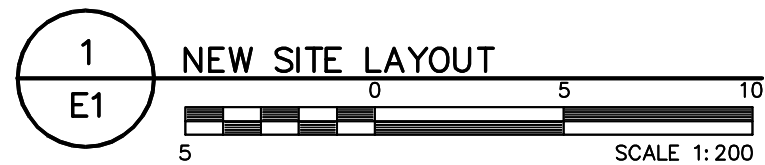


PROVIDE OVERHEAD
MAST WITH
WEATHERHEAD

NEW OVERHEAD
POWER AND
COMMUNICATION
SERVICE BY UTILITY



EXISTING
HYDRO POLE

WATER

FIXTURE SCHEDULE

| SYMBOL | TYPE | DESCRIPTION |
|--------|------|---|
| | A | 1391mm x 210mm VAPOUR PROOF LED <ul style="list-style-type: none">44W LED LAMPFROSTED POLYCARBONATE HOUSING WITH CONTINUOUS POURED-IN-PLACE, CLOSED GASKET.IMPACT-RESISTANT, CLEAR TRANSPARENT POLYCARBONATE LEN.120V OPERATEDCHAIN SUPPORT |
| | B | WALL MOUNTED LED DOWNLIGHT <ul style="list-style-type: none">72W LED LAMPWEATHER RESISTANT DIE CAST ALUMINUM HOUSINGPROTECTIVE GLASS LEN120V OPERATEDC/W VANDAL GUARD |
| | C | VAPOUR LIGHT FIXTURE <ul style="list-style-type: none">39W LED LAMPWEATHER RESISTANT DIE CAST ALUMINUM HOUSING WITH CORROSION-RESISTANT PAINTSEALED GASKET AGAINST MOISTURE AND DUSTFROSTED GLASS DIFFUSER120V OPERATEDC/W VANDAL GUARD |

LEGEND

| SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION |
|--------|---------------------------------------|--------|--------------------------------|
| | FIRE ALARM PULL STATION | | METER HEAD |
| | FIRE ALARM HEAT DETECTOR | | JUNCTION BOX |
| | FIRE ALARM HORN AND STROBE | | CONTACTOR |
| | FIRE ALARM CONTROL PANEL | | PHOTOCELL |
| | LIGHT SWITCH (3 INDICATES 3-WAY) | | BREAKER PANEL |
| | DOUBLE-GANG LIGHT SWITCH | | WALL MOUNTED TELEPHONE OUTLET |
| | 1' x 4' LIGHT FIXTURE | | |
| | WALL MOUNTED LIGHT FIXTURE | | GROUND ROD |
| | CEILING MOUNTED BILINGUAL EXIT SIGNS | | GROUND |
| | EMERGENCY BATTERY UNIT C/W HEADS | | CIRCUIT BREAKER |
| | EMERGENCY REMOTE HEADS - WALL MOUNTED | | REFER TO NOTE 1 |
| | DUPLEX RECEPTACLE | | FIXTURE TYPE 'A' |
| | DIRECT CONNECTION | | DENOTES GROUND FAULT INTERRUPT |
| | VARIABLE FREQUENCY DRIVE | | DENOTES WEATHER PROOF |
| | DISCONNECT SWITCH | | |
| | MOTOR STARTER PROTECTION | | |

GENERAL NOTES:

- A. PERFORM COMPLETE INSTALLATION OF EQUIPMENT IN STRICT ACCORDANCE, AND SHALL MEET THE MOST STRINGENT REQUIREMENTS OF THE FOLLOWING STANDARDS:
- CSA C22.1 -15 CANADIAN ELECTRICAL CODE, PART 1 (23RD EDITION).
 - GOVERNMENT OF NUNAVUT'S GOOD BUILDING PRACTICES GUIDELINES - SECOND EDITION DECEMBER, 2005.
 - DEPARTMENT OF COMMUNITY AND GOVERNMENT SERVICES - PROTECTION SERVICES DIVISION - GN ELECTRICAL BULLETINS OFFICE OF THE NUNAVUT FIRE MARSHALL TECHNICAL BULLETINS.
- B. VERIFY WITH THE ELECTRICAL INSPECTION DEPARTMENT THE ACCEPTABILITY OF ANY PRE-WIRING DONE OUTSIDE THE PROVINCE OF NUNAVUT AND ENSURE THAT A PERMIT IS ACQUIRED.

