

Meeting Packet

Order No.23-1008925

Petition for Underground Cable in Conduit

LIGHTPATH

Cedar Hill Street near D'Angelo Drive

In Public Services Committee

July 31, 2023

6:30 PM

PUBLIC HEARING TRANSCRIPT

PUBLIC HEARING on the Petition from Lightpath, to install underground cable in conduit and other equipment within the public way on Cedar Hill Street near D'Angelo Drive, Order No. 23-1008925, all were heard who wish to be heard, hearing closed at 8:08 PM, adopted.

Councilors Present: Doucette, Dumais, Brown, Irish, Navin, Landers, Oram, Ossing, Perlman & Robey.

Councilors Absent: Wagner.

PUBLIC SPEAKING IN FAVOR

Speaking in favor was Keenan Brinn appearing on behalf of the applicant, Cambridge Network Solutions Lightpath, his address is 100 Apollo Drive, Chelmsford, Massachusetts, and he is there as the agent on behalf of Network Building and Construction. They are seeking approval for a four-inch fiber trench at the intersection of D'Angelo Drive and Cedar Hill Road. The plans detail the actual lengths, but they are roughly 315 feet east of Cedar Hill, 140 west of Cedar Hill, and 181 feet south of Cedar Hill on D'Angelo Drive. There are three segments that would be the one project.

Mr. Brinn introduced Jeff Harrington, the representative of the applicant who can answer any of the technical questions. Mr. Brinn stated they are before the City Council for a trench opening for four-inch fiber conduits. Mr. Brinn has met with the Department of Public Works to discuss this with the engineering department and there is a plan to repave Cedar Hill Road in the coming months and they are trying to coordinate with them properly to ensure the paving is done after they finish their project. They were available to answer any questions.

Mr. Harrington provided his contact information, Jeffery Harrington, 120 Church Street, Wilmington, Massachusetts. The corporate offices are located at 100 Quannapowitt Parkway, Wakefield, Massachusetts.

QUESTIONS FROM THE PUBLIC

There were no questions from the public.

PUBLIC SPEAKING IN OPPOSITION

No one spoke in opposition.

QUESTIONS FROM CITY COUNCIL

Councilor Doucette asked if this was a conduit for utility or private use and who is going to use the fiber when it is put down. Mr. Harrington stated the plan for the conduit is to house a Lightpath fiber optic cable that is going to service a data center at 34 Saint Martin Drive which is at the rear of that area. Councilor Doucette asked if that was in Southborough. Mr. Harrington stated it is split at the actual line. It is to deliver to those office facilities but any of the enterprise services or businesses within that area will have access to it. They are not a residential provider but more of an enterprise commercial provider. They did try to go to the utilities to lease space on the pole line but unfortunately the pole owners, National Grid and Verizon, stated the space is capped which is why they are proposing this work. The conduit will be there, and they will make

PUBLIC HEARING TRANSCRIPT

sure that the conduit is open to others if they needed to use it but currently it is just for their fiber optic services. Councilor Doucette asked when the trench and the pipe is put in, would they control the additional fibers going in? Mr. Harrington indicated they will work with the city's engineering team if they are allowed to move forward, but normally they would be considered the lead participant and when someone else wants to come in and they will come into a pro rata share of the conduit and if a maintenance issue comes up, that cost gets divided up by how many people want to use it. Ultimately, they will own the conduit and it is predominately dedicated to support one of their data centers.

Councilor Dumais stated the city received a grant to repave Cedar Hill Street and asked if this was approved, how quickly can they turn around and complete their project? Mr. Harrington responded they have met with the engineering department, and they have engaged their vendor to be in contact with the city's vendor, dig safe went out that day, so they already have a dig safe number in and registered, they have already walked it out and have the materials, so if they get through the process, they want to start right away. They want to make sure they work with the road crews because they may have a plan to do something that they may have to offset their plan, so their engineering team is reaching out to them to make sure their plans are coordinated. If they get through the process, they are ready to start immediately.

Councilor Landers noted the process begins with the Public Services Committee and it is there now, and they will get working on it. He will schedule a meeting to start work on it as soon as possible.

That ends the entire Public Hearing. This is currently in the Public Services Committee.



IN CITY COUNCIL

Marlborough, Mass., JUNE 26, 2023

ORDERED:

That there being no objection thereto set **MONDAY JULY 24, 2023**, as the **DATE FOR PUBLIC HEARING**, on the Petition from Lightpath, to install underground cable in conduit and other equipment within the public way on Cedar Hill Street near D'Angelo Drive, be and is herewith referred to the **PUBLIC SERVICES COMMITTEE**.

ADOPTED

ORDER NO. 23-1008925

RECEIVED
CITY CLERK'S OFFICE
CITY OF MARLBOROUGH
2023 JUN 16 AM 11:28

ORDER FOR UNDERGROUND FIBER OPTIC CABLE FACILITIES

By the City Council of the City of Marlborough, Massachusetts, as provided by law,

Notice having been given and public hearing held, as provided by law, it is hereby

That **LIGHTPATH** is hereby granted location for permission to install and maintain fiber optic telecommunications facilities in the public way or ways hereinafter referred to as requested in petition of said company, dated ___ day of _____, 2023.

All construction under this order shall be in accordance with the following conditions:

WORK TO BE PERFORMED: Install proposed CNS riser on existing utility pole #23 across from 72 Cedar Hill Street and route fiber cable down the pole and trench and install approximately 315' of (1) 4" conduit along north side of Cedar Hill Street to the intersection with D'Angelo Drive where a proposed 36" x 36" x 36" CNS handhole is being installed. From the handhole, trench and install in two directions: 1) Approximately 140' of (1) 4" conduit along the south side of Cedar Hill Street to utility pole #20 where a proposed CNS riser is being installed; 2) Approximately 181' of (1) 4" conduit along the south side of D'Angelo Drive to a proposed utility pole adjacent to the CSX train tracks where a proposed CNS riser is being installed as well.

and

WORK TO BE PERFORMED: Install proposed CNS riser on existing utility pole #28 adjacent to the parking lot of 40 Cedar Hill Street.

All construction and restoration will be consistent with the requirements of the City of Marlborough and street conditions will be restored to equal or better condition.

Said locations will be in accordance with the plans marked: "**PROPOSED CONDUIT INSTALLATION AT 100 CEDAR HILL ROAD, IN MARLBOROUGH, MA**".

Cable and wires may be placed in the conduit covered by this order along the named public ways constructed thereon under this order.

I hereby certify that on _____, 2023 at ___ o'clock ___ M at _____ a public hearing was held on this petition.

CERTIFICATE

I hereby certify that the foregoing order was adopted by the City Council of the City of Marlborough, Massachusetts, on the ___ day of _____, 2023 and recorded with the records of location orders of said City, Book _____, Page _____.

