



Designation: **C1479 – 13 C1479 – 16**

Standard Practice for Installation of Precast Concrete Sewer, Storm Drain, and Culvert Pipe Using Standard Installations¹

This standard is issued under the fixed designation C1479; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This practice covers the installation of precast concrete pipe intended to be used for the conveyance of sewage, industrial wastes, and storm water and for the construction of culverts.

1.2 This practice is the inch-pound companion to Practice [C1479M](#); therefore, no SI equivalents are presented in this practice.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

[C822](#) Terminology Relating to Concrete Pipe and Related Products

[C1417](#) Specification for Manufacture of Reinforced Concrete Sewer, Storm Drain, and Culvert Pipe for Direct Design

[C1479M](#) Practice for Installation of Precast Concrete Sewer, Storm Drain, and Culvert Pipe Using Standard Installations (Metric)

[D698](#) Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³))

[D1557](#) Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³))

[D2487](#) Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)

[D2488](#) Practice for Description and Identification of Soils (Visual-Manual Procedure)

IEEE/ASTM SI 10 Standard for Use of the International System of Units (SI): The Modern Metric System

2.2 AASHTO Standards:³

Standard Specifications for Highway Bridges

[M 145](#) Classification of Soils and Soil—Aggregate Mixtures for Highway Construction Purposes

[T 99](#) The Moisture-Density Relations of Soils Using a 5.5 lb (2.5 kg) Rammer and a 12-in. (305 mm) Drop

[T 180](#) The Moisture-Density Relations of Soils Using a 10 lb (4.54 kg) Rammer and an 18-in. (457 mm) Drop

[T 310](#) In-Place Density and Moisture Content of Soil and Soil—Aggregate by Nuclear Methods (Shallow Depth)

2.3 ASCE Standards:⁴

[ASCE 15](#) Standard Practice for the Direct Design of Buried Precast Reinforced Concrete Pipe Using Standard Installations (SIDD)

3. Terminology

3.1 For definitions of terms relating to concrete pipe, see Terminology [C822](#).

3.2 For terminology related to soil classifications, see Practice [D2487](#) and Practice [D2488](#).

3.3 For terminology and definitions of terms relating to structural design, see ASCE 15.

¹ This practice is under the jurisdiction of ASTM Committee [C13](#) on Concrete Pipe and is the direct responsibility of Subcommittee [C13.05](#) on Special Projects. Current edition approved Feb. 1, 2013; Oct. 15, 2016. Published February 2013; October 2016. Originally approved in 2000. Last previous edition approved in 2012 as [C1479 – 12](#); [C1479 – 13](#). DOI: [10.1520/C1479-13](#); [10.1520/C1479-16](#).

² For referenced ASTM standards, visit the ASTM website, [www.astm.org](#), or contact ASTM Customer Service at [service@astm.org](#). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from American Association of State Highway and Transportation Officials (AASHTO), 444 N. Capitol St., NW, Suite 249, Washington, DC 20001, [http://www.transportation.org](#).

⁴ Available from American Society of Civil Engineers (ASCE), 1801 Alexander Bell Dr., Reston, VA 20191, [http://www.asce.org](#).

3.4 Fig. 1 illustrates the definitions and limits of the terms: foundation, subgrade, bedding, outer bedding, middle bedding, haunch, lower side, backfill or overfill, invert, crown, springline, top of pipe, and bottom of pipe as used in this practice.

4. Significance and Use

4.1 This practice is useful as a reference by an owner and the owner's engineer in preparing project specifications.

5. Notations

D_i = inside diameter of pipe, in.
 D_o = outside diameter of pipe, in.
 H = design height of earth above top of pipe, ft.
 w = unit weight of soil, lb/ft³.

6. Standard Installations

6.1 The precast concrete pipe/soil system shall be constructed to conform to the requirements of Figs. 2 and 3 and Tables 1 and 2 as designated on the plans.

7. Excavation

7.1 When rock or other unyielding foundation material is encountered, it shall be removed at least to the requirements shown in Figs. 2 and 3 and Tables 1 and 2. Overexcavated areas shall be backfilled with approved materials and compacted to at least the standard proctor density specified for the bedding.

