Attachment E

For-Construction Drawings and Description of the Water and Sewage Treatment Infrastructure Upgrades

Water and Sewage Treatment Infrastructure Upgrades

Purpose

The purpose of the proposed Water and Sewage Treatment Infrastructure Upgrades is to replace or upgrade the existing water (raw and sewage) storage and treatment systems at the Eureka HAWS and to treat up to 28m^3/day of wastewater. Stamped and certified for-construction drawings of the Water and Sewage Treatment Infrastructure Upgrades are attached below.

Description

Development of a new raw water storage reservoir and associated infrastructure as well as incorporation of the existing raw water storage reservoir. A new packaged wastewater treatment plant will also be installed, as well as upgrades and conversion of the existing wastewater lagoon to a retention pond. Wastewater discharge piping and overflow will also be upgraded.

The work is expected to commence in June 2022 and be completed by 2025. The new wastewater treatment plant will be sealifted to site and consists of four (4), 6m long high-cube shipping containers with peak hour flow capacity of 28m^3/day. In 2022, site preparation will commence which will include levelling and preparing pads. Other earthworks will include excavation, placement of granular, compaction, and grading including construction of berms. Drains and thermistors will then be installed within the underlying soil for the reservoir.

Once the packaged wastewater treatment is installed, the existing sewage lagoon will be converted to a retention pond. Treated effluent that meets the parameters identified in Part D, Item 10 of the Licence will be discharged into the ocean.

In 2023, the construction of the new raw water storage area will continue and include installation of sand, drainage piping, a dual liner, and geotextiles. As well, pump stations will be positioned, and a raw water storage basin will be filled with water. In 2024, the pump stations will be connected so water from the existing reservoir can be transferred to the new reservoir. In 2025, inspections will be undertaken.

Plans for Operation

The Summary of Operation and Maintenance Procedures for Drinking Water, Sewage, Solid Waste Disposal and Waste Treatment Facilities (June 2021 Amendment Renewal Application, Attachment E) previously provided will be revised to include details specific to the new facilities. This will be shared with the NWB within 90-days after completion of construction in 2023.

Plans for Decommissioning

Plans for decommissioning of the water and sewage treatment facilities is consistent with the Interim Abandonment & Restoration Plan previously provided (June 2021 Amendment Renewal Application, Attachment F). The Abandonment and Restoration Objectives, and actions to be taken to achieve objectives for the “pumphouse, water reservoir, water diversion area, and sewage lagoon,” all apply to this amendment and remain unchanged.

Public Works and Government Services Canada

Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

310-269 Main Street, R3C 1B3
WINNIPEG, MANITOBA

EUREKA, NUNAVUT

EUREKA WATER AND SEWAGE SYSTEM

ISSUED FOR CONSTRUCTION
APRIL 15, 2021

DRAWING LIST

AECOM

0 10 20 30 40 50 60 70 80 90 100mm

CADNM

EXISTING	LEGEND - PLAN	NEW	EXISTING	LEGEND - PLAN	NEW
	DRAINAGE COLLECT. TANK		247.33	ELEVATION	245.85
	CULVERT			BOLLARD	
MW	MONITORING WELL				
TH	TEST HOLE / TEST PIT				
RWL	RAW WATER	RWL		HYDRO POLE w/ ANCHOR	
U	UTILITY WATER	U	FOS	OIL PIPELINE	FOS
	HYDRANT		E	HYDRO	E
	VALVE			FENCE	
SAN	SANITARY SEWER	SAN		DITCH	
B	BRINE	B		GRAVEL	
FE	FINAL EFFLUENT	FE		ASPHALT	
	DEGASS/DEWATER SUBDRAIN			CONCRETE	
	DEGASS/DEWATER VENT			RIP RAP	

OVERALL EXISTING SITE PLAN

Scale 1:1000

BENCH MARK:
749167A
LOCATED ON THE FOSHEIM PEN OF ELLESMERE ISLAND AT THE AIRSTRIP OF THE EUREKA WEATHER STATION, ON BRADLEY AIR SERVICE PROPERTY, 16.04m FROM MAIN STATION "749167", MARKED BY A BRASS TABLET SET ON A COPPER ROD.
ELEV. 77.851m (Geoid. HT2_0)

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

AECOM

ORIGINAL
SIGNED BY

P. BARSALOU

2020/06/23

PERMIT TO PRACTICE
AECOM Canada Ltd.
Signature SIGNED BY B.B.
SIGNED ON 06.23.2020
PERMIT NUMBER: P 639
The Association of Professional Engineers and Geophysicists of the NWT/NU.

Revision	Description	Date
5		
4		
3		
2		
1	ISSUED FOR CONSTRUCTION	2021/04/15
0	ISSUED FOR TENDER	2020/06/19

Client / client

Public Works and Government Services Canada

310-269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **A. FARROKHI**
Drawn by / Dessiné par: **G. LACOSTE**
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

CIVIL
OVERALL
EXISTING SITE PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	C-0001 OF	1

	RAW WATER			HYDRO POLE w/ ANCHOR	
	UTILITY WATER			OIL PIPELINE	
	HYDRANT			HYDRO	
	VALVE			FENCE	
	SANITARY SEWER			DITCH	
	BRINE			GRAVEL	
	FINAL EFFLUENT			ASPHALT	
	DEGASS/DEWATER SUBDRAIN			CONCRETE	
	DEGASS/DEWATER VENT			RIP RAP	
	DRAINAGE COLLECT. TANK		+247.33	ELEVATION	245.85
	CULVERT			BOLLARD	
MW	MONITORING WELL				
TH	TEST HOLE / TEST PIT				
EXISTING	LEGEND - PLAN	NEW	EXISTING	LEGEND - PLAN	NEW

N

STATION CREEK

SAND BORROW PIT APPROX. 2.4 km BY ROAD (RESERVOIR TO PIT)

TH -a15-03
TH -a1503pit

NEW 1.9m HIGH PAGE WIRE FENCING ALONG TOE OF RESERVOIR

TH -a15-02

PROPOSED MATERIAL INTERIM STOCKPILE AREA

INSTALL 3.0m WIDE, 0.3m THICK LAYER OF RIP RAP ON THE SLOPE

TH -a1513pit

TH -a15-04
TH -a1504

NEW RAW WATER STORAGE RESERVOIR SEE SHEET C-0003

NEW RESERVOIR PUMP STATION 2.4m x 3.0 m PREFABRICATED BUILDING SEE SHEET C-0006

TH -a1512pit

TH -a1501

TH -a1506pit

TH -a1507

NEW ACCESS ROAD

DECOMMISSION EXISTING STORAGE DITCH

SEASONAL 50mm RAW WATER FILL HOSE

NEW RAW WATER TRANSFER STATION

INSTALL 3.0m WIDE, 0.3m THICK LAYER OF RIP RAP ON THE SLOPE

CONTAMINATED SOIL LAND FARM

EXISTING ABOVE GROUND FUEL OIL LINE

153m BERM (0.4m HIGH, 0.5m WIDE WITH 4:1 SIDE SLOPES) TO PREVENT SURFACE WATER DRAINING TOWARDS CONTAMINATED SOIL

PROTECT AND MOVE POWER AND FIBRE OPTIC LINES TO AVOID CONSTRUCTION

CREEK PUMP STATION 2.4m x 3.0m PREFABRICATED BUILDING

EXISTING RAW WATER RESERVOIR

TH-a15-05

116m RAW WATER SUPPLY AND RETURN LINES ON PIPE SUPPORTS

DECOMMISSION EXISTING RAW WATER SUPPLY PIPING

DECOMMISSION EXISTING PUMP HOUSE

BRINE TRANSFER STATION UPGRADE

OPERATIONS BUILDING

BRINE AND UTILITY WATER PIPING

HAULED WASTEWATER DISCHARGE LOCATION

UPGRADE EXISTING RAW WASTEWATER LIFT STATION

EXISTING CLOUD CEILING MEASUREMENT DEVICE (REMOVE)

PACKAGED WASTEWATER TREATMENT PLANT 4 - 2.4m x 6.1m PREFABRICATED BUILDINGS

PLUG AND ABANDON

GARAGE

GENERATOR

TH -7

SEASONAL INTAKE HOSE

TRUCKS NOT ALLOWED ON BRIDGE. CROSS CREEK BED ONCE FROZEN TO OBTAIN SAND FROM PIT

CHLORINATION SYSTEM UPGRADE

RAW WATER STORAGE TANKS

EXISTING 150Ø SEWAGE PIPE

100Ø HDPE FORCEMAIN BURIED 0.6m, SEE SHEET C-0004 & C-3002

CLEANOUTS (TYP.)

REPLACE AND BURY POWER SUPPLY FROM HYDROGEN BUILDING

BRINE AND SANITARY FORCEMAIN. 100Ømm OVERFLOW PIPE TO EFFLUENT COLLECTION TANK. 250mm UTILITY WATER SERVICE LINE COMPLETE WITH BACK FLOW PREVENTION

EXTENT OF DECOMMISSION

HYDRO POLE

DECOMMISSION AND REMOVE EXISTING WASTEWATER PIPE

DECOMMISSION EXISTING PUMP HOUSE

RETENTION BASIN PUMP STATION 2.4m x 3m PREFABRICATED BUILDING

SEASONAL DISCHARGE

SEASONAL INTAKE

RETENTION BASIN DISCHARGE CHANNEL SEE SHEET C-0007

RETENTION BASIN INLET PAD SEE SHEET C-0007

RETENTION BASIN UPGRADE SEE SHEET C-3002

APPROXIMATE LOCATION OF EXISTING 600V POWER AND COMMUNICATION LINE ON GROUND, MOVE TO PROTECT

PROPOSED TEMPORARY ROAD FOR BLACK TOP CREEK BORROW PIT-STOCKPILE HAUL ROUTE TO SITE STOCKPILE AREA

TH -a1514pit

TH -old

TH -old

TH -a1515pit

TH -a1516pit

SLIDRE FJORD

CONSTRUCTION NOTES:

1. PRIOR TO CONSTRUCTION, DELETERIOUS SOILS COMPRISING VEGETATION, TOPSOIL, POND SEDIMENT, AND THE SOFT/VERY SOFT, LOOSE, WET, DISTURBED, PORTION OF NATIVE SOILS, IF ANY, SHOULD BE REMOVED FROM THE FOOTPRINT AREAS FOR STRUCTURES AND OTHER SETTLEMENT SENSITIVE FACILITIES.
2. FOLLOWING INITIAL SITE STRIPPING OF DELETERIOUS SOILS, AND PRIOR TO GRADING, AREAS IDENTIFIED FOR FILL PLACEMENT SHOULD BE COMPACTED. ANY SOFT AREAS SHOULD BE OVER-EXCAVATED AND BACKFILLED TO A MINIMUM 98% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD) USING SPECIFIED FILL.
3. THE FINISHED SUBGRADE MUST BE FREE OF DEPRESSIONS AND SHOULD BE SLOPED TOWARD THE EMBANKMENT'S SIDE SLOPES, OR TOWARD THE SIDE DITCHES, IN ORDER TO PROVIDE EFFICIENT SURFACE WATER CONTROL (DRAINAGE).
4. CONTAMINATED SOIL WITHIN THE LIMITS OF THE NEW RAW WATER STORAGE RESERVOIR CONSTRUCTION SITE TO BE REMOVED AND DISPOSED OF AT THE CONTAMINATED SOIL STORAGE CELL AS DIRECTED BY THE DEPARTMENTAL REPRESENTATIVE AND IN ACCORDANCE WITH SECTIONS 02 55 13 - CONTAMINATED SOIL AND 01 35 15 - SPECIAL PROCEDURES FOR CONTAMINATED SITES. SEE CONTAMINATED SOIL STORAGE CELL DETAILS ON C009.
5. THE CONTRACTOR SHALL ENSURE THAT LOCAL DRAINAGE PATTERNS ARE NOT ALTERED BY THE CONSTRUCTION.
6. TEMPORARILY RE-ROUTE OR / PROTECT CABLES ON BRIDGE NEAR FRESHWATER RESERVOIR.
7. PROHIBIT HEAVY EQUIPMENT ON BRIDGE OVER CREEK. LIMIT TO LIGHT TRUCKS ¾ TON ONLY.

OVERALL PROPOSED SITE PLAN

Scale 1:1000

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

AECOM

ORIGINAL SIGNED BY

P. BARSALOU

2020/06/23

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Client / client

Public Works and Government Services Canada

310-269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

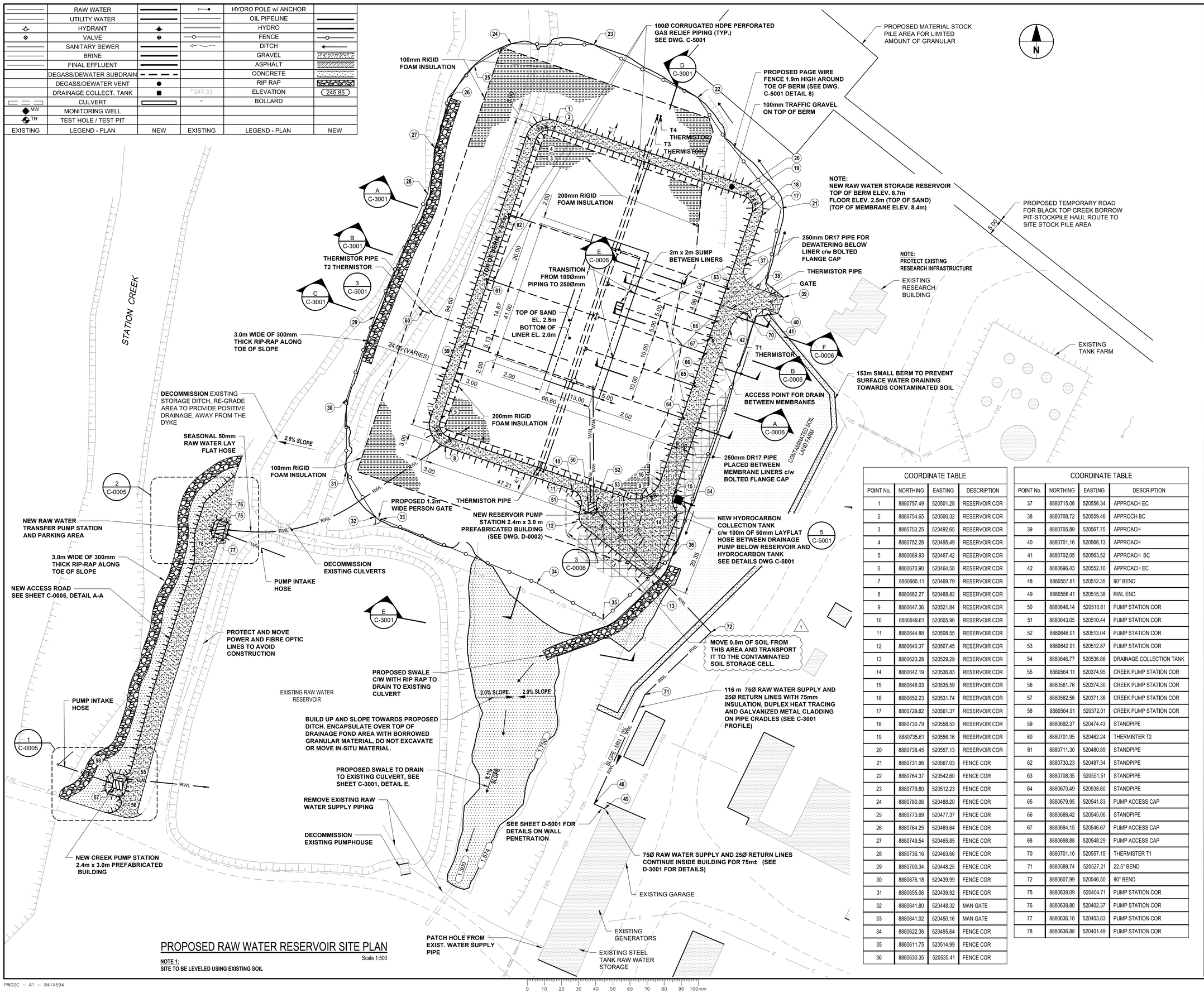
Designed by / Conçu par: **A. FARROKHI**
Drawn by / Dessiné par: **G. LACOSTE**
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

CIVIL
OVERALL
PROPOSED SITE PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	C-0002 OF	1

EXISTING	LEGEND - PLAN	NEW	EXISTING	LEGEND - PLAN	NEW
	RAW WATER			HYDRO POLE w/ ANCHOR	
	UTILITY WATER			OIL PIPELINE	
	HYDRANT			HYDRO	
	VALVE			FENCE	
	SANITARY SEWER			DITCH	
	BRINE			GRAVEL	
	FINAL EFFLUENT			ASPHALT	
	DEGASS/DEWATER SUBDRAIN			CONCRETE	
	DEGASS/DEWATER VENT			RIP RAP	
	DRAINAGE COLLECT. TANK		+247.33	ELEVATION	245.85
	CULVERT			BOLLARD	
MW	MONITORING WELL				
TH	TEST HOLE / TEST PIT				



PROPOSED RAW WATER RESERVOIR SITE PLAN

Scale 1:500

NOTE 1:
SITE TO BE LEVELED USING EXISTING SOIL

COORDINATE TABLE			
POINT No.	NORTHING	EASTING	DESCRIPTION
1	8880757.49	520501.28	RESERVOIR COR
2	8880754.65	520500.32	RESERVOIR COR
3	8880753.25	520492.65	RESERVOIR COR
4	8880752.28	520495.49	RESERVOIR COR
5	8880669.93	520467.42	RESERVOIR COR
6	8880670.90	520464.58	RESERVOIR COR
7	8880665.11	520469.79	RESERVOIR COR
8	8880662.27	520468.82	RESERVOIR COR
9	8880647.36	520521.84	RESERVOIR COR
10	8880649.61	520505.96	RESERVOIR COR
11	8880644.88	520508.55	RESERVOIR COR
12	8880640.37	520507.45	RESERVOIR COR
13	8880623.28	520529.29	RESERVOIR COR
14	8880642.19	520536.83	RESERVOIR COR
15	8880648.03	520535.59	RESERVOIR COR
16	8880652.23	520531.74	RESERVOIR COR
17	8880729.82	520561.37	RESERVOIR COR
18	8880730.79	520558.53	RESERVOIR COR
19	8880735.61	520556.16	RESERVOIR COR
20	8880738.45	520557.13	RESERVOIR COR
21	8880731.96	520567.03	FENCE COR
22	8880764.37	520542.60	FENCE COR
23	8880779.80	520512.23	FENCE COR
24	8880780.06	520488.20	FENCE COR
25	8880773.69	520477.37	FENCE COR
26	8880764.25	520469.64	FENCE COR
27	8880749.54	520465.85	FENCE COR
28	8880736.16	520463.66	FENCE COR
29	8880700.34	520448.25	FENCE COR
30	8880676.18	520439.99	FENCE COR
31	8880655.06	520439.92	FENCE COR
32	8880641.80	520448.32	MAN GATE
33	8880641.02	520450.16	MAN GATE
34	8880622.36	520495.64	FENCE COR
35	8880611.75	520514.99	FENCE COR
36	8880630.35	520535.41	FENCE COR

COORDINATE TABLE			
POINT No.	NORTHING	EASTING	DESCRIPTION
37	8880715.06	520556.34	APPROACH EC
38	8880708.72	520559.46	APPROCH BC
39	8880705.89	520567.75	APPROACH
40	8880701.16	520566.13	APPROACH
41	8880702.05	520563.52	APPROACH BC
42	8880696.43	520552.10	APPROACH EC
48	8880557.81	520512.35	90° BEND
49	8880556.41	520515.38	RWL END
50	8880646.14	520510.61	PUMP STATION COR
51	8880643.05	520510.44	PUMP STATION COR
52	8880646.01	520513.04	PUMP STATION COR
53	8880642.91	520512.87	PUMP STATION COR
54	8880646.77	520536.86	DRAINAGE COLLECTION TANK
55	8880564.11	520374.95	CREEK PUMP STATION COR
56	8880561.76	520374.30	CREEK PUMP STATION COR
57	8880562.56	520371.36	CREEK PUMP STATION COR
58	8880564.91	520372.01	CREEK PUMP STATION COR
59	8880692.37	520474.43	STANDPIPE
60	8880701.95	520462.24	THERMISTER T2
61	8880711.30	520480.89	STANDPIPE
62	8880730.23	520487.34	STANDPIPE
63	8880708.35	520551.51	STANDPIPE
64	8880670.49	520538.60	STANDPIPE
65	8880679.95	520541.83	PUMP ACCESS CAP
66	8880689.42	520545.06	STANDPIPE
67	8880694.15	520546.67	PUMP ACCESS CAP
68	8880698.88	520548.29	PUMP ACCESS CAP
70	8880701.10	520557.15	THERMISTER T1
71	8880589.74	520527.21	22.5° BEND
72	8880607.99	520546.50	90° BEND
75	8880639.09	520404.71	PUMP STATION COR
76	8880639.80	520402.37	PUMP STATION COR
77	8880636.18	520403.83	PUMP STATION COR
78	8880636.88	520401.49	PUMP STATION COR

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

AECOM

ORIGINAL SIGNED BY
P. BARSALOU
2020/06/23

PERMIT TO PRACTICE
AECOM Canada Ltd.
Signature SIGNED BY B.B.
Date SIGNED ON 06.23.2020
PERMIT NUMBER: P 639
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Revision	Description	Date
5		
4		
3		
2	ISSUED FOR CONSTRUCTION	2021/04/15
1	HATCHED CONTAMINATED SOIL REMOVAL AREA	2020/11/12
0	ISSUED FOR TENDER	2020/06/19

Client: Public Works and Government Services Canada
310-269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet
NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: A. FARROKHI
Drawn by / Dessiné par: G. LACOSTE
Approved by / Approuvé par: P. BARSALOU
PWGSC Project Manager / Administrateur de Projets TPSGC: M. MOGAN

Drawing title / Titre du dessin
CIVIL
NEW RAW WATER RESERVOIR
PROPOSED SITE PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	C-0003 OF	2

PWGSC – A1 – 841X594

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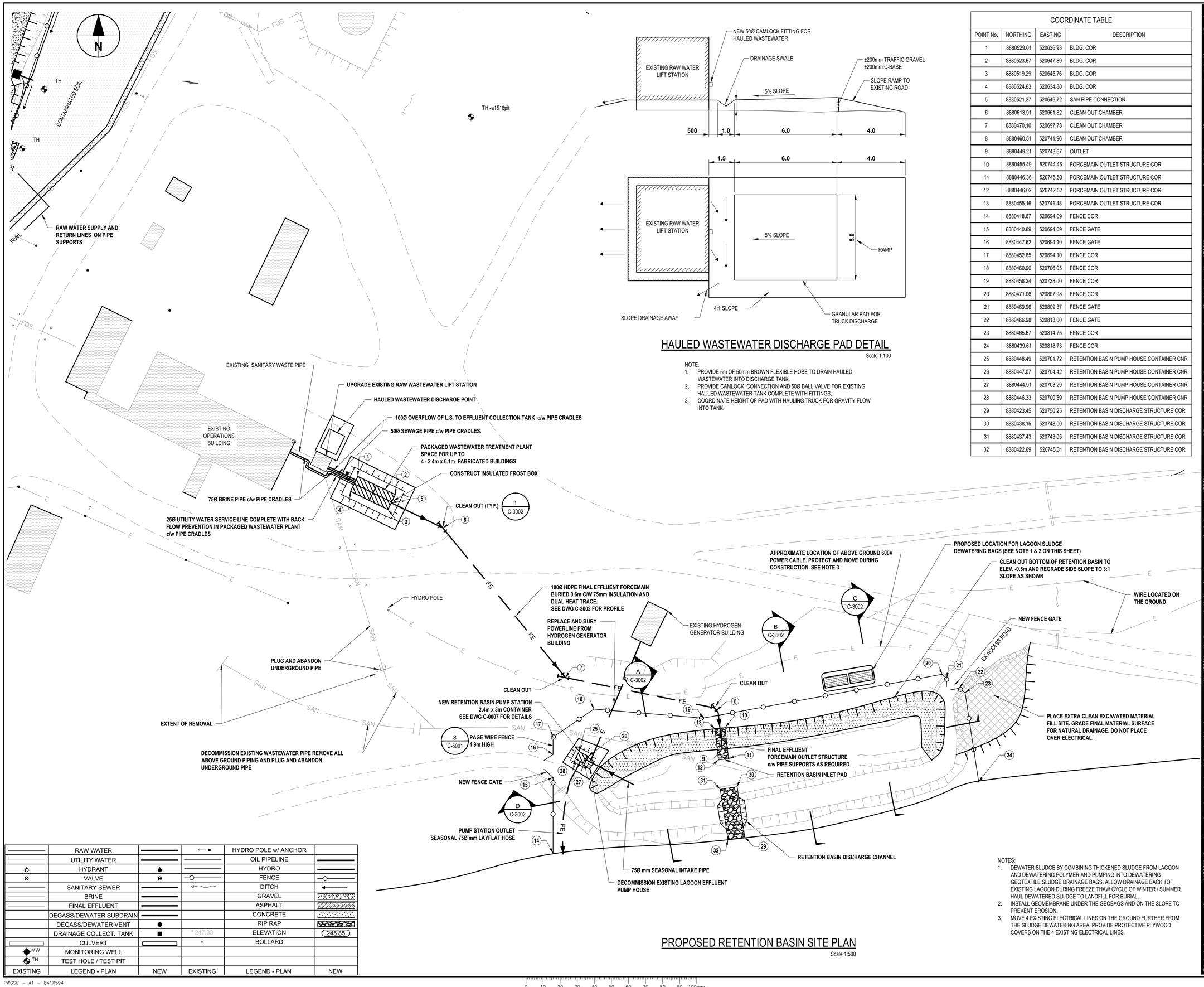

HAULED WASTEWATER DISCHARGE PAD DETAIL

Scale 1:100

NOTE:
1. PROVIDE 5m OF 50mm BROWN FLEXIBLE HOSE TO DRAIN HAULED WASTEWATER INTO DISCHARGE TANK.
2. PROVIDE CAMLOCK CONNECTION AND 50Ø BALL VALVE FOR EXISTING HAULED WASTEWATER TANK COMPLETE WITH FITTINGS.
3. COORDINATE HEIGHT OF PAD WITH HAULING TRUCK FOR GRAVITY FLOW INTO TANK.

COORDINATE TABLE			
POINT No.	NORTHING	EASTING	DESCRIPTION
1	8880529.01	520636.93	BLDG. COR
2	8880523.67	520647.89	BLDG. COR
3	8880519.29	520645.76	BLDG. COR
4	8880524.63	520634.80	BLDG. COR
5	8880521.27	520646.72	SAN PIPE CONNECTION
6	8880513.91	520661.82	CLEAN OUT CHAMBER
7	8880470.10	520697.73	CLEAN OUT CHAMBER
8	8880460.51	520741.96	CLEAN OUT CHAMBER
9	8880449.21	520743.67	OUTLET
10	8880455.49	520744.46	FORCEMAIN OUTLET STRUCTURE COR
11	8880446.36	520745.50	FORCEMAIN OUTLET STRUCTURE COR
12	8880446.02	520742.52	FORCEMAIN OUTLET STRUCTURE COR
13	8880455.16	520741.48	FORCEMAIN OUTLET STRUCTURE COR
14	8880418.67	520694.09	FENCE COR
15	8880440.89	520694.09	FENCE GATE
16	8880447.62	520694.10	FENCE GATE
17	8880452.65	520694.10	FENCE COR
18	8880460.90	520706.05	FENCE COR
19	8880458.24	520738.00	FENCE COR
20	8880471.06	520807.98	FENCE COR
21	8880469.96	520809.37	FENCE GATE
22	8880466.98	520813.00	FENCE GATE
23	8880465.67	520814.75	FENCE COR
24	8880439.61	520818.73	FENCE COR
25	8880448.49	520701.72	RETENTION BASIN PUMP HOUSE CONTAINER CNR
26	8880447.07	520704.42	RETENTION BASIN PUMP HOUSE CONTAINER CNR
27	8880444.91	520703.29	RETENTION BASIN PUMP HOUSE CONTAINER CNR
28	8880446.33	520700.59	RETENTION BASIN PUMP HOUSE CONTAINER CNR
29	8880423.45	520750.25	RETENTION BASIN DISCHARGE STRUCTURE COR
30	8880438.15	520748.00	RETENTION BASIN DISCHARGE STRUCTURE COR
31	8880437.43	520743.05	RETENTION BASIN DISCHARGE STRUCTURE COR
32	8880422.69	520745.31	RETENTION BASIN DISCHARGE STRUCTURE COR

EXISTING	LEGEND - PLAN	NEW	EXISTING	LEGEND - PLAN	NEW
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	VALVE			FENCE	
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	BRINE			GRAVEL	
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	DRAINAGE COLLECT. TANK		+247.33	ELEVATION	245.85
	CULVERT			BOLLARD	
MW	MONITORING WELL				
TH	TEST HOLE / TEST PIT				

PROPOSED RETENTION BASIN SITE PLAN

Scale 1:500

NOTES:
1. DEWATER SLUDGE BY COMBINING THICKENED SLUDGE FROM LAGOON AND DEWATERING POLYMER AND PUMPING INTO DEWATERING GEOTEXTILE SLUDGE DRAINAGE BAGS. ALLOW DRAINAGE BACK TO EXISTING LAGOON DURING FREEZE THAW CYCLE OF WINTER / SUMMER. HAUL DEWATERED SLUDGE TO LANDFILL FOR BURIAL.
2. INSTALL GEOMEMBRANE UNDER THE GEOBAGS AND ON THE SLOPE TO PREVENT EROSION.
3. MOVE 4 EXISTING ELECTRICAL LINES ON THE GROUND FURTHER FROM THE SLUDGE DEWATERING AREA. PROVIDE PROTECTIVE PLYWOOD COVERS ON THE 4 EXISTING ELECTRICAL LINES.

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
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EUREKA

EUREKA WATER AND SEWAGE SYSTEM

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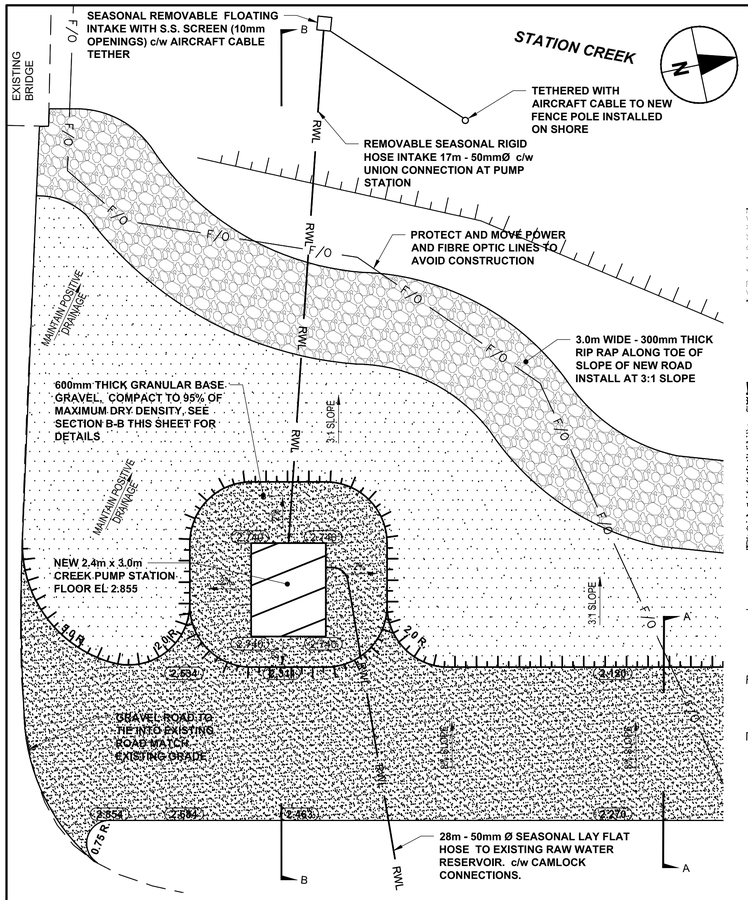
Approved by / Approuvé par: P. BARSALOU
PWGSC Project Manager / Administrateur de Projets TPSGC: M. MOGAN

Drawing title / Titre du dessin

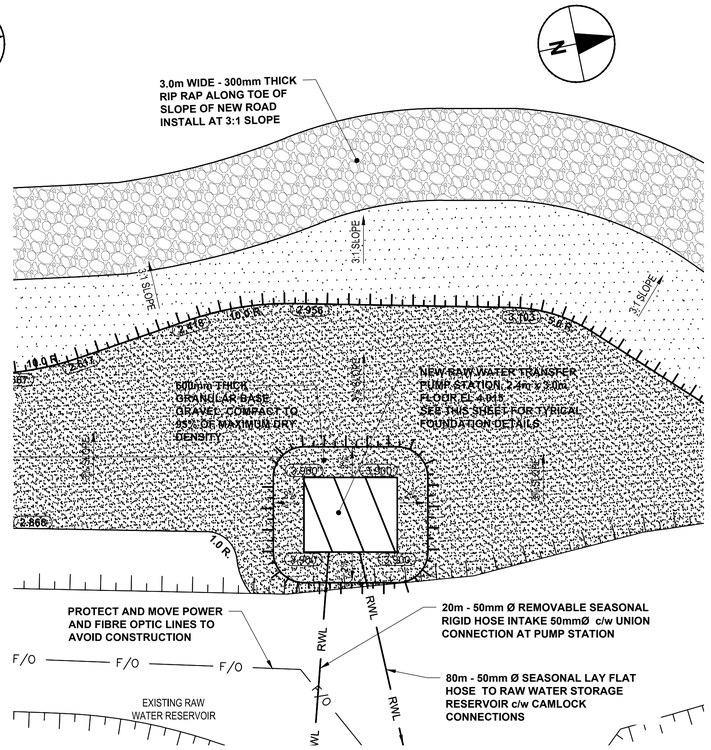
CIVIL
RETENTION BASIN UPGRADE & WASTEWATER
PROPOSED SITE PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	C-0004 OF	1



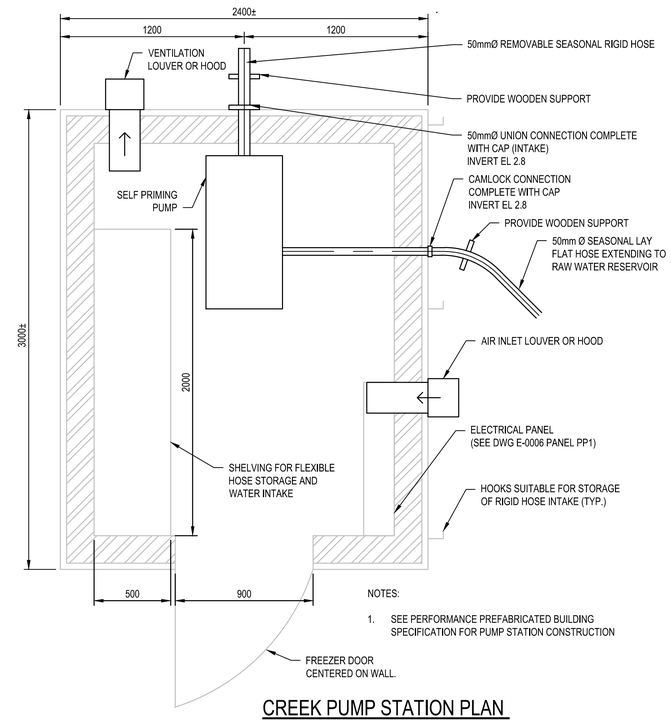
1 | CREEK PUMP STATION PLAN

C-0003 — Scale 1:100



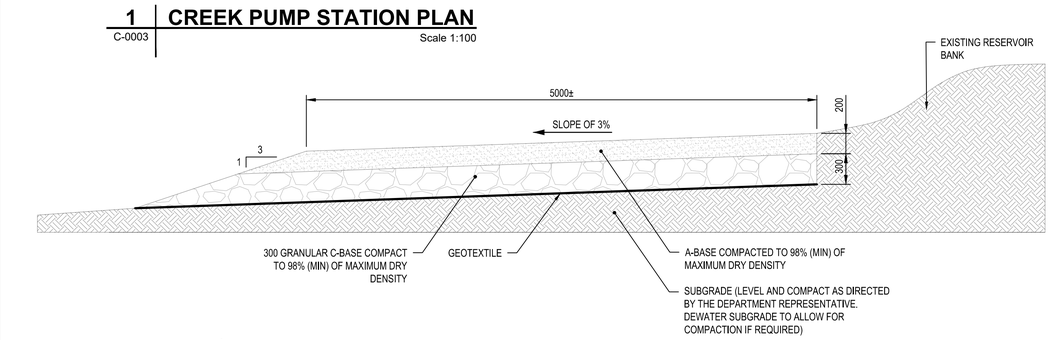
2 | RAW WATER TRANSFER STATION GRADING PLAN

C-0003 — Scale 1:100



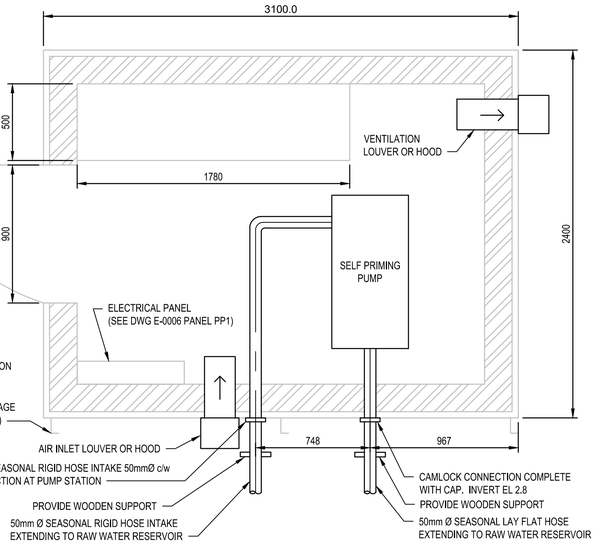
CREEK PUMP STATION PLAN

Scale 1:20



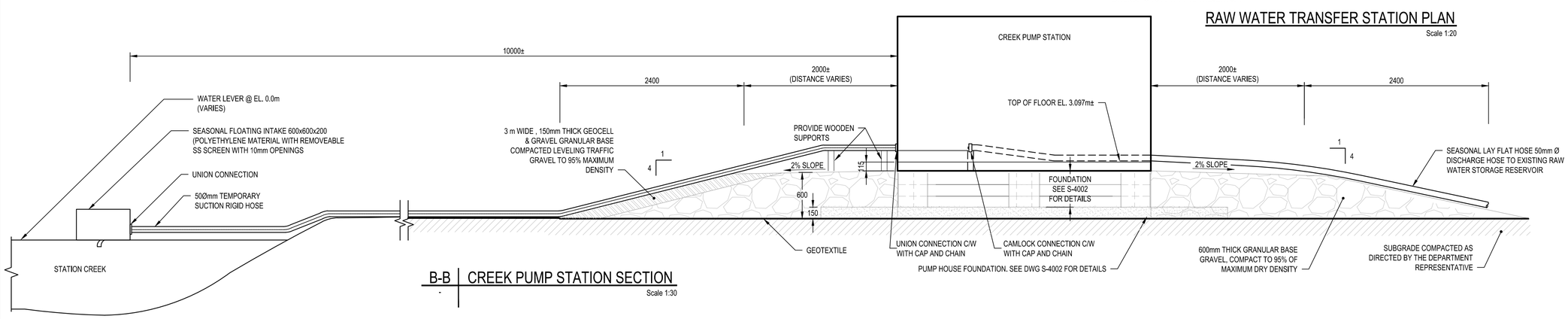
A-A | RAW WATER TRANSFER PUMP STATION ACCESS ROAD AND PARKING AREA SECTION

Scale 1:30



RAW WATER TRANSFER STATION PLAN

Scale 1:20



B-B | CREEK PUMP STATION SECTION

Scale 1:30

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

AECOM

ORIGINAL SIGNED BY

P. BARSALOU

2020/06/23

PERMIT TO PRACTICE
AECOM Canada Ltd.
Signature SIGNED BY B.B.
SIGNED ON 06.23.2020
PERMIT NUMBER: P 639
The Association of Professional Engineers and Geophysicists of the NWT/NU.

