

RULE NO.: R161-21.27

ADOPTION DATE: December 15, 2021

NOTICE OF RULE ADOPTION

By: Jorge L. Morales, P.E., CFM, Director
Watershed Protection Department

The Director of the Watershed Protection Department has adopted the following rule. Notice of the proposed rule was posted on October 6, 2021. Public comment on the proposed rule was solicited in the October 6, 2021 notice. This notice is issued under Chapter 1-2 of the City Code. The adoption of a rule may be appealed to the City Manager in accordance with Section 1-2-10 of the City Code as explained below.

A copy of the complete text of the adopted rule is attached to this notice.

EFFECTIVE DATE OF ADOPTED RULE

A rule adopted by this notice is effective on December 15, 2021.

TEXT OF ADOPTED RULE

R161-21.27: Modifies the Standard Specifications Manual to align with the Environmental Criteria Manual 1.6.4(A) as follows:

Standard Specifications Manual: SERIES 500 - PIPE AND APPURTENANCES.

- ITEM NO. 551 - Pipe Underdrains, Section 551.2(1) – *Materials*
 - Changes to the standard specifications for underdrain pipe systems and materials to conform to commonly available materials and match ECM standards. The proposed changes are intended to address issues that arise in the field during construction.
 - Change of diameter of perforation (1/2 in. to 3/8 in.) and spacing requirements (5 in. to 6 in.) to match requirements in ECM 1.6.5(A)(4).
 - Change of type and size range of gravel required for underdrain backfilling material to match requirements in ECM 1.6.5(A)(4).
 - Change fabric specification to match geotextile fabric requirement in ECM 1.6.5(A)(4) ("High Flow Filter Fabric").

COMMENTS AND CHANGES FROM PROPOSED RULE

No comments were received, and no changes were made.

AUTHORITY FOR ADOPTION OF RULE

The authority and procedure for the adoption of a rule to assist in the implementation, administration, or enforcement of a provision of the City Code is established in Chapter 1-2 of the City Code. The

authority to regulate design and construction of water quality facilities and improvements is established in Section 25-8-213 of the City Code.

APPEAL OF ADOPTED RULE TO CITY MANAGER

A person may appeal the adoption of a rule to the City Manager. **AN APPEAL MUST BE FILED WITH THE CITY CLERK NOT LATER THAN THE 30TH DAY AFTER THE DATE THIS NOTICE OF RULE ADOPTION IS POSTED. THE POSTING DATE IS NOTED ON THE FIRST PAGE OF THIS NOTICE.** If the 30th day is a Saturday, Sunday, or official city holiday, an appeal may be filed on the next day which is not a Saturday, Sunday, or official city holiday.

An adopted rule may be appealed by filing a written statement with the City Clerk. A person who appeals a rule must (1) provide the person's name, mailing address, and telephone number; (2) identify the rule being appealed; and (3) include a statement of specific reasons why the rule should be modified or withdrawn.


Notice that an appeal was filed and will be posted by the city clerk. A copy of the appeal will be provided to the City Council. An adopted rule will not be enforced pending the City Manager's decision. The City Manager may affirm, modify, or withdraw an adopted rule. If the City Manager does not act on an appeal on or before the 60th day after the date the notice of rule adoption is posted, the rule is withdrawn. Notice of the City Manager's decision on an appeal will be posted by the city clerk and provided to the City Council.

On or before the 16th day after the city clerk posts notice of the City Manager's decision, the City Manager may reconsider the decision on an appeal. Not later than the 31st day after giving written notice of an intent to reconsider, the City manager shall make a decision.

CERTIFICATION BY CITY ATTORNEY

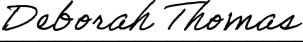
By signing this Notice of Rule Adoption (R161-21.27), the City Attorney certifies that the City Attorney has reviewed the rule and finds that adoption of the rule is a valid exercise of the Director's administrative authority.

REVIEWED AND APPROVED



Jorge L. Morales, P.E., CFM, Director
Watershed Protection Department

Date: 11/30/2021



Anne L. Morgan
City Attorney

Date: 12/10/2021

This Notice of Rule Adoption was posted on the City website by the City Clerk. The date and time stamp are on the front of the notice.

Standard Specifications Manual: SERIES 500 - PIPE AND APPURTENANCES

551.2 - Materials

(1) Pipe

The following materials will be permitted as alternates unless type is indicated. Size indicated shall be inside diameter. Pipe shall meet the following requirements:

Type 1 Vitrified Clay or Concrete Pipe

Pipe may be either thoroughly and perfectly burned or glazed vitrified clay or nonreinforced concrete conforming to ASTM C 14. Vitrified clay pipe shall be of first quality hub and spigot style, sound, without warps or cracks or other imperfections and shall be sufficiently tough so that it may be cut with a chisel and hammer.

