Project No. 222626.00

CAVENDISH SEWER UTILITY

LIFT STATION No. 4 UPGRADES

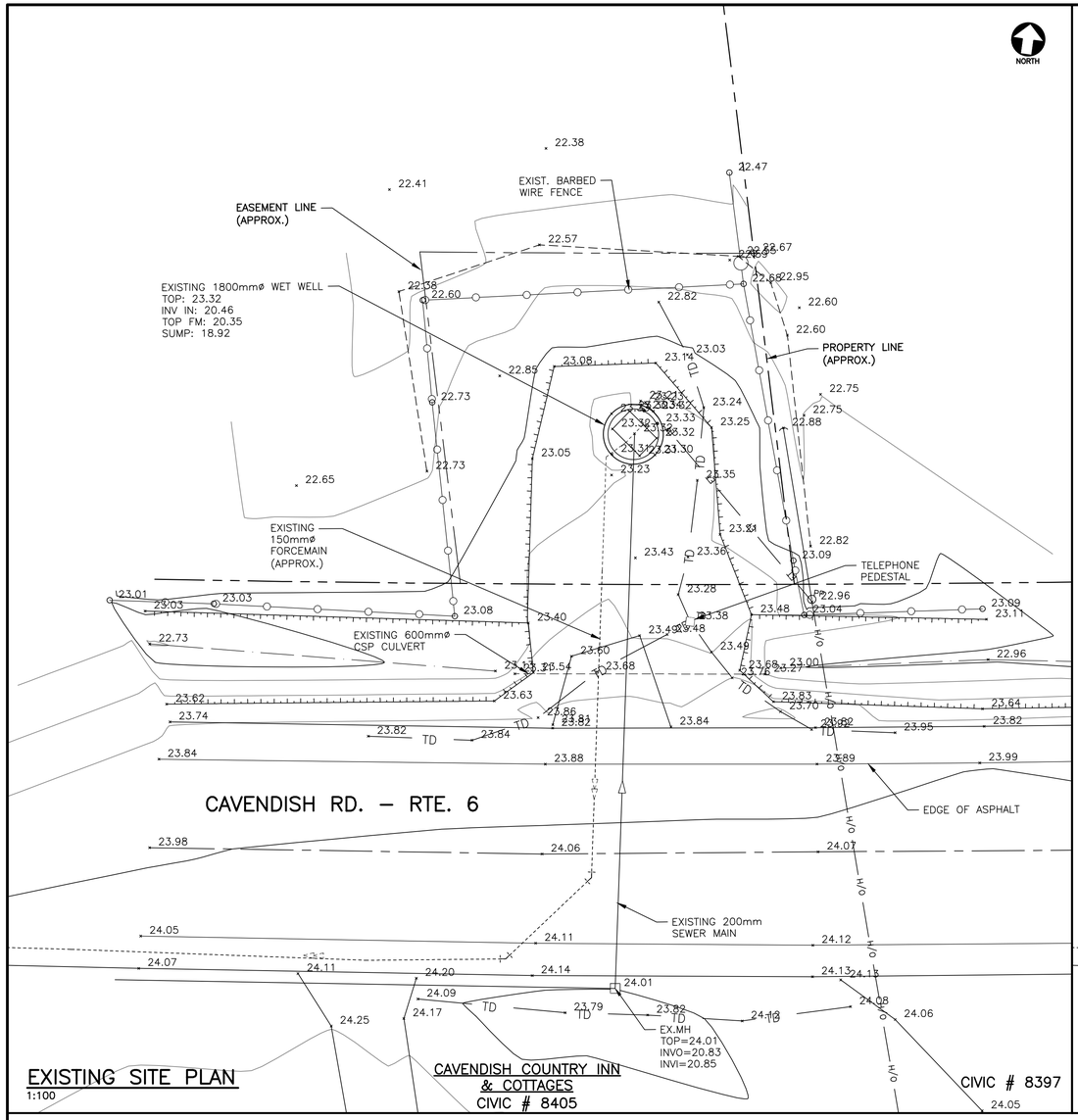
SHEET LIST TABLE

Sheet Number	Sheet Title
COVER SHEET	
-	COVER
CIVIL	
C01	EXISTING SITE PLAN & MODIFIED SITE PLAN
C02	LIFT STATION PLANS & SECTIONS
C03	DETAILS
ELECTRICAL	
E01	SITE PLAN, LIFT STATION PLAN & SECTIONS
E02	SINGLE LINE DIAGRAM & DETAILS

