



BLOCK 97 SEWAGE PUMPING STATION UPGRADES



KEY PLAN
N.T.S.

DRAWING LIST

CIVIL

- C1.1 OVERALL SITE PLAN
- C2.1 BLOCK 97 SEWAGE PUMPING STATION PARTIAL SITE PLAN
- C2.2 BLOCK 97 SEWAGE PUMPING STATION PARTIAL SITE PLAN
- C3.1 BLOCK 97 SEWAGE PUMPING STATION REMOVAL PLAN
- C3.2 BLOCK 97 SEWAGE PUMPING STATION UPGRADES
- C3.3 BLOCK 97 SEWAGE PUMPING STATION NEW METERING CHAMBER
- C4.1 DETAILS
- C4.2 DETAILS
- C5.1 O.P.S.D.'S

ELECTRICAL

- E1.1 ELECTRICAL SITE PLAN SEWAGE PUMPING STATION
- E2.1 ELECTRICAL PUMP HOUSE ELECTRICAL LAYOUT
- E2.2 ELECTRICAL LAYOUT SPS BUILDING
- E3.1 EXISTING PUMP HOUSE SINGLE LINE DIAGRAM
- E3.2 SINGLE LINE DIAGRAM NEW SDS BUILDING
- E3.3 NETWORK DIAGRAM
- E4.1 TYPICAL VFD WIRING SCHEMATIC SEWAGE PUMPS
- E4.1 WIRING DETAILS
- E5.1 TYPICAL CONTROL PANEL

PROCESS

- P0.1 GENERAL NOTES, NOMENCLATURE, AND DETAIL
- P0.2 GENERAL NOTES, NOMENCLATURE, AND DETAIL
- P0.3 PROCESS AND INSTRUMENTATION DIAGRAM



800 SECOND STREET WEST
CORNWALL, ONTARIO CANADA, K6J 1H6
TEL: 613-935-3775 | FAX: 613-935-6450
WEBSITE: EVBengineering.com

**RE-ISSUED FOR TENDER
NOT FOR CONSTRUCTION**

DATE: 2026/01/08

NOTES:

1. CONTRACTOR TO VERIFY LOCATION OF ALL BURIED SERVICES PRIOR TO START OF CONSTRUCTION.
2. TOPOGRAPHIC INFORMATION PROVIDED BY EVB ENGINEERING AND ELEVATIONS SHOWN ON THIS PLAN ARE GEODETIC (CGVD - 1928:1978) AND ARE DERIVED FROM CAN-NET SYSTEM NETWORK USING THE HT2_2010V7.0 GEOID MODEL.
3. ALL DISTURBED AREAS TO BE REINSTATED WITH 100mm TOPSOIL AND SOD UNLESS OTHERWISE NOTED.

TEMPORARY BENCH MARKS

T.B.M. No.	ELEV. (m)	T.B.M. DESCRIPTION
T.B.M.#1	51.79	TOP OF FIRE HYDRANT SPINDLE

LEGEND:

26/01/08	2	RE-ISSUED FOR TENDER
25/09/25	1	ISSUED FOR TENDER
REVISION	No.	REVISION

A circular seal for a licensed professional engineer in Ontario. The outer ring contains the text 'LICENSING BOARD FOR PROFESSIONAL ENGINEERS OF ONTARIO' at the top and 'PROVINCE OF ONTARIO' at the bottom. The center contains the text '2026-01-16' at the top, 'A. S. POAPST' in the middle, and '100529162' at the bottom. Below the name is a signature. To the right is a circular logo with a large letter 'Z' inside a diagonal line triangle.

The logo for EVB Engineering features the letters 'EVB' in a bold, black, sans-serif font, with 'ENGINEERING' in a smaller, black, sans-serif font directly below it. To the left of the text is a graphic element consisting of three curved bands: a red band at the top, a white band in the middle, and a teal band at the bottom. To the right of the logo, the company's address is listed: '800 SECOND STREET WEST', 'CORNWALL, ONTARIO CANADA, K6J 1H6', 'TEL: 613-935-3775 | FAX: 613-935-6450', and 'WEBSITE: EVBengineering.com'.

The logo for the Mohawk Council of Akwesasne. It features a central figure, possibly a raven or an orca, standing on a dark base. Above the figure is a curved banner with the text "MOHAWK COUNCIL OF AKWESASNE" in white. The background is a stylized purple and white design with geometric shapes and patterns.

JECT: **BLOCK 97 SEWAGE
PLUMBING STATION UPGRADES**

|| E:

OVERALL SITE PLAN	
NAME:	JOB NO:
300	23171
SIGNED BY:	DATE:
P.	2025/09/25
AWN BY:	DRAWING NO.
B.W./M.K.	
ECHECKED BY:	
	C1.1

11. **What is the primary purpose of the *Journal of Clinical Endocrinology and Metabolism*?**

Approximate location of existing 100mm \varnothing PVC SDR 26 SANITARY FORCEMAIN.

Approximate location of existing electrical.

Existing rotating biological contactor building

Approximate location of existing 19mm \varnothing water service

Approximate location of existing 100mm \varnothing forcemain (abandoned)

Existing sewage pumping station (abandoned)

New generator pad, refer to detail 9/C4.1

Existing water pump house

Approximate location of existing 150mm \varnothing watermain.

Reinstate gravel driveway as per detail 3/C4.1.

Existing fiber pedestal

Approximate location of existing 100mm \varnothing watermain.

Block 97 sewage pumping station

Existing 200mm \varnothing sanitary sewer.

Remove existing 12.0m long, 450mm \varnothing CSP CULVERT and replace with new 12.0m long, 450mm \varnothing CSP CULVERT as per detail 1/C4.2.

Inv N. = 50.06m

Inv S. = 50.00m

Existing bell pedestal

EX. MH101 T/G = 51.06m

EX. MH102 T/G = 51.32m

Existing 450mm \varnothing CSP CULVERT.

Existing bell pedestal

Existing 450mm \varnothing CSP CULVERT.

Reinstate asphalt as per detail 4/C4.1.

Approximate location of existing 150mm \varnothing watermain.

New asphalt restoration per detail 13/C4.1 & 14/C4.1.

Connect new 50mm water service to existing 150mm \varnothing watermain in this area (exact location to be determined on site)

Existing 500mm \varnothing CSP CULVERT

Existing fire hydrant.

T.B.M. #1

MCA APARTMENTS

MCA APARTMENTS

KAWEHNOKE APARTMENT ROAD

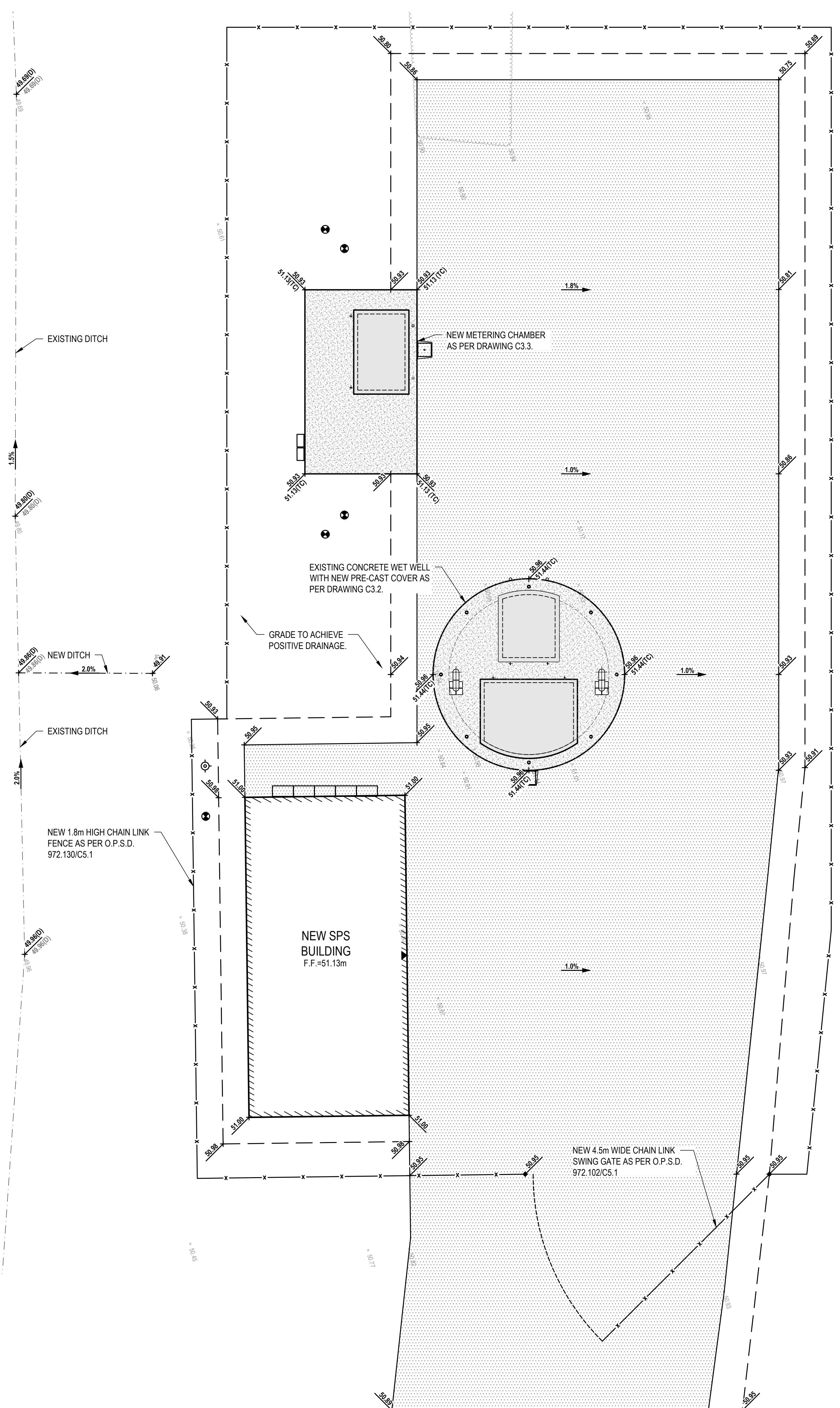
NEW 50mm \varnothing WATER SERVICE

EX. MH100 T/G = 50.72m

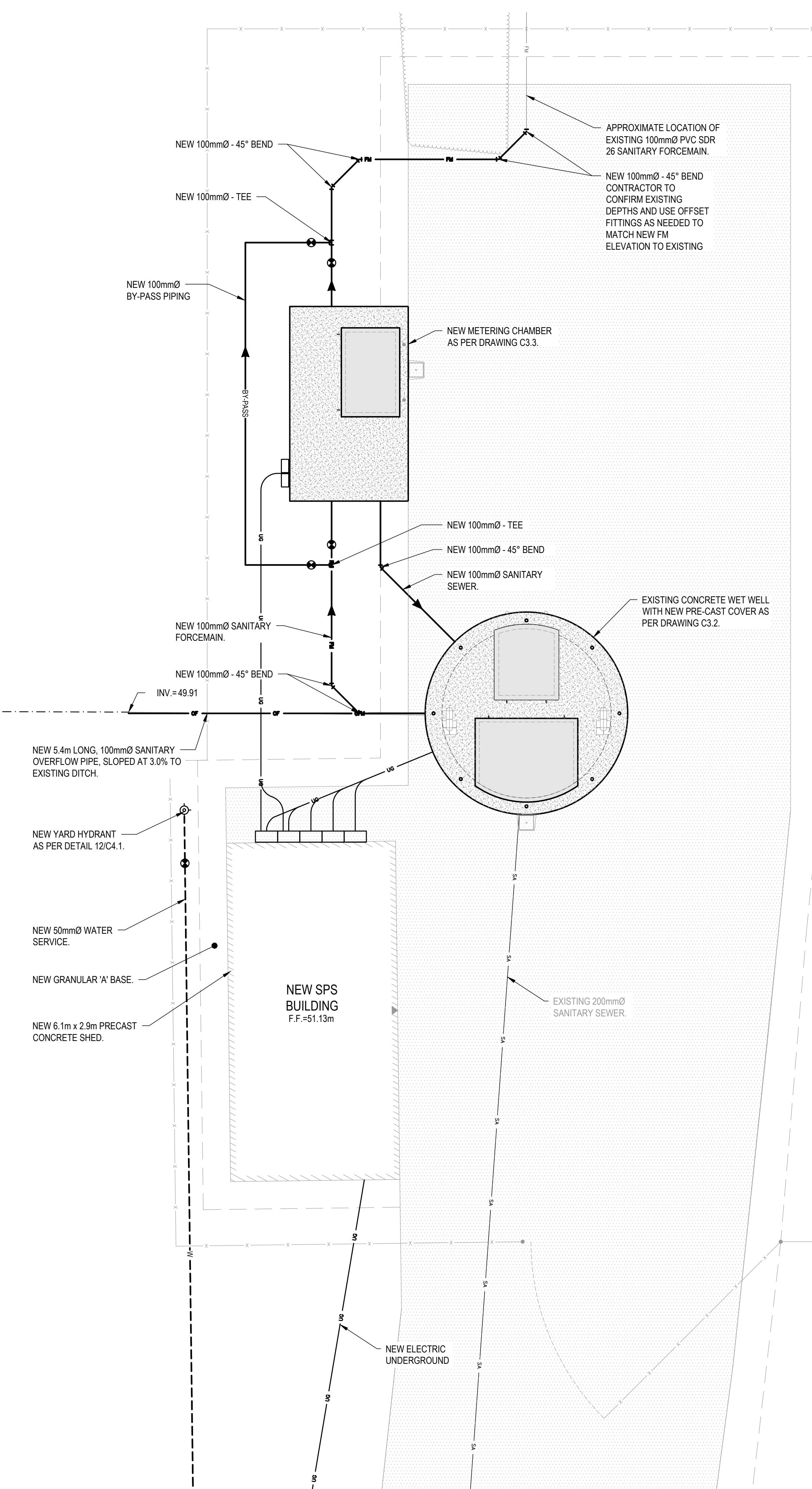
C2.1

C2.2

1|1|2023|23|71 - Block 97 Sewage PS|6.0 Dwgs|6.2 Civil|2.0 Production|23|71-C1-1.dwg Jan 08, 2026-1:50am BY:(Adam.Poapst)



SITE SERVICING PLAN
SCALE: 1:50



NOTES:

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3. ALL DISTURBED AREAS TO BE REINSTATED WITH 100mm TOPSOIL AND SOD UNLESS OTHERWISE NOTED.

LEGEND:

	SITE PROPERTY LINE
	EXISTING PROPERTY LINE
	NEW EDGE OF ASPHALT
	EXISTING EDGE OF ASPHALT
	NEW TOP OF SLOPE
	NEW CULVERT
	EXISTING CULVERT
	EXISTING SANITARY SEWER
	NEW SANITARY SEWER
	EXISTING WATERMAIN
	NEW WATERMAIN
	EXISTING WATER SERVICE
	NEW WATER SERVICE
	EXISTING UIC (REFER TO ELECTRICAL)
	NEW UIC (REFER TO ELECTRICAL)
	EXISTING BELL LINE
	NEW BELL LINE
	EXISTING FENCE
	NEW FENCE
	NEW PIPE INSULATION
	EXISTING SANITARY MANHOLE
	NEW SANITARY MANHOLE
	EXISTING HYDRANT
	NEW HYDRANT
	EXISTING VALVE
	NEW VALVE
	EXISTING CURB STOP
	EXISTING UTILITY POLE
	NEW BOLLARD
	SITE TEMPORARY BENCHMARK
	NEW BUILDING ENTRANCE
	NEW TERRACING AT 3H:IV
	NEW ASPHALT REINSTATEMENT AS PER DETAIL 2/C4.1
	NEW ASPHALT REINSTATEMENT NOTED ON DRAWING
	NEW DRIVEWAY REINSTATEMENT NOTED ON DRAWING
	NEW BUILDING OUTLINE
	EXISTING BUILDING OUTLINE

2026/01/08 2 RE-ISSUED FOR TENDER
2025/09/25 1 ISSUED FOR TENDER
DATE No. REVISION

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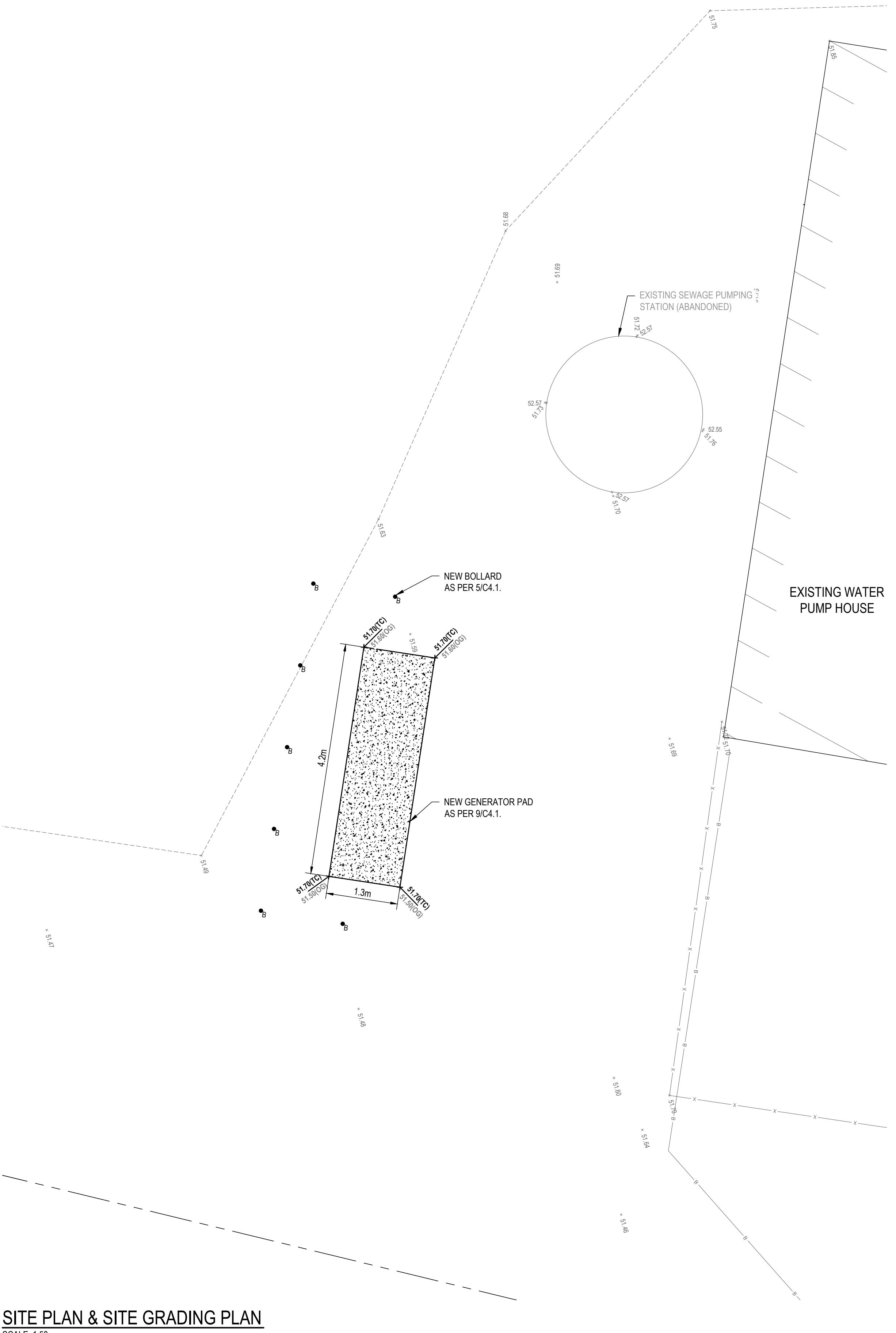
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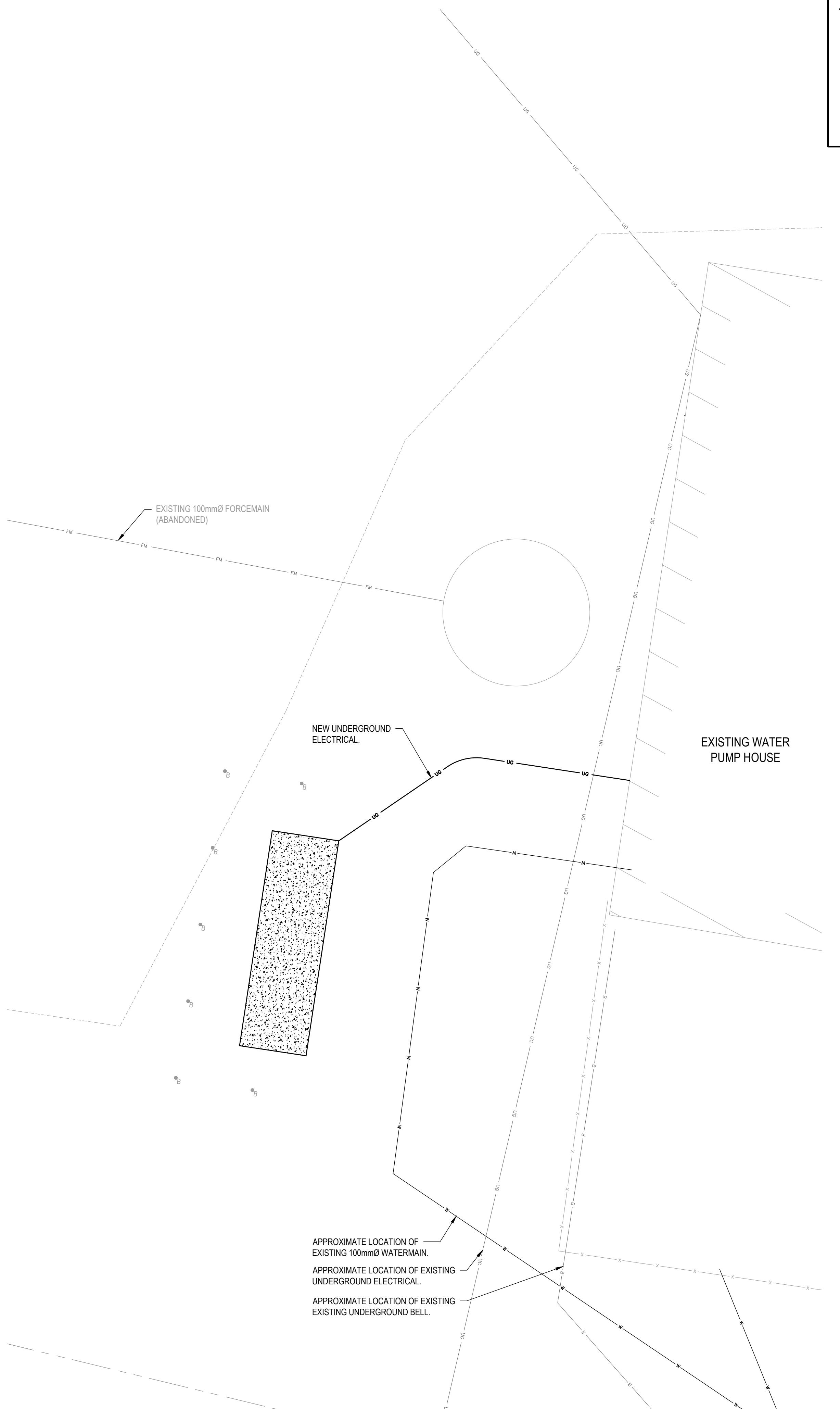
CLIENT:
**BLOCK 97 SEWAGE
PUMPING STATION UPGRADES**

TITLE:
**BLOCK 97 SANITARY
PUMPING STATION
PARTIAL SITE PLAN**

SCALE: 1:50	JOB NO: 23171
DESIGNED BY: A.P.	DATE: 2025/09/25
DRAWN BY: K.B.W/M.K.	DRAWING NO. C.2.1
CHECKED BY: J.E.	



SITE SERVICING PLAN
SCALE: 1:50



NOTES:

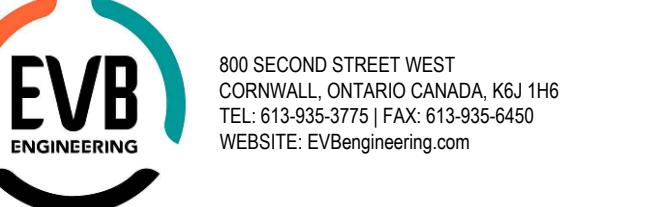
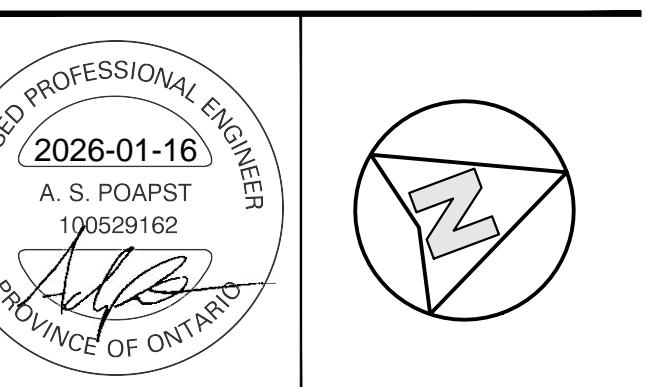
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LEGEND:

	SITE PROPERTY LINE
	EXISTING PROPERTY LINE
	EXISTING EDGE OF ASPHALT
	NEW TOP OF SLOPE
	NEW CULVERT
	EXISTING SANITARY CULVERT
	EXISTING SANITARY SEWER
	NEW WATERMAIN
	EXISTING WATERMAIN
	NEW WATER SERVICE
	EXISTING WATER SERVICE
	NEW UIC (REFER TO ELECTRICAL)
	EXISTING UIC (REFER TO ELECTRICAL)
	EXISTING BELL LINE
	NEW FENCE
	EXISTING FENCE
	NEW PIPE INSULATION
	EXISTING SANITARY MANHOLE
	NEW SANITARY MANHOLE
	EXISTING HYDRANT
	EXISTING VALVE
	EXISTING UTILITY POLE
	NEW BOLLARD
	SITE TEMPORARY BENCHMARK
	NEW BUILDING ENTRANCE
	NEW ASPHALT REINSTATEMENT
	2/C4.1
	NEW DRIVEWAY REINSTATEMENT
	NOTED ON DRAWING
	NEW BUILDING OUTLINE
	EXISTING BUILDING OUTLINE

2026/01/08	2	RE-ISSUED FOR TENDER
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DATE	No	REVISION

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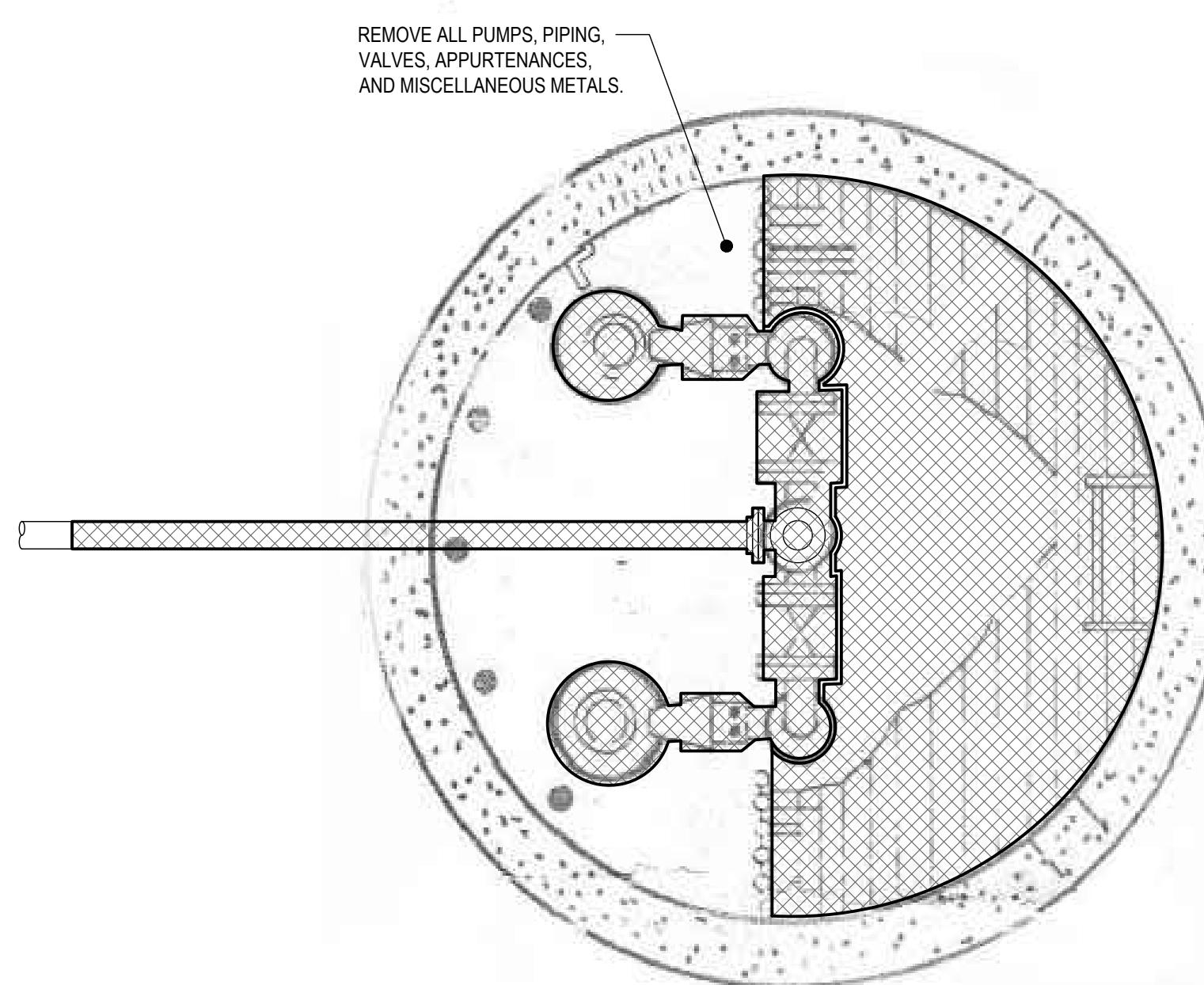
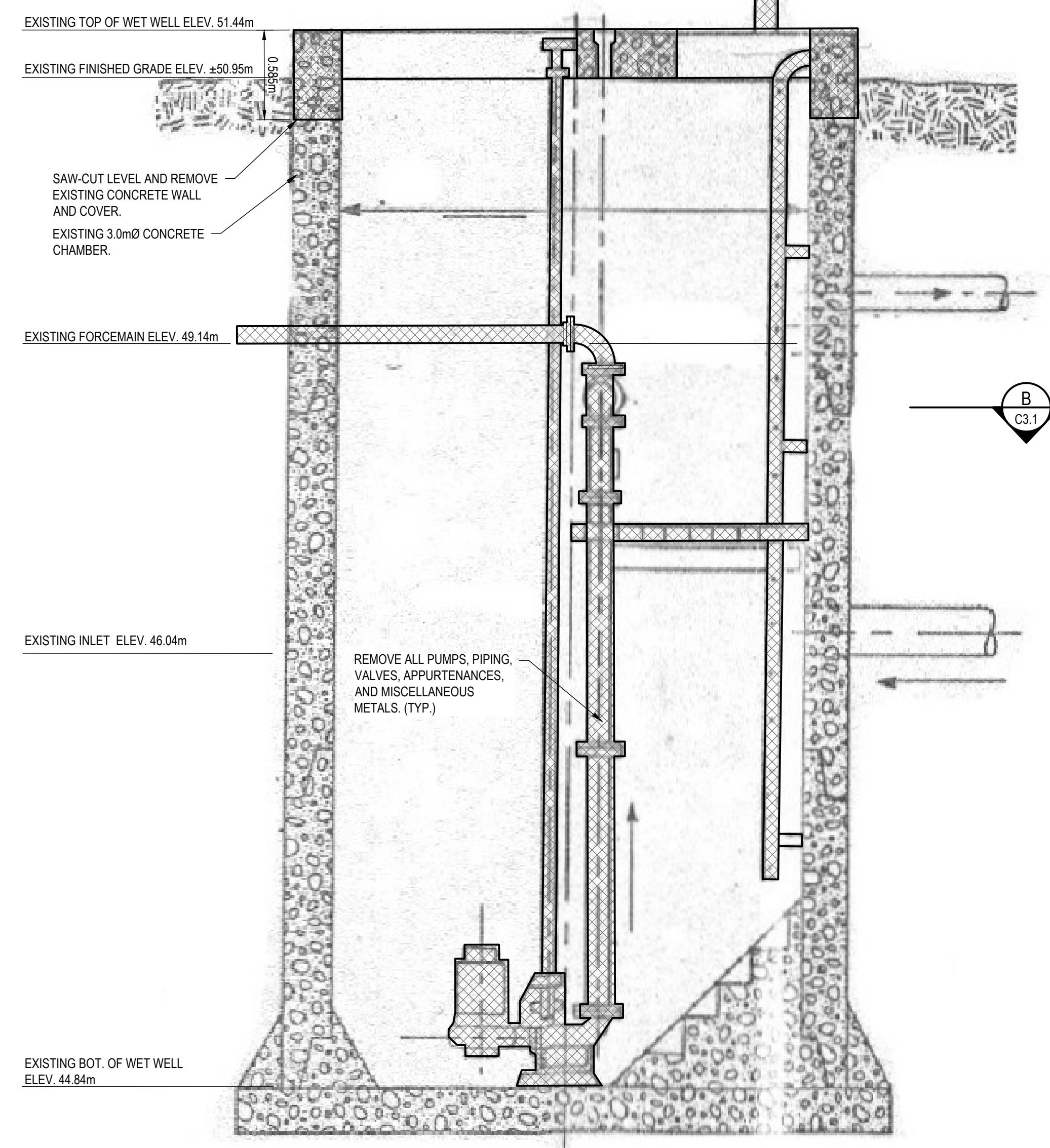
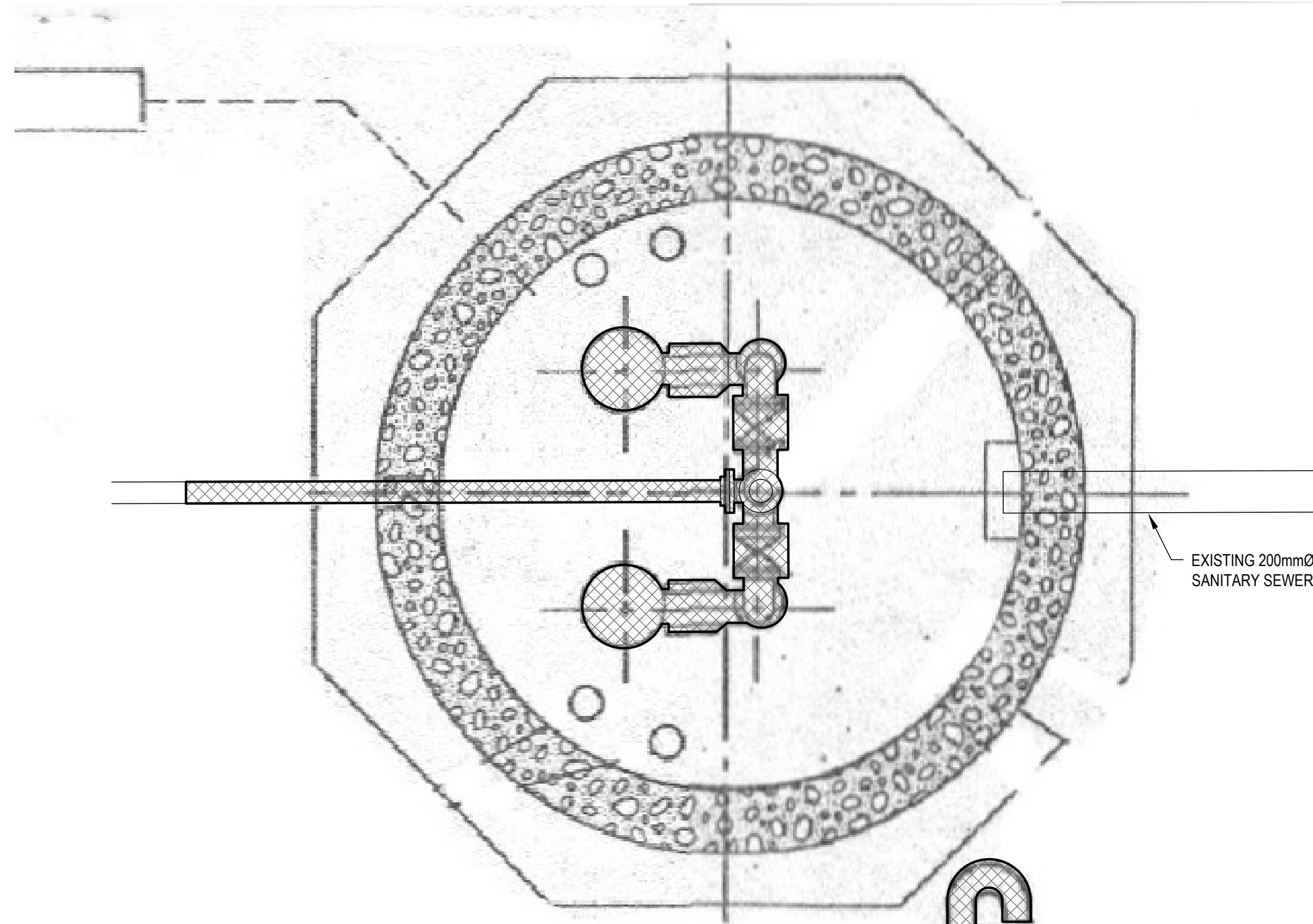


PROJECT:
BLOCK 97 SEWAGE PUMPING STATION UPGRADES

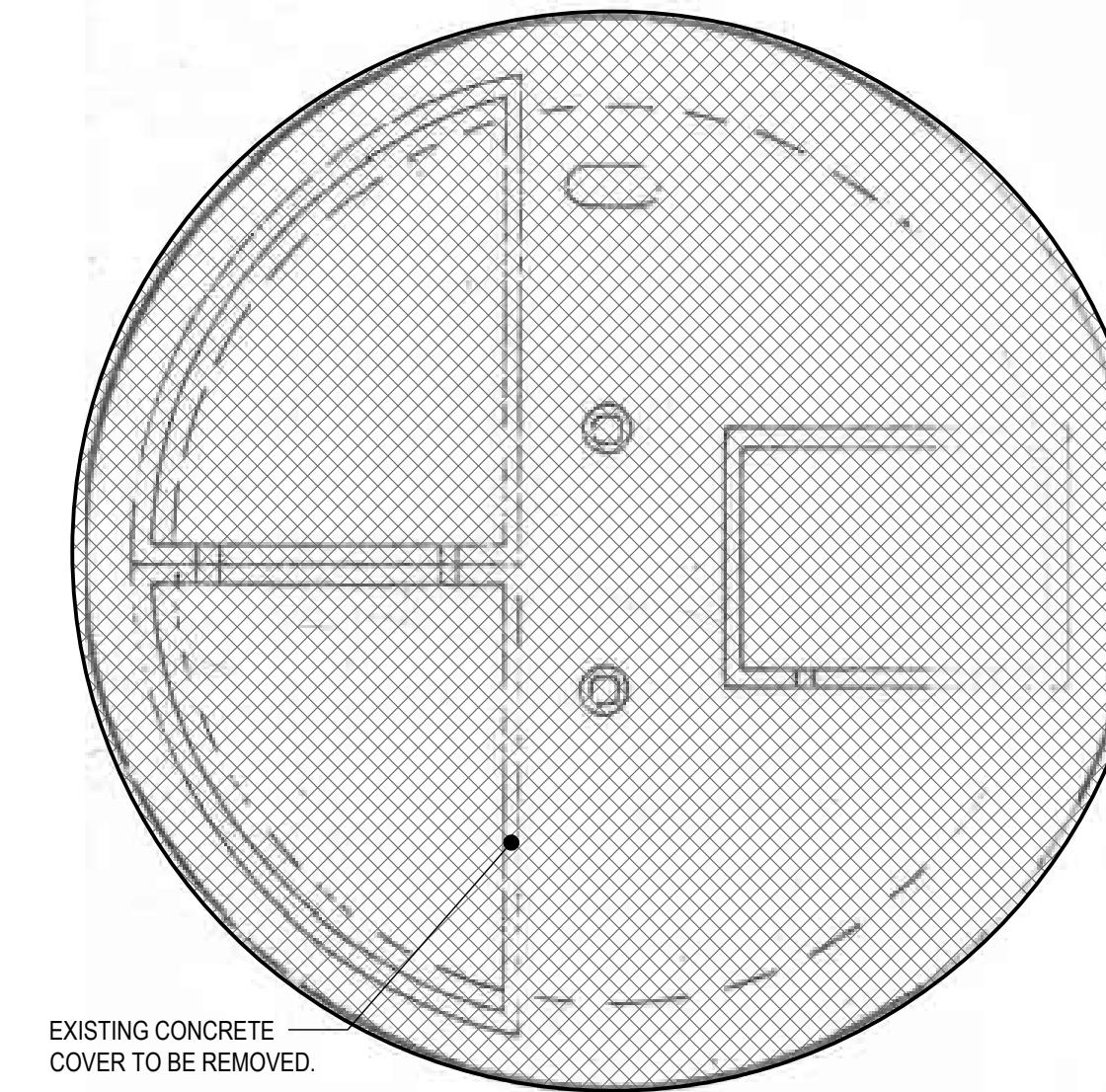
TITLE:
BLOCK 97 SEWAGE PUMPING STATION PARTIAL SITE PLAN

SCALE:	1:50	JOB NO:	23171
DESIGNED BY:		DATE:	2025/09/25
A.P.:		DRAWING NO.:	
DRAWN BY:			
N.C./B.K.N.			
CHECKED BY:			
J.E.			C2.2

LEGEND:
 EXISTING
 TO BE REMOVED



SECTION VIEW
 C3.1 SCALE: N.T.S.



