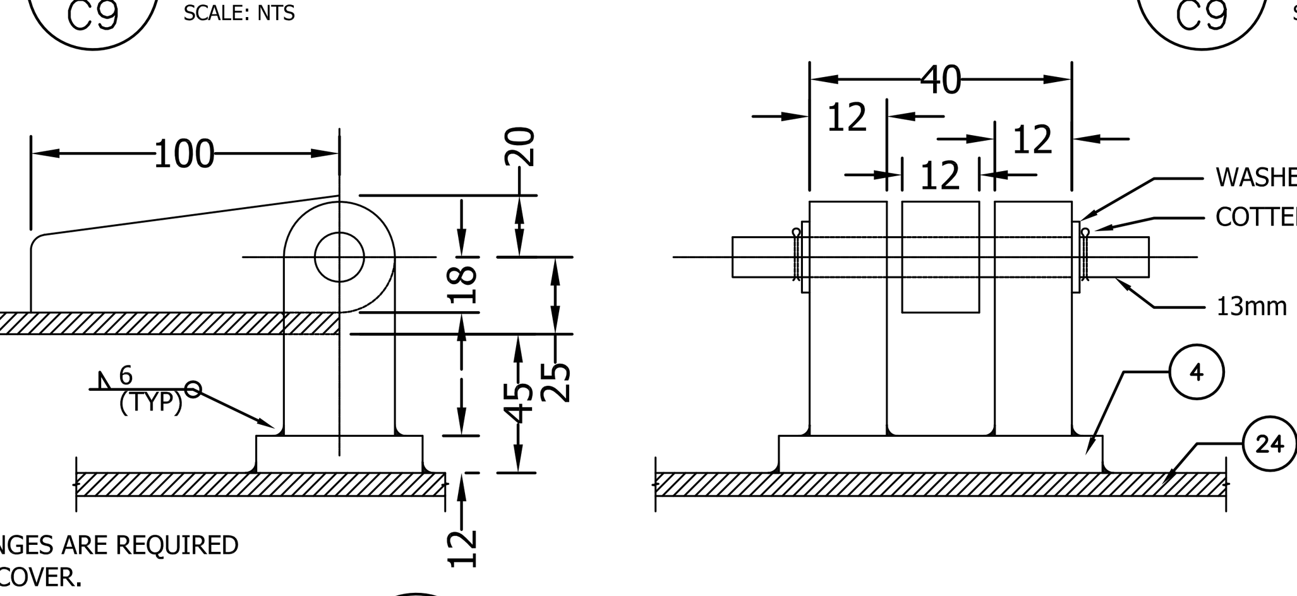
NOTE:
HEAVY DUTY PADLOCKS TO BE INSTALLED TO EACH ACCESS VAULT. C/W DUST COVER. USE LOCKS AS APPROVED BY, AND KEYED FOR THE HAMLET OF BAKER LAKE LOCK SYSTEM.

5 C9 LOCKING DETAILS
SCALE: NTS



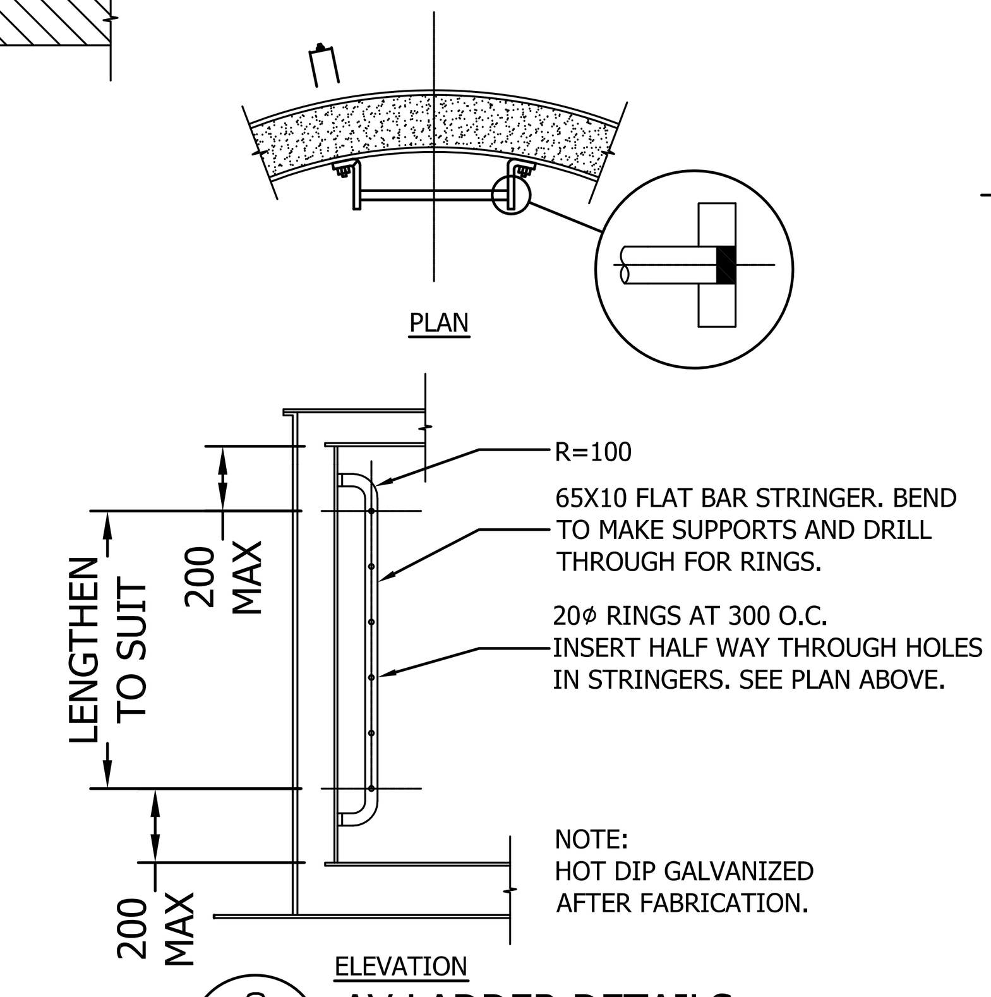
NOTE:
1. MARKER SIGNS ARE REQUIRED, DOUBLE SIDED C/W BUMPER POST
2. POST, SLEEVE AND MAST TO BE PAINTED RED AFTER FABRICATION

6 C9 AV BUMPER POST (WITH MARKER)
SCALE: NTS



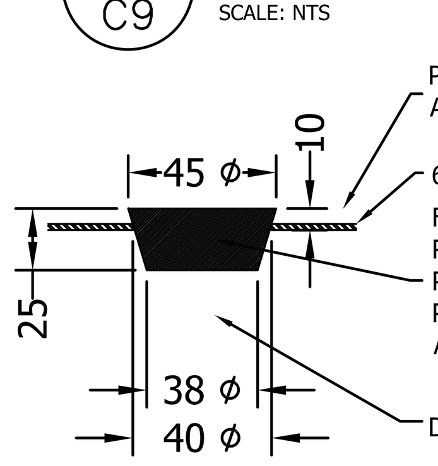
NOTES:
1. TWO HINGES ARE REQUIRED FOR EACH COVER.
2. HINGES TO BE SPACED AT 400mm APART

7 C9 HINGE DETAILS
SCALE: NTS



NOTE:
HOT DIP GALVANIZED AFTER FABRICATION.

8 C9 AV LADDER DETAILS
SCALE: NTS



PLUG TO HAVE 10mm PROJECTION ABOVE PLATE AFTER BEING DRIVEN THGHTLY INTO HOLE
6mm THICK PLATE
FROST PLUG TO BE MADE FROM SOLID BLACK RUBBER AND DRIVEN TIGHTLY INTO HOLE. PROVIDE PLUG IN FLOOR & SUMP BOTTOM PLATE OF EACH INSTALLED & UNINSTALLED ACCESS VAULT. PLUG SIZE IS SHOWN
DRILL 38ϕ HOLE IN PLATE

9 C9 FROST PLUG DETAIL
SCALE: NTS

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00	ISSUED FOR REVIEW	2007/12

PROFESSIONAL SEAL / PERMIT TO PRACTICE

PERMIT TO PRACTICE
FSC ARCHITECTS AND ENGINEERS (5107 NWT) LTD.)
Signature
Date 23 March 11
PERMIT NUMBER: P0457
The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

REGISTERED PROFESSIONAL ENGINEER W. J. ORR NWT

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T 867.920.2882 | F 867.920.4319

PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

LOCATION
BAKER LAKE, NU

DRAWING TITLE
ACCESS VAULT DETAILS

DRAWN BY: GS/FG	SCALE: NTS
CHECKED BY: WO	CLIENT PROJECT NO.: 07-3023
FSC PROJECT NO.: 2007-0650	
DRAWING NO.: C8	OF 9

CODES & STANDARDS

1. ALL DESIGN LOADING AS PER THE 2005 EDITION OF THE NATIONAL BUILDING CODE OF CANADA (NBCC 2005).
2. ALL STRUCTURAL STEEL MEMBERS DESIGNED IN ACCORDANCE WITH CAN/CSA S16-01.
3. UNFACTORED/UNMODIFIED DESIGN GRAVITY LOADS
   - i) LIVE LOADS: 1.0 kPa OR 1.3 kN (ROOF); 4.8 kPa (FLOOR)
   - ii) DEAD LOADS: SELF-WEIGHT OF STRUCTURE; 1.5 kPa (ROOF); 1.5 KPa (FLOOR)
   - iii)SNOW/RAIN: 2.9 kPa (Ss – SNOW); 0.2 kPa (Sr – ASSOCIATED RAIN)
4. UNFACTORED/UNMODIFIED LATERAL GRAVITY LOADS
   - i) WIND: 0.54 kPa
5. MODIFIED/UNFACTORED SPECIFIC DESIGN LOADS
   - i) WIND: EXTERIOR WALL DESIGN PRESSURE 0.95/-0.75 kPa. ROOF DESIGN UPLIFT (SUCTION) -1.22 kPa.

STRUCTURAL STEEL

1. ALL STEEL PLATE, ANGLES, AND C-CHANNELS SHALL BE GRADE 300W. ALL OTHER STEEL SECTIONS SHALL BE GRADE 350W.
2. ALL WELDS SHALL HAVE AN ULTIMATE STRENGTH OF NOT LESS THAN 480 MPa (E48XX ELECTRODES).
3. ALWAYS INSTALL BEAM STIFFENERS IN PAIRS, ON EACH SIDE OF WEB. UNLESS OTHERWISE NOTED, STIFFENERS SHALL BE OF 13mm STEEL PLATE AND WELDED TO BEAM WITH 8mm FILLET WELDS.
4. ALL OTHER STRUCTURAL BOLTS SHALL BE GRADE A325 OR A325M.
5. ALL STEEL WORK TO CONFORM TO CAN/CSA S16-01, CSA W59, AND CSA W47.1. ALL WELDING SHALL BE PERFORMED BY A CERTIFIED WELDER.
6. BEAM CONNECTIONS NOT SHOWN ON THESE DRAWINGS SHALL BE DESIGNED AND FABRICATED IN ACCORDANCE WITH CAN/CSA S16-01. UNLESS OTHERWISE SPECIFIED, BEAM CONNECTIONS SHALL BE CAPABLE OF TRANSMITTING A SHEAR FORCE EQUAL TO 75% THAT OF THE MEMBER SHEAR CAPACITY OR THE SHEAR FORCE RESULTING FROM THE MAXIMUM EVENLY DISTRIBUTED LOAD THAT THE MEMBER CAN CARRY OVER ITS ENTIRE LENGTH, WHICHEVER IS GREATER.
7. ALL BRACING AND BRACING STRUTS, INCLUDING (BUT NOT LIMITED TO) V-BRAVING, K-BRACING, X-BRACING AND SINGLE DIAGONAL BRACING, SHALL BE FURNISHED WITH END CONNECTIONS CAPABLE OF CARRYING 75% OF THE MEMBER'S TENSION CAPACITY IN BOTH TENSION AND COMPRESSION. SUCH BRACING MEMBERS ARE CONSIDERED TO EXPERIENCE REVERSING LOADS AND AS SUCH SHALL BE FURNISHED WITH SLIP-CRITICAL CONNECTIONS.
8. ALL BRACING AND BRACING STRUTS IN EXTERIOR WALLS SHALL BE FURNISHED WITH CONNECTION TO RESISTS AXIAL LOAD AS PER NOTE #7 AS WELL AS LATERAL LOAD RESULTING FROM WIND PRESSURE/SUCTION AS PER NOTE #6.
9. SUBMIT CONNECTION SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL. CONNECTIONS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER LICENSED TO PRACTICE IN THE NORTHWEST TERRITORIES.
10. SHOP PRIME ALL STEEL SECTIONS EXCEPT THOSE TO BE CAST IN OR AGAINST CONCRETE, AND THOSE REQUIRING FIELD WELDS.
11. STEEL DECKING SHALL BE ZINC PLATED/GALVANIZED. LAP DECKING MINIMUM OF 300mm. LAPS SHALL OCCUR OVER SUPPORT LOCATIONS.
12. ALL STEEL STUDS AND THEIR CONNECTIONS SHALL BE DESIGN FOR THE WIND LOADING INDICATED. ALL STEEL STUDS THAT ATTACH TO THE UNDERSIDE STRUCTURAL MEMBERS SHALL BE EQUIPPED WITH DEFLECTIONS TRACTS TO ALLOW THE MEMBER TO FREELY DEFLECT NOT LESS THAN 38mm.
13. WELDING OF STAINLESS STEEL TO STRUCTURAL STEEL SHALL BE AS PER REQUIREMENTS OF CSA W59-03 (R2008)

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PERMIT TO PRACTICE
FSC ARCHITECTS AND ENGINEERS (5107 NWT LTD.)
Signature
Date 25 MARCH 2011
PERMIT NUMBER: P0457
The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

REGISTERED PROFESSIONAL ENGINEER
M.J. WHITE
2007-0650
NWT/NU
March 25, 2011

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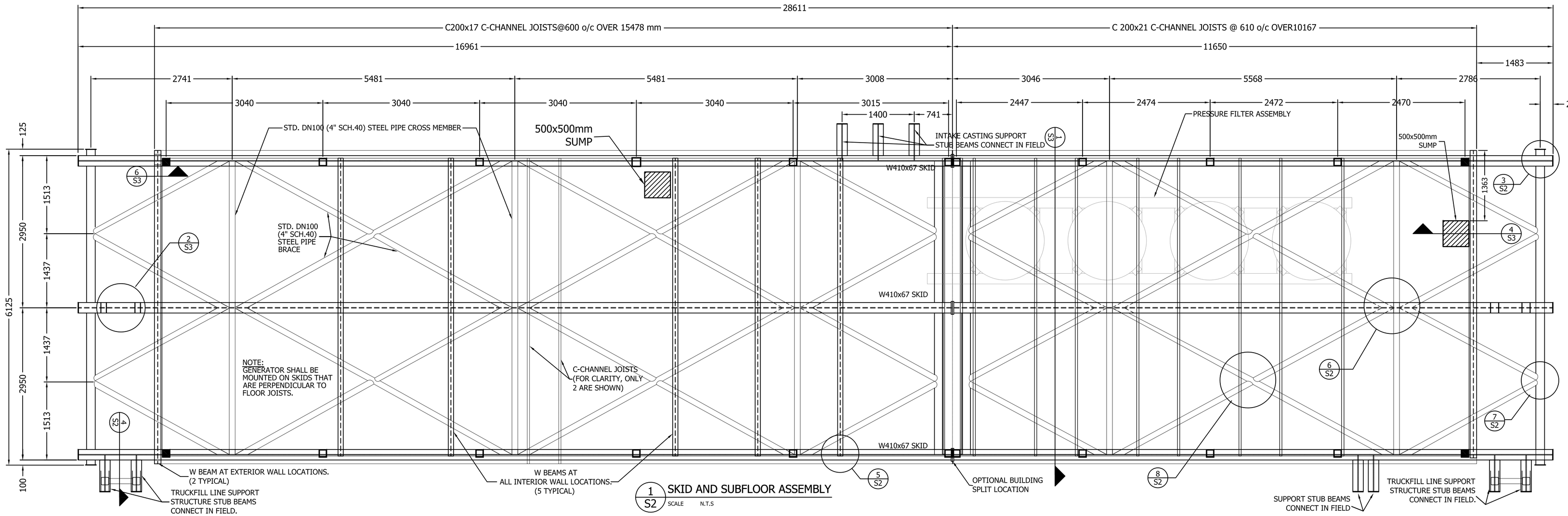
PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

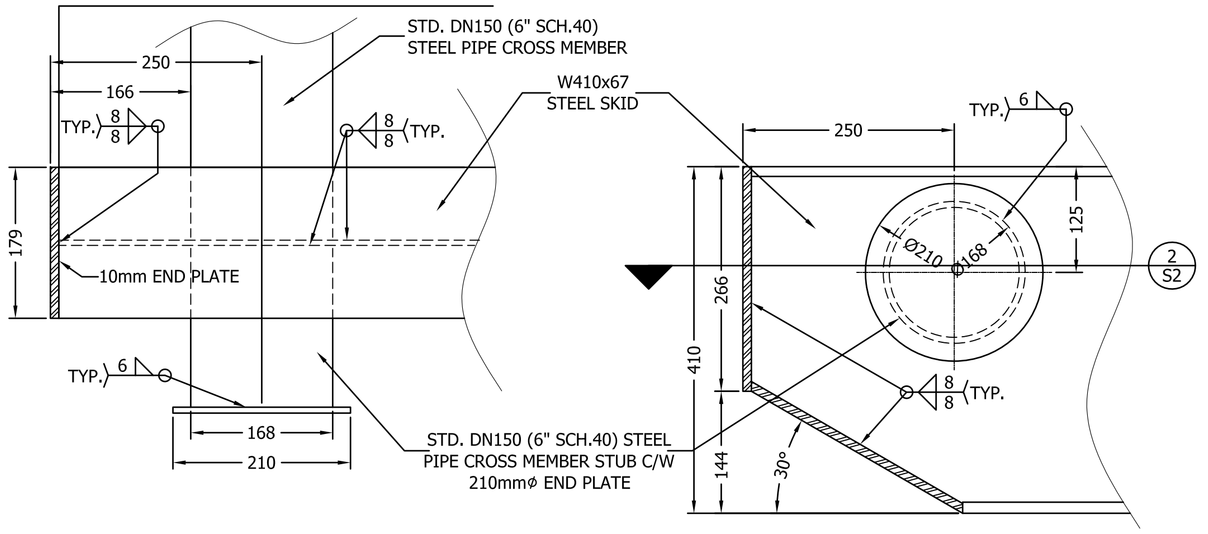
LOCATION
BAKER LAKE, NU

DRAWING TITLE
NOTES

DRAWN BY: MJW/K.K.	SCALE: N.T.S
CHECKED BY: MJW	CLIENT PROJECT NO.: 07-3023
FSC PROJECT NO.: 2007-0650	
DRAWING NO.: S1	OF 7

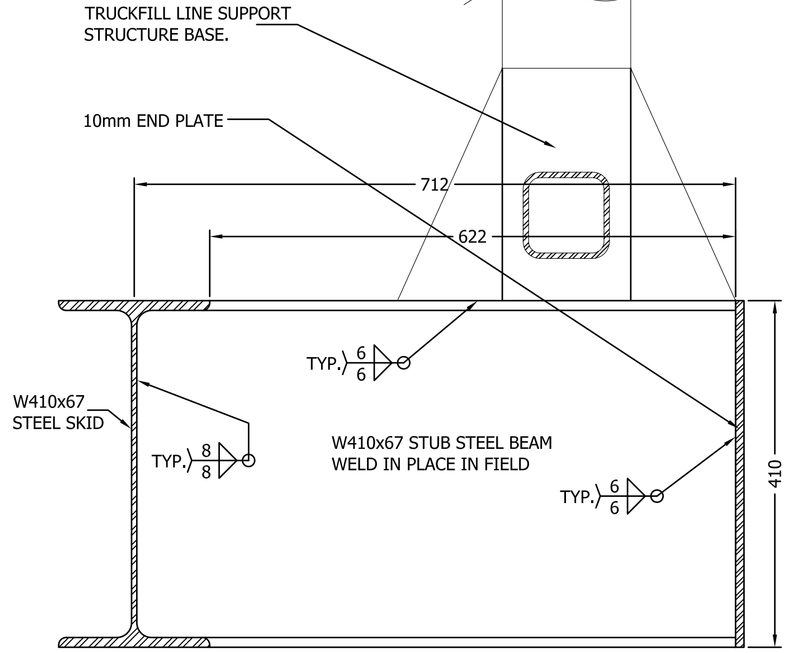


1/S2 SKID AND SUBFLOOR ASSEMBLY
SCALE N.T.S

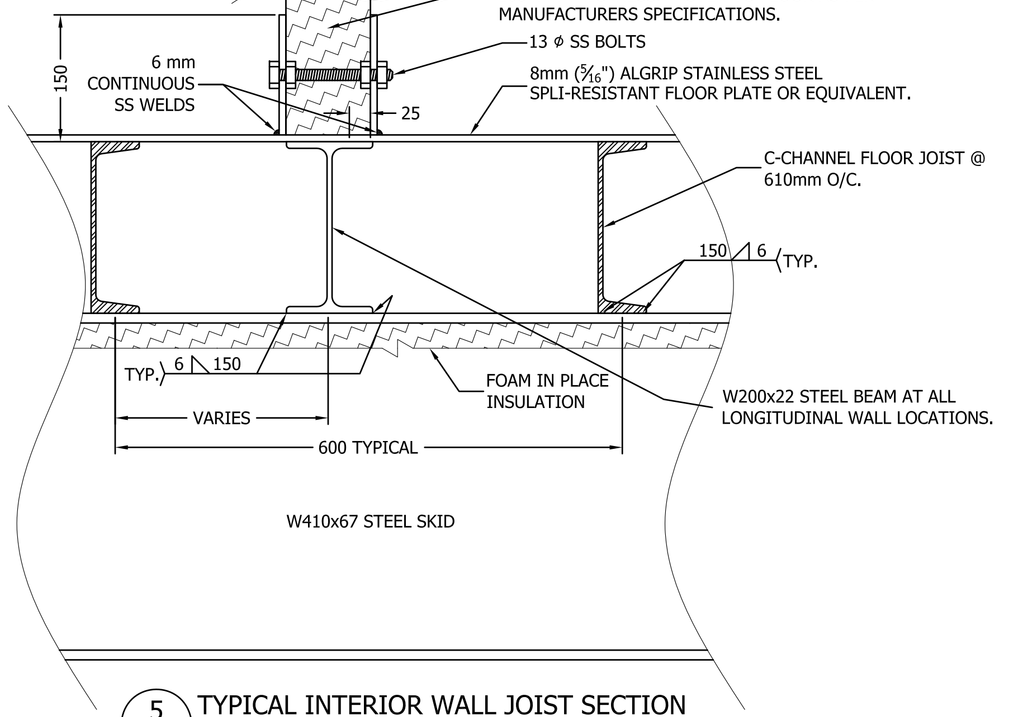


2/S2 SKID END SECTION
SCALE 1:5

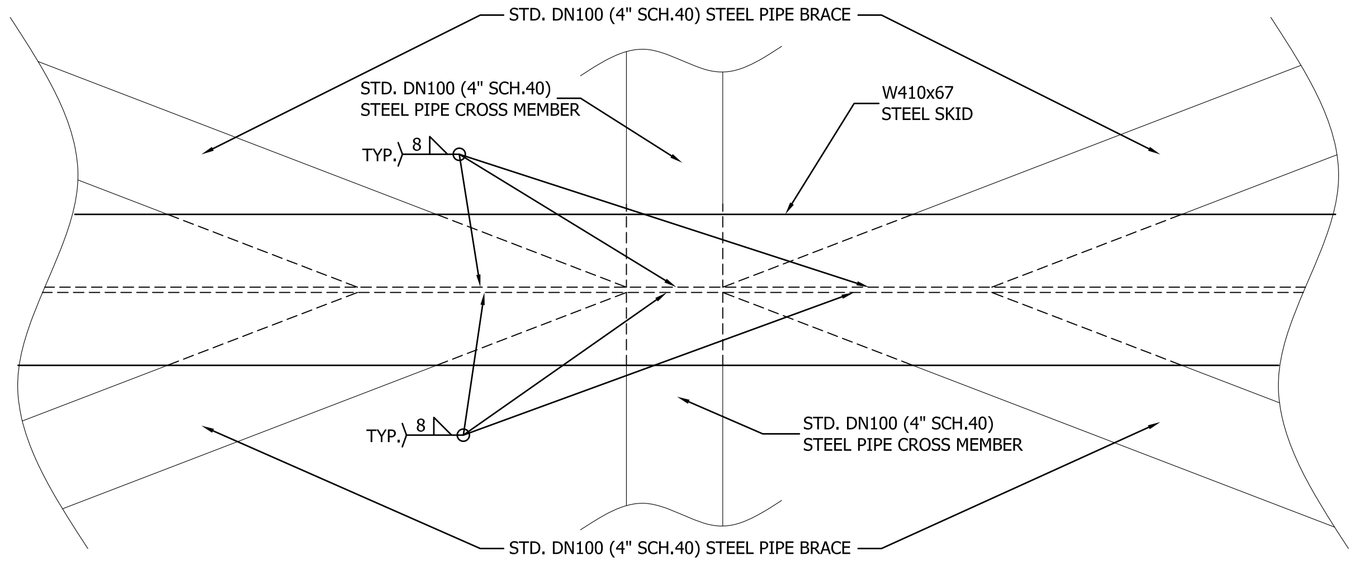
3/S2 SKID END DETAIL
SCALE 1:5



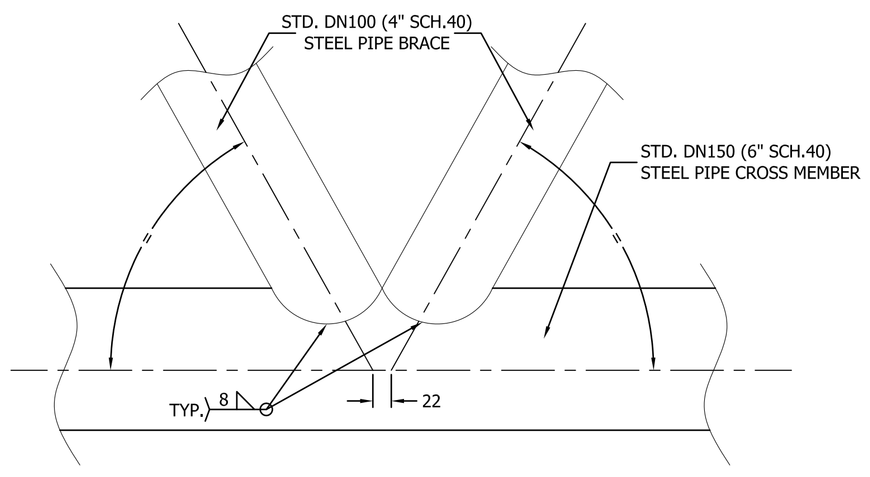
4/S2 STUB BEAM DETAIL
SCALE 1:5



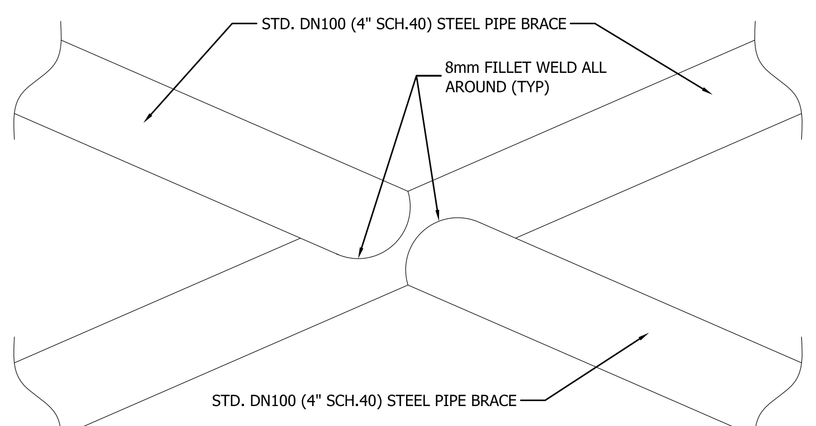
5/S2 TYPICAL INTERIOR WALL JOIST SECTION
SCALE 1:5



6/S2 SKID / PIPE CONNECTION DETAIL
SCALE 1:5



7/S2 END CROSS MEMBER / BRACE CONNECTION DETAIL
SCALE 1:5



8/S2 BRACING CROSS-OVER DETAIL
SCALE 1:5

■ EXTERIOR FRAME
□ INTERIOR FRAME

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PROFESSIONAL SEAL / PERMIT TO PRACTICE

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PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

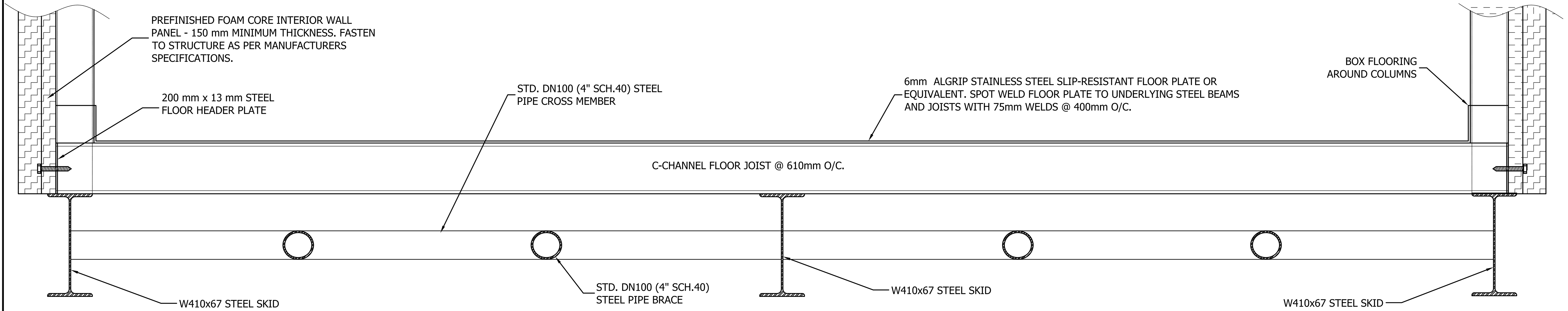
LOCATION
BAKER LAKE, NU

DRAWING TITLE
SKID AND SUBFLOOR LAYOUT AND DETAILS

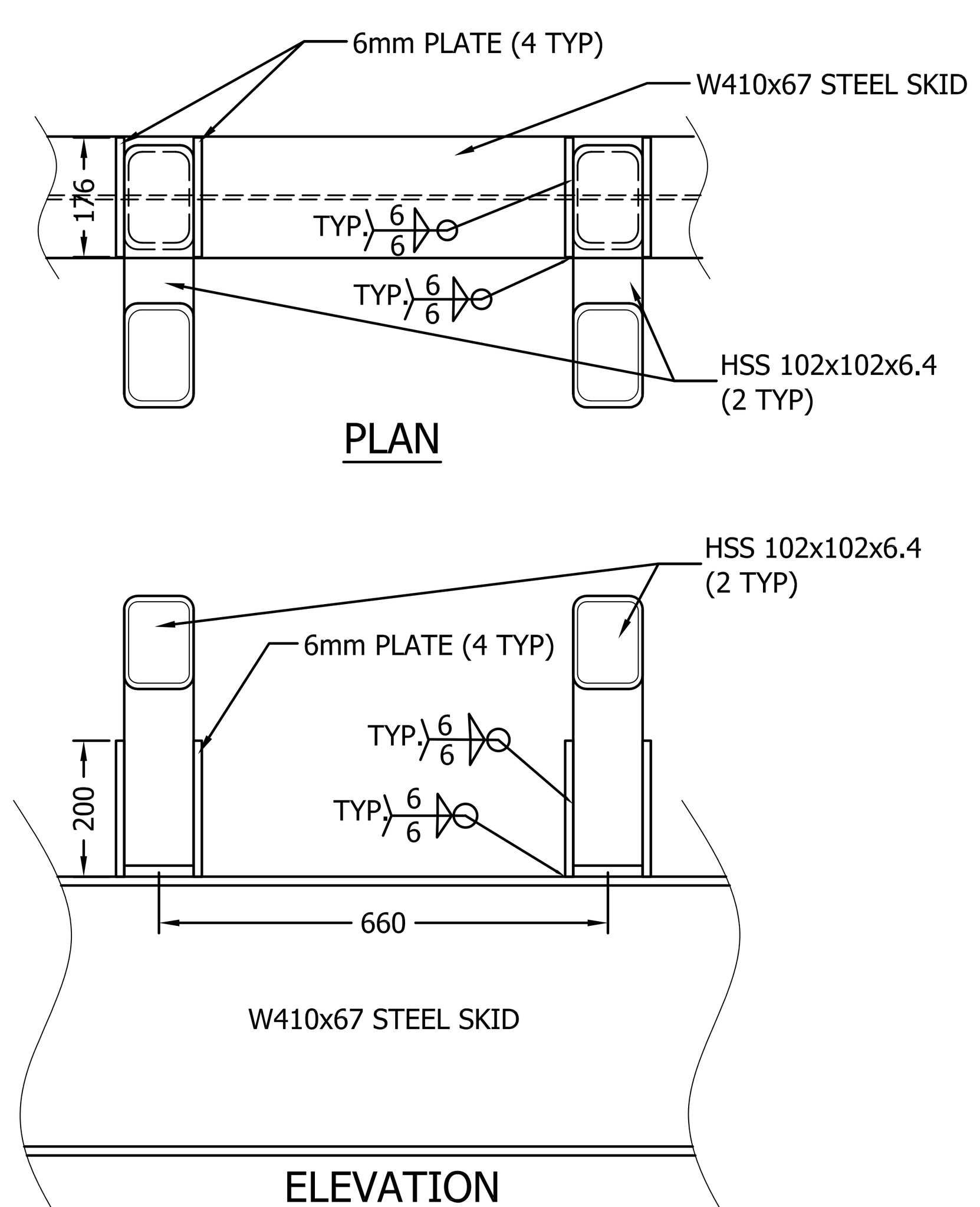
DRAWN BY	SCALE
MJW/K.K.	AS NOTED
CHECKED BY	CLIENT PROJECT NO.
MJW	07-3023

FSC PROJECT NO.
2007-0650

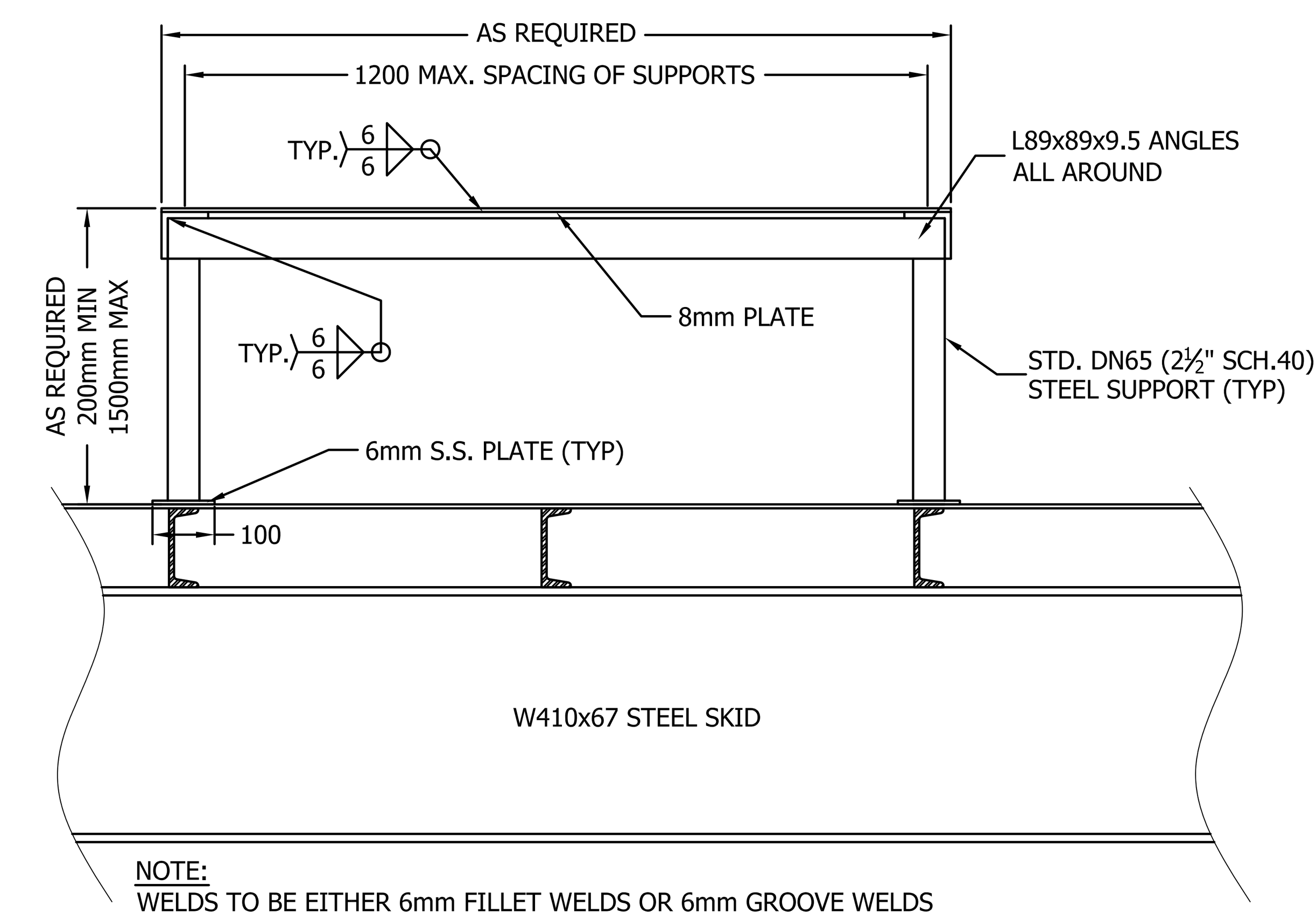
DRAWING NO.
S2
OF 7



1 / S3 TYPICAL FLOOR CROSS SECTION
SCALE 1:10

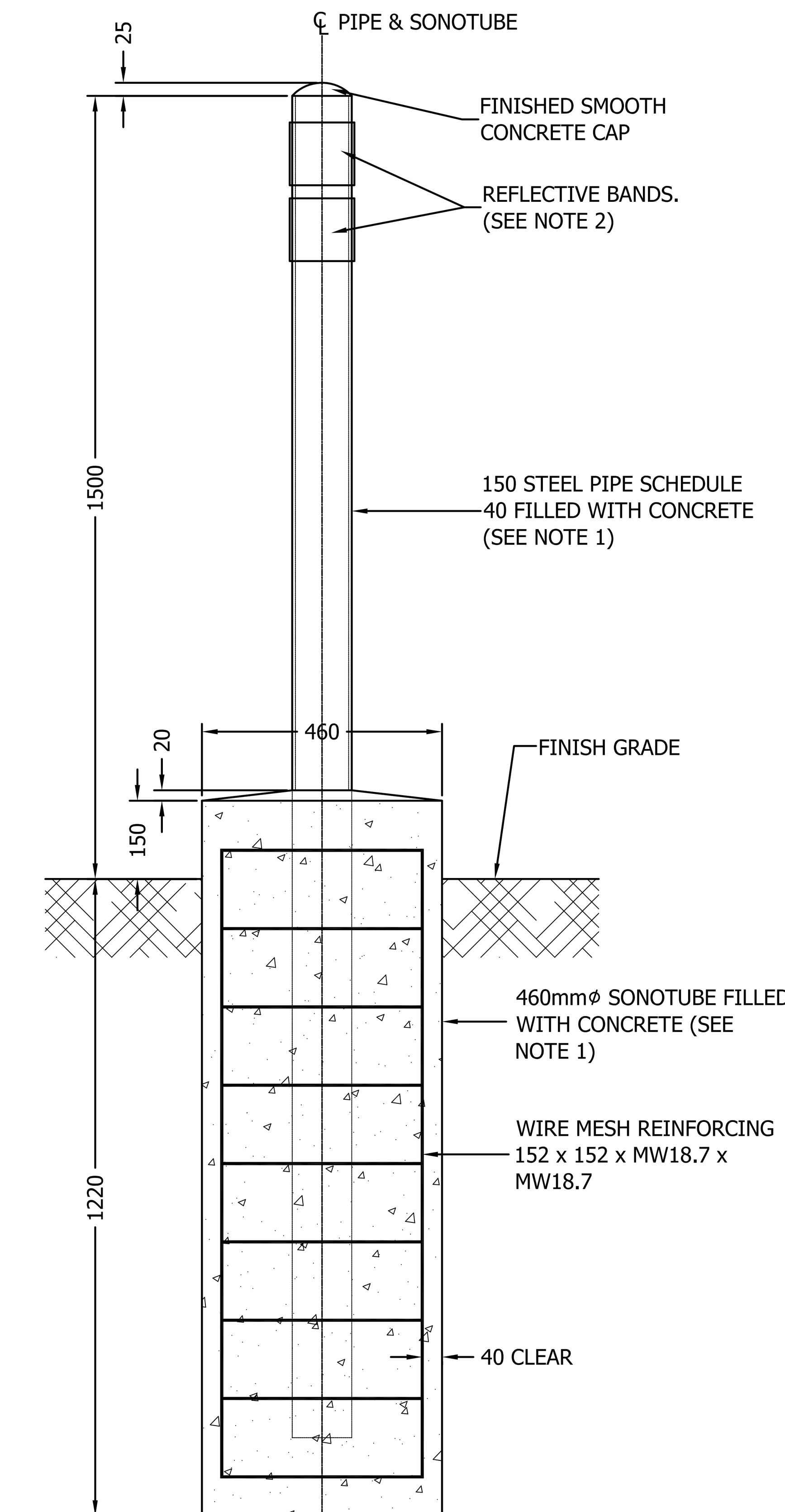


2 / S3 SKID/TRUCKFILL ARM STRUT CONNECTION
SCALE 1:10



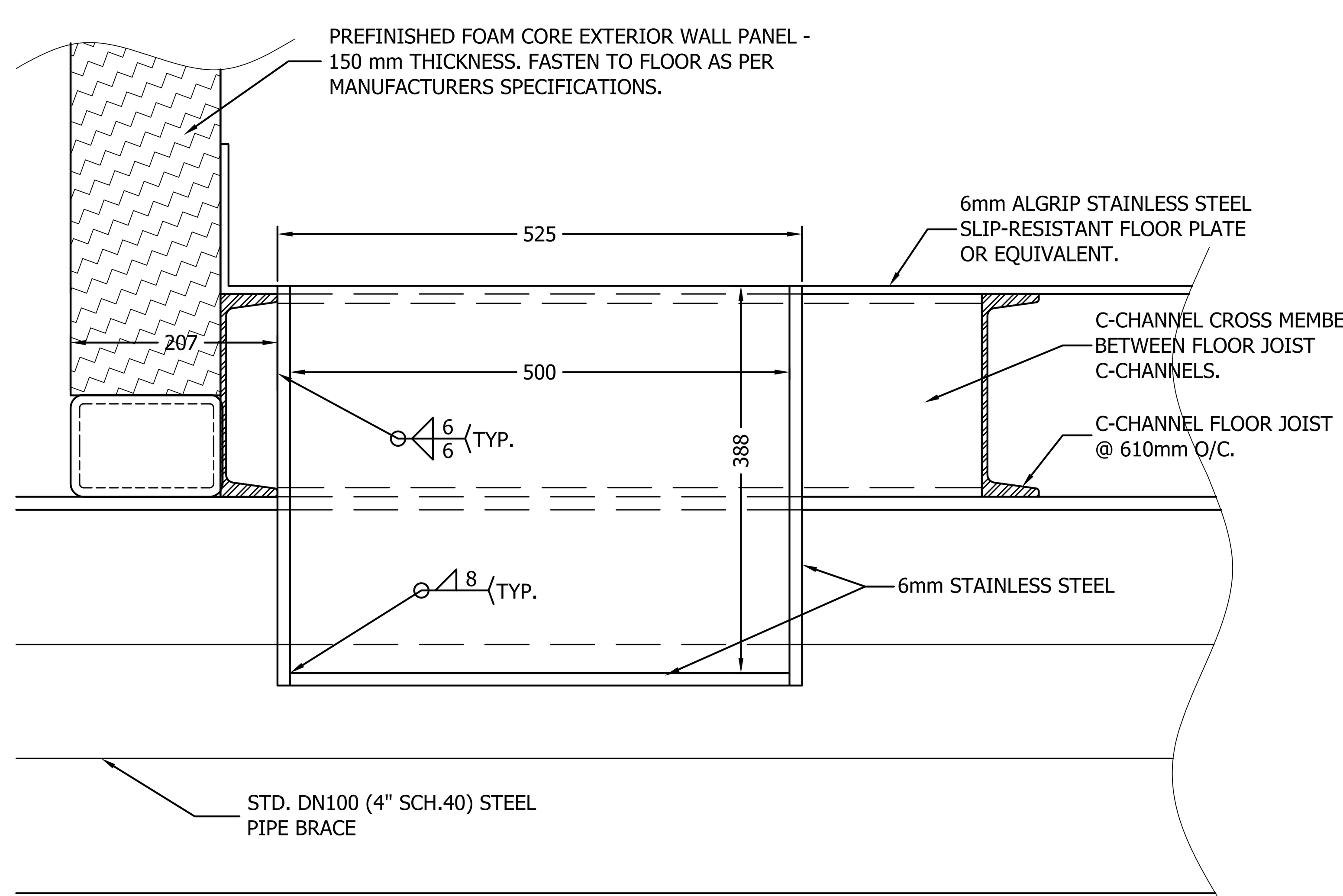
NOTE:
WELDS TO BE EITHER 6mm FILLET WELDS OR 6mm GROOVE WELDS
STAND TO BE SECURELY FASTENED TO FLOOR ONCE FINAL PLACEMENT HAS BEEN ESTABLISHED

3 / S3 TYPICAL EQUIPMENT STAND
SCALE 1:10

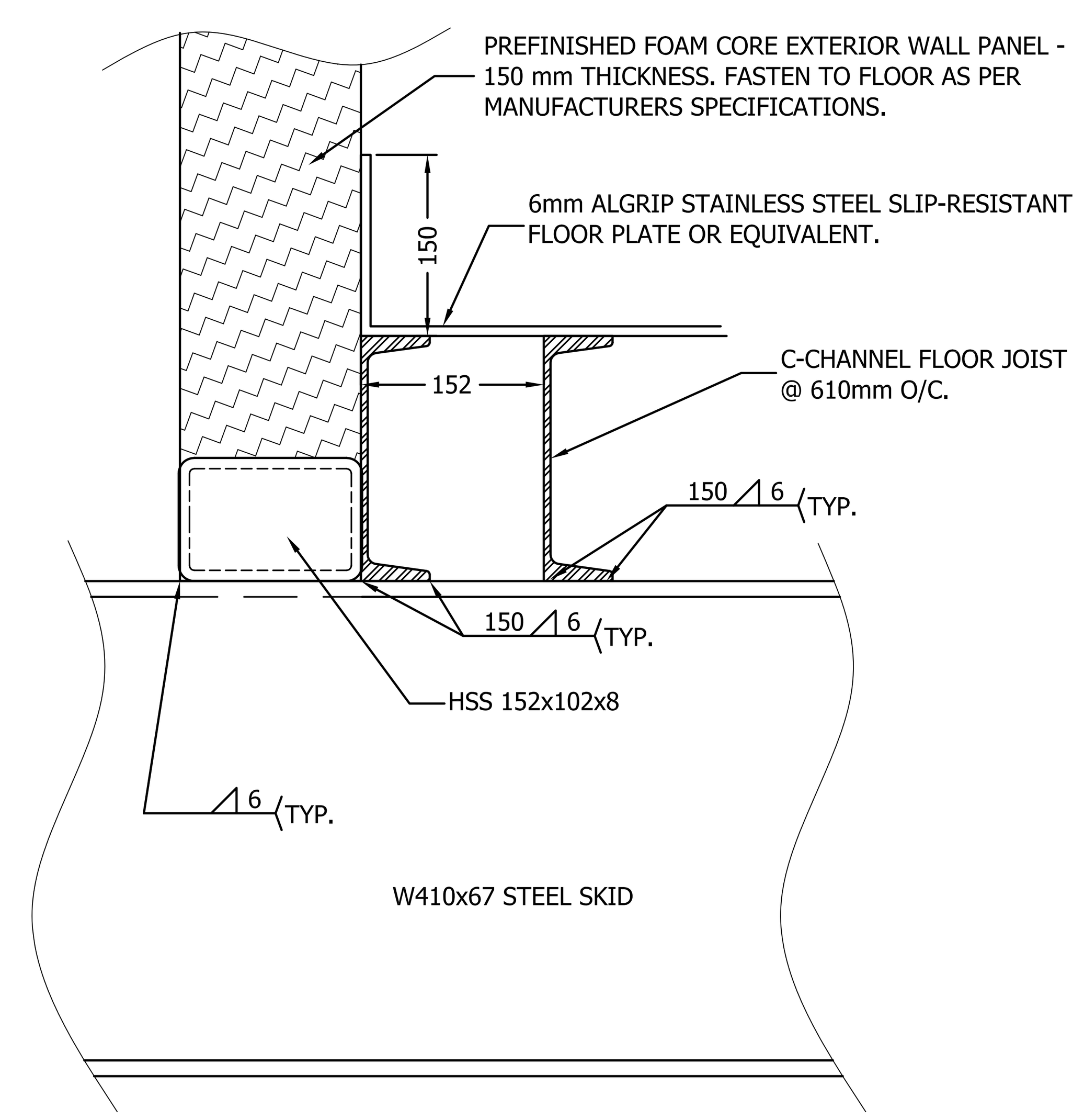


NOTES:
1. ALL CONCRETE SHALL HAVE 28 DAY COMPRESSIVE STRENGHT OF 25 MPa. SLUMP OF 75 mm+/-10%, AIR ENTRANCE 5-7% AND MAXIMUM AGGREGATE SIZE OF 20mm. CONCRETE QUALITY CONTROL TESTING MUST BE COMPLETED BY QUALIFIED PERSONNEL AND REPORTS TO BE SUBMITTED TO THE ENGINEER.
2. BOLLARD TO BE PAINTED YELLOW WITH REFLECTIVE BANDS.