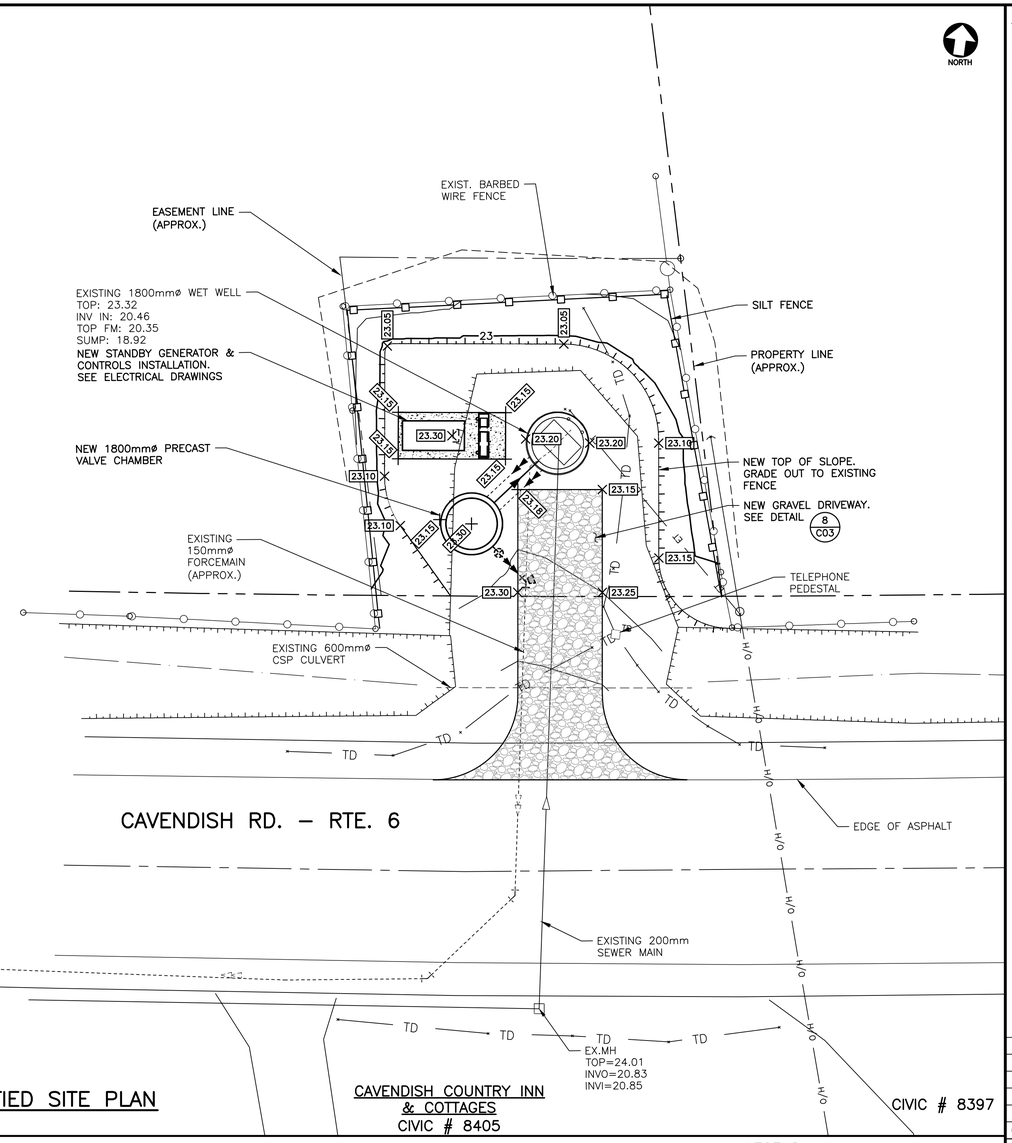
CBCL

ISSUED FOR APPROVAL & TENDER

JANUARY 13, 2023



EXISTING SITE PLAN
1:100



MODIFIED SITE PLAN
1:100

NOTES

1. SEE ALL DRAWINGS FOR ADDITIONAL NOTES & DETAILS.
2. TOPOGRAPHICAL SURVEY INFORMATION PROVIDED BY CBCL LIMITED.
3. THIS SURVEY WAS EXECUTED ON JUNE 29, 2022.
4. AZIMUTHS AND COORDINATES SHOWN ON THIS PLAN ARE BASED ON THE PEI DOUBLE STEREOGRAPHIC PROJECTION WITH NAD83 (CSRS) REFERENCE SYSTEM EPOCH 2010 AND DERIVED FROM OBSERVATIONS FROM REFERENCE STATION 3534 (NORTH RUSTICO–GULF SHORE SCHOOL) OF THE PEI ACTIVE CONTROL NETWORK.
5. ALL MEASUREMENTS ARE IN METRIC UNLESS OTHERWISE NOTED.
6. ELEVATIONS ARE REFERENCED TO CANADIAN GEODETIC VERTICAL DATUM OF 2013 (CGVD2013)
7. AGREE WITH LEVELS OF EXISTING GROUND WITH CONSULTANT PRIOR TO CONSTRUCTION.
8. PRIOR TO START OF CONSTRICTION, PROVIDE CONSTRUCTION SEQUENCE FOR REVIEW.
9. CONTRACTOR TO CONFIRM ELEVATIONS AND ORIENTATION OF ALL EXISTING INFRASTRUCTURE PRIOR TO ORDERING STRUCTURES AND COMPONENTS. REPORT DISCREPANCIES TO THE ENGINEER.
10. CONTRACTOR IS TO MAINTAIN OPERATION OF THE EXISTING LIFT STATION DURING CONSTRUCTION. ANY SHUT DOWNS OR TEMPORARY PUMPING OR HAULING WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR IS TO PROVIDE A TEMPORARY PUMPING PLAN FOR REVIEW & APPROVAL BY THE UTILITY PRIOR TO STARTING CONSTRUCTION.
11. REFER TO ELECTRICAL DRAWINGS FOR EXACT LOCATIONS AND NUMBER OF CONDUITS.
12. COORDINATE ALL WORK AFFECTING UTILITIES WITH THE APPROPRIATE UTILITY.
13. CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED EROSION AND SEDIMENT CONTROL MEASURES.
14. SUPPLY, INSTALL AND MAINTAIN TEMPORARY CONSTRUCTION FENCE AND SIGNAGE TO RESTRICT ACCESS TO AUTHORIZED PERSONNEL ONLY.

LEGEND

- PROPERTY LINE (EX.)
- SANITARY SEWER (EX.)
- SANITARY MH (EX.)
- SANITARY FORCEMAIN (EX.)
- SANITARY FORCEMAIN (PR.)
- GATE VALVE (PR.)
- FITTINGS (EX.)
- FITTINGS (PR.)
- BENDS (EX.)
- BENDS (PR.)
- U/G POWER (EX.)
- U/G POWER (PR.)
- O/H POWER (EX.)
- UTILITY POLE (EX.)
- TELECOM PEDESTAL (EX.)
- U/G TELECOM (EX.)
- DITCH (EX.)
- TOP OF SLOPE (EX.)
- BOTTOM OF SLOPE (EX.)
- BARBED WIRE FENCE (EX.)
- SILT FENCE (PR.)
- MAJOR CONTOUR (EX.)
- MINOR CONTOUR (EX.)
- MAJOR CONTOUR (PR.)
- MINOR CONTOUR (PR.)
- SPOT ELEVATION (EX.)
- SPOT ELEVATION (PR.)

No.	Description	Date	By
0	ISSUED FOR APPROVAL & TENDER	JAN 13/23	TSL

Revision or Issue

CAVENDISH SEWER UTILITY

LIFT STATION NO. 4 UPGRADES

CIVIL

EXISTING SITE PLAN & MODIFIED SITE PLAN

CBCL

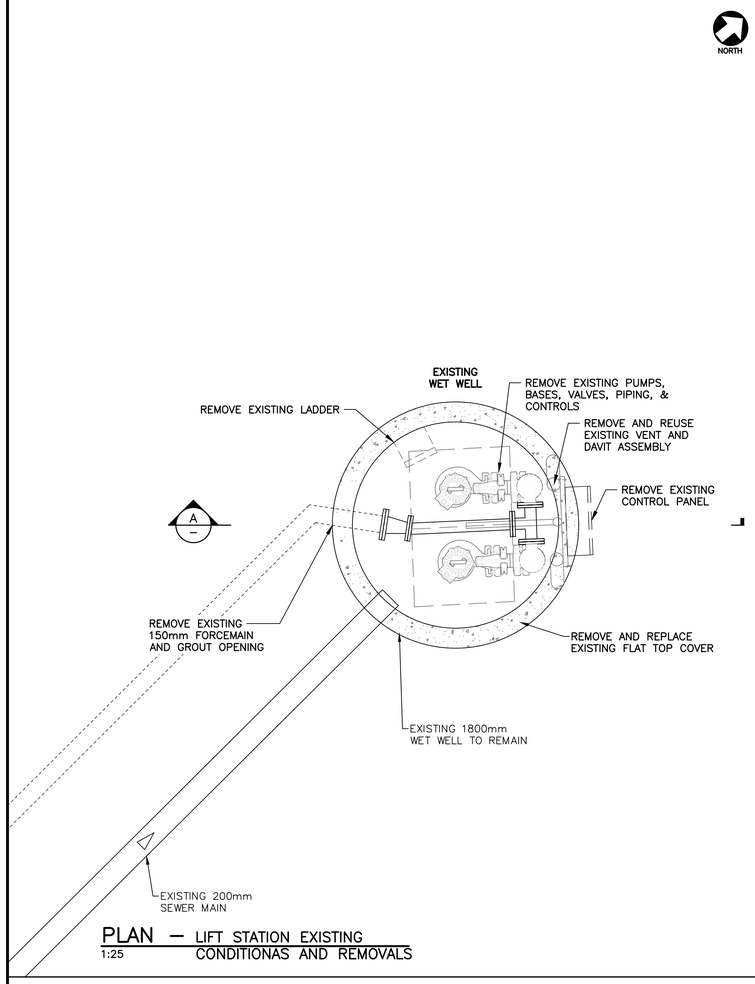
CBCL No	Contract No	Date	Scale
222626.00	222626.00	SEPT. 2022	AS NOTED

