Public Facilities Committee Agenda

City of Newton
In City Council

Wednesday, February 8, 2023

The Public Facilities Committee will hold this meeting as a hybrid meeting on Wednesday, February 8, 2023 at 7:00 pm. To view this meeting using Zoom use this link: https://us02web.zoom.us/j/82677843400 or call 1-646-558-8656 and use the following Meeting ID: 826 7784 3400 or join the committee at Newton City Hall in Room 205

Item Scheduled for Discussion:

Public Hearing

#49-23 **Eversource petition for Grant of Location in Centre St**

EVERSOURCE ENERGY petitioning for a grant of location to install one (1) hip guy and anchor and remove one (1) tree guy from pole 73/78 on the westerly side, at #912 Centre St. (Ward 7)

Public Hearing

#50-23 **Request for a grant of location in Pleasant St and Tyler Tr**

NATIONAL GRID petition for a grant of location to install and maintain gas main in Pleasant St and Tyler Tr as follows:

- 75' ± of 6" plastic main extending from the existing 6" cast iron (1916) main in Tyler Tr for new service at #75 Pleasant St.
- 60' ± of 2" plastic service line at #75 Pleasant St extending from the new 6" plastic main extension. (Ward 3)

#51-23 **Resolution for a Future without Gas and for Clean Heat**

COUNCILORS LEARY, HUMPHREY, BOWMAN, DOWNS, CROSSLEY, KALIS, GREENBERG, LIPOF, RYAN, LUCAS, KELLEY, WRIGHT, NORTON, ALBRIGHT, AND DANBERG presenting a Resolution supporting the creation of a city-wide plan to equitably achieve efficiencies, reduce emissions and risks of gas infrastructure and expediting electrification.

The location of this meeting is accessible and reasonable accommodations will be provided to persons with disabilities who require assistance. If you need a reasonable accommodation, please contact the city of Newton's ADA Coordinator, Jini Fairley, at least two business days in advance of the meeting: jfairley@newtonma.gov or (617) 796-1253. The city's TTY/TDD direct line is: 617-796-1089. For the Telecommunications Relay Service (TRS), please dial 711.

Referred to Public Facilities and Finance Committees

#58-23 **Appropriate $280,000 to Complete Phase 1 of the City's Phosphorus Control Plan**
HER HONOR THE MAYOR requesting authorization to appropriate and expend one hundred sixty thousand dollars ($160,000) from Stormwater- Full-time Wages Acct # 62A40101-511002 and one hundred twenty thousand dollars ($120,000) from Stormwater – Drainage System Acct # 62A40101 -586004 for a total of two hundred eighty thousand dollars ($280,000) to cover the completion of Phase 1 of the City's Phosphorus Control Plan.

Respectfully submitted,

Alison M. Leary, Chair

EVERSOURCE ENERGY

180 Calvary Street
Waltham, Ma 02453

January 5, 2023

City Council
City of Newton
1000 Commonwealth Avenue
Newton, MA 02459

RE: 912 Centre Street
Newton, MA
W.O.#10483974

Dear Members of the Council:

The enclosed petition and plan are being presented by the NSTAR ELECTRIC COMPANY dba EVERSOURCE ENERGY for the purpose of obtaining a Grant of Location to install a hip guy and anchor at 912 Centre Street.

This work is necessary to relocate the existing guy wire to a new location as the current location is a dead tree.

If you have any further questions, please contact Joanne Callender at (781) 314-5054. Your prompt attention to this matter would be greatly appreciated.

Very truly yours,

Richard M. Schifone

Richard M. Schifone
Right and Permits, Supervisor

RMS/HC
Attachments

CITY OF NEWTON
MASSACHUSETTS

PETITION for GRANT OF LOCATION

To the Petitioner:

City of Newton Ordinance Section 23-52 requires that each petition for grant of location be submitted to the City Council before it is sent to the Public Works Department for a preliminary review. The comments of the Public Works Commissioner will be part of the record submitted to the City Council. Upon filing with the City Council, the petition will be scheduled for a public hearing before the Public Facilities Committee of the City Council. **The petitioner is responsible for ensuring that the petition is complete, and all required materials are for review.** Attached please find the City Engineer's Standard Requirements for Plans and the Department of Public Works Permit Processing brochure.

Grant of Location Process:

1. Applicant submits completed Petition Form and required materials to the City Council
2. Public Works Department conducts preliminary review and gives written comments to the applicant
3. Engineering Division files Petition Form with comments with the Clerk of the City Council
4. City Council schedules petition for a public hearing before the Public Facilities Committee of the City Council
5. Public Facilities Committee recommendations are forwarded to the City Council for a final decision

Questions may be directed to:

Lou Taverna, City Engineer, 617-796-1020
Cassidy Flynn, Clerk of the Public Facilities Committee 617-796-1213

I. IDENTIFICATION (Please Type or Print Clearly)

Company Name NSTAR ELECTRIC DBA EVERSOURCE ENGERGY
Address 180 Calvary Street Waltham, MA 02453

Phone Number 617-776-7300 Fax Number 781-314-5165

Contact Person Richard M. Schifone Title Supervisor Rights and Permits

Signature *Richard M. Schifone* Date 1/5/2023

If a telecommunications company, indicate how certified by the Department of Telecommunications and Energy:

II. DESCRIPTION OF PROJECT: to be completed by petitioner

A. Write here or attach a description of the project including, location, proposed time frame for completion, type of materials to be used, benefit provided to the City, project mitigation plan as applicable, street reconstruction plan including timetable for completion.

Eversource to install hip guy and anchor at 912 Centre Street, Newton W.O.#10483974

B. Include or attach a sketch to provide a visual description of the project. If plans are attached, provide: Title of Plan CENTRE STREET, NEWTON Date of plan 10/19/2022.

III. PUBLIC WORKS DEPARTMENT REVIEW

Date received by Public Works Department January 5, 2023

Check One:

Minor Project ☑ Major Project ☐ Lateral ☐

(Refer to City Engineer Standard Requirements for Plans for definition of minor and major project)

Plans Submitted:

Certified Plot Plan ☐ Stamped Plans ☐

DATE AND COMMENTS:	RECOMMENDATIONS:
The existing pole needs a hip, guy and anchor for stability; the anchor is to be placed at the back edge of the sidewalk. The placement must conform to ADA & AAB minimum 3-ft. clearance. The plastic shield shall be high visibility. The contractor of record shall obtain a Sidewalk Crossing Permit w/DPW prior to any construction. Pedestrian access shall be accommodated for the duration in accordance with the DPW requirements.	Upon completion an as built shall be submitted to the DPW. All restoration shall be in kind to current standards. *John Daghlian, Associate City Engineer* *January 12, 2023*

V. RECOMMENDATION TO PUBLIC FACILITIES COMMITTEE:

Shawna Sullivan Digitally signed by Shawna Sullivan Date: 2023.01.12 12:40:45 -05'00'

Commissioner, Public Works

Date

PETITION OF NSTAR ELECTRIC DBA EVERSOURCE ENERGY AND OTHER COMPANIES FOR JOINT OR IDENTICAL LOCATIONS FOR POLES

To the **City Council** of the City of **Newton, Massachusetts**

Respectfully represent **NSTAR ELECTRIC COMPANY DBA EVERSOURCE ENERGY** and **VERIZON NEW ENGLAND INC.,** companies subject to Chapter 166 of the General Laws (Ter. Ed.), that they desire to construct a line upon, along and across the public way or ways hereinafter specified.

WHEREFORE, your petitioners pray that after due notice and hearing as provided by law the **CITY COUNCIL** may by Order grant your petitioners joint or identical locations for the erection or construction of poles, to be owned and used in common by them, and for such other fixtures as may be necessary to sustain or protect the wires of the line, said poles to be located, substantially as shown on the plan made by **T. Thibault dated October 19, 2022** and filed herewith, upon, along and across the following public way or ways of said City:

Centre Street - **Approximately 7.5 feet easterly from pole #73/38, approximately 108 feet north of Mill Street, install hip guy and anchor.**

W/O #10483974

Your petitioners agree to reserve space for one crossarm at a suitable point upon each of said poles for the telephone, fire and police signal wires owned by the City and used for municipal purposes.

NSTAR ELECTRIC COMPANY DBA EVERSOURCE ENERGY

By *Richard M. Schifone*
Richard M. Schifone, Supervisor
Rights and Permits

VERIZON NEW ENGLAND, INC.

By *Karen Levesque*
Karen Levesque / ROW Manager

Dated this 30 day of November 2022

City of **Newton,** Massachusetts

Received and filed _____, 2022

_____
City Clerk

ORDER FOR ALTERATION OF JOINT OR IDENTICAL LOCATIONS FOR EXISTING POLES **49-23**

To the City Council of the City of Newton, Massachusetts

WHEREAS, **NSTAR ELECTRIC COMPANY DBA EVERSOURCE ENERGY** and **VERIZON NEW ENGLAND INC**. have heretofore been granted a joint or identical location for, and have erected or constructed, a line consisting of wires, poles and such other fixtures as may be necessary to sustain or protect the wires of the line upon, along and across the public way or ways thereinafter specified, and have petitioned for an alteration in the location of certain said poles.

It is ORDERED that **NSTAR ELECTRIC COMPANY DBA EVERSOURCE ENERGY** and **VERIZON NEW ENGLAND INC.** be and hereby are granted joint location for said poles be altered so that hereafter said poles shall be located, substantially as shown on the plan on file with said petition for alteration in the location, upon, along and across the following public way or ways of said city:

Centre Street - Approximately 7.5 feet easterly from pole #73/38, approximately 108 feet north of Mill Street, install hip guy and anchor.

W/O #10483974

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

Poles shall be of sound timber and located as shown on a plan made by **T.Thibault** dated **October 19, 2022** on file with said petition. There may be attached to said poles by said **NSTAR ELECTRIC COMPANY DBA EVERSOURCE ENERGY** and by said **VERIZON NEW ENGLAND INC.** wires and cables necessary for the conduct of their business. All such wires and cables shall be placed at a height of not less than twenty feet from the ground.

A true record.

Attest:_____
City Clerk

Approved: _____ 2023

_____
Mayor

CERTIFICATE

We hereby certify that the foregoing Order was adopted after due notice and a public hearing as prescribed by Section 22 of Chapter 166 of the General Laws (Ter.Ed.), and any additions thereto or amendments thereof, to wit: -after written notice of the time and place of the hearing mailed at least seven days prior to the date of the hearing by the City Clerk to all owners of real estate abutting upon that part of the way or ways upon, along or across which the line is to be constructed under said Order, as determined by the last preceding assessment for taxation, and a public hearing held at **City Council** in said City on _____ day of _____ , 2023 at P.M.

_____
City Clerk

CERTIFICATE

I hereby certify that the foregoing are true copies of the Order of the City Council of the City of **Newton,** Massachusetts, duly adopted on the _____ day of _____ 2023, and recorded with the records of location Orders of said City, Book _____ Page _____ and of the certificate of notice of hearing thereon required by Section 22 of Chapter 166 of the General Laws (Ter. Ed.), and any additions thereto or amendments thereof, as the same appear of record.

Attest:_____

Clerk of the City of **Newton,** ,Massachusetts

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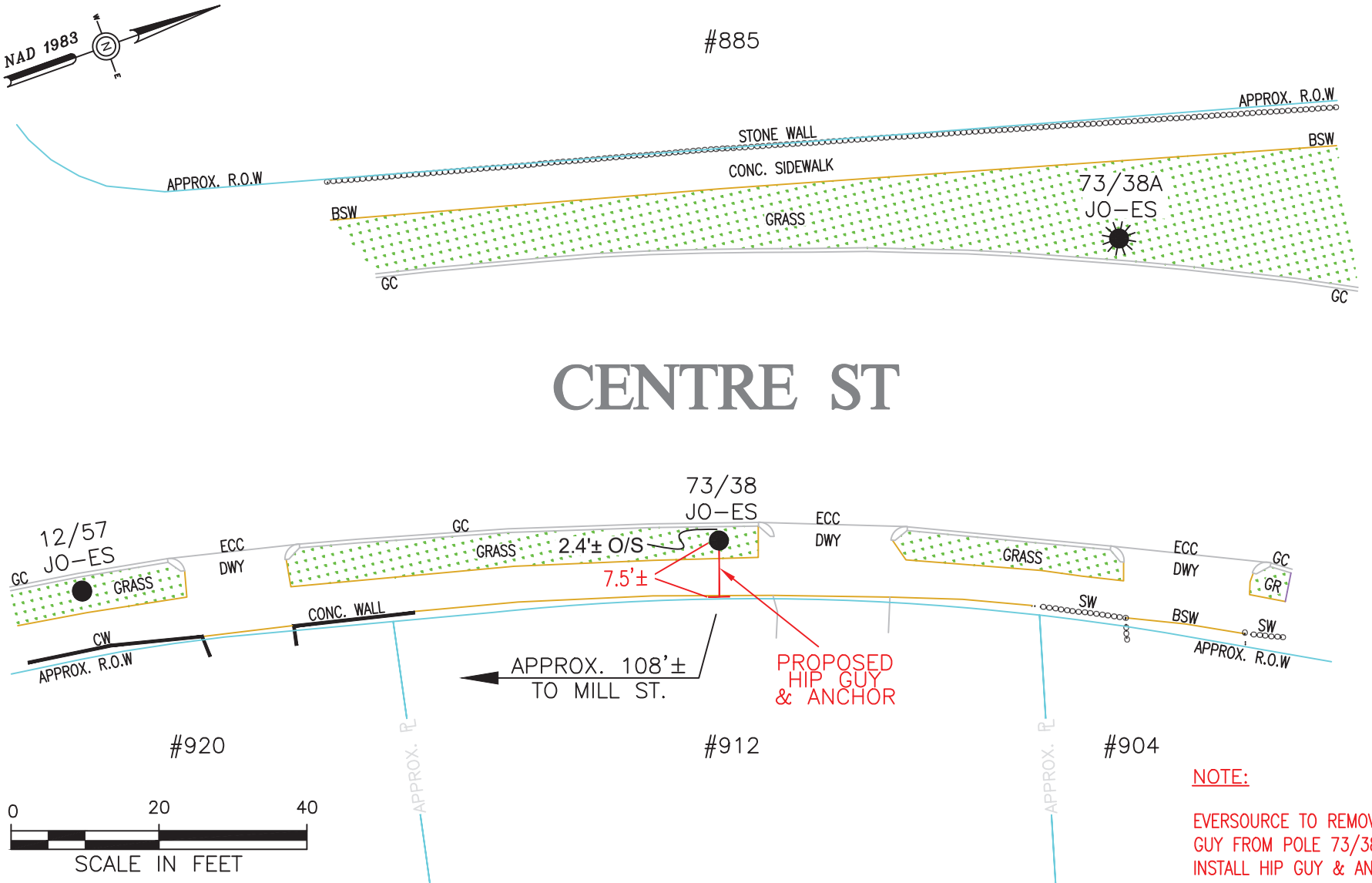


NOTE:

EVERSOURCE TO REMOVE TREE GUY FROM POLE 73/38 AND INSTALL HIP GUY & ANCHOR

Proposed pole locations shown thus	⊕
Pole locations to be abandoned, shown thus	○
Proposed Anchor Guy shown thus	T
Proposed Hip Guy shown thus	T⊕
Proposed Underground location shown thus	——
Proposed Push Brace shown thus	⊕
Existing Pole location shown thus	●

C#	
Ward #	
Work Order # 10483974	
Surveyed by: GC/SJ	
Research by: JC	
Plotted by: LM	
Proposed Structures: LM	
Approved: T THIBAULT	
P#	

NSTAR ELECTRIC d/b/a EVERSOURCE
1165 MASSACHUSETTS AVE. DORCHESTER, MASS. 02125

49-23

Plan of CENTRE ST
NEWTON

Showing PROPOSED HIP GUY & ANCHOR LOCATION

Scale 1"=20' Date OCTOBER 19, 2022

SHEET 1 of 1

TRUSTEES OF BOSTON
C/O JOS M HERLIHY
90 COLLEGE RD
CHESTNUT HILL, MA 02467

KLARFELD PATRICIA A
925 CENTRE ST
NEWTON, MA 02459

WOODS SETH TR
SETH WOODS 2010 TRUST
1175 CENTRE ST
NEWTON CENTRE, MA 02459

OGAS OGI
ALGHANEM TOFOOL
920 CENTRE ST
NEWTON, MA 02459

YANOVSKY VLADISLAV
904 CENTRE ST
NEWTON, MA 02459

ZIOLKOWSKI JAN MICHAEL
ZIOLKOWSKI ELIZABETH ANN
930 CENTRE ST
NEWTON, MA 02459

CITY OF NEWTON
MASSACHUSETTS

PETITION for GRANT OF LOCATION

To the Petitioner:

City of Newton Ordinance Section 23-52 requires that each petition for grant of location be submitted to the City Council before it is sent to the Public Works Department for a preliminary review. The comments of the Public Works Commissioner will be part of the record submitted to the City Council. Upon filing with the City Council, the petition will be scheduled for a public hearing before the Public Facilities Committee of City Council. **The petitioner is responsible for insuring that the petition is complete, and all required materials are in order for review.** Attached please find the City Engineer's Standard Requirements for Plans and the Department of Public Works Permit Processing brochure.

Grant of Location Process:

1. Applicant submits completed Petition Form and required materials to the City Council
2. Public Works Department conducts preliminary review and gives written comments to the applicant
3. Engineering Division files Petition Form with comments with the Clerk of the City Council
4. City Council schedules petition for a public hearing before the Public Facilities Committee of the City Council
5. Public Facilities Committee recommendations are forwarded to the City Council for a final decision

Questions may be directed to:

Lou Taverna, City Engineer, 617-796-1020
Cassidy Flynn, Clerk of the Public Facilities Committee 617-796-1213

I. IDENTIFICATION (Please Type or Print Clearly)

Company Name NATIONALGRID

Address 201 Rivermoor Street
West Roxbury, MA 02132

Phone Number 617-894-3896 Fax Number _____

Contact Person Mary Mulroney Title Permit Representative

Signature *Mary Mulroney* Date January 19, 2023
Person filing application

If a telecommunications company, indicate how certified by the Department of Telecommunications and Energy:

II. DESCRIPTION OF PROJECT: to be completed by petitioner

Write here or attach a description of the project including, location, proposed time frame for completion, type of materials to be used, benefit provided to the City, project mitigation plan as applicable, street reconstruction plan including timetable for completion.

Nationalgrid requests a Main Extension to install approximately 75 feet of 6- inch Plastic main extending from the existing 6 -inch Cast Iron (1916) main in Tyler Ter for new service at #75 Pleasant St.

Service Installation- Install approximately 60 feet of 2- inch, Plastic service at #75 Pleasant St extending from the new 6- inch, Plastic main extension.

A. Include or attach a sketch to provide a visual description of the project. If plans are attached, provide:
Title of Plan _____ Date of plan _____

III. PUBLIC WORKS DEPARTMENT REVIEW

Date received by Public Works Department January 20, 2023

Check One:

Minor Project ☑ Major Project ☐ Lateral ☐

(Refer to City Engineer Standard Requirements for Plans for definition of minor and major project)

Plans Submitted:

Certified Plot Plan ☐ Stamped Plans ☐

DATE AND COMMENTS:	RECOMMENDATIONS:
The contractor of record shall obtain a Sidewalk Crossing & Trench Permits w/DPW prior to any construction. Pedestrian access shall be accommodated for the duration in accordance with the DPW requirements. Siltation control shall be placed & maintained in the catch basins w/in the construction zone. The contractor shall contact the Utilities Division to mark out water-sewer-drain lines.	prior to any construction as the City is not a member of Dig Safe. Upon completion an as built shall be submitted to the DPW. All restoration shall be in kind to current standards. *John Daghlian, Associate City Engineer* *June 20, 2023*

V. RECOMMENDATION TO PUBLIC FACILITIES COMMITTEE:

Shawna Sullivan Digitally signed by Shawna Sullivan Date: 2023.01.23 17:37:54 -05'00'

Commissioner, Public Works _____ Date

PETITION OF NATIONAL GRID FOR GAS MAIN LOCATIONS

City of Newton / City Council:

The Nationalgrid hereby respectfully requests your consent to the locations of mains as hereinafter described for the transmission and distribution of gas in and under the following public streets, lanes, highways and places of the **City of Newton** and of the pipes, valves, governors, manholes and other structures, fixtures and appurtenances designed or intended to protect or operate said mains and accomplish the objects of said Company; and the digging up and opening the ground to lay or place same:

Nationalgrid requests a Main Extension to install approximately 75 feet of 6- inch Plastic main extending from the existing 6 -inch Cast Iron (1916) main in Tyler Ter for new service at #75 Pleasant St.

Service Installation- Install approximately 60 feet of 2- inch, Plastic service at #75 Pleasant St extending from the new 6- inch, Plastic main extension.

Date: **January 19, 2023**

By: *Mary Mulroney*
Mary Mulroney
Permit Representative

City of Newton / City Council:

IT IS HEREBY ORDERED that the locations of the mains of the Nationalgrid for the transmission and distribution of gas in and under the public streets, lanes, highways and places of the **City of Newton** substantially as described in the petition date **January 19, 2023** attached hereto and hereby made a part hereof, and of the pipes, valves, governors, manholes and other structures, fixtures and appurtenances designed or intended to protect or operate said mains and/or accomplish the objects of said Company, and the digging up and opening the ground to lay or place same, are hereby consented to and approved.

The said Nationalgrid shall comply with all applicable provisions of law and ordinances of the **City of Newton** applicable to the enjoyment of said locations and rights.

Date this _____ day of _____, 20____.

I hereby certify that the foregoing order was duly adopted by the _____ of the City of _____, MA on the _____ day of _____, 20____.

WO # 1502891

By:
Title

nationalgrid

75 PLEASANT ST GAS MAIN EXTENSION & SERVICE INSTALLATION
2" & 6" PL (L.P.)
(75) PLEASANT ST, TYLER TER, NEWTON, MA
W.O. NO.: 1502891

PIPE TOTALS			
DIAMETER	MATERIAL	ABANDONED	INSTALLED
6"	PL	--	75 LF
2"	PL	--	60 LF

LOCATION MAP

LAT/LON: 42°19'54.5"N, 71°11'52.6"W
NEWTON, MA
SCALE: 1:300

INDEX OF SHEETS		
SHEET	NAME	TITLE
1	DDS-NEW-71220461 G-001	COVER - LOCATION MAP
2	DDS-NEW-71220461 G-002	CONSTRUCTION NOTES
3	DDS-NEW-71220461 G-003	CONSTRUCTION NOTES & BILL OF MATERIALS
4	DDS-NEW-71220461 C-001	OVERALL LAYOUT SHEET & TIE-IN DETAIL
5	DDS-NEW-71220461 C-201	STANDARD DETAILS
6	DDS-NEW-71220461 C-202	STANDARD DETAILS
7	DDS-NEW-71220461 C-203	STANDARD DETAILS

811 DigSafe MA·ME·NH·RI·VT

THE DDS COMPANIES
45 HENDRIX ROAD
WEST HENRIETTA, NY 14586
PHONE (585) 359-7540
FAX (585) 359-7541

BOSTON GAS COMPANY
d/b/a
nationalgrid
40 SYLVAN ROAD
WALTHAM, MA 02451

IFC

PE STAMP: 11/28/22

NO.	DESCRIPTION	DATE	DR.BY	CK.BY	APP.BY
B	REVISED BILL OF MATERIALS	01/09/2023	CJV	DMJ	MEP
A	ISSUED FOR CONSTRUCTION	11/29/2022	CJV	DMJ	MEP

75 PLEASANT ST
GAS MAIN EXTENSION
TYLER TER
NEWTON, MA

COVER - LOCATION MAP

DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	C. VARGAS	11/29/2022	XXXXXXX	1502891

SCOPE OF WORK:

NATIONAL GRID WORK ORDER NUMBER: 1502891

PROJECT NAME AND LOCATION: 75 PLEASANT ST, NEWTON, MA

PROJECT SCOPE:

- MAIN EXTENSION– INSTALL APRX. 75 FEET OF 6 INCH, LP PLASTIC MAIN EXTENDING FROM THE EXISTING 6 INCH, LP CAST IRON (1916) MAIN IN TYLER TER FOR NEW SERVICE AT #75 PLEASANT ST.
- SERVICE INSTALLATION– INSTALL APRX. 60 FEET OF 2 INCH, LP PLASTIC SERVICE AT #75 PLEASANT ST EXTENDING FROM THE NEW 6 INCH, LP PLASTIC MAIN EXTENSION.

