

Addendum No. 1

Issued: February 9, 2024

Project Name: Council Rock School District
Twining Ford Road Maintenance Buildings Envelope Restoration
DEI Project No. 283090

Project Owner: Council Rock School District
30 North Chancellor Street
Newtown, PA 18940

Engineer: D'Huy Engineering, Inc.
One East Broad St., Suite 310
Bethlehem, PA 18018

BID DUE DATE: Tuesday, March 19, 2024, at 2:00 p.m.

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated February 2024. This addendum must be acknowledged on the Bid Form in the space provided for this purpose. Failure to so acknowledge this addendum may subject the Bidder to disqualification.

1.0 GENERAL INFORMATION:

- 1.1 If you would like to schedule additional site visits through CRSD, please contact Jessica Binda-Rischow at 215-944-1015 or email at jbinda-rischow@crsd.org. Contractors are required to check in at the building's main office upon arrival at the site.
- 1.2 A site visit has been scheduled for the Maintenance Buildings for Thursday, February 15, 2024, at 7:30 A.M. Please meet at Building 'A' for the start of the building walk-through.
- 1.3 This addendum consists of seventeen (17) pages including the following attachments:
- 1 Page of Sign-in sheet from the Pre-Bid Meeting held on February 6, 2024.
 - 3 Pages of revised and reissued specification section 00 00 10, "Table of Contents."
 - 1 Page of newly issued drawing E0.1, "Cover Sheet".
 - 1 Page of newly issued drawing E0.2, "Site Plan".
 - 1 Page of newly issued drawing E1.1, "Maintenance Build 'C' - Power".
 - 1 Page of newly issued drawing E2.1, "Maintenance Build 'A' - Power"
 - 1 Page of newly issued drawing E7.1, "Details".
 - 1 Page of newly issued drawing E8.1, "Schedules".
 - 1 Page of newly issued drawing P0.1, "Cover Sheet".
 - 1 Page of newly issued drawing P1.1, "Maintenance Build 'C' – Propane".

2.0 CHANGES TO PREVIOUS ADDENDA:

3.0 CHANGES TO THE BIDDING REQUIREMENTS, CONTRACT FORMS, & CONDITIONS OF THE CONTRACT:

3.1 None.

4.0 CHANGES TO THE SPECIFICATIONS:

4.1 None.

5.0 CHANGES TO THE DRAWINGS:

5.1 Drawing E0.1, “Cover Sheet”, as newly issued.

5.2 Drawing E0.2, “Site Plan”, as newly issued.

5.3 Drawing E1.1, “Maintenance Build 'C' - Power”, as newly issued.

5.4 Drawing E2.1, “Maintenance Build 'A' - Power”, as newly issued.

5.5 Drawing E7.1, “Details”, as newly issued.

5.6 Drawing E8.1, “Schedules”, as newly issued.

5.7 Drawing P0.1, “Cover Sheet”, as newly issued.

5.8 Drawing P1.1, “Maintenance Build 'C' – Propane”, as newly issued.

5.9 Drawing G1.10, “Floor plans – Building A, B & C Details – General Notes. Reference Item No. 1 – New window treatment for all windows, beneath “Roller shades in Building ‘A’ ” **ADD** the following:

2.1 MANUALLY OPERATED-MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide products manufactured by MechoShade Systems, Inc. or comparable product by one of the following:

1. Hunter Douglas Contract.

B. Source Limitations: Obtain roller shades from single source from single manufacturer.

2.2 MANUALLY OPERATED SHADES WITH SINGLE ROLLERS

A. Chain-and-Clutch Operating Mechanisms: With continuous-loop bead chain and clutch that stops shade movement when bead chain is released; permanently adjusted and lubricated.

1. Bead Chains: Manufacturer's standard.

- a. Loop Length: As indicated on Drawings.
 - b. LimitStops: Provide upper and lower ball stops.
- B. Rollers: Corrosion-resistant steel or extruded-aluminum tubes of diameters and wall thicknesses required to accommodate operating mechanisms and weights and widths of shadebands indicated without deflection. Provide with permanently lubricated drive- end assemblies and idle-end assemblies designed to facilitate removal of shadebands for service.
 - 1. Roller Drive-End Location: As indicated on Drawings.
 - 2. Direction of Shadeband Roll: Reverse, from front of roller.
 - 3. Shadeband-to-Roller Attachment: Manufacturer's standard method.
- C. Mounting Hardware: Brackets or endcaps, corrosion resistant and compatible with roller assembly, operating mechanism, installation accessories , and mounting location and conditions indicated.
- D. Shadebands:
 - 1. Shadeband Material: As selected by the Engineer.
 - 2. Shadeband Bottom (Hem) Bar: Steel or extruded aluminum.
 - a. Type: Enclosed in sealed pocket of shadeband material.
 - b. Color and Finish: As selected by the Engineer from the manufacturer's full range.
- E. Installation Accessories:
 - 1. Exposed Headbox: Rectangular, extruded-aluminum enclosure including front fascia, top and back covers, endcaps, and removable bottom closure.
 - 2. Endcap Covers: To cover exposed endcaps.

2.3 ACCEPTABLE MANUFACTURERS

- A. Bali Classics Aluminum Blinds
 - 1. Springs Window Fashions LLC or approved equal.
- B. Horizontal Blinds
 - 1. Product: Bali® Classic's Aluminum Blinds
 - 2. Headrail shall be 1" high x 1-1/2" wide x .025" thick Li-shaped steel. The steel finishing process includes phosphate treatment for corrosion resistance, a chrome-free sealer, a low HAP urethane primer, and a topcoat of low HAP polyester baked enamel.
 - 3. Tilter shall be made of injection-molded thermoplastics for smooth low-friction operation and will incorporate a clutch mechanism to prevent damage due to over-tilting.
 - 4. The tilt rod shall be electro-zinc coated solid steel measuring 1/4" square.

5. The tilt wand shall be clear polycarbonate with a hexagonal cross-section measuring approximately 1/4" in diameter and attached to the tilter shaft by means of a spring clip for easy removal.
6. The cord lock shall be a snap-in design made of durable high-impact nylon with a stainless-steel wear guard incorporating a floating shaft locking pin. The design provides a crash-proof safety feature that will lock blinds automatically upon release of the cord.
7. Drum and cradles shall be low-friction thermoplastic and provided for each ladder.
8. Installation brackets shall be rivet-hinged front cover phosphate-treated steel with urethane primer and polyester baked enamel finish to match the headrail.
9. The braided ladder shall be made of 100 % polyester yarn incorporating two extra strength rungs per ladder for slat support. Standard ladder spacing shall be 21.5mm.
10. Slats shall be 5000 series cold rolled aluminum containing the maximum allowable recycled content to produce a high strength and corrosion-resistant flexible product. Slats shall be nominally 1" wide x .006" thick and processed to provide a smooth, hard, less porous surface with anti-static performance to repel dust. Slats shall be treated with a topcoat of low HAP polyester baked enamel.
11. Bottomrail shall be a completely enclosed tubular shape made of phosphate-treated steel for corrosion resistance and finished with a chrome-free sealer, low HAP urethane primer, and topcoat of low HAP polyester baked enamel and shall measure .025" thick.
12. Options shall include:
 - a. .008 thick slat
 - b. Tilt limiter.
 - c. Cord tilt
 - d. Ring tilter
 - e. Top lock cord lock
 - f. Ring pull
 - g. 2-piece pocket bracket
 - h. Turn clips for extruded pocket
 - i. Extension brackets
 - j. Hold down brackets
 - k. Cutouts
 - l. 2 slat valance
 - m. Deluxe 2 slat valance
 - n. 20 mm ladder spacing
 - o. 22 .5mm ladder spacing
 - p. Perforated slat

6.0 BIDDERS QUESTIONS:

6.1 None.

NOTE:

- **ALL BIDDERS MUST indicate receipt of this Addendum on Page 1 of the Bid Form.**
- **No other acknowledgment is needed or requested to be returned as the receipt of Addenda is tracked through the Sharefile service Addenda are issued through.**

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COUNCIL ROCK SCHOOL DISTRICT
 TWINING FORD ROAD MAINTENANCE BUILDINGS
 ENVELOPE RESTORATION AND GENERATOR ADDITION

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 TWINING FORD ROAD MAINTENANCE BUILDINGS
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DRAWINGS

CS-0.01 Cover Sheet, List of Drawings, and Location Map

G-1.10 Floor Plans – Building A, B, and C and Details

G-2.10 Roof Plans – Building A, B, and C and Details.....

G-3.11 Exterior Elevations – Building A.....

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E0.1 Cover Sheet (NEWLY ADDED ADDENDUM NO. 1 – FEBRUARY 9, 2024).....

E0.2 Site Plan (NEWLY ADDED ADDENDUM NO. 1 – FEBRUARY 9, 2024).....

E1.1 Maintenance Build 'C' – Power (NEWLY ADDED ADDENDUM NO. 1 – FEBRUARY 9, 2024).....

REVISED AND REISSUED ADDENDUM NO. 1 – FEBRUARY 9, 2024

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TWINING FORD ROAD MAINTENANCE BUILDINGS
ENVELOPE RESTORATION AND GENERATOR ADDITION

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E8.1 Schedules (NEWLY ADDED ADDENDUM NO. 1 – FEBRUARY 9, 2024).....

P0.1 Cover Sheet (NEWLY ADDED ADDENDUM NO. 1 – FEBRUARY 9, 2024).....

P1.1 Maintenance Build 'C' – Propane (NEWLY ADDED ADDENDUM NO. 1 – FEBRUARY 9, 2024).....

ELECTRICAL NOTES

A. General Requirements

- Scope of work includes new electrical distribution upgrades for new generator and transfer switch used to feed small storage and office buildings.
- Work shall be in accordance with NFPA 70 (the National Electrical Code)—either the latest version or the version adopted by the local jurisdiction—and all local codes.
- Secure all permits, inspections, and approvals as required. Furnish the Owner with a receipt. Cost for permits shall be reimbursed by the Owner to the contractor without markup or additional costs.
- Furnish and install all materials and labor required to provide complete and operational systems as indicated on the drawings.
- The electrical drawings are diagrammatic and are intended to show the approximate location of equipment, devices, raceways, and associated systems. Drawings are not to be scaled for the accurate cutting or its exact placement, but they are followed as closely as actual building construction and the work of other trades will permit. The contractor shall verify all dimensions and coordinate the installation of electrical systems with actual conditions in the field.
- General work practices for electrical construction shall be in accordance with NFCA 1, *Good Workmanship in Electrical Construction*, published by the National Electrical Contractors Association.
- All material and equipment shall be listed and labeled for the application by Underwriters Laboratories or other NRTL, and installed according to its listing.
- Unless otherwise indicated, this contractor shall perform all cutting and patching of the existing facility for their respective work. Patching shall match existing materials, finishes, and methods of construction.
- Submit shop drawings to the Engineer for all materials and equipment.
- Provide protection and storage for equipment and materials during construction.
- All material and equipment shall be turned over in a new, clean condition.
- Coordinate work with other trades. Where electrical devices are depicted on Architectural drawings, install as depicted.
- Provide circuits and final connection to mechanical equipment, furniture and equipment supplied by others. Where electrical drawings and equipment rough-in drawings or equipment submittals are in conflict, consult with Architect for resolution.
- Coordinate equipment clearances and work space with manufacturer's service recommendations.
- The contractor shall coordinate the shutdown and removal of existing systems and equipment and the installation and startup of new systems and equipment with the project construction phasing schedule and as coordinated with Owner.
- Maintain as-built plans during construction. Turn over to Engineer at completion of construction. Provide electronic version and at least two paper copies, more if required elsewhere.
- Provide operating and maintenance manuals for all equipment. Provide electronic version and at least two paper copies, more if required elsewhere.
- Provide at least 12-month warranty on all materials, equipment, and workmanship from date of substantial completion.

B. Demolition and Connections to Existing Equipment

- Owner reserves the right to claim any salvageable materials and equipment. Prior to beginning demolition work, identify items Owner chooses to claim. Remove and store claimed items. Remove and dispose of all unclaimed materials and equipment.
- Maintain devices and equipment not shown to be demolished, and circuits feeding them.
- In areas of work where there is existing to remain lighting, equipment and devices, clean and wipe down existing lighting, equipment and devices after new work in the area is complete. Verify operation of existing has not changed from what it was prior to new work.
- Where new equipment replaces existing, extend wiring to the new equipment. Provide additional supports, grounding and fittings as required to comply with NEC.
- Where existing equipment is relocated, extend wiring to the new location. Provide additional supports, grounding and fittings as required to comply with NEC.
- When reusing raceways or junction boxes, provide additional grounding and support to comply with NEC. Do not reuse cables. Where reusing conduits and boxes creates conflicts with new work, relocate conduits and junction boxes to make way for new work.
- Disconnect and remove lighting, devices and equipment shown to be demolished. Provide blank plate to cover any boxes which remain.
- Where wire or cable is subsequently no longer used, remove it back to its source.
- Where conduit is subsequently empty and accessible, remove it back to its source. Where abandoned conduit drops underground, under slab, or in other inaccessible location, undercut below surface and patch.
- Where adding to circuits with existing loads, measure the full load with an ammeter before and after the additions are made to confirm code compliance. Maintain record of loads on as-built plans.
- Where demolition or new work will affect electrical phase rotation of existing equipment, measure existing electrical phase rotation. New work shall match existing electrical phase rotation.

C. Utility Services

- Maintain incoming low-voltage services.
- Coordinate new load side connections to CT cabinet with utility company.

D. Basic Materials and Methods

- Wire shall be copper THHW, THWN or XHHW. Ampacity shall be based on 75°C ratings.
- Minimum wire size shall be 10AWG.
- Provide a dedicated 100% rated neutral conductor in each circuit which rely on the neutral conductor to complete the circuit (example: 120V or multiphase circuits with a neutral).
- Where oversized conductors are indicated or otherwise required for voltage drop or derating, provide junction boxes and other means required to transition back to standard conductor sizes for connection to standard lugs at equipment.
- Minimum conduit size shall be 3/4".
- Where branch circuit wiring is spliced, use wirenuts, PVC coated mechanical lug terminals or other Engineer approved means that allows access to cable ends. Do not use spring tension splices to connect wiring. Splice fittings shall be listed for the application and location (outdoor wirenuts and mechanical lugs shall be water proof).
- Use wire in conduit.
- Provide flexible connections for final connection to motors or other vibrating equipment.
- Provide plastic bushings wherever conductors would otherwise be exposed to threaded metal fittings.
- Conduit types:

- Outdoor, buried: Schedule 40 PVC, Solvent fused PVC fitting.
 - Outdoor, exposed: Threaded RMC, matching threaded fittings.
 - Outdoor, flexible final connections to vibrating equipment: LFMC, malleable iron type fittings, listed for outdoors.
 - Indoor, subject to physical damage: Threaded RMC, matching threaded fittings.
 - Indoor, dry, not subject to physical damage: EMT, set screw or compression fittings.
 - Indoor, dry, flexible final connections to vibrating equipment: FMC, malleable iron fittings.
- Coordinate conduit installation with other trades. Where conduit is in the vicinity of equipment, coordinate conduit locations to ensure access and clearances about equipment are maintained.
 - Except where code requires otherwise, use steel boxes of the proper type, not less than 4" square. Secure firmly, true, square, and, where mounted in a finished wall, flush with the finished surface. Where outdoors, provide cast metal boxes custom painted to match adjacent surface.
 - Low-voltage cable may be installed open in accessible indoor ceiling spaces, attics and in hollow gypsum-board partitions; otherwise, provide raceway. Support low-voltage at maximum 48" intervals with J-hooks or other devices listed for low-voltage cable support.
 - Support cables, conduits, and junction boxes rigidly and securely with heavy duty clamps and anchors listed for the application and installed according to their listing.
 - The use of spring tension cable or conduit support clips is not acceptable. Connectors to be threaded type with locking washer.
 - In finished spaces, all wiring shall be concealed under floors, in walls, or above ceilings, unless drawings indicate otherwise.
 - In unfinished spaces, all wiring shall be concealed under floors, in walls. Exposed raceway systems, enclosures, boxes and supports is acceptable where located snug to the upper cord of roof structure or where approved in the field by the Engineer.
 - Where new devices are located in existing walls such as, but not limited to, block, drywall, and plaster, chamfer or fish, cut, patch and paint wall to match existing surface.
 - Identify each wire and device on project with an equipment power system recommendation.
 - Seal all wall and floor penetrations. For fire-rated walls or floors, provide listed penetration sealant or other assembly to maintain rating.
 - Outdoor branch circuits shall have minimum 24" cover and shall be provided with a continuous warning tape.
 - Outdoor feeders shall have minimum 24" cover, shall be concrete-encased (3"), and shall be provided with a continuous warning tape.
 - For 208Y/120V systems, use black (phase A), red (phase B) and blue (phase C) color coding.
 - For 240V/120V systems, use black (phase A), red (phase B) color coding.
 - For neutral and ground use white (neutral) and green (ground).