This certified copy is made under the provisions of Chapter 166 of General Laws and any additions thereto or amendments thereof.

Attest: _____
City Clerk

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Attest: _____
City Clerk

ADDRESS: 100 CEDAR HILL ST
MARLBOROUGH, MA 01752

COUNTY: MIDDLESEX COUNTY

PROJECT NAME: CEDAR HILL STREET AT D'ANGELO DRIVE



SITE LOCATION

ENGINEERING FIRM

TOTALLY COMMITTED.

NB+C ENGINEERING SERVICES, LLC.
100 APOLLO DRIVE, SUITE 303
CHILMARK, MA 01924
(978) 956-8308

APPLICANT

CAMBRIDGE NETWORK SOLUTIONS

CNS PROJECT MANAGER:
PAULIE POLACKE

NB+C PROJECT MANAGER:
DAN CORNING

NB+C PROJECT NUMBER:
100939

NB+C PROJECT NAME:
CEDAR HILL STREET AT D'ANGELO DR

SITE ADDRESS:
100 CEDAR HILL STREET
MARLBOROUGH, MA 01752
CITY OF MARLBOROUGH
MIDDLESEX COUNTY

REVISIONS		
DATE	DESCRIPTION	INITIAL
04/11/23	PRELIMINARY	CM
03/17/23	REVISED ROUTING	DFR

PE STAMP & APPROVAL

CONTACTS

NB+C CONTACT:
NAME: DAN CORNING
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EMAIL: dcorning@nb+c.com

CNS CONTACT:
NAME: PAULIE POLACKE
PHONE: 781-526-3027
EMAIL: paulie.polacke@chpsfiber.com

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01	COVER SHEET/SITE LOCATION
02	LEGEND
03	GENERAL NOTES
04	PROJECT SHEEP OSP
05	TYPICAL UNDERGROUND DETAILS

AS-BUILTS

ORIGINAL:

REVISED:

SHEET: 01 OF 05

COVER SHEET/
SITE LOCATION

LINETYPES

	2 COUNT FIBER OPTIC CABLE
	6 COUNT FIBER OPTIC CABLE
	12 COUNT FIBER OPTIC CABLE
	24 COUNT FIBER OPTIC CABLE
	48 COUNT FIBER OPTIC CABLE
	96 COUNT FIBER OPTIC CABLE
	144 COUNT FIBER OPTIC CABLE
	288 COUNT FIBER OPTIC CABLE
	432 COUNT FIBER OPTIC CABLE
	864 COUNT FIBER OPTIC CABLE
	1728 COUNT FIBER OPTIC CABLE
	EXISTING UG FIBER OPTIC CABLE
	PROPOSED UG CONDUIT (DIRECTIONAL BORE)
	PROPOSED UG CONDUIT (OPEN-CUT TRENCH)
	PROPOSED AERIAL STRAND
	EXISTING CONDUIT
	PROPOSED CONDUIT
	EXISTING INNERDUCT
	PROPOSED INNERDUCT
	PROPOSED ELECTRIC
	PVC CONDUIT
	PROPOSED UG FIBER OPTIC CABLE
	TELEPHONE
	UNDERGROUND ELECTRIC
	GAS
	WATER
	SANITARY SEWER
	STORM DRAIN
	STEAM PIPE
	UNKNOWN UTILITY
	EDGE OF PAVEMENT
	RIGHT-OF-WAY
	PROPERTY LINE
	MUNICIPAL BOUNDARY
	COUNTY BOUNDARY
	CHAIN-LINK FENCE
	WOOD FENCE
	GUARD RAIL
	STONE WALL
	STREAM / RIVER
	TREELINE
	RAILROAD TRACKS
	CENTERLINE

SYMBOLS

	TERMINATION (FIBER DISTRIBUTION PANEL)
	PROPOSED AERIAL STORAGE LOOP
	EXISTING AERIAL STORAGE LOOP
	PROPOSED UNDERGROUND STORAGE COIL
	EXISTING UNDERGROUND STORAGE COIL
	PROPOSED FIBER OPTIC SPLICE POINT
	EXISTING FIBER OPTIC SPLICE POINT
	PROPOSED HANDHOLE / VAULT
	EXISTING HANDHOLE / VAULT
	PROPOSED MANHOLE
	EXISTING MANHOLE
	PROPOSED BORE PIT
	PROPOSED TEST PIT
	PROPOSED POLE RISER
	EXISTING POLE RISER
	PROPOSED DOWN GUY WITH ANCHOR
	PROPOSED DOWN GUY WITH EXISTING ANCHOR
	EXISTING DOWN GUY WITH ANCHOR
	PROPOSED POLE TO POLE GUY
	EXISTING POLE TO POLE GUY
	PROPOSED OVERHEAD GUY
	EXISTING OVERHEAD GUY
	ELECTRIC HANDHOLE / VAULT
	TELCO HANDHOLE / VAULT
	TELCO PEDESTAL
	PROPOSED POLE GROUND (1ST, LAST & EVERY 10TH POLE)
	EXISTING POLE GROUND

SYMBOLS

	PHOTO VIEW CALLOUT
	EXISTING BUILDING
	PROPOSED UTILITY POLE
	TELEPHONE POLE
	JOINT USE POLE
	JOINT USE WITH TRANSFORMER POLE
	ELECTRIC POLE
	ELECTRIC WITH TRANSFORMER POLE
	LIGHT POLE
	CONCRETE POLE
	STEEL POLE
	FIBERGLASS POLE
	CATCH BASIN / STORM DRAIN / INLET
	WATER VALVE
	WATER MANHOLE
	FIRE HYDRANT
	GAS VALVE
	GAS MANHOLE
	TELCO MANHOLE
	ELECTRIC MANHOLE
	UNKNOWN UTILITY MANHOLE
	STORM DRAIN MANHOLE
	SANITARY SEWER MANHOLE
	TREE
	TRANSFORMER ON PAD
	ELECTRIC METER
	ELECTRIC DISTRIBUTION PANEL

ENGINEERING FIRM

NEC
TOTALLY COMMITTED.
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REVISIONS

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05/12/23	REVISED ROUTING	DFR

PE STAMP & APPROVAL

CONTACTS

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EMAIL: dcorning@cns-llc.com

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NAME: PAULIE POLACKE
PHONE: 781-526-3027
EMAIL: paulie.polacke@lightpathfiber.com

AS-BUILTS

ORIGINAL:	
REVISED:	

SHEET: 02 OF 05

LEGEND

GENERAL NOTES:

