

ADDENDUM #2

All clauses set forth in the Bidding Documents, Contract Documents and General Requirements of the original Contract Documents shall apply to and govern this work. The addendum refers to changes and additions to the original Contract Documents and is to be read in conjunction with the same. All other parts of the original Contract Documents are to be considered as applying to the work of this Contract with the exceptions and changes as noted below.

DRAWINGS

1. Reference New Sketches:
 - .1 See sketches SK-1, SK-2, SK-3, and SK-4, attached to and forming part of this addendum, for associated electrical work.

2. Reference Drawing M3 - Boiler Installation, Notes and Details:
 - .1 Reference General Notes:
 - .1 Delete General Notes 6.6.3 and 6.6.4 in their entirety.

END OF SECTION

ELECTRICAL SPECIFICATION

I. GENERAL CONDITIONS

- A) TENDER REQUIREMENTS, THE PROJECT CONTRACT, RELATED DOCUMENTATION AND GENERAL REQUIREMENTS GOVERN THE WORK OF THIS CONTRACT/TRADE.
- B) ALL ELECTRICAL WORK IS TO BE CARRIED OUT BY QUALIFIED, LICENSED ELECTRICIANS OR APPRENTICES FOR THE PROVINCE OF PRINCE EDWARD ISLAND AND THE ELECTRICAL CONTRACTOR MUST HAVE A VALID CONTRACTOR LICENSE ISSUED BY THE PROVINCE OF PRINCE EDWARD ISLAND.
- C) ELECTRICAL CONTRACTOR TO FURNISH ALL LABOUR, MATERIALS, TOOLS AND EQUIPMENT REQUIRED TO COMPLETE ALL WORK SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED. THE WORK IS TO BE IN ACCORDANCE WITH RULES AND REGULATIONS OF ALL AUTHORITIES HAVING LEGAL JURISDICTION OVER THE WORK. PROVIDE ANY SMALL ITEMS OF WORK NOT SPECIFICALLY CALLED FOR BUT REQUIRED TO COMPLETE THE INTENDED INSTALLATION.

2. CODES, PERMITS AND INSPECTION

ALL WORK IS TO BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CANADIAN ELECTRICAL CODE (CEC), THE NATIONAL BUILDING CODE (NBC), AND THE NATIONAL FIRE CODE (NFC).

3. REMOVALS AND ALTERATIONS

- A) WORK OF THIS SECTION CONSISTS OF THE COMPLETE REMOVAL OF ALL OBSOLETE OR ABANDONED ELECTRICAL EQUIPMENT AND MATERIALS AS INDICATED ON THE DRAWINGS, AND THE ALTERATIONS OF EXISTING ELECTRICAL SERVICES AFFECTED BY THE RENOVATIONS.
- B) ANY EXISTING CONDUIT, WIRING, BOXES OR EQUIPMENT THAT IS TO REMAIN IN SERVICE IS TO BE PROPERLY SUPPORTED AS REQUIRED BY THE CEC. ANY ADDITIONAL HANGERS, STRAPS OR FASTENERS THAT ARE REQUIRED ARE TO BE SUPPLIED AND INSTALLED UNDER THIS CONTRACT.
- C) ANY EXISTING ELECTRICAL CIRCUITS AND/OR EQUIPMENT THAT ARE INTERRUPTED DURING CONSTRUCTION TO ACCOMMODATE ALTERATIONS BUT ARE TO REMAIN IN SERVICE ARE TO BE RECONNECTED AND CIRCUITS MADE GOOD.
- D) THE OWNER INTENDS TO CARRY OUT DAY-TO-DAY BUSINESS AS USUAL THROUGHOUT THE FACILITY DURING THE RENOVATION. ALL POTENTIALLY DISRUPTIVE WORK INCLUDING POWER OUTAGES ARE TO BE COORDINATED AND SCHEDULED WITH THE OWNER IN AN EFFORT TO MINIMIZE DISRUPTION.

