MAIN FLOOR PLAN
SCALE: 1:50

BASEMENT PLAN
SCALE: 1:50

MOTOR ROOM AND COMMINUTOR CHAMBER PLAN
SCALE: 1:50

PUMP ROOM AND WET WELL PLAN
SCALE: 1:50

KEY NOTE:

1. AREAS CLASSIFIED AS NON-HAZARDOUS SO LONG AS CONTINUOUS TEMPERED VENTILATION AT 6 ACH IS MAINTAINED AS REQUIRED BY SECTION 18 AND 22 OF THE CANADIAN ELECTRICAL CODE AND NFPA 820-20.

NOTES:

WET WELL
AREA CLASSIFICATION:

1. THE AREA INSIDE THE SEWAGE WET WELL IS TO BE CONSIDERED A HAZARDOUS ENVIRONMENT. ALL INSTALLATION AND MATERIALS TO MEET REQUIREMENTS SET OUT BY CANADIAN ELECTRICAL CODE (CEC) AND OTHER RELEVANT STANDARDS.

2. HAZARDOUS MATERIAL: SEWAGE WASTE WATER.

POTENTIAL GASSES	APPROXIMATE AUTO IGNITION TEMPERATURE	FLAMMABLE / EXPLOSIVE LIMITS
HYDROGEN SULFIDE (H2S)	232°C	4.3% – 46%
METHANE (CH4)	537°C	4.4% – 17%
AMMONIA (NH4+)	651°C	15% – 28%

3. HAZARDOUS AREA: WASTE WATER WET WELL.
   - CEC SECTION 18 AREA RATING: ZONE 1 EXPLOSIVE GAS (DIVISION 2)
   - CEC SECTION 22 AREA RATING: CATEGORY 2 CORROSIVE VAPOUR.

4. WIRING METHODS:
   - TECK CABLE WITH "HL" RATING SPACED MINIMUM 12mm FROM WALL
   - ACIC CABLE WITH "HL" RATING SPACED MINIMUM 12mm FROM WALL
   - RIGID ALUMINIUM PVC COATED (RA PVC, "ROBROY")

5. SEALING METHODS:
   - TECK CABLE: SEE ZONE 1 CABLE SEALING DETAIL.
   - RA PVC: POURED EYS SEALS OUTSIDE OF THE RATED AREA. INSTALLATION ONLY PERMITTED WHERE CABLING IS NOT PART OF A PRE-MANUFACTURED EQUIPMENT ASSEMBLY.
   - PRE-MANUFACTURED CABLE: SEE ZONE 1 CABLE SEALING DETAIL.

6. EQUIPMENT RATINGS: ALL ELECTRICAL EQUIPMENT IN THE WET WELL IS TO BE CONSTRUCTED AND CERTIFIED AS AN "INTRINSICALLY SAFE FIELD DEVICE" WITH A RATING EQUAL TO OR GREATER THAN THE HAZARDOUS AREA RATING. THE EQUIPMENT AT MINIMUM SHALL INCLUDE ONE OF THE FOLLOWING CSA MARKINGS:
   - ZONE 0: IS, I.S., Ex i, Ex ia
   - ZONES 1 AND 2: ALL OF ZONE 0, Ex ib
   - ZONE 2: ALL OF ZONES 0 AND 1, Ex ic
   - REFER TO CEC 22.1-18 TABLE 18 FOR FUTHER MARKINGS.

7. GROUNDING AND BOUND: STRUCTURAL STEEL BELOW GROUND IN CONTACT WITH EARTH SHALL BE BONDED TO THE SYSTEM GROUND.

NO.	DRAWING NUMBER	REFERENCE DRAWING TITLE
10		
9		
8		
7		
6		
5		
4		
3		
2		
1		

REFERENCE DRAWINGS

0 1000 2000 3000 4000 5000
SCALE: 1:50

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES
UNLESS OTHERWISE NOTED

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
MPE, a division of Englobe Corp.
No. 4968 Date: MAR 19, 2024

B.M.
ELEV.

NO.	REVISIONS	DATE	BY
0	ISSUED FOR CONSTRUCTION	2024-03-19	

MPE a division of Englobe

DESIGNED BY J. SWAIN
CHECKED BY R. OFSTIE
DRAWN BY J. SWAIN, T. SHRUFI
APPROVED BY R. OFSTIE
SCALE: 1:50
HORIZONTAL
VERTICAL
RELEASED FOR CONSTRUCTION
DATE 2024-03-19
DATE
PLOT DATE: 2024 03 19

PROVINCE OF MANITOBA
R.G OFSTIE
Member 44405
REGISTERED PROFESSIONAL ENGINEER
MARCH 21, 2024
CONSULTANT DRAWING NUMBER

BID OPPORTUNITY: --

Winnipeg
THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

CONWAY LIFT PUMPING STATION
2024 UPGRADES
ELECTRICAL HAZARDOUS LOCATION PLAN
PLANS AND SECTIONS

CITY DRAWING NUMBER 1-0131L-E0007-001-00 SHEET 48 OF 102

FILE PATH: M:\N-Data\84\00 City of Winnipeg\005 - Conway Lift Station\Autodesk\ACAD\
FILE NAME: E1.5 ELECTRICAL HAZARDOUS LOCATION PLAN.dwg