



STATE OF NEW YORK  
OFFICE OF GENERAL SERVICES  
DESIGN AND CONSTRUCTION GROUP  
THE GOVERNOR NELSON A. ROCKEFELLER  
EMPIRE STATE PLAZA  
ALBANY, NY 12242



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**ADDENDUM NO. 2 TO PROJECT NO. 44247**

**CONSTRUCTION WORK, HVAC WORK, PLUMBING WORK, AND ELECTRICAL WORK  
PROVIDE CLASSROOM EXPANSION  
200 WING  
ST. REGIS MOHAWK SCHOOL  
SALMON RIVER CENTRAL SCHOOL DISTRICT  
AKWESASNE MOHAWK TERRITORY  
HOGANSBURG, NY**

October 27, 2014

**NOTE:** This Addendum forms a part of the Contract Documents. Insert it in the Project Manual. Acknowledge receipt of this Addendum in the space provided on the Bid Form.

**COMMON DIVISION 1 SECTIONS**

1. Page 011000-3, Paragraph 1.05 D.: Add the following Subparagraph:  
“1. Perform asbestos abatement work on weekends or during the summer months. Coordinate with the Director’s Representative.”

**SPECIFICATIONS**

2. SECTION 072601 NON-PERMEABLE GAS MEMBRANE: Discard the Section bound in the Project Manual and substitute the attached Section (pages 072601-1 and 072601-2) noted “Revised 10/27/14”.
3. SECTION 130100 ACTIVE SOIL DEPRESSURIZATION SYSTEM: Add the attached Section (pages 130100-1 thru 130100-6) to the Project Manual.

**CONSTRUCTION WORK DRAWINGS**

4. Drawing No. S-001:
  - a. GENERAL STRUCTURAL NOTES: Add the following Note:  
“5. Provide sealant and backer rod at all construction, control and expansion joints and at all penetrations.”

**END OF ADDENDUM**

Margaret F. Larkin  
Executive Director

**SECTION 072601**

**NON-PERMEABLE GAS MEMBRANE**

**PART 1 GENERAL**

**1.01 RELATED WORK SPECIFIED ELSEWHERE**

- A. Earthwork: Section 310000.
- B. Cast-In-Place Concrete: Section 033000.

**1.02 SUBMITTALS**

- A. Product Data: Catalog sheets, specifications, and installation instructions for each material specified.
- B. Samples:
  - 1. Vapor / Gas Barrier Material: 12 inches square.
  - 2. Seaming Tape
  - 3. Two-sided Tape
- C. Shop Drawings: Provide details showing vapor barrier termination at penetrations including structural columns, walls and foundations. . Show details for the lapping of seams and joints.

**PART 2 PRODUCTS**

**2.01 MATERIALS**

- A. Vapor / Gas Barrier (Shown as Vapor Barrier on the Contract Drawings): Single ply 20 mil polyolefin membrane, VaporBlock Plus 20 manufactured by Raven Industries, Inc. 800-635-3456.
- B. Seaming Tapes: As recommended by the manufacturer of the vapor / gas barrier material.

**PART 3 EXECUTION**

**3.01 PREPARATION**

- A. Surface Preparation: Rake, trim, and tamp surfaces over which vapor barrier is to be installed to true planes and as required to make a surface that will not puncture the vapor / gas barrier material.
- B. Foundation Wall Preparation: Prime concrete surfaces and assure they are dry and clean prior to applying tape.

**3.02 INSTALLATION**

- A. Install vapor / gas barrier in accordance with manufacturer's printed instructions, lap seams and joints a minimum of 12 inches and seal in between with Raven Butyl Seal two-sided tape and VaporBond Plus 4” tape .
- B. Seal vapor / gas barrier to the vertical foundation walls as recommended by the manufacturer.
- C. Seal vapor / gas barrier to pipes and support columns and other penetrations as recommended by the manufacturer.

**3.03 PROTECTION**

- A. Protect vapor / gas barrier as required so that it will be in sound condition, free from punctures and tears, at the time the concrete is placed.
- B. If vapor / gas barrier is damaged follow manufacturer’s instructions for repairs.