Revision	Description	Date
5		
4		
3		
2		
1	ISSUED FOR CONSTRUCTION	2021/04/15
0	ISSUED FOR TENDER	2020/06/19

Client / client

Public Works and Government Services Canada

310-269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

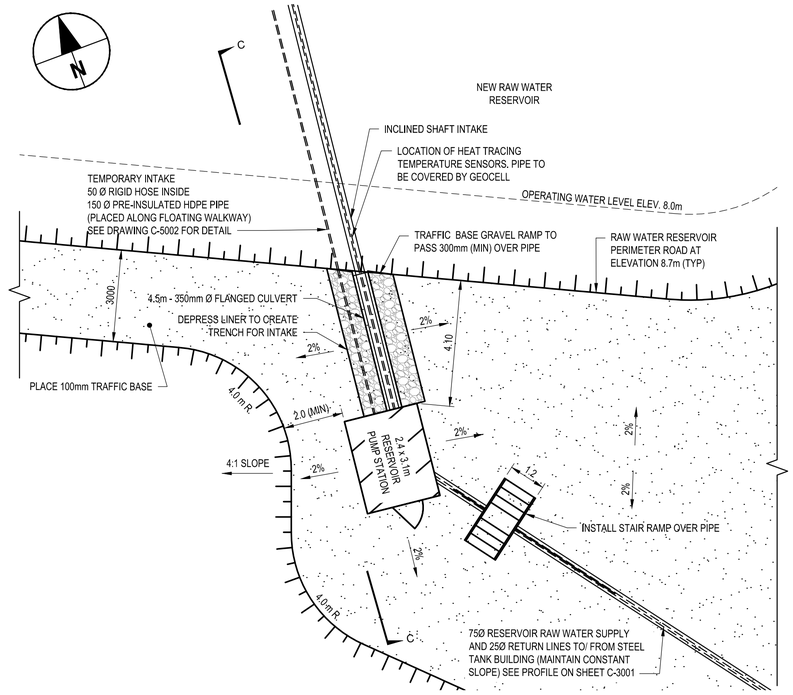
EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **A. FARROKHI**
Drawn by / Dessiné par: **G. LACOSTE**
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

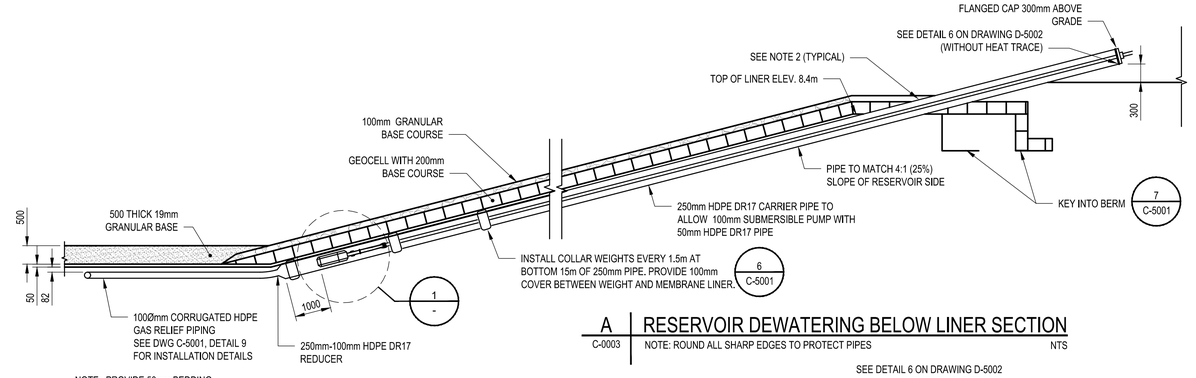
Drawing title / Titre du dessin

CIVIL
CREEK PUMP STATION
CROSS SECTIONS

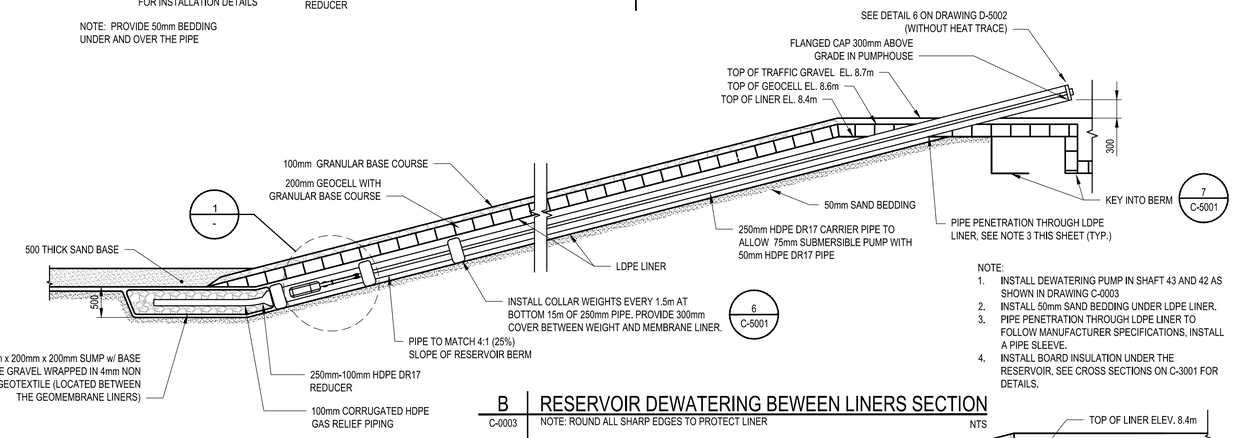
Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	C-0005 OF	1



3 | RESERVOIR PUMP HOUSE PLAN
C-0003 — Scale 1:100

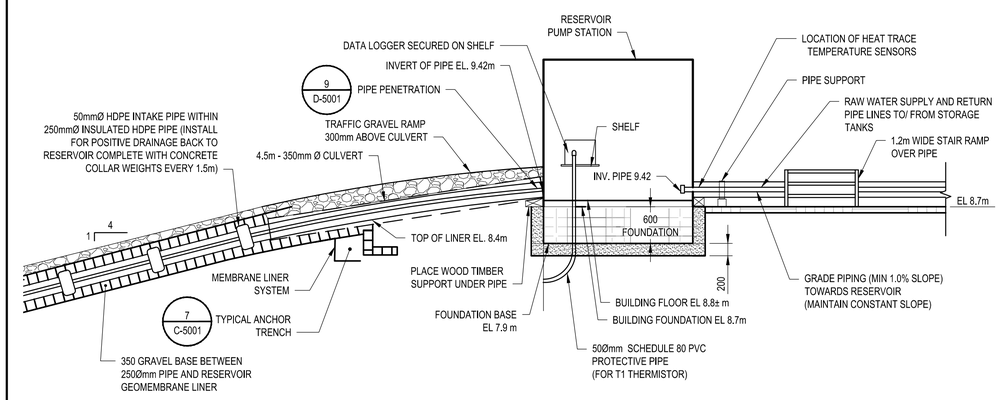


A | RESERVOIR DEWATERING BELOW LINER SECTION
C-0003 — NOTE: ROUND ALL SHARP EDGES TO PROTECT PIPES — NTS

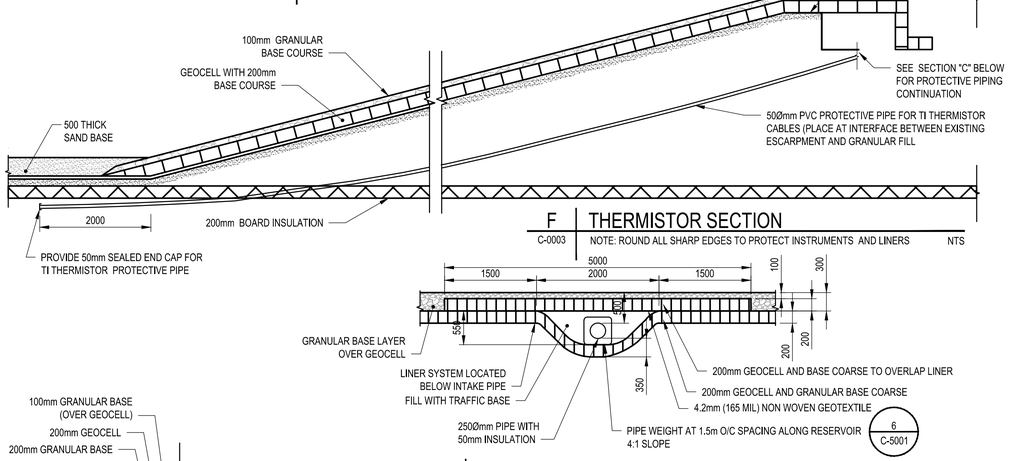


NOTE:
1. INSTALL DEWATERING PUMP IN SHAFT 43 AND 42 AS SHOWN IN DRAWING C-0003
2. INSTALL 50mm SAND BEDDING UNDER LDPE LINER.
3. PIPE PENETRATION THROUGH LDPE LINER TO FOLLOW MANUFACTURER SPECIFICATIONS, INSTALL A PIPE SLEEVE.
4. INSTALL BOARD INSULATION UNDER THE RESERVOIR, SEE CROSS SECTIONS ON C-3001 FOR DETAILS.

B | RESERVOIR DEWATERING BEWEEN LINERS SECTION
C-0003 — NOTE: ROUND ALL SHARP EDGES TO PROTECT LINER — NTS

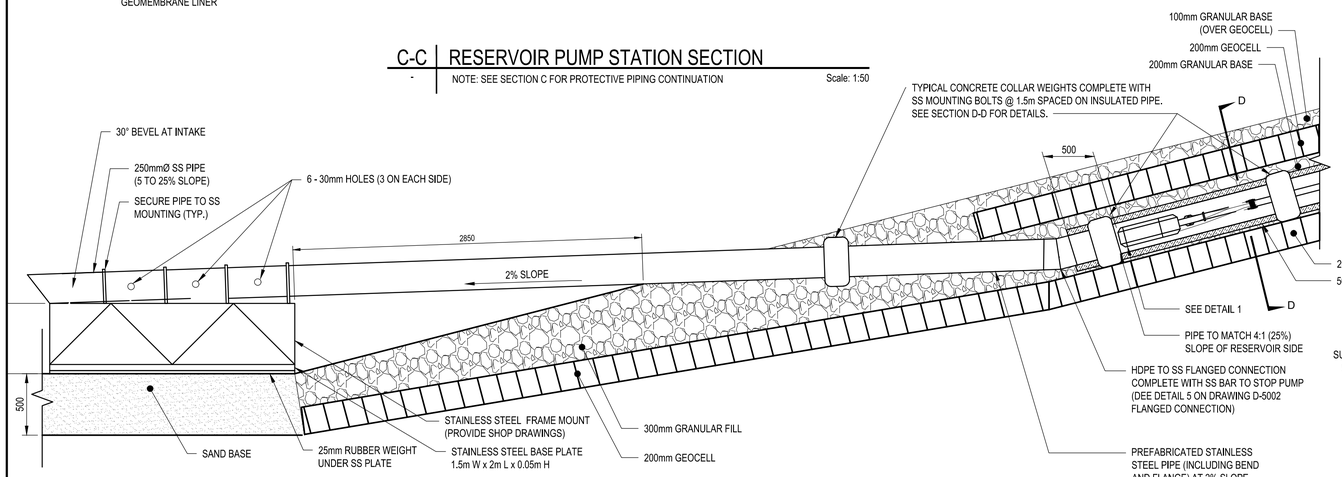


C-C | RESERVOIR PUMP STATION SECTION
- — NOTE: SEE SECTION C FOR PROTECTIVE PIPING CONTINUATION — Scale: 1:50

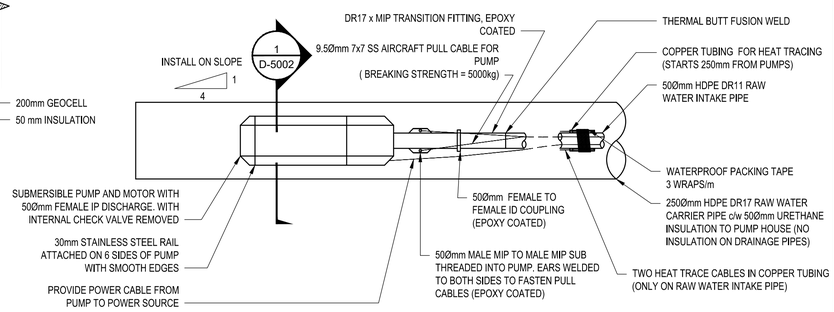


F | THERMISTOR SECTION
C-0003 — NOTE: ROUND ALL SHARP EDGES TO PROTECT INSTRUMENTS AND LINERS — NTS

D | COVERED INTAKE CROSS SECTION
- — Scale 1:50



E | COVERED INTAKE CROSS SECTION
C-0003 — NOTE: ROUND ALL SHARP EDGES TO PROTECT LINERS — Scale 1:20



1 | SUMBERSIBLE PUMP DETAIL (RAW WATER AND DRAINAGE PUMPS)
- — NOTE: PROVIDE PIPE WEIGHTS AS NOTED — Scale 1:10

NOTES:
1. POSITION PUMP 0.5m AWAY FROM BEND IN INCLINED SHAFT AND DRAINAGE SUCTION PIPE.
2. INSTALLATION, SEALING, JOINING & ANCHORING OF PIPE PENETRATIONS SHALL CONFORM TO MEMBRANE MANUFACTURER'S SPECIFICATIONS. CONTRACTOR TO SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW.

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Client: client

Public Works and Government Services Canada

310-269 Main Street, R3C 1B3 Winnipeg, MB

Project title / Projet

NUNAVUT EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **A. FARROKHI**

Drawn by / Dessiné par: **G. LACOSTE**

Approved by / Approuvé par: **P. BARSALOU**

PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

CIVIL RESERVOIR PUMP STATION PLAN AND SECTION VIEWS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	C-0006 OF	1

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

AECOM

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P. BARSALOU
2020/06/23

PERMIT TO PRACTICE
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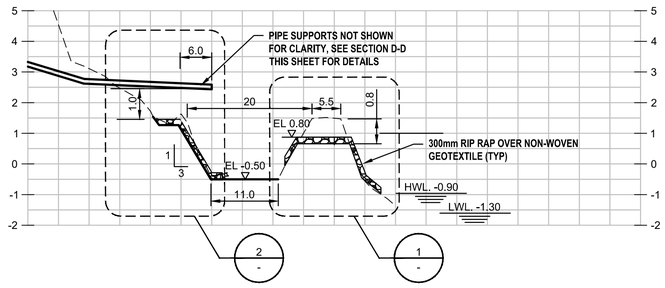
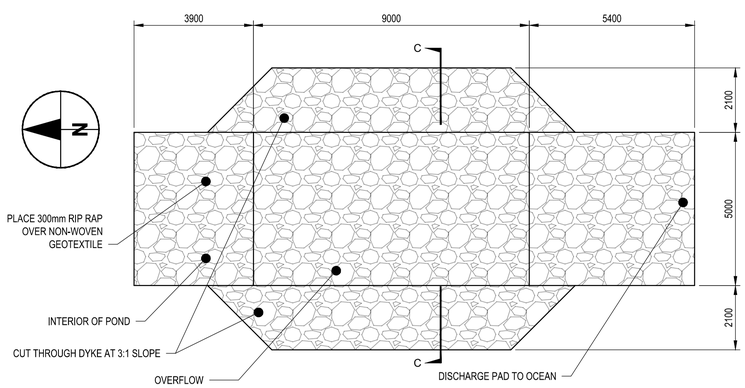
Signature SIGNED BY B.B.
SIGNED ON 06.23.2020
PERMIT NUMBER: P 639
The Association of Professional Engineers and Geophysicists of the NWT/NU.



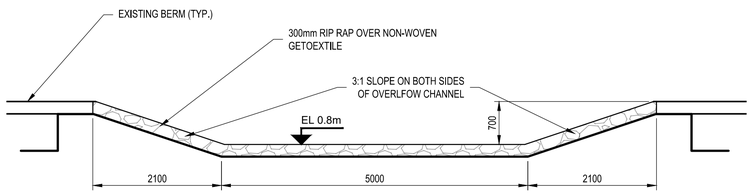
PROFILE OF RETENTION BASIN UPGRADE & FORCEMAIN OUTLET STRUCTURE

Scale N.T.S.



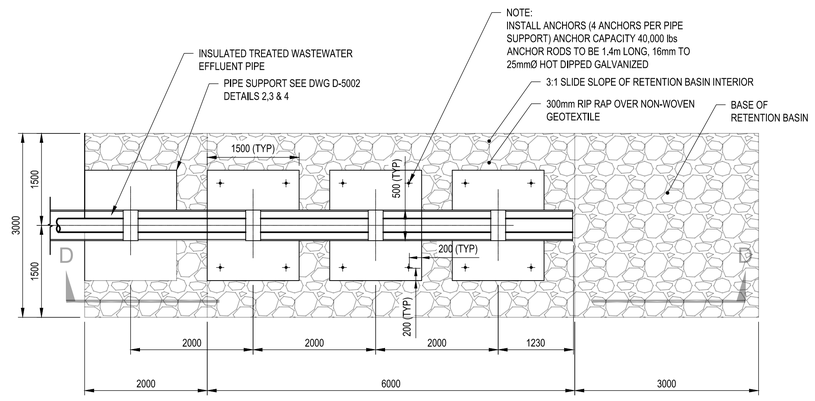
1 - RETENTION BASIN DICHARGE CHANNEL PLAN

Scale 1:100



C-C - RETENTION BASIN DISCHARGE CHANNEL SECTION

Scale 1:50

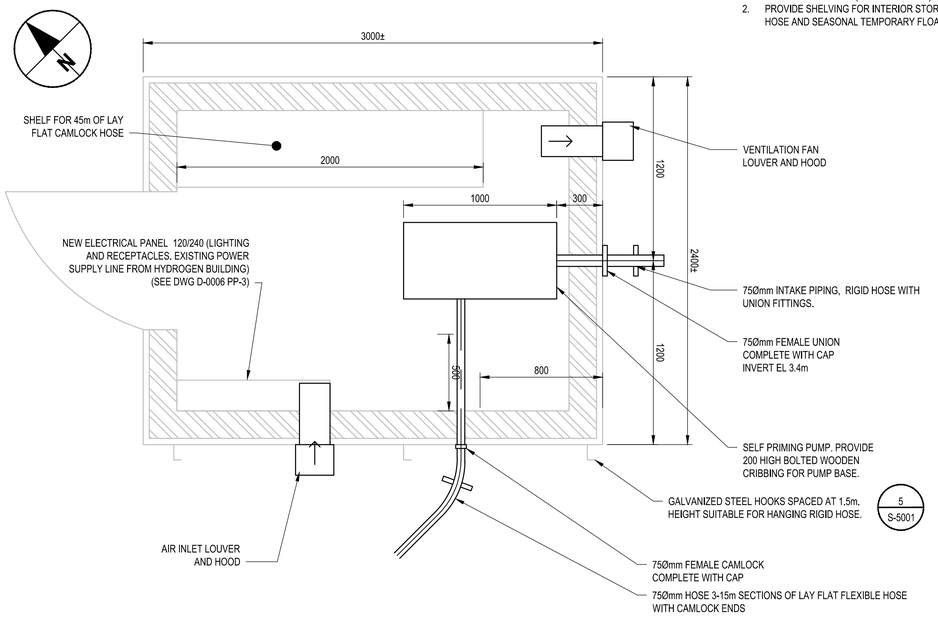


2 - RETENTION BASIN INLET PAD c/w FORCEMAIN OUTLET STRUCTURE

Scale 1:50

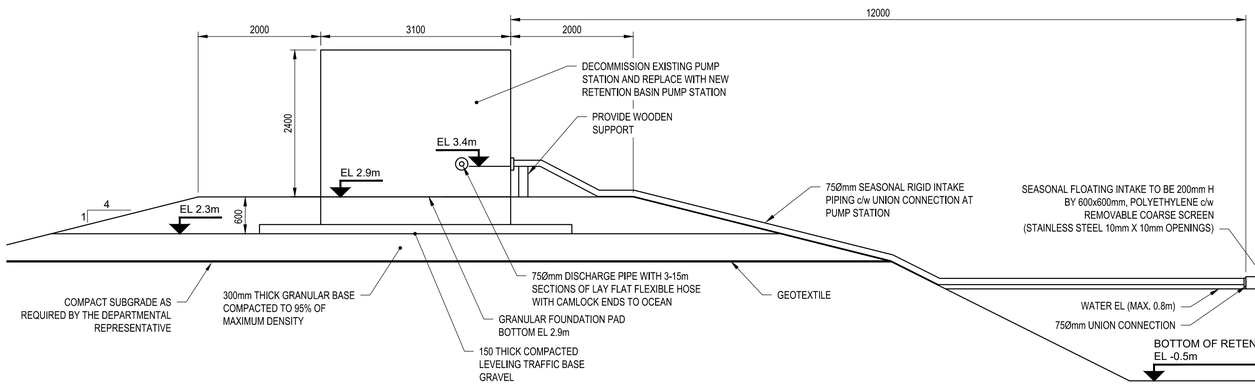
NOTES:

1. PROVIDE STURDY GALVANIZED BRACKETS TO SUPPORT RIGID HOSE ON EXTERIOR. (SEE DWG S-5001)
2. PROVIDE SHELVING FOR INTERIOR STORAGE OF LAY FLAT HOSE AND SEASONAL TEMPORARY FLOATING INTAKE.



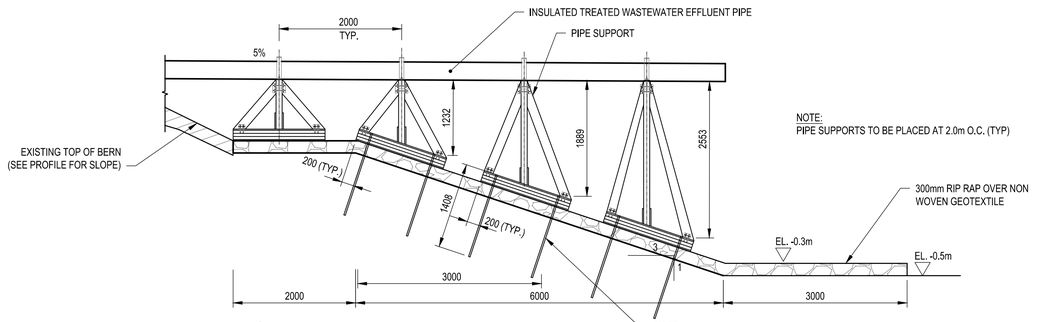
RETENTION BASIN PUMP STATION PLAN

Scale 1:20



RETENTION BASIN PUMP STATION SECTION

Scale 1:50



D-D - INTAKE PIPE CHANNEL SECTION

Scale 1:50

NOTE:
PIPE SUPPORTS TO BE PLACED AT 2.0m O.C. (TYP)

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

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ORIGINAL SIGNED BY

P. BARSALOU

2020/06/23

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Signature SIGNED BY B.B.
SIGNED ON 06.23.2020
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Client / client

Public Works and Government Services Canada

310-269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **A. FARROKHI**
Drawn by / Dessiné par: **G. LACOSTE**
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

CIVIL
UPGRADED RETENTION BASIN PLAN, CROSS SECTIONS AND DETAILS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	C-0007 OF	1

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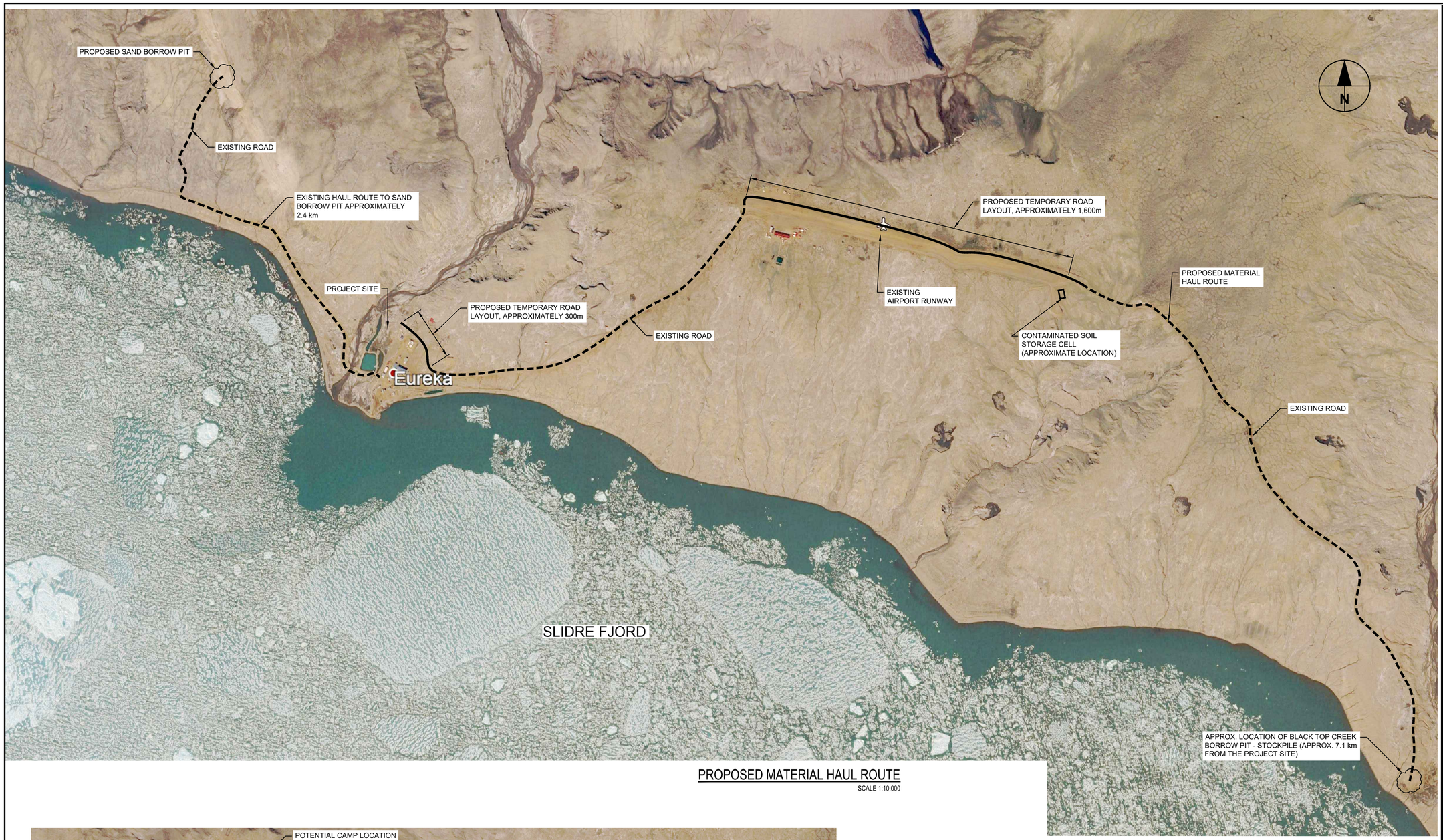
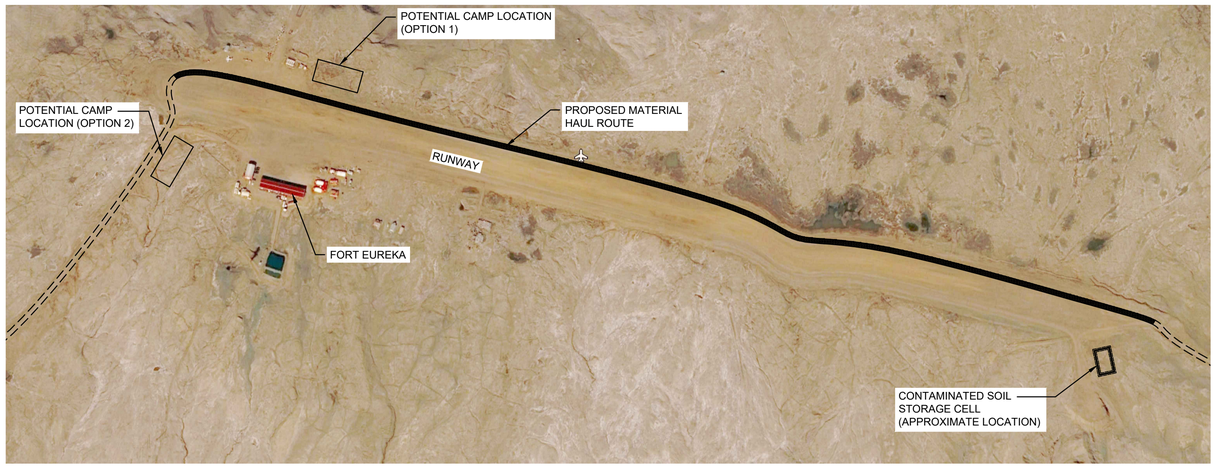


PROPOSED MATERIAL HAUL ROUTE

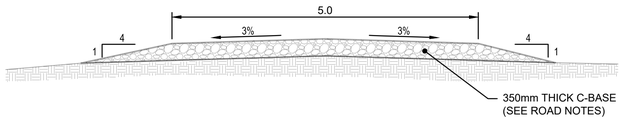
SCALE 1:10,000

IMAGE OBTAINED FROM GOOGLE EARTH (2016)



PROPOSED ROAD LAYOUT AT THE EXISTING AIRPORT

NTS



ROAD X-SECTION

Scale NTS

BENCH MARK:
749167A
LOCATED ON THE FOSHEIM PEN OF ELLESMERE ISLAND AT THE AIRSTRIP OF THE EUREKA WEATHER STATION, ON BRADLEY AIR SERVICE PROPERTY, 16.04m FROM MAIN STATION "749167", MARKED BY A BRASS TABLET SET ON A COPPER ROD.
ELEV. 77.851m (Geoid. HT2_0)

ROAD NOTES:
1. CONSTRUCT TEMPORARY ROADS TO HAUL GRANULAR MATERIAL FROM BLACK TOP CREEK STOCKPILE AS SHOWN.
2. PROOF-ROLL AND COMPACT EXISTING SUBGRADE. REMOVE SOFT / WET MATERIAL IF REQUIRED.
3. INSTALL 0.35m THICK C-BASE AS PER SECTION 32 11 23 AGGREGATE BASE COURSES.
4. COORDINATE TRAFFIC ON EXISTING ROAD AND AT AIRPORT WITH OTHER CONTRACTORS AND THE STATION.
5. PROTECT AND AVOID ALL EXISTING INFRASTRUCTURE AND RESEARCH EQUIPMENT.
6. CAMP SET-UP INCLUDES SITE LEVELING AND USE OF UP TO 100m3 OF STOCKPILED GRANULAR.
7. TEMPORARILY RE-ROUTE OR / PROTECT CABLES ON BRIDGE NEAR FRESHWATER RESERVOIR.
8. PROHIBIT HEAVY EQUIPMENT ON BRIDGE OVER CREEK. LIMIT TO LIGHT TRUCKS ¾ TON ONLY.

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

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

REAL PROPERTY SERVICES
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Région de l'ouest

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Client / client

Public Works and Government Services Canada

310-269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par
A. FARROKHI

Drawn by / Dessiné par
G. LACOSTE

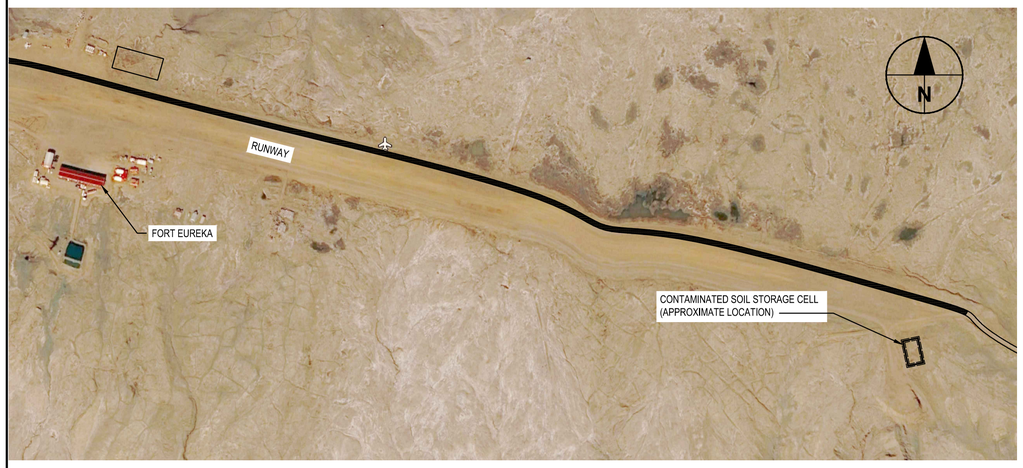
Approved by / Approuvé par
P. BARSALOU

PWGSC Project Manager / Administrateur de Projets TPSGC
M. MOGAN

Drawing title / Titre du dessin

CIVIL
OVERALL
PROPOSED MATERIAL HAUL ROUTE

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	C-0008 OF	1

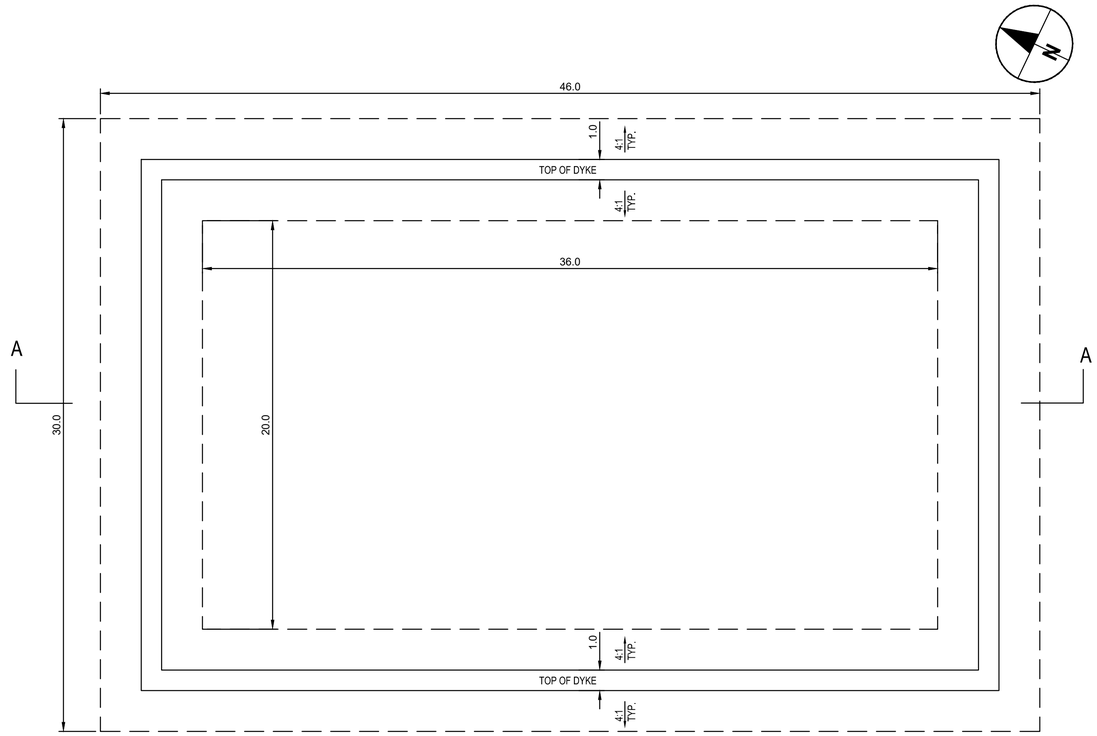


CONTAMINATED SOIL STORAGE CELL POTENTIAL LOCATION

Scale NTS

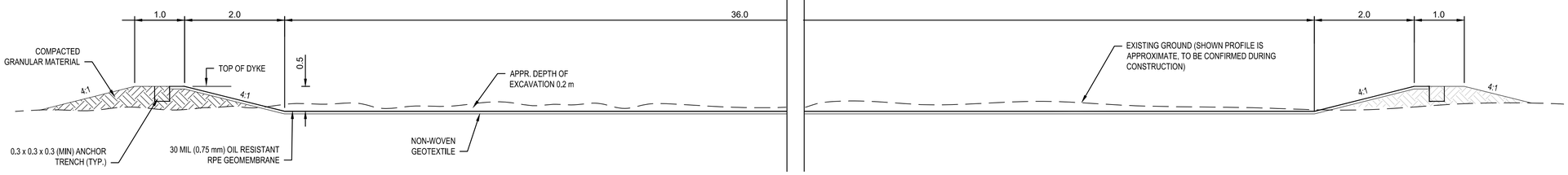
CONSTRUCTION NOTES:

1. PRIOR TO CONSTRUCTION, DELETERIOUS SOILS COMPRISING VEGETATION, TOPSOIL, AND THE SOFT/VERY SOFT, LOOSE, WET, DISTURBED, PORTION OF NATIVE SOILS, IF ANY, SHOULD BE REMOVED FROM THE STORAGE CELL FOOTPRINT.
2. FOLLOWING INITIAL SITE STRIPPING OF DELETERIOUS SOILS, AND PRIOR TO GRADING, AREAS IDENTIFIED FOR FILL PLACEMENT SHOULD BE COMPACTED. ANY SOFT AREAS SHOULD BE OVER-EXCAVATED AND BACKFILLED TO A MINIMUM 98% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD) USING GRANULAR BASE MATERIAL.
3. ALL FILL REQUIRED TO RAISE THE SUBGRADE ELEVATION SHOULD MEET THE REQUIREMENTS AS DEFINED IN SECTION 32 11 23 - AGGREGATE BASE COURSES.
4. FILL MATERIAL SHOULD BE PLACED IN LIFTS NOT EXCEEDING 150MM IN COMPACTED THICKNESS AND A MINIMUM DENSITY OF 98% SPMDD.
5. THE FINISHED SUBGRADE MUST BE FREE OF DEPRESSIONS.
6. THE CONTRACTOR SHALL ENSURE THAT LOCAL DRAINAGE PATTERNS ARE NOT ALTERED BY THE CONSTRUCTION.
7. CELL DYKES TO BE CONSTRUCTED USING GRANULAR BASE COURSE AS DEFINED IN SECTION 32 11 23, WITH 4:1 INTERIOR AND EXTERIOR SLOPES.
8. THE STOCKPILE OF CONTAMINATED SOIL SHALL BE COVERED BY A 30 mil (0.75 mm) OIL RESISTANT RPE GEOMEMBRANE LINER AFTER SOIL PLACEMENT IS COMPLETE. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.
9. HANDLING AND INSTALLATION OF THE LINER SHALL FOLLOW MANUFACTURER'S RECOMMENDATIONS.
10. WELDING OF THE LINER SHEETS SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
11. THE LINER MATERIAL SHALL NOT BE PUNCTURED DURING PLACEMENT.
12. SECURE THE COVER LINER IN A 0.5 m x 0.5 m x 0.5 m ANCHOR TRENCH ON THE EXTERIOR OF THE BERM SO THAT PRECIPITATION IS SHED OFF OF THE STORAGE CELL.
13. SECURE THE TOP OF THE COVER MATERIAL WITH SANDBAGS AT A 5 M GRID TO PREVENT FROM WIND DAMAGE.



