

# Washington Drop Service Installations Policy

The Town of Washington, through its Washington Municipal Light Plant (MLP), constructed a fiber-optic broadband network in order to provide Internet and digital phone service. The network passes by and includes a connection point for 99% of occupied and habitable premises in town. The network design includes extra fiber for anticipated future growth.

## Definitions

A glossary of technical terms and abbreviations is provided at the end of this document.

## Drop Service Installations

A Drop Service Installation consists of a Drop Fiber cable connection from a designated Multi-port Service Terminal (MST) on the Distribution Network to a Network Interface Device (NID) on the exterior of the customer premise, plus the interior installation of an Optical Network Terminal (ONT) and Wi-Fi router. The installation of digital phone equipment is optional.

All electronic components and the Drop Fiber cable will remain the property of the Washington MLP.

## Interior Installations

For customers with new connections, the Washington MLP will cover the cost of materials and labor for a Basic Interior Installation. Exterior connection costs will fall to the customer.

This Basic Interior Installation includes:

- installation of Network Interface Device (NID) on premise exterior;
- installation and set-up of an ONT in a basement or first-floor location, including an optical jumper from the NID, up to 75 feet;
- installation of a Cat6 Ethernet cable from the ONT to a first floor location, up to 100 feet, and installation of a Cat6 wall-plate, as necessary;
- installation and set-up of a Wi-Fi router (provided by our ISP vendor).

The customer is responsible for providing 110V AC electrical outlets at the ONT and Router locations. The customer is responsible for providing any optional backup power source for the ONT and Router that may be desired in case of a power outage.

For customers who subscribe for the optional digital VoIP phone service, there will be a one-time cost for VoIP phone configuration.

Custom interior installation services may also be arranged — for example, a non-standard ONT location, router installation on a second floor, or additional Ethernet wiring and outlets. Customers will be responsible for any and all interior installation costs in excess of the Basic Interior Installation.

Customers who are not the owner of the premise may be required to provide proof of prior approval from the property owner.

### **Exterior Drop Fiber Installations**

Customers will be responsible for covering the cost of the Exterior Drop Fiber installation from the MST to the NID on the exterior of the premise. The total cost of the Exterior Drop Fiber Installation will depend upon several factors:

- the total distance from the MST to the premise;
- whether the fiber drop travels overhead or underground or some combination;
- in the case of overhead, whether additional utility poles are involved or not;
- in the case of underground, whether existing suitable conduit already exists or new microduct cable needs to be installed.

The Drop Fiber Installation typically follows the pathway of existing utility services to the home. Exceptions can be made if circumstances warrant. The Washington MLP Manager and the installation subcontractor will work with the customer to identify the most cost-effective method to provide a Drop Fiber connection.

A reasonably complete estimate for installation costs will be provided for customer approval prior to any work.

### **Make-Ready and Pole Licenses**

The Washington MLP has already paid from the capital construction budget for all utility costs associated with make-ready and licensing for existing utility poles on private property that have been deemed necessary for drop service installations. Customers will not be responsible for these costs.

However, newly installed subpoles may require new attachment licenses, especially in cases of new construction. In this case, any upfront costs associated with make-ready and initial licensing may be borne by the property owner.

### **Phone-only Service Installation**

Phone-only service is delivered over via the same fiber-optic infrastructure as Internet service. The same Drop Service Installation components are required as described above and the same cost apportionment applies, with the exception that a router will not be provided. The cost of configuring the VoIP phone will be borne by the customer.

## Cold Drops

“Cold Drop” refers to an exterior Drop Fiber Installation only, with no Interior Installation, where the homeowner does not wish to take any service at this time.

Homeowners who are interested only in a Cold Drop may contact the Washington MLP Manager to discuss. All costs will be borne by the homeowner.

## Network Expansion & Future Construction

Every effort was made in the initial network construction to accommodate all existing and habitable premises in Washington.

Customers requesting service for new homes built after the completion of the network may incur the full cost of any Network Expansion that is required in order to provide an MST connection, in addition to the Exterior Drop Fiber Installation costs.

For example, this might include splicing costs and/or MST installation costs to provide a connection point, if an existing MST port is not available and configured for the location. In some cases, this could include the setting of additional poles or extending the distribution network to reach a property.

Homebuilders and developers are encouraged to contact the Washington MLP Manager to discuss future home construction in order to accommodate these connection costs into their building plans. Contact information can be found on the Washington town website: [www.washington-ma.gov/broadband](http://www.washington-ma.gov/broadband)

## Glossary of Technical Terms

**Cat6** = Category 6 Ethernet wiring, used to connect the ONT to the Router. Cat6 Ethernet supports network connections up to 10Gbps, providing the ability for future network speed enhancements.

**Cold Drop** = a drop fiber from the road to the outside of the premise only, without any interior installation and without being lit up for any service.

**Distribution Network** = the fiber-optic cables and associated components, including MSTs, that transmit the broadband service from the Hub throughout the Town and past each premise.

**Drop Fiber** = a fiber-optic cable that extends from the Distribution Network to the premise. The Drop Fiber connects an MST on the network to a NID mounted on the exterior of the premise.

**Gbps** = Gigabits Per Second, a measure of the amount of data that can be transferred through a network connection in one second, used to express network speed. 1Gbps is equal to 1000 Mbps (Megabits Per Second). The FCC defines “broadband” as a minimum of 25 Mbps download and 3 Mbps upload.

**Hub** = the central telecommunications shelter at 8 Summit Hill Rd, Washington, MA, where all of the Town's fiber-optic cables originate and which houses the electronic components that connect the network to the Internet.

**MST** = Multi-port Service Terminal, the network component that allows Drop Fibers to be plugged into the Distribution Network.

**Network Expansion** = any expansion of the Distribution Network which becomes necessary after the completion of the initial network construction in order to provide an MST for future home construction.

**Network Extension** = an extension of the Distribution Network where the MST continues from the road on to private property. This is required where poles on private property are more than 170 feet apart. It involves spanning the poles with a stranded steel support cable and lashing the MST to this support.

**NID** = Network Interface Device, the drop service component mounted on the exterior of a premise that receives the exterior Drop Fiber and connects it to an Optical Jumper to the interior ONT.

**ONT** = Optical Network Terminal, the drop service component installed inside the premise that translates between the optical (light) connection on the fiber network and the electronic network connection needed by routers and computer devices. The ONT is typically installed in the same general vicinity as the main electrical panel, although alternate arrangements may be made in consultation with the installation technician.

**Optical Jumper** = a ruggedized fiber-optic cable that connects from a NID to an ONT.

**Router** = an electronic component located inside the premise that allows multiple computers and devices to be connected to the network, via both wired (Ethernet) and wireless ("Wi-Fi") connections.