NOTES:

- PROVIDE AND INSTALL NEW 50kV/60kVA, 120/208V, 3Ø, 4W EMERGENCY GENERATOR GL.
- PROVIDE AND INSTALL BATTERY CHARGER AS INDICATED. COMPLETE CONNECTION FROM CHARGER TO BATTERIES AT GENERATOR.
- FEED BLOCK HEATER TERMINAL BOX FROM PANEL DP-A AS INDICATED. REFER TO PANEL SCHEDULE.
- OVERHEAD INCOMING POWER AND COMMUNICATION SERVICE. PROVIDE ONE (1) 38mm RIGID GALVANIZED CONDUIT STUB TO EXTERIOR OF BUILDING FOR SERVICE ENTRANCE AND SEAL.
- PROVIDE MAIN INCOMING FEEDER BREAKER AS INDICATED. REFER TO SINGLE LINE DIAGRAM FOR DETAILS.
- PROVIDE GROUND BUS IN NEW GENERATOR ROOM AS INDICATED. REFER TO 1/E3 FOR DETAILS.
- PROVIDE 120/208V, 3Ø ELECTRIC UNIT HEATER EQUIPPED WITH RELAY BASE AS INDICATED. PROVIDE CONDUIT AND WIRE TO THERMOSTAT AS INDICATED. COORDINATE CONNECTION WITH MECHANICAL. REFER TO PANEL SCHEDULE FOR CIRCUIT DETAILS. EH-01: 3 kW. EH-02: 5 kW.
- PROVIDE FIRE ALARM CONTROL PANEL AND ASSOCIATED FIRE DETECTING DEVICES AND ALARMS AS INDICATED.
- PROVIDE POWER FROM PANEL DP-A TO CONTROL PANEL GP-01 PROVIDED BY DIVISION 23. PROVIDE TWO (2) 27mm EMT CONDUIT FROM CONTROL PANEL TO WATER PUMP STARTERS TO CONTROL THEIR OPERATION. COORDINATE CONNECTION WITH MECHANICAL.
- PROVIDE TWO (2) VFD STARTERS COMPLETE WITH 50m of 3 x 3 AWG TECK CABLE FED FROM PANEL DP-A TO FEED WATER PUMPS MD-01 AND MD-02 AS INDICATED. COORDINATE CONNECTION WITH MECHANICAL. PROVIDE 100A FRAME DISCONNECTS IN MAIN PUMPING ROOM.
- PROVIDE HEAT TRACE CONTROLLERS AND 6 x 15A-208V RECEPTACLES TO MATCH THE HEAT TRACE CABLE'S PLUG. PROVIDE GFI BREAKERS ON ASSOCIATED CIRCUITS. REFER TO DETAIL 1/E2.
- PROVIDE POWER FROM PANEL DP-A TO FUEL CONTROL PANEL FCP-01 AS INDICATED. TWO (2) FUEL TRANSFER PUMPS AND ONE (1) CONTROL PANEL PROVIDED BY DIVISION 23. FEED EACH PUMP WITH SEPARATE FEEDER FROM CONTROL PANEL IN LIQUID TIGHT FLEX CONDUIT. COORDINATE CONNECTIONS WITH DIVISION 23.
- PROVIDE 120V CIRCUIT TO LOW VOLTAGE TRANSFORMER FOR CONTROL CONNECTIONS PROVIDED BY DIVISION 23. COORDINATE CONNECTIONS WITH MECHANICAL.
- PROVIDE 120V CONNECTION FROM PANEL DP-A TO DAMPER MOTORS AS INDICATED. TYPICAL FOR ALL DAMPER MOTOR CONNECTIONS. MOTORIZED DAMPERS SUPPLIED AND INSTALLED BY DIVISION 23.