4. IDENTIFICATION

- A) PROVIDE AND INSTALL LAMICOID IDENTIFICATION NAMEPLATES ON ALL EQUIPMENT, DISCONNECT SWITCHES, PANELBOARD, STARTERS ETC. INDICATING THE LOAD SERVED, SYSTEM AMPERAGE, VOLTAGE, PHASING AND CIRCUIT NUMBER WHERE APPLICABLE.
- B) LAMICOID NAMEPLATES ARE TO BE MINIMUM 3/4"x3" WITH 1/4" LETTERS AND WHITE WITH BLACK ENGRAVED LETTERS AND ARE TO BE INSTALLED WITH CONTACT CEMENT TO EQUIPMENT ENCLOSURES.
- C) EACH BRANCH PANELBOARD IS TO HAVE A TYPEWRITTEN BREAKER DIRECTORY INDICATING THE LOAD CONNECTED TO EACH CIRCUIT. DIRECTORIES ARE TO BE MOUNTED ON THE INSIDE OF THE PANELBOARD DOOR WITH A TRANSPARENT PLASTIC COVER. EXISTING BREAKER DIRECTORIES WHICH ARE MODIFIED BY RENOVATIONS ARE TO BE UPDATED.
- D) ALL JUNCTION/PULL BOXES ARE TO BE MARKED WITH AN INDELIBLE INK MARKER TO IDENTIFY THE CIRCUIT NUMBER OF ENCLOSED WIRING AND THE PANEL NAME.

5. COORDINATION

BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF EQUIPMENT, CONDUIT AND CABLE WORK, LIGHTING FIXTURES, ETC. WITH OTHER TRADES PRIOR TO THE ACTUAL INSTALLATION.

6. WARRANTY

WARRANT ALL WORK AND MATERIALS INSTALLED UNDER THIS CONTRACT, AGAINST ALL DEFECTS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF SAME BY OTHERS.

7. CONDUIT AND FITTINGS

- A) EMT COMPLETE WITH STEEL SET SCREW COUPLINGS AND CONNECTORS TO BE USED FOR ALL INTERIOR BRANCH CIRCUIT WORK UNLESS OTHERWISE INDICATED. INSTALL A SEPARATE BOND WIRE SIZED IN ACCORDANCE WITH CEC REQUIREMENTS IN ALL CONDUITS.
- B) WHERE CONDUIT PENETRATES THROUGH FIRE RATED STRUCTURES, FIREPROOFING AND SMOKE SEALING IS TO BE PACKED AROUND CONDUIT TO MAINTAIN FIRE RATING OF STRUCTURE WHICH IT PASSES THROUGH. ACCEPTABLE MATERIAL: 3M BRAND FIRE BARRIER CAULK CP 25 OR 303 PUTTY COMPOUND OR APPROVED EQUAL. PROVIDE FIRE COLLARS IN ADDITION TO FIRE CAULKING WHERE REQUIRED.
- C) CONDUIT AND CABLES ARE TO BE SUPPORTED INDEPENDENTLY OF OTHER EQUIPMENT USING ONE-HOLE STEEL STRAPS FOR UNDER 2"C, TWO-HOLE STEEL STRAPS FOR 2"C AND LARGER, AND BEAM CLAMPS, AND SPRING STEEL FASTENERS IN ACCORDANCE WITH THE CEC.
- D) PROVIDE LOW VOC MASTIC COMPOUND WEATHERPROOF SEAL WHERE CONDUITS PASS THROUGH EXTERIOR WALLS OR STRUCTURES.

8. WIRE AND CABLE

- A) ALL WIRES TO BE COPPER RW90, RATED 600V, INSTALLED IN CONDUIT UNLESS OTHERWISE INDICATED. FLEXIBLE METAL CONDUIT IS AN ACCEPTABLE ALTERNATE TO CONDUIT FOR INTERIOR BRANCH CIRCUITS CONCEALED IN STUD WALL CONSTRUCTION.
- B) TECK CABLE RATED FOR 600V WITH FT4 JACKET TO BE USED FOR FINAL CONNECTIONS TO MECHANICAL EQUIPMENT AND WHERE INDICATED. TERMINATE WITH SPIN-ON STYLE CONNECTORS. ACCEPTABLE MATERIAL: T & B STAR-TECK.

9. CONNECTORS FOR WIRES

USE GEL FILLED TWIST-ON CONNECTORS IN DAMP OR WET LOCATIONS. ACCEPTABLE MATERIAL: KING INNOVATION DRY CONN.

10. GROUNDING AND BONDING

- A) ENTIRE ELECTRICAL SYSTEM TO BE GROUNDED AND BONDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CEC AND LOCAL AUTHORITIES.

II. POWER DISTRIBUTION SYSTEM

A) DISCONNECT SWITCHES.