1 - PROPOSED CONTAMINATED SOIL STORAGE CELL PLAN

Scale 1:100



A - PROPOSED CROSS SECTION, LINER AND GEOTEXTILE DETAILS

Scale 1:50

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

REAL PROPERTY SERVICES
Western Region
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Public Works and Government Services Canada

310-269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par
A. FARROKHI

Drawn by / Dessiné par
G. LACOSTE

Approved by / Approuvé par
P. BARSALOU

PWGSC Project Manager / Administrateur de Projets TPSGC
M. MOGAN

Drawing title / Titre du dessin

CIVIL
CONTAMINATED SOIL STORAGE CELL PLAN, CROSS SECTION AND LOCATION PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	C-0009 OF	1

PWGSC – A1 – 841X594

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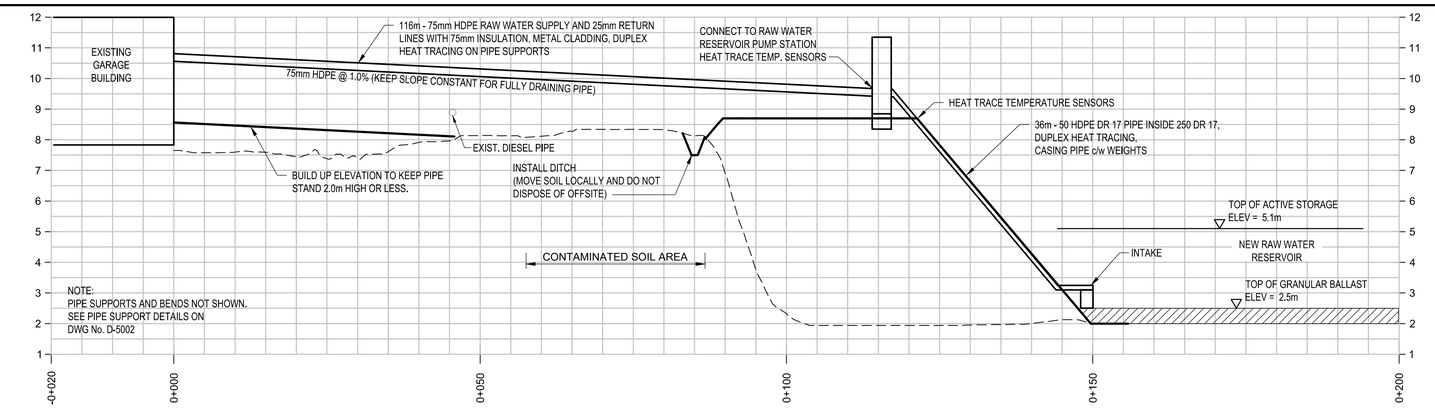
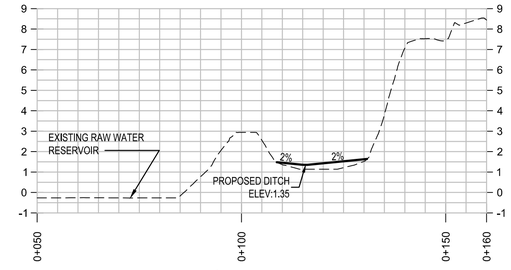
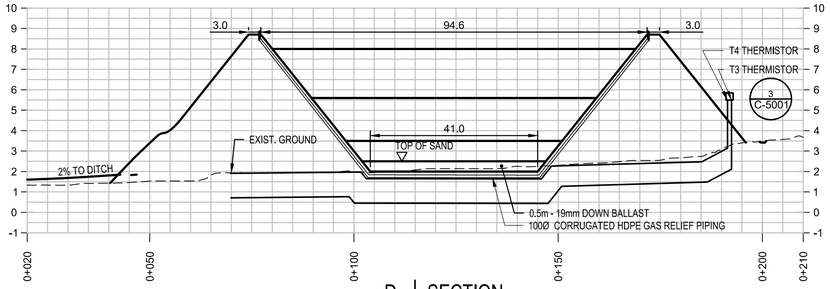


RAW WATER SUPPLY AND RETURN PIPE LINES PROFILE

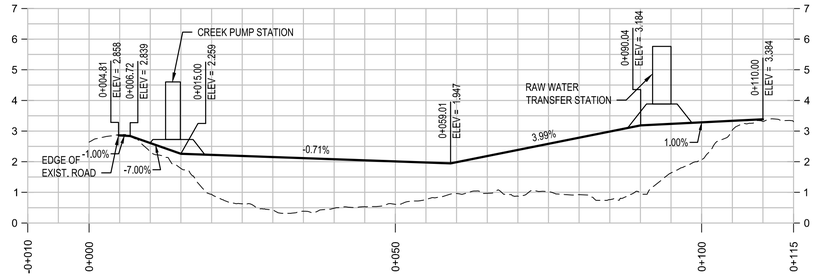
Scale Horz. 1:500
Vert. 1:100



E | SECTION
C-0003 | Scale Horz. 1:750 Vert. 1:150

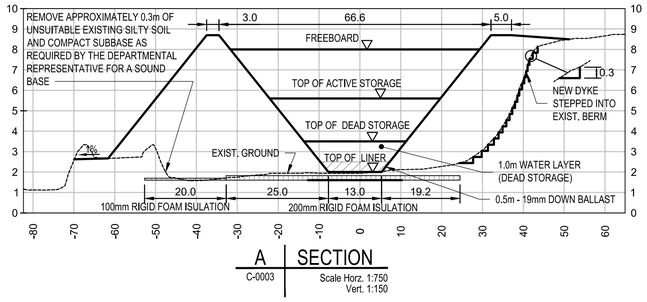


D | SECTION
C-0003 | Scale Horz. 1:750 Vert. 1:150

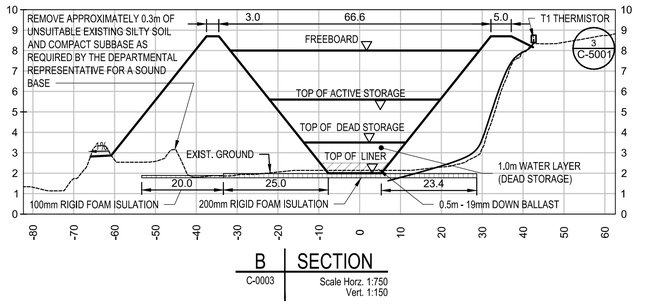


RAW WATER TRANSFER PUMP STATION ACCESS ROAD PROFILE

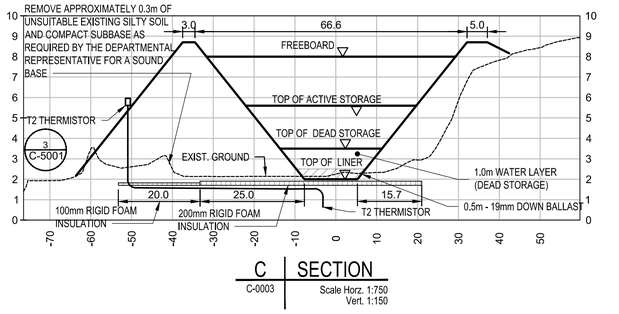
Scale Horz. 1:500
Vert. 1:100



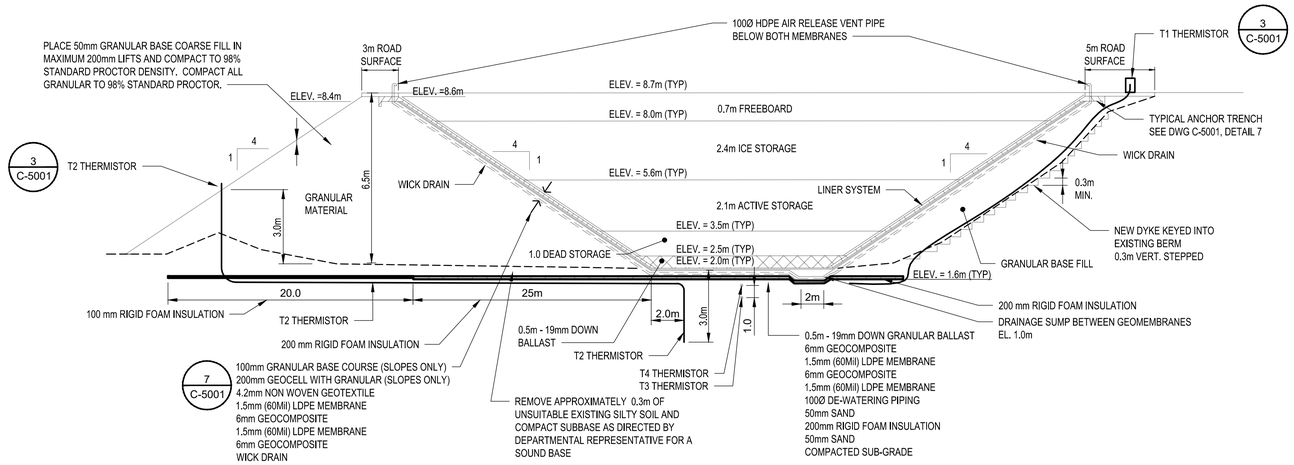
A | SECTION
C-0003 | Scale Horz. 1:750 Vert. 1:150



B | SECTION
C-0003 | Scale Horz. 1:750 Vert. 1:150



C | SECTION
C-0003 | Scale Horz. 1:750 Vert. 1:150



NEW RAW WATER STORAGE RESERVOIR CROSS SECTION DETAIL

Scale NTS

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

AECOM

ORIGINAL SIGNED BY
P. BARSALOU
2020/06/23

PERMIT TO PRACTICE
AECOM Canada Ltd.
Signature SIGNED BY B.B.
SIGNED ON 06.23.2020
PERMIT NUMBER: P 639
The Association of Professional Engineers and Geophysicists of the NWT/NU.

Revision	Description	Date
5		
4		
3		
2		
1	ISSUED FOR CONSTRUCTION	2021/04/15
0	ISSUED FOR TENDER	2020/06/19

Client / client

Public Works and Government Services Canada

310-269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **A. FARROKHI**
Drawn by / Dessiné par: **G. LACOSTE**
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

CIVIL
NEW RAW WATER STORAGE RESERVOIR PROFILES AND SECTIONS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	C-3001 OF	1

PWGSC – A1 – 841X594

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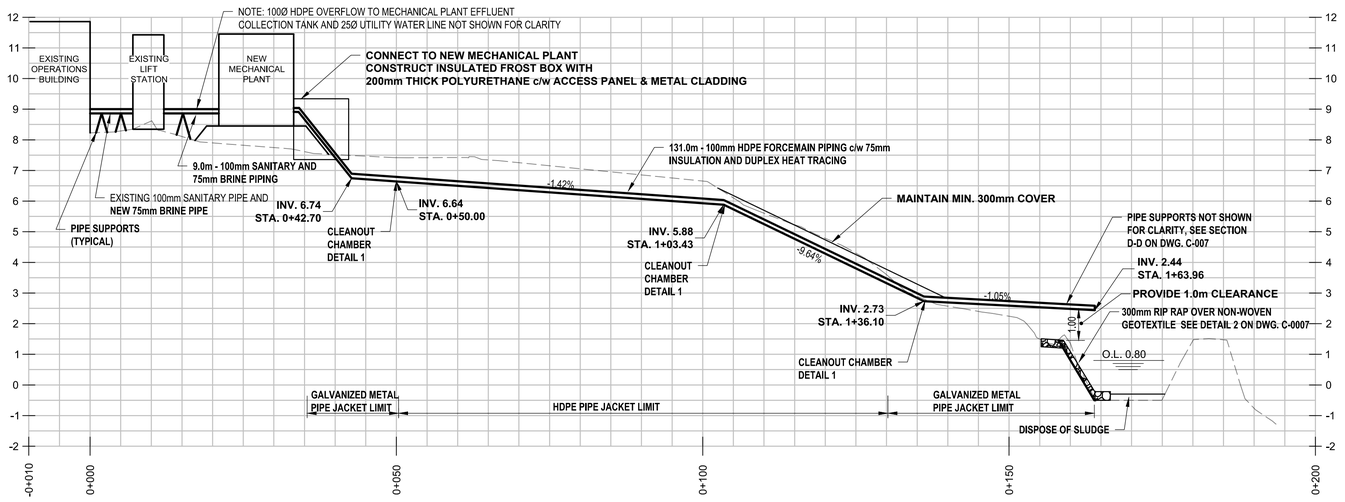
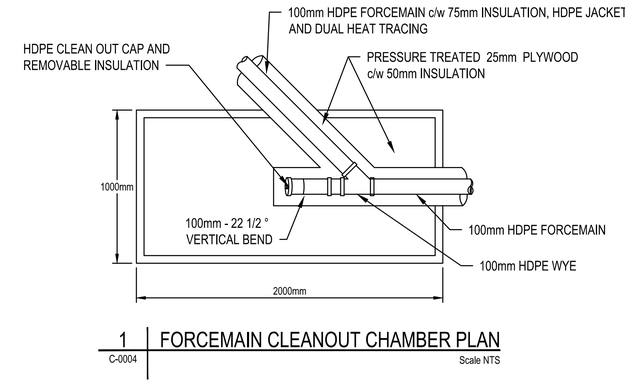
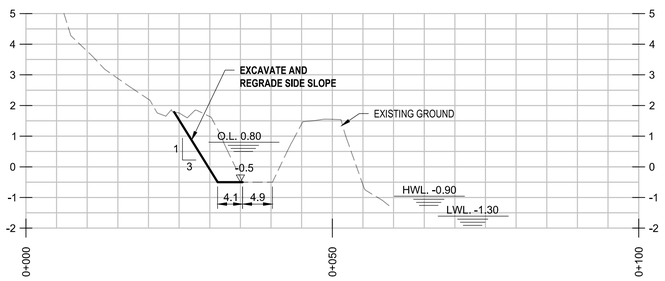


FINAL EFFLUENT FORCEMAIN PROFILE

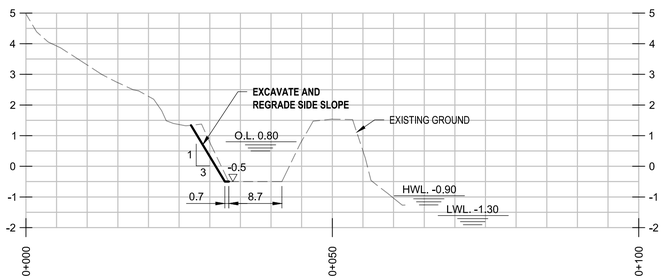
Scale 1:500
Vert. 1:100



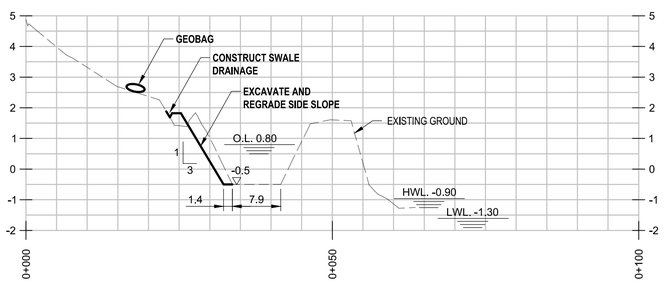
1 | FORCEMAIN CLEANOUT CHAMBER PLAN
C-0004 — Scale NTS



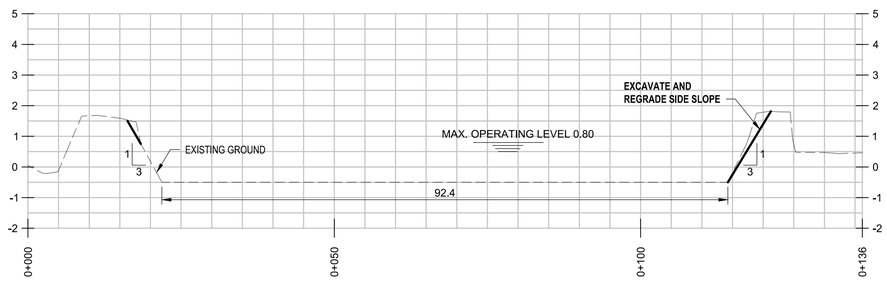
A | RETENTION BASIN SECTION
C-0004 — Scale Horz. 1:500, Vert. 1:100



B | RETENTION BASIN SECTION
C-0004 — Scale Horz. 1:500, Vert. 1:100



C | RETENTION BASIN SECTION
C-0004 — Scale Horz. 1:500, Vert. 1:100



D | RETENTION BASIN SECTION
C-0004 — Scale Horz. 1:500, Vert. 1:100

NOTES:
1. DISPOSE OF SLUDGE PRIOR TO REGRADING AND EXCAVATING RETENTION POND. SLUDGE TO BE DRAINED, DRIED AND INCINERATED AT LANDFILL.

2. DISPOSE OF EXTRA SOIL IN AREA AS SHOWN ON C-0004, EAST OF RETENTION BASIN.

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

AECOM

ORIGINAL SIGNED BY

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Public Works and Government Services Canada

310-269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **A. FARROKHI**
Drawn by / Dessiné par: **G. LACOSTE**
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

CIVIL
UPGRADED RETENTION BASIN PROFILES AND SECTIONS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	C-3002 OF	1

PWGSC — A1 — 841X594

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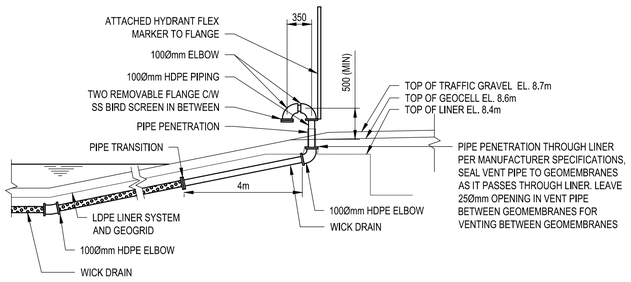
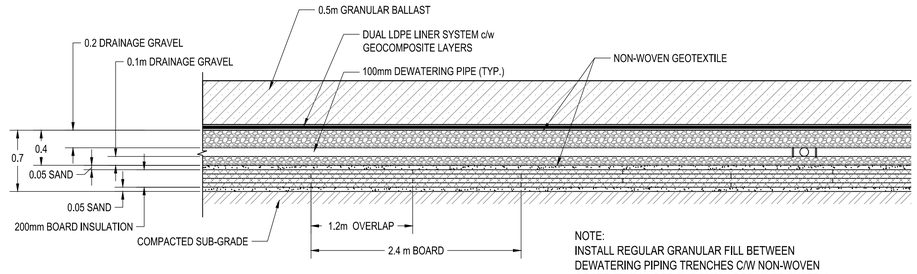
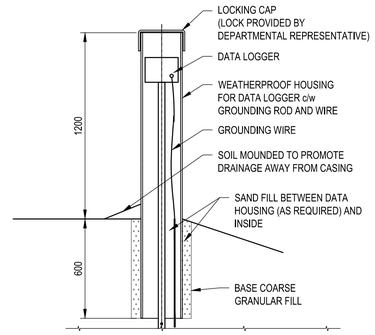


1 | GAS RELIEF SYSTEM DETAIL
C-0003 | Scale NTS

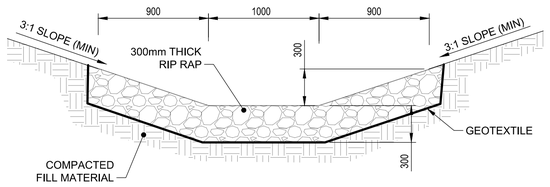


NOTE:
INSTALL REGULAR GRANULAR FILL BETWEEN DEWATERING PIPING TRENCHES C/W NON-WOVEN GEOTEXTILE UNDER THE DUAL LDPE LINER SYSTEM.

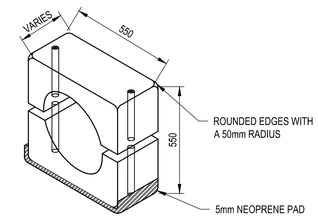
2 | BOARD INSULATION INSTALLATION DETAIL
C-3001 | Scale NTS

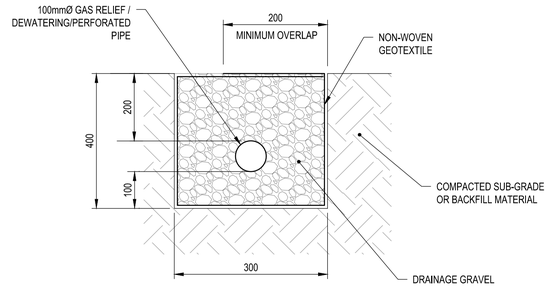


3 | DATA LOGGER DETAIL
N.T.S

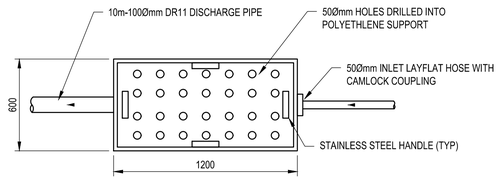


DITCH RIP-RAP DETAIL
Scale NTS





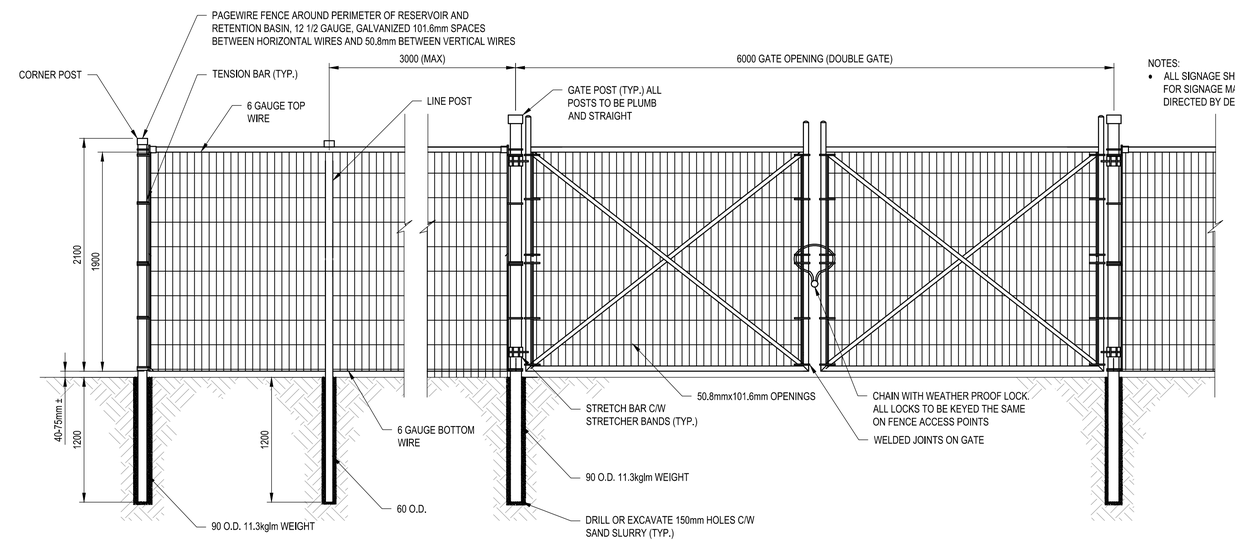
GAS RELIEF/DEWATERING PIPING
4 | TRENCH INSTALLATION DETAIL
C-0003 | Scale NTS



5 | HYDROCARBON COLLECTION DETAIL
C-0003 | Scale 1:20

NOMINAL PIPE SIZE	APPROX. WEIGHT IN AIR	APPROX. WEIGHT IN WATER	SPACING	LOCATION
250 PIPE AND 50mm INSULATION (NOMINAL SIZE 350mm)	135 kg	80 kg	1.5m	INTAKE PIPE
250 PIPE WITHOUT INSULATION	100 kg	60 kg	1.5m	INTAKE PIPE

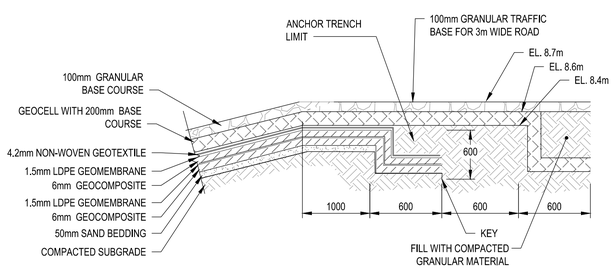
6 | PRECAST CONCRETE COLLAR WEIGHT DETAIL
C-0006 | Scale NTS



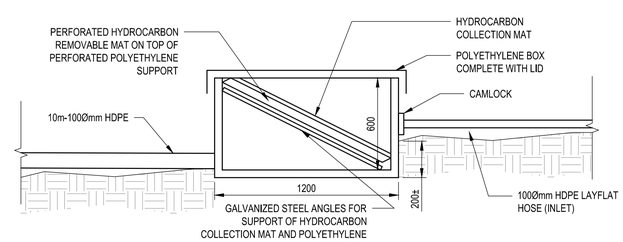
NOTES:
- ALL SIGNAGE SHALL BE IN ACCORDANCE WITH SECTION 10 14 53 FOR SIGNAGE MATERIAL AND INSTALLATION DETAILS AND AS DIRECTED BY DEPARTMENT REPRESENTATIVE

8 | TYPICAL FENCE DETAIL
C-0003 | Scale NTS

NOTE: PERSON GATES TO BE 1200mm WIDE GATE POSTS, WITH CHAIN LOCK , HINGES, GATE BRACING AND DROP LATCH



7 | TYPICAL ANCHOR TRENCH
Scale NTS



A-A | HYDROCARBON COLLECTION SECTION
C-0003 | Scale 1:20

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

AECOM

ORIGINAL SIGNED BY
P. BARSALOU
2020/06/23

PERMIT TO PRACTICE
AECOM Canada Ltd.
Signature SIGNED BY B.B.
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The Association of Professional Engineers and Geophysicists of the NWT/NU.

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Client / client

Public Works and Government Services Canada

310-269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **L. CHUNDEROVA**
Drawn by / Dessiné par: **G. LACOSTE**
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

CIVIL
GENERAL
CIVIL DETAILS
SHEET 1 OF 2

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	C-5001 OF	1

PWGSC – A1 – 841X594

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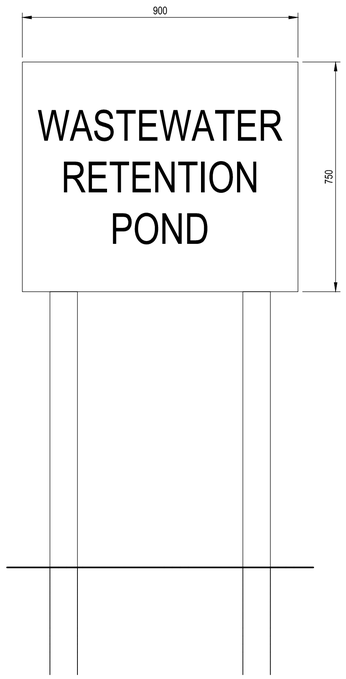
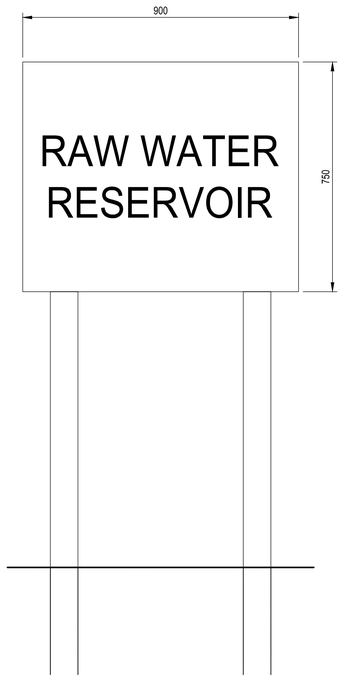
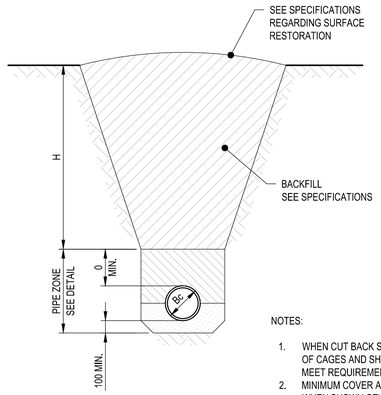




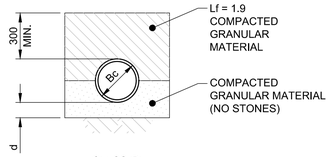


NOTES:

1. WHEN CUT BACK SLOPES ARE TO BE USED IN LIEU OF CAGES AND SHORING, THESE SLOPES ARE TO MEET REQUIREMENTS OF LOCAL CODES.
2. MINIMUM COVER ABOVE PIPE IS 3.5m EXCEPT WHEN SHOWN OTHERWISE
3. Bc = OUTSIDE PIPE DIAMETER

9 | TRENCH

Scale N.T.S.

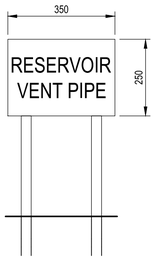


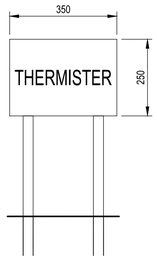
CLASS 'B'

LEGEND:
H = TRENCH DEPTH ABOVE BEDDING ZONE
Bc = OUTSIDE PIPE DIAMETER
d = DEPTH OF BEDDING MATERIAL BELOW PIPE (100mm MIN., 150mm IN ROCK)
As = AREA OF TRANSVERSE STEEL IN THE CRADLE OR ARCH EXPRESSED AS A PERCENTAGE OF AREA OF CONCRETE AT INVERT OR CROWN
Lf = LOAD FACTOR

10 | PIPE ZONE

Scale N.T.S.





NOTE:

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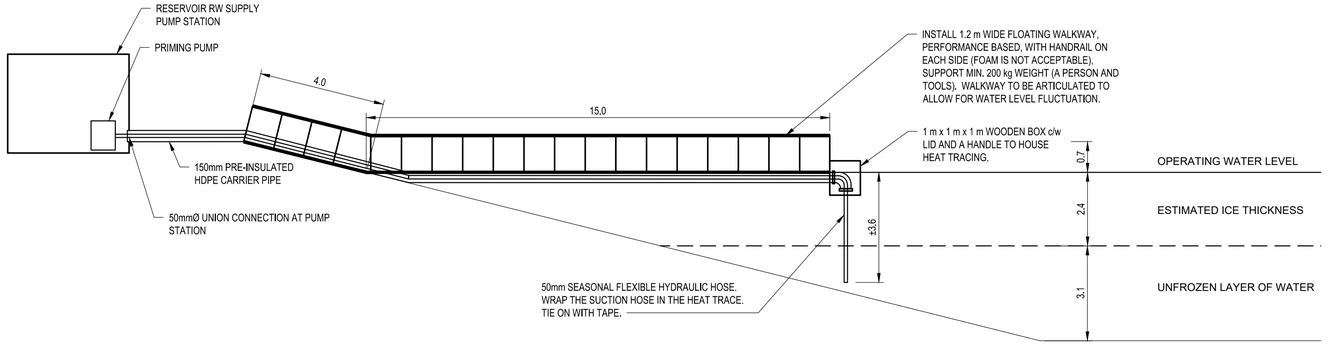
SIGNAGE

Scale N.T.S.



NOTES:

1. POSITION THE 150 mm PRE-INSULATED PIPE ON THE WALKWAY.
2. SECURE IN PLACE LOOSELY TO ALLOW FOR MOVEMENT.
3. THE PIPING IS TO BE CONSTRUCTED IN 2 LENGTHS, CONNECTED BY A FLANGE.
4. PIPE IS TO BE KEPT ON THE RESERVOIR BERM WHEN NOT IN USE.

TEMPORARY INTAKE DETAIL

Scale 1:100

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

AECOM

ORIGINAL
SIGNED BY

P. BARSALOU

2020/06/23

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Client / client

Public Works and Government Services Canada

310-269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par
L. CHUNDEROVA

Drawn by / Dessiné par
G. LACOSTE

Approved by / Approuvé par
P. BARSALOU

PWGSC Project Manager / Administrateur de Projets TPSGC
M. MOGAN

Drawing title / Titre du dessin

CIVIL
GENERAL
CIVIL DETAILS
SHEET 2 OF 2

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	C-5002 OF	1

WASTEWATER TREATMENT PLANT AND PUMP HOUSES LOCATION PLAN

Scale 1:1000

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

AECOM

ORIGINAL
SIGNED BY

J.N. CARTMELL

2020/06/19

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Public Works and Government Services Canada

310- 269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par
G.G. PROFETA

Drawn by / Dessiné par
D. LANDERS

Approved by / Approuvé par
R. MERKOSKY

PWGSC Project Manager / Administrateur de Projets TPSGC
M. MOGAN

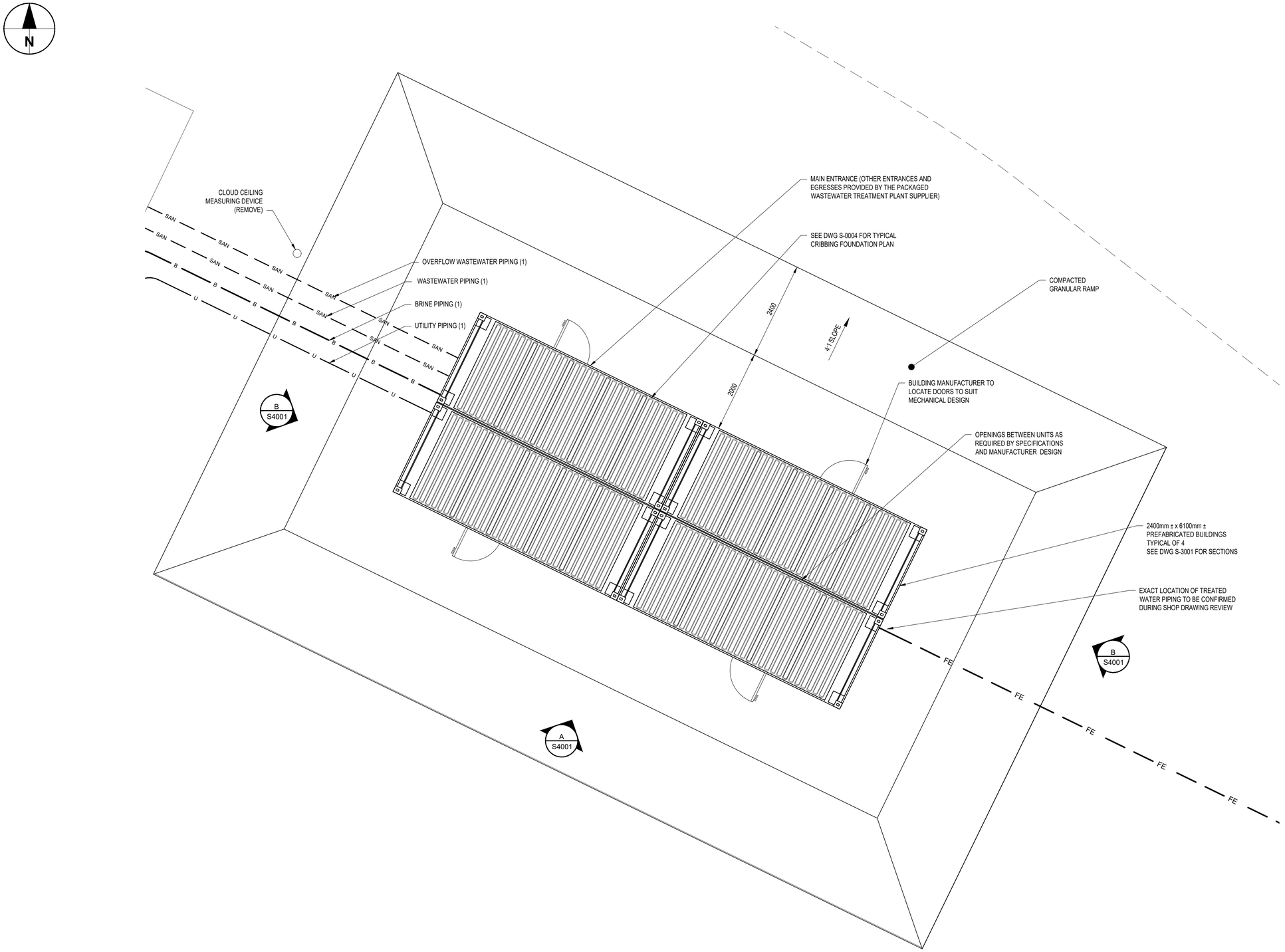
Drawing title / Titre du dessin

STRUCTURAL
PACKAGED WASTEWATER TREATMENT PLANT
AND PUMP STATIONS
LOCATION PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	S-0001 OF	1

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm



1 WASTEWATER MECHANICAL PLANT PLAN

Scale 1:50

0 1250 2500 mm

NOTES;

1. EXACT LOCATIONS OF INCOMING PIPING TO BE DETERMINED DURING SHOP DRAWING REVIEW.
2. 4 PREFABRICATED BUILDINGS ARE SHOWN, HOWEVER THIS MAY BE REDUCED IF THE CONTRACTOR CAN PROVIDE FEWER LARGER CONTAINERS OR IF LESS SPACE IS REQUIRED.
3. BUILDINGS TO BE LEVELED AND FASTENED TOGETHER.

