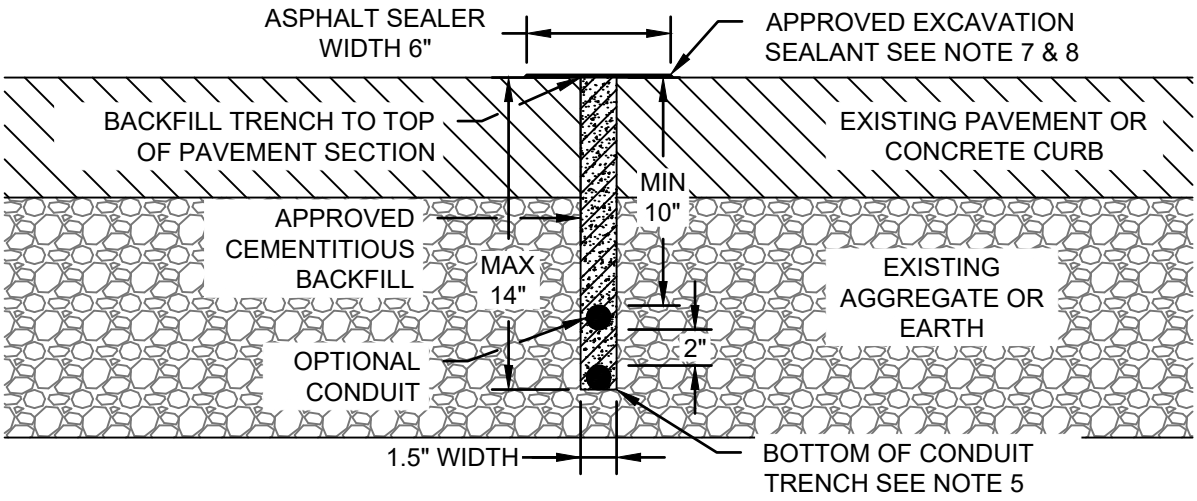
Department of Public Works
320 East Mosby Road
Harrisonburg, VA 22801
540-434-5928

Appendix B – Microtrenching Installation and Construction Standards

1. Microtrenching may only be approved for" local streets" within the City. The City, however, reserves the right to deny any microtrenching request on any local street. Permittee may request from the Public Works Department a list of all local streets within the City.
2. The microtrench shall be located 2' off the lip of gutter or shoulder of roadway where possible and shall only perpendicularly cross the street at no less than 300' intervals.
3. The City shall only approve the installation of two (2) microtrench installations per local street. Such facilities shall be installed as follows:
    - The first installation of microtrench on any local street shall be installed as follows:
        - 10" of cover (from uppermost conduit to existing top of pavement);
        - 1.5" trench width backfilled with flowable fill to the existing top of pavement elevation;
        - Sealed with a minimum 6" wide patch of an approved asphaltic sealing material;
    - For second installation on a Local Street the microtrench shall be installed as follows:
        - Placed directly above existing conduit with 2" of separation, with a minimum of 6" of cover (from uppermost conduit to existing top of pavement);
        - 1.5" trench width backfilled with flowable fill to existing top of pavement elevation;
        - Sealed with a minimum 6" wide patch of an approved asphaltic sealing material;
4. The microtrench shall not be located within 5' horizontally of any public utility asset (manhole, sewer line, water line fire hydrant, water meter, sewer lateral, storm inlet, storm line, etc.). The microtrench may be moved to the lip of gutter in order to accommodate the 5' offset. If encroachment within 5' is unavoidable this shall be clearly identified on the plans, and the City will review each occurrence on a case by case basis.
5. Where the microtrench crosses a public utility line, the angle shall not be less than 45 degrees;
6. The submitted construction plans shall include a detail explaining the process by which the contractor will install conduits under the existing curb & gutter and sidewalk. The City will approve this detail on a case by case basis.



NOTES:

1. ALL WORK AND MATERIALS SHALL MEET THE REQUIREMENTS OF CURRENT CITY OF HARRISONBURG DESIGN AND CONSTRUCTION STANDARDS MANUAL AND VIRGINIA DOT SPECIFICATIONS AND STANDARDS UNLESS NOTED OTHERWISE OR APPROVED BY THE GOVERNING BODY OR OWNER. MICRO-TRENCHING SHALL NOT BE CONDUCTED IN SOILS WHERE RAVELING MAY OCCUR.

2. IT IS SOLELY THE CONTRACTORS RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY, BUILDINGS CODES, AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND CONDITIONS RELATING TO EXISTING CONSTRUCTION AND/OR SITE DRAWINGS.