- PROVIDE ONE (1) 27mm RIGID PVC CONDUIT FOR CONTROL WIRING FROM FUEL CONTROL PANEL TO MAIN TANK AS INDICATED. COORDINATE CONDUIT RUN TO BUNDLE WITH MECHANICAL AND STRUCTURAL DIVISION.
- PROVIDE ONE (1) 27mm EMT CONDUIT FOR CONTROL WIRING FROM FUEL CONTROL PANEL TO DAYTANK DT-01 AS INDICATED. COORDINATE CONDUIT RUN WITH MECHANICAL.
- PROVIDE PHOTOCELL AS INDICATED TO CONTROL TYPE B EXTERIOR LIGHTS.
- PROVIDE LIGHTING CONTROL CONTACTOR FOR OUTDOOR LIGHTING COMPLETE WITH HAND-OFF-AUTO CONTROL. CONNECT TO PHOTOCELL.
- PROVIDE UNISTRUT CHANNEL COMPLETE WITH TWO (2) 20A OUTLETS AND TWO (2) HP RATED TOGGLE SWITCHES AS INDICATED, TO POWER AND CONTROL THE OPERATION OF MIXER MX-01 AND PUMP TP-01 PROVIDED BY OTHERS. LABEL CIRCUITS ACCORDINGLY. COORDINATE LOCATION WITH WINDOW.
- PROVIDE ONE (1) STARTER COMPLETE WITH WIRE AND CONDUIT AS INDICATED, TO FEED DAMPERS MD-05 AND MD-06. CONNECT TO REMOTE SIGNAL PROVIDED BY DIVISION 23, INTERLOCKED TO ERV-01.
- PROVIDE EIGHT (8) CHANNEL AUTO-DIALER COMMUNICATION MODULE AS INDICATED INCLUDING SIGNAL WIRING IN 21mm CONDUIT, AND DRY CONTACTS TO DIAL OUT MAJOR ALARMS AS FOLLOWS:
 - ONE PAIR: 3 #14 TO SIGNAL GENERATOR ON
 - ONE PAIR: 3 #14 TO SIGNAL GENERATOR TROUBLE/FAILURE
 - ONE PAIR: 3 #14 TO SIGNAL LOW BUILDING TEMP
 - ONE PAIR: 3 #14 TO SIGNAL FIRE ALARM ACTIVATION
 - AUTO DIALER TO HAVE BATTERY BACK-UP-FOR 24 HOURS OF MONITORING
- PROVIDE 200A, 120/208V, 3Ø, 4W ATS, COMPLETE WITH SWITCHABLE NEUTRAL.
- PROVIDE FIBREGLASS REINFORCED POLYESTER (FRP) BACKBOXES AND JUNCTION BOXES FOR ALL DEVICES INSTALLED INSIDE THE CHEMICAL ROOM. PROVIDE PVC CONDUIT FOR ALL CIRCUITS ENTERING THE CHEMICAL ROOM.
- PROVIDE SPLIT PARKING RECEPTACLE IN WEATHERPROOF ENCLOSURE ON EXTERIOR WALL OF BUILDING FOR MAINTENANCE STAFF.
- PROVIDE POWER FROM PANEL DP-A TO CHLORINE PUMP CONTROLLER CPC-01 AS INDICATED. FIVE (5) CHLORINE DOSING PUMPS AND ONE (1) CONTROL PANEL PROVIDED BY DIVISION 23. FEED EACH PUMP WITH SEPARATE FEEDER FROM CONTROL PANEL IN LIQUID TIGHT FLEX CONDUIT. COORDINATE CONNECTIONS WITH DIVISION 23.
- PROVIDE 8m OF RAYCHEM TYPE 38TV1-CR HEAT TRACE CABLING WRAPPED AROUND THE TRUCK FILL ARM.
- CONTROL LIGHT FOR INDICATING SEWAGE TANKS FULL COORDINATE WITH CONTROLS DIVISION. SEE DRAWING M601.
- PROVIDE CIRCUIT FOR CONTROLS CONNECTION.