E. Grounding and Bonding

- Provide grounding and bonding as below, in addition to requirements of NEC.
- Provide insulated copper equipment grounding conductors in all circuits.
- Provide 10" x 5" copper clad ground rod adjacent to generator pad, at the point farthest from the building, bonded to ground electrode. Top or rod shall be 3" below grade.
- Provide continuous copper perimeter grounding electrode, either ground ring electrode or concrete-encased electrode around generator pad. Bond to generator steel, generator ground bus, local ground rod and building service ground bus.
- Ground electrode and bonding conductors shall be bare #2.
- Connections made below grade shall be exothermic welded type, and mechanical type above grade.
- Bond exposed fuel pipe within 1' of rising above grade with #6 bare conductor to ground electrode.
- If necessary, supplement concrete-encased grounding electrode with copper-clad steel grounding electrodes to provide 10 ohms resistance to ground.

F. Wiring Devices

- Standard switches shall be ivory or as directed, heavy-duty spec grade, 277V, 20A, manufactured by Leviton, Hubbell or Pass & Seymour. Where keyed switches are shown provide barrel key locking type. Where pilot-lighted switches and other types are noted, provide those types of the same quality by the same manufacturer.
- Standard receptacles shall be ivory or as directed, heavy-duty spec grade, 120V, 15/20A, grounding type, manufactured by Leviton, Hubbell or Pass & Seymour. Where other receptacle types are noted, provide those types of the same quality by the same manufacturer.
- Standard GFCI receptacles shall be UL 943, 10KA maximum interrupting capacity, weather-resistant complying with requirements above.
- Where receptacles are located in dry or wet locations, provide weather resistant devices.
- Provide cast metal weatherproof (WP) boxes and other housings as noted.
- Outdoor receptacles not protected from the weather shall be provided with hinged metal WP "in-use" covers, where WP rating is maintained with equipment plug is inserted into the receptacle.
- Provide brushed stainless steel wall plates for devices in indoor finished spaces, galvanized steel wall plates for devices in indoor unfinished spaces and cast iron or aluminum covers outdoors. Use one-piece wall plates for all groups of devices. Plates shall be square and true, with the edges of the plate in continuous contact with the wall.
- Identify each device on the project with a circuit number. Use self-adhesive labels on the faceplate of each switch or receptacle.
- Use ivory devices when connected to normal circuits, red devices when connected to generator power circuits.

G. Distribution Equipment

- Distribution equipment shall be manufactured by Cutler-Hammer, GE/ABB, Siemens, or Square D.
- Circuit breaker and other lugs shall be rated 75C.
- When adding circuit breakers to existing panels, provide new units listed for use in the panel, matching the existing ones in the panel.
- Panelboards shall be hinged door-in-door dead-front, having bolt-on molded-case circuit breakers.
- 208V and 240V panelboards shall have enhanced fingersafe IP2X per IEC 60529 barriers for all ungrounded parts.
- Safety switches shall be heavy-duty.
- Enclosures shall be suitable for installed location.
- Provide new typewritten panel directories for all panels where work is done, including existing panels. Incorporate Owner's final room designations for all circuits. Obtain approval before installing.

- Provide handle locks on breakers which serve emergency lighting circuits, exit signs, fire alarm equipment, security equipment, camera equipment, generator controls, and card access equipment.
- Identify panelboards, safety switches, and motor starters with engraved plastic laminate labels, showing panel designation, system voltage, and source location.
- Where panels with contactors are scheduled, provide emergency stop buttons at locations shown on the drawing. Emergency stop buttons to consist of a red cast aluminum 60 MM mushroom button, IP 65, emergency stop legend plate, contact block and mounting collar. Emergency stop button to mount in a cast metal junction box, stainless steel coverplate. Emergency stop buttons to have a 3mm or 4mm aluminum red button with the word "Emergency" inscribed in the button or on a circular legend on the coverplate at the base of the button.
- Where contactors are noted, provide panelboards with integral contactors with a minimum matching rating of the panel being controlled. Provide non-illuminated key switch contactor reset with circular legend indicating "Contactor Reset" or in the panelboard. Provide emergency stop buttons wired to open contactor.

H. Lighting

- Existing to remain, unless shown otherwise on drawings.

I. Emergency Lighting

- Existing to remain, unless shown otherwise.
- If in conduit, emergency system wiring shall not be in a conduit or raceways shared with normal system wiring.

J. Emergency Power System

- Standards: Provide a liquid propane gas genset conforming to NFPA 37 and an emergency power system conforming to NFPA 110 at Class 12, Type 10, Level 1.
- Provide 12-month full service plan on generator, including full preventive maintenance (PM) service 12 months after substantial completion. All issues shall be fully covered by this plan during the 12 months; no charges shall be incurred by the owner including consumables, parts, labor or travel except in the case of abuse, accident or the like. The 12-month PM service shall include all items in the manufacturer's maintenance schedule with a frequency of annually or less.
- Provide five-year extended warranty on emergency power system equipment.
- Acceptable manufacturers shall be: Caterpillar, Cummins, MTU and Kohler.
- Genset shall have a minimum standby rating indicated at 0.8PF, 130C rise.
- Provide closed-loop liquid cooling system with engine-mounted radiator.
- Provide coolant jacket heater.
- Provide isochronous governor.
- Provide propane tank and piping sized for 24-hours run time at 75% generator output load operation.
- Provide critical-type muffler. Sound level at 10' from exhaust discharge shall be 70 dBA or less.
- Provide 12V electric starting system, battery, and battery charger.
- Provide NFPA 110 indicating and protective devices and controls.
- Generator mounted controller shall provide NFPA 110 level 1 monitoring, have bacNET/IP interface, 3-position keyed switched capable of switching between on, off, automatic, keypad, LED screen capable of showing electrical characteristics faults and alarms, emergency stop button, provide a no-load to full load voltage and frequency regulation of plus or minus .25% and allow for voltage adjustment of plus or minus 10%.
- Provide 100%-rated electronic LSI shut-trip generator circuit breaker mounted at the generator.
- Provide sound-attenuated outdoor enclosure sized to contain generator, muffler, lights and heaters—with NEC workspace—as shown on floor plan, wind resistant to 100mph, level 3 quite enclosure. Competed enclosure/genset system shall measure no more than 70dBA for any generator loading conditions when measured at 7m by SAE J11074 test method. Provide cooling air intake and exhaust louvers and motorized dampers, sized to provide adequate airflow to maintain genset rating and interlocked to open during genset operation. Doors shall be sized to allow removal of genset and fuel tank.
- At accessible location in the building, provide remote annunciator monitoring and complying with NFPA 110, level 1, which shows generator faults, system status, 5 general faults. Program general faults for low-fuel, battery fault and as requested). Annunciator shall be provided with a remote emergency stop button. Comply with manufacturer's wiring requirements for annunciator.
- New generator controllers shall be monitored for the following conditions: generator running, generator fault, and generator switch in nonautomatic position.
- Provide field testing by factory-authorized technician, including 100% load test for four hours. Provide written report.
- Transfer switch shall be listed for emergency service under UL 1008. It shall have 50KA withstand rating, and provide a programmed neutral time delay unless scheduled otherwise. It shall provide Modbus interface, and a genset exercising timer.
- Provide installation, testing and documentation in compliance with NFPA 110.

K. 281600-Intrusion Detection

- Existing to remain.

L. 282300-Video Surveillance

- Existing to remain.

M. 283111-Fire Alarm

- Existing to remain.

EQUIPMENT TYPES

ATS	AUTOMATIC TRANSFER SWITCH
CB	PHOTOVOLTAIC DC COMBINER BOX
CONT	CONTACTOR
CP	CONSOLIDATION POINT
DS	DISCONNECT SWITCH
ENC	ENCLOSED CIRCUIT BREAKER
IDF	INTERMEDIATE DISTRIBUTION FRAME
LCP	LIGHTING CONTROL PANEL
MCC	MOTOR CONTROL CENTER
MS	MOTOR STARTER
PDU	POWER DISTRIBUTION UNIT
PNL	ELECTRICAL PANEL
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TRAN	TRANSFORMER
UPS	UNINTERRUPTIBLE POWER SUPPLY

ELECTRICAL SYMBOLS

LIGHTING

S	SINGLE POLE SWITCH
S ₃	3-WAY SWITCH
S ₄	4-WAY SWITCH
S _K	KEY SWITCH
S _L	LOW-VOLTAGE LIGHTING CONTROL SWITCH, ZONE A
S _{ET}	SWITCH WITH ELECTRONIC TIMER
S _D	DIMMER SWITCH
S _{3D}	3-WAY DIMMER SWITCH
S _N	SWITCH WITH MOTION SENSOR
S _{CH}	DIMMER SWITCH WITH MOTION DETECTOR
S _{EM}	EMERGENCY BATTERY BACKUP UNIT
S _{EH}	EMERGENCY HEADS
S _{ES}	EXIT SIGN, ARROWS AS SHOWN

⊖	LUMINAIRES
⊖	LUMINAIRE TYPE A IN CONTROL ZONE B
⊖	WALL-MOUNT LUMINAIRE
⊖	NORMAL/EMERGENCY LUMINAIRE
⊖	EMERGENCY-ONLY LUMINAIRE
⊖	MOTION SENSOR - CEILING-MOUNTED US
⊖	MOTION SENSOR - CEILING-MOUNTED MT
⊖	MOTION SENSOR - AISLE TYPE
⊖	MOTION SENSOR - ADJUSTABLE SWIVEL NECK - CORNER CEILING OR WALL MOUNTED MT
⊖	CEILING MOUNTED SPEAKER

FIRE ALARM

⊖	PANEL
⊖	SMOKE DETECTOR
⊖	HEAT DETECTOR
⊖	BEAM SMOKE DETECTOR TRANSMITTER
⊖	BEAM SMOKE DETECTOR RECEIVER
⊖	DUCT SMOKE DETECTOR
⊖	FIRE-FIGHTER TELEPHONE JACK
⊖	MANUAL PULL STATION
⊖	AUDIO VISUAL ALARM
⊖	VISUAL ALARM
⊖	VISUAL ALARM - CEILING MOUNTED
⊖	VOICE/VISUAL ALARM
⊖	VOICE/VISUAL ALARM - CEILING MOUNTED
⊖	SPEAKER
⊖	FIRE ALARM CONTROL PANEL
⊖	ANNUNCIATOR PANEL
⊖	DOOR HOLDER
⊖	FLOW SWITCH INTERFACE
⊖	INPUT INTERFACE MODULE
⊖	OUTPUT INTERFACE MODULE
⊖	TAMPER SWITCH INTERFACE
⊖	PRESSURE SWITCH INTERFACE
⊖	REMOTE INDICATOR

SECURITY

⊖	DOOR CONTACT
⊖	DOOR INTERCOM STATION
⊖	CARD READER
⊖	KEYPAD
⊖	ELECTRIC DOOR STRIKE
⊖	ELECTRIC LATCH RETRACTION HARDWARE
⊖	POWER TRANSFER DEVICE
⊖	MAGNETIC DOOR LOCK
⊖	MASTER DOOR INTERCOM STATION
⊖	MOTION SENSOR - CEILING-MOUNTED US
⊖	MOTION SENSOR - CEILING-MOUNTED MT
⊖	MOTION SENSOR - CEILING-MOUNTED IR
⊖	MOTION SENSOR - AISLE TYPE
⊖	MOTION SENSOR - REQUEST TO EXIT
⊖	VIDEO SURVEILLANCE CAMERA
⊖	360° VIDEO SURVEILLANCE CAMERA
⊖	180° VIDEO SURVEILLANCE CAMERA
⊖	90° VIDEO SURVEILLANCE CAMERA

COMMUNICATIONS

⊖	TELEVISION CABLE OUTLET
⊖	SINGLE DATA OUTLET
⊖	DATA OUTLET WITH N JACKS
⊖	SINGLE TELEPHONE OUTLET
⊖	TELEPHONE OUTLET WITH N JACKS
⊖	COMBINED OUTLET WITH TWO DATA JACKS AND TWO TELEPHONE JACKS
⊖	COMBINED OUTLET WITH M DATA JACKS AND N TELEPHONE JACKS
⊖	BOX WITH BLANK PLATE AND CONDUIT TO ACCESSIBLE CEILING SPACE
⊖	WIRELESS COMMUNICATIONS SYSTEM ANTENNA. PROVIDE SINGLE DATA JACK ABOVE CEILING

GENERAL ELECTRIC

S _P	SWITCH WITH PILOT LIGHT
S _F	FAN SWITCH
⊖	MOTOR STARTER
⊖	DISCONNECT SWITCH
⊖	COMBINATION STARTER
⊖	DUPLEX RECEPTACLE
⊖	GROUND FAULT INTERRUPTER
⊖	COUNTERTOP HEIGHT
E	ELECTRICAL WATER COOLER - GFI
CM	CEILING MOUNTED GFI RECEPTACLE
W	WEATHERPROOF
TR	TAMPER RESISTANT
X-Y	NEMA X-Y
#	MOUNT # ABOVE FINISH FLOOR
S	SURFACE MOUNT
T	TELEVISION
U	USB

⊖	DOUBLE-DUPLEX RECEPTACLE
⊖	SPECIAL RECEPTACLE
⊖	POWER RECEPTACLE, AMPERAGE
⊖	RANGE RECEPTACLE
⊖	DEVICE IN CONCEALED RECESSED
⊖	JUNCTION BOX
⊖	TRANSFORMER
⊖	POWER POLE
⊖	TIME CLOCK
⊖	HAND DRYER
⊖	HAIR DRYER