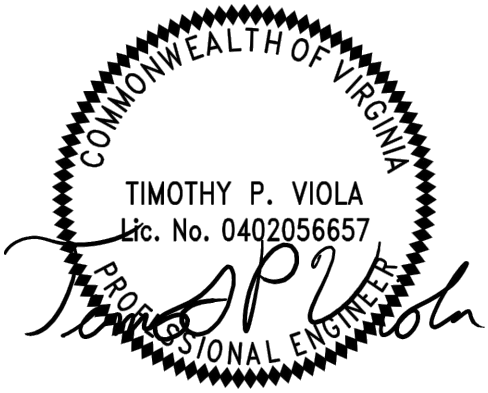
3. PAVEMENT CUTS SHALL BE STRAIGHT AND CLEAN. IT IS RECOMMENDED THAT SPALLS AND POTHOLES WITHIN 12 INCHES OF THE MICRO-TRENCH BE REPAIRED PRIOR BY TRENCHING TO FACILITATE STRAIGHT PAVEMENT CUTS. A CIRCULAR VACUUM OR EQUIVALENT EXCAVATOR WHICH CAN EFFECTIVELY EVACUATE CUTTINGS SHALL BE UTILIZED.

4. MATERIALS AND METHODS SHALL BE APPROVED BY THE GOVERNING BODY OR OWNER PRIOR TO COMMENCEMENT OF WORK. TRENCH LOCATION SHALL BE THROUGH ALIGNMENTS OTHERWISE APPROVED BY THE THE OWNER.

5. A MINIMUM COVER OF 10 INCHES SHALL BE MAINTAINED FROM THE TOP OF THE CONDUIT TO THE TOP OF THE ROADWAY SECTION. A MAXIMUM TRENCH DEPTH OF OF 14 INCHES SHALL BE PROVIDED. TWO INCHES OF SEPARATION SHALL BE PROVIDED IF A SECOND CONDUIT IS INSTALLED IN THE TRENCH. EXCAVATION WIDTH SHALL BE 1-1/2 INCHES.

6. CEMENTITIOUS BACKFILL SHALL CONSIST OF APPROVED SHRINKAGE COMPENSATING HIGH EARLY STRENGTH REPAIR MORTAR WITH CORROSION INHIBITOR COMPARABLE TO CORBEL TRENCH FILL PRODUCED BY CORBEL COMMUNICATIONS INDUSTRIES, LLC. BACKFILL SHALL BE PROPERLY CONSOLIDATED TO PREVENT FORMATION OF AIR POCKETS.

7. BACKFILL TRENCH TO TOP OF PAVEMENT SECTION. CRACK SEALER SHALL CONSIST OF APPROVED MATERIALS COMPARABLE TO CRAFCO ROADSAVER 211 MEETING THE REQUIREMENTS OF FEDERAL SPECIFICATION SS-S-164 AND ASTM D6690 (AASHTO M324), TYPE I, "JOINT AND CRACK SEALANTS, HOT-APPLIED, FOR CONCRETE AND ASPHALT PAVEMENTS". CRACK SEALER SHALL BE APPLIED ACCORDING TO MANUFACTURES RECOMMENDATIONS OR THE REQUIREMENTS OF THIS DRAWING, WHICHEVER IS MOST STRINGENT.



