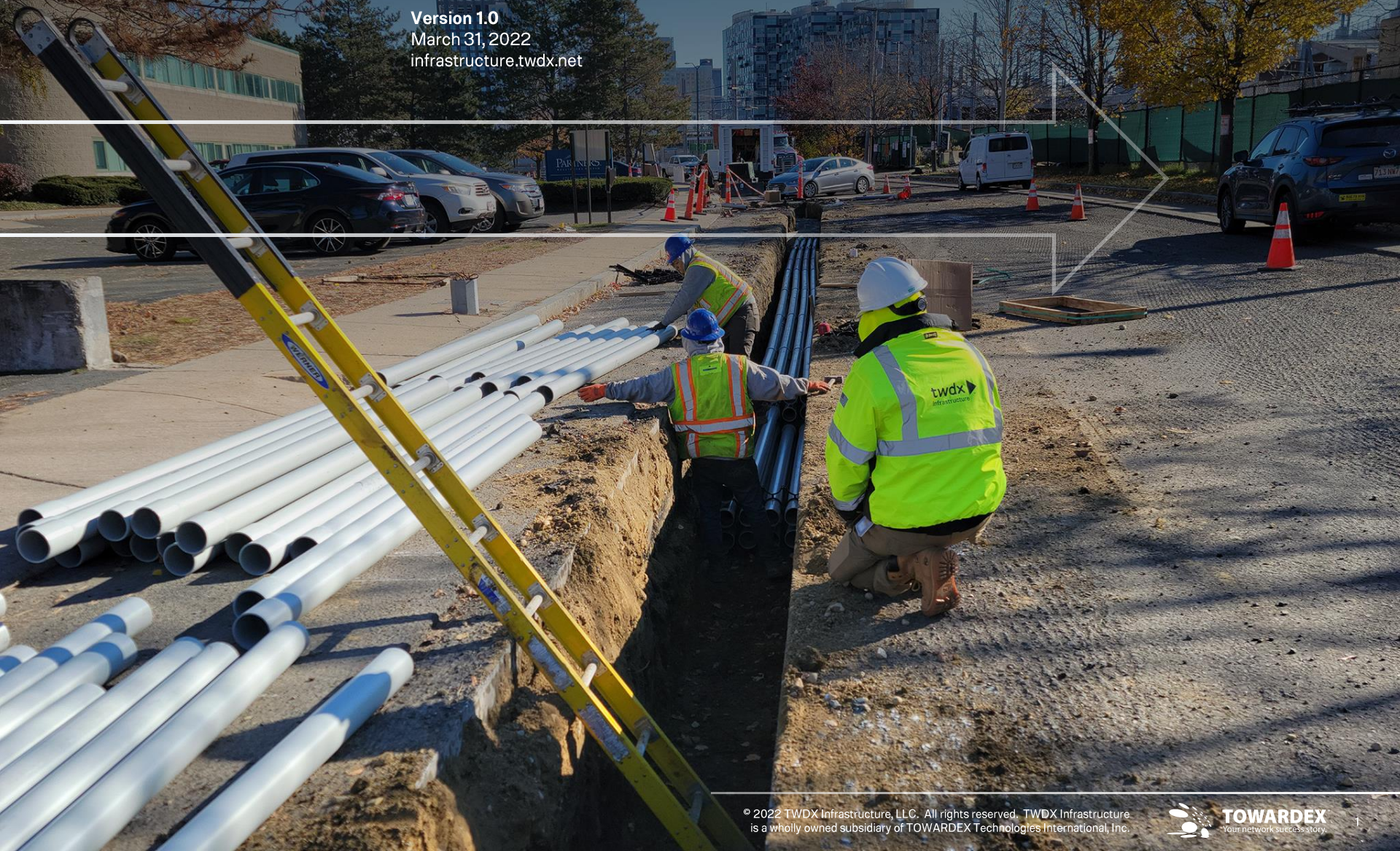


# C15A2 Third Avenue Interconnection

## HUB EXPRESS SYSTEM

Version 1.0  
March 31, 2022  
[infrastructure.twdx.net](http://infrastructure.twdx.net)



## About the Third Avenue Interconnection

The **Third Avenue Interconnection** is a telecommunications utility project near Inner Belt district in Somerville, MA.