Designed	Drawn
TSL	TSL
Checked	Approved
JLM	TSL

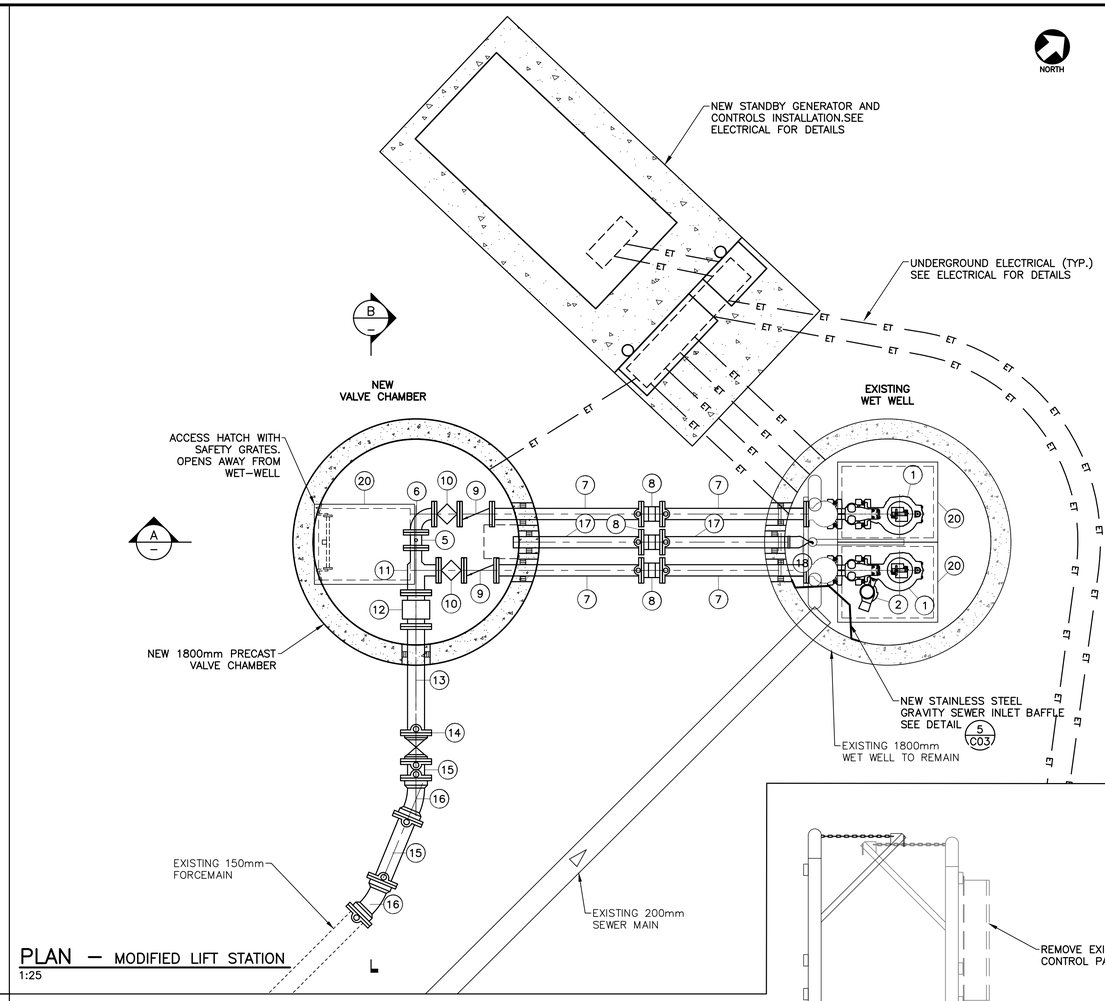
Sheet No 1 of 3

Drawing No **C01**

PROFESSIONAL ENGINEER — The Association Of Professional Engineers Of The Province Of Prince Edward Island — Tim LeLacheur — 1453 — Jan 13 2023 Date — PROVINCE OF PRINCE EDWARD ISLAND