PERMIT TO PRACTICE BOUTHILLETTE PARIZEAU INC.

Signature:

Date: 2016-05-18

PERMIT NUMBER: P717

NWT/NU Association of Professional
Engineers and Geoscientists

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NOTES: GENERAL CONTRACTOR TO VERIFY ALL DIMENSIONS WITH FINAL ARCHITECTURAL AND MECHANICAL DRAWINGS. NOTIFY THE ENGINEERS OF ANY ERRORS AND/OR OMISSIONS PRIOR TO CONSTRUCTION FOR DIRECTION. DO NOT SCALE THIS DRAWING.

| 1 | ISSUED FOR CONSTRUCTION | 2016/05/18 | BPA | G.G. |
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Gatineau :
430 de l'hôpital bid, suite 210, J8V 117
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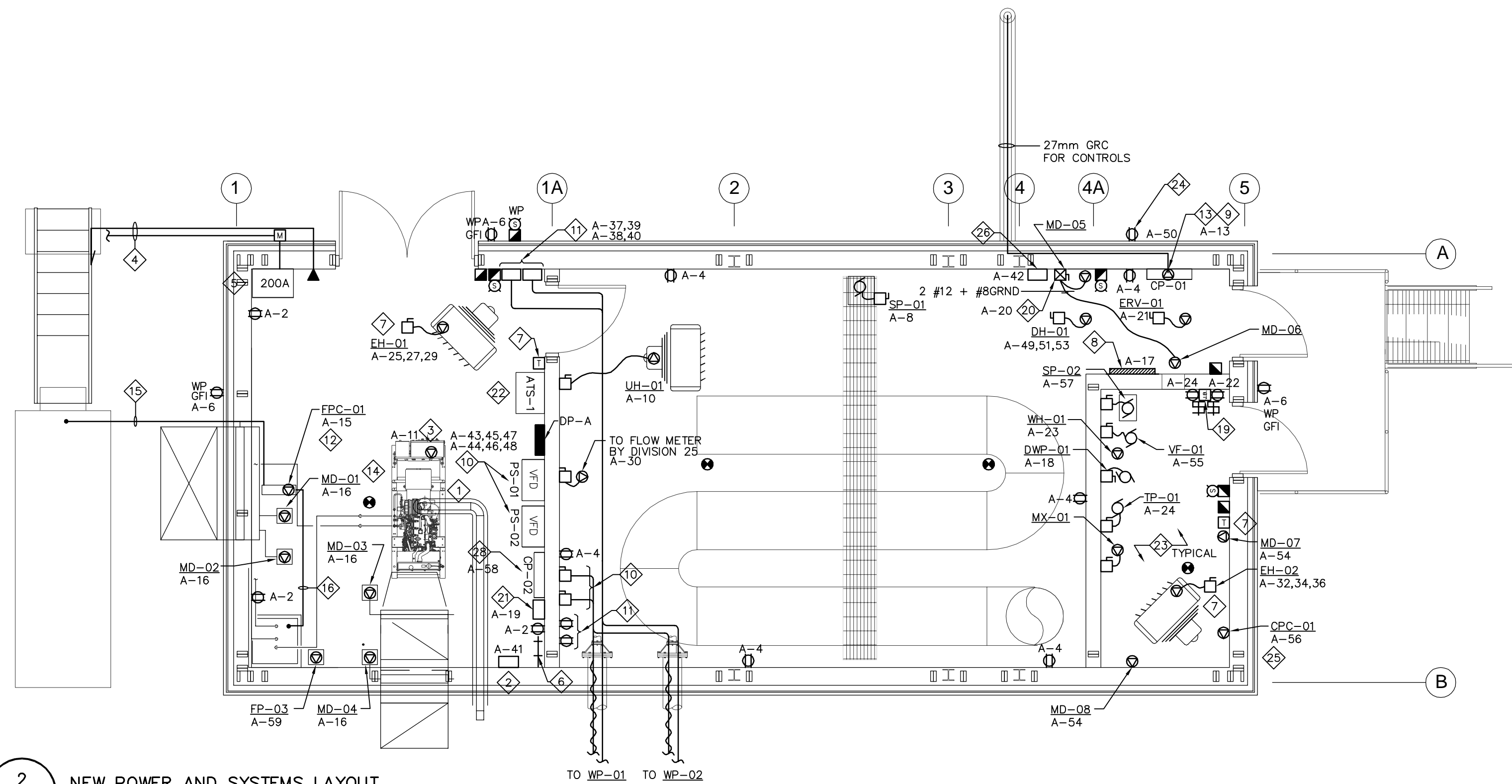