The aim of the project is to provide a **major interconnection** of fiber optic communications systems in Inner Belt toward the railroad right-of-way located at the end of Third Avenue. The project will significantly simplify network installations to reach subsea cables landing in Lynn, MA for telecom and internet service providers.

The construction of Third Avenue Interconnection will minimize or obviate the need for telecom carriers and ISPs to perform a new excavation or construction to reach the railroad right-of-way, or worse, apply for a pole petition or aerial pole attachment to achieve the same.

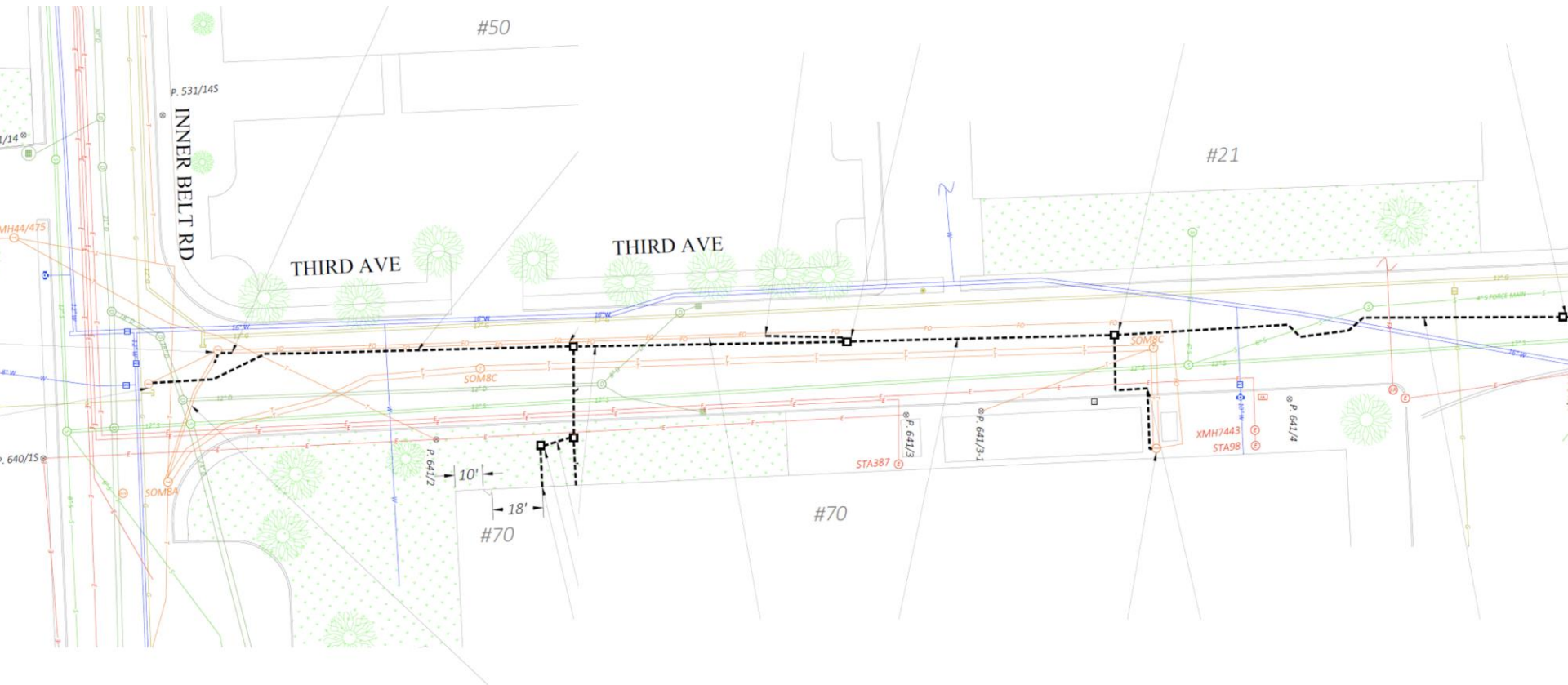
Furthermore, the Third Avenue Interconnection would allow development of a new northbound fiber route that is redundant to the existing railroad culvert structure on Inner Belt Road (known by the locals as "the tubes"), providing an additional redundancy for network backbone paths running through Inner Belt.