COMMON SYMBOLS

⊖	PLAN NORTH
⊖	SECTION ID
⊖	SHEET NO. WHERE SECTION IS
⊖	DIRECTIONAL VIEW OF SECTION
⊖	REVISION CLOUD
⊖	REVISION NUMBER
⊖	ELEVATION
⊖	100.00'
⊖	DIRECTION OF VIEW
⊖	SHEET NO. WHERE EL. IS DRAWN
⊖	ELEVATION ID
⊖	KEYNOTE
⊖	DETAIL ID
⊖	SHEET NO. WHERE DETAIL IS
⊖	ROOM/SPACE NO.
⊖	EQUIPMENT TAG SHOWING TYPE AND ID. SEE EQUIPMENT SCHEDULES FOR DETAILS
⊖	PROVIDE NEW
⊖	EXISTING TO REMAIN
⊖	REMOVE EXISTING
⊖	CONNECT TO EXISTING
⊖	EXISTING TO BE REMOVED

COMMON ABBREVIATIONS

A/E	ARCHITECT/ENGINEER	HC	HVAC CONTRACTOR
AB CLG	ABOVE CEILING	HCP	HANDICAPPED
ABV	ABOVE	HGT	HEIGHT
AF	ABOVE FINISHED FLOOR	HR	HOUR
AFI	ARC-FAULT INTERRUPTER	IR	INFRARED
AFR	ABOVE FINISHED ROOF	JES	JUNCTION BOX
ALT	ALTERNATE	KB	KITCHEN EQUIPMENT SUPPLIER
ATC	AUTOMATIC TRANSFER SWITCH	LV	LOW-VOLTAGE
BFC	BELOW FINISHED CEILING	MC	MECHANICAL CONTRACTOR
CG	COUNTERTOP GFI	MCA	MINIMUM CIRCUIT AMPACITY
CD	CORD DROP	MOC	MAXIMUM OVERCURRENT PROTECTION
CL	CENTERLINE	MT	MULTITECHNOLOGY
CLG	CEILING	MO	MICROWAVE OVEN
COL	CEILING MOUNTED	NA	NOT APPLICABLE
COM	COLUMN	NE	NORMAL/EMERGENCY (NORMALLY ON)
CT	COUNTERTOP HEIGHT-44" AFF UNO OR CURRENT TRANSFORMER	NIC	NOT IN CONTRACT
CR	CORD REEL	NTS	NOT TO SCALE
DBF	DOWN BELOW FLOOR	OFICI	OWNER FURNISHED- CONTRACTOR INSTALLED
DET	DETAIL	PC	PLUMBING CONTRACTOR
DIA	DIAMETER	PIR	PASSIVE INFRARED
DM	DIMENSION	SE	SERVICE ENTRANCE
DN	DOWN	SHT	SECTION
DW	DISHWASHER	SHT	SHEET
DWG	DRAWING	SP	SIMILAR
EC	ELECTRICAL CONTRACTOR	SMD	SURGE PROTECTION DEVICE
EL	ELEVATION	SPEC	SPECIFICATION
ELEV	ELEVATOR	SS	SERVICE SINK
EMER	EMERGENCY	STD	STANDARD
EO	EMERGENCY ONLY (NORMALLY OFF)	SUSP	SUSPENDED
EWC	ELECTRIC WATER COOLER (PROVIDE GFI RECEPTACLE)	TBR	TO BE REMOVED
EX	EXISTING	TL	TASK LIGHT
FA	FIRE ALARM	TR	TAMPER RESISTANT
FBO	FURNISHED BY OWNER	TRSTAT	THERMOSTAT
FLR	FLOOR	UNO	UNLESS NOTED OTHERWISE
FPC	FIRE PROTECTION CONTRACTOR	US	ULTRASONIC
FSC	FOOD SERVICE CONTRACTOR	W	WITH
GC	GENERAL CONTRACTOR	W/O	WITHOUT
GFI	GROUND-FAULT INTERRUPTER	W	WALL-MOUNTED
GND	GROUND	WP	WEATHERPROOF

COMMON SYMBOLS

⊖	PLAN NORTH
⊖	SECTION ID
⊖	SHEET NO. WHERE SECTION IS
⊖	DIRECTIONAL VIEW OF SECTION
⊖	REVISION CLOUD
⊖	REVISION NUMBER
⊖	ELEVATION
⊖	100.00'
⊖	DIRECTION OF VIEW
⊖	SHEET NO. WHERE EL. IS DRAWN
⊖	ELEVATION ID
⊖	KEYNOTE
⊖	DETAIL ID
⊖	SHEET NO. WHERE DETAIL IS
⊖	ROOM/SPACE NO.
⊖	EQUIPMENT TAG SHOWING TYPE AND ID. SEE EQUIPMENT SCHEDULES FOR DETAILS
⊖	PROVIDE NEW
⊖	EXISTING TO REMAIN
⊖	REMOVE EXISTING
⊖	CONNECT TO EXISTING
⊖	EXISTING TO BE REMOVED

DRAWING LIST

E0.1	Cover Sheet
E0.2	Site Plan
E1.1	Maintenance Build 'C'-Power
E2.1	Maintenance Build 'A'-Power
E7.1	Details
E8.1	Schedules
P0.1	Cover Sheet
P1.1	Maintenance Build 'C'-Propane

D'HUY Engineering, Inc.

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Mechanical/Electrical/Plumbing
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ENVELOPE RESTORATION TO
TWINING FORD ROAD MAINTENANCE BUILDINGS
FOR
COUNCIL ROCK SCHOOL DISTRICT
30 NORTH CHANCELLOR STREET
NEWTOWN, PA 18940

VERIFY SCALE
0 1
BAR IS ONE (1) INCH LONG
ON ORIGINAL DRAWING

No.	Description	Date
1	ADDENDUM 1	2024.02.09
2		
3		
4		
5		
6		
7		
8		
9		
10		

Date: FEBRUARY 2024
Scale: As Noted
Job No. 283090
Drawn: MM | Appd.: MCD

Sheet Title:
COVER SHEET



ENVELOPE RESTORATION TO
TWING FORD ROAD MAINTENANCE BUILDINGS
FOR
COUNCIL ROCK SCHOOL DISTRICT
30 NORTH CHANCELLOR STREET
NEWTOWN, PA 18940

VERIFY SCALE
0 1
BAR IS ONE (1) INCH LONG
ON ORIGINAL DRAWING



N
SITE PLAN
NO SCALE

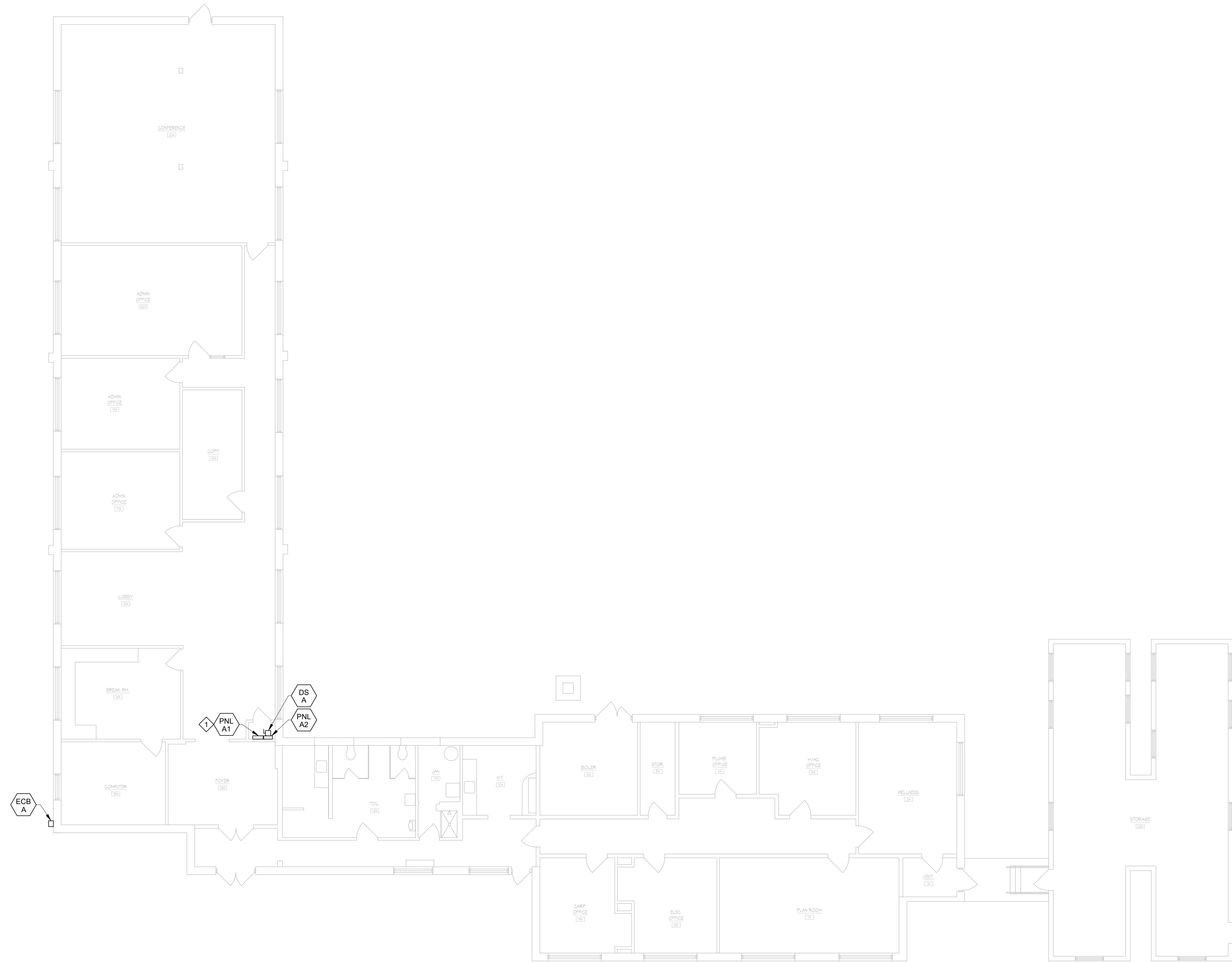
No.	Description
1	ADDENDUM 1
Date	2024.02.09
Date	FEBRUARY 2024
Scale:	As Noted
Job No.	283090
Drawn:	MM
Appd.:	MCD

Sheet Title:
SITE PLAN

Sheet No.
E0.2

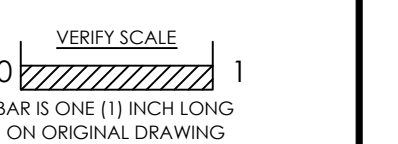


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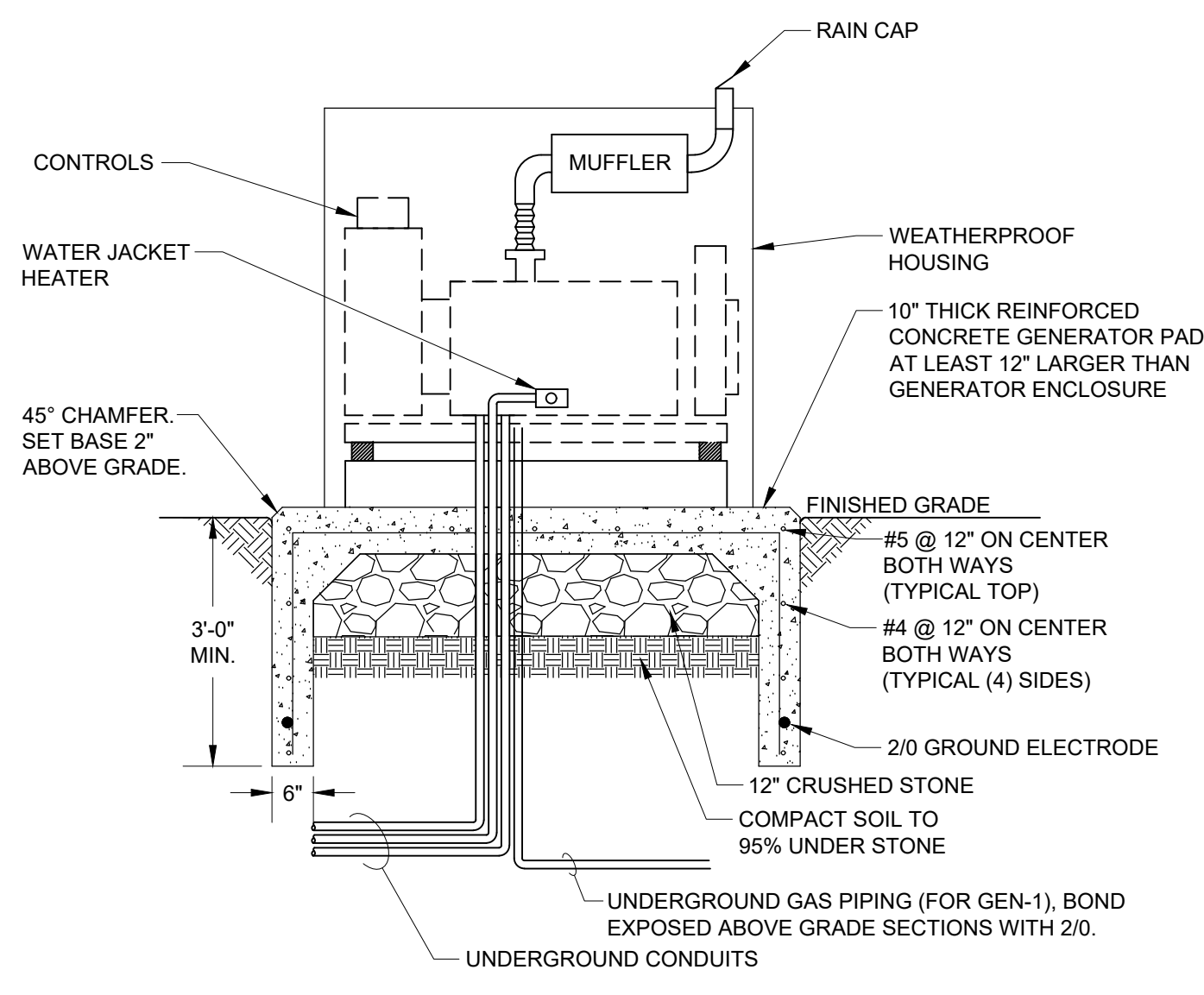


MAINTENANCE BUILDING 'A' - POWER
Scale: 1/8" = 1'-0"

KEY NOTES
◊ DEMOLISH EXISTING LOAD CENTER, REPLACE WITH NEW.
REFER TO SINGLE LINE DIAGRAM - DEMOLITION.