COVER VIEW
 SCALE: N.T.S.



PHOTO
 SCALE: N.T.S.



PHOTO
 SCALE: N.T.S.

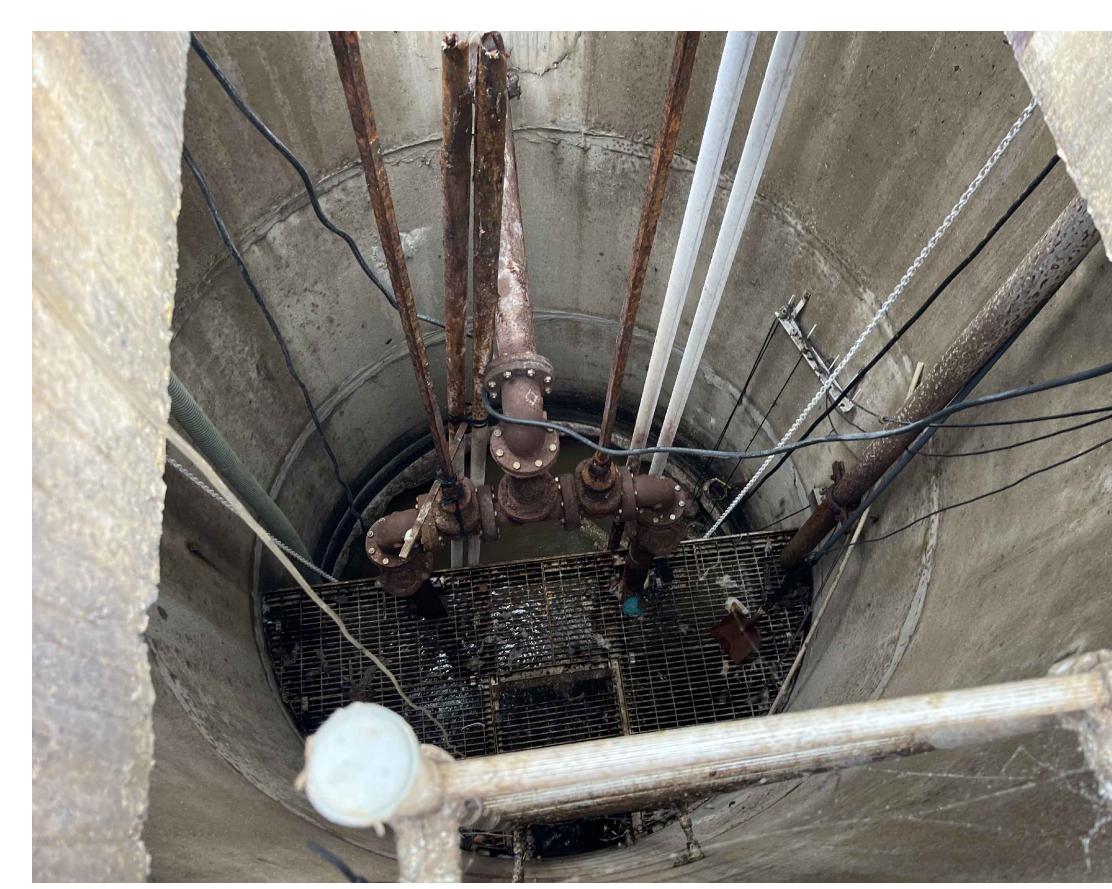
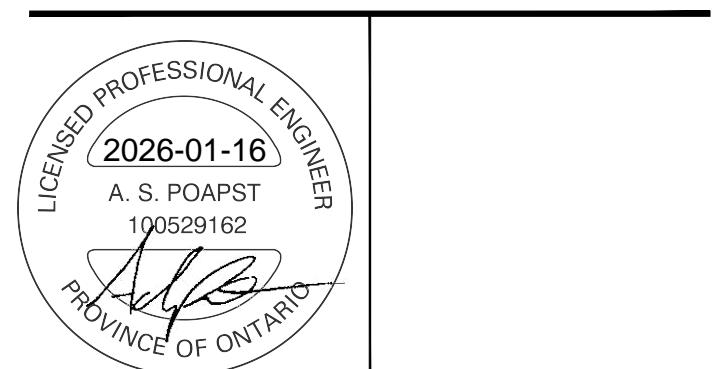


PHOTO
 SCALE: N.T.S.

2026/01/08	2	RE-ISSUED FOR TENDER
2025/09/25	1	ISSUED FOR TENDER
DATE	No	REVISION

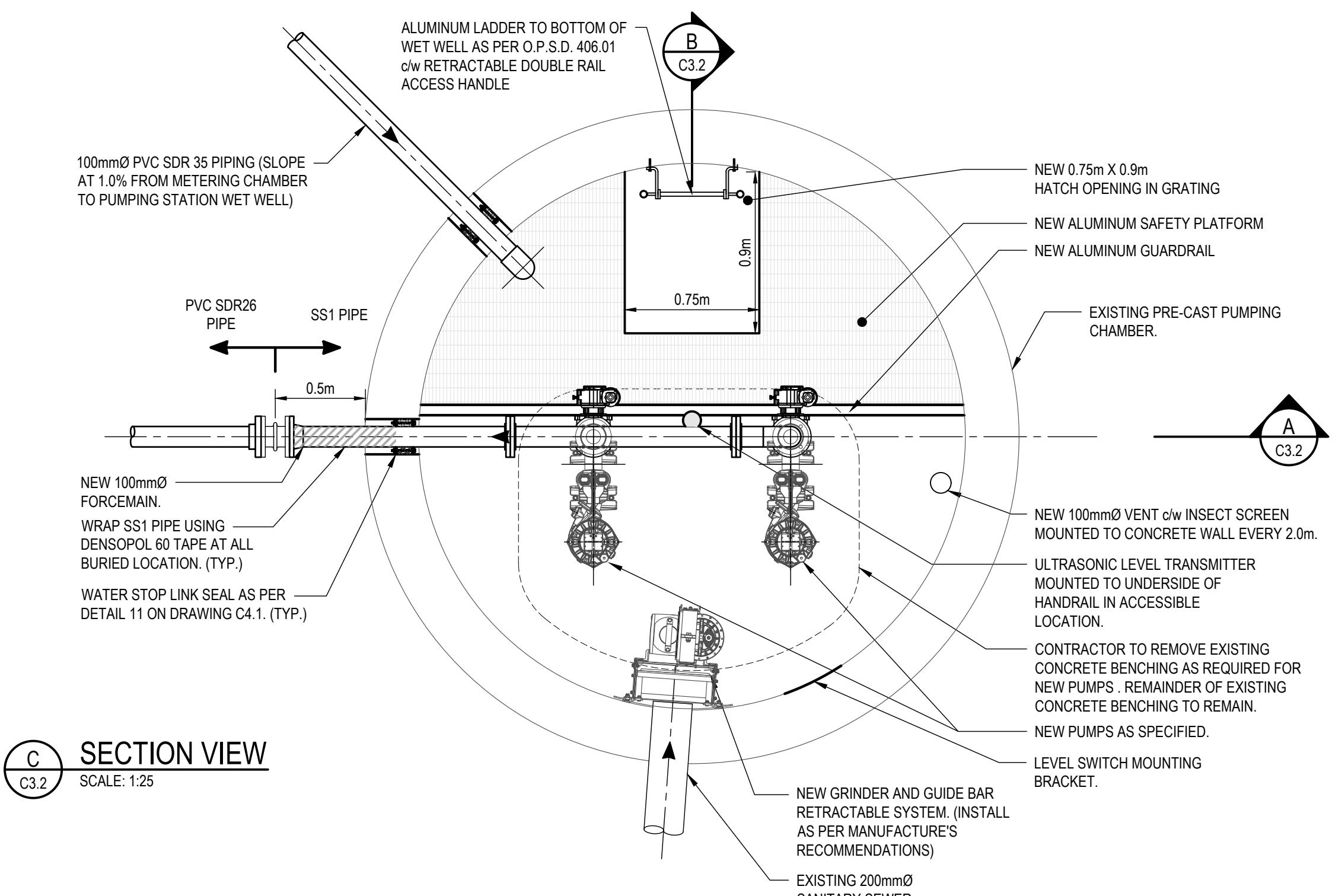
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CLIENT:
 PROJECT:
BLOCK 97 SEWAGE PUMPING STATION UPGRADES

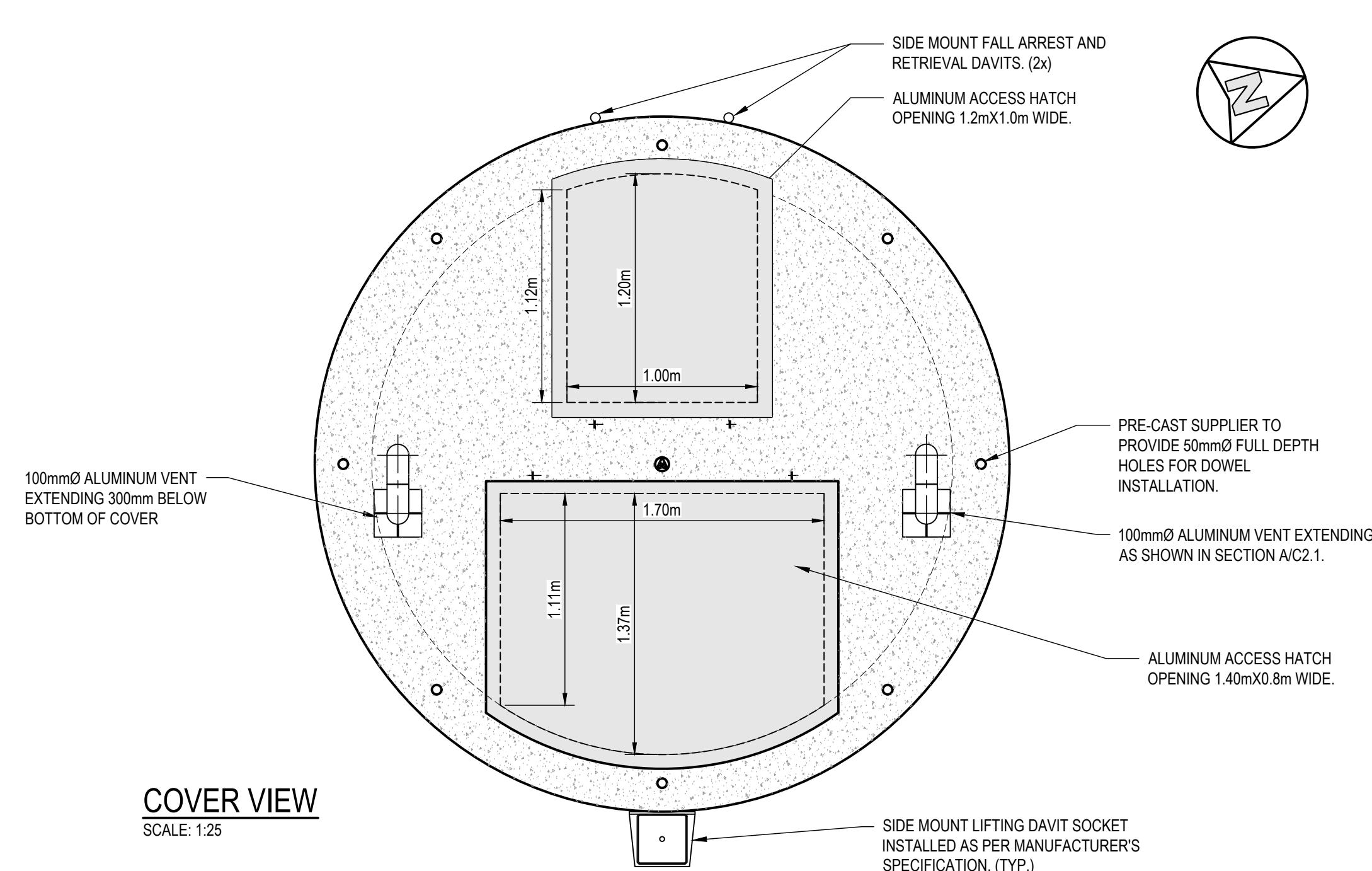
TITLE:
BLOCK 97 SEWAGE PUMPING STATION REMOVAL PLAN

SCALE: N.T.S.	JOB NO: 23171
DESIGNED BY: A.P.	DATE: 2025/09/25
DRAWN BY: K.B.W.	DRAWING NO: C3.1
CHECKED BY: J.E.	



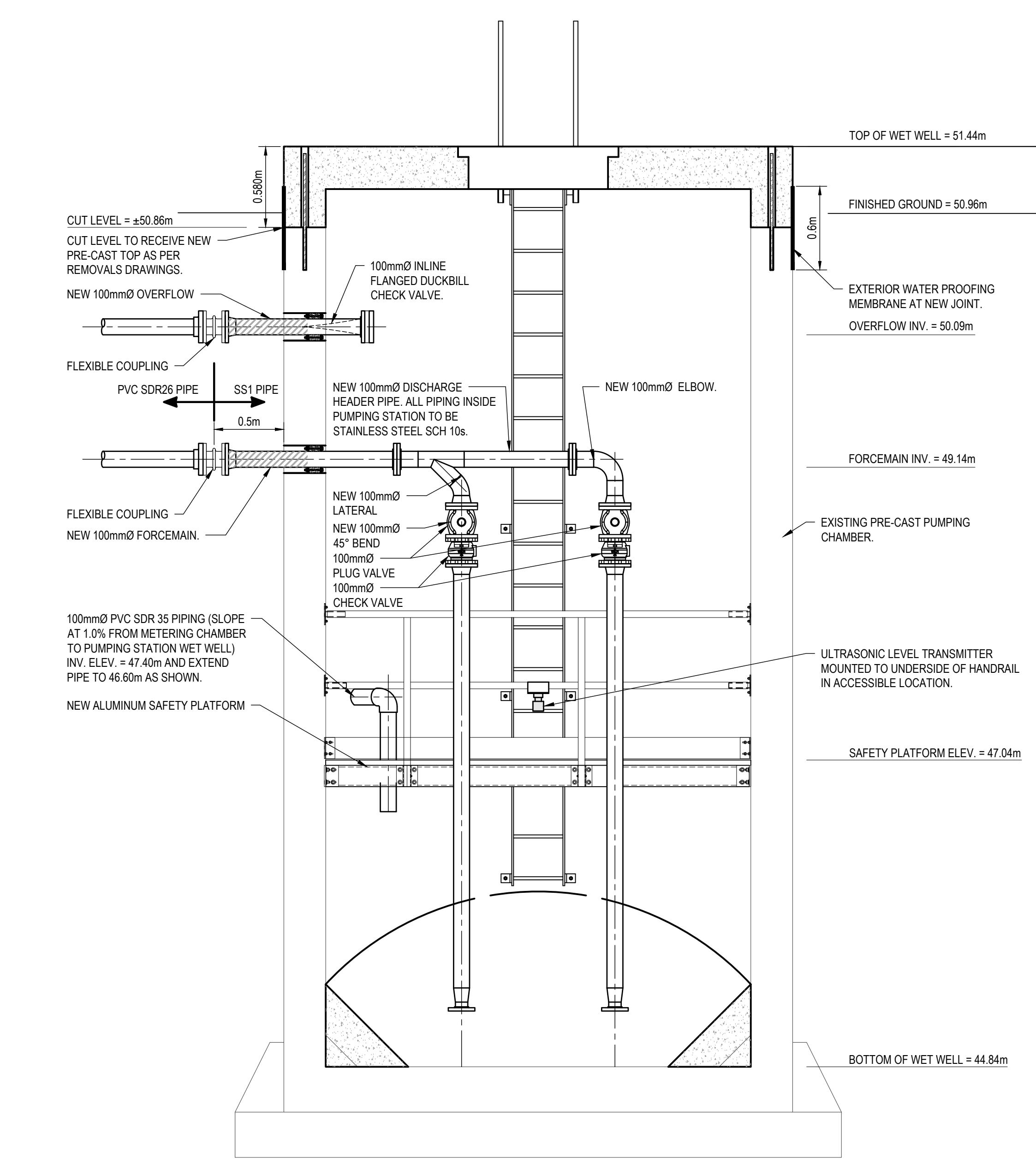
SECTION VIEW
C3.2

SCALE: 1:25



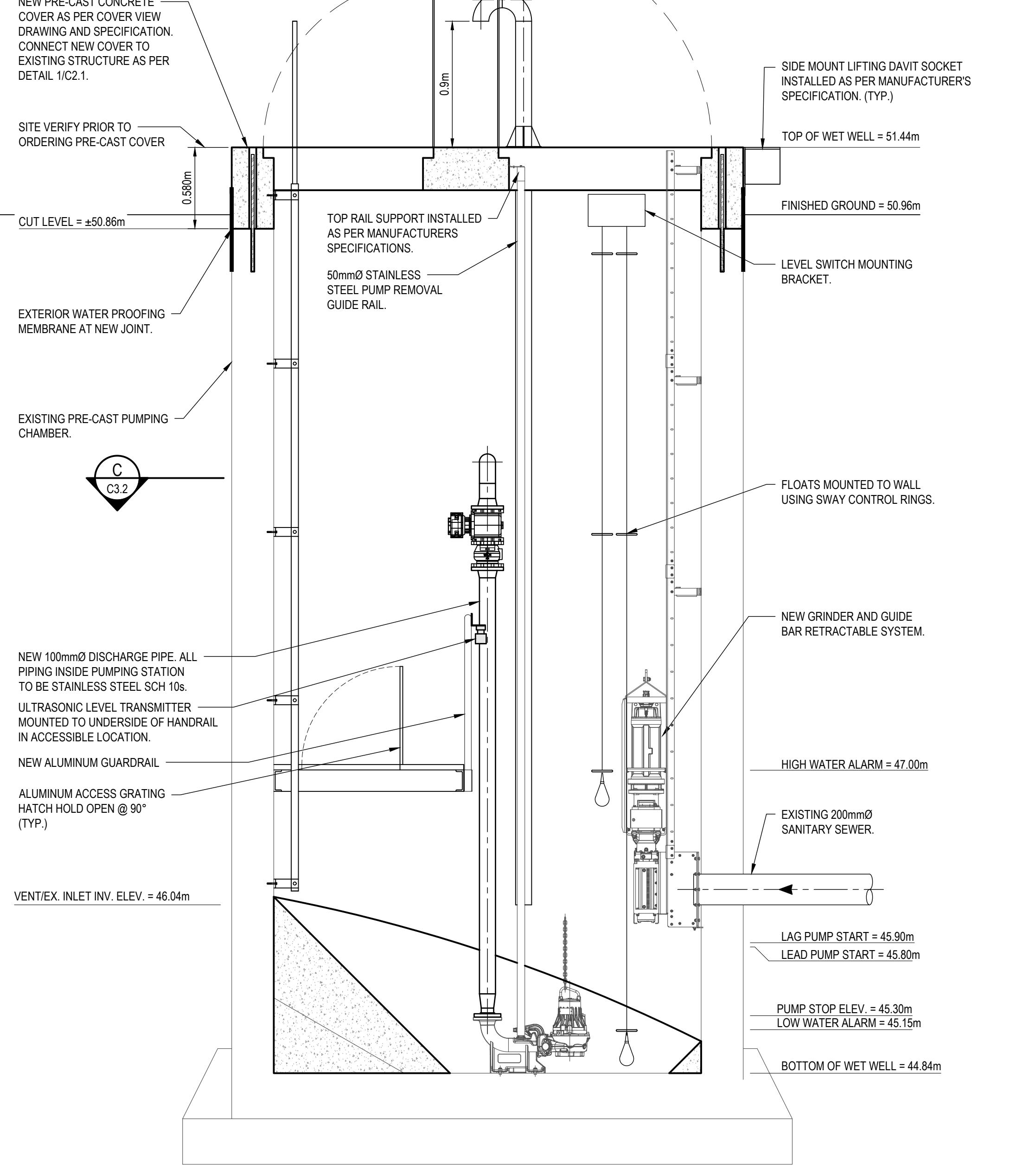
COVER VIEW
C3.2

SCALE: 1:25



CROSS-SECTION
C3.2

SCALE: 1:25

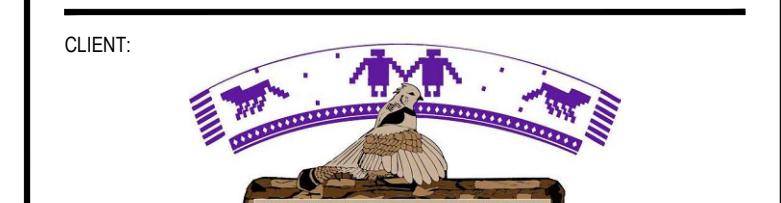
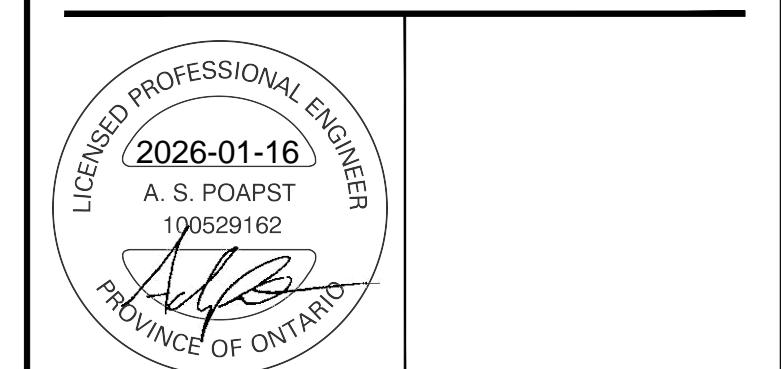


CROSS-SECTION
C3.2

SCALE: 1:25

2026/01/08	2	RE-ISSUED FOR TENDER
2025/09/25	1	ISSUED FOR TENDER
DATE	No	REVISION

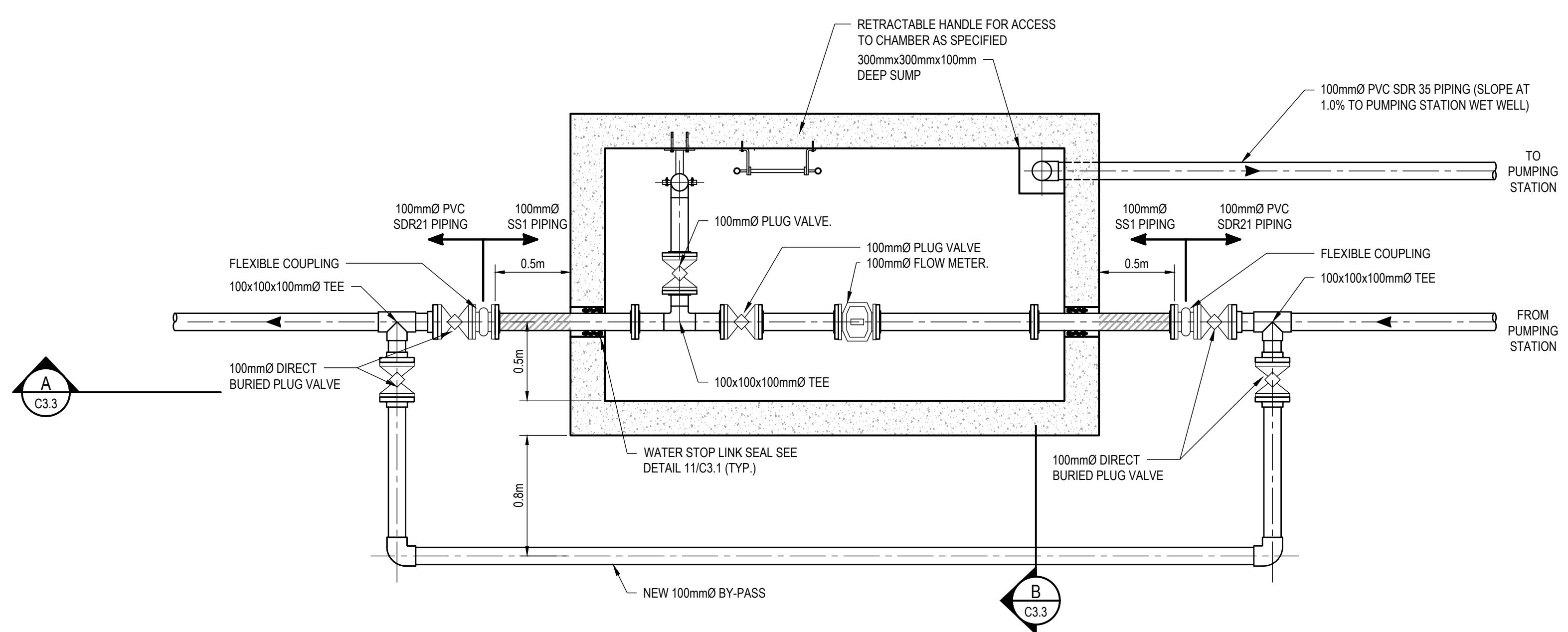
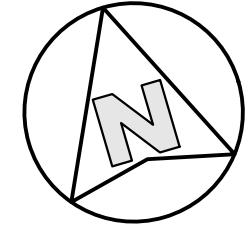
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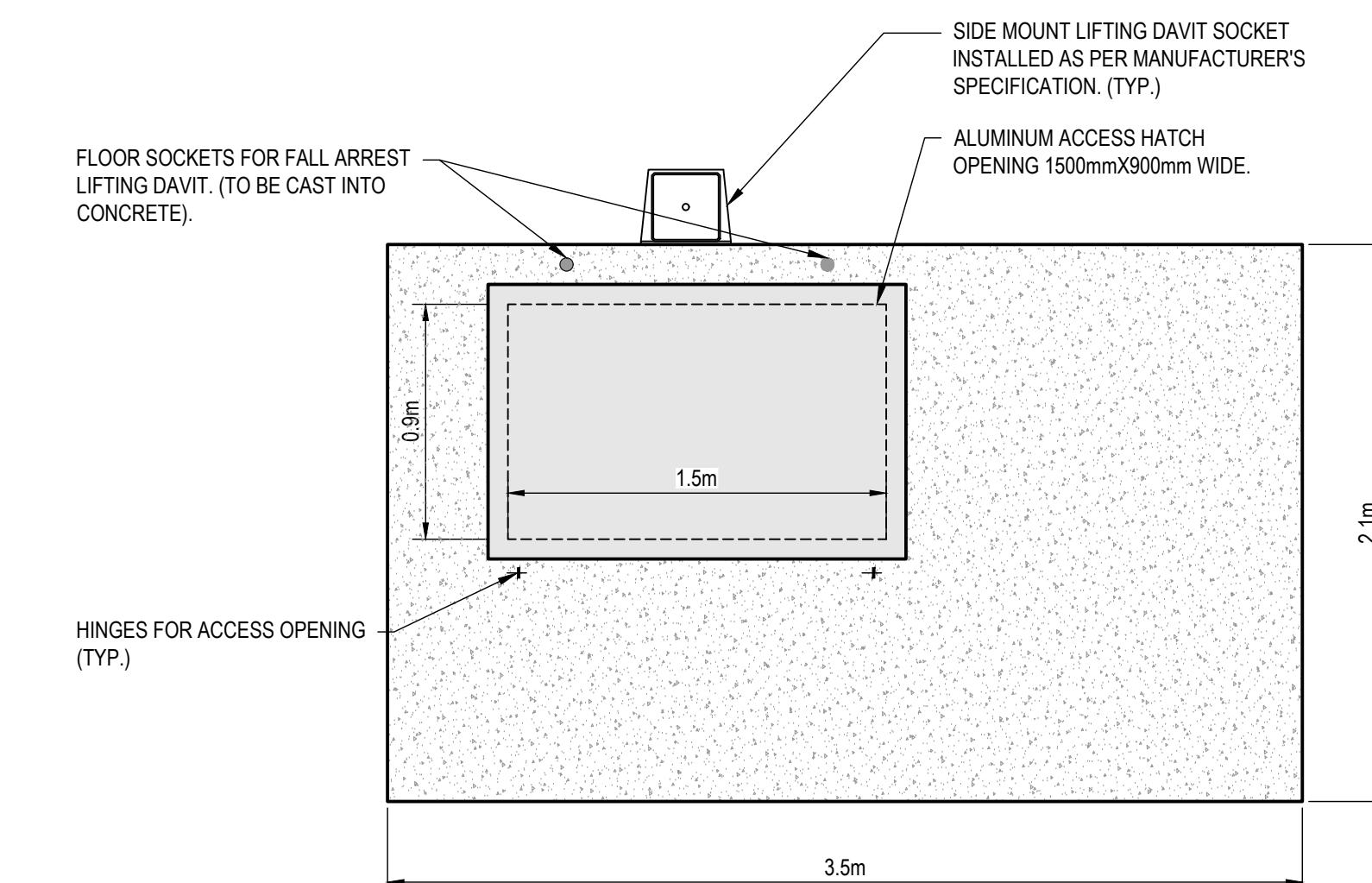
PROJECT:
**BLOCK 97 SEWAGE
PUMPING STATION UPGRADES**

TITLE:
**BLOCK 97
SEWAGE PUMPING STATION
UPGRADES**

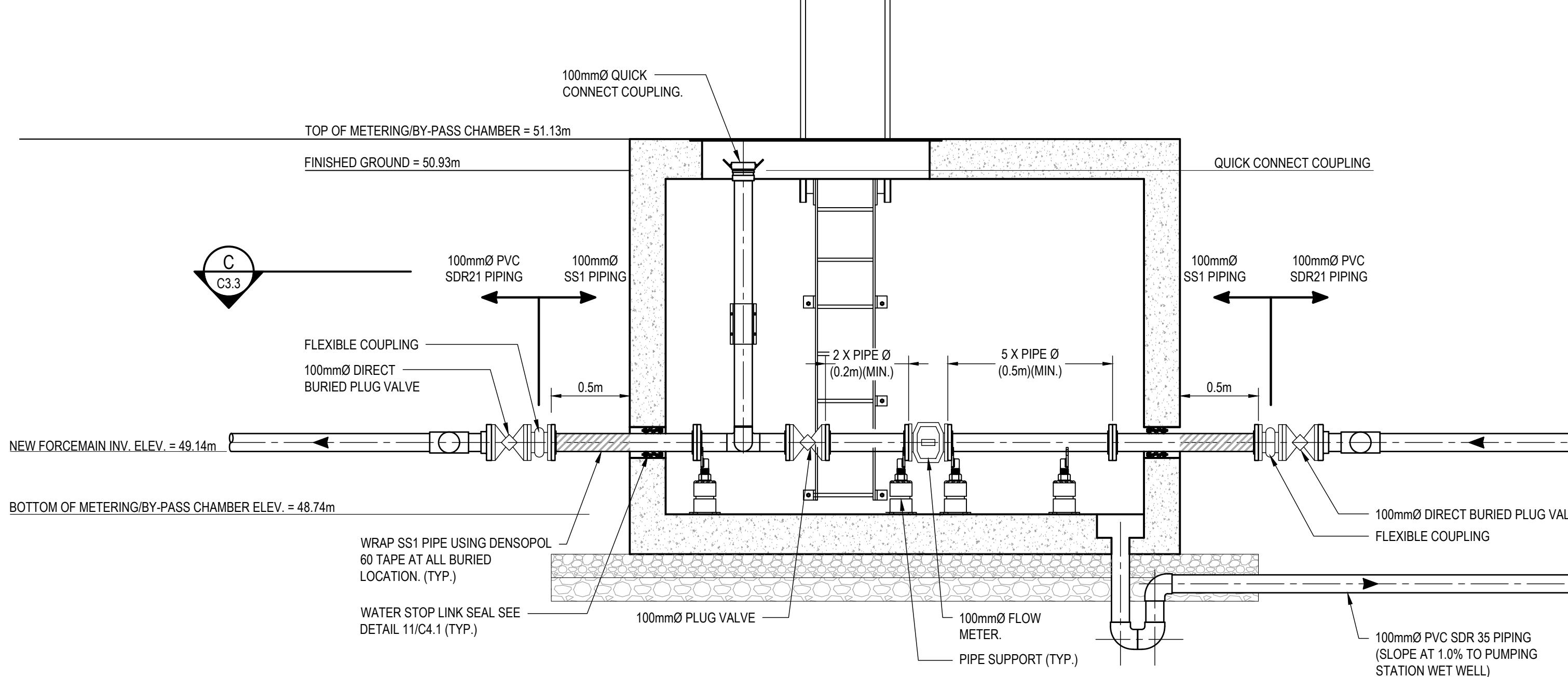
SCALE: 1:25	JOB NO: 23171
DESIGNED BY: A.P.	DATE: 2025/09/25
DRAWN BY: K.B.W.	DRAWING NO. C3.2
CHECKED BY: J.E.	



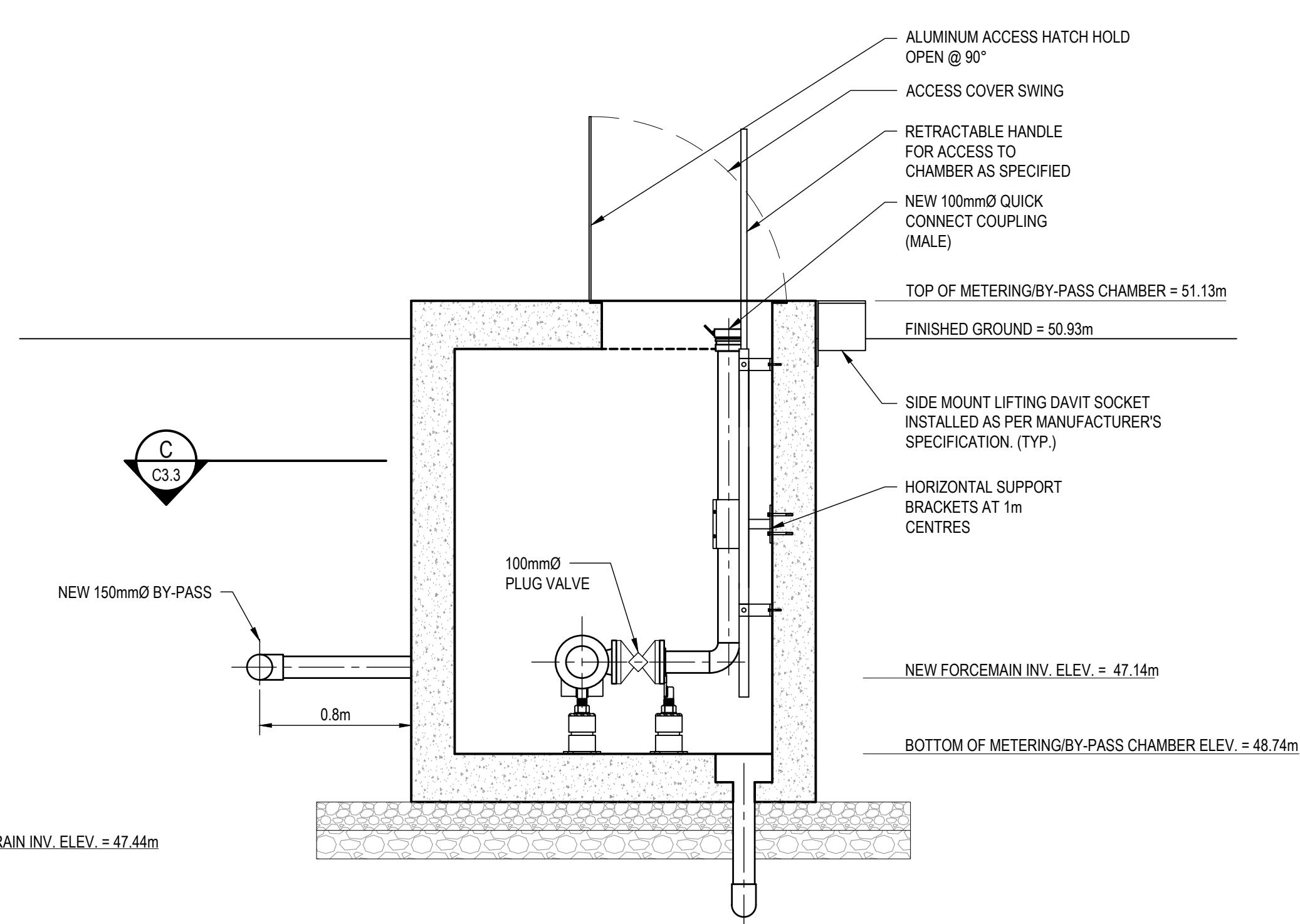
SECTION VIEW
C3.3
SCALE: 1:25



COVER VIEW
C3.3
SCALE: 1:25



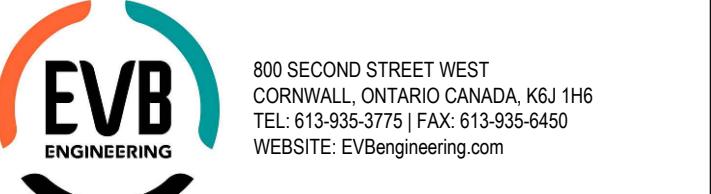
CROSS-SECTION
C3.3
SCALE: 1:25



CROSS-SECTION
C3.3
SCALE: 1:25

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WEBSITE: EvEngineering.com

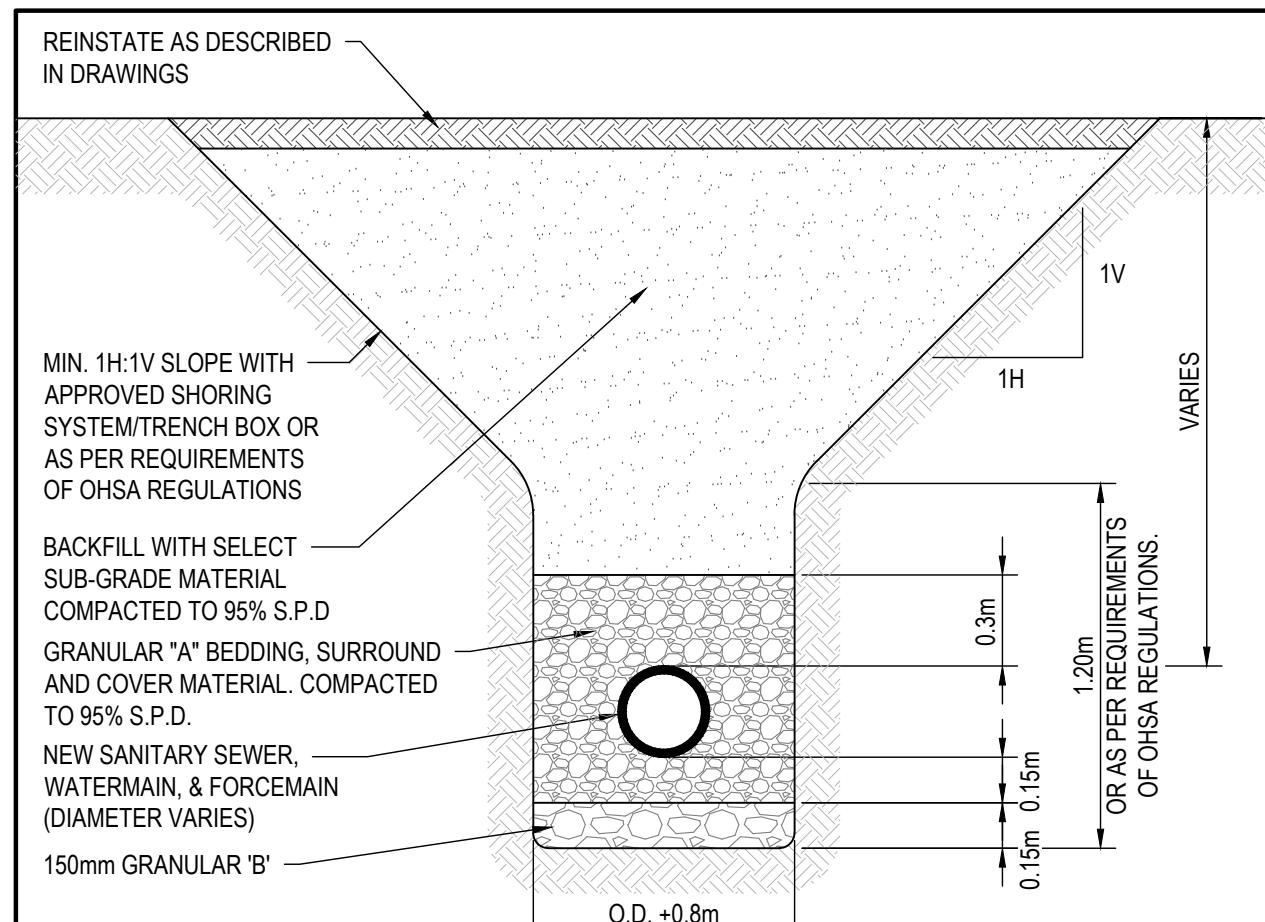


CLIENT:
PROJECT:
BLOCK 97 SEWAGE
PUMPING STATION UPGRADES

TITLE:
BLOCK 97
SEWAGE PUMPING STATION
NEW METERING CHAMBER

SCALE:	JOB NO:
1:25	23171
DESIGNED BY:	
A.P.:	2025/09/25
DRAWN BY:	
K.B.W.	
CHECKED BY:	
J.E.	