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
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NUNAVUT
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EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **G.G. PROFETA**
Drawn by / Dessiné par: **D. LANDERS**
Approved by / Approuvé par: **R. MERKOSKY**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

STRUCTURAL
PACKAGED WASTEWATER TREATMENT PLANT
PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	S-0002 OF	1

PWGSC – A1 – 841X594

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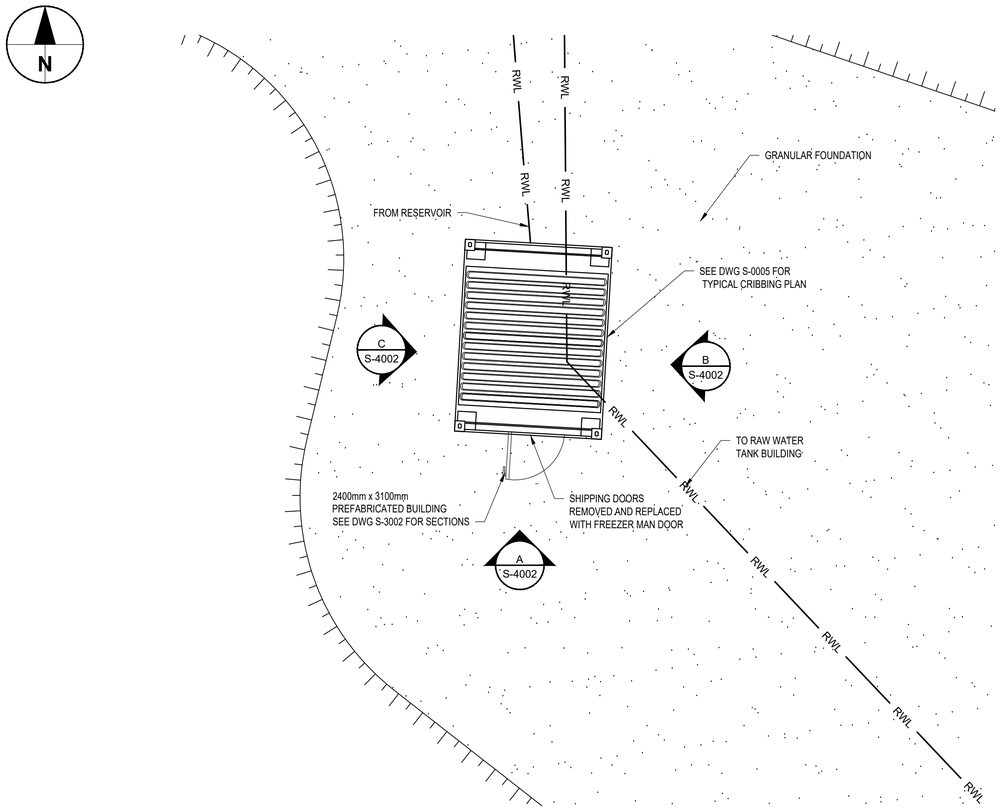
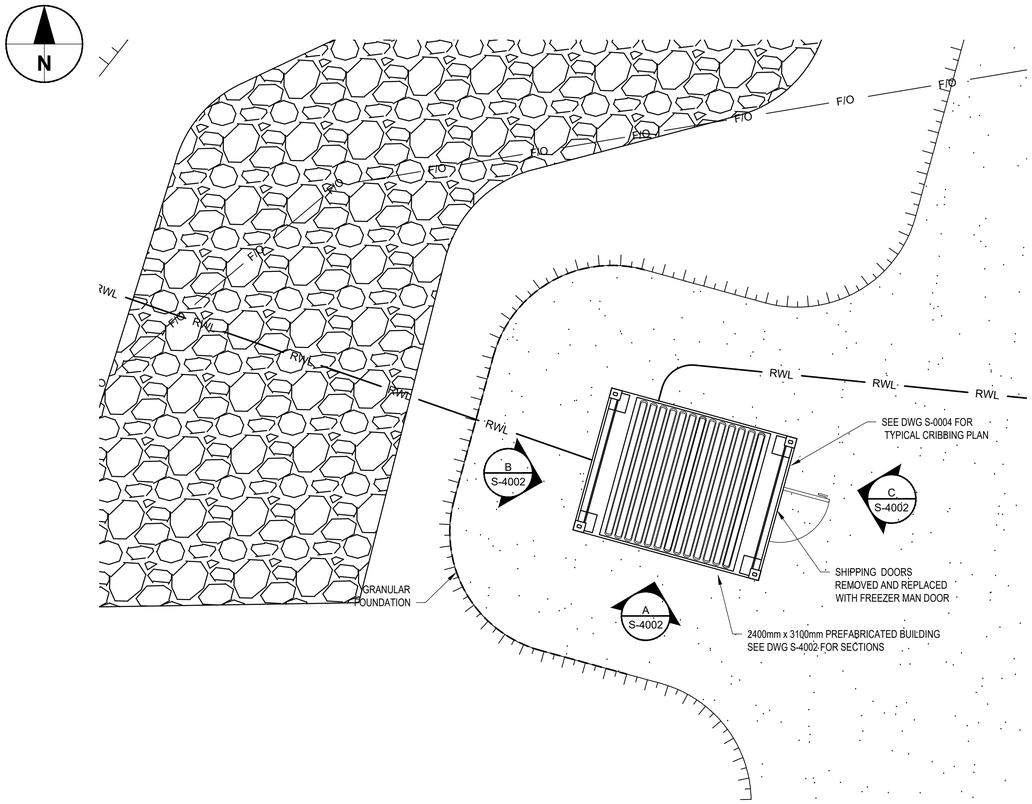


1 | RESERVOIR PUMP STATION PLAN

SCALE 1:50

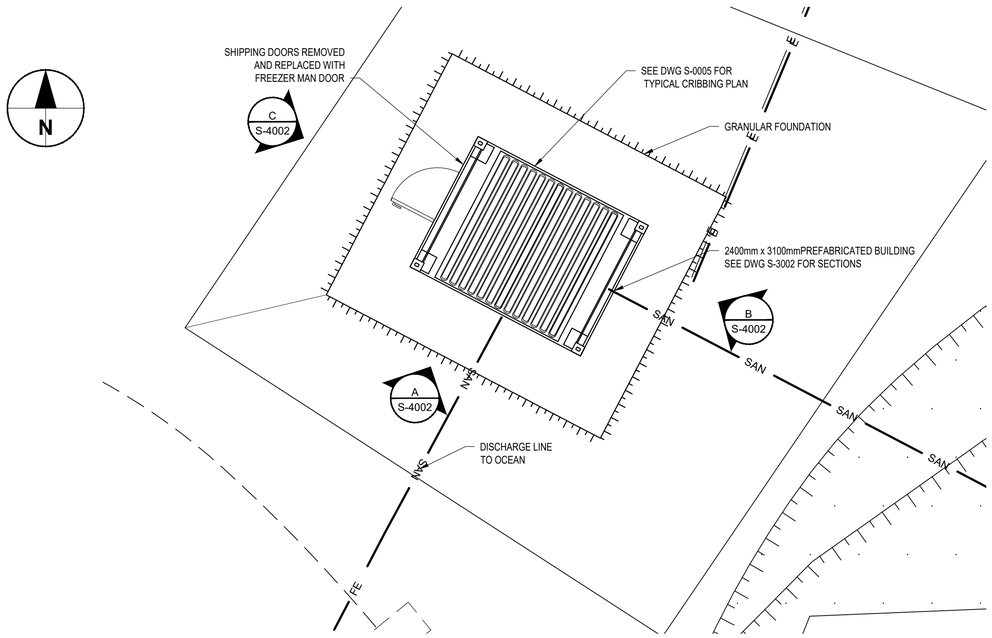
0 1250 2500 mm



2 | CREEK PUMP STATION PLAN

SCALE 1:50

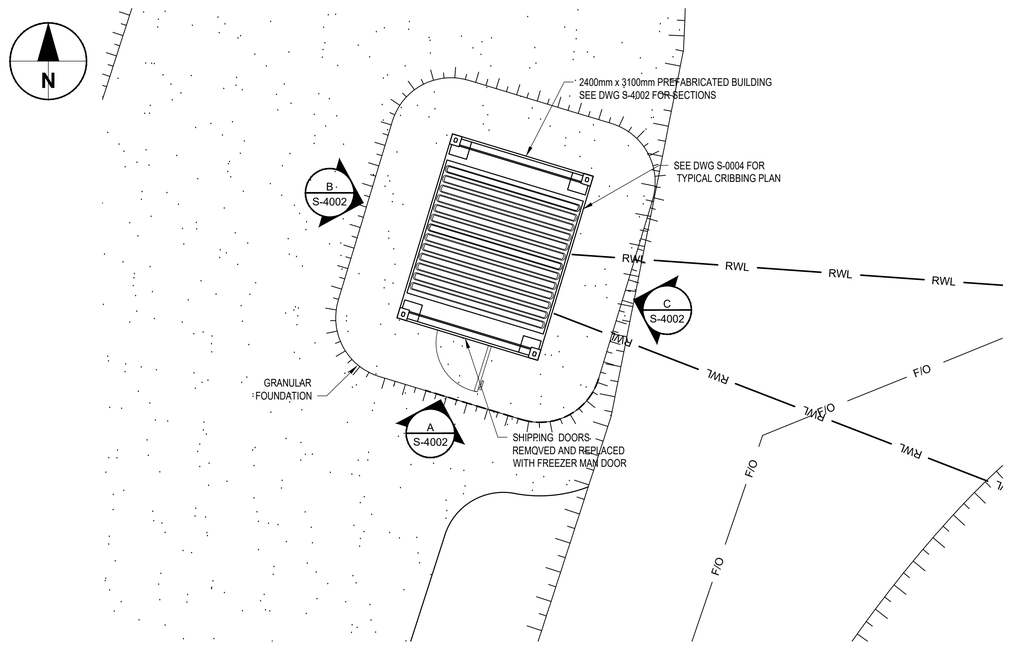
0 1250 2500 mm



3 | RETENTION BASIN PUMP STATION PLAN (WASTEWATER)

SCALE 1:50

0 1250 2500 mm



4 | RAW WATER TRANSFER STATION

SCALE 1:50

0 1250 2500 mm

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

REAL PROPERTY SERVICES
Western Region
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Région de l'ouest

AECOM

ORIGINAL
SIGNED BY

J.N. CARTMELL

2020/06/19

PERMIT TO PRACTICE
AECOM Canada Ltd.
Signature SIGNED BY B.B.
Date SIGNED ON 06.23.2020
PERMIT NUMBER: P 639
The Association of Professional Engineers and Geophysicists of the NWT/NU.

Revision	Description	Date
5		
4		
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1	ISSUED FOR CONSTRUCTION	2021/04/15
0	ISSUED FOR TENDER	2020/06/19

Client / client

Public Works and Government Services Canada

310- 269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **G.G. PROFETA**
Drawn by / Dessiné par: **D. LANDERS**
Approved by / Approuvé par: **R. MERKOSKY**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

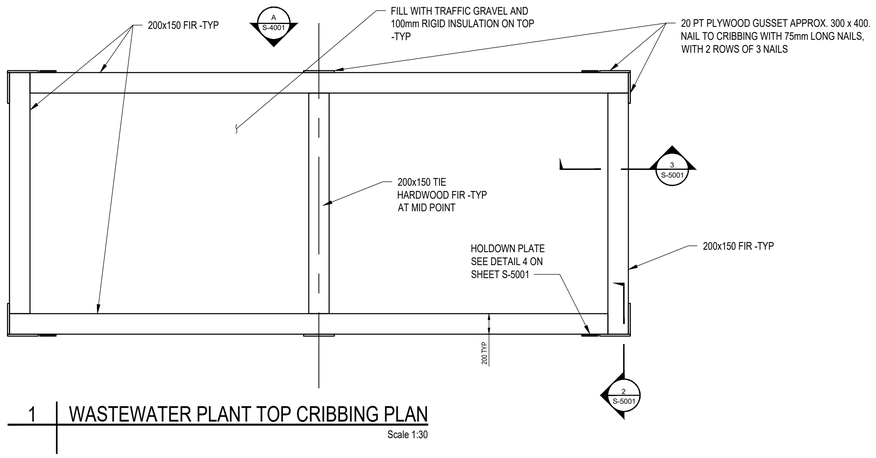
Drawing title / Titre du dessin

STRUCTURAL
CREEK, RAW WATER AND RETENTION BASIN PUMP STATIONS PLANS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	S-0003 OF	1

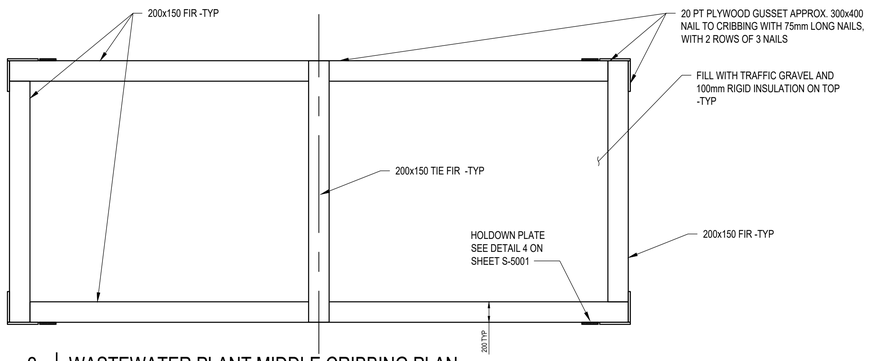
PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm



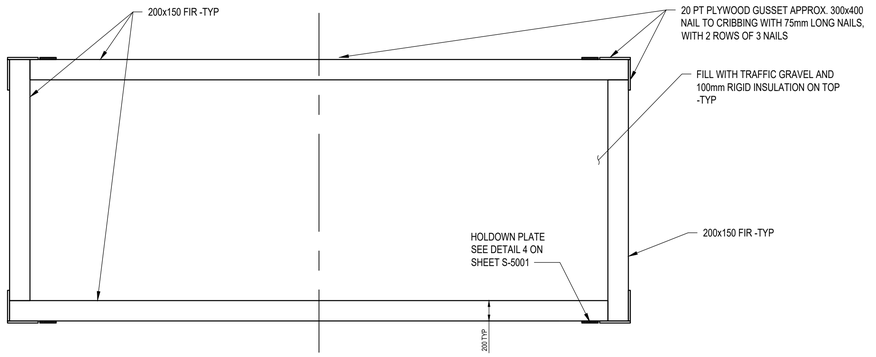
1 | WASTEWATER PLANT TOP CRIBBING PLAN

Scale 1:30



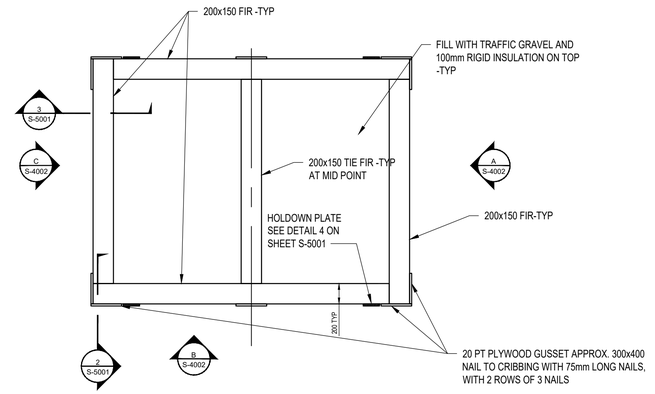
2 | WASTEWATER PLANT MIDDLE CRIBBING PLAN

Scale 1:30



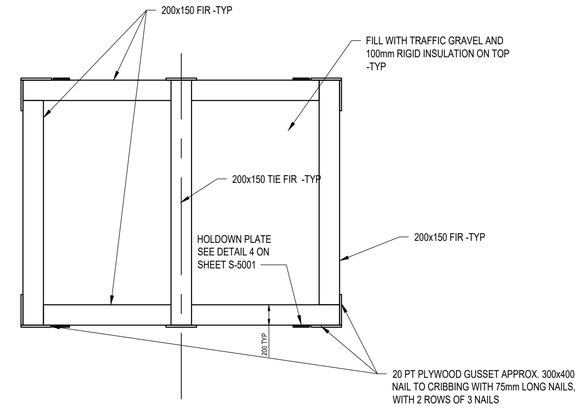
2 | WASTEWATER PLANT LOWER CRIBBING PLAN

Scale 1:30



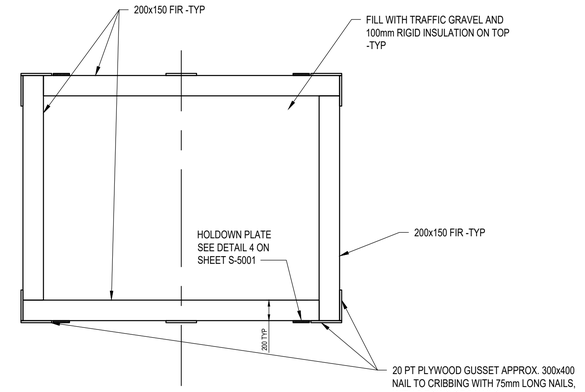
4 | PUMP STATION TOP CRIBBING PLAN

Scale 1:30



5 | PUMP STATION MIDDLE CRIBBING PLAN

Scale 1:30



6 | PUMP STATION LOWER CRIBBING PLAN

Scale 1:30

0 750 1500 mm

DRAWING NOTE:

1. CRIBBING TYPICAL FOR CREEK PUMP HOUSE, RAW WATER PUMP HOUSE AND RETENTION BASIN PUMP HOUSE
2. SIZES TO MATCH ACTUAL DIMENSIONS OF PREFABRICATED BUILDINGS
3. SEE DWG S-5001 FOR ANCHORING SYSTEM

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

AECOM

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2020/06/19

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Public Works and Government Services Canada

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Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **G.G. PROFETA**
Drawn by / Dessiné par: **D. LANDERS**
Approved by / Approuvé par: **R. MERKOSKY**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

STRUCTURAL
PACKAGED WASTEWATER TREATMENT PLANT AND PUMP STATION CRIBBING PLANS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	S-0004 OF	1

PWGSC – A1 – 841X594

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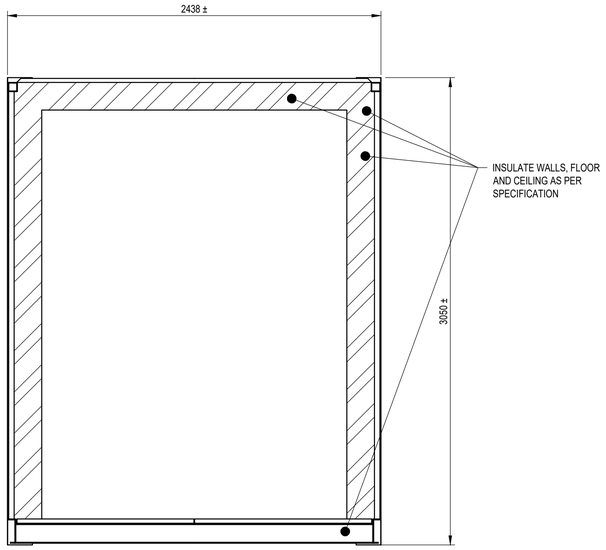
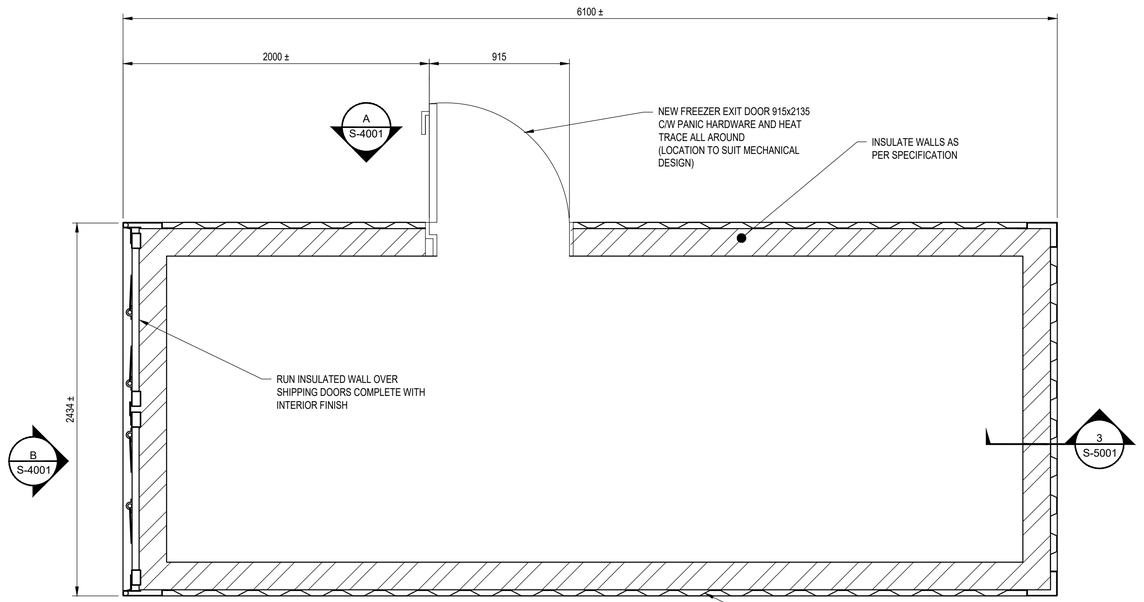


A-A | TYPICAL WASTEWATER MECHANICAL PLANT SECTION

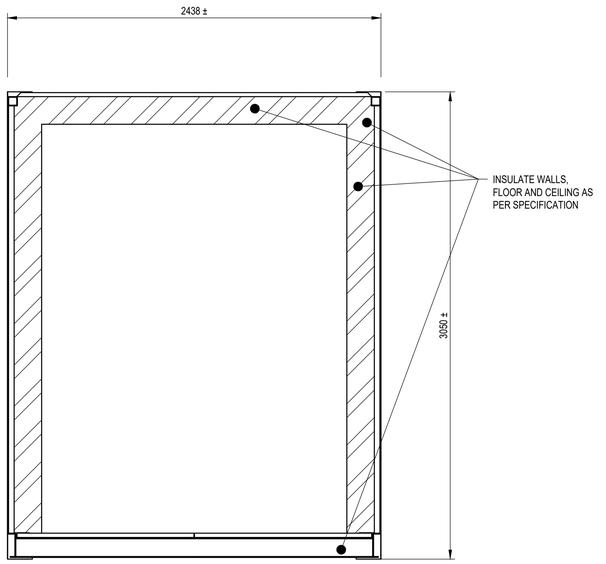
Scale 1:20



WASTEWATER MECHANICAL PLANT INTERIOR PLAN

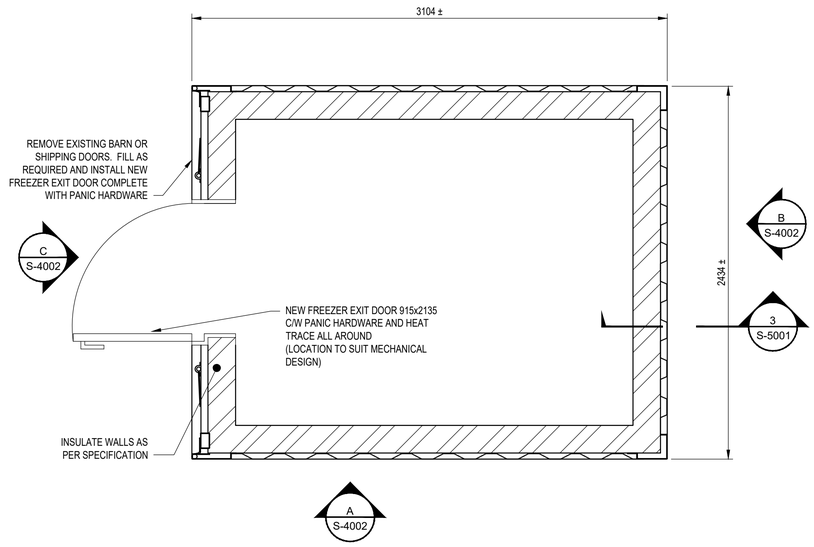
NOTE: MOVE LOCATION OF ENTRANCE AND EGRESS BASED ON DESIGN OF PACKAGED WASTEWATER TREATMENT PLANT.

Scale 1:20



B-B | TYPICAL PUMP STATION SECTION

Scale 1:20



TYPICAL PUMP STATION INTERIOR PLAN

Scale 1:20

0 500 1000 mm

DRAWING NOTES:

1. SECTIONS TYPICAL FOR, PACKAGED WASTEWATER TREATMENT PLANT, CREEK PUMP HOUSE, RESERVOIR PUMP HOUSE AND RETENTION BASIN PUMP HOUSE
2. INTERMODAL UNITS ARE PURCHASED ITEMS AND ARE DESIGNED AND DETAILED BY VENDOR BASED ON PERFORMANCE SPECIFICATIONS TO CREATE A PREFABRICATED BUILDING.

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

REAL PROPERTY SERVICES
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SERVICES IMMOBILIERS
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Approved by / Approuvé par: **R. MERKOSKY**

PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

STRUCTURAL PACKAGED WASTEWATER TREATMENT PLANT AND TYPICAL PUMP STATION PLANS AND SECTIONS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	S-3001 OF	1

PWGSC – A1 – 841X594

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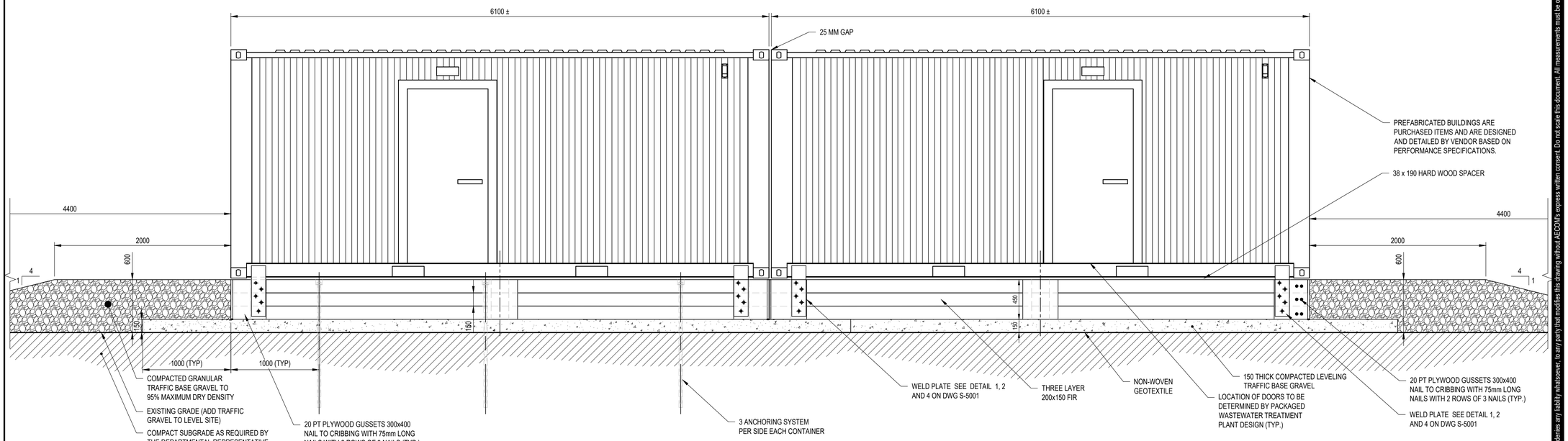
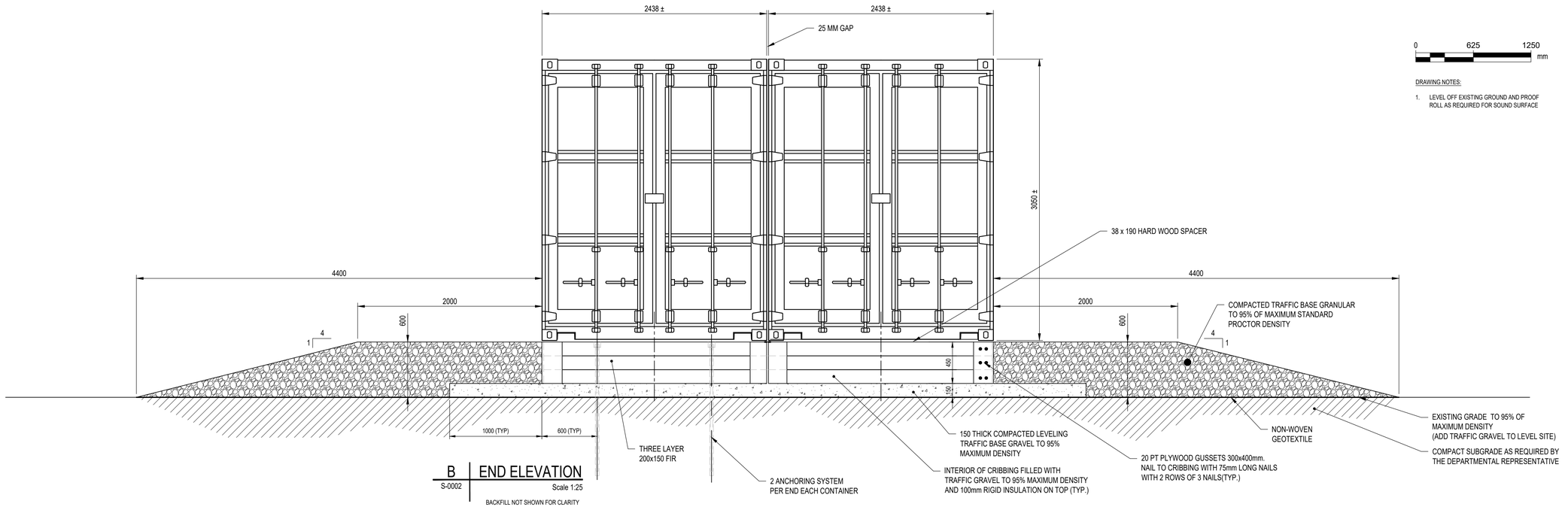


A | SIDE ELEVATION



B | END ELEVATION

S-0002 — Scale 1:25

BACKFILL NOT SHOWN FOR CLARITY

0 625 1250 mm

DRAWING NOTES:

1. LEVEL OFF EXISTING GROUND AND PROOF ROLL AS REQUIRED FOR SOUND SURFACE

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Approved by / Approuvé par: **R. MERKOSKY**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

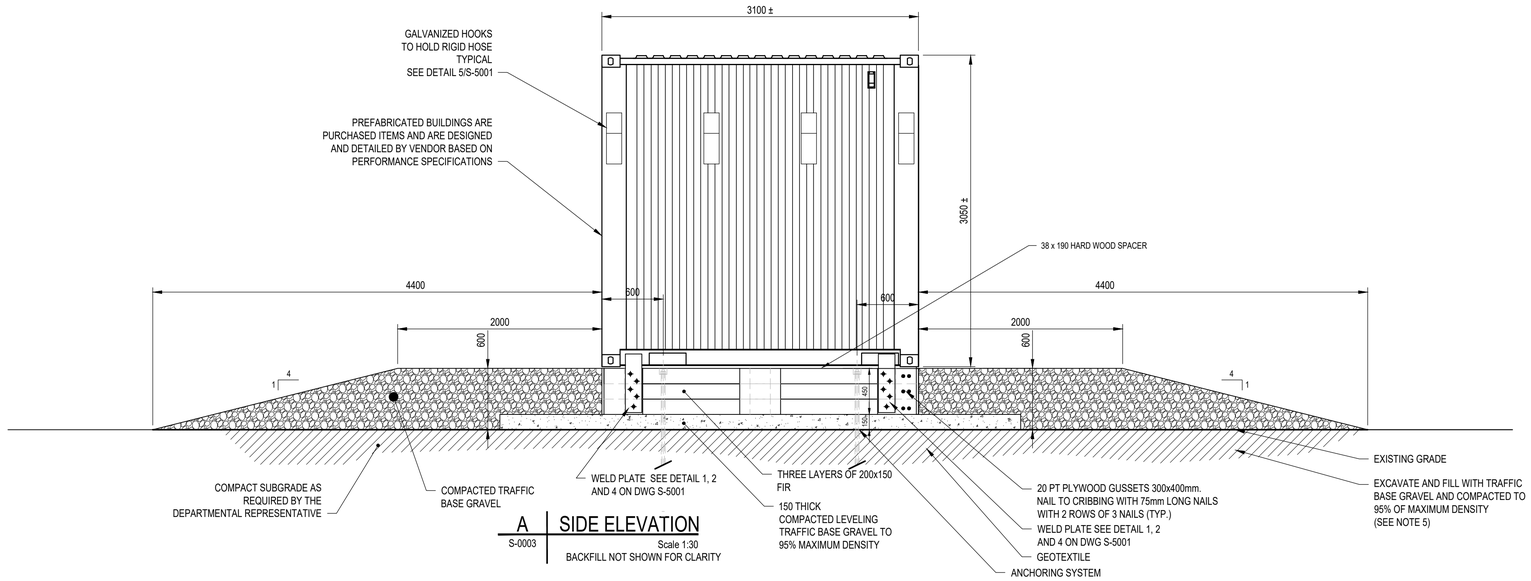
Drawing title / Titre du dessin

STRUCTURAL PACKAGED WASTEWATER TREATMENT PLANT ELEVATIONS

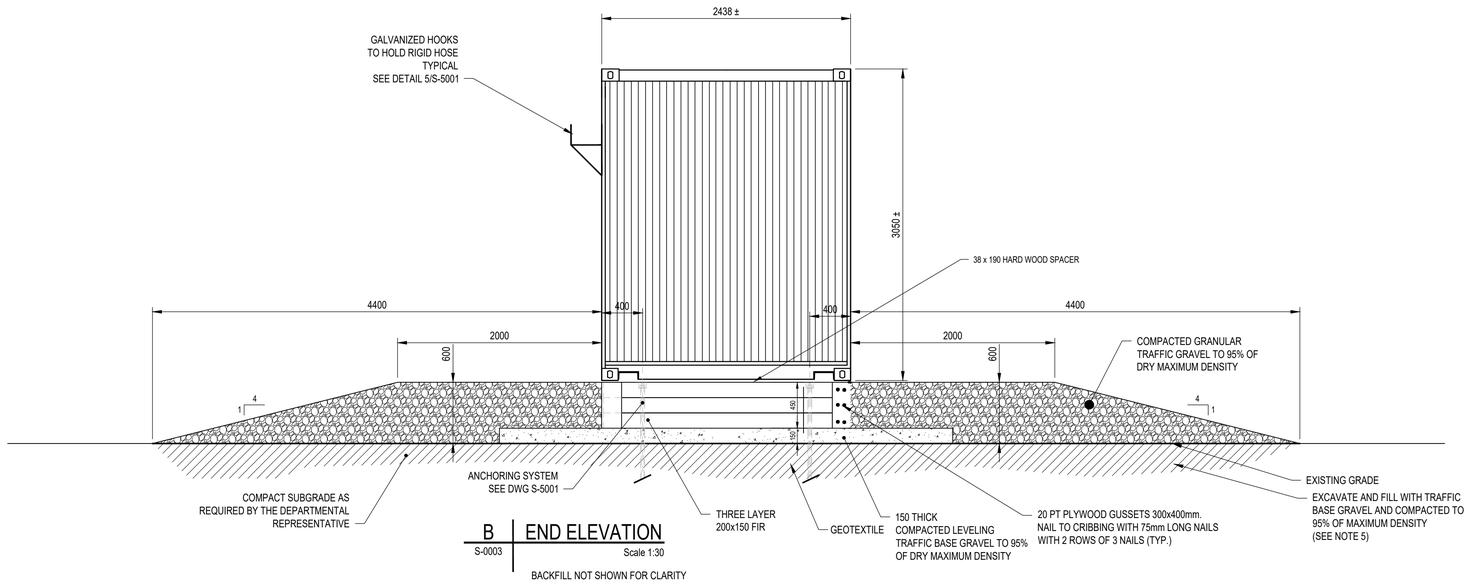
Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	S-4001 OF	1

PWGSC – A1 – 841X594

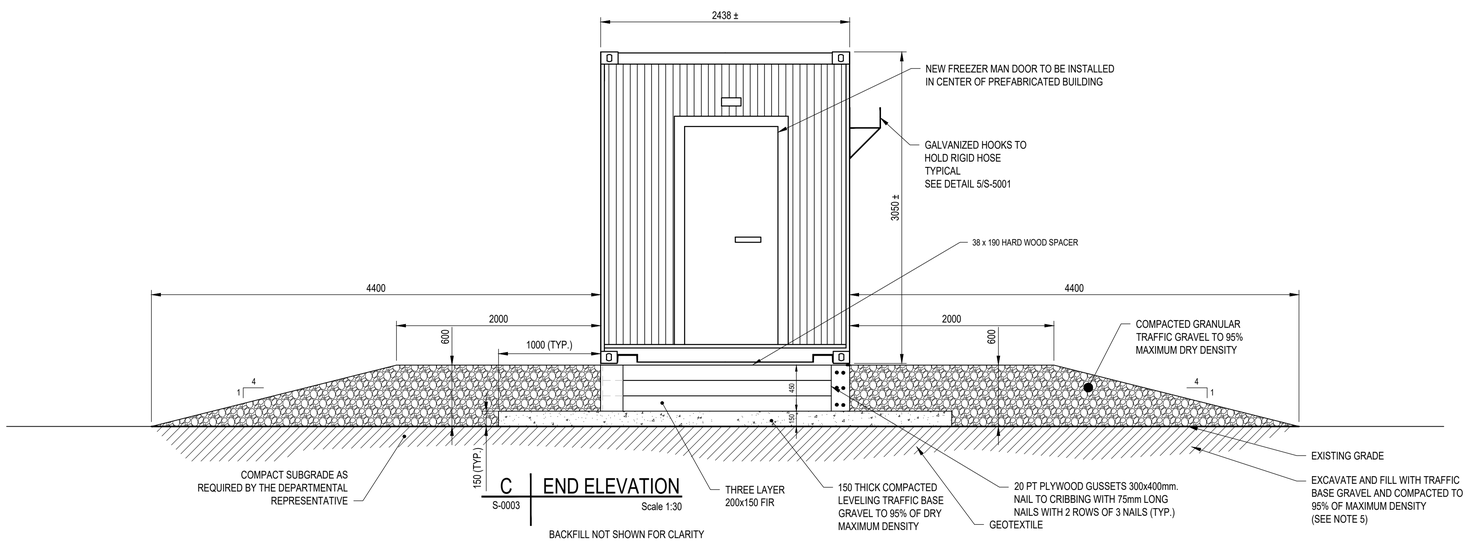
0 10 20 30 40 50 60 70 80 90 100mm



A | **SIDE ELEVATION**
S-0003 | Scale 1:30
BACKFILL NOT SHOWN FOR CLARITY



B | **END ELEVATION**
S-0003 | Scale 1:30
BACKFILL NOT SHOWN FOR CLARITY



C | **END ELEVATION**
S-0003 | Scale 1:30
BACKFILL NOT SHOWN FOR CLARITY

0 750 1500 mm

0 10 20 30 40 50 60 70 80 90 100mm

DRAWING NOTES:

1. ELEVATIONS TYPICAL FOR RESERVOIR PUMP HOUSE AND DETENTION BASIN PUMP HOUSE.
2. INTERMODAL UNITS ARE PURCHASED ITEMS AND ARE DESIGNED AND DETAILED BY VENDOR BASED ON PERFORMANCE SPECIFICATIONS.
3. INTERIOR OF CRIBBING FILLED WITH TRAFFIC GRAVEL TO 90% MAXIMUM DENSITY AND 100mm RIGID INSULATION ON TOP (TYP.)
4. ELECTRICAL AND PIPING NOT SHOWN.
5. GRANULAR FOUNDATION PAD CONSTRUCTED FOR THE RESERVOIR PUMP HOUSE WILL BE INCORPORATED INTO THE BERM CROSS SECTION AND WILL NOT BE ELEVATED BY 600mm ABOVE GRADE. SEE DRAWING C-0006 FOR DETAILS.