**END OF SECTION**

## SECTION 130100

### ACTIVE SOIL DEPRESSURIZATION SYSTEM

#### PART 1 GENERAL

##### 1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Cast-In-Place Concrete: Section 033000.
- B. Non-Permeable Gas Membrane: Section 072601.
- C. Firestopping: Section 078400.
- D. Joint Sealers: Section 079200.
- E. Earthwork: Section 310000.

##### 1.02 REFERENCES

- A. ASTM E 1465-08a - Standard Practice for Radon Control Options for the Design and Construction of New Low-Rise Residential Buildings.
- B. ASTM E 631-06 - Standard Terminology of Building Constructions.

##### 1.03 SUBMITTALS

- A. Product Data: Manufacturer's catalog sheets, performance charts, test data, standard schematic drawings, wiring diagrams, specifications and installation instructions for each active soil depressurization system, fan, piping, fittings, couplings, and all associated equipment.
- B. Contract Closeout Submittals:
  - 1. Operation and Maintenance Data: Deliver 2 copies, covering the installed products, to the Director's Representative.

##### 1.04 QUALITY ASSURANCE

- A. Qualifications: The persons employed to perform the work of this Section and their supervisor shall be NEHA or NRSB certified in radon mitigation and shall have been regularly performing such work for a minimum of five years while in the employ of a company or companies engaged in radon mitigation systems.
  - 1. Upon request, furnish to the Director the names and addresses of five similar projects which the foregoing people have worked on during the past three years.
- B. National Certifications:
  - 1. NEHA (The National Environmental Health Association) - Radon Certification Program.
  - 2. NRSB (The National Radon Safety Board) - Radon Certification Program.

- C. Regulatory Requirements:
  - 1. Materials for the work of this Section shall comply with ASTM E 1465-08a - Standard Practice for Radon Control Options for the Design and Construction of New Low-Rise Residential Buildings.

## **1.05 SPECIAL COORDINATION**

- A. Coordinate all work of other trades.
- B. Furnish Division 26 - "Electrical" with dimensional drawings showing location of electrical connections, location of equipment mounted on walls, and of other equipment requiring electrical connections, removals or replacements.

## **PART 2 PRODUCTS**

### **2.01 THERMOPLASTIC (CPVC) PIPE AND FITTINGS (ABOVE GROUND)**

- A. Pipe: ASTM F441, Chlorinated Polyvinyl Chloride, Schedule 40, CPVC compounds conforming to ASTM D1784.
- B. Fittings: ASTM F439, CPVC, Schedule 40, pressure fittings, socket type, solvent weld. Conforming to ASTM D1784 for CPVC compounds. Solvent cement conforming to ASTM F493.
- C. Filler Rods: Same material as pipe.

### **2.02 PVC PIPE AND FITTINGS (BELOW GROUND)**

- A. Pipe: PVC solvent weld drain pipe, pipe size conforming to ASTM D2729. Pipe shall be manufactured from PVC compounds as identified in ASTM D1784. Both pipe and fittings shall conform to ASTM F481.
- B. Fittings: Socket type conforming to ASTM D2729. Fittings shall be manufactured from PVC compounds as identified in ASTM D1784. Solvent cement joints shall be made utilizing a two-step process with primer manufactured for thermoplastic piping and solvent cement conforming to ASTM D2564.

### **2.03 PVC PERFORATED PIPE AND FITTINGS (BELOW GROUND)**

- A. Pipe: PVC solvent weld drain pipe. Standard perforations for pipe shall be two rows of holes 1/2 inch in diameter on 5 inch centers and 120 degree angle apart. Pipe size conforming to ASTM D2729. Pipe shall be manufactured from PVC compounds as identified in ASTM D1784. Both pipe and fittings shall conform to ASTM F481.
- B. Fittings: Socket type conforming to ASTM D2729. Fittings shall be manufactured from PVC compounds as identified in ASTM D1784. Solvent cement joints shall be made utilizing a two-step process with primer manufactured for thermoplastic piping and solvent cement conforming to ASTM D2564.