1 MAIN CONNECTION

GENERAL CONSTRUCTION:

1. NO FIELD CHANGES SHALL BE MADE TO THIS PLAN WITHOUT APPROVAL OF ASSIGNED NATIONAL GRID PROJECT ENGINEER.
   ENGINEER: JONAS ILAIRE
   PHONE: (781) 402–4085
   EMAIL: JONAS.ILAIRE@NATIONALGRID.COM
2. NEW MAINS SHALL BE INSTALLED IN ACCORDANCE WITH THE TYPICAL TRENCH DETAIL INCLUDED IN THESE DRAWINGS, UNLESS NOTED OTHERWISE.
   A. 36 INCHES OF COVER FROM FINAL GRADE WHERE PRACTICAL
   B. STATE HIGHWAY MINIMUM COVER: 36 INCHES
   C. DISTRIBUTION MAIN MINIMUM COVER: 24 INCHES
   D. SAND PADDING IN ALL DIRECTIONS, 6 INCHES MINIMUM.
   E. CAUTION TAPE SHALL BE INCLUDED ONE FOOT BELOW GRADE.
3. SERVICES SHOULD BE INSTALLED WITH 24 INCHES OF COVER.
   A. MINIMUM IN PUBLIC ROW: 18 INCHES
   B. MINIMUM IN PRIVATE PROPERTY: 12 INCHES
   C. SAND PADDING IN ALL DIRECTIONS, 6 INCHES MINIMUM.
   D. CAUTION TAPE SHALL BE INCLUDED ONE FOOT BELOW GRADE.
4. REFER TO CNST–6030 FOR SHALLOW MAINS. PRIOR TO INSTALLING GAS MAINS WITH LESS THAN 24 INCHES OF COVER, COMPLETE REQUEST FOR WAIVER FORM AND CONTACT GAS PIPELINE SAFETY & COMPLIANCE FOR APPROVAL:
   A. JENNIFER GILLIS – (617) 594–5157 (MA EXCLUDING CAPE AND WEBSTER)
   B. LIEN GAUTHIER – (617) 438–9069 (MA EXCLUDING CAPE AND WEBSTER)
   C. IF A PROPOSED TOP TEE CONNECTION RESULTS IN A SHALLOW MAIN THAT CANNOT MEET THE WAIVER CRITERIA, A FULL TEE CONNECTION IS AN ACCEPTABLE ALTERNATIVE. A SPHERICAL TEE IS ONLY ACCEPTABLE WITH APPROVAL FROM NATIONAL GRID STRATEGIC ASSET AND SYSTEM PLANNING.
5. ALL MAINS SHOULD BE INSTALLED WITH A CLEARANCE OF 12 INCHES FROM OTHER FACILITIES.
   A. DISTRIBUTION MINIMUM CLEARANCE: 6 INCHES
   B. APPROPRIATE PROTECTIVE MEASURES SHALL BE USED TO PROTECT THE GAS FACILITY IF MINIMUMS CANNOT BE ATTAINED. APPROVAL IS REQUIRED BY GAS SYSTEMS ENGINEERING.
6. THE PIPE ALIGNMENT IS SHOWN FOR REFERENCE ONLY AS APPROXIMATELY 3 FEET FROM THE EXISTING MAIN (BASED ON AVAILABLE RECORD INFORMATION). THE ACTUAL ROUTE AND ALL VERTICAL AND HORIZONTAL OFFSETS ARE TO BE FIELD ROUTED WITHIN THE PUBLIC RIGHT–OF–WAY BASED ON THE ACTUAL LOCATION OF EXISTING UTILITIES. ADDITIONAL FITTINGS NOT SHOWN WILL BE REQUIRED.
   A. ELBOWS SHOWN ARE ASSUMED TO BE 45 DEGREES IN MOST APPLICATIONS. 90 DEGREE ELBOWS MAY BE NEEDED BASED ON FIELD CONDITIONS.
7. VALVES DEPICTED IN THE DESIGN ARE THE MINIMUM REQUIRED FOR SECTIONALIZING, ISOLATION, CRITICAL VALVES, AND/OR TO ACCOMMODATE TIE–INS. ADDITIONAL FULL PORT VALVES MAY BE ADDED TO ACCOMMODATE CONSTRUCTION.
   A. VALVES FOR BRANCHES AT INTERSECTIONS SHOULD BE FIELD LOCATED JUST OUTSIDE OF THE INTERSECTION WHERE EASILY ACCESSIBLE, PRIOR TO THE FIRST SERVICE.
8. ELECTROFUSION COUPLINGS MAY BE INTERCHANGED WITH BUTT FUSION WHERE APPLICABLE.
9. TIE–IN LOCATIONS MAY VARY UP TO 100 FEET OF THE PROPOSED LOCATION TO ACCOMMODATE CONSTRUCTION, EXCEPT FOR WHEN THE FOLLOWING CONDITIONS APPLY:
   A. REGULATOR STATION WITHIN THE SCOPE OF THE JOB OR WITHIN 200 FEET OF THE TIE–IN LOCATION.
   B. CHANGE TO THE NUMBER OF CONNECTIONS (ADDITIONAL ADDED FROM AN INTERSECTION OR OTHERWISE).
   C. MATERIAL/SIZE CHANGE AT NEW LOCATION.
10. NOT ALL BYPASSES, GAUGES, PURGES AND OTHER MISCELLANEOUS FITTINGS ARE SHOWN. CONSTRUCTION SHALL INSTALL THESE FITTINGS AS NEEDED IN ACCORDANCE WITH THE APPROVED SOP.
11. WHEN CONNECTING NEW 'DEAD' MAIN TO NEW 'DEAD' MAIN: AS LONG AS THE CONNECTION BRANCH SIZE SHOWN IN THE DRAWINGS CAN BE ACHIEVED, THE FOLLOWING CONNECTION TYPES ARE ACCEPTED AND INTERCHANGEABLE:
    A. INLINE TEE
    B. PLASTIC HIGH VOLUME TAPPING TEE (2" BRANCH SIZE OR LESS)
    C. PLASTIC BRANCH SADDLE (WITH MAIN CUTTER SIZE SHOWN IN NATIONAL GRID POLICIES)
    D. STEEL THREE–WAY TEE (WITH MAIN CUTTER SIZE SHOWN IN NATIONAL GRID POLICIES)
12. THE LIVE MAIN CONNECTION DETAIL SHOWN IN THE DRAWINGS SHALL BE FOLLOWED. ANY CHANGES TO THE TIE IN CONNECTION TYPE SHALL BE APPROVED BY THE NATIONAL GRID ENGINEER PRIOR TO CONSTRUCTION.
13. WHEN RELAYING A LOWER PRESSURE MAIN WITH A HIGHER PRESSURE MAIN, ALL SERVICES SHALL BE RELAYED OR INSERTED.
14. PIPE AND FITTING QUANTITY DESCRIBED IN SCOPE MAY VARY FROM AMOUNTS SHOWN ON THE BILL OF MATERIALS TO ACCOMMODATE FIELD CONDITIONS AND CONSTRUCTION.
15. CONTRACTOR TO REFER TO NATIONAL GRID SERVICE RECORD INFORMATION, ASSOCIATED CONSTRUCTION STANDARDS AND NATIONAL GRID INSTRUCTION FOR ALL SERVICE WORK WITHIN THE SCOPE OF LIMITS OF THIS PROJECT.
16. ANY FITTINGS (SUCH AS BUT NOT LIMITED TO, PURGES, VENTS & GAUGES) WHICH ARE REPRESENTED ON THESE PLANS AND DETAILS WITHOUT AN ASSOCIATED PART ON THE BILL OF MATERIALS ARE TO BE SIZED AND SELECTED PER CURRENT NATIONAL GRID STANDARDS BY THE CONTRACTOR.
17. THE CONTRACTOR SHALL CALL DIG–SAFE (DIAL 811) OR 888–344–7233 AT LEAST 72 HOURS PRIOR TO CONSTRUCTION. SATURDAYS, SUNDAYS AND HOLIDAYS ARE EXCLUDED.
18. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES AND STRUCTURES DEPICTED OR NOT DEPICTED ON THIS PLAN PRIOR TO COMMENCEMENT OF CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PHYSICALLY LOCATE ON–SITE UTILITIES THROUGH TEST PIT EXCAVATION OF SAID UTILITIES W/ PRIOR AUTHORIZATION FROM UTILITY OWNER.
19. NOTIFY NATIONAL GRID I&R IF THE PROJECT IS WITHIN 200 FEET OF A REGULATOR STATION.
20. DIMENSIONS SHOWN ILLUSTRATE THE INTENT OF MAIN PLACEMENT. SLIGHT VARIATIONS ARE EXPECTED. ANY SIGNIFICANT CHANGE NEEDS TO BE BROUGHT TO THE OWNERS (NATIONAL GRID) ATTENTION PRIOR TO PLACEMENT.
21. CONTRACTOR TO VERIFY PRESSURE AND GAS FEED DIRECTION OF EXISTING MAINS, NEW MAINS, AND MAINS TO BE ABANDONED PRIOR TO ANY AND ALL TIE INS BEING PERFORMED.
22. LOCATION OF ANY IDENTIFIED UNDERGROUND UTILITIES IS APPROXIMATE ONLY, AND IS NOT WARRANTED TO BE CORRECT. ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT INDICATED ON THESE PLANS. ALL EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR FOR SERVICE, SIZE, INVERT ELEVATIONS, LOCATION, ETC.
23. THE CONTRACTOR SHALL PROTECT AND MAINTAIN DIG SAFE FIELD MARKS, ANY EXISTING PROPERTY LINE MONUMENTATION OR OTHER EXISTING SURVEY STAKES OR FIELD MARKS. THE CONTRACTOR SHALL REPLACE AT THEIR EXPENSE ANYTHING DISTURBED OR DESTROYED.
24. THE CONTRACTOR SHALL COMPLETE MISCELLANEOUS WORK NOT SPECIFICALLY SHOWN ON THE CONTRACT DRAWINGS SUCH AS PAVEMENT PATCHING, TRENCH & EQUIPMENT BLOCKING, TREE TRIMMING, ETC.
25. ANY SUBSURFACE UTILITIES, STRUCTURES AND/OR FIXED OBJECTS SHOWN AT, BELOW OR ABOVE GRADE SHOWN ON THESE PLANS HAVE BEEN PLACED BASED ON AVAILABLE RECORD MAPPING, AERIAL IMAGERY AND OTHER DESIGN RESOURCES. CONTRACTOR IS WARNED THAT EXACT OR APPROXIMATE LOCATION OF SUBSURFACE UTILITIES, STRUCTURES AND/OR FIXED OBJECTS SHOWN AT, BELOW OR ABOVE GRADE IN THE PROJECT AREA MAY DIFFER FROM THAT SHOWN OR MAY NOT BE SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO PERFORM FIELD VERIFICATION PRIOR TO EXECUTING ANY WORK.
26. ALL TRENCH EXCAVATION AND ANY REQUIRED SHEETING AND SHORING SHALL BE DONE IN ACCORDANCE WITH THE LATEST NATIONAL GRID, APPLICABLE STATE DOT AND LOCAL MUNICIPAL STANDARDS.
27. CONTRACTOR SHALL MAINTAIN ALL TRAFFIC IN ALL AREAS IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
28. ALL NECESSARY PRECAUTION FOR THE SAFETY OF THE PUBLIC SHALL BE TAKEN. ALL BARRIERS, WARNING LIGHTS AND OTHER DEVICES AND EQUIPMENT REQUIRED BY FEDERAL, STATE AND LOCAL AUTHORITIES SHALL BE MAINTAINED.
29. CONTRACTOR SHALL TAKE CARE TO PREVENT DAMAGE TO ALL OTHER EXISTING UTILITIES. DAMAGED UTILITIES SHALL BE IMMEDIATELY REPAIRED BY CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
30. CONTRACTOR MAY INSTALL ADDITIONAL VALVES NOT SHOWN IN THE PLANS IF DEEMED NECESSARY IN THE FIELD. NEW VALVES ASSOCIATED WITH TIE INS (SEE DETAILS ON SHEET 04) MUST BE INSTALLED PER THE DETAIL. FINAL LOCATION OF THE NEW VALVES IS TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR. ANY SIGNIFICANT CHANGE MUST BE BROUGHT TO THE OWNERS (NATIONAL GRID) ATTENTION PRIOR TO INSTALLATION.
31. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUAINTING WITH THE CONDITIONS FOR THE SITE AND FOR ESTIMATING PROPERLY THE DIFFICULTY AND COST TO SUCCESSFULLY PERFORM THE WORK.
32. NATIONAL GRID RESERVES THE RIGHT TO EXAMINE ANY WORK DONE ON THIS PROJECT AT ANY TIME TO DETERMINE THE CONFORMANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS OF THIS PROJECT, AS INTENDED AND INTERPRETED BY NATIONAL GRID.

DESIGN CRITERIA:

1. DESIGN IN ACCORDANCE WITH THE FOLLOWING:
   A. ENG02001: DESIGN OF GAS SERVICES
   B. ENG04001: DESIGN OF DISTRIBUTION MAINS
   C. ENG04010: DESIGN REQUIREMENTS FOR INSTALLATION OF CASINGS

2. PROPOSED PIPING:
   A. DESIGN CLASS LOCATION: 4
   B. NOMINAL SIZE: 2 & 6 INCH
   C. MATERIAL: MDPE
   D. MAOP: L.P.

3. PIPE SIZE DETERMINED BY NATIONAL GRID STRATEGIC ASSET AND SYSTEM PLANNING

SEQUENCE OF CONSTRUCTION:

1. CONTRACTOR SHALL CALL DIGSAFE (DIAL 811 OR 888–344–7233) AT LEAST 72 HOURS PRIOR TO CONSTRUCTION. SATURDAYS, SUNDAYS, AND HOLIDAYS ARE EXCLUDED.
2. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES AND STRUCTURES DEPICTED OR NOT DEPICTED ON THIS DESIGN PRIOR TO CONSTRUCTION.
3. INSTALL MAIN AS INDICATED IN SCOPE OF WORK.
4. INSTALL SERVICE AS INDICATED IN SCOPE OF WORK.
5. PRESSURE TEST (SEE PRESSURE TESTING SECTION).
6. MAKE CONNECTION IN DETAIL A.
7. PURGE NEW MAIN INTO SERVICE.
8. PURGE NEW SERVICE INTO SERVICE.
9. PERFORM RESTORATION.

CODES & STANDARDS

1. WORK SHALL CONFORM TO ALL LOCAL, STATE, AND FEDERAL CODES IN ADDITION TO NATIONAL GRID GAS POLICIES AND WORK METHODS. WHERE ANY CONFLICTS OF CODES, STANDARDS AND REGULATIONS MAY EXIST, THE MORE STRINGENT CODE, STANDARD, OR REGULATION SHALL APPLY.

2. ALL REFERENCES SHALL BE IN ACCORDANCE WITH THE MOST CURRENT REVISION AVAILABLE AT THE TIME OF CONSTRUCTION.

3. FEDERAL & STATE:
   A. TITLE 49: PART 192 TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINE: MINIMUM FEDERAL SAFETY STANDARDS
   B. 220 CMR: DEPARTMENT OF PUBLIC UTILITIES
      100.00 – 113.00: MASSACHUSETTS GAS DISTRIBUTION CODE
   C. AMERICAN SOCIETY OF MECHANICAL ENGINEERS
      B31.8: GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS
   D. 248 CMR 4–7: MA FUEL GAS CODE

4. CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH NATIONAL GRID GAS POLICIES AND WORK METHODS, INCLUDING BUT NOT LIMITED TO:
   A. CNST01003: BACKFILL AND RESTORATION
   B. CNST01005: PREPARATION OF GAS FACILITY HISTORICAL RECORDS
   C. CNST01006: COMMERCIALLY AVAILABLE SHORING SYSTEMS
   D. CNST02014: ENCAPSULATING CAST IRON JOINTS
   E. CNST03001: SQUEEZE–OFF OPERATIONS
   F. CNST03002: STOP–OFF OPERATIONS ON LOW PRESSURE MAINS
   G. CNST03005: PURGING REQUIREMENTS FOR GAS PIPELINES
      a. CNST03006: PURGING OPERATIONS – DIRECT DISPLACEMENT
      b. CNST03007: PURGING OPERATIONS – COMPLETE INERT FILL
      c. CNST03008: PURGING OPERATIONS – SLUG METHOD
   H. CNST03014: STOP OFF OPERATIONS FOR KLEISS EQUIPMENT
   I. CNST04005: INSTALLING STEEL DISTRIBUTION MAINS
   J. CNST04007: FIELD COLD BENDING OF LINE PIPE
   K. CNST04008: INSTALLING PLASTIC MAINS
   L. CNST04011: ABANDONMENT OF MAINS
   M. CNST04012: GROUTING ABANDONED PIPELINES
   N. CNST04030: RAISING MAIN AND SERVICE GATE BOXES
   O. CNST05001: JOINING OF PLASTIC PIPE
   P. CNST5010: GENERAL CONSTRUCTION REQUIREMENTS AND PIPE HANDLING
   Q. DAM01011: EXCAVATION AND EXCAVATION NOTIFICATION REQUIREMENTS FOR UNDERGROUND FACILITIES FOR MASSACHUSETTS AND RHODE ISLAND
   R. DAM01015: LOCATE AND MARK–OUT REQUIREMENTS FOR UNDERGROUND GAS FACILITIES
   S. DAM01016: LOCATE AND MARK–OUT OF UNDERGROUND FACILITIES
   T. GCON02001: SYSTEM OPERATING PROCEDURE (SOP)
   U. GEN01100: OPERATOR QUALIFICATION PLAN
   V. GEN03002: PROCESSING GAS MAIN AND NEW SERVICE WORK PACKAGES
   W. GEN03004: CHANGE CONTROL PROCEDURE FOR STANDARD CONSTRUCTION PROJECTS
   X. INR06002: SUPPLEMENTAL ODORIZATION FOR NEW PIPING
      • NOTIFY I&R FOR PROJECTS IN EXCESS OF 2500 FEET. ODOR MONITORING AND/OR SUPPLEMENTAL ODORIZATION MAY BE REQUIRED
   Y. MAIN5030: INSTALLATION OF POLYETHYLENE PIPE
   Z. MECH5010: JOINTS OTHER THAN WELDED
   AA. 030018–CS: SPECIFICATION AND HANDLING OF TRAFFIC PLATES
   AB. CNST01001: HORIZONTAL DIRECTIONAL DRILLING
   AC. CNST03011: NO–INTERRUPT SERVICE TRANSFER
   AD. CNST6061: TRACER WIRE INSTALLATIONS FOR PLASTIC MAINS AND SERVICES
   AE. MECH6010: CONNECTION OF DISSIMILAR POLYETHYLENE PLASTIC PIPE WITH ELECTROFUSION OR MECHANICAL COUPLING
   AF. CS–CNST002: TYPICAL UTILITY CROSSING AND TRENCH GUIDELINES

5. SERVICE SPECIFIC CONSTRUCTION STANDARDS, GAS POLICIES AND WORK METHODS:
   A. CMS03002: CUSTOMER METER AND SERVICE REGULATOR DESIGN AND INSTALLATION POLICY
   B. CMS04002: PURGING PROCEDURES FOR CUSTOMER METER SERVICES
   C. CNST03011: NO–INTERRUPT SERVICE TRANSFER
   D. CNST06002: INSTALLING DISTRIBUTION SERVICES
   E. CNST06003: INSTALLATION & MAINTENANCE POLICY FOR CURB VALVES ON SERVICE LINES WITH INSTALLED METER CAPACITIES OVER 1,000 SCFH THAT DON'T HAVE EXCESS FLOW VALVES
   F. CNST06009: METER/SERVICE RELOCATION GUIDELINE
   G. CNST06020: COMPLETION AND PROCESSING OF GAS SERVICE RECORD CARDS
   H. CNST06030: NOTIFICATION OF CUSTOMERS INVOLVED IN THE INTERRUPTION OF GAS SERVICE
   I. CS–SERV001: TYPICAL 1/2" SERVICE OUTSIDE SETS
   J. CS–SERV002: TYPICAL 1" SERVICE OUTSIDE SETS
   K. CS–SERV003: TYPICAL 1–1/4" SERVICE OUTSIDE SETS
   L. CS–SERV004: TYPICAL 2" SERVICE
   M. CS–SERV005: EXCESS FLOW VALVE REQUIREMENTS ON HP SERVICES
   N. CS–SERV009: TYPICAL 1/2" SERVICE INSIDE SETS
   O. CS–SERV010: TYPICAL 1" SERVICE INSIDE SETS
   P. HTAP–6010: NO–INTERRUPT 1 INCH CTS AND 1–1/4 INCH CTS SERVICE TRANSFER (NIST) LP TO 60 PSIG MAINS
   Q. SERV–5075: RELOCATION OF METER SET ASSEMBLIES INSIDE TO OUTSIDE
   R. SERV6076: 1–1/4" LP PLASTIC SERVICE WITH 1 AL–250 TC METER
   S. SERV6077: 1–1/4" CTS LP PLASTIC INSERT WITH 1 AL–250 TC EQUIV. METER INSIDE
   T. SERV–6185: HOT TAPPING MD BRANCH SADDLES OFF 4IN – 12IN 60 PSIG MAOP LIVE PLASTIC GAS MAIN USING MCELROY HOT TAPPING TOOL
   U. VALV6110: 1/2 INCH – 3 INCH POLYETHYLENE GAS SERVICE VALVE INSTALLATION

6. SEE TIE IN DETAILS FOR APPLICABLE MAIN CONNECTION REFERENCES.

7. SEE BILL OF MATERIAL FOR MATERIAL SPECIFICATION, STANDARD AND/OR APPLICABLE NATIONAL GRID "FITS" REFERENCE.
   A. FOR THIS PROJECT, GRADE B, X42, X52 AND EQUIVALENT ARE ACCEPTABLE STEEL MATERIAL STRENGTHS IF APPLICABLE. ALTERNATES TO THE BOM ARE ALLOWED WITHIN THIS RANGE BASED ON MATERIAL AVAILABILITY.

THE DDS COMPANIES
45 HENDRIX ROAD
WEST HENRIETTA, NY 14586
PHONE (585) 359-7540
FAX (585) 359-7541

BOSTON GAS COMPANY
d/b/a
nationalgrid
40 SYLVAN ROAD
WALTHAM, MA 02451

IFC

PE STAMP: 11/28/22

NO.	DESCRIPTION	DATE	DR.BY	CK.BY	APP.BY
B	REVISED BILL OF MATERIALS	01/09/2023	CJV	DMJ	MEP
A	ISSUED FOR CONSTRUCTION	11/29/2022	CJV	DMJ	MEP

75 PLEASANT ST
GAS MAIN EXTENSION
TYLER TER
NEWTON, MA

CONSTRUCTION NOTES

DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	C. VARGAS	11/29/2022	XXXXXXXX	1502891

DRAWING NO.: G-002

SHEET NO.: 02

50123

PRESSURE TESTING REQUIREMENTS:

1. PRESSURE TEST ALL DISTRIBUTION PIPING IN ACCORDANCE WITH:
   A. CNST04003: PRESSURE TESTING MAINS OPERATING BELOW 125 PSIG
   B. TEST PRESSURE (MINIMUM): 90 PSIG
   C. TEST DURATION BASED ON LENGTH AND DIAMETER IN ACCORDANCE WITH TABLE 1 OF CNST04003.
   D. TEST MEDIUM: AIR AND/OR NITROGEN

2. PRESSURE TEST SERVICES IN ACCORDANCE WITH:
   A. CNST06008: PRESSURE TESTING SERVICE LINES

WELDING:

1. NATIONAL GRID WELDING POLICIES AND PROCEDURES INCLUDE:
   A. CNST05002: WELDING POLICY
   B. CNST05003: PIPE WELDING SAFETY
   C. CNST05005: WELDING PROCEDURE SPECIFICATIONS
   D. MS-030: WELDING FILLER MATERIALS

2. PRIOR TO THE START OF ANY WORK THE CONTRACTOR SHALL SUBMIT WELDER CERTIFICATION DOCUMENTS FOR EACH OF THE WELDERS EMPLOYED ON THIS PROJECT.

3. WELDING PROCEDURE SPECIFICATIONS REQUIRED:
   A. BUTT WELDS (GROOVE): WPS-SMAW-E6010/7010 (LATEST REVISION)
   B. FILLET WELDS (BRANCH): WPS-SMAW-E6010/7010 (LATEST REVISION)

4. 10% (AT LEAST 1) OF WELDS SHALL BE SUBJECT TO NON-DESTRUCTIVE EXAMINATION (NDE):
   A. BUTT WELDS 2-INCH AND GREATER: 10% RADIOGRAPH
   B. BUTT WELDS < 2-INCHES: 10% MAGNETIC PARTICLE
   C. FILLET WELDS: 10% MAGNETIC PARTICLE

5. NDE AND WELD MAP SHALL BE PROVIDED BY SKYTESTING.

6. SKYTESTING SCHEDULING CONTACT:
   WILLIAM (BILL) CLARK
   CELL: 704-858-7794
   EMAIL: WCLARK@SKYTESTING.COM

CATHODIC PROTECTION:

1. IF EXISTING TEST STATIONS, WIRES, AND/OR MAGNESIUM ANODES ARE DISTURBED OR DAMAGED, NOTIFY THE NATIONAL GRID CORROSION DEPARTMENT:
   DAVE HALNEN: 781-379-7831 (FOR SUPERVISOR ISSUES)
   ALANNA GRONDINE: 339-225-5378 (FOR ENGINEERING ISSUES)
   ALISSIA APINIAN-MARGIOS: 781-296-7569 (FOR MANAGEMENT ISSUES)

2. 24 HOUR NOTICE IS REQUIRED PRIOR TO INSTALLATION OF INSULATED FITTINGS TO ALLOW FOR ACCEPTANCE TESTING.

3. NATIONAL GRID CORROSION GAS POLICIES AND WORK METHODS INCLUDE:
   A. COR01100: CORROSION DESIGN CRITERIA
   B. COR02001: APPLICATION OF COATING SYSTEMS
   C. COR02020: INSPECTING EXPOSED STEEL PIPE FOR CORROSION
   D. COR02021: INSPECTING EXPOSED CAST OR DUCTILE PIPING FOR GRAPHITIZATION
   E. COR03001: TESTING OF PIPE COATING (JEEP TESTING)
   F. COR04001: INSTALLATION OF MAGNESIUM ANODES
   G. COR04003: INSTALLATION OF TEST STATIONS FOR CATHODIC PROTECTION
   H. COR04004: INSTALLATION OF WIRE CONNECTIONS
   I. COR04005: INSTALLATION OF INSULATING JOINTS FOR CATHODIC PROTECTION
   J. 030031-CS: FACILITY COATING GUIDE
   K. 030026-CS: INSTALLATION OF TEST STATIONS FOR CATHODIC PROTECTION
   P. 030036-CS: INSTALLING WIRE CONNECTIONS

4. CORROSION DESIGN:
   A. SEE DETAIL A ON SH 04
   • INSTALL A 1-WIRE TEST STATION TO THE PROPOSED INSULATED COUPLING (PIPE END SPACER AND INSULATOR SLEEVE FACING THE CAST IRON) BY USING THE CLIP ON THE COUPLING. INCLUDE 1-17 LB ANODE SPACED AT LEAST 1 FT BELOW THE MAIN. INSTALL THE 9X9 TEST STATION IN AN ACCESSIBLE LOCATION.

5. STEEL PIPE, FITTINGS, VALVES AND OTHER CARBON STEEL COMPONENTS TO BE BURIED WHICH ARE NOT FACTORY COATED FOR BURIED SERVICE SHALL BE FIELD COATED.

ENVIRONMENTAL:

1. WORK SHALL CONFORM TO THE NATIONAL GRID ENVIRONMENTAL POLICY.

2. NATIONAL GRID ENVIRONMENTAL CONTACT:
   NAME: JAIME WALKER
   PHONE: (978) 551-1156
   EMAIL: JAIME.WALKER@NATIONALGRID.COM

3. CONTRACTOR SHALL REVIEW THE PROJECT WORK ORDER PACKAGE FOR ENVIRONMENTAL GUIDANCE FORMS, FOR EXAMPLE EG-301, FOR THE RESPECTIVE STATE.

4. WHEN SOILS OR LIQUIDS ARE ENCOUNTERED THAT ARE BELIEVED TO BE CONTAMINATED WITH OIL AND/OR HAZARDOUS MATERIAL, EXCAVATION WORK SHALL BE HALTED AND FIELD PERSONNEL SHALL NOTIFY THEIR IMMEDIATE SUPERVISOR.

5. NO EXCAVATED SOIL THAT IS CONTAMINATED SHALL LEAVE THE WORK SITE UNTIL ENVIRONMENTAL HAS MADE A DETERMINATION FOR ITS PROPER DISPOSAL.