- a) HEAVY DUTY TYPE WITH RATING INDICATED ON THE DRAWINGS, FUSIBLE WHERE INDICATED, QUICK-MAKE, QUICK-BREAK, AVOIDABLE COVER INTERLOCK, LOCKABLE IN "OFF" POSITION. PROVIDE AUXILIARY CONTACTS IN DISCONNECT SWITCHES CONNECTED DIRECTLY TO VFD'S.
- b) CSA TYPE 4x ENCLOSURE WHERE INDICATED OR WHERE WEATHERPROOF SWITCHES ARE REQUIRED, OTHERWISE PROVIDE CSA TYPE I.

B) CIRCUIT BREAKERS

- a) CIRCUIT BREAKERS TO HAVE THERMAL MAGNETIC TRIP PROTECTION WITH BIMETALLIC ELEMENTS FOR DELAY OVERLOAD PROTECTION. TWO AND THREE POLE BREAKERS TO HAVE INTERNAL COMMON TRIP. BREAKERS ARE TO BE 10 KAIC AT 208V, OR TO MATCH FAULT INTERRUPTING CAPACITY OF EXISTING PANELBOARD IN WHICH THEY ARE INSTALLED. PROVIDE ALL MOUNTING HARDWARE AS REQUIRED FOR INSTALLING NEW BREAKERS IN EXISTING PANELS.
- b) CIRCUIT BREAKERS TO BE BY THE SAME MANUFACTURER AS THE PANELBOARD IN WHICH THEY ARE BEING INSTALLED. BREAKERS MUST BE NEW, COMPLETE WITH ORIGINAL FACTORY WARRANTY AND SUPPLIED FROM AN AUTHORIZED MANUFACTURER'S DISTRIBUTOR.

C) FULL VOLTAGE COMBINATION MAGNETIC STARTERS

- a) COMBINATION MAGNETIC STARTERS OF SIZE, TYPE, RATING AND ENCLOSURE TYPE C/W COMPONENTS AS INDICATED.
- b) CONTACTOR SOLENOID OPERATED, RAPID ACTION TYPE.
- c) BIMETAL MOTOR OVERLOAD PROTECTIVE DEVICE.
- d) POWER AND CONTROL TERMINALS.
- e) WIRING AND SCHEMATIC DIAGRAM INSIDE STARTER ENCLOSURE IN VISIBLE LOCATION.
- f) NUMBER MARKING IDENTICAL TO DIAGRAM.
- g) CIRCUIT BREAKER DISCONNECT WITH OPERATING LEVER ON OUTSIDE OF ENCLOSURE AND CAPABLE OF BEING LOCKED IN "OFF" POSITION WITH UP TO 3 PADLOCKS.
- h) PUSHBUTTONS/HAND-OFF-AUTO SELECTOR SWITCHES: HEAVY DUTY, LABELED AS HAND-OFF-AUTO.
- i) TWO 120VAC PILOT LIGHTS: "RUN" TO BE RED. "OFF" TO GREEN AND I-N/O AND I-N/C SPARE AUXILIARY CONTACTS.
- j) SINGLE PHASE, DRY TYPE, 50 VA CONTROL TRANSFORMER WITH PRIMARY VOLTAGE AS INDICATED AND 120V SECONDARY, COMPLETE WITH PRIMARY AND SECONDARY FUSES, INSTALLED WITH STARTER AS INDICATED.
- k) ENCLOSURE: CSA TYPE I UNLESS INDICATED OTHERWISE.
- l) ACCEPTABLE MATERIAL: SIEMENS #V2ABI7CIK2RKG1364 (3HP), SCHNEIDER #LEI SERIES, CULTER-HAMMER #XT SERIES, ALLEN-BRADLEY BULLETIN #112.