**2.04 FLEXIBLE COUPLING ADAPTERS**

- A. Equal to Fernco Flexible Couplings: Couplings constructed with PVC compound material; Series 300 stainless steel clamps; conforming to applicable parts of ASTM C443, C425, C564, D1869, and C1173; sizes as required.

**2.05 HANGERS, INSERTS AND SUPPORTS**

- A. Hangers, Inserts, Clamps: B-Line, Grinnell, Michigan Hanger, PHD Manufacturing.
- B. Hangers:
  - 1. Adjustable, wrought malleable iron or steel with electroplated zinc or cadmium finish. Hot-dipped galvanized finish for exterior locations.
  - 2. Adjustable steel clevis type for piping 4 in. and larger.
  - 3. Nuts, washers and rods with electroplated zinc or cadmium finish. Hot-dipped galvanized finish for exterior locations.

- C. Spacing Schedule:

<b>Pipe Size</b>	<b>Plastic</b>	<b>Rod Size</b>
2-1/2 in. to 4 in.	4 ft.	1/2 in.
5 in. and over	4 ft.	5/8 in.
8 in.	4 ft.	3/4 in.

- D. Beam Attachments:
  - 1. C-Clamp style, locknut, restraining strap, electroplated finish, UL listed, FM approved for pipe sizes 2 in. and smaller.
  - 2. Center loaded style with clamp attachments that engage both edges of beam, electroplated finish, UL listed, FM approved, for pipe sizes larger than 2 in., refer to "Supports" for additional requirements.
- E. Inserts: Carbon steel body and square insert nut, galvanized finish, maximum loading 1,300 lbs., for 3/8 in. to 3/4 in. rod sizes, reinforcing rods on both sides, MSS-SP-69 Type 19 or approved equal.
- F. Supports:
  - 1. For all piping larger than 2 in., provide intermediate structural steel members for hanger attachment. Members shall span across the bar joists at panel points of joists. Secure member to structure. Select size of members based on a minimum factor of safety of four.
  - 2. For weights under 1,000 lbs.: "Drill-In" inserts, "U" shaped channel, beam clamps or other structurally reviewed support. The factor of safety shall be at least four. Follow manufacturer's instructions.
  - 3. For metal decks: Drill hole through for hanger rods and imbed a welded plate in concrete or use devices designed for this application, with a safety factor of four.
  - 4. Make: Hilti, ITW Ramset, Phillips "Red Head" or approved equal.
- G. Piping systems with material not listed above shall be supported and protected in accordance with manufacturer's recommendations.

## **2.06 PIPE SLEEVES**

- A. Type A: Schedule 40 steel pipe.
- B. Type B: No. 16 gauge galvanized sheet steel.
- C. Type D: No. 16 gauge galvanized sheet steel with 16 gauge sheet steel metal collar rigidly secured to sleeve. Size metal collars as required to span a minimum of one cell or corrugation, on all sides of the rough opening through the metal deck.

## **2.07 RADON FAN**

- A. Equal to Fantech Model No. FR250-8; 115 volt, single phase, 2850 rpm, 2.40 maximum amps; 250 cfm at 1.5 in. wc. and with 8 inch duct connection.

## **2.08 MAGNEHELIC GAUGE**

- A. 3-7/8 in. diameter white dial diaphragm actuated air filter gauge. Guaranteed accurate to  $\pm 2\%$  of full scale. Pointer zero adjustment. Provide all required accessories.
- B. Range:
  - 1. 0-2 in. wc, Dwyer Model 2002 or approved equal.
- C. Design Equipment: Dwyer Magnehelic Series 2000.

## **PART 3 EXECUTION**

### **3.01 INSTALLATION**

- A. Provide an independent active soil depressurization system at each location shown on the contract drawings.
- B. Provide all piping, fittings, flexible coupling adapters, hangers and supports, pipe sleeves, radon fan, radon system monitor, etc. as required for a complete system ready for use.
- C. Install horizontal piping with a constant pitch and without sags or humps; pitch 1/8 inch per foot downward, in the opposite direction of air flow.
- D. Install vertical piping plumb.
- E. Install piping at approximate locations indicated and at maximum height.
- F. Install piping clear of door swings and above sash heads.
- G. Make allowances for expansion and contraction.
- H. Install radon fans in accordance with manufacturer's instructions and contract drawings. Allow space for removal of fan unit without disturbing or removing installed equipment or piping.