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DEPARTMENT OF COMMUNITY
AND GOVERNMENT SERVICES

PROJECT
REPULSE BAY, NUNAVUT
NEW PUMPING STATION

TITLE
ELECTRICAL
NEW POWER AND LIGHTING
LAYOUT

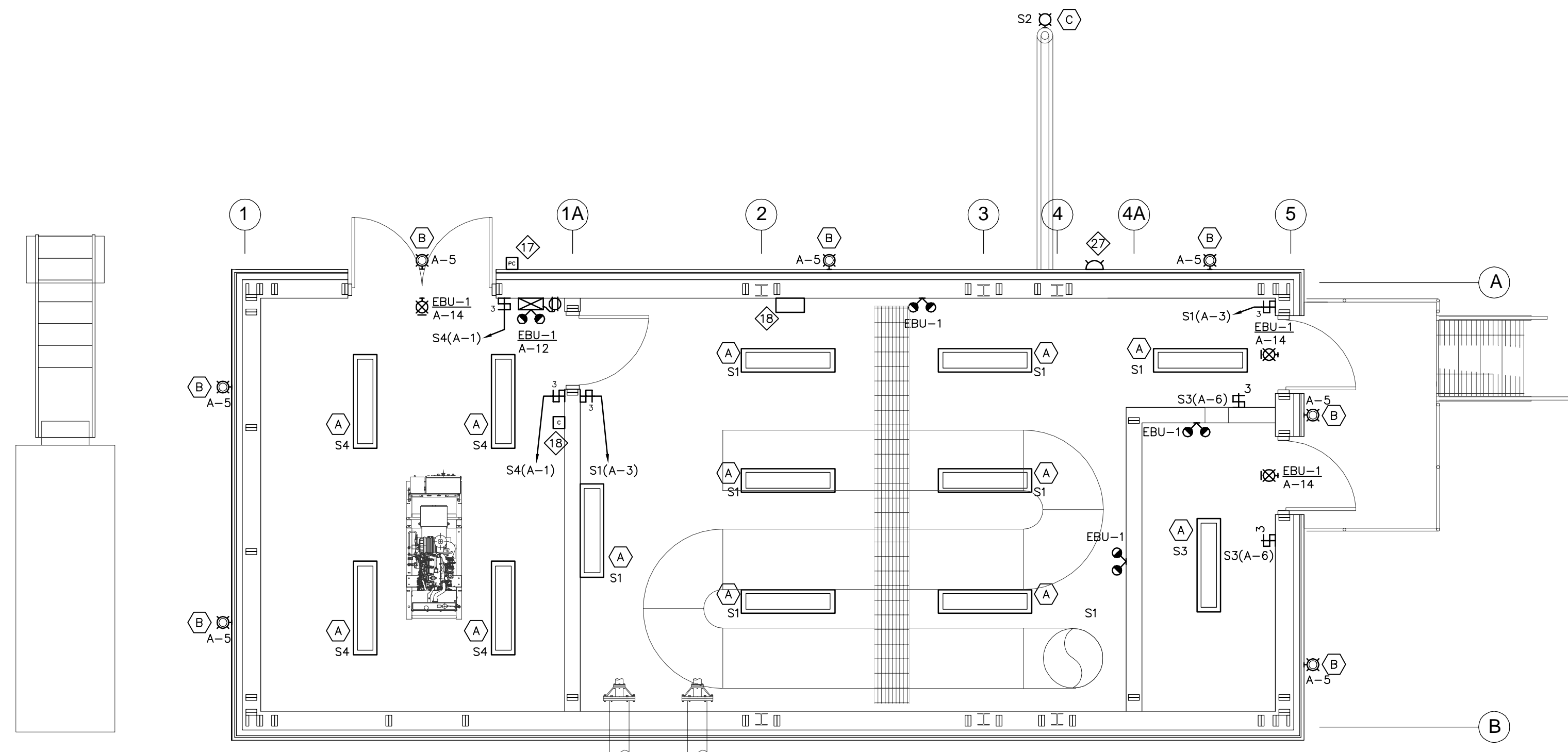
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| design by | A.WADDELL | project no. | 8012-099 |
| drawn by | M.STEVENSON | drawing no. | E1 |
| checked by | G.GODIN | | |
| date | DECEMBER 2013 | | |
| | AS SHOWN | | |



