

Knepper Applicable PHMSA Training Completed			
	Online Computer Based Training	Status	Date
1	PHMSA-PL1DIMP Introduction of Distribution Integrity Management Program WBT	Successful	5/3/2011
2	PHMSA-PL1GLAW Introduction to Gas Laws WBT	Successful	8/11/2014
3	PHMSA-PL1HCA High Consequence Areas WBT	Successful	7/4/2005
4	PHMSA-PL1ICDA Internal Corrosion Direct Assessment WBT	Successful	4/1/2011
5	PHMSA-PL1IPROC Integrity Management Processes WBT	Successful	7/6/2005
6	PHMSA-PL1ODOR Natural Gas Odorization WBT	Successful	4/4/2011
7	PHMSA-PL1PRESS Fundamentals of Gas Pressure Regulators WBT	Successful	2/26/2007
8	PHMSA-PL1RA Introduction to Risk Assessment Methods WBT	Successful	4/25/2015
9	PHMSA-PL2FLMEC - Fundamentals of Fluid Mechanics WBT	Successful	4/24/2015
10	PHMSA-PL2P195 Introduction to Part 195 WBT	Successful	4/14/2015
11	PHMSA-PL3CP Fundamentals of Pipeline Corrosion and Cathodic Protection WBT	Successful	8/14/2007
12	PHMSA-PL3ECDA External Corrosion Direct Assessment WBT	Successful	4/1/2011
13	PHMSA-PL3ELEC Fundamentals of Basic DC Electricity WBT	Successful	8/18/2007
14	PHMSA-PL3OQ Operator Qualification WBT Course	Successful	1/31/2006
15	PHMSA-PL3PIG Fundamentals of Launching and Receiving Maintenance Pigs WBT	Successful	6/8/2010
16	PHMSA-PL3PP Fundamentals of Plastic Pipe WBT	Successful	4/12/2007
17	PHMSA-PL3REG Regulatory Overview WBT	Successful	4/8/2015
18	PHMSA-PL3SCADA Fundamentals of SCADA Systems WBT	Successful	3/14/2011
19	PHMSA-PL3SCCDA Stress Corrosion Cracking Direct Assessment WBT	Successful	8/23/2006
20	PHMSA-PL3WELD Introduction to Pipeline Welding WBT	Successful	6/1/2007
21	PHMSA-PL4LNG Fundamentals of Liquefied Natural Gas (LNG) WBT	Successful	6/15/2005
21	PHMSA-PL3IC - Investigating and Managing Internal Corrosion of Pipelines WBT	Successful	10/6/2016
22	PHMSA-PL3DA Drug and Alcohol Testing for the Pipeline Industry WBT	Successful	10/8/2016
	COURSES	Status	Date
1	PHMSA-PL1297 Gas Integrity Management (IM) Protocol Course	Successful	5/5/2005
2	PHMSA-PL4253 Liquefied Natural Gas (LNG) Safety Technology and Inspection Course	Successful	7/29/2005
3	PHMSA-PL1250 Safety Evaluation of Gas Pipeline Systems Course	Successful	12/15/2005
4	PHMSA-PL2284 (HAZWOPER) Refresher for Pipeline Safety Representatives	Successful	1/9/2007
5	PHMSA-PL3322 Evaluation of Operator Qualification (OQ) Programs Course	Successful	1/21/2016
6	PHMSA-PL3256 Pipeline Failure Investigation Techniques Course	Successful	2/9/2007
7	PHMSA-PL1255 Gas Pressure Regulation and Overpressure Protection Course	Successful	4/12/2007
8	PHMSA-PL1310 Plastic and Composite Materials Course	Successful	6/15/2007
9	PHMSA-PL3242 Welding and Welding Inspection of Pipeline Materials Course	Successful	6/15/2007
10	PHMSA-PL3254 Joining of Pipeline Materials Course	Successful	6/15/2007
11	PHMSA-PL3257 Pipeline Safety Regulation Application and Compliance Procedures Course	Successful	8/17/2007
12	PHMSA-PL3600 Root Cause/Incident Investigation Course	Successful	8/21/2009
13	PHMSA-PL3292 Safety Evaluation of Inline Inspection (ILI)/Pigging Programs Course	Successful	6/11/2010
14	PHMSA-PL3293 Corrosion Control of Pipeline Systems Course	Successful	6/25/2010
15	PHMSA-PL3291 Fundamentals of (SCADA) System Technology and Operation Course	Successful	4/1/2011
16	PHMSA-PL3355 Safety Evaluation of Control Room Management Programs	Successful	8/29/2014
17	PHMSA-PL1245 Safety Evaluation of Distribution Integrity Management Programs (DIMP) Course	Successful	4/23/2015
18	PHMSA-PL2258 Safety Evaluation of Hazardous Liquid Pipeline Systems Course	Successful	5/15/2015
19	PHMSA-PL3267 Fundamentals of Integrity Management Course	Successful	7/31/2015
20	PHMSA-PL3306 External Corrosion Direct Assessment (ECDA) Field Course	Successful	8/14/2015
21	PHMSA-PL2294 Safety Evaluation of Hazardous Liquid Pipeline (IM) Programs Course	Successful	4/28/2017
22	PHMSA -PLWK31A Inspection Assistant Training Workshop	Successful	11/9/2018
23	PHMSA-PH3275 General Safety Awareness for Inspectors and Investigators	Successful	5/29/2020