LEGEND	
	UNDERGROUND WIRING
	SURFACE MOUNTED WIRING
A-10	INDICATES CIRCUIT #10 IN PANEL 'A'
<u>GENERAL SUB SCRIPTS</u>	
4x -	INDICATES NEMA 4x ENCLOSURE
X -	INDICATES EQUIPMENT TO BE REMOVED
	'MI' ELECTRICAL PANEL, SURFACE MOUNTED 'MI' - INDICATES PANEL DESIGNATION
	SINGLE PHASE MOTOR
	UNFUSED DISCONNECT SWITCH XX - INDICATES SWITCH RATING
	DIRECT CONNECTION
	EXISTING MANUAL MOTOR SWITCH
	COMBINATION MAGNETIC MOTOR STARTER



CLIENT
PEI Department of
Transportation
Infrastructure & Energy

PROJECT TITLE
Englewood School
Boiler Replacement
Propane Option

SHEET TITLE
Electrical
Specification
& Legend

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REVISIONS:

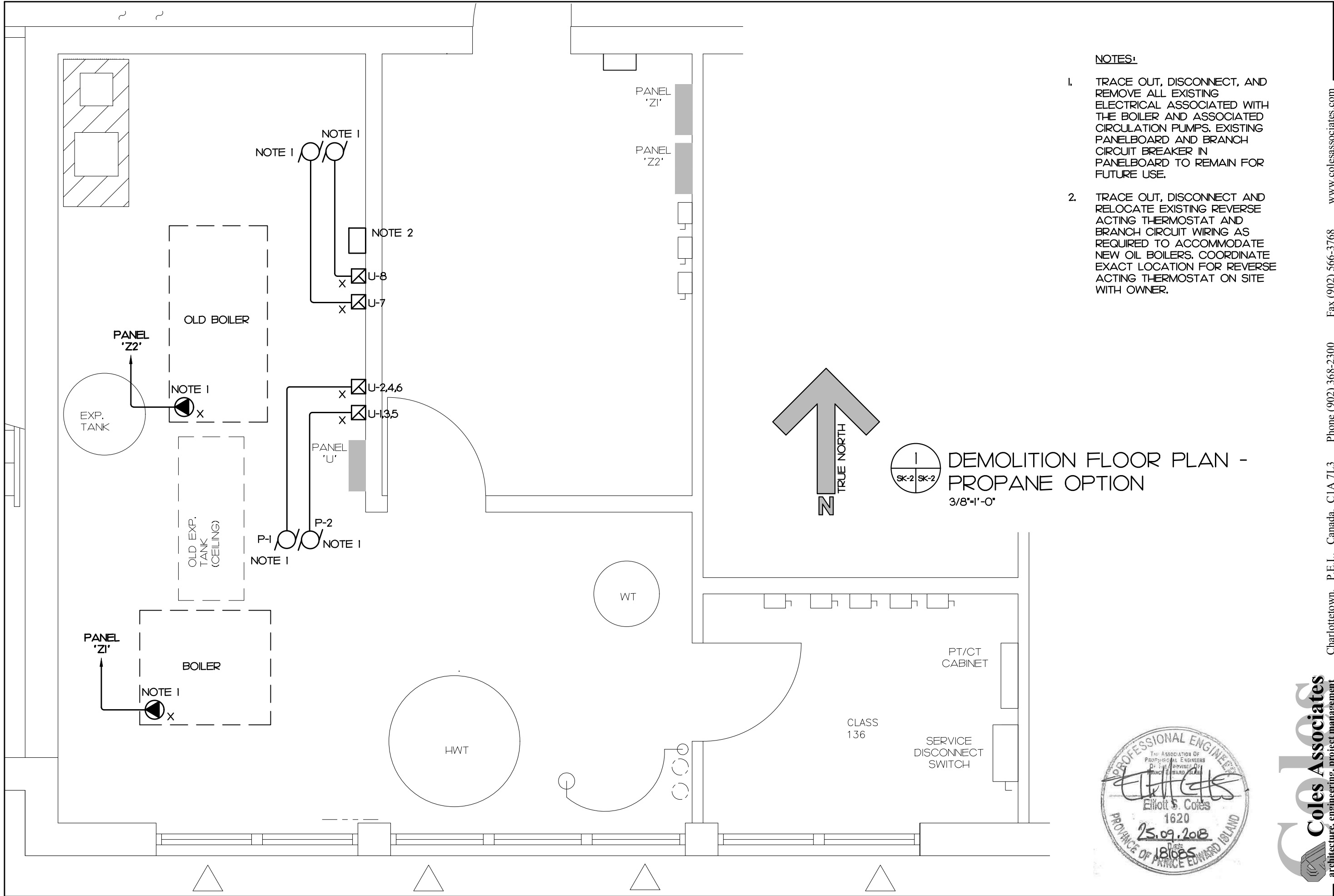
DATE: Sept. 2018

DRAWN BY: M.E.M., C.E.T.