2
E1

NEW POWER AND SYSTEMS LAYOUT

SCALE 1:50



3
E1

NEW LIGHTING LAYOUT

SCALE 1:50



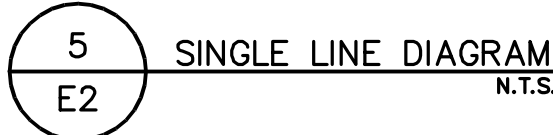
2 MOTOR SCHEDULE
E2 N.T.S.

3
E2

PANEL SCHEDULE


N.T.S.


4 LOAD SUMMARY
E2 N.T.S.



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PROJECT

REPULSE BAY, NUNAVUT
NEW PUMPING STATION

| | |
|-------|---|
| TITLE | ELECTRICAL SINGLE LINE DIAGRAM, SCHEDULES AND DETAILS |
|-------|---|

| | | |
|------------|---------------|--|
| design by | A. WADDELL | project no. 8012-095 drawing no. E2 |
| drawn by | M. STEVENSON | |
| checked by | G. GODIN | |
| date | DECEMBER 2013 | |
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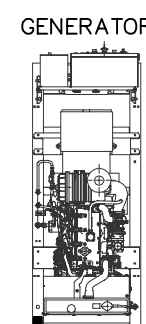
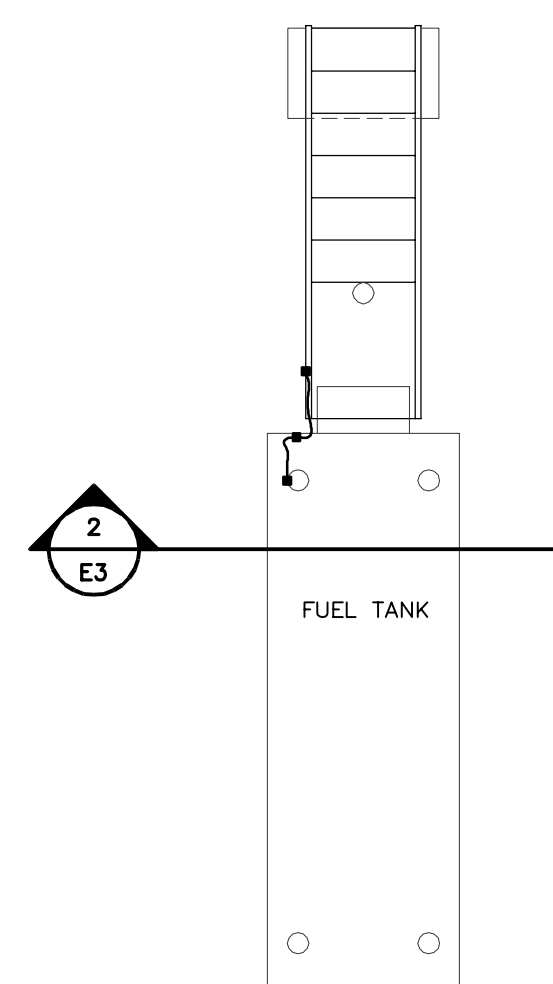


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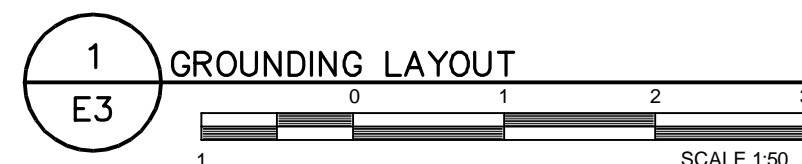
PROJECT
REPULSE BAY, NUNAVUT
NEW PUMPING STATION