6. NATIONAL GRID ENVIRONMENT POLICIES AND PROCEDURES INCLUDE:
   A. SHE02001: HANDLING CONTAMINATED MATERIALS AND PIPING
   B. SHE02002: REMOVING MERCURY REGULATORS AND DEVICES
   C. SHE02003: ENCOUNTERING CONTAMINATION WHILE EXCAVATING
   D. EG303-NE: BEST MANAGEMENT PRACTICES
   E. EG140: USED GAS PIPE MANAGEMENT

7. ENVIRONMENTAL REQUIREMENTS: N/A

SAFETY:

1. WORK SHALL CONFORM TO THE NATIONAL GRID EMPLOYEE SAFETY HANDBOOK AND OSHA REQUIREMENTS.

2. REQUIRED PPE SHALL BE WORN AND UTILIZED IN ACCORDANCE WITH THE CURRENT NATIONAL GRID SAFETY POLICY.

3. A NATIONAL GRID APPROVED CONTRACTOR HEALTH AND SAFETY PLAN (HASP) IS REQUIRED PRIOR TO CONSTRUCTION.

4. CONSTRUCTION SIGNING, DRUMS, BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) PART VI AND SHALL BE MAINTAINED BY THE CONTRACTOR.

5. NATIONAL GRID SAFETY PROCEDURES COVER THE FOLLOWING CATEGORIES:
   A- ADMINISTRATIVE; B- INSPECTIONS; C- WALKING WORKING SURFACES; D- MEANS OF EGRESS; E- MATERIAL HANDLING AND STORAGE; F- TOXIC AND HAZARDOUS SUBSTANCES; G- HAZARDOUS MATERIALS; H- PERSONAL PROTECTIVE EQUIPMENT; I- GENERAL ENVIRONMENTAL CONTROLS, J- ACCIDENT INVESTIGATION; K- MACHINERY AND GUARDING; L- WELDING/CUTTING/BRAZING; M- EXCAVATIONS; N- CONTRACTORS; FIRE PROTECTION; Q- FLEET AND ROADWAY SAFETY

6. NATIONAL GRID SAFETY POLICIES AND PROCEDURES INCLUDE:
   A. SHE01001: GENERAL SAFETY REQUIREMENTS
   B. SHE01002: SUPPLIED-AIR RESPIRATORS
   C. SHE01003: USING AND MAINTAINING PORTABLE GAS MONITORS
   D. SHE01004: USING AND MAINTAINING FLAME IONIZATION UNITS
   E. SHE01005: DISSIPATING STATIC ELECTRICAL CHARGES ON PLASTIC PIPE
   F. SHE01006: ENTERING GAS UTILITY VAULTS
   G. SHE01008: USING AND MAINTAINING THE GAS EXPLORER
   H. SHE01009: DISSIPATING STATIC ELECTRICAL CHARGES ON PLASTIC PIPE
   I. SHE01010: THE APPLICATION OF FORMAL PROCESS SAFETY ASSESSMENTS TO HIGHER-RISK GAS ACTIVITIES PERFORMED IN THE FIELD

7. JOB BRIEFINGS, AT A MINIMUM, SHALL BE CONDUCTED BEFORE THE START OF THE FIRST JOB ON EACH DAY OR SHIFT. ADDITIONAL BRIEFINGS MAY BE REQUIRED AFTER EXTENDED WORK BREAKS.

8. ANY AND ALL WORKERS THAT HAVE ANY POTENTIAL TO COME INTO CONTACT WITH SOIL AND/OR GROUNDWATER MUST HAVE UP-TO-DATE OSHA 40-HOUR HAZWOPER TRAINING. COPIES OF OSHA CERTIFICATES/TRAINING REFRESHERS SHALL BE PROVIDED TO NATIONAL GRID FOR REVIEW PRIOR TO THE START OF WORK.

OTHER PERMITTING REQUIREMENTS:

1. CITY OF NEWTON STREET OPENING PERMIT
2. GRANT OF LOCATION

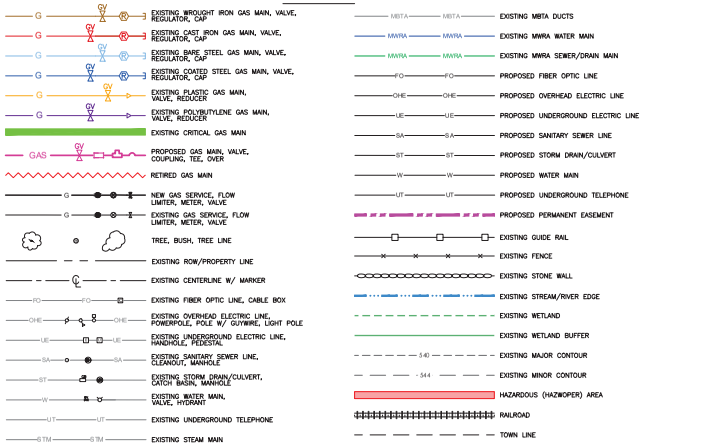
UTILITY OWNER INFORMATION:

SEWER:	NEWTON DPW – UTILITIES DIVISON #1000 COMMONWEALTH AV. NEWTON CENTRE, MA 02459 MWRA #2 GRIFFIN WAY CHELSEA, MA 02150
WATER:	NEWTON DPW – UTILITIES DIVISON #1000 COMMONWEALTH AV. NEWTON CENTRE, MA 02459 MWRA #2 GRIFFIN WAY CHELSEA, MA 02150
ELECTRIC:	EVERSOURCE ELECTRIC "A" #1165 MASSACHUSETTS AV. DORCHESTER, MA 02125
GAS:	NATIONAL GRID GAS #40 SYLVAN RD. WALTHAM, MA 02451
TELEPHONE:	VERIZON #385 MYLES STANDISH BLVD. TAUNTON, MA 02780
CABLE:	RCN #956 MASSACHUSETTS AV. ARLINGTON, MA 02476 COMCAST CABLE CORPORATION PO BOX #6505, #5 OMNI WAY CHELMSFORD, MA 01824 AT&T/TELEPORT COMMUNICATIONS AMERICA, C/O SIENA ENGINEERING GROUP #50 MALL ROAD – SUITE #203 BURLINGTON, MA 01803 CROWN CASTLE #80 CENTRAL ST. BOXBOROUGH, MA 01719 MCI-VERIZON BUSINESS PO BOX #600 CHARLTON, MA 01507 EVERSOURCE FIBER #247 STATION DR., MAIL STOP: SUM SE #320 WESTWOOD, MA 02090

REFERENCE DRAWINGS:

1. LOCATION OF IDENTIFIED UNDERGROUND UTILITIES ARE AN APPROXIMATE BASED ON AVAILABLE RECORD AND FIELD INFORMATION IN ACCORDANCE WITH CI/ASCE 38-02. ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT IDENTIFIED ON THESE PLANS. ALL EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR FOR SERVICE, SIZE, INVERT ELEVATIONS, LOCATIONS, ETC.

LEGEND



BILL OF MATERIALS

ITEM	QTY	UOM	DESCRIPTION	SIZE (IN.)	NATIONAL GRID REFERENCE	SAP ID NUMBER
1"	80	FT	PIPE, MEDIUM DENSITY, 40 FT LENGTHS	6	120026-MS	9384339
2"	70	FT	PIPE, MEDIUM DENSITY, 250 FT COILS	2	120026-MS	9340876
3"	1	EA	TEE, PLASTIC, ELECTROFUSION, TAPPING	6X2	120025-MS	9342331
4	1	EA	COUPLING, COMPRESSION, RESTRAINING, INSULATED, 6.9IN OD, RS	6	FITS6025	9312223
5	1	EA	COUPLING, COMPRESSION, SELF-RESTRAINING, INSULATED, 7.1IN OD, OS	6	FITS6025	9341550
6	1	EA	STIFFENER, INSERT, METAL	6	FITS6025	9340225
7"	1	EA	CAP, PLASTIC, BUTT FUSE	6	120026-MS	9339733
8"	1	EA	ELBOW, PLASTIC, 90 DEG, BUTT FUSE	2	120026-MS	9341385
9"	2	EA	VALVE, BALL, FULL PORT, PLASTIC	6	VALV6020	9323032
10"	2	EA	VALVE BOX	6	VALV6020	9339893
11"	1	EA	VALVE, BALL, FULL PORT, PLASTIC	2	VALV6020	9341784
12"	1	EA	VALVE BOX	2	VALV6020	9339890
13	2	EA	SADDLE, CAST IRON	6X1 1/2	FITS6016	9315632
14	2	EA	PLUG, THREADED, CI	1 1/2	120030-MS	9312285
15	1	EA	9X9 TEST STATION BOX	9	030026-CS	9339391
16	1	EA	TEST BOX COVER		030026-CS	9339797
17	1	EA	ANODE, MAGNESIUM, 17 LB, HIGH POTENTIAL	30	120004-MS	9311183
18"	1	EA	RISER, FLANGED TOP	2	MATL-3140	9322622
19"	1	EA	VALVE, DUCTILE IRON, BALL, FLAT FACE	2	MATL-3150	9306256
20"	1	EA	FLANGE, BLIND, FLAT FACE	2	FITS6110	9382074
21"	1	EA	INSULATING KIT, FLANGE	2	FITS6115	9340992
22"	1	EA	GASKET, RING	2	FITS6115	9341161
23"	A/R	EA	BOLT, STUD, W/ TWO HEAVY HEX NUTS	5/8 X 4	FITS6115	9392186
24	1	EA	TAPE, YELLOW CAUTION, GAS MAIN, 1000' ROLL	6	CNST6060	9341904
25	220	FT	WIRE, TRACER, DIRECT BURY USE		CNST6061	9315005

*** SOME QUANTITIES LABELED ON LAYOUT SHEETS**

THE DDS COMPANIES
45 HENDRIX ROAD
WEST HENRIETTA, NY 14586
PHONE (585) 359-7540
FAX (585) 359-7541

BOSTON GAS COMPANY
d/b/a
nationalgrid
40 SYLVAN ROAD
WALTHAM, MA 02451

IFC

PE STAMP: 11/28/22

NO.	DESCRIPTION	DATE	DR.BY	CK.BY	APP.BY
B	REVISED BILL OF MATERIALS	01/09/2023	CJV	DMJ	MEP
A	ISSUED FOR CONSTRUCTION	11/29/2022	CJV	DMJ	MEP

75 PLEASANT ST
GAS MAIN EXTENSION
TYLER TER
NEWTON, MA

CONSTRUCTION NOTES & BILL OF MATERIALS

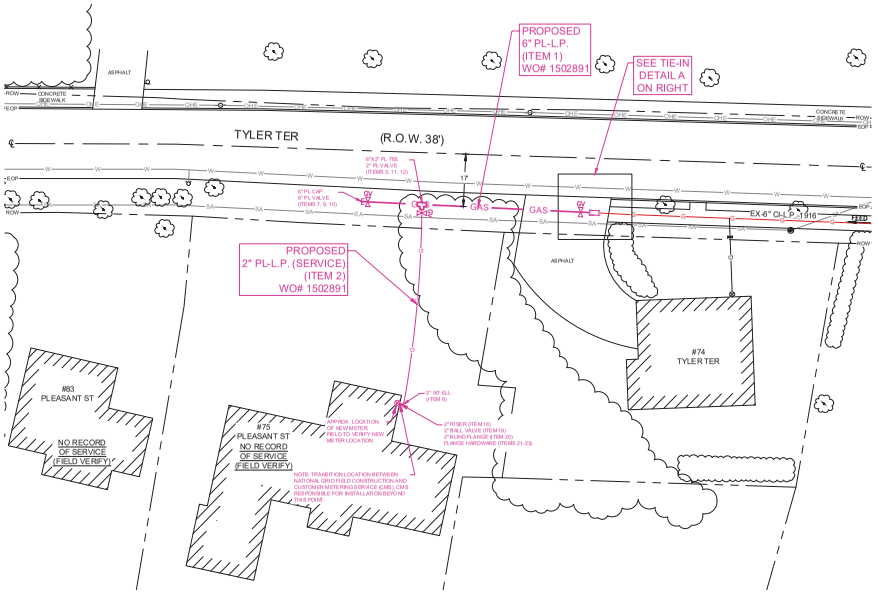
DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	C. VARGAS	11/29/2022	XXXXXXXX	1502891

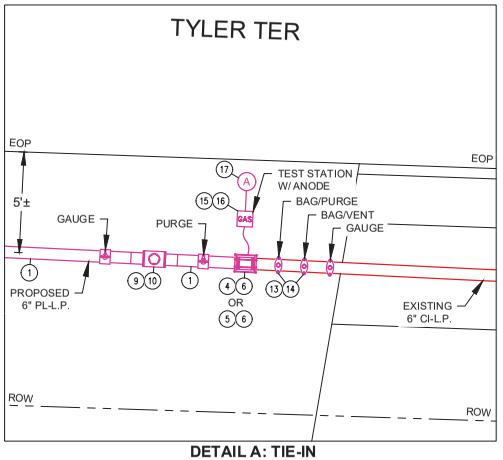
DRAWING NO. G-003

SHEET NO. 50 23

PROJECT SCOPE:

- MAIN EXTENSION- INSTALL APRX. 75 FEET OF 6 INCH, LP PLASTIC MAIN EXTENDING FROM THE EXISTING 6 INCH, LP CAST IRON (1916) MAIN IN TYLER TER FOR NEW SERVICE AT #75 PLEASANT ST.
- SERVICE INSTALLATION- INSTALL APRX. 60 FEET OF 2 INCH, LP PLASTIC SERVICE AT #75 PLEASANT ST EXTENDING FROM THE NEW 6 INCH, LP PLASTIC MAIN EXTENSION.



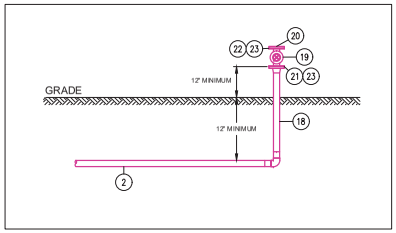


DETAIL A: TIE-IN

(TYLER TER)

SCALE - 1:3

SEE NOTE 1



SERVICE RISER DETAIL

NTS

NOTE:

1. INSTALL A 1-WIRE TEST STATION TO THE PROPOSED INSULATED COUPLING (PIPE END SPACER AND INSULATOR SLEEVE FACING THE CAST IRON) BY USING THE CLIP ON THE COUPLING. INCLUDE 1-17 LB ANODE SPACED AT LEAST 1 FT BELOW THE MAIN. INSTALL THE 9X9 TEST STATION IN AN ACCESSIBLE LOCATION.

20' 0' 20' 40' 1"=20'

THE DDS COMPANIES
45 HENDRIX ROAD
WEST HENRIETTA, NY 14586
PHONE (585) 359-7540
FAX (585) 359-7541

BOSTON GAS COMPANY
d/b/a
nationalgrid
40 SYLVAN ROAD
WALTHAM, MA 02451

IFC

PE STAMP: 11/28/22

NO.	DESCRIPTION	DATE	DR.BY	CK.BY	APP.BY
B	REVISED BILL OF MATERIALS	01/09/2023	CJV	DMJ	MEP
A	ISSUED FOR CONSTRUCTION	11/29/2022	CJV	DMJ	MEP

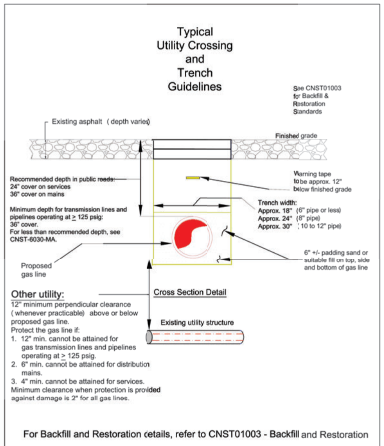
75 PLEASANT ST
GAS MAIN EXTENSION
TYLER TER
NEWTON, MA

OVERALL LAYOUT SHEET & TIE-IN DETAIL

DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	C. VARGAS	11/29/2022	XXXXXXXX	1502891

DRAWING NO.: C-001

SHEET NO.: 50 23



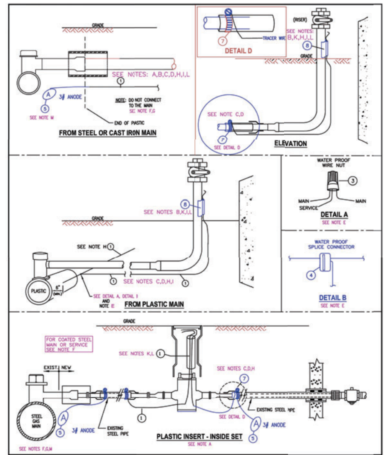
nationalgrid MASS.

TYPICAL UTILITY CROSSING AND TRENCH GUIDELINES

Key Changes: REV 0 NEW STANDARD FOR MASS.

DATE: 09/15/2014 | EFFECTIVE DATE: 04/15/2019 | DESIGN: PAUL GUGLIOTTA | DRAWN: N. COSTANZO | STD. DWG. NO. CS-CNST002-MA

UNCONTROLLED WHEN PRINTED 1 OF 1



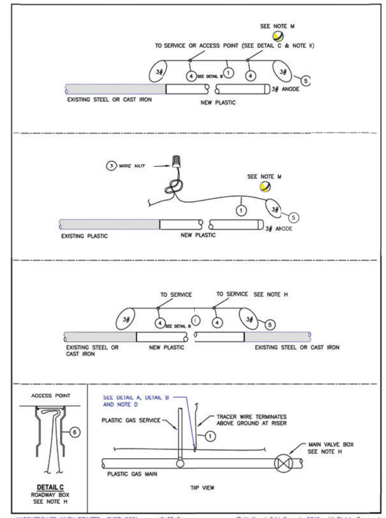
nationalgrid LI—MA—RI—UNY

TRACER WIRE INSTALLATIONS FOR PLASTIC MAINS AND SERVICES

REVISIONS: UPDATED ITEM 6"S REVISED NOTES

DATE: 10/31/2004 | EFFECTIVE DATE: 06/25/2020 | DESIGN: GUGLIOTTA / MCLOUGHLIN | DRAWN: GUGLIOTTA / DIMAIO | STD. DWG. NO. CNST-6061

UNCONTROLLED WHEN PRINTED 1 OF 4



UNCONTROLLED WHEN PRINTED CNST-6061 2 OF 3

NO.	ITEM	SAP ITEM ID LI/NYC/MASS	SAP ITEM ID UNY/RI
8	TRACER WIRE SNAP, 2" (represents steel size)	9386134	9386134
8	TRACER WIRE SNAP, 1 ½" (represents steel size)	9386156	9386156
8	TRACER WIRE SNAP, 1" (represents steel size)	9386150	9386150
8	TRACER WIRE SNAP, ¾" (represents steel size)	9385568	9385568
7	CLAMP, STAINLESS	9331708	9307873
6	VALVE BOX, ROADWAY	9339890	9312344 UNY 9311208 RI
5	ANODE, 3 LB MAGNESIUM	9315645	9315645
4	WIRE SPLICE CONNECTOR, WATERPROOF	9308036	9308036
3	WIRE NUT, PLASTIC, WATERPROOF	9331644	9314631
2	WIRE, DIRECTIONAL DRILL, STAINLESS, STRANDED 10 AWG	9314187	9314187
1	TRACER WIRE, DIRECT BURY, COPPER, 12 AWG	9315005	9315005

BILL OF MATERIAL

A. Inside sets: Terminate tracer wire in the curb valve box. Allow enough wire to extend 18" to 24" above grade.

B. Outside Sets: Tracer wire should be extended approximately 18" above grade at riser. Connect tracer wire to the riser using a "tracer snap", Item #8. If the appropriate tracer snap is not available, wrap or tie the tracer wire to the riser. Do not permanently attach tracer wire to the riser. Tracer wire should not exceed 6" above the point where it is secured to the riser.

C. Partially tubed services: When the abandoned portion of an existing steel service pipe is used as a sleeve for the new plastic, all cut out sections of the steel pipe to be inserted with plastic, shall be connected using a section of tracer wire to maintain continuity. If the existing service is coated steel, see Installation of Test Stations for Cathodic Protection [030026-CS] and Installation of Test Stations for Cathodic Protection [COR04003] or contact corrosion department for more guidance.

D. Thermite welding of tracer wire to abandoned steel service is only acceptable prior to insertion of the plastic tubing. See Installation of Test Stations for Cathodic Protection [030026-CS].

E. Plastic Mains: The service tracer wire shall be connected to the plastic main tracer wire using item #3 detail A or item #4 (detail B - preferred) in accordance with Installing Wire Connections [COR04004].

F. Coated Steel Mains: Do not connect the tracer wire to the steel main. See Installation of Test Stations for Cathodic Protection [030026-CS] and Installation of Test Stations for Cathodic Protection [COR04003] or contact corrosion department for more guidance.

G. Cast Iron or Bare steel Mains: *Do not connect the tracer wire to the main. It is required in LI and MA, and* suggested in all other areas to terminate the tracing wire with a 3# anode.

Tracer Wire Installation Notes

H. Install tracer wire in close proximity to the plastic pipe. Approximately 4" to 6" away from the pipe. LI & MA-Above or alongside, UNY- alongside, RI-Under or alongside. Exception:For trenchless pipe installations, the minimum clearance is waived.

I. Maintain separation of approximately 4" from service riser. Do not permanently connect the tracer wire to the riser.

J. For horizontal directional drill installations, use stainless wire, item #2.

K. Tracer wire installed in boxes should allow enough wire to extend 18" to 24" above grade.

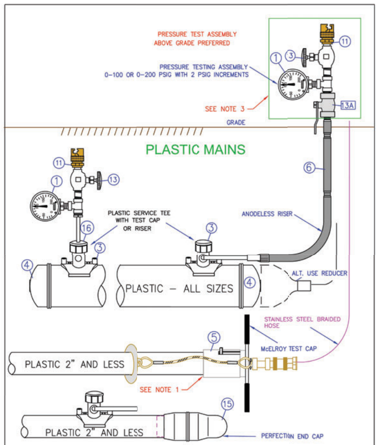
L. Verification: upon completion, the installer shall verify the location of the main or service using the tracer wire and locating device and perform a mark out using the conductive method.

M. LI and MA: Required to terminate the tracing wire with a 3# anode. This is to ground the tracer wire and increase signal strength when locating. This practice is recommended in all areas where signal strength is an issue.

Regional Notes

NYC ONLY: refer to Installation of Marker Tapes and EMS Pipeline Locators for Mains and Services [CNST6060-NYC] for installation of electronic marker ball in place of tracer wire.

UNCONTROLLED WHEN PRINTED Effective Date 06/25/2020 4 OF 4 CNST-6061



nationalgrid ALL REGIONS

PRESSURE TESTING OF NEW MAINS MAOP OF 124 PSIG OR LESS

Key Changes: UPDATED ITEM 6"S

DATE: 7/15/2013 | EFFECTIVE DATE: 02/10/2021 | DESIGN: PAUL GUGLIOTTA | DRAWN: P.G. | STD. DWG. NO. CS-MAIN004

UNCONTROLLED WHEN PRINTED 1 OF 6

NOTES:
1. INSTALL PER MCELROY MANUFACTURER'S INSTRUCTIONS.
2. WHEN USING MECHANICAL COUPLINGS (AS SHOWN IN DETAIL A), NON-RESTRAINING COUPLING SHALL BE STRAPPED AND THE ENDS SHALL BE BLOCKED PER APPROVED STANDARD DRAWINGS. RESTRAINING COUPLINGS NEED TO BE EITHER STRAPPED OR BLOCKED. **WHEN USING RESTRAINING COUPLINGS, STRAPPING NUTS SHOULD BE HAND TIGHT.**

2A. ON EXISTING STEEL SYSTEMS: REFER TO THE TABLE BELOW FOR THE MINIMUM SAFE DISTANCE FROM THE EXCAVATION WALL. IF A BURIED, UNSTRAPPED COUPLING EXISTS AT A DISTANCE LESS THAN THE MINIMUM SAFE EMBEDMENT DISTANCE FROM THE WALL, THEN BLOCKING IS REQUIRED FOR THE PRESSURE TEST. IF AN ALL WELDED SYSTEM CAN NOT BE CONFIRMED, THE WELDED OR FLANGED ENDS SHALL BE BLOCKED

PIPE SIZE (INCHES)	MINIMUM SAFE DISTANCE FROM THE EXCAVATION WALL (FEET)
2	5
3	8
4	12
6	24
8	41
12	70

REFER TO CONSTRUCTION STANDARD FITS-6025 AND FITS-6015 FOR LIST OF COUPLINGS.

3. IT IS RECOMMENDED THAT THE GAUGE ASSEMBLY BE ABOVE GRADE TO PREVENT PERSONNEL FROM ENTERING THE TRENCH WHILE THE PRESSURE TEST IS UNDERWAY.
4. ONE PRESSURE TEST GAUGE AT EACH PIPE END IS RECOMMENDED TO VERIFY THE PRESSURE. ALL GAUGES SHALL BE 0-100 OR 0-200 PSIG RANGE (2 PSIG INCREMENTS REQ'D IN NY STATE ONLY).
5. REFER TO CNST04003 "*PRESSURE TESTING OF MAINS OPERATING BELOW 125 PSIG*" FOR TESTING AND DESIGN REQUIREMENTS.