5 / S3 TYPICAL BOLLARD DETAIL
SCALE 1:10



4 / S3 SUMP DETAIL
SCALE 1:5



6 / S3 TYPICAL EXTERIOR END WALL SECTION
SCALE 1:5

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PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

LOCATION
BAKER LAKE, NU

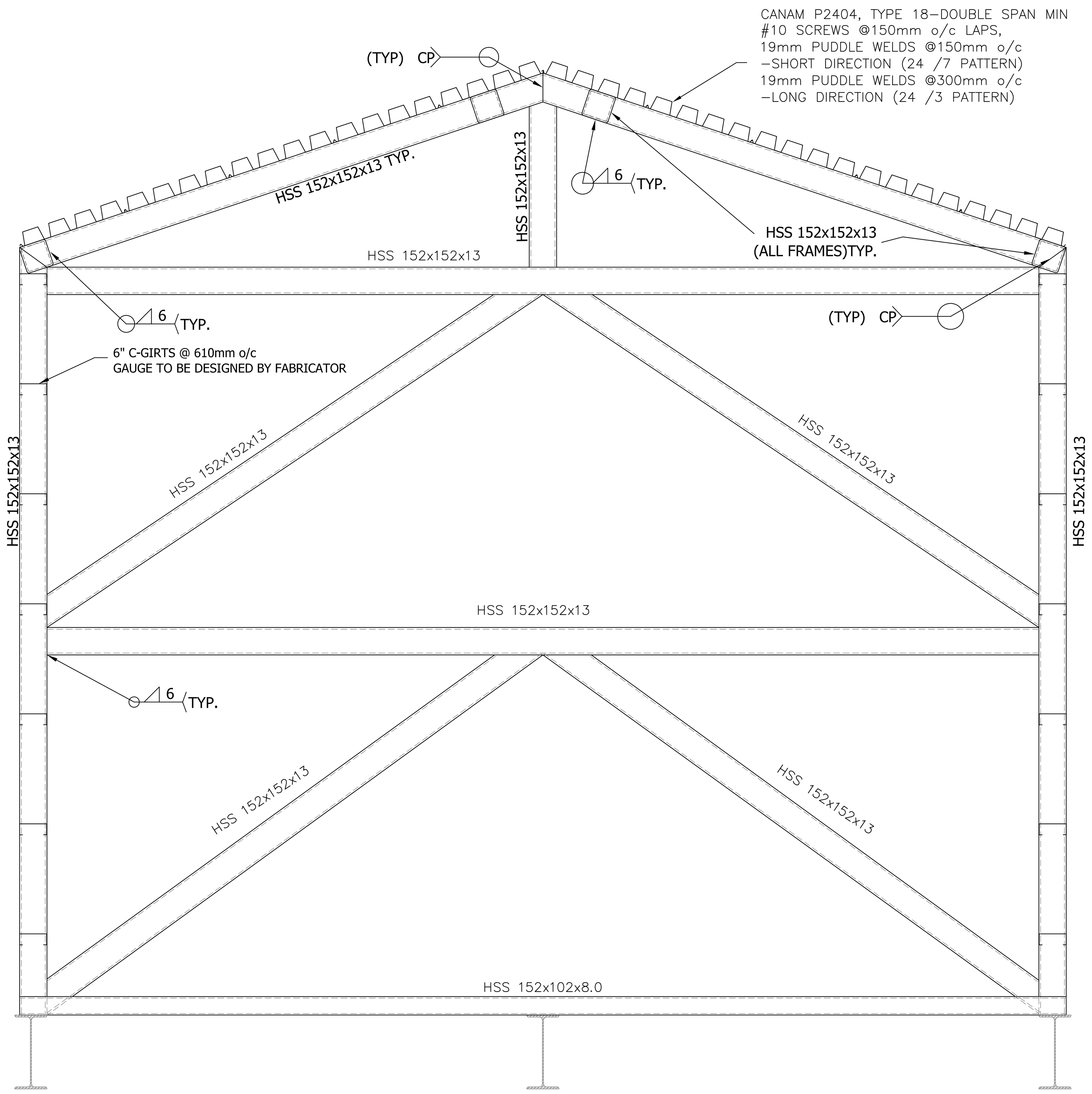
DRAWING TITLE
STRUCTURAL DETAILS

DRAWN BY	SCALE
MJW/K.K.	AS NOTED
CHECKED BY	CLIENT PROJECT NO.
MJW	07-3023

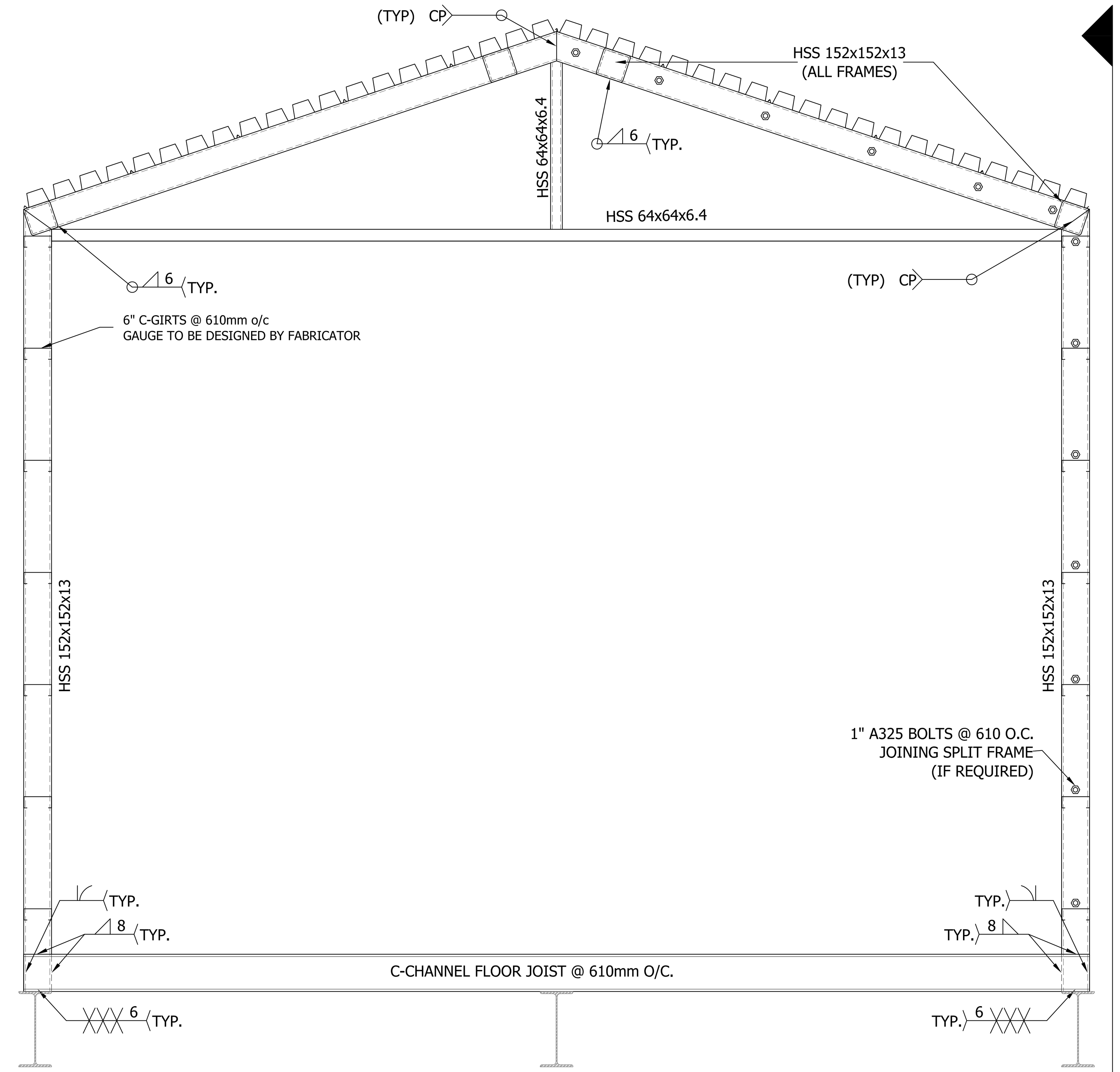
FSC PROJECT NO.
2007-0650

DRAWING NO.
S3

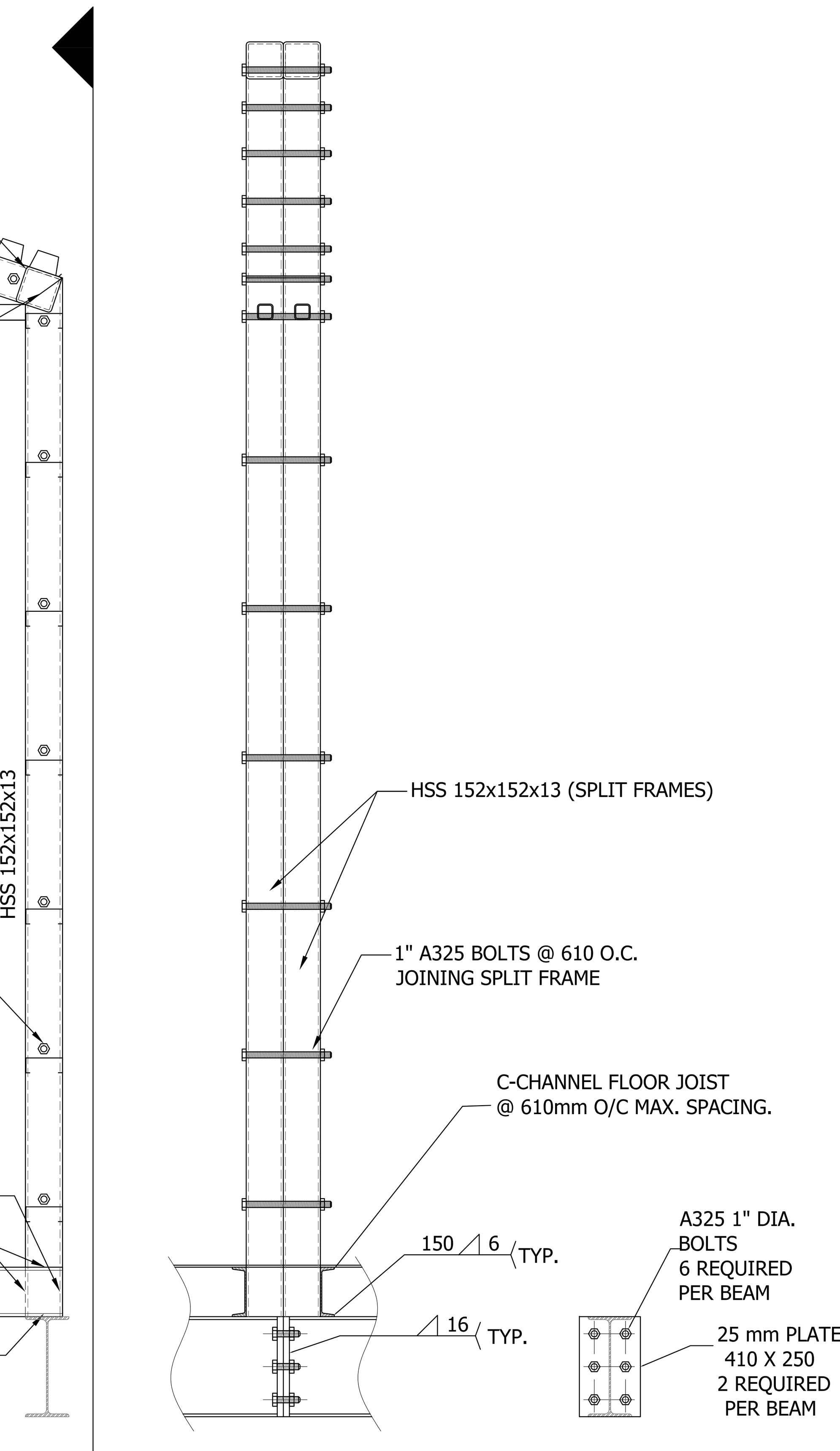
OF 7



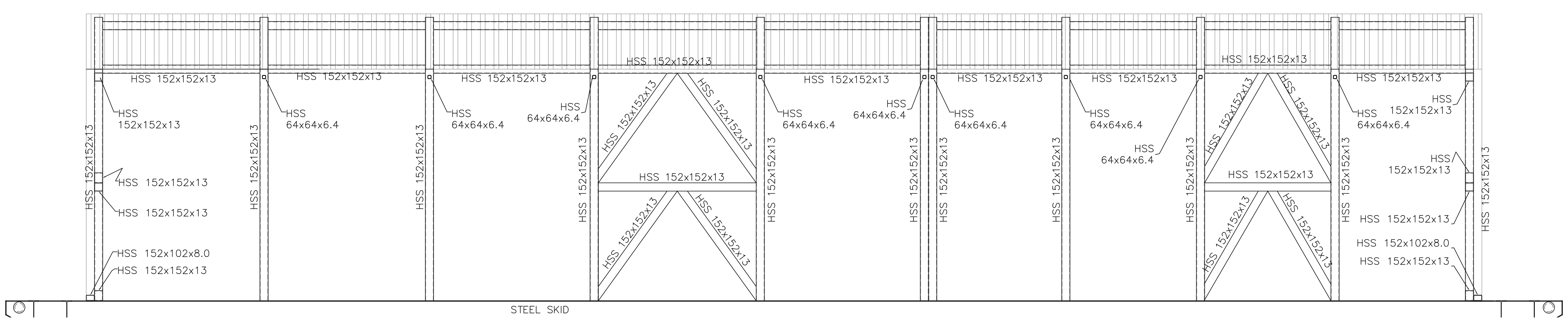
1 / S4 EXTERIOR FRAME SECTION
SCALE 1:20



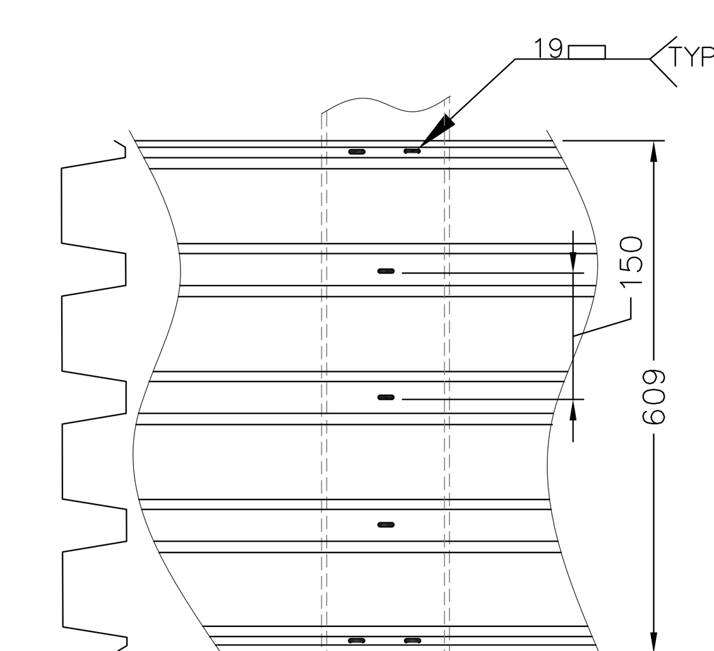
2 / S4 INTERIOR FRAME SECTION
SCALE 1:20



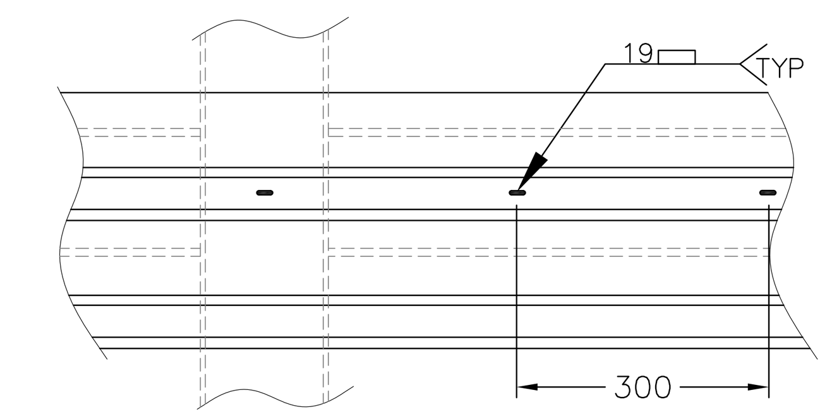
A-A / S4 SPLIT FRAME X SECTION (IF REQUIRED)
SCALE 1:20



3 / S4 SIDE ELEVATION
SCALE 1:50



4 / S4 PUDDLE WELD SHORT DIRECTION
SCALE N.T.S.



5 / S4 PUDDLE WELD LONG DIRECTION
SCALE N.T.S.

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2007-0650
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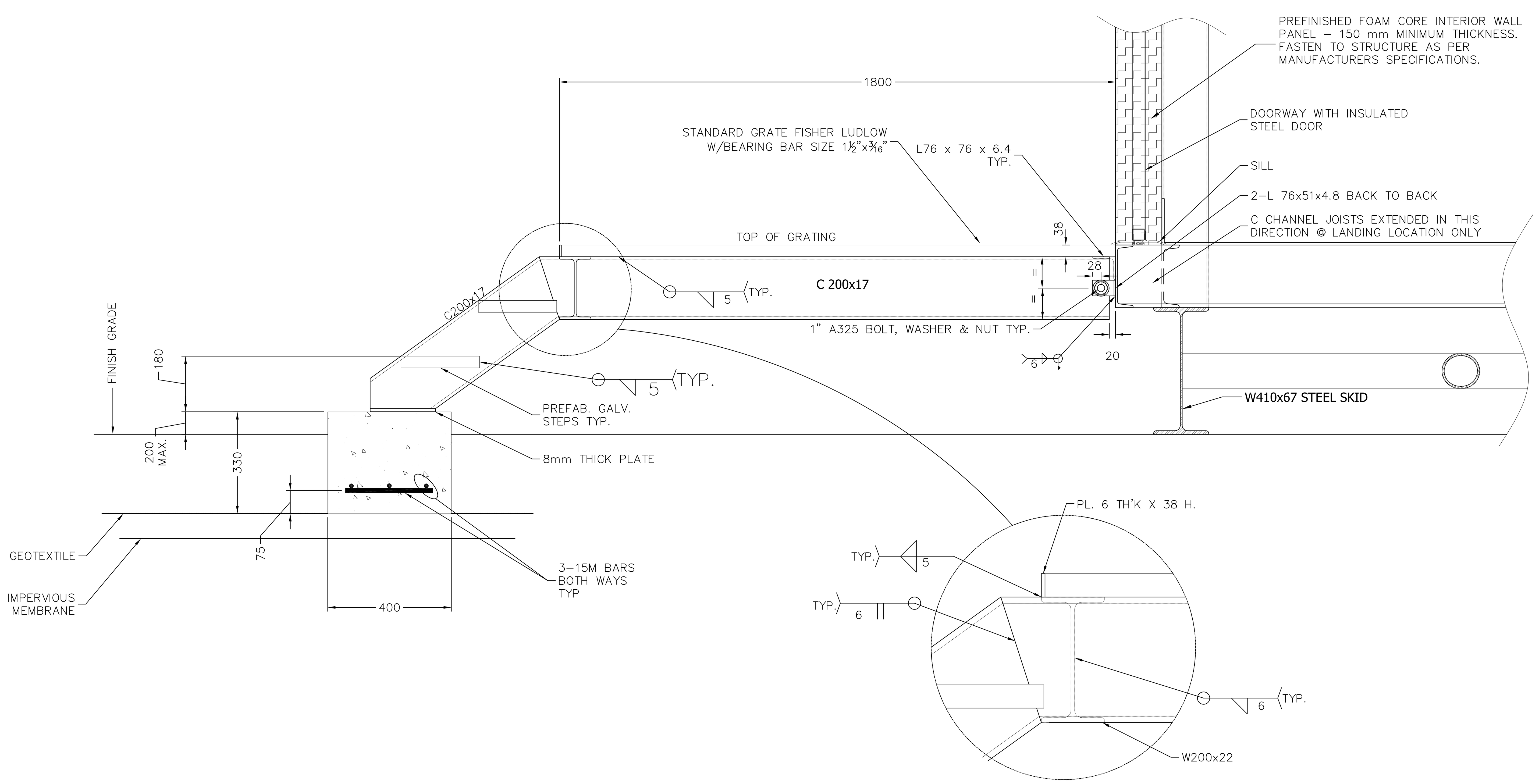
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

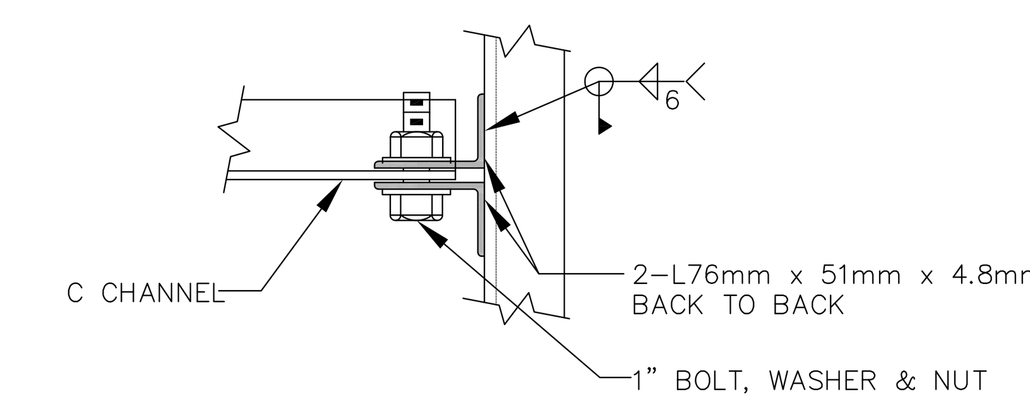
LOCATION
BAKER LAKE, NU

DRAWING TITLE
SECTIONS

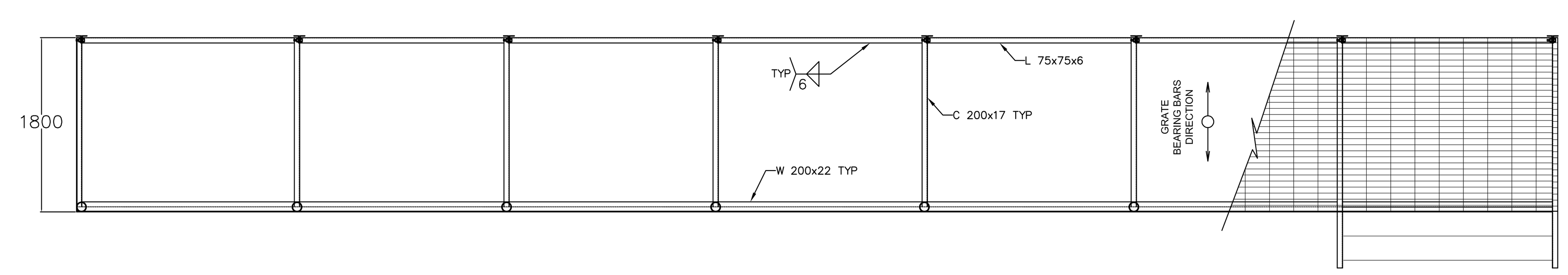
DRAWN BY: MJW/K.K.	SCALE: AS NOTED
CHECKED BY: MJW	CLIENT PROJECT NO.: 07-3023
FSC PROJECT NO.: 2007-0650	
DRAWING NO.: S4	OF 7



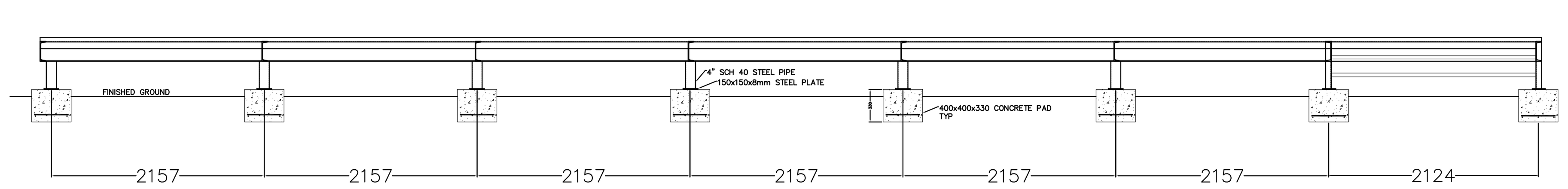
1 / S5 STAIR DETAIL
SCALE 1:10



2 / S5 STAIR PINNED CONNECTION PLAN
SCALE N.T.S.



3 / S5 PLAN VIEW-LANDING
SCALE N.T.S.



4 / S5 FRONT VIEW-LANDING
SCALE N.T.S.

Nunavut

NO.	REVISION DESCRIPTION	DATE ISSUED
06	ISSUED FOR TENDER	2011/03/24
05	REVISED 2011	2011/02/28
04	ISSUED FOR CONSTRUCTION	2010/11/05
03	100% SUBMISSION	2008/06/13
02	75% SUBMISSION	2008/03/28
01	50% SUBMISSION	2008/02/26
00	ISSUED FOR REVIEW	2007/12

PROFESSIONAL SEAL / PERMIT TO PRACTICE

PERMIT TO PRACTICE
FSC ARCHITECTS AND ENGINEERS (SIGNATURE) LTD.)
Signature
Date 25 MARCH 2011
PERMIT NUMBER: P0457
The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

REGISTERED PROFESSIONAL ENGINEER
M.J. WHITE
NWT/NU
March 25, 2011

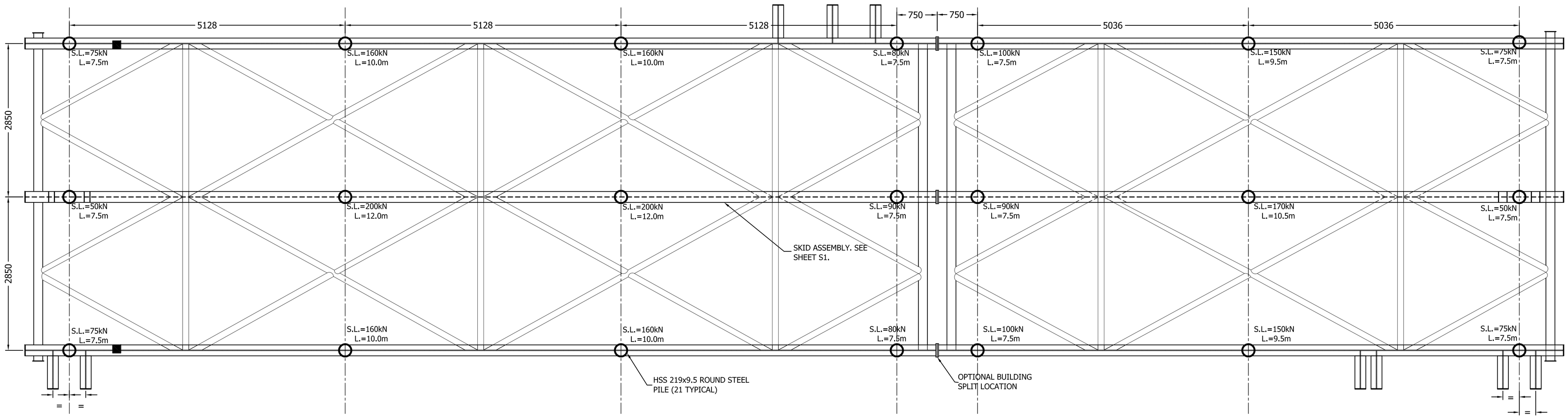
FSC
ARCHITECTS & ENGINEERS
4910 - 53rd Street, P.O. Box 1777
Yellowknife, NT, X1A 2P4, Canada
T 867.920.2882 | F 867.920.4319

PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

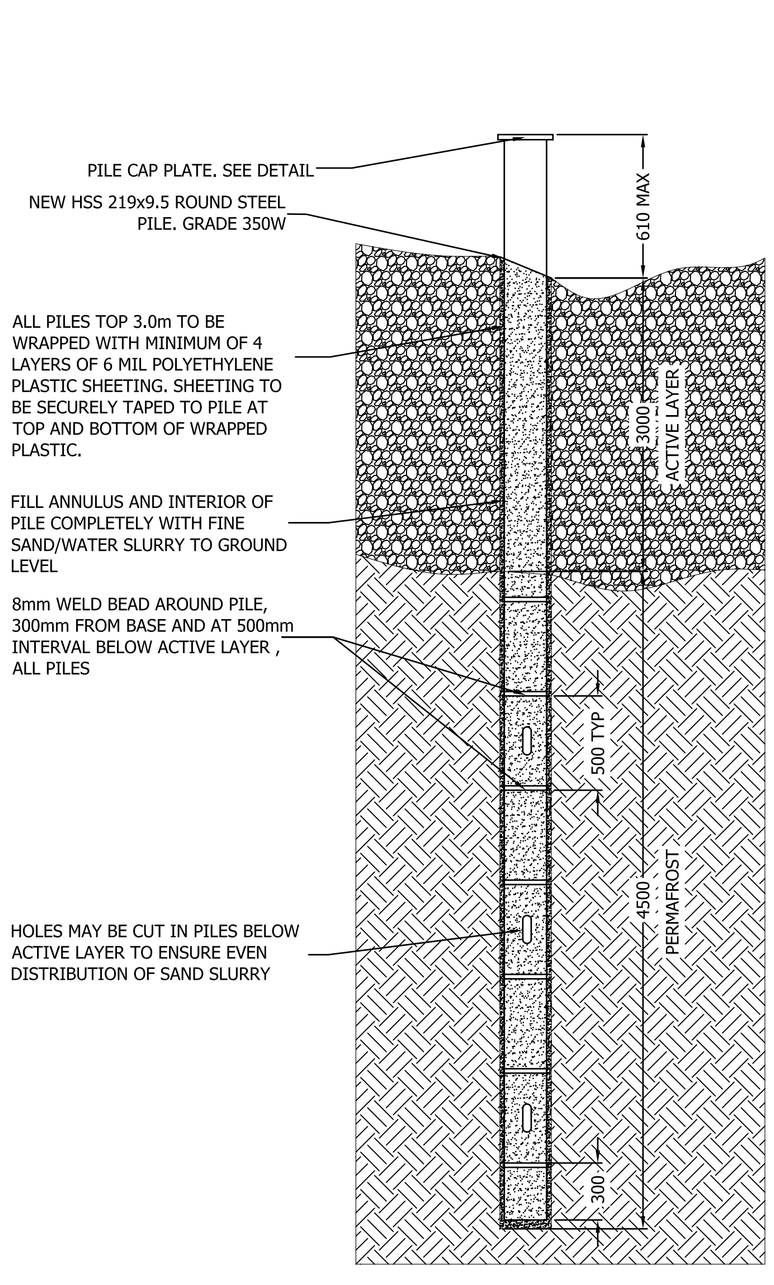
LOCATION
BAKER LAKE, NU

DRAWING TITLE
STAIR DETAILS

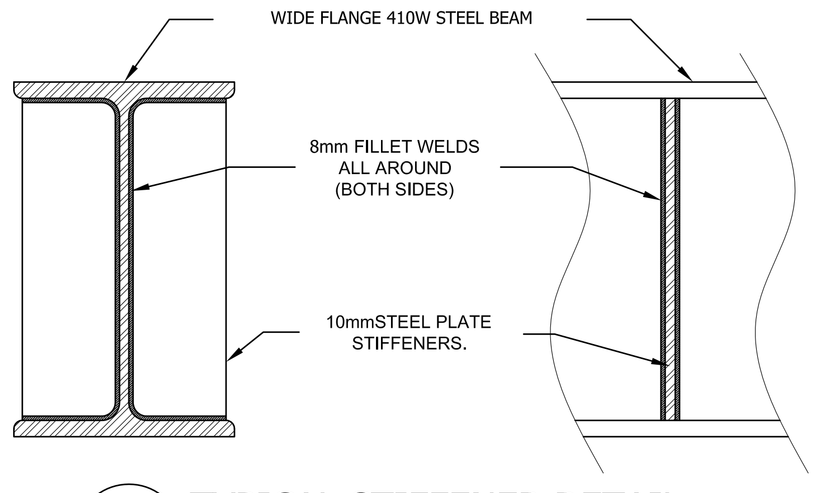
DRAWN BY: FG/K.K.	SCALE: AS NOTED
CHECKED BY: MJW	CLIENT PROJECT NO.: 07-3023
FSC PROJECT NO.: 2007-0650	
DRAWING NO.: S5	OF 7



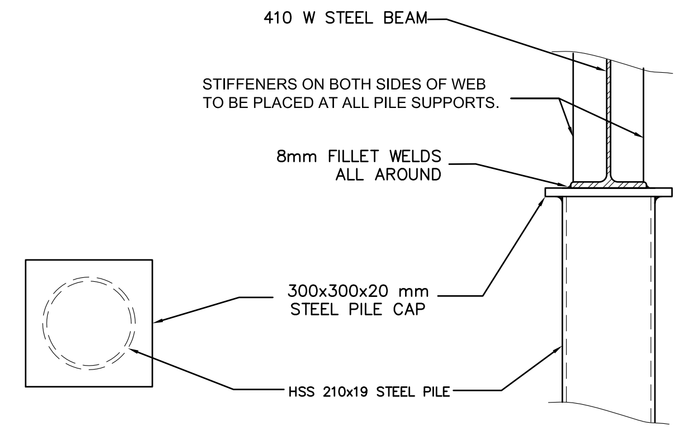
1 / S6 PILE LAYOUT
SCALE N.T.S



2 / S6 ADFREEZE PILE DETAIL
N.T.S.



3 / S6 TYPICAL STIFFENER DETAIL
N.T.S.



4 / S6 TYP. PILE CAP DETAIL
N.T.S.

GENERAL NOTES:
1. ALL APPLICABLE EDGES ARE TO BE GAS CUT AND ARE NOT TO BE SHEARED.
2. ALL STEEL BEAMS ARE TO BE LATERALLY RESTRAINED BY FLOOR JOIST ABOVE.
3. ALL STEEL PILES TO BE HSS 219x9.5, GRADE 350W.
4. STIFFENERS TO BE PLACED AT ALL PILE SUPPORT.

Nunavut

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PROFESSIONAL SEAL / PERMIT TO PRACTICE

FSC ARCHITECTS & ENGINEERS
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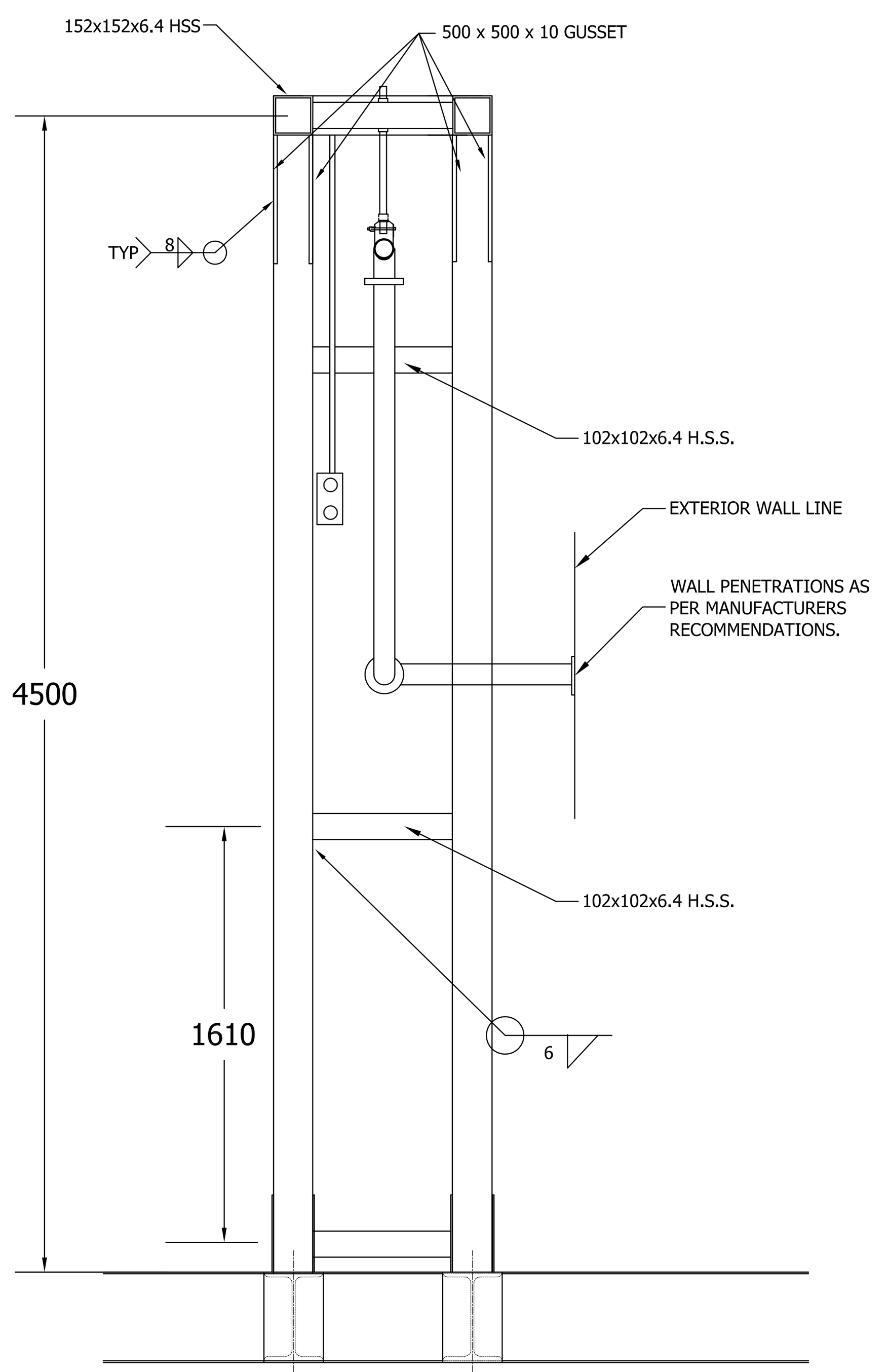
PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

LOCATION
BAKER LAKE, NU

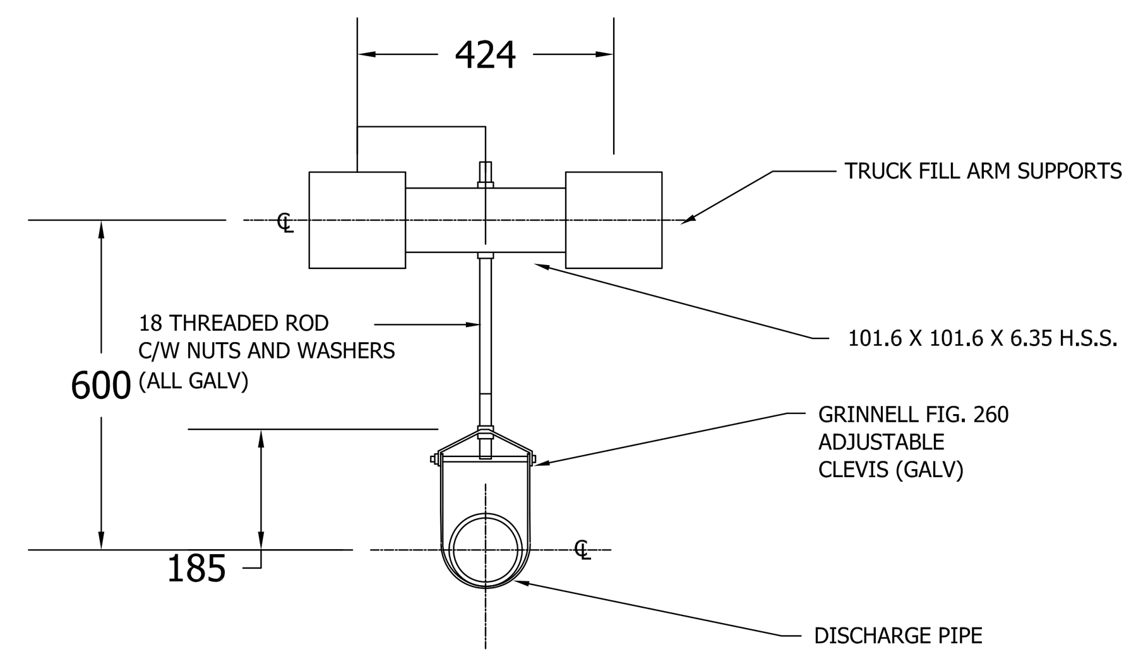
DRAWING TITLE
PILE LAYOUT AND DETAILS

DRAWN BY	SCALE
MJW/K.K.	AS NOTED
CHECKED BY	CLIENT PROJECT NO.
MJW	07-3023
FSC PROJECT NO.	
2007-0650	

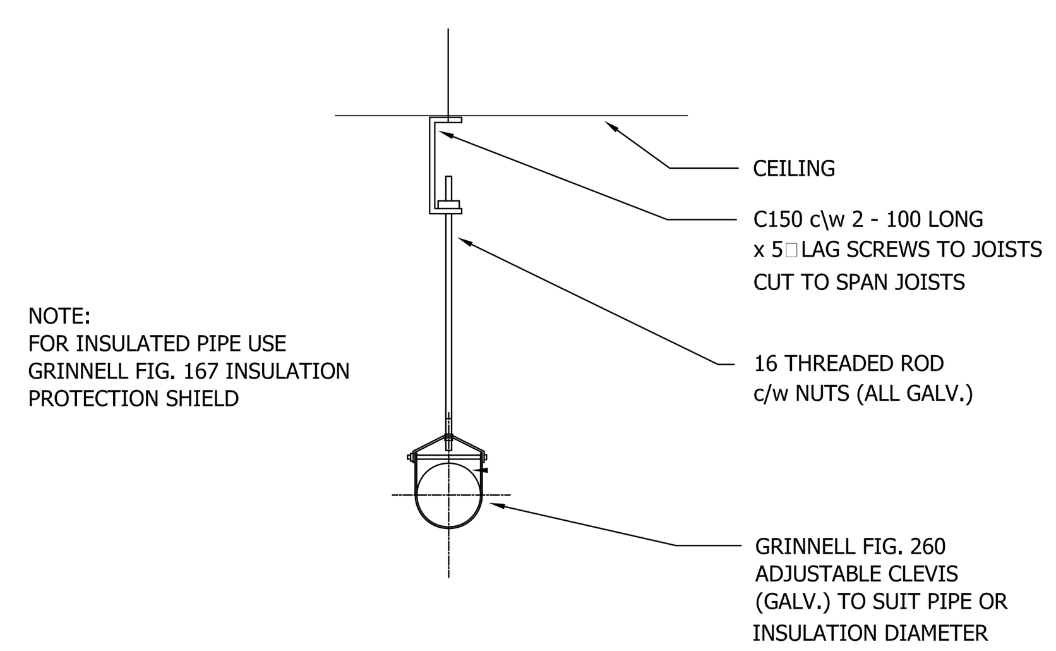
DRAWING NO.
S6
OF ~~7~~



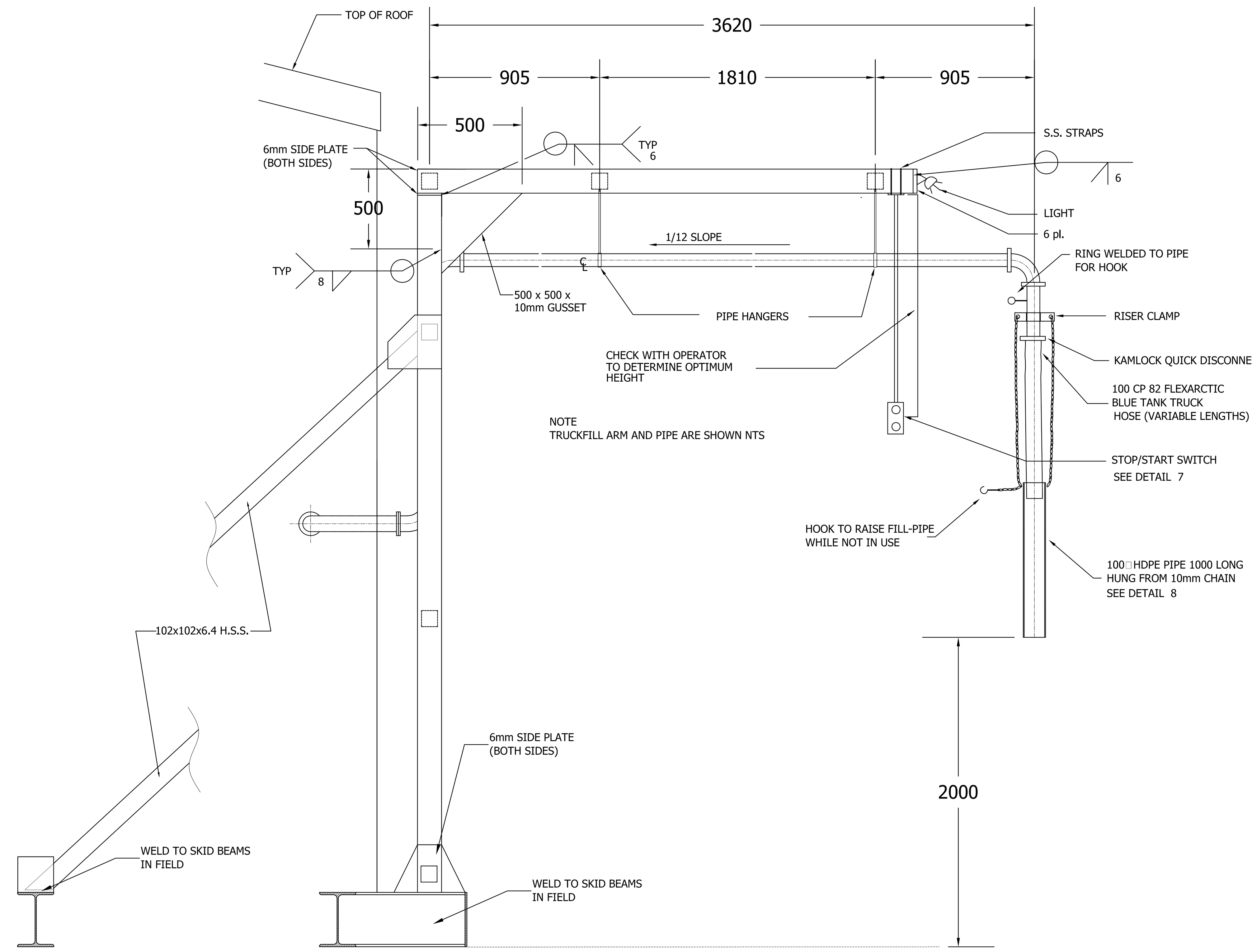
1 S7 TRUCK FILL LINE SUPPORT (OBLIQUE VIEW)
SCALE 1:20