- CONTRACTOR MUST OBTAIN LOCATES PRIOR TO DISTURBING THE GROUND.
- CONTRACTOR MUST HAVE A COPY OF THE APPROVED PERMIT FROM THE APPROPRIATE AGENCY ON THE JOBSITE AT ALL TIMES.
- ALL CABLE WILL BE PLACED AT STANDARD MINIMUM DEPTH TO BE IN ACCORDANCE WITH ALL AUTHORITIES HAVING JURISDICTION.
- ANY LANDSCAPING WILL BE REPLACED TO EQUAL OR BETTER THAN THAT WHICH EXISTED PRIOR TO WORK.
- PROJECT SITE WILL BE PROPERLY SECURED PRIOR TO THE END OF EACH DAY.
- ALL WORK IS TO BE IN ACCORDANCE WITH ALL AUTHORITIES HAVING JURISDICTION IN THE WORK ZONE.
- CONTRACTORS ARE ADVISED TO CONTACT CNS FOR ANY ADDITIONAL INFORMATION OR CLARIFICATION CONCERNING SCOPE OF WORK OR THE REQUIREMENTS NECESSARY FOR PROJECT COMPLETION.
- CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY ALL DIMENSIONS, QUANTITIES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION. IF A SIGNIFICANT CHANGE TO THE RUNNING LINE IS NEEDED, PLEASE CONTACT YOUR CNS REPRESENTATIVE BEFORE PROCEEDING.
- BEFORE CONSTRUCTION BEGINS, CONTRACTOR SHALL TAKE APPROPRIATE PRECAUTIONS TO AVOID ANY POTENTIAL OBSTRUCTIONS PRIOR TO PROCEEDING WITH WORK.
- NO CONSTRUCTION ON PRIVATE PROPERTY WILL COMMENCE UNTIL APPROVAL IS GIVEN BY THE APPROPRIATE CNS EMPLOYEE.
- CONTRACTOR SHALL NOT PROCEED WITH WORK UNTIL THEY HAVE RECEIVED A PURCHASE ORDER AND HAVE BEEN DIRECTED TO DO SO BY AN AUTHORIZED CNS REPRESENTATIVE.
- CONTRACTOR SHALL NOT EXCEED THE PURCHASE ORDER VALUE WITHOUT AUTHORIZATION IN WRITING FROM THE APPROPRIATE CNS REPRESENTATIVE.
- AS-BUILTS WILL BE REQUIRED FOR EACH PROJECT INCLUDING SLACK LOOP, SPLICE LOCATION, POLE AND TOWER/TERMINATION POINT. CONTRACTOR SHOULD ALSO PROVIDE NOTES OF ALL CHANGES IN DEPTHS, RUNNING LINES, M/H/M LOCATIONS, AND ANY OTHER APPLICABLE NOTES TO DEPICT THE WORK THAT TOOK PLACE. NOTE: ALL MAJOR CHANGES NEED TO BE PRE-APPROVED BY AN AUTHORIZED CNS EMPLOYEE PRIOR TO STARTING THE WORK.

SITE CONDITIONS:

THE ACTUAL LOCATION OF EXISTING CONDUIT AND CABLES MAY VARY FROM THE LOCATION SHOWN. REPAIR OF ANY DAMAGED CONDUIT CONTAINING CABLE SHALL BE MADE BY USE OF PVC SPLIT DUCT. THE CONTRACTOR SHALL ENCASE THE EXISTING CABLES IN PVC.

THE LOCATIONS OF EXISTING UTILITIES SHOWN IN THIS PLAN ARE APPROXIMATE. WHEN WORK IS TO BE CONDUCTED IN THE VICINITY OF KNOWN UTILITIES, THEIR ACTUAL LOCATION MUST BE FIELD VERIFIED TO AVOID CONFLICTS OR DAMAGE TO THOSE UTILITIES. VARIATION IN LOCATION BETWEEN "RECORDED POSITIONS" AND ACTUAL POSITIONS SHOULD BE ANTICIPATED.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES. BURIED UTILITIES MAY EXIST IN THE AREA IN ADDITION TO THOSE SHOWN ON THE PLAN. THE CONTRACTOR SHALL CONTACT PROPERTY OWNERS WHEN WORKING WITHIN PRIVATE EASEMENTS FOR LOCATION OF UNDERGROUND TANKS, PIPELINES, ORAIN TILES, OR OTHER BURIED IMPROVEMENTS. THE CONTRACTOR SHALL ALSO NOTIFY THE UTILITY NOTIFICATION CENTER PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITIES.

THE CONTRACTOR MUST ASSUME ALL BURIED UTILITIES ENCOUNTERED ARE ALIVE AND ACTIVE UNLESS SPECIFICALLY INSTRUCTED OTHERWISE BY THE OWNERS OR OPERATORS OF SAID UTILITIES.

DAMAGE TO SUB-SURFACE STRUCTURES IS THE SOLE RESPONSIBILITY OF THE PLACING CONTRACTOR.

THE CONTRACTOR SHALL PROTECT THE EXISTING TRAFFIC CONTROL LOOPS. IF EXISTING TRAFFIC CONTROL LOOPS ARE DAMAGED DURING CONSTRUCTION, THE ENTIRE LOOP/WIRE FROM TERMINAL SHALL BE REPLACED IN ACCORDANCE WITH GOVERNING AGENCY STANDARDS AND REGULATIONS AT CONTRACTOR'S EXPENSE.

REMOVAL OF EXISTING ASPHALT PAVEMENT, CONCRETE CURBS, AND CONCRETE SIDEWALKS WILL BE "NEAT LINE" WITH SAW OR PAVENT CUTTER. PER REQUIREMENTS AND SPECIFICATIONS OF THE AGENCY OR DEPARTMENT RESPONSIBLE FOR EACH LOCATION. IF CONCRETE PAVEMENT IS ENCOUNTERED WHILE EXCAVATING CONDUIT TRENCHES, THE CONCRETE REMOVAL WILL BE "NEAT LINE" WITH A PAVEMENT SAW.

IF CONCRETE CURB RETURNS AND/OR SIDEWALKS ARE REPLACED DUE TO CONDUIT OR MANHOLE INSTALLATION, THE CONTRACTOR SHALL PLACE APPROVED HAND-CAPPED SIDEWALK AND CURB ACCESS RAMPS IN CONFORMANCE WITH STATE STATUTES.

ALL MATERIALS NECESSARY FOR REPAIR OF CURBS, SIDEWALKS, SANITARY SEWERS, STORM SEWERS, AND PUBLIC SERVICE UTILITIES AND THE INSTALLATION OF SUCH MATERIALS SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE AGENCY OR DEPARTMENT RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE REPAIRED FACILITY.

ALL WORK SHALL CONFORM TO THE SPECIFICATIONS OF THE JURISDICTIONAL PERMIT AGENCY.