ITEM	DESCRIPTION	SAP ITEM ID LI / MA / NYC	SAP ITEMS RI AND UNY
1	**PRESSURE GAUGE 0-100 OR 0-200 PSIG – 2 PSI INCREMENTS**		
	0-200 PSIG STAINLESS STEEL ¼" NPT 3-1/2" DIAL	9354885	TOOL ITEM
	0-200 PSIG STAINLESS STEEL ¼" NPT 2-1/2" DIAL	9358390	TOOL ITEM
	0-100 PSIG STAINLESS STEEL ¼" NPT	NON STOCK	TOOL ITEM
2	**SIGN – WARNING PRESSURE TEST (AS REQUIRED IN FIELD)**	9332240	NON STOCK
3	**TEE SERVICE – ELECTROFUSION YELLOW MD 1/2" CTS BUTT FUSE OUTLET**		
	2" MAIN X ½" BUTT FUSE OUTLET LI/MA/NY/NYC	9342517 2X1/2	NON STOCK
	4" MAIN X ½" BUTT FUSE OUTLET LI/MA/NY/NYC	9342518 4X1/2	NON STOCK
	6" MAIN X ½" BUTT FUSE OUTLET LI/MA/NY/NYC	9342516 6X1/2	NON STOCK
	8" MAIN X ½" BUTT FUSE OUTLET LI/MA/NY/NYC	9342371 8X1/2	NON STOCK
	TEE SERVICE – ELECTROFUSION YELLOW MD 1" CTS BUTTFUSE OUTLET	-	
	1-1/4" MAIN X 1" OUTLET LI	9342332 1-1/4 X 1	NON STOCK
	2" MAIN X 1" OUTLET LI	9342519 2X1	NON STOCK
	4" MAIN X 1" OUTLET LI	9342521 4X1	NON STOCK
	6" MAIN X 1" OUTLET LI	9342328 6X1	NON STOCK
	8" MAIN X 1" OUTLET LI	9342372 8X1	NON STOCK
	TEE SERVICE – ELECTROFUSION BLACK HD 1" IPS BUTT FUSE OUTLET		
	2" MAIN X 1" IPS OUTLET MASS	9322653 2X1	NON STOCK
	3" MAIN X 1" IPS OUTLET MASS	9322628 3X1	NON STOCK
	4" MAIN X 1" IPS OUTLET MASS	9322620 4X1	NON STOCK
	6" MAIN X 1" IPS OUTLET MASS	9322626 6X1	NON STOCK
	8" MAIN X 1" IPS OUTLET MASS	9323497 8X1	NON STOCK
	12" MAIN X 1" IPS OUTLET LI, NYC, MA	9351831 12X1	NON STOCK
	TEE SERVICE – SADDLE FUSION HIGH DENSITY BLACK 1/2" CTS BUTT FUSE		
	2" MAIN X 1/2" OUTLET LI	9342405 2X1/2	NON STOCK
	4" MAIN X 1/2" OUTLET LI	9342406 4X1/2	NON STOCK
	6" MAIN X 1/2" OUTLET LI	9342407 6X1/2	NON STOCK
	8" MAIN X 1/2" OUTLET LI	9342408 8X1/2	NON STOCK
	TEE SERVICE – SADDLE FUSION HIGH DENSITY BLACK 1" CTS BUTT FUSE		
	2" MAIN X 1" OUTLET LI	9342409 2X1 SDR 9	9315907 2X1
	4" MAIN X 1" OUTLET LI	9342429 4X1 SDR 9	9315964 4X1
	6" MAIN X 1" OUTLET LI	9342430 6X1 SDR 9	9315963 6X1
	8" MAIN X 1" OUTLET LI	9342431 8X1 SDR 9	9315962 8X1
	12" MAIN X 1" OUTLET	NON STOCK	9314629 12X1
	TEE SERVICE MECHANICAL X PERFECTION OUTLET		
	2" MAIN X 1/2" OUTLET	NON STOCK	9308584 2X1/2
	4" MAIN X 1/2" OUTLET	NON STOCK	9308583 4X1/2
	6" MAIN X 1/2" OUTLET	NON STOCK	9308472 6X1/2
	8" MAIN X 1/2" OUTLET	NON STOCK	9308471 8X1/2
	2" MAIN X 1" OUTLET	9315492 2X1	9315492 2X1
	3" MAIN X 1" OUTLET	9382123 3X1	N/A
	4" MAIN X 1" OUTLET	9315490 4X1	9315490 4X1
	6" MAIN X 1" OUTLET	9308473 6X1	9308473 6X1
	8" MAIN X 1" OUTLET	9306178 8X1	9306178 8X1

UNCONTROLLED WHEN PRINTED Effective Date 7/15/2013 4 OF 6 CS-MAIN004

ITEM	DESCRPTION	ORACLE ITEM ID LI / MA/ NYC	PEOPLESOFT ITEM RI AND UNY
4	**CAP END PLASTIC MEDIUM DENSITY YELLOW BUTT FUSE**		
	2" SDR11	2" 9339540	NON STOCK
	3" SDR 11	3" 9339541	NON STOCK
	4" SDR 11	4" 9339534	NON STOCK
	6" SDR 11	6" 9339731	NON STOCK
	8" SDR 13.5	8" 9339559	NON STOCK
	12" SDR.11.5	12" 9339560	NON STOCK
	CAP END PLASTIC HIGH DENSITY BLACK BUTT FUSION		
	2" SDR 9	2" 9339538	NON STOCK
	4" SDR 9	4" 9339535	NON STOCK
	6" SDR 9	6" 9339536	NON STOCK
	8" SDR 9	8" 9339537	NON STOCK
		-	-
	2" SDR 11 MASS RI & UNY	2" 9312686	2" 9312686
	3" SDR 11 MASS RI & UNY	3" 9310276	3" 9310276
	4" SDR 11 MASS RI & UNY	4" 9312685	4" 9312685
	6" SDR 11 MASS RI & UNY	6" 9312684	6" 9312684
	8" SDR 11 MASS RI	8" 9310272	8" 9310272
	12" SDR 11 RI UNY	NON STOCK	12" 9308729
		-	-
	8" SDR 13.5 RI	NON STOCK	8" 9312683
	12" SDR 13.5 RI	NON STOCK	12" 9314605
5	**McELROY TEST CAPS** (165 PSIG MAX)	NON STOCK	NON STOCK
	1-1/4" MODEL TP	TP-308	TP-308
	2" MODEL TP-310	TP-310	TP-310
	RISER	-	-
6	1" CTS MEDIUM DENSITY X ¾" NPT OUTLET	9344366	NON STOCK
	1" CTS MEDIUM DENSITY X 1-1/4" IPS OUTLET	9340874	NON STOCK
	1" HIGH DENSITY X 1-1/4" OUTLET	9340853	NON STOCK
	1" CST SERVASET X 1" OUTLET	9322627	NON STOCK
	1" CTS HIGH DENSITY .090" WALL X 1" IPS STEEL OUTLET	NON STOCK	9316405
	½" CTS .090" WALL PERFECTION END X ¾" NPT STEEL	NON STOCK	9310295
	1-1/4" CTS .090" WALL PERFECTION END X 1-1/4" NPT STEEL	NON STOCK	9306180
	OR TEST CAPS WITH STEEL OR PLASTIC PIPE TO TEST TREE TEST CAP FOR CENTRAL PLASTIC ELECTROFUSE TAPPING TEE	00311110 OR TOOL ROOM ITEM	TOOL ROOM ITEM
7	**FLANGE 150# WELD END FLAT FACE**		
	2"	9314322 2"	9314322
	3"	9314431 3"	9314431
	4"	9314430 4"	9314430
	6"	9308659 6"	9308659
	8"	9308748 8"	9308748
	12"	9308660 12"	9308660
	16"	9322353 MA 16"	NON STOCK
	20"	9322352 MA 20"	NON STOCK
8	**BLIND FLANGE CLASS 150# ASTM A-105**		
	2" FLAT FACE WITH ¾" CENTER NPT TAP	9341434 2"	NON STOCK
	3" FLAT FACE WITH ¾" CENTER NPT TAP	9341014 3"	NON STOCK
	4" FLAT FACE WITH ¾" CENTER NPT TAP	9341435 4"	NON STOCK
	6" FLAT FACE WITH ¾" CENTER NPT TAP	9340942 6"	NON STOCK
	2" FLAT FACE	9382074 2"	9308662
	3" FLAT FACE	9307751 3"	9307751
	4" FLAT FACE	9306252 4"	9306252
	6" FLAT FACE	9385717 6"	9306518
	8" FLAT FACE	9307750 8"	9307750
	12" FLAT FACE	9308749 12"	9308749
9	**GASKETS**	-	-
	2" FULL FACE 150#	9333167 2"	9315688
	3" FULL FACE 150#	9341158 3"	9312067
	4" FULL FACE 150#	9341159 4"	9312569
	6" FULL FACE 150#	9332599 6"	9312568
	8" FULL FACE 150#	9341158 8"	9315689
	12" RING TYPE 150#	9341165 12"	NON STOCK

UNCONTROLLED WHEN PRINTED Effective Date 7/15/2013 CS-MAIN004 5 OF 6

ITEM	DESCRIPTION	ORACLE ITEM ID LI / MA / NYC	PEOPLESOFT ITEM RI AND UNY
10	**END CAPS – STEEL WELD END STANDARD WALL –GRADE B**		
	2"	9312095 2"	9312095
	3"	9308719 3"	9308719
	4"	9312096 4"	9312096
	6"	9312094 6"	9312094
	8"	9312093 8"	9312093
	10"	9315182 10"	9315182
	12"	9312092 12"	9312092
	16"	9314824 16"	9314824
	20"	9339687 20"	9314823
11	**THOR FITTING**	-	-
	½" MALE NPT X HOSE CONNECTION	00504089	NON STOCK
	¾" FEMLAE X HOSE CONNECTION	00504301	NON STOCK
12	**THRED-O-LET**	-	-
	12" - 6" X ¾" 3000# PER ASTM A-105 GRADE B	9341652 12-6X3/4	NON STOCK
	10" – 6" X 1" 3000# PER ASTM A-105 GRADE B	9341656 10-6X1	NON STOCK
	36" – 12" X 1" 3000# PER ASTM A-105 GRADE B	9342052 36-12X1	NON STOCK
	2" X 1" 3000# PER ASTM A-105 GRADE B	NON STOCK	9307678 2X1
	10" – 6" X 1" 3000# PER ASTM A-105 GRADE B	NON STOCK	9307695 10-6X1
	36"-14" X ¾" 3000# PER ASTM A-105 GRADE B	NON STOCK	9307677 36-14X3/4
13	**VALVE**		
13A	**VALVE (OPTIONAL – TO SHUT OFF TEST ASSEMBLY)**		
14	**LUG ASSEMBLY**		
	7/8" x 24" LONG (LI ONLY - SEE MAIN-6210)	9342211	NON STOCK
	7/8"X 44"LONG (LI ONLY - SEE MAIN-6210)	9342212	NON STOCK
	LUG GREEN 3"- 8"MAIN 7/8" DIAM. (NYC ONLY – SEE MAIN-6230 & MAIN-6230)	9357904	NON STOCK
	LUG YELLOW 10"- 30" MAIN 1-1/16" DIAM. (NYC ONLY – SEE MAIN-6230& MAIN-6230)	9357905	NON STOCK
	ROD ¾" X 12' LONG (NYC ONLY	9328152	NON STOCK
	ROD 1" X 12' LONG (NYC ONLY)	9328150	NON STOCK
	LUG ASSEMBLY ¾"X 30" LONG	NON STOCK	9315741
15	**COUPLING – END 2" PERFECTION**	NON STOCK	0803641
16	**TEST CAP**	-	TOOL ROOM ITEM
	FOR SADDLE FUSION TEE – CENTRAL PLASTICS	9325109	
	FOR SADDLE FUSION TEE– JM EAGLE / POLY / UPONOR	9325017	
	FOR SADDLE FUSION TEE – PERFORMANCE PIPE TEES	9341368	
	FOR HVTT (HIGH VOLUME TAPPING TEE) SADDLE FUSION CENTAL PLASTICS	9384268	
	FOR HVTT (HIGH VOLUME TAPPING TEE) SADDLE FUSION– JM EAGLE / POLY/ UPONOR	9384174	
	FOR HVTT (HIGH VOLUME TAPPING TEE) SADDLE FUSION PERFORMANCE PIPE TEES	9323715	
	FOR HVTT ELECTROFUSION TEE	9382494	
	FOR ELECTROFUSION TEE	9381846	
	FOR PERFECTION PMTT MECHANICAL TEE (CAP FITS ALL MAIN SIZE & OUTLET SIZES OF PMTTS)	9339561	

UNCONTROLLED WHEN PRINTED Effective Date 2/15/2021 6 OF 6 CS-MAIN004

THE DDS COMPANIES

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FAX (585) 359-7541

BOSTON GAS COMPANY d/b/a nationalgrid
40 SYLVAN ROAD
WALTHAM, MA 02451

IFC

PE STAMP: 11/28/22 COMMONWEALTH OF MASSACHUSETTS MARK E PETROSKI CIVIL NO. 54037 REGISTERED PROFESSIONAL ENGINEER

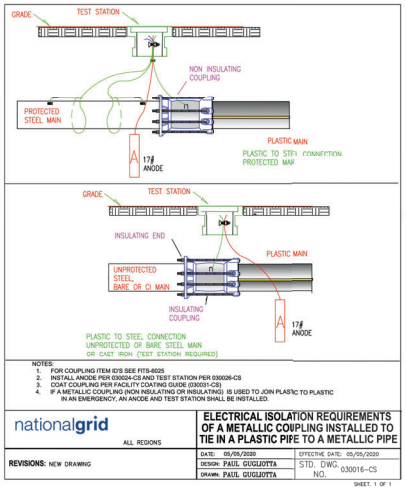
NO.	DESCRIPTION	DATE	DR.BY	CK.BY	APP.BY
B	REVISED BILL OF MATERIALS	01/09/2023	CJV	DMJ	MEP
A	ISSUED FOR CONSTRUCTION	11/29/2022	CJV	DMJ	MEP

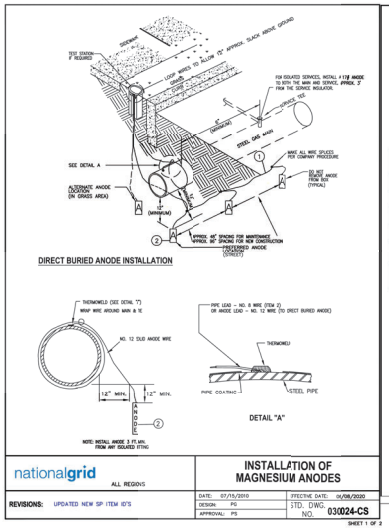
75 PLEASANT ST
GAS MAIN EXTENSION
TYLER TER
NEWTON, MA

STANDARD DETAILS

DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	C. VARGAS	11/29/2022	XXXXXXXX	1502891

DRAWING NO. C-201 SHEET NO.



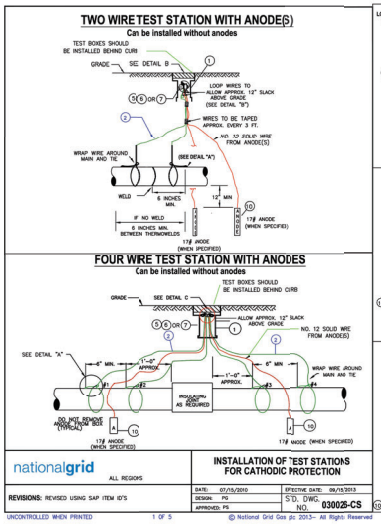


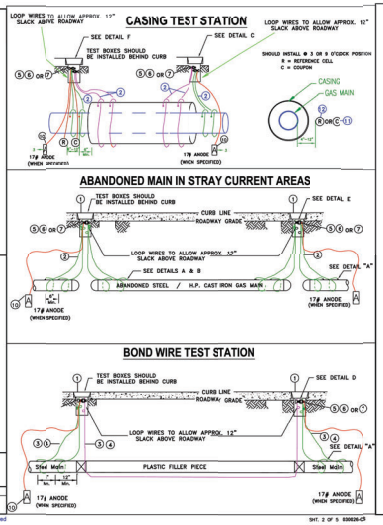
MATERIAL LIST

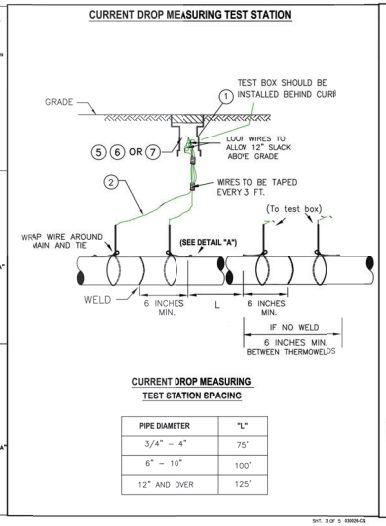
	Description	Down State NY Item I.D	Upstate NY Item I.D	New England Item I.D	Rhode Island Item I.D	MATERIAL NOTES
1	CABLE NO. 8 – 1/C	9334425	9311214	9334425	9311214	Upstate and RI cable has 19 strands
2	ANODE, MAGNESIUM 17 LB	9311183	9311183	9311183	9311183	
3	ANODE, MAGNESIUM 3 LB	9315645	9315645	9315645	9315645	Use on Tracer wire and all isolated flings.
4	ANODE, MAGNESIUM SPIKE 9 LB	9308624	9308624	9308624	9308624	Use on Service Risers ONLY
*	CLAMP, GROUNDING 1/2IN - 1IN DIA.	9386544	9386544	9386544	9386544	Groundin clamp for attaching spike anode lead wire to service riser
*	CLAMP, GROUNDING 1-1/4IN - 2IN DIA.	9386559	9386559	9386559	9386559	Grounding clamp for attaching spike anode lead wire to service riser

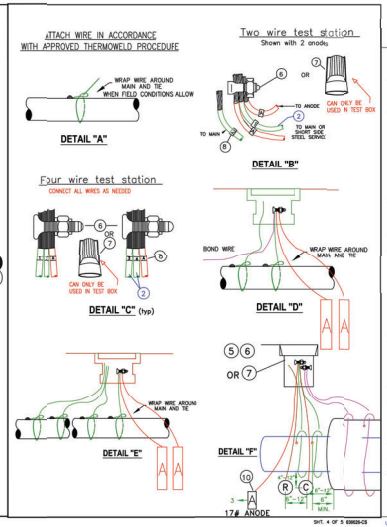
* Spike Anode Ground Clamp

SHT. 2 OF 2. 030024-CS









MATEFIAL LIST

	Description	Down State SAP Item I.D	Upstate SAP Item I.D	New England SAP Item I.D	Rhode Island SAP Item I.D	MATERIAL NOTES
1	TEST BOX WITH COVER	9339892	9312291 UPSTATE BOXES COME IN ONE PIECE	9339892	(Sml - 445) 9311209 or (Lg - 556) in Prov. 9311208	NON LOCKING COVER. DISCARD FOOTPIECE.
	TEST BOX 9" SQUARE HEAVY DUTY	9339391		9339391		WEIGHS 95 LBS. STREET USE, WITHOUT COVER
	COVER FOR 9" SQUARE BOX	9339797		9339797		NON-LOCKING COVER
2	WIRE, NO. 8, STRAND	9307539	9307539	9307539	9307539	TEST WIRE ONLY, NOT FOR GROUND BEDS.UPSTATE AND RI WIRE HAS 19 STRANDS.
3	WIRE, NO. 6, STRAND	9311795	9311795	9311795	93:1795	BOND WIRE ONLY, NOT FOR GROUND BEDS
4	WIRE 1/0 – 19 STRAND 600 V –1/C	9334171	NON STOCK	9334171	NON STOCK	USE IN STRAY CURRENT AREAS
5	TAPE, PVC - ½" WIDE	9334056	9316070	9334056	93:6070	NOT FOR PIPE COATING.
6	CONNECTOR, SPLIT BOLT, TYPE 6	9331578	9316630	9331578	NON STOCK	USE WITH NO. 6CABLE
	CONNECTOR, SPLIT BOLT, TYPE 1/01	9331612		9331612		USE WITH 1/0 CABLE
7	CONNECTOR, TWIST-ON WIRE NUT	9330683	9314631	9330683	9314631	
8	TAG, ADHESIVE NUMBER 1	9307918	9307911	9307918	9307918	LABEL WITH #1(N) OR (E), CONSECUTIVELY TO (8) OR (W)
	NUMBER 2	9307896	9307898	9307896	9307896	
	NUMBER 3	9307895	9307899	9307895	9307895	SEE DETAILS "F" AND "C"
	NUMBER 4	9307894	9307894	9307894	9307894	
	LETTER A	9307893	9307891	9307893	9307893	USE TO LABEL ANODES
9	GROUNDING CELL	NON STOCK	9315642	NON STOCK	NON STOCK	AS SPECIFIED BY CORROSION ENGINEERING
10	ANODE, MAGNESIUM 17LBS	9311183	9311181	9311183	9311183	SATURATE WITH WATER BEFORE BACKFILL. ANODE MAY BE INSTALLED VERTICALLY OR HORIZONTALLY.
11	COUPON	9386100	By Corrosion	9386100	By Corrosion	MC MILLER OR EQUAL
12	REFERENCE CELL	9385758	By Corrosion	9385758	By Corrosion	BORIN MFGR INC OR EQUAL

UNCONTROLLED WHEN PRINTED Effective Dat 08/08/2020
5 OF 5
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NOTE:

1. CATHODIC PROTECTION DETAILS ARE NOT COVERED UNDER PE STAMP.

THE DDS COMPANIES
45 HENDRIX ROAD
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IFC

PE STAMP: 11/28/22

NO.	DESCRIPTION	DATE	DR.BY	CK.BY	APP.BY
B	REVISED BILL OF MATERIALS	01/09/2023	CJV	DMJ	MEP
A	ISSUED FOR CONSTRUCTION	11/29/2022	CJV	DMJ	MEP

75 PLEASANT ST
GAS MAIN EXTENSION
TYLER TER
NEWTON, MA

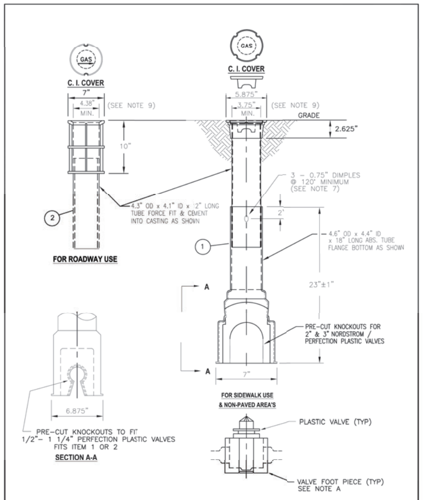
STANDARD DETAILS

DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	C. VARGAS	11/29/2022	XXXXXXXX	1502891

PAGE 06 OF 07

DRAWING NO. C-202

SHEET NO. 5023



VALVE BOXES UP TO 8" VALVES AND ALL RISER RINGS

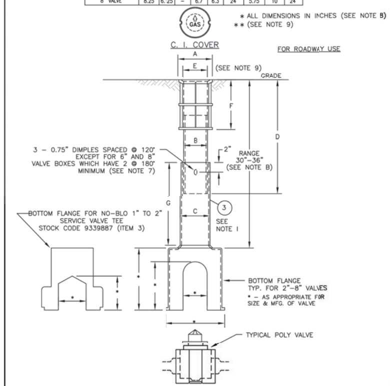
nationalgrid LI–MA–NYC

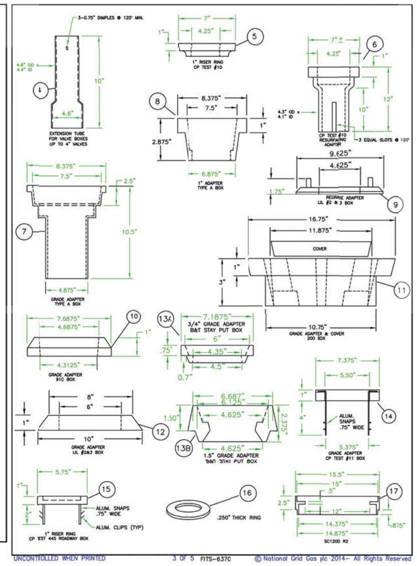
REVISIONS: ADDED ITEM 16, REVISED #445 COVERS WITH ARROW TERMINOLOGY. ADDED UNIDIRECTIONAL ARROW ON ITEM 1.

DATE: 07/01/2003 | EFFECTIVE DATE: 09/15/2014 | DESIGN: A. GIULIANI/MAM | DRAWN: J. CASTALUCCI, P. DIMAIO | STD. DWG. NO. FITS-6370

SIZE *	A	B		C		D	E	F	G
		OD.	I.D.	O.D.	I.D.				
SERVICE VALVE TEE	7	4.3	4.1	4.6	4.4	19	4.375	10	17.5
2"-4" VALVE	7	4.3	4.1	4.6	4.4	19	4.375	10	9
6" VALVE	8.25	6.25	-	6.7	6.3	24	5.75	10	11.5
8" VALVE	8.25	6.25	-	6.7	6.3	24	5.75	10	24

* ALL DIMENSIONS IN INCHES (SEE NOTE 8)
** (SEE NOTE 9)





INSTALLATION NOTES:

A. VALVE FOOT PIECE TO BE INSTALLED AROUND THE VALVE THEN INSERTED INTO THE BOTTOM FLANGE OF THE VALVE BOX.

B. THE RANGE OF THE VALVE BOX, FROM TOP OF GRADE TO TOP OF VALVE, IS 24" TO 38". FOR DEEPER VALVES USE EXTENSION TUBE STOCK CODE 00308023.

C. THESE BOXES CAN ALSO BE USED WITH THE APPROPRIATE SIZE STEEL VALVE. IF USED WITH A STEEL VALVE THE "VALVE FOOT PIECE" IS NOT TO BE USED; HOWEVER, PRIOR TO BACKFILLING INSTALL THE LOWER PORTION OF THE VALVE KEY ON THE VALVE OPERATING NUT. THEN PLACE THE LOWER SECTION OF THE BOX ON THE VALVE. WHEN THE BOTTOM SECTION IS BACKFILLED TO WITHIN 6" FROM ITS TOP REMOVE THE VALVE KEY & INSTALL THE TOP SECTION OF THE BOX.

D. ITEM 2 SHALL ONLY BE USED IN SIDEWALK AND NON-PAVED, NON TRAFFIC AREA EXCEPT DRIVEWAYS.

E. USE ITEM 1 ON MAIN LINE VALVES INSTALLED IN PAVED AND NON PAVED AREAS.

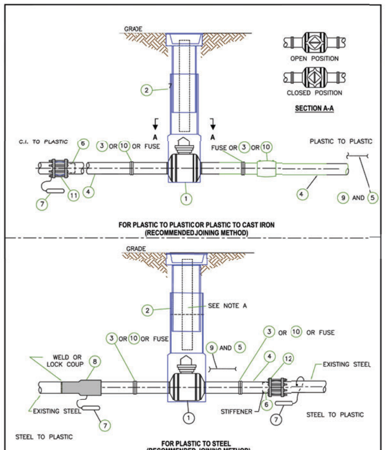
F. AFTER INSTALLATION OF MAIN LINE VALVE & BOX NOTIFY GSO OF COMPLETION.