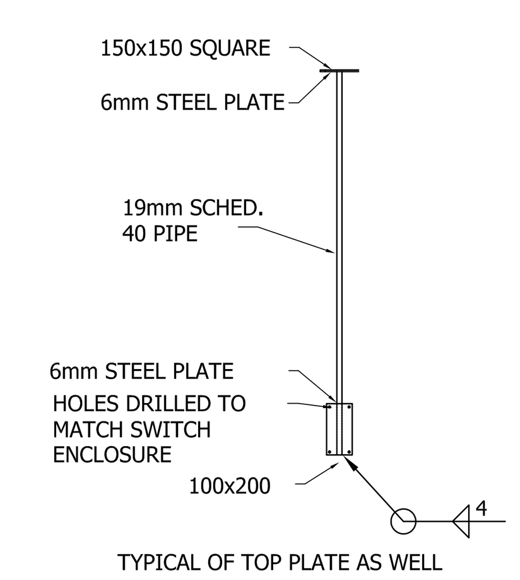
2 S7 EXTERIOR PIPE HANGER DETAIL
SCALE 1:10



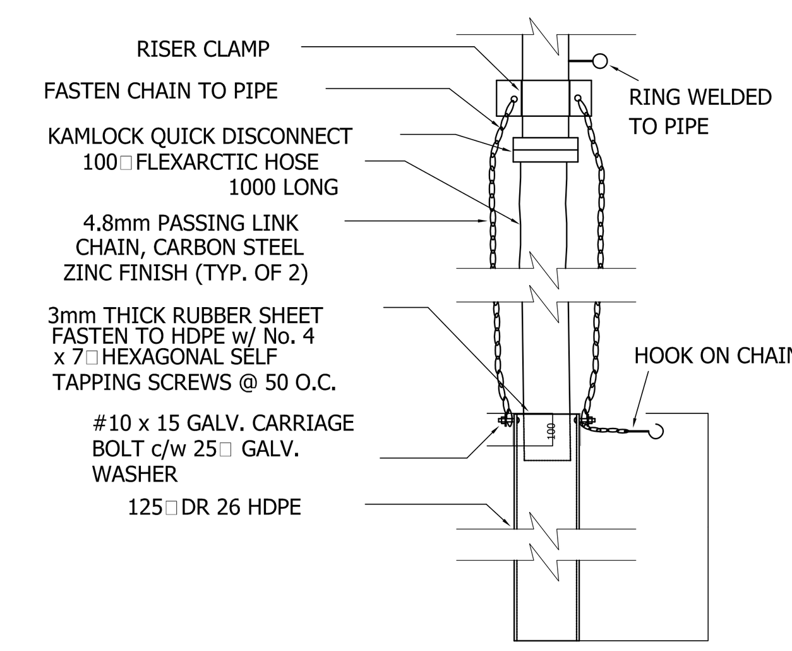
3 S7 TYPICAL INTERIOR PIPE HANGER DETAIL
SCALE 1:10



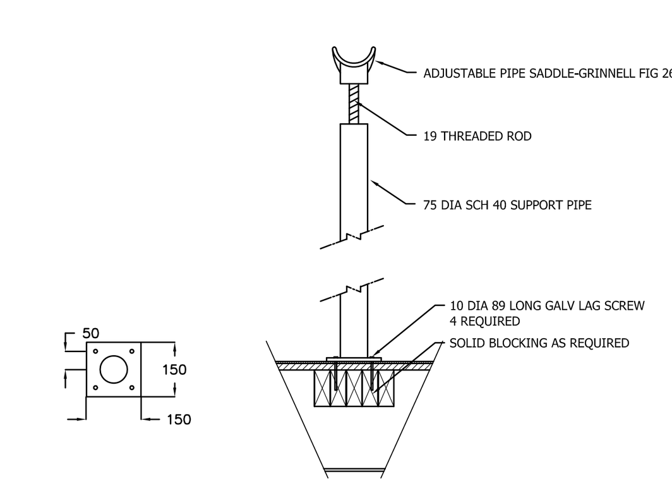
4 S7 TRUCK FILL LINE SUPPORT (SIDE VIEW)
SCALE 1:20



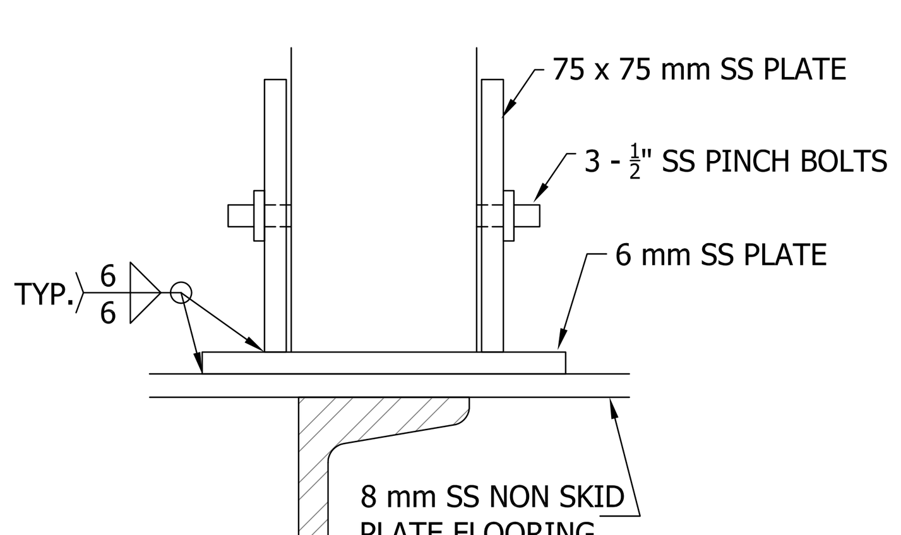
5 S7 STOP/START MOUNTING DETAIL
N.T.S.



6 S7 TRUCKFILL HOSE DETAIL
N.T.S.



7 S7 SHORT PIPE STAND
SCALE 1:10



8 S7 EQUIPMENT STAND BRACE DETAIL
SCALE 1:1

Nunavut

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00	ISSUED FOR REVIEW	2007/12

PROFESSIONAL SEAL / PERMIT TO PRACTICE

PERMIT TO PRACTICE
FSC ARCHITECTS AND ENGINEERS
Signature
Date 23 MARCH 2011
PERMIT NUMBER: P0457
The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

REGISTERED PROFESSIONAL ENGINEER
W. J. ORR
NWT

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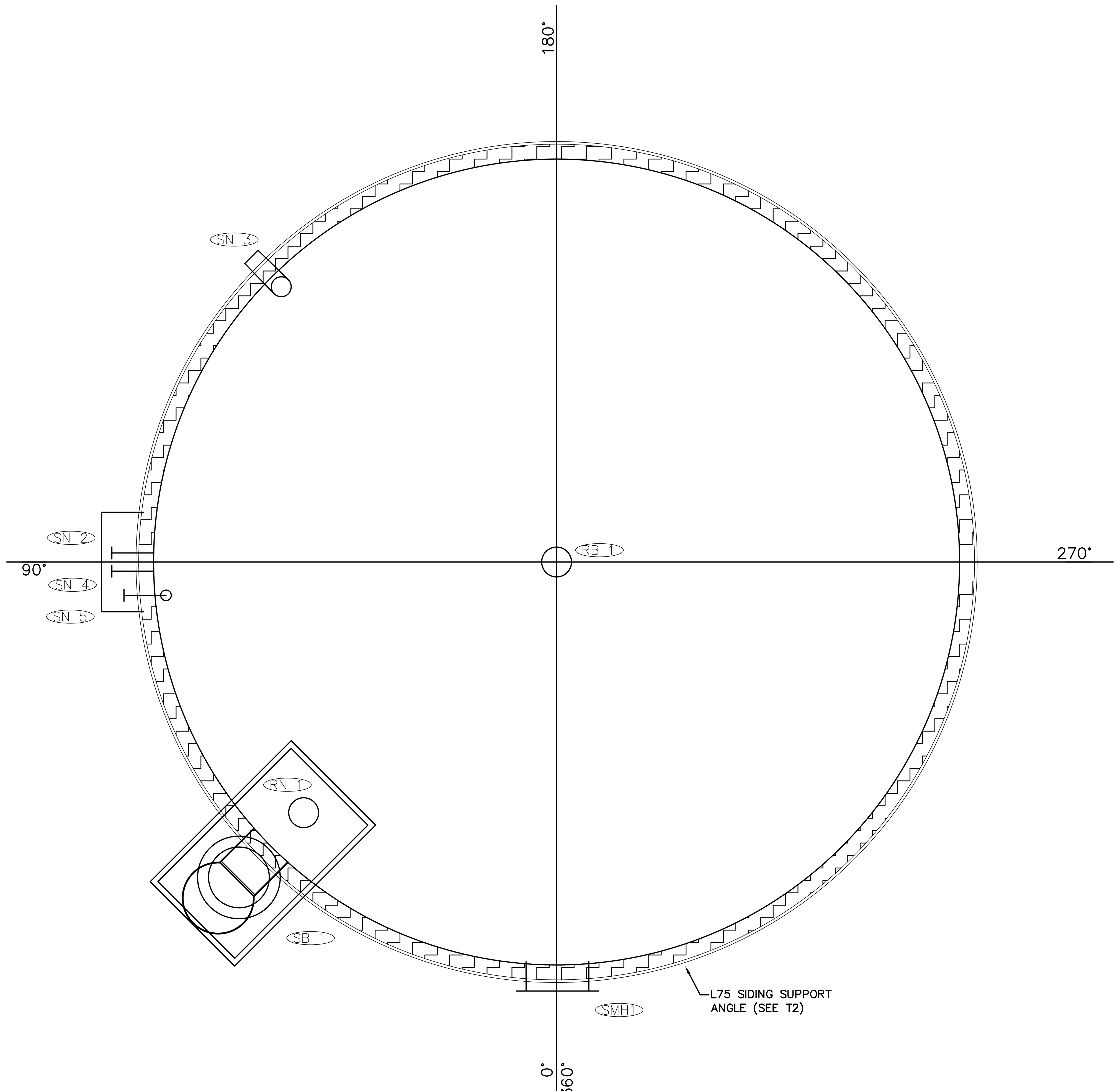
4910 - 53rd Street, P.O. Box 1777
Yellowknife, NT, X1A 2P4, Canada
T 867.920.2882 | F 867.920.4319

PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

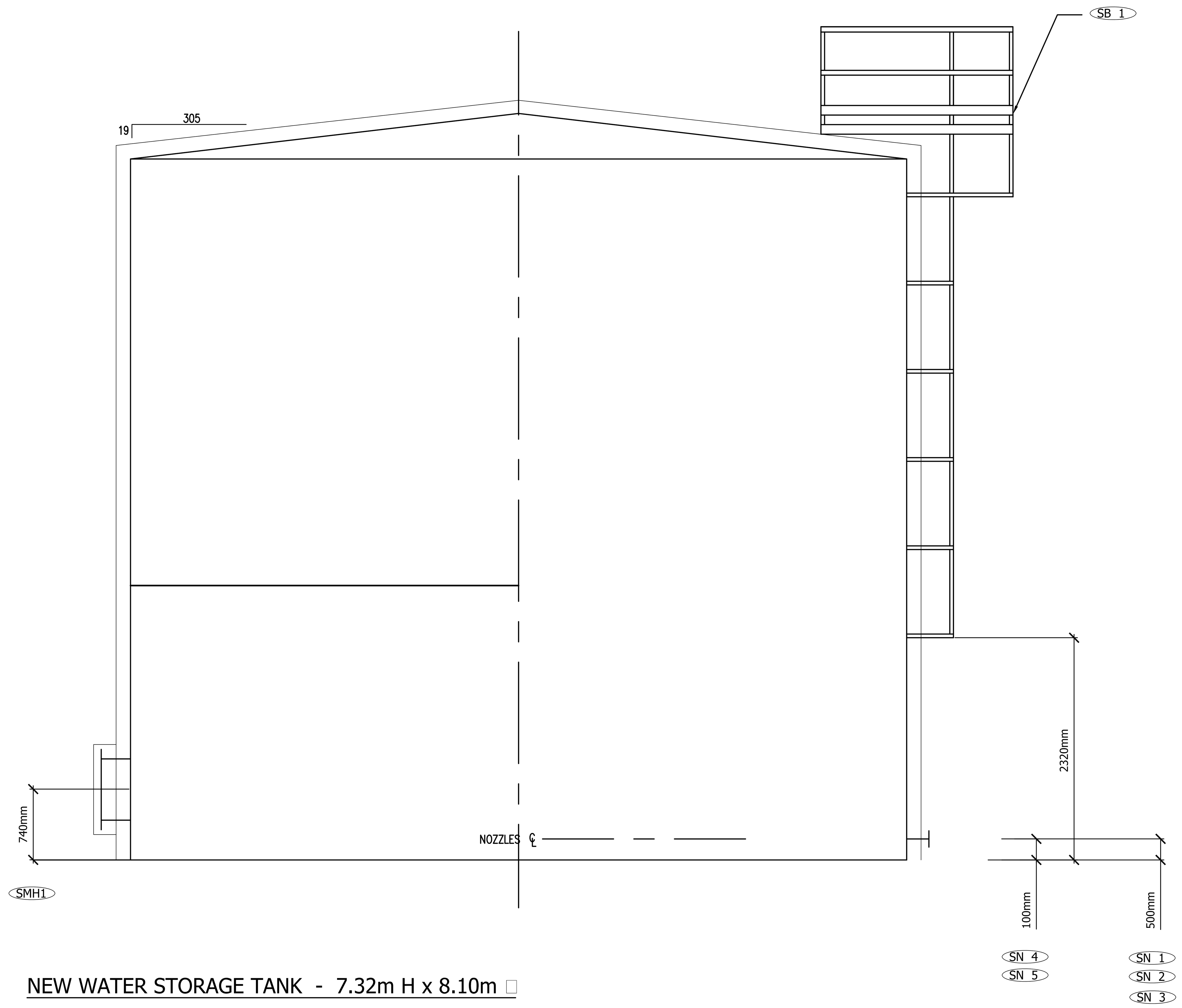
LOCATION
BAKER LAKE, NU

DRAWING TITLE
TRUCKFILL ARM DETAILS

DRAWN BY: MJW/K.K.	SCALE: AS NOTED
CHECKED BY: WJO	CLIENT PROJECT NO.: 07-3023
FSC PROJECT NO.: 2007-0650	
DRAWING NO.: S7	



NEW WATER STORAGE TANK - 7.32m H x 8.10m
TOP VIEW - NORTH 360 DEGREES CW



NEW WATER STORAGE TANK - 7.32m H x 8.10m
FRONT VIEW - FITTINGS ROTATED TO PERPENDICULAR

ORIENTATION PLAN – NEW WATER STORAGE TANK

LIST OF REQUIRED APPURTENANCES FOR NEW WATER STORAGE VERTICAL TANK

ITEM	SIZE	ELEV. ABOVE BASE RING (TO CL)	DESCRIPTION	COMMENTS	ANGULAR LOCATION – CW DECIMAL DEGREES
SN2	100 ø	500	TANK INLET	SEE DETAIL DRAWING	90.00
SN4	200 ø	100	TANK SUCTION LINE	SEE DETAIL DRAWING	90.00
SN5	50 ø	100	TANK DRAIN VALVE WITH KAMLOCK (SUPPLY 6.0m x 50mmø HOSE FOR TANK DRAINING)	SEE DETAIL DRAWING	90.00
SMH1	760 ø	740	COVER 960mm, NECK 760mm, FLANGE THICKNESS 11mm, COVER THICKNESS 14mm.		360.00
SN3	200 ø	500	OVERFLOW / VENT LINE	SEE DETAIL DRAWING	135.00
SB1			CENTER OF ACCESS LADDER	SEE DETAIL DRAWING	45.00

LIST ROOF APPURTENANCES FOR NEW WATER STORAGE VERTICAL TANK

ITEM	SIZE	HOR. LOCATION FROM EDGE OF SHELL (CL)	DESCRIPTION	COMMENTS	ANGULAR LOCATION – CW DECIMAL DEGREES
RB1	150 ø	MIDDLE OF TANK	CABLE SUPPORT POST		
RN1	150 ø	1100	LEVEL GAUGE ACCESS PORT		45.00

Nunavut

NO.	REVISION DESCRIPTION	DATE ISSUED
04	ISSUED FOR TENDER	2011/03/25
03	100% SUBMISSION	2008/06/13
02	75% SUBMISSION	2008/03/28
01	50% SUBMISSION	2008/02/26
00	ISSUED FOR REVIEW	2007/12

PROFESSIONAL SEAL / PERMIT TO PRACTICE

PERMIT TO PRACTICE
FSC ARCHITECTS AND ENGINEERS (5107 NWT LTD.)
Signature
Date 25 March 11
PERMIT NUMBER: P0457
The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

REGISTERED PROFESSIONAL ENGINEER
W. J. ORR
NWT

FSC
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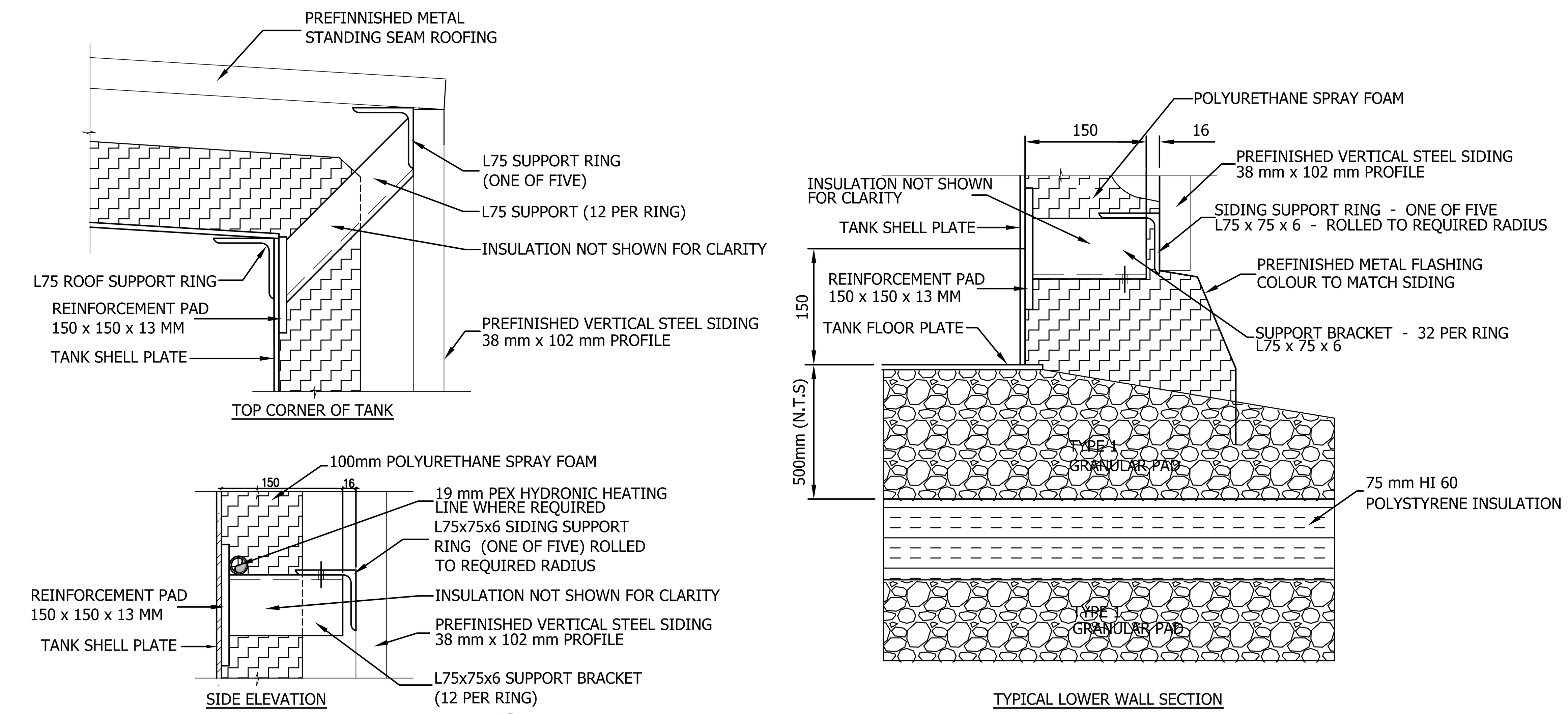
PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

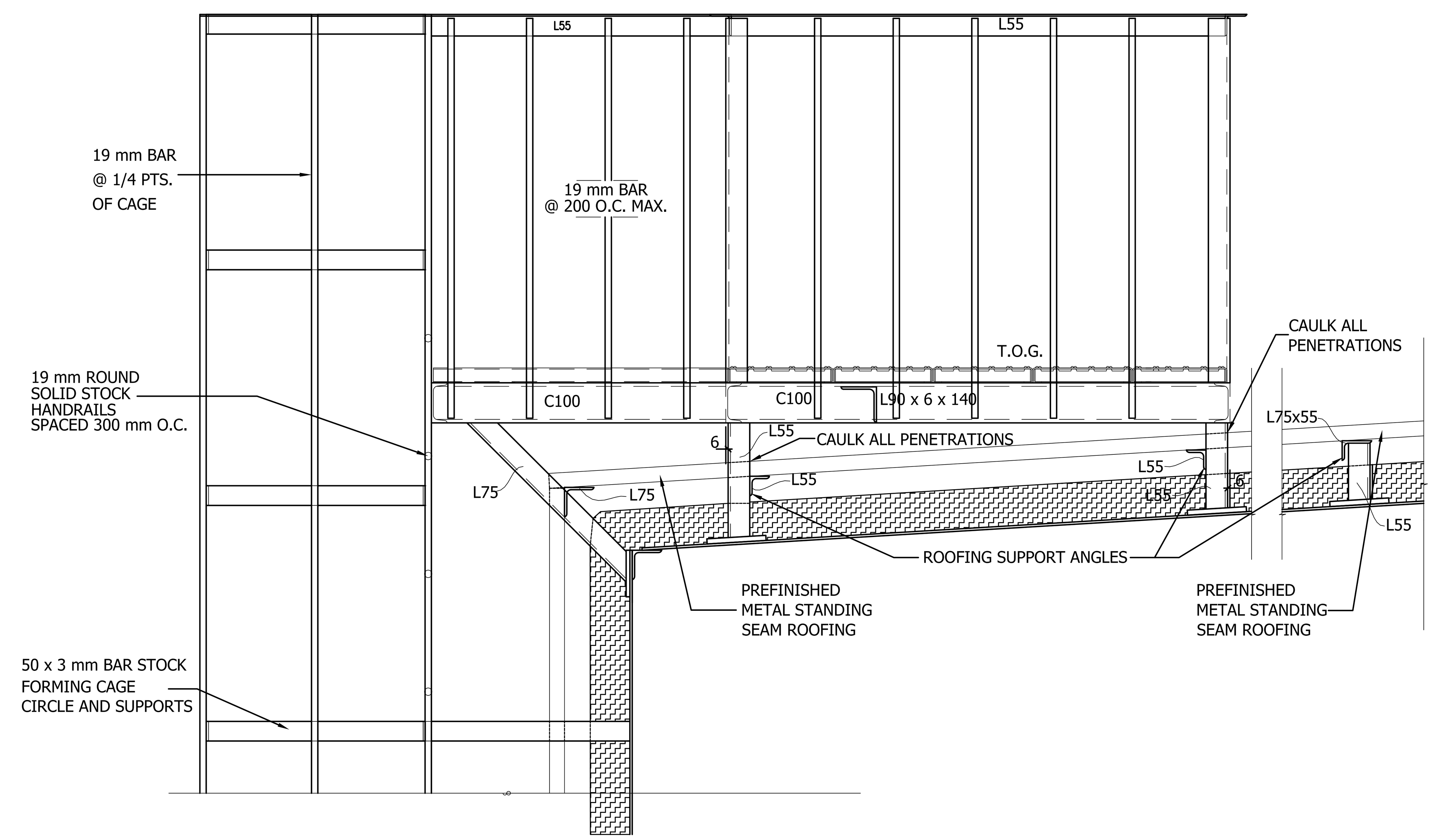
LOCATION
BAKER LAKE, NU

DRAWING TITLE
TOP AND SIDE VIEW OF WATER TANK

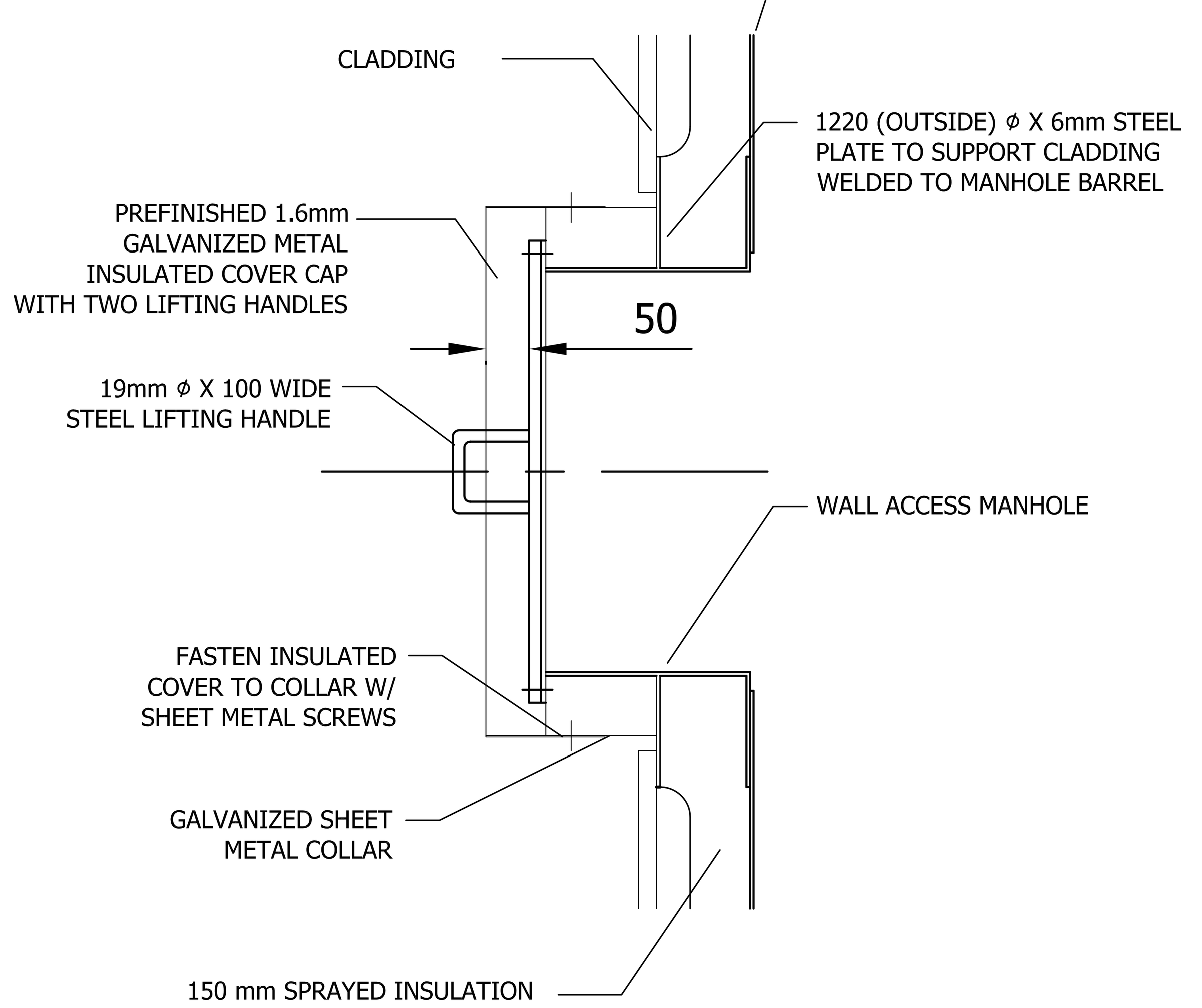
DRAWN BY	MJW	SCALE	AS SHOWN
CHECKED BY	WO	CLIENT PROJECT NO.	07-3023
FSC PROJECT NO.	2007-0650		
DRAWING NO.	T1		



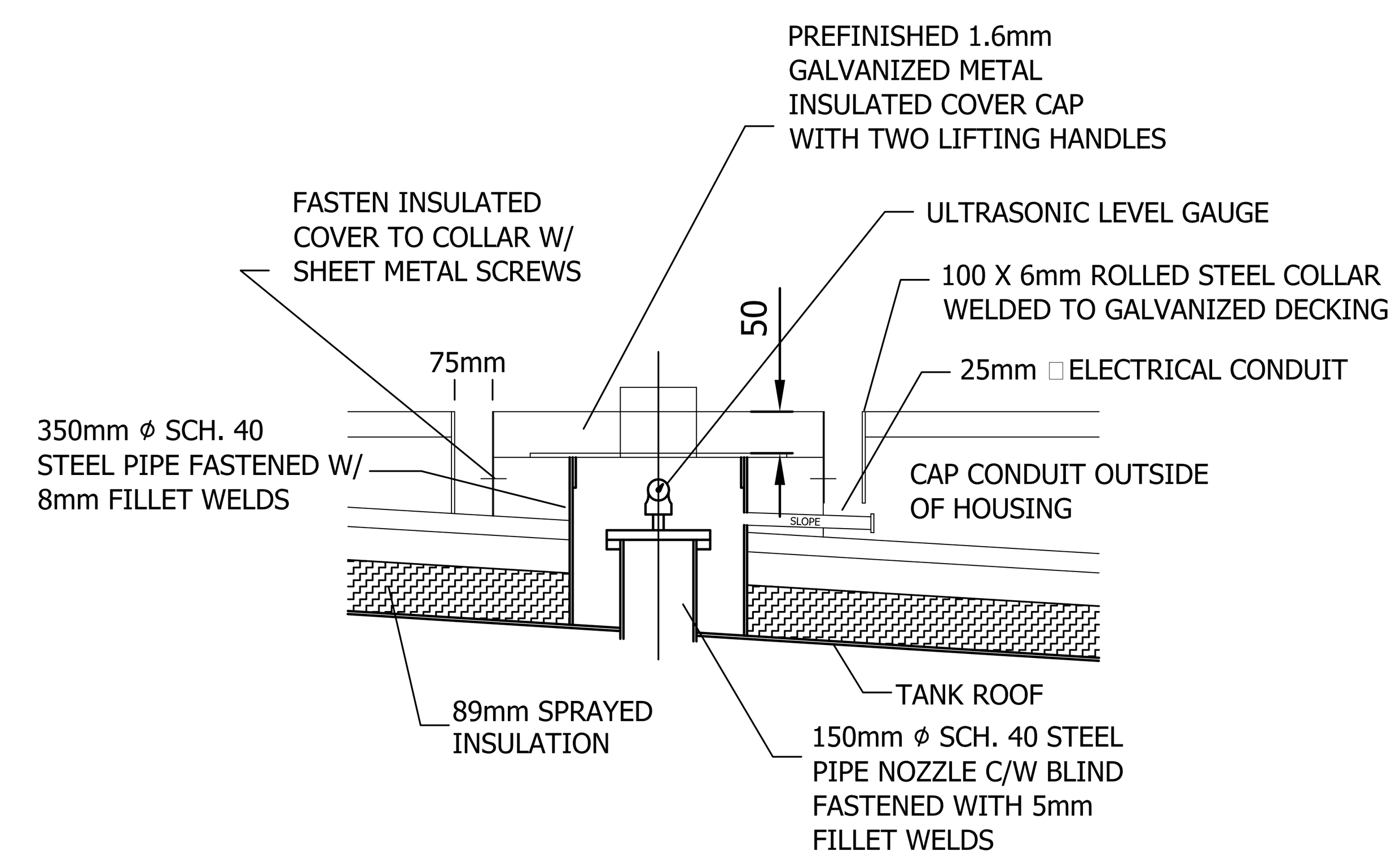
1 / T2 TANK WALL CROSS SECTIONS
N.T.S



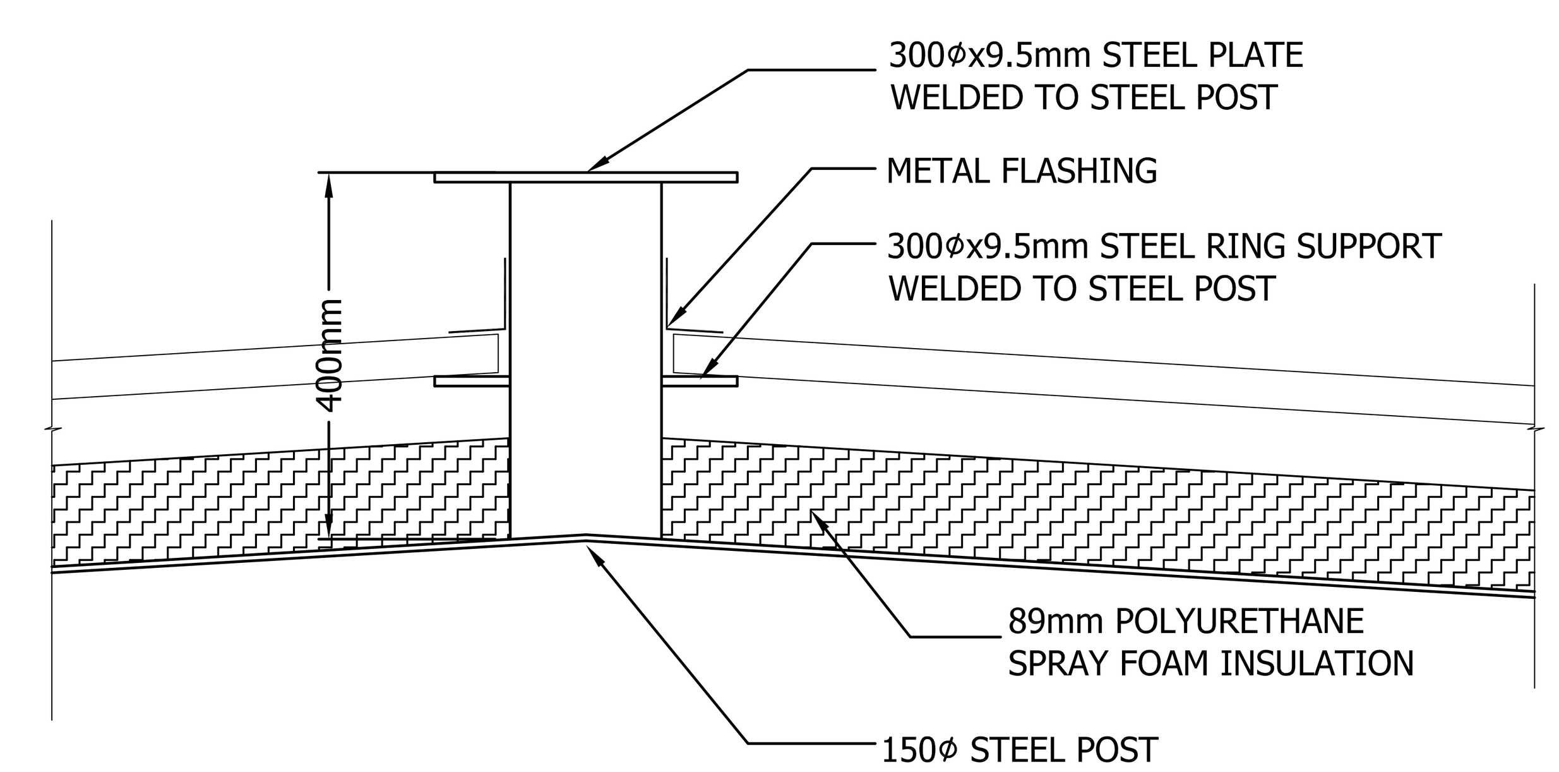
2 / T2 CROSS SECTION OF UPPER PLATFORM
1:10



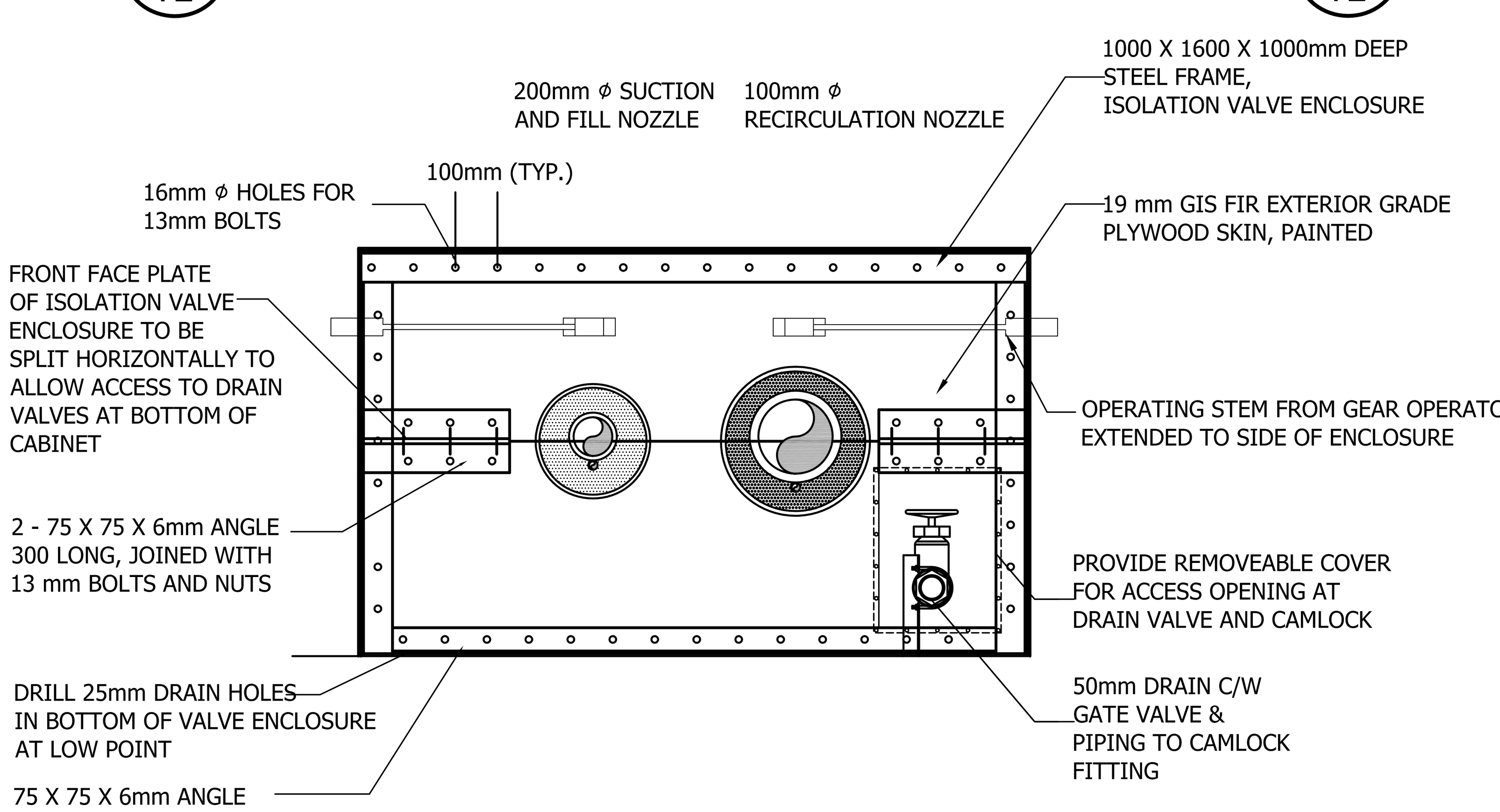
3 / T2 ACCESS MANHOLE INSULATION
NTS



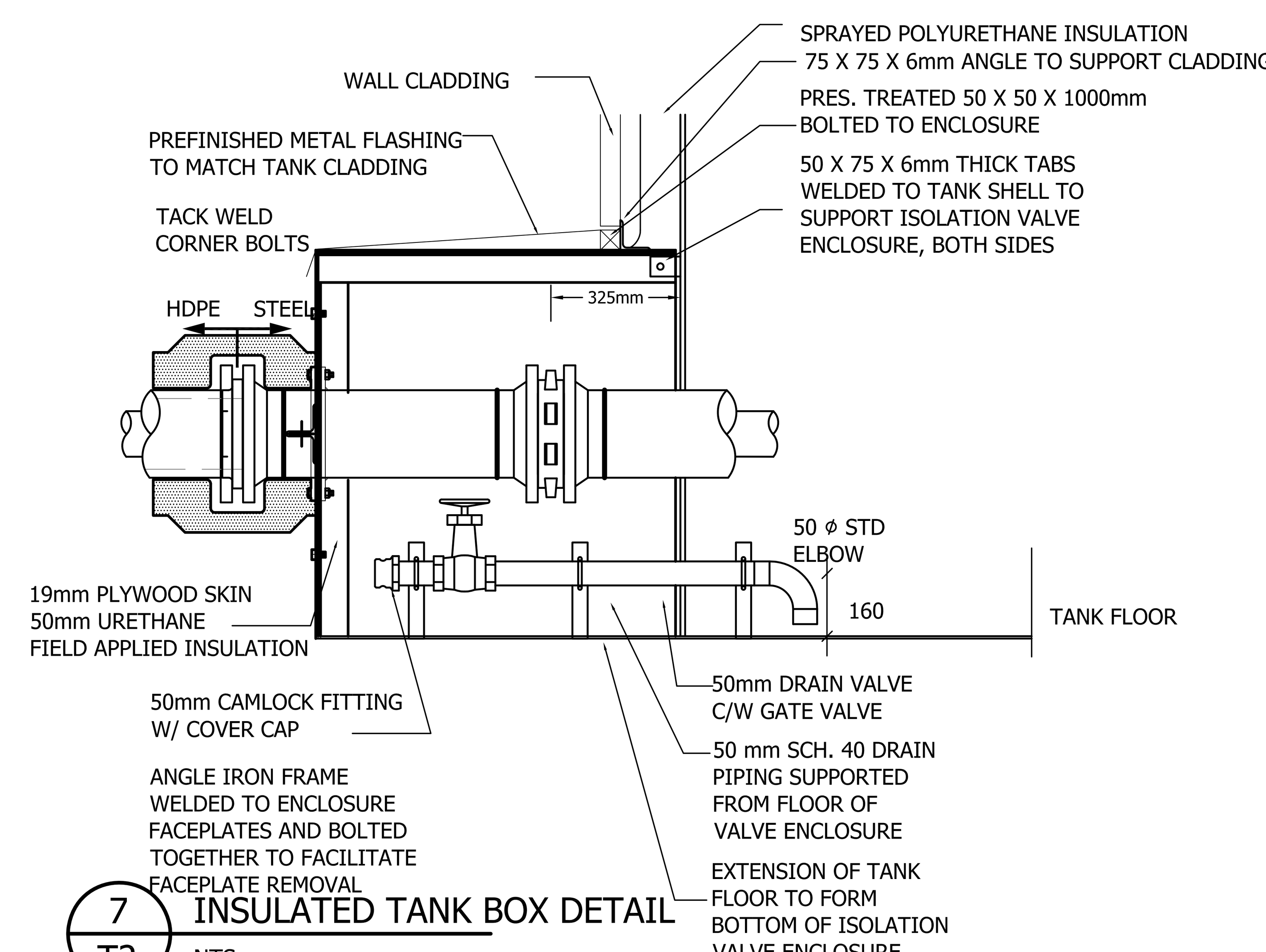
4 / T2 LEVEL GAUGE CONNECTION DETAIL
NTS