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

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J.N. CARTMELL
2020/06/19

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Public Works and Government Services Canada

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Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

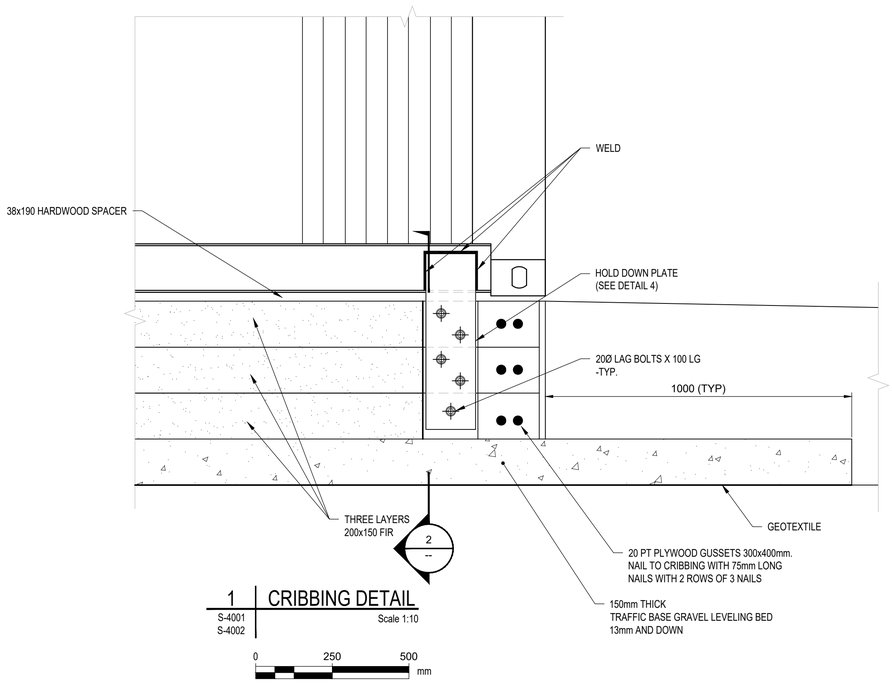
Designed by / Conçu par: **G.G. PROFETA**
Drawn by / Dessiné par: **D. LANDERS**
Approved by / Approuvé par: **R. MERKOSKY**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

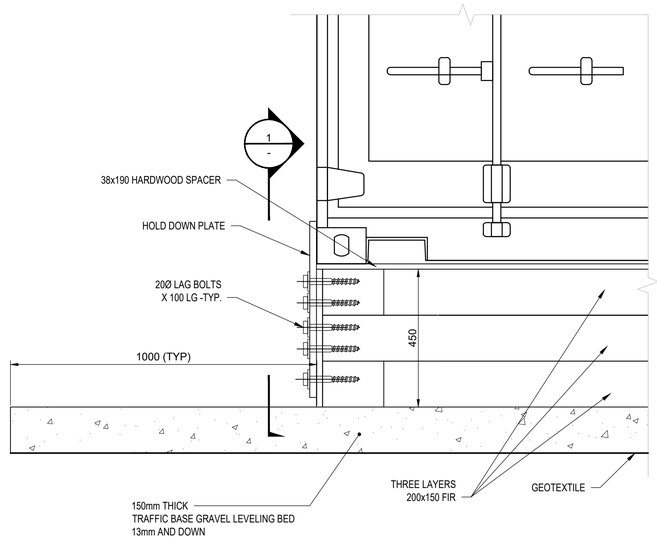
STRUCTURAL RESERVOIR AND RETENTION BASIN PUMP STATION ELEVATIONS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	S-4002 OF	1

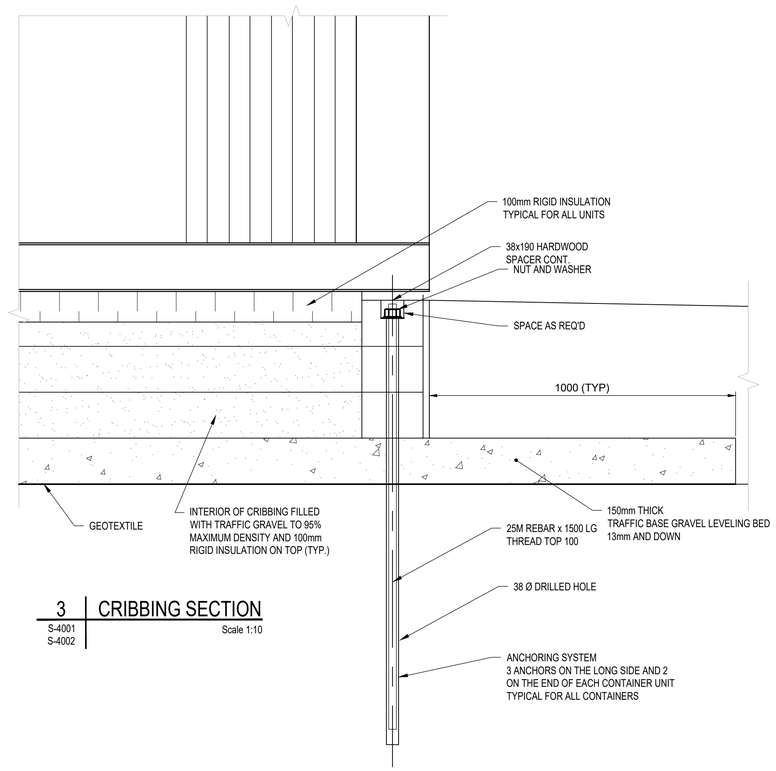
PWGSC – A1 – 841X594



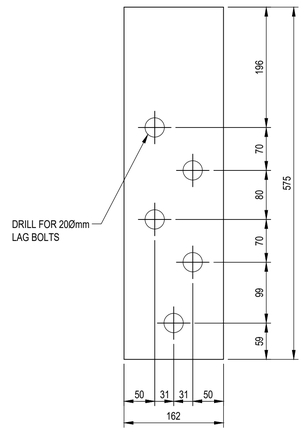
1 | CRIBBING DETAIL
S-4001, S-4002 | Scale 1:10



2 | CRIBBING DETAILS
S-4001, S-4002 | Scale 1:10

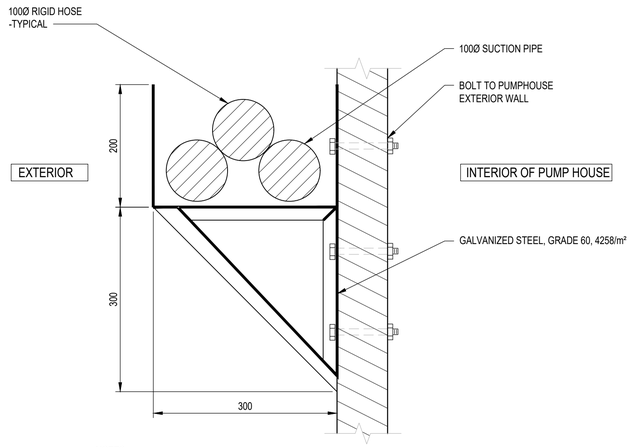


3 | CRIBBING SECTION
S-4001, S-4002 | Scale 1:10



4 | HOLD DOWN WELD PLATE DETAIL
S-4001, s-4002 | Scale 1:5

0 125 250 mm



NOTES:

1. ALL STEEL HOT DIPPED GALVANIZED AFTER FABRICATION.
2. SECURE WITH APPROVED ANCHORS TO MATCH WALL CONSTRUCTION.

5 | TYPICAL SUPPORT FOR RIGID HOSE STORAGE
C-0007 | Scale 1:5

DRAWING NOTES:

1. DETAILS TYPICAL FOR PACKAGED WASTEWATER TREATMENT PLANT, CREEK PUMP HOUSE, RESERVOIR PUMP HOUSE AND RETENTION BASIN PUMP HOUSE
2. GROUT FOR THE ANCHORS INTO THE GROUND SHOULD BE SIKAGROUT ARCTIC 100 OR EQUAL (CONFIRM GROUND TEMPERATURE TO MANUFACTURERS LIMITS).
3. ALL FASTENERS (NAILS AND LAG SCREWS) TO BE HOT DIPPED GALVANIZED.

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

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REAL PROPERTY SERVICES
Western Region
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Approved by / Approuvé par: **R. MERKOSKY**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

STRUCUTRAL
PACKAGED WASTEWATER TREATMENT PLANT AND PUMP STATIONS
CRIBBING DETAILS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	S-5001 OF	1

VALVE SYMBOLS

SYMBOL - TYPE - ABBREVIATION		
	BALL VALVE (N.O.)	BV
	BALL VALVE (N.C.)	BV
	CHECK VALVE	CV
	BUTTERFLY VALVE	BFV
	PLUG VALVE (N.O.)	PV
	PLUG VALVE (N.C.)	PV
	GATE VALVE (N.O.)	GV
	GATE VALVE (N.C.)	GV
	BALL CHECK VALVE	BCV
K	KNIFE GATE VALVE	KV
	NEEDLE VALVE	NV
	GLOBE VALVE	GLV
	BACKFLOW PREVENTER	BFP
	BALANCING DAMPER	BD
	DOUBLE LEAF CHECK VALVE	CV
	DUCKBILL CHECK VALVE	DCV
	PINCH VALVE	PNV
	TELESCOPIC VALVE	TSV
	DIAPHRAGM VALVE	DV
	MUD VALVE	MDV
	FLOAT VALVE	FV

SYMBOL - TYPE - ABBREVIATION		
	PRESSURE REGULATOR EXTERNAL PRESSURE TAP	PRV
	PRESSURE REGULATOR SELF CONTAINED	PRV
	BACK PRESSURE REGULATOR EXTERNAL PRESSURE TAP	BPV
	BACK PRESSURE REGULATOR SELF CONTAINED	BPV
T	THERMAL SHUT OFF VALVE	TOV
	PRESSURE RELIEF VALVE	PRV
	VACUUM RELIEF VALVE	PRV
	PRESSURE & VACUUM RELIEF VALVE	PRV
	PRESSURE RELIEF VALVE (RUPTURE DISC)	RD
	VACUUM RELIEF VALVE (RUPTURE DISC)	RD
	THREE-WAY VALVE	3W
	FOUR-WAY VALVE	4W
	ANGLE VALVE	AV

ACTUATORS

D	DIGITAL
M	MOTORIZED
S	SOLENOID

PROCESS LINE TYPES

	MAJOR PROCESS LINE
	MINOR PROCESS LINE
	NEW STRUCTURE
	ENCLOSURE OR BOUNDARY
	VENDOR PACKAGE SUPPLY BOUNDARY
	EXISTING PIPING & EQUIPMENT
	EXISTING STRUCTURE
E	INSULATED PIPE (WITH HEAT TRACING)

EQUIPMENT SYMBOLS

MOTORIZED EQUIPMENT

SYMBOL - TYPE - ABBREVIATION		
	AERATOR (SURFACE)	AER
	AIR DRYER BLOWER EXHAUST FAN	AD BL EF
	BOILER	B
	CENTRIFUGE	CFG
	MECHANICAL SCREEN	SCR
	CONVEYOR (BELT)	CON

SYMBOL - TYPE - ABBREVIATION		
	GRINDER	GDR
	GRIT CLASSIFIER	GCL
	MIXER (PROPELLER)	MXR
	SCREEN (BAR)	SCR
	SCREEN (ROTARY)	SCR
	SCREENINGS WASHER / COMPACTOR	CMP

NON-MOTORIZED EQUIPMENT

SYMBOL - TYPE - ABBREVIATION		
	CYCLONE	CY
	INJECTOR	INJ
	HEAT EXCHANGER	HEX
S	SAMPLER (AUTOMATIC)	SMP

SYMBOL - TYPE - ABBREVIATION		
S	SAMPLER (MANUAL)	SMP
	MIXER (STATIC)	SM
M	MOTOR	-

PUMPS

SYMBOL - TYPE - ABBREVIATION		
	CENTRIFUGAL PUMP	P
	COLUMN PUMP	P
	DIAPHRAGM PUMP	P
	PERISTALTIC PUMP	P
	METERING PUMP	P
	PROGRESSING CAVITY PUMP	P
	SUBMERSIBLE PUMP	P
	SUBMERSIBLE PROPELLER PUMP	P
	VERTICAL PUMP	P
	WELL PUMP	P

PRIMARY ELEMENT SYMBOLS

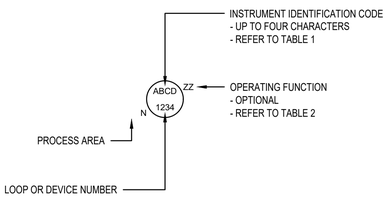
	ANNUBAR
D	DENSITY METER
	IN-LINE CAPACITANCE FLOW ELEMENT
	ANNULAR PRESSURE ISOLATOR
	PROPELLER OR TURBINE METER
	SONIC FLOW METER (DOPPLER OR TRANSIT TIME)
M	MAGNETIC FLOW METER
T	THERMAL MASS FLOW ELEMENT
### / ###	FLOAT LEVEL ELEMENT
### / ###	UNGUIDED WAVE ULTRASONIC / MICROWAVE LEVEL ELEMENT
### / ###	THERMAL ELEMENT WITH WELL
### / ###	CAPACITANCE / POINT LEVEL ELEMENT

MISCELLANEOUS SYMBOLS

I	INTERLOCK REFER TO CONTROL DESCRIPTION STRATEGY
R	RESET FOR LATCH-TYPE OPERATOR
VFD	VARIABLE FREQUENCY DRIVE
	ANNUNCIATOR HORN

INSTRUMENT FIELD DEVICE IDENTIFICATION

FIELD DEVICE IDENTIFICATION

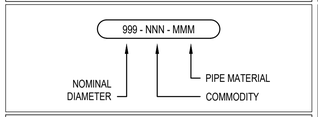


PIPE LINE DEVICES

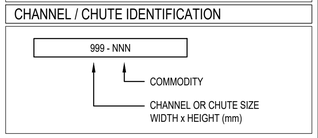
	AIR GAP
	AIR INTAKE
	BLIND FLANGE OR FLANGE CONNECTION
	CALIBRATION CHAMBER
	CAP OR PLUG
	CONNECTION TO VENDOR SUPPLY PACKAGE
V	DIFFUSER OR SPRAY NOZZLE
D	DRAIN
	EXPANSION JOINT
	EMERGENCY EYEWASH & SHOWER STATION
	FILTER
	FLAME ARRESTER
	FLEXIBLE CONNECTION
	PRESSURE SENSOR (IN-LINE)
	PULSATION DAMPENER
	QUICK CONNECTOR
	REDUCER
	SEPARATOR, AIR
	SEPARATOR, LIQUID
	SIGHT GLASS
	SILENCER
	STRAINER
	STRAINER, BASKET
T	TRAP
	UNION
XX	UTILITY CONNECTION
	UTILITY STATION
	VENT, AIR
	CAMLOCK
	HEAT TRACE

ANNOTATION SYMBOLS

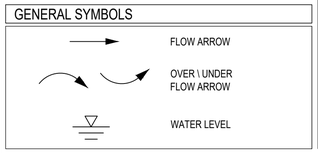
PIPE IDENTIFICATION



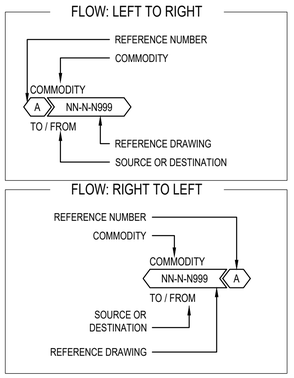
CHANNEL / CHUTE IDENTIFICATION



GENERAL SYMBOLS



PROCESS LINE IDENTIFICATION



SIGNAL LINE TYPES

PROPOSED - EXISTING - DESCRIPTION	
	INSTRUMENT SUPPLY OR PROCESS TAP
	FOUNDATION FIELDBUS
	ELECTRIC SIGNAL
	MECHANICAL LINK

STANDARD ABBREVIATIONS

COMMODITY ABBREVIATIONS

AIR	AIR
ASH	ASH
AWH	AIR WASH
BRW	BRINE WASTE
BW	BACKWASH WATER (FILTERED)
BWR	BACKWASH RETURN
BWW	BACKWASH WASTE WATER
DEWS	WET DEWATERED SLUDGE
DRA	DRAIN
DSB	DAF SUBNATANT
DSE	DISINFECTED SECONDARY EFFLUENT
FE	FINAL EFFLUENT
FSL	FERMENTED SLUDGE
FTW	FILTER TO WASTE
FLT	FILTRATE
FY	FERMENTER SCUM
HL	HAULED WASTEWATER
OF	OVERFLOW
PE	PRIMARY EFFLUENT
PI	PRIMARY INFLUENT
PA	PROCESS AIR
PS	PRIMARY SLUDGE
PY	PRIMARY SCUM
RA	RETURN AIR
RAS	RETURN ACTIVATED SLUDGE
RW	RAW WATER
SAM	SAMPLE
SAN	SANITARY SEWER
SE	SECONDARY CLARIFIER EFFLUENT
SLH	SETTLED HEATED SLUDGE
SPY	SCREENED PRIMARY SCUM
SRSW	RAW SEWAGE
SY	SECONDARY CLARIFIER SCUM
SW	SERVICE WATER
UW	UTILITY WATER

CHEMICAL ABBREVIATIONS

CDG	CARBON DIOXIDE
CDL	CARBON DIOXIDE LIQUID
CLD	CHLORINE DIOXIDE
CLL	CHLORINE LIQUID
CLS	CHLORINE SOLUTION
FC	FERRIC CHLORIDE
FEC	FERROUS CHLORIDE
FES	FERROUS SULPHATE
FS	FERRIC SULFATE
FSL	FERMENTER SLUDGE
HCL	HYDROCHLORIC ACID
HEL	HELIUM
HFS	FLUOSILIC ACID
HG	HYDROGEN GAS
HP	HYDROGEN PEROXIDE
MET	METHANOL
N2	NITROGEN
NAOH	SODIUM HYDROXIDE
NASF	SODIUM SILICOFLUORIDE
NOX	NITROUS OXIDE
PHA	PHOSPHORIC ACID
pH	pH
PLY	POLYMER
PP	POTASSIUM PERMANGANATE
PPP	PHOSPHATE
PYPH	POLYPHOSPHATE
SA	SULPHURIC ACID
SAS	SODA ASH SOLUTION
SH	SODIUM HYPOCHLORITE
SLT	SODIUM CHLORIDE
SS	SODIUM SILICATE

GENERAL

AI	ANALOG INPUT
AO	ANALOG OUTPUT
CCTV	CLOSED CIRCUIT TELEVISION
DB	DEVICE BUS
DCS	DISTRIBUTED CONTROL SYSTEM
DI	DIGITAL INPUT
DO	DISSOLVED OXYGEN TRANSMITTER
D/P	DIFFERENTIAL PRESSURE
FB	FIELDBUS
HMI	HUMAN MACHINE INTERFACE
LEAK	LEAKAGE
LCP	LOCAL CONTROL PANEL
MCC	MOTOR CONTROL CENTRE
OBD	OUTBOARD BEARING
O/L	OVERLOAD
PLC	PROGRAMMABLE LOGIC CONTROLLER
RTD	RESISTIVE TEMPERATURE DEVICE
SOL	SOLENOID
T/C	THERMOCOUPLE
TOR	TORQUE

INSTRUMENT IDENTIFICATION

INSTRUMENT OR DEVICE IDENTIFIERS

AE	ANALYSIS ELEMENT
AIT	ANALYSIS INDICATING TRANSMITTER (ANALYTIC INST.)
AK	ANALYSIS (SAMPLER) CONTROL STATION
ASH	ANALYSIS SWITCH - HIGH
AT	ANALYSIS TRANSMITTER (ANALYTIC INST.)
FE	FLOW ELEMENT
FG	FLOW METER ULTRASONIC GENERATOR
FI	FLOW INDICATOR
FIC	FLOW INDICATING CONTROLLER
FIT	FLOW INDICATING TRANSMITTER
FQI	FLOW TOTALIZING INDICATOR
FQY	FLOW TOTALIZING / INTEGRATING RELAY
FSH	FLOW SWITCH HIGH
FSL	FLOW SWITCH LOW
FT	FLOW TRANSMITTER
LE	LEVEL ELEMENT
LI	LEVEL INDICATOR
LIC	LEVEL INDICATING CONTROLLER
LIT	LEVEL INDICATING TRANSMITTER
LSL	LEVEL SWITCH LOW
LSH	LEVEL SWITCH HIGH
LSHH	LEVEL SWITCH HIGH HIGH
PE	PRESSURE ELEMENT
PG	PRESSURE GAUGE
PI	PRESSURE INDICATOR
PIT	PRESSURE INDICATING TRANSMITTER
PS	PRESSURE SWITCH
pH	pH TRANSMITTER
PSH	PRESSURE SWITCH HIGH
PSL	PRESSURE SWITCH LOW
PSLL	PRESSURE SWITCH LOW LOW
PT	PRESSURE TRANSMITTER
SC	SPEED CONTROLLER
SI	SPEED INDICATOR
TC	TEMPERATURE CONTROLLER
TE	TEMPERATURE ELEMENT
TG	TEMPERATURE GAUGE
TI	TEMPERATURE INDICATOR
TIT	TEMPERATURE INDICATING TRANSMITTER
TSH	TEMPERATURE SWITCH HIGH
TSHH	TEMPERATURE SWITCH HIGH HIGH
TSL	TEMPERATURE SWITCH LOW
TSLL	TEMPERATURE SWITCH LOW LOW
TT	TEMPERATURE TRANSMITTER
UVT	ULTRAVIOLET TRANSMITTER

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

AECOM

ORIGINAL SIGNED BY

P. BARSALOU

2020/06/23

PERMIT TO PRACTICE
AECOM Canada Ltd.
Signature SIGNED BY B.B.
SIGNED ON 06.23.2020
PERMIT NUMBER: P 639
The Association of Professional Engineers and Geophysicists of the NWT/NU.

Revision	Description	Date
5		
4		
3		
2		
1	ISSUED FOR CONSTRUCTION	2021/04/15
0	ISSUED FOR TENDER	2020/06/19

Client / client

Public Works and Government Services Canada

310-269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **A. FARROKHI**
Drawn by / Dessiné par: **S. ELLIOTT**
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

PROCESS & INSTRUMENTATION OVERALL DIAGRAM & SCHEMATICS LEGEND, ABBREVIATIONS AND INSTRUMENTATION

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	N-0001 OF	1

PWGSC – A1 – 841X594

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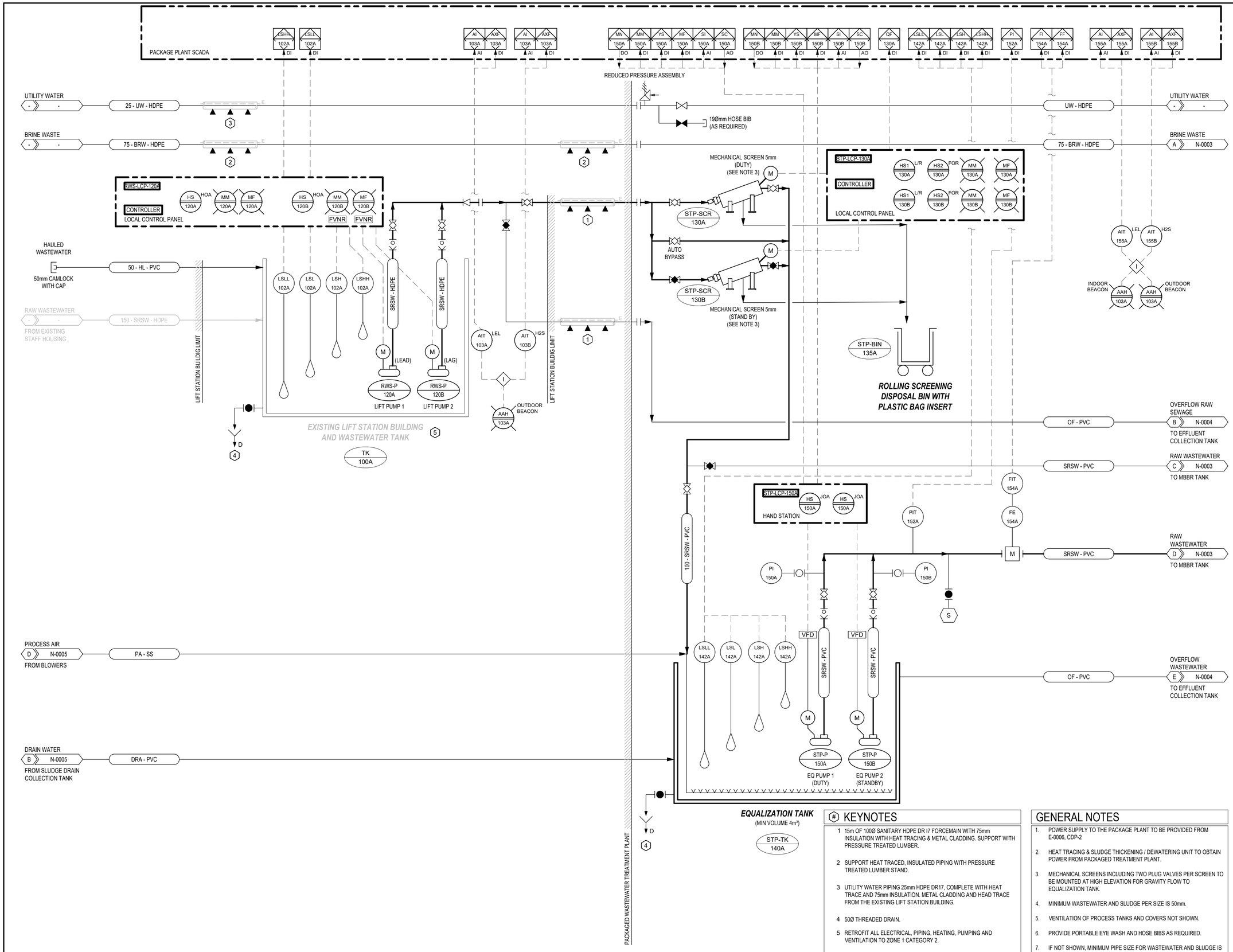

KEYNOTES

1. 15m OF 100Ø SANITARY HDPE DR I7 FORCEMAIN WITH 75mm INSULATION WITH HEAT TRACING & METAL CLADDING. SUPPORT WITH PRESSURE TREATED LUMBER.
2. SUPPORT HEAT TRACED, INSULATED PIPING WITH PRESSURE TREATED LUMBER STAND.
3. UTILITY WATER PIPING 25mm HDPE DR17, COMPLETE WITH HEAT TRACE AND 75mm INSULATION. METAL CLADDING AND HEAD TRACE FROM THE EXISTING LIFT STATION BUILDING.
4. 50Ø THREADED DRAIN.
5. RETROFIT ALL ELECTRICAL, PIPING, HEATING, PUMPING AND VENTILATION TO ZONE 1 CATEGORY 2.

GENERAL NOTES

1. POWER SUPPLY TO THE PACKAGE PLANT TO BE PROVIDED FROM E-0006, CDP-2
2. HEAT TRACING & SLUDGE THICKENING / DEWATERING UNIT TO OBTAIN POWER FROM PACKAGED TREATMENT PLANT.
3. MECHANICAL SCREENS INCLUDING TWO PLUG VALVES PER SCREEN TO BE MOUNTED AT HIGH ELEVATION FOR GRAVITY FLOW TO EQUALIZATION TANK.
4. MINIMUM WASTEWATER AND SLUDGE PER SIZE IS 50mm.
5. VENTILATION OF PROCESS TANKS AND COVERS NOT SHOWN.
6. PROVIDE PORTABLE EYE WASH AND HOSE BIBS AS REQUIRED.
7. IF NOT SHOWN, MINIMUM PIPE SIZE FOR WASTEWATER AND SLUDGE IS 50Ømm.
8. ALL INSTRUMENTS HAVE PREFIX IN TAG NUMBER. REFER TO EQUIPMENT AND LOCATION FOR PREFIX DETAILS. CONTRACTOR TO ENSURE ALL PROGRAMMING, CABLES AND NAMEPLATES ASSOCIATED TO INSTRUMENTS INCLUDE PREFIX IN TAGS.

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

AECOM

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SIGNED BY

P. BARSALOU

2020/06/23

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Client / client

Public Works and Government Services Canada

310- 269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **A. FARROKHI**
Drawn by / Dessiné par: **S. ELLIOTT**
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

PROCESS & INSTRUMENTATION PACKAGED WASTEWATER TREATMENT PLANT & LIFT STATION PRETREATMENT DIAGRAM

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	N-0002 OF -----	1

PWGSC – A1 – 841X594

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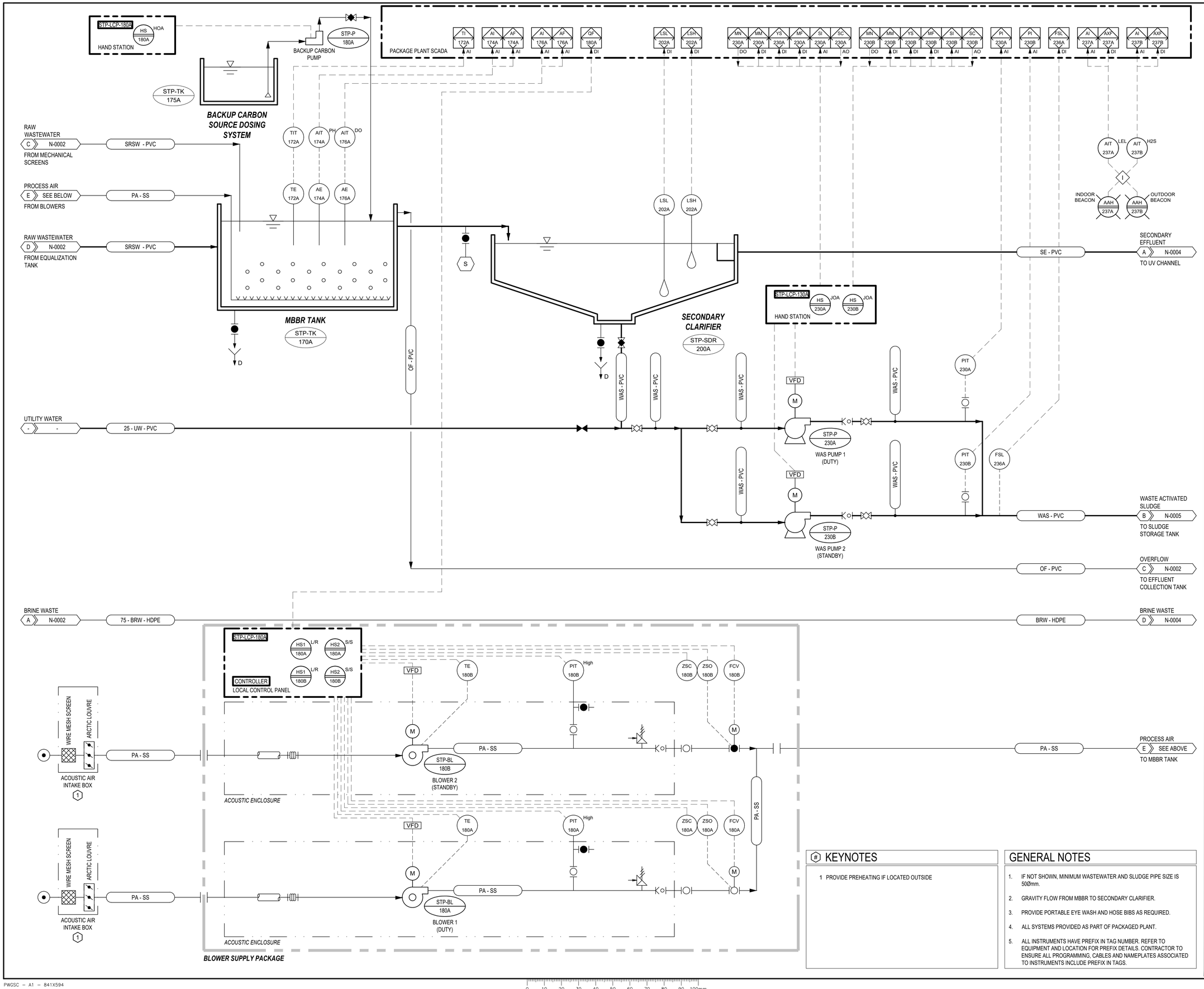

KEYNOTES

1 PROVIDE PREHEATING IF LOCATED OUTSIDE

GENERAL NOTES

1. IF NOT SHOWN, MINIMUM WASTEWATER AND SLUDGE PIPE SIZE IS 500mm.
2. GRAVITY FLOW FROM MBBR TO SECONDARY CLARIFIER.
3. PROVIDE PORTABLE EYE WASH AND HOSE BIBS AS REQUIRED.
4. ALL SYSTEMS PROVIDED AS PART OF PACKAGED PLANT.
5. ALL INSTRUMENTS HAVE PREFIX IN TAG NUMBER. REFER TO EQUIPMENT AND LOCATION FOR PREFIX DETAILS. CONTRACTOR TO ENSURE ALL PROGRAMMING, CABLES AND NAMEPLATES ASSOCIATED TO INSTRUMENTS INCLUDE PREFIX IN TAGS.

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

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Client: Public Works and Government Services Canada
310- 269 Main Street, R3C 1B3
Winnipeg, MB

Project title: NUNAVUT EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by: A. FARROKHI
Drawn by: S. ELLIOTT
Approved by: P. BARSALOU
PWGSC Project Manager: M. MOGAN

Drawing title:
PROCESS & INSTRUMENTATION PACKAGED WASTEWATER TREATMENT PLANT AERATION, SEDIMENTATION & BLOWER DIAGRAM

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	N-0003 OF 006	1

PWGSC – A1 – 841X594

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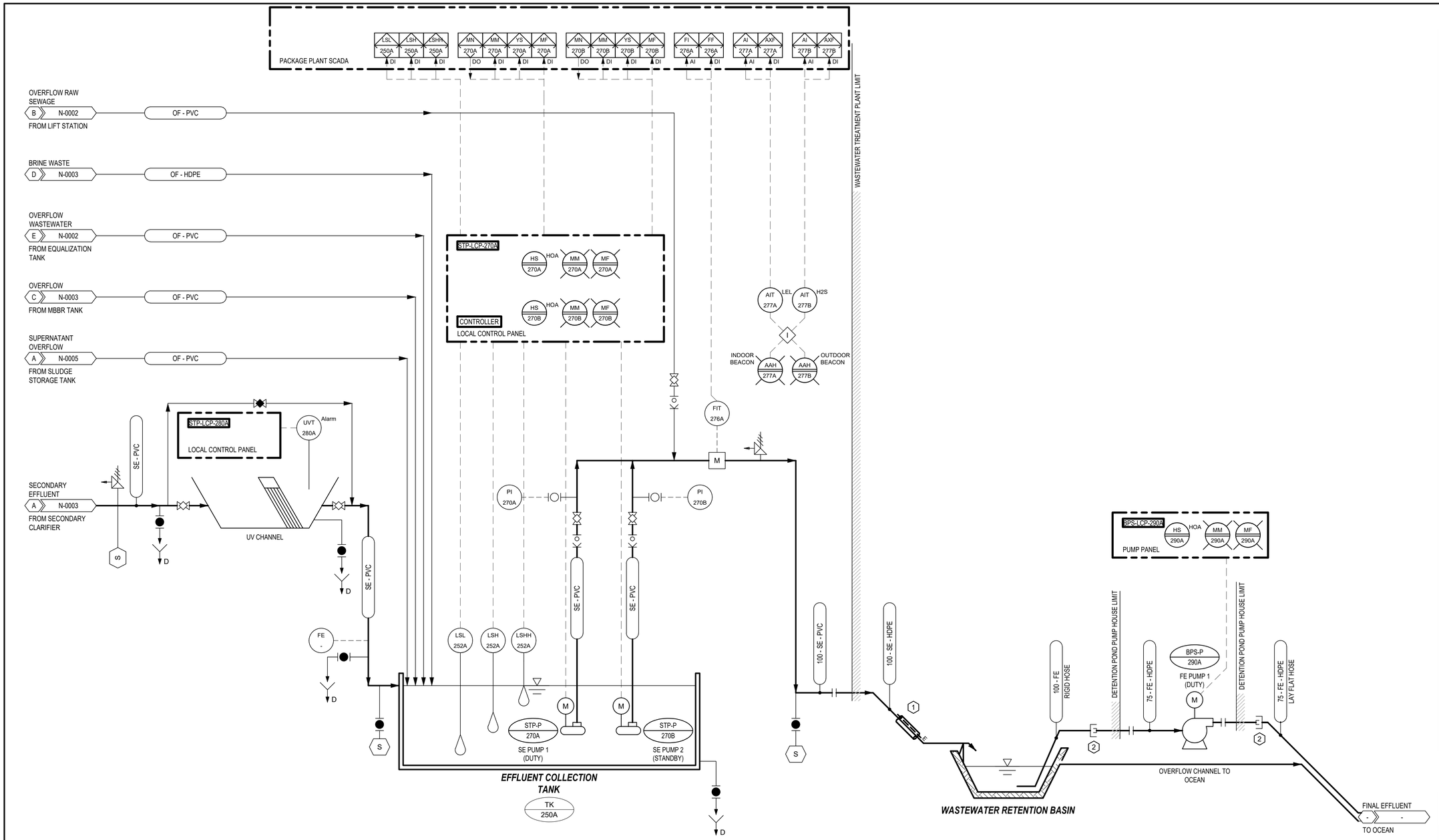

KEYNOTES

1 100Ø HDPE DR 17 EFFLUENT LINE WITH 75mm INSULATION WITH HEAT TRACING & CLADDING. APPROX. 0.6m BURY

2 TYPE D CAMLOCK FITTING.

GENERAL NOTES

1. IF NOT SHOWN, MINIMUM WASTEWATER AND SLUDGE PIPE SIZE IS 500mm.
2. GRAVITY HYDRAULIC FLOW FROM CHANNEL UV TO EFFLUENT COLLECTION TANK
3. PROVIDE EYE WASH AND HOSE BIBS AS REQUIRED.
4. ALL INSTRUMENTS HAVE PREFIX IN TAG NUMBER. REFER TO EQUIPMENT AND LOCATION FOR PREFIX DETAILS. CONTRACTOR TO ENSURE ALL PROGRAMMING, CABLES AND NAMEPLATES ASSOCIATED TO INSTRUMENTS INCLUDE PREFIX IN TAGS.