7.2 Where surface water or groundwater conditions exist, the site and trench shall be dewatered.

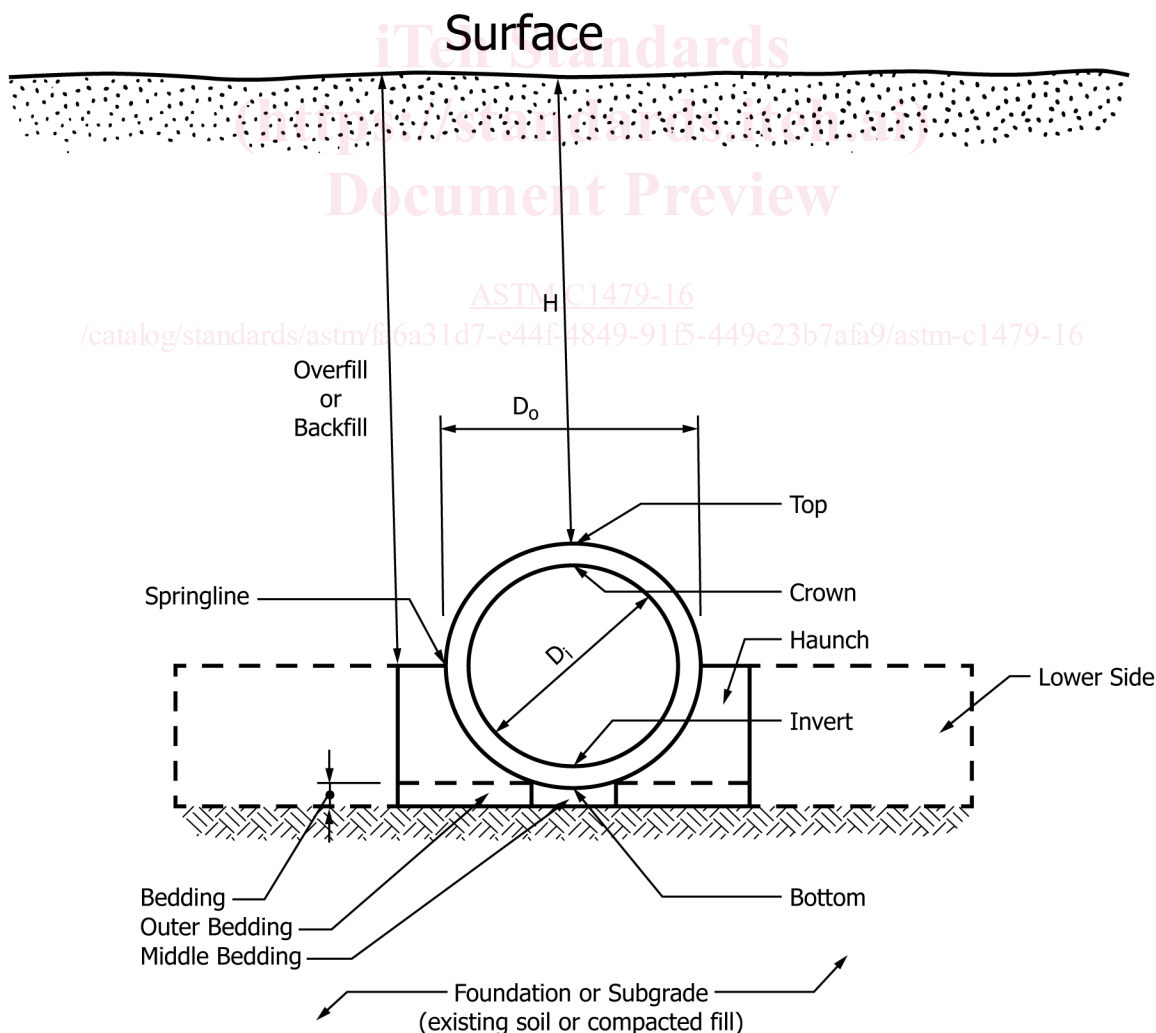


FIG. 1 Pipe/Installation Terminology