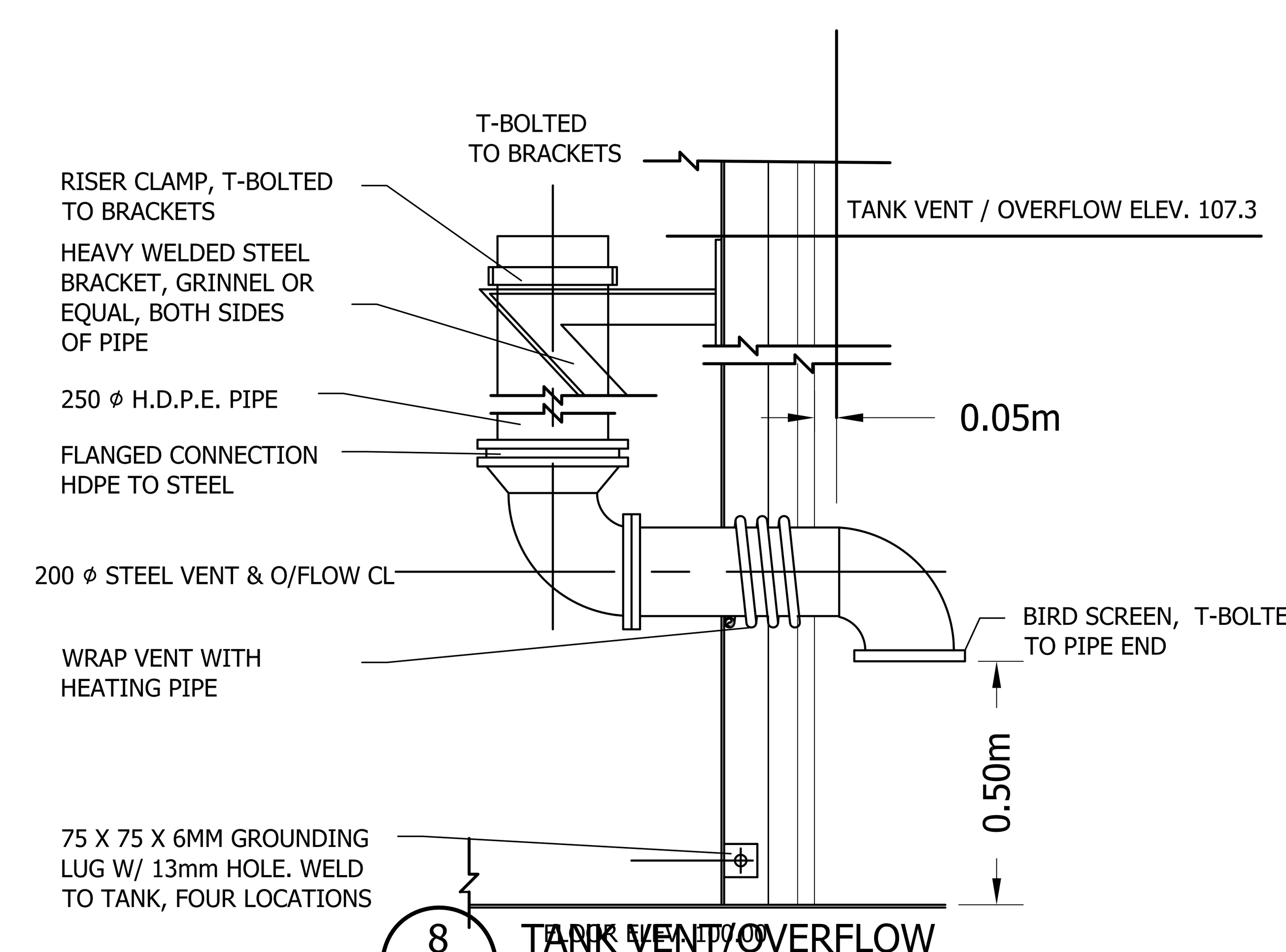
5 / T2 NEW PAINTER POST DETAIL
N.T.S



6 / T2 INSULATED TANK BOX DETAIL
NTS



7 / T2 INSULATED TANK BOX DETAIL
NTS



8 / T2 TANK VENT/OVERFLOW
NTS

Nunavut

NO.	REVISION DESCRIPTION	DATE ISSUED
04	ISSUED FOR TENDER	2011/03/25
03	100% SUBMISSION	2008/06/13
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01	50% SUBMISSION	2008/02/26
00	ISSUED FOR REVIEW	2007/12

PROFESSIONAL SEAL / PERMIT TO PRACTICE

PERMIT TO PRACTICE
FSC ARCHITECTS AND ENGINEERS (5107 NWT LTD.)
Signature [signature]
Date 23 March 11
PERMIT NUMBER: P0457
The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

REGISTERED PROFESSIONAL ENGINEER W. J. ORR NWT

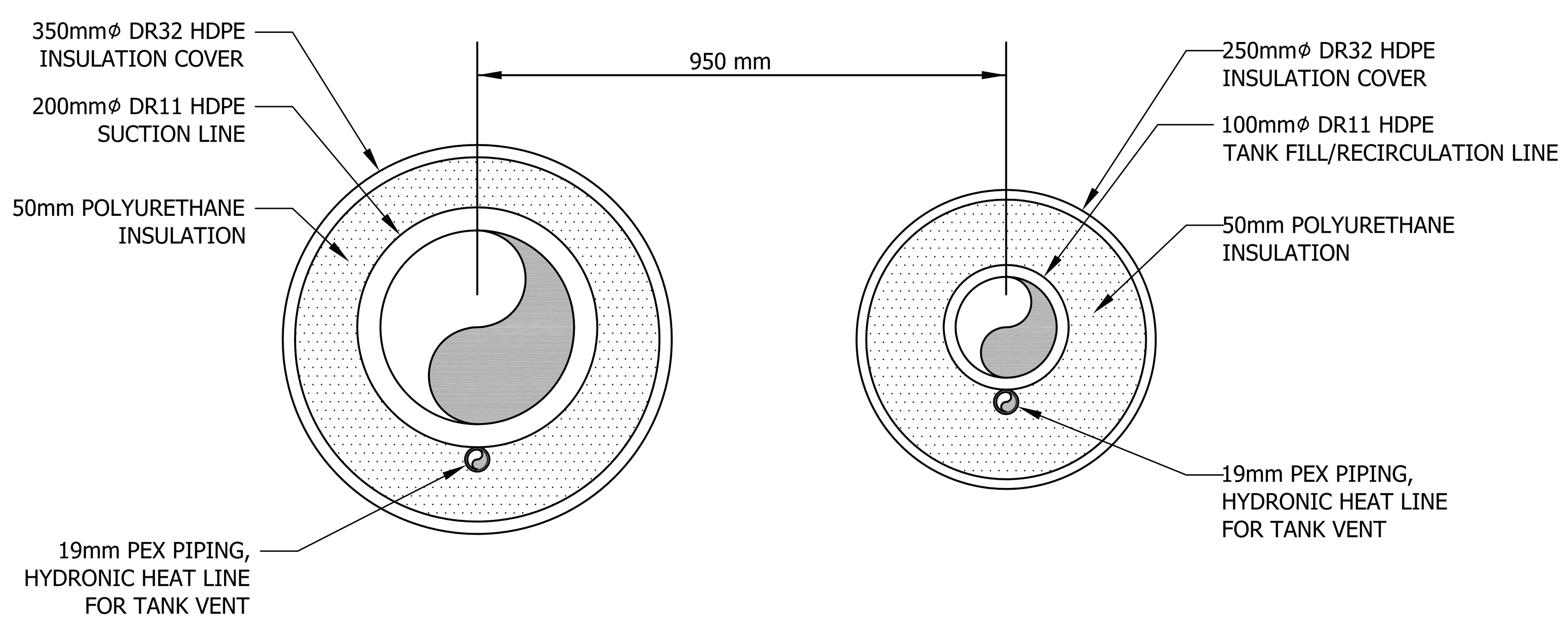
FSC ARCHITECTS & ENGINEERS
4910 - 53rd Street, P.O. Box 1777
Yellowknife, NT, X1A 2P4, Canada
T 867.920.2882 | F 867.920.4319

PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

LOCATION
BAKER LAKE, NU

DRAWING TITLE
WATER TANK DETAILS

DRAWN BY	SCALE
MJW	AS SHOWN
CHECKED BY	CLIENT PROJECT NO.
WO	07-3023
FSC PROJECT NO.	
2007-0650	
DRAWING NO.	
T2	of 2



SECTION C-C
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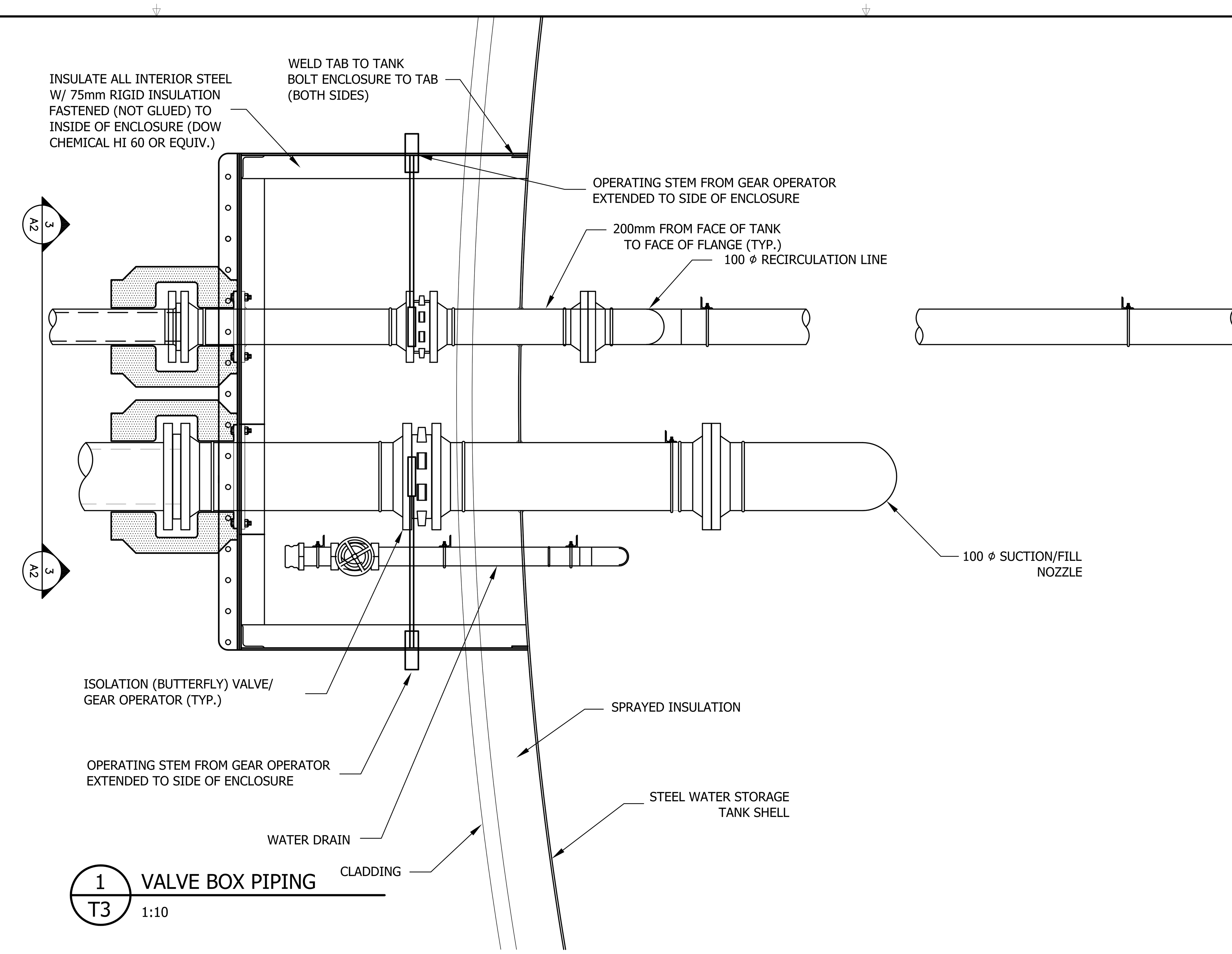
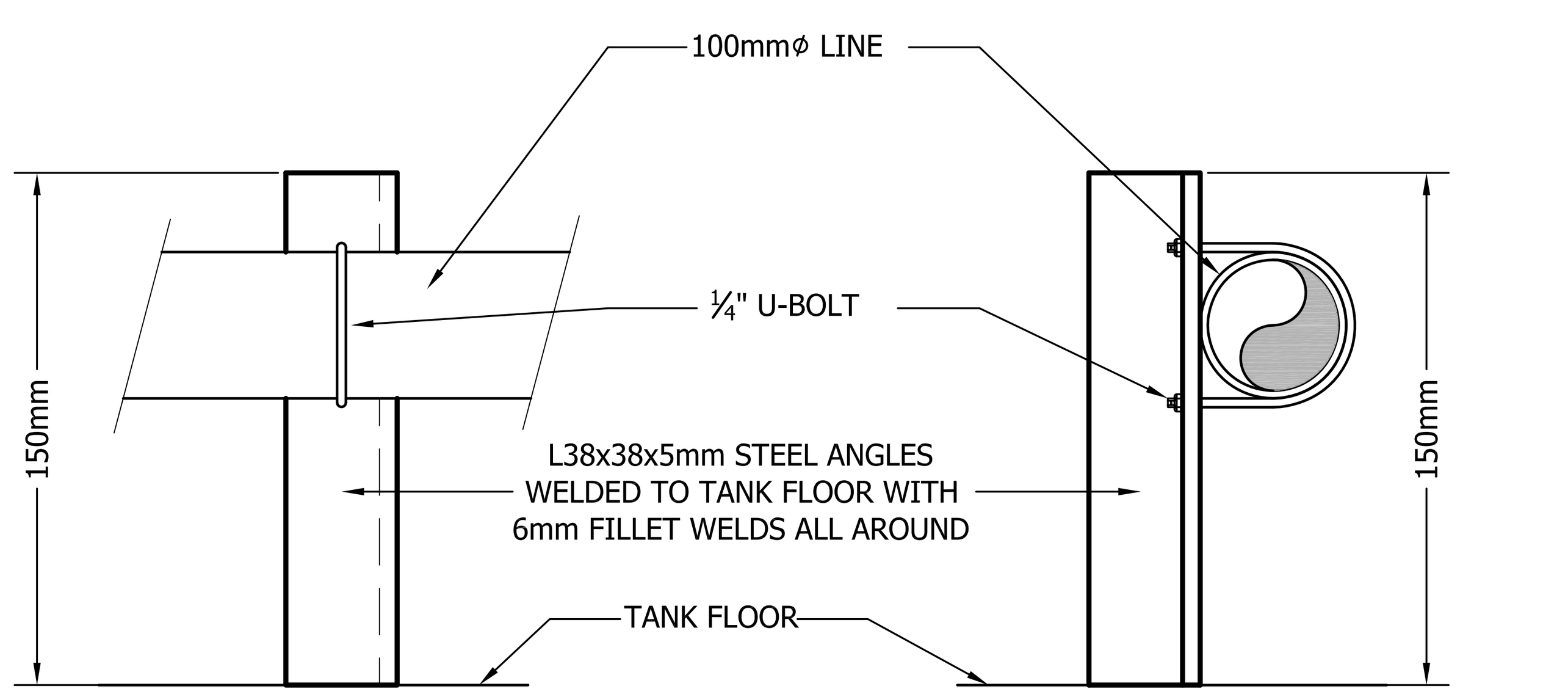
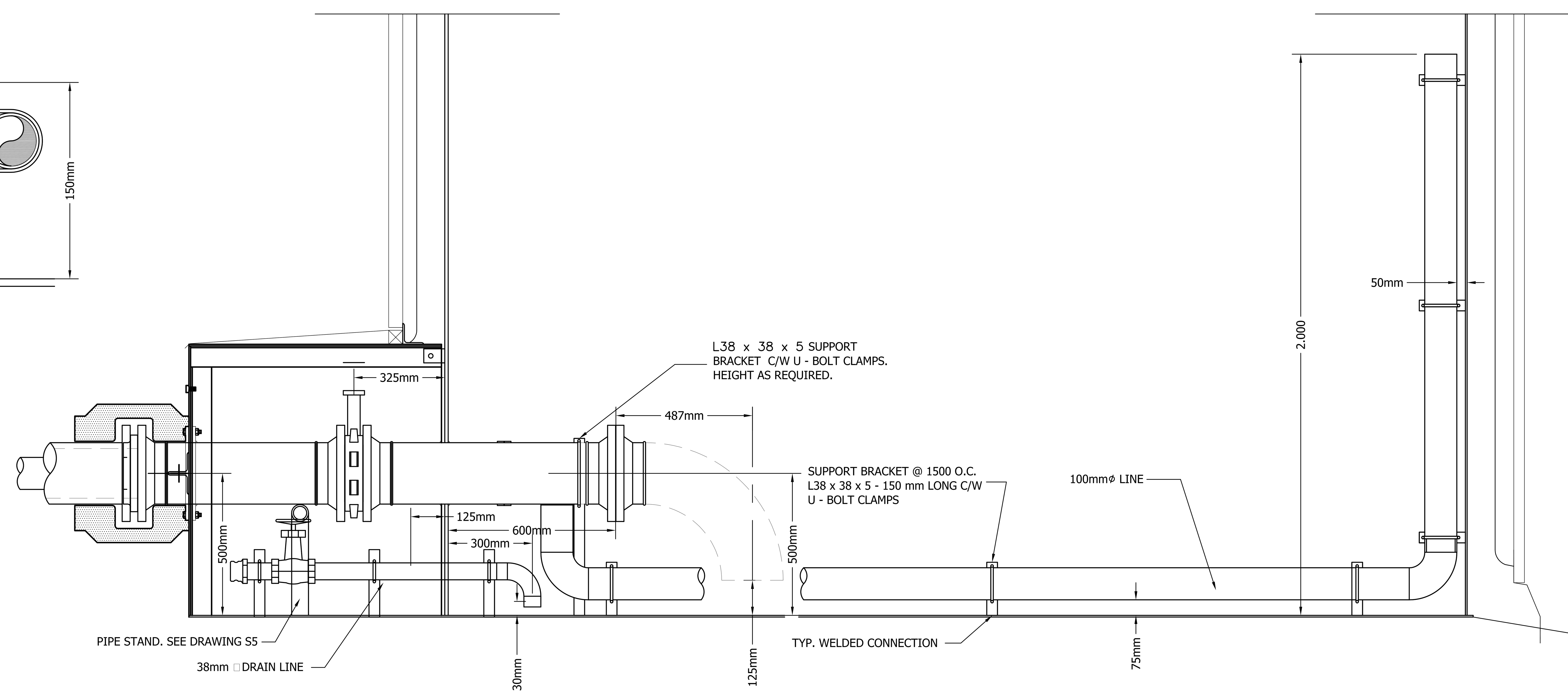


1 VALVE BOX PIPING
T3 1:10



SUPPORT BRACKET DETAIL
N.T.S.



2 RECIRCULATION LINE
T3 1:10

NO.	REVISION DESCRIPTION	DATE ISSUED
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PERMIT TO PRACTICE
FSC ARCHITECTS AND ENGINEERS
Signature
Date
PERMIT NUMBER: P0457
The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

REGISTERED PROFESSIONAL ENGINEER
W. J. ORR
NWT

FSC
ARCHITECTS & ENGINEERS
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PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

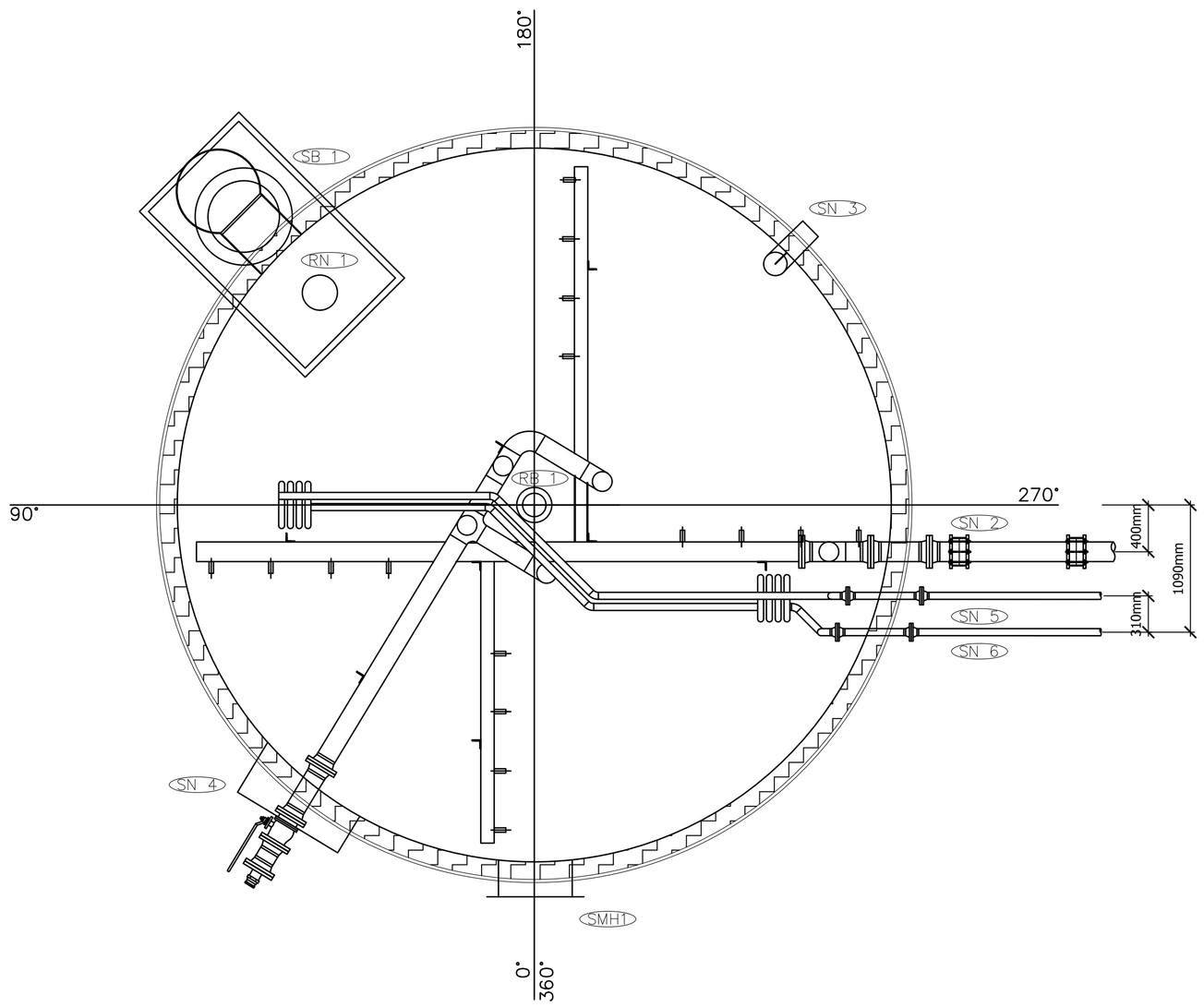
LOCATION
BAKER LAKE, NU

DRAWING TITLE
WATER TANK DETAILS

DRAWN BY	SCALE
MJW	AS SHOWN
CHECKED BY	CLIENT PROJECT NO.
WO	07-3023

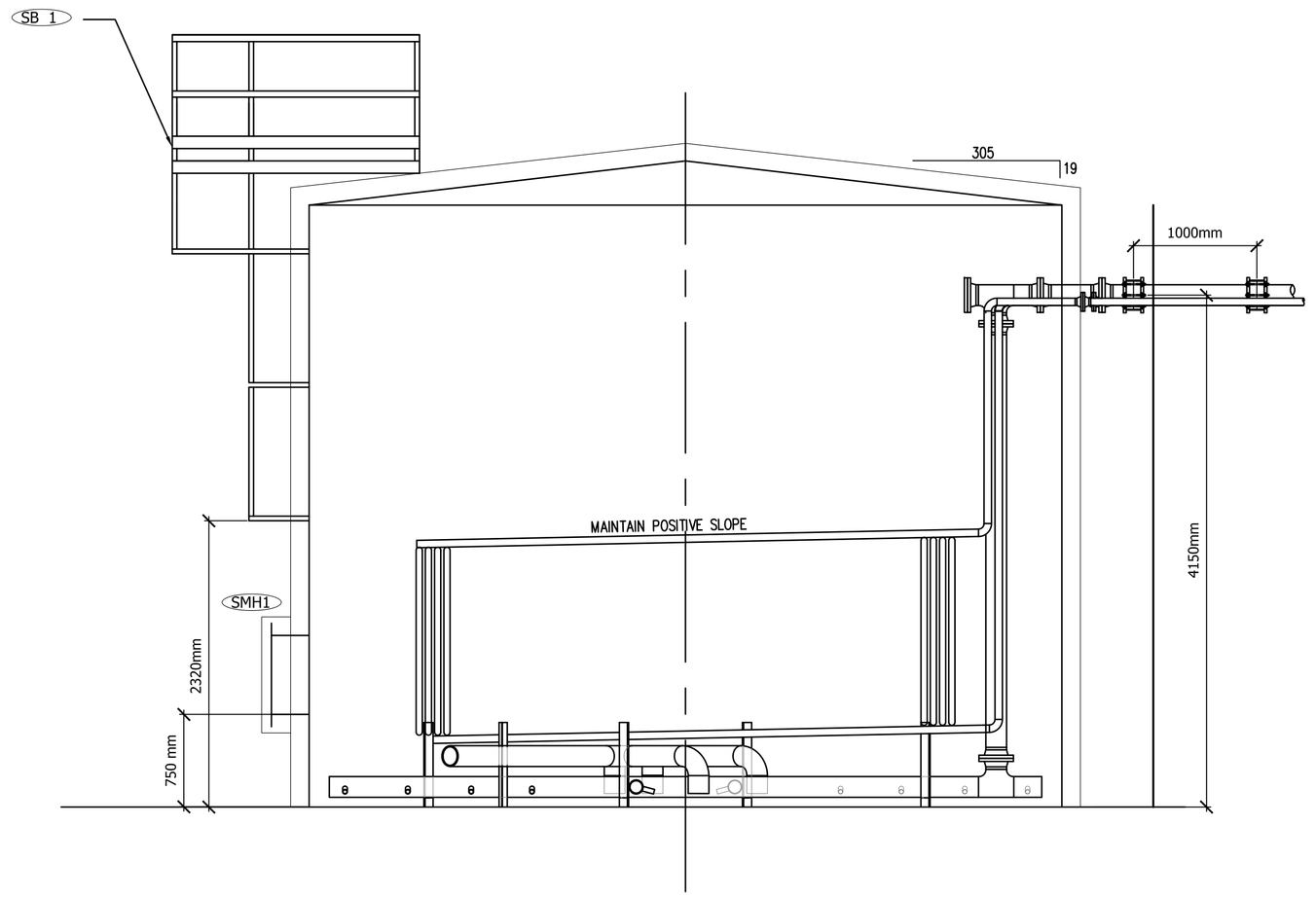
FSC PROJECT NO. 2007-0650

DRAWING NO. T3 OF 3



NEW BACKWASH STORAGE TANK - 4.88m H x 6.10m □

TOP VIEW - NORTH 360 DEGREES CW



NEW BACKWASH STORAGE TANK - 4.88m H x 6.10m □

FRONT VIEW - FITTINGS ROTATED TO PERPENDICULAR

ORIENTATION PLAN – NEW BACKWASH STORAGE TANK

LIST OF REQUIRED APPURTENANCES FOR NEW BACKWASH STORAGE VERTICAL TANK					
ITEM	SIZE	ELEV. ABOVE BASE RING (TO CL)	DESCRIPTION	COMMENTS	ANGULAR LOCATION – CW DECIMAL DEGREES
SN2	150 ø	4275	TANK INLET	SEE DETAIL DRAWING	270.00 O/S 400mm
SN3	200 ø	500	OVERFLOW / VENT LINE	SEE DETAIL DRAWING	0.00
SN4	150 ø	900	TANK SUCTION LINE	SEE DETAIL DRAWING	45.00
SN5	50 ø	4125	TANK HEATING LINE		270.00 O/S 780mm
SN6	50 ø	4125	TANK HEATING LINE		270.00 O/S 1090mm
SB1			CENTER OF ACCESS LADDER	SEE DETAIL DRAWING	135.00
SMH1	760 ø	740	COVER 960mm, NECK 760mm, FLANGE THICKNESS 11mm, COVER THICKNESS 14mm.		225.00
LIST ROOF APPURTENANCES FOR NEW WATER STORAGE VERTICAL TANK					
ITEM	SIZE	HOR. LOCATION FROM EDGE OF SHELL (CL)	DESCRIPTION	COMMENTS	ANGULAR LOCATION – CW DECIMAL DEGREES
RB1	150 ø	MIDDLE OF TANK	CABLE SUPPORT POST		
RN1	150 ø	1100	LEVEL GAUGE ACCESS PORT		135.00

Nunavut

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PROFESSIONAL SEAL / PERMIT TO PRACTICE

PERMIT TO PRACTICE
FSC ARCHITECTS AND ENGINEERS (5197 NWT LTD.)
Signature _____
Date 25 March 11
PERMIT NUMBER: P0457
The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

REGISTERED PROFESSIONAL ENGINEER
W. J. ORR
25 MARCH 11
NWT
2007 CANADA

FSC ARCHITECTS & ENGINEERS
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Yellowknife, NT, X1A 2P4, Canada
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PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

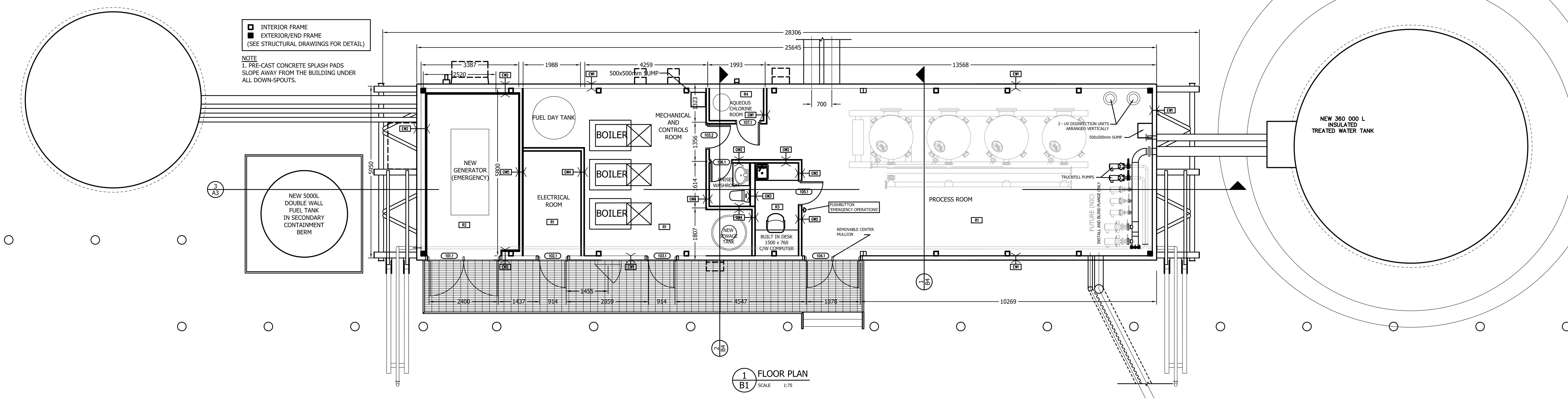
LOCATION
BAKER LAKE, NU

DRAWING TITLE
TOP AND SIDE VIEW OF BACKWASH TANK

DRAWN BY	SCALE
IGM	AS SHOWN
CHECKED BY	CLIENT PROJECT NO.
WO	07-3023

FSC PROJECT NO.
2007-0650

DRAWING NO.
T4
of 1



1 FLOOR PLAN
B1 SCALE 1:75

ROOF CONSTRUCTION ASSEMBLIES

R1 ROOF *(152 MM, RSI 8.13 / R-46)*
152 MM THICK PRE-FINISHED INSULATED METAL WALL PANEL, PROFILE & CONFIGURATION AS PER EXTERIOR ELEVATIONS, COLOUR: AS PER OWNER
MECHANICAL FASTENERS AS PER MANUFACTURER'S SPECIFICATIONS TO STEEL SUPPORT FRAMES AS PER STRUCTURAL DRAWINGS S1 THRU S5

R2 ROOF (GENERATOR) *(368 MM, RSI 8.13 / R-46)*
152 MM THICK PRE-FINISHED INSULATED METAL WALL PANEL, PROFILE & CONFIGURATION AS PER EXTERIOR ELEVATIONS, COLOUR: AS PER OWNER
MECHANICAL FASTENERS AS PER MANUFACTURER'S SPECIFICATIONS TO STEEL SUPPORT FRAMES AS PER STRUCTURAL DRAWINGS S1 THRU S5
FOUR LAYERS 15.9 MM TYPE-X MOISTURE & MOULD-RESISTANT GYPSUM BOARD, JOINTS TO BE STAGGERED 610 mm EACH LAYER
TAPED, MUDDED, SANDED AND PAINTED, COLOUR: AS PER OWNER

R3 ROOF (OFFICE & WASHROOM) *(RSI 8.13 / R-46)*
152 MM THICK PRE-FINISHED INSULATED METAL WALL PANEL, PROFILE & CONFIGURATION AS PER EXTERIOR ELEVATIONS, COLOUR: AS PER OWNER
MECHANICAL FASTENERS AS PER MANUFACTURER'S SPECIFICATIONS TO STEEL SUPPORT FRAMES AS PER STRUCTURAL DRAWINGS S1 THRU S5
DROPPED CEILING:
19 MM T&G PLYWOOD GLUED & SCREWED TO
152 MM STEEL CEILING JOIST @ 610 MM O.C.
150 MM MINERAL FIBRE INSULATION (FRICTION FIT) BETWEEN JOISTS
15.9 MM MOISTURE & MOLD-RESISTANT GYPSUM BOARD
TAPED, MUDDED, SANDED AND PAINTED, COLOUR: AS PER OWNER
UNDER SIDE OF GYPSUM BOARD TO BE 2743 MM ABOVE FINISHED FLOOR.

R4 ROOF (CHLORINE ROOM) *(RSI 8.13 / R-46)*
152 MM THICK PRE-FINISHED INSULATED METAL WALL PANEL, PROFILE & CONFIGURATION AS PER EXTERIOR ELEVATIONS, COLOUR: AS PER OWNER
MECHANICAL FASTENERS AS PER MANUFACTURER'S SPECIFICATIONS TO STEEL SUPPORT FRAMES AS PER STRUCTURAL DRAWINGS S1 THRU S5
DROPPED CEILING:
19 MM T&G PLYWOOD GLUED & SCREWED TO
152 MM STEEL CEILING JOIST @ 610 MM O.C.
15.9 MM MOISTURE & MOLD-RESISTANT GYPSUM BOARD
TAPED, MUDDED, SANDED AND PAINTED, COLOUR: AS PER OWNER
UNDER SIDE OF GYPSUM BOARD TO BE 2743 MM ABOVE FINISHED FLOOR.

EXTERIOR WALL CONSTRUCTION ASSEMBLIES

EW1 EXTERIOR WALL *(152 MM, RSI 8.13 / R-46)*
152 MM THICK PRE-FINISHED INSULATED METAL WALL PANEL, PROFILE & CONFIGURATION AS PER EXTERIOR ELEVATIONS, COLOUR: AS PER OWNER
MECHANICAL FASTENERS AS PER MANUFACTURER'S SPECIFICATIONS TO STEEL SUPPORT FRAMES AS PER STRUCTURAL DRAWINGS S1 THRU S5

EW2 EXTERIOR WALL (GENERATOR) *(352 MM, Insulation Value RSI 8.13 / R-46)*
152 MM THICK PRE-FINISHED INSULATED METAL WALL PANEL, PROFILE & CONFIGURATION AS PER EXTERIOR ELEVATIONS, COLOUR: AS PER OWNER
MECHANICAL FASTENERS AS PER MANUFACTURER'S SPECIFICATIONS TO STEEL SUPPORT FRAMES AS PER STRUCTURAL DRAWINGS S1 THRU S5
152 STEEL STUDS @ 406 MM O.C.
THREE LAYERS 15.9 MM TYPE-X MOISTURE & MOULD-RESISTANT GYPSUM BOARD, JOINTS TO BE STAGGERED 610 mm EACH LAYER
TAPED, MUDDED, SANDED AND PAINTED, COLOUR: AS PER OWNER

FLOOR CONSTRUCTION ASSEMBLIES

F1 MAIN FLOOR - NONCOMBUSTIBLE CONSTRUCTION *(230 MM, RSI 8.45 / R-48)*
8 MM STAINLESS STEEL SLIP RESISTANT FLOOR PLATE, ALL SEAMS WELDED
C200x21 STEEL CHANNEL JOISTS @ 610 MM O.C. WELED TO STEEL BEAMS AS PER STRUCTURAL DRAWINGS S1 THRU S5
203 MM POLYURETHANE SPRAY FOAMED BETWEEN JOISTS
SPUN OLEFIN WEATHER BARRIER
19 MM PRE-FINISHED METAL CLADDING SOFFIT LINER PANEL, MECHANICAL FASTENED AS PER MANUFACTURER

INTERIOR WALL CONSTRUCTION ASSEMBLIES

1. ALL FIRE AND SOUND RATED PARTITIONS ARE TO EXTEND TO THE UNDERSIDE OF ROOF DECK, FLOOR SLAB OR FLOOR DECK AS APPLICABLE.
2. REFER TO FLOOR PLANS FOR PARTITION LOCATIONS.
3. ALL STEEL STUD PARTITIONS TO HAVE MID-HEIGHT CONTINUOUS BRIDGING CHANNEL C/W BRIDGING ANGLE CLIP.
4. LOCATE CONTROL JOINTS AT 10M O.C. ON 1500 MODULE OR ABOVE DOOR FRAME CORNER WHEREVER POSSIBLE.
5. PARTITIONS NOT SPECIFICALLY DESIGNATED SHALL BE CONSIDERED TO BE CONSTRUCTED AS A **GW1** WALL ASSEMBLY AND EXTEND 150 MM ABOVE FINISHED CEILING.
6. ACOUSTICALLY SEAL PERIPHERY OF WALL AND ALL PENETRATIONS AIRTIGHT.
7. FIRE CAULK ALL PENETRATIONS THROUGH FIRE RATED SEPARATIONS.
8. UNLESS NOTED OTHERWISE, ALL NEW GYPSUM BOARD USED FOR WALLS IS TO BE MOISTURE AND MOLD-RESISTANT.
9. REFER TO ROOM FINISH SCHEDULE FOR REQUIRED FINISHES BEYOND THAT NOTED IN THE INTERIOR WALL CONSTRUCTION ASSEMBLIES LISTED HEREIN.

INTERIOR WALL CONSTRUCTION ASSEMBLIES

GW1 *(124 MM, STC 38)*
TAPED, MUDDED, SANDED AND PAINTED, COLOUR: AS PER OWNER
15.9 MM MOISTURE & MOLD-RESISTANT GYPSUM BOARD
92 MM STEEL STUDS @ 406 MM O.C.
15.9 MM MOISTURE & MOLD-RESISTANT GYPSUM BOARD
TAPED, MUDDED, SANDED AND PAINTED, COLOUR: AS PER OWNER

GW2 *(124 MM, STC 47)*
TAPED, MUDDED, SANDED AND PAINTED, COLOUR: AS PER OWNER
15.9 MM MOISTURE & MOLD-RESISTANT GYPSUM BOARD
92 MM STEEL STUDS @ 406 MM O.C.
89 MM MINERAL FIBRE INSULATION (FRICTION FIT) BEWTEEN STUDS
15.9 MM MOISTURE & MOLD-RESISTANT GYPSUM BOARD
TAPED, MUDDED, SANDED AND PAINTED, COLOUR: AS PER OWNER

GW3 *(184 MM, STC 41)*
TAPED, MUDDED, SANDED AND PAINTED, COLOUR: AS PER OWNER
15.9 MM MOISTURE & MOLD-RESISTANT GYPSUM BOARD
152 MM STEEL STUDS @ 406 MM O.C.
150 MM MINERAL FIBRE INSULATION (FRICTION FIT) BEWTEEN STUDS
15.9 MM MOISTURE & MOLD-RESISTANT GYPSUM BOARD
TAPED, MUDDED, SANDED AND PAINTED, COLOUR: AS PER OWNER

GW4 *(124 MM, STC 47, 1hr frr - NBCC S4B)*
TAPED, MUDDED, SANDED AND PAINTED, COLOUR: AS PER OWNER
15.9 MM TYPE-X MOISTURE & MOLD-RESISTANT GYPSUM BOARD
92 MM STEEL STUDS @ 406 MM O.C.
89 MM 2.8kg/sm MINERAL FIBRE INSULATION (FRICTION FIT) BEWTEEN STUDS
15.9 MM TYPE-X MOISTURE & MOLD-RESISTANT GYPSUM BOARD
TAPED, MUDDED, SANDED AND PAINTED, COLOUR: AS PER OWNER

GW5 *(216 MM, STC 59, 2hr frr - NBCC S9A)*
TAPED, MUDDED, SANDED AND PAINTED, COLOUR: AS PER OWNER
TWO LAYERS 15.9 MM TYPE-X MOISTURE & MOLD-RESISTANT GYPSUM BOARD, JOINTS TO BE STAGGERED 610 mm EACH LAYER AND SIDE
92 MM STEEL STUDS @ 406 MM O.C.
89 MM 2.8kg/sm MINERAL FIBRE INSULATION (FRICTION FIT) BEWTEEN STUDS
TWO LAYERS 15.9 MM TYPE-X MOISTURE & MOLD-RESISTANT GYPSUM BOARD, JOINTS TO BE STAGGERED 610 mm EACH LAYER AND SIDE
TAPED, MUDDED, SANDED AND PAINTED, COLOUR: AS PER OWNER

DOOR AND FRAME SCHEDULE — MAIN FLOOR LEVEL

DOOR NO. (IDENTIFICATION)	OPENING FROM (ROOM NO.)	SWINGS INTO (ROOM NO.)	NUMBER OF LEAFS	FIRE RATING LABEL	WIDTH (mm)	HEIGHT (mm)	THICK (mm)	ELEV.	CONST.	FACE MAT.	FINISH	GLAZING	FRAME ELEV.	FRAME MAT.	BACK OPENING (mm)	THICK (ga)	FRAME FINISH	HARDWARE GROUP	KEYSIDE SPACE	REMARKS	DOOR NO.
101.1	101	Exterior	2	90 min	1200	2134	44	S	HMI	HMI	PT	-	C	TBS	-	14	PT	2	Exterior	Removable center mullion	101.1
102.1	102	Exterior	1	-	1200	2134	44	S	HMI	HMI	PT	-	A	TBS	-	14	PT	1	Exterior		102.1
103.1	103	Exterior	1	-	915	2134	44	S	HMI	HMI	PT	-	A	TBS	-	14	PT	1	Exterior		103.1
103.2	103	104	1	45 min	915	2032	44	S	HM	HM	PT	-	A	PS	124	16	PT	3	104		103.2
104.1	104	Exterior	2	-	915	2134	44	S	HMI	HMI	PT	-	C	TBS	-	14	PT	2	Exterior	Removable center mullion	104.1
105.1	105	104	1	-	915	2032	44	HG	HM	HM	PT	GWG	A	PS	124	16	PT	3	104	585 x 914 x 6 GWG	105.1
106.1	106	104	1	-	813	2032	44	S	HM	HM	PT	-	A	PS	124	16	PT	4	-		106.1
107.1	107	104	1	-	915	2032	44	S	HM	HM	PT	-	A	PS	124	16	PT	3	104		107.1

MATERIALS AND FINISHES LEGEND

DOORS
HM Hollow Metal
HMI Hollow Metal Insulated
S Slab
HG Half Glazed
PT Painted

FRAMES
PS Pressed Steel
TBS Thermally Broken Pressed Steel
PT Painted

GLAZING
GWG Georgian Wired Glass

Nunavut

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03	100% SUBMISSION	2008/06/13
02	75% SUBMISSION	2008/03/28
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00	ISSUED FOR REVIEW	2007/12

PROFESSIONAL SEAL / PERMIT TO PRACTICE

PERMIT TO PRACTICE
FSC ARCHITECTS AND ENGINEERS (5107 NWT LTD.)
Signature
Date 23 March 11
PERMIT NUMBER: P0457
The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

REGISTERED PROFESSIONAL ENGINEER
W. J. ORR
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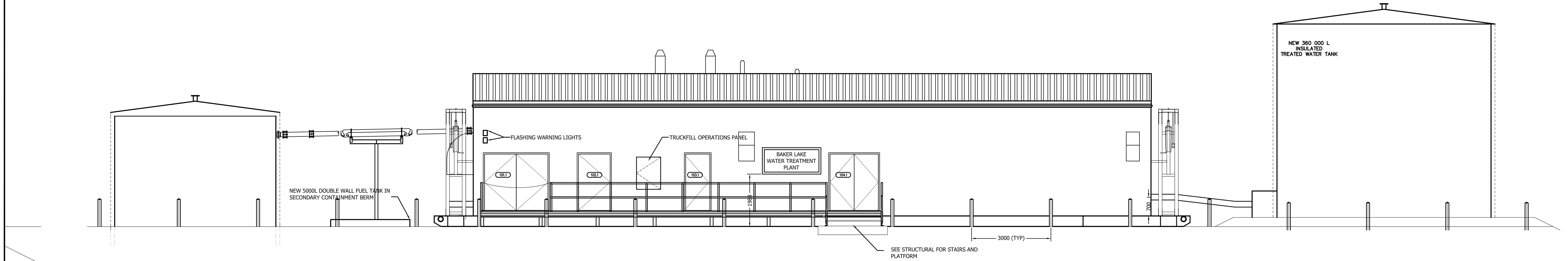
PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

