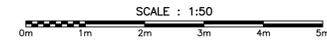


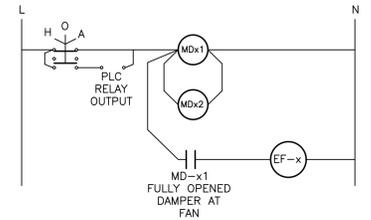
FLOOR PLAN - POWER LAYOUT



TAG	DESCRIPTION	CONTROLS	RATING	NOTES
H1	WALL MOUNTED UNIT HEATER, 18 GAUGE HOUSING C/W ADJUSTABLE LOUVERS, THERMAL PROTECTION, ENCLOSED PERMANENTLY LUBRICATED MOTOR ALMOND FINISH	24V CONTROL KIT	5.0KW, 600V, 3ø	1,2
H2	STEEL SLOPED TOP COMMERCIAL BASEBOARD, 18 GAUGE CABINET, 16 GAUGE FRONT PANEL, C/W THERMAL PROTECTION, WHITE FINISH	BUILT IN THERMOSTAT	2.0KW, 208V, 1ø	
H3	SURFACE MOUNTED FAN FORCED HEATER, 20 GAUGE HOUSING, 18 GAUGE FACEPLATE, ENCLOSED PERMANENTLY LUBRICATED MOTOR, C/W SURFACE MOUNTED ADAPTOR, WHITE FINISH	BUILT IN THERMOSTAT	2.0KW, 208V, 1ø	
H4	WALL MOUNTED UNIT HEATER, 18 GAUGE HOUSING C/W ADJUSTABLE LOUVERS, THERMAL PROTECTION, ENCLOSED PERMANENTLY LUBRICATED MOTOR ALMOND FINISH	24V CONTROL KIT	10.0KW, 600V, 3ø	1,2
H5	SUSPENDED FROM CEILING, CLASS 1 ZONE 1 EXPLOSION PROOF UNIT HEATER, 12 GAUGE STEEL CABINET, ADJUSTABLE LOUVERS, INTEGRAL JUNCTION BOX, ZINC PLATED FASTENERS, THERMAL OVERLOAD, BUILT IN CONTROL TRANSFORMER, THREADED NPT HUB CONNECTIONS	24V CONTROL KIT	20.0KW, 600V, 3ø	1,2
H6	STEEL SLOPED TOP COMMERCIAL BASEBOARD, 18 GAUGE CABINET, 16 GAUGE FRONT PANEL, C/W THERMAL PROTECTION, WHITE FINISH	BUILT IN THERMOSTAT	1.0KW, 208V, 1ø	
H7	WALL MOUNTED UNIT HEATER, 18 GAUGE HOUSING C/W ADJUSTABLE LOUVERS, THERMAL PROTECTION, ENCLOSED PERMANENTLY LUBRICATED MOTOR ALMOND FINISH	BUILT IN THERMOSTAT	2.0KW, 208V, 1ø	

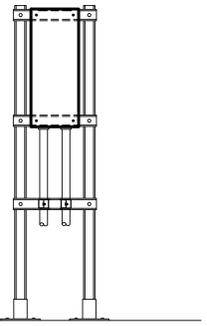
NOTES:  
 1. HEATER SHALL BE CONNECTED TO STATION CONTROL PANEL FOR CONTROL  
 2. FINAL CONNECTION TO HEATER SHALL BE MADE WITH TECK90 CABLE AND CLASS 1, ZONE 1 FITTINGS.

HEATER SCHEDULE



SEQUENCE OF OPERATION  
 WHEN MOTOR STARTER SELECTOR IS SELECTED TO HAND BOTH MOTORIZED DAMPERS ARE POWERED OPEN. ONCE THE DAMPER AT THE FAN IS FULLY OPENED THE FAN WILL START.  
 WHEN THE SELECTOR SWITCH IS IN AUTO THE PLC WILL DETERMIN WHEN THE FAN IS REQUIRED.

EF-3.4.6 & 7 WIRING SCHEMATIC



DISCONNECT SWITCH MOUNTING DETAIL

ID	DESCRIPTION	VOLTAGE	LOAD	BREAKER	FEEDER	CONDUIT	CONTROLS	DISCONNECT	NOTES
01	EF-1	120V	0.2A	15A-1P	2C#12 AWG + #12 BND IN 21mmC	2A-7	SW	15A, NEMA 1	-
02	EF-2	120V	0.2A	15A-1P	2C#12 AWG + #12 BND IN 21mmC	2A-7	SW	15A, NEMA 1	-
03	EF-3	120V	1/4 HP	15A-1P	2C#12 AWG + #12 BND IN 21mmC	2A-10	HOA/PLC	30A, NEMA 3R	-
04	EF-4	120V	1/4 HP	15A-1P	2C#12 AWG + #12 BND IN 21mmC	2A-14	HOA/PLC	30A, NEMA 3R	-
05	EF-5	600V	1 1/2 HP	15A-3P	3C#12 AWG + #12 BND IN 21mmC	6A-25,27,29	VFD	30A, NEMA 3R	-
06	EF-6	120V	1/8 HP	15A-1P	2C#12 AWG + #12 BND IN 21mmC	2A-50	HOA/PLC	30A, NEMA 1	-
07	DWH	600V	27 KW	40A-3P	3C#8 AWG + #10 BND IN 27mmC	6A-32,34,36	N/A	60A, NEMA 1	-
08	PRESSURE WASHER	600V	7 1/2 HP	15A-3P	3C#10 AWG + #12 BND IN 21mmC	6A-31,33,35	CP	30A, NEMA 4	-
09	DW CIRCULATION PUMP	120V	0.2A	15A-1P	2C#12 AWG + #12 BND IN 21mmC	2A-42	SW	15A, NEMA 1	-
10	TRAP SEAL PRIMER	120V	0.2A	15A-1P	2C#12 AWG + #12 BND IN 21mmC	2A-43	N/A	N/A	-
11	SCREENER	600V	20 HP	40A-3P	3C#6 AWG + #10 BND IN 27mmC	6A-26,28,30	CP/PLC	60A, XP	-
12	SCREW COMPACTOR	600V	10 HP	30A-3P	3C#10 AWG + #12 BND IN 21mmC	6A-20,22,24	CP/PLC	30A, XP	-
13	EF-7	120V	FHP	15A-1P	2C#12 AWG + #12 BND IN 21mmC	2A-48	HOA/PLC	30A, NEMA 1	-
14	AERATION BLOWER #1	600V	20 HP	40A-3P	3C#6 AWG + #10 BND IN 27mmC	6A-8,10,12	VFD	60A, NEMA 4	-
15	AERATION BLOWER #2	600V	20 HP	40A-3P	3C#6 AWG + #10 BND IN 27mmC	6A-14,16,18	VFD	60A, NEMA 4	-