(20) Cast Iron Bare Steel Replacement Program:

A cast iron/bare steel replacement program (“CIBS Program”) shall be implemented that will be based on a construction year (April through December). By no later than January 15 of each year, EnergyNorth shall provide a copy of its CIBS Plan, defined below, to Staff for review and comment. EnergyNorth shall meet with Staff in technical sessions to discuss the plan to be implemented for the subsequent construction year. After review by Staff, EnergyNorth will take all reasonable steps to carry out and implement the plan, taking into account Staff comments.

The CIBS plan, which will cover cast iron and bare steel pipe replacements, will describe each replacement project, itemizing the proposed projects by general category, along with the targeted amount of investment to be made during the following construction year, which budget shall not be less than the CIBS base amount for capital expenditures described in paragraph e below (“CIBS Plan”). The CIBS Plan will prioritize cast iron and bare steel pipe replacements based on factors including leakage, material condition, age and other components affecting pipe integrity. The CIBS Plan will not address replacement of cast iron and bare steel pipes required in public works projects and/or carried out pursuant to the Cast Iron Encroachment Policy referenced in Condition 12 above.

EnergyNorth agrees to engage in an annual evaluation and selection process to identify and target investments to be proposed in the CIBS Plan, as follows:

- a. It will undertake an annual review of the performance of its distribution system as it relates to the integrity of its cast iron and bare steel pipelines. This review will provide: (1) a detailed analysis of leak activity over the preceding ten years on the bare steel and cast iron gas mains, and (2) an evaluation of which main segments represent the highest priority segments for replacement. Consideration will be given to the age of the main, the date the leak(s) occurred, leak classification, type of leak, number of clamps used in leak repair, condition of main when repaired, specific leak location, building types in the area of the main segment and quantity of bare steel services attached to the potential segment to be replaced.
- b. Adjustments in the priority of main segment replacement could be made due to planned paving projects, public relations, or identification of new main segments by operating personnel in the field that were not captured through EnergyNorth’s data systems.
- c. Using the process identified in (a) and (b) above, EnergyNorth shall rank and prioritize those mains to be replaced in the associated construction year and provide its plans to the Commission.
- d. Categories of spending will include the following:

- 1.1 unprotected bare steel main replacement, as determined by the evaluation and selection process;
- 1.2. cast iron main replacement as determined by the evaluation and selection process;
- 1.3. cast iron or bare steel main replacement candidates requested by field operating personnel; and
- 1.4. bare steel services replaced as a result of a segment of bare steel main or cast iron main that is selected.