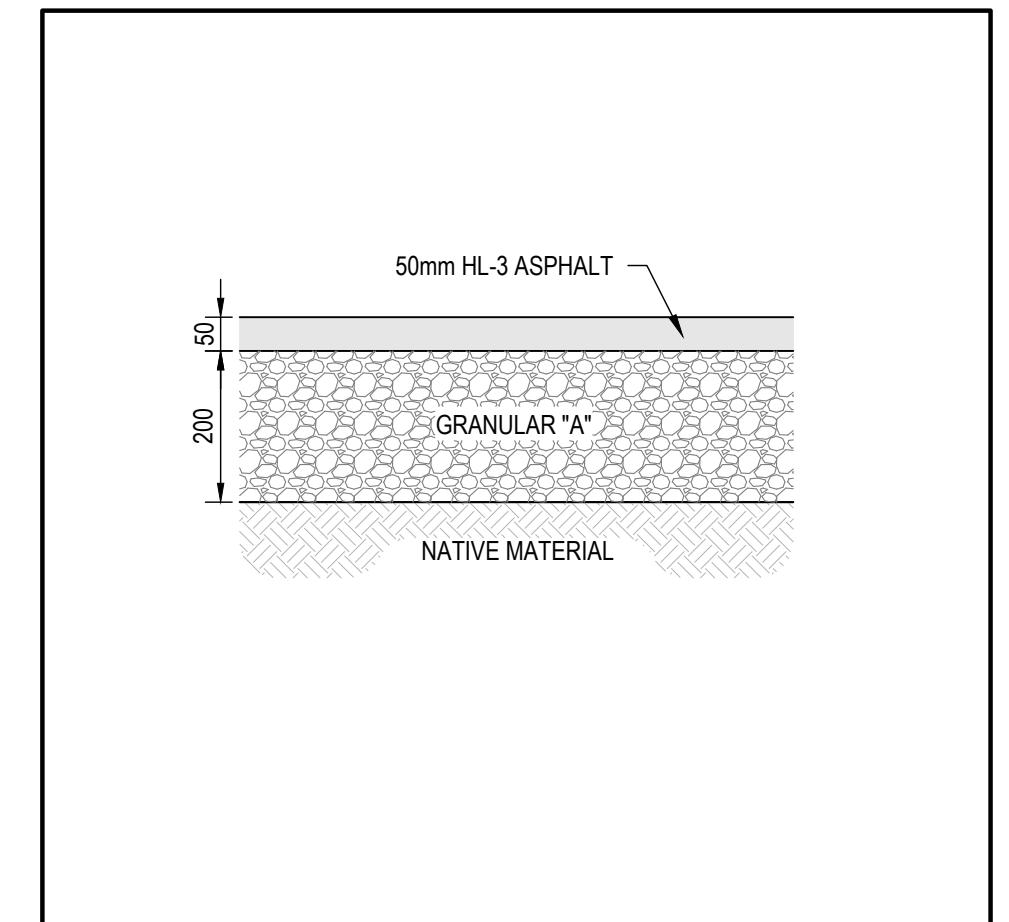
C.3.3



1 TYPICAL TRENCH DETAIL

C4.1

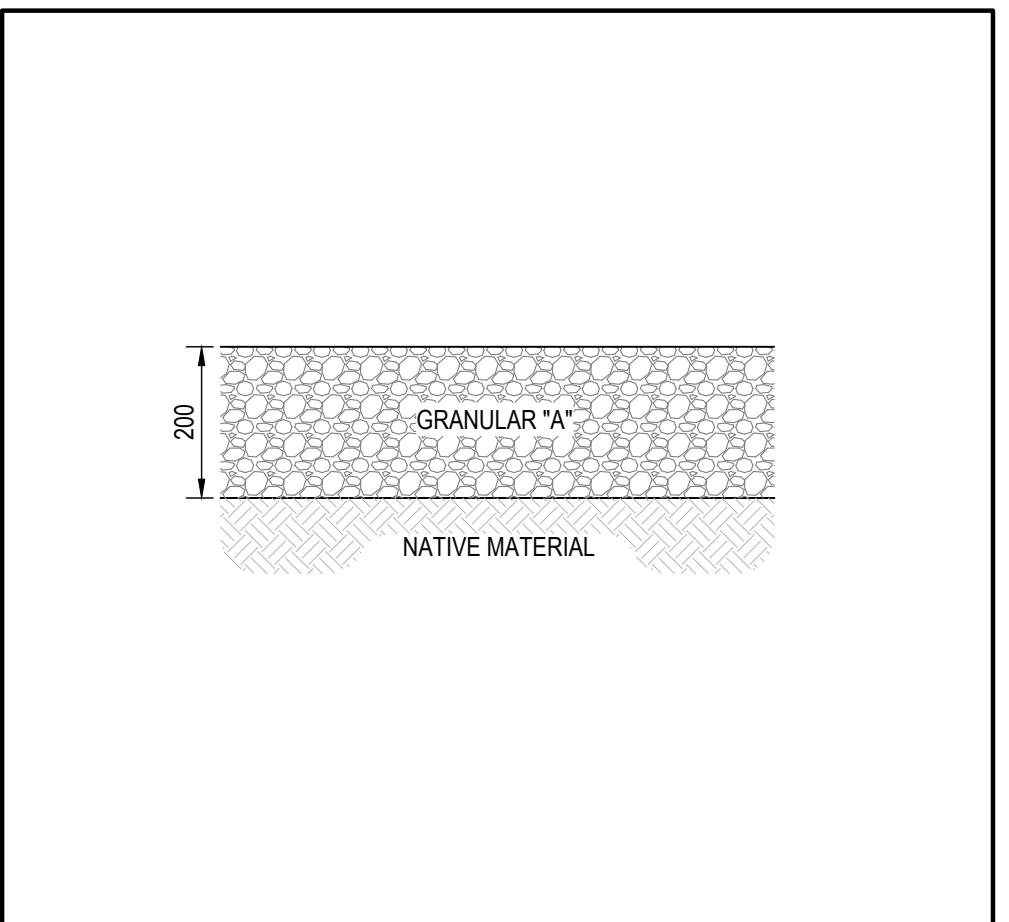
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2 ASPHALT DRIVEWAY REINSTATEMENT

C4.1

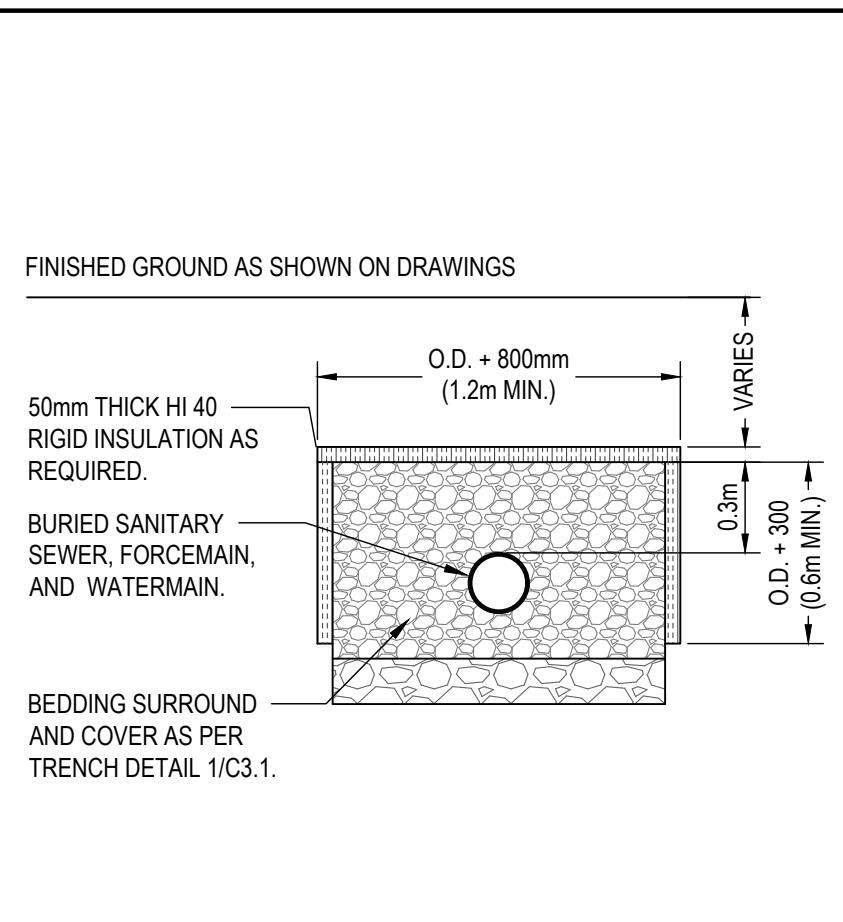
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3 GRANULAR DRIVEWAY REINSTATEMENT

C4.1

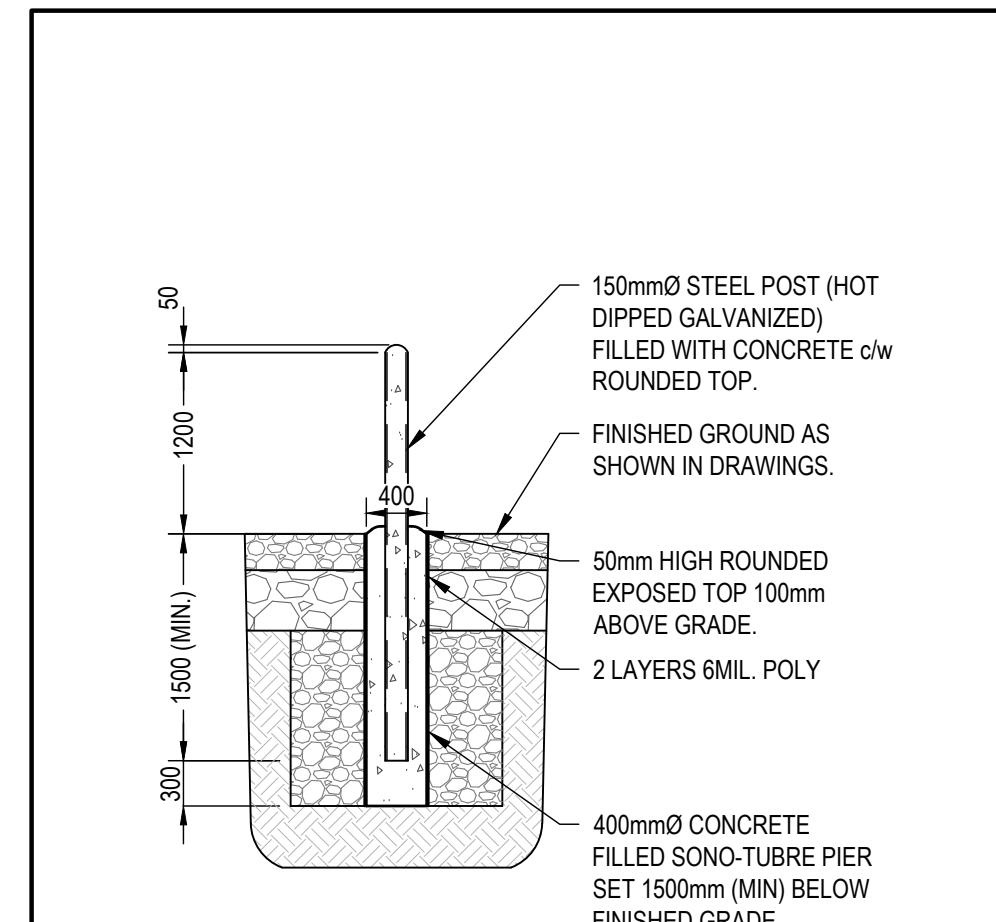
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4 TYPICAL FROST PROTECTION

C4.1

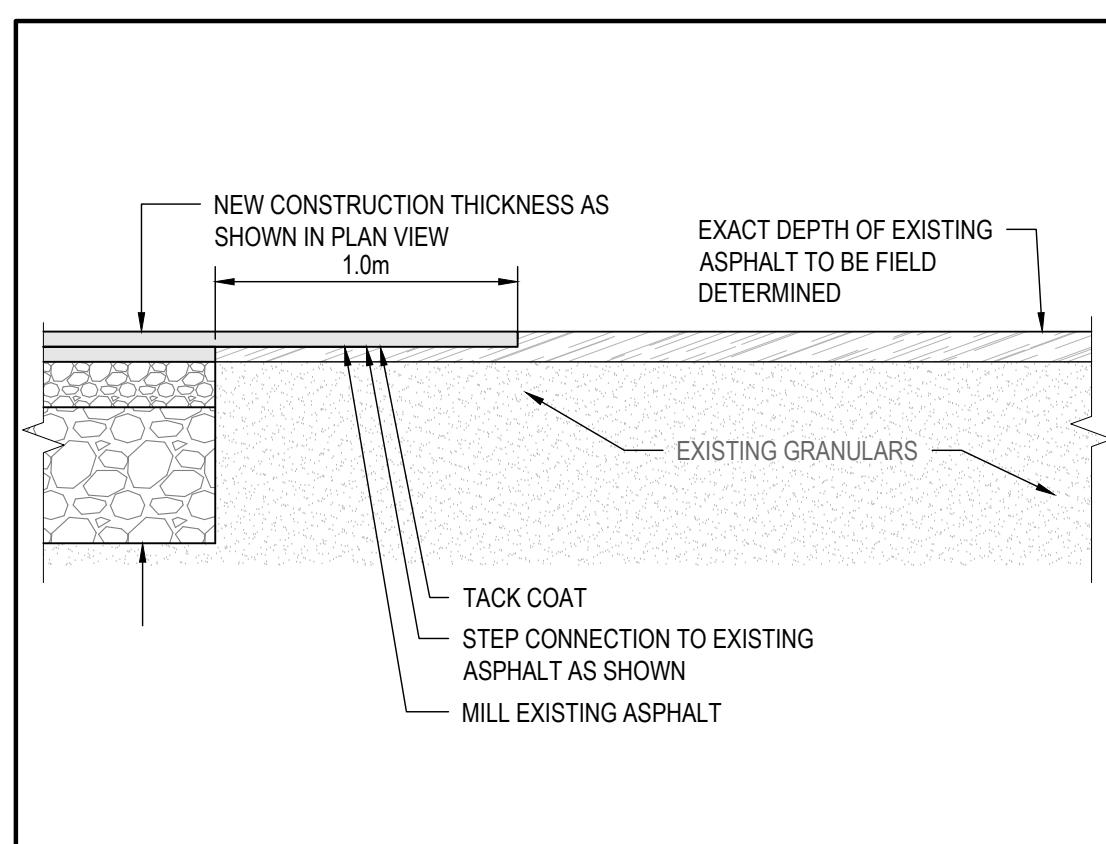
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5 TYPICAL BOLLARD DETAIL

C4.1

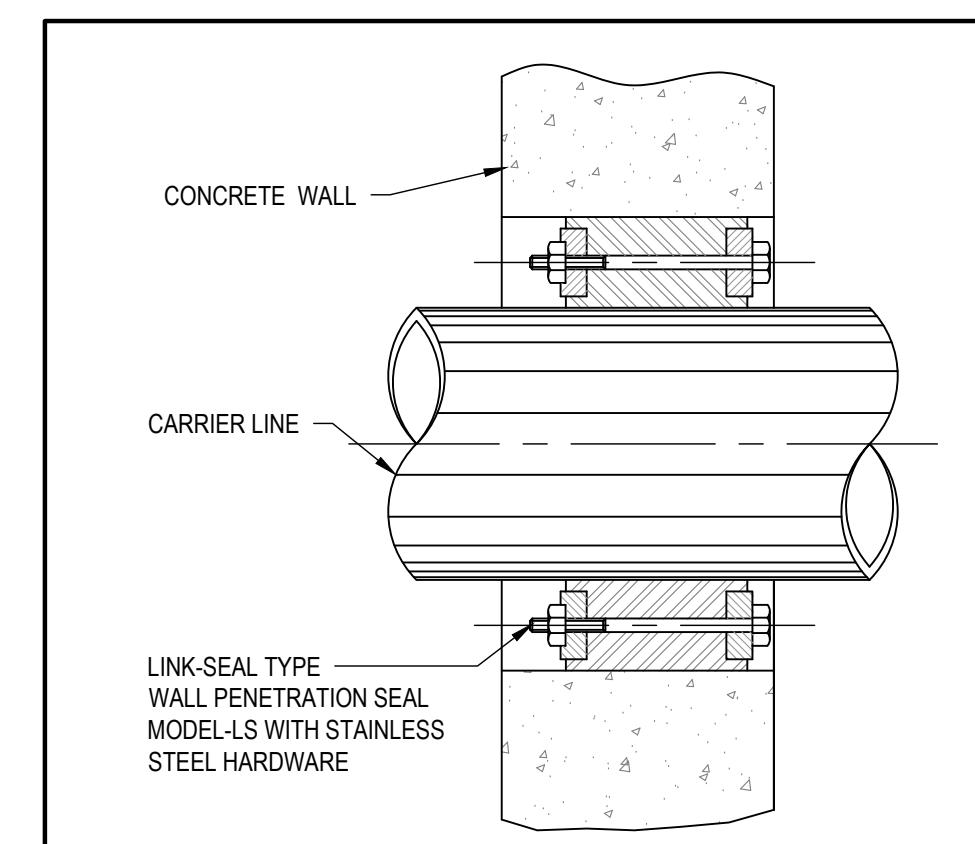
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6 TYPICAL STEP CONNECTION DETAIL

C4.1

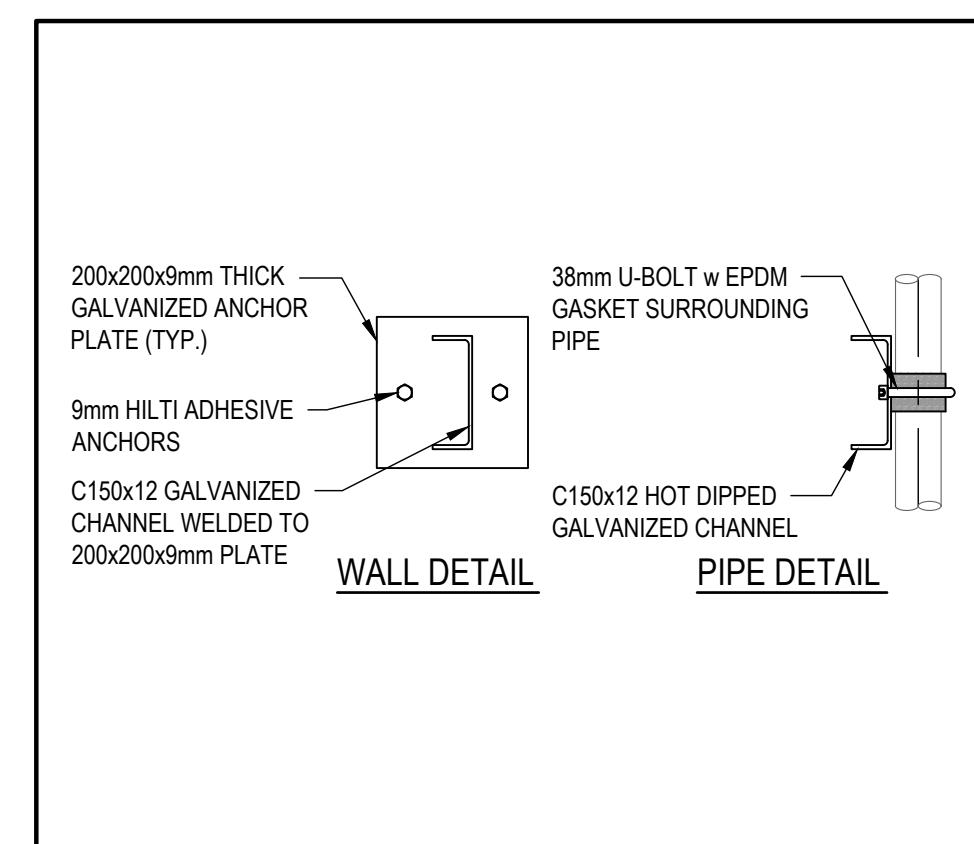
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7 TYPICAL PENETRATION SEAL DETAIL

C4.1

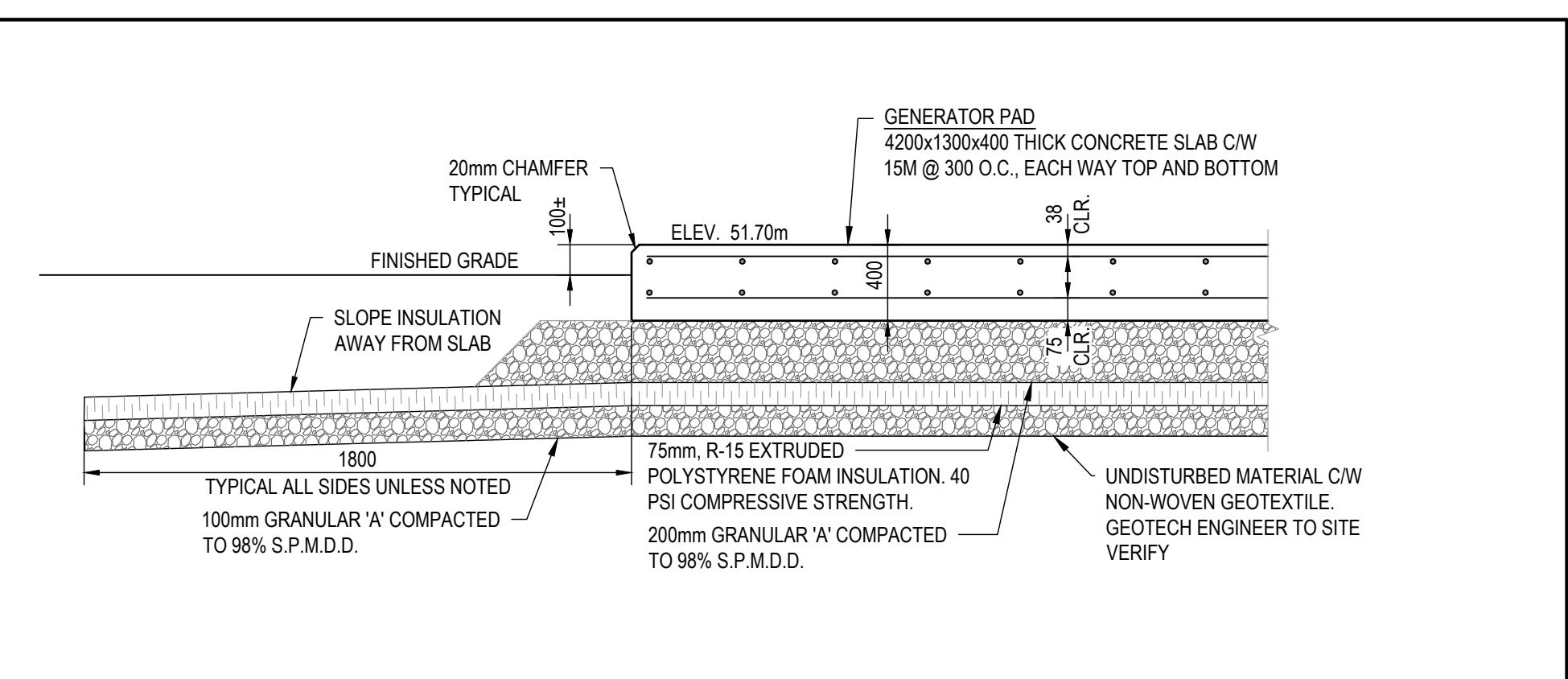
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8 TYPICAL PIPE SUPPORT DETAIL

C4.1

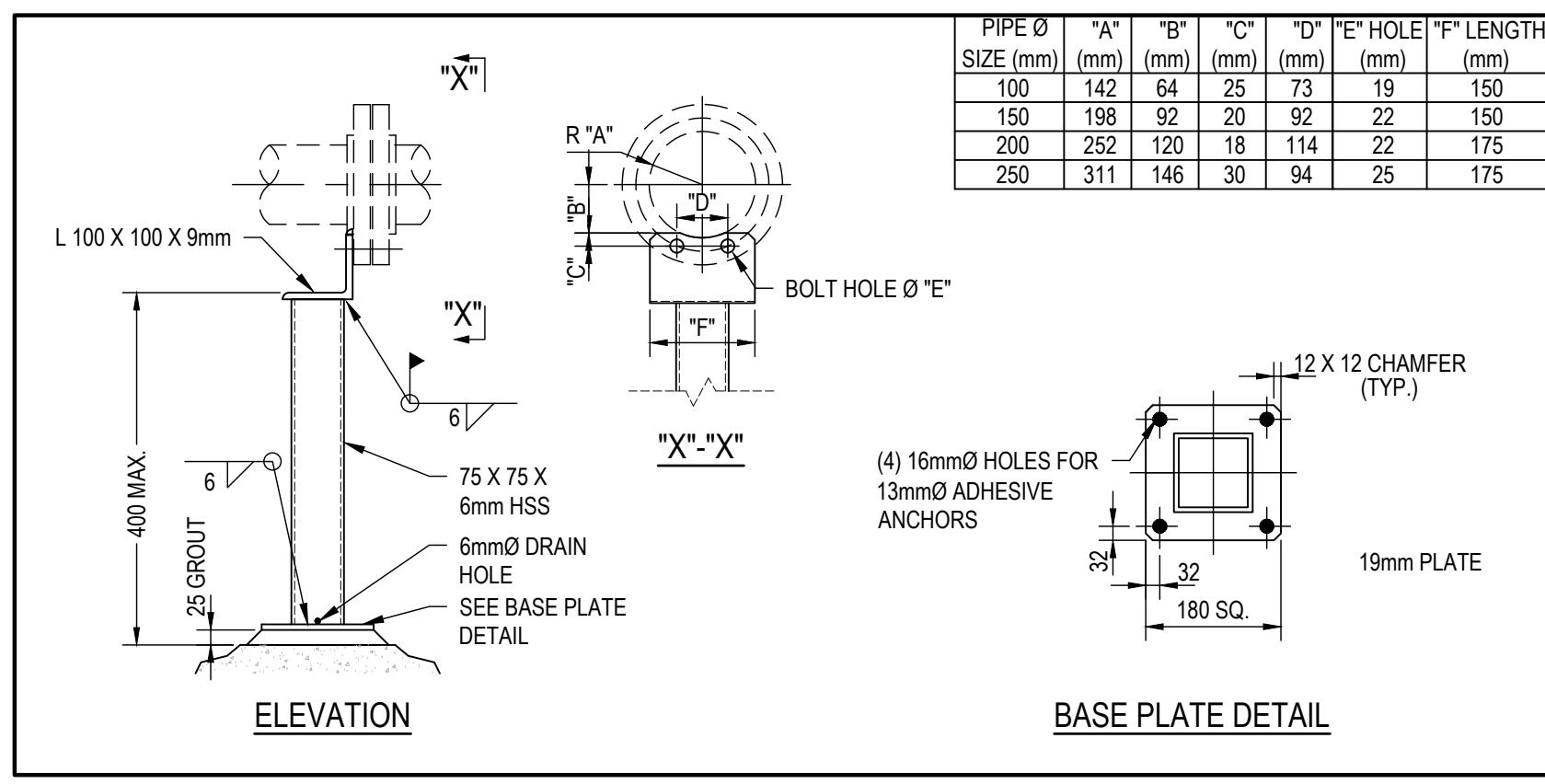
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9 TYPICAL GENERATOR CONCRETE PAD DETAIL

C4.1

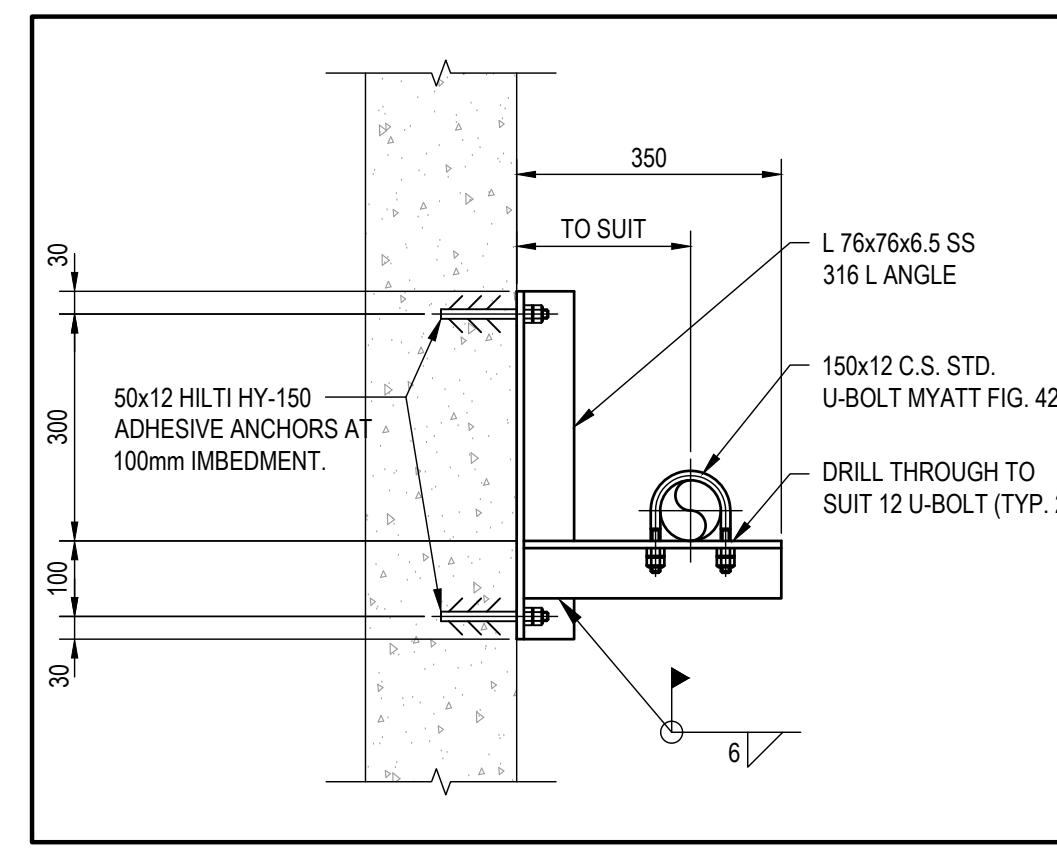
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10 TYPICAL PIPE SUPPORT - PS-51

C4.1

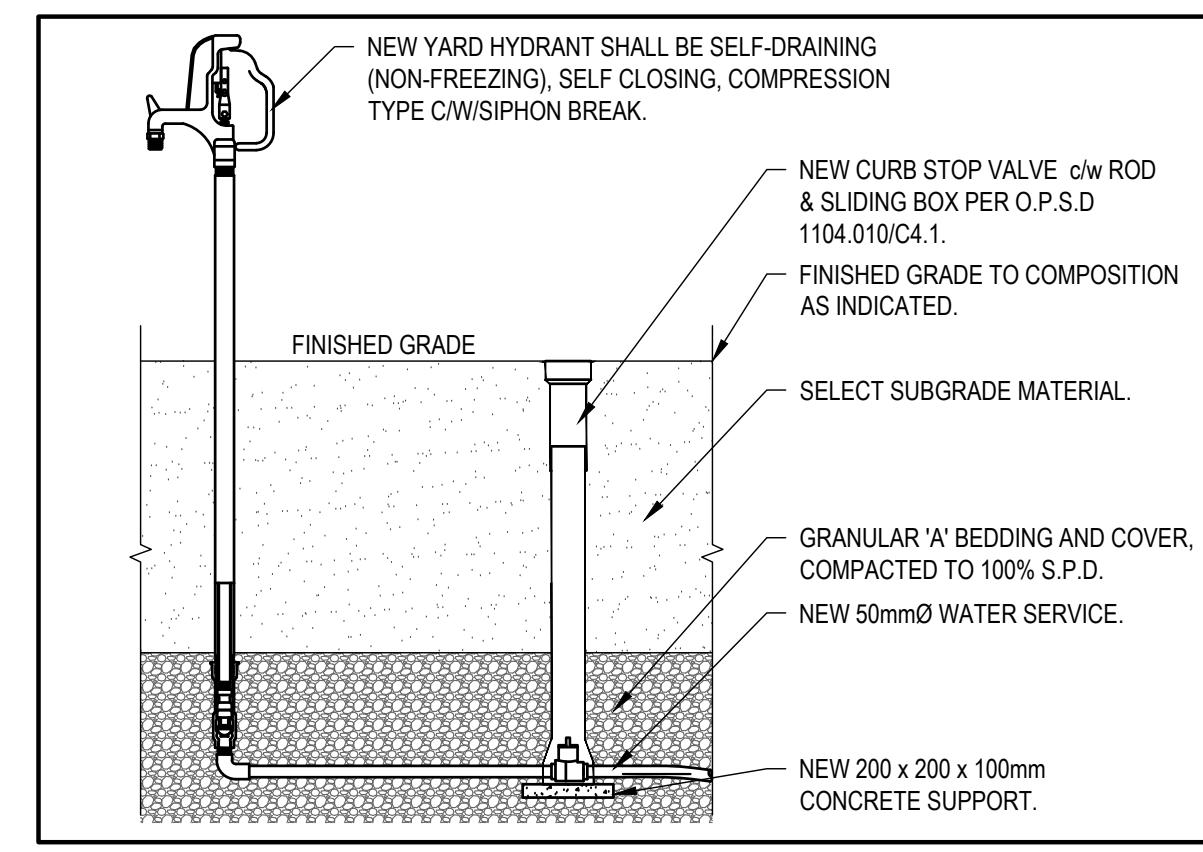
SCALE: N.T.S.



11 TYPICAL PIPE SUPPORT DETAIL

C4.1

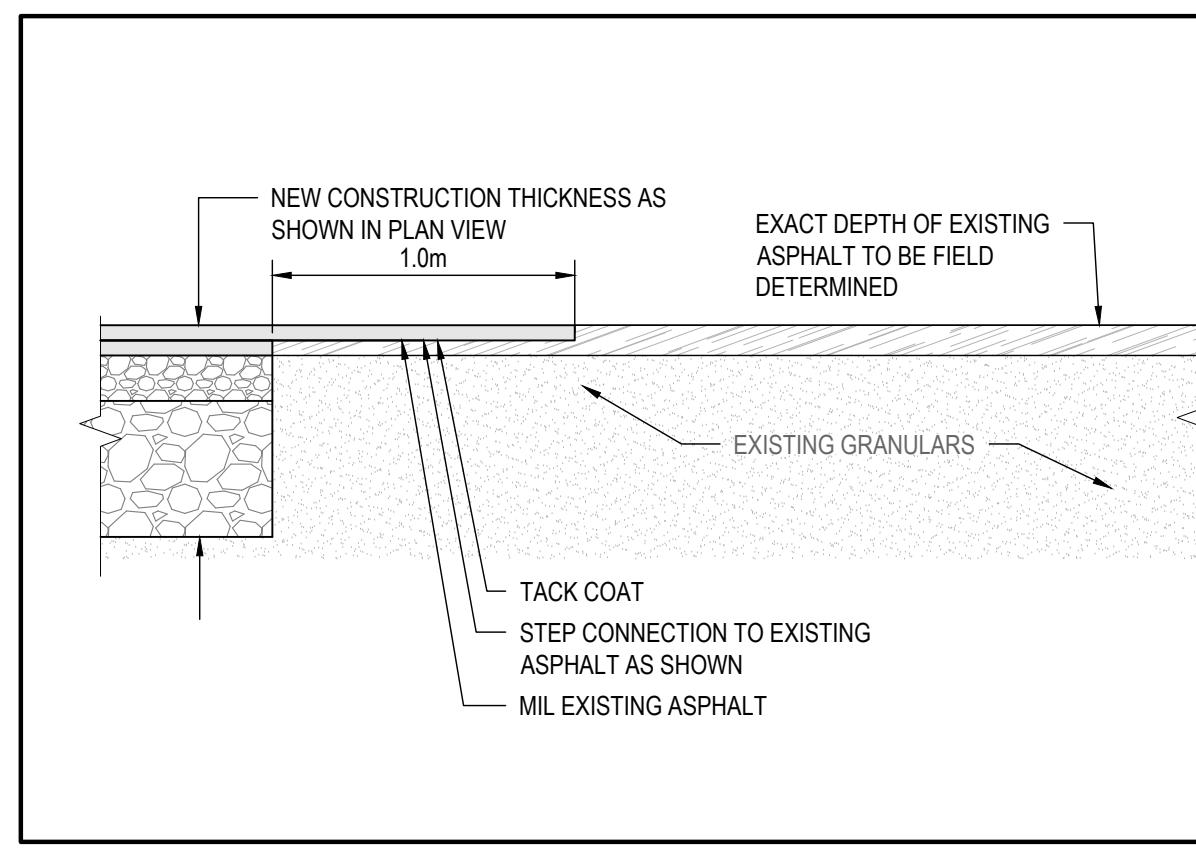
SCALE: N.T.S.



12 TYPICAL YARD HYDRANT DETAIL

C4.1

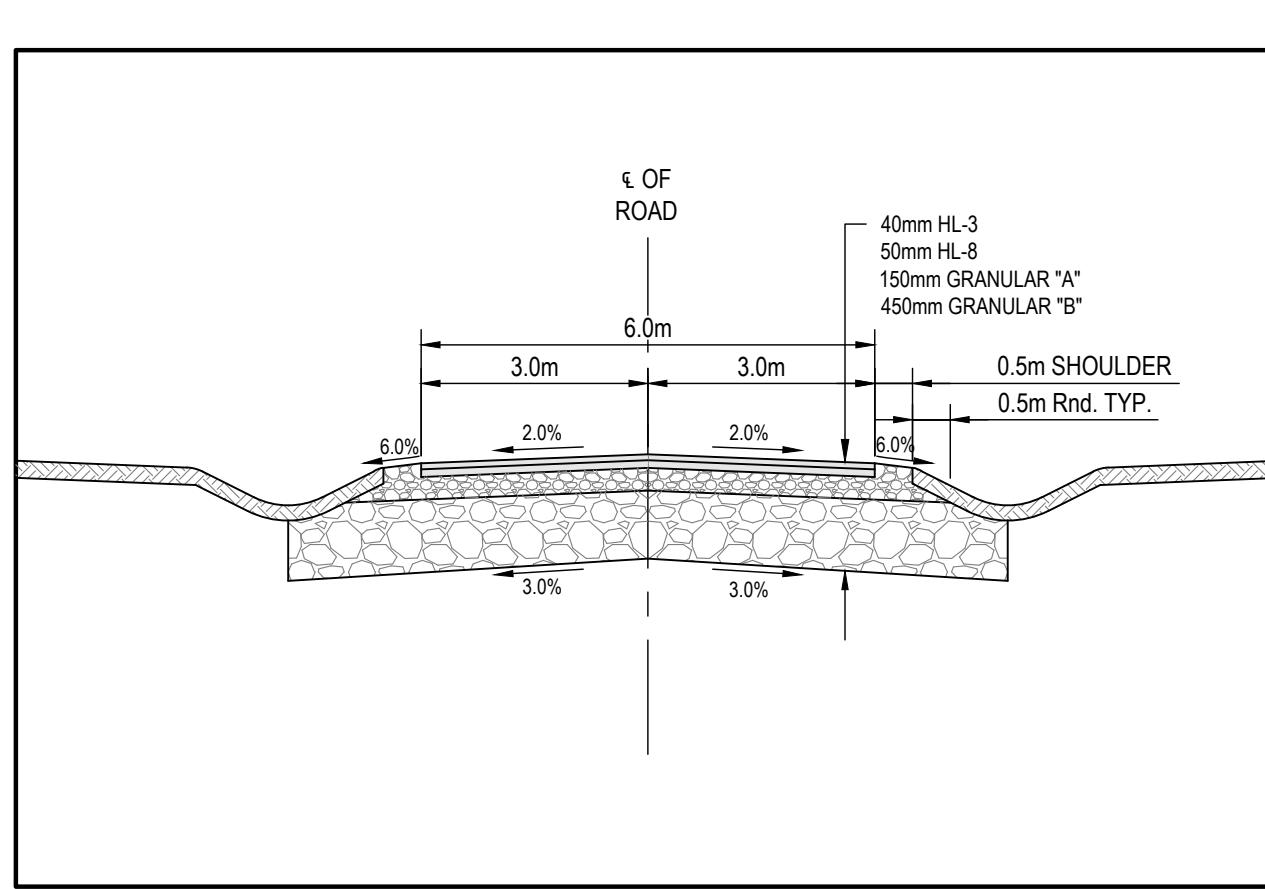
SCALE: N.T.S.