MANUFACTURING NOTES:

1. ALL TOPS & BOTTOMS SHALL BE INTERCHANGEABLE.
2. THE TOP OF THE BOX ASSEMBLY SHALL BE FABRICATED SO AS TO FIT INSIDE THE BOTTOM SECTION.
3. MATERIAL SHALL CONFORM TO ASTM SPECIFICATIONS FOR GREY CAST IRON CASTINGS, DESIGNATED A48, CLASS 25.
4. COVER SHALL CREATE A TIGHT FIT WITH TOP OF CASTING TO PREVENT RATTLING. FOR CODES 00308054 & 00308055 COVER SHALL BE OF VENTED DESIGN. FOR OTHER STOCK CODES THE COVER SHALL INCLUDE A DIRECTIONAL ARROW. THIS SHALL BE DESIGNED TO ALLOW THE ARROW TO BE POSITIONED AT 60 INTERVALS.
5. ALL SURFACES SHALL BE COVERED WITH ONE COAT OF FLINTKOTE HYDALT PROTECTIVE COATING, C-13-E OR APPROVED EQUAL.
6. THE PLASTIC USED FOR THE TUBES SHALL BE PROTECTED FROM UV RAYS & AND HAVE THE PROPER INHIBITORS TO PROTECT FROM BRITTLENESS AT ZERO DEGREES.
7. DIMPLES SHALL BE FORMED SO AS TO EXERT ENOUGH PRESSURE ON INNER TUBE TO SUPPORT ENTIRE ASSEMBLY IN EXTENDED POSITION.
8. DIMENSIONAL TOLERANCES: MANUFACTURE SHALL ADHERE TO THE FOLLOWING DIMENSIONAL TOLERANCES ALL PLASTIC TUBING SHALL BE +/- 0.015" TO THOSE SHOWN ON THE DRAWING. ALL CASTINGS SHALL BE MANUFACTURED TO WITHIN +/- 0.0625" TO THE DIMENSIONS SHOWN ON THE DRAWING.
9. DIMENSIONS SHALL BE CONSISTENT THROUGHOUT THE CASTING.
10. TOP SECTION OF VALVE BOX SHALL HAVE THE PLASTIC TUBE FORCED FIT AND CEMENTED INTO THE CASTING. THIS JOINT SHALL BE CAPABLE OF WITHSTANDING A PULL OUT FORCE OF 20 POUNDS.
11. MANUFACTURER SHALL SUBMIT SAMPLES TO THE ENGINEER FOR APPROVAL PRIOR TO BID ACCEPTANCE.
12. STREET BOXES SHALL BE DESIGNED TO HANDLE TO AN H-20 ROADWAY LOADING.
13. TOP FLANGE OF ROADWAY BOX SHALL BE FLAT AND WIDE ENOUGH TO ACCOMMODATE A 3/8" METAL NUMBER STAMP EMBEDDED INTO THE CASTING BY CKD IN THE FIELD.
14. THE VALVE FOOT PIECE SHALL BE DESIGNED TO FIT THE FOLLOWING MANUFACTURER'S VALVES.
    ½"- 1 ¼" - PERFECTION
    2" - NORDSTROM OR PERFECTION UNIVERSAL FOOT PC FOR BOTH MFG.
    4" - 8" NORDSTROM

No.	ITEM	N.G. CODE No.
18	PENTAGON KEY FOR ITEMS 8B AND 11B (NOT SHOWN)	9354644
17	2" REGRADE ADAPTER FOR 12" LOCKING BOX SC120I R2	9384175
16	VALVE BOX ADAPTER RING, 1/4 INCH THICK X 7-5/8 INCH I.D. X 10-1/2 IN O.D. FLAT RING TO RAISE OLD LEGACY OBSOLETE LILCO ROUND CASTINGS	9353359
15	ONE INCH GRADE ADAPTER & COVER FOR CP TEST#445 ROADWAY BOX - NH ONLY	9383913
*	REPLACEMENT COVER FOR LIL #2 BOX - LI ONLY COVER MARKED "GAS" FOR 445 BOX (WITH UNIDIRECTIONAL ARROW) COVER MARKED "GAS" FOR 445 BOX (WITHOUT UNIDRECTIONAL ARROW) COVER MARKED "GAS" FOR 4" STAY PUT BOX - NYCONLY COVER MARKED "GAS" FOR #11B BOX COVER MARKED "GAS" FOR #10 BOX RESURFACE REPAIR SLEEVE RING	9339829 9339828 9388350 9339759 9339858 9339762
14	1" REGRADE ADAPTER WITH COVER FOR CP TEST #11B BOX - SEE NOTE B	9382611
13A 13B	¾" REGRADE ADAPTER FOR B&T STAY PUT SERVICEBOX WITH SLOTS NYC ONLY 1-½" REGRADE ADAPTER FOR B&T STAY PUT SERVICE BOX WITH SLOTS NYC ONLY	9339800 9339725
12 *	1" REGRADE ADAPTER FRAME FOR THE LIL# 2 & 3 VALVE BOX. COVER FOR ABOVE (NOT SHOWN) - LI ONLY	9339859 9339860
11B	COVER, REPLACEMENT, LOCKING, MARKED "GAS" FOR EXISTING LOCK TYPE 200 BOX, WITH PENTHEAD BOLT - LI ONLY (NOT SHOWN)	9384338
11A	COVER, REPLACEMENT, NON-LOCK, MARKED "GAS" FOR EXISTING NON-LOCK TYPE 200 BOX - LI ONLY (NOT SHOWN)	9339798
11	1" REGRADE ADAPTER FRAME & COVER FOR 200 VALVE BOX - LI ONLY	9339826
*	2-1/2" REGRADE ADAPTER FOR 200 VALVE BOX. FITS EXISTING COVER. (NOT SHOWN) - LI ONLY	9339799
10	1" REGRADE ADAPTER & COVER FOR 91C BOX - LI ONLY	9339761
9	1 ¼" REGRADE ADAPTER FOR LIL 2&3 BOX - LI ONLY	9339758
8B	COVER, REPLACEMENT, LOCKING, MARKED "GAS" FOR 7-1/2" EXISTING TYPE "A" LOCK VALVE BOXES, WITH PENTHEAD BOLT - LI ONLY (NOT SHOWN)	9339760
8A	COVER, REPLACEMENT, MARKED "GAS" FOR 7-1/2" EXISTING TYPE "A" NON-LOCK VALVE BOXES AND ALL TYPE "A" ADAPTER RINGS - LI ONLY (NOT SHOWN)	9304430
8	1" REGRADE ADAPTER FOR TYPE "A" VALVE BOX. FITS EXISTING COVER. - LI ONLY	9339827
7	2 ½" REGRADE ADAPTER FOR TYPE "A" VALVE BOX .2-1/2 IN MIN TO 8 IN MAX RISE. FITS EXISTING COVER. - LI ONLY	9339763
6	1" REGRADE ADAPTER RING EXTENSION WITH 10" PLASTIC SKIRT TO REPAIR TOPS OF CP TEST #10 BOX	9381407
5	1" REGRADE ADAPTER FOR CP TEST #10 BOX	9339823
4	EXTENSION TUBE – FOR CP TEST #11 BOX EXTENSION TUBE - FOR CP TEST #10 BOX	9382619 9339824
*	EXTENSION TUBE, FOR CP TEST #558 BOX, 18" LONG – (NOT SHOWN) - NE ONLY EXTENSION TUBE, FOR CP TEST #334 BOX, 24" LONG – (NOT SHOWN) - NE ONLY	9383199 9383198
3	ROADWAY BOX ASSEMBLY AND COVER FOR 8" POLYVALVE CP TEST #11B OR APPV'D EQUAL ROADWAY BOX ASSEMBLY AND COVER FOR 6" POLYVALVE CP TEST 11B OR APPV'D EQUAL ROADWAY BOX ASSEMBLY AND COVER FOR 4" POLYVALVE CP TEST #10 OR APPV'D EQUAL ROADWAY BOX ASSEMBLY AND COVER FOR 2" AND 1" POLYVALVES CP TEST #10 OR APPR'D EQUAL ROADWAY BOX ASSEMBLY AND COVER FOR 1"- 2" MUELLER SERVICE VALVE TEE CP TEST #10 OR APPV'D EQUAL	9339893 9339892 9339891 9339890 9339887
2	ROADWAY SERVICE BOX AND COVER FOR ½" TO 1" PLASTIC VALVE NE ONLY CP TEST #10 OR APPV'D EQUAL	9382767
1	SIDEWALK VALVE BOX ASSEMBLY AND UNIDIRECTIONAL ARROW COVERFOR ½" TO 1 ¼" PLASTIC VALVES CP TEST #445 OR APPR'D EQUAL SIDEWALK VALVE BOX ASSEMBLY AND UNIDIRECTIONAL ARROW COVERFOR 2" TO 3" PLASTIC VALVES CP TEST #445 OR APPROVED EQUAL	9339888 9339889

BILL OF MATERIAL



2"-12" PE VALVE TYPICAL INSTALLATION

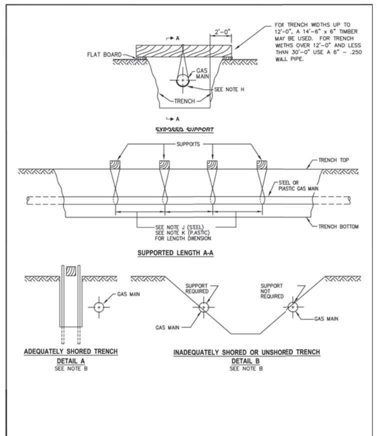
nationalgrid ALL REGIONS

REVISIONS: UPDATED ITEM ID'S

DATE: 07/01/2003 | EFFECTIVE DATE: 06/09/2020 | DESIGN: AJG / MAM | DRAWN: P. DIMAIO | STD. DWG. NO. VALV-6020

NOTES:
A. IN DNY LI REGION, INSTALL A LENGTH OF 2" DIAMETER PE OR SMALLER TUBING IN THE VALVE BOX TO IDENTIFY THE VALVE AS PLASTIC.
B. INSTALL TRACER WIRE OR BALL MARKERS AS REQUIRED IN YOUR REGION FOR PE INSTALLATIONS.
C. NOT USED ON THE DNY LI 99 & 124 PSI PE SYSTEM.
D. REFER TO REGIONAL STANDARDS FOR MATERIAL IDS NOT GIVEN BELOW.

No.	ITEM	SAP ID	SAP ID	SAP ID
1	VALVE, PE (PORT CONFIGURATION AS NOTED)	UNY AND RI LP TO 100 PSIG HD 9311203 12" DR 11 FULL PORT W/ GEAR OPERATOR RI ONLY 9307909 12" DR 13.5 FULL PORT W/ GEAR OPER UNY ONLY 9311173 8" DR 11 FULL PORT RI ONLY 9315189 8" DR 13.5 FULL PORT UNY ONLY 9312116 6" DR 11 FULL PORT 9312058 4" DR 11 FULL PORT 9308561 3" DR 11 FULL PORT RI ONLY 9312060 2" DR 11 FULL PORT 9311146 2" DR 11 FULL PORT WITH PERMASERT ENDS	LI ONLY 99 AND 124 PSIG HD 9341706 8" RED PORT DR 9 9341705 6" RED PORT DR 9 9341700 4" RED PORT DR 9 9341699 2" FULL PORT DR 9	LI, NYC AND NE LP TO 60 PSIG MEDIUM DENSITY 9341704 12" FULL PORT DR 13.5 9386594 8" FULL PORT DR 13.5 9323032 6" FULL PORT DR 11.5 9341709 4" FULL PORT DR 11.5 9323299 3" FULL PORT DR 11 9341784 2" FULL PORT DR 11 9341408 8" RED PORT DR 13.5 9341757 6" RED PORT DR 11.5 9341693 4" RED PORT DR 11.5 9341756 3" RED PORT DR 11 100 PSIG HIGH DENSITY (NE ONLY) 9323610 4" RED PORT DR 11 9323611 6" RED PORT DR 11 9323612 8" RED PORT DR 11 9312060 2" FULL PORT DR 11 9312058 4" FULL PORT DR 11 9312116 6" FULL PORT DR 11
2	ROADWAY VALVE BOX WITH COVER	SAP ID SELECT ROADWAY VALVE BOX BELOW TO MATCH SIZED VALVE GIVEN SEE DWG FITS 6360 (FOR 12" VALVE) 9311208 (FOR 2" THRU 8" VALVE)	SAP ID SELECT ROADWAY VALVE BOX BELOW TO MATCH SIZED VALVE GIVEN 9341706 8" RED PORT 9341705 6" RED PORT 9341700 4" RED PORT 9341699 2" FULL PORT	SAP ID SELECT ROADWAY VALVE BOX BELOW TO MATCH SIZED VALVE GIVEN 9382626 FOR 12" FULL PORT 9382626 FOR 8" FULL PORT 9339893 FOR 6" FULL PORT 9339892 FOR 4" FULL PORT 9339890 FOR 3" FULL PORT 9339890 FOR 2" FULL PORT 9339893 FOR 8" RED PORT 9339892 FOR 6" RED PORT 9339891 FOR 4" RED PORT 9339891 FOR 3" RED PORT
3	COUPLING ELECTROFUSE			
4	PLASTIC PIPE			
5	BURIAL TAPE			
6	INSERT STIFFENER (SEE NOTE C)			
7	ANODE, 17 LB			
8	TRANSITION FITTING STL TO PE			
9	TRACER WIRE OR (BALL MARKER IF USED IN REGION)			
10	COUPLING 2" PERFECTION PERMASERT (SEE NOTE C)			
11	COUPLING, PE TO CI, LOCKING INSULATING, MECHANICAL			
12	COUPLING, PE TO STL, LOCKING, NON-INSULATING MECHANICAL (SEE NOTE C)			



SUPPORT REQUIREMENTS FOR EXPOSED & UNDERMINED STEEL OR PLASTIC GAS FACILITIES

nationalgrid LI–MA–NYC

REVISIONS: UPDATED SAP ID AND NOTE H

DATE: 07/01/2003 | EFFECTIVE DATE: 03/07/2018 | DESIGN: A. GIULIANI | DRAWN: P. DIMAIO | STD. DWG. NO. CNST-6045 | SHT. 1 OF 2

NOTES:

A. THIS CONSTRUCTION STANDARD SHALL BE USED TO SUPPORT PLASTIC OR STEEL GAS FACILITIES WHICH ARE UNDERMINED AND EXPOSED BY CONSTRUCTION ACTIVITY.

B. IF AN EXCAVATION IS MADE AT ANY DISTANCE PARALLEL TO THE GAS FACILITY WITH ADEQUATE OSHA STRUCTURAL SHORING, AS SHOWN IN DETAIL "A", OR IF A STABLE SOIL CONDITION WITH SUFFICIENT COVER ABOVE THE PIPE'S CENTERLINE EXISTS, AS SHOWN IN DETAIL "B", THEN SUPPORTS ARE NOT REQUIRED. UNSTABLE SOIL IS DEFINED AS A SOIL WHICH CAN CAUSE "SOIL RUN OUT" FROM BENEATH THE PIPE (e.g., WASHOUT, SOFT CLAY, etc.,) OR CAN SHIFT DUE TO CONSTRUCTION ACTIVITY, VIBRATIONS, etc.; AND CAUSE A SOIL SCENARIO TO OCCUR AS SHOWN IN DETAIL "B" TO REQUIRE PIPE SUPPORT.

C. IF AN EXCAVATION CROSSES OR RUNS PARALLEL TO A GAS FACILITY, SUPPORTS MAY NOT BE REQUIRED IF THE EXPOSED SECTION OF PLASTIC PIPES IS 3' OR LESS AND STEEL PIPES 7' OR LESS.

D. ALL EXCAVATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ONE CALL DIG SAFE PROGRAM USING THE APPROPRIATE MARK OUT, TEST HOLES AND EXCAVATION TO AVOID DAMAGE TO PIPE OR PIPE COATINGS:
- NEW YORK STATE CODE RULE 753
- MA CHAPTER 82 - SECTION 40, GENERAL LAWS, REGULATING NOTICE REQUIREMENTS FOR EXCAVATION IN PUBLIC WAYS

E. USE OF THIS CONSTRUCTION STANDARD DOES NOT RELIEVE THE CONSTRUCTION AGENCY OR AUTHORITY OR THEIR RESPECTIVE CONTRACTORS OF RESPONSIBILITY FOR DAMAGES. ALL DAMAGES WILL BE REPAIRED IN ACCORDANCE WITH EXISTING STANDARDS AND THE APPROPRIATE PARTY SHALL BE BILLED FOR ALL EXPENSES.

F. GAS FACILITIES SHOULD NOT BE UNDERMINED WITHOUT ADEQUATE SUPPORT (DETAIL A). ALL SUPPORT LINES SHALL BE TENSIONED SO THAT NO DEFLECTION WILL OCCUR WHEN THE FACILITY IS UNDERMINED. THIS TENSION SHALL BE CHECKED AT THE START AND END OF EACH DAY AND ADJUSTED AS NECESSARY.

G. WHERE A COUPLING, GAS SERVICE, CLAMP, VALVE, DRIP LINE OR OTHER APPURTENANCE EXISTS ON THE EXPOSED SECTION OF MAIN, AN ADDITIONAL SUPPORT SHALL BE INSTALLED AT THE LOCATION.

H. WHEN SUPPORTING AN EXPOSED FACILITY, THE PIPE COATING SHALL BE PROTECTED WITH ROCK SHIELD (ITEM ID 9340226), OR OTHER LIKE MATERIAL CUT TO A MINIMUM WIDTH OF ½ THE SUPPORTED PIPE DIAMETER SUPPORT LINES SHALL BE A MINIMUM OF ¾" POLYPROPYLENE OR BETTER. FRP SHEILDS MAY ALSO BE USED FOR THIS PURPOSE PROVIDED THEY EXTEND A MINIMUM OF ½ WAY UP THE PIPE TO PROTECT FROM SIDE LOADING.

I. SUPPORTS FOR GAS TRANSMISSION FACILITIES SHALL BE REVIEWED WITH GAS ENGINEERING PRIOR TO INSTALLATION.

J. THE MAXIMUM SPACING BETWEEN SUPPORTS FOR STEEL FACILITIES SHALL BE AS FOLLOWS:
   7' SPACING FOR ¾" AND 1 ¼" STEEL
   10' SPACING FOR 2" STEEL
   15' SPACING FOR 3" AND 4" STEEL
   20' SPACING FOR 6" AND LARGER STEEL

K. THE MAXIMUM SPACING BETWEEN SUPPORTS FOR PLASTIC FACILITIES SHALL BE AS FOLLOWS :
   3' SPACING FOR 2" AND SMALLER PLASTIC
   6' SPACING FOR 4" AND LARGER PLASTIC

L. VIBRATING MACHINES ARE ALLOWED OVER STEEL OR PLASTIC FACILITIES WITH 24" OR GREATER COVER. HAND HELD MECHANICAL. TAMPER IS ACCEPTABLE OVER ANY FACILITY WITH 12" OR GREATER COVER.

M. WHEN CONSTRUCTION ACTIVITY IS COMPLETED, CLEAN FILL SHALL BE COMPACTED AROUND AND UNDER THE GAS FACILITY BEFORE REMOVING SUPPORTS.

N. SEE REGIONAL DAM01007-NYC-LI-UNY OR DAM-MA-RI PROCEDURES FOR **REPLACEMENT** REQUIREMENTS OF CAST IRON PIPE.

No.	ITEM	CODE No.

BILL OF MATERIAL

SHT. 2 OF 2 CNST-6045

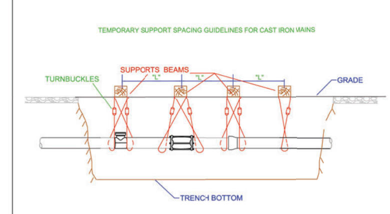


TABLE 1
SUGGESTED MAXIMUM PIPE SUPPORT SPACING "L"
SUGGESTED MAXIMUM SPAN

PIPE SIZE (INCHES)	CAST IRON (FEET)
1	-
2	-
3	4
4	4
6	4
8	4
12	6
16	6
20	6
24	6

NOTES:

1. WHERE A COMPRESSION COUPLING, GAS SERVICE, REPAIR CLAMP, VALVE, DRIP LINE OR ANY OTHER APPURTENANCE IS FOUND INSTALLED ON THE GAS MAIN, ADDITIONAL SUPPORT SHALL BE INSTALLED TO REINFORCE THE PIPING A THIS LOCATION.
2. CONTACT ENGINERING FOR ALTERNATE OR ADDITIONAL SUPPORT REQUIREMENTS.

TEMPORARY SUPPORT SPACING GUIDELINES FOR CAST IRON MAINS

nationalgrid ALL REGIONS

Key Changes:

DATE: 2/15/2018 | EFFECTIVE DATE: 2/15/2018 | DESIGN: ED MARIAN | DRAWN: PAUL GUGLIOTTA | STD. DWG. NO. CNST6046

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FAX (585) 359-7541

BOSTON GAS COMPANY d/b/a nationalgrid
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WALTHAM, MA 02451

IFC

PE STAMP: 11/28/22

NO.	DESCRIPTION	DATE	DR.BY	CK.BY	APP.BY
B	REVISED BILL OF MATERIALS	01/09/2023	CJV	DMJ	MEP
A	ISSUED FOR CONSTRUCTION	11/29/2022	CJV	DMJ	MEP

75 PLEASANT ST
GAS MAIN EXTENSION
TYLER TER
NEWTON, MA

STANDARD DETAILS

DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	C. VARGAS	11/29/2022	XXXXXXXX	1502891

PAGE 07 OF 07

DRAWING NO. C-203 | SHEET NO.

50-23

KIM ALBERT
HO JENNIFER TRS
7 PARKER TER
NEWTON, MA 02459

RIPLEY STEPHANIE E TR
RIPLEY ARIE J TR
83 PLEASANT ST CTR
NEWTON, MA 02459

CHEUNG NORMAN & JUN
117 PLEASANT ST CTR
NEWTON, MA 02459

FIREMAN JANE E TR
THE JANE E FIREMEN REV
106 TYLER TER
NEWTON, MA 02459

NEWFIELD LISA S TR
LISA S NEWFIELD 2001
100 TYLER TER UN 1
NEWTON CENTRE, MA 02459

ABRAHAMS KAREN A &
100 TYLER TERR
NEWTON, MA 02459

100 TYLER TER MASTER DEED

SAAR PORAT
74 TYLER TER
NEWTON, MA 02459

GOLDSTONE DAVID &
68 TYLER TER
NEWTON, MA 02459

FASO KIMBERLY J
62 TYLER TER
NEWTON CENTRE, MA 02459

LESTRANGE MARGOT J TR
56 TYLER TERRACE REALTY
56 TYLER TER
NEWTON, MA 02459

MCMILLAN CHARLES B
MCMILLAN RONNI L TRS
50 TYLER TER
NEWTON, MA 02459

EDDY GAIL M
42 TYLER TER
NEWTON, MA 02459

HICKS DARLINGTON P
DUTT KEVIN C
34 TYLER TER
NEWTON, MA 02459

WOODS SETH TR
SETH WOODS 2010 TRUST
1175 CENTRE ST
NEWTON CENTRE, MA 02459

CITY OF NEWTON
PLAYGROUND DEPT
1000 COMM AVE
NEWTON, MA 02459

RESOLUTION FOR A FUTURE WITHOUT GAS AND FOR CLEAN HEAT

Councilors Leary, Kalis, Humphrey, Bowman, Downs, Crossley, Greenberg, Lipof, Ryan, Lucas, Kelley, Wright, Norton, and Albright support the following Resolution:

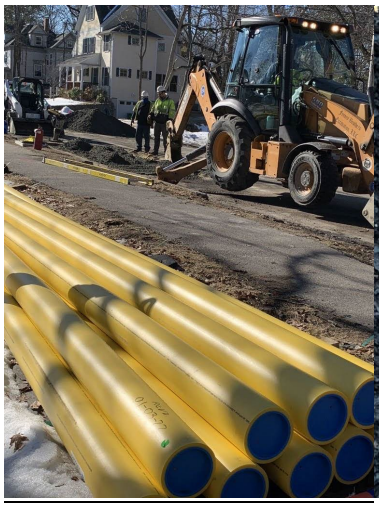
WHEREAS, we are in a climate emergency that is increasing the social and financial costs of extreme weather damage; the cost of fossil fuels is volatile and rising; and the most effective way to protect the health, public safety and economic security of all members of our community is to stop burning fossil fuels; and

WHEREAS, the decades-long amortization of extensive, unnecessary, and counterproductive pipe replacement will be a rate burden on those without the assets or authority (e.g. renters) to electrify their homes; and,

WHEREAS, we want to align our policies and practices with the goals of Newton's Climate Action Plan and the Commonwealth's Climate goals:

NOW, THEREFORE BE IT RESOLVED:

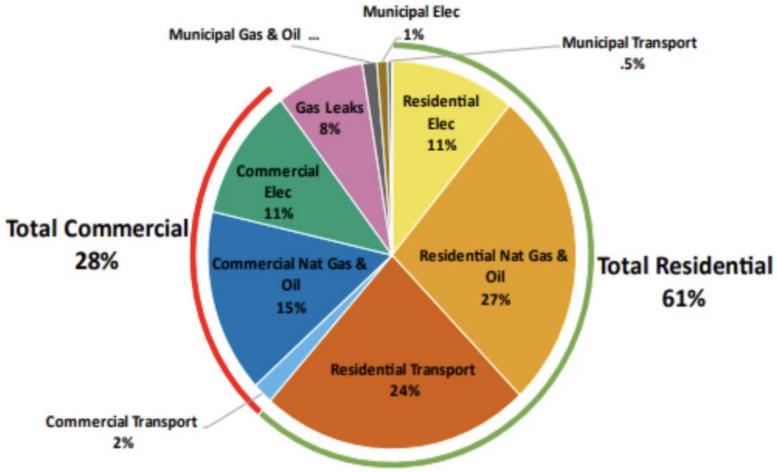
The City of Newton acknowledges the urgency of reducing the enormous cost to ratepayers and risks of our gas infrastructure. Therefore, Newton commits to creating a city-wide plan to equitably achieve optimal efficiencies and reduce emissions and risks by accelerating the retirement of the gas infrastructure through triage and repair of gas leaks and to expedite the electrification of residences and businesses.



REASONS:

- The gas network is old, leaky and increasingly vulnerable to freezing, thawing, and water infiltration from a rising water table and more intense precipitation due to global warming. See City of Newton Climate Vulnerability Assessment and Adaptation and Resiliency Action Plan | Mass.gov

- Hundreds of gas leaks cause at least 8+% of Newton's GHG emissions. We can achieve the biggest reduction in emissions from lost and unaccounted for gas by **retiring** leaking and leak-prone pipes.



- The intent of the 2014 Gas System Enhancement Program (GSEP) legislation was to reduce emissions and improve safety. National Grid has not achieved those goals; GSEP does not explicitly authorize installing new high pressure, hydrogen ready pipes.

- If National Grid is allowed to implement its plan, Massachusetts will spend an estimated $40+ billion on pipe replacement that extends the pipeline infrastructure at rate payers' expense long after its useful life rather than funding effective, less costly repairs of gas leaks and retrofitting buildings for clean renewable energy.

- We can avoid squandering these funds on dangerous, wasteful, obsolete fossil fuel infrastructure and instead use them for effective trenchless, durable, as-safe, less disruptive and lower cost pipeline maintenance methods** and to also install solar, networked geothermal and "clustered electrification" (block conversions from gas to heat pumps.)

- It is in the best interest of our families and neighbors to reduce risk of explosion, and fire, to reduce sources of indoor and outdoor air pollution from gas, and to ensure that the utility companies will not introduce fuels blended with hydrogen into the gas distribution pipelines.