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Client / client

Public Works and Government Services Canada

310- 269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

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EUREKA

EUREKA WATER AND SEWAGE SYSTEM

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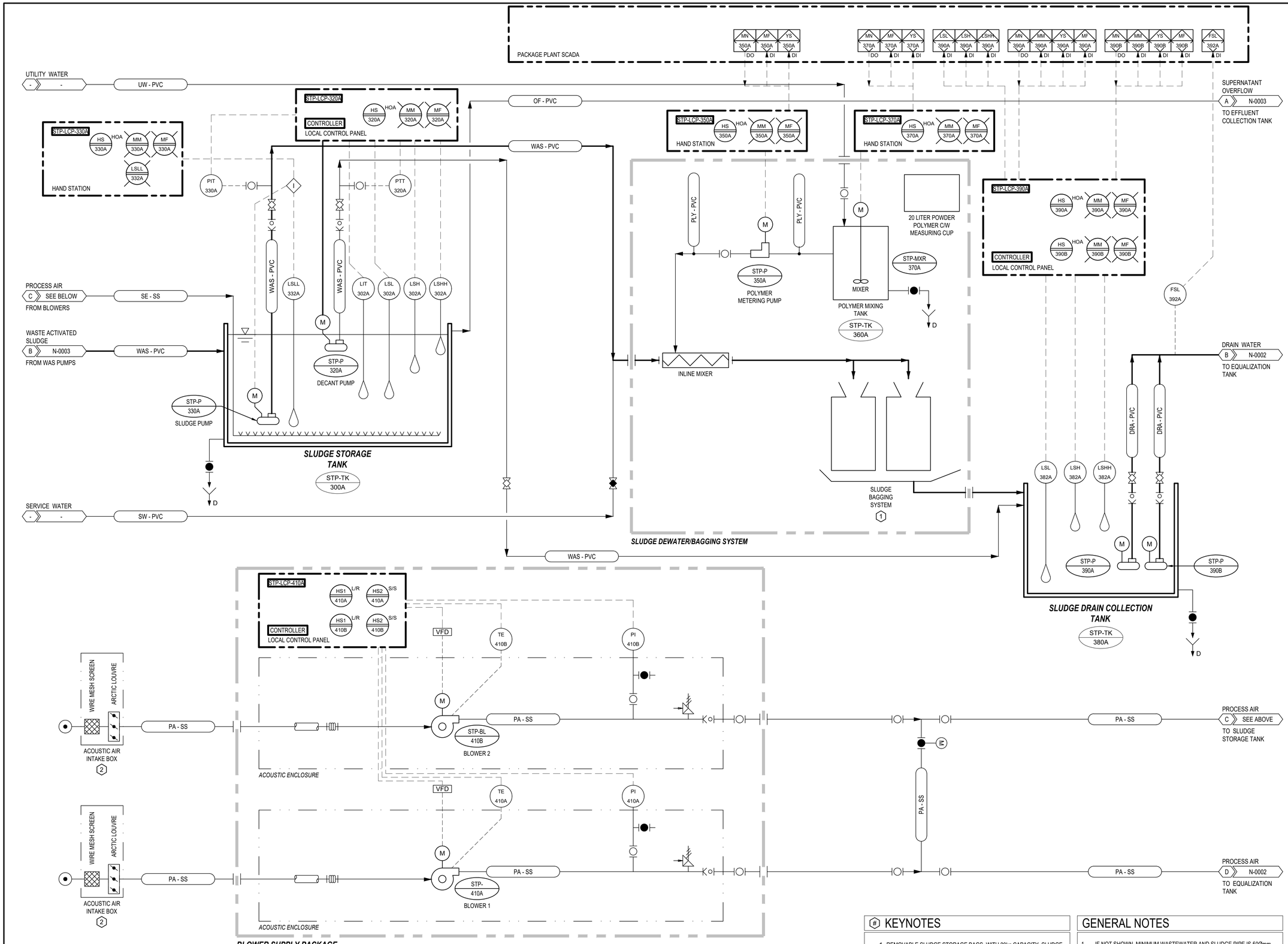
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

PROCESS & INSTRUMENTATION PACKAGED WASTEWATER TREATMENT PLANT FINAL DISINFECTION DIAGRAM

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	N-0004 OF ----	1



KEYNOTES

1 REMOVABLE SLUDGE STORAGE BAGS, WITH 20kg CAPACITY. SLUDGE TO BE DEWATERED TO 20% DRY SOLIDS, MIN. AMOUNT FOR GRAVITY DRAIN.

2 PROVIDE PREHEATING IF LOCATED OUTSIDE

GENERAL NOTES

1. IF NOT SHOWN, MINIMUM WASTEWATER AND SLUDGE PIPE IS 50Ømm.
2. PROVIDE PORTABLE EYE WASH AND HOSE BIBS AS REQUIRED.
3. ALL SYSTEMS PROVIDED AS PART OF PACKAGED PLANT.
4. ALL INSTRUMENTS HAVE PREFIX IN TAG NUMBER. REFER TO EQUIPMENT AND LOCATION FOR PREFIX DETAILS. CONTRACTOR TO ENSURE ALL PROGRAMMING, CABLES AND NAMEPLATES ASSOCIATED TO INSTRUMENTS INCLUDE PREFIX IN TAGS.

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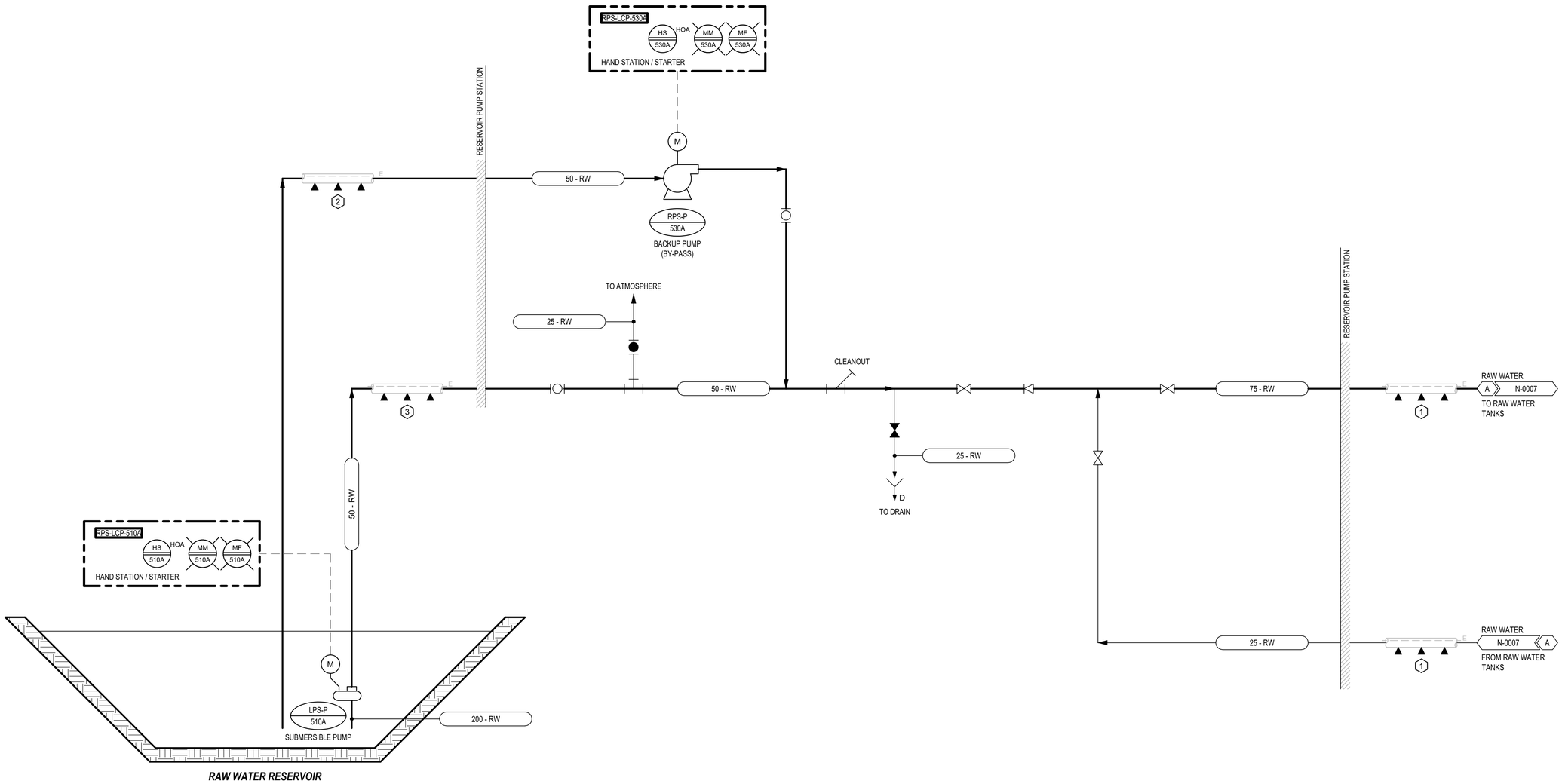
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

PROCESS & INSTRUMENTATION PACKAGED WASTEWATER TREATMENT PLANT BLOWERS AND SOLIDS DIAGRAM

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	N-0005 OF ----	1



KEYNOTES

1 DUAL 75mm AND 25mm HDPE DR 17 PIPE LINES C/W DUAL HEAT TRACE. 75mm INSULATION AND GALVANIZED STEEL JACKET.

2 50mm FLEXIBLE HYDRAULIC HOSE WRAPPED IN SUBMERSIBLE HEAT TRACE INSIDE 150mm PRE-INSULATED HDPE DR 17 PIPE.

3 50mm HDPE DR 17 PIPE C/W 50mm INSULATION AND SUBMERSIBLE HEAT TRACE INSIDE 150mm HDPE DR 17 PRE-INSULATED PIPE.

GENERAL NOTES

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EUREKA WATER AND SEWAGE SYSTEM

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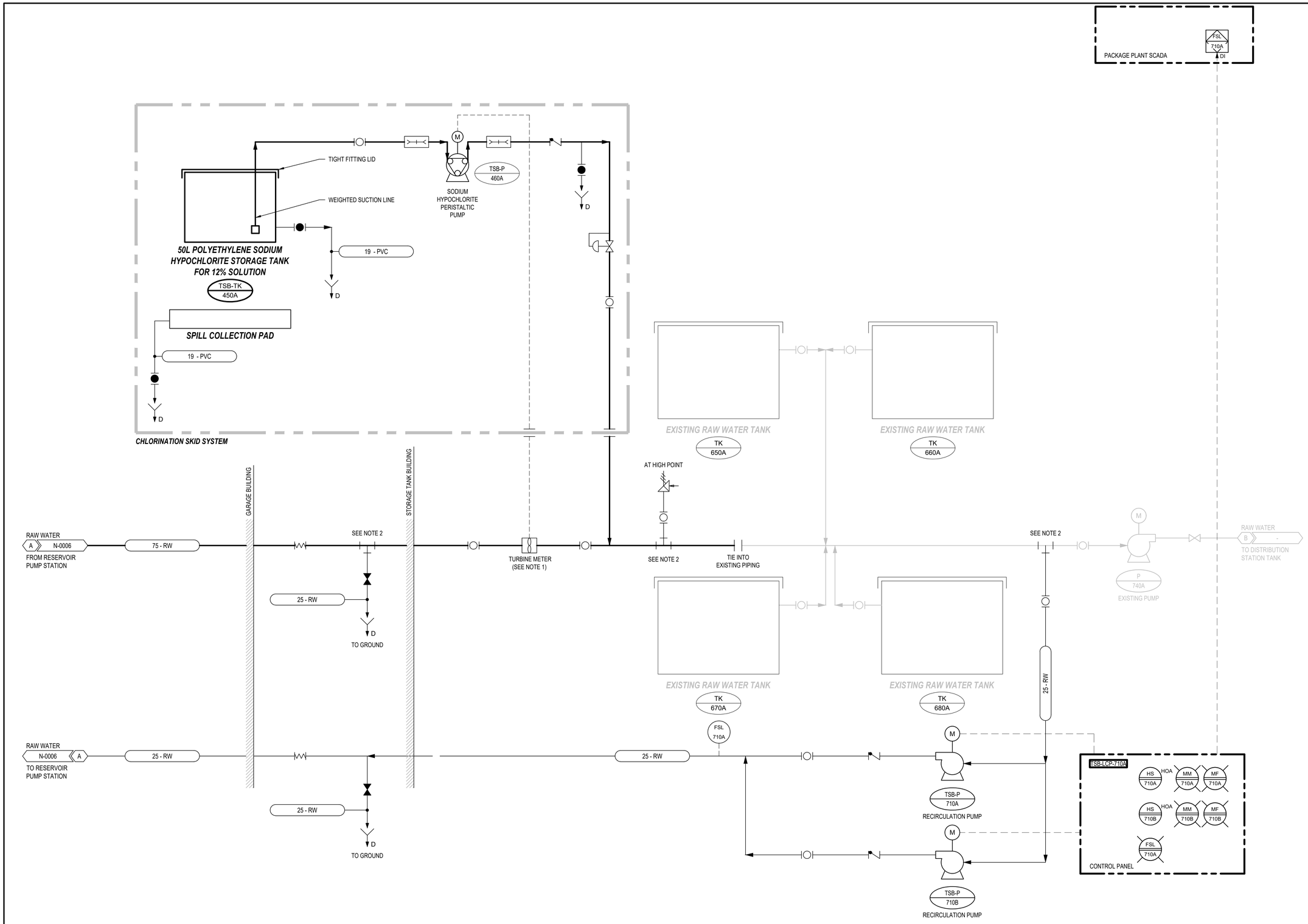
Drawn by / Dessiné par: **S. ELLIOTT**
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

PROCESS & INSTRUMENTATION
-
RAW WATER RECIRCULATION SYSTEM AND BACKUP INTAKE

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	N-0006 OF ----	1



KEYNOTES

1

GENERAL NOTES

1. PULSE FROM TURBINE METER TO INITIATE PERISTALTIC PUMP.
2. INSTALL NEW REDUCING TEE 75x75x25mm.
3. ALL INSTRUMENTS HAVE PREFIX IN TAG NUMBER. REFER TO EQUIPMENT AND LOCATION FOR PREFIX DETAILS. CONTRACTOR TO ENSURE ALL PROGRAMMING, CABLES AND NAMEPLATES ASSOCIATED TO INSTRUMENTS INCLUDE PREFIX IN TAGS.

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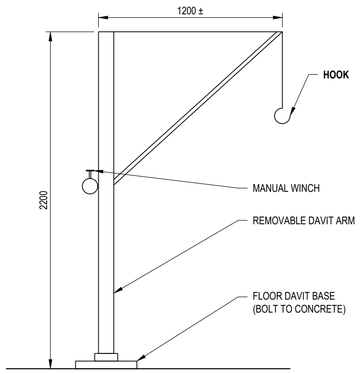
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

PROCESS & INSTRUMENTATION
-
RAW WATER RECIRCULATION SYSTEM DIAGRAM

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	N-0007 OF ----	1

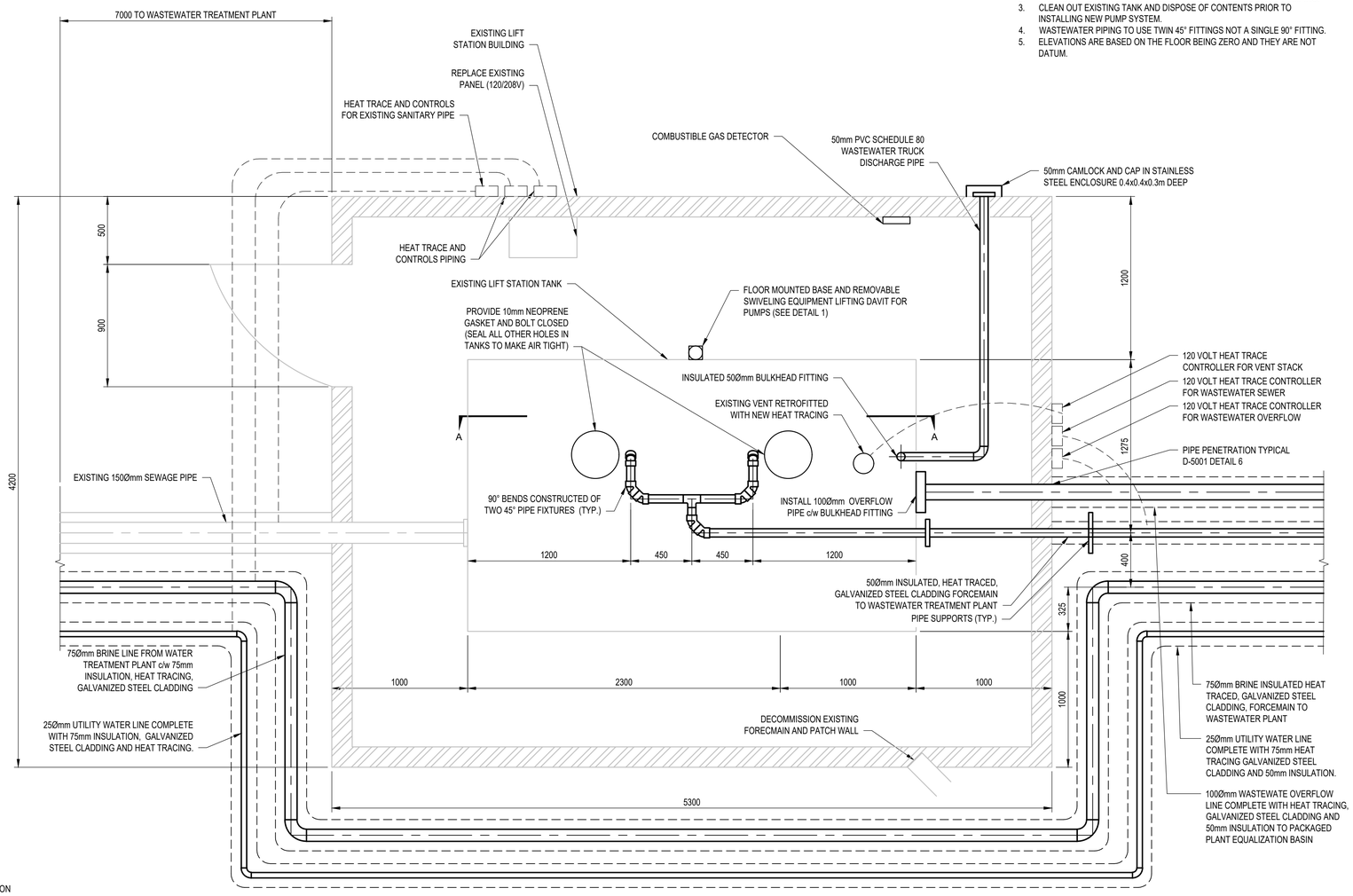


1 EQUIPMENT LIFTING DAVIT

Scale 1:20

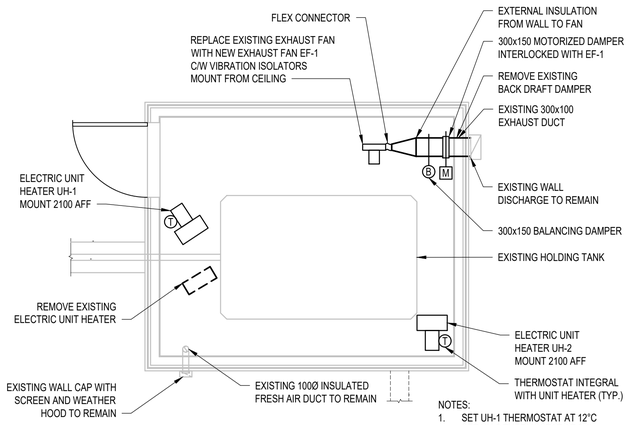
NOTES:

1. SEE PERFORMANCE SPECIFICATION FOR PUMP SPECIFICATIONS.
2. PROVIDE PIPE HANGERS TO PREVENT PIPE MOVEMENT DURING PUMPING.
3. CLEAN OUT EXISTING TANK AND DISPOSE OF CONTENTS PRIOR TO INSTALLING NEW PUMP SYSTEM.
4. WASTEWATER PIPING TO USE TWIN 45° FITTINGS NOT A SINGLE 90° FITTING.
5. ELEVATIONS ARE BASED ON THE FLOOR BEING ZERO AND THEY ARE NOT DATUM.



UPGRADED EXISTING LIFT STATION

NOTE: PROVIDE EXTERIOR PIPE SUPPORTS AS PER D-5002 Scale 1:20

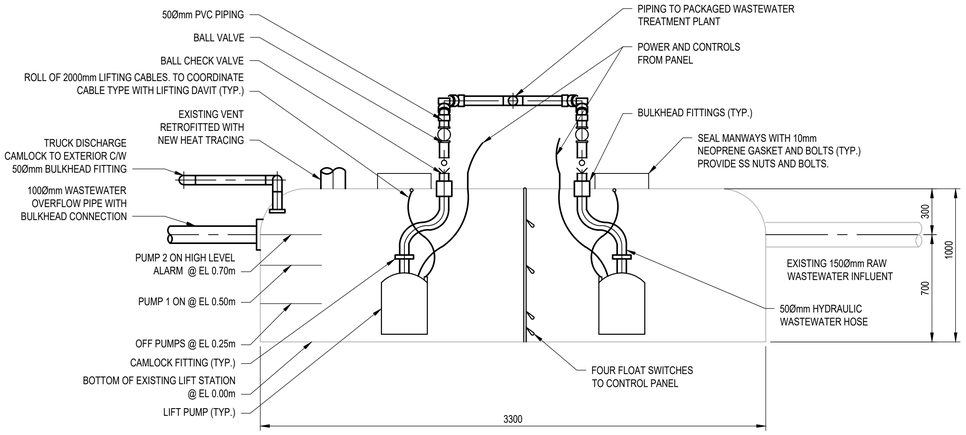


RAW WASTEWATER LIFT STATION BULDING PLAN

Scale 1:50

NOTES:

1. SET UH-1 THERMOSTAT AT 12°C SET UH-2 THERMOSTAT AT 8°C
2. ALL EQUIPMENT TO BE RATED FOR ZONE 1 (CLASS 1 ZONE1) APPLICATION
3. EF-1 SHALL START WHEN MOTORIZED DAMPER IS 85% OPEN.
4. MOTORIZED DAMPER AND EF-1 SHALL START BY MEANS OF A TIMER SWITCH LOCATED OUTSIDE THE BUILDING. REFER TO ELECTRICAL DRAWINGS.



A-A LIFT STATION SECTION

Scale 1:20

NOTE:

1. BRACE PIPING TO PREVENT MOVEMENT

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Western Region
SERVICES IMMOBILIERS
Région de l'ouest

AECOM

ORIGINAL SIGNED BY

P. BARSALOU

2020/06/23

PERMIT TO PRACTICE
AECOM Canada Ltd.
Signature SIGNED BY B.B.
SIGNED ON 06.23.2020
PERMIT NUMBER: P 639
The Association of Professional Engineers and Geophysicists of the NWT/NU.

Revision	Description	Date
5		
4		
3		
2		
1	ISSUED FOR CONSTRUCTION	2021/04/15
0	ISSUED FOR TENDER	2020/06/19

Client / client

Public Works and Government Services Canada

310- 269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

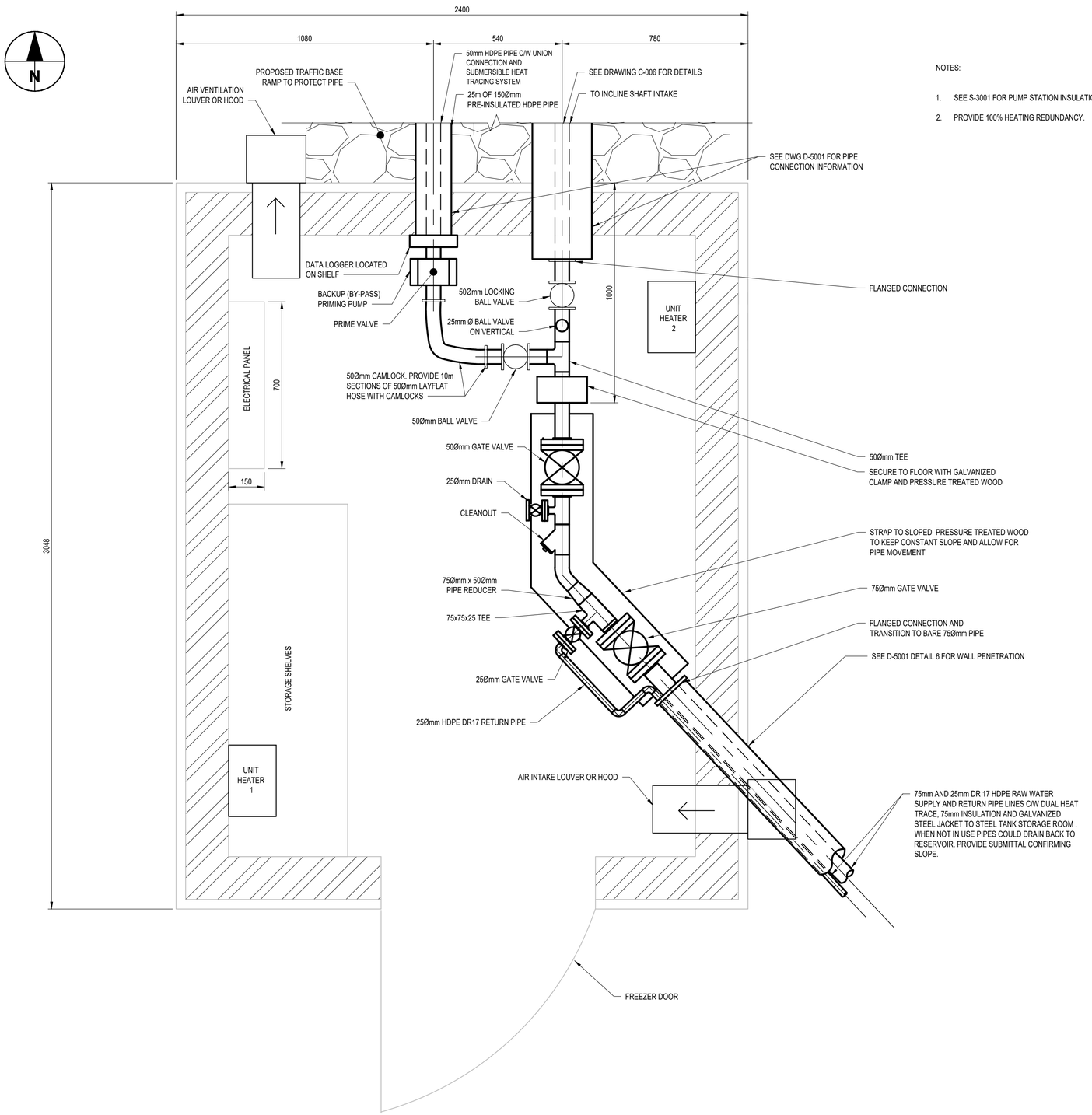
EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **A. FARROKHI**
Drawn by / Dessiné par: **S. ELLIOTT**
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

PROCESS MECHANICAL EXISTING LIFT STATION UPGRADE PLAN, SECTION AND DETAIL

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	D-0001 OF 005	1



NOTES:

1. SEE S-3001 FOR PUMP STATION INSULATION DETAILS.
2. PROVIDE 100% HEATING REDUNDANCY.

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S. ELLIOTT

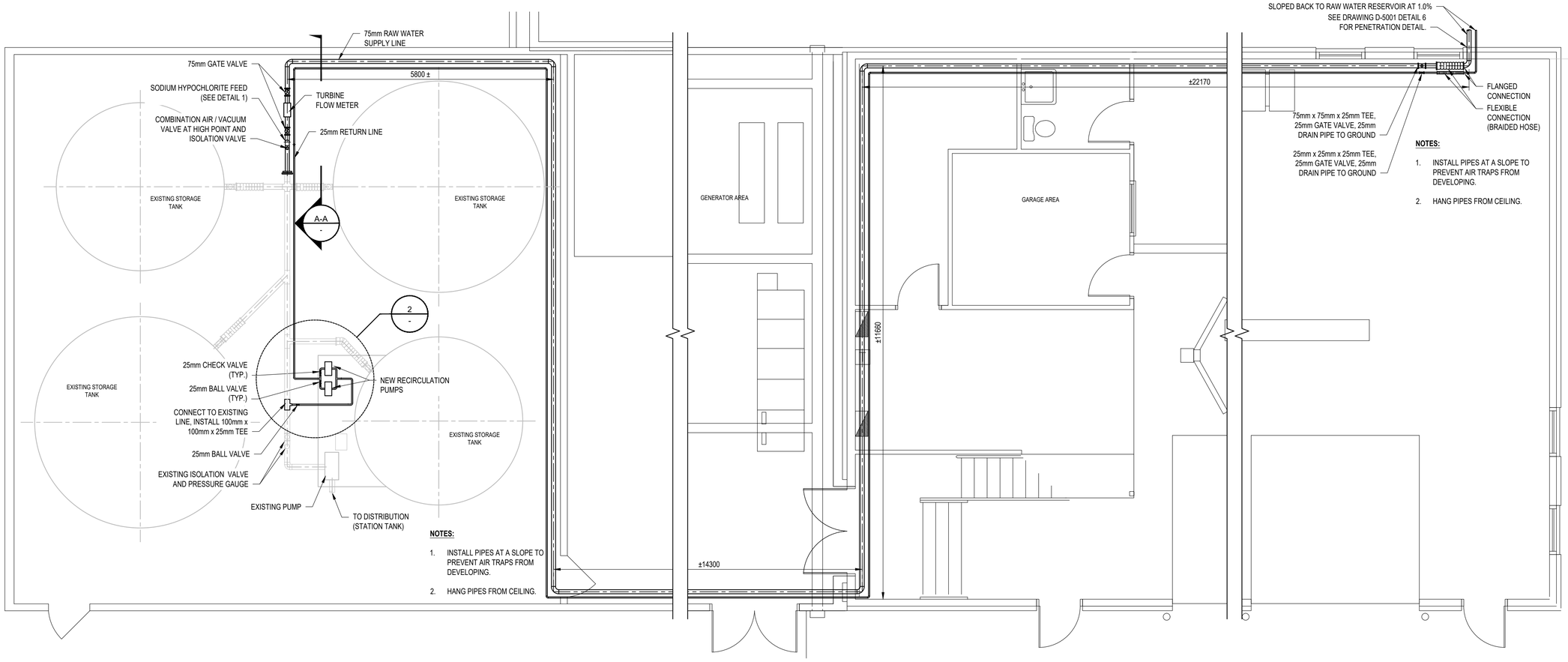
Approved by / Approuvé par
P. BARSALOU

PWGSC Project Manager / Administrateur de Projets TPSGC
M. MOGAN

Drawing title / Titre du dessin

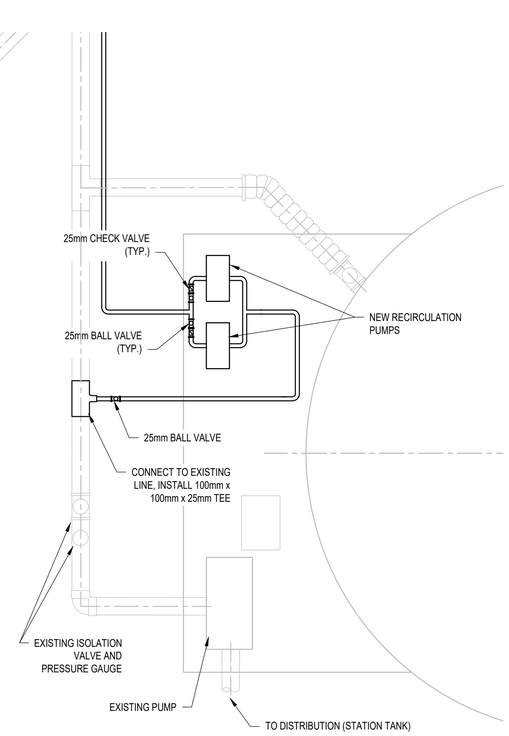
PROCESS MECHANICAL RAW WATER RESERVOIR PUMP STATION PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	D-0002 OF	1



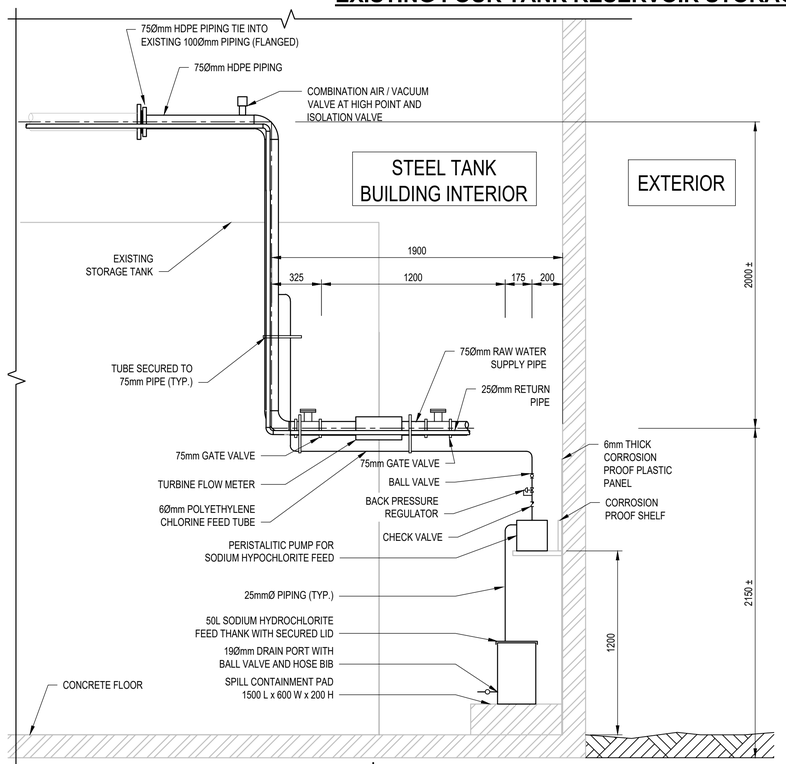
EXISTING FOUR TANK RESERVOIR STORAGE ROOM PLAN

1:50



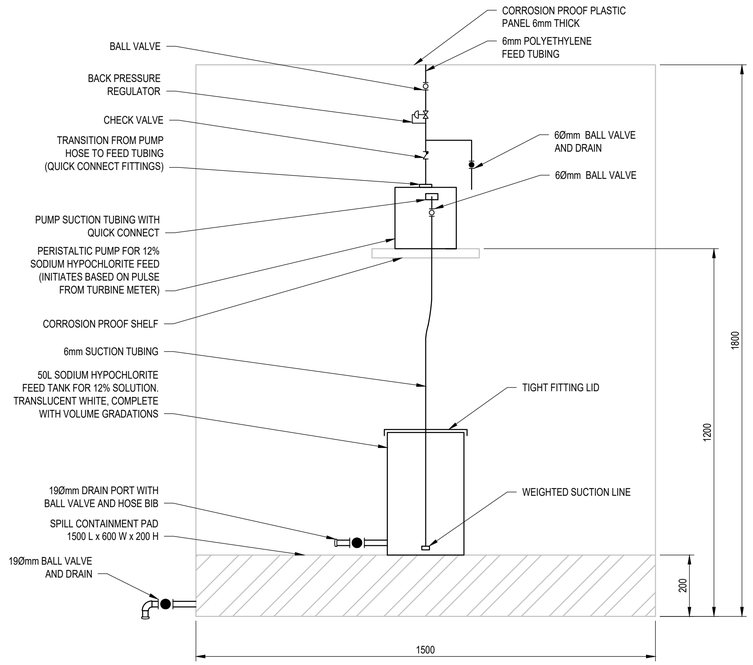
2 | RECIRCULATION PUMP DETAIL

Scale 1:20



A-A | SECTION

Scale 1:20



1 | SODIUM HYPOCHLORITE FEED DETAIL

Scale 1:10

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REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

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Public Works and Government Services Canada

310- 269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **A. FARROKHI**
Drawn by / Dessiné par: **S. ELLIOTT**
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

PROCESS MECHANICAL
RAW WATER RESERVOIR
RAW WATER SUPPLY AND CHLORINATION CROSS SECTION AND DETAILS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	D-3001 OF	1

PWGSC – A1 – 841X594

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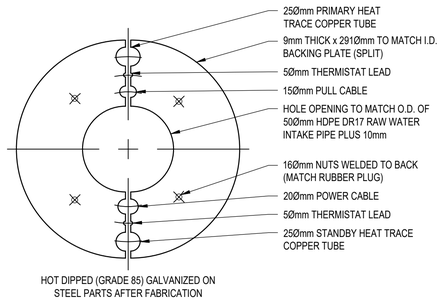
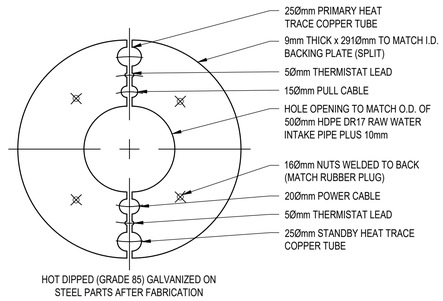
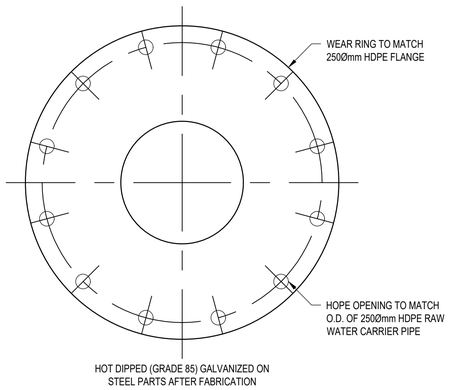
A000



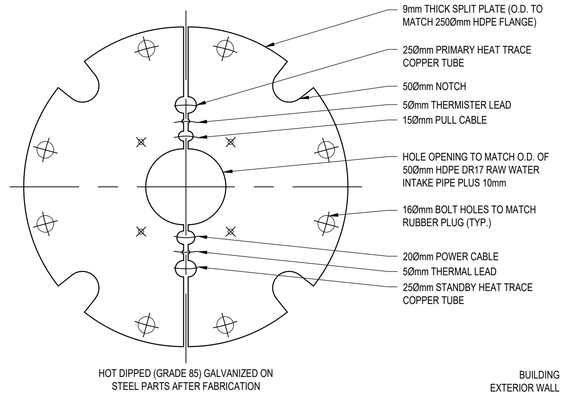
1 | TYPICAL RUBBER PLUG DETAIL
D-0002 | N.T.S



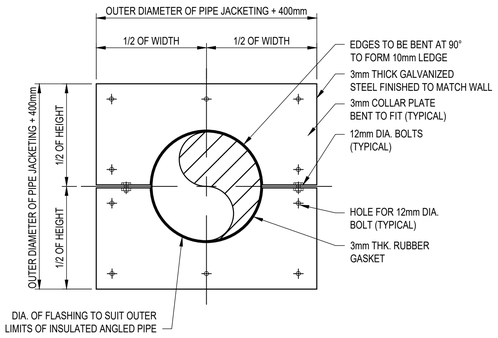
2 | TYPICAL RUBBER PLATE DETAIL
D-0002 | N.T.S



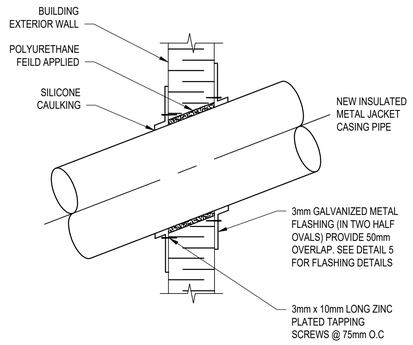
3 | TYPICAL WEAR RING DETAIL
D-0002 | N.T.S



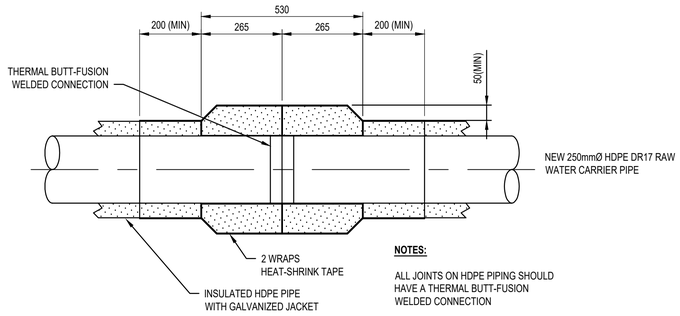
4 | TYPICAL FACE PLATE DETAIL
D-0002 | N.T.S



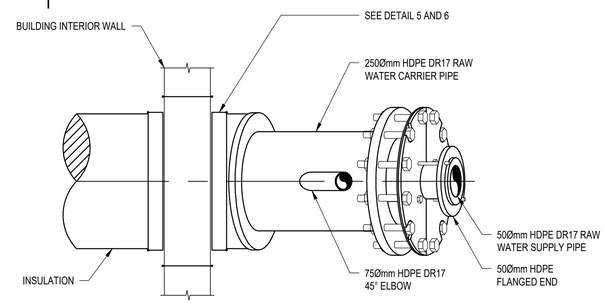
5 | WALL PENETRATION PIPE FLASHING DETAIL
D-0002 | N.T.S



6 | WALL PENETRATION SECTION
D-0002 | N.T.S



7 | TYPICAL RAW WATER SUPPLY PIPE JOINT DETAIL
D-0002 | N.T.S



8 | WALL PENETRATION PLAN
D-0002 | N.T.S

9 | RAW WATER PIPE AND SEAL DETAIL
D-0002 | N.T.S

Public Works and Government Services Canada
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REAL PROPERTY SERVICES
Western Region
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P. BARSALOU
2020/06/23

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Signature SIGNED BY B.B.
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PERMIT NUMBER: P 639
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NOTE:
PRE-ASSEMBLE RAW WATER PIPING ASSEMBLY AT MANUFACTURER PRIOR TO BRINING TO SITE.