13 TYPICAL STEP CONNECTION DETAIL

C4.1

SCALE: 1:25



14 TYPICAL ROAD CROSS-SECTION DETAIL

C4.1

SCALE: N.T.S.

2026/01/08	2	RE-ISSUED FOR TENDER
2025/09/25	1	ISSUED FOR TENDER
DATE	No.	REVISION

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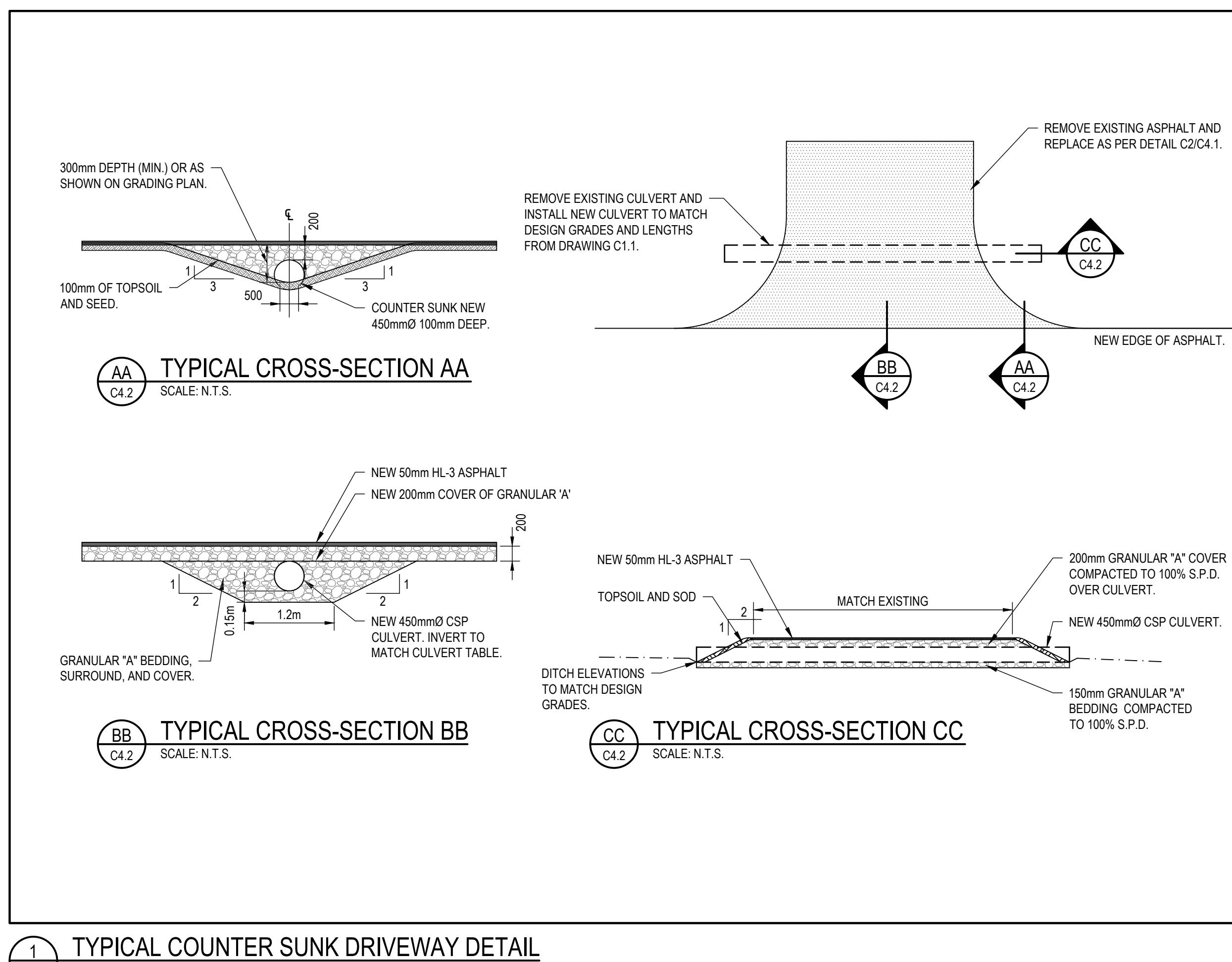


CLIENT:
PROJECT:
BLOCK 97 SEWAGE
PUMPING STATION UPGRADES

TITLE:

DETAILS

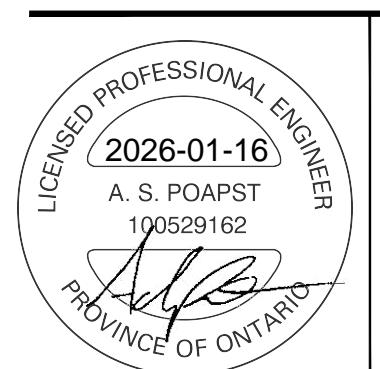
SCALE: AS SHOWN	JOB NO: 23171
DESIGNED BY:	
A.P.:	DATE: 2025/09/25
DRAWN BY:	DRAWING NO.:
K.B.W./B.K.N.	C.4.1
CHECKED BY:	
J.E.	



1 TYPICAL COUNTER SUNK DRIVEWAY DETAIL
C4.2 SCALE: N.T.S.

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DATE	No	REVISION

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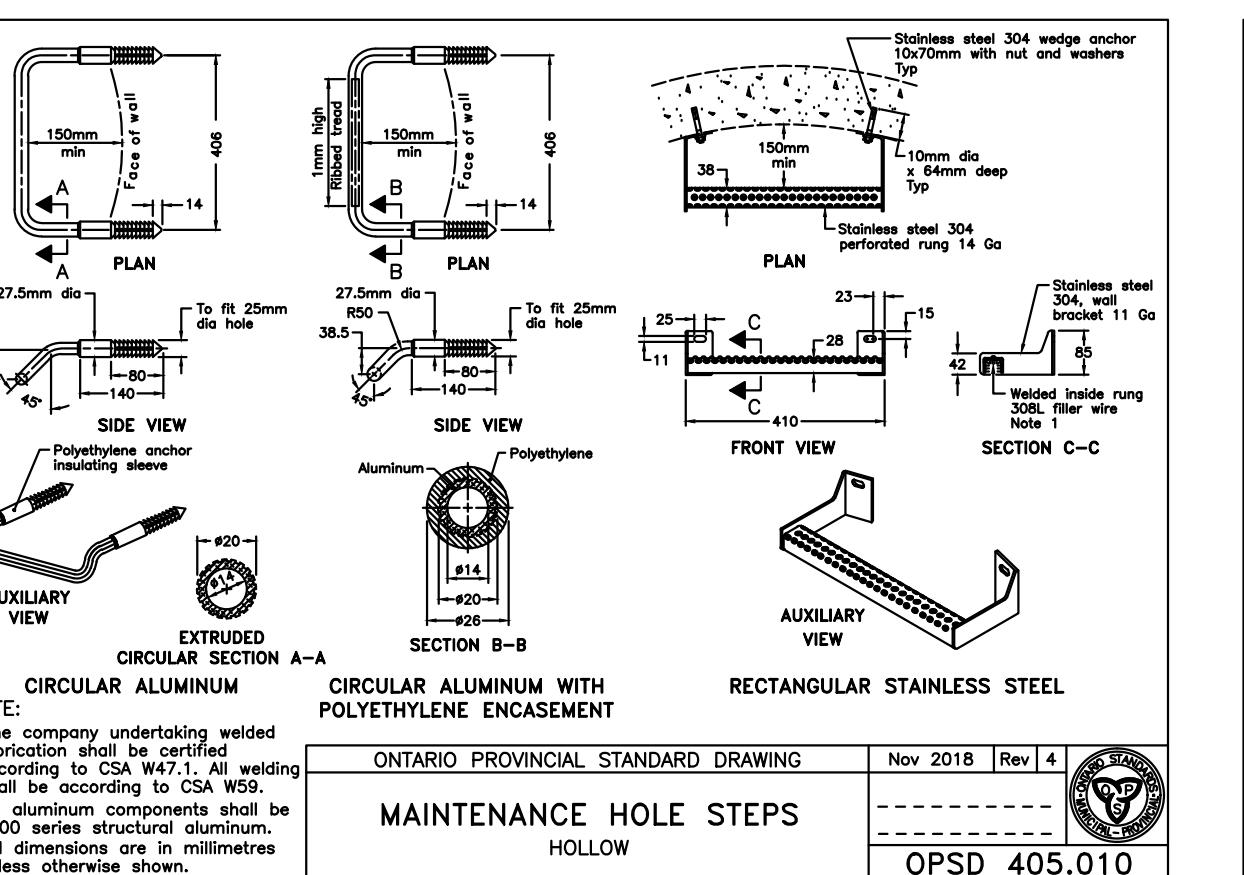
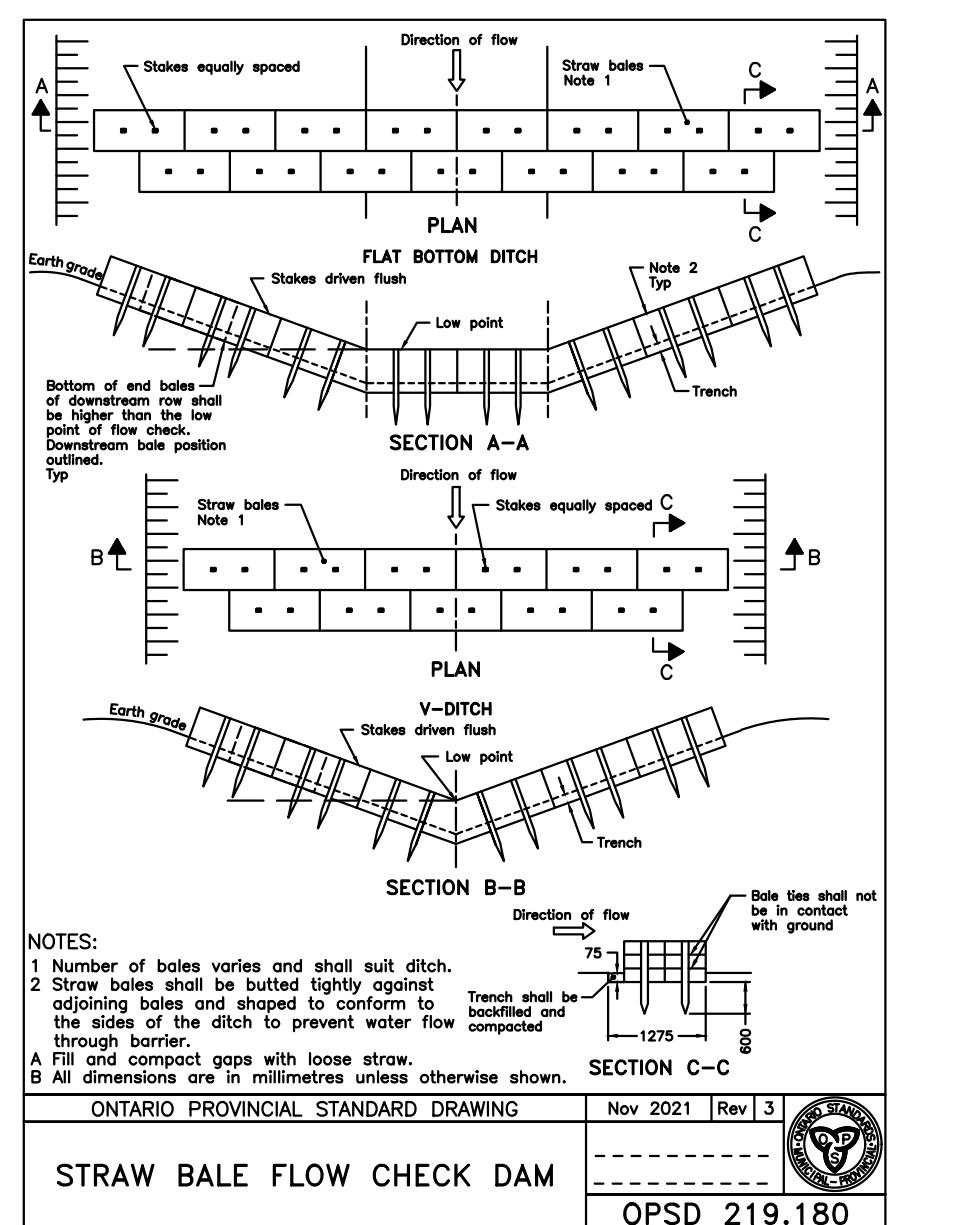
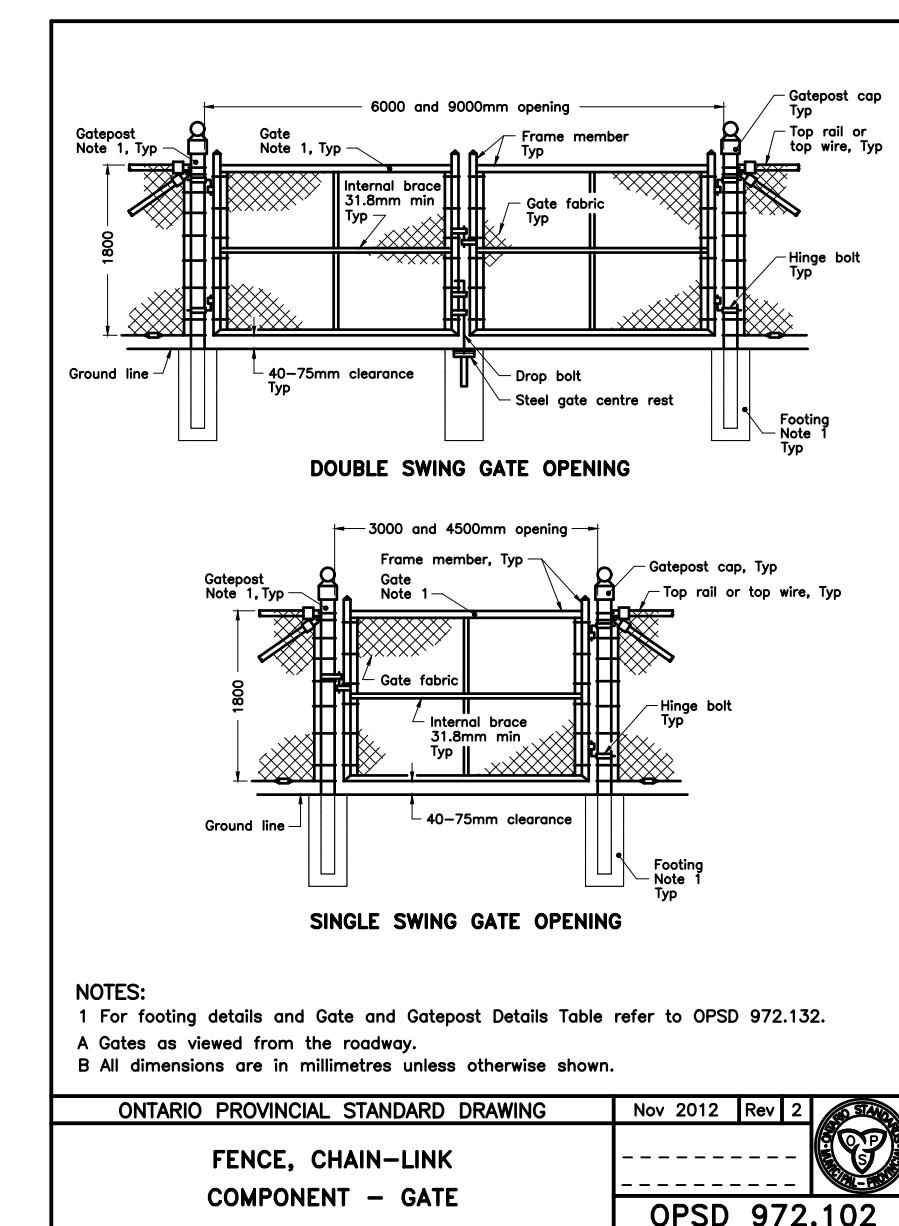
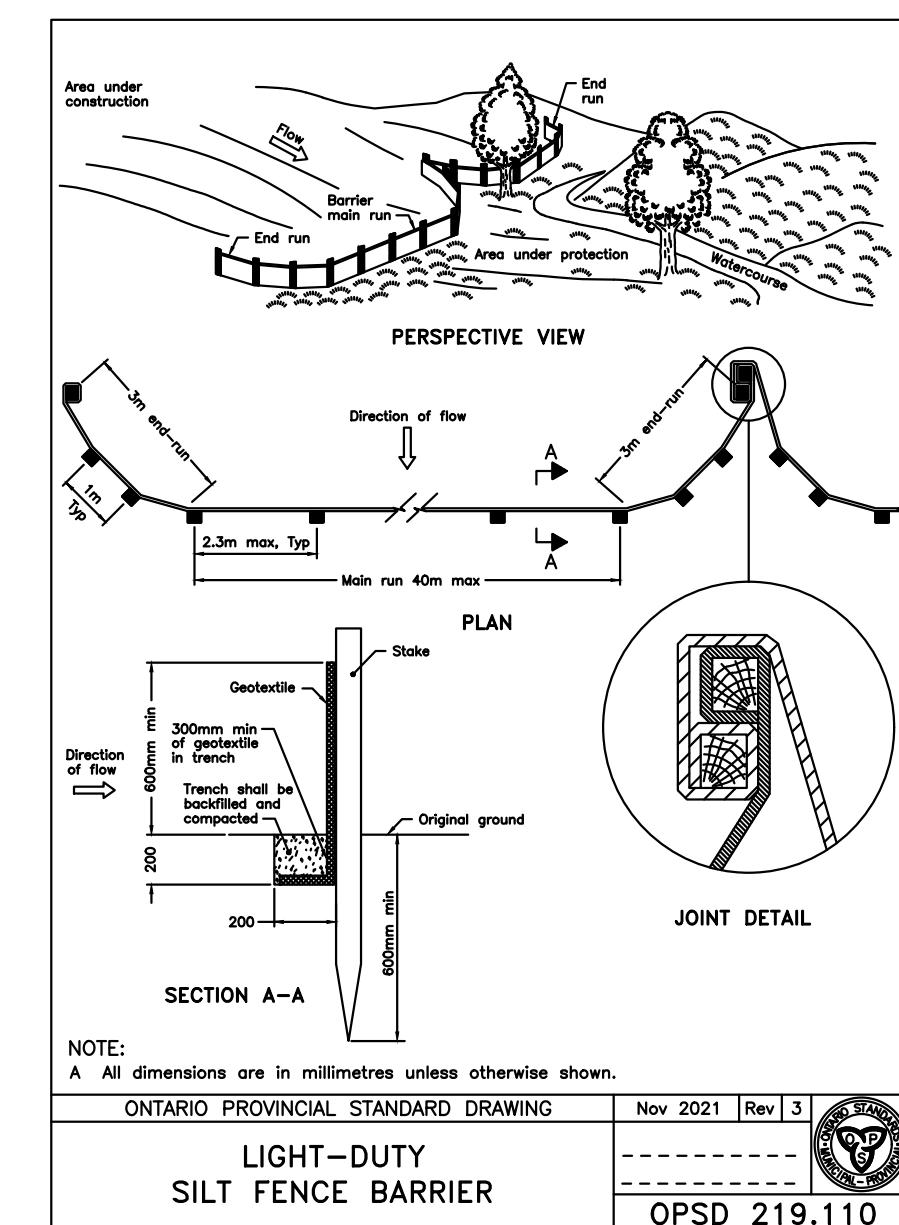


CLIENT:
PROJECT:
BLOCK 97 SEWAGE
PUMPING STATION UPGRADES

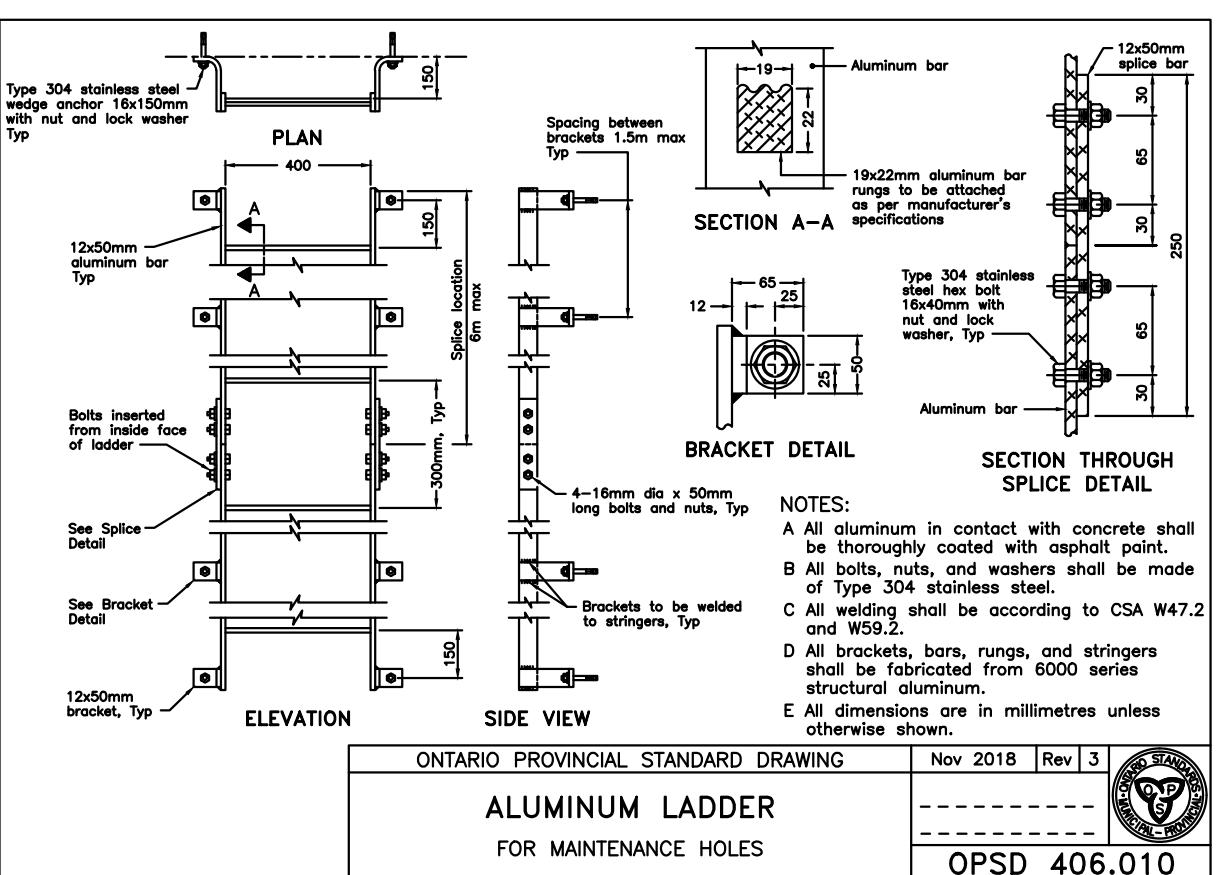
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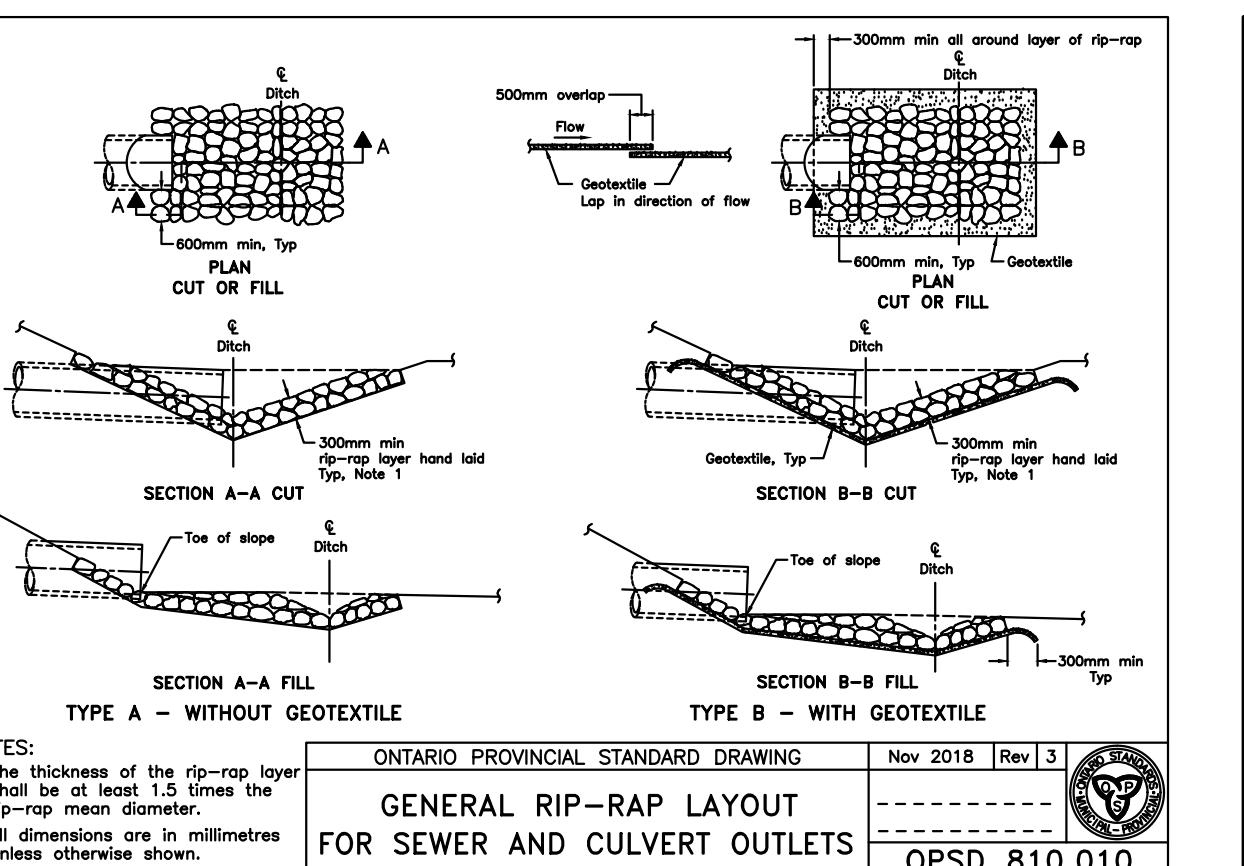
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DESIGNED BY: A.P.	DATE: 2025/09/25
DRAWN BY: B.K.N.	DRAWING NO: C4.2
CHECKED: J.E.	



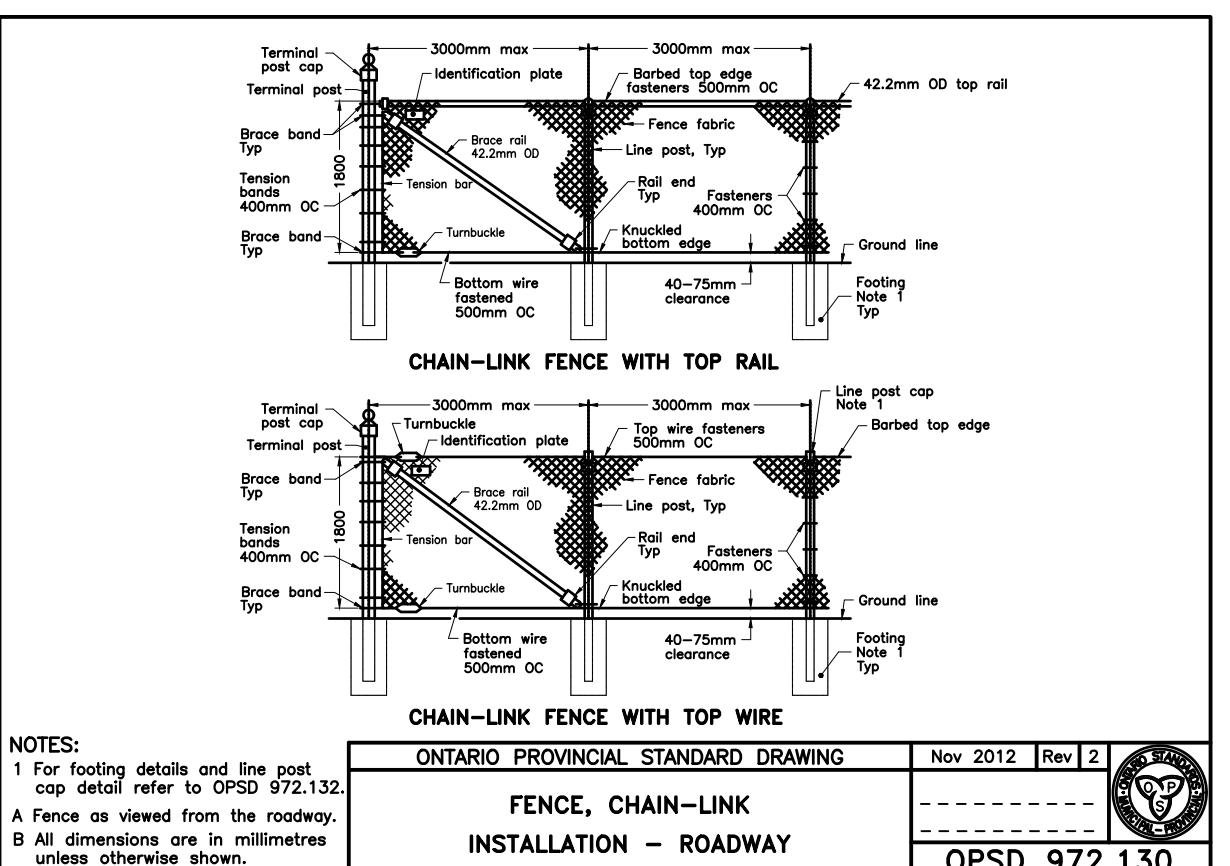
ONTARIO PROVINCIAL STANDARD DRAWING Nov 2018 Rev 4
MAINTENANCE HOLE STEPS HOLLOW
OPSD 405.010



ONTARIO PROVINCIAL STANDARD DRAWING Nov 2018 Rev 3
ALUMINUM LADDER FOR MAINTENANCE HOLES
OPSD 406.010



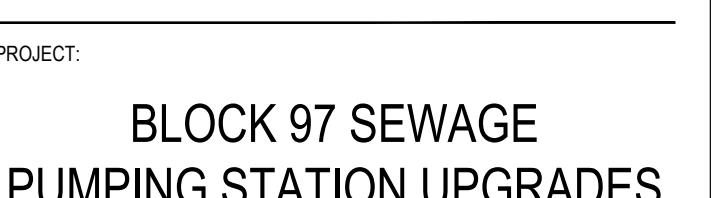
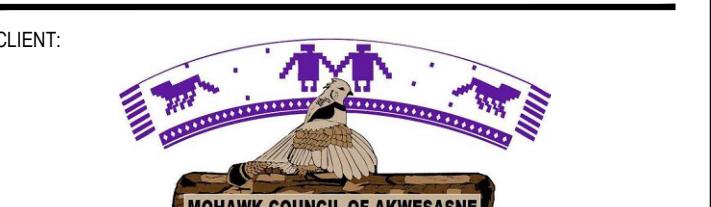
ONTARIO PROVINCIAL STANDARD DRAWING Nov 2018 Rev 3
GENERAL RIP-RAP LAYOUT FOR SEWER AND CULVERT OUTLETS
OPSD 810.010



ONTARIO PROVINCIAL STANDARD DRAWING Nov 2012 Rev 2
FENCE, CHAIN-LINK INSTALLATION - ROADWAY
OPSD 972.130

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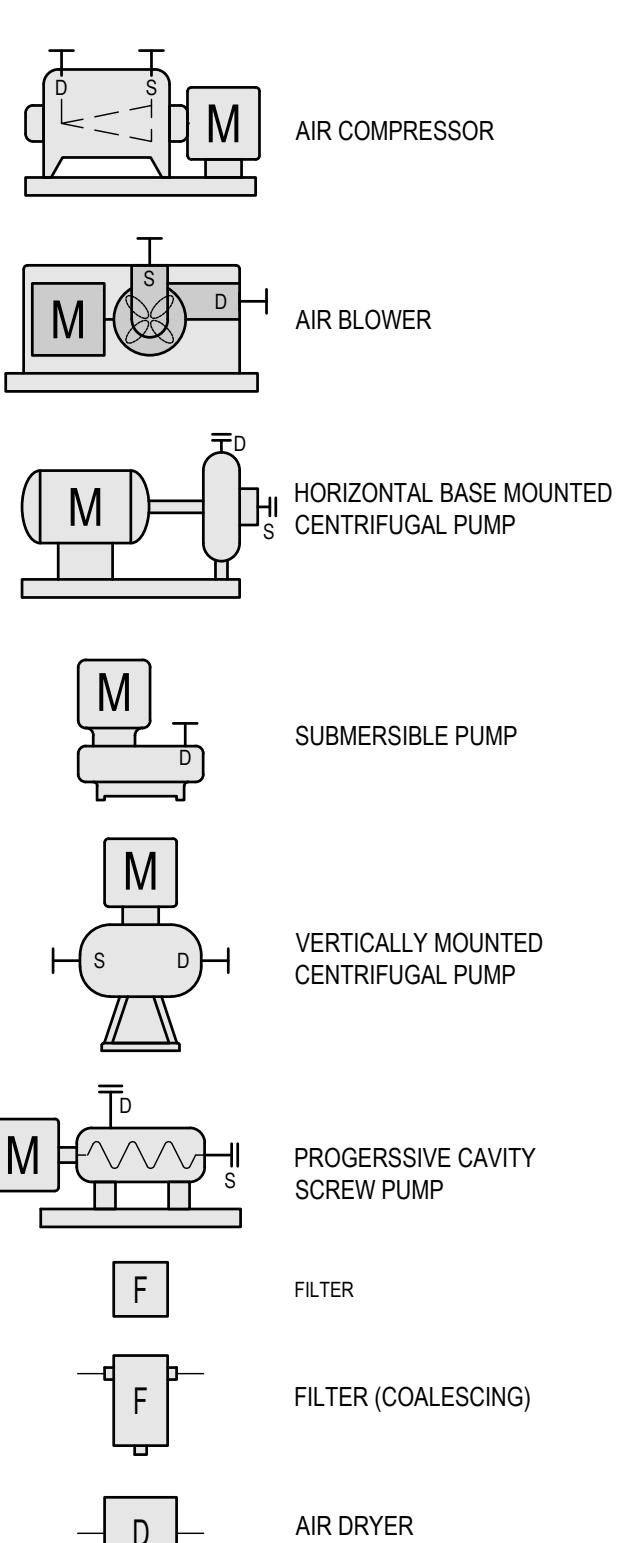
TITLE: O.P.S.D.'S

SCALE: AS SHOWN	JOB NO: 23171
DESIGNED BY: A.P.	DATE: 2025/09/25
DRAWN BY: K.B.W.	DRAWING NO: C5.1
checked by: J.E.	

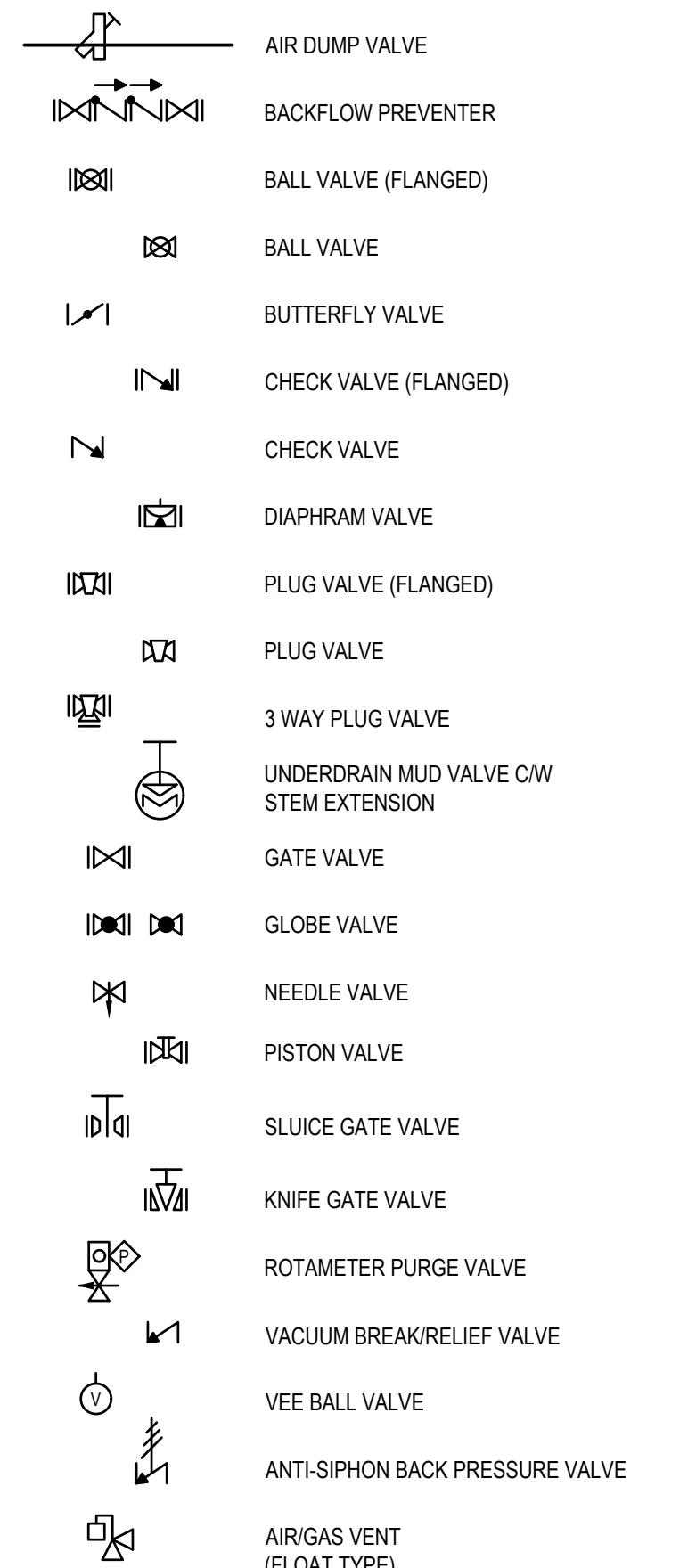
PIPE ACCESSORY SYMBOLS

—	PROCESS OR UTILITY LINES	
—	FLANGE SET	
—	BLIND FLG. BLINDED CONN.	
—	PLUGGED CONNECTION	
—	WELDCAP	
—	REDUCER	
—	REDUCER ECCENTRIC FOT - FLAT ON TOP FOB - FLAT ON BOTTOM	
—	UNION	
—	PERMANENT CONE STRAINER	
—	Y' TYPE STRAINER	
—	MALE "KAMLOCK" QUICK CONNECT W/ CAP AND CHAIN	
—	PIPE CAP	
—	CLEAN OUT	
—	OPEN FUNNEL DRAIN	
—	F.F.D. F.D. R.D.	FUNNEL FLOOR DRAIN FLOOR DRAIN ROOF DRAIN
—	EXPANSION JOINT	
—	FLEXIBLE CONNECTION	
—	FLEXIBLE CONNECTION (NON-FLANGE)	
—	TRAP	
—	— DENOTES AN END OF LINE STEAM TRAP AS PER ARRANGEMENT THIS DRAWING	
—	TRACER TUBING CONNECTOR	
—	PIPE TO TUBE ADAPTER	
—	— THERMOWELL	
—	TEMPORARY CONE STRAINER	
—	DIAPHRAGM SEAL	
—	FLEXIBLE HOSE	
—	CHEMICAL INJECTION QUILL, ISOLATION ASSEMBLY	