The Third Avenue Interconnection is being designed and constructed in accordance with **Dig Once Best Practices**, minimizing the need for future excavations to permit subsequent fiber optic installations by other ISPs and telecom carriers.

Building the Third Avenue Interconnection today will eliminate up to 90 percent of the future cost of fiber optic cable installation. Creating a seamless, "dig-free", ready-to-use infrastructure for ISPs to directly connect their fiber optic loops in downtown Boston to the cable landing station will significantly lower the cost of accessing long-haul capacities.

Once completed, Third Avenue Interconnection will ease access to transatlantic cables by increasing competition for connecting terrestrial fiber providers, help lower long-haul capacity costs for broadband and internet backbone providers, accelerate economic development for the region's data centers and carrier hotels, and finally, help promote Boston as a global city for international internet traffic in North America.

# C15A2 Proposed Mainline Trench Detail



## Construction Overview



The Third Avenue Interconnection project is broken up into 3 major parts:

### **Construct 507 linear feet of mainline duct bank along Third Avenue**

TWDX Infrastructure (a wholly owned subsidiary of TOWARDEX) will construct 507 linear feet of a Joint-Use Communications Trench from intersection with Inner Belt Road and all the way to end of the street on Third Avenue, in front of MBTA GLX Vehicle Maintenance Facility at 34 Third Avenue.

### **Construction of fiber optic laterals for abutting properties and interconnecting utilities**

For each abutter or utility company who requested a fiber optic lateral and executed an easement or an access agreement for TOWARDEX to install a fiber optic line onto their property, TWDX Infrastructure will install all approved laterals in accordance to engineering requirements as agreed upon with each customer.

### **Street restoration of Third Avenue**

During conclusion of the project, TWDX Infrastructure will repave all 507 feet of Third Avenue, curbside-to-curbside, starting from the intersection with Inner Belt Road. The restoration work will be coordinated with City of Somerville's Engineering Division to ensure compliance with City regulations and to meet quality control standards for street constructions.

## Lateral Installations

In general, TOWARDEX will approve installation of laterals in accordance to the following rules:

### Lateral construction request for utility companies:

Upon receiving and approving the request, TOWARDEX, at no cost to the requesting utility company, will install an interconnection lateral into the requesting utility company's desired nearby underground plant or telephone pole as jointly determined and approved by both parties. Any interconnection lateral approved and paid for by TOWARDEX in this manner will become property of TOWARDEX and shall be managed by TWDX Infrastructure, LLC in accordance to operating requirements of the Hub Express System.

Accordingly, **all** Hub Express System conduits, including interconnection laterals into subtending utilities that are owned by TOWARDEX as discussed in the above paragraph, shall be leased to all licensed telecommunications providers in accordance with all applicable laws (e.g. 47 USC § 224, MGL c.166 § 25A) and Hub Express System's Guide to Utility Conduit Licensing on a competitively neutral and nondiscriminatory basis.

### Lateral construction request by abutting property owners:

Until the Lateral Construction Budget for the project is exhausted, TOWARDEX will approve and construct lateral conduits and Minimum Point of Entry (MPOEs) at no cost to the property owner, when the abutter (or a tenant of the abutter):

1. Requests fiber optic internet service or telecom services directly from TOWARDEX; or
2. Requests any telecom service (including internet access) from another provider who is currently a member or a tenant of the Hub Express System.

For restrictions and exemptions to the above rules, please continue reading on the next slide.



## Lateral Installations – cont'd



### **Limitations to TOWARDEX' approval of lateral construction request:**

For all lateral construction requests, TOWARDEX reserves the right to deny approval or approve with substantial modifications, when reasonably required to do so on a nondiscriminatory basis, where there is insufficient mainline capacity and for reasons of safety, reliability and generally applicable engineering purposes, as permitted under 47 USC § 224(f)(2). Further, when a property owner or a party is requiring TOWARDEX to pay a fee or otherwise demands payment as a condition of receiving permission for entry into the property, TOWARDEX will deny the lateral construction request.

### **Lateral Construction Budget and Limitations**

TOWARDEX has allocated \$205,260.00 to provide funding for installation of approved laterals and MPOEs at no cost to abutting property owners and nearby utility companies for the Third Avenue Interconnection project (the "Lateral Construction Budget").