- I. Provide an analog magnehelic operated radon system monitor on each system as shown on the contract drawings.
- J. Provide radon labels on each system to comply with ASTM E 1465-08a.
- K. Power wiring for radon fans is by the Division 26 Electrical Contractor.

**3.02 CLEANING, TESTING AND INSPECTION**

- A. Clean all piping systems as required by the Director's Representative with water prior to pressure testing.
- B. While fan is operating, check joints for leaks with non-thermal smoke. Perform testing work in the presence of the Director's Representative.
- C. Provide inspection services for the vapor barrier under slabs on grade. Report findings to the Director's Representative in writing prior to concrete slab installation.
- D. Provide inspection services for the sealing of gaps and joints in slabs. Report findings to the Director's Representative in writing prior to radon measurement testing.
- E. All radon measurement testing shall be done by an independent consultant.

**3.03 PIPING PENETRATIONS**

- A. Sleeve Schedule: Unless otherwise shown, comply with the following schedule for the type of sleeve to be used where piping penetrates wall or floor construction:

<u>CONSTRUCTION</u>	<u>SLEEVE TYPE</u>
1. Frame construction	None required
2. Foundation walls	A*
3. Non-waterproof interior walls	B*
4. Non-waterproof interior floors on metal decks	D*
5. Non-waterproof interior floors not on metal decks	B*
6. Floors not on grade having a floor drain	A
7. Floors over mechanical equipment, steam service, machine, and boiler rooms	A
8. Floors finished or to be finished with latex composition or terrazzo, and on metal decks	D*
9. Earth supported concrete floors	None required
10. Non-metal roof decks	A
11. Waterproof floors on metal decks	D
12. Waterproof floors not on metal decks	A
13. Waterproof walls	A

\*Core drilling is permissible in lieu of sleeves where marked with asterisks.

- B. Diameter of Sleeves and Core Dilled Holes:
1. Unless otherwise specified, size holes through floors and walls in accordance with the through penetration firestopping system being used.
  2. Size holes through exterior walls or waterproofed walls above inside earth or finished floors, and exterior concrete slabs in accordance with the following:
    - a. Uninsulated (Bare) Pipe: Inside diameter of sleeve or core drilled hole 1/2 inch greater than outside diameter of pipe, unless otherwise specified.
    - b. Mechanical Modular Seals: Size holes in accordance with the manufacturer's recommendations.
- C. Length of Sleeves (except as shown otherwise on Drawings):
1. Walls and Partitions: Equal in length to total finished thickness of wall or partition.
  2. Floors, Finished: Equal in length to total finished thickness of floor and exceeding 1/2 inch above the finished floor level, except as follows:
    - a. In furred spaces at exterior walls, extend sleeve one inch above the finished floor level.
  3. Roofs: Equal in length to the total thickness of roof construction, including insulation and roofing materials, and extending one inch above the finished roof level.
- D. Packing of Sleeves and Core Drilled Holes:
1. Unless otherwise specified, pack sleeves or core drilled holes in accordance with Section 078400 - Firestopping.
  2. Pack sleeves in exterior walls or waterproofed walls above inside earth or finished floors with oakum to withstand 1/2 inch of each wall face, and finish both sides with Type 6 (one part) sealant. See Section 079200.
    - a. Mechanical modular seals may be used in lieu of packing and sealant for sleeves and core drilled holes.
  3. Pack sleeves in exterior concrete slabs with oakum to full depth, and within 1/2 inch of top of sleeve and finish the remainder with sealant. See Section 079200.
    - a. Sealant Types:
      1. Piping conveying materials up to 140 degrees F, Type 6 (one part).
    - b. Mechanical modular seals may be used in lieu of packing and sealant for sleeves and core drilled holes.
- E. Weld metal collars of Type D sleeves to the upper surface of the metal deck. Seal voids under the metal collar as recommended by the manufacturer of the metal deck.

**END OF SECTION**