WV DIVISION OF HIGHWAYS
MICRO-TRENCHING GUIDELINES FOR FIBER OPTIC INSTALLATION

The Division of Highways (Division) allows occupancy of Division rights of way for the installation by telecommunications providers and other public utilities of fiber optic lines. Such installations are governed by the guidelines of the current "Accommodation of Utilities on Highway Right of Way and Adjustment and Relocation of Utility Facilities on Highway Projects" and by the provisions of the Telecommunications Act of 1996. Installation of underground fiber optic lines traditionally has been performed via techniques that involve digging a trench along the roadway, laying conduits within the trench, and then installing fiber optic cables through the conduit. The trench then is backfilled and compacted. Due to the type of machinery and equipment necessary to perform the installation and restoration procedure and due to the proximity to the travel way, conventional trenching methods can be time-consuming and can affect traffic flow along a roadway.

Micro-trenching is an alternate technique of deploying fiber optic cables, including specifically for broadband networks, using a cutting wheel to cut a trench with smaller dimensions (no greater than three (3) inches in width, and a depth between one and two (1 and 2) feet) than can be achieved with conventional trench digging equipment. All micro-trenching work performed in West Virginia must be in accordance with the National Electrical Safety Code and other generally accepted safety codes.

The Division has developed guidelines to be utilized for any micro-trenching operation proposed along Division rights of way. Such guidelines apply to any installation of underground conduit through which fiber optic cables will be placed, anywhere in West Virginia by any entity desiring to utilize micro-trenching; fiber optic cables must be installed within conduit. Any entity desiring to utilize a micro-trenching operation as part of any proposed installation within Division rights of way shall, as part of the application for permit and submission of plans pertaining to the installation of conduits and fiber optic cables, shall provide sufficient details regarding the proposed micro-trenching, including, but not limited to:

- project limits and termini
- location of the proposed trench with respect to existing roadway features (edge of pavement, guardrail, etc.)
- trench dimensions, with trench width being no greater than three (3) inches and trench depth being no less than one (1) foot and no more than two (2) feet
- proposed locations of and details concerning handholes and other appurtenances, including markers, to be installed
- traffic control plan to be utilized during installation
- method of detection to be used when deploying networks using micro-trenching
- identification of the owner(s) of the conduit(s) to be installed
- number of strands of fiber to be placed within the conduits installed within the Division right of way
- identification of each entity leasing or using each fiber within the conduit
- intended dates of the start and completion of micro-trenching construction
- An indemnification agreement

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The following additional conditions and stipulations apply to any micro-trenching operation to be implemented within Division right of way anywhere in West Virginia:

- If an applicant proposes to connect its own conduit to another owner's previously installed conduit, the applicant must install conduit that has the same number of pathways or pipes as the previous owner's conduit.
- Applicant shall follow all Dig Once policies and procedures concerning additional vacant conduit installation.
- Micro-trenching is to occur outside the pavement of the roadway, including paved shoulder if present, unless Division provides written approval to allow pavement cut, based on information provided by the applicant verifying (to Division satisfaction) that no reasonable alternative for installation exists within a defined area. If pavement cut is permitted by the Division, applicant must:
  - clean the trench with an air blower prior to installation of conduit, and
  - seal the pavement as soon as practicable after installation of the conduit, utilizing a sealing method and sealing material approved by the Division
- Applicant may not perform micro-trenching:
  - during inclement weather conditions
  - when snow is visible upon the roadway or when snow is forecast during the proposed construction period
  - if Division is performing or is scheduled to perform any maintenance or construction activity along the section of roadway to be affected by the micro-trenching operation
  - if any pavement cut requiring sealing of the pavement is to be performed when ambient air temperature is or is expected to be below 40 degrees Fahrenheit (40° F), or
  - at any time when responders are on-site responding to any emergency or incident involving a section of roadway to be affected by the micro-trenching operation.
- On or before the commencement of construction, and as part of the permit process:
  - Applicant shall provide to Division a bond, as described in the Manual and the Permit Submission Guidelines.
  - Applicant, and its contractors and subcontractors, shall provide evidence insurance, as described in the Manual and the Permit Submission Guidelines.
- Promptly after completion of microtrenching construction, but no longer than 40 calendar days after issuance of the permit for microtrenching, the applicant must submit to the Division a document containing the following information:
  - An "as-built" drawing of the conduit installed. The "as-built" drawing will be treated as proprietary and confidential, to the extent permitted by law.
  - A map showing the street location of the conduit including the side of the street the conduit is on, the beginning and ending points of the conduit, the number of ducts in the conduit, and the number of ducts of excess capacity in the conduit. The map must accurately reflect the addresses of buildings (conforming to County 911 addressing) that are passed by the conduit.