PROJECT NUMBER:

DRAWING NUMBER:

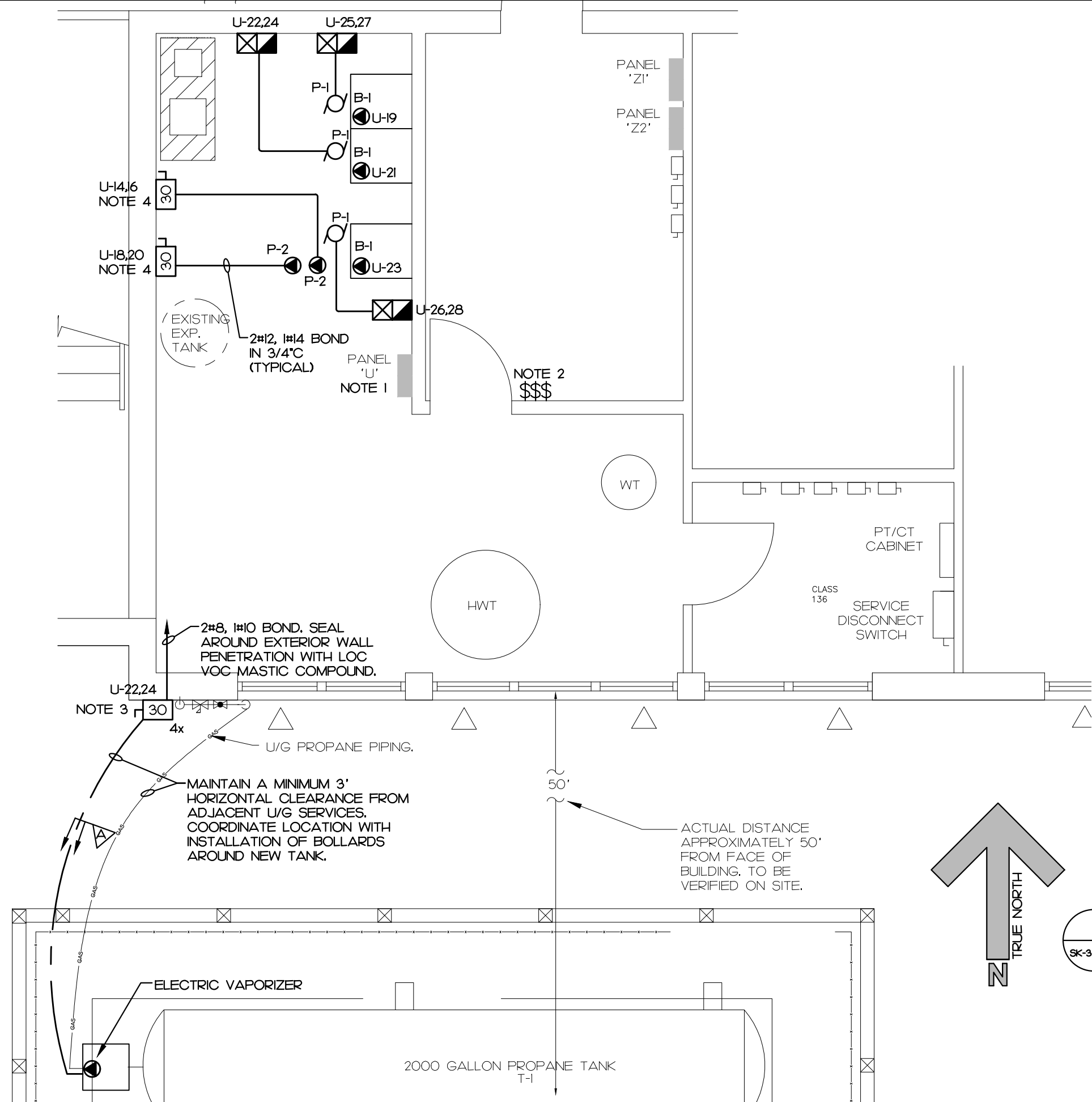
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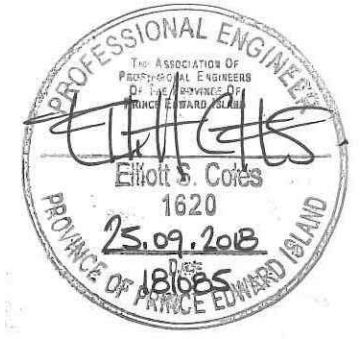
- NOTES:**
1. TRACE OUT, DISCONNECT, AND REMOVE ALL EXISTING ELECTRICAL ASSOCIATED WITH THE BOILER AND ASSOCIATED CIRCULATION PUMPS. EXISTING PANELBOARD AND BRANCH CIRCUIT BREAKER IN PANELBOARD TO REMAIN FOR FUTURE USE.
 2. TRACE OUT, DISCONNECT AND RELOCATE EXISTING REVERSE ACTING THERMOSTAT AND BRANCH CIRCUIT WIRING AS REQUIRED TO ACCOMMODATE NEW OIL BOILERS. COORDINATE EXACT LOCATION FOR REVERSE ACTING THERMOSTAT ON SITE WITH OWNER.