Proposal for changes to National Grid's application for Grants of Location for pipeline replacement projects and a City-wide Plan 10/7/22

**Letter to Public Facilities about an alternative, trenchless, durable, as-safe, less disruptive and lower cost alternative pipeline maintenance method 9/17/22

Geohazard Concerns

GSEP At The Six-Year Mark A Review Of The Massachusetts Gas System Enhancement Program (https://www.gastransitionallies.org/gsep)

Letter to Healey's Climate Transition Committee; GTA meeting Thurs Dec 15
Recommendations_from_Gas_Transition_Allies_Strategic_Initiatives_Committee_12-15-22 We hope this document is useful as a beginning place and as a compass to help us row together in the same direction.

Massachusetts Commission on Clean Heat Final Report

FROM: Councilor Alison M. Leary, Chair Public Facilities

TO: City Council

Re: Grants of Location for Methane Gas and the Role of the Public Facilities Committee.

Dear Colleagues,

At the Public Facilities Committee meeting on February 8th, we had a long discussion with National Grid about how decisions are made regarding gas line repair versus replacement and how gas leaks are prioritized. The specific discussion item was #546-22 - request for a grant of location (GOL) in Paulson Road which will be before the City Council on Monday evening. With this particular GOL, there are no leaks but there is evidence of water intrusion which has the potential to damage a heating system and result in loss of service. Please refer to the meeting notes for more specifics on water intrusion.

The vote on this GOL (3-2-1) reflects the committees concerns about meeting climate action plan goals while we conduct business as usual by regularly approving thousands of feet of replacement gas mains. At the same time, we have been advised by our law department about the limits of our authority regarding GOL's. Primary regulatory authority is based at the State level with the Department of Public Utilities (DPU).

Critical efforts are ongoing to lobby at the State level to address gas leaks and the barriers to transitioning to clean, renewable energy. Advocates include the Multi-Town Gas Leaks Initiative (whose meetings I attend), Mother's Out Front and the Gas Transition Allies Strategic Initiatives Committee. Priorities include; updating the Gas System Enhancement Program (GSEP), establishing a centralized climate authority in the Governor's office with a structure for stakeholder engagement; prioritizing the decarbonization of buildings and investing in geothermal systems. I am also grateful for Commissioner McGonagle and Mayor's efforts to prod Ngrid to prioritize the repair of the grade 3 Significant environmental impact (SEI) gas leaks (AKA as "super-emitters") But it is a constant battle and we have not made progress on reducing the number of SEI leaks.

What I have heard consistently at the GOL public hearings from both the public and the councilors was a request for a comprehensive, strategic city-wide plan that would allow the city to coordinate work with Ngrid in a more proactive and organized way and facilitate the sharing of information on gas leaks data.

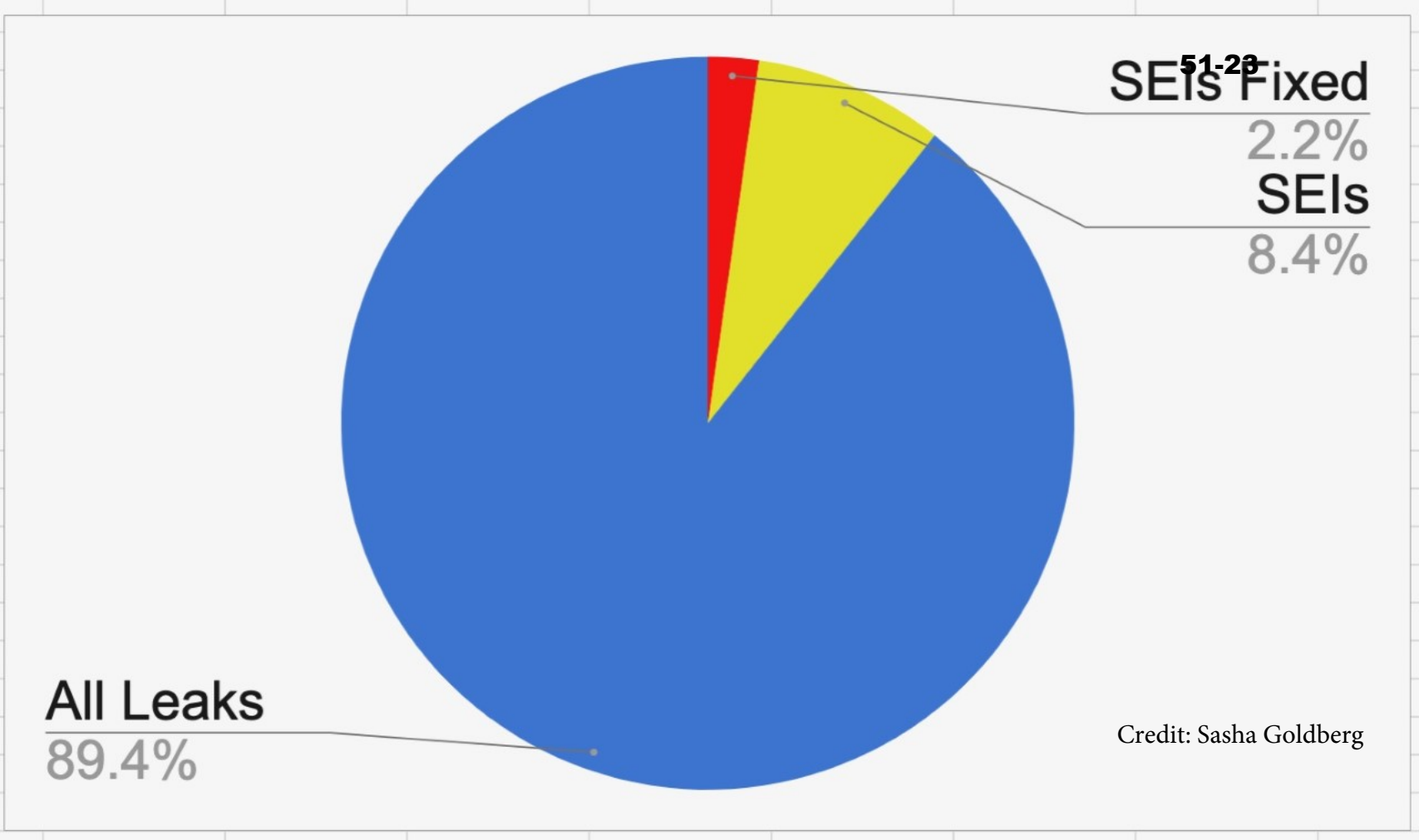
The goals of a comprehensive city-wide gas management plan should include protecting ratepayers from investing in a gas infrastructure system that may obsolete within the next 3 decades. It will also allow the Commonwealth to prioritize public funds towards efficiencies and clean energy, including heat pump technology that can help all communities, including Newton achieve climate goals.

A city-wide plan could include the following:

- Request that Ngrid provides the full map of Newton's gas infrastructure to include the age, material type, condition, pressure and history of each section of pipeline including the methods and materials used in repairs and/or methods and material used for replacements, the location and condition of turnoff valve caps (gate boxes), and other features that affect the safety and reliability of the pipe.
- The map should define and identify leaking pipes (and joints) and leak-prone pipes.
- The map should show Newton's Road construction/paving plans especially in pipelines where there are multiple leaks and/or high-volume leaks of significant environmental impact (SEIs).

A Risk Analysis and Cost Analysis that includes:

  - Current pipeline and leak inspection dates and gas leak grades.
  - Current date, location and history of each leak repair, the criteria used for maintenance decisions and type of repair or replacement.
  - The cost of each proposed pipeline replacement project and the cost of alternative maintenance options including relining and joint repair.
  - The cost of lost gas per leak and the cumulative amount of lost gas during the age of the leak, and the emissions reduction achieved when each leak is fixed.



Credit: Sasha Goldberg

RUTHANNE FULLER
MAYOR

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February 2, 2023

Honorable City Council
Newton City Hall
1000 Commonwealth Avenue
Newton Centre, MA 02459

Councilors:

I respectfully submit a docket item to your Honorable Council requesting authorization to appropriate and expend the following amounts to cover the completion of Phase 1 of the City's Phosphorus Control Plan. The City of Newton is required to develop a Phase 1 Phosphorus Control Plan (PCP) by June 30, 2023, to comply with the Environmental Protection Agency (EPA) requirements under the Municipal Separate Storm Sewer System (MS4) Permit. The City has entered into an engineering agreement with Woodard & Curran to develop this phosphorus control plan. Further detail is provided in the attached letter from Jim McGonagle, Commissioner of Public Works.

Acct Description	From Acct #	To Acct #	Amount
Stormwater – Full-time Wages	62A40101-511002	62A40101-539300	$160,000
Stormwater – Drainage System	62A40101-586004	62A40101-539300	$120,000

Thank you for your consideration of this matter.

Sincerely,

Ruthanne Fuller

Ruthanne Fuller
Mayor

DEPARTMENT OF PUBLIC WORKS
OFFICE OF THE COMMISSIONER
1000 Commonwealth Avenue
Newton Centre, MA 02459-1449
Ruthanne Fuller-Mayor
January 30, 2023

To: Maureen Lemieux, Chief Financial Officer
Jonathan Yeo, Chief Operating Officer

From: James McGonagle, Commissioner of Public Works
Shawna Sullivan, Deputy Commissioner of Public Works
Thomas Fitzgerald, Utilities Director

Subject: Request to Docket funding in the amount of $280,000 to complete Phase 1 of the City's Phosphorus Control Plan as required by the Environmental Protection Agency

I respectfully request that the Mayor docket a request with the City Council for an additional $280,000 to complete the remainder of the tasks included in Phase 1 of the Phosphorus Control Plan. The Department of Public Works is currently working with a consultant as part of the initial contract on the Phase 1 Phosphorus Control Plan.

The City of Newton is required to develop a Phase 1 Phosphorus Control Plan (PCP) by June 30, 2023 to comply with the Environmental Protection Agency (EPA) requirements under the Municipal Separate Storm Sewer System (MS4) Permit. The City is currently entered into an engineering agreement with Woodard & Curran to develop our phosphorus control plan. As anticipated, to complete the plan and required associated tasks, the Department of Public Works is requesting an additional $280,000 for Woodard & Curran.

The scope of work for the Phosphorus Control Plan is listed below:

- Legal analysis
- Funding analysis
- Phosphorus baseline load updates
- Planned non-structural controls
- Planning of structural controls in the City rights-of-ways
- Operation and maintenance program for structural control measures
- PCP implementation schedule
- PCP estimated implementation costs
- Final Phase 1 Phosphorus Control Plan
- EPA alternate schedule request initiation

Further information and details are available in the attached documents including the December 2022 by the consultant.
Sincerely,

James McGonagle

Commissioner Public Works

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MEMORANDUM

TO: Mr. James McGonagle, Commissioner of Public Works
Ms. Shawna Sullivan, Deputy Commissioner of Public Works
Mr. Thomas Fitzgerald, Utilities Director

FROM: Stephanie Kaiser, Carol Harris, Zach Henderson

DATE: November 16, 2022

RE: Newton Phase 1 Phosphorus Control Plan (Calendar Year 2023)

This memorandum is intended to provide an overview of tasks necessary to complete Newton's Phosphorus Control Plan, in compliance with the Phase 1 Phosphorus Control Plan (PCP) requirements and associated June 30, 2023, deadline. The Phase 1 PCP is required by the U.S. Environmental Protection Agency (EPA) under the Municipal Separate Storm Sewer System (MS4) General Permit Appendix F.

The City of Newton has begun phosphorus control planning and has already advanced multiple components of the required Plan elements. The PCP tasks outlined in this memorandum are those necessary to advance or refine items already in progress, complete outstanding items and prepare the final Phase 1 PCP in compliance with the requirements. A general description of these tasks and budgetary estimate are provided in this memorandum for the City of Newton's planning considerations. Below are the tasks which have been identified for completion of the Phase 1 PCP.

Legal Analysis – The preliminary Legal Analysis, previously prepared, shall be refined and updated to reflect current information, and more importantly to define potential policy or program changes that may be necessary to advance implementation of the PCP.

Funding Analysis – The primary funding mechanism for the City's support of MS4 programs is the Stormwater Enterprise Fund. As the PCP is advanced and Planned Controls and their implementation costs identified, it is anticipated that the City may want to consider and understand current alternate funding sources that may be available. Additionally, funding sources and eligibility requirements are continuously changing and warrant review on an annual basis. Therefore, available funding mechanisms will be revisited as the PCP is advanced.

Baseline Load Updates - The EPA assigned a baseline load using 2005 land use and impervious data. Since land use and coverage are continuously changing, development changes from 2005-2022 are required to be accounted for as part of the Phase 1 PCP implementation. Therefore, the baseline load and associated reduction requirements need to be recalculated for inclusion in the final PCP.

Planned Non-Structural Controls - As part of the preliminary PCP, previously prepared, the City's non-structural stormwater control practices and frequencies were evaluated to estimate associated phosphorus load reduction resulting from those practices. It is anticipated that the City may desire to enhance their non-structural stormwater control program due to EPA's refinement of allowable leaf litter credits and other comprehensive phosphorus control planning considerations.

Planning of Structural Controls in City Right-of-Ways - The City of Newton has approximately 925 acres of municipal rights-of-way with additional private impervious area, such as driveways, tributary to the public roads. Structural stormwater retrofits in municipal right-of-ways could provide a significant opportunity for phosphorus reduction and are included to be evaluated for inclusion in the Plan.

Operation & Maintenance Program for Structural Control Measures - The Phase 1 PCP requires identification and implementation of an operation and maintenance program for structural control measures credited with reducing phosphorus. Both O&M program implementation for City owned and managed controls as well as the City's approach to documenting O&M of private controls will be incorporated into the Phase 1 PCP.

Phase 1 PCP Implementation Schedule - An implementation schedule of Phase 1 controls is required to be included in the Plan.

Phase 1 PCP Estimated Implementation Costs – Estimated costs to implement Phase 1 are required to be included in the Plan.

Final Phase 1 Phosphorus Control Plan – The City of Newton's Phase 1 PCP will be prepared based on the preliminary Phase 1 PCP and the additional information gathered through these subsequent tasks for submittal to EPA.

Meetings, Outreach and Collaboration – Advancement and finalization of the Phase 1 PCP will require input and collaboration with the City of Newton. Outreach to support public-private collaboration may also be warranted.

EPA Alternate Schedule Request Initiation – Based on a planning level city-wide analysis previously performed, it is understood that the City cannot achieve the long-term permit requirements without incorporating Private BMPs into the Plan. Theoretically, the City may achieve the required 2028 load reduction solely through management of City property; however, this approach is not anticipated to be feasible based on financial and schedule constraints. Given the likelihood that the city will pursue an alternate schedule request after submittal of the Phase 1 PCP, it is recommended that discussions surrounding the challenges and need for the alternate schedule be initiated with EPA prior to and soon after the submittal of the Phase 1 Plan. A budgetary placeholder to initiate and support discussions with EPA is recommended at this time.

The budget of $405,500 associated with these tasks is provided for your planning purposes. This includes a budgetary placeholder associated with the EPA Alternate Schedule request initiation task, as noted above, and recommended for inclusion at this time. Tasks, their scopes, and associated budget may be refined as the Phase 1 Phosphorus Control Plan and discussions with EPA continue to evolve.

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Via Electronic Mail

June 20, 2022

Mr. James McGonagle, Commissioner of Public Works
City of Newton
Department of Public Works
1000 Commonwealth Avenue
Newton Center, MA 02459

Re: Proposal for Professional Engineering Services
Phase 1 Phosphorus Control Plan

Dear Mr. McGonagle:

Woodard & Curran, Inc. (Woodard & Curran) is pleased to present our proposal for professional engineering services to continue to assist the City of Newton, Massachusetts (City) with the development of the City's Phosphorus Control Plan (PCP) required by the U.S. Environmental Protection Agency (EPA) under the Municipal Separate Storm Sewer System (MS4) General Permit Appendix F. The preliminary Plan, initiated under prior contract, will be advanced and completed under this scope for submittal to the EPA.

Appendix F of the MS4 General Permit details the requirements of the PCP that includes the following steps to create Phase 1 of a 3-phase plan by the end of the 5-year permit term (June 30, 2023):

1-1 Legal Analysis (June 30, 2020)

1-2 Funding Source Assessment (June 30, 2021)

1-3 Define Scope of PCP (PCP Area) Baseline Phosphorus Load and Phosphorus Reduction Requirement and Allowable Phosphorus Load (June 30, 2022)

1-4 Description of Phase 1 Planned Non-structural Controls (June 30, 2023)

1-5 Description of Phase 1 Planned Structural Controls (June 30, 2023)

1-6 Description of Operation and Maintenance Program for Structural Controls (June 30, 2023)

1-7 Phase 1 Implementation Schedule (June 30, 2023)

1-8 Estimated cost for Implementing Phase 1 of the PCP (June 30, 2023)

1-9 Complete Written Phase 1 PCP (June 30, 2023)

Items 1-1 through 1-4, and 1-9 have been initiated under prior contracts. The PCP scope of services outlined in this proposal will continue to advance and refine items already in progress,

complete the remaining items (1-5 through 1-8), and prepare the final Phase 1 PCP in compliance with the requirements.

SCOPE OF SERVICES

It should be noted that several of these tasks run concurrently and are not necessarily implemented in the order they are presented.

LEGAL AND FUNDING ANALYSES

TASK 1: LEGAL ANALYSIS

A preliminary Legal Analysis was prepared in 2020 to support Phosphorus Control Planning in conjunction with MS4 requirements. Under this task, the preliminary Legal Analysis will be refined and updated to reflect current information, and more importantly to define potential policy or program changes that may be necessary to advance implementation of the PCP. As part of this Task, Woodard & Curran will review new city ordinances, policies, and programs and identify changes to regulatory mechanisms made in support of PCP implementation. Woodard & Curran will also review ordinances, policies, and programs to identify any subsequent changes that may be necessary to support PCP implementation in conjunction with the draft PCP. As part of this Task, W&C will participate in one conference call with City staff to discuss the City's policies, programs, and ordinances. Additional conference calls, if necessary, will be billed under Task 10 Meetings. The Legal Analysis will be prepared in memorandum format and provided to the City for review. One round of City comments will be incorporated prior to inclusion in the PCP.

TASK 2: FUNDING ANALYSIS

As the PCP is advanced, it is anticipated that available funding mechanisms will be revisited in conjunction with development of implementation costs in subsequent tasks. Additionally, funding sources and eligibility requirements are continuously changing and warrant review on an annual basis. The primary funding mechanism for the City's support of MS4 programs is the Stormwater Enterprise Fund. As the PCP is advanced and Planned Controls for Phase 1 Implementation identified, along with costs of implementation, it is anticipated that the City will desire to understand current alternate funding sources for their consideration. Under this Task, Woodard & Curran will perform a funding analysis identifying and documenting funding sources which may be available to assist with implementation of phosphorus reduction controls. It is anticipated that this task will be initiated after preliminary Phase 1 Control planning has been moderately advanced to better inform possible funding mechanisms. W&C's funding team will support development of a financing strategy as part of this Task. Up to three conference calls are included as part of this task; these calls are anticipated to include a discussion of available funding sources, financing strategy and review of the funding analysis. Additional conference calls, if requested, will be performed under Task 10 Meetings. The Funding Analysis will be prepared in memorandum format and provided to the City for review. One round of City comments will be incorporated into the final document, as applicable.

PHASE 1 PHOSPHORUS CONTROL PLANNING

TASK 3: PCP UPDATES OF BASELINE LOAD, REDUCTION REQUIREMENT AND ALLOWABLE LOAD

The EPA assigned a baseline load using 2005 land use and impervious data. Since land use and coverage are continuously changing, development changes from 2005-2022 are required to be accounted for as part of the Phase 1 PCP implementation. Changes in EPA Policy and Guidance regarding baseline load are evolving; however, it is anticipated that the baseline load and associated reduction requirement will need to be recalculated for inclusion in the final PCP. For the purpose of this scope, it is assumed that Woodard & Curran will use available data including 2005 impervious cover, 2016 land use, 2021 aerial imagery from MassGIS and the City of Newton impervious cover GIS dataset. 2005 impervious cover data and the City of Newton impervious cover data will be visually compared against 2021 aerial imagery; substantive changes in impervious will be noted for further assessment and calculation. Additionally, parcels where substantive development or redevelopment are noted will be reviewed against 2016 land use data and changes to land use will be documented. This comparison data will be used to document and calculate baseline load and required load reduction changes from 2005 to 2021. Additional load changes between 2021 and 2022 will be reviewed and calculated based on available City permit records. Under this Task, the data and calculations will be documented and provided to the City. As part of this task Woodard & Curran will prepare for and participate in up to three conference calls with applicable City staff to coordinate baseline load data and present updated load calculations. Additional conference calls, if requested, will be performed under Task 10 Meetings. As coordination with EPA evolves and their guidance is finalized, W&C will coordinate with the City if the scope of this Task needs to be modified.

TASK 4: PHASE 1 PLANNED NON-STRUCTURAL CONTROLS

As part of the preliminary PCP, previously prepared, Woodard & Curran coordinated with the City to understand the City's non-structural stormwater control practices and frequencies to estimate associated phosphorus load reduction resulting from those practices. The EPA may refine allowable credits associated with leaf litter collection which could provide more significant credit. Additionally, as the PCP is advanced, the City may desire to enhance their non-structural stormwater control program. Therefore, under this task, Woodard & Curran will refine the Phase 1 existing and planned non-structural control load reductions based on program practices and frequencies agreed to by the City and allowable credits as defined by EPA. It is understood that the City will provide Woodard & Curran with costs reflective of the non-structural control practices for use in PCP planning and documentation. We anticipate up to two discussions with applicable City staff for concurrence of planned non-structural control practices. Documentation of the refinement to non-structural load reductions will be provided. Additional discussions, if needed, will be billed under Task 10 Meetings.

TASK 5: PHASE 1 PLANNED STRUCTURAL CONTROLS

Task 5-1: City-wide High Level Structural Control Retrofit Analysis

Under this task W&C will perform a high-level City-wide analysis of potential phosphorus reduction credits associated with treatment of all City owned impervious area. It is anticipated that this analysis will be conducted as an early planning task to evaluate if the City can achieve

the load reduction requirements (Permit Year 10, 15 and 20) through their own properties, or identify the need/importance of collaboration with private property owners. This information is anticipated to inform project planning, discussions, and outreach. A brief memorandum of the calculations and findings will be provided. Discussion of the findings is anticipated to occur in conjunction with meetings with the City regarding planned structural controls, a stand-alone conference call is not anticipated to be necessary.

Task 5-2: Planned Structural Controls at City Properties

As part of the preliminary PCP planning, Woodard & Curran identified 11 stormwater BMPs either constructed (9) or planned to be constructed (2) at City owned properties. There are approximately 205 City properties with impervious coverage on-site. We recommend reviewing all City properties containing impervious coverage for potential structural stormwater BMP retrofits. As part of this task W&C will perform a desktop review of up to 205 parcels containing impervious area. The desktop review will include review of available GIS data layers, NRCS soil mapping, existing stormwater infrastructure plans and site plans (if available) and other available information. For the purpose of this scope, it is anticipated that approx. 50% of the properties (up to 100 properties) are found to be suitable for retrofit. The properties anticipated to be suitable for retrofit will be discussed with the City for the City's insight and input, prior to advancing further assessment.

In addition to City owned properties containing impervious coverage, it is anticipated that untreated impervious area discharges to, through or adjacent to City owned properties. Under this task, Woodard & Curran will also review up to 50 City parcels which may contain stormwater discharge from untreated off-site area. These City parcels may be undeveloped (not contain impervious on-site) or may be sites which also contain impervious being reviewed above. It is anticipated that up to 25 City properties (approx. 50%) will be found suitable for retrofit to treat runoff from off-site impervious area. Treatment potential for sites which contain both on-site impervious and untreated discharge from off-site will be reviewed comprehensively, with a single approach planned for the site addressing all viable treatment.

Woodard & Curran will document, in tabular format, possible retrofit locations, associated credit potential, costs, and recommendations for prioritization and next steps. Up to 125 City owned properties will be documented based on suitability for retrofit determined above (including both management of on-site impervious treatment and treatment off off-site impervious). EPA tools (Opti-tool and BATT) will be used to assess credit potential and order of magnitude costs. As part of this task Woodard & Curran will refine, on a unit cost basis, the costs developed using Opti-tool; refinement of costs will be based on our experience with implementation of similar BMPs.

The retrofit table is intended to be used in the final Phase 1 PCP plan. Supplemental site-specific data sheets may be developed, as needed to supplement the tabular data. Structural stormwater retrofit type envisioned for each property is anticipated to vary based on site conditions and engineering judgement; however, W&C will attempt to maximize phosphorus reduction credits.

Documentation of the City property structural retrofit analysis, will be provided to the City, including analysis of both City owned parcels with impervious area as well as undeveloped parcels which experience discharge of untreated off-site impervious. Up to three conference

calls with applicable City staff are included to facilitate and coordinate the analysis of structural controls on City parcels. Additional discussions, if necessary, will be performed under Task 10 Meetings.

Task 5-3: Planned Structural Controls in City Right-of-Ways

The City of Newton has approximately 925 acres of municipal right-of-ways. It is assumed that significantly greater impervious area drains to City owned catch basins via private driveway curb cuts and other private impervious coverage. Structural stormwater retrofits in municipal right-of-ways could provide a significant opportunity for phosphorus reduction. Under this task, Woodard & Curran will perform a desktop analysis of City right-of-ways for BMP retrofits. Desktop analysis will review items including, but not limited to slope, NRCS soil type and parcel data in conjunction with mapped utility infrastructure information. It is anticipated that the analysis will focus on various types of roadways, such as local, collector, and arterial streets. Up to three structural stormwater BMP retrofit systems will be assessed for each road type, with roadway grade considered relative to potentially viable BMPs. Up to 9 viable roadway BMP scenarios may be identified. It is anticipated that a BMP matrix will be developed identifying BMPs based on various roadway conditions. Again, maximization of phosphorus reduction will be prioritized when assessing viable BMPs. Based on this desktop assessment, Woodard & Curran will document, in tabular format, possible retrofit locations, associated credit potential ranges, costs, and recommendations for prioritization and next steps. Again, EPA tools (Opti-tool and BATT) will be used to assess credit potential and order of magnitude costs. Woodard & Curran will refine, on a unit cost basis, the costs developed using Opti-tool; refinement of costs will be based on our experience with implementation of similar BMPs. The retrofit table is intended to be used in the final Phase 1 PCP plan. Supplemental roadway-specific data sheets may be developed, as needed to supplement the tabular data.

Documentation of the City right-of-way structural BMP retrofit analysis, will be provided to the City. Two conference calls with applicable City staff are included to facilitate and coordinate the analysis of structural controls within City right-of-ways. Additional discussions, if necessary, will be performed under Task 10 Meetings.