PLAN – LIFT STATION EXISTING CONDITIONAS AND REMOVALS
1:25

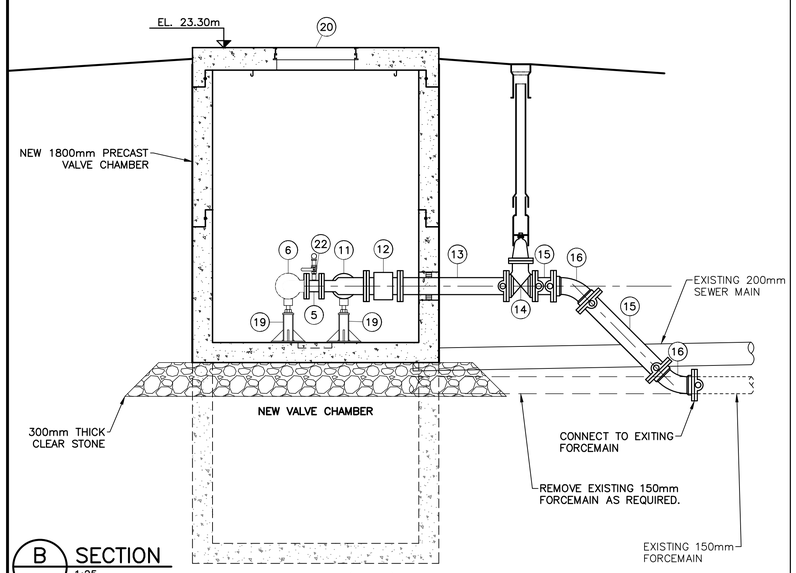


PLAN – MODIFIED LIFT STATION
1:25

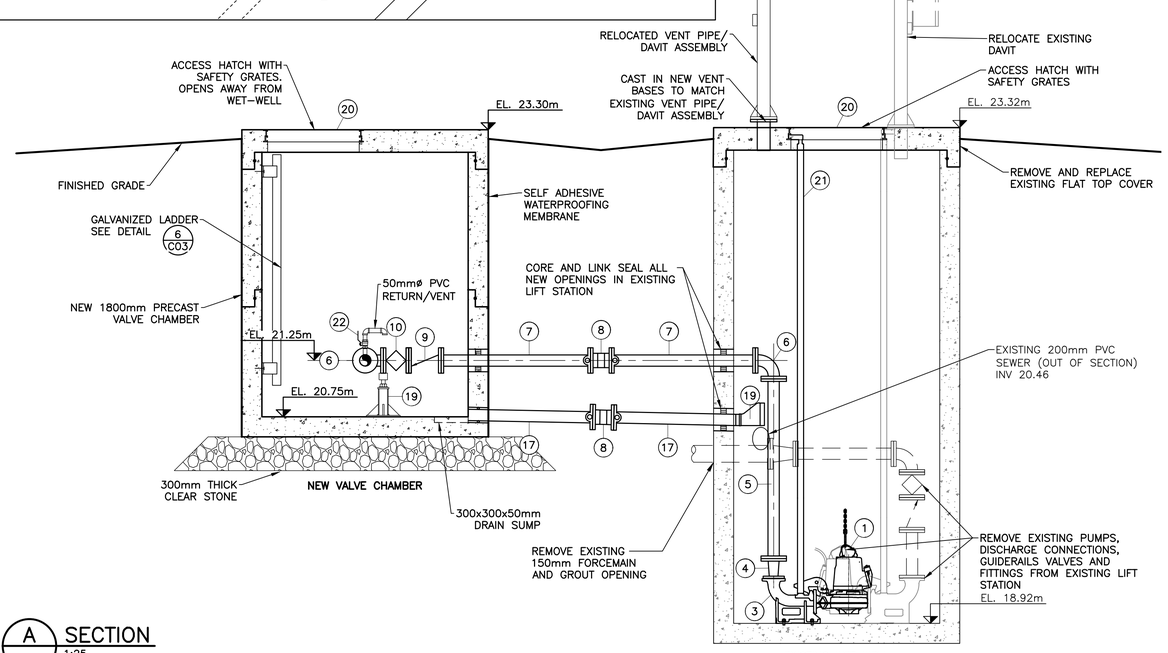
LIST OF FITTINGS		
No.	QTY.	DESCRIPTION
①	2	FLYGT MODEL NP–3127 SH 249 SUBMERSIBLE PUMP C/W FLUSH VALVE. 8.2KW/11HP 600 VOLT, 3 PHASE. 22.1 L/S @ 17.8m T.D.H.
②	1	MIX/FLUSH VALVE
③	2	DISCHARGE CONNECTION
④	2	100x75mmø DUCTILE IRON REDUCER (FLG.)
⑤	3	100mmø DUCTILE IRON MAKE UP PIECE (FLG.)
⑥	3	100mmø DUCTILE IRON 90° BEND (FLG.)
⑦	4	100mmø DUCTILE IRON MAKE UP PIECE (FLG. x P.E.)
⑧	3	100mmø DUCTILE IRON SLEEVE (RESTRAINED MJ)
⑨	2	100mmø BALL CHECK VALVE (FLG.)
⑩	2	100mmø PLUG VALVE (FLG)
⑪	1	150X100X100mmø DUCTILE IRON TEE (FLG.)

LIST OF FITTINGS		
No.	QTY.	DESCRIPTION
⑫	1	150mmø MAGNETIC FLOWMETER
⑬	1	150mmø DUCTILE MAKE UP PIECE (FLG. x P.E.)
⑭	1	150mmø GATE VALVE (RESTRAINED MJ) C/W VALVE BOX
⑮	–	150mmø DUCTILE IRON FORCEMAIN (P.E.)
⑯	2	150mmø DUCTILE IRON BEND. ANGLE AND ROTATION TO SUIT (RESTRAINED MJ)
⑰	2	100mmø DUCTILE IRON MAKE UP PIECE (P.E.)
⑱	1	100mmø TIDEFLEX CHECK VALVE
⑲	2	GALVANIZED PIPE SUPPORT
⑳	3	FLYGT SAFE–HATCH ACCESS COVER MODEL:13–43 00 81
㉑	2 SETS	50mmø GALVANIZED GUIDE BARS C/W SUPPORTS
㉒	1	50mmø S.S OR BRONZE BALL VALVE

NOTES
1. SEE ALL DRAWINGS FOR ADDITIONAL NOTES & DETAILS.



B – SECTION
1:25



A – SECTION
1:25

0	ISSUED FOR APPROVAL & TENDER	JAN 13/23	TSL
No.	Description	Date	By

Revision or Issue

CAVENDISH SEWER UTILITY

LIFT STATION NO. 4 UPGRADES

CIVIL

LIFT STATION PLANS & SECTIONS

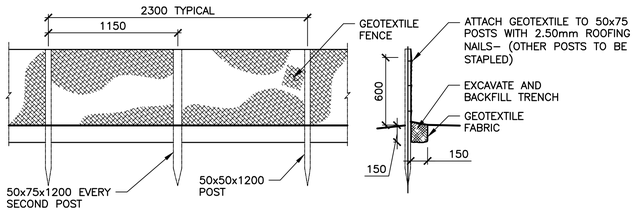
CBCL

CBCL No	Contract No	Date	Scale
222626.00	222626.00	SEPT. 2022	AS NOTED
		Designed TSL	Drawn TSL
		Checked	Approved TSL

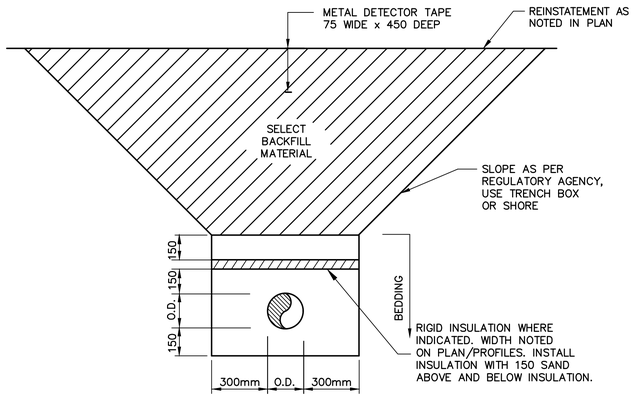
PROFESSIONAL ENGINEER – The Association Of Professional Engineers Of The Province Of Prince Edward Island – Tim LeLacheur 1453 – Jan 13 2023 – PROVINCE OF PRINCE EDWARD ISLAND

Sheet No 2 of 3

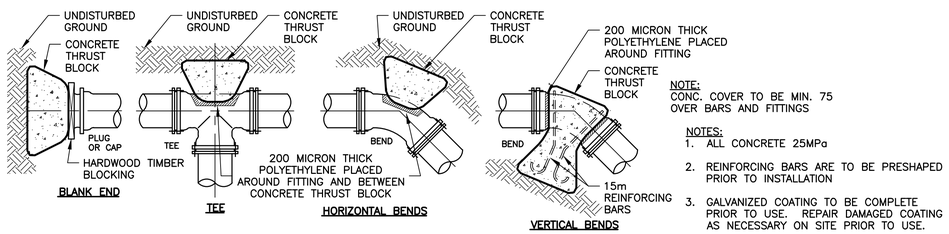
Drawing No **C02**



1 DETAIL– SEDIMENT CONTROL FENCE
1:25



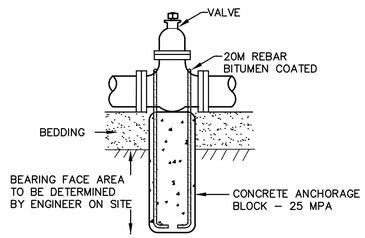
2 DETAIL– SINGLE PIPE TRENCH
N.T.S.