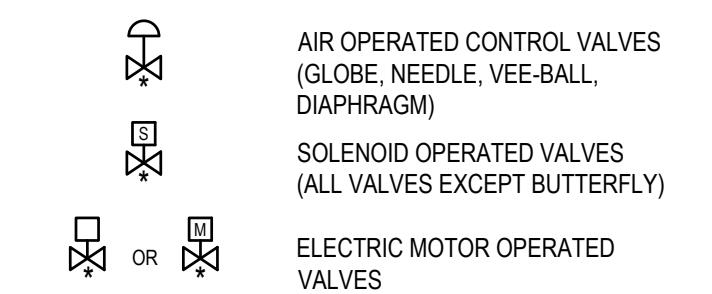
EQUIPMENT SYMBOLS



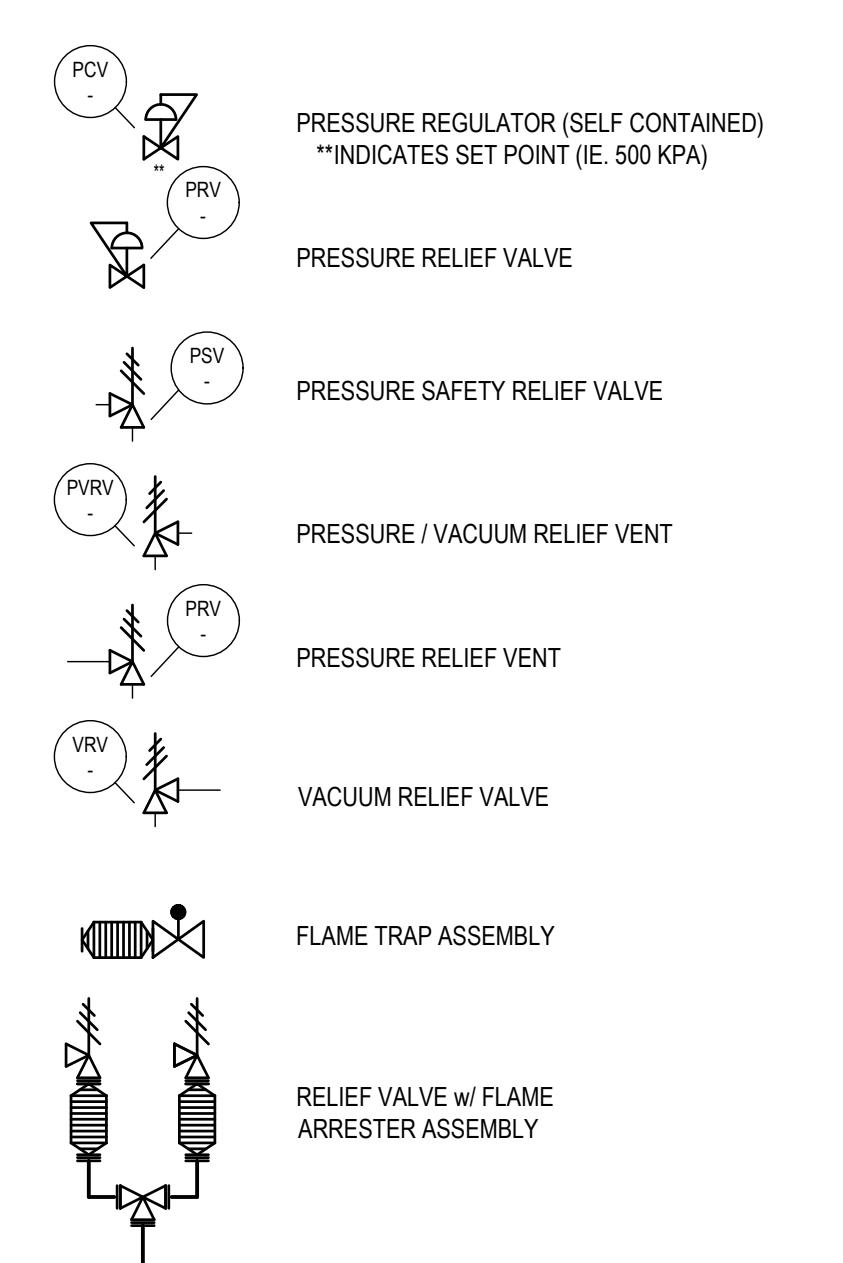
MANUAL VALVES SYMBOLS



CONTROL/ACTUATED VALVE SYMBOLS



SELF ACTUATED VALVE SYMBOLS



PIPELINE DESIGNATION CHART

SERVICE ABBREVIATION	SERVICE
AA	BLOWER AIR - LOW PRESS.
AL	ALUM
BG	BIOGAS
CA	COMPRESSED AIR
CEN	CENTRATE
CHL	SODIUM HYPOCHLORITE
DECHL	SODIUM BISULFITE
DS	DIGESTED SLUDGE
DWS	DE-WATERED SLUDGE
EF	EFFLUENT
GAS	NATURAL GAS
IN	INFILUNT
OVF	OVERFLOW
POL	POLYMER
RAS	RETURN ACTIVATED SLUDGE
SW	SERVICE WATER
SAN	SANITARY SEWER
SEP	SEPTAGE
SN	SUPERNATANT
TWAS	THICKENED WASTE ACTIVATED SLUDGE
V	VENT
WAS	WASTE ACTIVATED SLUDGE

PIPE MATERIAL SPECIFICATION CHART

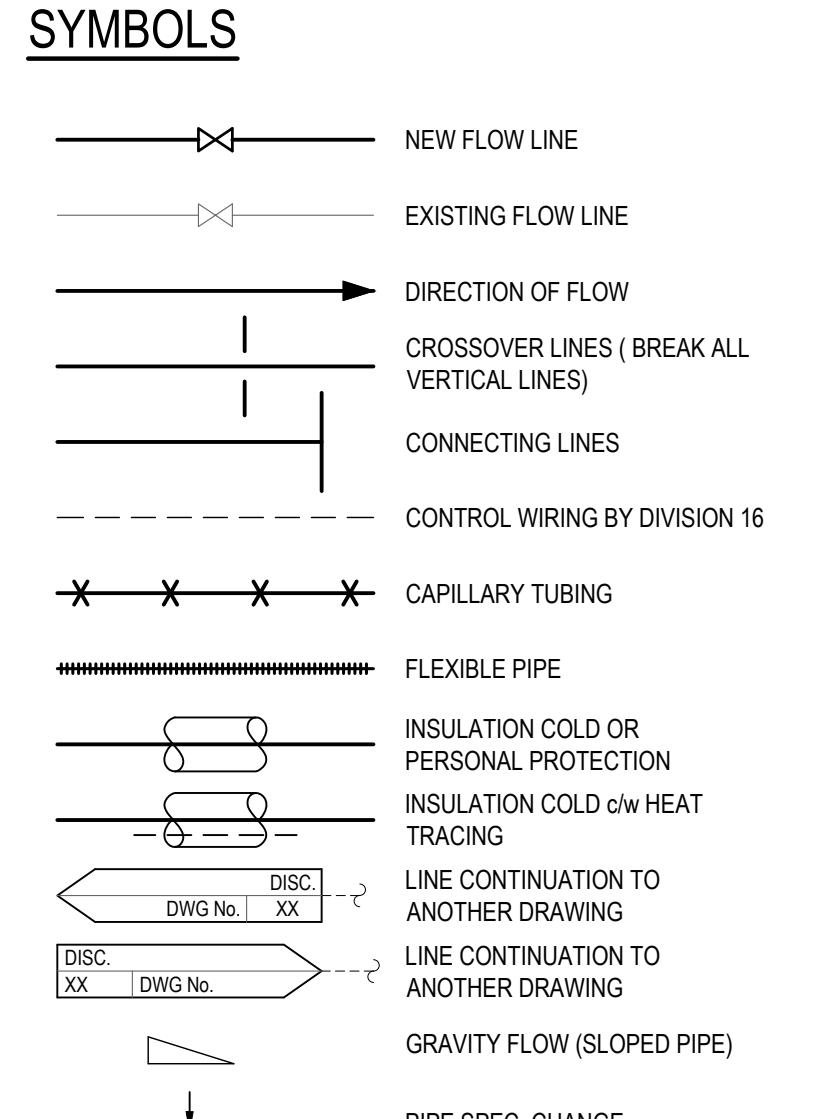
MATR SPEC. ABBT'N	MATERIAL
CONC	CONCRETE
DR1	SDR 25 PVC
DR2	SDR 35 PVC
DR3	SDR 32.5 PVC
PP1	TEFLON TUBING
PP2	POLY ETHYLENE
PVC1	NPS PVC SCH80
SS1	NPS STAINLESS STEEL, TP304L
SS2	NPS STAINLESS STEEL, TP316L
SS3	NPS STAINLESS STEEL, TP304L, SCH40S

VALVE POSITION LEGEND

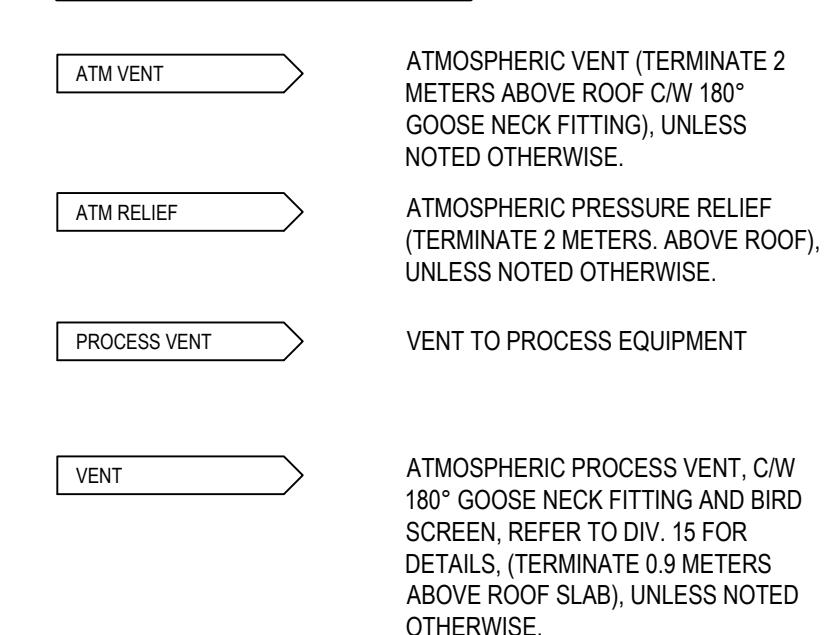
CRITICAL VALVE POSITION, AS INDICATED IN THE FOLLOWING LEGEND, WILL BE PLACED AT OR NEAR A VALVE. WHERE POSITION IS NOT CRITICAL, NO INDICATION WILL BE GIVEN.

xx	WHERE "xx" DENOTES THE FOLLOWING:
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
FO	FAIL OPEN
FC	FAIL CLOSED

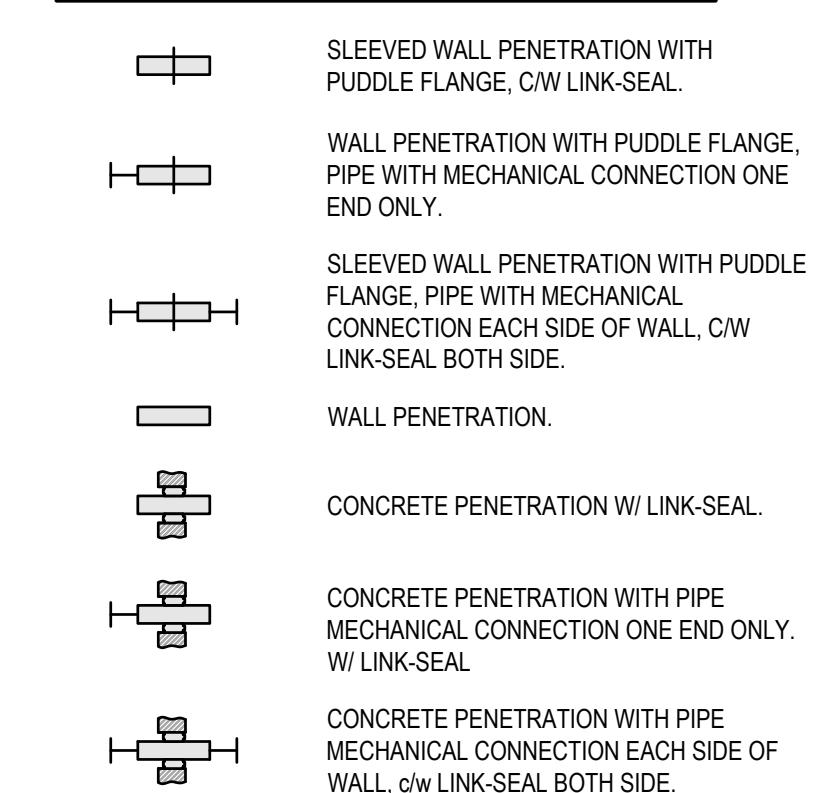
GENERAL INSTRUMENTATION SYMBOLS



VENTING SYMBOLS

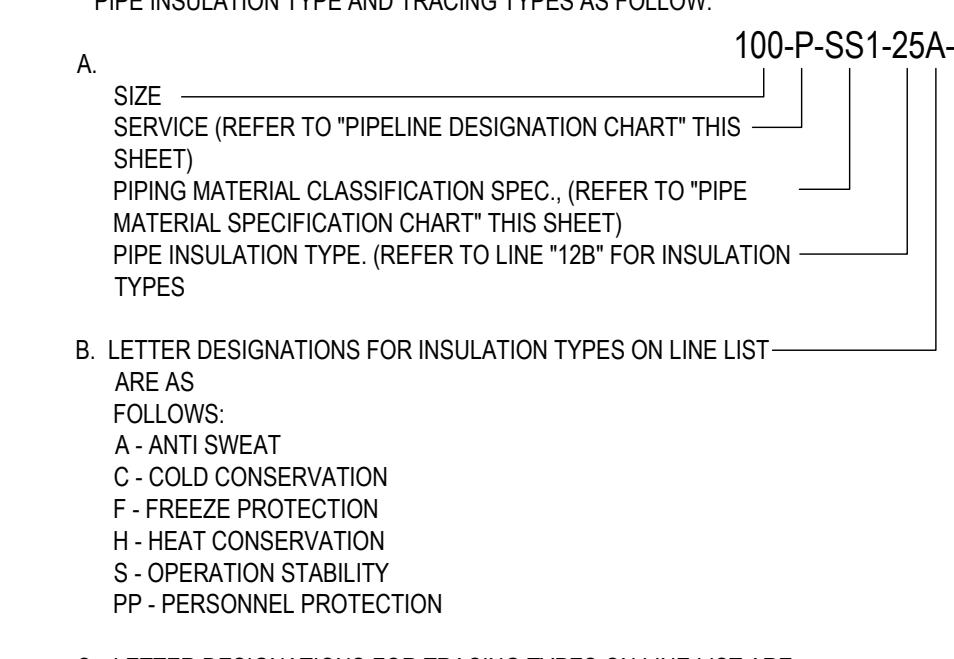


WALL PENETRATION SYMBOLS



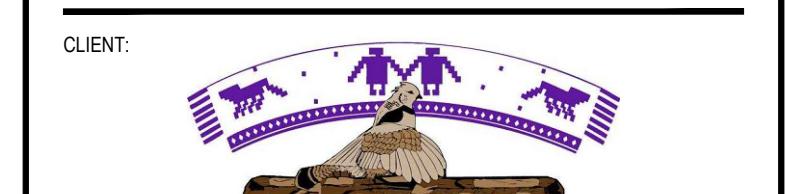
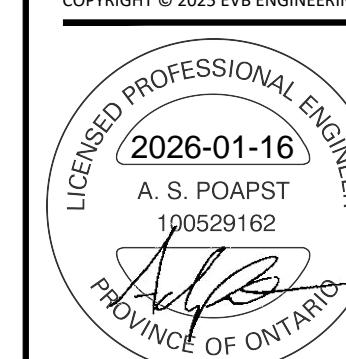
GENERAL NOTES

- ALL PIPING VENTS ARE 190 EXCEPT AS NOTED.
- ALL PIPING DRAINS ARE 190 EXCEPT AS NOTED.
- ALL EQUIPMENT VENTS AND DRAINS ARE 190 EXCEPT AS NOTED.
- ALL SINGLE BLOCKED DRAINS AND VENTS SHALL BE PLUGGED EXCEPT AS NOTED.
- HIGH POINT VENTS AND LOW POINT DRAINS ARE TO BE PROVIDED.
- WHEN BLINDS ARE INDICATED ON FLOW SHEETS THE TYPE OF BLIND SHALL MEET THE PIPING SPECIFICATION.
- REFER TO AMERICAN NATIONAL STANDARD ANSI/ISA STANDARD S5.1, "INSTRUMENTATION SYMBOLS AND IDENTIFICATION" FOR SYMBOL NOMENCLATURE.
- THE WATER SOURCE SUPPLYING ALL PROCESS CONNECTIONS SHALL BE ISOLATED FROM THE POTABLE WATER BY A REDUCED PRESSURE PRINCIPAL BACK FLOW PREVENTOR. BACK FLOW PREVENTORS SHALL BE SUPPLIED AND INSTALLED BY BUILDING MECHANICAL. FOR CONTINUATION OF THE POTABLE WATER SOURCE PIPING, REFER TO MECHANICAL DRAWINGS.
- REDUCING TEES ON MANIFOLDS MAY NOT BE SHOWN.
- MATERIAL SPECIFICATION CHANGES TO PIPE LINES TO OCCUR IMMEDIATELY AFTER THE VALVE AT THE FLANGE BUTTING THE VALVE (TYPICAL).
- NOT ALL REDUCERS ARE SHOWN. CONTRACTOR TO DETERMINE REDUCER REQUIREMENTS FROM LINE SIZE CHANGES.
- LINE DESIGNATIONS INCLUDE THE FOLLOWING ITEMS IN ORDER: NOMINAL SIZE IN mm, SERVICE, PIPE MATERIAL SPECIFICATION, PIPE INSULATION TYPE AND TRACING TYPES AS FOLLOW.



20260108	2	RE-ISSUED FOR TENDER
20250925	1	ISSUED FOR TENDER
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CLIENT: BLOCK 97 SEWAGE PUMPING STATION UPGRADES

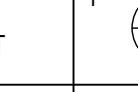
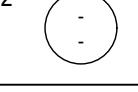
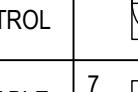
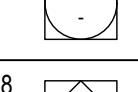
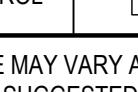
TITLE:

GENERAL NOTES, NOMENCLATURE, AND DETAIL

SCALE: N.T.S.	JOB NO: 23171
DESIGNED BY: A.P.	DATE: 2025/09/25
DRAWN BY: K.B.W.	DRAWING NO: P0.1
CHECKED BY: J.E.	

GENERAL INSTRUMENT OR FUNCTION

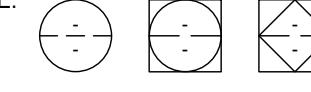
SYMBOLS

	PRIMARY LOCATION **"NORMALLY ACCESSIBLE TO OPERATOR	FIELD MOUNTED	AUXILIARY LOCATION **"NORMALLY ACCESSIBLE TO OPERATOR
DISCRETE INSTRUMENT	1  ^{IP1**}	2 	3 
SHARE DISPLAY SHARE CONTROL	4 	5 	6 
PROGRAMMABLE LOGIC CONTROL	7 	8 	9 

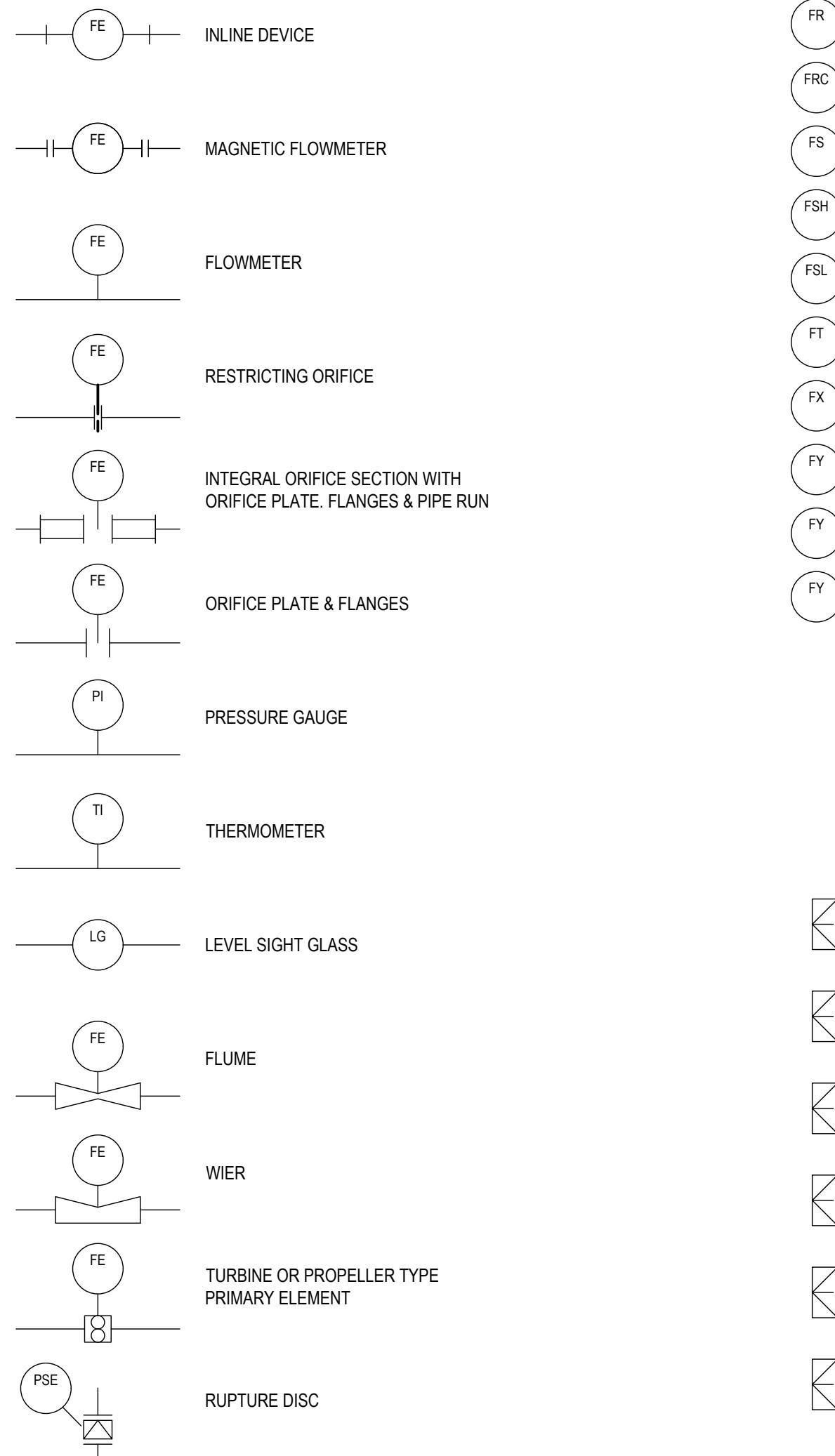
* SYMBOL SIZE MAY VARY ACCORDING TO USER'S NEED AND TYPE OF DOCUMENT. A SUGGESTED SQUARE AND CIRCLE SIZE FOR LARGE DIAGRAMS IS SHOWN ABOVE. CONSISTENCY IS RECOMMENDED.

** ABBREVIATIONS OF THE USER'S CHOICE SUCH AS IP1 (INSTRUMENT PANEL #1), IC2 (INSTRUMENT CONSOLE #2), CC3 (COMPUTER CONSOLE #3), ETC. MAY BE USED WHEN IT IS NECESSARY TO SPECIFY INSTRUMENT OR FUNCTION.

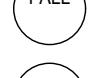
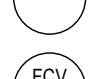
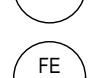
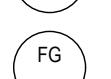
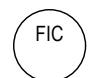
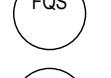
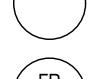
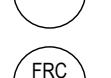
*** NORMALLY INACCESSIBLE OR BEHIND-THE-PANEL DEVICES OR FUNCTIONS MAY BE DEPICTED BY USING THE SAME SYMBOLS BUT WITH A DASHED HORIZONTAL BARS, I.E.

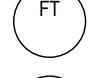
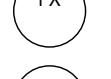
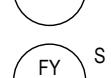


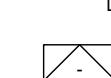
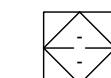
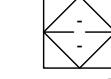
INSTRUMENT SYMBOLS TYPES



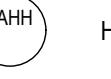
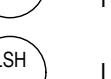
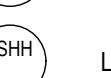
FLOW

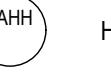
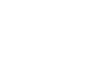
 FAH	HIGH - FLOW ALARM
 FAHH	HIGH-HIGH - FLOW ALARM
 FAL	LOW - FLOW ALARM
 FALL	LOW-LOW - FLOW ALARM
 FAHL	HIGH-LOW - FLOW ALARM
 FCV	FLOW CONTROL VALVE
 FE	FLOW ELEMENT (PRIMARY ELEMENT WITHOUT TRANSMITTER)
 FG	FLOW SIGHT GLASS
 FI	FLOW INDICATOR
 FIC	FLOW INDICATING CONTROLLER
 FIT	FLOW INDICATING TRANSMITTER
 FO	FLOW RESTRICTION ORIFICE
 FQS	FLOW TOTALIZER SWITCH (PREDETERMINING COUNTER)
 FOI	FLOW TOTALIZER INDICATOR

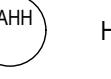
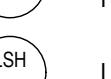
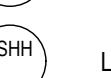
 FR	FLOW RECORDER
 FRC	FLOW RECORDING CONTROLLER
 FS	FLOW SWITCH
 FSH	FLOW SWITCH - HIGH SET POINT
 FSL	FLOW SWITCH - LOW SET POINT
 FT	FLOW TRANSMITTER
 FX	FLOW STRAIGHTENING VANES
 FY	FLOW SOLENOID VALVE
 FY UP	FLOW SIGNAL CONVERTER (CURRENT INPUT/PNEUMATIC OUTPUT)
 FY S	FLOW SIGNAL INTEGRATOR

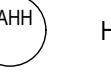
 LG	LEVEL SIGHT GLASS
 FLUME	FLUME
 WIER	WIER
 TURBINE OR PROPELLER TYPE PRIMARY ELEMENT	TURBINE OR PROPELLER TYPE PRIMARY ELEMENT
 RUPTURE DISC	RUPTURE DISC

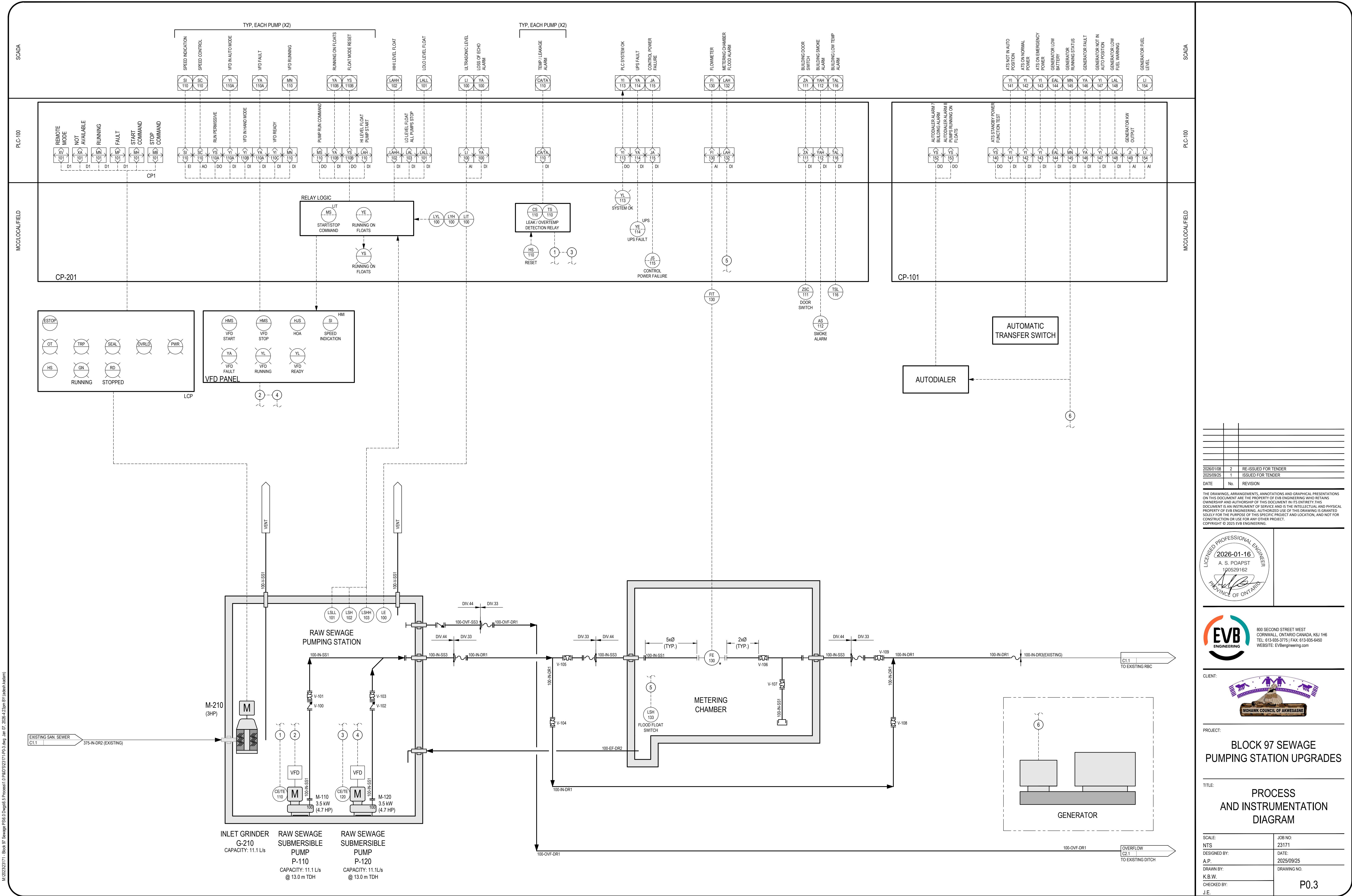
LEVEL

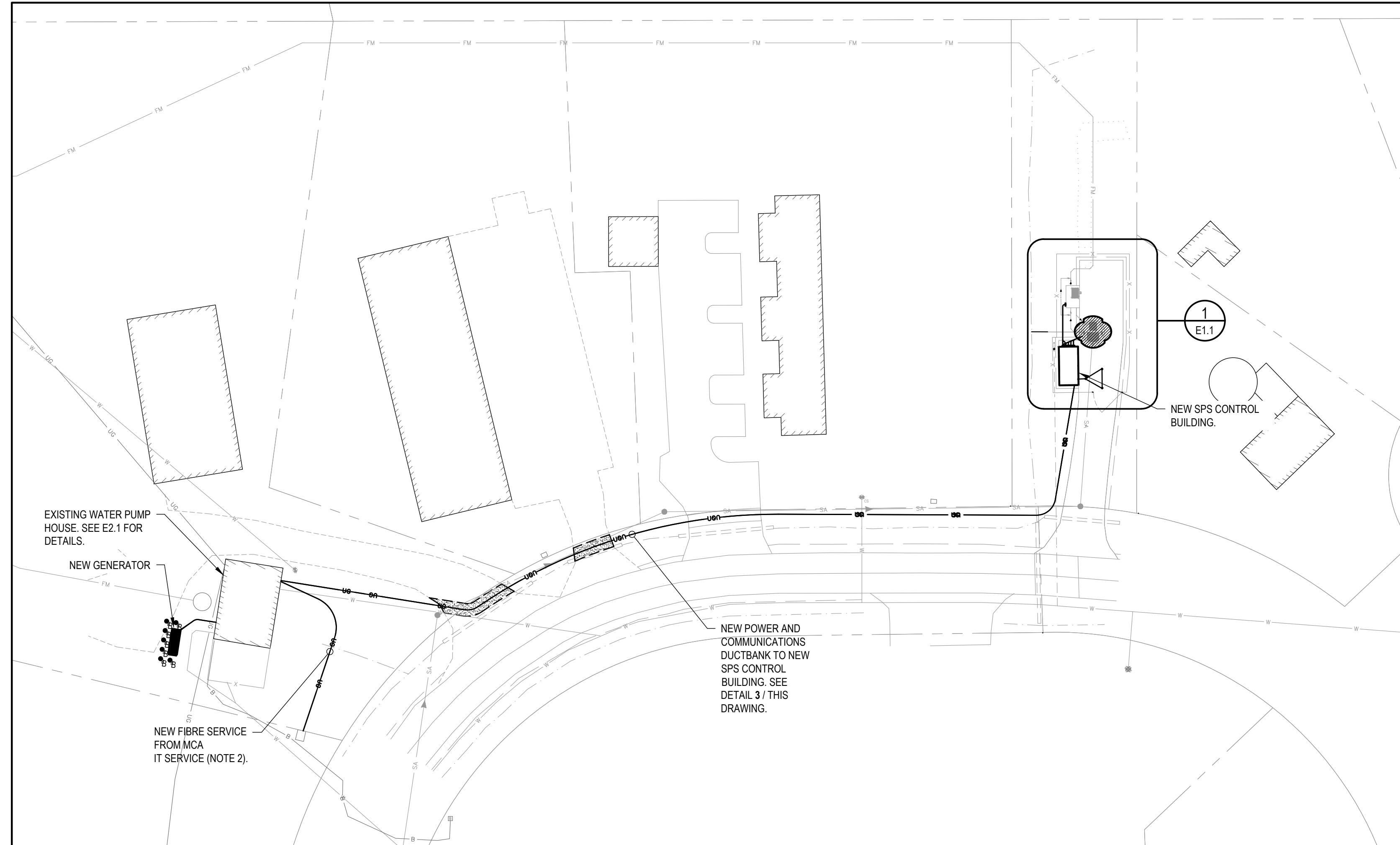
 LAH	HIGH - LEVEL ALARM
 LAHH	HIGH-HIGH - LEVEL ALARM
 LAL	LOW - LEVEL ALARM
 LALL	LOW-LOW - LEVEL ALARM
 LC	LEVEL CONTROLLER
 LCV	LEVEL CONTROL VALVE
 LE	LEVEL ELEMENT
 LG	LEVEL GAUGE GLASS
 LI	LEVEL INDICATOR
 LIC	LEVEL INDICATING CONTROLLER
 LIS	LEVEL INDICATING SWITCH
 LIT	LEVEL TRANSMITTER
 LR	LEVEL RECORDER
 LS	LEVEL SWITCH
 LSL	LEVEL SWITCH - LOW SET POINT
 LSLL	LEVEL SWITCH - LOW LOW SET POINT
 LSH	LEVEL SWITCH - HIGH SET POINT
 LSHH	LEVEL SWITCH - HIGH HIGH SET POINT
 LT	LEVEL TRANSMITTER
 LT	LEVEL TRANSMITTER
 LX	LEVEL POTENTIOMETER
 LY	LEVEL SOLENOID VALVE
 LY UP	LEVEL SIGNAL CONVERTER (CURRENT INPUT/PNEUMATIC OUTPUT)

 PDSH	HIGH - PRESSURE ALARM
 PAHH	HIGH-HIGH - PRESSURE ALARM
 PAL	LOW - PRESSURE ALARM
 PALL	LOW-LOW - PRESSURE ALARM
 PC	PRESSURE CONTROLLER
 PCV RD	PRESSURE CONTROLLER
 PDH	PRESSURE DIFFERENTIAL SWITCH - HIGH
 PDSL	PRESSURE DIFFERENTIAL SWITCH - LOW
 PDT	PRESSURE DIFFERENTIAL TRANSMITTER
 PI	PRESSURE INDICATOR
 PIC	PRESSURE INDICATING CONTROLLER
 PRC	PRESSURE RECORDING CONTROLLER
 PS	PRESSURE SWITCH
 PSE	PRESSURE RUPTURE DISK
 PSH	PRESSURE SWITCH - HIGH SET POINT
 PSL	PRESSURE SWITCH - LOW SET POINT
 PT	PRESSURE TRANSMITTER
 PY	PRESSURE SOLENOID VALVE
 PY UP	PRESSURE SIGNAL CONVERTER (CURRENT INPUT/PNEUMATIC OUTPUT)

 TAH	HIGH - TEMPERATURE ALARM
 TAI	LOW - TEMPERATURE ALARM
 TCV	TEMPERATURE CONTROL VALVE
 TE	TEMPERATURE ELEMENT (PRIMARY ELEMENT WITHOUT TRANSMITTER)
 TI	TEMPERATURE INDICATOR
 TIC	TEMPERATURE INDICATING CONTROLLER
 TT	TEMPERATURE TRANSMITTER (LOCAL INDICATION)
 TJI	MULTIPONT TEMPERATURE INDICATOR (SCANNING TEMPERATURE INDICATOR)
 TJR	MULTIPONT TEMPERATURE RECORDER (SCANNING TEMPERATURE RECORDER)
 TP	TEMPERATURE TEST POINT
 TR	TEMPERATURE RECORDER
 TRC	TEMPERATURE RECORDING CONTROLLER
 TSH	TEMPERATURE SWITCH - HIGH SET POINT
 TSL	TEMPERATURE SWITCH - LOW SET POINT
 TT	TEMPERATURE TRANSMITTER
 TW	TERMOWELL (WITHOUT THERMOCOUPLE)
 TZ	TEMPERATURE FINAL CONTROL ELEMENT (DAMPER OPERATOR FOR LOUVERS)

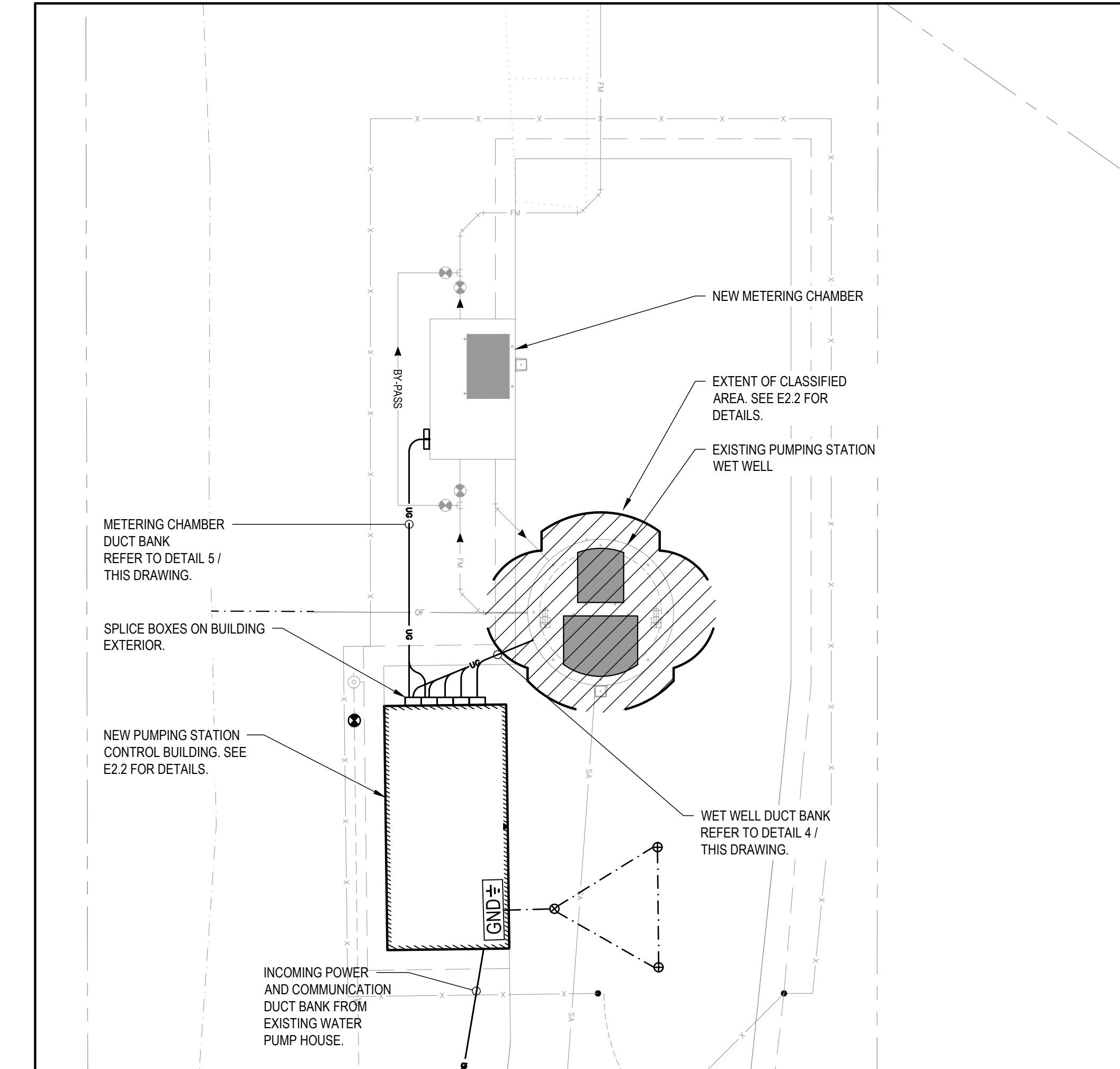
 AAH	HIGH - ANALYZING ALARM
 AE	ANALYZING ELEMENT
<img alt="AS	





OVERALL ELECTRICAL SITE PLAN

SCALE: 1:500



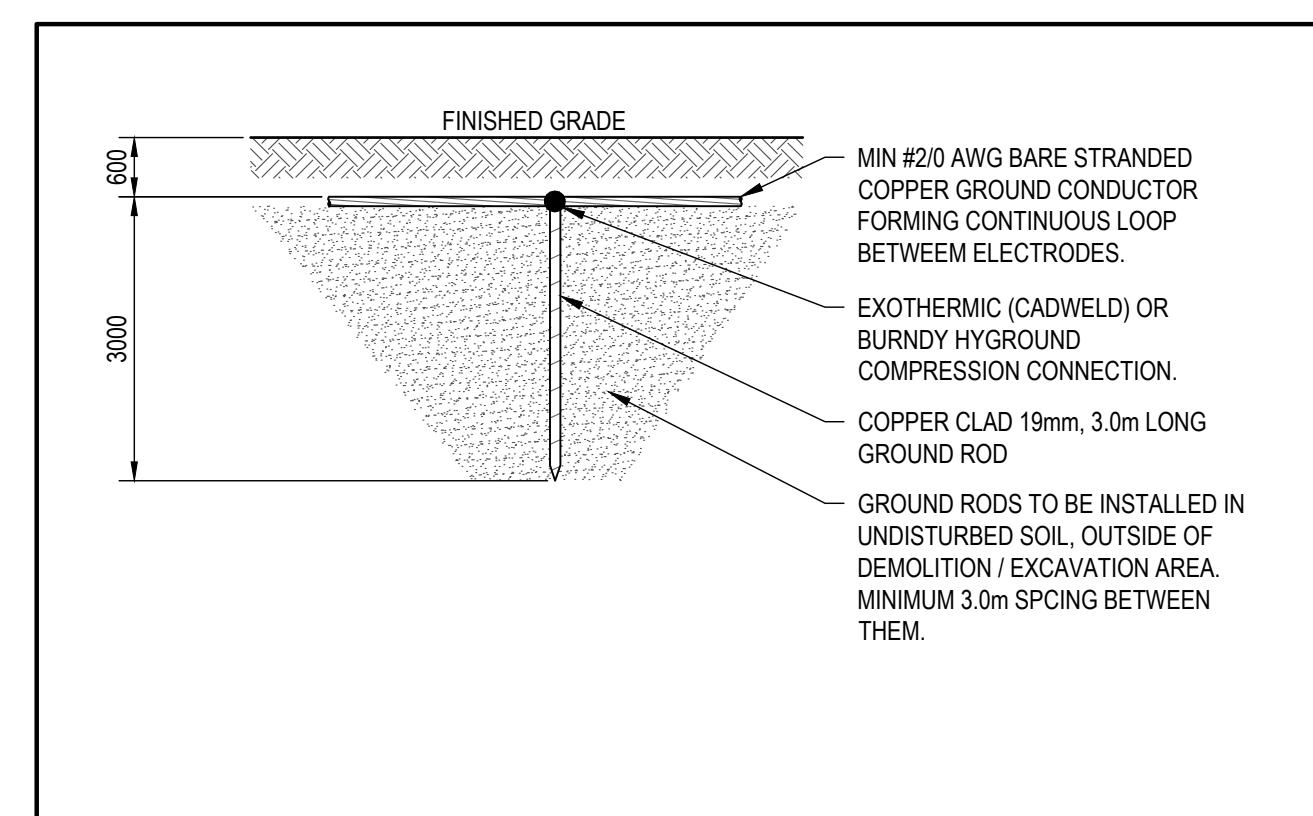
1 E1.1 SCALE: 1:100

NOTES:

1. CONTRACTOR TO VERIFY LOCATION OF ALL UNDERGROUND BURIED UTILITIES AND SERVICES PRIOR TO EXCAVATION.
2. CONTRACTOR TO PROVIDE 53mm PVC CONDUIT FROM EXISTING FIBRE PEDESTAL AND STUB INTO WATER PUMP-HOUSE BUILDING. STOP CONDUIT AT BASE OF PEDESTAL. INSTALLATION OF FIBRE SERVICE TO BE PROVIDED BY MCA IT SERVICES.

