

SECTION 02621

FOUNDATION DRAINAGE PIPING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Foundation Drainage System.
- B. Perimeter Radon Gas Evacuation System.

1.2 RELATED SECTIONS

- A. Section 02300 - Earthwork.
- B. Section 03300 - Cast-In-Place Concrete.

1.3 REFERENCES

- A. ASTM D 2729 - Standard Specification for Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
- B. ASTM E 1465 - Standard Guide for Radon Control Options for the Design and Construction of New Low-Rise Residential Buildings.
- C. ASTM F 405 - Standard Specification for Corrugated Polyethylene (PE) Tubing and Fittings.
- D. ASTM F 891 - Standard Specification for Coextruded Poly(Vinyl Chloride) (PVC) Plastic Pipe with a Cellular Core.
- E. EPA 402R94009 - Model Standards and Techniques for Control of Radon in New Buildings; Environmental Protection Agency.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's descriptive literature for system, including all components.
- C. Shop Drawings: Indicate layout of system; include all components specified in manufacturer's descriptive literature or installation instructions, and components indicated in contract documents.

- D. Manufacturer's Instructions: Printed installation instructions for system, including each component indicated in shop drawings.

1.5 QUALITY ASSURANCE

- A. Perimeter Radon Evacuation System: Provide products that can be assembled into system that meets requirements of:
 1. ASTM E 1465.
 2. EPA 402R94009.
 3. Provide test reports from independent testing laboratory supporting compliance.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Certaineed Corporation, Pipe and Plastics Group; 750 E. Swedesford Road, P.O. Box 860, Valley Forge PA 19482. ASD. Tel: (610) 341-6950, Fax: (610) 341-6837.
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.
- C. Substitutions: Not permitted.
- D. Unless otherwise specified for an individual product or material, supply all products specified in this section from the same manufacturer.

2.2 COMPONENTS

- A. Linear Components: Polyvinyl chloride (PVC) containing post-consumer recycled plastic materials, extruded in closed-channel cross-section, with slot perforations along length to permit moisture migration, 12-foot (3.65 m) lengths.
 1. Load Deflection and Impact Resistance: Comply with requirements of ASTM F 891 for Type PS 25 PVC pipe.
 2. Flow Characteristics: Meet or exceed the flow characteristics of 4 inch (100 mm) diameter corrugated polyethylene slotted pipe conforming to ASTM F 405, when subjected to 30-7/8 inch (770 mm) pressure head.
 3. Type: Form-A-Drain Part LN124, size 2-1/4 inches (57 mm) wide by 4 inches (100 mm) deep, single-channel.
 4. Type: Form-A-Drain Part LN126, size 2-1/4 inches (57 mm) wide by 6 inches (152 mm) deep, dual-channel.

5. Type: Form-A-Drain Part LN128, size 2-1/4 inches (57 mm) wide by 8 inches (203 mm) deep, dual-channel.
- B. Fittings:
1. Material: Same as linear components, extruded or molded in profiles and shapes as follows:
 - a. Coupling: Form-A-Drain Part XCPLx.
 - b. Coupling with hole: Form-A-Drain Part COUPx.
 - c. 90-degree corner coupling: Form-A-Drain Part CN90x.
 - d. 45-degree corner coupling: Form-A-Drain Part CN45x.
 - e. Outlet, 4 inch diameter stub: Form-A-Drain Part OUT4x.
 - f. Double outlet, 4 inch diameter stubs: Form-A-Drain Part DOF4x.
 - g. 90-degree vertical "L": Form-A-Drain Part VL90x.
 - h. 90-degree vertical "T": Form-A-Drain Part VTEEx.
 2. Size: As required for linear components specified, indicated as final lower-case "x" in specified fitting part numbers (4, 6, or 8 inches).
- C. Accessories:
1. Grade stake: Form-A-Drain Part GS018, length 18 inches (457 mm).
 2. Grade stake: Form-A-Drain Part GS030, length 30 inches (762 mm).
 3. Spacer strap: Form-A-Drain Part SS416, width 16 inches (406 mm).
 4. Spacer strap: Form-A-Drain Part SS420, width 20 inches (510 mm).
 5. Spacer strap: Form-A-Drain Part SS424, width 24 inches (610 mm).
 6. Cross-over pipe: Form-A-Drain Part CP216, 2 inches (50 mm) diameter, length 16 inches (406 mm).
 7. Cross-over pipe: Form-A-Drain Part CP220, 2 inches (50 mm) diameter, length 20 inches (510 mm).
 8. Cross-over pipe: Form-A-Drain Part CP224, 2 inches (50 mm) diameter, length 24 inches (610 mm).
 9. Fasteners: Steel drill screws of length specified in manufacturer's installation instructions.
 10. Reinforcing bar: Deformed steel of diameter specified in manufacturer's installation instructions.
- D. Piping Connecting Foundation Drains to Outlets: PVC, ASTM D 2729, of diameter required.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Lay out system to footing footprint indicated on drawings; locate fittings in accordance with manufacturer's instructions and as indicated.
- B. Maintain indicated footing widths by installing spacer straps; locate in accordance with manufacturer's instructions and as indicated.
- C. Raise top of system to indicated top-of-footing elevations, using reinforcing bars driven through holes in corner couplings into soil; maintain elevations by using grade stakes, located in accordance with manufacturer's instructions and as indicated, driven into soil and screw-fastened to system.
- D. Ensure that all required and indicated components are in place, and system is level at indicated top-of-footing elevations, before beginning installation of cast-in-place concrete footings.
- E. Installation of cast-in-place concrete footings is specified in Section 03300.
- F. Connect drainage piping to system as indicated before placement of stone fill, specified in Section 02300.

END OF SECTION