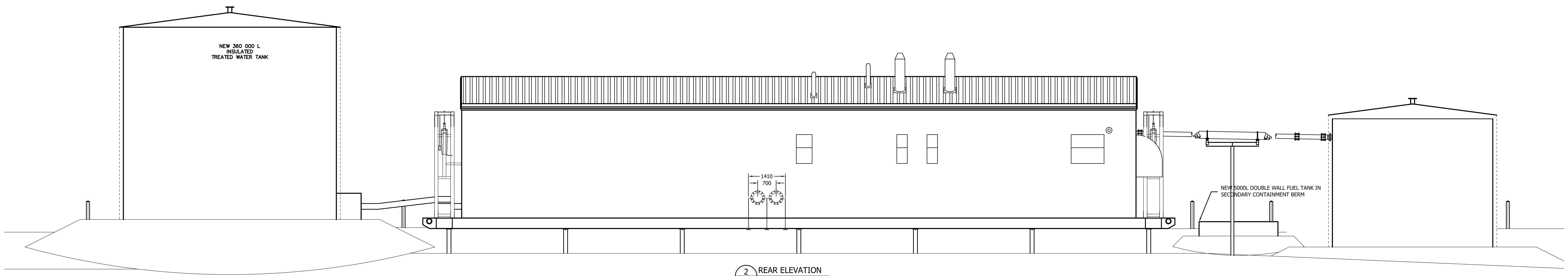
LOCATION
BAKER LAKE, NU

DRAWING TITLE
FLOOR PLAN, ASSEMBLIES & SCHEDULES

DRAWN BY MJW/GS/IGM
SCALE
CHECKED BY WJO
CLIENT PROJECT NO. 07-3023
FSC PROJECT NO. 2007-0650
DRAWING NO. B1
OF 2



1 B2 FRONT ELEVATION
SCALE 1:75



2 B2 REAR ELEVATION
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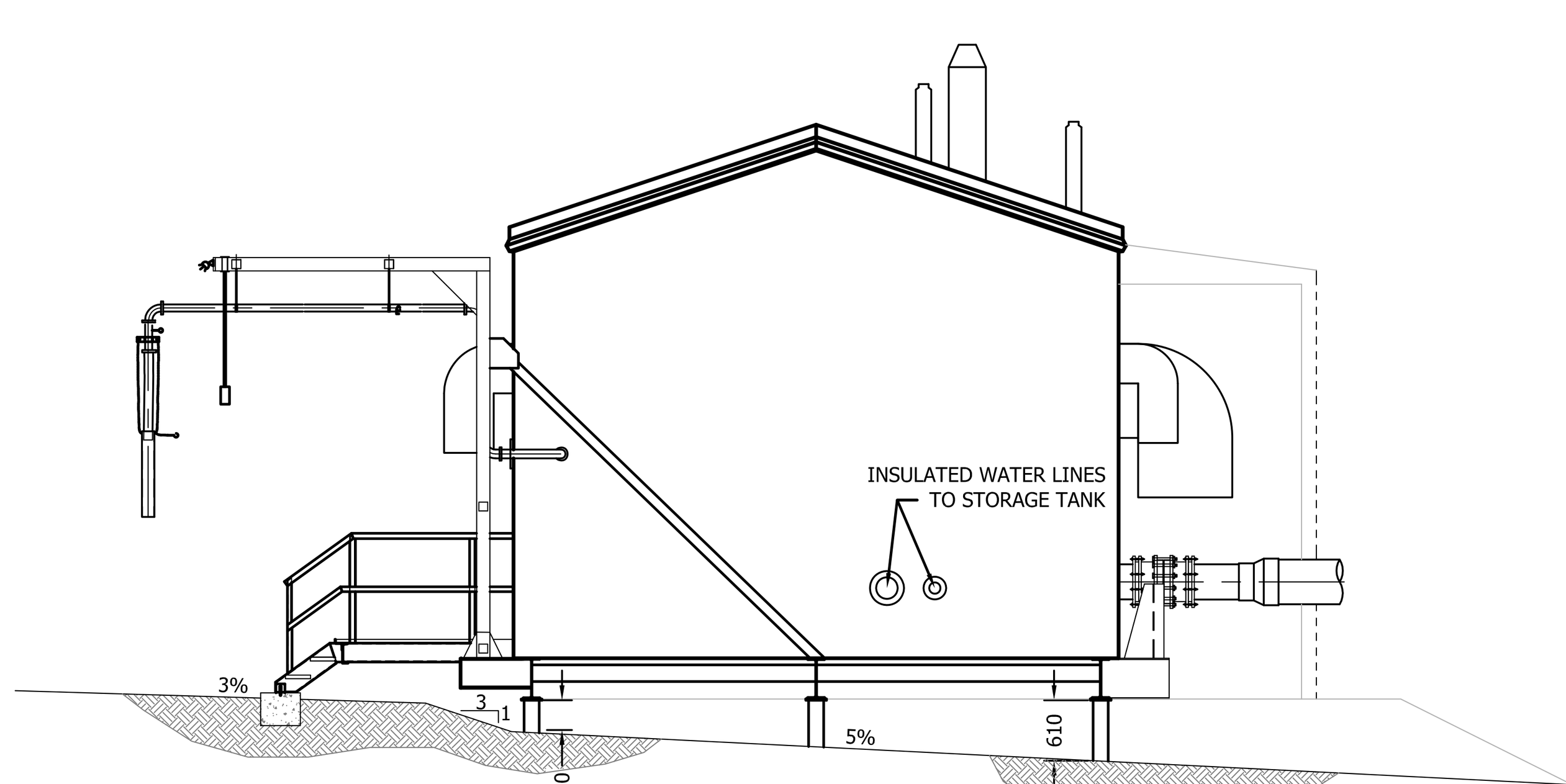
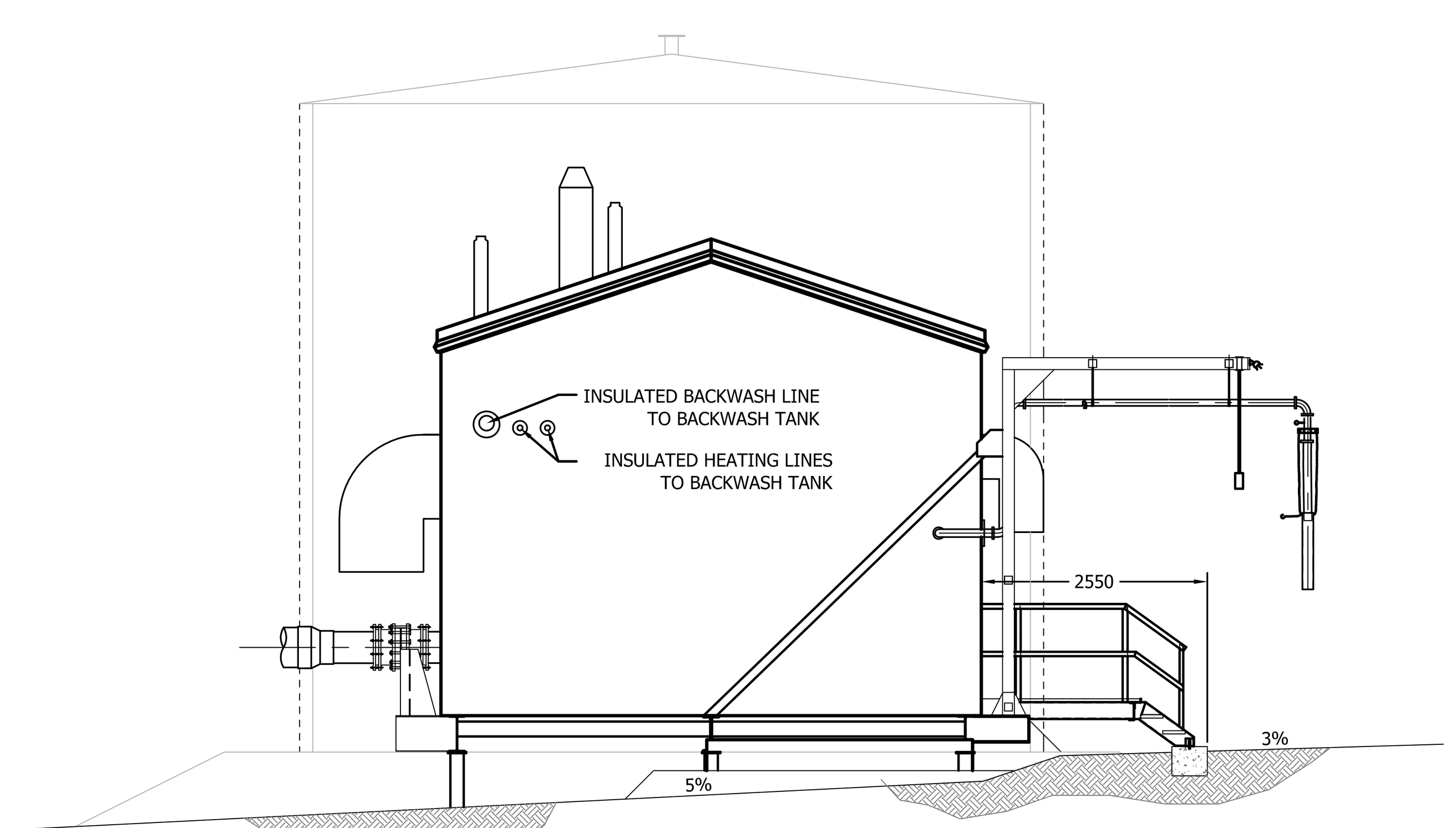


3 B2 SIDE ELEVATION
SCALE 1:75



4 B2 SIDE ELEVATION
SCALE 1:75

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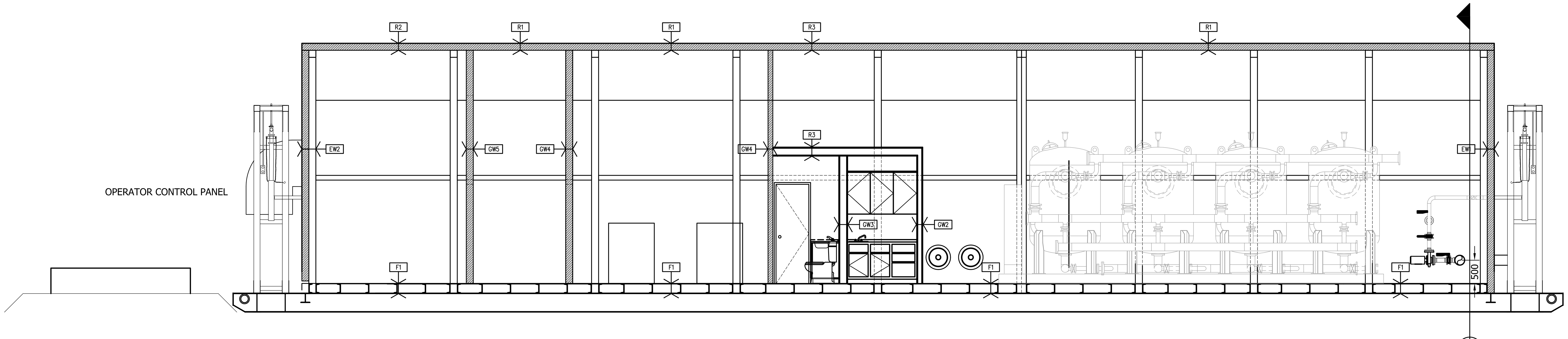
PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

LOCATION
BAKER LAKE, NU

DRAWING TITLE
BUILDING ELEVATIONS

DRAWN BY: MJW/GS/IGM	SCALE: AS NOTED
CHECKED BY: WJO	CLIENT PROJECT NO.: 07-3023
FSC PROJECT NO.: 2007-0650	
DRAWING NO.: B2	OF 2

FSC - Arch-D - 24x36
FOLD LINE



1 B3 CROSS SECTION
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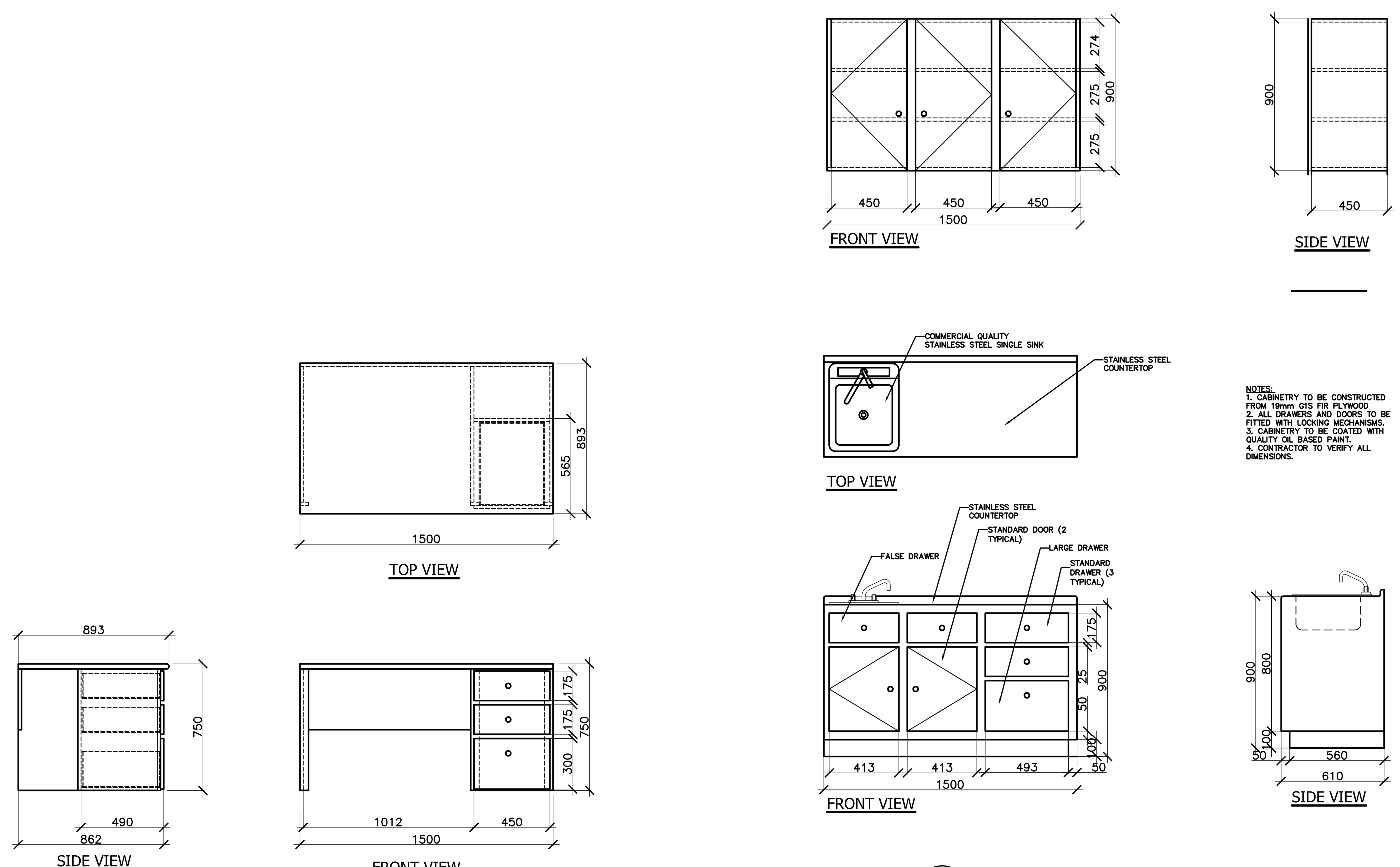

NOTES:
1. CABINETRY TO BE CONSTRUCTED FROM 19mm G1S FIR PLYWOOD
2. ALL DRAWERS AND DOORS TO BE FITTED WITH LOCKING MECHANISMS.
3. CABINETRY TO BE COATED WITH QUALITY OIL BASED PAINT.
4. CONTRACTOR TO VERIFY ALL DIMENSIONS.

2 B3 CABINETRY ELEVATIONS AND DETAILS
NTS

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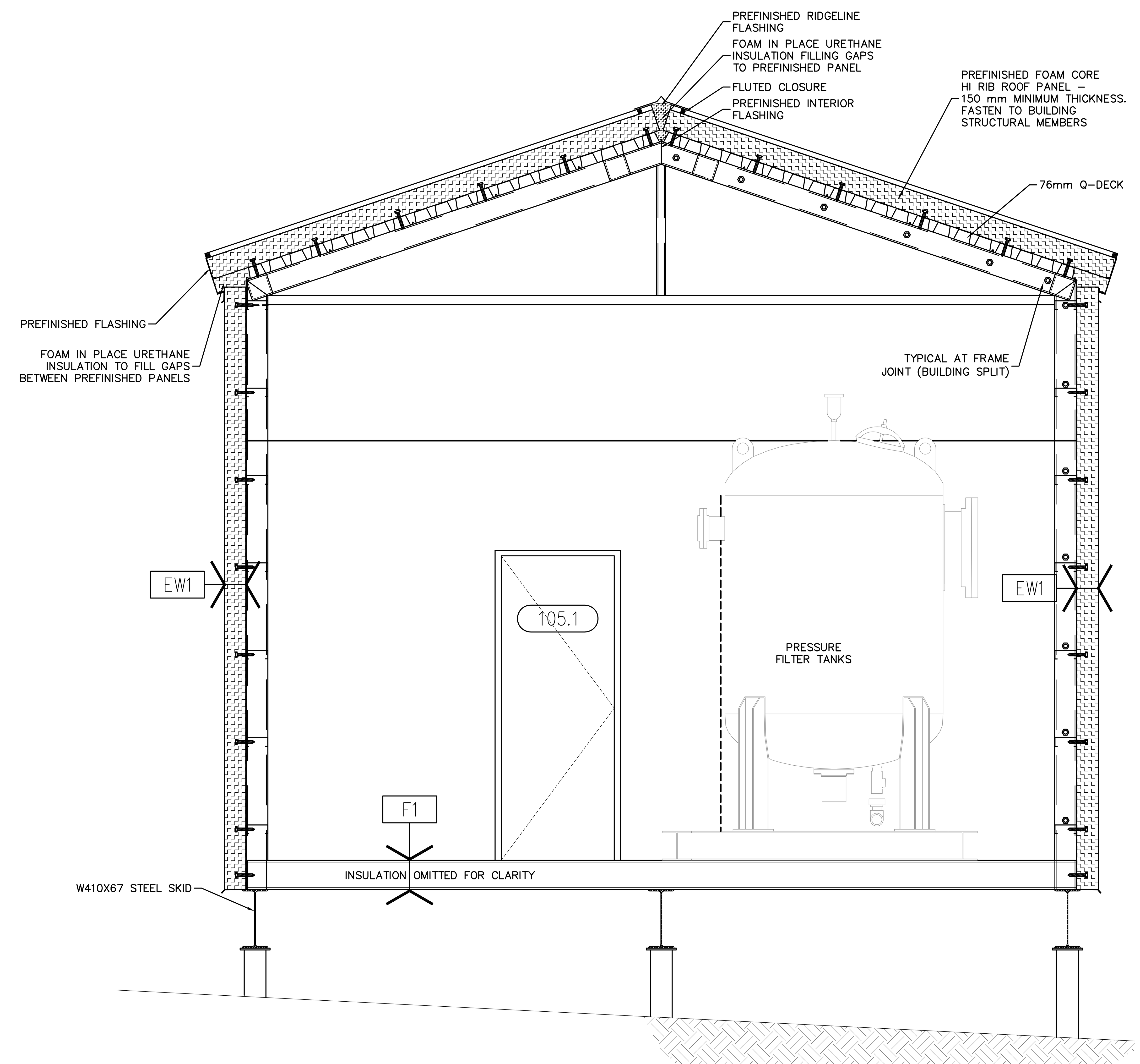
PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

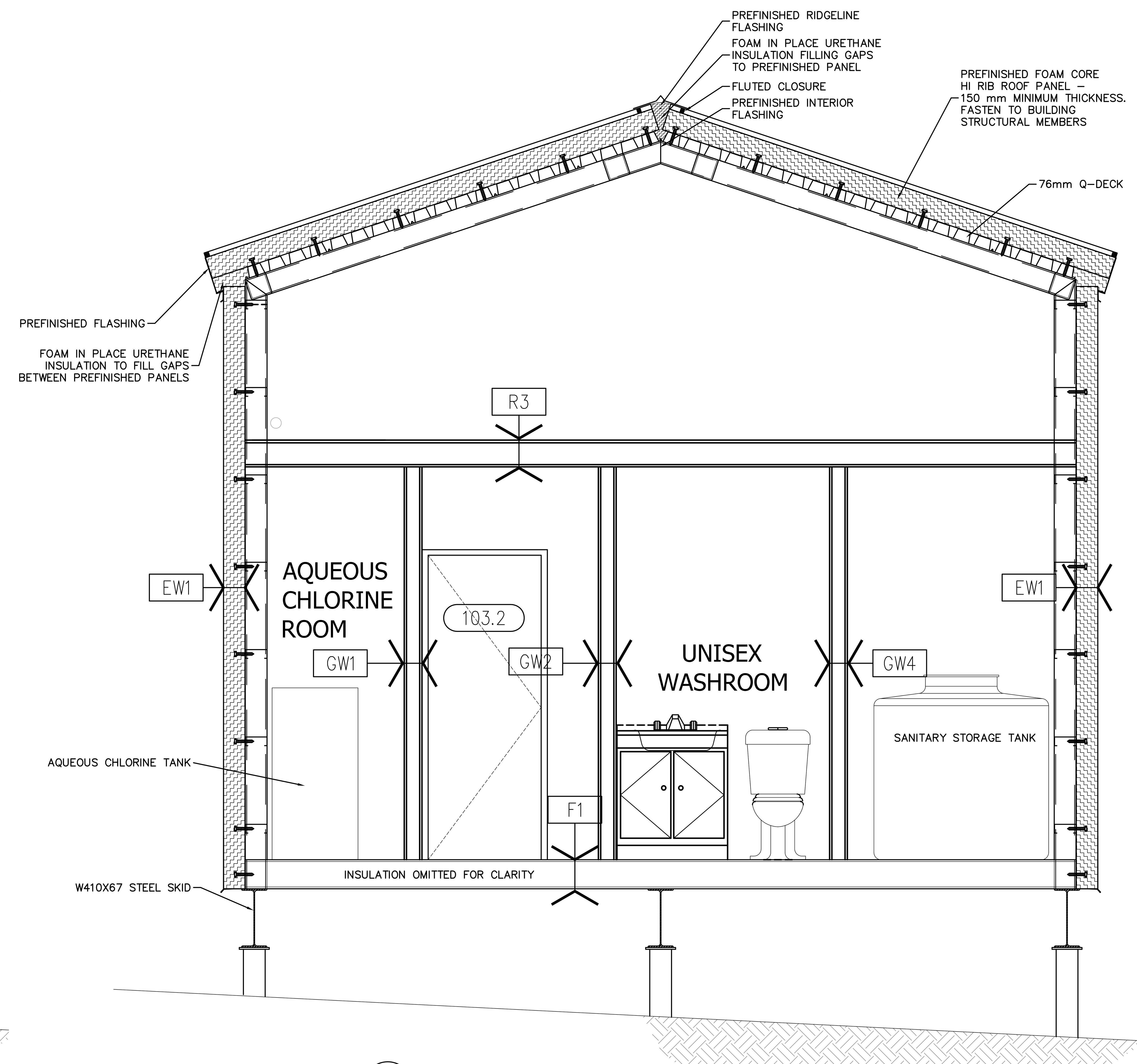
LOCATION
BAKER LAKE, NU

DRAWING TITLE
SECTION & MISC. DETAILS

DRAWN BY	SCALE
IGM	AS NOTED
CHECKED BY: WJO	CLIENT PROJECT NO.: 07-3023
FSC PROJECT NO.: 2007-0650	
DRAWING NO.: B3	OF 3



1 B4 BUILDING CROSS SECTION
SCALE 1:20



2 B4 BUILDING CROSS SECTION
SCALE 1:20

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LOCATION
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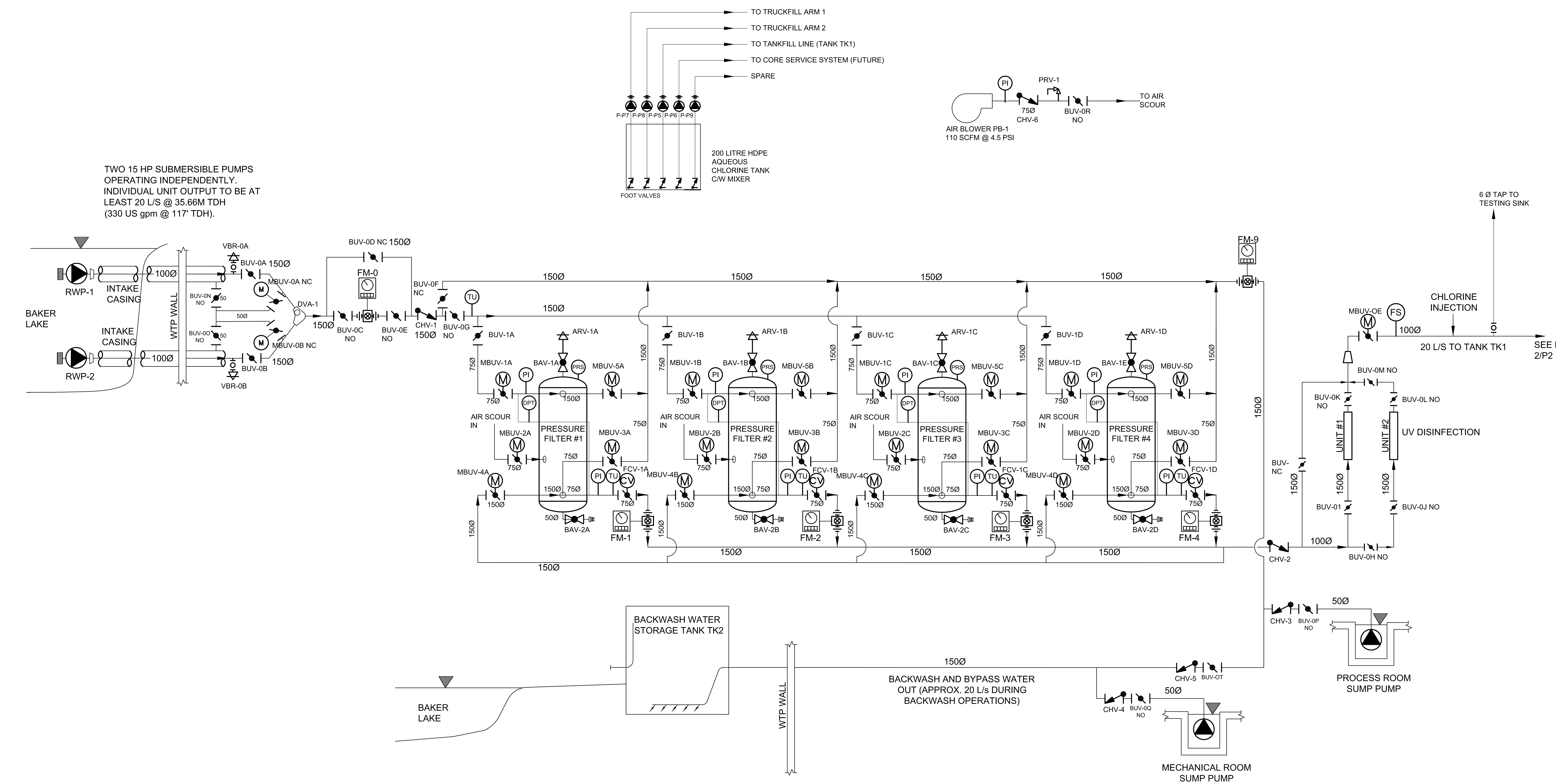
DRAWING TITLE
SECTION AND MISC DETAILS

DRAWN BY: MJW/GS	SCALE: AS NOTED
CHECKED BY: WJO	CLIENT PROJECT NO.: 07-3023
FSC PROJECT NO.: 2007-0650	
DRAWING NO.: B4	OF 2

FSC – Arch–D – 24x36



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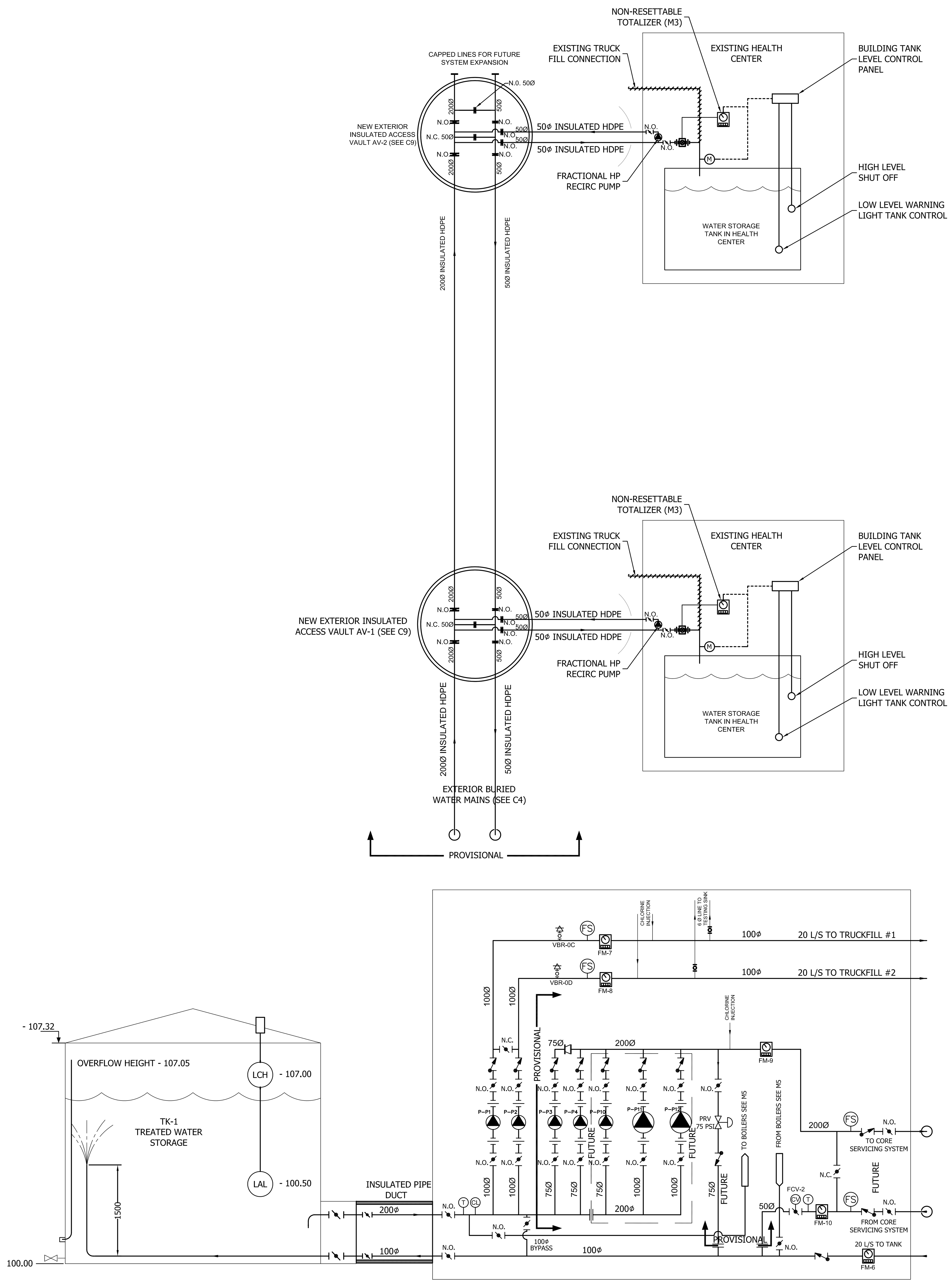
PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

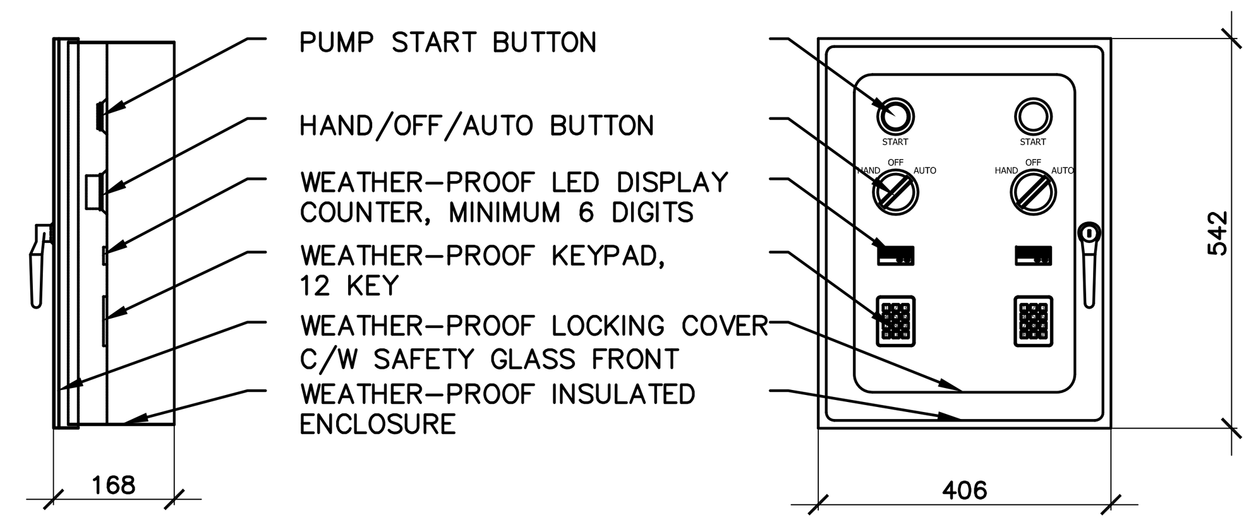
LOCATION
BAKER LAKE, NU

DRAWING TITLE
TRUCKFILL SCHEMATIC DIAGRAMS

DRAWN BY	GS	SCALE	NTS
CHECKED BY	WO	CLIENT PROJECT NO.	07-3023
FSC PROJECT NO.	2007-0650		
DRAWING NO.	P1		



1 UTILIDOR AND TANK SCHEMATIC
P2 N.T.S.



2 TRUCKFILL CONTROL PANEL
P2 N.T.S.

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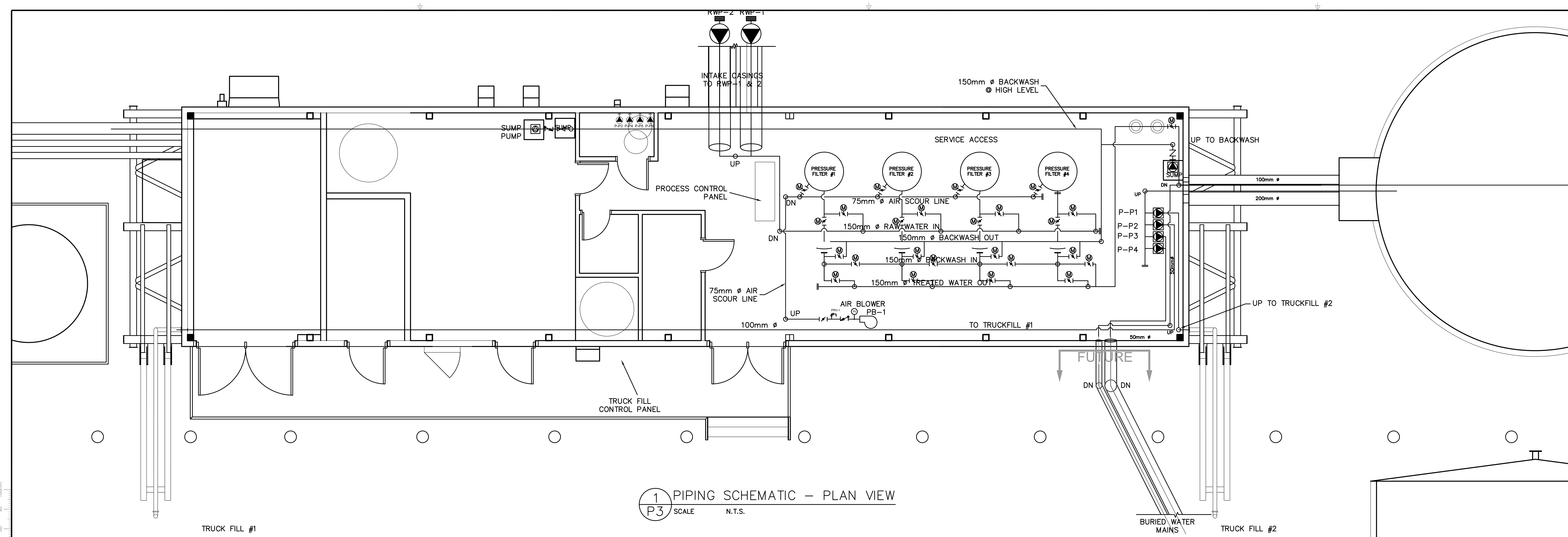
PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

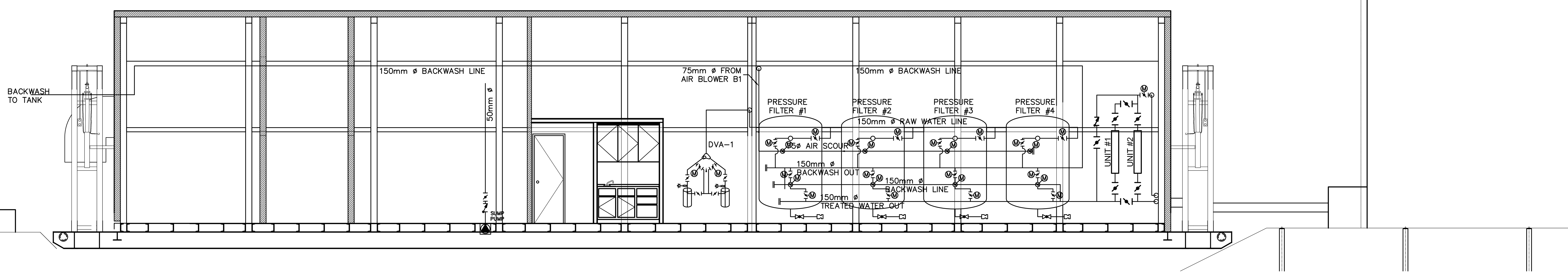
LOCATION
BAKER LAKE, NU

DRAWING TITLE
UTILIDOR SCHEMATIC DIAGRAM

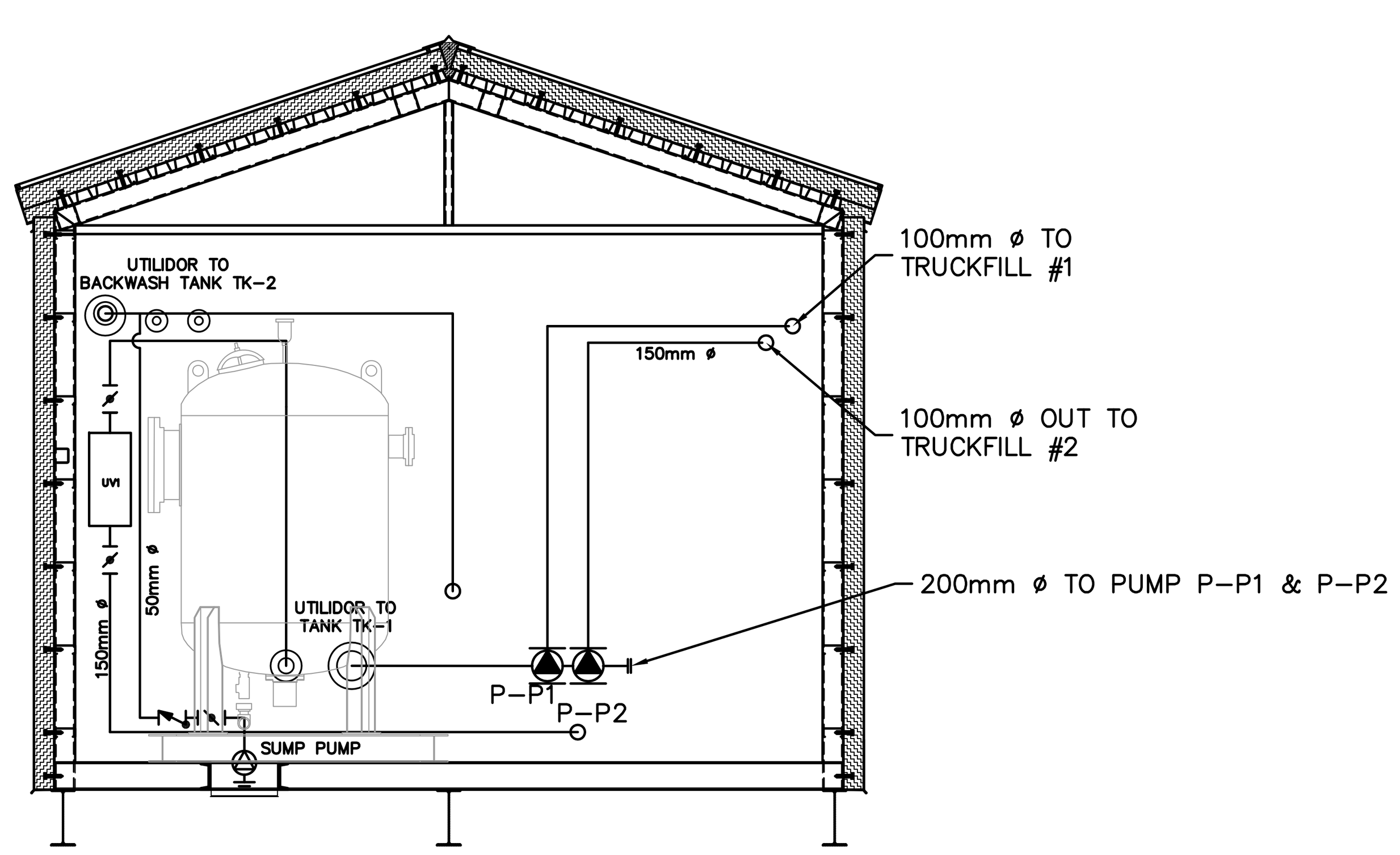
DRAWN BY	GS/FG	SCALE	NTS
CHECKED BY	WO	CLIENT PROJECT NO.	07-3023
FSC PROJECT NO.	2007-0650		
DRAWING NO.	P2		OF 4



1 P3 PIPING SCHEMATIC – PLAN VIEW
SCALE N.T.S.



2 P3 CROSS SECTION
SCALE 1:50



3 P3 CROSS SECTION
SCALE 1:50

Nunavut

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PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

LOCATION
BAKER LAKE, NU

DRAWING TITLE
PIPING SCHEMATIC AND CROSS SECTION

DRAWN BY: FG	SCALE: 1: 50
CHECKED BY: WO	CLIENT PROJECT NO.: 07-3023
FSC PROJECT NO.: 2007-0650	
DRAWING NO.: P3	OF 4

BAKER LAKE WATER TREATMENT UPGRADING PROCESS PUMPS AND VALVES

TAG NO.	NO. OFF	LOCATION	SIZE (mm)	DESCRIPTION
RWP-1,2	2	END OF INTAKE LINE		SUBMERSIBLE PUMPS. 15 HP 208V, 3PH; 20 L/S @ 35.7 m TDH, OUTFLOW PIPING 100 DIA.
VBR-0A, B, C, D	4	RAW WATER INLET LINE AND TRUCK FILL LINES	25	VACUUM BREAKER VALVES
MBUV-0A, B	2	RAW WATER INLET LINE	100	MOTORIZED BUTTERFLY VALVE FOR INTAKE CASING BACKWASH. VALVE AS BUV-0A. ROTORK IQT ACTUATOR
BUV-0N, O	2	MANUAL CONTROL OF INTAKE CASING BACKWASH	50	BUTTERFLY VALVE. VALVE DESCRIPTION AS BUV-0A
DVA-1	1	RAW WATER INLET LINE	150	TECK TAYLOR "Y" DIVERTER VALVE
BUV-0A, 0B	2	RAW WATER PUMP SHUT OFF VALVES	150	BUTTERFLY VALVE, CAST IRON ASTM A126 CLASS B BODY, EPDM FOOD GRADE SEAT, DUCTILE IRON NYLON COATED SEAT, 316 SS SHAFT, FLAT FACE FLANGES DRILL TO ANSI B16.1 CLASS125 STANDARDS, KEYSTONE OR BETTER
CHV-1, 2, 3	3	RAW WATER INLET LINE	150	AWWA FLANGED CHECK VALVES
BUV-0C, D, E, F, G	3	RAW WATER INLET LINE	150	BUTTERFLY VALVE. DESCRIPTION AS BUV-0A
BUV-0C, D, E, F, G	5	FIELD ISOLATION OF FILTER RAW WATER PIPING	150	BUTTERFLY VALVE. DESCRIPTION AS BUV-0A
BUV-0H, I, J, K, L, M	6	FIELD ISOLATION OF TREATED WATER PIPING COMPONENTS	150	BUTTERFLY VALVE. DESCRIPTION AS BUV-0A
BUV-0P, Q	2	SHUT OFF VALVE FOR SUMP PUMPS OUTLET	50	BUTTERFLY VALVE. DESCRIPTION AS BUV-0A
CHV-3, 4	3	CHECK VALVE FOR SUMP PUMPS OUTLET	50	AWWA FLANGED CHECK VALVES
BUV-0R	1	SHUT OFF VALVE FOR AIR SCOUR LINE	50	BUTTERFLY VALVE. VALVE DESCRIPTION AS BUV-0A
CHV-5	1	CHECK VALVE FOR AIR SCOUR LINE	50	AWWA FLANGED CHECK VALVES
BAV-1A, B, C, D	4	TOP OF EACH FILTER	25	FLOW TEK SERIES S51 150 psi WORKING PRESSURE
ARV-1A, B, C, D	4	TOP OF EACH FILTER	25	AIR RELEASE VALVE - CAST IRON BODY SS INTERNAL
BAV-2A, B, C, D	4	FILTER DRAIN	50	BALL VALVE SAME AS BAV-1A AND COMPLETE WITH KAM LOK HOSE FITTING
MBUV-0A, B	4	INTAKE CASING RAW WATER FLUSH VALVE	50	MOTORIZED BUTTERFLY VALVE. VALVE DESCRIPTION AS BUV-0A. ROTORK IQT ACTUATOR
MBUV-1A, B, C, D	4	FILTER - RAW WATER INLET	75	MOTORIZED BUTTERFLY VALVE. VALVE DESCRIPTION AS BUV-0A. ROTORK IQT ACTUATOR. CONTROLLED BY FILTER CONTROL PANEL
FCV-1A, B, C, D	4	FILTER OUTLET FLOW CONTROL	75	FLOW CONTROL MODULATING MOTORIZED BUTTERFLY VALVE. VALVE AS MBUV-1A. ROTORK IQT ACTUATOR. CONTROLLED BY FILTER CONTROL PANEL
MBUV-2A, B, C, D	4	AIR SCOUR INLET VALVE	75	MOTORIZED BUTTERFLY VALVE. VALVE AS MBUV-1A. ROTORK IQT ACTUATOR
MBUV-3A, B, C, D	4	FILTER TO WASTE LINE	75	MOTORIZED BUTTERFLY VALVE. VALVE AS MBUV-1A. ROTORK IQT ACTUATOR. CONTROLLED BY FILTER CONTROL PANEL
MBUV-4A, B, C, D	4	FILTER - BACKWASH WATER INLET LINE	150	MOTORIZED BUTTERFLY VALVE. VALVE AS MBUV-1A. ROTORK IQT ACTUATOR. CONTROLLED BY FILTER CONTROL PANEL
MBUV-5A, B, C, D	4	FILTER - BACKWASH WATER INLET LINE	150	MOTORIZED BUTTERFLY VALVE. VALVE AS MBUV-1A. ROTORK IQT ACTUATOR. CONTROLLED BY FILTER CONTROL PANEL