Task 5-4: City Property Site Visits (Optional Service)

If requested, as an optional service, W&C will perform site visits of properties deemed viable for stormwater retrofits in Task 5-2 above, to confirmation suitability. Properties selected for site visits are anticipated to be based on elements identified during the Task 5-2 assessment such as priority, credit potential, anticipated site constraints/complications, or other factors. Woodard & Curran will coordinate with the City for concurrence prior to initiating site visits. Site visits are anticipated to include both City owned properties containing impervious coverage as well as City properties to which untreated impervious area discharges. It is assumed, for the purpose of this scope, that site visits will be performed for approximately half of the properties deemed suitable for retrofit; up to 75 site visits are included in this task.

Task 5-5: City Property Schematic Plans (Optional Service)

As another optional service, Woodard & Curran, if requested, will prepare schematic level structural stormwater retrofit plans for up to 75 City properties, approximately half of those deemed suitable for retrofit in Task 5-2. It is anticipated that W&C will review the properties

planned for schematic design with the City, for concurrence, prior to advancement of schematic design. Associated phosphorus reduction credit and cost will also be refined for each of the properties where schematic plans are developed. Information prepared as part of this additional service would be included in the final Phase 1 PCP plan.

Task 5-6: City Right-of-Way Site Visits (Optional Service)

As an optional service, if requested by the City W&C will perform field visits to review up to 15 anticipated right-of-ways for suitability of schematic design.

Task 5-7: City Right-of-Way Schematic Plans (Optional Service)

As another additional service, if requested by the City, W&C will prepare schematic BMP retrofit plans for up to 15 right-of-ways. Right-of-ways considered for schematic design will be discussed with the City, for concurrence, prior to advancement of schematic design. Associated anticipated phosphorus reduction credit and costs will also be refined for each of the right-of-ways where schematic plans are developed. Information prepared as part of this additional service would be included in the final Phase 1 PCP plan.

Task 5-8: Data Gap Analysis (Optional Service)

Under this task, as an optional service, if requested by the City, Woodard & Curran will continue to work with the City to identify existing creditable structural stormwater control measures, aka BMPs, and document associated phosphorus credits. It is anticipated that various Special Permit projects, Comprehensive Permit projects and Administrative Site Plan approval projects will continue to be reviewed as part of this task. Woodard & Curran anticipates reviewing most currently available data first, subsequently working back in time to older development projects. Work under this task may also include select review of single family residential BMPs to assess applicability of assigning average per lot credits which may be applied Citywide. It is anticipated that the City will continue to provide W&C with files for review. If requested, W&C will assist the City with data compilation and coordination of City files as part of this task. A budgetary allowance is provided for this task; files and associated credits will continue to be reviewed and updated as available and budget allows. It is understood that a targeted approach is anticipated in an effort to maximize crediting.

Task 5-9: Documentation and Mapping of Existing BMPs (Optional Service)

This task will be performed, if requested by the City, as an optional service. Confirmation and documentation of existing BMPs for crediting will be performed under this Task. We understand that the City Engineering Department performs construction inspections during installation of structural stormwater BMPs and that in many instances photographs and as-built plans are available. However, EPA requires verification and maintenance of existing stormwater BMPs to accept their calculated phosphorus reduction credit. As such, W&C recommends performing targeted site visits to visually observe BMPs and obtain available maintenance and inspection records from owners, if available. This field work will also provide for initial outreach to property owners and maintenance companies regarding the importance of stormwater maintenance. BMP inspections are not included as part of this scope.

During the previously performed data gap analysis, 38 non-residential and 23 residential properties were identified as creditable. As part of this task W&C will perform site visits at up to 50 properties to observe stormwater BMPs. Properties targeted will include non-residential private properties as well as larger residential properties such as assisted living facilities and apartment complexes. Single family residential properties will not be visited as part of this scope. A notification and information sheet will be developed for the City's review. It is anticipated that the City will perform notification, but W&C will coordinate scheduling the visit directly with the property representatives. Documentation of our findings from the site visits, including photographs, GPS field location of BMP, maintenance/inspection records obtained, and field notes (as applicable) will be provided to the City.

Based on discussion with Engineering, it is anticipated that the City GIS department is able to document stormwater BMPs in the City's GIS system, and link BMP locations with applicable permits to identify stormwater features at the location. Under this task, Woodard & Curran will provide a list of BMPs used in phosphorus crediting for the City's incorporation into GIS. It is anticipated that Woodard & Curran will prepare a map/figure documenting locations of credited stormwater BMPs for use in the Phase 1 PCP after the City's GIS database updates. It is understood that W&C will have access to the City's GIS software for map creation. For the purpose of this scope, it is anticipated that a preliminary list will be provided mid-project and a revised final list will be provided after data gap analysis has concluded. Two conference calls to review and discuss the GIS mapping and feature tracking are anticipated to be performed under this task. Additional discussions and coordination of future/on-going GIS data management and mapping may be warranted and will be performed under Task 10.

TASK 6: STRUCTURAL CONTROL OPERATION AND MAINTENANCE PROGRAM

The Phase 1 PCP requires identification and implementation of an operation and maintenance program for structural control measures credited with reducing phosphorus. This task includes work associated with documenting O&M procedures for existing structural BMPs at City properties as well as developing O&M programs for planned structural BMPs at City properties and roadways. Under this task, W&C will also prepare preliminary opinions of probable maintenance costs associated with proposed City structural BMPs. This information will be provided to the City for review and comment and will be used to support other components of the PCP.

As the project anticipates phosphorus reduction credits from private BMPs, documentation of compliance with the O&M performance standards of the general permit for privately owned and maintained BMPs will also be required. Woodard & Curran will coordinate with the City to understand how this private maintenance is currently tracked and to understand the City's preferred approach to document this information in the future, for W&C's incorporation into the Phase 1 PCP. Considerations may include use of City permit software, assigning City staff tracking responsibilities, private property owner fines or stormwater fee credits tied to maintenance records, regulation changes and/or other methods. It is understood that the future tracking processes would also be implemented for City owned/operated systems.

Up to three conference calls with applicable City staff to identify existing procedures for City tracking of private and public maintenance, garner concurrence of O&M procedures to support planned Phase 1 structural controls and discuss future O&M tracking policies and procedures

will be performed under this task. Additional meetings, if necessary, will be performed under Task 10 Meetings.

Additionally, Newton has a significant number of private single family home stormwater BMPs. Woodard & Curran anticipated coordination with EPA under Task 10 Meetings, to garner EPA concurrence on O&M requirements for these systems to be creditable.

PHASE 1 PHOSPHORUS CONTROL IMPLEMENTATION

TASK 7: PHASE 1 PCP IMPLEMENTATION SCHEDULE

An implementation schedule of Phase 1 controls is required to be included in the Plan. Under this Task W&C will develop an implementation schedule based on the controls identified for Phase 1. It should be noted that the City's phosphorus load reduction is significant, and the Phase 1 reduction is anticipated to be difficult to achieve the Phase 1 Year 8 (2026) and Year 10 (2028) requirements. Under this task W&C will review two schedule approaches, one that identifies what is necessary to achieve the required schedule, and one that is anticipated to be a practical representation of achievable schedule based on standard design, bid, build procedures. These schedules will be reviewed and discussed with the City. The approach for material to be presented to EPA in the Phase 1 PCP will be discussed and schedule(s) revised as needed.

TASK 8: PHASE 1 PCP IMPLEMENTATION ESTIMATED COSTS

Estimated costs for Phase 1 implementation will be identified as part of this task. It is anticipated that this task will build off costs developed in conjunction with planned structural controls, non-structural control costs, and O&M program costs. The Phase 1 implementation cost will be developed using planned structural and non-structural controls agreed by the City for incorporation into the plan, in conjunction with other applicable considerations. Similar to the Phase 1 schedule, Phase 1 estimated implementation costs will be assessed based on what is anticipated to be necessary to achieve the Phase 1 reduction as well as what is anticipated to be practical based on typical design, bid, build schedules. The two planning level cost estimates will be provided to the City for discussion prior to inclusion in the Phase 1 PCP. One meeting to review the cost estimates with the City will be performed under this task.

PHASE 1 PHOSPHORUS CONTROL PLAN

TASK 9: FINAL PHASE 1 PHOSPHORUS CONTROL PLAN

Using the information prepared under this scope of work, in conjunction with documents previously prepared, Woodard & Curran will refine and complete the Phase 1 Phosphorus Control Plan for submittal to EPA. As part of this scope, applicable sections of the preliminary PCP will be revised and others advanced. It is also anticipated that Appendices will also be revised and added to support applicable documentation of the report. It should be noted that interim data and memorandums associated with other scope tasks will be prepared and provided to the City. This information will be the basis of the final report. It is not anticipated that as-built plans or other documentation of existing creditable structural BMPs will be required by EPA, simply that record information is available at the City will satisfy EPA. Woodard & Curran will provide a draft of the final report to the City for review and comment. One round

of revisions will be incorporated into the final document. Under this task, W&C will participate in one meeting with the City to discuss the draft report and obtain comment from the City prior to finalization. Additional meetings, if necessary, will be performed under Task 10 Meetings.

MEETINGS, OUTREACH AND COLLABORATION

TASK 10: MEETINGS AND ADDITIONAL SERVICES

Under this task, appropriate Woodard & Curran staff will prepare for and participate in meetings and conference calls with City staff to support advancement of the Phase 1 PCP. Meetings with the City DPW PCP team to review project topics and progress will be billed under this scope; task specific discussions to facilitate the individual tasks will be billed in association with the relevant task. Meetings anticipated with the City DPW PCP team, to be billed under this task include:

- A meeting to review legal and funding (collectively).
- A meeting to discuss non-structural controls.
- A meeting to discuss structural controls on city parcels and roadways.
- A meeting to discuss the Operation and Maintenance program(s).
- A meeting to discuss implementation costs and schedules (collectively).
- A meeting to review the final draft of the PCP.

We will also collaborate with EPA regarding Policies and Guidance, advocating for the City of Newton. This collaboration is anticipated to include baseline load discussions in addition to leaf litter credits, and regional waterbody management opportunities, among other topics.

Under this task, if requested by the City and as budget allows, W&C will also support the City with outreach and workshops. This outreach is anticipated to support both internal City inter-department coordination as well as public-private collaboration. As the City is aware, collaboration and public-private partnerships are anticipated to be vital in achieving the Phase 1 PCP reduction requirements. W&C will prepare for and participate in meetings or workshops to support City outreach. If requested, Woodard & Curran will also prepare presentation materials to support outreach as part of this scope. Materials may include PowerPoint presentations, handouts or other materials to support the City's goals.

ALTERNATE SCHEDULE REQUEST

TASK 11: EPA ALTERNATE SCHEDULE REQUEST INITIATION (Optional Service)

Under this task, Woodard & Curran has allocated a budgetary allowance for initiation of an Alternative Schedule Request. Based on the preliminary PCP, previously prepared, it is anticipated that the required Phase 1 load reduction and schedule will be challenging for the City. Regulatory requirements dictate that the PCP be submitted, prior to a request for an alternate schedule; however, it may be advantageous for the City to advance this scope concurrently with the final Phase 1 PCP. As such, we have included this task for coordination and initiation of an alternative schedule request. Work will not be performed under this task without authorization from the City.

FEE BUDGET

For the Scope of Services listed above, we recommend that you budget between $695,000 and $953,000 based on services to be performed. The services described in this proposal will be provided and invoiced monthly on a Time and Materials basis in accordance with our current rate table at the time of service. Monthly invoices will be submitted for the services completed during the previous billing period and will include a summary of services provided during the invoice period. The proposed budget for this scope of services is summarized below:

Task	Scope Description	Scope Budget	***Optional Scope Budget***
1	Legal Analysis	$20,000	
2	Funding Analysis	$20,000	
3	Baseline Load Updates	$95,000	
4	Planned Non-Structural Controls	$17,500	
5-1	City Wide High Level Structural Control Retrofit Analysis	$10,000	
5-2	Planned Structural Controls at City Properties	$280,000	
5-3	Planned Structural Controls in City Right-of-Ways	$90,000	
5-4	*City Property Site Visits* *(Optional Service)*		*$27,000*
5-5	*City Property Schematic Plans* *(Optional Service)*		*$95,000*
5-6	*City Right-of-Way Site Visits* *(Optional Service)*		*$5,500*
5-7	*City Right-of-Way Schematic Plans* *(Optional Service)*		*$20,000*
5-8	*Data Gap Analysis* *(Optional Service)*		*$60,000*
5-9	*Documentation and Mapping of Existing BMPs* *(Optional Service)*		*$40,000*
6	Structural Control Operation and Maintenance Program	$35,000	
7	Phase 1 PCP Implementation Schedule	$25,000	
8	Phase 1 PCP Estimated Implementation Costs	$22,500	
9	Phase 1 PCP Plan	$30,000	
10	Meetings	$50,000	
11	*EPA Alternate Schedule Request Initiation* *(Optional Service)*		*$10,500*
	Base Scope Task Budget	**$695,000**	
	Optional Scope Task Budget		***$258,000***
	Total Scope Budget	**$953,000**	

The proposed budget is based on the Scope of Services outlined in this proposal. If the project assumptions used in developing this proposal should change, or services beyond those identified herein are requested, an Amendment would be prepared for the additional services for your review and approval.

SCHEDULE

Woodard & Curran will begin work upon written authorization to proceed. It is anticipated that the project will be completed by June 30, 2023.

TERMS & CONDITIONS

The Terms and Conditions will be per the executed Agreement for Engineering Services between the City of Newton, Massachusetts and Woodard & Curran.

Please review this proposal and if it is acceptable to you, an Agreement for Engineering Services will be prepared for signatures by the City of Newton.

Sincerely,

WOODARD & CURRAN, INC.

David A. White

Sr. Vice President | National Practice Leader

Carol A. Harris

Vice President | Senior Client Manager

SK

cc: Shawna Sullivan, City of Newton
Zach Henderson, Stephanie Kaiser, Woodard & Curran, Inc.

PN: 0233351.01

TODAY'S GOALS

- ✓ Brief stormwater compliance program review
- ✓ Accomplishments to date
- ✓ Clean Charles River Initiative: Phosphorus Control Plan update
- ✓ What's next?

Newton's Municipal Stormwater (MS4) Permit Program Updates

Presentation to Public Facilities Committee

NEWTON CLEAN WATER IS EVERYBODY'S BUSINESS

Why Are We Here?

- Municipal Separate Storm Sewer (MS4) General Permit reissued by EPA in 2016 and became effective **July 1, 2018**
- This federal Clean Water Act permit requires multi-faceted municipal implementation – Utilities, Planning, Operations, Engineering, GIS-Information Technology, Communications – **It Takes a Community!**
- **Requirements are very challenging** and we need everyone to understand the implications and needs.

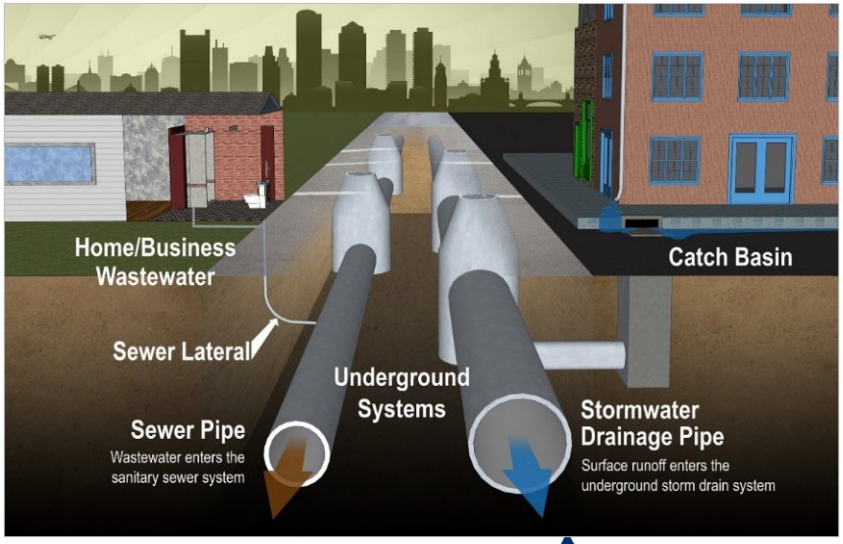
Nationwide Stormwater Permitting Programs

- Construction General Permit (CGP): Runoff from >1 acre soil disturbance
- Industrial Multi-Sector General Permit (MSGP): Runoff from Industrial Facility per SIC Code
- **Municipal MS4 General Permit**

What is an MS4?

A Municipal Separate Storm Sewer System is:

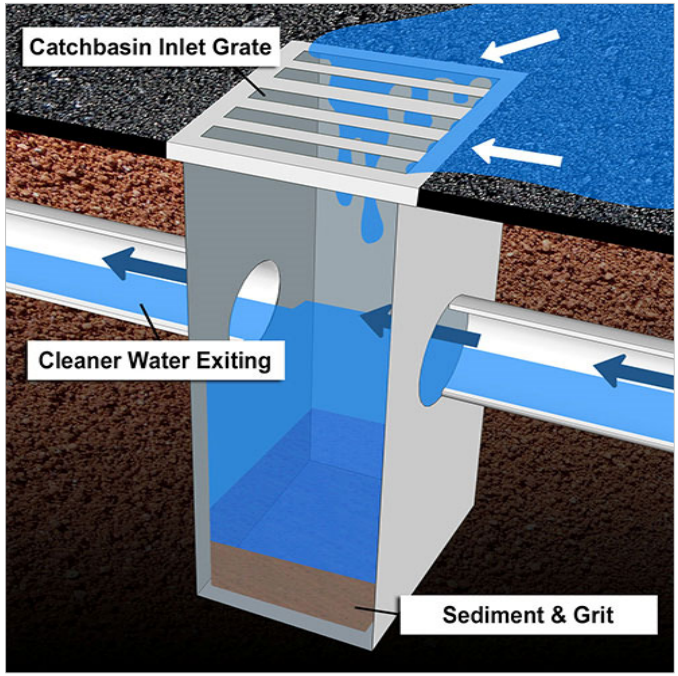
- A conveyance or system of conveyances owned by a state, city, town, or other public entity that discharges to waters of the U.S and is:
  - Designed or used for collecting or conveying stormwater
  - Not a combined sewer
  - Not part of a publicly-owned treatment works



Newton's MS4

Drainage System Facts:

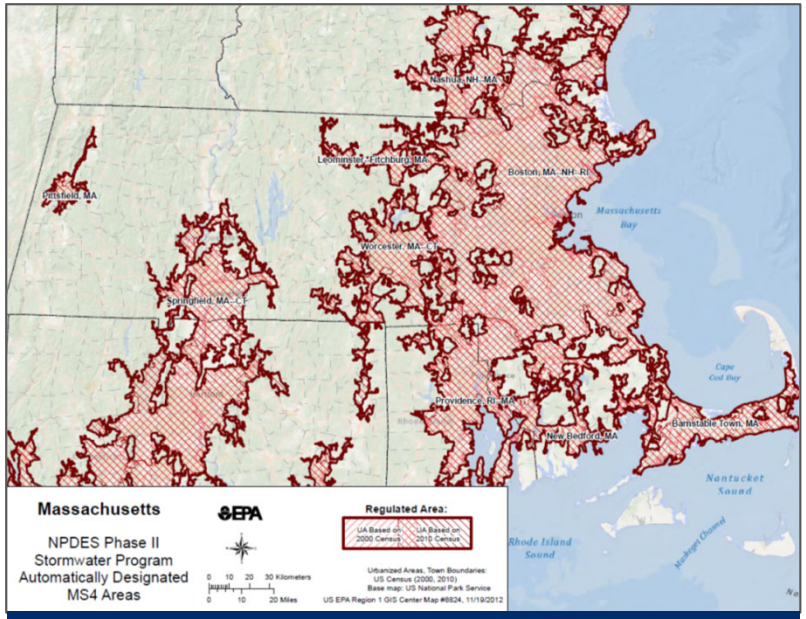
- 320 miles of stormwater drainage pipe
- 12,750 catch basins
- 5,852 of Manholes
- 2 pump stations
- 183 exterior outfalls/interconnections
- 201 Interior outfalls
- 14 miles of streams
- Ditches and Swales as well…



What is the MS4 General Permit?

Clean Water Act requires EPA to regulate any discharges from the MS4 based on 1987 Amendments to the Act

- The MS4 general permit is based on development density and population
- ~260 Municipalities Covered in MA
- In most states, the state administers this permit – MA is EPA regulated
- Every five years a new permit is drafted and issued (in theory)
- Each permittee is required to develop a 5-Year Stormwater Management Plan consistent with the general permit
- Currently in "Permit Year 5"



EPA administers NPDES permits in Massachusetts

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Municipal Stormwater Compliance

Six Primary Control Measures

1) Public Education

2) Public Involvement

3) Illicit Discharge Detection and Elimination

4) Construction Site Runoff Control

5) Post-Construction Stormwater Management

6) Good Housekeeping and Pollution Prevention

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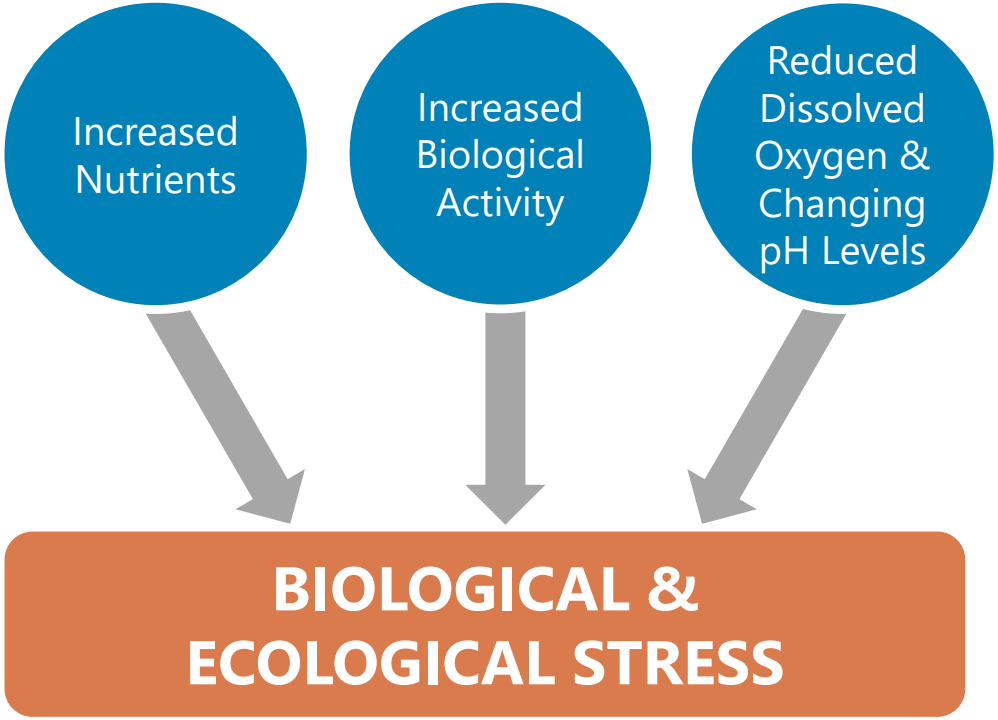
Newton's Accomplishments to Date

MS4 Program Highlights

- ✓ On-going social media, Green Cart, stormwater webpage, pet licensing, and paper flier educational materials developed and disseminated.
- ✓ Over 80% of the City's stormwater drainage system investigated for illicit discharges.
- ✓ Hundreds of site plans reviewed annually for compliance with construction erosion control and stormwater control policies.
- ✓ Thousands of construction site inspections annually.
- ✓ Ongoing street sweeping, leaf litter and catchbasin cleaning programs. Over 1500 tons of material swept from streets annually!

Nutrients as a Pollutant

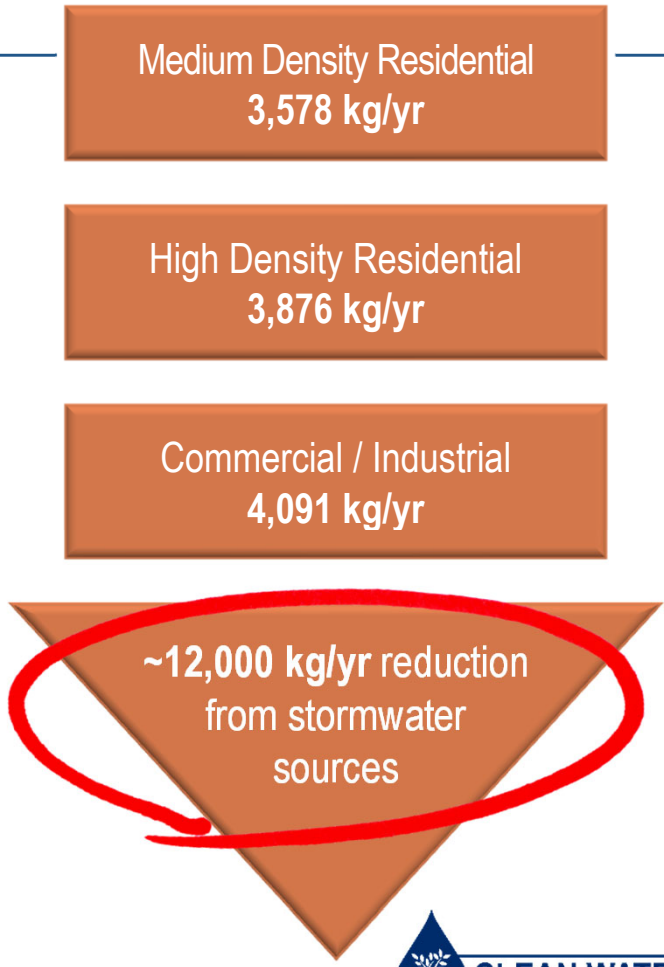


Health Officials Warn Of Blue-Green Algae Bloom in Charles River

August 31, 2016 2:45 PM

Clean Charles River Initiative

- Reduce Phosphorus in discharges through strategic planning and implementation
- 1995: EPA New England launched the Clean Charles initiative.
- The EPA and MassDEP established Total Maximum Daily Load (TMDL) for all discharges
  - 2007, Final TMDL for Nutrients in the Lower Charles River Basin (Lower TMDL)
  - 2011, TMDL for Nutrients in the Upper/Middle Charles River (Upper TMDL)
- TMDL Requirements:
  - Phosphorus WWTF discharge limits for summer/winter at 0.1/0.3 mg/L
  - Stormwater phosphorus reductions are significant!