Categories of spending that are not included in the CIBS:

- 2.1. costs of moving inside meters to outside;
- 2.2. costs of reconnecting existing plastic services or existing coated steel services from cast iron mains or bare steel mains to the newly installed replacement main;
- 2.3. costs of any mains replaced made of polyethelene or steel that have a protective coating;
- 2.4. costs of any mains that are abandoned;
- 2.5. costs of coated steel mains that “act as bare steel mains” such as poorly coated steel mains or disbonded steel mains, unless approved by the Safety Division;
- 2.6. incremental costs of upsizing with the exception of (n) below; and
- 2.7. carryover costs in aggregate exceeding 5% of the approved estimated total expenditures under the CIBS program for the construction year, unless approved by the Safety Division. Such carryover costs include items such as restoration costs not incurred during the construction year.
- 2.8. Replacements made under the Cast Iron Encroachment Policy are not eligible for accelerated rate recovery in the Cast Iron/Bare Steel Program unless a special circumstance is approved by the Safety Division.

e) EnergyNorth shall bear the initial \$500,000 of capital expenditures under the CIBS program (“the CIBS Base Amount”) (in accordance with the Handy Whitman index). The CIBS Base Amount excludes replacement projects required by public works projects and/or carried out pursuant to the Cast Iron Encroachment Policy referenced in Condition 12. Provided that investments were made in accordance with the approved CIBS plan, EnergyNorth will be allowed a permanent increase in its base distribution delivery rates to recover the annual revenue requirement for those investments that are found to be reasonable and prudent made in the preceding construction year and in excess of the CIBS Base Amount. The permanent capital investment recovery allowance will not take effect until the actual costs of the

previous construction year are approved by the Commission. Petitions for cost recovery will be submitted annually thereafter not later than May 1, for an effective date of July 1.

f) After Staff completes the review of the CIBS Plan for a given construction year, EnergyNorth shall track all capital investments made in accordance with the approved CIBS Plan. EnergyNorth will reconcile actual capital expenditures with the CIBS Plan targets at the conclusion of the CIBS Plan period.

g) EnergyNorth agrees that it will file a report with the Commission on May 15 of each year detailing the actual amount of capital investments made in accordance with implementing the CIBS Plan during the prior construction year (“CIBS Report”). The report will include a calculation of the incremental revenue requirement associated with the capital investments in rate base that exceeds the CIBS Base Amount, using the Commission-approved imputed or actual capital structure and cost of capital determined using the Commission-approved return on equity and cost of debt. If the Commission has not made a final determination in the first rate case by the time the first adjustment is to be calculated, a reasonable proxy will be used for the rate calculation and an adjustment will be made to the revenue requirement to reconcile to the approved cost of capital rates when the rates from the first rate case go into effect.

h) EnergyNorth agrees to file its annual CIBS Report on the prior construction year’s activities at the time it makes its rate adjustment filing on May 15. The Settling Parties and Staff understand that, in implementing the CIBS Plan, the circumstances encountered during the year may require reasonable deviations from the original plan. In such cases, EnergyNorth shall include an explanation of any deviations in the report. For cost recovery purposes, EnergyNorth shall have the burden to show that any deviations were due to circumstances out of its reasonable control or, if within its control, were reasonable and prudent. The CIBS Report shall include a breakdown of footage replaced by municipal projects that involve Cast Iron /Bare Steel as well the footage replaced under the Cast Iron Encroachment Policy. Samples of reporting that Staff has reviewed previously are included in Attachment A.

i) The CIBS Program will remain in place through and beyond EnergyNorth’s future rate cases until terminated by the Commission or by mutual agreement at the end of a given construction year, with a final capital allowance pertaining to the final year.

j) EnergyNorth can elect to not finalize its CIBS Plan until after the winter frost patrol ends in early April. By May 1, EnergyNorth shall finalize actual projects and provide a copy of the final CIBS Plan to Staff. In addition, the priority rankings of main segments for replacement will be subject to change over the course of the year due to new information. In such case, if EnergyNorth believes it is prudent to change

the rankings from the approved CIBS Plan, it will notify Staff, stating the reasons for the change prior to construction. If Staff does not believe that particular components of the revised plans are reasonable and the matter is not resolved between EnergyNorth and Staff, Staff may object and the matter may be referred to the Commission for resolution.