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Client: client

Public Works and Government Services Canada

310- 269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

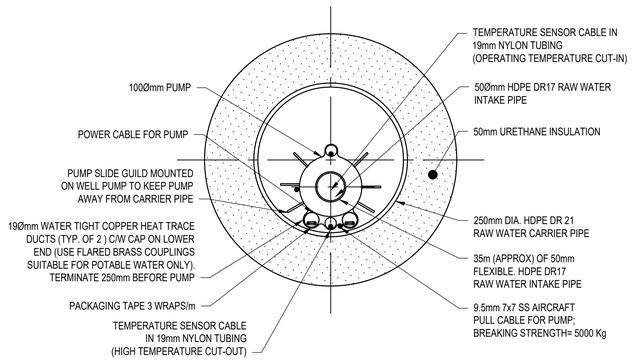
NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

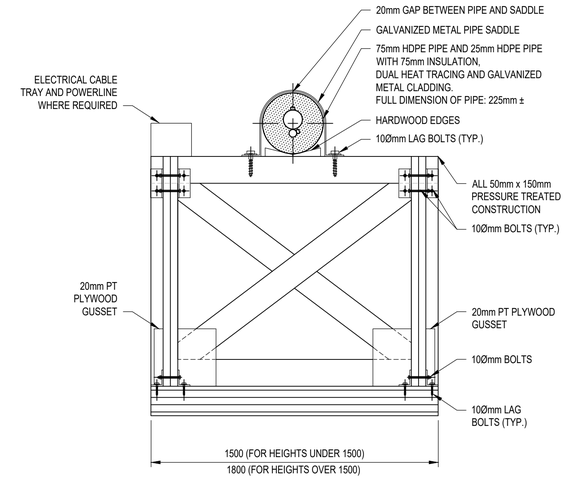
Designed by / Conçu par: **A. FARROKHI**
Drawn by / Dessiné par: **S. ELLIOTT**
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin:
PROCESS MECHANICAL
GENERAL
PIPING DETAILS
SHEET 1 OF 2

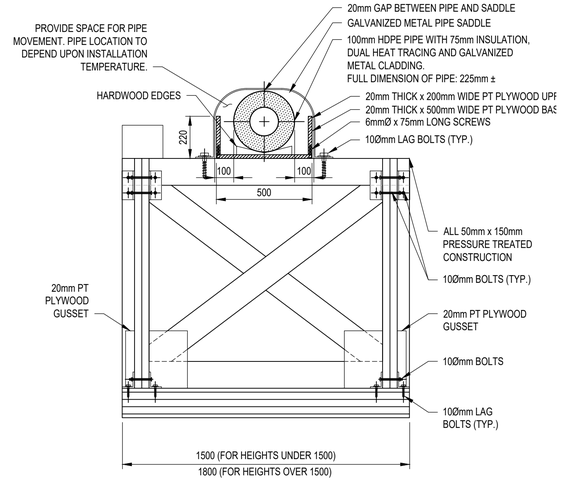
Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	D-5001 OF	1



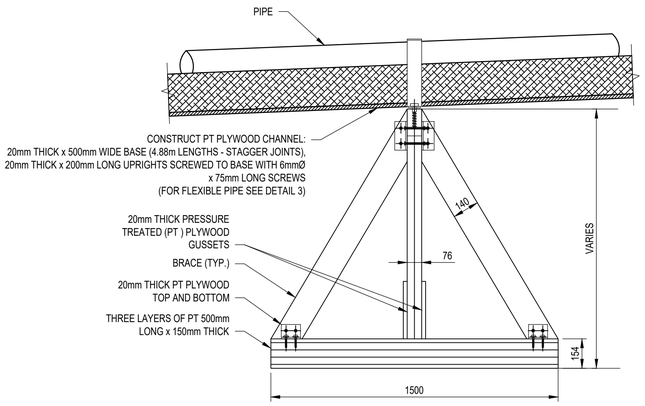
1 | RESERVOIR INTAKE PIPE DETAIL
C-0006 | N.T.S



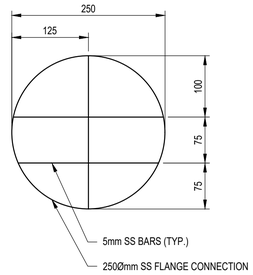
2 | RIGID PIPE SUPPORT DETAIL
C-0002 | NOTE: INSTALL ON STRAIGHT LENGTHS LEADING UP TO 10m FROM PIPE BENDS. N.T.S



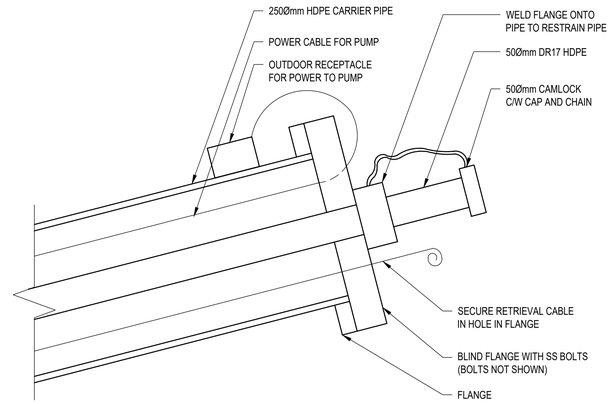
3 | FLEXIBLE MOVEMENT PIPE SUPPORT DETAIL
C-0002 | NOTE: INSTALL IN PIPE BEND AREA AND ON STRAIGHT SECTIONS WITHIN 10m OF THE BEND N.T.S



4 | PIPE SUPPORT (SIDE VIEW) DETAIL
D-3001 | N.T.S

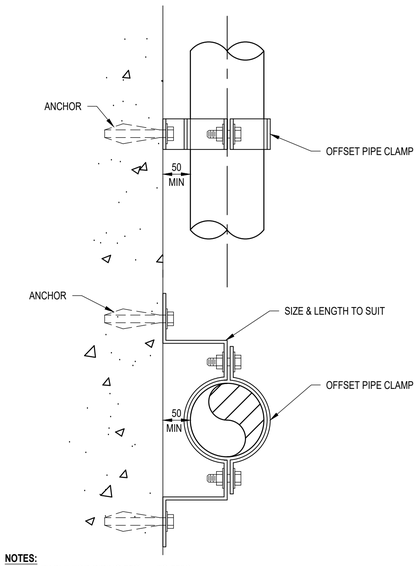


5 | PUMP STOP BAR DETAIL
C-0006 | N.T.S



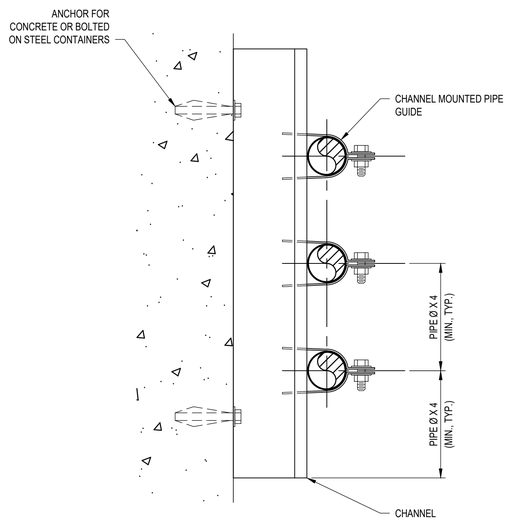
6 | RESERVOIR DRAINAGE PIPE CAP DETAIL
C-0006 | N.T.S

NOTES:
1. INSTALL PUMPS IN SHAFT 42 AND 43 ON DRAWING C-0003.
2. PROVIDE CABLE FROM THE DRAINAGE PUMPS, EXTENDING TO THE RESERVOIR PUMP HOUSE

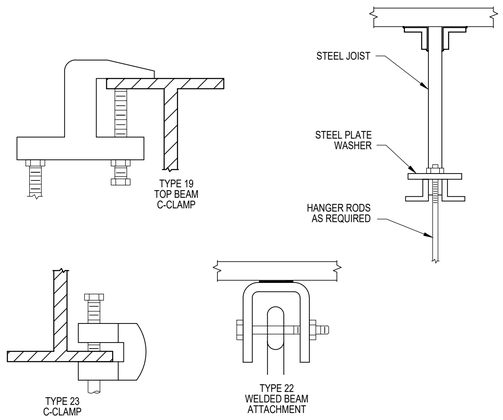


NOTES:
1. SUITABLE FOR PIPING 25Ømm TO 30ØØmm
2. GALVANIZE ALL METAL PARTS AND HARDWARE
3. SUITABLE FOR WALL OR FLOOR SUPPORTED PIPE

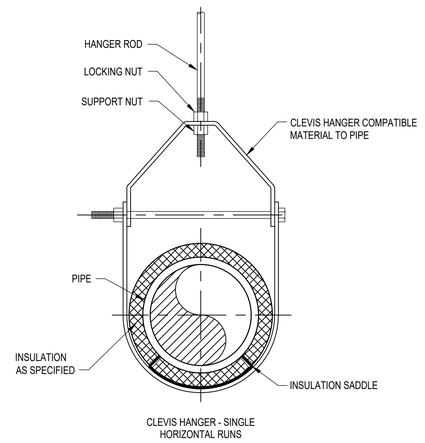
6 | OFFSET PIPE SUPPORT DETAIL
- | NOTE: SIZE TO MATCH PIPE N.T.S



7 | SMALL PIPE WALL MOUNTED SUPPORT DETAIL
- | NOTE: SIDE TO MATCH PIPE N.T.S



8 | PIPE CLEVIS HANGER WITH LOWER ATTACHMENT DETAIL
- | N.T.S



9 | PIPE CLEVIS HANGER WITH LOWER ATTACHMENT DETAIL
- | NOTE: SIZE TO MATCH PIPE N.T.S

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

REAL PROPERTY SERVICES
Western Region
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Public Works and Government Services Canada

310- 269 Main Street, R3C 1B3 Winnipeg, MB

Project title / Projet

NUNAVUT EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **A. FARROKHI**
Drawn by / Dessiné par: **S. ELLIOTT**
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

PROCESS MECHANICAL GENERAL PIPING DETAILS SHEET 2 OF 2

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	D-5002 OF	1

PWGSC – A1 – 841X594

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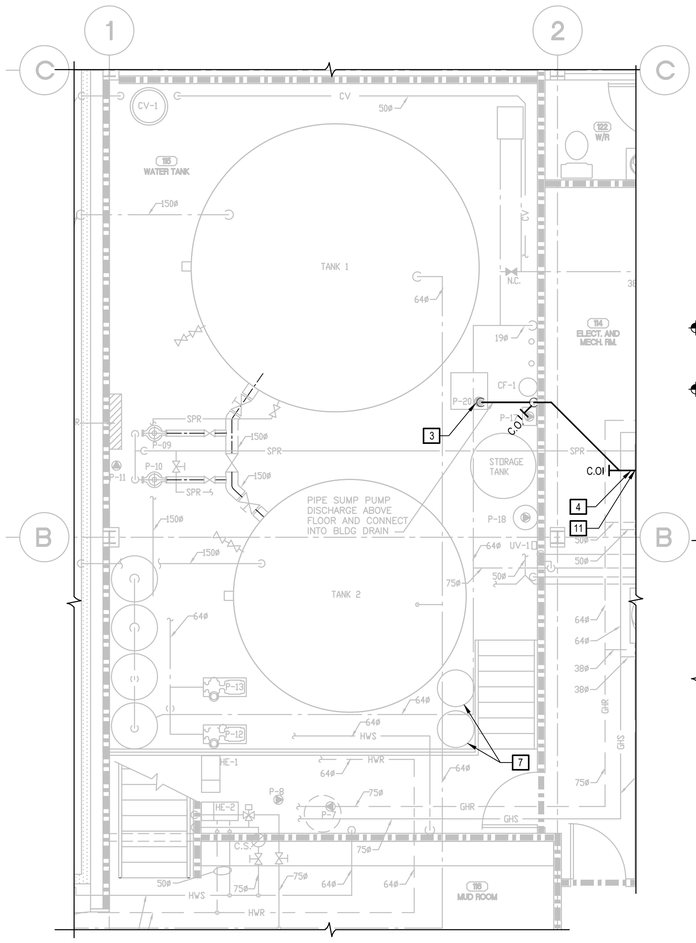
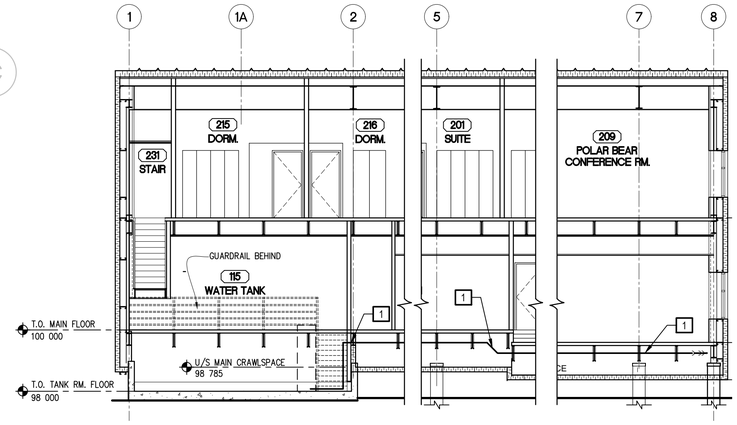
A000



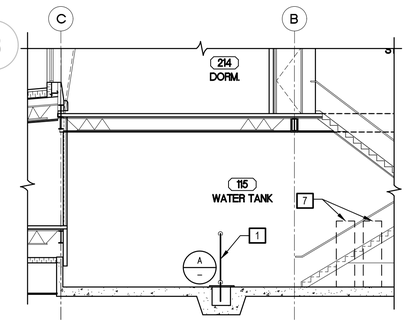
PARTIAL WATER TANK ROOM MODIFICATIONS

Scale 1:50



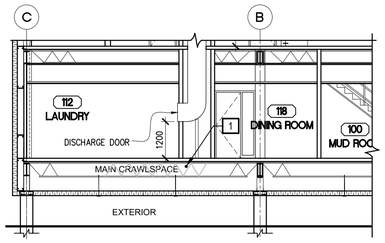
1 PARTIAL SECTION

Scale 1:100



2 PARTIAL SECTION

Scale 1:100



3 PARTIAL SECTION

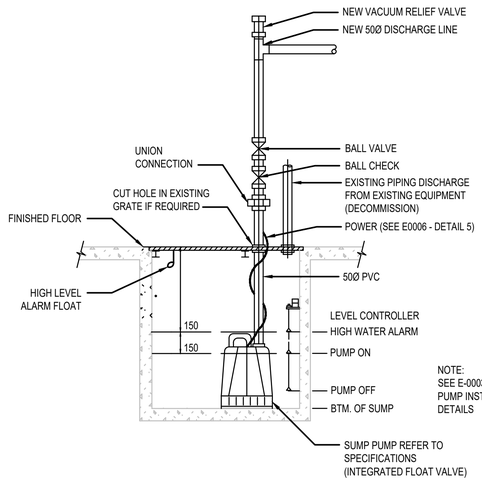
Scale 1:100

GENERAL NOTES:

1. CONTRACTOR TO MAKE SURE THAT ALL PENETRATIONS THROUGH FIRE RATED AREAS ARE PROPERLY SEALED ACCORDING TO THE NATIONAL BLDG. CODE.
2. CONTRACTOR SHALL SITE VERIFY ALL EQUIPMENT LOCATIONS AND COORDINATE WITH OTHER TRADES FOR HEAD ROOM AND SPACE ALLOCATION OF NEW PIPING IN CRAWL SPACE.

DRAWING NOTES:

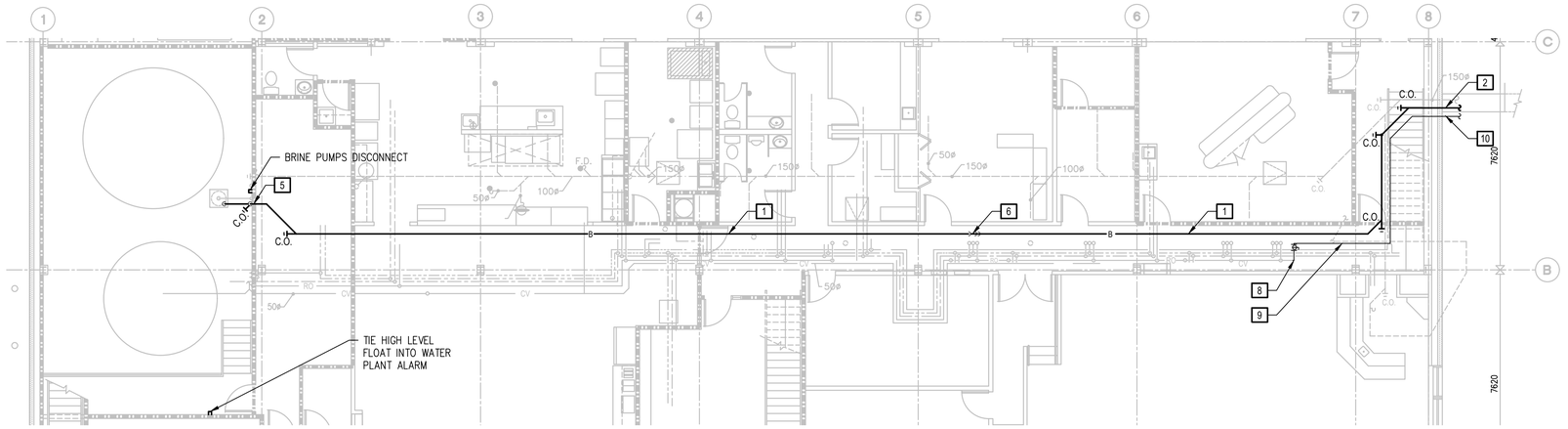
1. NEW 50mm PVC DISCHARGE FROM SUMP PIT TO RUN ALONG CRAWLSPACE AND STRAPPED TO UNDERSIDE OF STRUCTURE IN HEATED SPACE.
2. NEW 50mm HDPE DISCHARGE LINE FROM EXTERNAL LIFT STATION C/W 75mm THERMAL INSULATION, HEAT TRACE AND GALVANIZED JACKET. SEE CIVIL DRAWINGS FOR CONTINUATION. HEAT TRACE FROM LIFT STATION.
3. REMOVE AND REPLACE P-20 AND ASSOCIATED PIPING WITH NEW PUMP AND NEW DISCHARGE PIPING. PLACE NEW 50mm PVC DISCHARGE PIPING IN CRAWLSPACE.
4. FOR CONTINUATION SEE MAIN COMPLEX-PARTIAL MAIN FLOOR PLUMBING PLAN DETAIL 2.
5. CORE THROUGH CONCRETE. NEW PENETRATION TO ACCOMMODATE NEW 50mm PVC DISCHARGE LINE. TO BE PLACED IN CRAWLSPACE. PATCH EXISTING HOLE.
6. DIRECTION CHANGE AT THIS POINT SEE PARTIAL SECTION 1.
7. EXISTING WATER SOFTENERS.
8. NEW 25mm COPPER SERVICE FOR UTILITY WATER, COMPLETE WITH ISOLATION BALL VALVE.
9. NEW 25mm COPPER LINE FROM TAPPING POINT , STRAPPED TO UNDERSIDE OF STRUCTURE.
10. NEW 25mm HDPE EXTERNAL PIPE COMPLETE WITH 75mm INSULATION AND GALVANIZED JACKET. HEAT TRACE FROM LIFT STATION.
11. DISCONNECT EXISTING BRINE LINE FROM EXISTING SANITARY LINE AND PLUG HOLE.



NOTE:
SEE E-0003, DETAIL 4 FOR PUMP INSTALLATION DETAILS

1 SUMP PUMP DETAIL

EXISTING MODIFIED SUMP PIT NTS



EUREKA STATION-PARTIAL MAIN FLOOR PLUMBING PLAN

Scale 1:100

MECHANICAL LEGEND

	CONTROL VALVE
	3-WAY CONTROL VALVE
	BALL VALVE
	CHECK SWING GATE VALVE
	CHECK GATE VALVE C/W BALL DRIP
	BUTTERFLY VALVE
	GLOBE VALVE
	GATE VALVE
	NORMALLY CLOSED VALVE
	PUMP
	PRESSURE GAUGE
	STRAINER
	CAPPED END
	UNION
WM	WATER METER
GM	GAS METER
EWS	EYE WASH
	TRAP
	HOSE BIBB
	QUICK CONNECT
FFD	FUNNEL FLOOR DRAIN
FD	FLOOR DRAIN
RD	ROOF DRAIN
	DRAIN
C.O.	CLEAN OUT
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RECIRCULATING
SAN	SANITARY SEWER ABOVE GRADE
SAN	SANITARY SEWER BELOW GRADE
ST	STORM DRAIN ABOVE GRADE
ST	STORM DRAIN BELOW GRADE
RWL	RAIN WATER LEADER ABOVE GRADE
SD	SUMP DISCHARGE
V	SANITARY VENT LINE
FE	FINAL EFFLUENT
B	BRINE LINE
FOS	FUEL OIL SUPPLY
FOR	FUEL OIL RETURN
FOV	FUEL OIL TANK VENT
	PIPING DOWN
	PIPING UP
	TEE FITTING DOWN FLOW
	TEE FITTING UP FLOW
	FLOW DIRECTION

DRAWING TAGS

1	DRAWING NOTE No.
SH-3	PLUMBING FIXTURE
UH 1	EQUIPMENT DESIGNATION EQUIPMENT No.

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

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P. BARSALOU

2020/06/23

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Revision	Description	Date
5		
4		
3		
2		
1	ISSUED FOR CONSTRUCTION	2021/04/15
0	ISSUED FOR TENDER	2020/06/19

Client: client

Public Works and Government Services Canada

310- 269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **C. COURCHAINE**
Drawn by / Dessiné par: **D. PEREZ**
Approved by / Approuvé par: **P.BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

MECHANICAL
EUREKA STATION
PARTIAL MAIN FLOOR PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	H-0001 OF	1

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

A000

LEGEND

POWER

- WITHDRAWABLE CONNECTION
- LOW VOLTAGE POWER CIRCUIT BREAKER (LVPCB)
  MODIFIERS: 800AF - FRAME; LSIG - TRIP FUNCTIONS; 600AT - TRIP
  FUNCTIONS: 100% - 100% RATED
  (800AF, LSIG, 600AT)
- LOW VOLTAGE THERMAL/MAGNETIC BREAKER
  MODIFIERS: 3P - # OF POLES; 120A - TRIP
  FUNCTIONS: 100% - 100% RATED; MCP - MOTOR PROTECTOR
  (TM, 3P, 120A)
- MOTOR CIRCUIT PROTECTOR, MAGNETIC ONLY MODIFIERS: 7A CONTINUOUS RATING. 3 POLE UNLESS OTHERWISE NOTED. (7A, MCP)
- DISCONNECT SWITCH (SINGLE LINE)
- KIRK KEY INTERLOCK (K)
- THERMAL OVERLOAD DEVICE
- CONTACT - NORMALLY OPEN
- CONTACT - NORMALLY CLOSED
- CAPACITOR C/W KVAR RATING (X)
- DIGITAL METERING (DM)
- SURGE PROTECTION DEVICE (SPD)
- TRANSIENT VOLTAGE SURGE SUPPRESSOR (TVSS)
- VARIABLE FREQUENCY DRIVE (VFD)
- UTILITY METER (M)
- ELECTRIC MOTOR - SINGLE PHASE
- ELECTRIC MOTOR - THREE PHASE
- DISTRIBUTION TRANSFORMER
- DELTA CONNECTION
- WYE CONNECTION
- WYE WITH SOLIDLY GROUNDED NEUTRAL
- GROUND CONNECTION
- DISCONNECT SWITCH (100A, #X) #X - NEMA RATING
- STARTER - FVNR, FULL VOLTAGE NON-REVERSING
- GROUND ROD

- DUPLEX RECEPTACLE
- ABOVE COUNTER RECEPTACLE
- DRYER RECEPTACLE
- ISOLATED GROUND RECEPTACLE
- SPLIT-FEED RECEPTACLE
- GROUND FAULT (GFCI) RECEPTACLE
- 240V RECEPTACLE
- 120V DIRECT CONNECTION / POWER ROUGH-IN
- 600V DIRECT CONNECTION / POWER ROUGH-IN
- SPECIAL 600V RECEPTACLE
- DISCONNECT SWITCH (FLOOR PLAN)
- FUSED DISCONNECT SWITCH
- COMBINATION DISCONNECT/ MAGNETIC MOTOR STARTER
- MANUAL COMBINATION MOTOR STARTER (M)
- UNIT HEATER
- PANEL BOARD - SURFACE MOUNTED
- MISC. PANEL BOARD - FLUSH MOUNTED
- TRANSFORMER
- HAND DRYER
- TERMINAL IN MOTOR STARTER COMPARTMENT
- TERMINAL IN LCP-XXXX
- TERMINAL IN LIT-XXXX
- INDICATING LIGHT (G) R = RED; A = AMBER; G = GREEN
- TRANSIENT VOLTAGE SUPPRESSOR
- DUCT HEATER
- 1Ø MOTOR
- WINDING TEMPERATURE PROTECTION (49)
- CIRCUIT BREAKER
- CURRENT TRANSFORMER
- POTENTIAL TRANSFORMER
- 3Ø MOTOR
- FUSE
- JUNCTION BOX (J)

LIGHTING

- LED LUMINAIRE - SUSPENDED
- LED LUMINAIRE - WALL MOUNTED
- LED WALL PACK
- EXTERIOR WALL MOUNTED
- WALL MOUNTED EXIT LIGHT - ARROWS AS REQUIRED
- WALL MOUNTED EXIT LIGHT WITH REMOTE HEADS
- DUAL FACEPLATE EXIT SIGN - SUSPENDED
- BATTERY PACK C/W HEADS AS INDICATED
- WALL MOUNTED EMERGENCY REMOTE HEADS
- PHOTO ELECTRIC CELL (PC)
- OCCUPANCY SENSOR (OS)
- LUMINAIRE TYPE (#)
- LIGHTING SWITCH (Y)
  Y=3: THREE WAY
  Y=4: FOUR WAY
  Y=D: DIMMER
  Y=PL: PILOT LIGHT
  Y=OS: OCCUPANCY SENSOR

COMMUNICATION

- VOICE OUTLET
- DATA OUTLET
- VOICE/DATA OUTLET

FIRE ALARM

- MANUAL PULL STATION
- WALL MOUNTED HORN
- WALL MOUNTED HORN/STROBE
- WALL MOUNTED STROBE (ST)
- SMOKE DETECTOR
- HEAT DETECTOR
- RATE OF RISE THERMAL DETECTOR
- DUCT SMOKE DETECTOR
- END OF LINE RESISTOR
- INSULATION MODULE (IM)

SECURITY

- CARD READER
- DOOR POSITION SWITCH (DPS)
- MOTION DETECTOR (MD)
- PUSHBUTTON FOR DOOR BUZZER
- DOOR BUZZER
- KEYPAD (KP)
- PAN/TILT/ZOOM (PTZ) CAMERA

CABLES

- OVERHEAD
- DIRECT BURIED

ABBREVIATIONS

AHU	AIR HANDLE UNIT
A.F.F.	ABOVE FINISHED FLOOR
ATS	AUTOMATIC TRANSFER SWITCH
BLK	BLACK
BMS	BUILDING MANAGEMENT SYSTEM
BU	BATTERY CHARGER CABINET
CEC	CANADIAN ELECTRICAL CODE
CF	CEILING FAN/AIR CONDITIONER
CSTE	CUSTOMER SERVICE TERMINATION ENCLOSURE
DP	600V DISTRIBUTION PANEL BOARD
DCS	DISTRIBUTED CONTROL SYSTEM
DCU	DISTRIBUTED CONTROL UNIT
DN	DOWN
DRI	DIGITAL REMOTE INTERFACE
EF	EXHAUST FAN
EQ	EQUIPMENT
ETR	ELECTRICAL CABLE TRAY
FACP	FIRE ALARM CONTROL PANEL
FD	SMOKE/HEAT DETECTOR
FK	PULL STATION
FSC	FIBRE.COMMUNICATIONS CABINET
FVNR	FULL VOLTAGE NON REVERSING STARTER
FVR	FULL VOLTAGE REVERSING STARTER
GRD	GROUND
HN	HORN/STROBE
IR	INFRARED
ITR	INSTRUMENTATION CABLE TRAY
KB	CONTROL PANEL
LP	LIGHTING PANEL 120/208V
LCP	LIGHTING CONTROL PANEL
LSIG	LONG-TIME, SHORT-TIME, INSTANTANEOUS, GROUND FAULT TRIP BREAKER
MAU	MAKE-UP AIR UNIT
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
mmC	MILLIMETRE CONDUIT
MP	MECHANICAL POWER PANEL 120/208V
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
OH	OVERHEAD
OS	OCCUPANCY SENSOR
PMCS	POWER MANAGEMENT CONTROL SYSTEM
PP	POWER PANEL 120/208V
RED	RED
RTU	ROOF TOP UNIT
RR	RATE OF RISE
SPM	SMART POWER METER
SS	SOFT STARTER
SP	SECURITY PANEL
SPD	SURGE PROTECTION DEVICE
SPT	SPLITTER
SW	SWITCHBOARD
TR	TRANSFORMER
UH	UNIT HEATER
UPS	UNINTERRUPTABLE POWER SUPPLY
UX	UPS DISTRIBUTION PANEL BOARD
WHT	WHITE
WP	WATERPROOF
XP	EXPLOSION PROOF
YLW	YELLOW

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Travaux publics et Services gouvernementaux Canada
REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

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ORIGINAL SIGNED BY
R. BOGDANOV
2020/06/23

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Client / client

Public Works and Government Services Canada

310- 269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **R. BOGDANOV**
Drawn by / Dessiné par: **R. CHAVEZ**
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

ELECTRICAL LEGEND

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	E-0000 OF ----	1

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

A000

EXISTING	LEGEND - PLAN	NEW
P	ABOVEGROUND CABLE	P
UG	UNDERGROUND CABLE	UG

NOTES:

1. CABLE ROUTES SHOWN ARE APPROXIMATE. SITE CONDITIONS MAY REQUIRE MODIFICATION OF ROUTE.
2. CONTRACTOR IS RESPONSIBLE FOR ALL SITE UNDERGROUND AND OVERHEAD SERVICES WITHIN THE WATER AND WASTEWATER INFRASTRUCTURE AND ASSOCIATED TRENCHING ROUTES.
3. CONTRACTOR TO BE RESPONSIBLE FOR ALL CABLES AND SERVICES DAMAGED BY CONSTRUCTION ACTIVITIES.
4. FENCE GROUNDING AS PER 36-312 OF CEC.

1 | SITE PLAN
- | Scale 1:1000

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

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SIGNED BY

R. BOGDANOV

2020/06/23

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Public Works and Government Services Canada

310- 269 Main Street, R3C 1B3
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Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **R. BOGDANOV**
Drawn by / Dessiné par: **R. CHAVEZ**
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

ELECTRICAL SITE PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	E-0001 OF ----	1

PWGSC – A1 – 841X594

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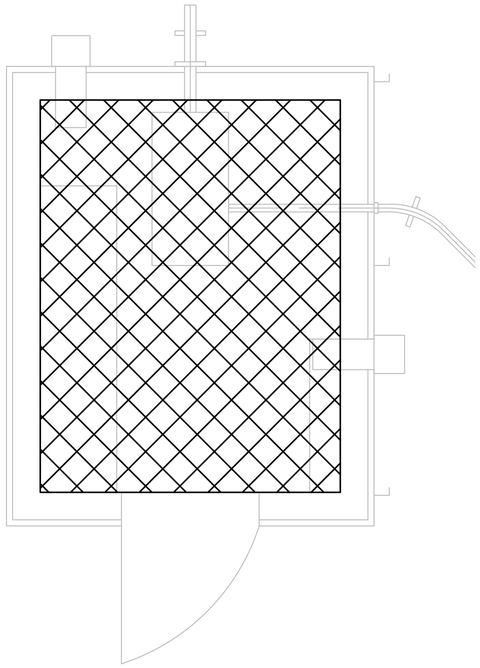
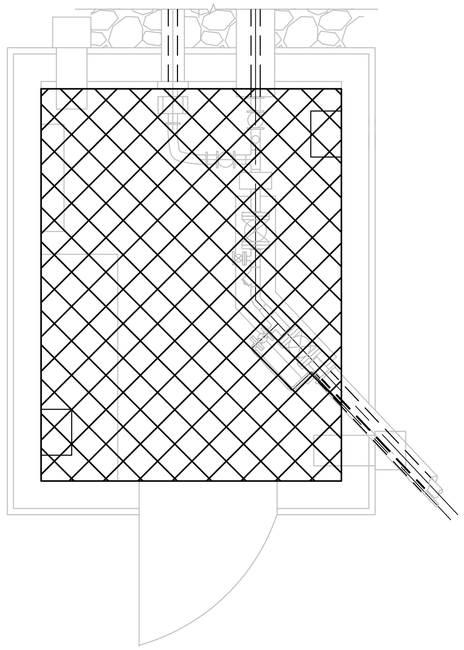
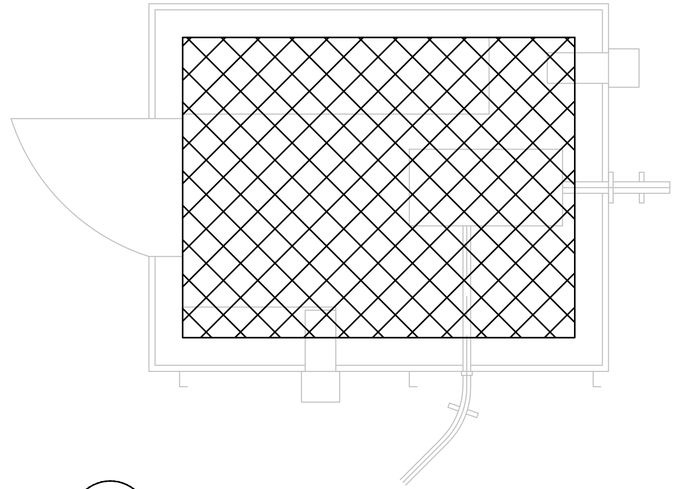


1 | CREEK PUMP STATION PLAN
Scale 1:20



2 | NEW RESERVOIR PUMP STATION PLAN
Scale 1:20



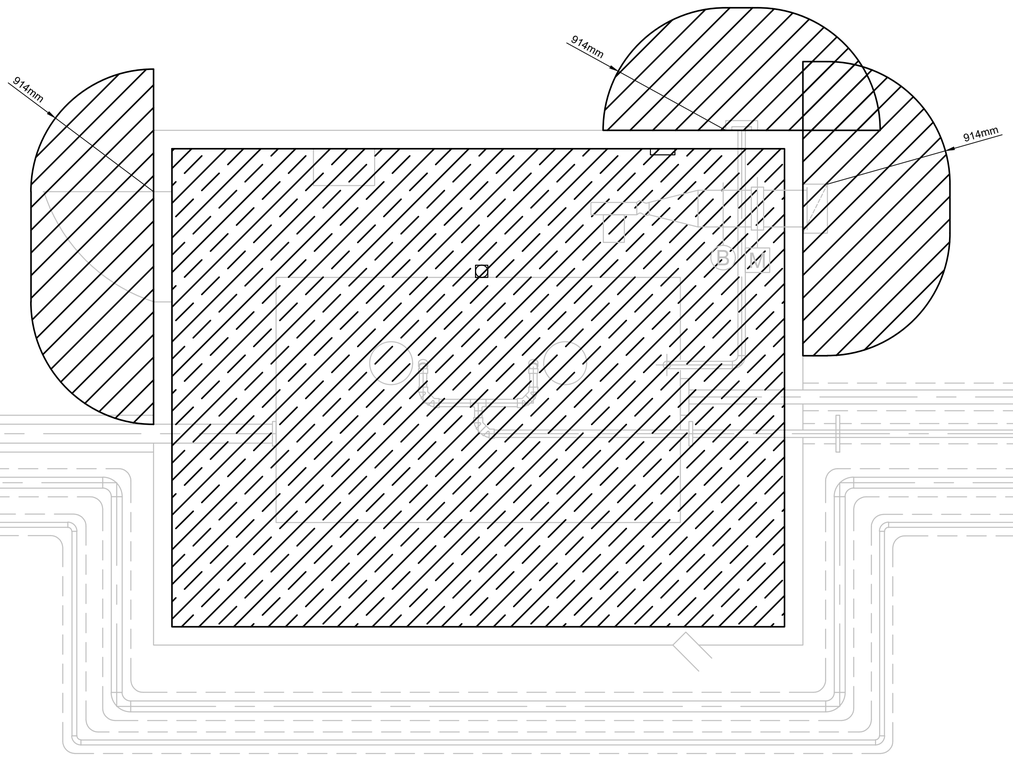
CLASSIFICATION:

CATEGORY 1

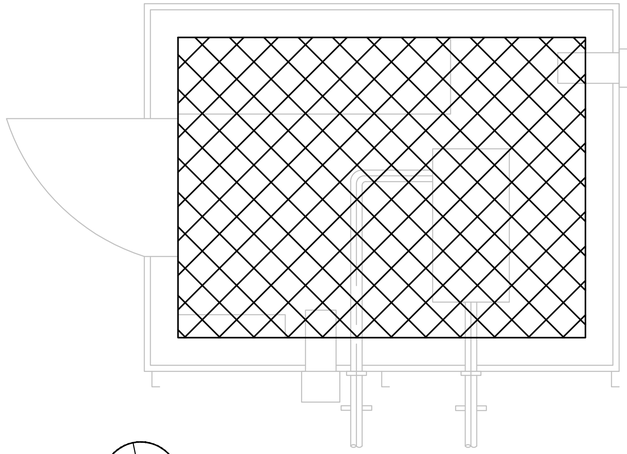
CATEGORY 2 CORROSIVE (CLASS 1, ZONE 1)

CATEGORY 2 CORROSIVE (CLASS 1, ZONE 2)

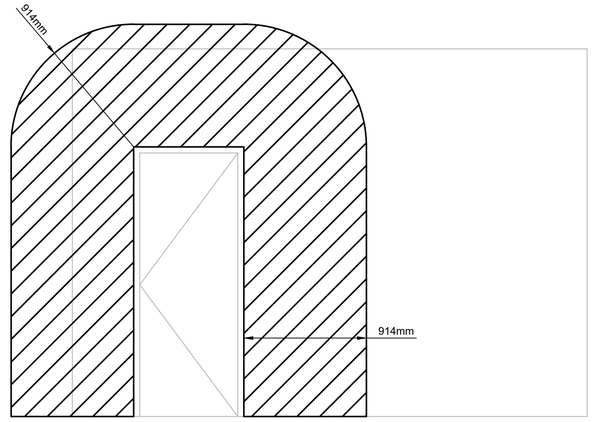
3 | NEW RETENTION BASIN PUMP STATION PLAN
Scale 1:20



