

ABBREVIATIONS	SINGLE LINE	GROUNDING
<p>AFF ABOVE FINISHED FLOOR</p> <p>AFG ABOVE FINISHED GRADE</p> <p>AL ALUMINUM</p> <p>CCT CIRCUIT</p> <p>CP CONTROL PANEL</p> <p>CU COPPER</p> <p>C/W COMPLETE WITH</p> <p>CSTE CUSTOMER SERVICE TERMINATION ENCLOSURE</p> <p>FVNR FULL VOLTAGE NON REVERSING</p> <p>GFI GROUND FAULT INTERRUPTER</p> <p>GND GROUND</p> <p>LAH HIGH LEVEL ALARM</p> <p>LSH HIGH LEVEL SWITCH</p> <p>O/C OVER COUNTER</p> <p>O/H OVERHEAD</p> <p>MMS MANUAL MOTOR STARTER</p> <p>PEC PHOTO ELECTRIC CONTROL</p> <p>PNL PANEL</p> <p>U/C UNDER COUNTER</p> <p>U/G UNDERGROUND</p> <p>VFD VARIABLE FREQUENCY DRIVE</p> <p>XFMR TRANSFORMER</p>	 UTILITY METER  CIRCUIT BREAKER XX = CURRENT RATING Y = 1: SINGLE POLE Y = 2: DUAL POLE Y = 3: TRIPLE POLE  DISTRIBUTION TRANSFORMER: DELTA-WYE	 GROUND LOOP #4/0 CU  C TAB CONNECTOR  LOOP CONNECTOR  GROUND ROD  INSPECTION CHAMBER  STEEL COLUMN GROUND CONNECTOR  #4/0 DOWN CONDUCTOR IN CONDUIT  COPPER GROUND PLATE  PIGTAIL FOR FUTURE CONNECTION  ISOLATED GROUND
TAGGING	LINE SYMBOLS	
<p>SYSTEM CODES:</p> <p>90 POWER</p> <p>91 CONTROLS/NETWORKING</p> <p>92 FIRE ALARM</p> <p>93 LIFE SAFETY</p> <p>VOLTAGE:</p> <p>0 SYSTEMS/NON-DISTRIBUTION</p> <p>1 120/208</p> <p>2 UNUSED</p> <p>3 UNUSED</p> <p>4 480V</p> <p>5 UTILITY</p> <p>6 600V</p> <p>POSITION : AAA-99-6 88</p> <p>DEVICE TYPE DEVICE NUMBER VOLTAGE SYSTEM</p>	<p>CONDUCTOR</p> <p>UNDERGROUND CONDUCTOR</p> <p>OVERHEAD CONDUCTOR</p> <p>TRIPPING OR INTERLOCKING CIRCUIT</p> <p>EQUIPMENT OUTLINE</p>	