ALL SURFACES TO BE RESTORED TO ORIGINAL CONDITION, AND BACKFILL TO BE COMPACTED AS SPECIFIED. TRENCH EXCAVATION IN SURFACES WHICH INCLUDE CONCRETE TREATED BASE SHALL FOLLOW LOCAL AREA SPECIFICATIONS

HAZARDOUS MATERIAL:

THE CONTRACTOR SHALL NOTIFY THE JURISDICTIONAL PERMIT AGENCY IMMEDIATELY IF ANY MATERIAL ARE ENCOUNTERED THAT ARE CONSIDERED BY THE EPA, OEL, OR OSHA. IF POTENTIALLY HAZARDOUS MATERIALS ARE ENCOUNTERED THE CONTRACTOR SHALL SECURE THE SITE AND PREVENT THE ACCIDENTAL EXPOSURE BY THE PUBLIC OR THE CONTRACTOR'S PERSONNEL.

THE CONTRACTOR MAY EXCAVATE UP TO, BUT SHALL NOT DISTURB KNOWN HAZARDOUS MATERIALS SUCH AS ASBESTOS, OILS, ACID, ETC. THE REMOVAL OF ALL HAZARDOUS MATERIALS MUST BE DONE BY AN APPROVED OR CERTIFIED HAZARDOUS MATERIALS CONTRACTOR LICENSED BY THE STATE.

A COPY OF ALL CORRESPONDENCE PERTINENT TO THE REMOVAL OF HAZARDOUS MATERIALS SHALL BE TRANSMITTED TO OWNER AND A COPY SHALL BE AVAILABLE AT THE PROJECT OFFICE AND THE JOB SITE.

AERIAL NOTES:

- AERIAL CONSTRUCTION TO BE PERFORMED TO INDUSTRY ACCEPTABLE STANDARDS.
- ALL HEIGHTS OF CABLE PLACEMENT WILL BE RECORDED AT THE TIME OF CONSTRUCTION.
- DOCUMENT ALL POINTS OF ATTACHMENT.
- 6.6M STRAND WILL BE USED WITH STANDARD 5/8" HARDWARE.
- ALL EXTENSION ARMS TO BE PLACED WILL BE EPoxy ARMS UNLESS OTHERWISE NOTED OR APPROVED BY THE INSPECTOR.
- BOND STRAND TO POWER WGN WHERE APPLICABLE.
- ANCHORS TO BE USED WILL BE 3/4" SCREW IN TYPE.
- ALL STRAPS WILL BE PLACED 4" BEFORE AND AFTER EVERY SUPPORTING CLAMP AT MINIMUM OF 21" APART.
- P.O.A = POINT OF ATTACHMENT
- ADD MISSING GROUNDS
- REPAIR/REPLACE EXISTING LASHING WIRE IF DAMAGED.

CONSTRUCTION STAKES:

IN AREAS WHERE THE CONDUIT ALIGNMENT IS NOT CLEARLY DEFINED BY CURB LINES, FENCE LINES, OR OTHER EVIDENCE OF THE RIGHT-OF-WAY, THE ENGINEER WILL PROVIDE CENTERLINE STAKES OR PAINT MARKS WHERE REQUIRED TO MAKE THE PROPOSED CONDUIT ALIGNMENT EVIDENT.

CLOSURES IDENTIFIED IN THE PLANS SHALL BE LOCATED BY THE CONTRACTOR. DEVIATION FROM PLAN LAYOUT SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONDUIT AND/OR CLOSURE INSTALLATION.

MANHOLE CENTERS WILL BE FIELD STAKED BY THE ENGINEER WHEN REQUESTED WITH OFFSET STAKES AT RIGHT ANGLES TO THE CONDUIT ALIGNMENT.

IF ADDITIONAL FIELD STAKING OR LOCATION OF CONDUITS, MANHOLES, PROPERTY LINES, ETC. BECOMES NECESSARY, THE CONTRACTOR IS TO NOTIFY THE INSPECTOR OR THE ENGINEER TWO WORKING DAYS PRIOR TO BEGINNING THE WORK.

PERMITS-FRANCHISES-EASEMENTS:

PHYSICAL WORK SHALL NOT BE STARTED UNTIL THE GOVERNING AGENCY INSPECTOR AND THE CONTRACTOR ARE IN POSSESSION OF AND HAVE CAREFULLY REVIEWED AND FULLY UNDERSTAND ALL CONDITIONS AND SPECIFICATIONS SET FORTH IN THE REQUIRED PERMIT, FRANCHISES, AND/OR EASEMENTS.

PLACING FOREMAN TO HAVE A COPY OF THE PERMITS/EASEMENTS ON SITE ALL TIMES

ANY CONFLICT BETWEEN WORK PRINT SPECIFICATIONS AND SPECIFICATIONS SET FORTH UNDER RELATED PERMITS, FRANCHISES, AND/OR EASEMENTS MUST BE CLEARED BY PROPER COMPANY AUTHORITY BEFORE PROGRESSING WITH WORK INVOLVED.

TRAFFIC CONTROL:

THIS PROJECT WILL INVOLVE WORKING ALONG A MAJOR ARTERIAL ROAD AND HEAVY TRAFFIC VOLUME SHOULD BE ANTICIPATED.

UNIFORM TRAFFIC FLOW SHALL BE MAINTAINED AT ALL TIMES. ONLY EQUIPMENT AND MATERIALS NECESSARY FOR IMMEDIATELY SCHEDULED OR IN PROGRESS WILL BE MAINTAINED IN THE WORK AREA. ALL OTHER EQUIPMENT AND MATERIAL WILL BE "STORED OR STOCKPILED" IN SUCH A MANNER AS TO ELIMINATE HAZARDOUS CONDITIONS FOR TRAFFIC OR PEDESTRIANS DURING NON-WORKING OR SHUT DOWN PERIOD.

TRAFFIC WARNING DEVICES AND SIGNS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (US GOVERNMENT PRINTING OFFICE) AND TO THE STATE'S MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. HIGH LEVEL WARNING TYPE DEVICES ARE TO BE USED AT TIMES AND SPECIAL WARNING DEVICES MAY BE STIPULATED BY THE JURISDICTIONAL PERMIT AGENCY AT ANY TIME THE USE WILL ADD TO THE SAFETY AND PROTECTION OF TRAFFIC OR PEDESTRIANS IN THE CONSTRUCTION AREA.

ALL CONDUIT TRENCHING IN PAVED AREAS SHALL BE BACKFILLED WITH CRUSHED GRAVEL OR COMPLETELY COVERED AT THE COMPLETION OF EACH WORKING DAY. ANY BACKFILLED TRENCH SHALL BE CAPPED WITH A MINIMUM LAYER OF ASPHALTIC CONCRETE COLD PATCH AT THE END OF EACH WORKING DAY.

THE CONTRACTOR SHALL MARK THE CONDUIT TRENCH AND DEFINE HIS CONSTRUCTION AREA CLEARLY WITH BARRICADES, CONES, AND/OR OTHER VISIBLE METHODS THAT ALERT THE PUBLIC OF THE CONSTRUCTION ACTIVITY.