NOTES:  
 1. CONTROLS LEGEND:  
 MS - MANUAL STARTER C/W OVERLOAD PROTECTION AND LOCKOUT PROVISION  
 MSR - MANUAL STARTER C/W OVERLOAD PROTECTION, LOCKOUT PROVISION AND EXTERNAL CONTROL RELAY, RELAY BASE SHALL BE MOUNTED WITHIN AN ENCLOSURE SEPARATE FROM MANUAL STARTER (CONFIRM CONTROL COIL VOLTAGE WITH MECHANICAL CONTRACTOR)  
 HOA - MAGNETIC STARTER C/W DISCONNECT, CONTROL RELAYS AND HAND, OFF/AUTO SELECTOR SWITCH.  
 SS - SOFT START  
 VFD - VARIABLE FREQUENCY DRIVE, C/W LOCK OUT PROVISIONS  
 XP - MOTOR RATED SWITCH C/W LOCK OUT PROVISION  
 EXPLOSION PROOF, RATED FOR THE AREA  
 CONTROL PANEL SUPPLIED WITH EQUIPMENT

MECHANICAL EQUIPMENT SCHEDULE

- NOTES:
- INSTALL 100mm THICK HOUSE KEEPING PAD UNDER EQUIPMENT. EXTEND PAD 75mm BEYOND EQUIPMENT. CONFIRM EXACT DIMENSIONS OF PAD WITH MANUFACTURERS SHOP DRAWINGS. COORDINATE WITH STRUCTURAL.
  - INSTALL 19MM PAINTED PLYWOOD BACKBOARD FOR MOUNTING OF FIBER OPTIC CABLE BREAKOUT BOX AND PATCH PANEL.
  - PROVIDE SHELF SECURED TO WALL FOR UPS FOR NETWORK EQUIPMENT. UPS SAME SIZE AS SPECIFIED IN SECTION 40 50 00. UPS TO PLUG INTO DEDICATED RECEPTACLE AND ALL NETWORK GEAR TO BE PLUGGED INTO UPS.
  - ALL WIRING IN WITHIN THE HEADWORKS BUILDING SHALL ADHERE TO CLASS 1 ZONE 1 WIRING METHODS.
  - LOCAL CONTROLS FOR SCREENER AND SCREW COMPACTOR. COORDINATE EXACT CONFIGURATION, QUANTITY & SIZE OF CONDUCTORS AND LAYOUT WITH EQUIPMENT SUPPLIER.
  - COORDINATE EXACT LOCATION OF O/H DOOR OPENER WITH DOOR SUPPLIER. SPARE CONDUIT. STUB UP IN ROOM 300mm A.F.F. AND CAP OFF.
  - WIRING FROM MOTOR STARTERS TO DAMPERS AND EXHAUST FANS BY ELECTRICAL CONTRACTOR.
  - CONTRACTOR TO VALIDATE WIRING SIZE ON SITE AND COORDINATE WITH DEPARTMENTAL REPRESENTATIVE PRIOR TO ORDERING WIRING AND PANEL.
  - THIS ROOM IS NOT A HAZARDOUS AREA WHEN EXHAUST FANS ARE RUNNING ACHIEVING 6 AIR CHANGES PER HOUR.
  - NON-EXPLOSION PROOF ROOM CONTRACTOR. SEE DIAGRAM DETAIL ON PAGE E06.



revisions	date
3	ISSUED FOR TENDER 06/17/2022
2	ISSUED FOR RS4 99% SUBMISSION 10/30/2020
1	ISSUED FOR RS4 66% SUBMISSION 02-28/2020
0	ISSUED FOR RS3 SUBMISSION 08-17/2018

SEWAGE TREATMENT UPGRADES SPRINGHILL INSTITUTION

ELECTRICAL SINGLE LINE, POWER LAYOUT & HEATER SCHEDULE

designed EH	conçu
date 2022-06-17	
drown GS	dessiné
date 2022-06-17	
approved DD	approuvé
date 2022-06-17	
Tender	Soumission
PWSC Project Manager	Administrateur de projets TPSGC
project number	no. du projet
R.061876.001	
drawing no.	no. du dessin
E05	