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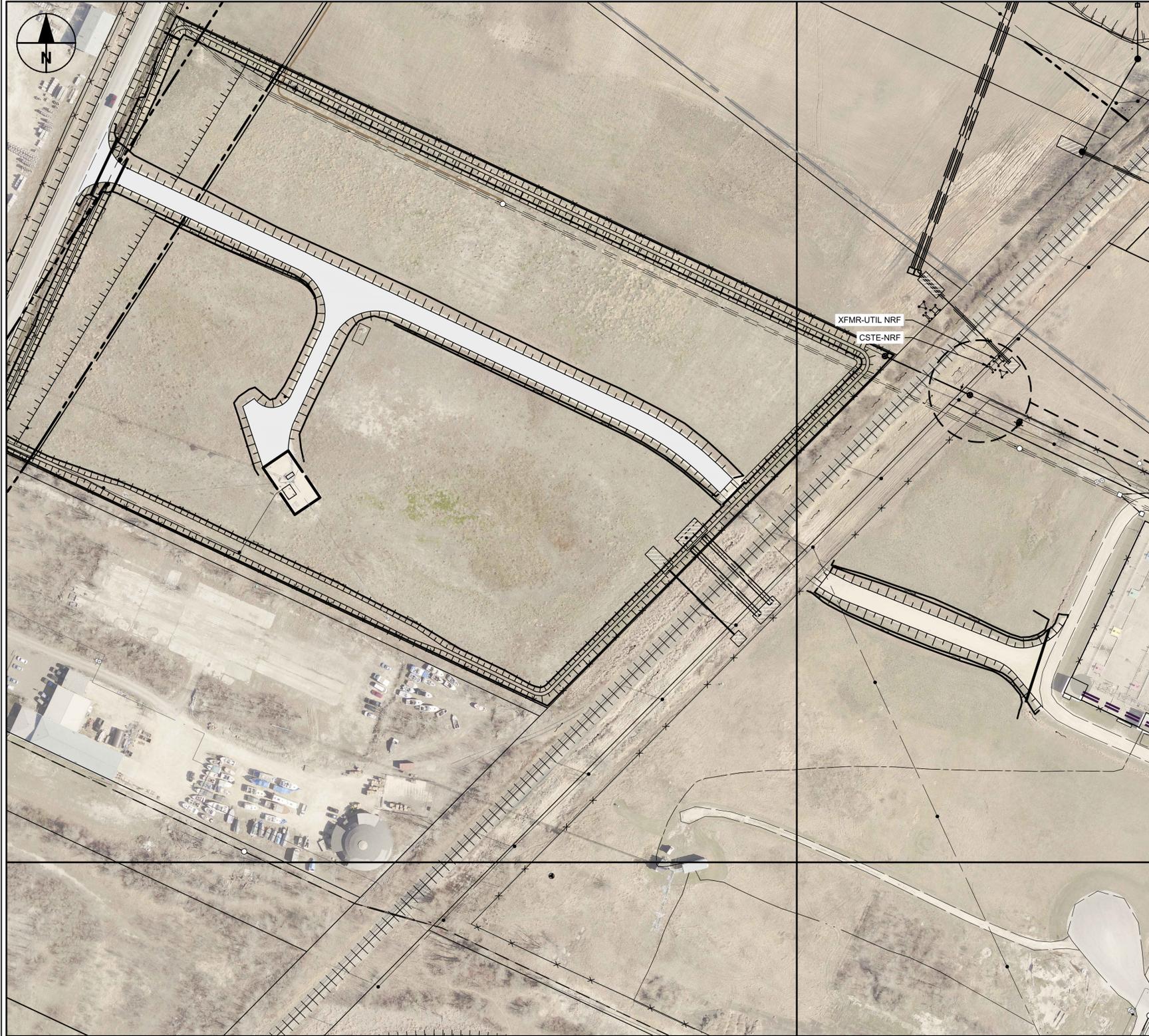
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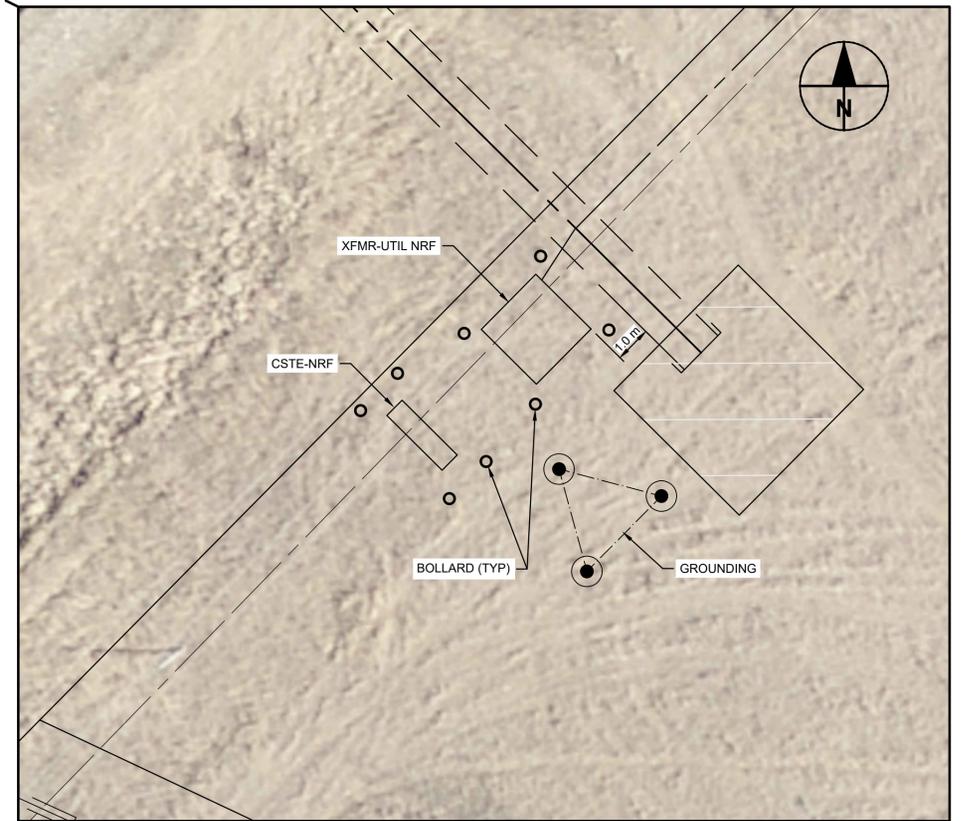
THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT

NEWPCC - NUTRIENT REMOVAL FACILITIES
 CONSTRUCTION POWER AND CSTE WORK
 ELECTRICAL
 LEGEND

CITY DRAWING NUMBER	SHEET	REV.	SIZE
-	001	00	A1



SITE PLAN
SCALE: 1:1000



DETAIL VIEW
SCALE: 1:100

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

NO.	REVISIONS	DATE	DESIGN	CHECK
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00	ISSUED FOR TENDER	2026-02-06	PM	SB

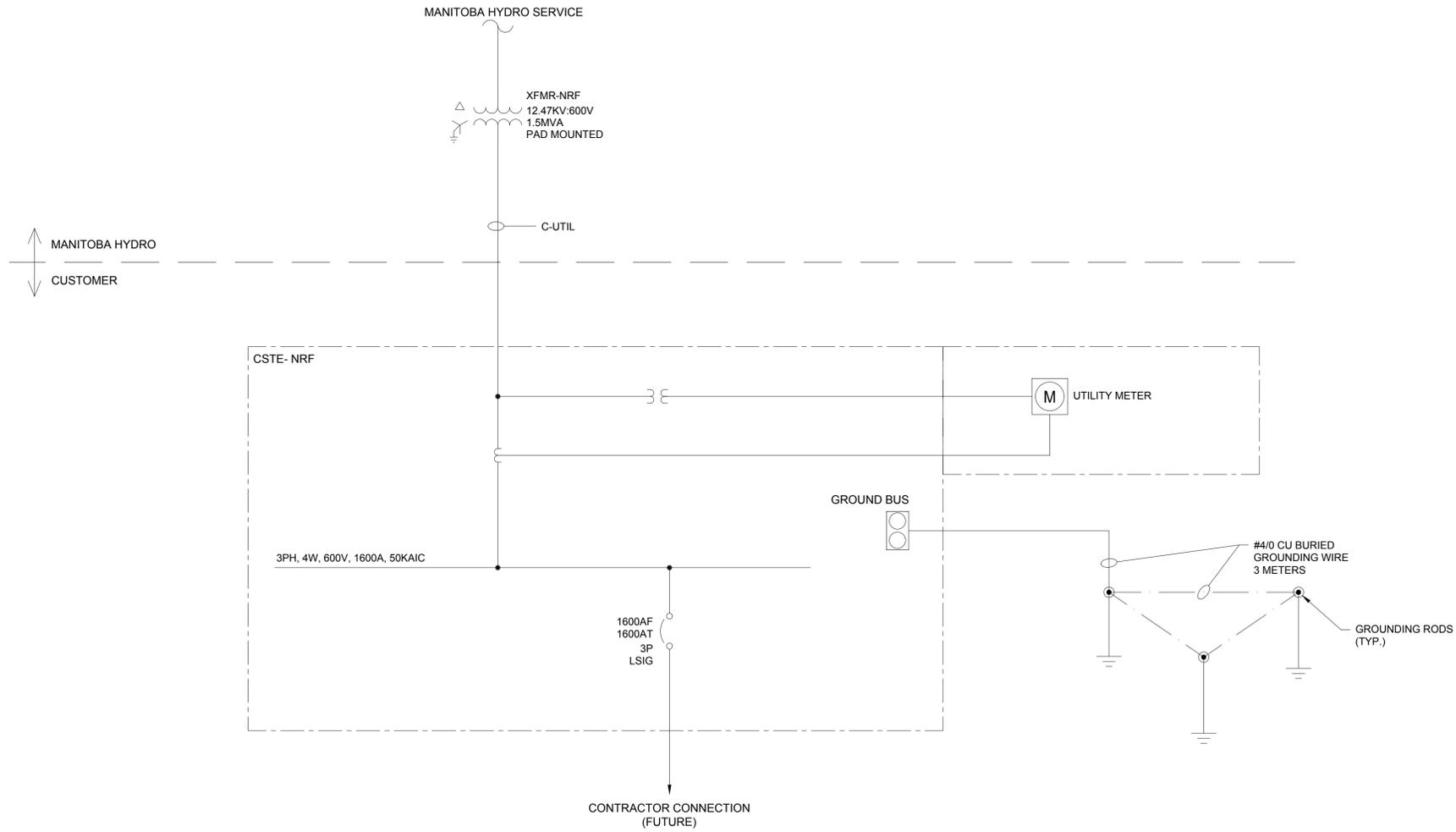
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ENGINEER'S SEAL