Type 2 Clay Drain Tile

Standard clay drain tile shall conform to specifications of AASHTO M 179.

Type 3 Concrete Drain Tile

Butt end concrete drain tile shall conform to ASTM C 412. Tongue and groove concrete drain tile shall conform to ASTM C 118.

Type 4 Porous Concrete Pipe

Porous concrete pipe shall conform to AASHTO M 176.

Type 5 Perforated Clay Pipe

Perforated clay pipe shall conform to specifications for standard strength perforated clay pipe of AASHTO M 65 except that extra strength clay pipe may be substituted for standard strength clay pipe.

Type 6 Perforated Corrugated Metal Pipe

Perforated helically corrugated metal pipe shall be fabricated from corrugated galvanized sheets and shall conform to AASHTO M 36 or corrugated aluminum alloy sheets and shall comply with AASHTO M 196.

Type 7 Perforated Corrugated Metal Pipe (Bituminous Coated)

Pipe shall conform in all particulars to requirements specified above for perforated corrugated metal pipe. Steel pipe shall be uniformly coated inside and out with a bituminous coating to a minimum thickness of 0.05 inch.

Bituminous material used to coat pipe shall meet the following requirements when tested in accordance with TxDOT Test Method Tex-522-C:

Solubility, % by wt. in	
Trichloroethylene	99.5 minimum
Brittleness Test	Pass
Flow, inches	0.25 maximum

Type 8 Perforated Concrete Pipe

Perforated concrete pipe shall conform to ASTM C 444, "Standard Strength Perforated Nonreinforced Concrete Underdrain Pipe", except that "Extra Strength Perforated Nonreinforced Concrete Underdrain Pipe" may be substituted for standard strength pipe.

Type 9 ABS Perforated Pipe

ABS pipe shall be extruded and fittings molded from virgin ABS plastic material conforming to ASTM D 1788, Type 4, except that minimum heat deflection temperature is 180F. Contractor shall furnish certified test reports as evidence that material used for project meets ASTM requirements. Dimensions of ABS pipe shall be as shown in Table I. Fittings shall conform to manufacturer's standard for particular size of pipe required.

TABLE I

Nominal Size, Inches	Inside Diameter Inches, Minimum	Thickness of Barrel Inches, Minimum
4	3.82	0.19
6	5.70	0.28

Perforations shall conform to requirements for Type 5 pipe underdrains. Crushing strength of ASB pipe shall meet or exceed minimum values in Table II when tested in accordance with flat-plate loading method as outlined in ASTM Designation: D 2412.

TABLE II

Nominal Size, Inch	Minimum Strength lb. Inch
4	179
6	604

Pipe shall withstand at least 35 percent vertical deflection without rupture of pipe wall and stiffness shall equal or exceed valves at 5 percent deflection. Vertical deflection shall be computed as follows:

$$\text{Percent Deflection} = \frac{\text{Reduction Vert. I.D.}}{\text{Nominal I.D.}} \times 100$$

Ends of ABS pipe, couplings and fittings shall be perpendicular or square to longitudinal axis of main body within a maximum angle of 3 degrees. Outer and inner surface of pipe shall be free from blisters, voids and discontinuities.

Type 10 Preformed Corrugated Polyethylene Plastic Tubing

Tubing shall comply with AASHTO M 252.

Type 11 Perforated Polyvinyl Chloride Pipe

Pipe shall be Schedule 40 and conform to ASTM D 1785. Unless otherwise specified, the perforated pipe shall have two rows of holes ~~13 mm (1/2 in.)~~ **9.4 mm (3/8 in.)** in diameter on ~~125 mm (5 in.)~~ **150 mm (6 in.)** centers, with allowable tolerances of ± 1 mm (1/16 in.) on the diameter and $+6, -0$ mm ($+1/4, -0$ in.) on the spacing, and the rows shall be parallel to the axis of the pipe and $120 \pm 5^\circ$ apart.

(2) Filter Material

(a) Aggregate

Filter material for use in backfilling trenches under, around and over underdrains shall consist of hard, durable, clean, washed, ~~gravel~~ **rounded, river gravel** ~~or crushed stone~~, ranging in size from ~~5/8 to 1 inch~~ **one-half (0.5) to one and one-half (1.5) inch** and shall be free from organic matter, clay balls or other deleterious matter.

(b) Geotextile

Geotextile shall conform to Item No. 620 – Table 2, "High Flow Filter Fabric".