k) EnergyNorth acknowledges that Staff review will not relieve EnergyNorth of its obligation to operate its business and maintain safe, reliable service through expenditures and other capital investments in the ordinary course of business that are not set forth in the CIBS Plan, nor will it bind Staff to a particular position regarding the adequacy and/or effectiveness of the plan.

l) However, EnergyNorth will be authorized to include in its CIBS Plan the replacement of cast iron and bare steel pipe located in the vicinity of public works projects, where replacement is not required as a part of the project, but permitted for convenience or other reasons, as determined by the Safety Division.

m) EnergyNorth shall provide GIS Mapping or other electronic means that shows the project scope with each submittal of the CIBS Plan.

n) No upsizing of pipe diameter shall be allowed for cost recovery within the CIBS Program on 60 psig systems. For low pressure systems (12 inches water column and below) no upsizing shall be allowed for cost recovery within the CIBS Program except for 3" nominal diameter low pressure pipe replaced with 4" nominal diameter pipe and other special circumstances as approved by the Safety Division.

o) EnergyNorth shall provide the Commission Staff with actual cutouts of the worst section within any bare steel main segment replaced prior to reconciling any cost adjustments for associated construction season. Cutouts shall be approximately 12 inches to 24 inches in length.

p) EnergyNorth shall provide a written report accompanying the actual cutouts in section 20(o) above that includes: photographs the replaced bare steel segment; a general description of the condition of the pipe; the street address from which it was taken; age of material; original wall thickness; measured depth of deepest pit of the cutout; operating pressure of replaced pipe; pH of soil condition of cutout surrounds; results of testing for microbiological acid producing bacteria (APB) and sulfate reducing bacteria (colonies per ML); and identification of the threshold of high bacteria counts.

II. Additional Granite State Electrical Safety Conditions (Electrical Underground Facility Protection)

Underground Damage Prevention Program Enhancement

1. Granite State Electric Company (Granite State) will institute a new Locating/Mark-Out Policy within the existing Underground Damage Prevention Program. The Locating/Mark-Out Policy will provide enhanced public safety by increasing the commitments and responsibilities associated with locating and marking private underground residential facilities within Granite State's franchise territory. Notwithstanding the exemption contained in RSA 374:53 concerning facilities not owned by the operator, Granite State accepts the additional responsibility of locating privately owned, residential underground electrical facilities pursuant to excavation notifications, and agrees to establish the Locating/Mark-Out Policy ("Policy") described below.

Policy Implementation and Potential Discontinuation

2. Locating/Mark-Out Policy will be implemented within 120 days of the Closing Date.
3. Granite State reserves the right to discontinue the Policy with Staff review and consent but without the necessity of obtaining formal Commission approval if the incremental costs of implementing the Policy, not including advertising and marketing costs or other non-field costs, exceed \$10,000 annually. In the event Granite State disagrees with Staff's decision not to consent, it may file a request for review with the Commission. Granite State will file written notification of any discontinuation of the Policy with the Commission.

Policy Requirements

4. Within Granite State's franchise territory, Granite State will mark privately owned, residential underground facilities up to the meter and including the service entrance upon receipt of notifications received via the One Call Notification System.
5. The electrical service includes primary service voltage levels as well as secondary voltage levels.
6. The electrical service also includes service from aerial distribution systems as well as underground systems.
7. Notifications received for underground excavation involving commercial properties are not included in the waiver or this Policy.
8. The location and marking of excavations involving underground electrical facilities beyond the meter, such as from a house to a barn, lamp post, pool, shed and other structures, are not included in this Policy.

9. Granite State's responsibility under the Policy shall not extend beyond marking out the facility, and does not include repairs to such facilities.
10. Field Markouts made under the Policy shall clearly indicate private electrical facilities that are not owned or operated by GSE.
11. During each year the Policy is in effect, Granite State shall maintain a level of accuracy for markouts made under the Policy that is commensurate with the level achieved for its own facilities. An audit or equivalent method may be used to determine the accuracy percentage of Policy markouts.
12. Granite State will not be required to mark such services defined in this Policy where the customer refuses Granite State access or denies such markout service.