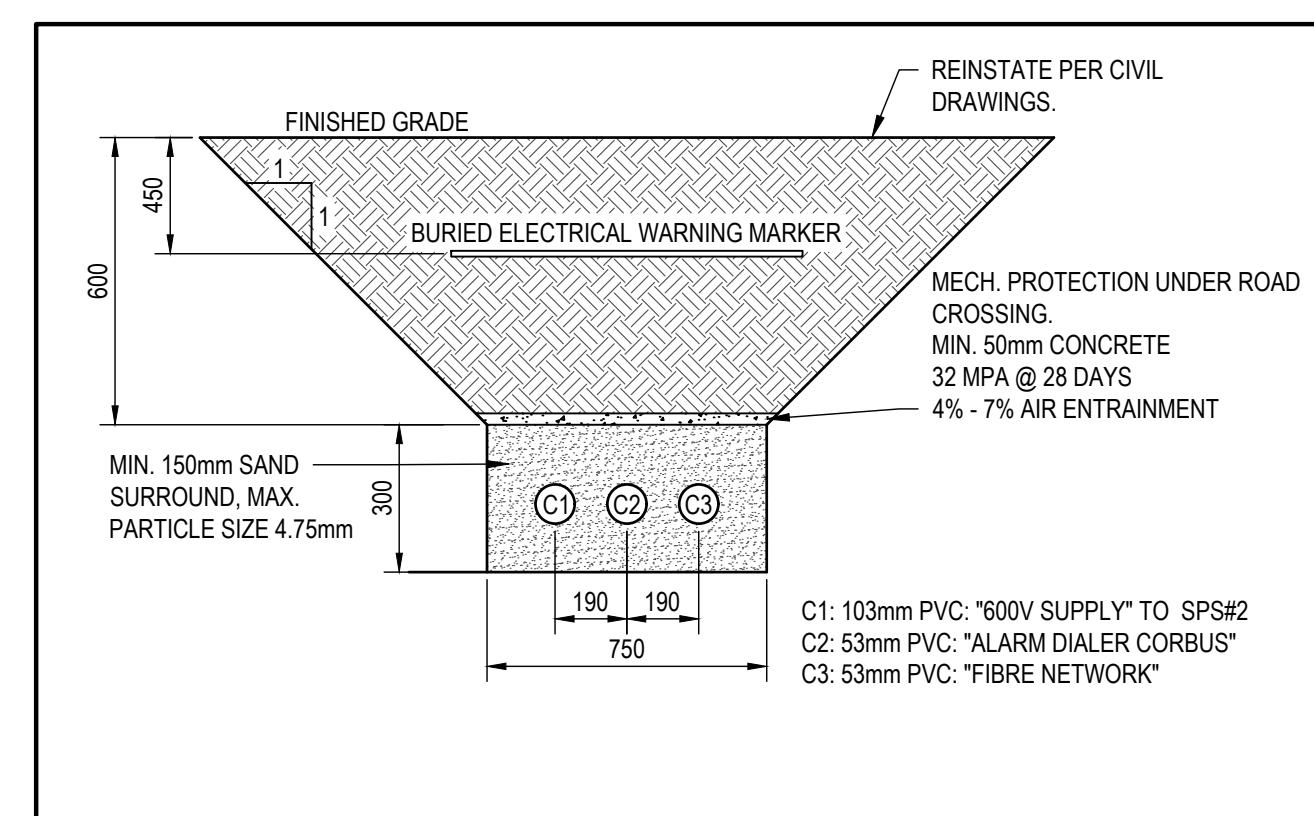
LEGENDS:

	GND BUS
	NEW UNDERGROUND WIRING
	GROUND WIRING
	GROUND ELECTRODE
	BOLTED BY OTHERS

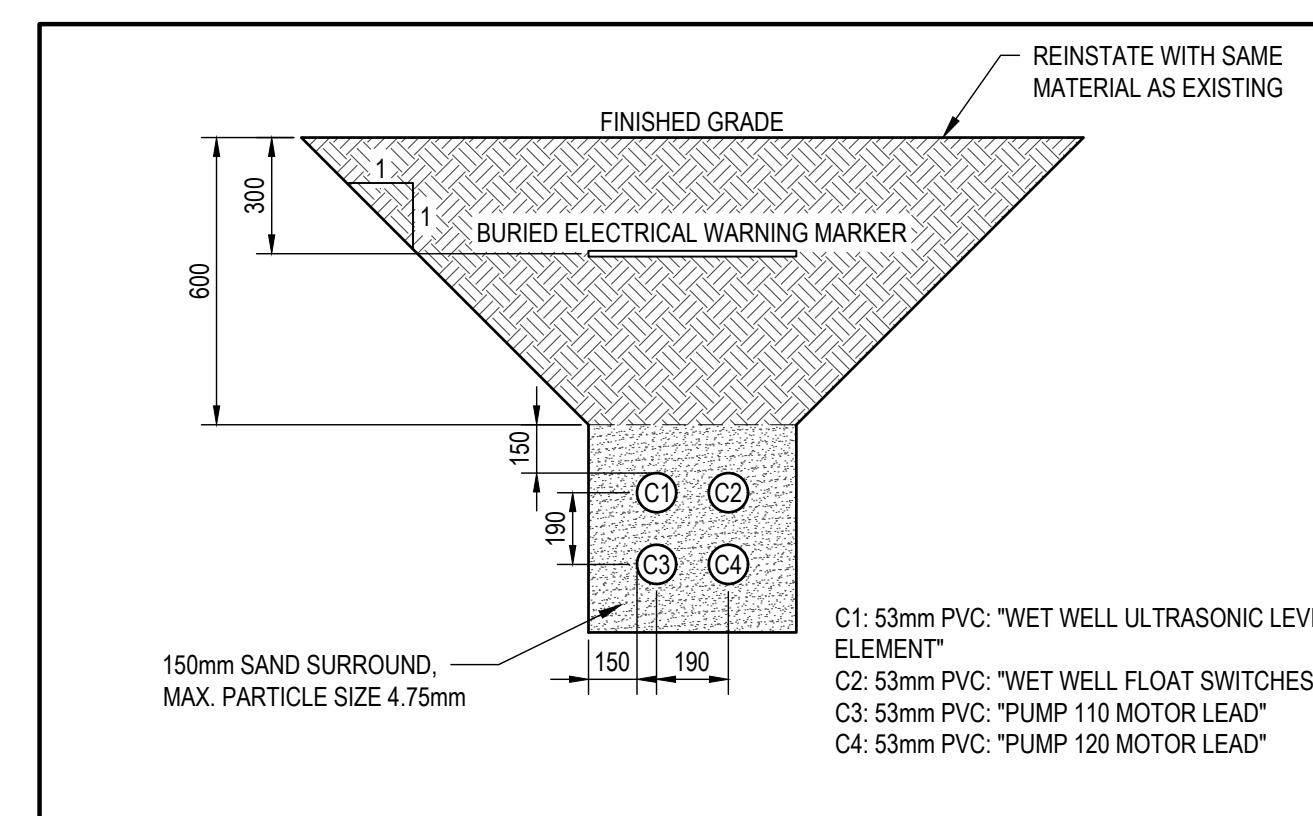


2 TYPICAL GROUND ELECTRODE

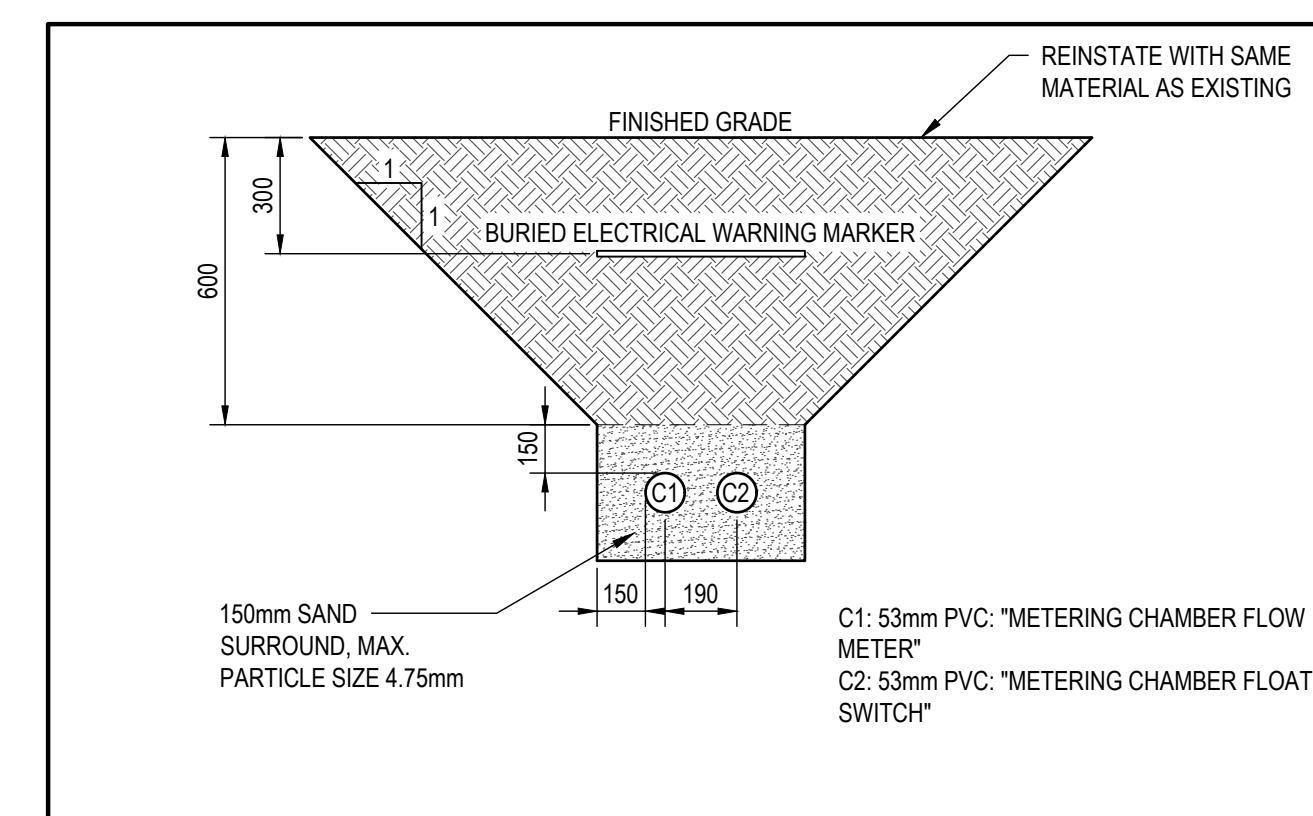
E1.1 SCALE: N.T.S.



3 E1.1 SCALE: N.T.S.

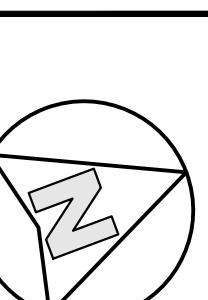
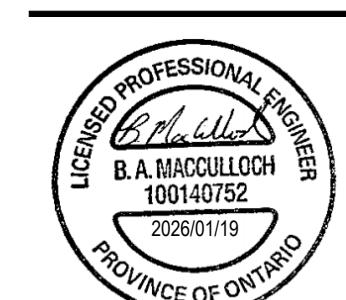


4 E1.1 SCALE: N.T.S.



5 E1.1 SCALE: N.T.S.

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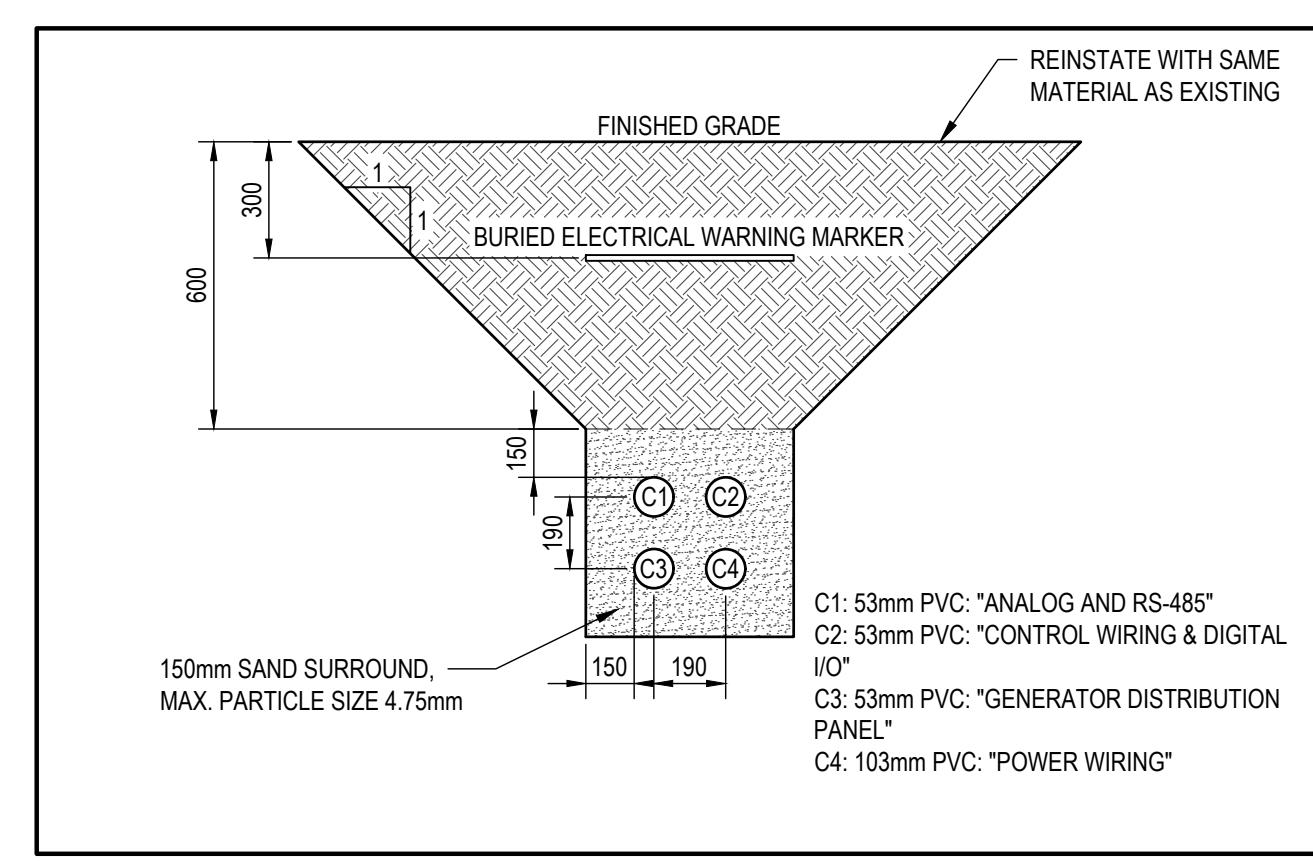
800 SECOND STREET WEST
CORNWALL, ONTARIO CANADA, K6J 1H6
TEL: 613-935-3775 | FAX: 613-935-6450
WEBSITE: EvEngineering.com



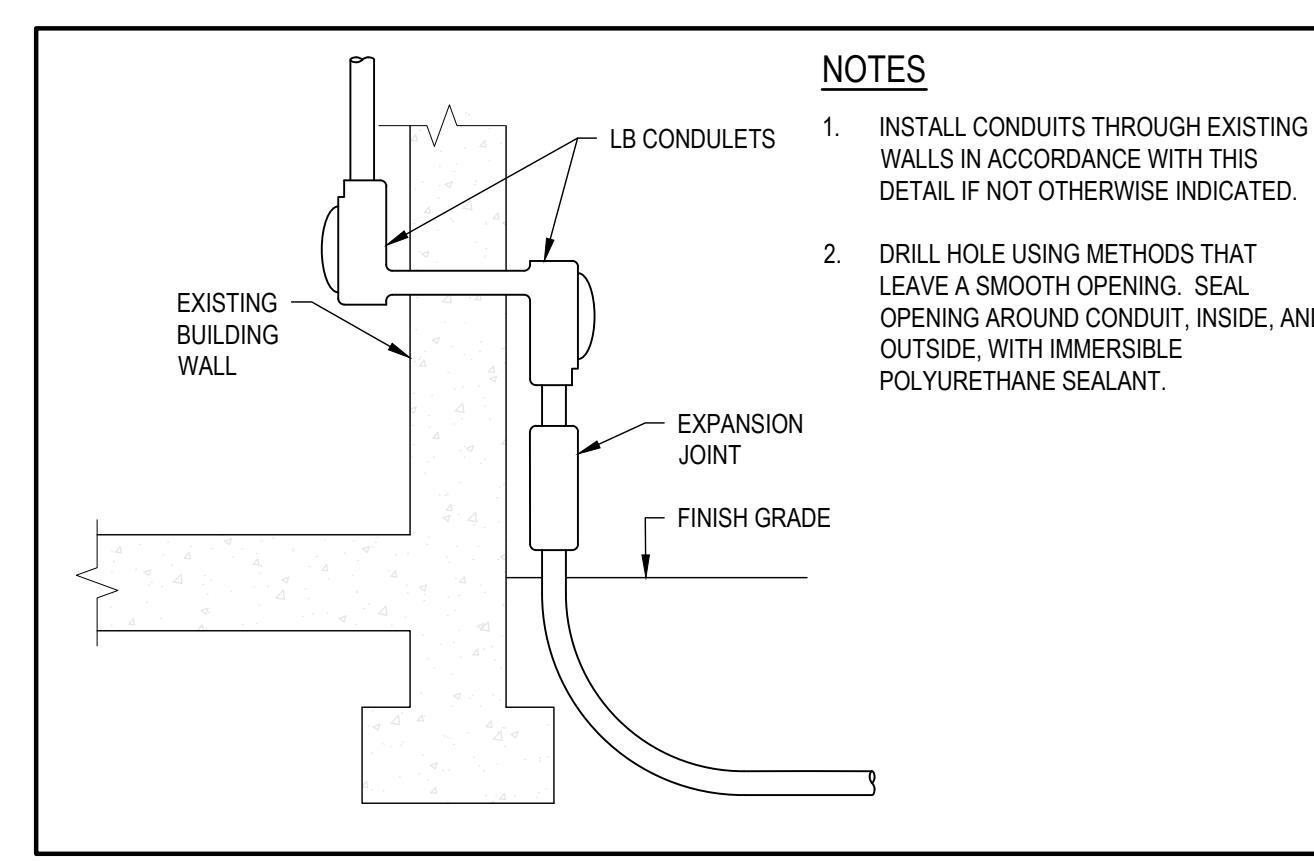
PROJECT:
BLOCK 97 SEWAGE PUMPING STATION UPGRADES

TITLE:
**ELECTRICAL SITE PLAN
SEWAGE PUMPING STATION**

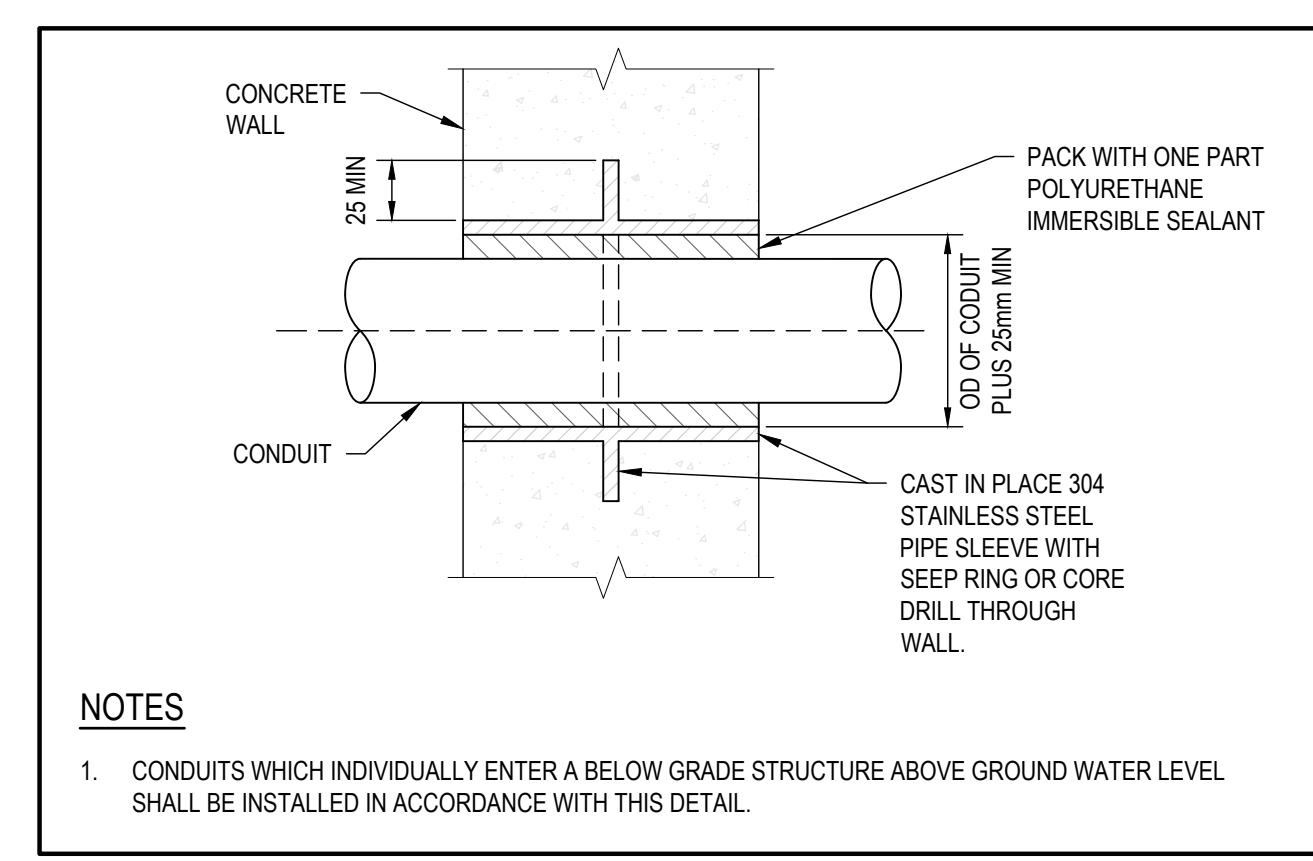
SCALE: AS SHOWN	JOB NO: 23171
DESIGNED BY:	DATE: 2025/09/25
JS	DRAWN BY: TS
TS	DRAWING NO: E1.1



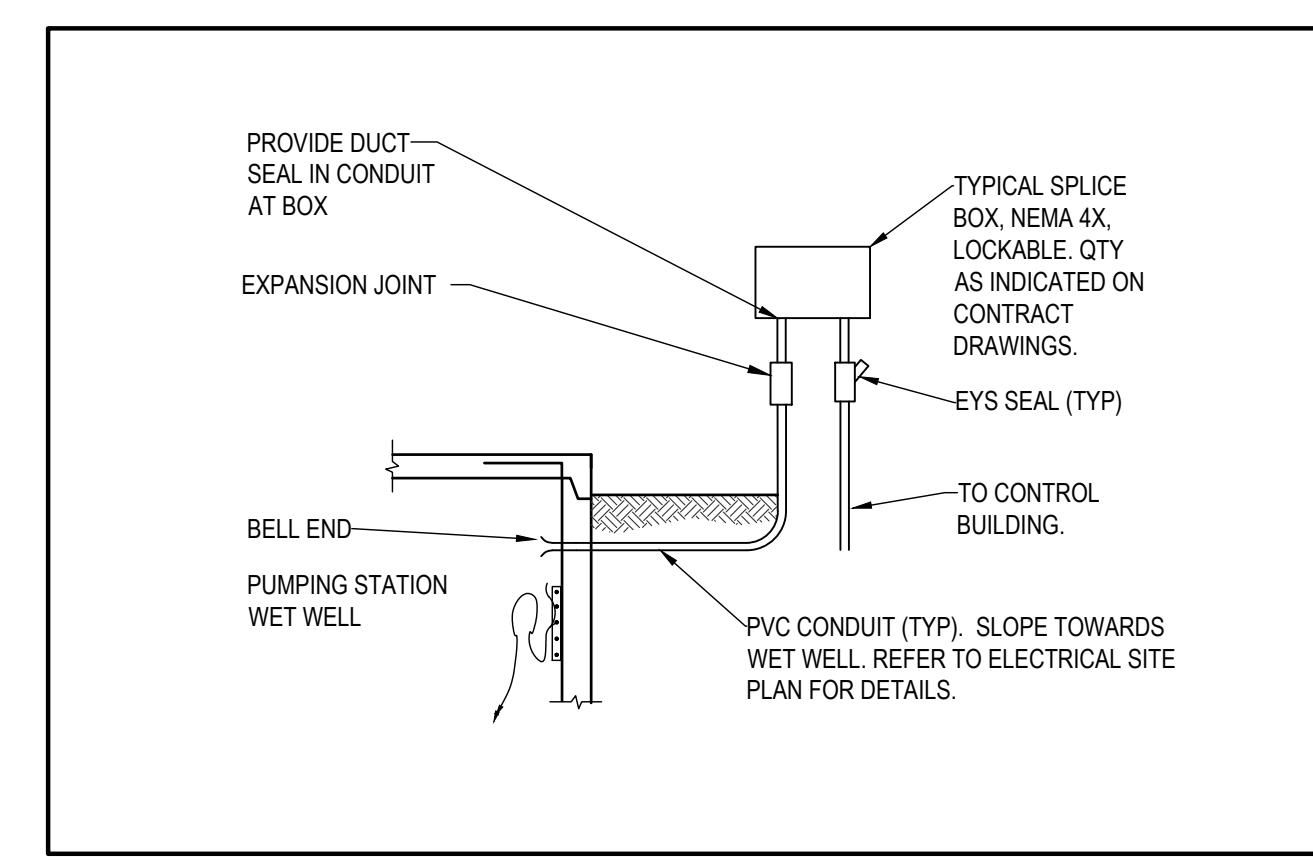
6 E1.1 SCALE: N.T.S.



7 E1.1 SCALE: N.T.S.



9 E1.1 SCALE: N.T.S.



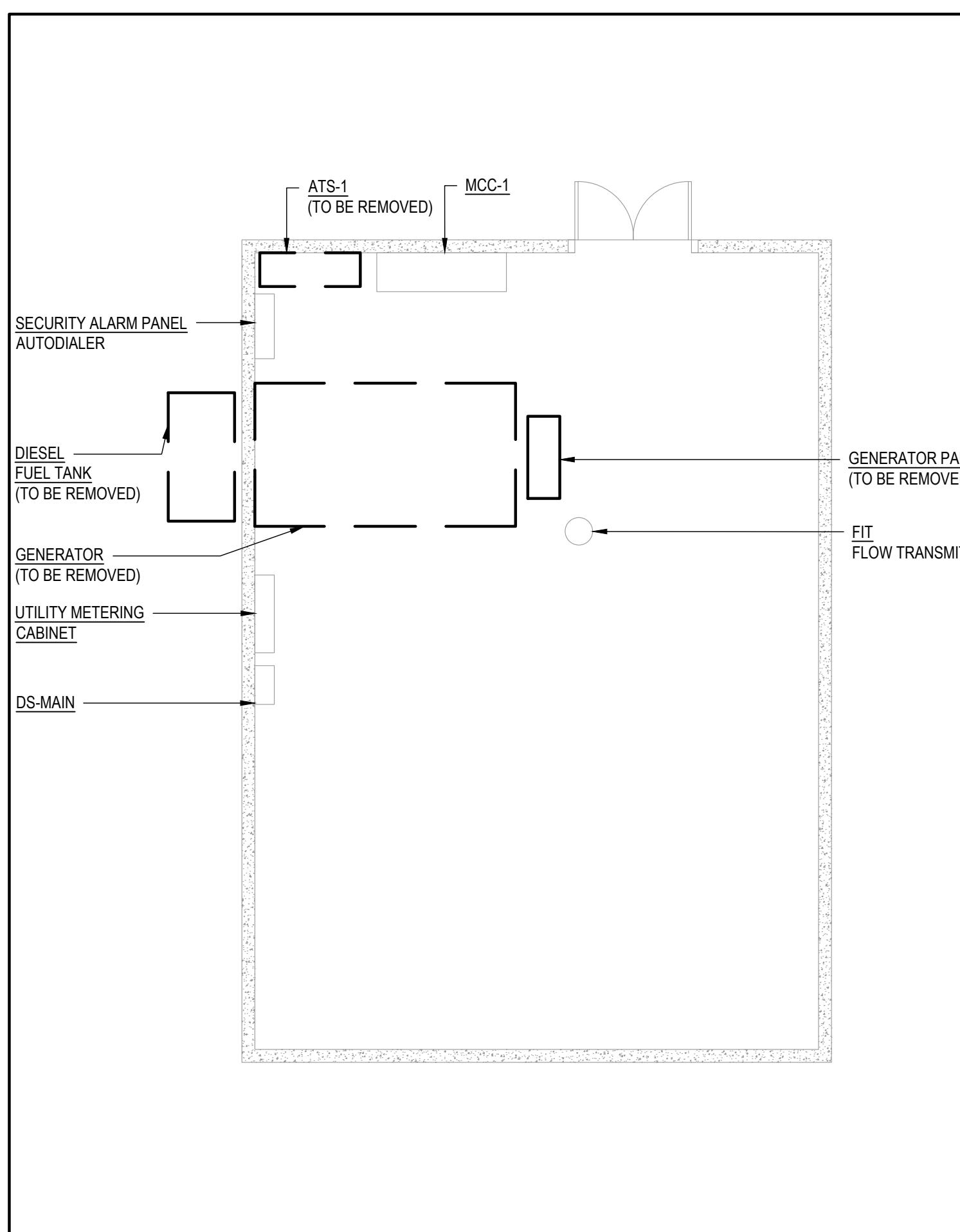
10 E1.1 SCALE: N.T.S.

NOTES:

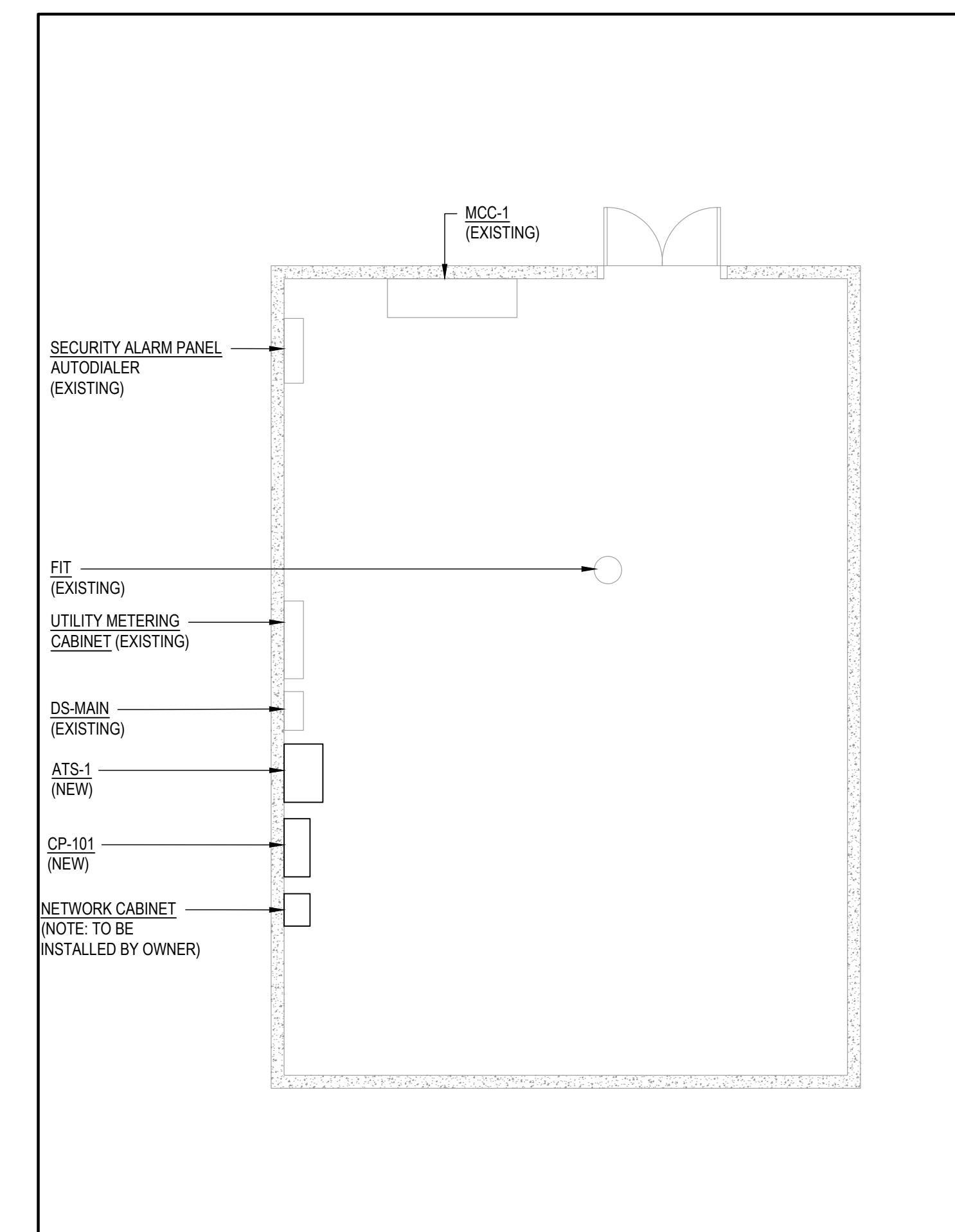
1. DIV 26 TO REMOVE AND DISPOSE OF EXISTING STANDBY GENERATOR, FUEL STORAGE AND ASSOCIATED CONTROLS & WIRING. COORDINATE REMOVAL OF CONCRETE CURBS + PATCHING OF EXTERIOR WALL PENETRATIONS WITH GENERAL CONTRACTOR.

LEGEND:

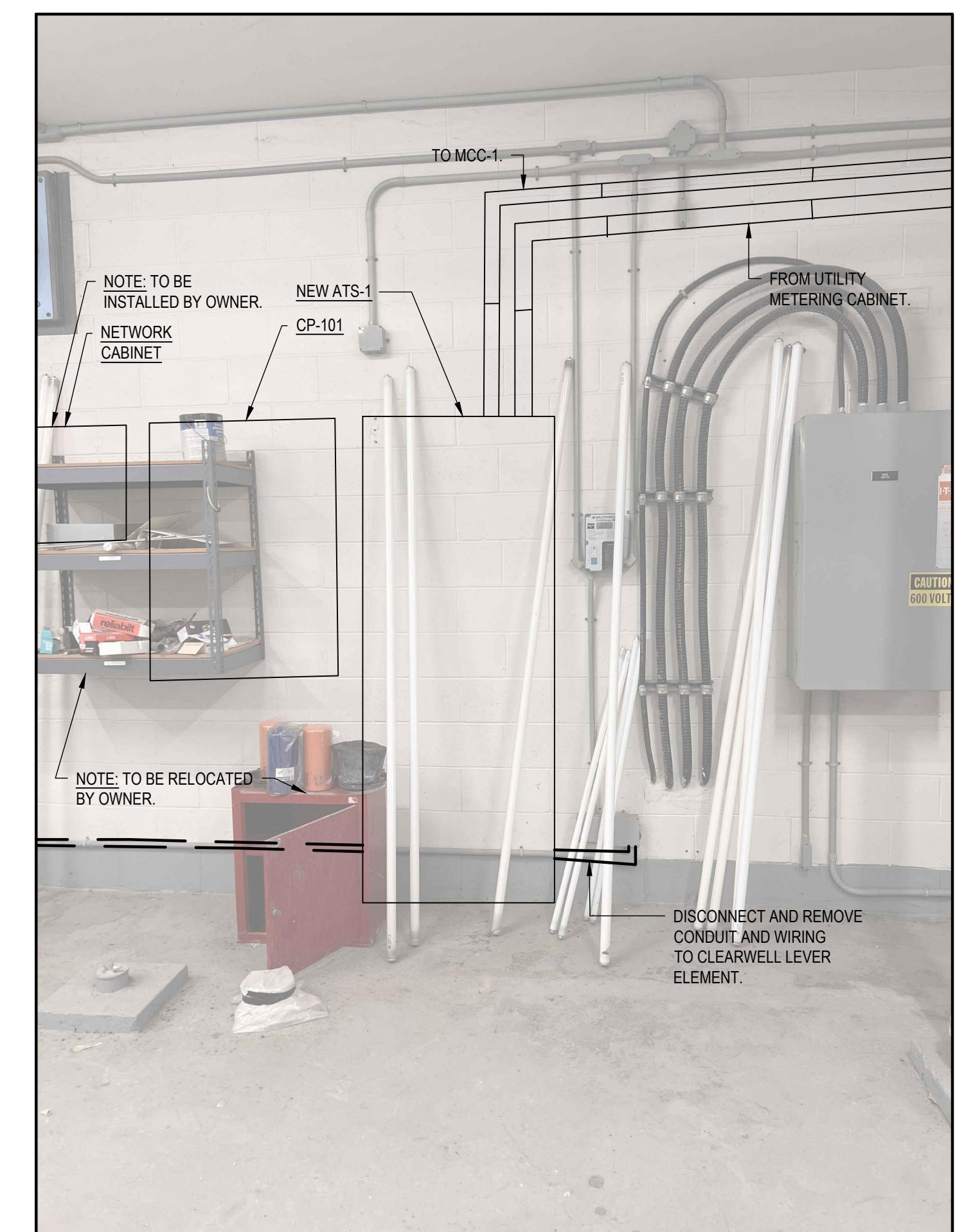
— NEW WIRING AND EQUIPMENT TO BE INSTALLED.
 - - - EXISTING WIRING AND EQUIPMENT TO BE REMOVED OR REPLACED.
 - - - - EXISTING WIRING AND EQUIPMENT TO REMAIN.