BAKER LAKE WATER TREATMENT UPGRADING METERS AND OTHER EQUIPMENT

TAG NO.	NO. OFF	LOCATION	SIZE (mm)	DESCRIPTION
FM-0	1	RAW WATER INLET LINE	150	MAGNETIC FLOW METER ABB, C/W HARD RUBBER LINER, SS ELECTRODE, AND CONVERTER, C/W NON RESETABLE TOTALIZER
FM-1, 2, 3, 4	1	FILTER OUTLET FLOW METER	75	MAGNETIC FLOW METER ABB, C/W HARD RUBBER LINER, SS ELECTRODE, AND CONVERTER, C/W NON RESETABLE TOTALIZER
FM-5	1	BACKWASH WATER OUTPUT FLOW METER	150	MAGNETIC FLOW METER ABB, C/W HARD RUBBER LINER, SS ELECTRODE, AND CONVERTER, C/W NON RESETABLE TOTALIZER
FM-6	1	TREATED WATER FLOW METER TO TANK TK1	100	MAGNETIC FLOW METER ABB, C/W HARD RUBBER LINER, SS ELECTRODE, AND CONVERTER, C/W NON RESETABLE TOTALIZER
FM-7, 8	1	TREATED WATER FLOW METER TO TRUCKFILL 1 AND 2	150	MAGNETIC FLOW METER ABB, C/W HARD RUBBER LINER, SS ELECTRODE, AND CONVERTER, C/W RESETABLE TOTALIZERS CONTROLLING RWP START/STOP
FM-9	1	UTILIDOR LINE FLOW METER	200	MAGNETIC FLOW METER ABB, C/W HARD RUBBER LINER, SS ELECTRODE, AND CONVERTER, C/W NON RESETABLE TOTALIZER
CHV-1A, B, C	3	RAW WATER INLET LINE	150	AWWA FLANGED CHECK VALVES
BUV-0C, D, E, F, G	3	RAW WATER INLET LINE	150	BUTTERFLY VALVE AS BUV-0A
P-B1	1	AIR BLOWER FOR FILTER AIR PURGE		NASH ELMO 2BH1600-7AH36, 110 SCFM @ 4.5 PSI
P-P1	1	TRUCKFILL PUMP 1	100	ARMSTRONG PUMP. 3" DIA. OPERATING POINT 20 L/S @ 9.6 m TDH 5.0 HP, 208V, 3PH
P-P2	1	TRUCKFILL PUMP 2	100	ARMSTRONG PUMP. 3" DIA. OPERATING POINT 20 L/S @ 9.6 m TDH 5.0 HP, 208V, 3PH
P-P5, 6, 7, 8, 9	5	CHLORINATION PUMP		ALLDOS DDI 209 P3
P-M1	1	CHLORINE MIXING MOTOR		JL WINGERT F-3-1/20 HP
	1	STORED IN BUILDING	50 X 10m	FILTER DRAIN HOSE WITH KAMLOK FITTINGS
UV-1	1	UV DISINFECTION		TROJAN UV SWIFT B06 240V 1PH 1800W 15AMP 150 mm DIA.
UV-2	1	UV DISINFECTION		TROJAN UV SWIFT B06 240V 1PH 1800W 15AMP 150 mm DIA.
P-P3	1	UTILIDOR PUMP 1		ARMSTRONG PUMP. 1.5" DIA. OPERATING POINT 1.5 L/S @ 80m TDH 1.5 HP, 208V, 3PH
P-P4	1	UTILIDOR PUMP 2		ARMSTRONG PUMP. 1.5" DIA. OPERATING POINT 1.5 L/S @ 80m TDH 1.5 HP, 208V, 3PH
CV-2	1	FLOW CONTROL VALVE FOR UTILIDOR SYSTEM		AS FCV-1 MODULATED TO MAINTAIN MINIMUM 50 LPM FLOW RATE IN UTILIDOR LINES
FM-10	1	UTILIDOR RETURN LINE FLOW METER	50	MAGNETIC FLOW METER ABB, C/W HARD RUBBER LINER, SS ELECTRODE, AND CONVERTER, C/W NON RESETABLE TOTALIZER
FS				FLOW SWITCH - VARIOUS LOCATIONS ITT MCDONNEL MILLER FS 4-3
T				TEMPERATURE SENSOR WITH SS HEX HEAD PIPE PLUG WITH CLOSED END TUBE OPERATING RANGE -5 C TO +10 C ACCURACY 0.1 C, SPECTRUM OR EQUAL

Nunavut

NO.	REVISION DESCRIPTION	DATE ISSUED
04	ISSUED FOR TENDER	2011/03/25
03	100% SUBMISSION	2008/06/13
02	75% SUBMISSION	2008/03/28
01	50% SUBMISSION	2008/02/26
00	ISSUED FOR REVIEW	2007/12

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FSC ARCHITECTS AND ENGINEERS (5107 NWT LTD.)
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Date 25 March 11
PERMIT NUMBER: P0457
The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

REGISTERED PROFESSIONAL ENGINEER W. J. ORR NWT

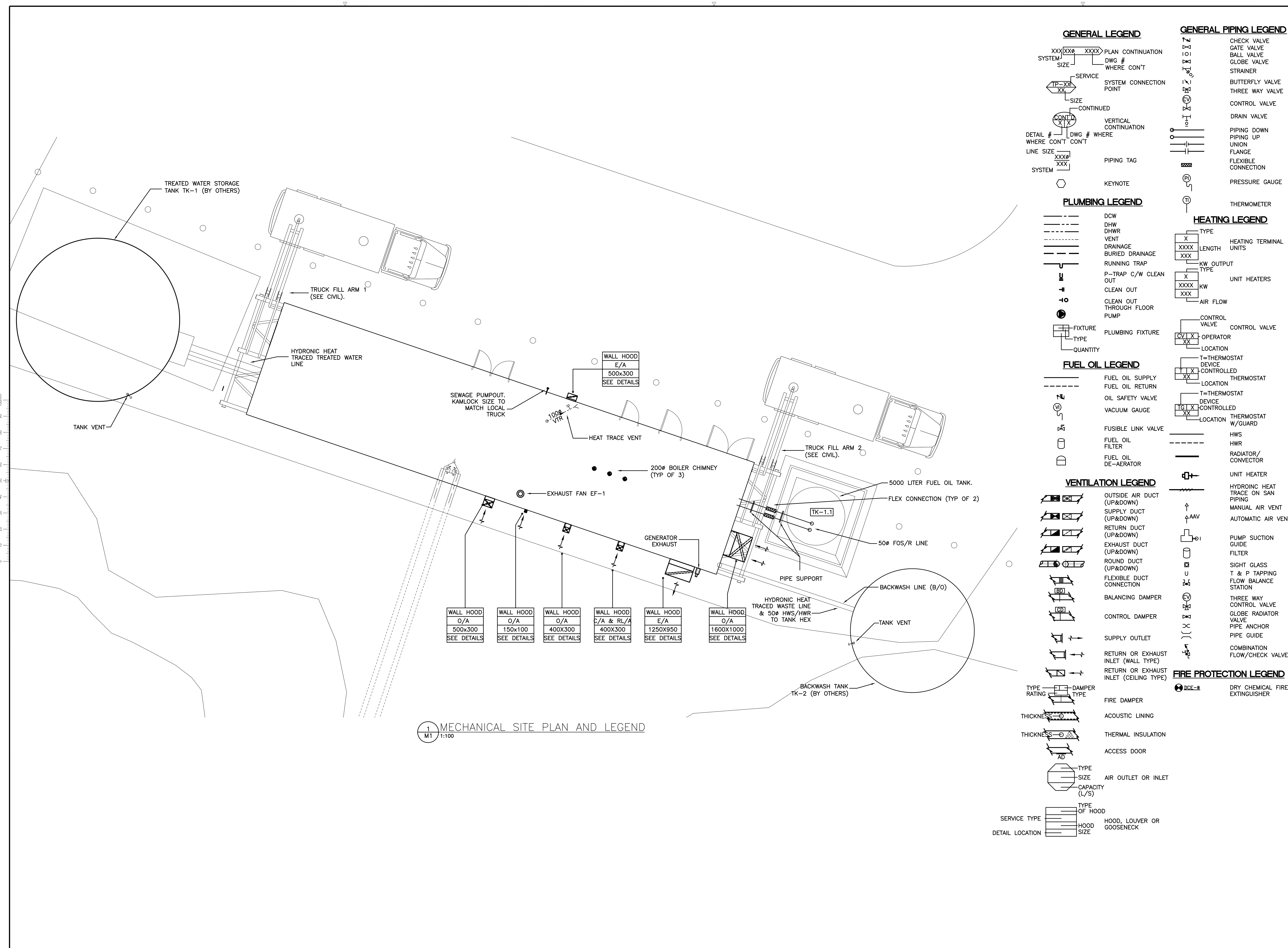
FSC ARCHITECTS & ENGINEERS
4910 - 53rd Street, P.O. Box 1777
Yellowknife, NT, X1A 2P4, Canada
T 867.920.2882 | F 867.920.4319

PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

LOCATION
BAKER LAKE, NU

DRAWING TITLE
EQUIPMENT USE TABLE

DRAWN BY: GS	SCALE: NTS
CHECKED BY: WO	CLIENT PROJECT NO.: 07-3023
FSC PROJECT NO.: 2007-0650	
DRAWING NO.: P4	OF 4


TREATED WATER STORAGE TANK TK-1 (BY OTHERS)
TANK VENT
TRUCK FILL ARM 1 (SEE CIVIL).
HYDRONIC HEAT TRACED TREATED WATER LINE
SEWAGE PUMPOUT. KAMLOCK SIZE TO MATCH LOCAL TRUCK
100ø VTR
HEAT TRACE VENT
WALL HOOD E/A 500x300 SEE DETAILS
200ø BOILER CHIMNEY (TYP OF 3)
EXHAUST FAN EF-1
TRUCK FILL ARM 2 (SEE CIVIL).
5000 LITER FUEL OIL TANK.
FLEX CONNECTION (TYP OF 2)
TK-1.1
50ø FOS/R LINE
PIPE SUPPORT
GENERATOR EXHAUST
HYDRONIC HEAT TRACED WASTE LINE & 50ø HWS/HWR TO TANK HEX
BACKWASH LINE (B/O)
TANK VENT
BACKWASH TANK TK-2 (BY OTHERS)
WALL HOOD O/A 500x300 SEE DETAILS
WALL HOOD O/A 150x100 SEE DETAILS
WALL HOOD O/A 400X300 SEE DETAILS
WALL HOOD C/A & RL/A 400X300 SEE DETAILS
WALL HOOD E/A 1250X950 SEE DETAILS
WALL HOOD O/A 1600X1000 SEE DETAILS
1 M1 MECHANICAL SITE PLAN AND LEGEND 1:100
GENERAL LEGEND
PLAN CONTINUATION
DWG # WHERE CON'T
SYSTEM CONNECTION POINT
VERTICAL CONTINUATION
PIPING TAG
KEYNOTE
PLUMBING LEGEND
DCW
DHW
DHWR
VENT
DRAINAGE
BURIED DRAINAGE
RUNNING TRAP
P-TRAP C/W CLEAN OUT
CLEAN OUT
CLEAN OUT THROUGH FLOOR
PUMP
PLUMBING FIXTURE
FUEL OIL LEGEND
FUEL OIL SUPPLY
FUEL OIL RETURN
OIL SAFETY VALVE
VACUUM GAUGE
FUSIBLE LINK VALVE
FUEL OIL FILTER
FUEL OIL DE-AERATOR
VENTILATION LEGEND
OUTSIDE AIR DUCT (UP&DOWN)
SUPPLY DUCT (UP&DOWN)
RETURN DUCT (UP&DOWN)
EXHAUST DUCT (UP&DOWN)
ROUND DUCT (UP&DOWN)
FLEXIBLE DUCT CONNECTION
BALANCING DAMPER
CONTROL DAMPER
SUPPLY OUTLET
RETURN OR EXHAUST INLET (WALL TYPE)
RETURN OR EXHAUST INLET (CEILING TYPE)
FIRE DAMPER
ACOUSTIC LINING
THERMAL INSULATION
ACCESS DOOR
AIR OUTLET OR INLET
HOOD, LOUVER OR GOOSENECK
GENERAL PIPING LEGEND
CHECK VALVE
GATE VALVE
BALL VALVE
GLOBE VALVE
STRAINER
BUTTERFLY VALVE
THREE WAY VALVE
CONTROL VALVE
DRAIN VALVE
PIPING DOWN
PIPING UP
UNION
FLANGE
FLEXIBLE CONNECTION
PRESSURE GAUGE
THERMOMETER
HEATING LEGEND
HEATING TERMINAL UNITS
UNIT HEATERS
AIR FLOW
CONTROL VALVE
THERMOSTAT
THERMOSTAT W/GUARD
HWS
HWR
RADIATOR/ CONVECTOR
UNIT HEATER
HYDROINC HEAT TRACE ON SAN PIPING
MANUAL AIR VENT
AUTOMATIC AIR VENT
PUMP SUCTION GUIDE
FILTER
SIGHT GLASS
T & P TAPPING
FLOW BALANCE STATION
THREE WAY CONTROL VALVE
GLOBE RADIATOR VALVE
PIPE ANCHOR
PIPE GUIDE
COMBINATION FLOW/CHECK VALVE
FIRE PROTECTION LEGEND
DRY CHEMICAL FIRE EXTINGUISHER

CONSTRUCTION NORTH — TRUE NORTH

NO.	REVISION DESCRIPTION	DATE ISSUED
0	ISSUED FOR TENDER	2011/03/28

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Signature
Date Mar. 25/11
PERMIT NUMBER: P0457
The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

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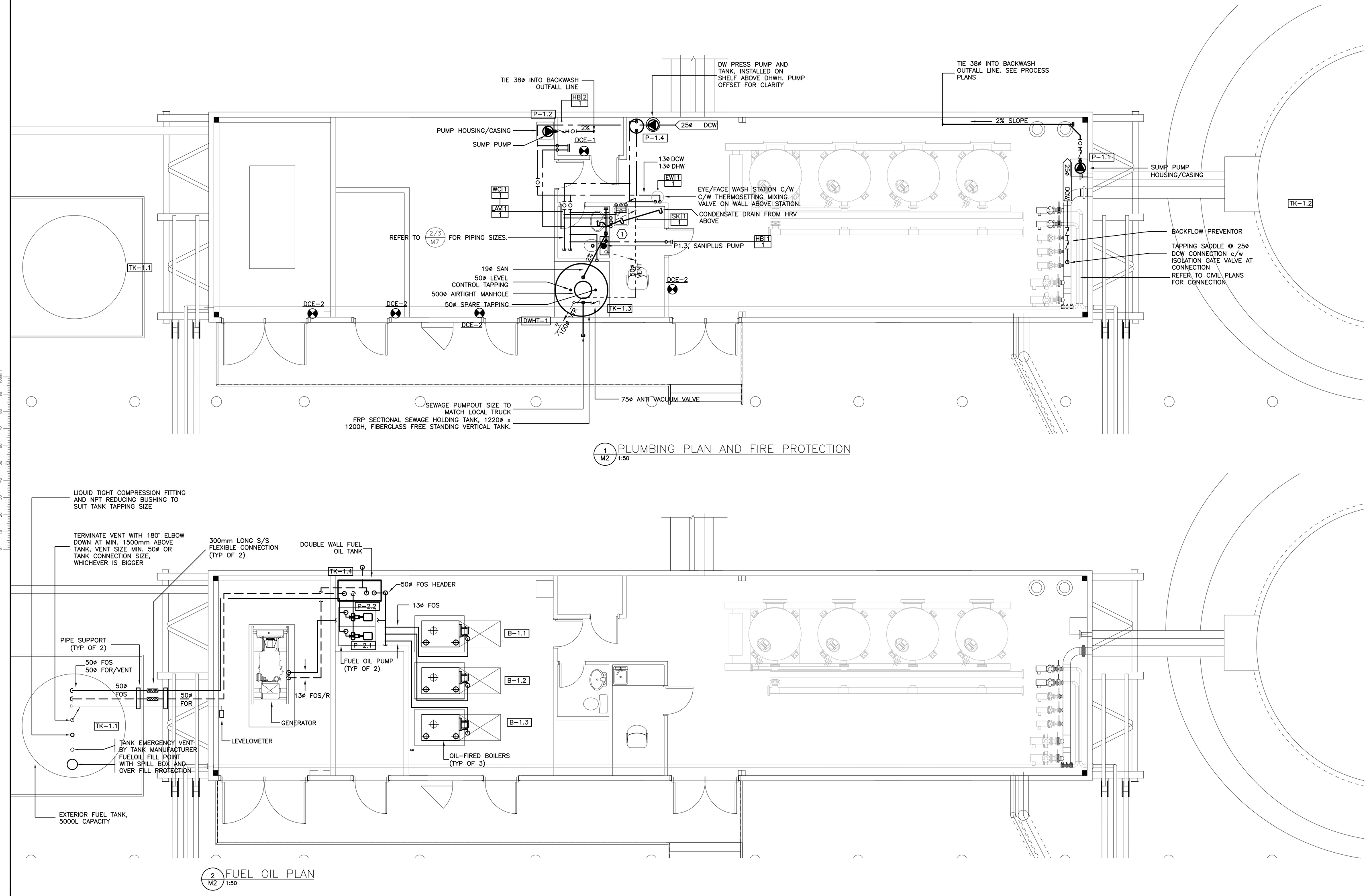
PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

LOCATION
BAKER LAKE, NU

DRAWING TITLE
MECHANICAL SITE PLAN AND LEGEND

DRAWN BY	SCALE
TZ/RTA	NTS
CHECKED BY	CLIENT PROJECT NO.
LF	07-3023
FSC PROJECT NO.	
2007-0650	
DRAWING NO.	
M1	

FSC - Arch-D - 24x36



1/M2 PLUMBING PLAN AND FIRE PROTECTION 1:50

2/M2 FUEL OIL PLAN 1:50

CONSTRUCTION NORTH

TRUE NORTH

KEYNOTES

1 ALL FIXTURE DCW & DHW LINES ARE 13ø UNLESS OTHERWISE SPECEFIED.

NOTE:

.1 REFER TO DETAILS 2 AND 3 ON DRAWING M7 FOR PLUMBING LINES AND DETAILS.

.2 REFER TO DETAILS 1 ON DRAWING M7 FOR PIPE SIZES AND DETAILS.

NO.	REVISION DESCRIPTION	DATE ISSUED
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PROJECT TITLE

NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

LOCATION

BAKER LAKE, NU

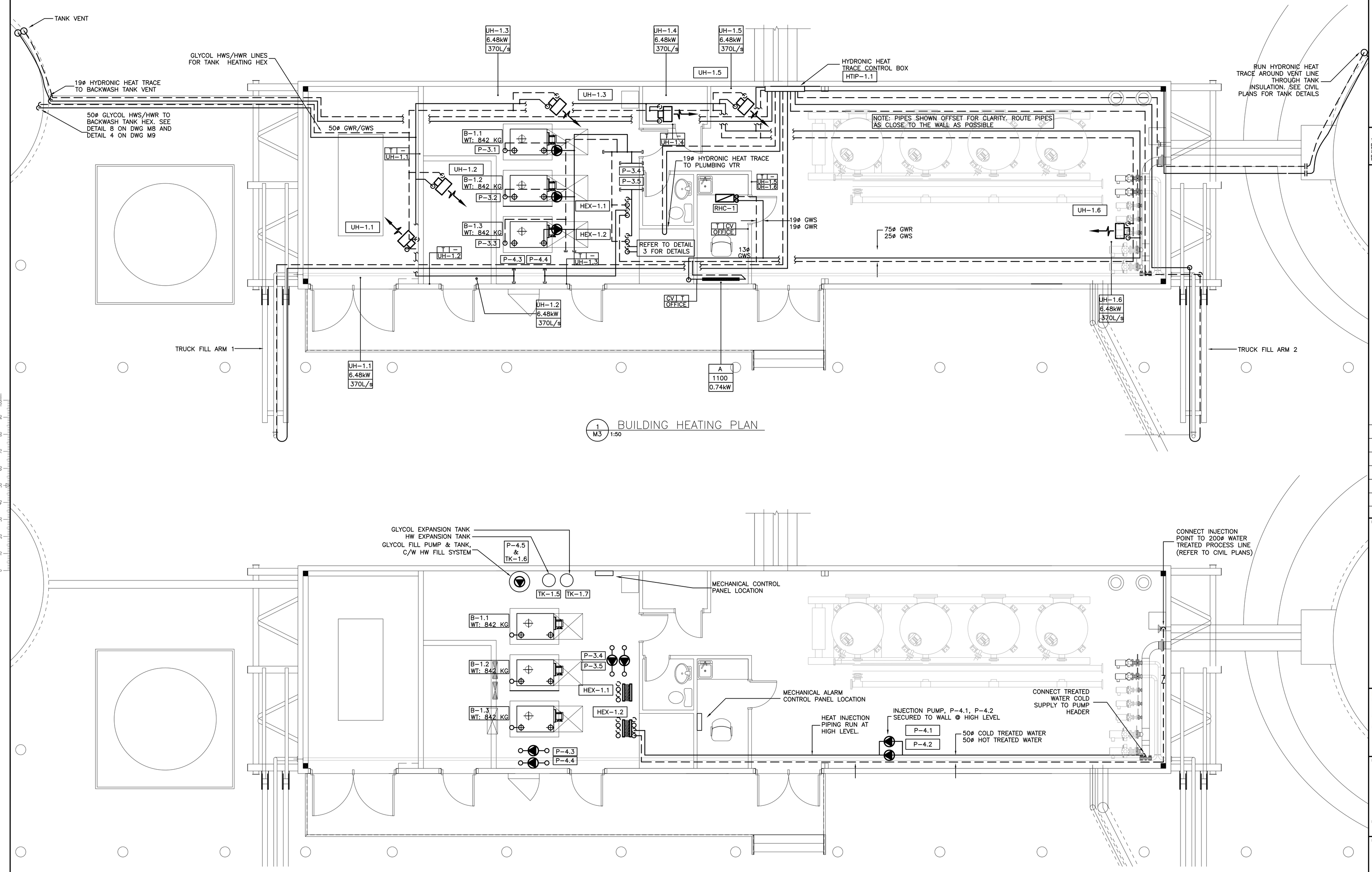
DRAWING TITLE

PLUMBING,
FIRE PROTECTION
& FUEL OIL PIPING PLANS

DRAWN BY	SCALE
RTA/DK	AS SHOWN
CHECKED BY	CLIENT PROJECT NO.
LF	07-3023

FSC PROJECT NO.
2007-0650

DRAWING NO.
M2



1 M3 1:50 BUILDING HEATING PLAN

2 M3 1:50 MECHANICAL ROOM LOWER LEVEL & PROCESS CONNECTION

CONSTRUCTION NORTH

TRUE NORTH

NOTE:

.1 SECURE HYDRONIC HEAT TRACE IN UTILIDOR AT 7 AND 5 O'CLOCK POSITIONS.

.2 REFER TO SCHEMATIC ON DWGS M5 AND M6 FOR LINE SIZES

NO.	REVISION DESCRIPTION	DATE ISSUED
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PROJECT TITLE

NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

LOCATION

BAKER LAKE, NU

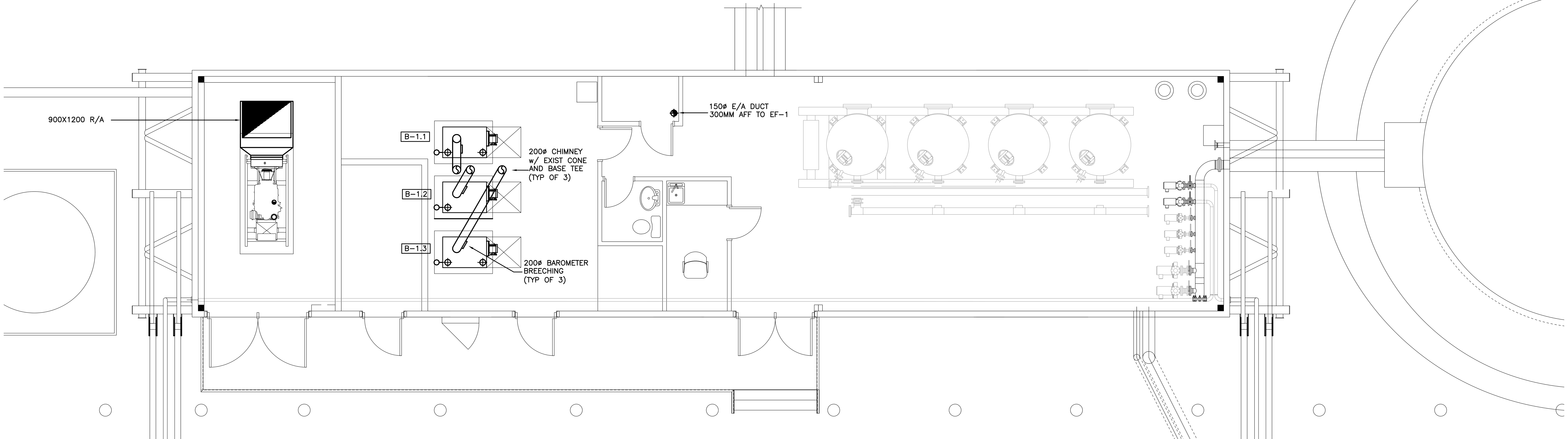
DRAWING TITLE

HEATING PLAN

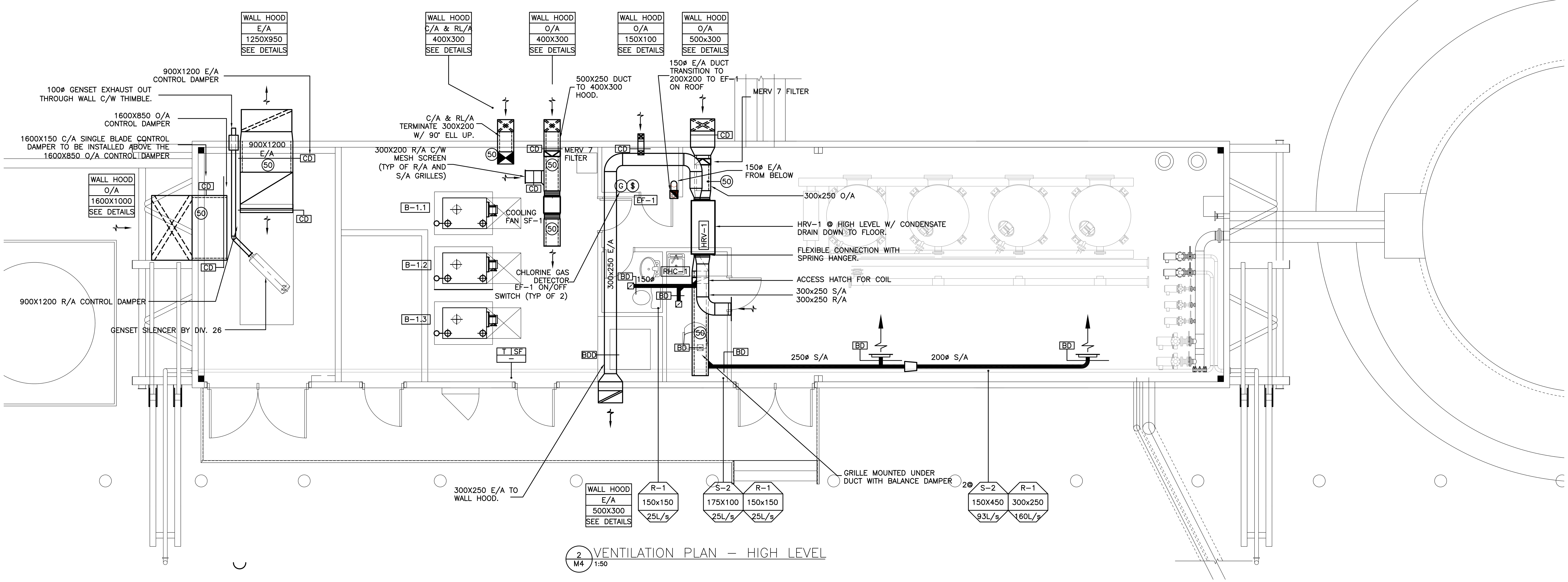
DRAWN BY	SCALE
RTA/DK	AS SHOWN
CHECKED BY	CLIENT PROJECT NO.
LF	07-3023

FSC PROJECT NO. 2007-0650

DRAWING NO. M3



1 M4 VENTILATION PLAN — LOW LEVEL 1:50



2 M4 VENTILATION PLAN — HIGH LEVEL 1:50

CONSTRUCTION NORTH
TRUE NORTH

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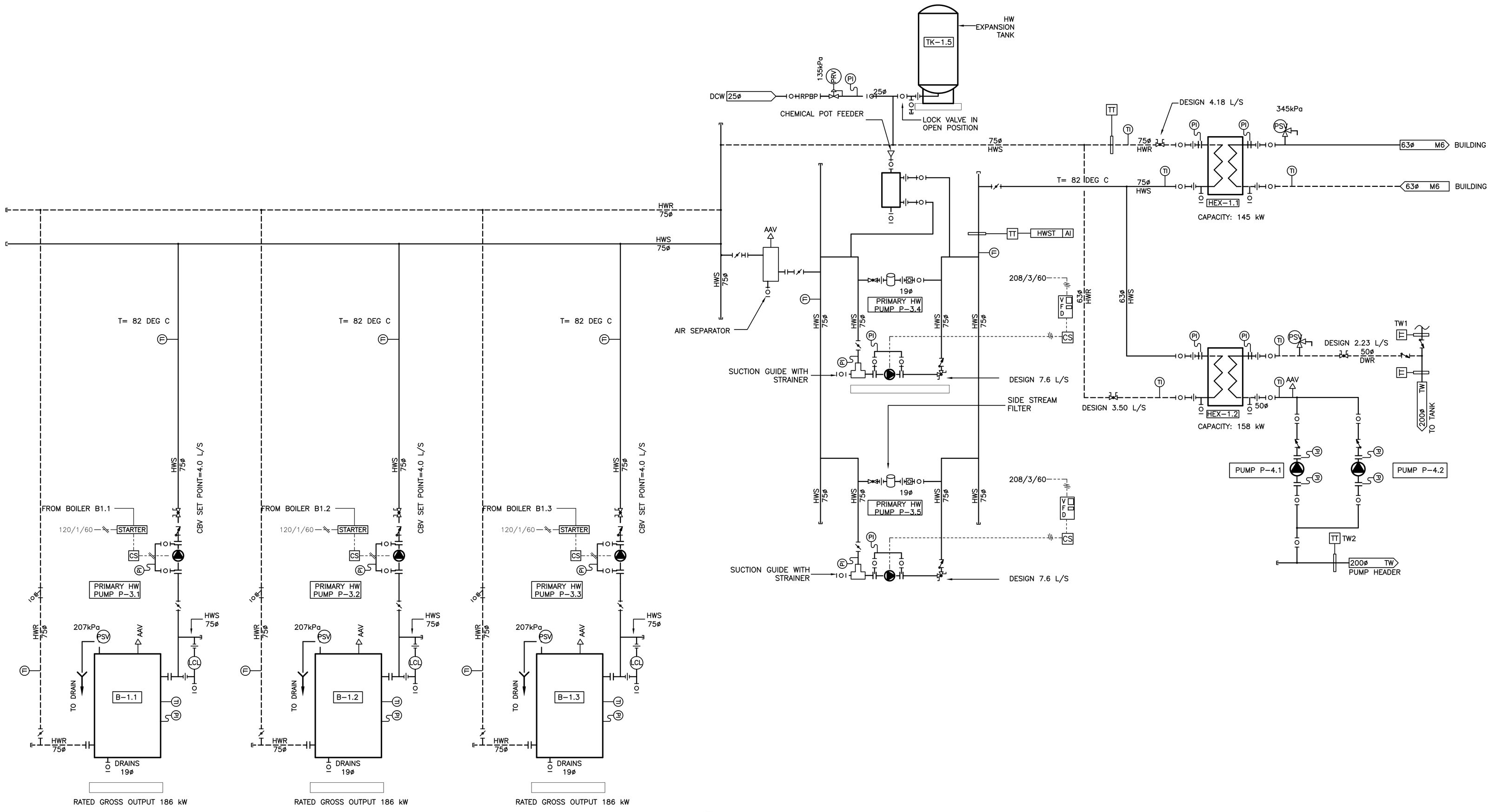
PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

LOCATION
BAKER LAKE, NU

DRAWING TITLE
VENTILATION PLANS

DRAWN BY: RTA	SCALE: AS SHOWN
CHECKED BY: LF	CLIENT PROJECT NO.: 07-3023
FSC PROJECT NO.: 2007-0650	
DRAWING NO.: M4	4 OF 9



1 / M5 PRIMARY HEATING SCHEMATIC
N.T.S.

NO.	REVISION DESCRIPTION	DATE ISSUED
0	ISSUED FOR TENDER	2011/03/28

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PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

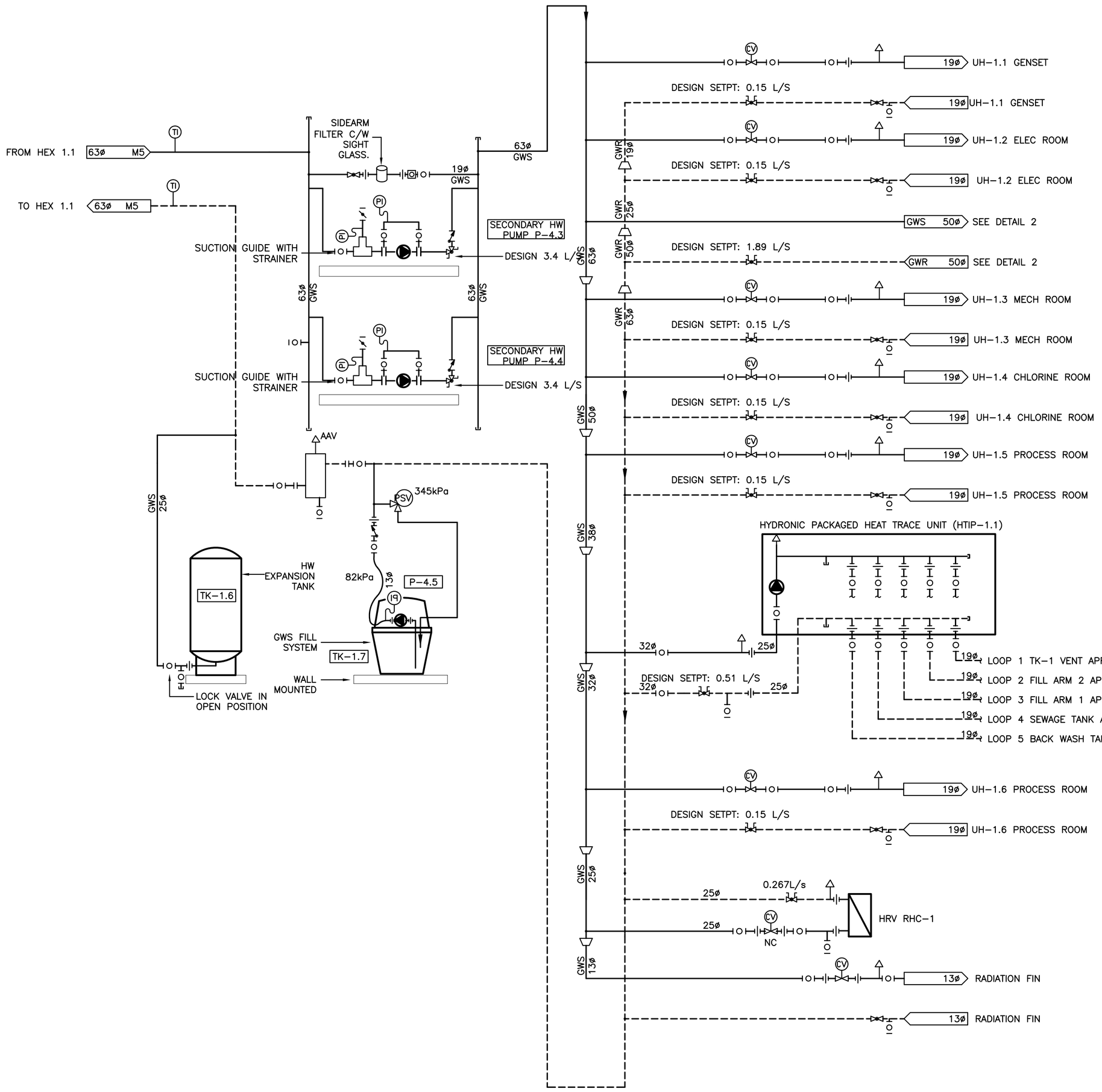
LOCATION
BAKER LAKE, NU

DRAWING TITLE
BUILDING HEAT SCHEMATIC

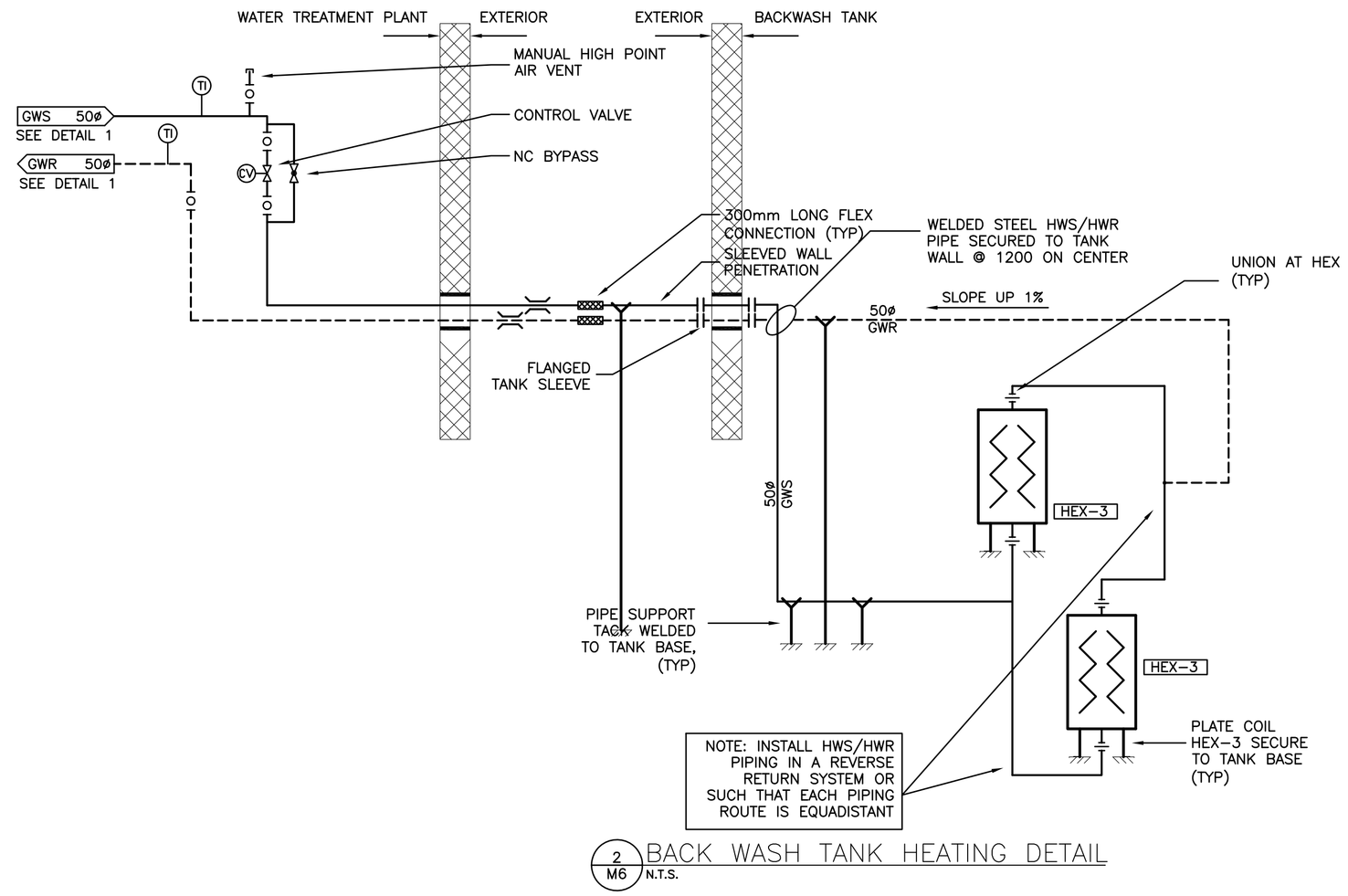
DRAWN BY	SCALE
RTA/DK	AS SHOWN
CHECKED BY	CLIENT PROJECT NO.
LF	07-3023

FSC PROJECT NO.
2007-0650

DRAWING NO.
M5



1 M6 SECONDARY HEATING SCHEMATIC (BLDG)
N.T.S.



2 M6 BACK WASH TANK HEATING DETAIL
N.T.S.

NO.	REVISION DESCRIPTION	DATE ISSUED
O	ISSUED FOR TENDER	2011/03/28

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(5107 NWT LTD.)
Signature
Date Mar. 25/11
PERMIT NUMBER: P0457
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REGISTERED PROFESSIONAL ENGINEER
L.S. FLEMING
Mon Dec 28 2009
N.W.T.
2007-0650

FSC ARCHITECTS & ENGINEERS
4910 - 53RD STREET, P.O. BOX 1777, YELLOWKNIFE, NT, X1A 2P4, CANADA
TEL: (867) 920-2882 FAX: 920-4319

PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

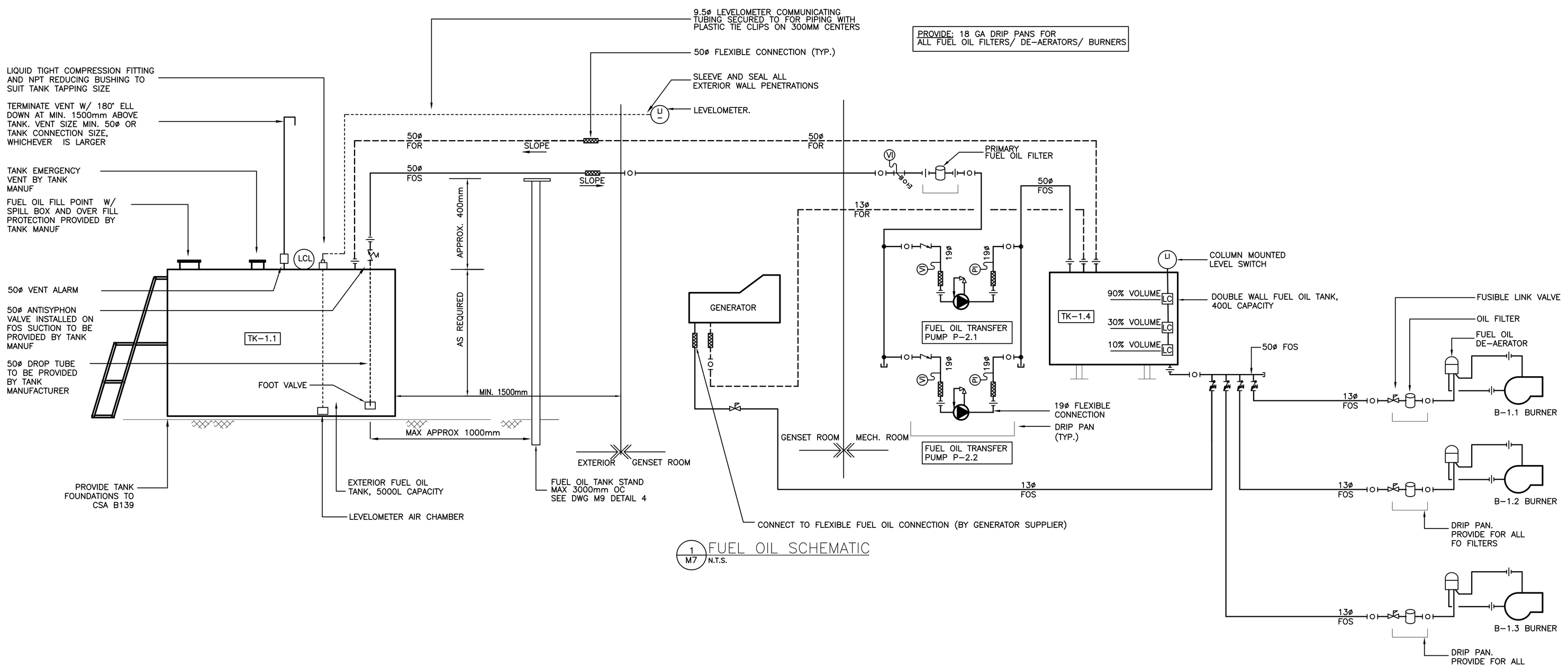
LOCATION
BAKER LAKE, NU

DRAWING TITLE
BUILDING HEAT SCHEMATIC

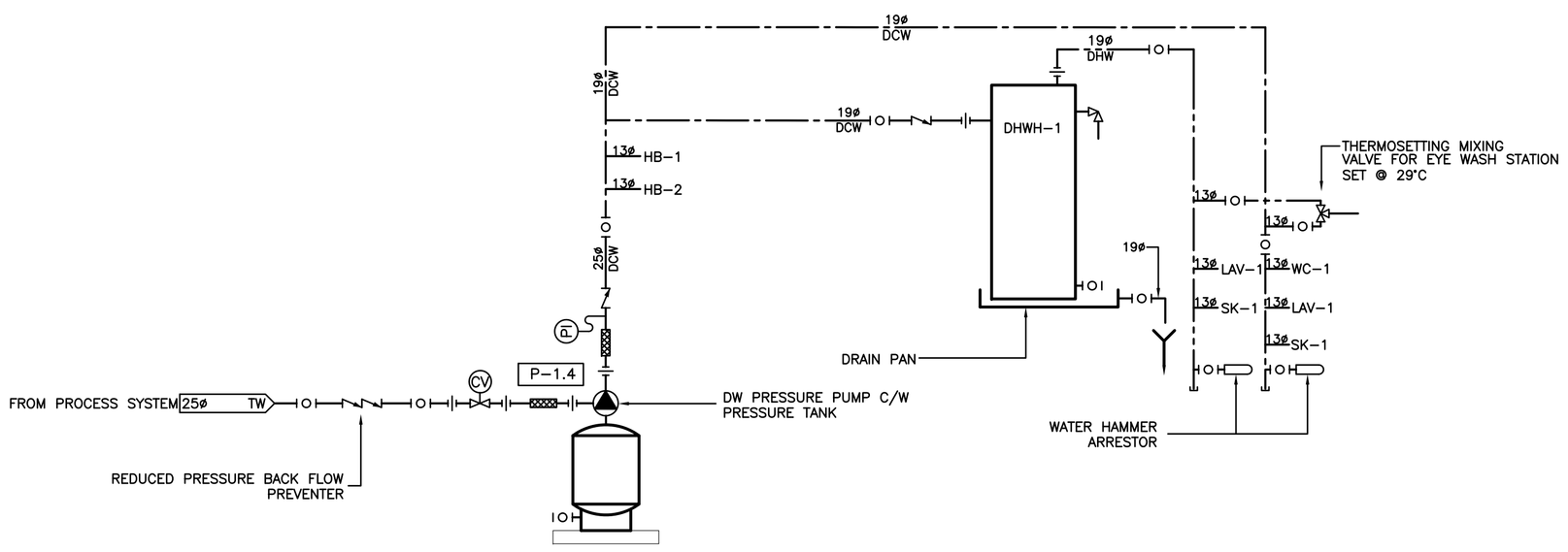
DRAWN BY	SCALE
RTA/DK	AS SHOWN
CHECKED BY	CLIENT PROJECT NO.
LF	07-3023

FSC PROJECT NO.
2007-0650

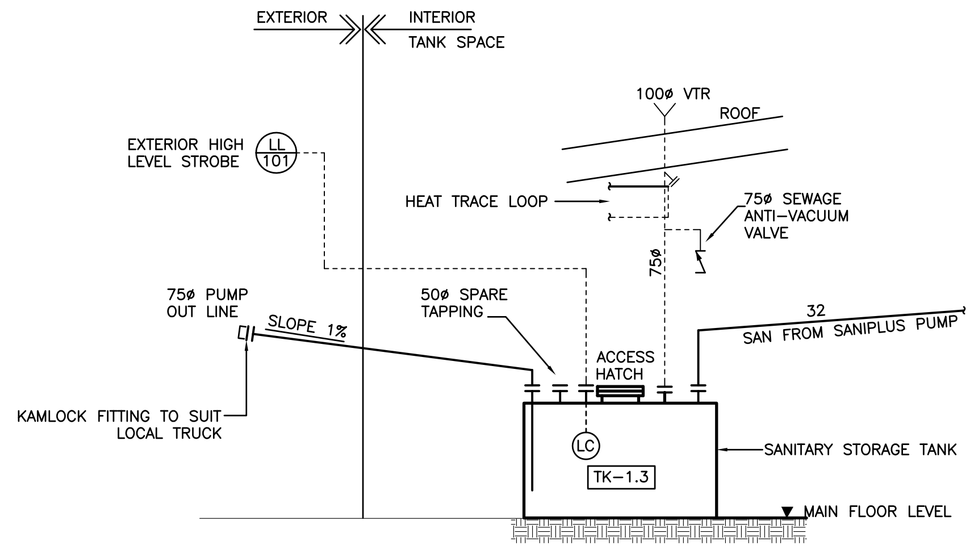
DRAWING NO.
M6



1 M7 FUEL OIL SCHEMATIC
N.T.S.



2 M7 DW SYSTEM SCHEMATIC
N.T.S.



3 M7 SANITARY SCHEMATIC
N.T.S.

NO.	REVISION DESCRIPTION	DATE ISSUED
O	ISSUED FOR TENDER	2011/03/28

PROFESSIONAL SEAL / PERMIT TO PRACTICE

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(5927 NWT LTD.)
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REGISTERED PROFESSIONAL ENGINEER
L.S. FLEWING
NWT
2007-0650

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YELLOWKNIFE, NT, X1A 2P4, CANADA
TEL: (867) 920-2882 FAX: 920-4319

PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

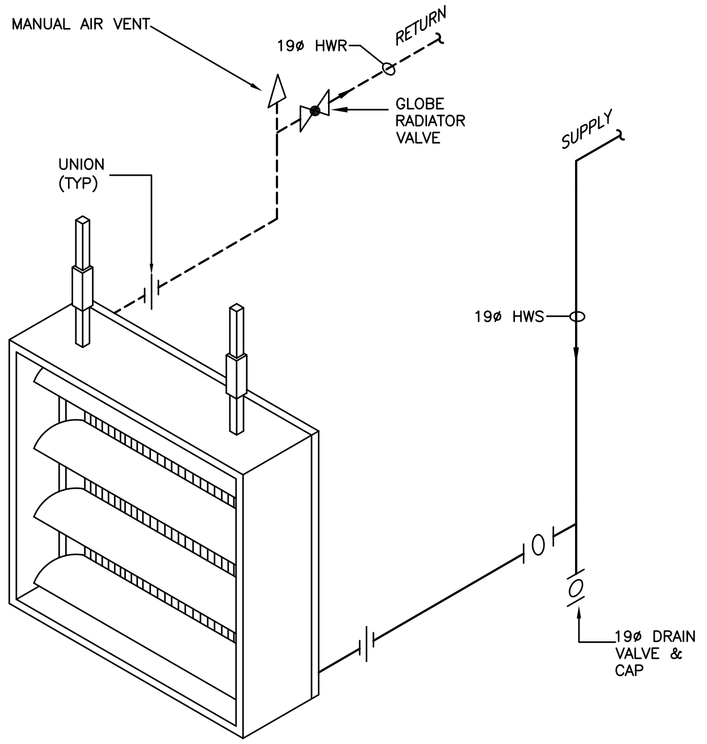
LOCATION
BAKER LAKE, NU

DRAWING TITLE
SCHEMATIC

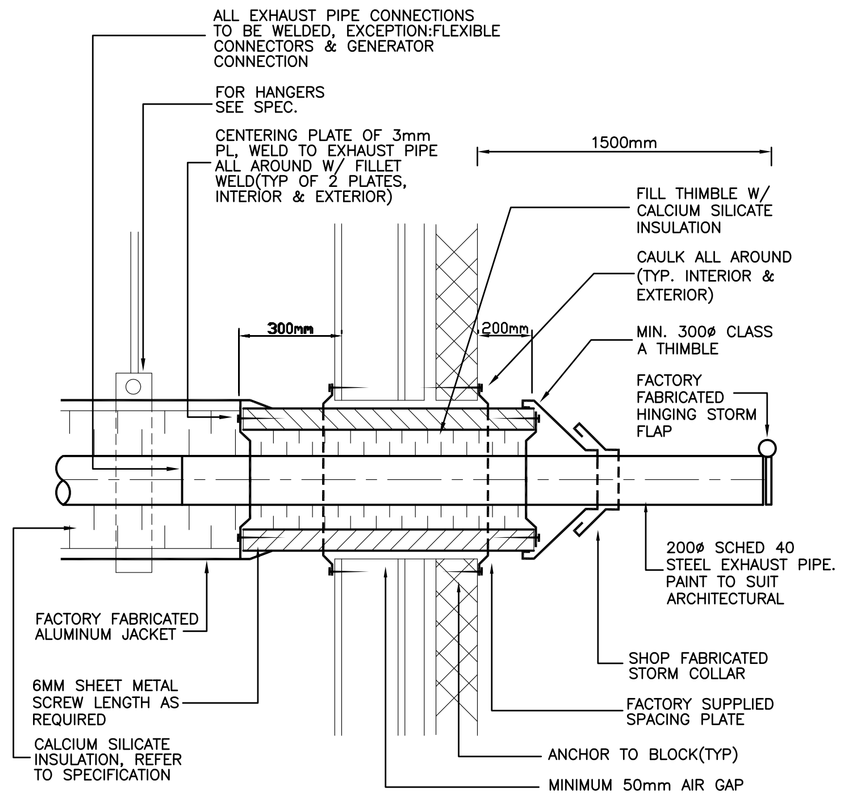
DRAWN BY	SCALE
RTA/DK	AS SHOWN
CHECKED BY	CLIENT PROJECT NO.
LF	07-3023

FSC PROJECT NO.
2007-0650

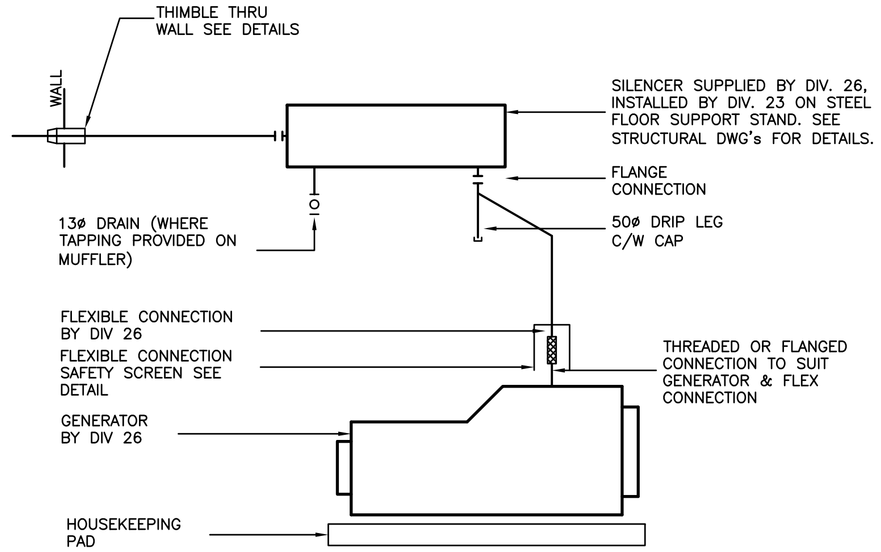
DRAWING NO.
M7



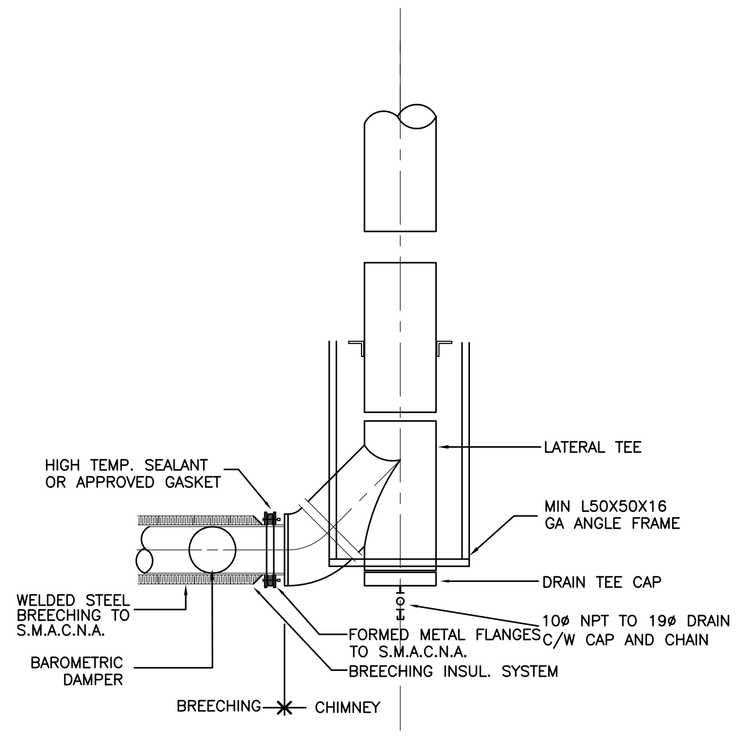
1 M8 UNIT HEATER DETAIL
N.T.S.



2 M8 GENERATOR EXHAUST THIMBLE THRU WALL
N.T.S.



3 M8 GENERATOR EXHAUST THRU WALL SCHEMATIC
N.T.S.



4 M8 BOILER CHIMNEY DETAIL (BOTTOM)
N.T.S.

5 M8 GENERATOR FLEXIBLE CONNECTION SAFETY SCREEN
N.T.S.

6 M8 REHEAT COIL DETAIL
N.T.S.

7 M8 WALL HOOD DETAIL
N.T.S.

8 M8 PIPE THRU STEEL TANK DETAIL
N.T.S.

9 M8 PIPE HEAT TRACE DETAIL
N.T.S.

10 M8 FLOOR MOUNTED PIPE COVER DETAIL
N.T.S.

11 M8 HW BRANCH CONNECTION DETAIL
N.T.S.

12 M8 SUMP PUMP DETAIL
N.T.S.

NO.	REVISION DESCRIPTION	DATE ISSUED
0	ISSUED FOR TENDER	2011/03/28

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FSC ARCHITECTS AND ENGINEERS (2007 NWT LTD.)
Signature
Date Mar 25/11
PERMIT NUMBER: P0457
The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

REGISTERED PROFESSIONAL ENGINEER
L.S. FLEWING
Monday, March 28, 2011
NWT
2007-0650

FSC ARCHITECTS & ENGINEERS
4910 - 53RD STREET, P.O. BOX 1777,
YELLOWKNIFE, NT, X1A 2P4, CANADA
TEL: (867) 920-2882 FAX: 920-4319

PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

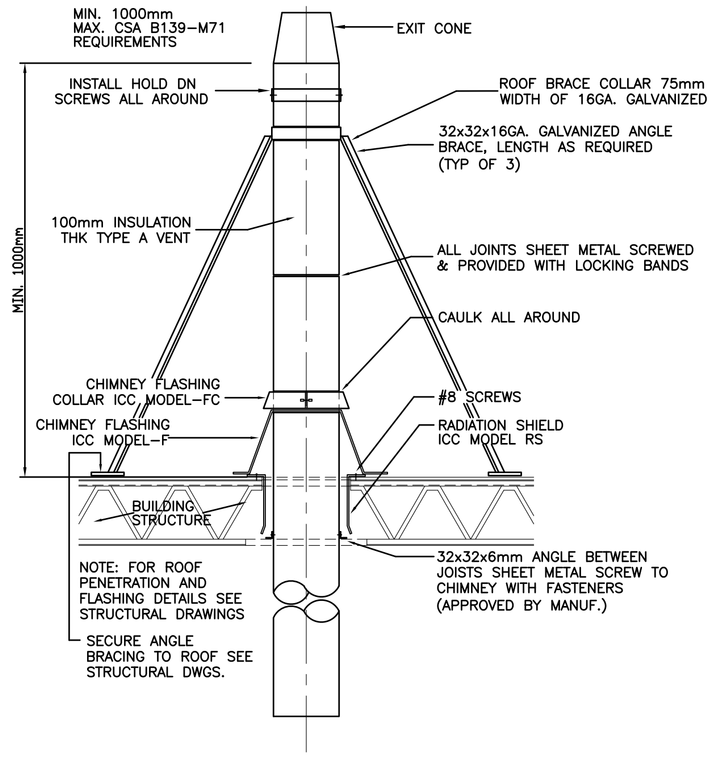
LOCATION
BAKER LAKE, NU

DRAWING TITLE
DETAILS

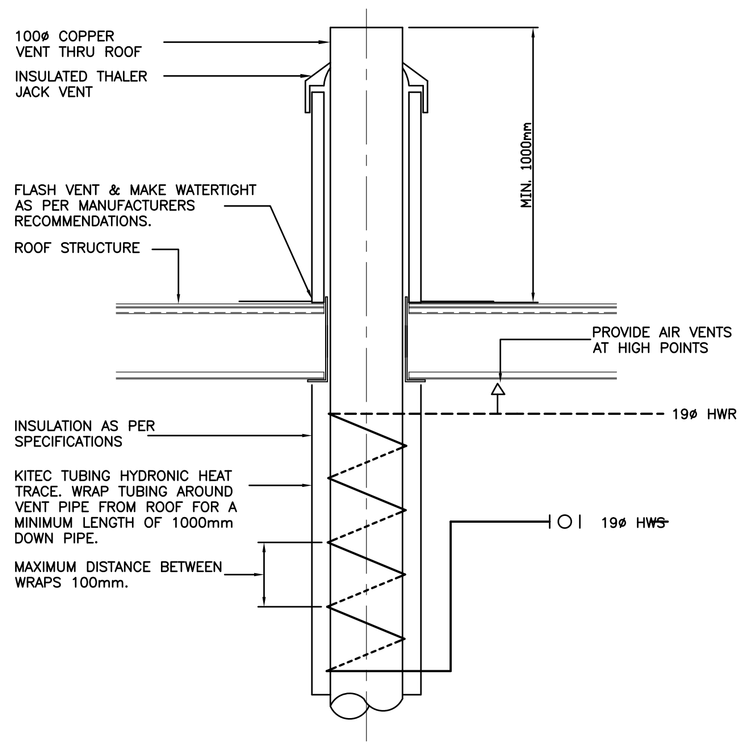
DRAWN BY	SCALE
RTA	AS SHOWN
CHECKED BY	CLIENT PROJECT NO.
LF	07-3023

FSC PROJECT NO.
2007-0650

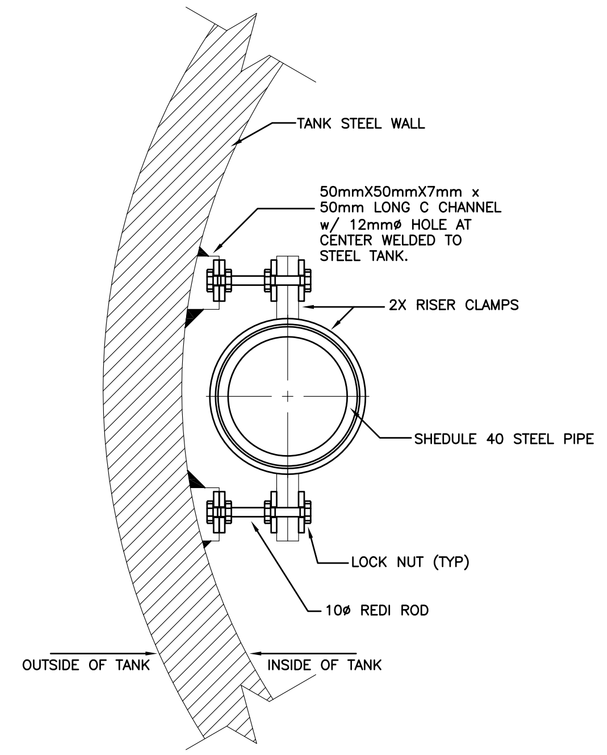
DRAWING NO.
M8



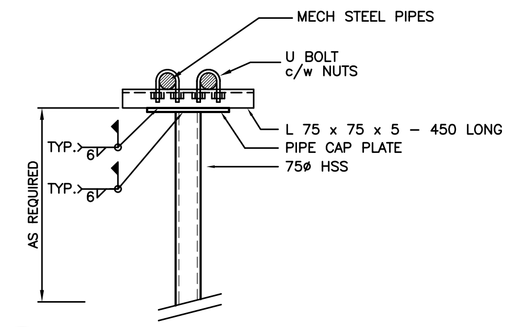
1 M9 BOILER CHIMNEY DETAIL (TOP)
N.T.S.



2 M9 VENT THRU ROOF W/ HYDRONIC HEAT TRACE
N.T.S.



3 M9 PIPE SUPPORT AT STEEL TANK WALL
N.T.S.



4 M9 FUEL OIL PIPE SUPPORT DETAIL
N.T.S.

NO.	REVISION DESCRIPTION	DATE ISSUED
O	ISSUED FOR TENDER	2011/03/28

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L.S.FLEMING
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M9

ELECTRICAL LEGEND

Symbol	Description	Note
LIGHTING		
	CEILING MOUNT H.I.D.	
	EMERGENCY LIGHTING BATTERY PACK C/W HEADS	
	PHOTO-ELECTRIC CELL	
	DOUBLE REMOTE HEAD	
	SURFACE FLUORESCENT	
	WALL MOUNT EXIT	
	WALL MOUNT H.I.D.	
SWITCHES		
	MAGNETIC STARTER	'3' INDICATES 3-WAY
	COMBINATION MAGNETIC STARTER	'4' INDICATES 4-WAY
$	SINGLE POLE SWITCH	'mp' MOTOR PROTECTION SWITCH
$	DOUBLE GANG SWITCH	'p' INDICATES PILOT LIGHT
	DISCONNECT SWITCH	'k' INDICATES KEY OPERATED
		'2' INDICATES 2-POLE
RECEPTACLES		
	DUPLEX RECEPTACLE	WP – INDICATES WEATHERPROOF
		a – ABOVE COUNTER
		GFR – GROUND FAULT RECPET.
COMMUNICATIONS		
▼	CAT 6 STRUCTURED WIRING OUTLET WITH TWO RJ45 JACKS AND TWO CABLES IN 21 MM CONDUIT.	
MISCELLANEOUS		
	JUNCTION BOX	
	MOTOR	
	SURFACE MOUNT ELECTRICAL PANEL	
-----	UNDERGROUND CONDUCTOR OR CONDUIT	

ABBREVIATION

AFF	ABOVE FINISH FLOOR
CEC	CANADIAN ELECTRICAL CODE
QEC	QULLIQ ENERGY CORPORATION
AFG	ABOVE FINISH GRADE
CON	CONDUCTOR
CU	COPPER
GRS	GALVANIZED RIGID STEEL
C	CONDUIT
GND	GROUND
GBPG	GOOD BUILDING PRACTICE GUIDELINES (NUNAVUT)

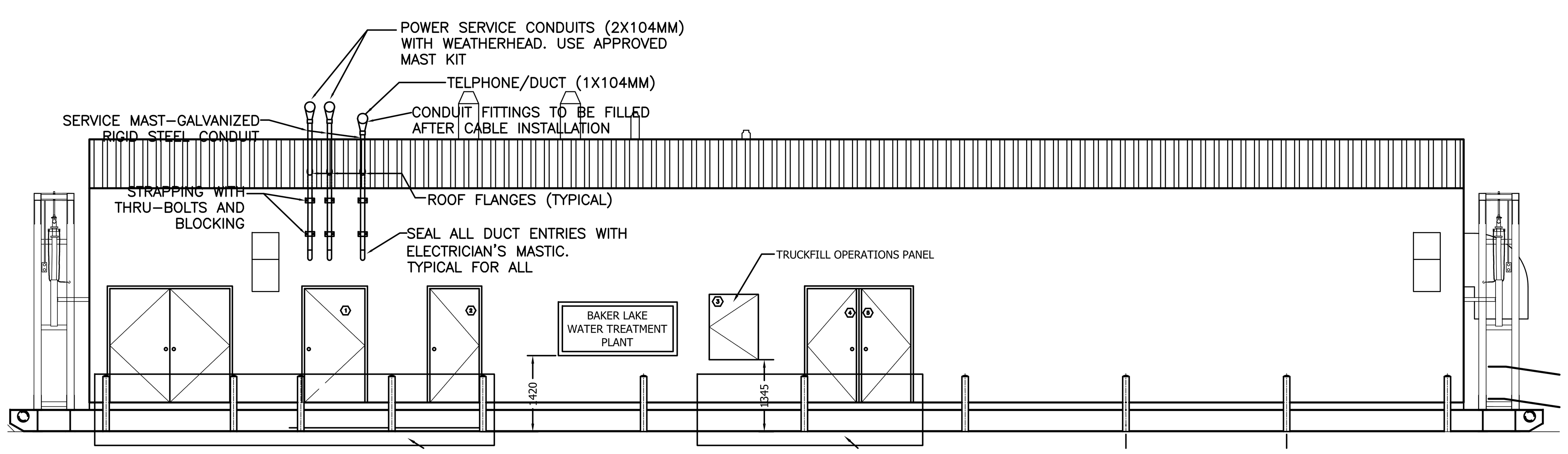
DRAWING LIST

E1	ELECTRICAL SITE PLAN AND DETAILS
E2	ELECTRICAL FLOOR PLANS
E3	SINGLE LINE DIAGRAM, MOTOR SCHEDULE AND DETAILS
E4	PANEL & LUMINAIRE SCHEDULES AND DETAILS
E5	HEAT TRACE DETAILS

DEMAND CALCULATIONS AS PER C22.1-09

SERVICE FEEDER CALCULATION

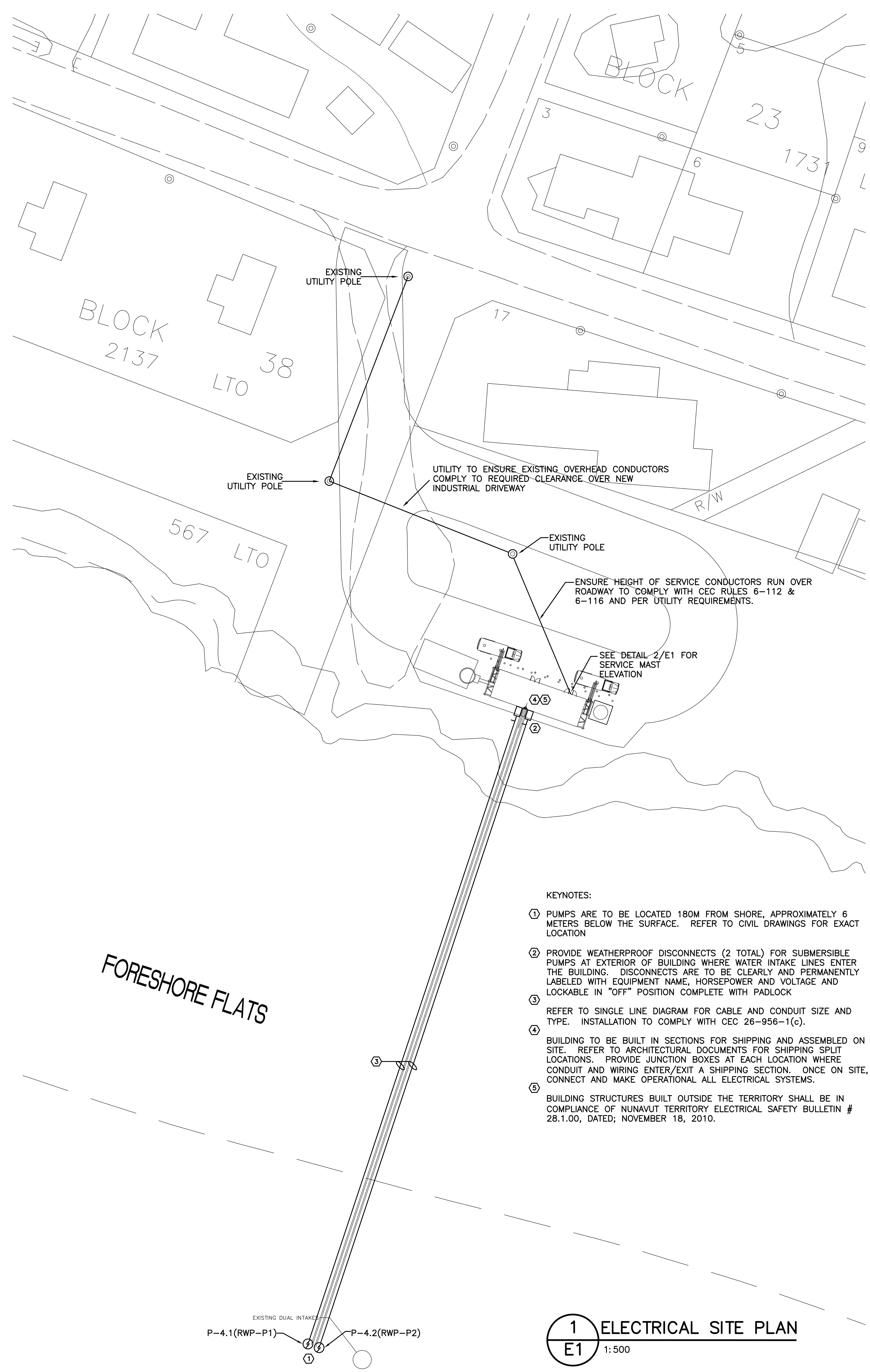
	AREA	W/sqM	PERCENT		LOAD (W)
INDUSTRIAL AREA	157 sqM				
BASIC AREA CALC	157	25	100	=	3925
SPECIAL LOADS					
RAW WATER PUMP (QTY 2)				=	30000
MISC PROCESS				=	20000
MISC MECH				=	12381
MISC PROCESS (FUTURE)					17085
BOOSTER PUMP (30 HP -FUTURE)				=	22371
SUB TOTAL				=	106639
15% SPARE PER GBPG-4.4.3					15996
TOTAL					122635
AT 208V, 3 PHASE					I = 340 A
USE 80% MAIN BREAKER					I = 426 A
MAIN DISCONNECT SIZE					600 A
EXPECTED DEMAND					115 kVA



GENERAL NOTES DETAIL 2/E1:

1. LOCATE AND SUPPORT MASTS PER CEC & QEC REQUIREMENTS.
2. ADJUST FINAL MOUNTING HEIGHT OF MASTS TO ENSURE COMPLIANCE WITH CEC RULES 6-112 & 6-116.

2/E1 SERVICE MAST ELEVATION 1:75



KEYNOTES:

1. PUMPS ARE TO BE LOCATED 180M FROM SHORE, APPROXIMATELY 6 METERS BELOW THE SURFACE. REFER TO CIVIL DRAWINGS FOR EXACT LOCATION
2. PROVIDE WEATHERPROOF DISCONNECTS (2 TOTAL) FOR SUBMERSIBLE PUMPS AT EXTERIOR OF BUILDING WHERE WATER INTAKE LINES ENTER THE BUILDING. DISCONNECTS ARE TO BE CLEARLY AND PERMANENTLY LABELED WITH EQUIPMENT NAME, HORSEPOWER AND VOLTAGE AND LOCKABLE IN "OFF" POSITION COMPLETE WITH PADLOCK
3. REFER TO SINGLE LINE DIAGRAM FOR CABLE AND CONDUIT SIZE AND TYPE. INSTALLATION TO COMPLY WITH CEC 26-956-1(c).
4. BUILDING TO BE BUILT IN SECTIONS FOR SHIPPING AND ASSEMBLED ON SITE. REFER TO ARCHITECTURAL DOCUMENTS FOR SHIPPING SPLIT LOCATIONS. PROVIDE JUNCTION BOXES AT EACH LOCATION WHERE CONDUIT AND WIRING ENTER/EXIT A SHIPPING SECTION. ONCE ON SITE, CONNECT AND MAKE OPERATIONAL ALL ELECTRICAL SYSTEMS.
5. BUILDING STRUCTURES BUILT OUTSIDE THE TERRITORY SHALL BE IN COMPLIANCE OF NUNAVUT TERRITORY ELECTRICAL SAFETY BULLETIN # 28.1.00, DATED; NOVEMBER 18, 2010.

1/E1 ELECTRICAL SITE PLAN 1:500

Nunavut

NO.	REVISION DESCRIPTION	DATE ISSUED
04	ISSUED FOR TENDER	2011/03/25
03	100% SUBMISSION	2008/05/07
02	75% SUBMISSION	2008/03/28
01	50% SUBMISSION	2008/02/26
00	ISSUED FOR REVIEW	2007/12

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The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

REGISTERED PROFESSIONAL ENGINEER N. J. BOURASSA N.W.T.

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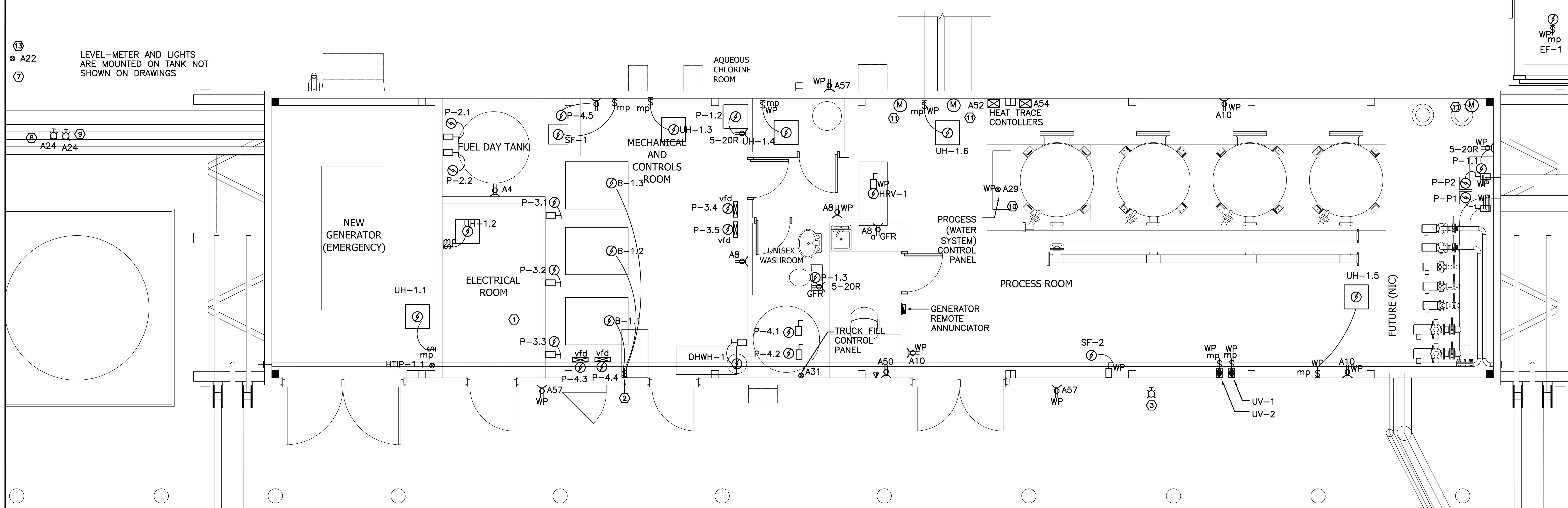
Tel: (867) 920-2882 Fax: 920-4319

PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

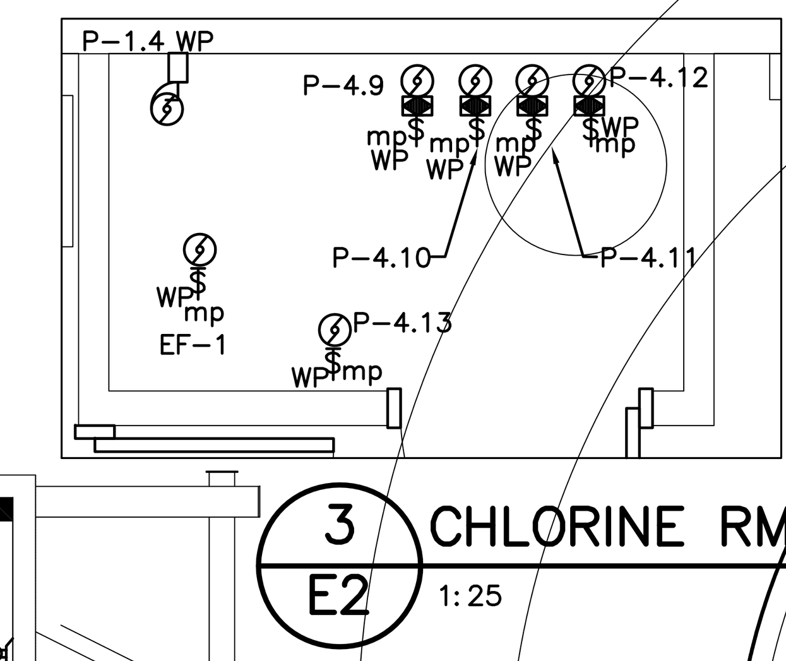
LOCATION
BAKER LAKE, NU

DRAWING TITLE
ELECTRICAL SITE PLAN AND DETAILS

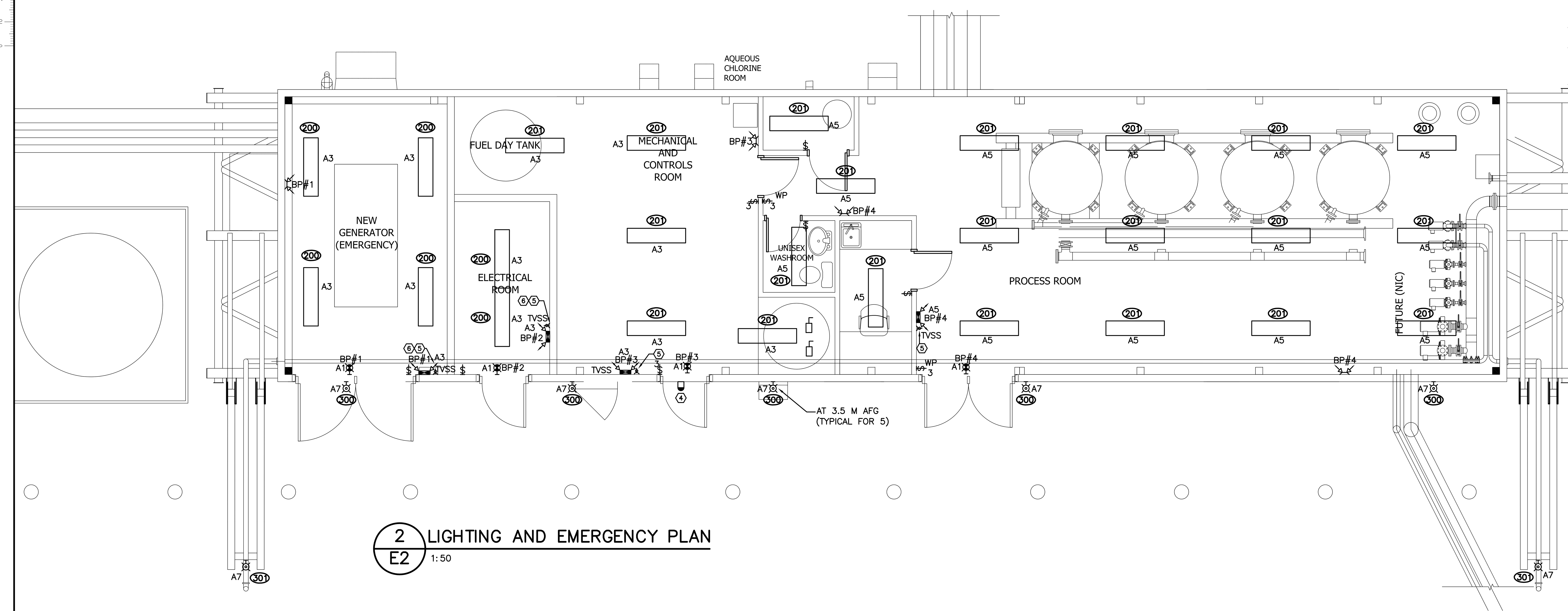
DRAWN BY: NR	SCALE: AS SHOWN
CHECKED BY: NB	CLIENT PROJECT NO.: 07-3023
FSC PROJECT NO.: 2007-0650	
DRAWING NO.: E1	



1 ELECTRICAL PLAN
E2 1:50



3 CHLORINE RM
E2 1:25



2 LIGHTING AND EMERGENCY PLAN
E2 1:50

KEYNOTES:

1. MCC SHOWN ON 1-E4
2. EMERGENCY BOILER DISCONNECT SWITCHES AT 1600MM A.F.F. PROVIDE SIZE 2 NAME PLATES, RED BACKGROUND WITH WHITE LETTERS READING "BOILER 1 EMERGENCY DISCONNECT", "BOILER 2 EMERGENCY DISCONNECT" AND "BOILER 3 EMERGENCY DISCONNECT".
3. AMBER STROBE FOR MECHANICAL ALARM TO BE RIGIDLY MOUNTED TO RIGID CONDUIT AND INSTALL ABOVE BUILDING AND TO BE VISIBLE FROM MAIN ROAD. SEE SECTION 283200
4. EXTERIOR LIGHTING PHOTOCELL INSTALL HIGHER ABOVE BUILDING, AWAY FROM OBSTRUCTION AND ARTIFICIAL LIGHT SOURCES, LOOKING NORTH.
5. EMERGENCY BATTERY PACK ON TVSS RECEPTACLE.
6. EMERGENCY BATTERY OPERATING TIME 120MIN (2HOURS).
7. JUNCTION BOX FOR LEVEL-METER. COORDINATE WITH CIVIL DRAWINGS FOR EXACT LOCATION. PROVIDE 53MM CONDUIT FROM LEVEL-METER TO PROCESS CONTROL FOR CONTROLS WIRING.
8. HIGH LEVEL LIGHT (AMBER) PER SECTION 283200
9. LOW LEVEL LIGHT (RED) PER SECTION 283200
10. MOTORIZED VALVES ARE ALL FED FROM PROCESS CONTROL PANEL REFER TO PROCESS DRAWINGS (P1 TO P4 FOR EXACT LOCATION OF THESE VALVES. MOTORIZED VALVES COME PRE-WIRED WITH PROCESS CONTROL PANEL, EXCEPT FOR THE THREE SHOWN ON THIS DRAWING WHICH ARE TO BE WIRED BY CONTRACTOR.
11. MOTORIZED VALVE
12. REFER TO PROCESS DRAWINGS (P1 TO P4 FOR EXACT LOCATION OF FLOW METERS. ALL FLOW METERS ARE TO BE WIRED BY THE CONTRACTOR.
13. LEVEL METERS ON TANKS TO BE MOUNTED ON TOP FLANGED FITTING PROVIDE RIGID STEEL CONDUIT RUN FROM BUILDING TO TANK ON PIPE STAND AND UP SIDE OF TANK. PROVIDE TWO CONDUITS FOR EACH FLOW METER ONE FOR POWER AND ON 25MM FOR CONTROL WIRING.

Nunavut

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LOCATION
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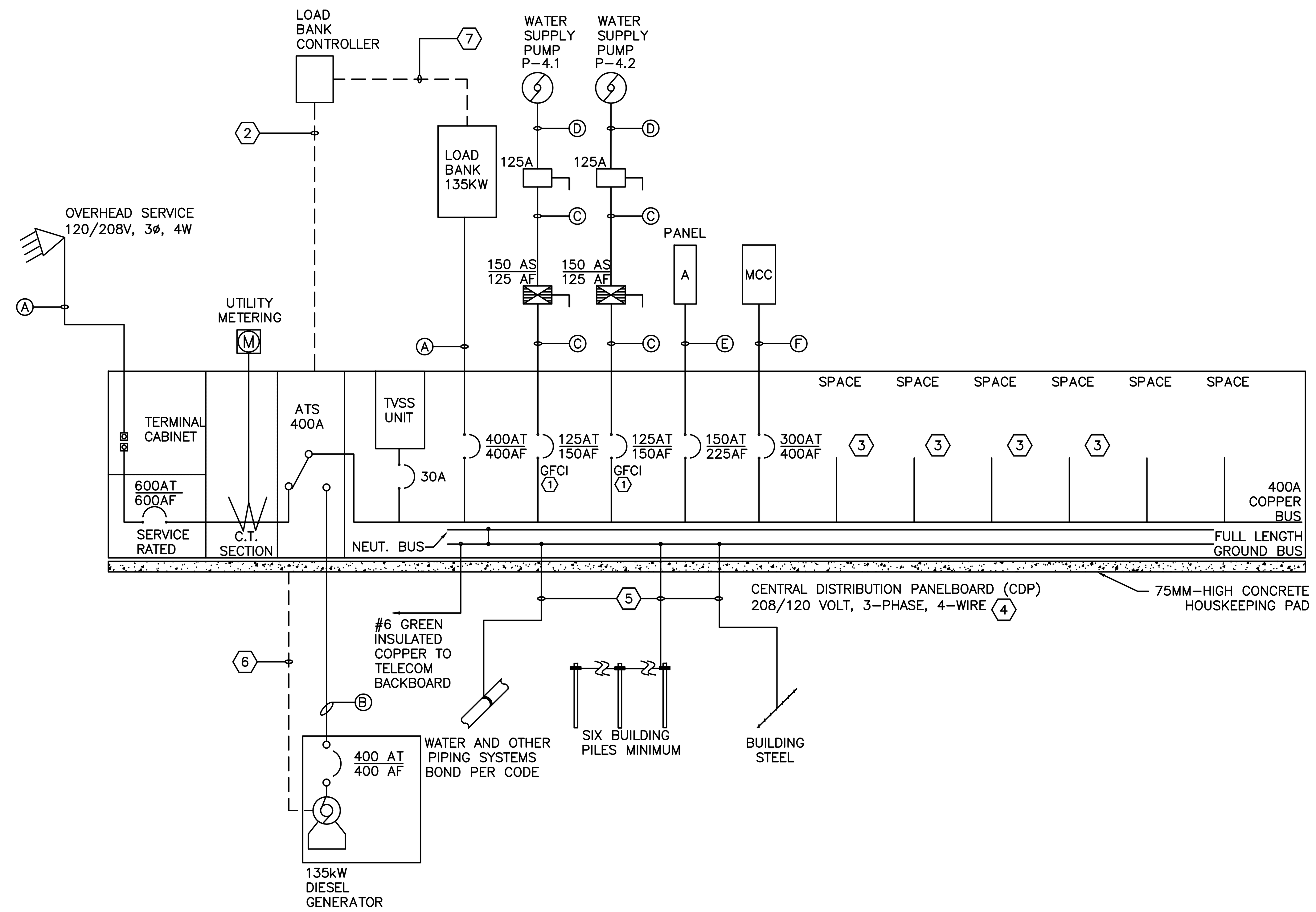
DRAWING TITLE
ELECTRICAL PLANS

DRAWN BY	NR	SCALE	AS SHOWN
CHECKED BY	NB	CLIENT PROJECT NO.	07-3023
FSC PROJECT NO.	2007-0650		
DRAWING NO.	E2		



1 E3 SINGLE LINE DIAGRAM

CABLE SCHEDULE

A	3 RUNS OF 4 CON 3/0 AWG CU RW90-XLPE PLUS 1 #3 AWG CU GND IN 63MM C
B	2 RUNS OF 4 CON 3/0 AWG CU RW90-XLPE FIRE RATED WIRE PLUS 1 #3 AWG CU GND IN 63MM GALVANIZED RIGID STEEL CONDUIT (8)
C	3 CON #1 AWG CU RW90-XLPE PLUS 1 #6 AWG CU GND IN 53MM C
D	3 CON #1 AWG CU RWU90-XLPE PLUS 1 #6 AWG CU RWU90-XLPE GND IN 53MM RIGID PVC CONDUIT OR PLASTIC WATER PIPE
E	4 CON 1/0 AWG CU RW90-XLPE PLUS 1 #6 AWG CU GND IN 53MM C
F	4 CON 350 AWG CU RW90-XLPE PLUS 1 #3 AWG CU GND IN 91MM C

KEYNOTES FOR DETAIL 1/E3:

1. GROUND FAULT CURRENT SETTING SHALL NOT BE GREATER THAN 10mA FOR AN OPERATING PERIOD NOT EXCEEDING 2.7 S
2. LOAD BANK LOADS TO DROP OFF PRIOR TO ATS INITIAL SWITCHING TO EMERGENCY, WHILE ALLOWING LOAD BANKS LOADS TO MANUALLY RESTORED TO GENSET.
3. SPACES ARE FOR FUTURE CORE SERVICING PUMPS. SPACES TO BE COMPLETE WITH HARDWARE FOR FIELD INSTALLATION OF THREE 100A AND ONE 250A BREAKERS.
4. FAULT CURRENT RATINGS TO MEET OR EXCEED THE RESULTS OF THE STUDY SPECIFIED IN SECTION 26 05 73.
5. #1 AWG, GREEN INSULATED CU IN 21MM CONDUIT.
6. GENERATOR START/STOP CONTROL WIRING & RACEWAY.
7. LOAD BANK CONTROL WIRING & RACEWAY.
8. USE GALVANIZED RIGID STEEL THREADED COUPLINGS ONLY.