Program Reporting

13. By January 31, 2013, Granite State shall submit an initial report to the Safety Division of the average accuracy level for markouts made of underground facilities pursuant to the One Call Notification System, and the derivation with sufficient detail supporting the determination of the average used to measure the accuracy level for the Policy. The initial report shall indicate the levels of markout accuracy obtained for Granite State facilities as well as privately owned, residential facilities. The report shall also contain the elements listed in item 14 below. Staff shall review and comment on the submittal, and Granite State shall incorporate Staff's comments into subsequent reports in following years.
14. Granite State shall keep track of costs expended and associated data, including but not limited to: number of notifications received, number of markouts made, address locations of markouts, quantity and locations of customer refusals, and dates of services performed. A summary report with subtotals by month shall be submitted to Staff annually, no later than January 31st for the previous calendar year's Policy.
15. The new Policy does not require Granite State to file a monthly E-26 report for markouts made under the Policy.

Liberty Utilities Cast Iron Bare Steel Program												
	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Address	Concord St	2-7 Cornell St	20-34 School St	18-56 Ash St	5-19 Lemon St	1-34 Dickerman St	Pennichuck St & Caron Ave	48 NEWBURY ST, NAS (ON UNDERHILL ST)	22-50 Bridge St, NAS	5-67 Williams St NAS	1-132 Allds St	8 Acton St
Town	Concord	Concord	Hudson	Nashua	Nashua	Nashua	Nashua	Nashua	Nashua	Nashua	Nashua	Nashua
Pipe Size	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"
Install Date	1953	1955	1947	1928	1902/1925	1902/1925	1956/1960	1917 est	1904	1940	1940	1950
Wall Thickness	0.166 in	Unknown	Unknown	Unknown	Unknown	0.154 in	0.143 in	0.188 in	0.188 in	0.154 in	0.154 in	0.154 in
Age	55	54	63	83	110	111	58	99 est	112	77	78	69
Pressure	12 in water column	60 psig	12 in water column	12 in water column	12 in water column	12 in water column	12 in water column	12 in water column	12 in water column	12 in water column	12 in water column	12 in water column
Ground PH	7 to 8	7 to 8	7.5	6.5	6	7.5	6	6	6	7.5	6	7
Pipe Condition	Deep pitting/Significant wall loss	Good condition	Deep Pitting/Fair to poor Condition	100% wall loss/Very poor Condition	100% wall loss/very poor condition	90% wall loss/poor condition	100% wall loss/Very poor condition	100% wall loss/Very poor condition	50% wall loss in pits/moderate condition	30% wall loss in pits	100% wall loss/Very poor condition	100% wall loss/ moderate pitting
		Coated steel										
Address	Woodman St	83 Pleasant St	2-18 Faxon St & 1-7 Faxon Ave	55-100 W North St	2-13 Grove St	1-44 Revere St & Fernwood St	90 Dodge St	49 Summer St (on Salem St)	18 Howard St, NAS	14-38 Brook St, NAS	1-21 Fowell Ave	Nottingham St & Highland St