CLIENT: PEI Department of Transportation Infrastructure & Energy
 PROJECT TITLE: Englewood School Boiler Replacement Propane Option
 SHEET TITLE: Electrical Demolition
 DATE: Sept. 2018
 DRAWN BY: M.E.M., C.E.T.
 PROJECT NUMBER: 181085B
 DRAWING NUMBER: SK-2
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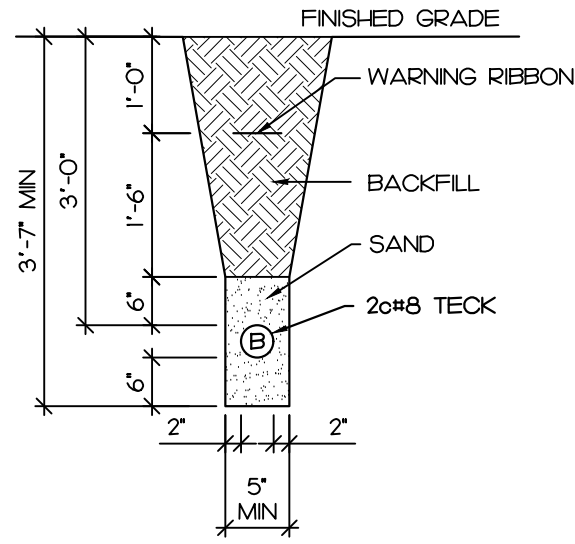