HVAC MOTOR LIST

MOTOR	DESCRIPTION	LOCATION	H.P.	VOLTS	PHASE	FLA	BRANCH CIRCUIT	BREAKER	SOURCE	CONTROL
HRV-1	HEAT RECOVERY VENT	PROCESS RM	0.50	208	3	2.2	3CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	MCC	CMS NOTE 6
SF-1	SUPPLY FAN	MECH RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A14	MMP/R/P
EF-1	EXHAUST FAN	CHLORINE RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A12	MMP/R/P
P-1.1	SUMP PUMP	PROCESS RM	0.33	120	1	7.2	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	20	A16	RECEPT
P-1.2	SUMP PUMP	MECH RM	0.33	120	1	7.2	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	20	A18	RECEPT
P-1.3	SANIPLUS PUMP	WASHROOM	0.33	120	1	7.2	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	20	A20	RECEPT-GFR
P-1.4	DW PRESS PUMP	CHLORINE RM	0.31	208	3	1.52	3CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	MCC	CMS SEE NOTE E
P-2.1	FO TX PUMP	MECH RM	0.50	208	3	2.2	3CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	MCC	CMS SEE NOTE E
P-2.2	FO TX PUMP	MECH RM	0.50	208	3	2.2	3CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	MCC	CMS SEE NOTE E
P-3.1	BOILER HW CIRC PUMP	MECH RM	0.75	208	3	3.08	3CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	MCC	CMS SEE NOTE E
P-3.2	BOILER HW CIRC PUMP	MECH RM	0.75	208	3	3.08	3CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	MCC	CMS SEE NOTE E
P-3.3	BOILER HW CIRC PUMP	MECH RM	0.75	208	3	3.08	3CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	MCC	CMS SEE NOTE E
P-3.4	PRIMARY RECIRC PUMP	MECH RM	1.0	208	3	3.96	3CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	MCC	VFD
P-3.5	PRIMARY RECIRC PUMP	MECH RM	1.0	208	3	3.96	3CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	MCC	VFD
P-4.1	SECONDARY HEAT INJECTION PUMP	MECH RM	0.75	208	3	3.08	3CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	MCC	CMS SEE NOTE E
P-4.2	SECONDARY HEAT INJECTION PUMP	MECH RM	0.75	208	3	3.08	3CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	MCC	CMS SEE NOTE E
P-4.3	SECONDARY HEAT - DW INJECTION PUMP	MECH RM	1.0	208	3	3.96	3CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	MCC	VFD
P-4.4	SECONDARY HEAT - DW INJECTION PUMP	MECH RM	1.0	208	3	3.96	3CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	MCC	VFD
P-4.5	GLYCOL MAKE-UP PUMP	MECH RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A28	RECEPT
HTIP-1.1	HEAT TRACE INJECTION PANEL	GENERATOR RM	FRACT	120	1		2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A33	PACKAGED, NOTE D
UH-1.1	SPACE HEATING	GENERATOR RM	0.04KW	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A30	MMP/R/P, NOTE D
UH-1.2	SPACE HEATING	ELECT RM	0.04KW	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A30	MMP/R/P, NOTE D
UH-1.3	SPACE HEATING	MECH RM	0.04KW	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A48	MMP/R/P, NOTE D
UH-1.4	SPACE HEATING	CHLORINE RM	0.04KW	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A48	MMP/R/P, NOTE D
UH-1.5	SPACE HEATING	PROCESS RM	0.04KW	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A48	MMP/R/P, NOTE D
UH-1.6	SPACE HEATING	PROCESS RM	0.04KW	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A48	MMP/R/P, NOTE D
B-1.1	HW BOILER	PROCESS RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A9	LRD
B-1.2	HW BOILER	PROCESS RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A11	LRD
B-1.3	HW BOILER	PROCESS RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A59	LRD
DHWH-1	DOM HW HEATER	MECH RM	1.5KW	120	1	12.5	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	20	A13	LRD

PROCESS MOTOR LIST

MOTOR	DESCRIPTION	LOCATION	H.P.	VOLTS	PHASE	FLA	BRANCH CIRCUIT	BREAKER	SOURCE	CONTROL
P-4.1	RAW WATER PUMP	PROCESS RM	15.00	208	3	46.2	SEE SINGLE LINE	125	CDP	CMS/GF
P-4.2	RAW WATER PUMP	PROCESS RM	15.00	208	3	46.2	SEE SINGLE LINE	125	CDP	CMS/GF
P-4.3 (P-P1)	RECIRC PUMP IN PUMPHOUSE	PROCESS RM	5.00	208	3	16.72	3CON #8 CU RW90-XLPE, 1 #10 CU GND, IN 27 MM C	45	MCC	CMS
P-4.4 (P-P2)	RECIRC PUMP IN PUMPHOUSE	PROCESS RM	5.00	208	3	16.72	3CON #8 CU RW90-XLPE, 1 #10 CU GND, IN 27 MM C	45	MCC	CMS
P-4.5	FUTURE- CORE SERVICE PUMP 1	PROCESS RM	7.5	208	3		FUTURE LOAD			FUTURE LOAD
P-4.6	FUTURE- CORE SERVICE PUMP 2	PROCESS RM	7.5	208	3		FUTURE LOAD			FUTURE LOAD
P-4.7	FUTURE- CORE SERVICE PUMP 3	PROCESS RM	7.5	208	3		FUTURE LOAD			FUTURE LOAD
P-4.8	FUTURE- CORE SERVICE PUMP 4	PROCESS RM	20	208	3		FUTURE LOAD			FUTURE LOAD
P-4.9	CHLORINATION PUMP	PROCESS RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A19	MMP/HOA/R/P
P-4.10	CHLORINATION PUMP	PROCESS RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A21	MMP/HOA/R/P
P-4.11	CHLORINATION PUMP	PROCESS RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A23	MMP/HOA/R/P
P-4.12	CHLORINATION PUMP	PROCESS RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A25	MMP/HOA/R/P
P-4.13	CHLORINE MIXING MOTOR	PROCESS RM	0.05	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A27	MMP/P
P-4.14	FUTURE-RECIRC PUMP IN OUTSIDE BLDG	PROCESS RM	FRACT	120	1		FUTURE LOAD			FUTURE LOAD
P-4.15	FUTURE-RECIRC PUMP IN OUTSIDE BLDG	PROCESS RM	FRACT	120	1		FUTURE LOAD			FUTURE LOAD
FM-0	FLOW METER - RAW WATER	PROCESS RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A43	LRD NOTE F
FM-1	FLOW METER - FILTER 1	PROCESS RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A43	LRD NOTE F
FM-2	FLOW METER - FILTER 2	PROCESS RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A45	LRD NOTE F
FM-3	FLOW METER - FILTER 3	PROCESS RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A45	LRD NOTE F
FM-4	FLOW METER - FILTER 4	PROCESS RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A47	LRD NOTE F
FM-5	FLOW METER - UV INFLOW	PROCESS RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A47	LRD NOTE F
FM-6	FLOW METER - TREATED WATER TANK INFLOW	PROCESS RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A49	LRD NOTE F
FM-7	FLOW METER - TRUCKFILL 2	PROCESS RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A49	LRD NOTE F
FM-8	FLOW METER - TRUCKFILL 1	PROCESS RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A49	LRD NOTE F
SF-2	AIR BLOWER	PROCESS RM	7.50	208	3	24.2	3CON #6 CU RW90-XLPE, 1 #8 CU GND, IN 27 MM C	60	MCC	CMS
UV-1	UV DISINFECTION	PROCESS RM	1.81KW	208	1	8.7	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A34/36	MMP/HOA/R/P
UV-2	UV DISINFECTION	PROCESS RM	1.81KW	208	1	8.7	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A38/40	MMP/HOA/R/P
	MOTORISED CONTROL VALVES (28 UNITS)	PROCESS RM	FRACT	208	3	--	4CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 21 MM C	15	A42/44/46	LRD/R
	WATER SYSTEM CONTROL PANEL	PROCESS RM	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A29	PACKAGED
	TRUCK FILL CONTROL PANEL	EXTERIOR WALL	FRACT	120	1	--	2CON #12 CU RW90-XLPE, 1 #12 CU GND, IN 16 MM C	15	A31	PACKAGED

NOTES:

A. MOTOR SCHEDULE IS FOR ESTIMATING PURPOSES ONLY. CONFIRM ALL MOTOR FULL LOAD CURRENTS WITH NAMEPLATES AND SIZE MOTOR DISCONNECTS, BREAKERS, FEEDERS AND OVERLOADS ACCORDINGLY.

B. CONFIRM MECHANICAL EQUIPMENT LOCATIONS WITH DIVISION 23.

C. COORDINATE THE LOCATIONS OF ALL LINE VOLTAGE PILOT DEVICES WITH DIVISION 23 AND PROVIDE CONDUIT AND WIRING AS NECESSARY

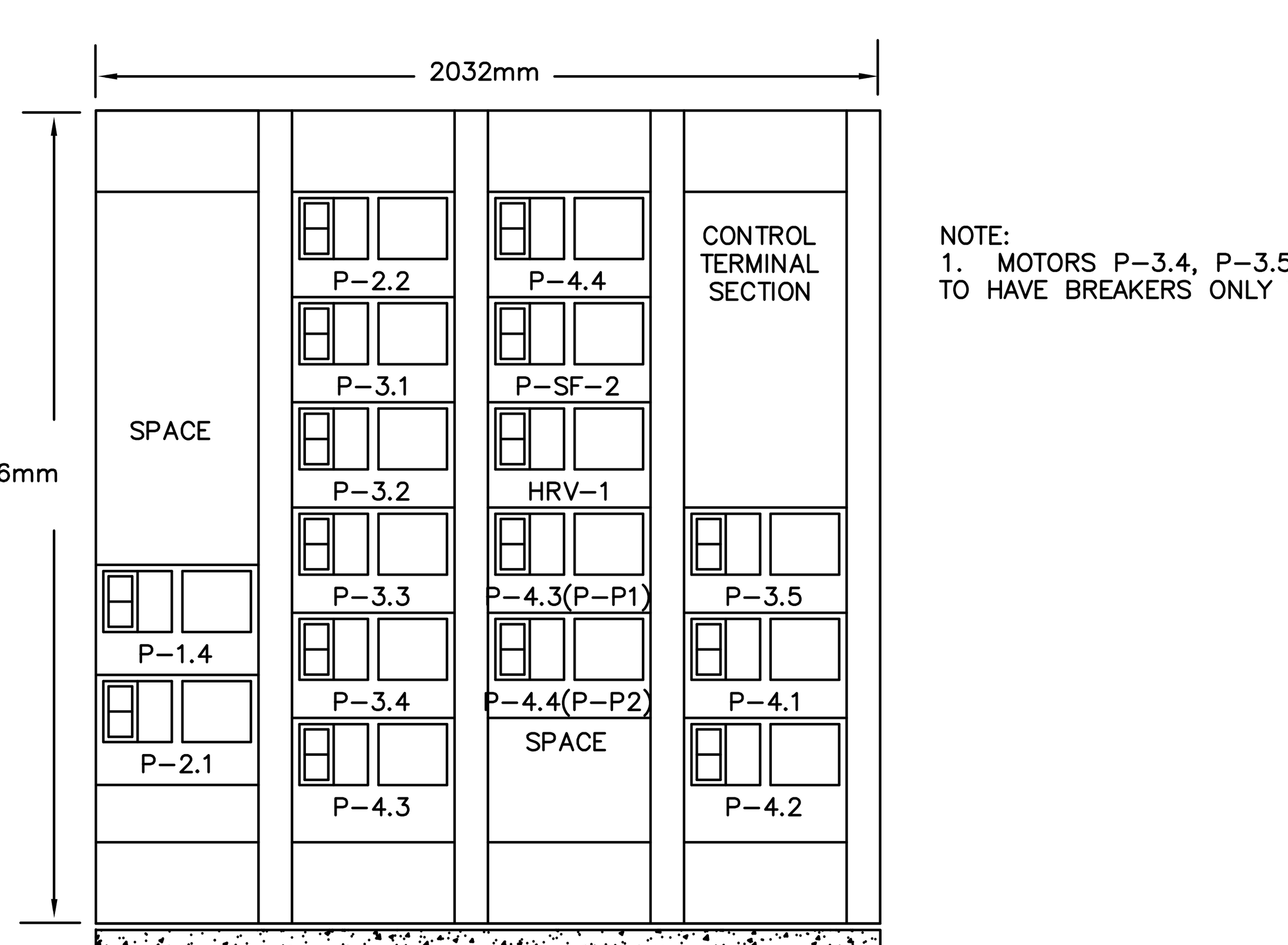
D. PROVIDE RACEWAY AND WIRING FROM LINE-VOLTAGE THERMOSTAT PROVIDED BY DIV-23 TO THE UNIT.

E. CMS TO HAVE LOCAL DISCONNECT AT UNIT.

F. FOR EXACT LOCATION OF FLOW METERS REFER TO PROCESS DRAWINGS P1 TO P4

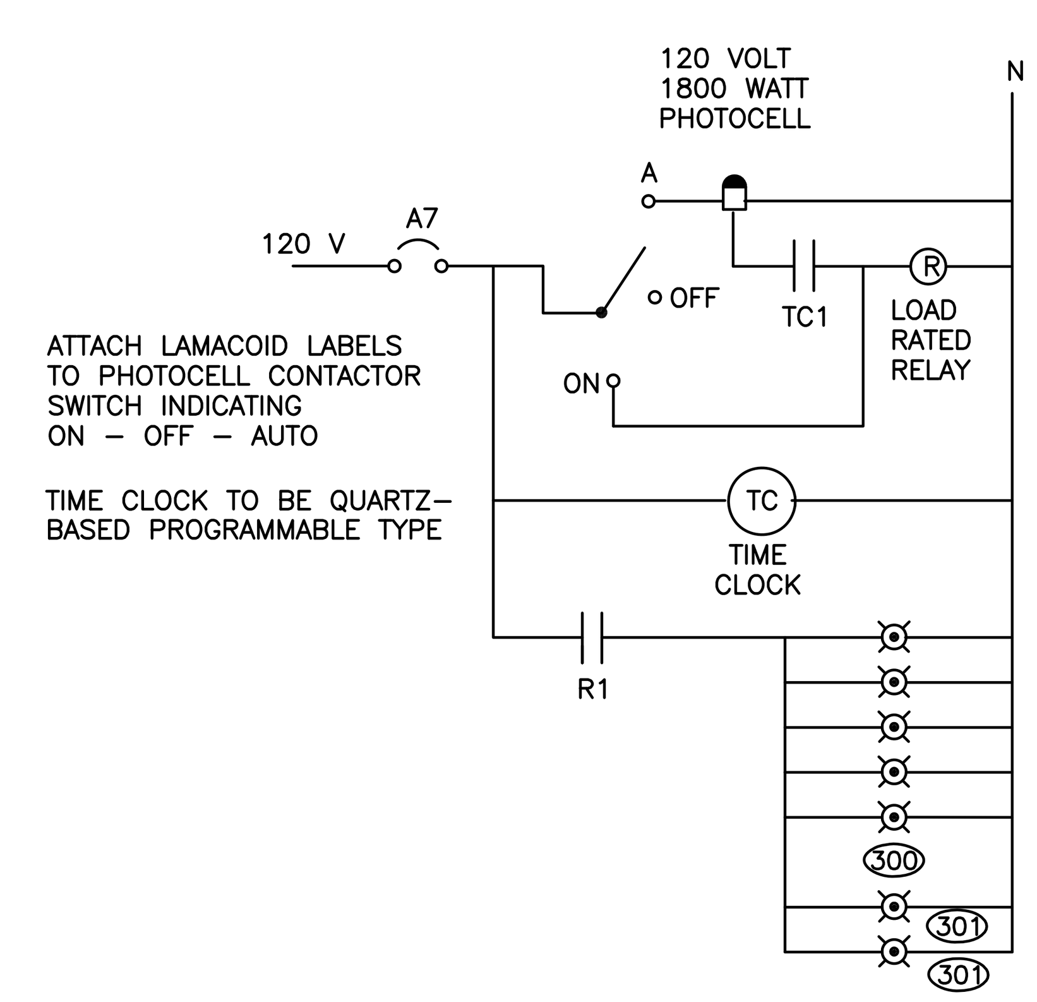
CONTROL DEVICE LEGEND

- LRD – LOAD RATED DISCONNECT
- MAG – MAGNETIC STARTER
- CMS – MAGNETIC STARTER WITH DISCONNECT
- MMP – MANUAL MOTOR PROTECTION
- /R – WITH LOAD RATED RELAY
- /HOA – WITH H-O-A SWITCH
- /K – KEYED
- /P – PILOT LIGHT
- /SS – SOFT START
- /GF – GROUND FAULT DETECTION



3 E3 MCC ELEVATION
N.T.S.

NOTE:
1. MOTORS P-3.4, P-3.5, P-4.3 AND P-4.4 ARE TO HAVE BREAKERS ONLY VFD'S ARE TO BE MOUNTED BY UNIT.



ATTACH LAMACOID LABELS TO PHOTOCELL CONTACTOR SWITCH INDICATING ON - OFF - AUTO

TIME CLOCK TO BE QUARTZ-BASED PROGRAMMABLE TYPE

2 E3 PHOTOCELL CONTROL SCHEMATIC

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NO.	REVISION DESCRIPTION	DATE ISSUED
04	ISSUED FOR TENDER	2011/03/25
03	100% SUBMISSION	2008/05/07
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00	ISSUED FOR REVIEW	2007/12

PROFESSIONAL SEAL / PERMIT TO PRACTICE

PERMIT TO PRACTICE
FSC ARCHITECTS AND ENGINEERS (SK) NWT LTD.)
Signature
Date
PERMIT NUMBER: P0457
The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

REGISTERED PROFESSIONAL ENGINEER N. J. BOURASSA N.W.T.

FSC ARCHITECTS & ENGINEERS
4910 - 53rd Street, P.O. Box 1777, Yellowknife, NT, X1A 2P4, Canada
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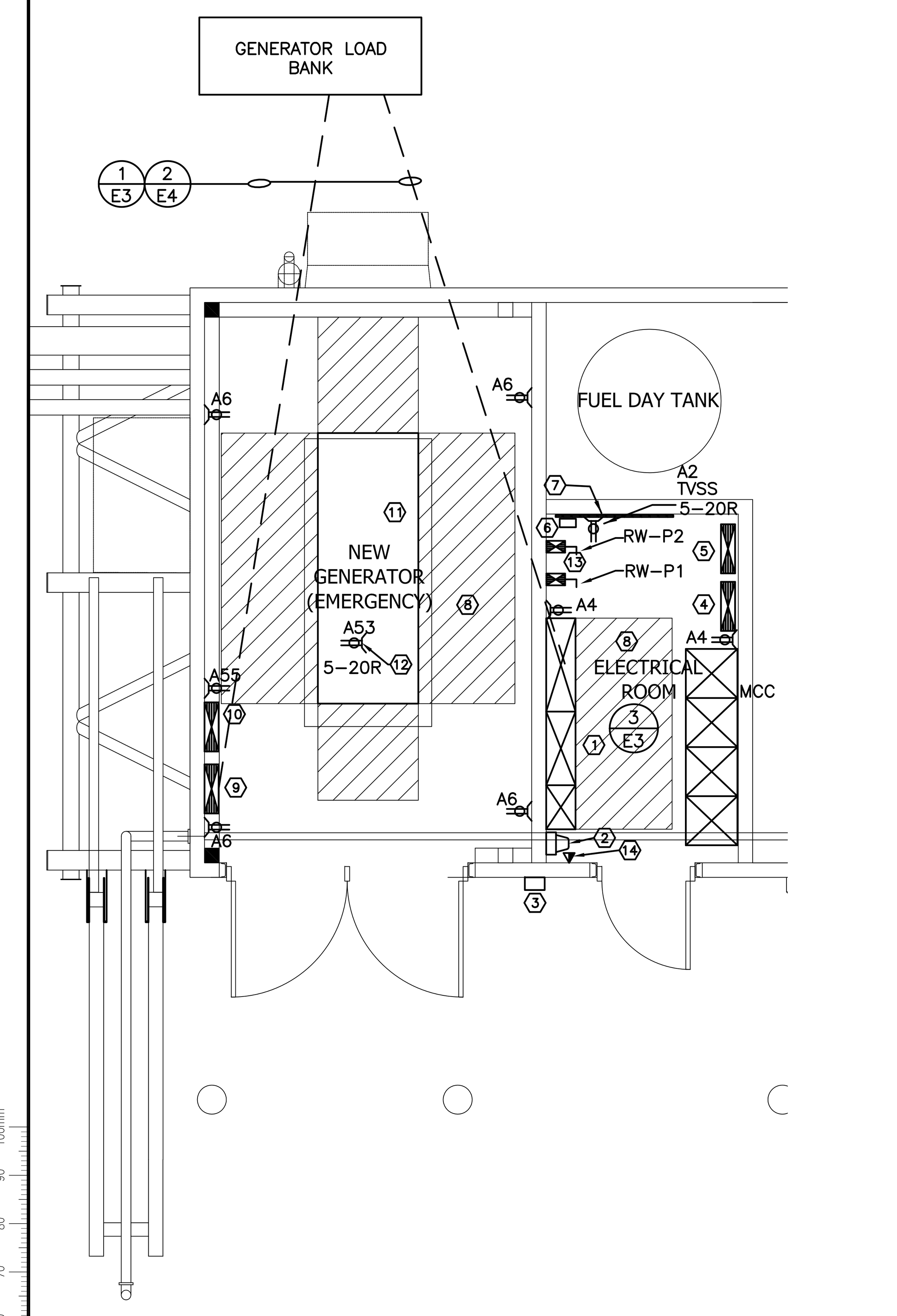
PROJECT TITLE
NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

LOCATION
BAKER LAKE, NU

DRAWING TITLE
SINGLE LINE DIAGRAM, MOTOR SCHEDULE AND DETAILS

DRAWN BY: NR	SCALE: AS SHOWN
CHECKED BY: NB	CLIENT PROJECT NO.: 07-3023
FSC PROJECT NO.: 2007-0650	
DRAWING NO.: E3	



1/E4 GENERATOR AND ELECTRICAL ROOM PLAN

SCALE : 1:50

KEY NOTES TO 1/E4 DETAIL:

1. CDP
2. UTILITY METER
3. UTILITY COMPANY LOCKBOX INSTALL AT 1700MM AFF. PROVIDE ONE KEY.
4. EXTRIOR LIGHTING CONTROL BOX.
5. PANEL A
6. VOICE AUTODIALLER
7. TELEPHONE BACKBOARD OF 2438MM HIGH X 1219MM WIDE AND 19MM THICK A-C PLYWOOD FINISHED WITH FIRE RETARDANT PAINT.
8. ENSURE 1M CLEARANCE AT ALL TIME IN FRONT OF ELECTRICAL EQUIPMENT.
9. LOAD BANK CONTROLLER.
10. BATTERY CHARGER.
11. GENERATOR
12. GENERATOR BLOCK HEATER RECEPTACLE, COORDINATE THE LOCATION PRIOR TO ROUGH IN.
13. STARTERS FOR RWP-P1 AND RWP-P2 EACH TO CONTAIN A GROUND FAULT RELAY COMPLYING WITH CEC 26-956(d). REFER TO SPECIFICATION FOR DETAILS
14. ONE CABLE AND JACK FOR REMOTE METER READING

PANEL: A

VOLTS: 120/208 LOCATION: ELECTRICAL ROOM BUSS: 225A

PHASE: 3 FEEDER: REFER TO SINGLE LINE MTG: SURFACE

WIRE: 4

CIRC	BRKR	WATTS A	WATTS B	WATTS C	DESCRIPTION	DESCRIPTION	WATTS A	WATTS B	WATTS C	BRKR	CIRC
* 1	1P15	50			EXIT SIGNS	TELE. BACKBOARD RECEPT	125			1P20	2
3	1P15		1011		LGHTS & EMERGENCY LGTHS	RECEPTS ELEC & MECH RM		375		1P15	4
5	1P15			1184	LGHTS & EMERGENCY LGTHS	RECEPTACLES GEN RM			500	1P15	6
7	1P15	510			EXTERIOR LIGHTS	RECEPTACLES MECH & PRO RM	375			1P15	8
9	1P15		100		B-1.1	RECEPTACLES PROCESS RM		500		1P15	10
11	1P15			100	B-1.2	EF-1			150	1P15	12
13	1P20	1500			DHWH-1	SF-1	50			1P15	14
15	1P25				SPARE	P-1.1		250		1P20	16
17	1P25				SPARE	P-1.2			250	1P20	18
19	1P15	150			P-4.9	P-1.3	250			1P20	20
21	1P15		150		P-4.10	SPACE					22
23	1P15			150	P-4.11	SPACE					24
25	1P15	150			P-4.12	SPACE					26
27	1P15		40		P-4.13	P-4.5		150		1P15	28
29	1P15			100	WATER SYSTEM CNTRL PNL	UH-1.1 TO UH-1.2			80	1P15	30
31	1P15	100			TRUCK FILL CNTRL PNL	SPARE	373			1P25	32
33	1P15		150		HTIP-1.1	UV-1		905		2P15	34
35	1P15								905		36
37	1P15					UV-2	905			2P15	38
39	1P15							905			40
41	1P15					MOTORISED CONTROL VALVES			50	3P15	42
43	1P15	100			FM-0 & 1		50				44
45	1P15		200		FM-2 & 3			50			46
47	1P15			200	FM-4 & 5	UH-1.3 TO UH-1.6			120	1P15	48
49	1P15	100			FM-6 & 7, 8	RECEPTACLE OPERATOR RM	500			1P15	50
51	1P15				SPARE	HEAT TRACE #1		2250		2P30	52
53	1P20			1500	GENERATOR BLOCK HEATER				2250		54
55	1P15	250			GENERATOR BATTERY CHARGER	HEAT TRACE #2	2250			2P30	56
57	1P15		250		EXTERIOR RECEPTACLES			2250			58
59	1P15			100	B1.3	SPACE	ps				60
61	1P15				SPARE	SPACE					62
63					SPACE	SPACE					64
65					SPACE	SPACE					66
67					SPACE	SPACE					68
69					SPACE	SPACE					70
71					SPACE	SPACE					72
TOTAL		2910	1901	3334			4878	7635	4305	TOTAL	

PHASE A TOTAL = 7788

PHASE B TOTAL = 9536

PHASE C TOTAL = 7639

PANEL TOTAL = 24963 @120/208 VOLTS 3 PHASE 69.3 AMPS

REMARKS

* PROVIDE LOCK-ON DEVICE ON BREAKER.

LUMINAIRE SCHEDULE

TYPE: 200
- DESCRIPTION: SURFACE OR PANDENT MOUNTED FLUORESCENT STRIPLIGHT
- HOUSING: 1219 MM LONG DIE FORMED STEEL CHANNEL
- FINISH: BAKED WHITE ENAMEL
- BALLAST: ELECTRONIC PROGRAM RAPID START, 120V, 10% THD
- LAMP: TWO F32T8
- ACCESSORIES: WIRE GUARD
- MOUNTING: CHAIN HANGERS AND ACCESSORIES
- MANUFACTURERS: METALUX STW-232-120V-ER81 OR APPROVED EQUAL

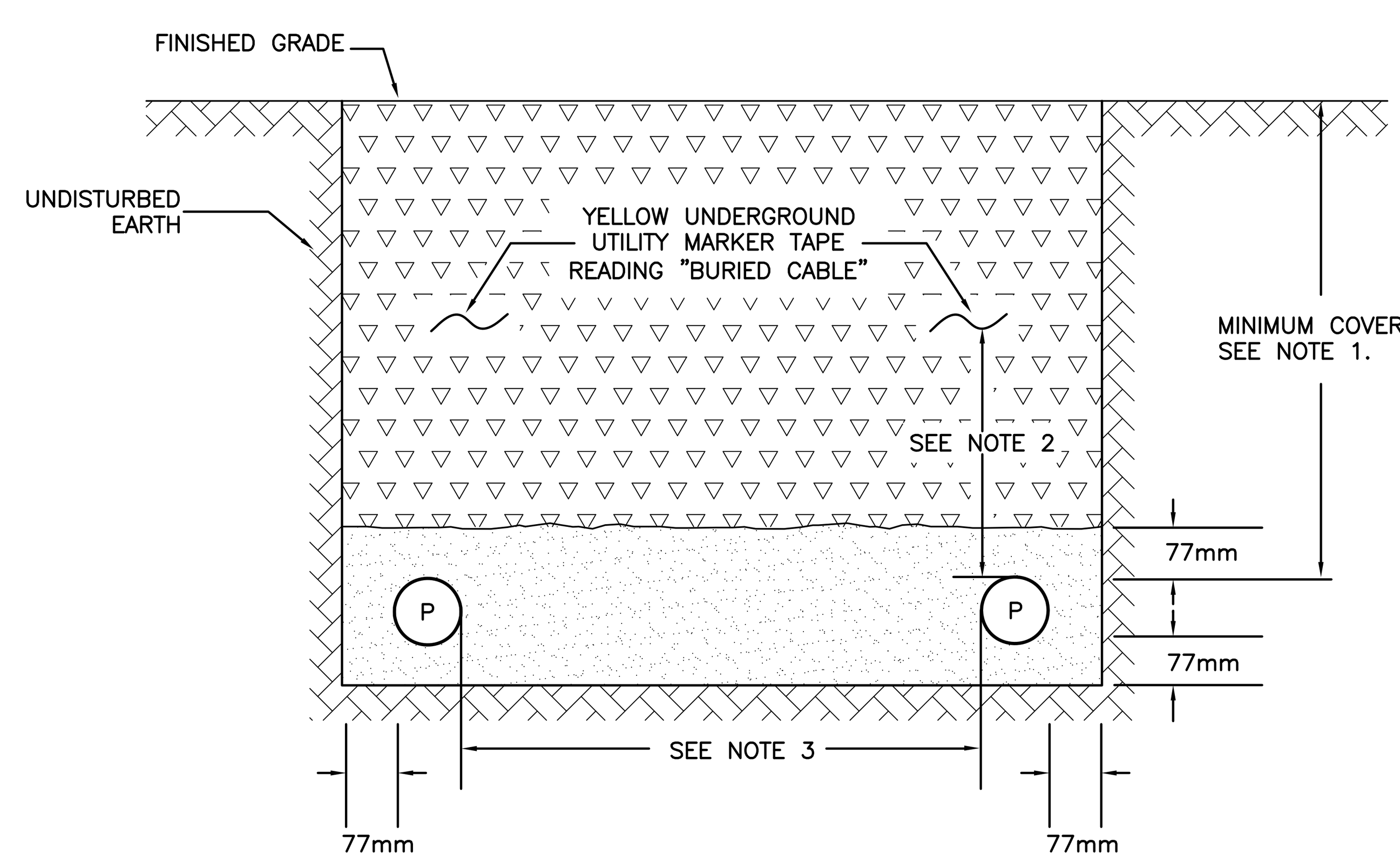
TYPE: 201
- DESCRIPTION: SURFACE OR PANDENT MOUNTED VAPORTIGHT INDUSTRIAL FLUORESCENT LUMINAIRE
- HOUSING: 1265 MM LONG FIBERGLASS HOUSING IS REINFORCED POLYESTER AND SELF-EXTINGUISHING PLASTIC WITH WATERTIGHT HUBS FOR CONDUIT ENTRY
- LENS: HIGH IMPACT CLEAR LOW BRIGHTNESS PATTERN POLYCARBONATE
- BALLAST: ELECTRONIC PROGRAM RAPID START, 120V, 10% THD
- LAMP: TWO F32T8
- MOUNTING: CHAIN HANGING SET AND ACCESSORIES
- LISTING: UL/CUL LISTED FOR WET LOCATIONS
- MANUFACTURER: METALUX VT2-232-LEX-120-ER8--WL OR APPROVED EQUAL

TYPE: 300
- DESCRIPTION: EXTERIOR WALL MOUNTED HID
- HOUSING: DIE CAST ALUMINUM
- LENS: PATERNED TAMPERED GLASS
- FINISH: DARK BRONZE POLYSTER POWER COAT
- BALLAST: -30 DEGREE, HIGH POWER FACTOR, 120V
- LAMP: ONE 70 WATT HPS
- LISTING: UL WET LOCATION LISTED, CSA CERTIFIED
- ACCESSORIES: MOUNTING ACCESSORIES AS REQUIRED - SEE DRAWINGS
- MANUFACTURER: LUMARK WALLY CUTOFF OR APPROVED EQUAL

TYPE: 301
- DESCRIPTION: EXTERIOR TRUCK FILL ARM MOUNTED HID
- HOUSING: DIE CAST ALUMINUM
- FINISH: DARK BRONZE POLYESTER POWDER PAINT
- GASKET: FULL CIRCUMFERENCE SILICON GASKET
- BALLAST: -40 DEGREE, HIGH POWER FACTOR, 120V
- LAMP: ONE 50 WATT HPS
- LISTING: UL WET LOCATION LISTED
- ACCESSORIES: MOUNTING ACCESSORIES AS REQUIRED - SEE DRAWINGS
- MANUFACTURER: LUMARK FALCON HP-SF-50HP-H-120V-TR-SF/WG OR APPROVED EQUAL

NOTES:

1. THIS LUMINAIRE SCHEDULE IS NOT COMPLETE WITHOUT A COPY OF THE PROJECT DOCUMENTS CONTAINING THE ELECTRICAL SPECIFICATIONS.
2. VERIFY LUMINAIRE VOLTAGE WITH BRANCH CIRCUIT SUPPLYING POWER TO LUMINAIRE PRIOR TO ORDERING.
3. VERIFY AND COORDINATE ALL CEILING TYPES WITH LUMINAIRE LOCATIONS.
4. PROVIDE LUMINAIRES COMPLETE WITH LAMP AND ALL ACCESSORIES FOR MOUNTING AS SHOWN ON DRAWINGS. FOR EXACT CEILING AND WALL TYPES REFER TO ARCHITECTURAL DRAWINGS.
5. ALL FLUORESCENT LAMPS TO COMPLY WITH LOCAL AND NATIONAL TOXICITY RULES AND REGULATIONS, WHERE AVAILABLE.
6. SPECIFIED MANUFACTURERS ARE APPROVED TO SUBMIT BID WHERE SPECIFIED. INCLUSION DOES NOT RELIEVE MANUFACTURER FROM PROVIDING PRODUCT AS DESCRIBED.
7. EQUALS SHALL MEET THE DESCRIPTIONS LISTED AND IDENTIFIED BY THE CATALOG NUMBER INDICATED FOR ALL ELEMENTS AND PROPERTIES. THE MERE FACT THAT THE SERIES IS LISTED HEREIN DOES NOT AUTOMATICALLY QUALIFY ANY LUMINAIRE OF SUCH FAMILY AS EQUAL.



(P) POWER CONDUIT OR CABLE

SAND - SHALL PASS THROUGH 7mm SIEVE FRAME.

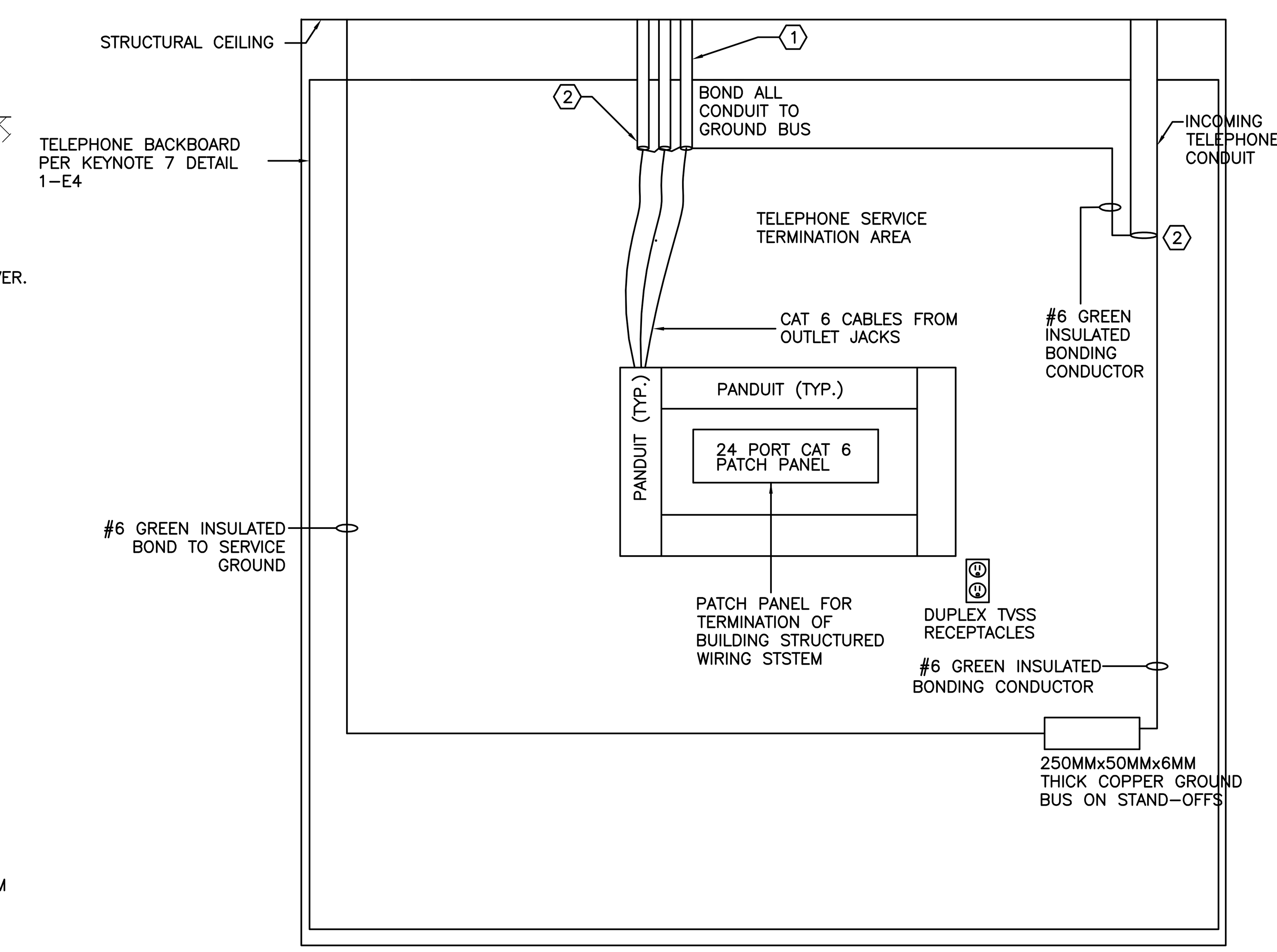
BACK FILL, MINIMUM 95% COMPACTED - SHALL PASS THROUGH 19MM SIEVE FRAME.

NOTES:

1. MINIMUM COVER TO BE IN ACCORDANCE WITH CEC RULES 12-012 AND 60-600. REDUCED MINIMUM COVER PER CEC IS ACCEPTABLE, WHERE MECHANICAL PROTECTION IS PROVIDED ACCORDINGLY.
2. MARKER TAPE TO BE APPROXIMATELY HALF WAY BETWEEN FINISHED GRADE AND CONDUIT OR CABLE.
3. SEPARATION BETWEEN POWER AND COMMUNICATION CABLES TO BE 300 MM MINIMUM FOR NON-METALLIC SHEATHED COMMUNICATION CABLES OR NON-METALLIC CONDUIT, 100 MM MINIMUM FOR METALLIC SHEATHED CABLE OR METALLIC CONDUIT.

2/E4 UNDERGROUND CONDUCTOR INSTALLATION

SCALE : N.T.S.



KEYNOTES TO THIS DETAIL:

1. CONDUITS FROM STRUCTURED OUTLET BOXES WITH PULL CORD.
2. PROVIDE PLASTIC BUSHING AT THE END OF CONDUITS.

3/E4 TELEPHONE BACKBOARD DETAIL

SCALE : N.T.S.

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04	ISSUED FOR TENDER	2011/03/25
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00	ISSUED FOR REVIEW	2007/12

PROFESSIONAL SEAL / PERMIT TO PRACTICE

PERMIT TO PRACTICE
FSC ARCHITECTS AND ENGINEERS (NWT LTD.)
Signature
Date
PERMIT NUMBER: P0457
The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

REGISTERED PROFESSIONAL ENGINEER
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PROJECT TITLE

NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

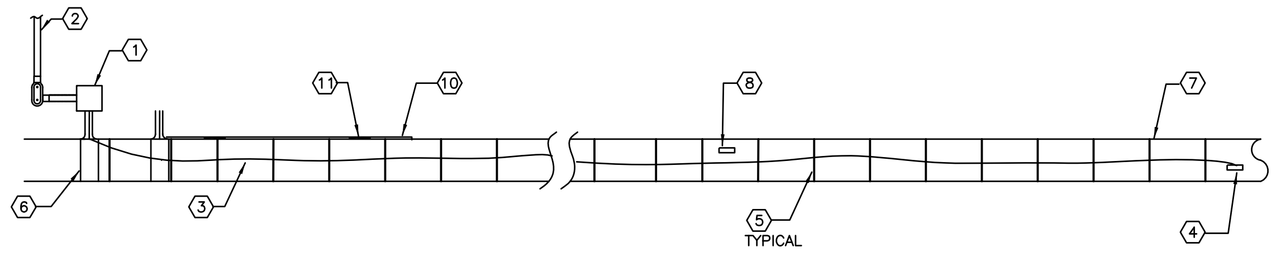
LOCATION

BAKER LAKE, NU

DRAWING TITLE

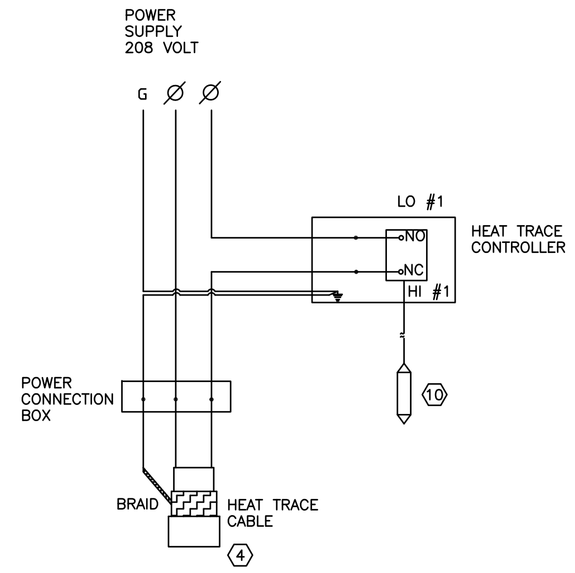
PANEL & LUMINAIRE SCHEDULES AND DETAILS

DRAWN BY	NR	SCALE	AS SHOWN
CHECKED BY	NB	CLIENT PROJECT NO.	07-3023
FSC PROJECT NO.	2007-0650		
DRAWING NO.	E4		



1/E5 HEAT TRACE INSTALLATION

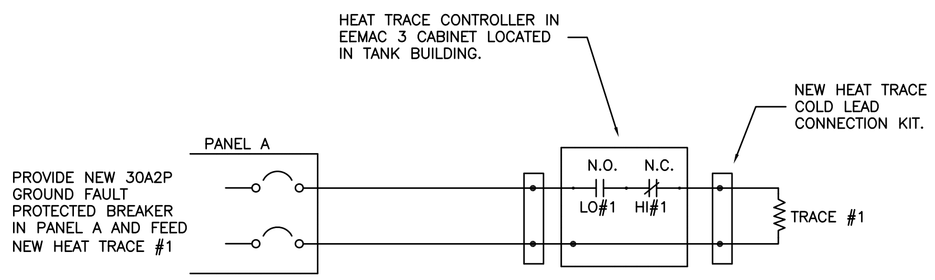
N.T.S.



1. POWER CONNECTION BOX FOR ONE HEATING CABLE
2. 21 MM CONDUIT AND WIRING TO ELECTRICAL PANEL BOARD
3. HEAT TRACE CABLE; SEE SPECIFICATION. TOTAL LENGTH OF THE PIPE IS EXPECTED TO BE 100 METERS PLUS/MINUS 5%. SITE VERIFY THE LENGTH AND INFORM THE ENGINEER IMMEDIATELY IF THE ACTUAL LENGTH IS DIFFERENT.
4. END SEAL
5. GLASS INSULATION TAPE.
6. PIPE STRAP; PROVIDE AS AND WHERE NECESSARY AS PER MANUFACTURER INSTRUCTIONS.
7. FRESH WATER PIPE. 100MM (4").
8. ELECTRICALLY TRACED LABEL; SEE SPECIFICATION
9. NOT USED.
10. THERMOSTAT BULB. SEE SPECIFICATION
11. POSITION THERMOSTAT BULB AND LINE AWAY FROM HEATER CABLE AND EFFECTIVELY INSULATE PER MANUFACTURER INSTRUCTIONS

2/E5 HEAT TRACE WIRING

N.T.S.



3/E5 HEAT TRACE INSTALLATION

N.T.S.

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FSC ARCHITECTS AND ENGINEERS (1974) LTD.
Signature
Date March 25/11
PERMIT NUMBER: P0457
The Association of Professional Engineers, Geologists and Geophysicists of the NWT/NU

REGISTERED PROFESSIONAL ENGINEER
M. J. SOURASSA
March 25/11
N.W.T.

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NEW WATER PUMP/CHLORINATION FACILITY AND INTAKE STRUCTURE

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DRAWING TITLE
HEAT TRACE DETAILS

DRAWN BY	SCALE
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DRAWING NO.
E5
OF