Town	Concord	Concord	Concord	Nashua	Nashua	Nashua	Nashua	Nashua	Nashua	Nashua	Nashua	Hudson
Pipe Size	1.5"	2"	2"	8"	2"	2"	2"	2"	2"	2"	2"	1.25"
Install Date	1929	1900	1912	1960	1910	1902/1925	1959	1924	1912	1924	1924	1959
Wall Thickness	0.130 in	Unknown	Unknown	Unknown	Unknown	0.188 in	0.160 in	0.218 in	0.188 in	0.154 in	0.154 in	0.140 in
Age	79	109	98	51	102	111	55	91	104	93	94	60
Pressure	12 in water column	12 in water column	12 in water column	12 in water column	12 in water column	12 in water column	12 in water column	12 in water column	12 in water column	12 in water column	12 in water column	60 psig
Ground PH	7 to 8	6	7.5	6	7	7	6	6	6	7	7	6
Pipe Condition	Deep pitting/Significant wall loss	some areas of pitting and wall loss	Multiple large holes/very poor condition	Deep Pitting/Poor Condition	Deep pitting/poor condition	37% wall loss/moderate condition	100% wall loss/very poor condition	100% wall loss/very poor condition	100% wall loss/very poor condition	25-50% wall loss pits	30-50% wall loss pits	30-50% wall loss/ selective corrosion
Address	Connell St	25-28 Depot St	116-130 Bowers St			17-28 Sunset Dr	93 Walnut St		2-15 Columbia Ave, NAS	4-26 Nutt St NAS	171-185 Concord St	Salvail Ct & Canal St
Town	Hudson	Franklin	Nashua			Nashua	Nashua		Nashua	Nashua	Nashua	Nashua
Pipe Size	2"	2"	2"			2"	2"		2"	2"	2"	2"
Install Date	1928	1931	1913			Unknown	1913		1915	1924	1954	1928
Wall Thickness	0.139 in	unknown	Unknown			0.188 in	0.160 in		0.188 in	0.154 in	0.154 in	0.154 in
Age	80	78	97			Unknown	101		101	93	64	91
Pressure	12 in water column	60 psig	12 in water column			60 psig	12 in water column		12 in water column	12 in water column	12 in water column	12 in water column
Ground PH	6 to 7	6	7			6	6		6	6	7	76
Pipe Condition	Deep pitting/Significant wall loss	Good condition	Heavy wall loss/poor condition			100% wall loss/very poor condition	100% wall loss/very poor condition		100% wall loss/very poor condition	100% wall loss/very poor condition	100% wall loss/very poor condition	10-20% wall loss/ light corrosion
		Coated steel										
Address	Gloria Ave	80-113 Blossom St	1-19 Perkins St & 41-46 Bradley St			8-18 Maple St	57 Spaulding St		31-70 McKean St, NAS	3-75 Blossom St, NAS	126-226 Pine St	Second St & Oakwood St
Town	Hudson	Nashua	Concord			Nashua	Nashua		Nashua	Nashua	Hudson	Hudson
Pipe Size	2"	2"	1.5"			2"	2"		2"	2"	2"	2"
Install Date	1954	1908 & 1913	1955			1957	1956		1923	1915	1957	1949
Wall Thickness	0.148 in	Unknown	Unknown			0.154 in	0.139 in		0.188 in	0.154 in	0.154 in	0.154 in
Age	54	101	55			56	58		93	102	61	70
Pressure	60 psig	12 in water column	12 in water column			12 in water column	12 in water column		12 in water column	12 in water column	12 in water column	12 in water column
Ground PH	7 to 8	5	7			6.5	6		6	7	6	7
Pipe Condition	Fair Condition	Extremely poor condition	Deep pitting/fair to poor condition			39% wall loss/moderate condition	100% wall loss/very poor condition		100% wall loss/very poor condition	100% wall loss in svc connect/mod corros	100% wall loss in pits/very poor condition	Heavy corrosion/50% wall loss open seam