When or if the Lateral Construction Budget has run out, TOWARDEX will stop approving lateral construction requests, as there will be no further funding available. However, TOWARDEX may still approve new laterals when an alternate source of funding is agreed upon with other participating tenants or members of the Hub Express System. For example, TOWARDEX may approve a lateral construction when the construction is being proposed to be paid for in-part by a tenant of the Hub Express System under a Joint Trench Partaking, or other agreements of similar import to be negotiated by the involved parties.

### **Wayleaves, Permissions and Authority Having Jurisdiction**

All requests for lateral constructions shall be subject to TOWARDEX successfully obtaining wayleave, easement or an access agreement with the party owning the property to be crossed or otherwise be encroached upon for siting of the lateral and its corresponding MPOE in the building. Tenant(s) of an abutting property requesting fiber optic service should contact the landlord or the property manager to request permission for a new installation of fiber optic line into the building owner's property.

TOWARDEX will not approve any lateral and MPOE installations without a written approval from the property owner for access– typically this is arranged via an Easement Agreement or through an access agreement or a license, depending on the scope of the installation and property owner's policy. Furthermore, all lateral constructions shall be subject to City building codes and construction permits for each and every construction request.

## Lateral Installations – cont'd

### Guaranteed Street Moratorium

Upon conclusion of our utility project, Third Avenue will be repaved curbside-to-curbside to restore the street to a brand new condition. Once repaved, TOWARDEX will not approve any new lateral construction requests, or any excavation requests involving the Hub Express System for a period of 5 years after resurfacing of the street (the "Guaranteed Street Warranty Period"), except for emergencies or reasonably extenuating circumstances (e.g. emergency digs required to repair a collapsed conduit, fiber cut, etc.).

Abutting properties and nearby utility owners requesting laterals or interconnection conduits are advised to engage with TWDX Infrastructure early, to ensure that all of the lateral installation requests are tendered and accepted prior to the resurfacing of Third Avenue.

If a party requires a non-emergency excavation into the Hub Express System during the Guaranteed Street Warranty Period, and TOWARDEX approves such excavation involving the Hub Express System, the said party shall be required to cover any additional costs of restoring a guaranteed street, in accordance to standards and requirements as may be provided by City regulations for breaking a newly paved street. These activities may include: infrared treatment of trench cuts, curb-to-curb cold-planing and repaving entire width of the street along the length of the trench, restoration of any lane markings and sidewalks, etc.



## Third Avenue Street Restorations

Upon conclusion of the utility project on Third Avenue, TOWARDEX will repave all 507' of Third Avenue, curb-to-curb. All works hereunder will be conducted under coordination with City of Somerville's Engineering Department to ensure quality control and compliance to City requirements for street constructions.

### Street Restoration Overview

The restoration of Third Avenue will be performed in following stages:

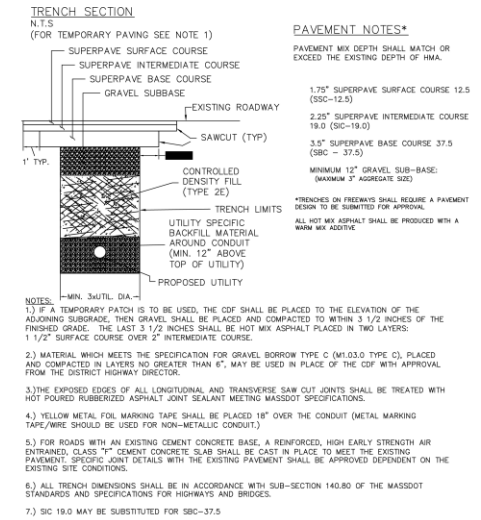
1. Cold plane roadway to depth of 2 inches, mill the existing road surface to prepare for resurfacing, curb to curb.
2. Adjust manholes, catch basins and gate boxes as required.
3. Final paving. The pavement will extend onto portion of Inner Belt Road to neatly match and interface with City's recent resurfacing of Inner Belt Road done in November 2021.

### Notice for Abutters and Traveling Public:

- NO PARKING will be marked and enforced during street restoration. TWDX Infrastructure will obtain restriction permits from the Somerville Parking Department to establish no parking restrictions, to be enforced during the duration of the work.  
  