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

NEWPCC - NUTRIENT REMOVAL FACILITIES
CONSTRUCTION POWER AND CSTE WORK
ELECTRICAL
SITE PLAN & DETAIL

CITY DRAWING NUMBER -	SHEET 001	REV. 01	SIZE A1
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SINGLE LINE DIAGRAM

MANITOBA HYDRO SCOPE NOTE:

1. PROVIDE AND INSTALL NEW 1.5MVA 12.47KV:600V PAD MOUNT TRANSFORMER.
2. PROVIDE AND INSTALL NEW UTILITY CABLES (QUANTITY 1C x 11, 1000 MCM ALUMINUM) FROM MANITOBA HYDRO PAD MOUNT TRANSFORMERS TO CSTE ENCLOSURE.
3. PROVIDE AND INSTALL POTENTIAL TRANSFORMERS, CURRENT TRANSFORMERS AND METER IN THE CSTE METERING COMPARTMENT.
4. COORDINATE WITH CITY OF WINNIPEG AND CONTRACTOR FOR EXCAVATIONS AND SITE RESTORATION FOR CABLING INSTALLATION.

CONSTRUCTION NOTE:

1. CONTRACTOR PROVIDE AND INSTALL NEW 600VOLT CUSTOMER SERVICE TERMINATION ENCLOSURE WITH METERING COMPARTMENT (CSTE-NRF).
2. COORDINATE WITH MANITOBA HYDRO FOR THE INSTALLATION OF THE NEW SERVICE.
3. PROVIDE AND INSTALL 4 X 152 mm CONDUITS TO ROUTE C-UTIL CABLE INTO CSTE. PROVIDE INSTALLATION AS PER DETAIL DRAWINGS.
4. CONTRACTOR TO PROVIDE AND INSTALL GROUND RODS, CONDUCTORS AND STRUCTURE.