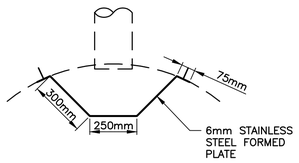
NOTE:
CONC. COVER TO BE MIN. 75 OVER BARS AND FITTINGS

NOTES:
1. ALL CONCRETE 25MPa
2. REINFORCING BARS ARE TO BE PRESHAPED PRIOR TO INSTALLATION
3. GALVANIZED COATING TO BE COMPLETE PRIOR TO USE. REPAIR DAMAGED COATING AS NECESSARY ON SITE PRIOR TO USE.

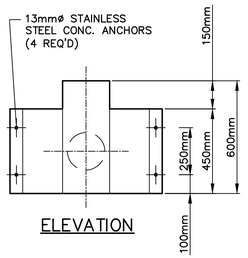
3 DETAIL– CONCRETE THRUST BLOCKS
N.T.S.



4 DETAIL– GATE VALVE ANCHORAGE
N.T.S.

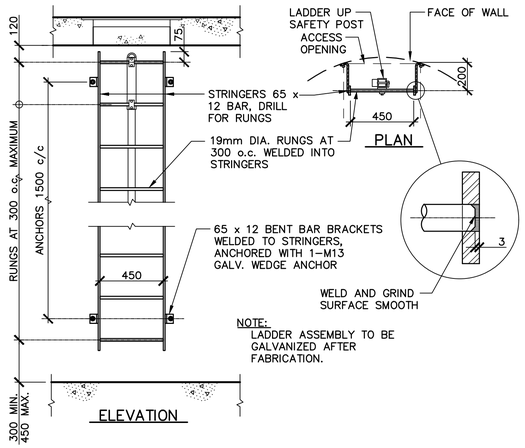


PLAN VIEW



ELEVATION

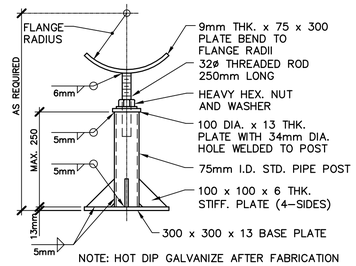
5 DETAIL– INLET BAFFLE
N.T.S.



NOTE:
LADDER ASSEMBLY TO BE GALVANIZED AFTER FABRICATION.

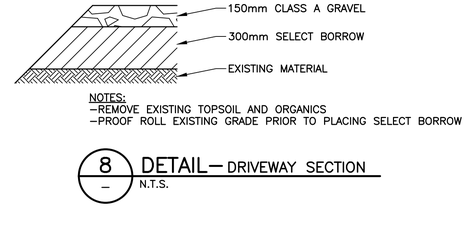
ELEVATION

6 DETAIL– ACCESS LADDER
N.T.S.



NOTE: HOT DIP GALVANIZE AFTER FABRICATION

7 DETAIL– PIPE SUPPORT
N.T.S.



NOTES:
–REMOVE EXISTING TOPSOIL AND ORGANICS
–PROOF ROLL EXISTING GRADE PRIOR TO PLACING SELECT BORROW

8 DETAIL– DRIVEWAY SECTION
N.T.S.

NOTES

1. COMPACTION ABOVE BEDDING UNDER EXISTING AND/OR PROPOSED ASPHALT SURFACES SHALL BE 100% STANDARD PROCTOR, ELSEWHERE 95% STANDARD PROCTOR.
2. BREAK BOND BETWEEN THRUST BLOCKS AND VALVES/FITTINGS USING PLASTIC SHEETING.
3. SEE ALL DRAWINGS FOR ADDITIONAL NOTES AND DETAILS.

No.	Description	Date	By
0	ISSUED FOR APPROVAL & TENDER	JAN 13/23	TSL

Revision or Issue

CAVENDISH SEWER UTILITY

LIFT STATION NO. 4 UPGRADES

CIVIL

DETAILS

CBCL

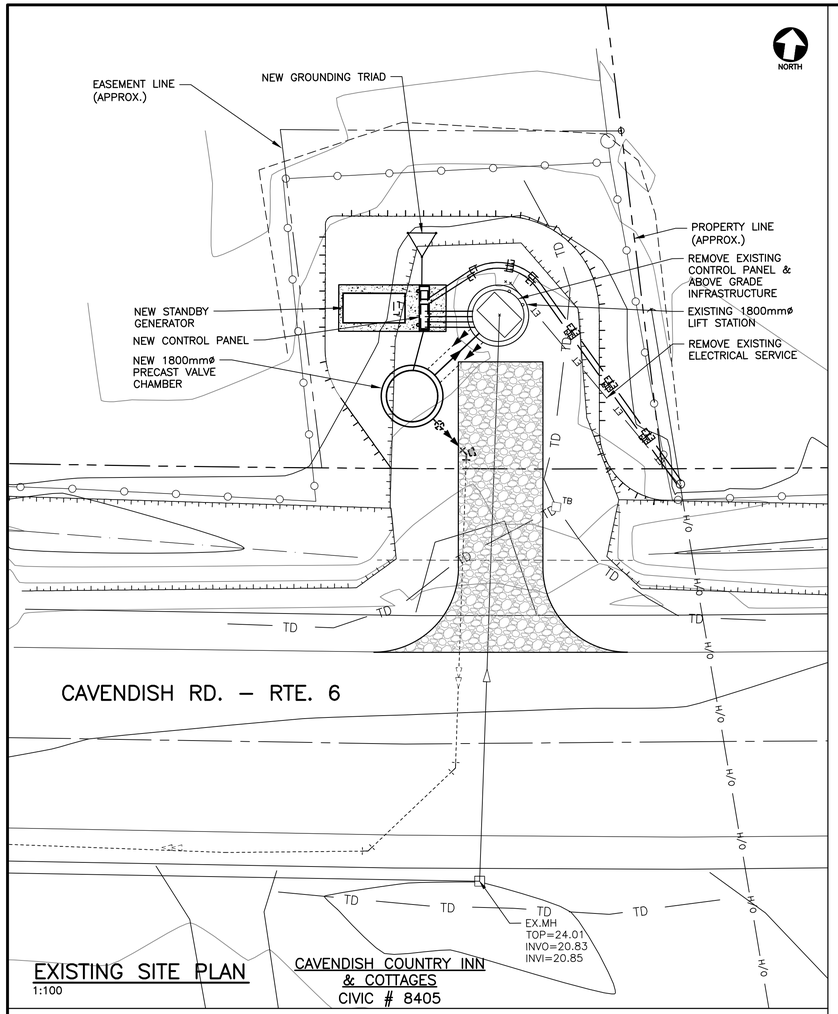
CBCL No	Contract No	Date	Scale
222626.00	222626.00	SEPT. 2022	AS NOTED