TITLE
ELECTRICAL
GROUNDING LAYOUT AND
DETAILS

| | | | |
|------------|---------------|-------------|----------|
| design by | G.GODIN | project no. | 8012-099 |
| drawn by | M.STEVENSON | drawing no. | E3 |
| checked by | G.GODIN | | |
| date | DECEMBER 2013 | | |
| | AS SHOWN | | |

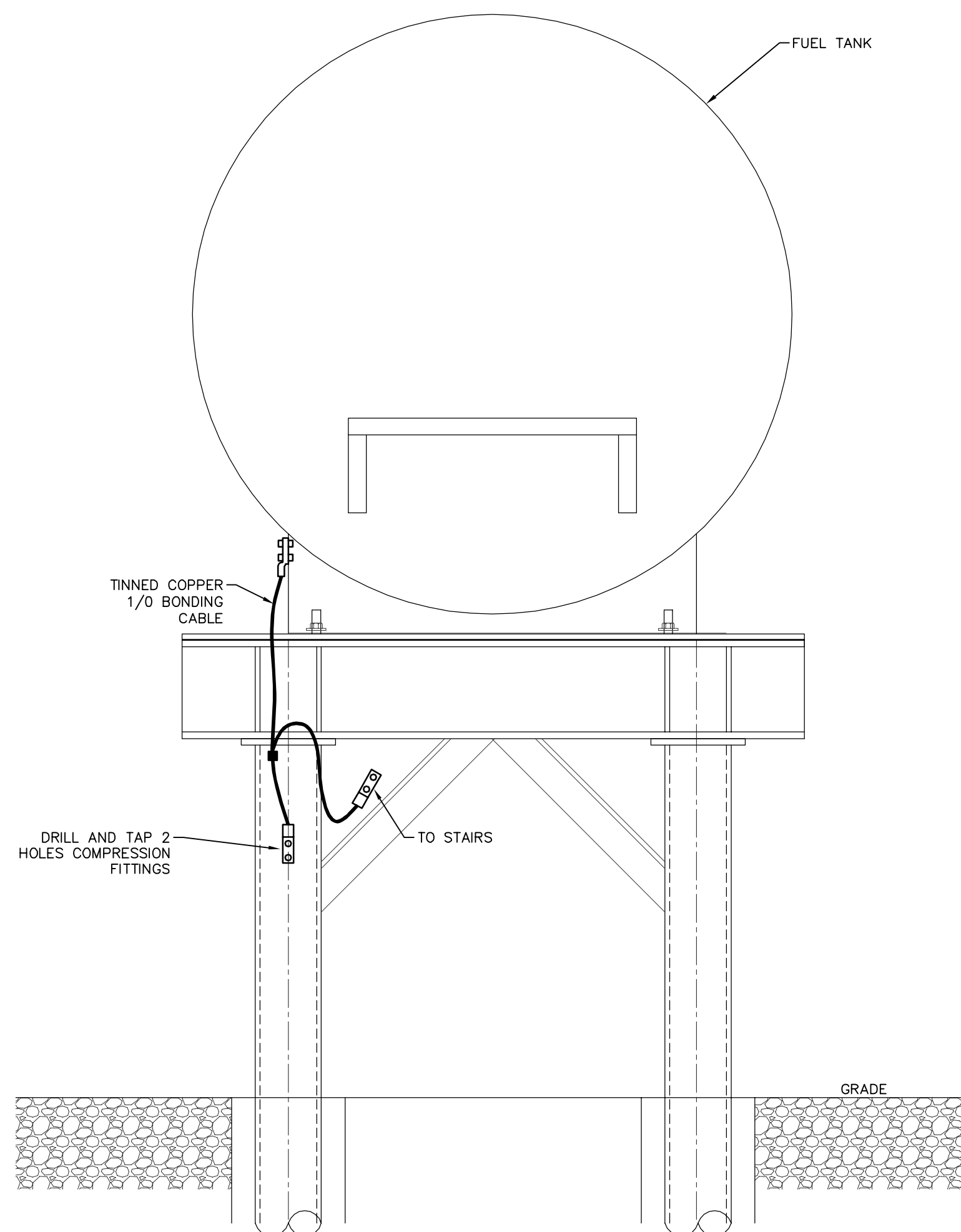


GROUND BAR

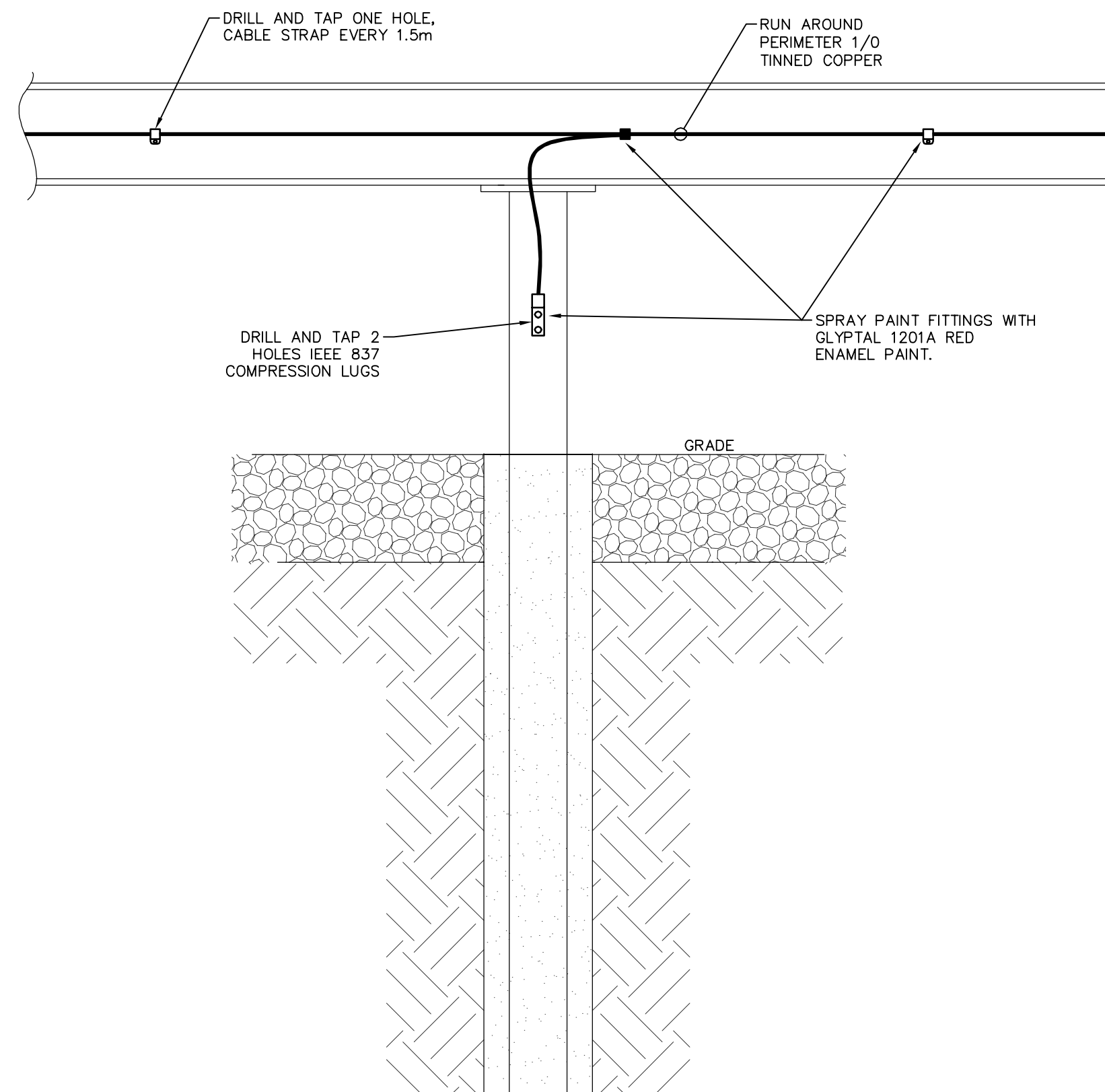


GROUNDING LAYOUT

SCALE 1:50



FUEL TANK GROUNDING DETAIL
N.T.S.



BUILDING GROUNDING DETAIL
N.T.S.