



Tucson Water
Standard Specifications and Details
2017 Edition
Engineering Directive No. 1

EFFECTIVE DATE: January 1, 2019

SUBJECT: Correction of SECTION 0210 PIPE MARKING, DETECTION TAPE, AND TRACER WIRE.

STATEMENT OF PURPOSE: To correct the measured thickness described in SECTION 0210 from Millimeter to mil. A mil is a measurement that equals one-thousandth of an inch, or 0.001 inch. One MIL also equals 0.0254 mm (millimeter). Thus a mil is not the same thickness as a millimeter. The term "mil" is not an abbreviation but a unit of measure.

GENERAL PROVISION: Revise SECTION 0210 PIPE MARKING, DETECTION TAPE, AND TRACER WIRE as described:

PROCEDURAL RESPONSIBILITY: The Engineering Administrator for Tucson Water and/or designated representative(s) are responsible for the enforcement of this Directive and the associated standards.

RECOMMEND

Tom Cantrell, P.E.
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CONCUR

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SECTION 0210

PIPE MARKING, DETECTION TAPE, AND TRACER WIRE

0210.0100 GENERAL

0210.0101 Description of Work. The work under this Section shall consist of furnishing all labor, materials, and equipment necessary for providing and installing pipe-marking tape, pipe-detection tape, and tracer wire in accordance with the requirements of these specifications. All installed components must be per the Approved Materials List (Appendix A).

0210.0104 Delivery, Storage, and Handling. Pipe-marking tape, pipe-detection tape, and tracer wire shall be delivered to the site, stored, and handled in accordance with the manufacturer's instructions except as modified by the plans, special specifications, or as directed by the Engineer.

Pipe-marking tape, pipe-detection tape, and tracer wire shall be stored in a manner such that it is protected from prolonged exposure to sunlight and/or extreme heat.

0210.0300 EXECUTION

0210.0301 General.

(A) Potable Water Detectable Pipe-Locating Tape. After the trench is backfilled per the applicable standards and/or special specifications to within 18 inches of the finished grade, the Contractor shall install a detectable pipe-locating tape over all water mains. Backfill shall be sufficiently leveled so that the tape will be installed on a flat surface. The tape shall be centered in the trench and laid flat, printed side up. Caution shall be exercised to avoid displacing the tape and ensure its integrity. Service laterals will require detectable tape and tracer wire (see TW Standard Details 309, 310, 311, and 312).

The remainder of the trench shall then be backfilled in accordance with the applicable standards and special specifications.

The tape shall consist of inert polyethylene plastic—no less than 4.0 mils thick and impervious to all known alkalis, acids, chemical reagents, and solvents likely to be encountered in the soil—with a metallic foil core at least 1/3 mil thick. The tape shall be at least 6 inches in width and solid blue in color with identifying print in black letters. The tape shall be printed with the following:

“CAUTION — BURIED WATER LINE BELOW”

Identifying lettering shall be at least 1 inch high and repeated continuously the full length of the tape. In no instance shall the spacing of the identifying message's individual segment exceed 8 inches.

SECTION 0210

(B) Reclaimed Water Detectable Pipe-Locating Tape. After the trench is backfilled per the applicable standards and/or special specifications to within 18 inches of the finished grade, the Contractor shall install a detectable pipe-locating tape over all reclaimed water mains. Backfill shall be sufficiently leveled so that the tape will be installed on a flat surface. The tape shall be centered in the trench and laid flat, printed side up. Caution shall be exercised to avoid displacing the tape and ensure its integrity. The tape shall consist of inert polyethylene plastic—no less than 4.0 mils thick and impervious to all known alkalis, acids, chemical reagents, and solvents likely to be encountered in the soil—with a metallic foil core at least 1/3 mil thick. The tape shall be at least 6 inches in width and Seymour Safety Purple in color with identifying print in black letters. The tape shall be printed with following:

“CAUTION NON-POTABLE WATER LINE: CONTACT TUCSON WATER”

Identifying lettering shall be 1 inch high and repeated continuously the full length of the tape. In no instance shall the spacing of the identifying message’s individual segment exceed 8 inches. The remainder of the trench shall then be backfilled and compacted per the applicable standards and/or special specifications.

(C) Reclaimed Water Marking Tape. Reclaimed water marking tape shall only be used if approved by the Engineer when purple-colored PVC pipe or purple polyethylene cannot be obtained for a specific project. Underground pipe-marking tape shall consist of inert polyethylene plastic, no less than 4.0 mils thick and impervious to all known alkalis, acids, chemical reagents, and solvents likely to be encountered in the soil. Tape width shall be equal to either the pipe diameter for main lines, or 3 inches for service lines. All locating and marking tape shall be Seymour Safety Purple in color. The tape shall be printed with the following:

“CAUTION NON-POTABLE WATER LINE: CONTACT TUCSON WATER”

Identifying lettering shall be at least 1 inch high and imprinted continuously the entire length of the tape in permanent black lettering. In no instance shall the spacing of the identifying message’s individual segment exceed 8 inches. Marking tape shall be installed on all reclaimed pipelines and service lines. It shall be laid directly on top of the pipe along the pipe centerline and shall be permanently affixed by wrapping the pipe circumference with 10-mil PVC pipe tape at no greater than 4-foot intervals along the pipeline. If purple pipe is used or if ductile iron is encased with purple polyethylene, marking tape does not have to be installed (see TW Standard Details 116 and 309).

(D) Tracer Wire. All water lines and appurtenances, both potable and reclaimed, require the installation of tracer wire in accordance with TW Standard Detail 116. Tracer wire shall be laid directly on top of the pipe along the pipe centerline and shall be permanently affixed by wrapping the pipe circumference with 10-mil PVC pipe tape. The tracer wire is to be certified by a licensed private utility locator. Final acceptance will not be issued until Tucson Water receives this certification.