Designed	Drawn
TSL	TSL
Checked	Approved
JLM	TSL

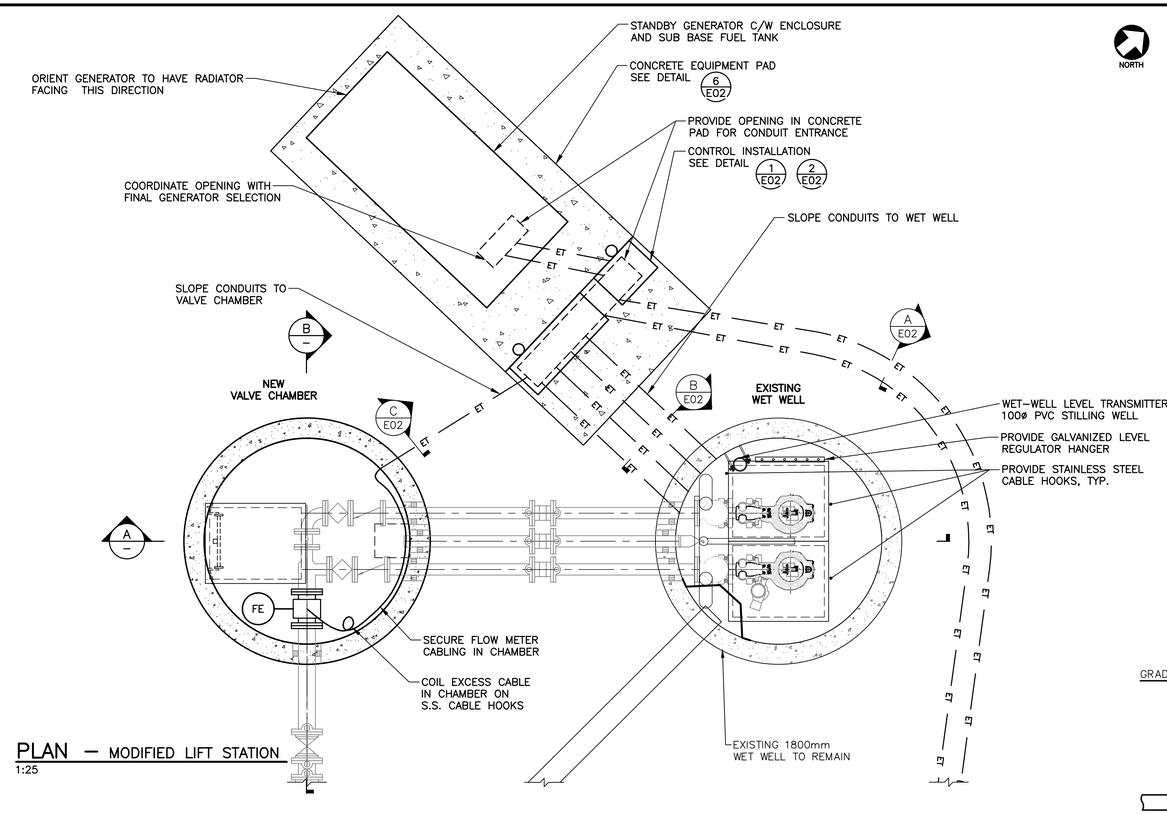
PROFESSIONAL ENGINEER
THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF THE PROVINCE OF PRINCE EDWARD ISLAND
Tim LeLacheur
1453
Jan 13 2023
Date
PROVINCE OF PRINCE EDWARD ISLAND

Sheet No 3 of 3

Drawing No **C03**



EXISTING SITE PLAN
1:100



PLAN – MODIFIED LIFT STATION
1:25

NOTES
1. SEE ALL DRAWINGS FOR ADDITIONAL NOTES & DETAILS.

LIFT STATION WET–WELL DESIGNATED AS A ZONE 1 HAZARDOUS AREA. A ZONE 2 HAZARDOUS AREA EXTENDS 0.5M ABOVE EACH WET–WELL ACCESS HATCH AND 0.9M HORIZONTALLY FROM EACH ACCESS HATCH.

THE AREA EXTENDING 0.9m RADIUS FROM A VENT PIPE STIPULATED OVER THE WET–WELL SHALL BE DESIGNATED AS A ZONE 1 HAZARDOUS AREA. A ZONE 2 HAZARDOUS AREA EXTENDS FROM 0.9m TO 1.5m RADIUS FROM THE WET WELL VENT PIPE,

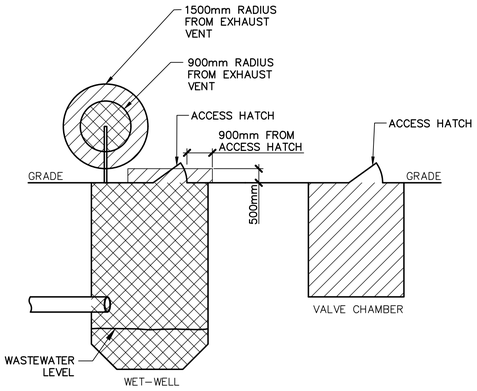
LIFT STATION VALVE CHAMBER DESIGNATED AS A ZONE 2 HAZARDOUS AREA. THE AREA AROUND THE VALVE CHAMBER HATCH IS UNCLASSIFIED.