PROJECT NO.: PTL-192619

PROJECT NAME: SHENTEL MICRO-TRENCH DRAWING

CLIENT: MATT ESTEP, DIRECTOR OF OUTSIDE PLANT ENGINEERING & CONSTRUCTION
SHENTEL
500 SHENTEL WAY, EDINBURG, VA 22824

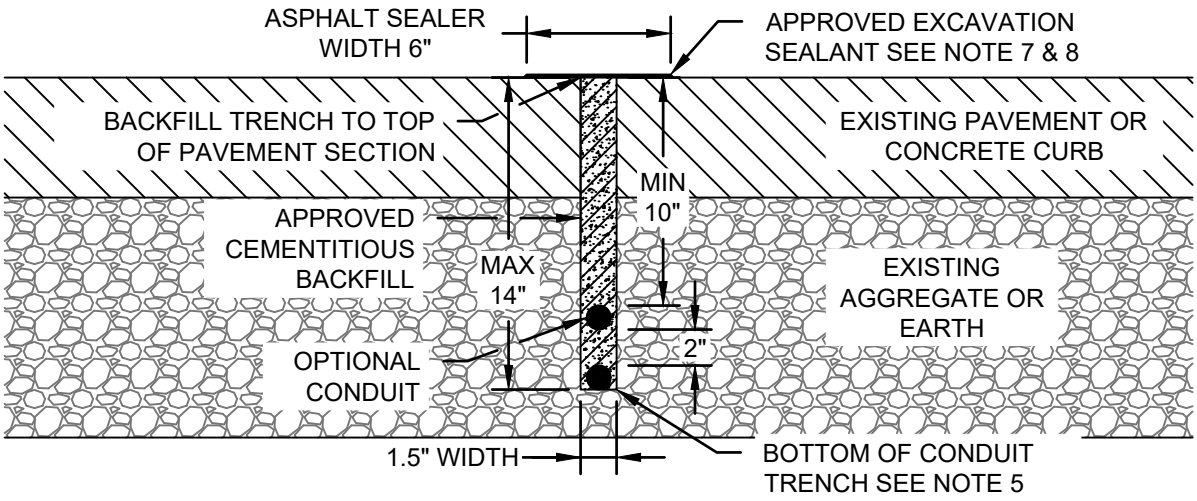
DRAWING BY: TIMOTHY VIOLA, PE

DRAWING DATE: 6/24/19

MICRO-TRENCH CONSTRUCTION FOR DRY UTILITIES - STANDARD DRAWING

VIOLA ENGINEERING, PC
Geotechnical • Geophysical • Environmental • Materials
P.O. Box 575 Broadway, Virginia 22815
(540) 434-0400 fax: (540) 434-0447

DRAWING NUMBER: MT-SD



NOTES:

8. THE SEALANT SHALL NOT BE PLACED WHEN THE AMBIENT OR PAVEMENT TEMPERATURES FALL BELOW 45 DEGREES FAHRENHEIT OR WHEN MOISTURE IS PRESENT IN THE EXCAVATION TO BE SEALED. PRIOR TO SEALING, THE EXCAVATION SHALL BE THOROUGHLY CLEANED SUCH THAT ALL DIRT, DEBRIS, MOISTURE AND OTHER FOREIGN MATERIALS THAT WILL PREVENT BONDING OF THE SEALANT ARE REMOVED. THE SEALANT SHALL BE PUMPED DIRECTLY INTO OR OVER THE EXCAVATION FROM THE HEATER-MELTER UNIT AT THE TEMPERATURE SPECIFIED BY THE MANUFACTURER IMMEDIATELY FOLLOWING CLEANING. THE SEALANT SHALL OVERLAY THE CRACK AT THE PAVEMENT SURFACE LEAVING A MAXIMUM “OVER-BANDED" APPEARANCE OF 3-INCH WIDE (6-INCH WIDTH TOTAL) ON EACH SIDE OF THE EXCAVATION CENTERLINE. THE MATERIAL SHALL NOT CONTINUE TO FLOW BEYOND THESE LIMITS ONCE A CRACK IS SEALED. THE HEIGHT OF THE SEALANT ABOVE THE PAVEMENT SURFACE SHALL NOT EXCEED 1/8 INCH.

9. DO NOT CONDUCT MICRO-TRENCHING OR INSTALL CONDUIT IN PARALLEL ALIGNMENT ABOVE ANY PUBLICLY OWNED UTILITY UNLESS SPECIFICALLY APPROVED IN WRITING BY THE UTILITY OWNER.

10. UPON COMPLETION OF MICRO-TRENCHING, ALL GRADES, PAVEMENT MARKINGS, AND STRUCTURES SHALL BE RESTORED TO EXISTING CONDITIONS MEETING APPLICABLE SERVICE REQUIREMENTS.

11. CONTRACTOR SHALL EXCAVATE ON EITHER SIDE OF THE CURB AND GUTTER AND JACK CONDUITS DIRECTLY UNDER THE CURB AND GUTTER.

12. CONTRACTOR SHALL USE STANDARD TRENCHING METHODS TO PLACE CONDUITS BENEATH SIDEWALKS. A 5-FOOT BY 5-FOOT MINIMUM SIDEWALK PANEL SHALL BE REPLACE AT EVERY CROSSING. MATCH EXISTING SIDEWALK WIDTHS WHERE REQUIRED.

PROJECT NO.: PTL-192619	**MICRO-TRENCH CONSTRUCTION FOR DRY UTILITIES - STANDARD DRAWING**	This drawing has been developed in accordance with generally accepted construction practices and industry standards. Viola Engineering, PC (VEPC) shall not be held liable for misuse of this drawing or placement of materials contrary to manufacture specifications. The contractor and/or utility owner bear full liability for proper implementation of techniques depicted herein.
PROJECT NAME: SHENTEL MICRO-TRENCH DRAWING		
CLIENT: MATT ESTEP, DIRECTOR OF OUTSIDE PLANT ENGINEERING & CONSTRUCTION SHENTEL 500 SHENTEL WAY, EDINBURG, VA 22824	**VIOLA ENGINEERING, PC** Geotechnical • Geophysical • Environmental • Materials P.O. Box 575 Broadway, Virginia 22815 (540) 434-0400 fax: (540) 434-0447	DRAWING NUMBER: MT-SD
DRAWING BY: TIMOTHY VIOLA, PE		
DRAWING DATE: 6/24/19		SHEET NO.: 2 OF 2