A TRAFFIC CONTROL PLAN SHALL BE PREPARED BY THE CONTRACTOR AS REQUIRED AND SUBMITTED TO EACH PERMITTING AGENCY REQUESTING SUCH PLAN FOR REVIEW AND APPROVAL OR REVISION PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITY FOR THIS PROJECT. THE APPROVED PLAN SHALL BE SUBMITTED TO THE AGENCY AND A COPY OF THE PLAN SHALL BE KEPT AT THE CONSTRUCTION SITE AND MUST BE AVAILABLE FOR REVIEW BY AGENCY REPRESENTATIVES.

SPECIAL UTILITY CLEARANCES:

ALL WORK CONDUCTED ADJACENT TO WATER MAINS SHALL CONFORM TO FOLLOWING CONDITIONS.

- WHENEVER POSSIBLE CONDUIT SHALL MAINTAIN A CNSTAL SEPARATION OF 3', MEASURED SURFACE (OUTSIDE EDGE TO OUTSIDE EDGE) FROM PARALLEL WATER MAINS.
- WHENEVER POSSIBLE CONDUIT SHALL PASS UNDER EXISTING WATER MAINS AND MUST MAINTAIN 12" VERTICAL CLEAR SEPARATION. CONDUIT PASSING OVER WATER MAINS MUST ALSO MAINTAIN THE 12" VERTICAL SEPARATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING THIS REQUIRED VERTICAL SEPARATION BY EITHER EXPOSING THE WATER MAIN EVERY 100 FEET IN THOSE AREAS WHERE CNSTAL SEPARATION IS LESS 3 FEET OR BY UTILIZING THE DEPTHS OF ADJACENT WATER VALVES. IF THE CONTRACTOR UTILIZES THE ADJACENT WATER TO DETERMINE WATER MAIN DEPTH, HE SHALL CONTACT THE AGENCY AT EACH SUCH LOCATION AND THE AGENCY WILL DETERMINE THE NECESSARY DEPTH OF THE TOP OF THE CONDUIT AT THAT POINT.
- THE VERTICAL AND CNSTAL SEPARATION SHALL BE MAINTAINED AT ALL TIMES UNLESS SPECIFICALLY REVISED BY AGREEMENT BETWEEN THE JURISDICTIONAL PERMIT AGENCY AND THE AGENCY. ANY SPECIFIC DEVIATION IN VERTICAL AND CNSTAL SEPARATION FROM THOSE DESCRIBED SHALL BE REPORTED TO THE OWNER BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING VERTICAL AND CNSTAL SEPARATION AT ALL TIMES AND SHALL BE RESPONSIBLE FOR ANY AND ALL ENCROACHMENTS.
- CLEARANCES TO STORM SEWERS AND SANITARY SEWERS SHALL BE EXACTLY THE SAME AS THOSE TO WATER MAINS.

STRUCTURE PROTECTION:

MANHOLES AND CONDUIT TO BE PLACED ADJACENT TO EXISTING STRUCTURES SUCH AS BRIDGE, BRIDGE FOOTING/PIERS FOUNDATIONS, WALLS, POWER AND TELEPHONE POLES, AND OTHER UTILITIES SHALL MAINTAIN A MINIMUM CLEARANCE AS SHOWN.

THE CONTRACTOR SHALL NOT UNDERMINE ANY ADJACENT STRUCTURE WITHOUT SPECIFIC WRITTEN PERMISSION FROM THE OWNER/OPERATOR OF SUCH STRUCTURE.

SHORING USED AS FOUNDATION SUPPORT SHALL BE DESIGNED SPECIFICALLY FOR BOTH THE LIVE AND DEAD LOADS OF THE STRUCTURE OR IF ONLY THE DEAD IS USED FOR DESIGN. THE CONTRACTOR SHALL PROVIDE A DETAILED LAYOUT AND PLAN OF THE METHOD OF ESTABLISHING AND MAINTAINING THE DESIGN LOAD CONDITIONS (I.E. ROAD DETOURS, TIEBACKS, ETC).

SEE UTILITY CLEARANCE SECTION NOTES FOR CLEARANCE CRITERIA TO PARALLEL OR CROSS UTILITIES.

EXISTING UTILITIES EXPOSED DURING EXCAVATION SHALL BE 100% SUPPORTED BY EITHER TRENCH BRIDGING AND SUSPENSION OR BY THE USE OF LONGITUDINAL TRAYS OR PLATFORMS VERTICALLY SUPPORTED BY ADJUSTABLE BUILDING JACKS.

EXISTING SPLICE CASES AND CABLES SHALL BE SUPPORTED BY SUSPENSION FROM A CROSSING BEAM. SUPPORTS SHALL BE PLACED AT A MAXIMUM SPACING OF 4 FEET AND SHALL CONSIST OF A CARWAS SLUNG WITH NYLON BELTING OR ROPE. ALL CABLE SUPPORTS SHALL BE PLACED IN A MANNER THAT PREVENTS KINKS OR OTHER DAMAGE TO THE CABLE SHEATH.

AN ACCEPTABLE ALTERNATE TO CABLE SLINGS WOULD BE THE UTILIZATION OF A WIDE FLANGE "T" BEAM OR CHANNEL AS A "CABLE TRAY" WITH CABLES/CASES BANDED IN PLACE.

SHORING:

THE CONTRACTOR SHALL PROVIDE SHORING FOR CONDUIT TRENCH EXCAVATION 42" OR MORE IN DEPTH AS MEASURED FROM THE HIGH SIDE OF THE TRENCH AND FOR ALL MANHOLE EXCAVATION.

MANHOLE SHORING SHALL BE TIGHT-SHEETED

ALL SHORING SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF LOCAL COUNTY AND THE OCCUPATIONAL SAFETY HEALTH ADMINISTRATION.

THE CONTRACTOR SHALL PROVIDE ALL SHORING AND DESIGN CALCULATIONS TO THE PERMIT ISSUING AGENCY PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITY.