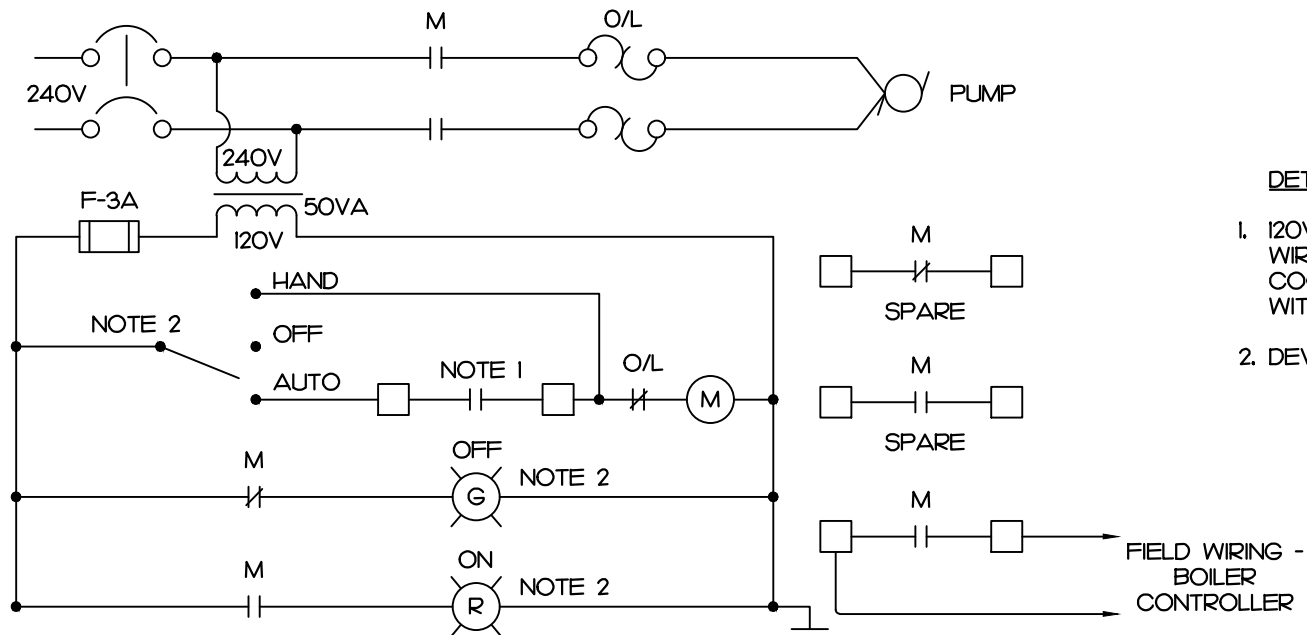
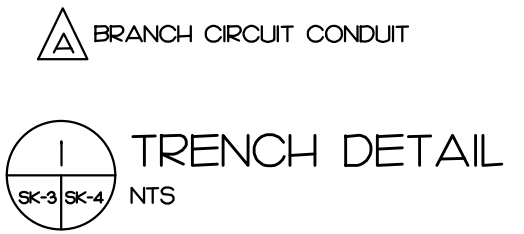
- NOTES:**
- SUPPLY AND INSTALL 1x30A/2P (VAPORIZER), 2x20A/2P (P-2's), 3x15A/2P (P-1's) AND 3x15A/1P (BOILER) BRANCH BREAKERS IN EXISTING 240V, THREE PHASE, FOUR WIRE, FEDERAL PIONEER #NBLP-24-4L SERIES PANELBOARD 'U'.
 - SUPPLY AND INSTALL REMOTE BOILER SWITCHES FOR EACH BOILER IN ACCORDANCE WITH CSA 22.1-15 SECTION 26-806. SURFACE MOUNT SWITCHES AT 4'-7" AFF.
 - ELECTRICAL WORK AROUND VAPORIZER AND OUTDOOR PROPANE TANK TO BE COMPLETED IN ACCORDANCE WITH CSA 22.1-15 SECTION 18 FOR CLASS I, ZONE 2 HAZARDOUS LOCATION. EXTENT OF HAZARDOUS LOCATION TO BE WITHIN 4.5 METERS OF PROPANE TANK. SUPPLY AND INSTALL CSA TYPE 4x DISCONNECT SWITCH LOCATED AT LEAST 4.5 METERS AWAY FROM PROPANE TANK AND WIRE WITH 2c#10 TECK CABLE TO VAPORIZER AND PROVIDE HAZARDOUS LOCATION TECK CABLE CONNECTORS AT BOTH DISCONNECT SWITCH AND VAPORIZER IN ACCORDANCE WITH CSA 22.1-15 SECTION 18 ARTICLE 18-154.
 - INSTALL 30A, 240V UNFUSED DISCONNECT ADJACENT TO VFD FOR HEATING PUMPS 'P-2'. COORDINATE EXACT LOCATION OF DISCONNECT SWITCH ON SITE. DISCONNECT SWITCH TO BE C/W ONE (1) NORMALLY OPEN CONTACT WHICH IS CONNECTED TO THE VFD TO SIGNAL REMOTE SHUTDOWN.



FLOOR PLAN - PROPANE OPTION
1/4"=1'-0"



- DETAIL NOTES:**
1. B = BRANCH CIRCUIT CONDUIT, QUANTITY AND SIZE AS INDICATED.
 2. BACKFILLING OF TRENCH IN LAYERS NOT EXCEEDING 12" (MECHANICALLY TAMPED).
 3. USE NEW SOIL FREE FROM LARGE ROCKS OR DEBRIS FOR BACKFILL.
 4. IF SITE CONDITIONS PROHIBIT TRENCH AS PER THIS DRAWING, ADVISE CONSULTANT.
 5. 1/4" DIA. NYLON ROPE INSTALLED IN ALL DUCTS.
 6. ALL CONDUITS ARE TO BE LABELED WITH WEATHER PROOF TAGS INDICATING THE DESTINATION OF THE CONDUITS.



- DETAIL NOTES:**
1. 120V SWITCHING OUTPUT FROM BOILER CONTROLLER TO BE WIRED TO CONTACTOR BY ELECTRICAL CONTRACTOR. COORDINATE CONNECTION AND EXACT TERMINATION POINT WITH BOILER CONTRACTOR.
 2. DEVICE TO BE FRONT COVER MOUNTED.

2 COMBINATION MAGNETIC MOTOR STARTER FOR PUMPS 'P-1'
 SK-4 SK-4 NTS