GENERAL NOTE:

1. ALL EQUIPMENT SHOWN ON THIS DRAWING BELOW THE "MH-CUSTOMER" LINE, EXCLUDING THE C-UTIL CABLE (PROVIDED BY MANITOBA HYDRO), IS NEW AND PROVIDED BY THE CONTRACTOR.
2. ALL CONDUITS ARE PVC.
3. ALL ELECTRICAL EQUIPMENT IS SECURED WITH PADLOCKS.
4. CONTRACTOR MUST COMPLY WITH THE LATEST CANADIAN ELECTRICAL CODE REQUIREMENTS FOR ALL ELECTRICAL INSTALLATION WORK.
5. PROVIDE BONDING TO FREE STANDING STRUCTURE PER CEC CODE REQUIREMENT.



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ENGINEER'S SEAL

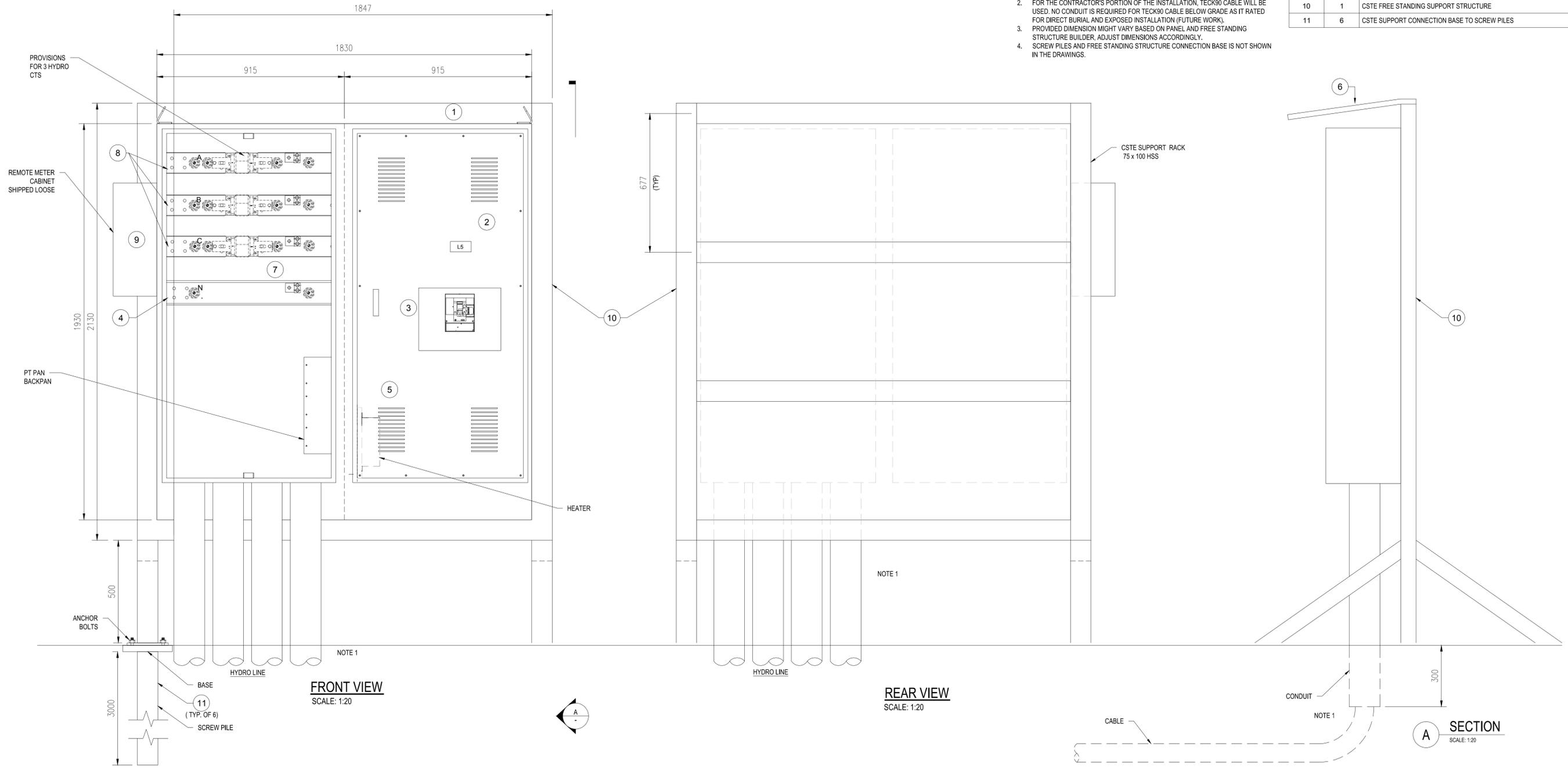
THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT