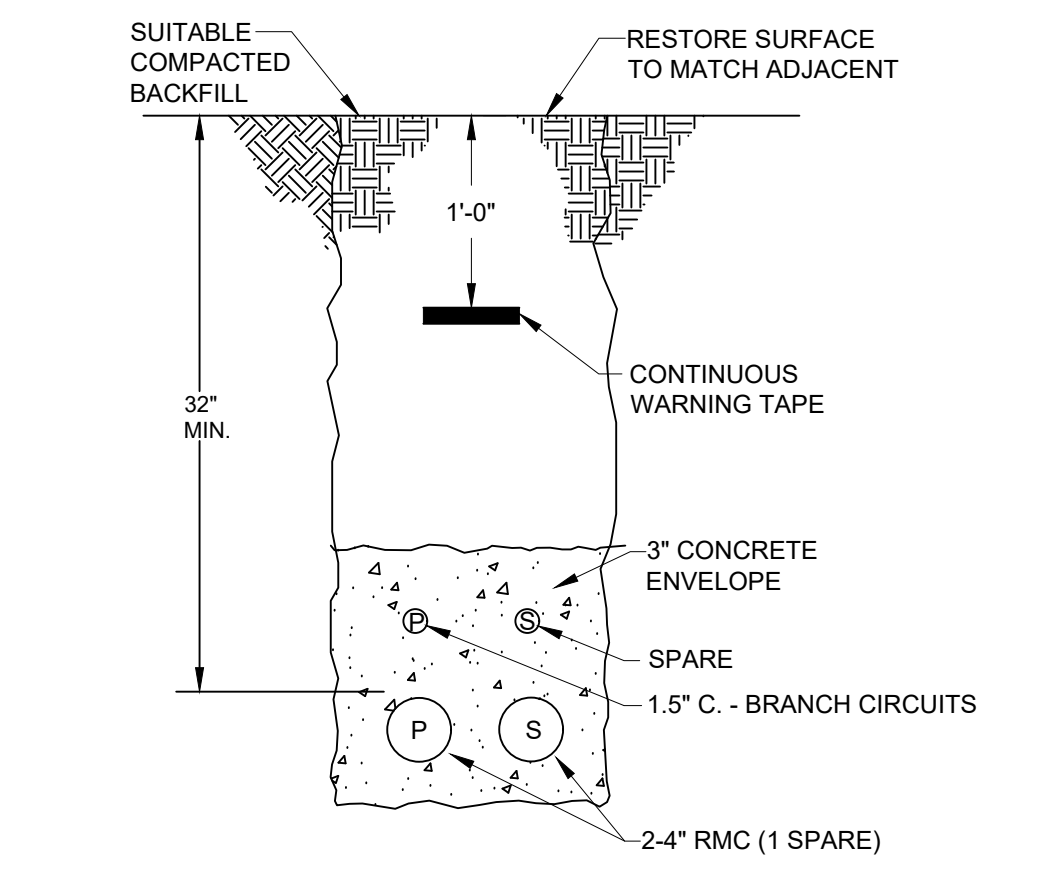


No.	Date	Description
1	2024.02.09	ADDENDUM 1
Date: FEBRUARY 2024		
Scale: As Noted		
Job No. 283090		
Drawn: MM Appd.: MCD		
Sheet Title:		
MAINTENANCE BUILDING 'A' PLANS		
Sheet No.		
E2.1		

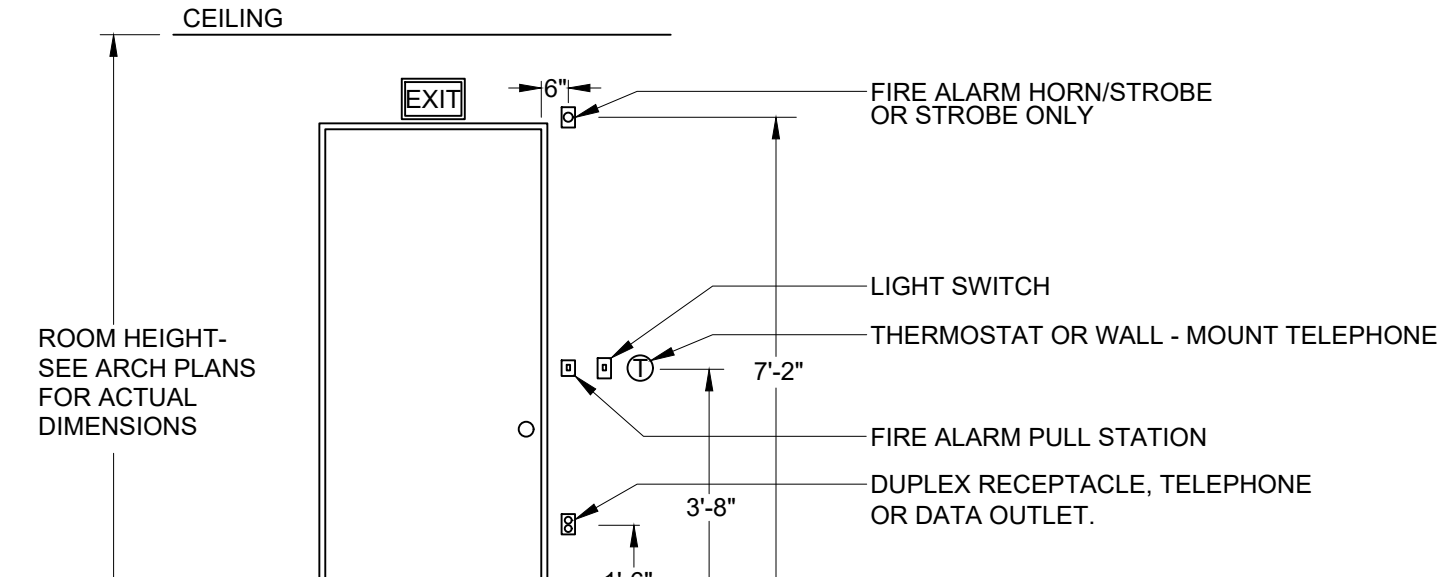


GENERATOR INSTALLATION DETAIL
 Scale: 1/2" = 1'-0"

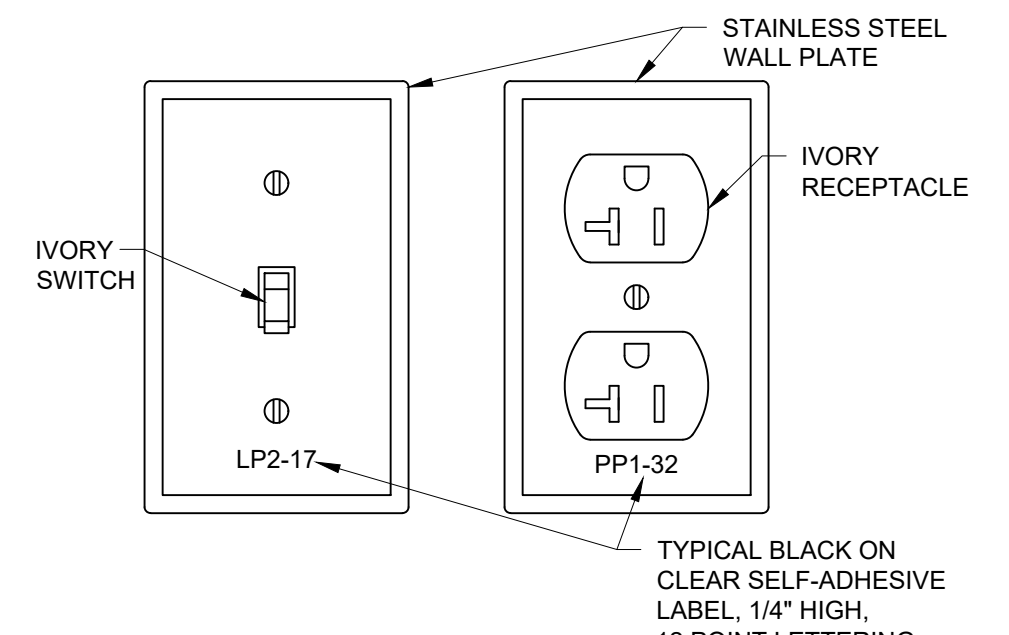
NOTES: 1. PROVIDE INTEGRAL BATTERY CHARGER, BATTERY HEATER, WATER JACKET HEATER, UNIT HEATERS, LIGHTS AND RECEPTACLES.



GENERATOR DUCT BANK DETAIL
 Scale: 1" = 1'-0"

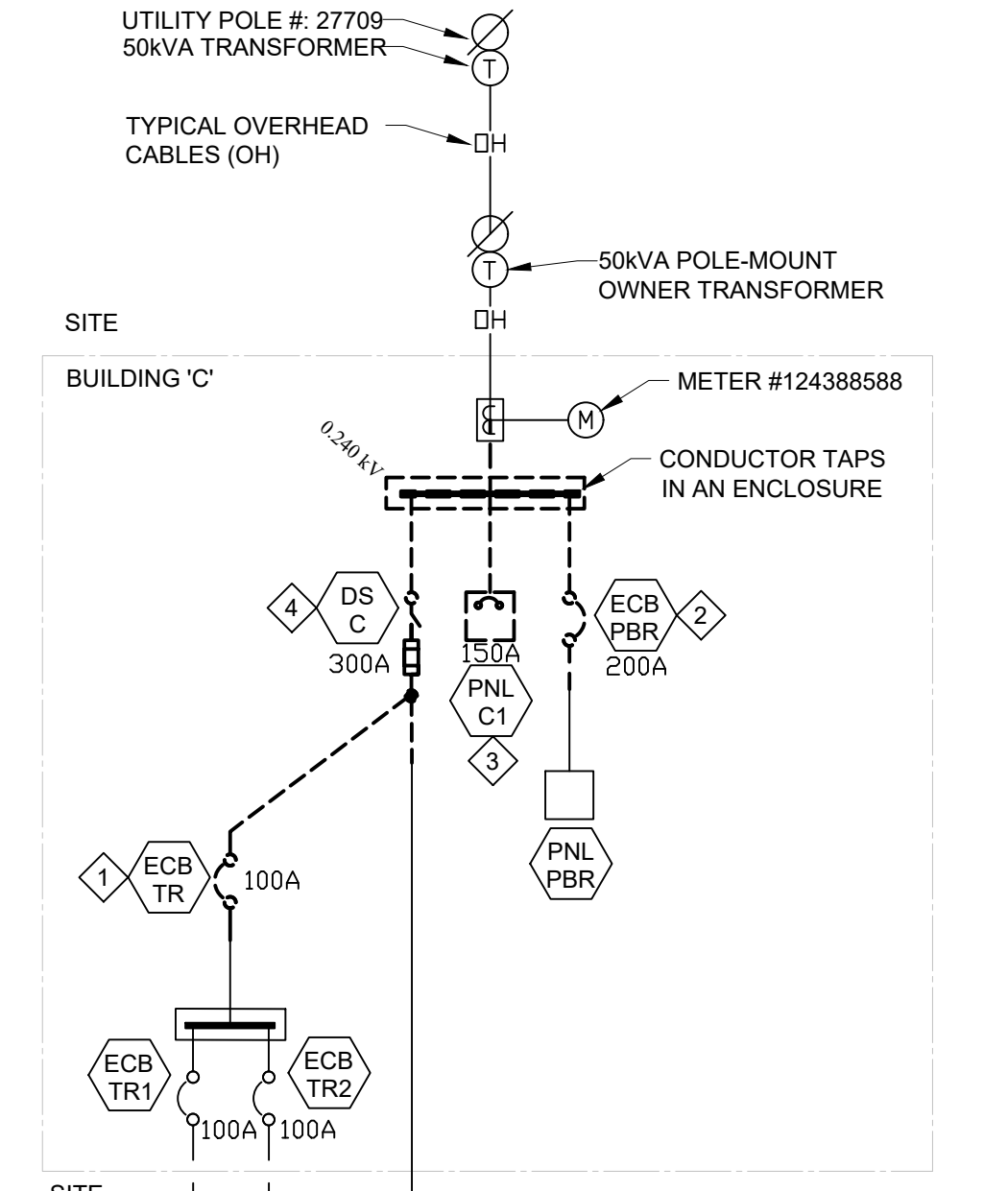


TYPICAL COMMON AREA DEVICE LAYOUT
 Scale: 3/8" = 1'-0"

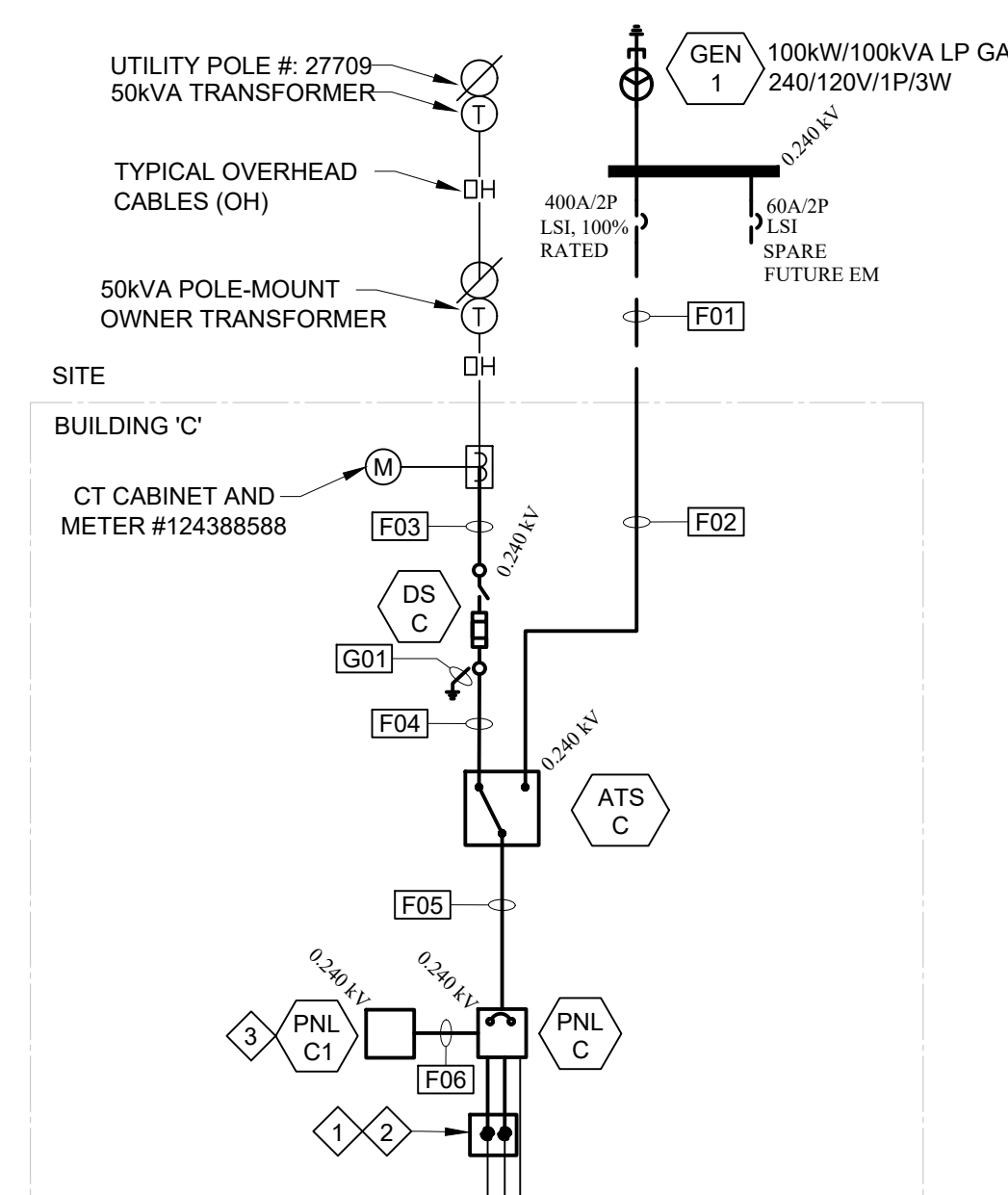


TYPICAL WIRING DEVICE DETAIL
 Scale: 6" = 1'-0"