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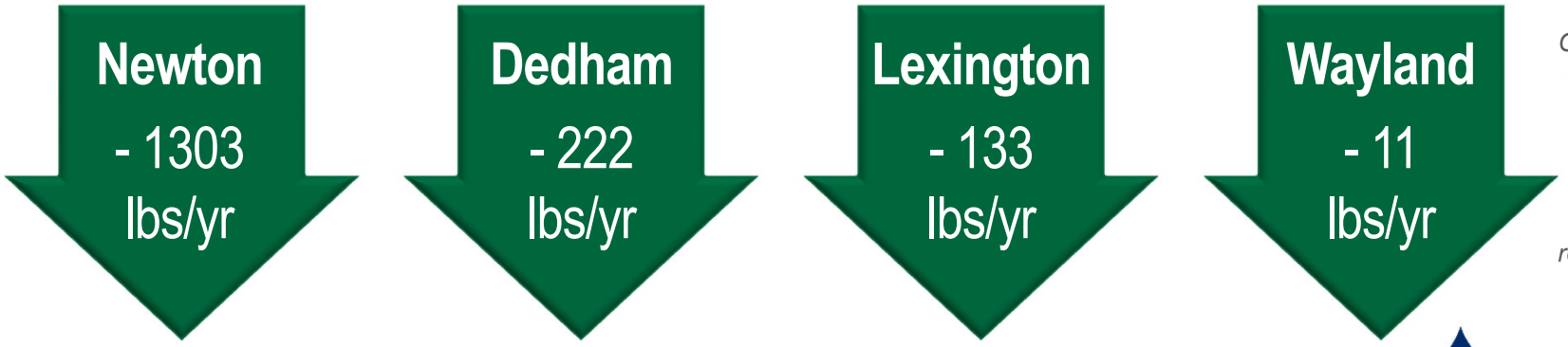
Nutrient Load Reduction Requirements

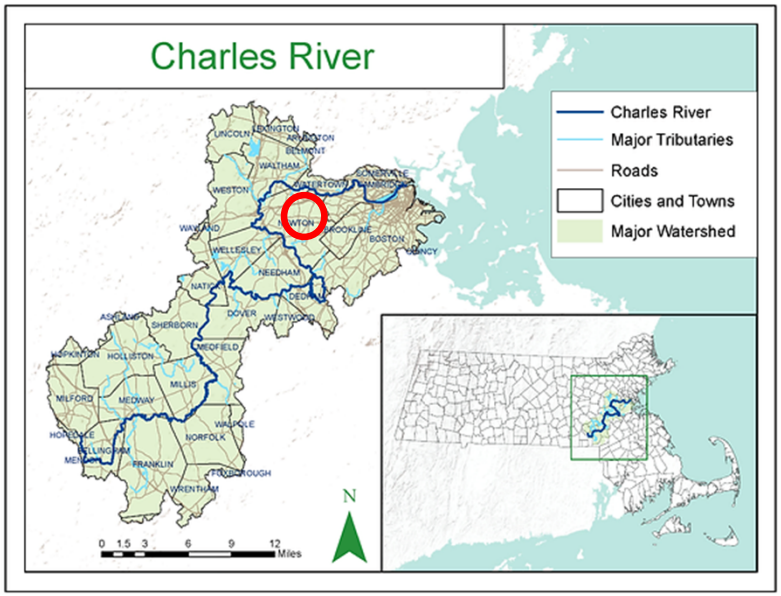
- The MS4 General Permit defines stormwater load reduction targets for individual communities
- 34 regulated communities will be required to meet the Load Reduction Requirement by 20% in the first eight years of the permit term (2026)…**and by 25% in the first ten years (2028)**



Communities Shown Here for Example Only – 30 others included in discharge requirements

Newton's Phosphorus Control Plan Obligations

- Priority ranking of areas and infrastructure for the implementation of stormwater quality control facilities
- Establish O&M program for those structural controls
- Identify non-structural stormwater controls that will support the reduction of phosphorus loading



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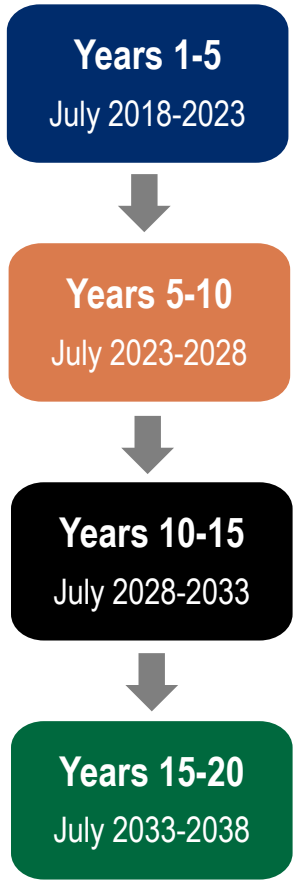
Phosphorus Control Planning Schedule

- Developing a multi-phase plan to achieve TMDL goal.
- Reduce Total Phosphorus from stormwater discharges by 61% or 5,214 lbs by 2038 (Phase 1, 2 and 3 PCP).



- Create Phase 1 PCP Plan by June 2023
- Implement Phase 1 PCP Plan
- Create Phase 2 PCP Plan
- Implement Phase 2 PCP Plan
- Create Phase 3 PCP Plan

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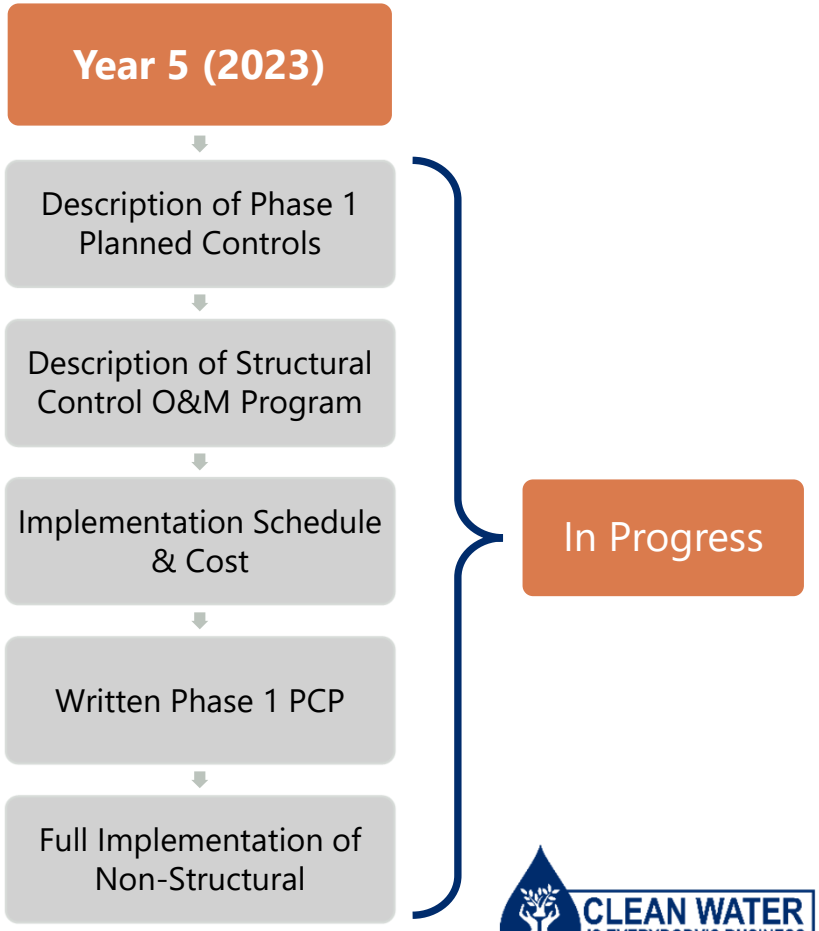
Phosphorus Control Plan Status

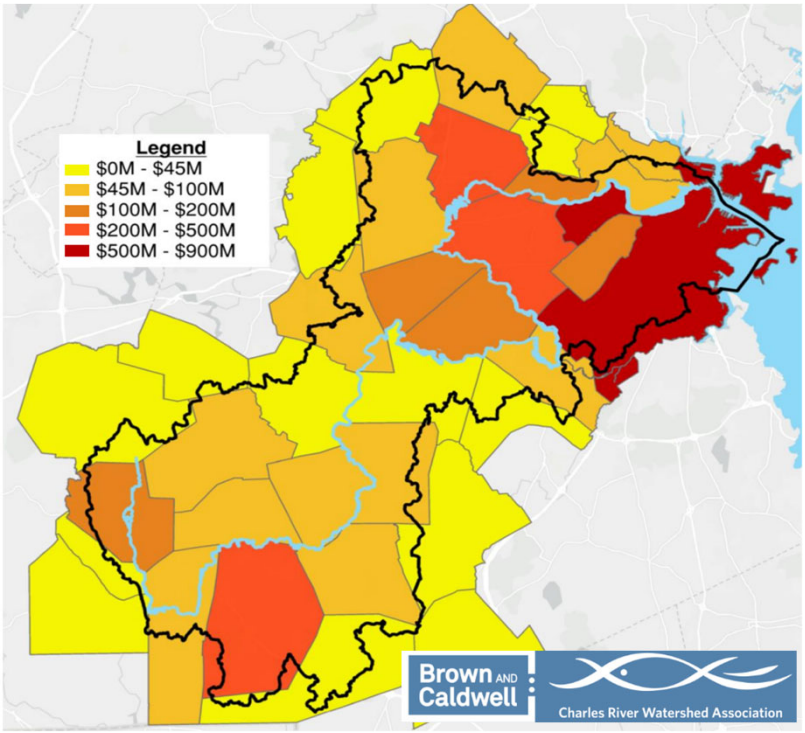
- Currently accounting for anticipated benefits of non-structural controls (street sweeping and leaf litter clean up)
- Identifying potential opportunities to account for existing public and private stormwater controls
- Current projections are that existing "controls" only account for about 1/3 of Permit Year 8 target and 1/4 of Permit Year 10 target



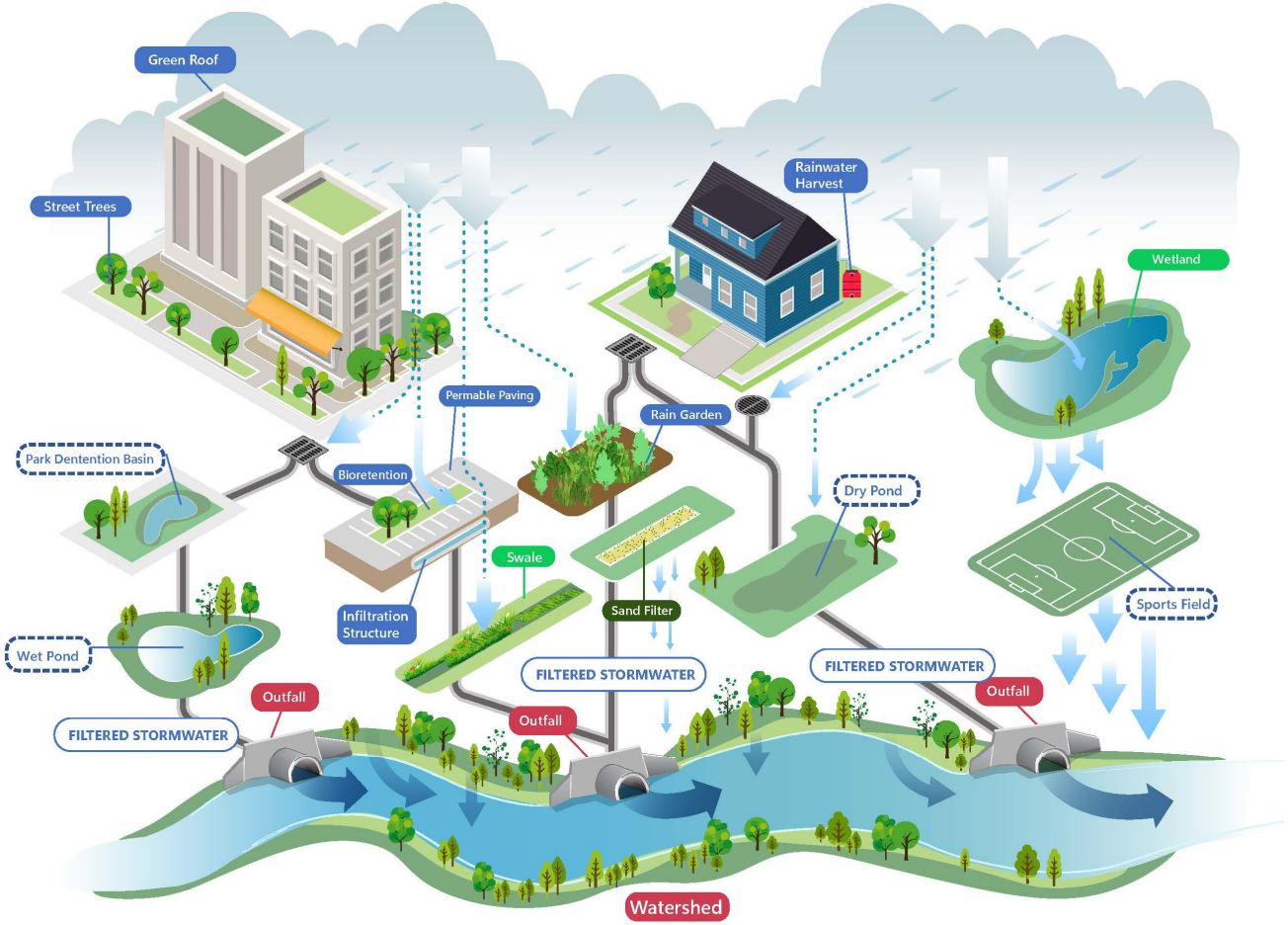
Phosphorus Control Needs?

- About **1,000 lbs of phosphorus** will still need to be targeted for removal through new stormwater control retrofits and non-structural pollution prevention programs on public and private properties to meet Year 10 requirements.
- Close to **4,750 lbs to meet Year 20** requirements.

So…What Does this Mean to the City?



What Does Comprehensive Stormwater Retrofitting Look Like?



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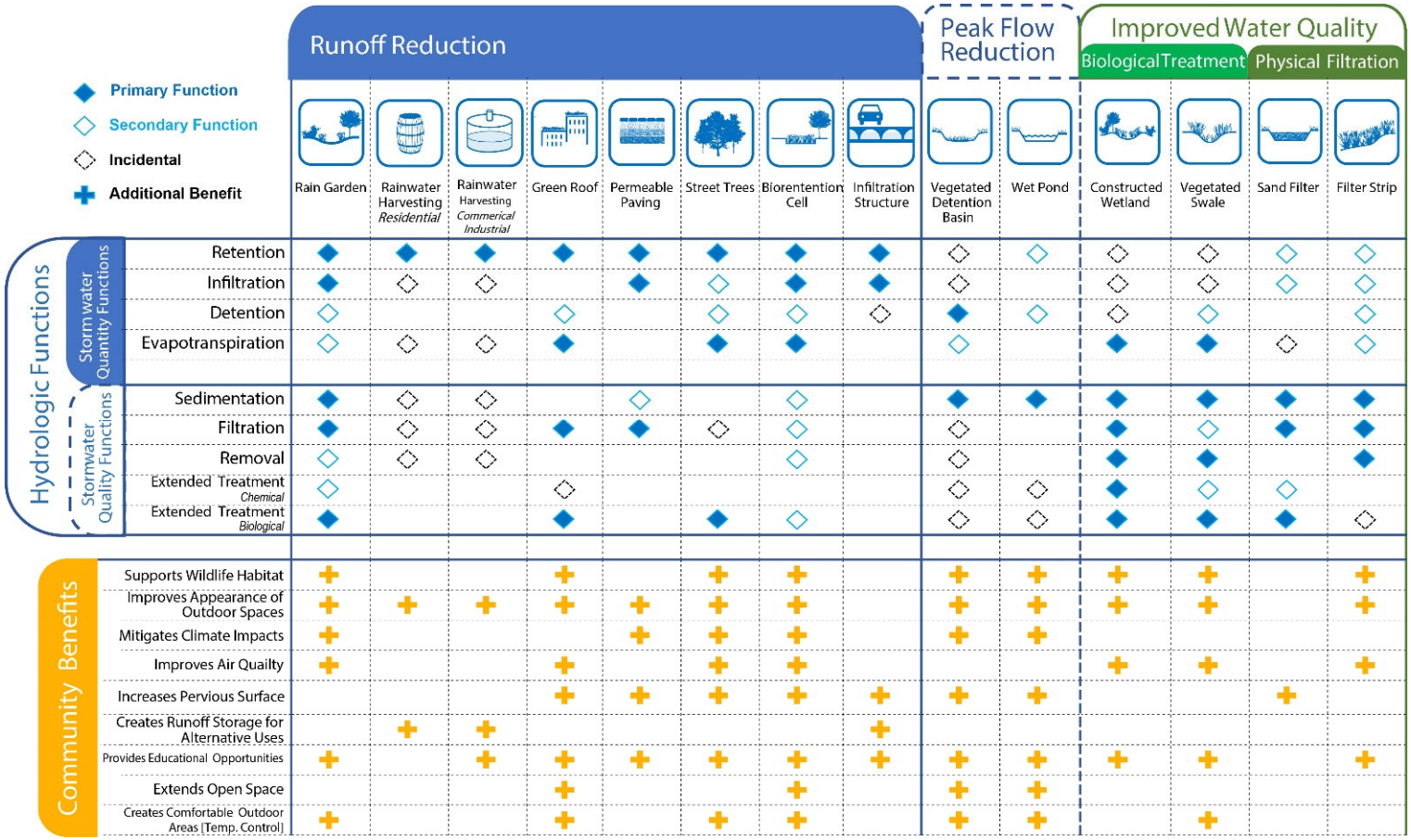
What are the Benefits of Comprehensive Stormwater Retrofitting?



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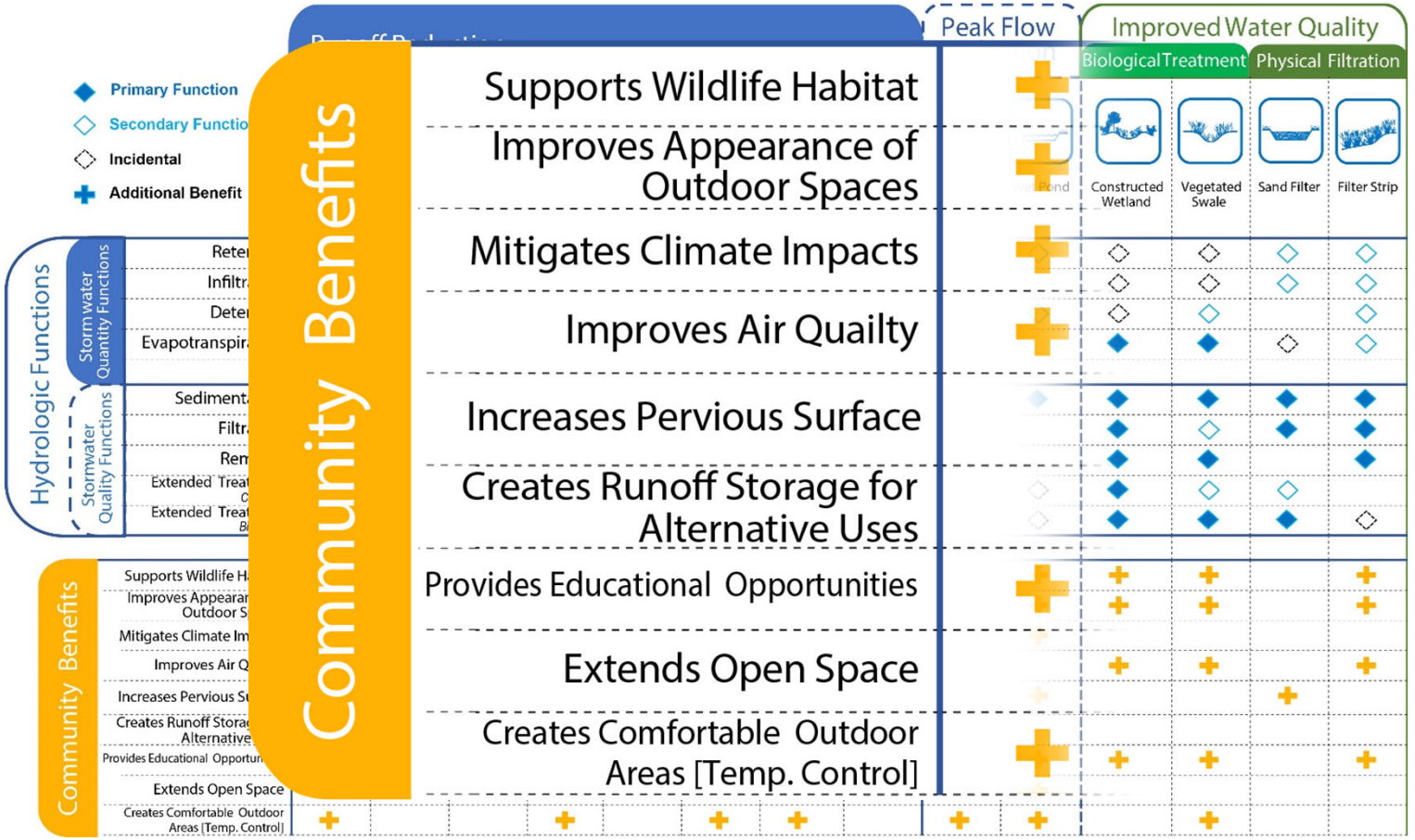
What are the Benefits of Comprehensive Stormwater Retrofitting?



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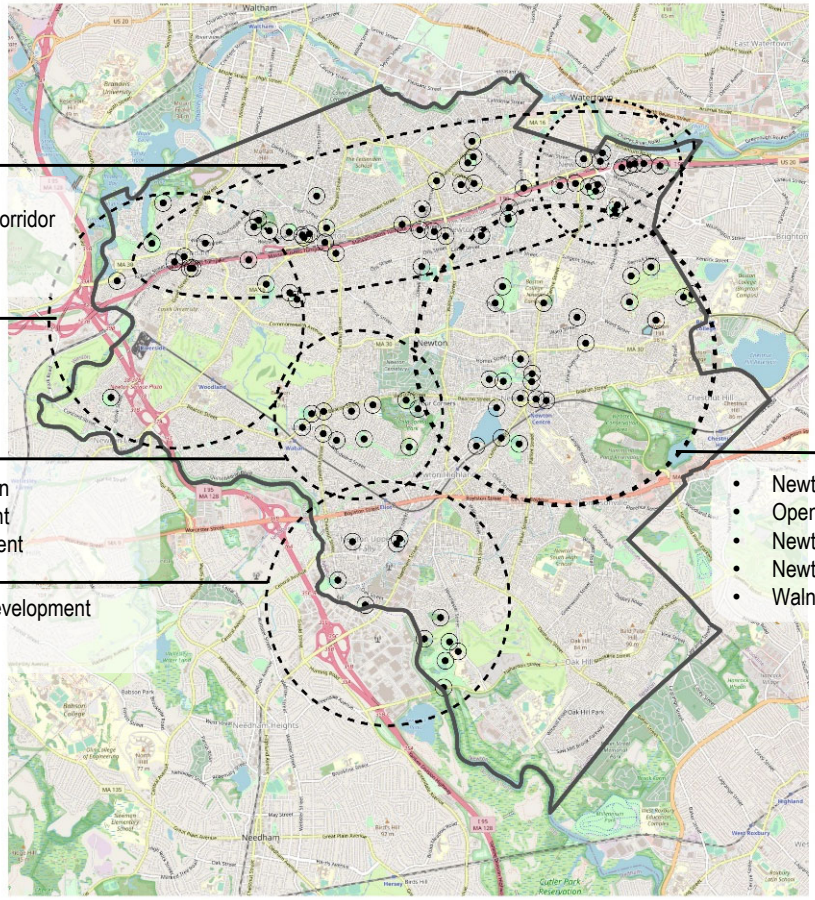
Where Are We Looking for Retrofit Opportunities?

- Washington Street Vision Plan
- Newton Business Development Corridor
- California Street Redevelopment
- Climate Adaption Improvements

- Newton Comprehensive Plan
- Riverside Vision Plan
- Needham Street Vision Plan
- Charles River Mill Development

- Four Corners Redevelopment Plan
- Cochituate Aquaduct Management
- Upper Falls Greenway Development

- Wells Ave. & Business Park Redevelopment



- Newton Comprehensive Plan
- Open Space and Recreation Plan
- Newton Centre Redevelopment
- Newton Square Enhancements
- Walnut Street Enhancements

- Municipal Facilities/Properties
  - School Projects
- High Benefit to Cost
- Anticipated and Upcoming Facility Improvements
- Streetscape Improvements
- Alignment with Community Needs and Vision
  - Village Enhancement Projects

Public/Private Partnerships?

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Residential Raingarden Community Programs
Boston College
University Green Infrastructure Collaboration
Mt. Alvernia HS
Edmand's Park
Edmand's Brook
High School Raingarden Demonstration and Educational Programming
Newton Day School
Urban Pond Restoration and Park Improvements
Park and Ballfield Nutrient Best Management

Creating a Holistic Urban Clean Water Strategy

- Identification of Issues and Opportunities
- Goal Setting
- Participatory Community Planning
- Revitalization Ideas
- Economic Development Target Areas
- Identification and Vetting of Pipeline Projects
- Weaving in of Other Business Expertise
- Aligning Stormwater Infrastructure Needs to Vision

- Daylighting Waterways
- Parks and Signature Open Spaces
- Streets
- Conservation
- Urban Pond Renewal
- Integration of Green Systems
- Design Infrastructure/Resiliency
- Character/Brand Strategy
- Highest and Best Use Partnerships

- Highest and Best Use Analysis
- Low Impact Development Strategy
- Operations and Maintenance Strategy
- Pollution Prevention and Source Control Strategy
- Innovative Ideas and Regulatory Advocacy
- Partnering Ideas
- Site Development Scenarios (Public or Private)
- Hydraulics, Hydrology, Water Quality Modeling
- Cost-Benefit Analysis
- Roadmap to Implementation

- Policy Auditing- Are we set up to succeed?
- Streamlining of processes to encourage (re)investment
- Zoning and Land Use
- Policy Recommendations
- Political Navigation and Strategy
- Sustainability/ Resiliency Goals & Recommendations

- Funding Identification and Grant Support
- Incentive Programs
- District/Tax Based Financing
- Public-Private Partnerships and Partner Identification
- Bid Documentation
- Contractor Procurement
- Construction Administration
- Resident Project Representation
- Operations and Maintenance

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In Summary

- Excellent progress on most stormwater permit obligations!
- **PCP Phase 1 Completion June 2023**
- **Continued financial support for operations, program and capital investment**
- **Integration of community economic and community development vision with clean water programs** will reduce costs and accelerate progress on Clean Charles Initiatives

Questions / Discussion
THANK YOU!

Newton's Municipal Stormwater (MS4) Permit Program Updates

Presentation to Public Facilities Committee

NEWTON CLEAN WATER IS EVERYBODY'S BUSINESS