HAZARDOUS AREAS LEGEND

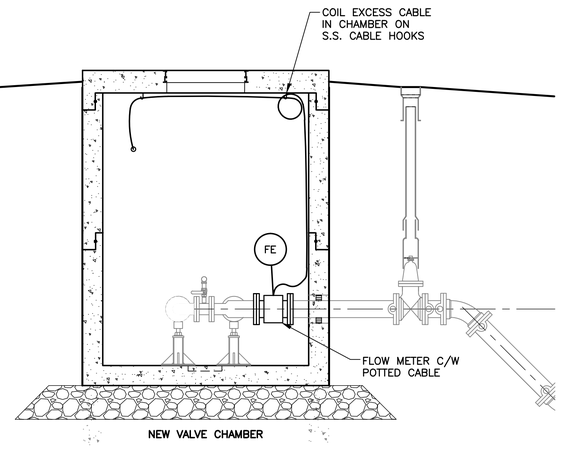
ZONE 2, GAS GROUP IIA & IIB, TEMP T3

ZONE 1, GAS GROUP IIA & IIB, TEMP T3

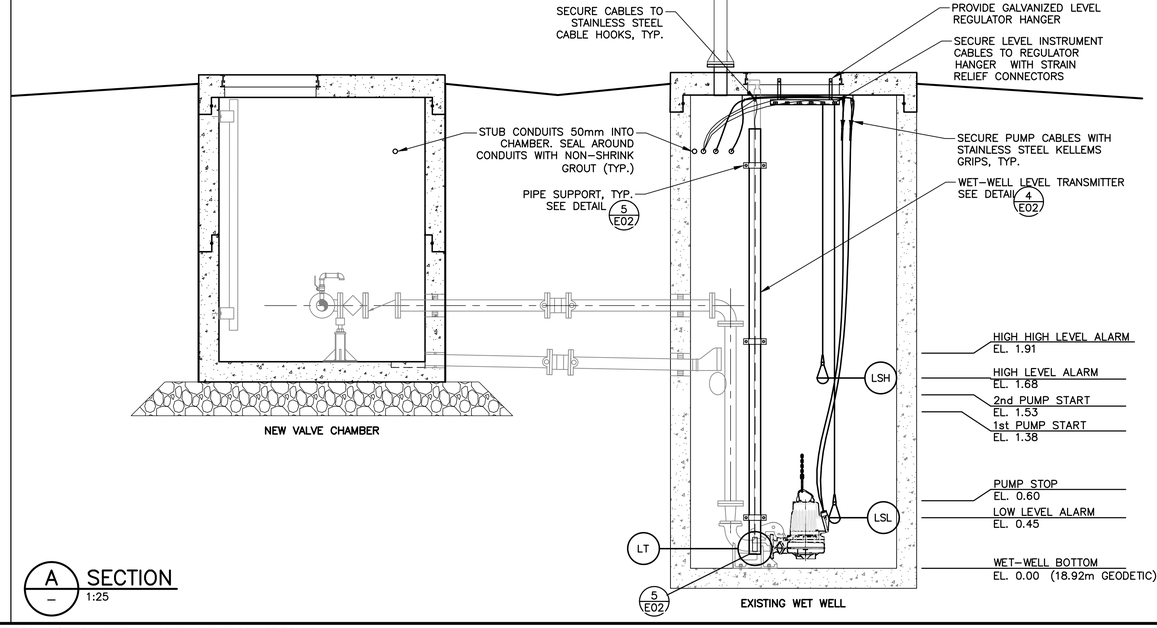
UNCLASSIFIED



1 DETAIL – LIFT STATION HAZARDOUS AREA
N.T.S.



B SECTION
1:25



A SECTION
1:25

No.	Description	Date	By
0	ISSUED FOR APPROVAL & TENDER	JAN 13/23	TSL

Revision or Issue

CAVENDISH SEWER UTILITY

LIFT STATION NO. 4 UPGRADES

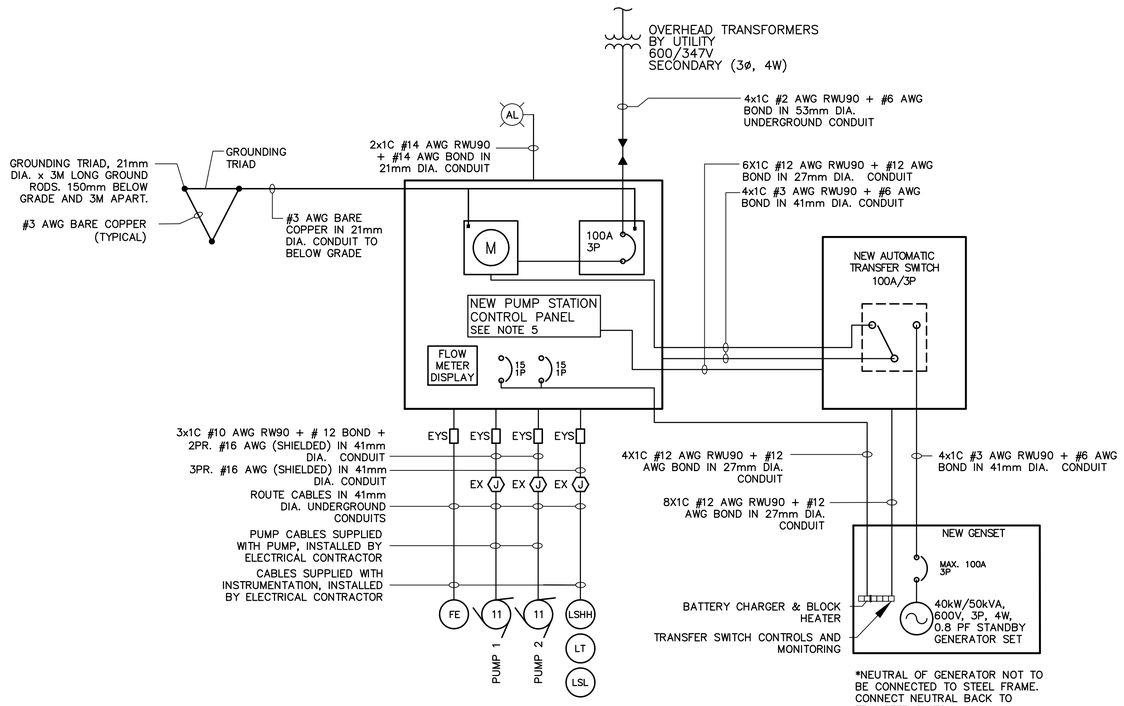
ELECTRICAL

SITE PLAN, LIFT STATION PLAN & SECTIONS

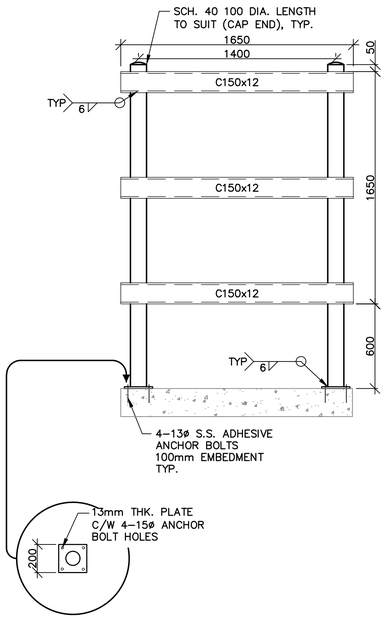
CBCL

CBCL No	Contract No	Date	Scale
222626.00	222626.00	SEPT. 2022	AS NOTED
		Designed CD	Drawn TSL
		Checked ROC	Approved TSL
		Sheet No 1 of 2	
		Drawing No E01	

THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF THE PROVINCE OF PRINCE EDWARD ISLAND
VALID FOR THE YEAR 2023
Randy O'Connor
No. 1275
DATE: JAN. 13, 2023
LICENSED PROFESSIONAL ENGINEER
PROVINCE OF PRINCE EDWARD ISLAND