TYPICAL BLACK ON CLEAR SELF-ADHESIVE LABEL, 1/4" HIGH, 12 POINT LETTERING

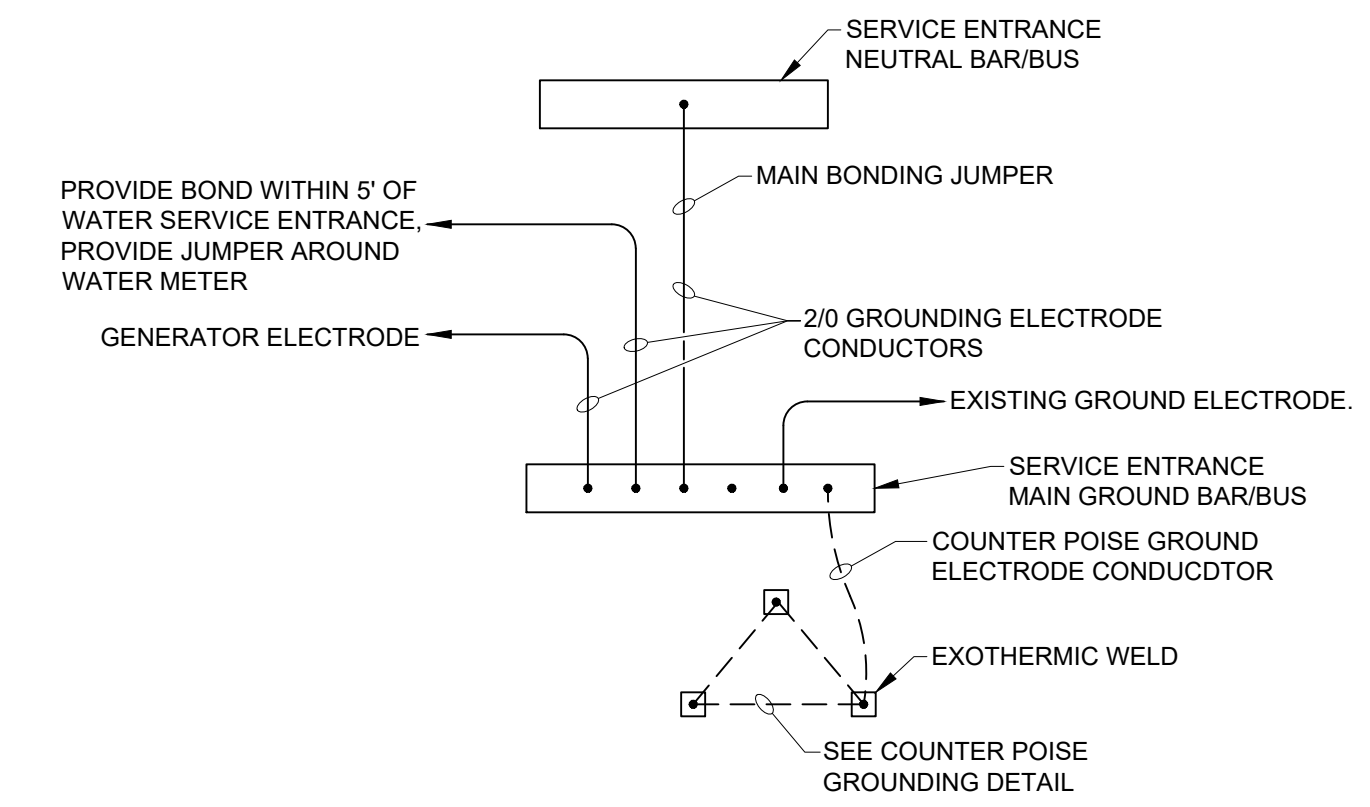


PARTIAL SINGLE-LINE DIAGRAM - DEMOLITION
 NO SCALE



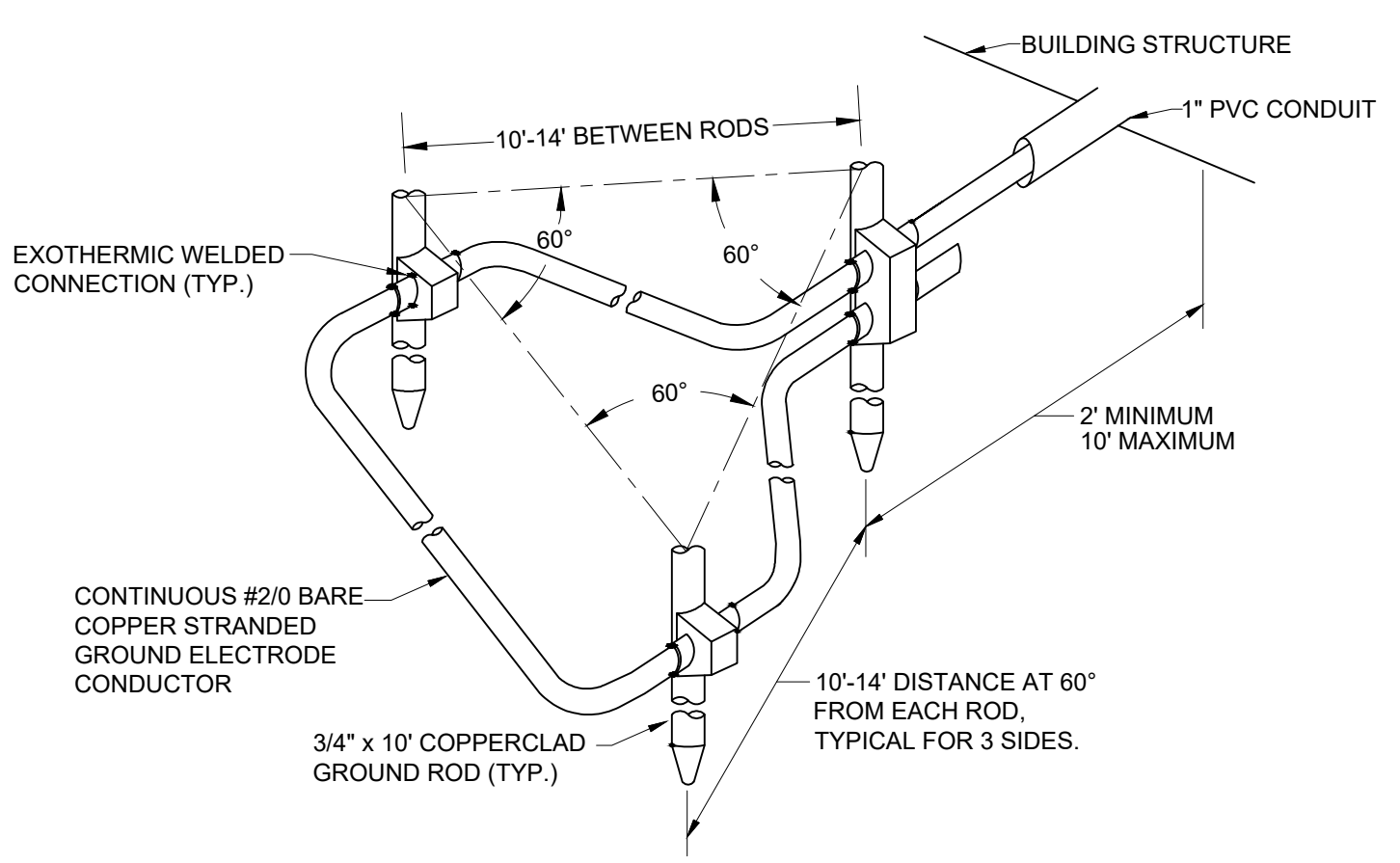
PARTIAL SINGLE-LINE DIAGRAM - POWER
 NO SCALE

- KEY NOTES**
- DEMOLISH ECB AND FEEDERS. REMOVE CIRCUIT TO CEILING SPACE ABOVE. EXTEND TO NEW BREAKER IN PNL C. MATCH EXISTING CONDUCTOR SIZE. LOCATE IN NEW CONDUIT.
 - DEMOLISH DS AND FEEDERS. REMOVE CIRCUIT TO CEILING SPACE ABOVE. EXTEND CIRCUIT TO NEW BREAKER IN PNL C.
 - DEMOLISH PNL. REMOVE FEEDERS BACK TO SOURCE. PROVIDE NEW FEEDERS. EXTEND BRANCH CIRCUIT TO NEW PANEL LOCATION.
 - DEMOLISH DISCONNECT. REMOVE FEEDERS BACK TO CT CABINET, PROVIDE NEW.
 - REPLACE LOAD CENTER WITH NEW, REPLACE IN COMING FEEDERS WITH NEW, CONNECT BRANCH CIRCUITS TO NEW BREAKERS AS SCHEDULED.



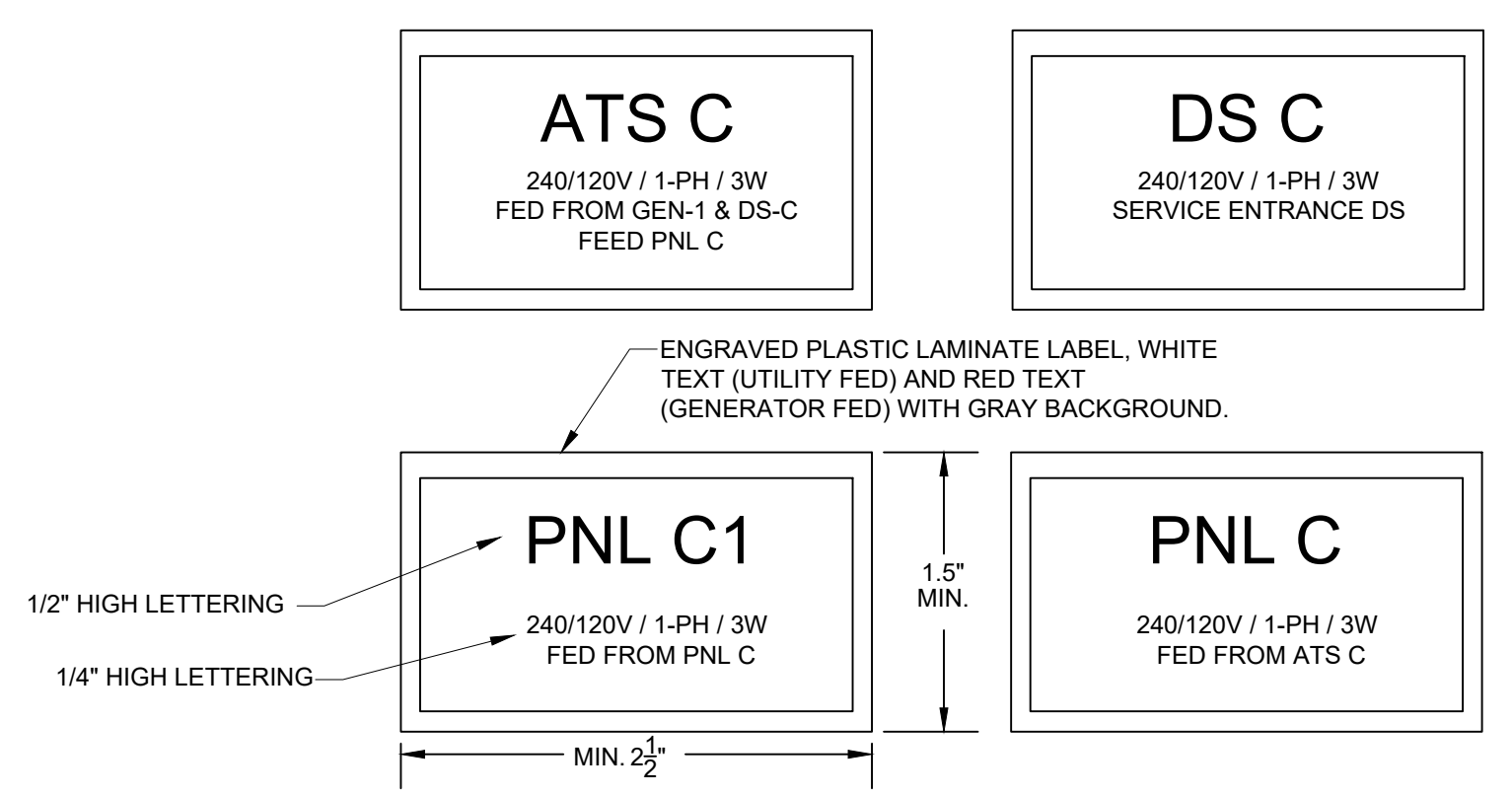
NEW SERVICE ENTRANCE GROUNDING DETAIL
 NO SCALE

NOTE: USE SOFT DRAWN ANNEALED BARE COPPER STRANDED CONDUCTORS, LISTED PER ASTM-B8.



COUNTER POISE GROUNDING DETAIL
 NOT TO SCALE

- NOTES:
- INSTALL COUNTERPOISE MIN. 24" BELOW GRADE IN GRASS AREA OUTSIDE OF ELECTRICAL SERVICE ENTRANCE AND CONNECT TO GROUND BUS OF MAIN SERVICE EQUIPMENT.
 - RESTORE SURFACE TO MATCH EXISTING, PLANT NEW GRASS SEED.
 - PROVIDE LAYOUT TO AVOID UNDERGROUND UTILITIES, INCREASE DISTANCE BETWEEN RODS AS REQUIRED.



TYPICAL EQUIPMENT LABEL DETAIL
 NOT TO SCALE

NOTE: IDENTIFY PANELBOARDS, ATS, AND SAFETY SWITCHES WITH ENGRAVED LABELS. INDICATE EQUIPMENT ID, VOLTAGE AND LOCATION EQUIPMENT IS FED FROM.

Feeder Schedule

Tag	Overcurrent Protection	Phase Wires (per conduit)	Ground	Conduit	Number of Conduits	Comments
F01	400A	3-600kcmil	#3	4"	1 + 1 spare	Underground generator feeders, plus 2-1.5" C. for branch circuits, cap spare 4" conduit indoors at entrance to building.
F02	400A	3-600kcmil	#3	4"	1	Indoors generator feeders
F03	600A	3-350kcmil	#1	2.5"	2	Provide terminations in CT cabinet
F04	600A	3-350kcmil	#1	2.5"	2	
F05	600A	3-350kcmil	#1	2.5"	2	
F06	600A	3-350kcmil	#1	2.5"	2	
F07	125A	3-1AWG	#6	1.5"	1	
G01	-	-	2/0	1"	1	Counter poise, in conduit where exposed outdoors and through the wall

Transfer Switch Schedule

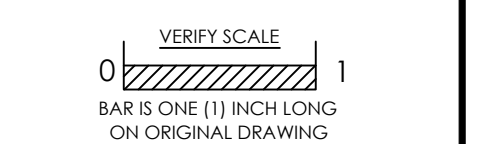
Tag	Operation	Transition Type	Neutral Type	Amp	Voltage	Enclosure	Notes
ATS-C	Automatic	Open, Delayed	Solid	600A	240/120V/1P/3W	NEMA 1	Floor mount on 4" raised concrete pad, exerciser with up to 7 routine and event log display (up to 300 min. events), graphical source availability, switch position indicator/control push-button, LCD display with keypad, voltage, frequency and current monitoring, 6 auxiliary contacts

Disconnect Switch Schedule

Tag	Voltage	Size	Fuses	Enclosure	Phase Wires	Ground	Conduit	Comments
DS-1	240V	600A	500A	NEMA 1	See Single Line Diagram			Service entrance rated, neutral lug kit & ground lug kit

Notes: 1 Provide hasp for padlocking in both on and off positions.
 2 Provide Class L fuses, blown fuse indicator = 3 spare.
 3 Provide engraved equipment label.