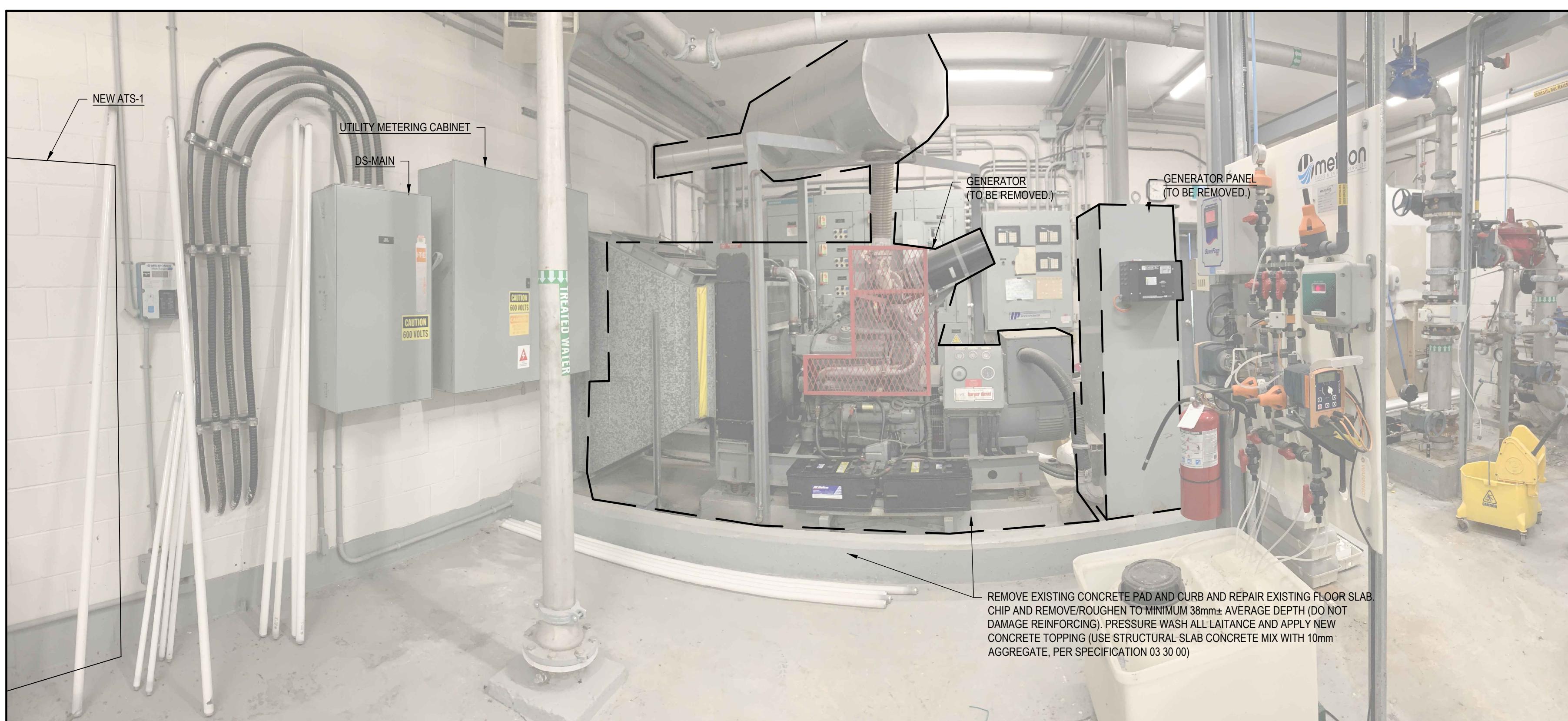
1 EXISTING LAYOUT FOR PUMP HOUSE
E2.1 SCALE: 1:75



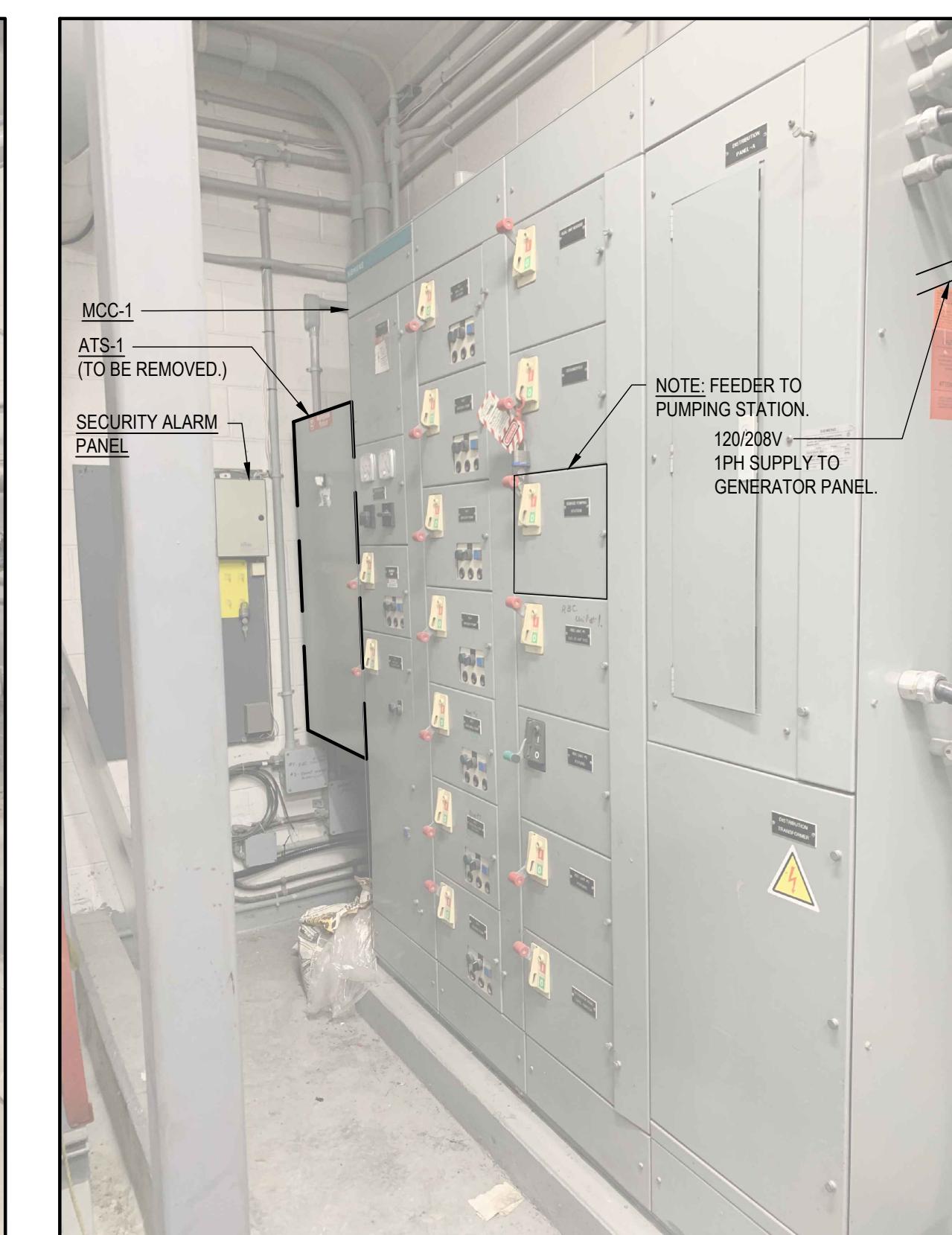
2 NEW LAYOUT FOR PUMP HOUSE
E2.1 SCALE: 1:75



3 NEW ATS LOCATION
E2.1 SCALE: NTS



4 EXISTING EQUIPMENT LOCATION
E2.1 SCALE: NTS

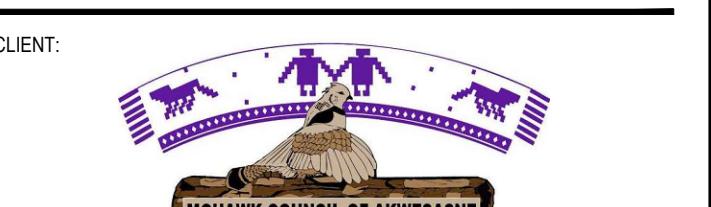


5 EXISTING ATS AND MCC-1 LOCATION
E2.1 SCALE: NTS

2026/01/08 2 RE-ISSUED FOR TENDER
2025/09/25 1 ISSUED FOR TENDER
DATE No. REVISION

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PROJECT:
BLOCK 97 SEWAGE
PUMPING STATION UPGRADES

TITLE:
EXISTING PUMP HOUSE
ELECTRICAL LAYOUT

SCALE: AS SHOWN	JOB NO: 23171
DESIGNED BY: BM	DATE: 2025/09/25
DRAWN BY: BM	DRAWING NO: E2.1
CHECKED BY: JS	

SYMBOL	DESCRIPTION	CATALOG NUMBER	LAMP	NOTES
A1	1220mm INDUSTRIAL LED STRIP FIXTURE C/W FROSTED ACRYLIC DIFFUSER	DAY-BRITE / CFI: FSS440L840-UNV-DIM OR APPROVED EQUIVALENT	LED 4000 LUMEN 4000K-80CRI	SURFACE MOUNTED TO UNDERSIDE OF CEILING
YG	EXTERIOR WALL MOUNTED LED FIXTURE C/W INTEGRAL PHOTOCELL, MOTION SENSOR AND BI-LEVEL DIMMING.	KEENE: LPW-32-50-NW-G3-4-120-BL-IMR13-PCB OR APPROVED EQUIVALENT	LED 5000 LUMEN 4000K	MOUNTING HEIGHT: 2.4m ABOVE GRADE
↑→	EMERGENCY LIGHTING BATTERY UNIT	LUMACELL: RGC27WLD1 OR APPROVED EQUIVALENT	2 X LED 4W MR16	WALL MOUNTED AT 2100mm AFF

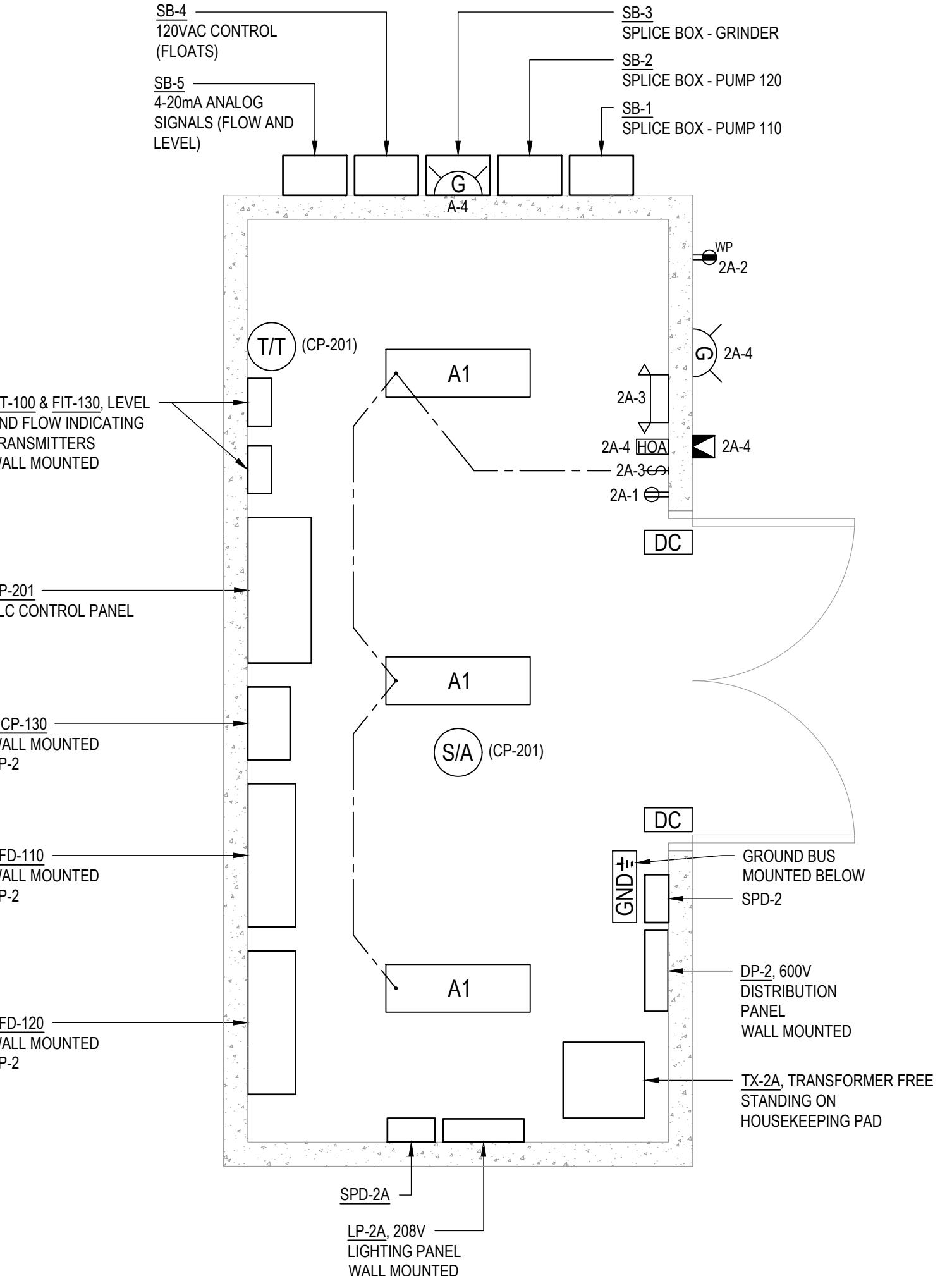
2 LIGHTING DETAILS

E2.2 SCALE: NTS

LOAD (W)	DESCRIPTION	BKR	CCT	CCT	BKR	DESCRIPTION	LOAD (W)
INDOOR HOUSEKEEPING RECEPTACLES		20A-1P	1	A	2	20A-1P	OUTDOOR RECEPTACLES
INDOOR LIGHTING		20A-1P	3	B	4	20A-1P	OUTDOOR LIGHTING
CP-201 CONTROL PANEL		20A-1P	5	C	6	20A-1P	SPARE
SPARE		15A-1P	7	A	8	20A-1P	SPARE
SPARE		15A-1P	9	B	10	20A-1P	SPARE
SPARE		15A-1P	11	C	12	20A-1P	SPARE
SPARE		15A-1P	13	A	14	SPACE	SPACE
SPARE		15A-1P	15	B	16	SPACE	SPACE
SPARE		15A-1P	17	C	18	SPACE	SPACE
SPACE		SPACE	19	A	20	SPACE	SPACE
SPACE		SPACE	21	B	22	SPACE	SPACE
SPACE		SPACE	23	C	24	SPACE	SPACE
SPACE		SPACE	25	A	26		
SPACE		SPACE	27	B	28		
SPACE		SPACE	29	C	30		
TYPE: SURFACE MOUNT BOLT-ON BREAKERS						SHORT CIRCUIT RATING: 10KA MIN.	
MAINS RATING: 100A MIN						MAIN BREAKER C/W BARRIER: 100A	
VOLTAGE RATING: 120/208V-3PH-4W						FED FROM: TX-2A	
NOTES:							
1. CONFIRM BREAKER SIZING WITH SPD MANUFACTURER.							
PANEL: LP-2A						LOCATION: CONTROL BUILDING	

3 PANEL SCHEDULE - LP-2A

E2.2 SCALE: NTS



1 SPS BUILDING - ELECTRICAL LAYOUT

E2.2 SCALE: NTS

NOTES:

- WORKING SPACES AROUND ELECTRICAL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE ONTARIO ELECTRICAL SAFETY CODE.
- ALL WALL-MOUNTED EQUIPMENT TO BE MOUNTED ON C-CHANNEL SUPPORT.
- REFER TO DRAWING E3.1 FOR NUMBER OF EYES AND SPLICE/PULL BOXES. TYPICAL.

LEGEND:

\$	120VAC-20A TOGGLE SWITCH, SINGLE POLE
HOA	120VAC-20A HAND/OFF/AUTO SELECTOR SWITCH IN NEMA 12 ENCLOSURE
WP	120VAC-20A WEATHERPROOF
RECEPTACLE, DUPLEX, 20A	RECEPTACLE, DUPLEX, GFCI, 20A IN WEATHERPROOF WHILE IN USE COVER.
S/A	SMOKE ALARM C/W RELAY OUTPUT
DC	DOOR CONTACT
GND	GROUND BUS
A1	INTERIOR LIGHTING, SEE DETAIL 2, E2.1
YG	EXTERIOR LIGHTING, SEE DETAIL 2, E2.1
↑→	EMERGENCY LIGHTING BATTERY UNIT, SEE DETAIL 2, E2.1
□	DISCONNECT SWITCH
WP	WEATHERPROOF
T/T	AMBIENT TEMPERATURE TRANSMITTER - LOOP POWER - 4-20mA OUTPUT

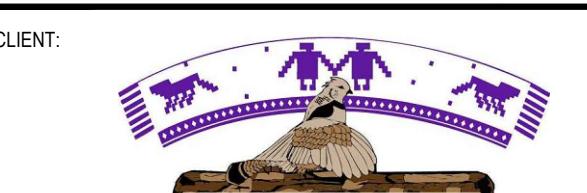
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2025/09/25	1	ISSUED FOR TENDER
DATE	No.	REVISION

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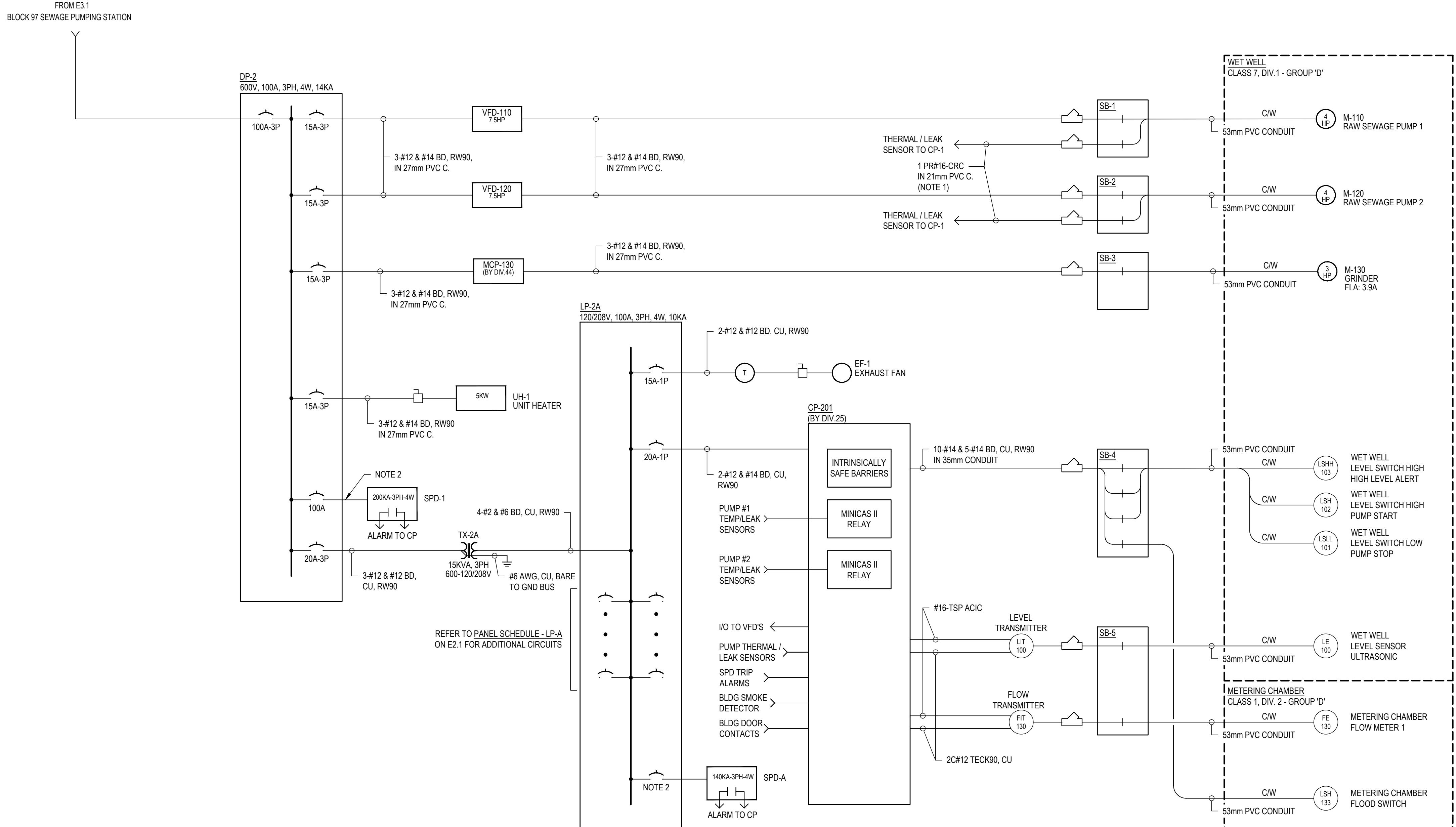
800 SECOND STREET WEST
CORNWALL, ONTARIO CANADA, K6J 1H6
TEL: 613-935-3775 | FAX: 613-935-6450
WEBSITE: EvBengineering.com



CLIENT:
**BLOCK 97 SEWAGE
PUMPING STATION UPGRADES**

TITLE:
**ELECTRICAL LAYOUT
SPS BUILDING**

SCALE: AS SHOWN	JOB NO: 23171
DESIGNED BY:	DATE:
BM	2025/09/25
DRAWN BY:	DRAWING NO:
BM	E2.2
CHECKED BY:	
JS	



NOTES:

1. FOR SULZER PUMP OPTION, MODIFY AS FOLLOWS:
2PR#16 CIC IN PVC CONDUIT.
2. SPD TO BE CLOSE COUPLED TO PANEL WITH LEADS AS SHORT AS POSSIBLE. BREAKER TO BE SIZED AS RECOMMENDED BY SPD MANUFACTURER.

LEGEND:

	FUSED DISCONNECT SWITCH
	GENERATOR, RATING AS SHOWN
	MOTOR, RATING AS INDICATED
	CIRCUIT BREAKER
	INDICATING LIGHT, LETTER DENOTES COLOUR
	PUSH BUTTON
	SELECTOR SWITCH
	EYES SEAL
C/W	DEVICE SUPPLIED COMPLETE WITH LEAD CABLE
TSP	600V CSA TECK INSTRUMENT CABLE
	REVERSE ACTING THERMOSTAT

DATE	No.	REVISION
2026/01/08	2	RE-ISSUED FOR TENDER
2025/09/25	1	ISSUED FOR TENDER

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PROJECT: **BLOCK 97 SEWAGE
PLUMPING STATION UPGRADES**

TITLE: **SINGLE LINE DIAGRAM**

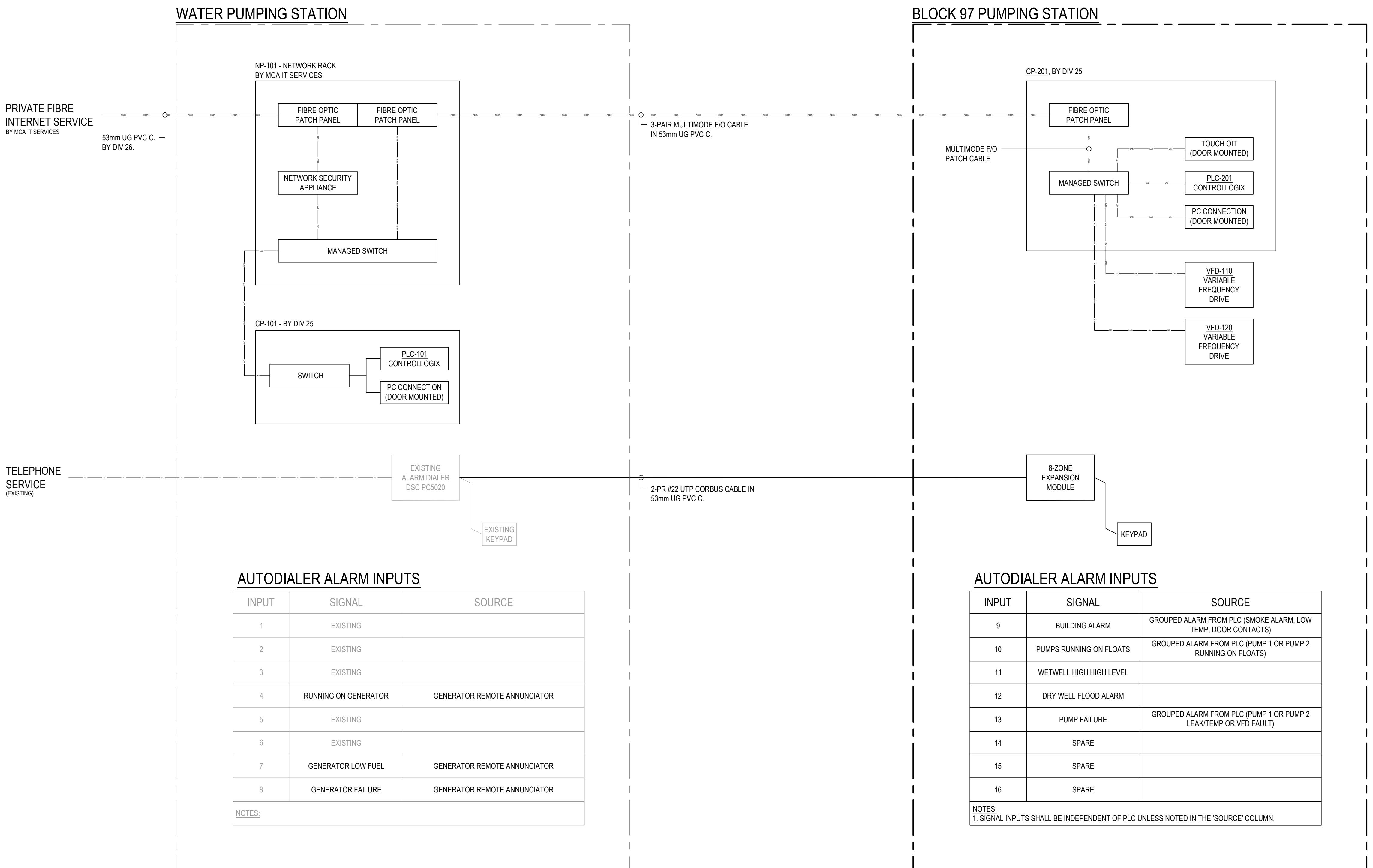
SCALE: N.T.S.	JOB NO: 23171
DESIGNED BY: B.M.	DATE: 2025/09/25
DRAWN BY: B.M.	DRAWING NO.
CHECKED BY: J.S.	E3.2

LEGEND:

——— NEW EQUIPMENT
 - - - - EXISTING EQUIPMENT
 - - - - - FIBER-OPTIC CONNECTION
 - - - - - ETHERNET CONNECTION
 - - - - - BELL TELEPHONE LINE
 - - - - - NEW BUILDING / AREA
 - - - - - EXISTING BUILDING / AREA

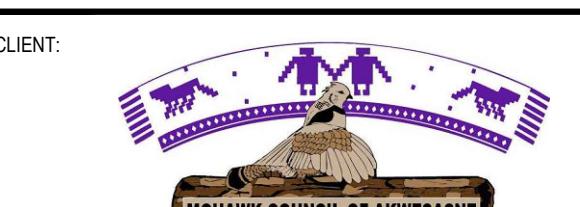
GENERAL NOTES:

1. COORDINATE THE INSTALLATION OF THE NEW FIBER OPTIC SERVICE TO THE WATER PUMPING STATION WITH MOHAWK COUNCIL OF AKWESASNE (MCA) IT SERVICES DEPARTMENT. MCA IT SERVICES TO CONFIGURE PRIVATE FIBER NETWORK TO ALLOW ACCESS TO NEW SEWAGE PUMPING STATION CONTROL PANEL FROM THE EXISTING SCADA NETWORK AT THE CORNWALL ISLAND WATER TREATMENT PLANT.



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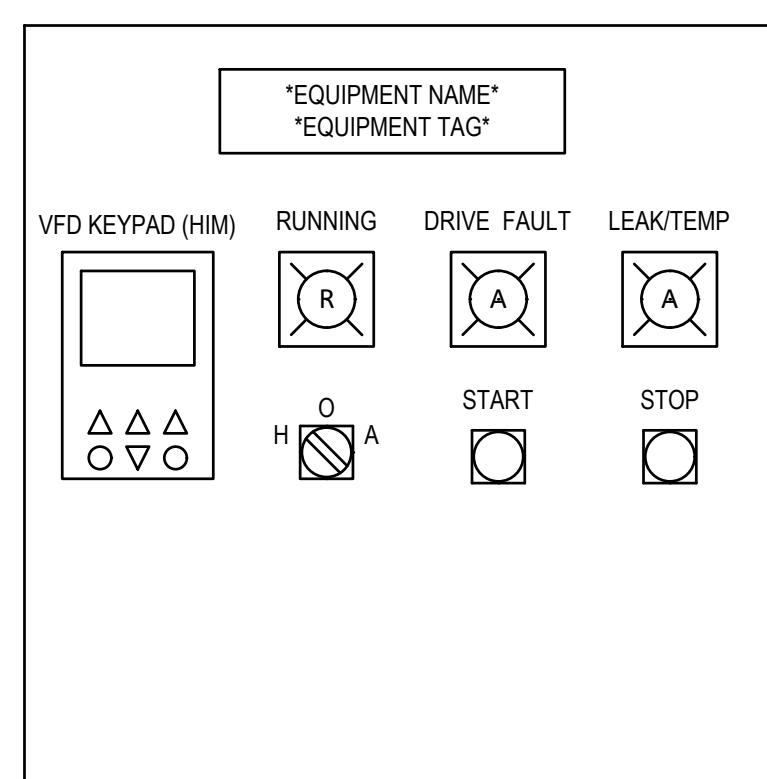
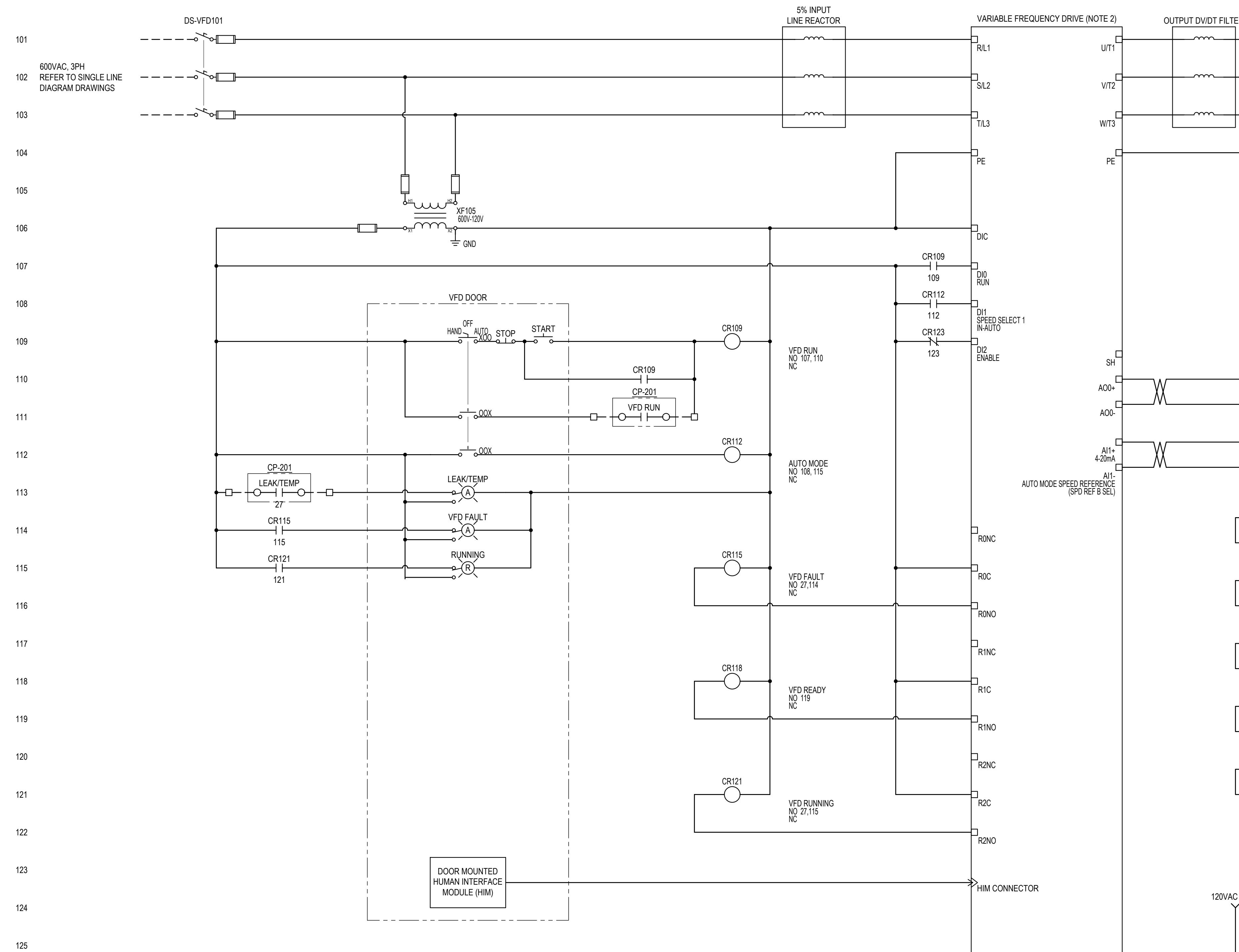
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PROJECT:
BLOCK 97 SEWAGE PUMPING STATION UPGRADES

TITLE:
NETWORK DIAGRAM

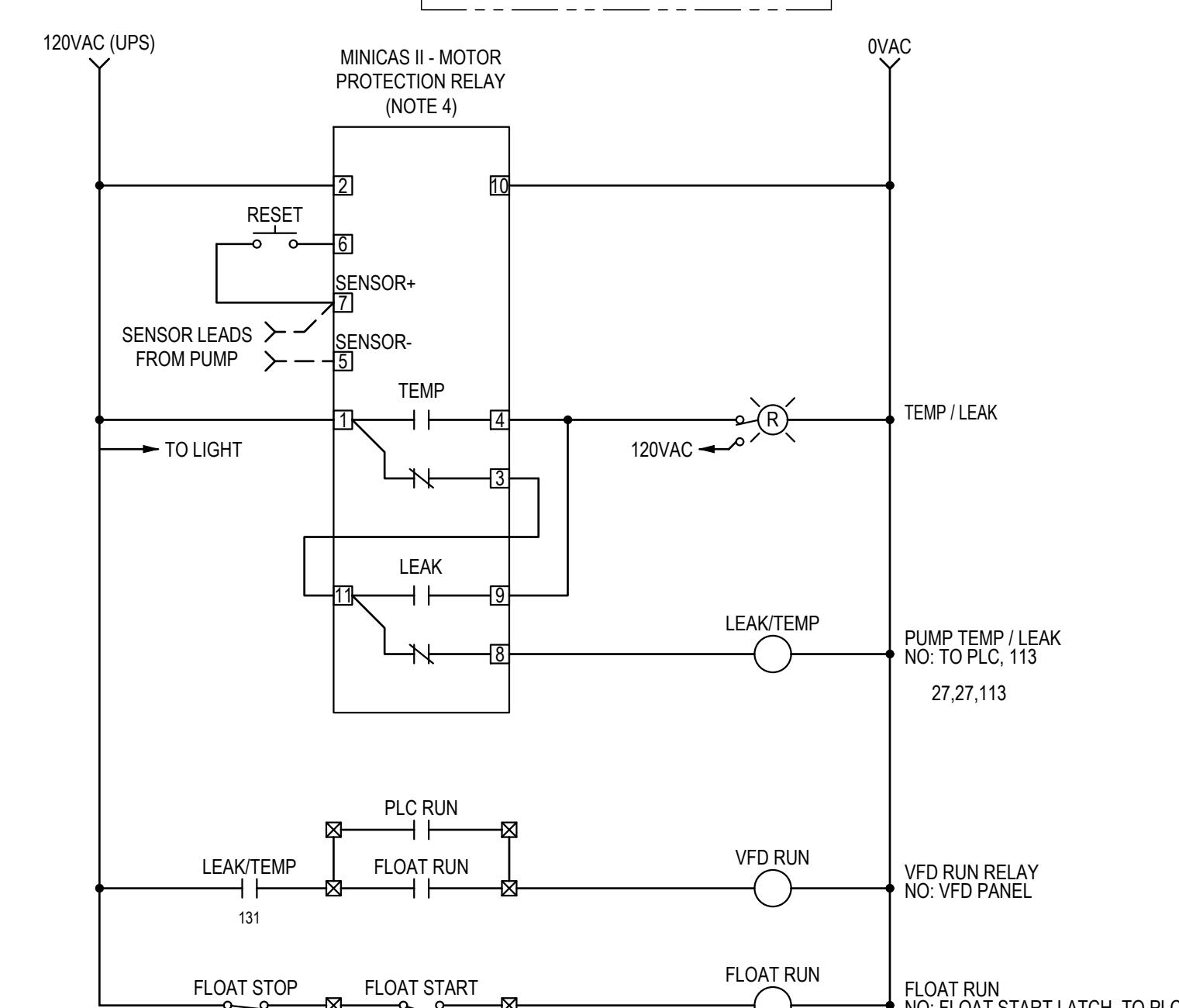
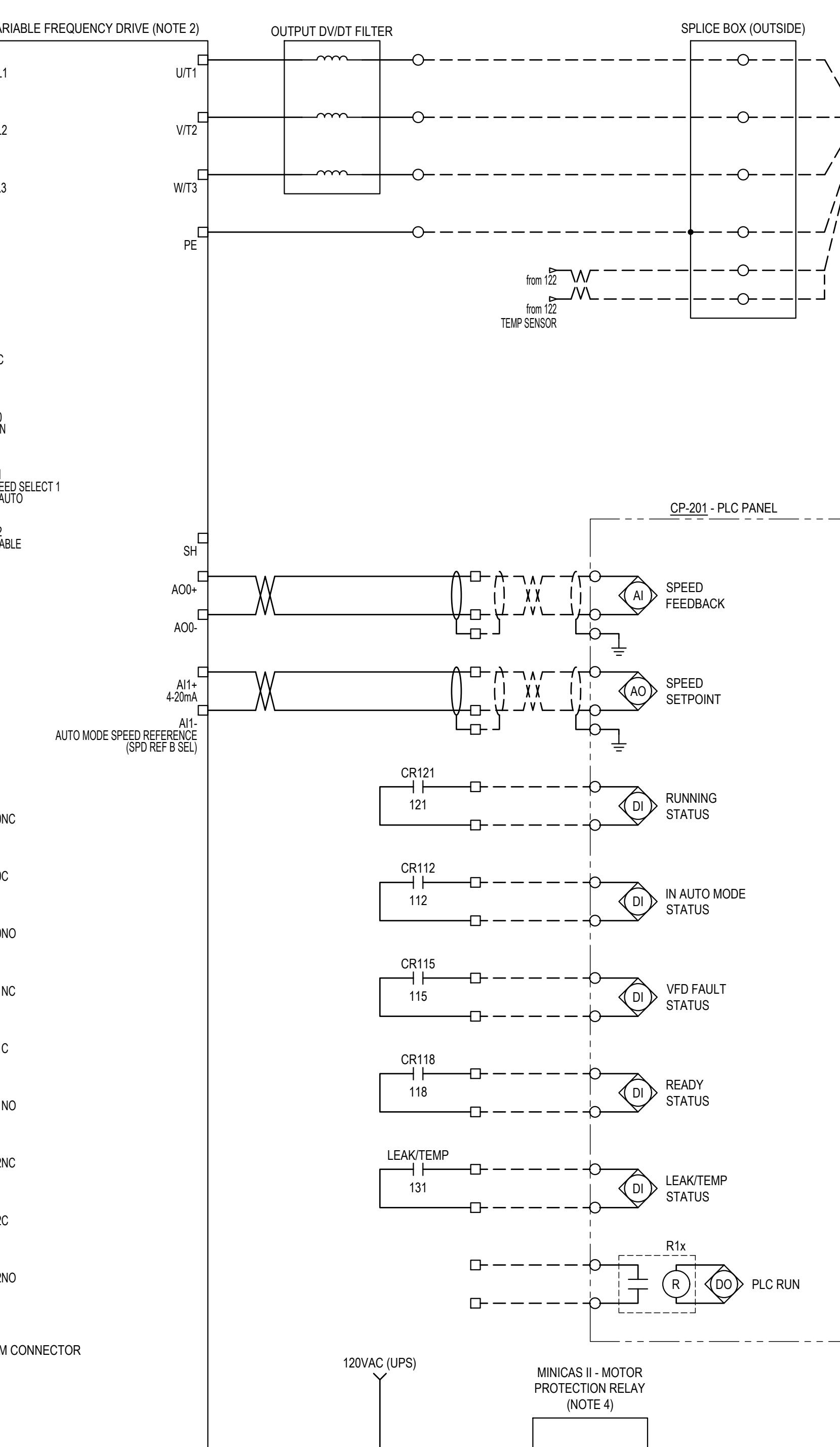
SCALE: N.T.S.	JOB NO: 23171
DESIGNED BY: B.M.	DATE: 2025/09/25
DRAWN BY: B.M.	DRAWING NO. E3.3
CHECKED BY: J.S.	



MOTOR CONTROLS
(ON VFD DOOR)

CONTROLS WIRING DIAGRAM
* MINIMUM CONDUCTORS REQUIRED ARE SHOWN..