In addition, TWDX Infrastructure Traffic Engineer will engage contractors to install Variable Message Sign (VMS) and traffic safety devices to alert motorists of traffic control measures being taken as required during the street construction. Somerville Police Department will provide detail officers during the work.
- While access will be maintained for abutters (where possible), thru traffic may be restricted down to single lane during work hours.
- We request that all abutters park their vehicles outside of the work zone on the marked day or the night before. We will do our best to maintain driveway access, but this may not be possible at all times while heavy equipment is running on the street.
- Please obey all traffic control signs, No Parking signs and directions of police officers at the scene.
- For any concerns or questions, you can call our Joint Trench Helpdesk at 617-863-8325, and/or City of Somerville's Engineering Department at 617-666-3311.



# Proposed Extents of Street Repaving on Third Avenue

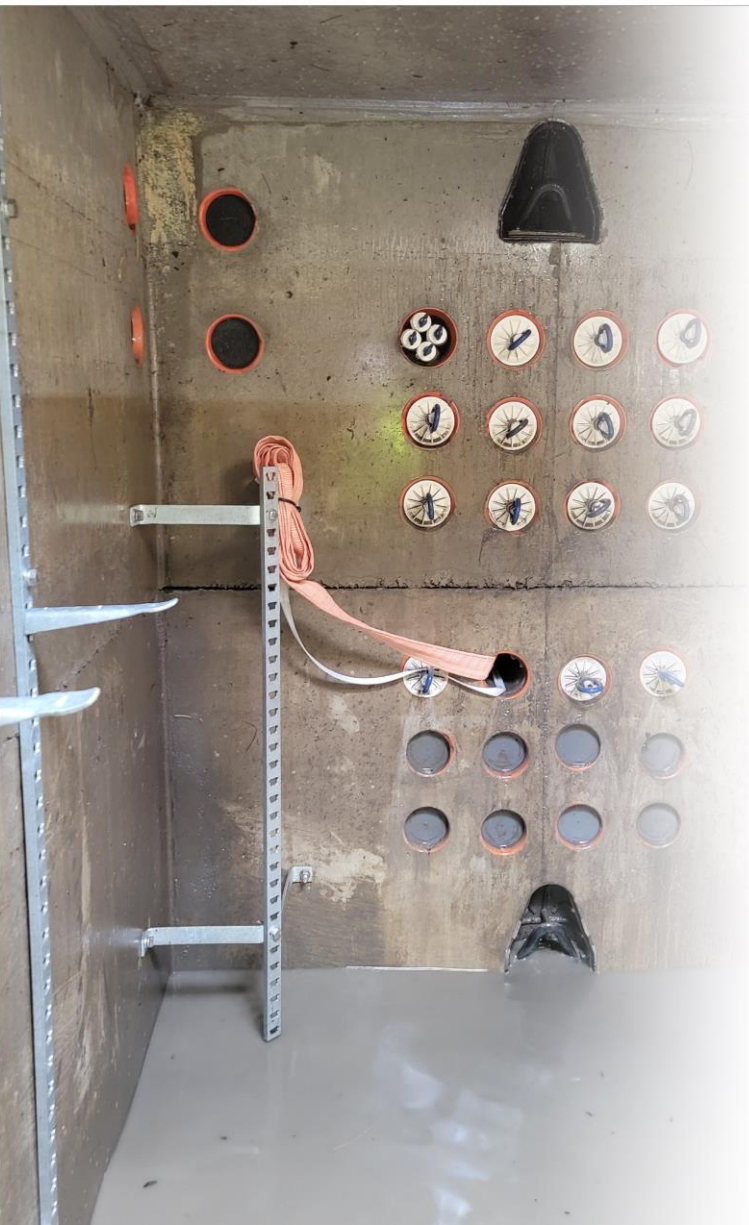


**Change to Proposed Extents (March 31, 2022):**

New pavement shall extend more toward center of Inner Belt Road to match and interface with City of Somerville's recent resurfacing (completed in 11/2021).