4 | EXISTING RAW WASTEWATER LIFT STATION PLAN
Scale 1:25



6 | NEW RAW WATER TRANSFER STATION
Scale 1:20



5 | EXISTING RAW WASTEWATER LIFT STATION ELEVATION
Scale 1:25

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

AECOM

ORIGINAL SIGNED BY

R. BOGDANOV

2020/06/23

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Client: Public Works and Government Services Canada
310- 269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet
NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: R. BOGDANOV
Drawn by / Dessiné par: R. CHAVEZ
Approved by / Approuvé par: P. BARSALOU
PWGSC Project Manager / Administrateur de Projets TPSGC: M. MOGAN

Drawing title / Titre du dessin
ELECTRICAL CATEGORY & HAZARDOUS AREA CLASSIFICATION

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	E-0002 OF ----	1

PWGSC – A1 – 841X594

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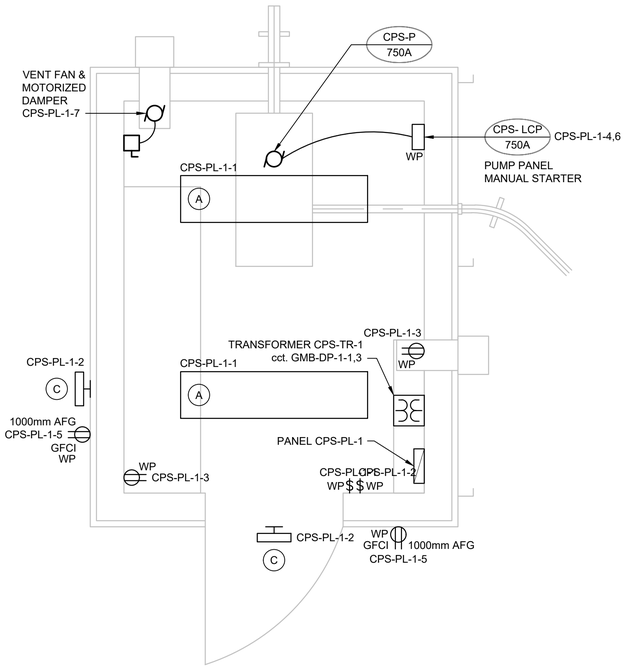
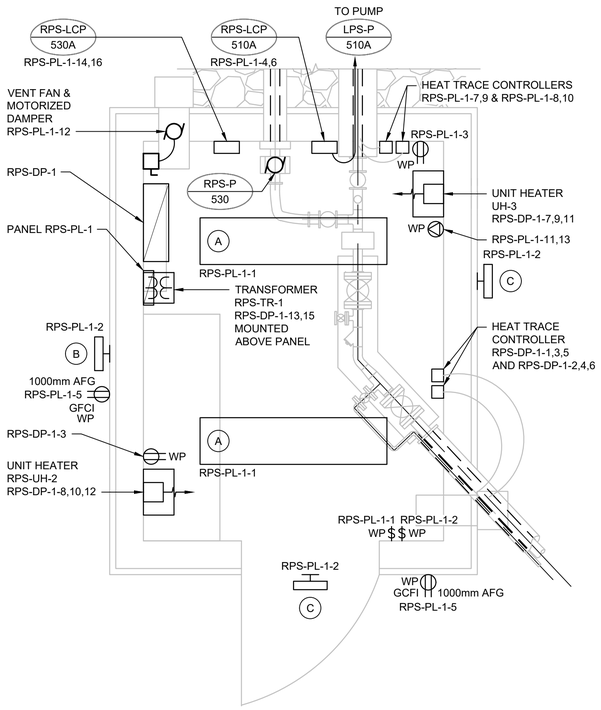
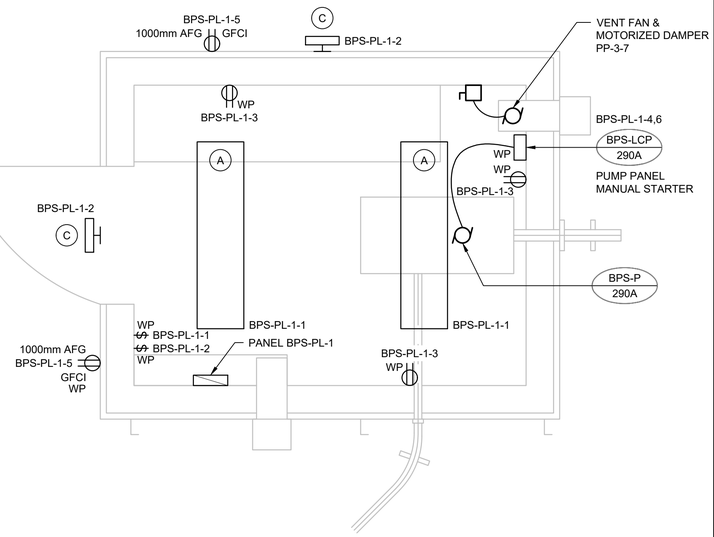
A000



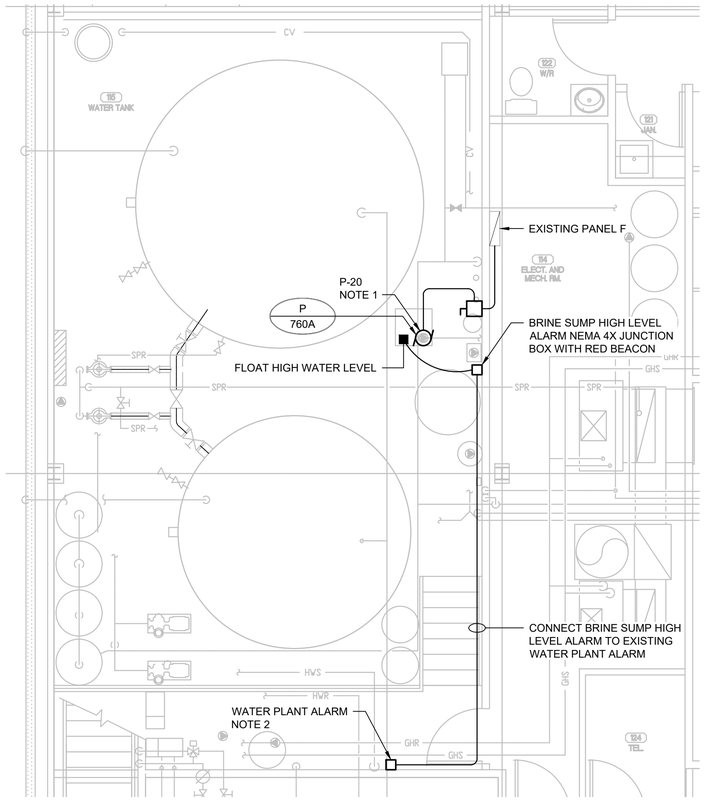
1 | CREEK PUMP STATION PLAN
Scale 1:20



2 | NEW RESERVOIR PUMP STATION PLAN
Scale 1:20



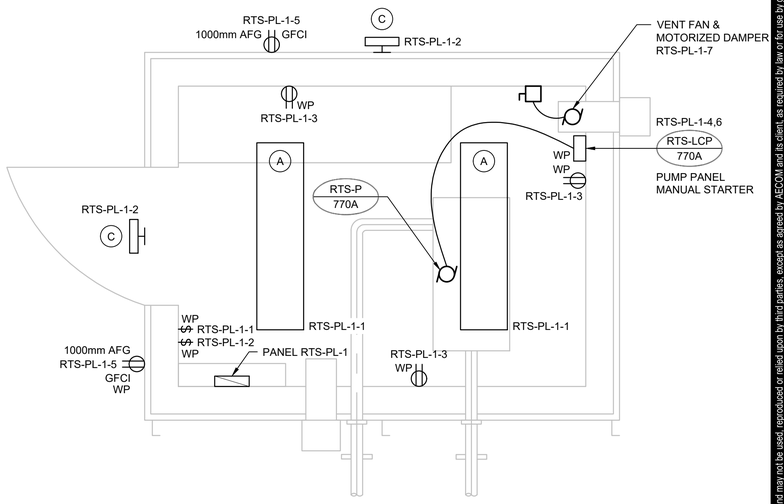
3 | NEW RETENTION BASIN PUMP STATION PLAN
Scale 1:20



4 | BRINE WATER TREATMENT ROOM MODIFICATIONS
Scale 1:50

NOTES:

1. REMOVE AND REPLACE EXISTING SUMP PUMP P-20 WITH NEW SUMP PUMP WITH HIGH LEVEL FLOAT SWITCH. PROVIDE AND INSTALL NEW 120/208V, 3 POLE, 15A BREAKER IN PANEL F cct. 61,63,65. PROVIDE AND INSTALL NEW 3C #12AWG TECK CABLE FROM PANEL F TO NEW PUMP P-20.
2. TIE HIGH LEVEL FLOAT SWITCH IN BRINE SUMP INTO WATER TREATMENT PLANT GENERAL ALARM.



5 | NEW RAW WATER TRANSFER STATION
Scale 1:20

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

REAL PROPERTY SERVICES
Western Region
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Région de l'ouest

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ORIGINAL
SIGNED BY

R. BOGDANOV

2020/06/23

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Client: **Public Works and Government Services Canada**
310- 269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet: **NUNAVUT EUREKA**

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **R. BOGDANOV**
Drawn by / Dessiné par: **R. CHAVEZ**
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin:
ELECTRICAL
PUMP HOUSES & UPGRADED EXISTING LIFT STATION PLANS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	E-0003 OF	1

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

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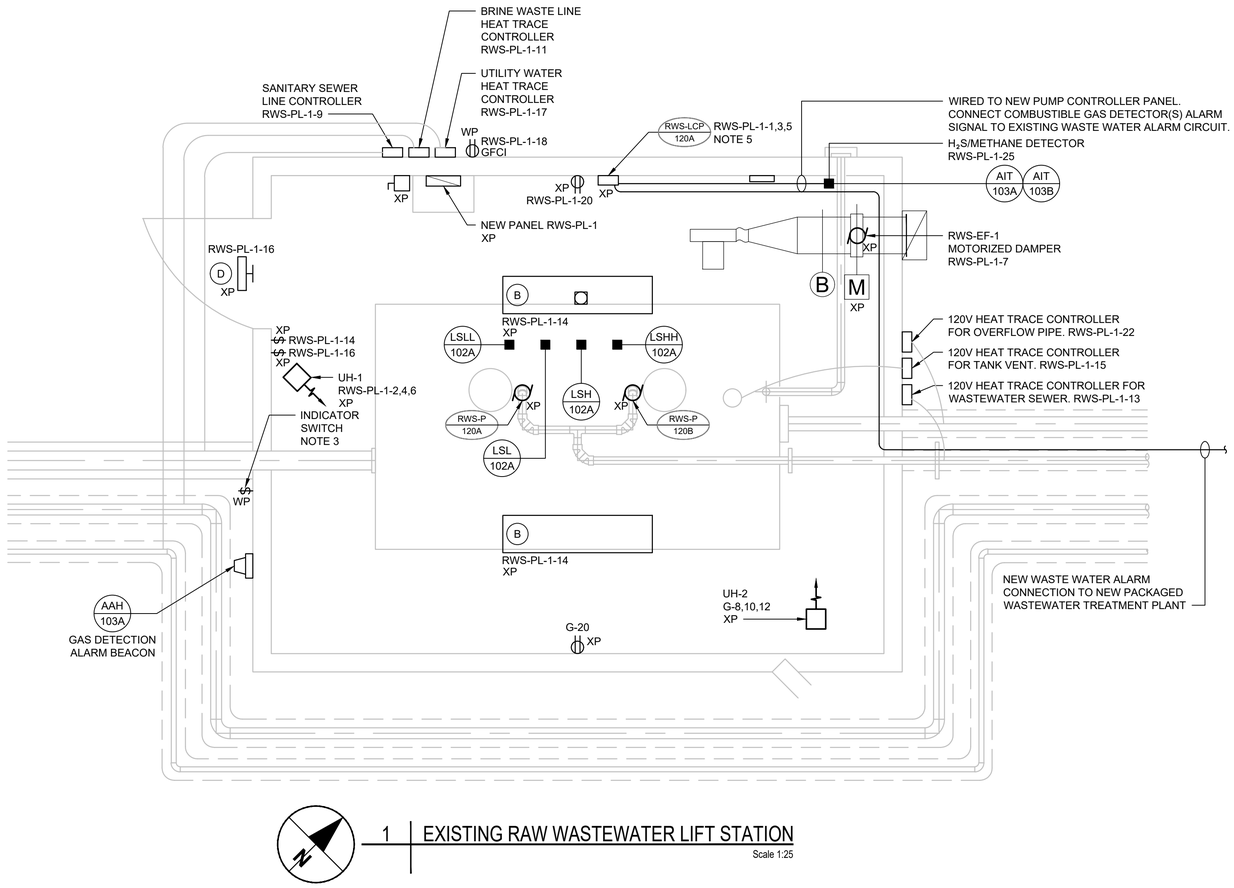

1 EXISTING RAW WASTEWATER LIFT STATION

Scale 1:25

DEMOLITION NOTES:

1. THE ELECTRICAL CONTRACTOR SHALL NOT DISCONNECT EQUIPMENT AND ELECTRICAL CIRCUITS WITHOUT PRIOR NOTIFICATION AND PERMISSION FROM THE DEPARTMENTAL REPRESENTATIVE.
2. DEMOLISH ALL ELECTRICAL EQUIPMENT IN LIFT STATION BUILDING INCLUDING BUT NOT LIMITED TO PUMPS, ELECTRICAL PANEL, LIGHTING FIXTURES, CONDUITS AND WIRING, INSTRUMENTS, SWITCHES, CONTROL PANELS, ETC. ALL DEMOLISHED EQUIPMENT SHALL BE RETURNED TO OWNER.
3. CONTRACTOR WILL BE RESPONSIBLE FOR PATCHING ALL OPENINGS IN EXISTING CONSTRUCTION AFTER REMOVAL OF EQUIPMENT AND ELECTRICAL DEVICES.

INSTALLATION NOTES:

1. ALL ELECTRICAL EQUIPMENT IN LIFT STATION SHALL BE ZONE 1 HAZARDOUS LOCATION RATED (SECTION 18, CEC).
2. ALL ELECTRICAL INSTALLATION SHALL MEET REQUIREMENTS OF SECTION 18, CEC FOR ZONE 1 (CLASS 1, ZONE 1).
3. ZONE 2 RATED 30 MINUTE MECHANICAL TIMER TO ENERGIZE MOTORIZED DAMPER. WHEN DAMPER IS FULLY OPEN TURN ON EXHAUST FAN EF-1.
4. GENERAL ALARM FROM PACKAGED PLANT TO BE WIRED TO GENERAL LIFT STATION ALARM.
5. TIE NEW PANEL INTO EXISTING LIFT STATION ALARM. REPLACE WIRE TO MEET ZONE 1 RATING.
6. USE HAZARDOUS LOCATION RATED FOR ZONE 1 TECK CABLES WITH XP RATED TECK CONNECTORS FOR ALL CABLING WITHIN THE RAW WASTEWATER LIFT STATION.

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

REAL PROPERTY SERVICES
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Client / client

Public Works and Government Services Canada

310- 269 Main Street, R3C 1B3
Winnipeg, MB

Project title / Projet

NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par
R. BOGDANOV

Drawn by / Dessiné par
R. CHAVEZ

Approved by / Approuvé par
P. BARSALOU

PWGSC Project Manager / Administrateur de Projets TPSGC
M. MOGAN

Drawing title / Titre du dessin

ELECTRICAL
EXISTING LIFT STATION PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	E-0004 OF	1

PWGSC – A1 – 841X594

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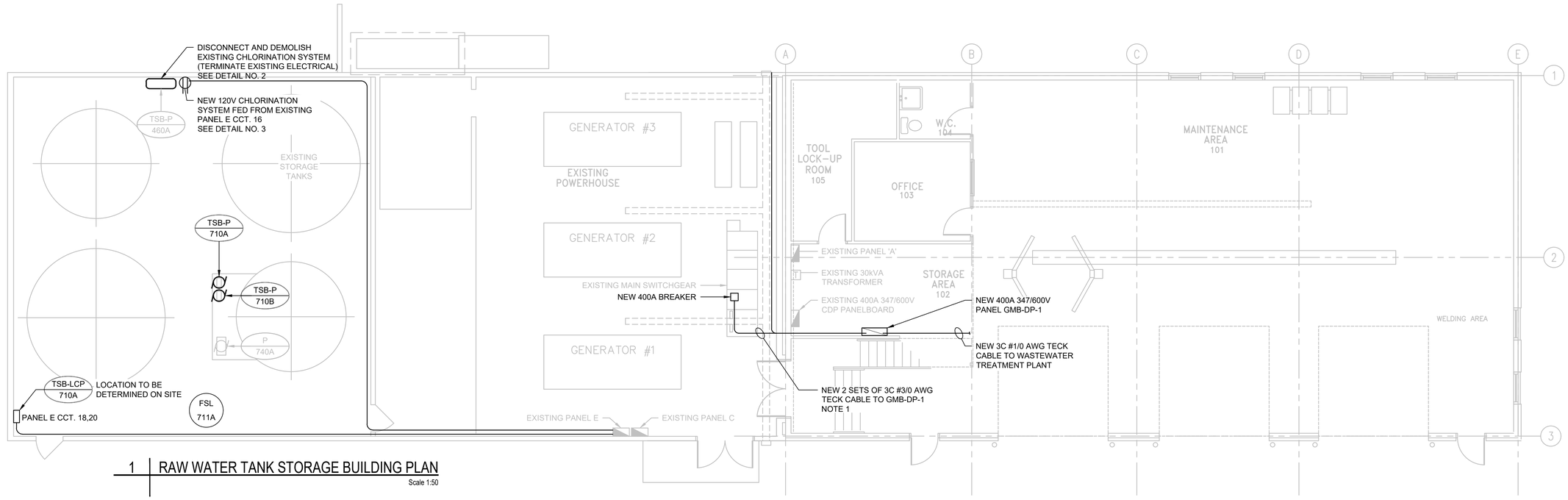
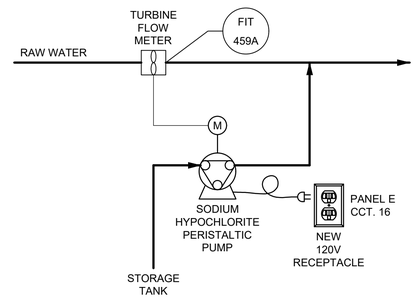


1 | RAW WATER TANK STORAGE BUILDING PLAN

Scale 1:50

2 | EXISTING CHLORINATION SYSTEM FOR DEMOLITION

Scale N.T.S.



3 | NEW CHLORINATION SYSTEM

Scale N.T.S.

NOTES:

1. MAINTAIN 100% SPACING BETWEEN POWER CABLES OR DE-RATE CABLES ACCORDING TO TABLE 5C OF CEC. PROVIDE BARRIER BETWEEN POWER AND CONTROL CABLES.

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EUREKA

EUREKA WATER AND SEWAGE SYSTEM

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Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

ELECTRICAL
GENERATOR BUILDING PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	E-0005 OF	1

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

A000

NEW PANEL CPS-PL-1

CCT. NO.	DESCRIPTION	BKR	A	B	BKR	DESCRIPTION	CCT. NO.
1	LIGHTING	15A	*		15A	EXTERIOR LIGHTING	2
3	RECEPTACLES	15A		*	15A 2P	CPS-LCP-750A	4
5	EXTERIOR RECEPTACLES	15A	*				6
7	VENT. FAN	15A		*	15A	SPARE	8
9	SPARE	15A	*		15A	SPARE	10
11	SPACE			*		SPACE	12
13	SPACE		*			SPACE	14
15	SPACE			*		SPACE	16
17	SPACE		*			SPACE	18
19	SPACE			*		SPACE	20
21	SPACE		*			SPACE	22
23	SPACE			*		SPACE	24
25	SPACE		*			SPACE	26
27	SPACE			*		SPACE	28
29	SPACE		*			SPACE	30

VOLTAGE: 120/240V, 1 Phase, 3 Wire	LOCATION : CREEK PUMP STATION
MAIN BREAKER: 60A	FED FROM : CPS-TR-1
MAINS: 100A	FEEDER :
MOUNTING: SURFACE	BREAKER I.C. : 10KA

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NEW PANEL RPS-PL-1

CCT. NO.	DESCRIPTION	BKR	A	B	BKR	DESCRIPTION	CCT. NO.
1	LIGHTING	15A	*		15A	EXTERIOR LIGHTING	2
3	RECEPTACLES	15A		*	15A 2P	RPS-LCP-510A	4
5	EXTERIOR RECEPTACLES	15A	*				6
7	HEAT TRACE CONTROLLER GFCI	20A 2P		*	20A 2P	HEAT TRACE CONTROLLER GFCI	8
9			*				10
11	RPS-LCP-510A	15A 2P		*	15A	VENT FAN	12
13			*		15A	SPARE	14
15	SPARE	15A		*	15A	SPARE	16
17	SPACE		*			SPACE	18
19	SPACE			*		SPACE	20
21	SPACE		*			SPACE	22
23	SPACE			*		SPACE	24
25	SPACE		*			SPACE	26
27	SPACE			*		SPACE	28
29	SPACE		*			SPACE	30

VOLTAGE: 120/240V, 1 Phase, 3 Wire	LOCATION : NEW RESERVOIR PUMP STATION
MAIN BREAKER: 60A	FED FROM : RPS-TR-1
MAINS: 100A	FEEDER :
MOUNTING: SURFACE	BREAKER I.C. : 10KA

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NEW PANEL BPS-PL-1

CCT. NO.	DESCRIPTION	BKR	A	B	BKR	DESCRIPTION	CCT. NO.
1	LIGHTING	15A	*		15A	EXTERIOR LIGHTING	2
3	RECEPTACLES	15A		*	15A 2P	BPS-LCP-290A	4
5	EXTERIOR RECEPTACLES	15A	*				6
7	VENT. FAN	15A		*	15A	SPARE	8
9	SPARE	15A	*		15A	SPARE	10
11	SPACE			*		SPACE	12
13	SPACE		*			SPACE	14
15	SPACE			*		SPACE	16
17	SPACE		*			SPACE	18
19	SPACE			*		SPACE	20
21	SPACE		*			SPACE	22
23	SPACE			*		SPACE	24
25	SPACE		*			SPACE	26
27	SPACE			*		SPACE	28
29	SPACE		*			SPACE	30

VOLTAGE: 120/240V, 1 Phase, 3 Wire	LOCATION : NEW RETENTION BASIN PUMP STATION
MAIN BREAKER: 60A	FED FROM : HYD-01
MAINS: 100A	FEEDER :
MOUNTING: SURFACE	BREAKER I.C. : 10KA

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NEW PANEL GMB-DP-1

CCT. NO.	DESCRIPTION	BKR	A	B	C	BKR	DESCRIPTION	CCT. NO.
1	CREEK PUMP HOUSE	20A 2P	*			30A 2P	RAW WATER RESERVOIR PUMP HOUSE	2
3				*				4
5	FAN #1	15A 3P			*	15A 3P	FAN #2	6
7			*					8
9				*				10
11	RAW WASTEWATER LIFT STATION	30A 3P			*	90A 3P	NEW PACKAGED WASTEWATER TREATMENT PLANT	12
13			*					14
15				*				16
17	NEW RAW WATER TRANSFER STATION	15A 2P			*	30A 3P	SPARE	18
19			*					20
21	SPARE	15A		*				22
23	SPARE	15A			*		SPACE	24
25	SPACE		*				SPACE	26
27	SPACE			*			SPACE	28
29	SPACE				*		SPACE	30

VOLTAGE: 600V, 3 Phase, 3 Wire	LOCATION : STORAGE AREA 102 (GENERATOR ROOM)
MAIN BREAKER: 400A	FED FROM : SWITCHGEAR
MAINS: 400A	FEEDER :
MOUNTING: SURFACE	BREAKER I.C. : 25KA

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NEW PANEL RWS-PL-1

CCT. NO.	DESCRIPTION	BKR	A	B	C	BKR	DESCRIPTION	CCT. NO.
1	RWS-LCP-120A	20A 3P	*			20A 3P	5kW RWS-UH-1 UNIT HEATER	2
3				*				4
5					*			6
7	EF-1 MOTORIZED DAMPER	15A	*			20A 3P	5kW RWS-UH-2 UNIT HEATER	8
9	SANITARY SEWER HEAT TRACE	15A		*				10
11	BRINE LINE HEAT TRACE	15A			*			12
13	WASTEWATER SEWER HEAT TRACE	15A	*			15A	LIGHTING	14
15	TANK VENT HEAT TRACE	15A		*		15A	EXTERIOR LIGHTING	16
17	UTILITY WATER HEAT TRACE	15A			*	15A	EXTERIOR RECEPTACLE	18
19	SPARE	20A 3P	*			15A	INTERIOR RECEPTACLES	20
21				*		15A	OVER FLOW HEAT TRACE	22
23					*	15A	SPARE	24
25	SPARE	15A 3P	*			15A	SPARE	26
27				*		15A	SPARE	28
29					*	15A	SPARE	30

VOLTAGE: 120/208V, 3 Phase, 4 Wire	LOCATION : RAW WASTEWATER LIFT STATION
MAIN BREAKER: 100A	FED FROM : RWS-TR-1
MAINS: 125A	FEEDER :
MOUNTING: SURFACE	BREAKER I.C. : 10KA

NOTES:
1.PROVIDE GFCI BREAKERS FOR HEAT TRACE CONTROLLERS, CIRCUITS 9,11,13,15 AND 22. REVIEW HEAT TRACE CONTROLLERS MANUFACTURER INSTRUCTION BEFORE PANEL ORDERING. IF CONTROLLERS COMES WITH INTERNAL GFCI PROTECTION, GFCI BREAKERS NOT REQUIRED.
2. ZONE 1, CATEGORY 2 RATED.

EXISTING PANEL E

CCT. NO.	DESCRIPTION	BKR	A	B	C	BKR	DESCRIPTION	CCT. NO.
1	TANK ROOM UNIT HEATERS	15A	*			40A 3P	SPARE	2
3	TANK ROOM LIGHTS	15A		*				4
5	TANK ROOM PLUGS	15A			*			6
7	ROOF FANS	15A	*			20A	HEAT TRACE GFI	8
9	HEAT TRACE	15A		*		20A	LIGHT	10
11	SPACE				*	20A 2P	HIGH BAY	12
13	-	15A 3P	*					14
15				*		15A	CHLORINATION SYSTEM	16
17					*	15A 2P	TSB-LCP-710A	18
19	UNKNOWN	30A 2P	*					20
21				*		15A	SPARE	22
23	SPARE	15A			*	15A	SPARE	24
25	SPARE	15A	*			15A	SPARE	26
27	SPACE			*			SPACE	28
29	SPACE				*		SPACE	30

EXISTING

EXISTING

VOLTAGE: 120/240V, 3 Phase, 3 Wire	LOCATION : RAW WATER TANK STORAGE BUILDING
MAIN BREAKER:	FED FROM :
MAINS:	FEEDER :
MOUNTING: SURFACE	BREAKER I.C. : 10KA

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LUMINAIRE SCHEDULE

SYMBOL	LABEL	TYPE	VOLTS	LAMP	DESCRIPTION	MOUNTING
	A	LED	120V	N/A	INDUSTRIAL LINEAR LED LUMINAIRE WITH FIBERGLASS HOUSING , STAINLESS STEEL WIRE GUARD, 3500K, MINIMUM 50000 LIFETIME HOURS, NEMA 4X. ARCTIC WEATHER RATED.	CEILING MOUNTED
	B	LED	120V	N/A	INDUSTRIAL LINEAR LED LUMINAIRE, STAINLESS STEEL WIRE GUARD, 3500K, MINIMUM 50000 LIFETIME HOURS, RATED FOR ZONE 1 (CLASS 1, ZONE 1 HAZARD LOCATION)	CEILING MOUNTED
	C	LED	120V	N/A	LED LUMINAIRE WITH DIE-CAST ALUMINUM HOUSING, GASKETED, STAINLESS STEEL WIRE GUARD, RATED FOR OUTDOOR AND ARCTIC WEATHER INSTALLATIONS.	WALL MOUNTED
	D	LED	120V	N/A	LED LUMINAIRE WITH DIE-CAST ALUMINUM HOUSING, GASKETED, STAINLESS STEEL WIRE GUARD, RATED FOR CLASS 1, ZONE 2. ARCTIC WEATHER RATED.	WALL MOUNTED

NEW PANEL RPS-DP-1

CCT. NO.	DESCRIPTION	BKR	A	B	C	BKR	DESCRIPTION	CCT. NO.
1	HEAT TRACE	15A 3P	*			15A 3P	HEAT TRACE	2
3				*				4
5					*			6
7	5kW UNIT HEATER RPS-UH-1	15A 3P	*			15A 3P	5kW UNIT HEATER RPS-UH-2	8
9				*				10
11					*			12
13	PANEL RPS-PL-1	15A 2P	*			15A 3P	SPARE	14
15				*				16
17	SPACE				*			18

VOLTAGE: 600V, 3 Phase, 3 Wire	LOCATION : NEW RESERVOIR PUMP STATION
MAIN BREAKER: 30A	FED FROM : GMB-DP-1
MAINS: 225A	FEEDER :
MOUNTING: SURFACE	BREAKER I.C. : 25KA

NOTES:
1. PROVIDE GFCI BREAKERS FOR HEAT TRACE CONTROLLERS.

NEW PANEL RTS-PL-1

CCT. NO.	DESCRIPTION	BKR	A	B	BKR	DESCRIPTION	CCT. NO.
1	LIGHTING	15A	*		15A	EXTERIOR LIGHTING	2
3	RECEPTACLES	15A		*	15A 2P	RTS-LCP-770A	4
5	EXTERIOR RECEPTACLES	15A	*				6
7	VENT. FAN	15A		*	15A	SPARE	8
9	SPARE	15A	*		15A	SPARE	10
11	SPACE			*		SPACE	12
13	SPACE		*			SPACE	14
15	SPACE			*		SPACE	16
17	SPACE		*			SPACE	18
19	SPACE			*		SPACE	20
21	SPACE		*			SPACE	22
23	SPACE			*		SPACE	24
25	SPACE		*			SPACE	26
27	SPACE			*		SPACE	28
29	SPACE		*			SPACE	30

VOLTAGE: 120/240V, 1 Phase, 3 Wire	LOCATION : RAW WATER TRANSFER STATION
MAIN BREAKER: 60A	FED FROM : RTS-TR-1
MAINS: 100A	FEEDER :
MOUNTING: SURFACE	BREAKER I.C. : 10KA

NOTES:
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Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

AECOM

ORIGINAL SIGNED BY

R. BOGDANOV

2020/06/23

PERMIT TO PRACTICE
AECOM Canada Ltd.
Signature SIGNED BY B.B.
SIGNED ON 06.23.2020
PERMIT NUMBER: P 639
The Association of Professional Engineers and Geophysicists of the NWT/NU.

Revision	Description	Date
1	ISSUED FOR CONSTRUCTION	2021/04/15
0	ISSUED FOR TENDER	2020/06/19

Client / client

Public Works and Government Services Canada

310- 269 Main Street, R3C 1B3 Winnipeg, MB

Project title / Projet

NUNAVUT EUREKA

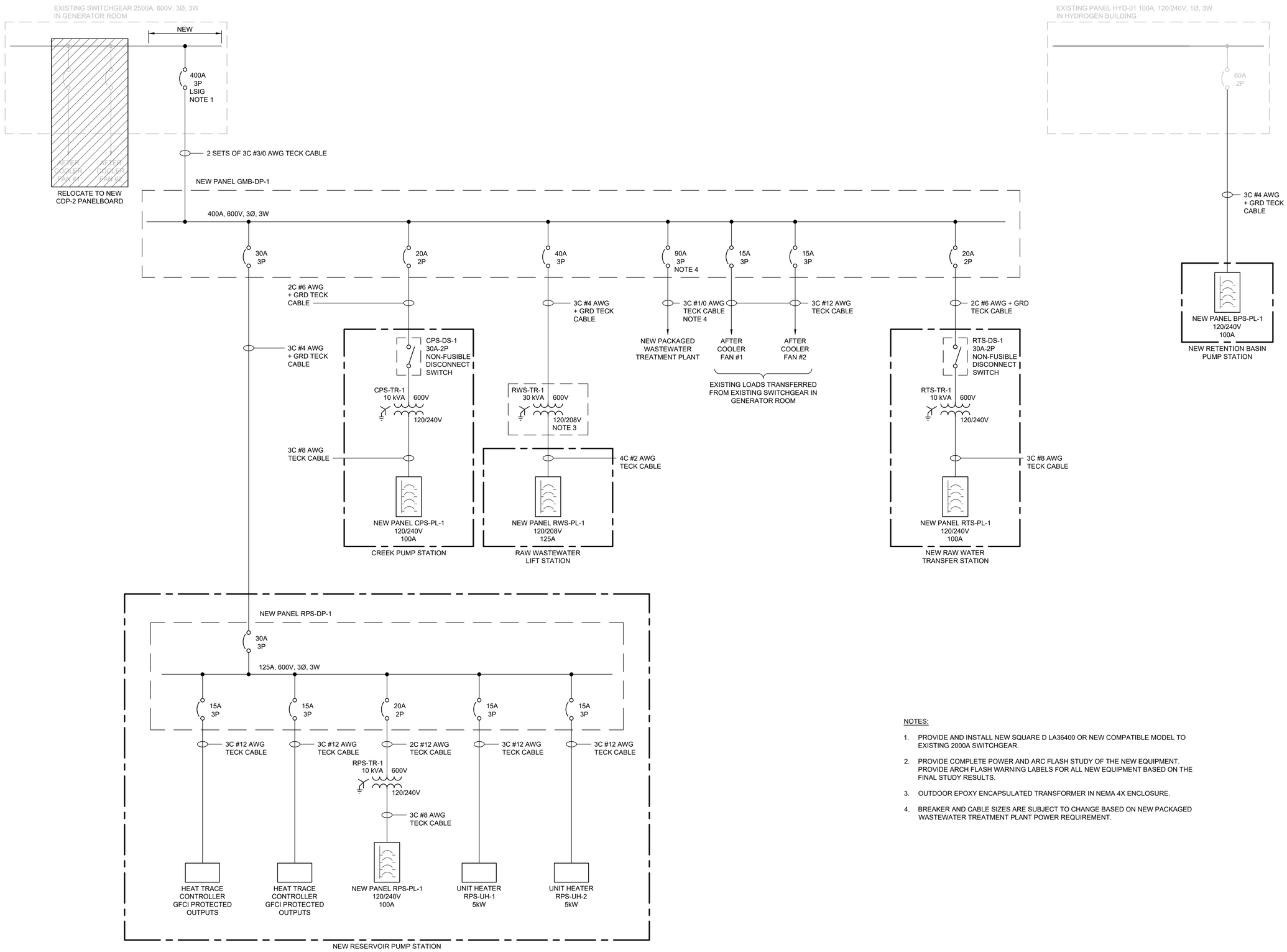
EUREKA WATER AND SEWAGE SYSTEM

Designed by / Conçu par: **R. BOGDANOV**
Drawn by / Dessiné par: **R. CHAVEZ**
Approved by / Approuvé par: **P. BARSALOU**
PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

Drawing title / Titre du dessin

ELECTRICAL SCHEDULES

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	E-0006 OF	1



NOTES:

1. PROVIDE AND INSTALL NEW SQUARE D LA36400 OR NEW COMPATIBLE MODEL TO EXISTING 2000A SWITCHGEAR.
2. PROVIDE COMPLETE POWER AND ARC FLASH STUDY OF THE NEW EQUIPMENT. PROVIDE ARCH FLASH WARNING LABELS FOR ALL NEW EQUIPMENT BASED ON THE FINAL STUDY RESULTS.
3. OUTDOOR EPOXY ENCAPSULATED TRANSFORMER IN NEMA 4X ENCLOSURE.
4. BREAKER AND CABLE SIZES ARE SUBJECT TO CHANGE BASED ON NEW PACKAGED WASTEWATER TREATMENT PLANT POWER REQUIREMENT.

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NUNAVUT
EUREKA

EUREKA WATER AND SEWAGE SYSTEM

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PWGSC Project Manager / Administrateur de Projets TPSGC: **M. MOGAN**

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ELECTRICAL SINGLE LINE DIAGRAM

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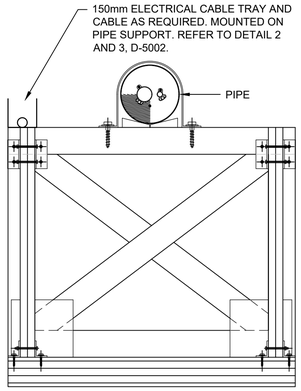
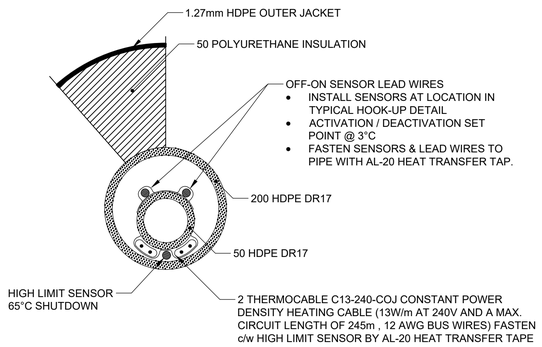


1 CABLE TRAY AND PIPE SUPPORT DETAIL

Scale N.T.S.

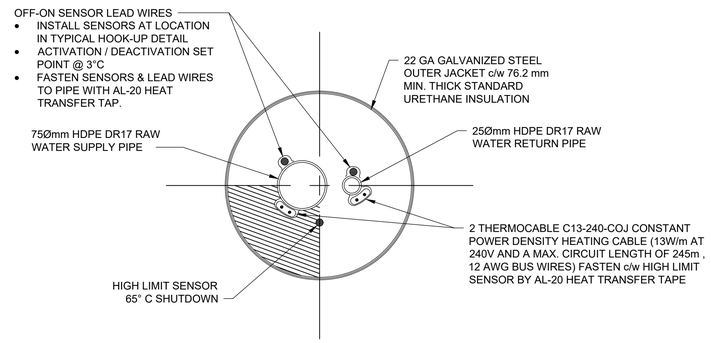


2 WATER INTAKE PIPE HEAT TRACE DETAIL

Scale N.T.S.

- SENSORS TO BE 2-LEAD-TYPE THERMISTORS WHICH SENSE TEMP. CHANGE WITH CHANGE IN ELECTRICAL RESISTANCE.
- REQUIRE EXTRA LONG LEAD FOR ON-OFF SENSOR AS DETAILED

(THERMISTORS, CONTROLLER, ELECTRIFICATION AND EXTENSION OF SERVICE TO BE BY OTHERS)



3 RAW WATER SUPPLY AND RETURN PIPE DETAIL

N.T.S

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

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

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M. MOGAN

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ELECTRICAL DETAILS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.037261.001	E-0008 OF	1