TYPICAL VFD IN MCC W/ MOTOR TEMP TRIP



"VFD RUN" - PUMP CONTROL LOGIC

NOTES:

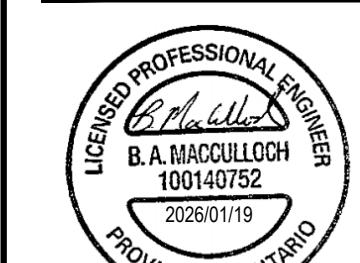
1. CONTROL SCHEMATICS ON THIS DRAWING ARE INTENDED TO CONVEY CONTROL LOGIC ONLY. CONTRACTOR TO COORDINATE ALL WIRING INTERCONNECTIONS BETWEEN DEVICES, PANELS, EQUIPMENT, ETC., AND SUBMIT WIRING DIAGRAMS FOR APPROVAL DURING SHOP DRAWING SUBMITTAL PROCESS.
2. THIS VFD CONTROL SCHEMATIC IS BASED ON AN ALLEN-BRADLEY POWERFLEX 753. CONTRACTOR SHALL VERIFY CONTROL SCHEMATIC EQUIVALENCY FOR ANY OTHER VFD SELECTED TO BE USED.
3. VFD SPEED REFERENCE TO BE FROM CP-1 IN "AUTO" MODE. VFD SPEED REFERENCE TO BE FROM HMI IN "HAND" MODE.
4. VERIFY MOTOR PROTECTION RELAY WITH PUMP SUPPLIER.
5. VFD RUN LOGIC IS INTENDED TO CONVEY THE GENERAL CONTROL LOGIC AND IS NOT INTENDED TO BE A COMPLETE CONTROL SCHEMATIC.

LEGEND:

	TERMINAL BLOCK IN VFD CABINET
	TERMINAL BLOCK IN PLC CABINET
	RELAY COIL
	RELAY CONTACT, NORMALLY OPEN
	RELAY CONTACT, NORMALLY CLOSED
	INDICATING LIGHT, PUSH-TO-TEST, LETTER DENOTES COLOUR
	PUSH BUTTON, NORMALLY OPEN
	PUSH BUTTON, NORMALLY CLOSED

2026/01/08	2	RE-ISSUED FOR TENDER
2025/08/25	1	ISSUED FOR TENDER
DATE	No.	REVISION

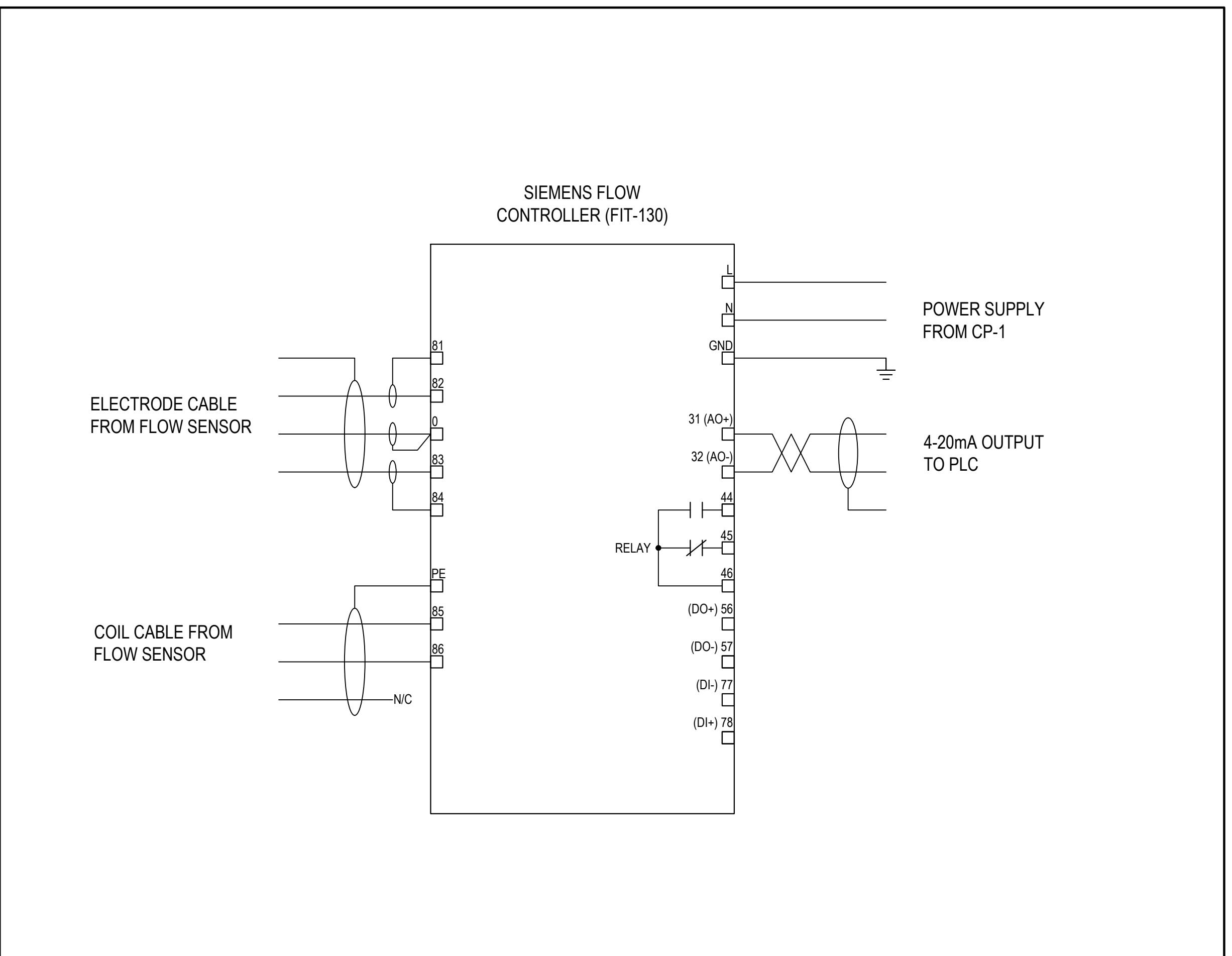
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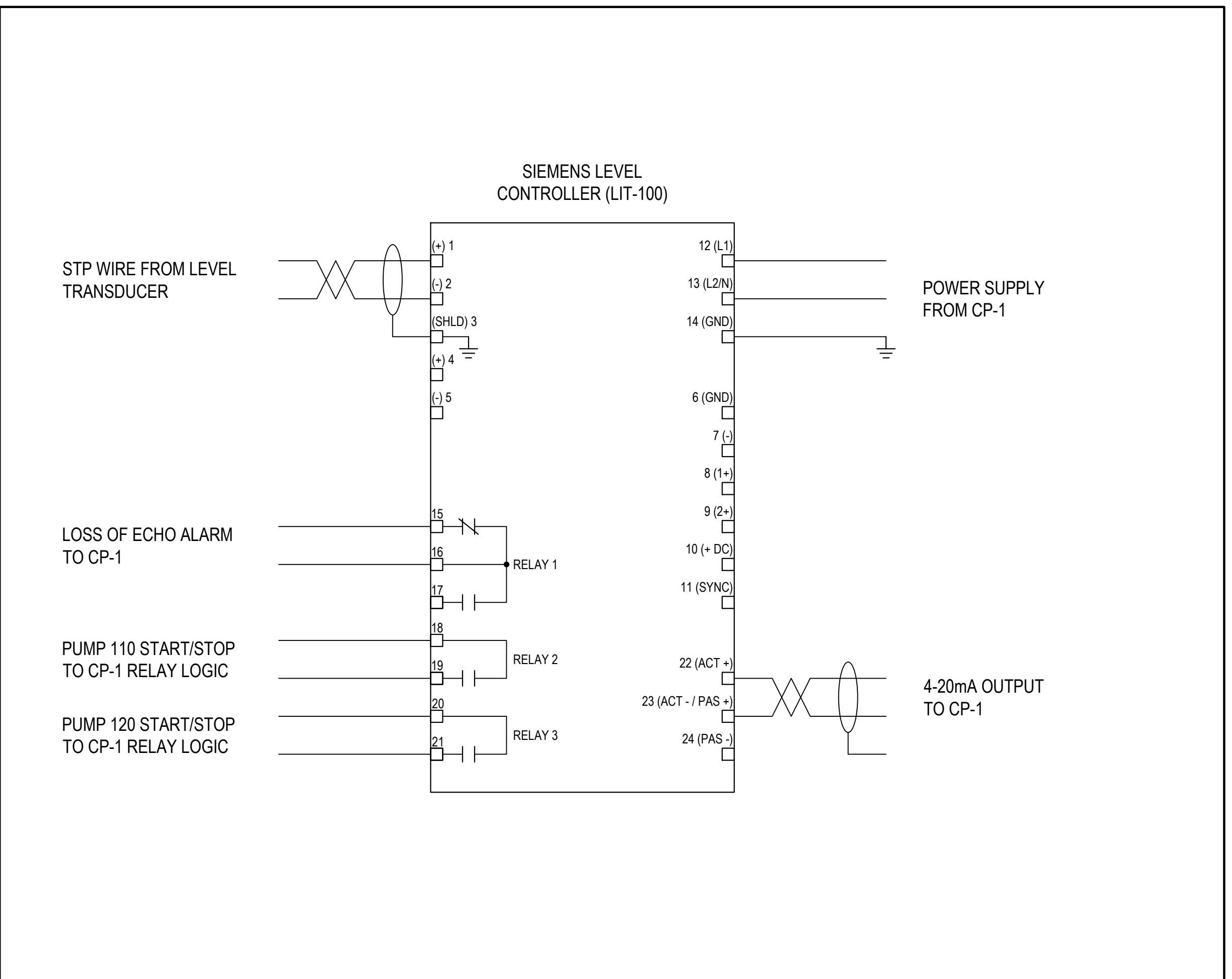
PROJECT:
**BLOCK 97 SEWAGE
PUMPING STATION UPGRADES**

TITLE:
**TYPICAL VFD
WIRING SCHEMATIC
SEWAGE PUMPS**

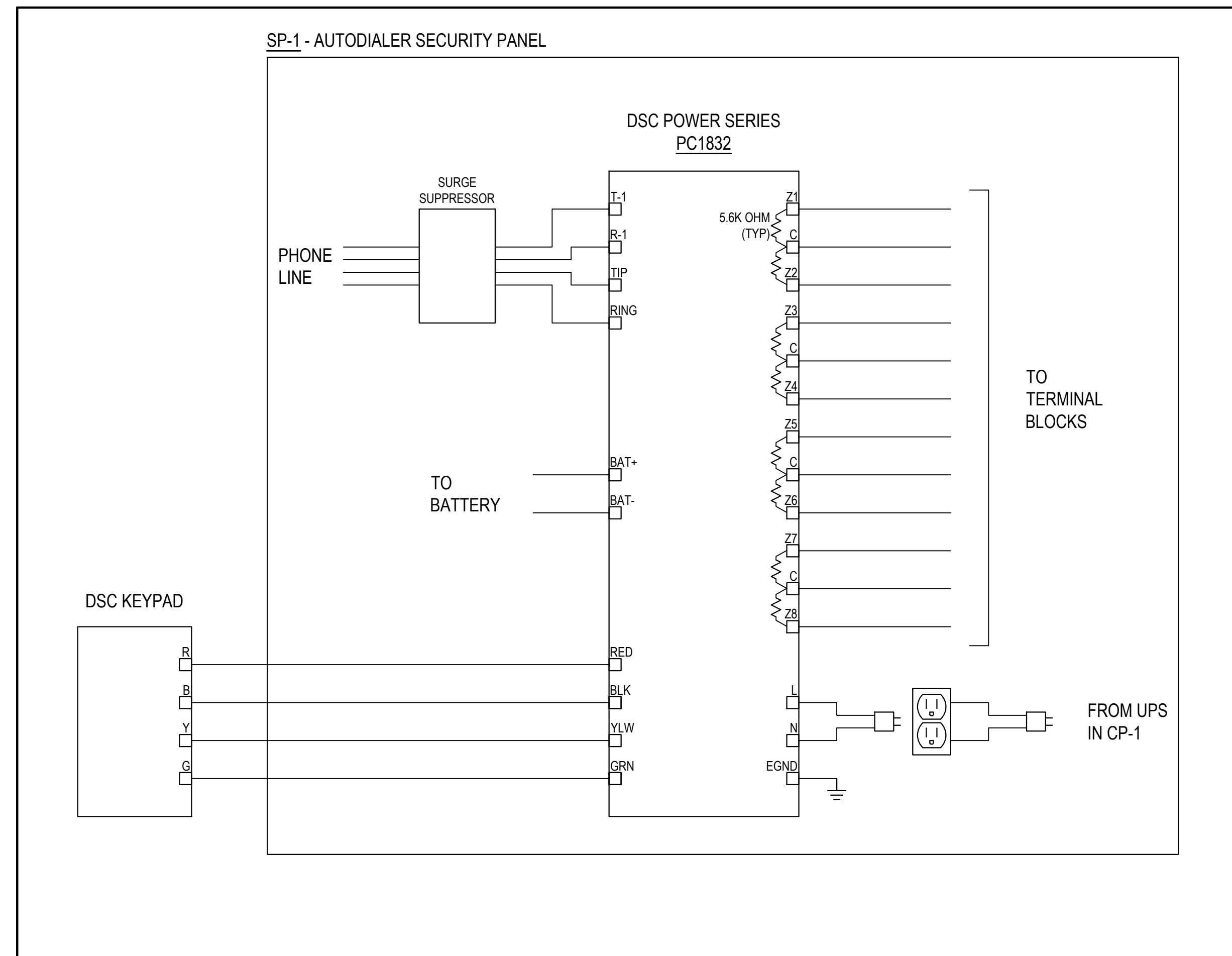
SCALE: N.T.S.	JOB NO: 23171
DESIGNED BY: B.M.	DATE: 2025/09/25
DRAWN BY: B.M.	DRAWING NO: E4.1
CHECKED BY: J.S.	



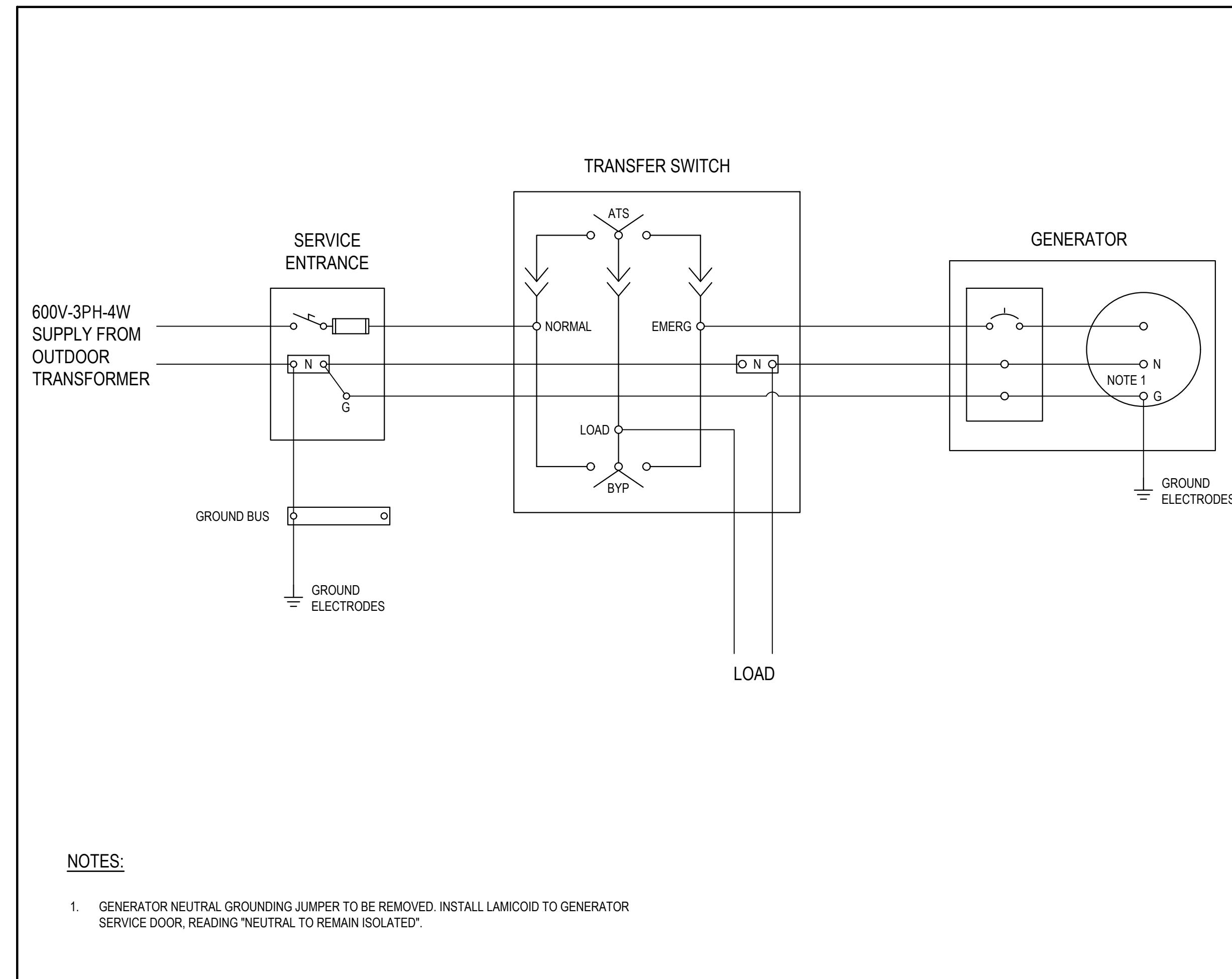
1 FLOW INDICATING TRANSMITTER WIRING
E4.2 SCALE: NTS



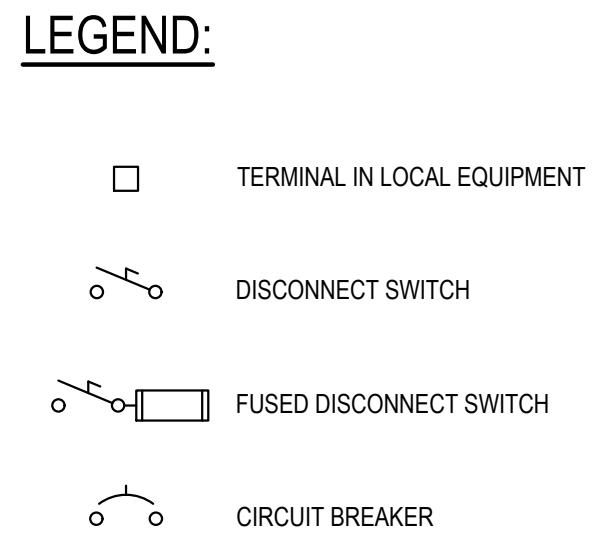
2 LEVEL INDICATING TRANSMITTER WIRING
E4.2 SCALE: NTS



3 AUTODIALER SECURITY PANEL WIRING DETAIL
E4.2 SCALE: NTS

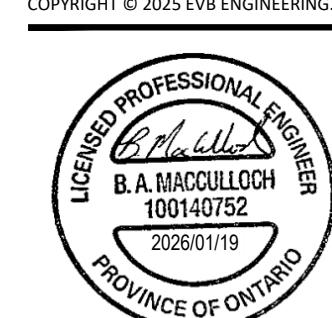


4 GENERATOR NEUTRAL GROUNDING & BONDING
E4.2 SCALE: NTS



2026/01/08	2	RE-ISSUED FOR TENDER
2025/09/25	1	ISSUED FOR TENDER
DATE	No.	REVISION

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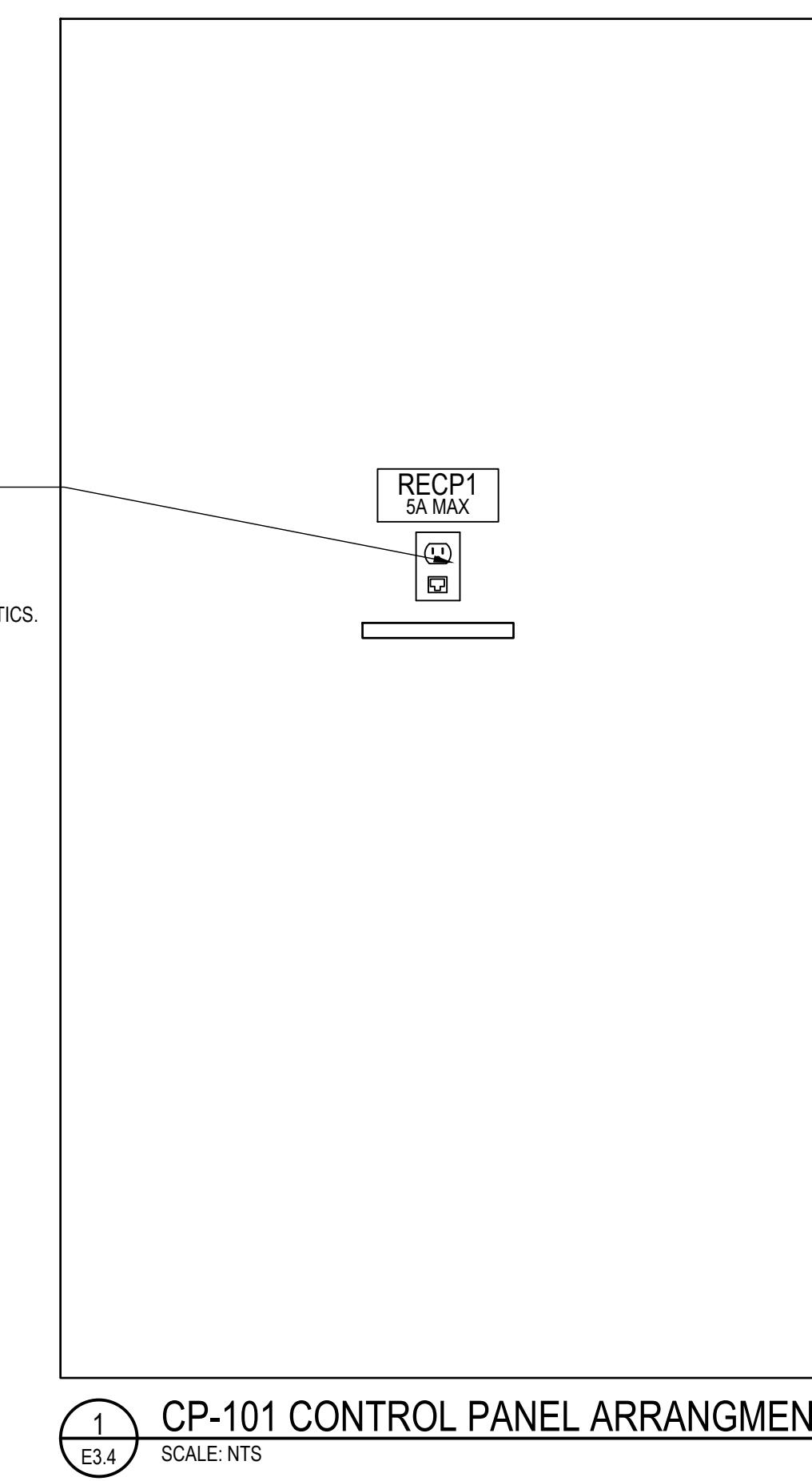
PROJECT:
BLOCK 97 SEWAGE
PUMPING STATION UPGRADES

TITLE:
WIRING DETAILS

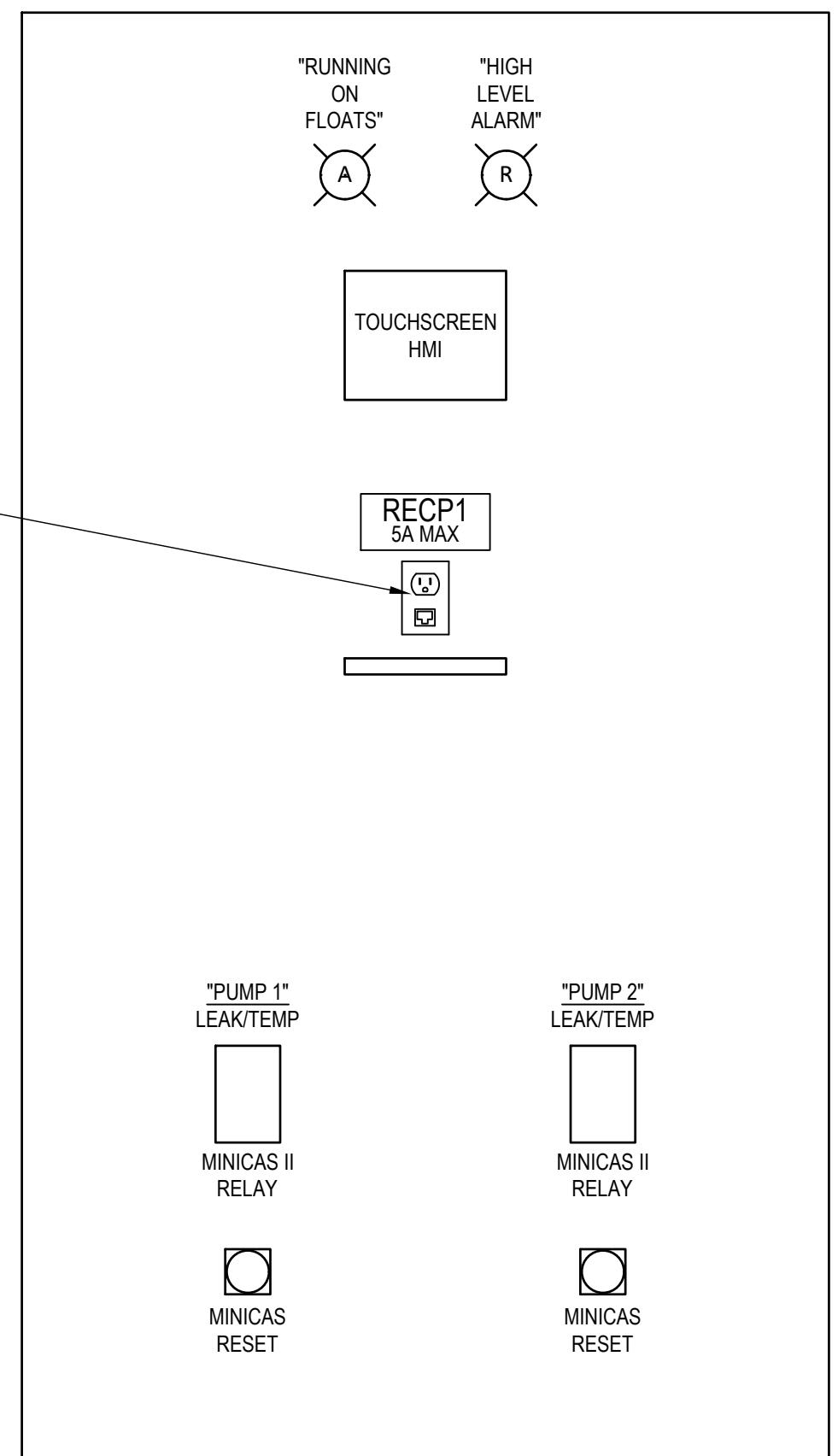
SCALE: N.T.S.	JOB NO 23171
DESIGNED BY: B.M.	DATE: 2025/09/25
DRAWN BY: B.M.	DRAWING NO: E4.2
checked by: J.S.	

NOTES:

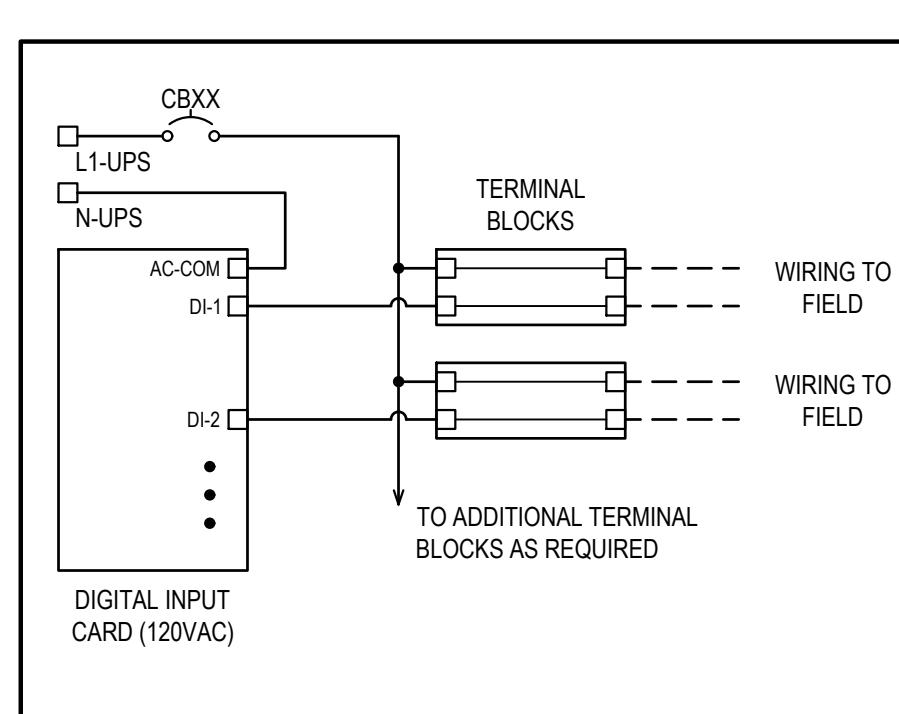
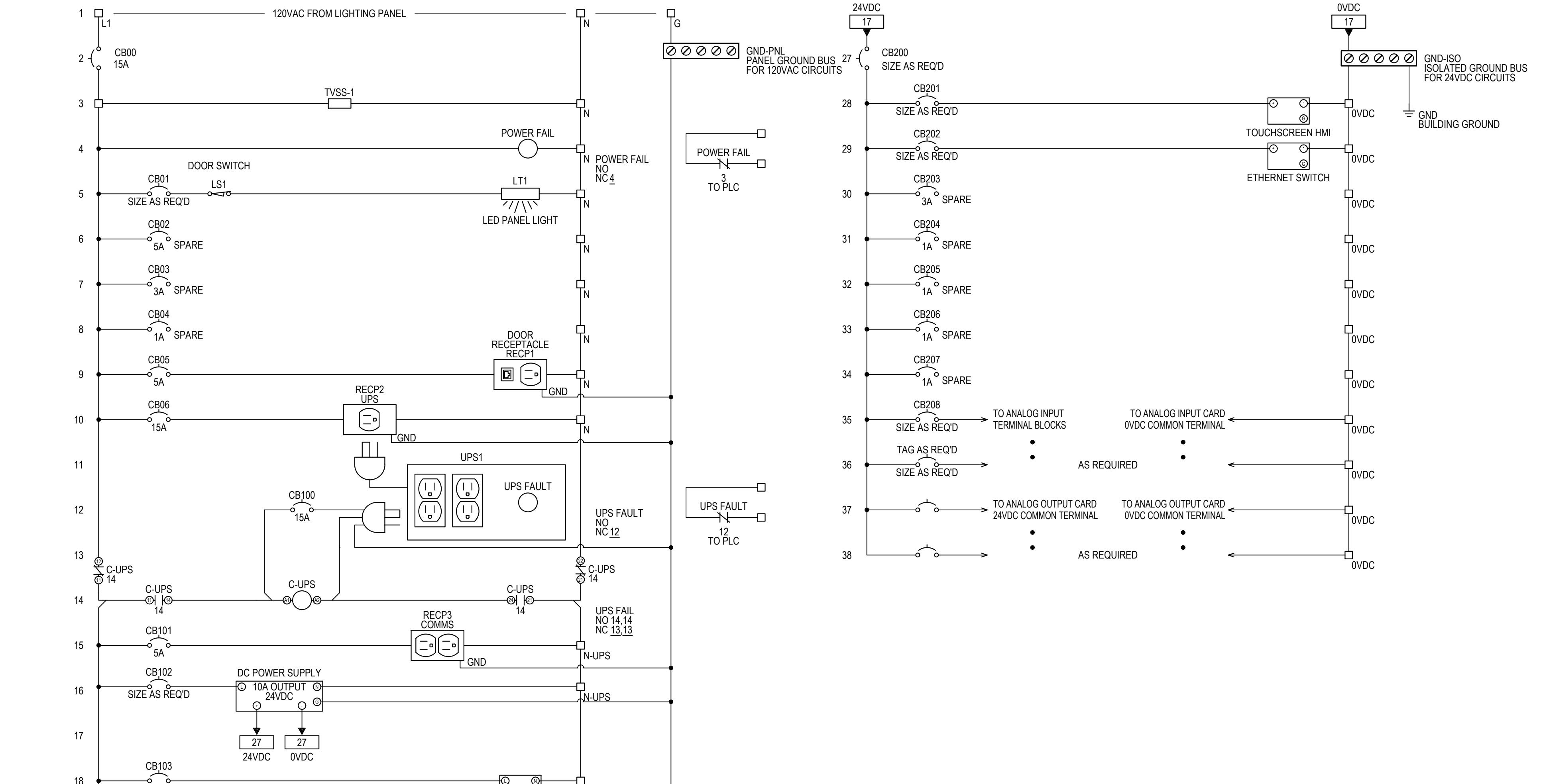
1. THIS DRAWING IS INTENDED TO CONVEY GENERAL PLC PANEL FEATURES. PANEL BUILDER TO ARRANGE DEVICES TO SUIT PANEL DIMENSIONS AND COMPONENT QUANTITIES AS REQUIRED. PANEL DIMENSIONS TO BE CONFIRMED WITH ON-SITE CONDITIONS BY CONTRACTOR, AND APPROVED BY ENGINEER. REFER TO SPECIFICATION 25 05 01 - CONTROL PANELS.



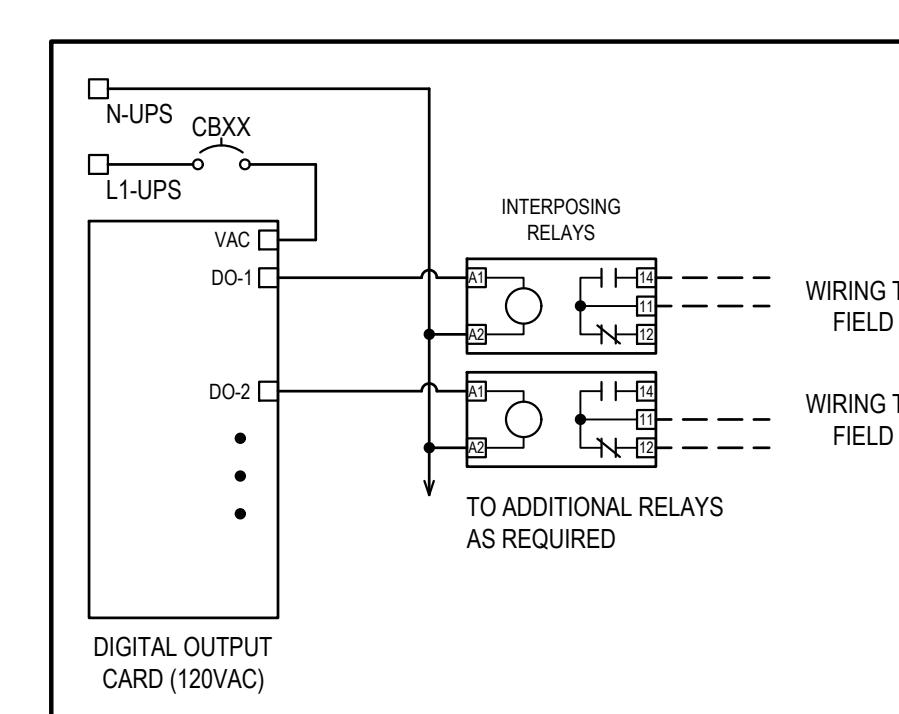
1 CP-101 CONTROL PANEL ARRANGMENT
E3.4 SCALE: NTS



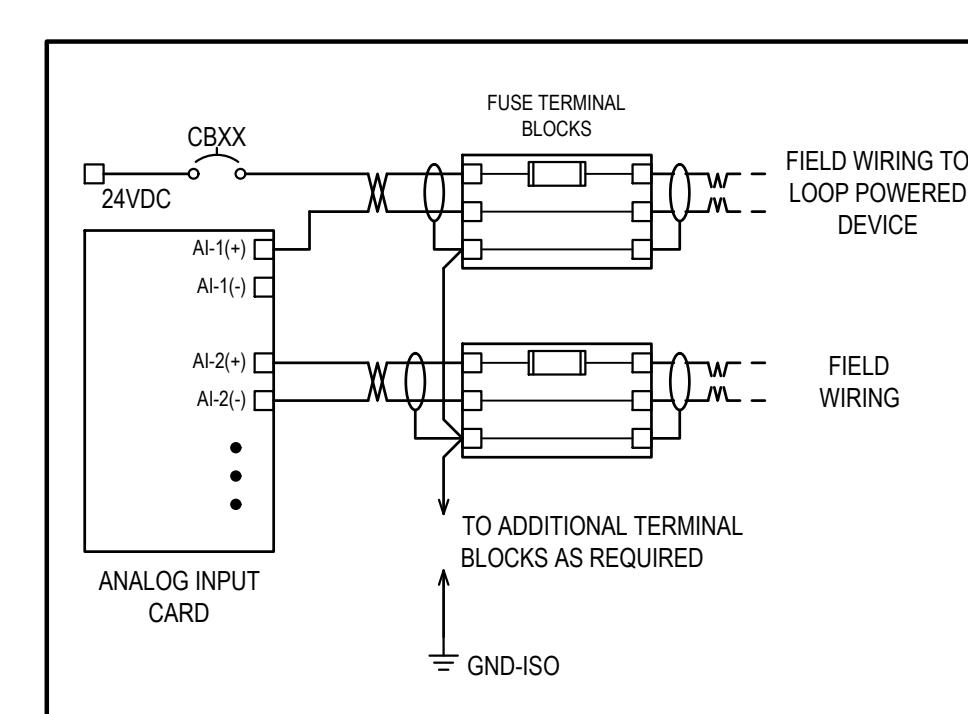
2 CP-201 CONTROL PANEL ARRANGMENT
E3.4 SCALE: NTS



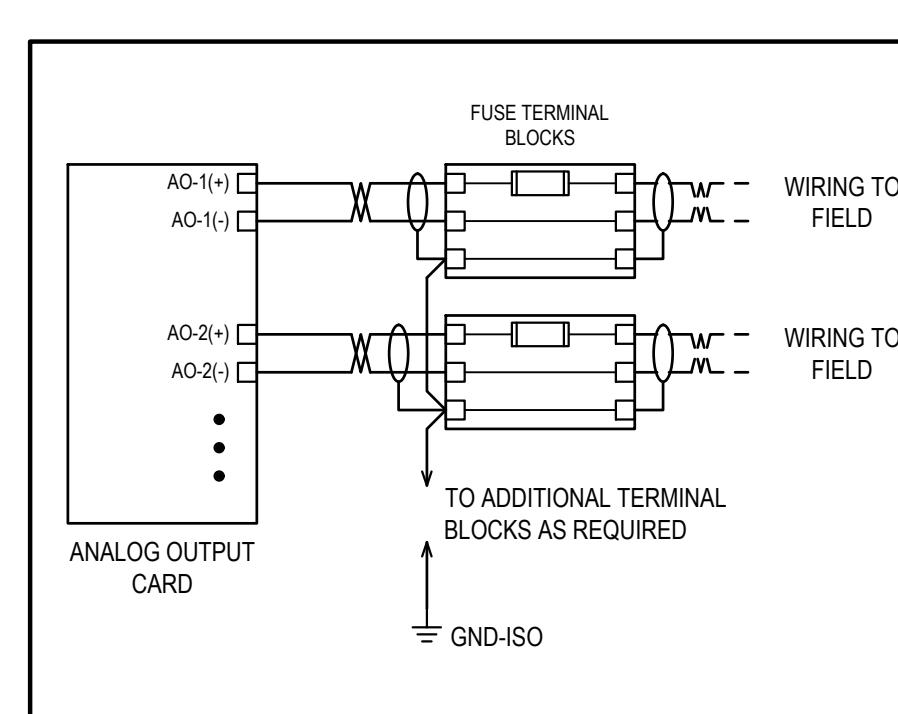
TYPICAL DIGITAL INPUT WIRING



TYPICAL DIGITAL OUTPUT WIRING



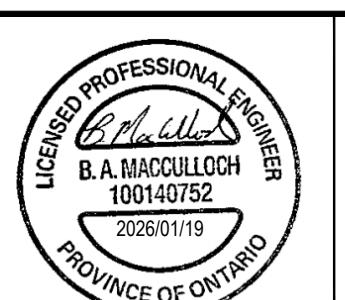
TYPICAL ANALOG INPUT WIRING



TYPICAL ANALOG OUTPUT WIRING

2026/01/08	2	RE-ISSUED FOR TENDER
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PROJECT:
BLOCK 97 SEWAGE
PUMPING STATION UPGRADES

TITLE:
TYPICAL CONTROL
PANEL

SCALE: N.T.S.	JOB NO: 23171
DESIGNED BY: B.M.	DATE: 2025/09/25
DRAWN BY: B.M.	DRAWING NO. E5.1
CHECKED BY: J.S.	