## C15A2 Mainline Ductbank Detail



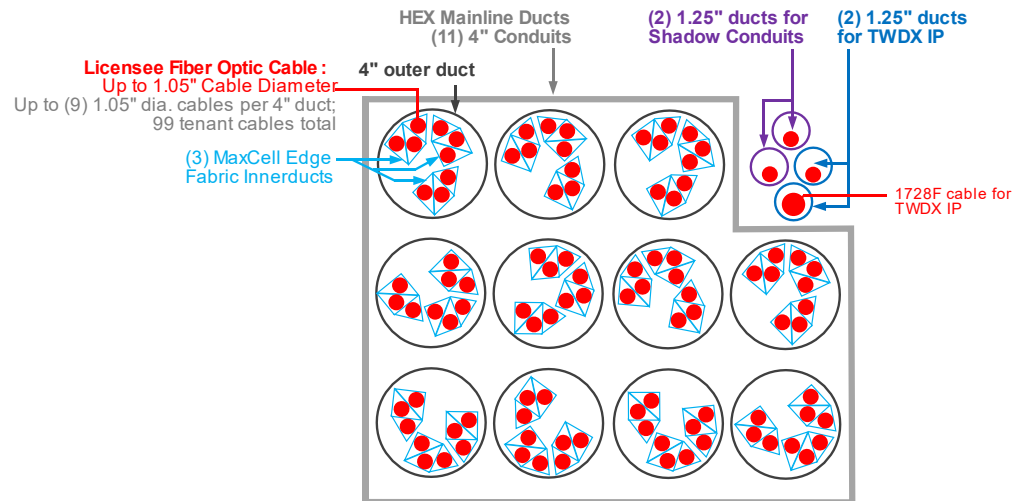
The underground trench for the C15A2 Third Avenue Interconnection shall consist of the following:

- (1) 4" ducts for Hub Express System (HEX) Mainline
- (2) 1.25" ducts for TWDX IP
- (2) 1.25" ducts for Shadow Conduit Policy

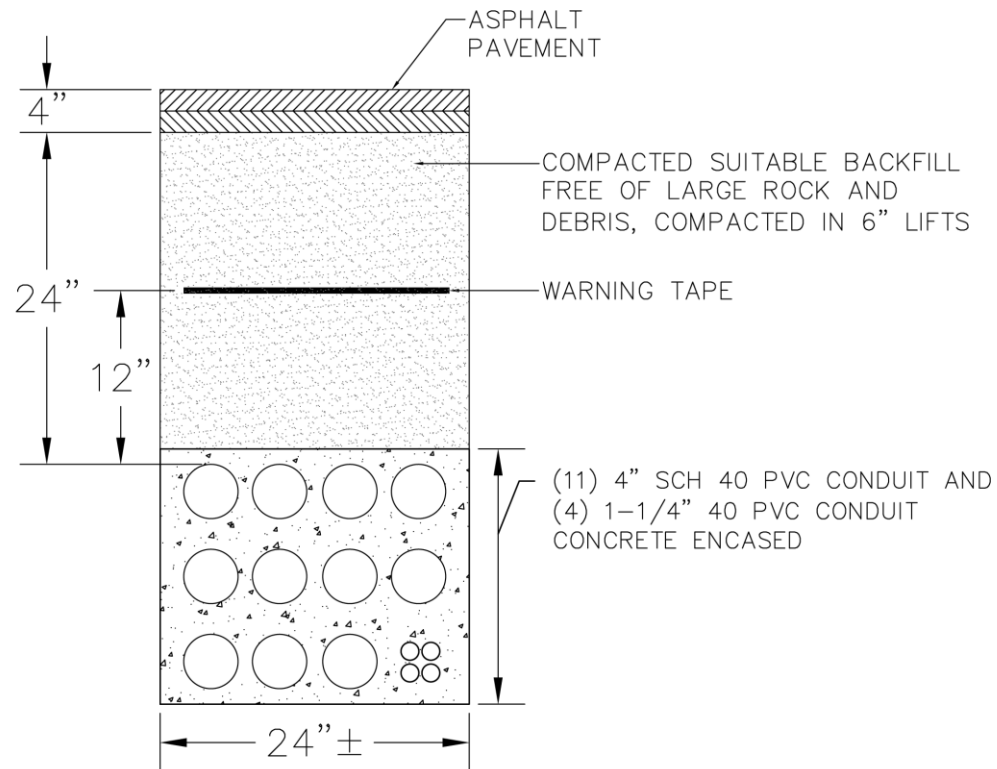
For more information on HEX Shadow Conduit Policy, see:  
*Hub Express System Guide to Utility Conduit Licensing, Page 32*

### Innerducts:

The bank of (11) 4" ducts used for HEX Mainline will be fitted out with MaxCell Edge Fabric Innerduct System. Each innerduct will be able to provide occupancy for a fiber optic cable sized up to 1.05" in cable diameter, and each 4" outer duct can accommodate up to 9 innerducts, providing a total of 99 innerducts available for tenants.