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TWINING FORD ROAD MAINTENANCE BUILDINGS
 FOR
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 30 NORTH CHANCELLOR STREET
 NEWTOWN, PA 18940



No.	Date	Description
1	2024/02/09	ADDENDUM 1

Date: FEBRUARY 2024
 Scale: As Noted
 Job No. 283090
 Drawn: MM | Appd.: MCD

Sheet Title:
DETAILS

Sheet No.
E7.1



A1 240 /120V, 1Ø, 3W Lobby 16A

Circuit Num.	Poles	Size	Load (VA)	Description	A	B	Description	Load (VA)	Size	Poles	Circuit Num.
1	1	20	0	Spare	0		Spare	0	20	1	2
3	1	20	0	Spare	416		Spare	0	20	1	4
5	2	15	0	Spare			Existing Circuit	416	20	2	6
7	1	20	0	Spare		416					8
9	2	20	0	Spare	416		Kirby A.C.	416	20	2	10
11	1	20	0	Spare		416					12
13	2	30	624	Existing Circuit	1455		Existing Circuit	831	20	1	14
15	1	20	624	Existing Circuit			Existing Circuit	416	20	1	16
17	1	20	0	Spare	416		Existing Circuit	416	20	1	18
19	1	20	416	Existing Circuit		831	Existing Circuit	416	20	1	20
21	1	20	416	Existing Circuit	1039		Existing Circuit	624	15	1	22
23	1	20	416	Existing Circuit		1247	Existing Circuit	831	20	1	24
25	1	15	312	Existing Circuit	1143		Existing Circuit	831	20	1	26
27	1	15	312	HC Upper		624	Existing Circuit	312	15	1	28
29	2	20	416	Existing Circuit	4578		Sub Panel A2	4162	60	2	30
31	1	20	416	Existing Circuit		4162	Prepared Space	3746			32
33	2	15	312	Existing Circuit	624		Existing Circuit	312	15	2	34
35	1	20	312	Existing Circuit		624	Existing Circuit	312			36
37	1	20	416	Printer		831	Existing Circuit	416	20	1	38
39	1	20	0	Spare			Existing Circuit	416	20	1	40
41	1	20	0	Spare			Spare	0	20	1	42
43	1	20	0	Spare			Spare	0	20	1	44
45	1	20	0	Spare		0	Spare	0	20	1	46
47	1	20	0	Spare			Spare	0	20	1	48
49	1	20	0	Spare			Spare	0	20	1	50
51	2	30	5	Integral Transient Surge Protection		5	Spare	0	20	1	52
53	1	20	5	200KA peak, 700V/1200V cutout		5	Spare	0	20	1	54
Totals					10922	9779					

UL1449, Type 1 TVSS
Provide engraved label
Circuit breaker Panelboard
Hinged door-in-door cover
Bolt-on breakers
200A MLO
NEMA 1 surface-mounted enclosure
22KA SCCR
Ground bar

Balanced connected load: 86 A

Non-bold text indicates existing circuits, connect to new breakers.
Bold description and load indicates new circuit and wiring.

Fed from ECB-A

A2 240 /120V, 1Ø, 3W Lobby 16A

Circuit Num.	Poles	Size	Load (VA)	Description	A	B	Description	Load (VA)	Size	Poles	Circuit Num.
1	2	40	831	New AC Conference	1247		Existing Circuit	416	20	1	2
3	1	20	831	Existing Circuit		1247	Existing Circuit	416	20	1	4
5	1	20	416	Existing Circuit		831	Existing Circuit	416	20	1	6
7	1	20	416	Existing Circuit		831	Existing Circuit	416	20	1	8
9	1	20	416	Existing Circuit		1455	Existing Circuit	416	20	1	10
11	2	20	5	Surge		1044	Existing Circuit	1039	50	2	12
13	1	20	5	Suppressor		629	Existing Circuit	624	30	2	14
15	1	20	0	Prepared Space		624	Prepared Space	624			16
17	1	20	0	Prepared Space		0	Prepared Space	0			18
19	1	20	0	Prepared Space		0	Prepared Space	0			20
Totals					4162	3746					

Circuit breaker Load Center
Hinged door-in-door cover
Bolt-on breakers
100A MCB
NEMA 1 surface-mounted enclosure
10KA SCCR
Ground bar

Balanced connected load: 33 A

Existing Square D QO Load Center
Non-bold text indicates existing breakers and circuits, which may be spare after demolition.
Bold description and load indicates new circuit and wiring.
Bold size and poles indicates new breaker. Remove existing breaker if necessary.

Fed from PNL-A1

C 240 /120V, 1Ø, 3W Electric 1C

Circuit Num.	Poles	Size	Load (VA)	Description	A	B	Description	Load (VA)	Size	Poles	Circuit Num.
1	1	20	300	Generator Receptacles & Lights	1191		Heater	831	20	1	2
3	1	20	831	Battery Heating Plate		1663	Generator Circuit	831	20	1	4
5	1	20	831	Unit Ventilator		831	Prepared Space				6
7	2	20	0	Spare		0	Prepared Space				8
9	1	20	0	Spare		0	Prepared Space				10
11	2	20	0	Spare		0	Prepared Space				12
13	1	20	0	Spare		0	Prepared Space				14
15	60	2	0	Spare		0	Prepared Space				16
17	1	20	0	Spare		0	Prepared Space				18
19	125	2	0	Spare		0	Prepared Space				20
21	1	20	0	Spare		0	Prepared Space				22
23	1	20	0	Prepared Space		0	Prepared Space				24
25	1	20	0	Prepared Space		0	Prepared Space				26
27	1	20	0	Prepared Space		0	Prepared Space				28
29	1	20	0	Prepared Space		0	Prepared Space				30
31	1	20	0	Prepared Space		3000	Storage Trailers 1 and 2	3000	100	2	32
33	1	20	0	Prepared Space		3005	thru ECB-TR1 & ECB-TR2	3000			34
35	2	30	5	Integral Transient Surge Protection		5	Spare - future service building A	0	200	2	36
37	1	20	5	200KA peak, 700V/1200V cutout		5					38
39	2	125	12304	PNL_PBR		23304	Building 'B' & 'A'	11000	200	2	40
41	1	20	12221	Feed Thru to PNL-C1		23221	Field verify breaker matches ex fuses size	11000			42
Totals					6928	6374					

UL1449, Type 1 TVSS
*confirm size
Provide engraved label
Circuit breaker Power Distribution Panelboard
Hinged door-in-door cover
Bolt-on breakers
600A MLO Feed-Thru lugs
NEMA 1 surface-mounted enclosure
34KA SCCR (minimum)
Ground bar

Balanced connected load: 341 A

Connect existing feeders, branch circuits to new breakers

Fed from ATS-C

C1 240 /120V, 1Ø, 3W Electric 1C

Circuit Num.	Poles	Size	Load (VA)	Description	A	B	Description	Load (VA)	Size	Poles	Circuit Num.
1	2	40	2217	Walk-in Freezer	3326		Existing Circuit	1109	20	2	2
3	1	20	2217	Existing Circuit		3326	Existing Circuit	1109			4
5	1	20	277	Front Door GFI		277	Existing Circuit - off	0	20	1	6
7	1	20	277	Shop Lights		277	Existing Circuit - off	0	20	1	8
9	1	20	277	Front Bench @ Fan		554	Grinder & Drill Press	277	20	1	10
11	1	20	277	Front Pull Down Cord		554	Shop Rear The Wall	277	20	1	12
13	1	20	277	Existing Circuit		554	Rear Pull Down Cords	277	20	1	14
15	1	20	0	Existing Circuit - off		0	Existing Circuit - off	0	20	1	16
17	1	20	0	Existing Circuit - off		277	Shop Rear Bench Right	277	20	1	18
19	1	20	277	Existing Circuit		554	Shop Rear Right Wall	277	20	1	20
21	2	40	0	Existing Circuit - off		277	Shop Rear Right Wall	277	20	1	22
23	1	20	0	Existing Circuit - off		1663	Existing Circuit	1663	30	2	24
25	1	20	0	Spare		1663	Spare	0	20	1	26
27	1	20	0	Spare		0	Spare	0	20	1	28
29	1	20	0	Spare		0	Spare	0	20	1	30
31	1	20	0	Spare		0	Spare	0	20	1	32
33	1	20	0	Spare		0	Spare	0	20	1	34
35	1	20	0	Spare		0	Spare	0	20	1	36
37	1	20	0	Spare		0	Spare	0	20	1	38
39	1	20	0	Spare		0	Spare	0	20	1	40
41	1	20	0	Spare		0	Spare	0	20	1	42
Totals					6928	6374					

Provide engraved label
Circuit breaker panelboard
Hinged door-in-door cover
Bolt-on breakers
600A MLO
NEMA 1 surface-mounted enclosure
34KA SCCR (minimum)
Ground bar

Balanced connected load: 55 A

Non-bold text indicates existing circuits, connect to new breakers.
Bold description and load indicates new circuit and wiring.

Fed from PNL-C

PBR 240 /120V, 1Ø, 3W Boiler 10C

Circuit Num.	Poles	Size	Load (VA)	Description	A	B	Description	Load (VA)	Size	Poles	Circuit Num.
1	2	60	3326	Walk-in Freezer	4988		Existing Circuit	1663	30	2	2
3	1	20	3326	Existing Circuit		4988	Existing Circuit	1663			4
5	2	30	1663	Existing Circuit	2494		Existing Circuit	831	15	2	6
7	1	20	1663	Existing Circuit		2494	Existing Circuit	831			8
9	2	30	1663	Existing Circuit		1774	Dust Collector	111	20	2	10
11	1	20	1663	Existing Circuit		1774	Existing Circuit	111			12
13	1	15	83	Existing Circuit		83	Existing Circuit				14
15	1	15	83	Existing Circuit		2300	Walk-in Freezer	2217	40	2	16
17	1	15	83	Existing Circuit		2300	Existing Circuit	2217			18
19	1	20	111	Existing Circuit		222	Existing Circuit	111	20	1	20
21	1	20	111	Existing Circuit		222	Existing Circuit	111	20	1	22
23	1	20	111	Existing Circuit		222	Existing Circuit	111	20	1	24
25	1	20	111	Pill Box		222	Existing Circuit	111	20	1	26
27	2	20	111	Existing Circuit		222	Existing Circuit	111	20	1	28
29	1	20	111	Existing Circuit		222	Existing Circuit	111	20	1	30
Totals					12304	12221					

Balanced connected load: 102 A

Circuit breaker panelboard
Hinged door-in-door cover
Bolt-on breakers
250A MLO
NEMA 1 surface-mounted enclosure
10KA SCCR
Ground bar

Existing Siemens P1A30ML250ATS
Non-bold text indicates existing breakers and circuits, which may be spare after demolition.
Bold description and load indicates new circuit and wiring.
Bold size and poles indicates new breaker. Remove existing breaker if necessary.

Fed from PNL-C

GENERAL DEMOLITION NOTES

IN ALL AREAS WHERE PATCHING IS REQUIRED, THE PLUMBING CONTRACTOR SHALL PATCH THE SUB-SURFACE WHERE THE NEW SURFACE IS TO BE FINISHED BY THE GENERAL CONTRACTOR. THIS SUB-SURFACE MUST BE PROVIDED SO THAT IT DOES NOT INHIBIT THE INSTALLATION OF OR AFFECT THE APPEARANCE OF THE NEW FINISH. IF A NEW FINISH WILL NOT BE PROVIDED BY THE GENERAL CONTRACTOR, THE PLUMBING CONTRACTOR IS RESPONSIBLE TO PATCH THE SURROUNDING FINISHED SURFACE TO MATCH EXISTING. PATCH EXISTING OPENINGS FROM DEMOLISHED PIPING IN FIRE RATED FLOORS AND WALLS AS REQUIRED TO MAINTAIN FIRE RATING.

GENERAL PLUMBING NOTES

- PROVIDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED FOR THE COMPLETION AND OPERATION OF ALL PLUMBING SYSTEMS IN THIS SECTION OF WORK IN ACCORDANCE WITH ALL APPLICABLE CODES.
- THE PLUMBING DRAWINGS SHALL BE CONSIDERED AS BEING DIAGRAMMATIC AND ARE NOT TO BE SCALED FOR THE ACCURATE CUTTING OF PIPE OR ITS EXACT PLACEMENT. BUT THEY SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHER TRADES WILL PERMIT. BEFORE ANY PIPING IS INSTALLED, CONFERENCE WITH ALL OTHER CONTRACTORS IN ORDER TO ESTABLISH THE LOCATIONS OF THEIR PIPING, CONDUIT, DUCTWORK, GRILLES, FOUNDATIONS, STRUCTURAL STEEL, LIGHTING FIXTURES AND OTHER EQUIPMENT SO AS TO AVOID INTERFERENCE. FAILURE TO COORDINATE SHALL NOT RESULT IN ANY ADDITIONAL EXPENSE TO THE OWNER.
- VERIFY THE EXACT LOCATION OF ALL EXISTING LINES AND ALL INVERTS PRIOR TO THE INSTALLATION OF ANY NEW PIPING.
- SECURE ALL PERMITS, INSPECTION CERTIFICATES, ETC., AND PAY ALL CHARGES CONNECTED WITH SAME.
- ALL MATERIALS SHALL BE NEW AND SHALL FIT THE SPACE AVAILABLE. VERIFY DIMENSIONS AT SITE.
- ALL PIPING, APPARATUS, EQUIPMENT, ETC. SHALL BE PROPERLY SUPPORTED, BRACED VERTICALLY AND HORIZONTALLY IN ACCORDANCE WITH APPLICABLE CODES AND AS REQUIRED TO PREVENT EXCESSIVE MOVEMENT DURING SEISMIC CONDITIONS.
- ALL VALVES, CLEANOUTS, ETC., SHALL BE LOCATED AND INSTALLED TO PERMIT ACCESS FOR SERVICE WITHOUT DAMAGE TO BUILDING OR FINISHED MATERIALS.
- REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATION OF DOORS, WINDOWS, FIXTURES, WALL DIMENSIONS, ETC.
- ANY REFERENCE TO "GC" OR "GENERAL CONTRACTOR" SHALL MEAN THE APPROPRIATE GENERAL TRADES CONTRACTOR. THIS REFERENCE IS NOT TO OUTLINE WORK AMONG GENERAL TRADES CONTRACTORS. ALL WORK ON PLUMBING PLANS SHALL BE BID AS A SINGLE PRIME UNDER THE E.C. SCOPE.
- ALL GAS PIPING INSTALLATIONS, INCLUDING REQUIREMENTS FOR PIPING AND FITTINGS INSTALLED IN A CONCEALED LOCATION, SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE INTERNATIONAL FUEL GAS CODE AND NFPA 54 AND LOCAL AUTHORITY HAVING JURISDICTION.
- PRIMER AND PAINT EXTERIOR GAS PIPING, ONE PRIMER COAT AND TWO COATS OF CORROSION RESISTANT PAINT IN HIGH VISIBILITY YELLOW (VERIFY COLOR WITH ARCHITECT) AND PROVIDE PIPE IDENTIFICATION IN ACCORDANCE WITH THE SPECIFICATIONS.
- ANY REQUIRED SHUT-DOWNS SHALL NOT BE INITIATED WITHOUT WRITTEN APPROVAL FROM OWNER AND ENGINEER. ANY REQUIRED SHUT-DOWNS SHALL BE KEPT AT A MINIMUM.

PLUMBING SPECIFICATION

GENERAL

THE ITEMS INCLUDED IN THE GENERAL REQUIREMENTS FOR MECHANICAL AND ELECTRICAL WORK OF THIS SPECIFICATION ARE A PART OF THESE SPECIFICATIONS FOR THE PLUMBING WORK.

THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO BEGINNING WORK FOR THE PURPOSE OF OBSERVING EXISTING CONDITIONS AND TO DETERMINE THE EXTENT OF THE WORK. THE CONTRACTOR SHALL MAKE ALLOWANCES FOR PROVIDING ALL MATERIAL, EQUIPMENT, AND LABOR AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF THE DRAWINGS, SPECIFICATIONS, AND ALL CODE REQUIREMENTS.

DESCRIPTION OF PLUMBING SYSTEM

THE LAYOUT AND SIZES OF ALL MAINS AND PRINCIPAL BRANCHES OF ALL PIPING SYSTEMS ARE AS SHOWN ON THE DRAWINGS. SMALL BRANCHES SHALL BE AS DIRECT AS POSSIBLE, FOLLOWING THE LINES OF THE BUILDING AND SHALL BE SIZED IN ACCORDANCE WITH DRAWINGS AND LOCAL APPLICABLE PLUMBING CODE.

PROPANE PIPING SYSTEMS SHALL BE EXTENDED FROM MAINS TO EQUIPMENT AS REQUIRED.

VALVES

VALVES SHALL BE FULL PORT BALL VALVES, ACCESSIBLY LOCATED AND EQUAL IN AREA TO PIPE ON WHICH THEY ARE PLACED. PROVIDE VALVES ON ALL BRANCHES AT ALL SUPPLY WATER EQUIPMENT AND WHERE INDICATED ON DRAWINGS. VALVES SHALL BE EQUAL TO JOHAR, JENKINS, CRANE, FAIRBANKS, HAMMOND OR NIBCO, INC.

VALVES SHALL BE BRASS BODY SOLDERED CONNECTIONS, BALL VALVE SUITABLE FOR A WATER WORKING PRESSURE OF 125 POUNDS.

LP PROPANE PIPING

BELOW GRADE LP PROPANE PIPING SHALL BE AS NOTED AND DETAILED ON FLOOR PLANS.

ABOVE GRADE LP PROPANE PIPING SHALL BE SCHEDULE 40, BLACK STEEL WITH MALLEABLE-IRON THREADED FITTINGS AND THREADED JOINTS FOR PIPING 2" OR SMALLER AND STEEL WELDING FITTINGS AND WELDED JOINTS FOR PIPING 2 1/2" OR LARGER. EXTERIOR GAS PIPING SHALL HAVE ONE PRIMER COAT AND TWO COATS OF CORROSION RESISTANT PAINT IN A COLOR SELECTED BY THE ARCHITECT AND PROVIDE PIPE IDENTIFICATION AS REQUIRED IN THIS SPECIFICATION. GAS PIPING SHALL SLOPE BACK TO SOURCE AT 1/4" PER 15' OF PIPE. ALL BRANCHES SHALL TEE OFF THE TOP OF THE MAIN IF APPLICABLE. PROVIDE ROOF PIPE SUPPORTS FOR NEW GAS PIPING ON ROOF REFER TO DETAIL ON DRAWINGS.

INSTALLATION, TESTING, INSPECTION AND PURGING OF GAS PIPING SYSTEMS SHALL COMPLY WITH NFPA 54, THE LOCAL AUTHORITIES HAVING JURISDICTION AND THE REGULATIONS OF THE LOCAL GAS COMPANY. ALL EQUIPMENT FOR TEST SHALL BE FURNISHED BY THE PLUMBING CONTRACTOR AND THE TEST SHALL BE CONDUCTED AT HIS EXPENSE. CONTRACTOR IS ALSO RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH PROPANE SERVICE INCLUDING REQUIRED REGULATORS, SHUT-OFF VALVES AND PIPING. COORDINATE INSTALLATION WITH LOCAL PROPANE SUPPLIER COMPANY.

UNIONS

UNIONS SHALL BE INSTALLED ADJACENT TO ALL EQUIPMENT AND WHEREVER THEIR USE WILL FACILITATE EASY REMOVAL OF EQUIPMENT FOR REPAIR OR REPLACEMENT.

UNIONS SHALL BE STANDARD WEIGHT, ALL BRASS, GROUND JOINT FOR SOLDERED OR SWEATED TYPE CONNECTIONS.

DESCRIPTION OF WORK

THE EXTENT OF THE PLUMBING EQUIPMENT WORK IS HEREBY DEFINED TO INCLUDE (BUT NOT BY WAY OF LIMITATION) THE FURNISHING AND INSTALLING OF THE FIXTURES, MATERIALS, AND EQUIPMENT SPECIFIED IN THIS SECTION, LISTED IN SCHEDULES AND AS SHOWN ON THE DRAWINGS.

ALL PHYSICAL ATTRIBUTES OF EQUIPMENT AND DEVICES ARE BASED ON THOSE MANUFACTURERS LISTED IN THE SPECIFICATIONS AND/OR THE EQUIPMENT SCHEDULES. THE RESPECTIVE CONTRACTORS ARE RESPONSIBLE FOR ALL CHANGES BROUGHT ABOUT BY USE OF ITEMS BY OTHER MANUFACTURERS. THE ARCHITECT/ENGINEER HAS RESERVED THE RIGHT TO REJECT ITEMS BY OTHER MANUFACTURERS IF THOSE ITEMS DO NOT MATCH THE PHYSICAL ATTRIBUTES OF THE MANUFACTURERS LISTED.

QUALITY ASSURANCE

MANUFACTURER: A FIRM REGULARLY ENGAGED IN THE MANUFACTURING OF FIXTURES, MATERIALS AND EQUIPMENT, OF THE TYPES AND SIZES SIMILAR TO THE REQUIRED UNITS, WHICH HAVE BEEN IN SATISFACTORY USE FOR NOT LESS THAN 5 YEARS IN SIMILAR SERVICE.

ASME INSPECTION FORM U-1 REQUIRED.
ASME STANDARD FOR 150 PSI SECTION VIII REQUIRED.

MANUFACTURER: AS NOTED ON THE PLANS AND AS LISTED ON THE SCHEDULES.

SUBMITTALS

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL FIXTURES, VALVES, HANGERS, EQUIPMENT, ETC., FOR REVIEW PRIOR TO ORDERING AND SHALL INCLUDE:

- GUARANTEES
- PRODUCT DATA: INCLUDE:
 - MANUFACTURER'S DATE
 - MANUFACTURER'S PRODUCT WARRANTY
 - OPERATING INSTRUCTIONS
 - MAINTENANCE MANUALS
 - WIRING DIAGRAMS AND ELECTRICAL DETAILS

MANUFACTURED PRODUCTS

GENERAL: PROVIDE FACTORY FABRICATED FIXTURES AND EQUIPMENT RECOMMENDED BY THE MANUFACTURER FOR USE IN THE SERVICE INDICATED. PROVIDE PRODUCTS OF THE TYPE AND PRESSURE RATING INDICATED FOR EACH SERVICE OR, IF NOT INDICATED, PROVIDE PROPER SELECTION AS DETERMINED BY THE SYSTEM INSTALLER TO COMPLY WITH INSTALLATION REQUIREMENTS. PROVIDE SIZES AND CONNECTIONS MATCHING PIPE, TUBE AND VALVE CONNECTIONS.

INSTALLATION

INSTALL MATERIALS AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS, ROUGHING-IN DRAWINGS AND DETAILS ON THE DRAWINGS.

ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE BY OWNER. DURING THIS PERIOD, THE CONTRACTOR AGREES TO MAKE WHATEVER ADJUSTMENTS NECESSARY TO THE INSTALLATION, OR REPLACE ANY MATERIAL OR EQUIPMENT THAT PROVES TO BE UNSATISFACTORY BY THE ARCHITECT, ENGINEER AND OWNER. ALL GUARANTEES SHALL BE IN ADDITION TO EXPRESSED GUARANTEES OF THE MANUFACTURERS AND/OR SUPPLIERS.

PLUMBING SYMBOLS

— — — — —	DOMESTIC COLD WATER		BACKFLOW PREVENTER
— — — — —	DOMESTIC HOT WATER		BACKWATER VALVE
— — — — —	DOMESTIC HOT WATER RETURN		BALL/BUTTERFLY VALVE
— • — — —	EXIST DOMESTIC COLD WATER		GATE VALVE
— •• — — —	EXIST DOMESTIC HOT WATER		GLOBE VALVE
— ••• — — —	EXIST DOMESTIC HOT WATER RETURN		CHECK VALVE
— TW — — —	TEPID WATER		SOLENOID VALVE
— — — — —	SANITARY/WASTE UNDERGROUND		BALANCING VALVE WITH MEMORY STOP
— — — — —	SANITARY/WASTE ABOVEGROUND		PRESSURE TEMPERATURE RELIEF VALVE
— — — — —	EXIST SANITARY/WASTE UNDERGROUND		MIXING VALVE
— — — — —	EXIST SANITARY/WASTE ABOVEGROUND		CIRCUIT SOLVER THERMOSTATIC RECIRCULATION VALVE
— RW — — —	RAIN/STORM WATER UNDERGROUND		GAS SHUT-OFF VALVE
— RW — — —	RAIN/STORM WATER ABOVE GROUND		WATER HAMMER ARRESTER
— ERW — — —	EXIST RAIN/STORM WATER UNDERGROUND		STRAINER
— ERW — — —	EXIST RAIN/STORM WATER ABOVEGROUND		UNION
— — — — —	VENT		THERMOMETER
— G — — —	GAS		PRESSURE GAUGE
— EG — — —	EXIST GAS		PRESSURE REGULATOR
— AT — — —	AIRTIGHT CONDUIT		PRESSURE REDUCING VALVE
— AW — — —	ACID WASTE UNDERGROUND		WALL HYDRANT
— AW — — —	ACID WASTE ABOVEGROUND		FLOOR CLEANOUT
— AV — — —	ACID VENT		PLUG CLEANOUT
— TP — — —	TRAP PRIMER		PIPE CAP
— CA — — —	COMPRESSED AIR		PIPE RISE
— MA — — —	MEDICAL AIR		PIPE DROP
— OX — — —	OXYGEN		DIRECTION OF FLOW
— VAC — — —	VACUUM		CARBON DIOXIDE
— N2O — — —	NITROUS OXIDE		FLEXIBLE CONNECTION
— WAGD — — —	WASTE ANESTHESIA GAS DISPOSAL		MOMENT GUIDE
— N — — —	NITROGEN		PIPE ANCHOR
— CO2 — — —	CARBON DIOXIDE		SUPPORT CURB
— DE — — —	DEIONIZED WATER		SUPPORT CURB W/ANCHOR
— AC — — —	ACETYLENE		ROOF DRAIN
— AR — — —	ARGON		FLOOR DRAIN
— LCW — — —	LAB COLD WATER		FLOOR SINK
			AIR STATION

PLUMBING ABBREVIATIONS

AD	AREA DRAIN	INSUL	INSULATION
AFG	ABOVE FINISHED GRADE	INT	INTERIOR
AFR	ABOVE FINISHED ROOF	INV	INVERT
AV	ACID VENT	IW	INDIRECT WASTE
AW	ACID WASTE	KW	KILOWATT
BFG	BELOW FINISHED GRADE	LAV	LAVATORY
BFP	BACKFLOW PREVENTER	LBS	POUNDS
BLW	BELOW	LMB	LAUNDRY MACHINE BOX
BOP	BOTTOM OF PIPE	LP-G	LIQUEFIED PETROLEUM GAS
BOTT	BOTTOM	MFG	MANUFACTURER
BTUB	BATHTUB	MB	MOP BASIN
CA	COMPRESSED AIR	MBH	1,000 BTU
CD	CONDENSATE DRAIN	MV	MIXING VALVE
CFH	CUBIC FEET PER HOUR	OD	OUTSIDE DIAMETER
CIP	CAST IRON PIPE	ORD	OVERFLOW ROOF DRAIN
CO	CLEAN OUT	P	PRESSURE GAUGE
CW	COLD WATER	PD	PRESSURE DROP
DF	DRINKING FOUNTAIN	PRV	PRESSURE REDUCING VALVE
DIP	DUCTILE IRON PIPE	PSIG	POUNDS PER SQUARE INCH GAUGE
DS	DOWNSPOUT	RCP	REINFORCED CONCRETE PIPE
DSN	DOWNSPOUT NOZZLE	RD	ROOF DRAIN
EEW	EMERGENCY EYEWASH	RP	RECIRCULATING PUMP
ESH	EMERGENCY SHOWER	RPM	REVOLUTIONS PER MINUTE
ESE	EMERGENCY SHOWER/EYEWASH	RWC	RAINWATER CONDUCTOR
EWC	ELECTRIC WATER COOLER	S	SOIL LINE/STACK
EXT	EXTERIOR	SAN	SANITARY SEWER
FAI	FRESH AIR INLET	SK	SINK
FD	FLOOR DRAIN	SH	SHOWER
FDN	FOUNDATION	SI	SOLIDS INTERCEPTOR
FS	FLOOR SINK	SS	SERVICE SINK
FT	FEET	T	THERMOMETER
FT HD	FEET OF HEAD	TD	TRENCH DRAIN
FTG	FOOTING	TW	TEPID WATER
GALV	GALVANIZED	UR	URINAL
GH	GROUND HYDRANT	V	VENT
GI	GREASE INTERCEPTOR	VER	VERTICAL
GS	GREASE SEPARATOR	VTR	VENT THRU ROOF
GSV	GAS SOLENOID VALVE	W	WASTE
HB	HOSE BIBB	WC	WATER CLOSET
HOR	HORIZONTAL	WC	WATER COLUMN
HTG	HEATING	WCO	WALL CLEAN OUT
HW	HOT WATER	WF	WASH FOUNTAIN
HWH	HOT WATER HEATER	WH	WALL HYDRANT
HWR	HOT WATER RETURN	WHA	WATER HAMMER ARRESTER
ID	INSIDE DIAMETER	WSV	WATER SOLENOID VALVE

COMMON ABBREVIATIONS

A/E	ARCHITECT/ENGINEER	HC	HVAC CONTRACTOR
AB CLG	ABOVE CEILING	HCP	HANDICAPPED
ABV	ABOVE	HGT	HEIGHT
AFF	ABOVE FINISHED FLOOR	HR	HOUR
AFI	ARC-FAULT INTERRUPTER	IR	INFRARED
AFR	ABOVE FINISHED ROOF	JB	JUNCTION BOX
ALT	ALTERNATE	JES	KITCHEN EQUIPMENT SUPPLIER
ATS	AUTOMATIC TRANSFER SWITCH	LV	LOW-VOLTAGE
BFC	BELOW FINISHED CEILING	MC	MECHANICAL CONTRACTOR
CG	COUNTERTOP GFI	MCA	MINIMUM CIRCUIT AMPACITY
C/D	CORD DROP	MOCBP	MAXIMUM OVERCURRENT PROTECTION
CL	CENTERLINE	MT	MULTITECHNOLOGY
CLG	CEILING	MO	MICROWAVE OVEN
CM	CEILING MOUNTED	NA	N/A
COL	COLUMN	NE	NORMAL/EMERGENCY (NORMALLY ON)
CT	COUNTERTOP HEIGHT-44" AFF UNO OR CURRENT TRANSFORMER	NIC	NOT IN CONTRACT
CR	CORD REEL	NTS	NOT TO SCALE
DBF	DOWN BELOW FLOOR	OFICI	OWNER FURNISHED CONTRACTOR INSTALLED
DET	DETAIL	PC	PLUMBING CONTRACTOR
DIA	DIAMETER	PIR	PASSIVE INFRARED
DIM	DIMENSION	SE	SERVICE ENTRANCE
DN	DOWN	SECT	SECTION
DW	DISHWASHER	SHT	SHEET
DWG	DRAWING	SIM	SIMILAR
EC	ELECTRICAL CONTRACTOR	SPD	SURGE PROTECTION DEVICE
EL	ELEVATION	SPEC	SPECIFICATION
ELEV	ELEVATOR	SS	SERVICE SINK
EMER	EMERGENCY	STD	STANDARD
EO	EMERGENCY ONLY (NORMALLY OFF)	SUSP	SUSPENDED
EWC	ELECTRIC WATER COOLER (PROVIDE GFI RECEPTACLE)	TBR	TO BE REMOVED
EX	EXISTING	TL	TASK LIGHT
FA	FIRE ALARM	TR	TAMPER RESISTANT
FBO	FURNISHED BY OWNER	TSTAT	THERMOSTAT
FLR	FLOOR	UNO	UNLESS NOTED OTHERWISE
FPC	FIRE PROTECTION CONTRACTOR	US	ULTRASONIC
FSC	FOOD SERVICE CONTRACTOR	W	WITH
GC	GENERAL CONTRACTOR	WO	WITHOUT
GFI	GROUND-FAULT INTERRUPTER	W	WALL-MOUNTED
GND	GROUND	WP	WEATHERPROOF

