

SECTION 02630 - STORM DRAINAGE - PIPING

PART 1 - GENERAL

1.01 SUMMARY

- A. Bidding requirements, conditions of the contract and pertinent portions of sections in Division 1 of these specifications and MaineDOT Standard of Specifications (current version – as revised), Item 603 – Pipe Culverts and Storm Drains, apply to the section as fully as though repeated herein.
- B. Section Includes:
 - 1. Storm drainage piping.
 - 2. Accessories.
 - 3. Catch basins and plant area drains.
 - 4. Cleanouts.
 - 5. Bedding and cover materials.
- C. Related Sections:
 - 1. Excavation and Fill: Section 02315
 - 2. Embankment: Section 02330
 - 3. Subgrade and Roadbed: Section 02335
 - 4. Storm Drainage: Section 02630

1.02 UNIT PRICE - BASIS OF MEASUREMENT

1.03 REFERENCES

- A. MaineDOT Standard Specifications
- B. American Association of State Highway and Transportation Officials:
 - 1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 10-lb Rammer and an 18-in. Drop.
- C. ASTM International:
 - 1. ASTM A74 - Standard Specification for Cast Iron Soil Pipe and Fittings.
 - 2. ASTM C14 - Standard Specification for Concrete Sewer, Storm Drain, and Culvert Pipe.
 - 3. ASTM C76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
 - 4. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
 - 5. ASTM C564 - Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings.
 - 6. ASTM C924 - Standard Practice for Testing Concrete Pipe Sewer Lines by Low-Pressure Air Test Method.
 - 7. ASTM C969 - Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines.

8. ASTM C1103 - Standard Practice for Joint Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines.
9. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³).
10. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³).
11. ASTM D2235 - Standard Specification for Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings.
12. ASTM D2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.
13. ASTM D2564 - Standard Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems.
14. ASTM D2729 - Standard Specification for Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
15. ASTM D2751 - Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Sewer Pipe and Fittings.
16. ASTM D2855 - Standard Practice for Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings.
17. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
18. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
19. ASTM D3034 - Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
20. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

1.04 SUBMITTALS

- A. Section 01330 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit data indicating pipe and pipe accessories
- C. Manufacturer's Installation Instructions: Submit special procedures required to install Products specified.

1.05 CLOSEOUT SUBMITTALS

- A. Section 01700 - Execution Requirements: Requirements for submittals.
- B. Project Record Documents:
 1. Accurately record actual locations of pipe runs and connections.
 2. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.06 COORDINATION

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.

- B. Coordinate the Work with termination of storm sewer connection outside building, trenching, connection to foundation drainage system.

PART 2 - PRODUCTS

2.01 STORM DRAINAGE PIPING

- 1. HDPE Pipe - Per MaineDOT Standard Specifications

2.02 BEDDING AND COVER MATERIALS

- A. Bedding: As specified in Sections 02315 and 02335, depth per drawings.
- B. Cover: As specified in Sections 02315 and 02335, depth per drawings.
- C. Soil Backfill from Above Pipe to Finish Grade: As specified in Sections – 02315 and 02335.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Section 013000 - Administrative Requirements: Verification of existing conditions before starting work.
- B. Verify trench cut and excavation base is ready to receive work and excavations, dimensions, and elevations are as indicated on drawings.

3.02 PREPARATION

- A. Hand trim excavations to required elevations. Correct over excavation with coarse aggregate
- B. Remove large stones or other hard matter which could damage piping or impede consistent backfilling or compaction.

3.03 BEDDING

- A. Excavate pipe trench in accordance with Section 02315 for work of this Section. Hand trim excavation for accurate placement of pipe to elevations indicated.
- B. Place bedding material at trench bottom, level materials in continuous layer not exceeding 6 inches compacted depth.
- C. Maintain optimum moisture content of bedding material to attain required compaction density.

3.04 INSTALLATION - PIPE

- A. Install pipe, fittings, and accessories in accordance with manufacturer specifications and drawing

B. Install Work in accordance with City of Portland and MaineDOT standards.

3.05 FIELD QUALITY CONTROL

A. Section 01700 - Execution Requirements: Field inspecting, testing, adjusting, and balancing.

B. Request inspection prior to placing aggregate cover over pipe.

3.06 PROTECTION OF FINISHED WORK

A. Section 01700 - Execution Requirements: Protecting finished Work.

B. Protect pipe and aggregate cover from damage or displacement until backfilling operation is in progress.

1. Take care not to damage or displace installed pipe and joints during construction of pipe supports, backfilling, testing, and other operations.
2. Repair or replace pipe that is damaged or displaced from construction operations.

END OF SECTION 02630