Address	Library St	5-11 Bristol St	Chester St -59 Berkeley St			3-25 Pratt St & Zellwood St	95 Shaker Rd		5-18 Edwin St, NAS	28-36 Ffield St, NAS		
Town	Hudson	Nashua	Nashua			Nashua	Concord		Nashua	Nashua		
Pipe Size	4"	4"	2"			2"	1"		2"	2"		
Install Date	1908	1947, 1951, 1954, 1957	1947			1894/1914	Unknown		1961	1959		
Wall Thickness	0.234 in	Unknown	Unknown			0.188 in	0.133 in		0.188 in	0.154 in		
Age	100	62	63			119	Unknown		55	58		
Pressure	12 in water column	12 in water column	12 in water column			60 psig	60 psig		12 in water column	12 in water column		
Ground PH	6	7	7			7	6		6	7		
Pipe Condition	Fair Condition	Moderate uniform pitting/Fair Condition	Visible holes/Very poor condition			100% wall loss/very poor condition	27% wall loss/fair condition		100% wall loss/very poor condition	30% wall loss in pits/gen corros pitting		
Address	Mulberry St	12-25 Buck St				5-21 Ridge St	249 Medford St		2-16 Stevens St, NAS	75-235 Lake St, NAS		
Town	Nashua	Nashua				Nashua	Manchester		Nashua	Nashua		
Pipe Size	2"	2"				2"	2"		2"	2"		
Install Date	1912	1901, 1903 & 1911				Unknown	1956/1960		1904	1900		
Wall Thickness		Unknown				0.154 in	0.160 in		0.188 in	0.154 in		
Age	96	108				Unknown	58		112	117		
Pressure	12 in water column	12 in water column				12 in water column	60 psig		12 in water column	12 in water column		
Ground PH	7 to 8	6 to 7				6.5	6		7	7		
Pipe Condition	Concentrated deep pitting	Heavy Pitting/Poor Condition				39% wall loss/moderate condition	100% wall loss/very poor condition		100% wall loss/very poor condition	30% wall loss/gen scaling and pitting		
Address	Prescott St & Putnam St	2-4 Fourth St				1-6 Jewell Ln	348 Lincoln St			4-22 Peabody St TIL		
Town	Nashua	Nashua				Nashua	Manchester			Tilton		
Pipe Size	2"	2"				2"	3"			4"		
Install Date	1924	1926				1947	1954			1931		
Wall Thickness	Not Taken Due to Pipe Condition	Unknown				0.154 in	0.234 in			0.237 in		
Age	84	83				66	80			86		
Pressure	12 in water column	12 in water column				12 in water column	60 psig			60 psig		
Ground PH	6 to 7	6				7	6			7		
Pipe Condition	Pipe breakage and pit holes	Significant deep pitting/Poor Condition				32% wall loss/moderate condition	12% wall loss/fair condition			20% wall loss/light corros & pitting		
Address	Reed Court	31-39 Newbury St										
Town	Nashua	Nashua										
Pipe Size	2"	2"										
Install Date	1908	1898, 1910, 1928										
Wall Thickness	0.121 in	Unknown										
Age	100	111										
Pressure	12 in water column	12 in water column										
Ground PH	6	3 to 4										
Pipe Condition	Significan wall Loss	Significant wall loss/Poor condition										
Address		5-21 Winter St										
Town		Tilton										
Pipe Size		4"										
Install Date		1931										
Wall Thickness		Unknown										
Age		78										
Pressure		60 psig										
Ground PH		7										
Pipe Condition		Fair Condition										
63	8	9	5	2	2	7	7	2	6	7	4	4
Samples												