NEWPCC - NUTRIENT REMOVAL FACILITIES
 CONSTRUCTION POWER AND CSTE WORK
 ELECTRICAL
 SINGLE LINE DIAGRAM

CITY DRAWING NUMBER: -

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001	00	A1

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- NOTE:
- THE MANITOBA HYDRO CABLES WILL BE INSTALLED TO RUN STRAIGHT DOWN IN 4 x 152 mm CONDUITS, CONTINUE BELOW GRADE TO MEET CABLE BENDING RADIUS. 152 mm CONDUITS TO BE BURIED 300 mm BELOW GRADE. C-UTIL WILL BE RUN TO, AND TERMINATED AT MANITOBA HYDRO SUPPLIED TRANSFORMER. THE C-UTIL TO BE DIRECT BURIED 1 METRE PAST CSTE STRUCTURE.
 - FOR THE CONTRACTOR'S PORTION OF THE INSTALLATION, TECK90 CABLE WILL BE USED. NO CONDUIT IS REQUIRED FOR TECK90 CABLE BELOW GRADE AS IT RATED FOR DIRECT BURIAL AND EXPOSED INSTALLATION (FUTURE WORK).
 - PROVIDED DIMENSION MIGHT VARY BASED ON PANEL AND FREE STANDING STRUCTURE BUILDER, ADJUST DIMENSIONS ACCORDINGLY.
 - SCREW PILES AND FREE STANDING STRUCTURE CONNECTION BASE IS NOT SHOWN IN THE DRAWINGS.

BILL OF MATERIAL		
ITEM	QTY	MATERIAL DESCRIPTION
1	1	CSTE METERED SECTION 1600 AMP 347/600 VOLT 3 PHASE 4 WIRE 50 KA c/w PROVISIONS TO SUIT UTILITY CT'S AND PT'S
2	1	HINGED OUTER DOOR OVER CSTE SECTION C/W 3 POINT PADLOCKING HANDLE
3	1	1600 AMP 3 POLE LSIG BREAKER 80 % RATED 50 KAIC WITH BREAKER LOCK OFF
4	1	1600 AMP NEUTRAL CT
5	1	200 WATT HEATER C/W STAT./DIN RAIL MOUNT BREAKER
6	1	ANTI-CONDENSATE ROOF
7	1	HINGED OUTER DOOR WITH 3 POINT PADLOCKING HANDLE
8	1	FACTORY ASSEMBLED AND WIRED SERVICE ENTRANCE APPROVED ALUMINUM BUS BAR
9	1	POWDER COATED ASA 61 GREY INCLUDES RMC501 METER CABINET - SUPPLIED LOOSE
10	1	CSTE FREE STANDING SUPPORT STRUCTURE
11	6	CSTE SUPPORT CONNECTION BASE TO SCREW PILES

FRONT VIEW
SCALE: 1:20

REAR VIEW
SCALE: 1:20

SECTION A
SCALE: 1:20



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00	ISSUED FOR TENDER	2026-02-06	PM	SB	CONSULTANT NO.: YN-E004		ENGINEER'S SEAL
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THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT

NEWPCC - NUTRIENT REMOVAL FACILITIES
 CONSTRUCTION POWER AND CSTE WORK
 ELECTRICAL
 CSTE LAYOUT

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