INBIC ENGINEERING SERVICES, LLC.
180 ASHOLD DRIVE, SUITE 303
CHELSEA/FORD, MA 01824
(978) 656-3308



CNS PROJECT MANAGER:
PAULIE POLACKE
NB+C PROJECT MANAGER:
DAN CORNING
NB+C PROJECT NUMBER:
100939
NB+C PROJECT NAME:
CEDAR HILL STREET AT D'ANGELO DR

SITE ADDRESS:
100 CEDAR HILL STREET
MARLBOROUGH, MA 01752
CITY OF MARLBOROUGH
MIDDLESEX COUNTY

REVISONS		
DATE	DESCRIPTION	INITIAL
04/11/23	PRELIMINARY	CM
05/11/23	REVISED ROUTING	DFR

PE STAMP & APPROVAL

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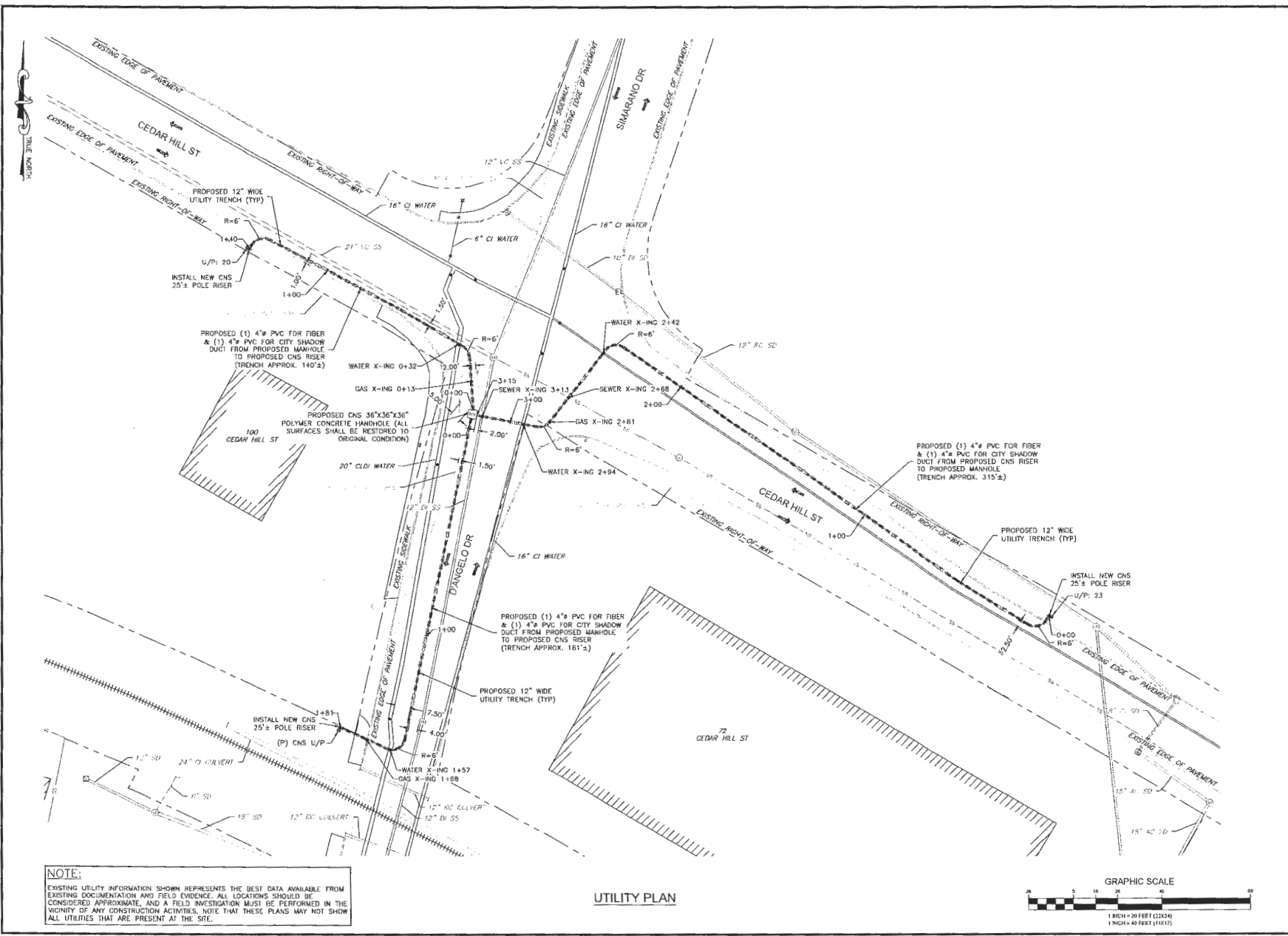
THE CONTRACTOR SHALL PROVIDE SHORING FOR CONDUIT TRENCH EXCAVATION 42" OR MORE IN DEPTH AS MEASURED FROM THE HIGH SIDE OF THE TRENCH AND FOR ALL MANHOLE EXCAVATION.

CONTACTS	
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	EMAIL: paulie.polacke@6ghfiber.com

AS-BUILTS	
ORIGINAL:	
REVISED:	

SHEET: 03 OF 05

GENERAL NOTES



ENGINEERING FIRM
NBIC
 TOTALLY COMMITTED.
 NBIC ENGINEERING SERVICES, LLC.
 100 APOLLO DRIVE, SUITE 133
 CHILMARK, MA 01924
 (508) 456-6306

APPLICANT
CNS
 CAMBRIDGE NETWORK SOLUTIONS
 CNS PROJECT MANAGER:
 PAULIE POLACKE
 NBIC PROJECT MANAGER:
 DAN CORNING
 NBIC PROJECT NUMBER:
 100939
 NBIC PROJECT NAME:
 CEDAR HILL STREET AT D'ANGELO DR

SITE ADDRESS:
 100 CEDAR HILL STREET
 MARLBOROUGH, MA 01752
 CITY OF MARLBOROUGH
 MIDDLESEX COUNTY

REVISIONS

DATE	DESCRIPTION	INITIAL
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06/13/23	REVISED ROUTING	DFR

PE STAMP & APPROVAL

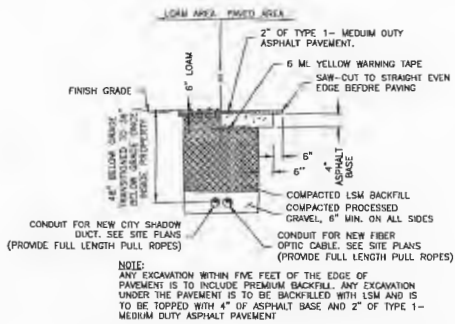
CONTACTS
 NBIC CONTACT:
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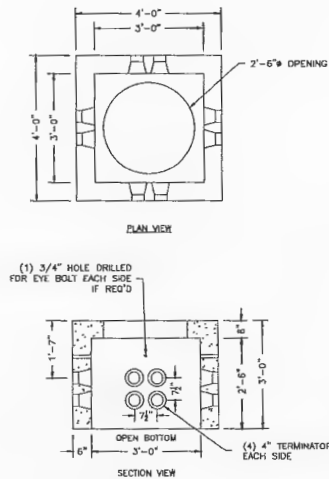
AS-BUILTS
 ORIGINAL:
 REVISED:

SHEET: 04 OF 05

PROJECT SHEET OSP

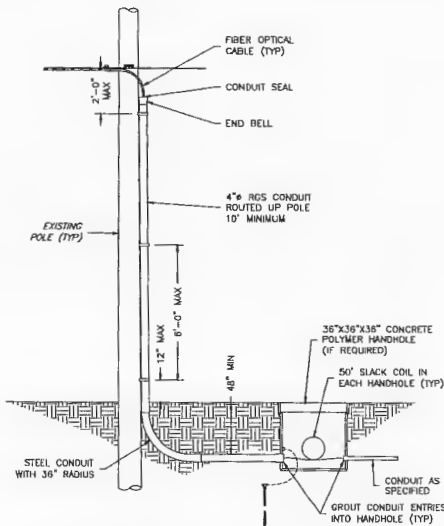


1 UTILITY TRENCH RESTORATION DETAIL
05 NOT TO SCALE

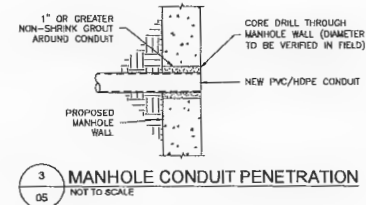


2 TYPICAL HANDHOLE 36"x36" H-20 DETAILS
05 NOT TO SCALE

- NOTES:
1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
 2. DESIGN LOADING: AASHTO HS20-44, 0 TO 5 FEET COVER.
 3. STEEL REINFORCEMENT CONFORMS TO ASTM A615, GRADE 60.
 4. MINIMUM STEEL COVER 1".
 5. OPTIONAL OPENINGS AVAILABLE BY SPECIAL ORDER.



4 AERIAL TO UNDERGROUND TRANSITION
05 NOT TO SCALE



5 TYPICAL UTILITY CROSSING BELOW
05 NOT TO SCALE

6 TYPICAL UTILITY CROSSING ABOVE
05 NOT TO SCALE

REVISIONS		
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05/12/23	REVISED ROUTING	DPR

PE STAMP & APPROVAL

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NAME: PAULIE POLACKE
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EMAIL: paulie.polacke@lightpathfiber.com

AS-BUILTS

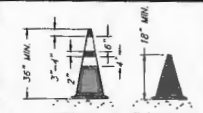
ORIGINAL:	
REVISED:	

SHEET: 05 OF 05

TYPICAL
UNDERGROUND
DETAILS



TRAFFIC LEGEND	
	WORK ZONE
	PROPOSED TRENCH
	CHANNELIZING DEVICE (CONE)
	DRUM
	SIGN
	POLICE DETAIL
	SINGLE PARKING METER
	DOUBLE PARKING METER
	TYPE 3 BARRICADE
	HIGH LEVEL WARNING DEVICE
	CONSTRUCTION VEHICLE
	TRUCK MOUNTED ATTENUATOR
	TRAFFIC FLOW
	PEDESTRIAN FLOW
	EXISTING MBTA BUS STOP
	RELOCATED MBTA BUS STOP
	PROPOSED HANDHOLE
	EXISTING LIGHT POLE
	EXISTING HANDHOLE
	FLAGGER



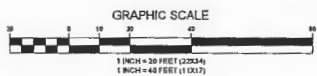
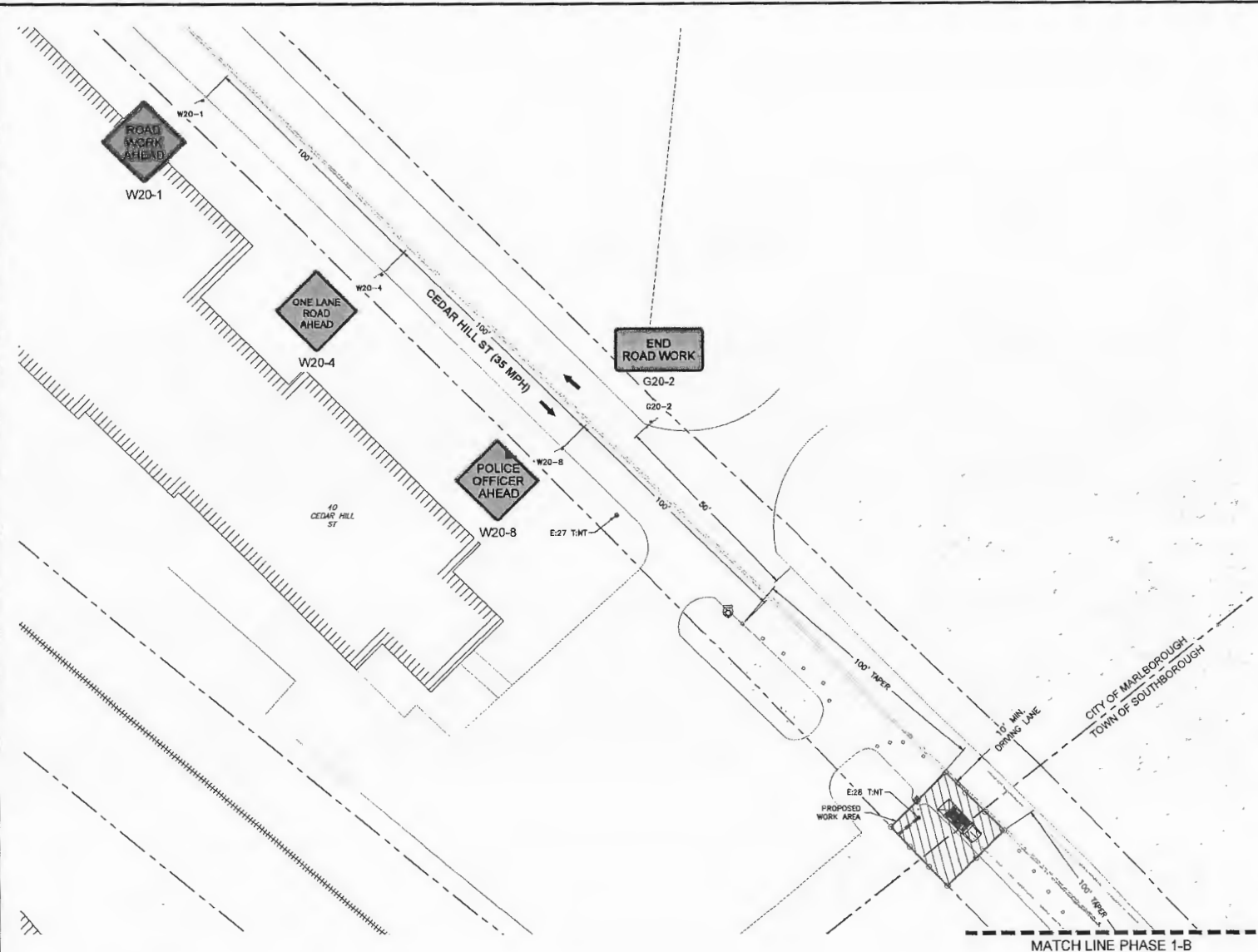
CHANNELIZING DEVICES - CONES (NTS)



FREE STANDING SELF SUPPORT SIGN (TYP.) (NTS)

REVISED 02/23
MARCH 2008 (REVISED) (1/2007)

NOTE: ALL WORK SIGNAGE TO BE MOUNTED ON SELF SUPPORTING STANDS OR BE ATTACHED TO EXISTING FIXTURES.