COMMON SYMBOLS

	PLAN NORTH
	SECTION ID
	SHEET NO. WHERE SECTION IS
	DIRECTIONAL VIEW OF SECTION
	REVISION CLOUD
	REVISION NUMBER
	ELEVATION
	ELEVATION 100.00'
	DIRECTION OF VIEW
	SHEET NO. WHERE EL. IS DRAWN
	ELEVATION ID
	KEYNOTE
	DETAIL ID
	SHEET NO. WHERE DETAIL IS
	ROOM/SPACE NO.
	EQUIPMENT TAG SHOWING TYPE AND ID. SEE EQUIPMENT SCHEDULES FOR DETAILS
	PROVIDE NEW
	EXISTING TO REMAIN
	REMOVE EXISTING
	CONNECT TO EXISTING
	EXISTING TO BE REMOVED

DRAWING LIST

E0.1	Cover Sheet
E0.2	Site Plan
E1.1	Maintenance Build 'C'--Power
E2.1	Maintenance Build 'A'--Power
E7.1	Details
E8.1	Schedules
P0.1	Cover Sheet
P1.1	Maintenance Build 'C'--Propane

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 NEWTOWN, PA 18940

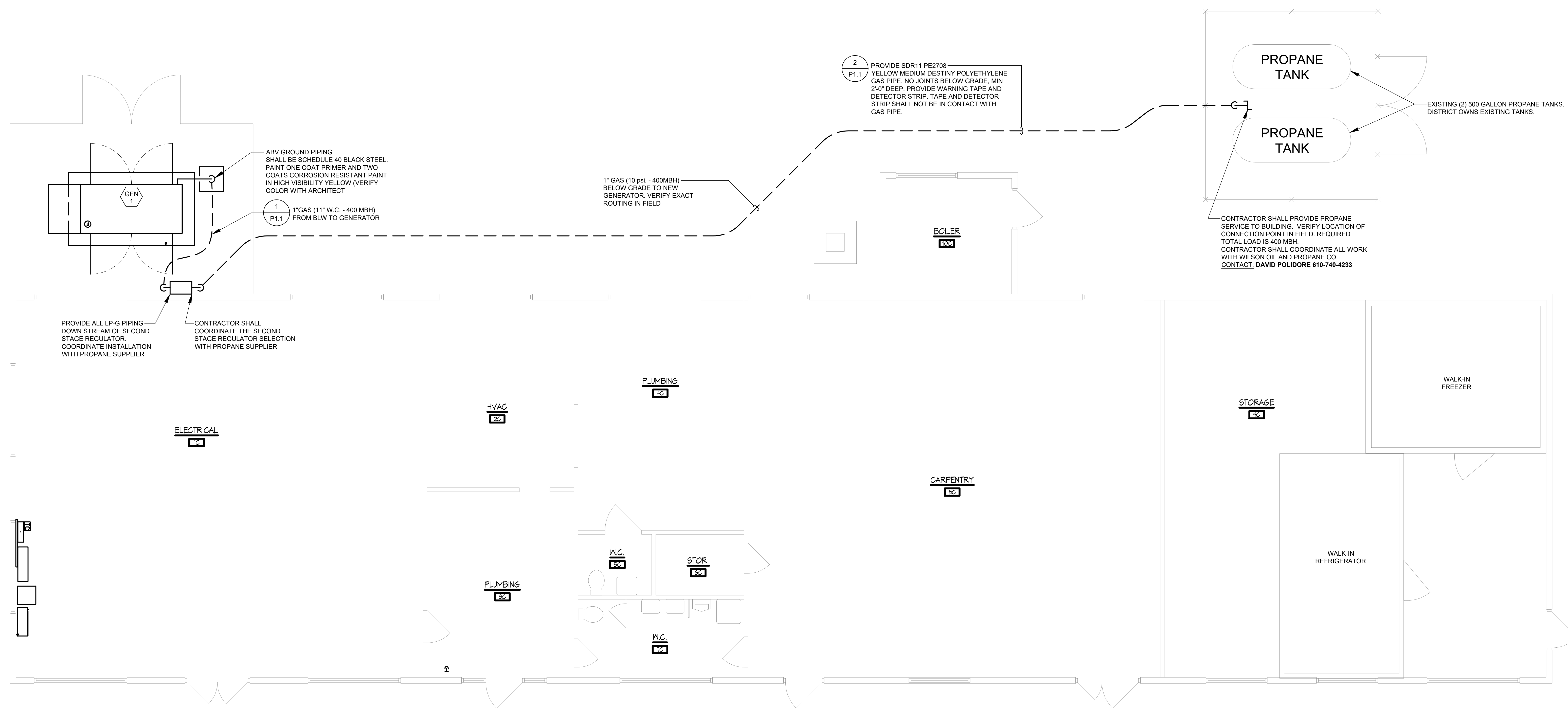
VERIFY SCALE
0 1
BAR IS ONE (1) INCH LONG
ON ORIGINAL DRAWING

No.	Description	Date
1	ADDENDUM 1	2/24/2024

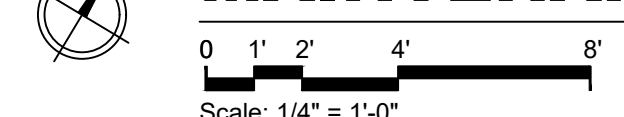
Date: FEBRUARY 2024
Scale: As Noted
Job No. 283090
Drawn: NRZ | Appd.: NRZ

Sheet Title:
COVER SHEET

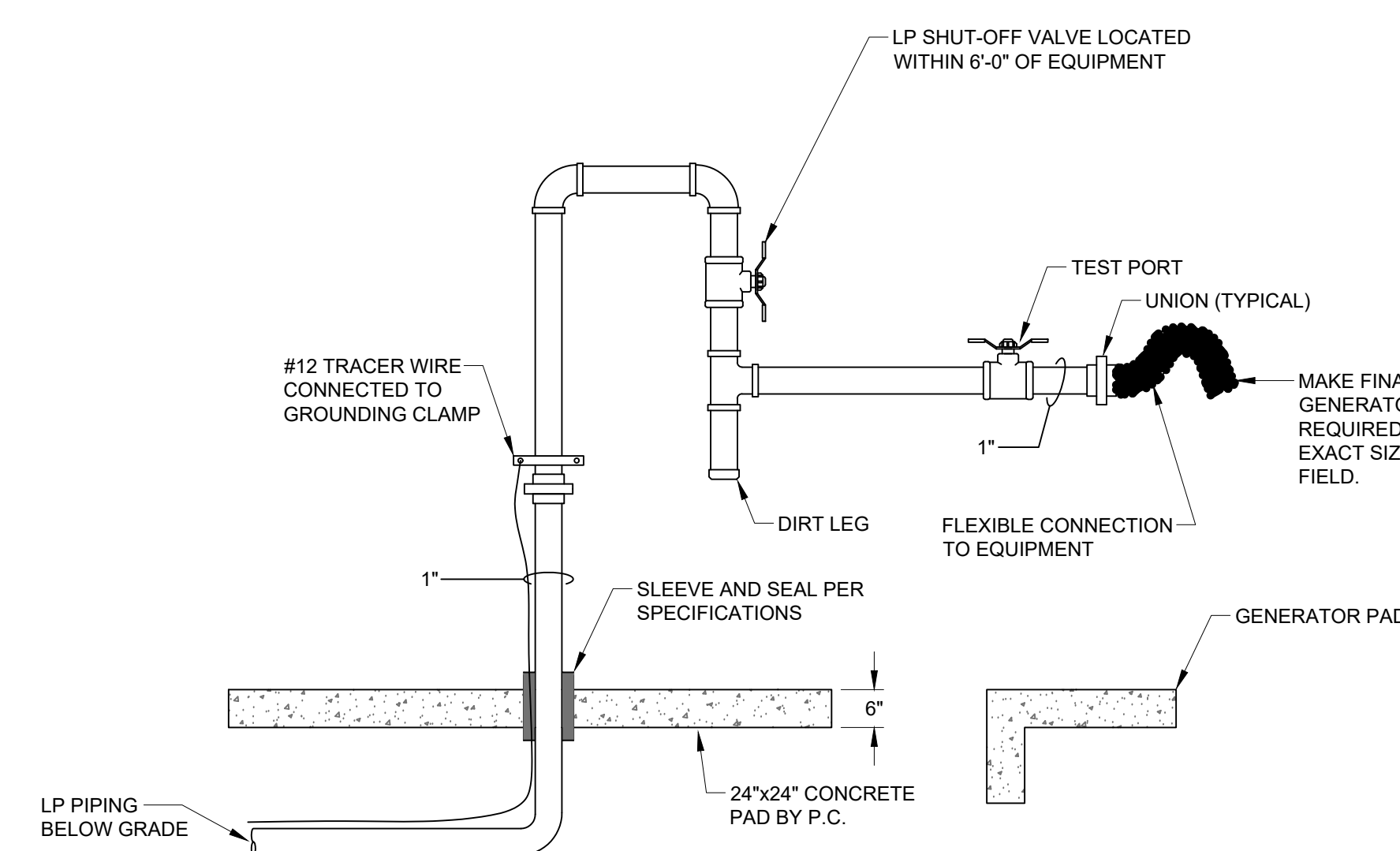
Sheet No.
P0.1



MAINTENANCE BUILDING 'C' - POWER

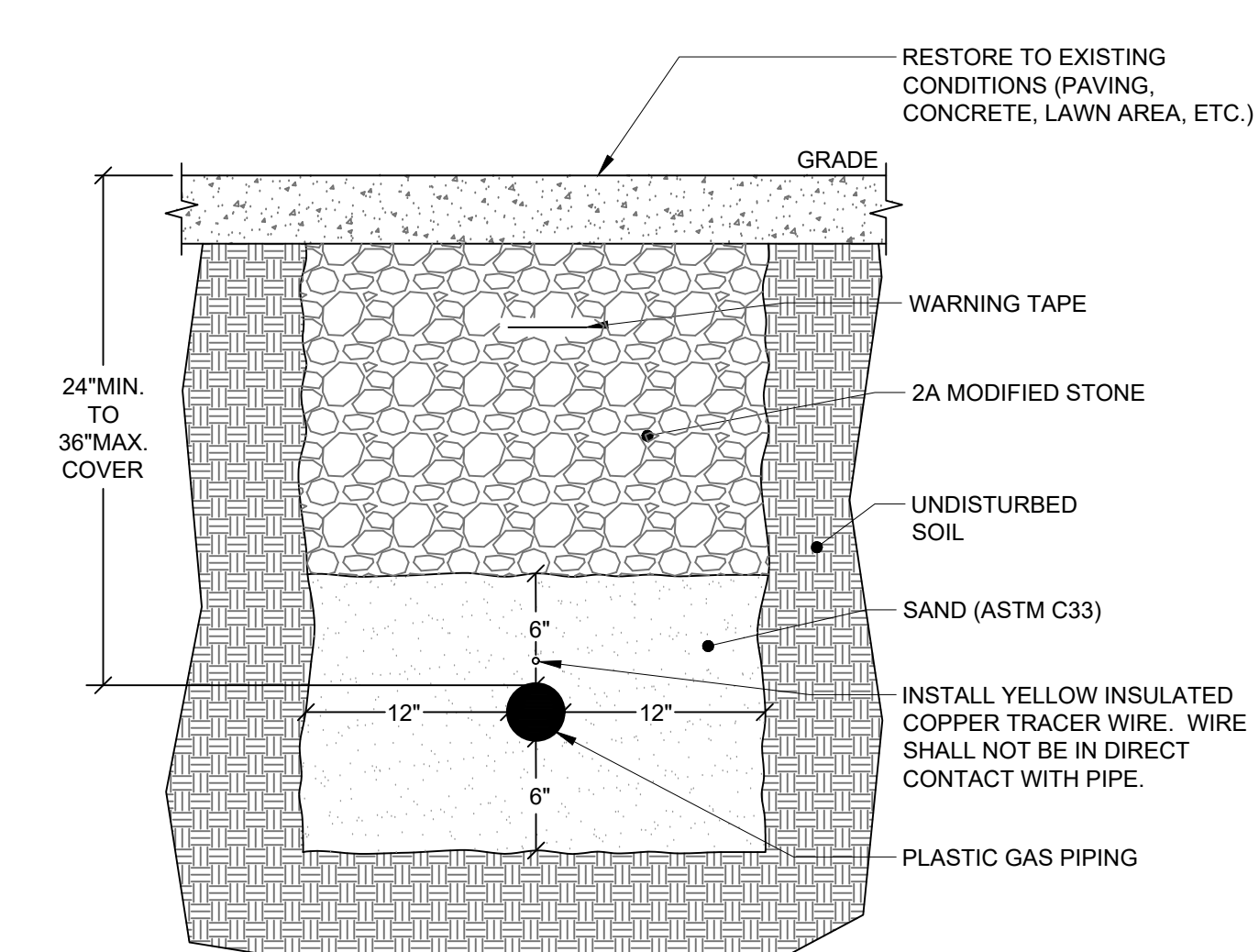


NOTES:
ALL WORK ON PLANS IS IN A SINGLE PRIME CONTRACT WITH THE ELECTRICAL CONTRACTOR.
CONTRACTOR SHALL CONSULT WITH WILSON OIL & PROPANE CO.
CONTACT: DAVID POLIDORE 610-740-4233

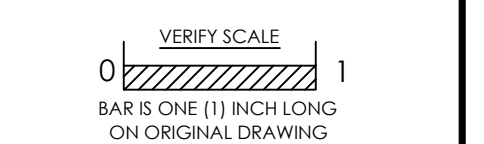


1 GAS CONNECTION TO GENERATOR DETAIL (GEN 1)
NOT TO SCALE

NOTES:
1. VALVED PRESSURE GAUGE SHALL BE TRERICE 765B OR EQUAL.
DISPLAY UNITS SHALL BE IN INCHES (0-30).



2 GAS SERVICE TRENCH DETAIL
NO SCALE



No.	Date	Description
1	2024.02.09	ADDENDUM 1

Date: FEBRUARY 2024
Scale: As Noted
Job No. 283090
Drawn: NRZ | Appd.: NRZ

Sheet Title:
MAINTENANCE BUILDING
'C' PLAN

Sheet No.
P1.1