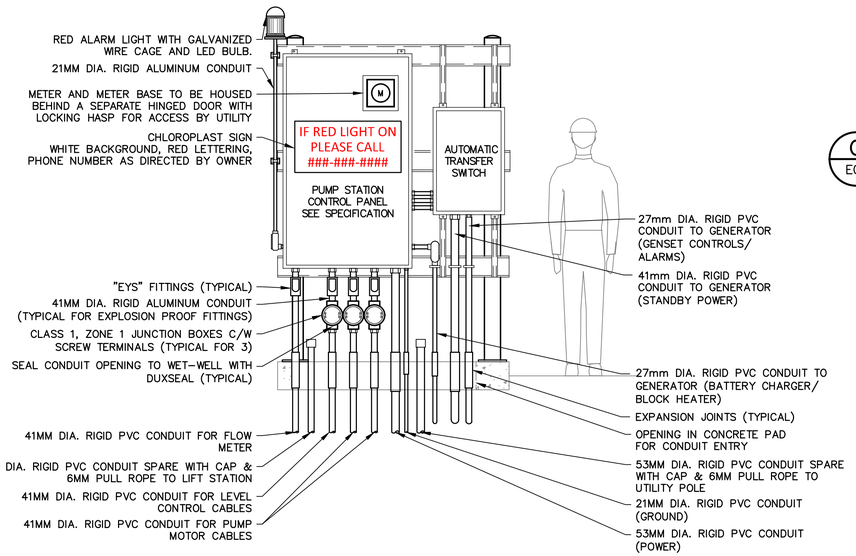


SINGLE LINE DIAGRAM — LIFT STATION
NTS

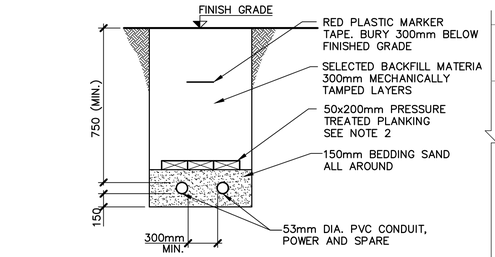


NOTE: HOT DIP GALVANIZE
AFTER FABRICATION

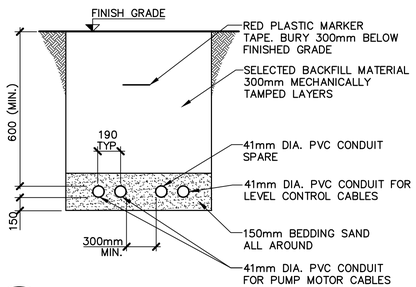
1 DETAIL — CONTROL MOUNTING STRUCTURE
E01 NTS



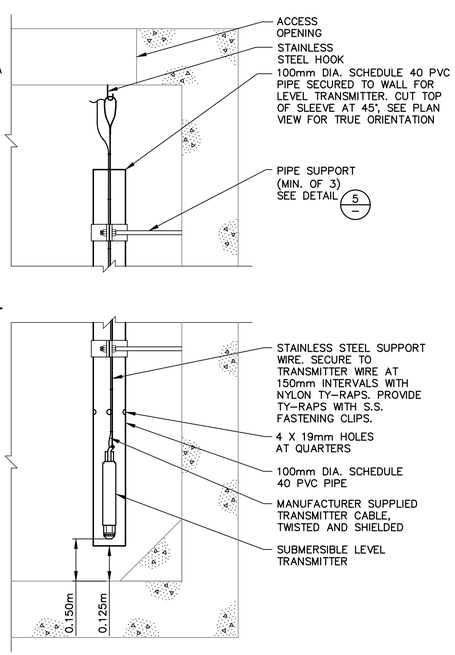
2 DETAIL — CONTROL INSTALLATION
E01 NTS



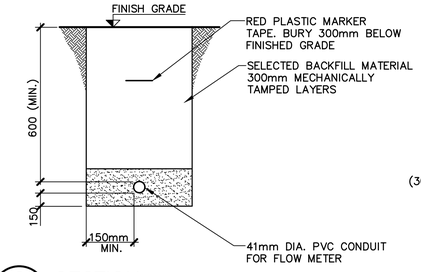
A SECTION — POWER & COMMUNICATION DUCTBANK
E01 NTS



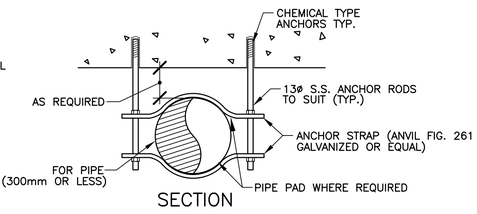
B SECTION — PUMP STATION DUCTBANK
E01 NTS



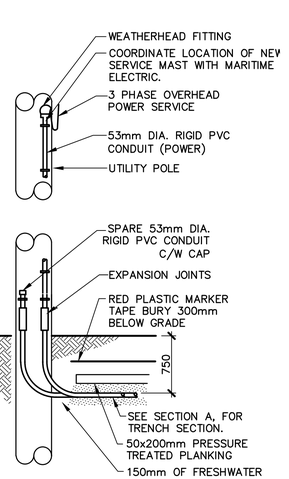
4 DETAIL — WET–WELL LEVEL TRANSMITTER
E01 NTS



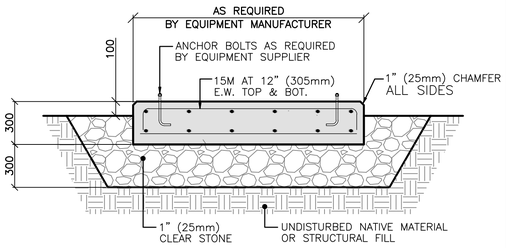
C SECTION — VALVE CHAMBER DUCTBANK
E01 NTS



5 DETAIL — PIPE SUPPORT
– NTS



3 DETAIL — UTILITY POLE
E01 NTS



6 DETAIL — CONCREET EQUIPMENT PAD
E01 NTS

NOTES
1. SEE ALL DRAWINGS FOR ADDITIONAL NOTES & DETAILS.
2. PLANKS SHALL EXTEND A MINIMUM OF 50mm ON EITHER SIDE OF CONDUITS.
3. MAINTAIN 1M LATERAL SEPARATION FORM ALL OTHER PIPING AND MAINTAIN 300mm SEPARATION BETWEEN POWER AND COMMUNICATION/INSTRUMENTATION CONDUITS.
4. THE CONTRACTOR SHALL CONFIRM THE PUMP CONTROL PANEL DIMENSIONS PRIOR TO CONSTRUCTION OF THE MOUNTING STRUCTURE.
5. PUMP CONTROL PANEL TO BE COMPLETE WITH INTEGRAL SERVICE ENTRANCE RATED DISCONNECT, UTILITY METER BASE, MOTOR STARTERS, PUMP PROTECTION RELAYS, CONTROLS, AND FLOW TRANSMITTER

No.	Description	Date	By
0	ISSUED FOR APPROVAL & TENDER	JAN 13/23	TSL

Revision or Issue

CAVENDISH SEWER UTILITY

LIFT STATION NO. 4 UPGRADES

ELECTRICAL

SINGLE LINE DIAGRAM & DETAILS

CBCL

CBCL No	Contract No	Date	Scale
222626.00	222626.00	SEPT. 2022	AS NOTED
		Designed CD	Drawn TSL
		Checked ROC	Aproved TSL
		Sheet No 2 of 2	
		Drawing No **E02**	

THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF THE PROVINCE OF PRINCE EDWARD ISLAND
VALID FOR THE YEAR 2023
Randy O'Connor
No. 1275
DATE: JAN. 13, 2023
LICENSED PROFESSIONAL ENGINEER PROVINCE OF PRINCE EDWARD ISLAND