TRAFFIC MANAGEMENT PLAN

PHASE- 1-A

ENGINEERING FIRM
NB+C
 TOTALLY COMMITTED
 NB+C ENGINEERING SERVICES, L.L.C.
 100 ARNOLD DRIVE, SUITE 300
 CHELSEA, MA 01934
 (978) 850-8308

APPLICANT
CNS
 CAMBRIDGE NETWORK SOLUTIONS
 CNS PROJECT MANAGER:
 PAULIE POLACKE
 NB+C PROJECT MANAGER:
 DAN CORNING
 NB+C PROJECT NUMBER:
 100939
 NB+C PROJECT NAME:
 34 ST MARTIN DRIVE
 SITE ADDRESS:
 34 ST MARTIN DRIVE
 MARLBOROUGH, MA 01752
 CITY OF MARLBOROUGH
 MIDDLESEX COUNTY

REVISIONS		
DATE	DESCRIPTION	INITIAL
05/07/03	PRELIMINARY	CM

PE STAMP & APPROVAL

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 CNS CONTACT:
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 PHONE: 781-626-3027
 EMAIL: paulie.polacke@cityofmarlborough.com

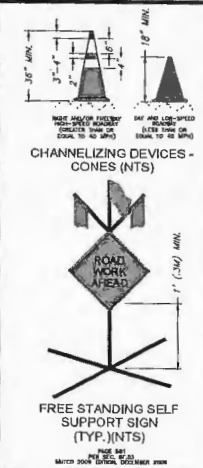
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 ORIGINAL: _____
 REVISED: _____

SHEET: 01 OF 02

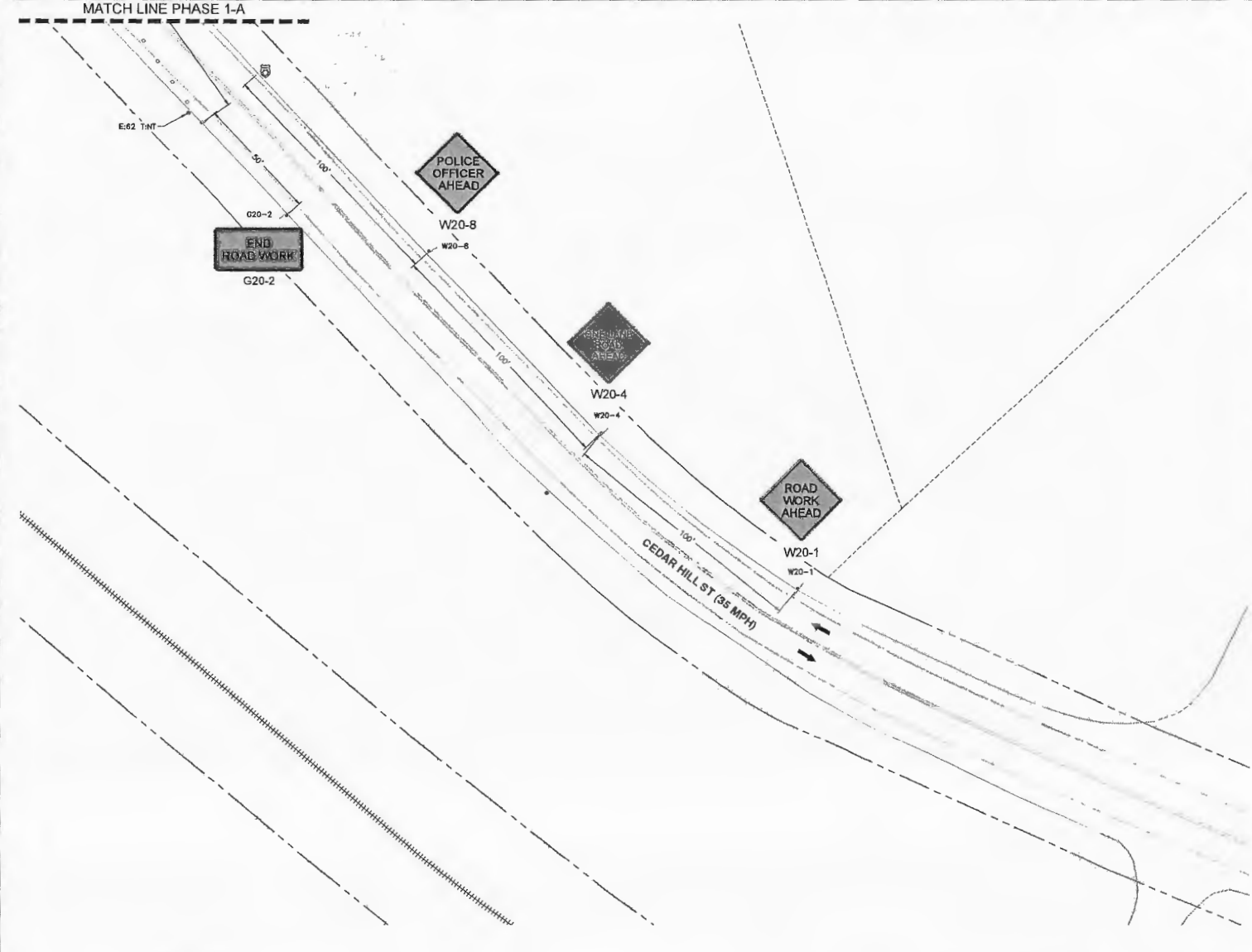
TRAFFIC MANAGEMENT PLAN



TRAFFIC LEGEND	
	WORK ZONE
	PROPOSED TRENCH
	CHANNELIZING DEVICE (CONE)
	DRUM
	SIGN
	POLICE DETAIL
	SINGLE PARKING METER
	DOUBLE PARKING METER
	TYPE 3 BARRICADE
	HIGH LEVEL WARNING DEVICE
	CONSTRUCTION VEHICLE
	TRUCK MOUNTED ATTENUATOR
	TRAFFIC FLOW
	PEDESTRIAN FLOW
	EXISTING MBTA BUS STOP
	RELOCATED MBTA BUS STOP
	PROPOSED HANDHOLE
	EXISTING LIGHT POLE
	EXISTING HANDHOLE
	FLAGGER



NOTE:
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TRAFFIC MANAGEMENT PLAN

PHASE- 1-B

ENGINEERING FIRM
NB+C
 TOTALLY COMMITTED.
 NB+C ENGINEERING SERVICES, LLC.
 100 APOLLO DRIVE, SUITE 201
 CHELSEA, MA 01824
 (978) 824-5358

APPLICANT
CNS
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 NB+C PROJECT NAME:
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 MIDDLESEX COUNTY

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AS-BUILTS	
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SHEET: 02 OF 02

TRAFFIC
 MANAGEMENT
 PLAN