## C15A2 Mainline Ductbank Detail – cont'd



ROADWAY PATCH AND DUCT BANK  
INSTALLATION DETAIL

N.T.S.

TRENCH DETAIL NOTES:

1. 28" MAXIMUM FROM TOP OF CONDUIT TO SURFACE.
2. 12" FROM TOP OF CONDUIT TO METALLIC WARNING TAPE PLACED ABOVE.
3. REPAIR SIDEWALKS AND WALKWAYS WITH SAME MATERIALS AS EXISTING.
4. CITY SHADOW CONDUIT SHALL BE ROPED AND APPROPRIATELY TAGGED UPON INSTALLATION.

## C15A2 Project Cost Estimates

The following preliminary and budgetary estimates have been approved for C15A2 Third Avenue Interconnection project. Actual and final costs incurred may vary.



Line Item	Item Budget
<b>Section Engineering and Soft Costs</b> Costs for engineering, design and associated soft costs, including construction permits, right-of-way siting (e.g. Grant of Location, etc.) and so forth.	\$33,807.00
<b>Mobilization Costs</b> Costs to support mobilization of heavy project equipment, including temporary use of equipment lots; also includes time & materials costs to support Hub Express System mobilizations (e.g. flatbed trucking, rail shipping, etc.).	\$34,670.00
<b>C15A2 Mainline Labor and Materials</b> Progress payments and materials cost for 507 LF section of mainline duct bank and underground vaults on Third Avenue.	\$357,758.00
<b>Lateral Construction Budget</b> Budget allocated to support constructions of fiber optic laterals and MPOEs upon request by abutters, and interconnection conduits requested by nearby utility owners.	\$205,260.00
<b>Police Details and Traffic Control</b> Budget allocated for police details, no parking restrictions and traffic control on Third Avenue in accordance with City regulations and approved temporary traffic control plan (TTCP).	\$28,168.00
<b>Third Avenue Street Restoration</b> Budget allocated to cold plane/mill, readjust manholes for existing utilities and repave curbside-to-curbside for all 507' of Third Avenue.	\$210,184.52
<b>Contingency Budget for Hazardous Material Disposal</b>	\$167,722.00
<b>Additional Cast Iron Infrastructure</b> Additional TOWARDEX branded manhole covers and frames from EJ USA, Inc. (fka East Jordan Iron Works) to support Hub Express System program. Costs include minimum quantity required to setup product lot and manufacturing line at the EJ foundry in Michigan.	\$129,681.56
<b>Sub-total budget for C15A2 Third Avenue Interconnection:</b>	<b>\$1,167,251.08</b>

## Contacts



### Hub Express System Inquiries:

Leasing Office and Conduit Licensing Inquiries:  
Permitting and Access Requests:

[utility-licensing@towardex.com](mailto:utility-licensing@towardex.com)  
[cmc@towardex.com](mailto:cmc@towardex.com)

### Joint Trench Helpdesk:

<b>Contact</b>	Gavin Schoch General Manager
<b>Hours</b> Office Hours	Monday – Thursday 10:30 AM – 4:30 PM
<b>Phone</b>	617-863-8325
<b>Email</b>	<a href="mailto:plantmaster@towardex.com">plantmaster@towardex.com</a>
<b>Address</b>	TWDX Infrastructure, LLC 70 Inner Belt Road, Suite M1 Somerville, MA 02143

### Utility Locating:



**811**  
or 888-DIG-SAFE (344-7233)

State law requires that you notify Dig Safe® at least 72 hours prior to any excavation (MGL c.82 § 40A).

### Corporate Headquarters:

TOWARDEX Technologies International, Inc.  
One Marina Park Drive, Suite 1410  
Boston, MA 02210

For general inquiries and dark fiber sales: [inquiry@towardex.com](mailto:inquiry@towardex.com)  
For network operations: [ip-admin@twdx.net](mailto:ip-admin@twdx.net) 1-844-290-TWDX



[infrastructure.twdx.net](http://infrastructure.twdx.net)