FY	Age
2009-1	55
2009-2	79
2009-3	80
2009-4	54
2009-5	100
2009-6	96
2009-7	84
2009-8	100
2010-1	54
2010-2	109
2010-3	78
2010-4	101
2010-5	62
2010-6	108
2010-7	83
2010-8	111
2010-9	78
2011-1	63
2011-2	98
2011-3	97
2011-4	55
2011-5	63
2012-1	83
2012-2	51
2013-1	110
2013-2	102
2014-1	111
2014-2	111
2014-3	
2014-4	56
2014-5	119
2014-6	
2014-7	66
2015-1	58
2015-2	55
2015-3	101
2015-4	58
2015-5	
2015-6	58
2015-7	60
2016-1	99
2016-2	91
2017-1	112
2017-2	104
2017-3	101
2017-4	93
2017-5	55
2017-6	112
2018-1	77
2018-2	93
2018-3	93
2018-4	102
2018-5	58
2018-6	117
2018-7	86
2019-1	78
2019-2	94
2019-3	64
2019-4	61
2020-1	69
2020-2	60
2020-3	91
2020-4	70
Sum	63 83.1

LIBERTY UTILITIES BARE STEEL REPLACEMENT PROGRAM

2009-2020

Prepared by the New Hampshire Public Utilities Commission
Safety Division

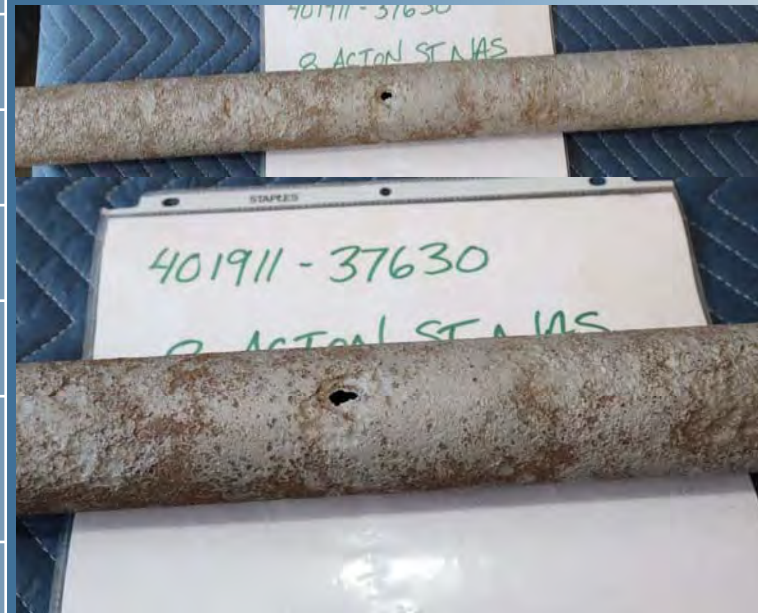


2020 Bare Steel Replacement Reports



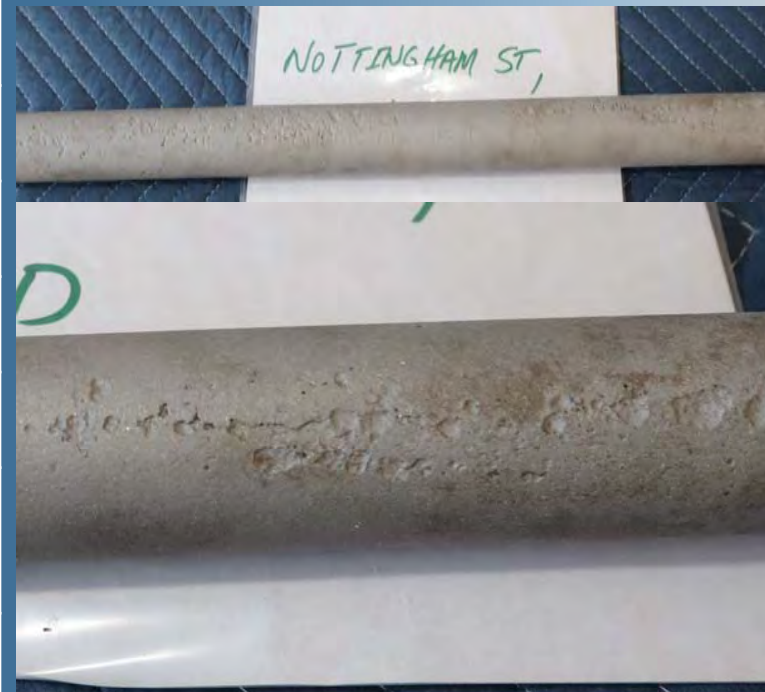
FY 2020

Address	8 Acton St
Town	Nashua
Pipe Size	2"
Install Date	1950
Wall Thickness	0.154"
Age	69
Pressure	12 in water column
Ground PH	7
Pipe Condition	100 % wall loss/ moderate pitting



FY 2020

Address	Nottingham St & Highland St
Town	Hudson
Pipe Size	1.25"
Install Date	1959
Wall Thickness	0.140"
Age	60
Pressure	60 psig
Ground PH	6
Pipe Condition	30-50% wall loss/ selective corrosion



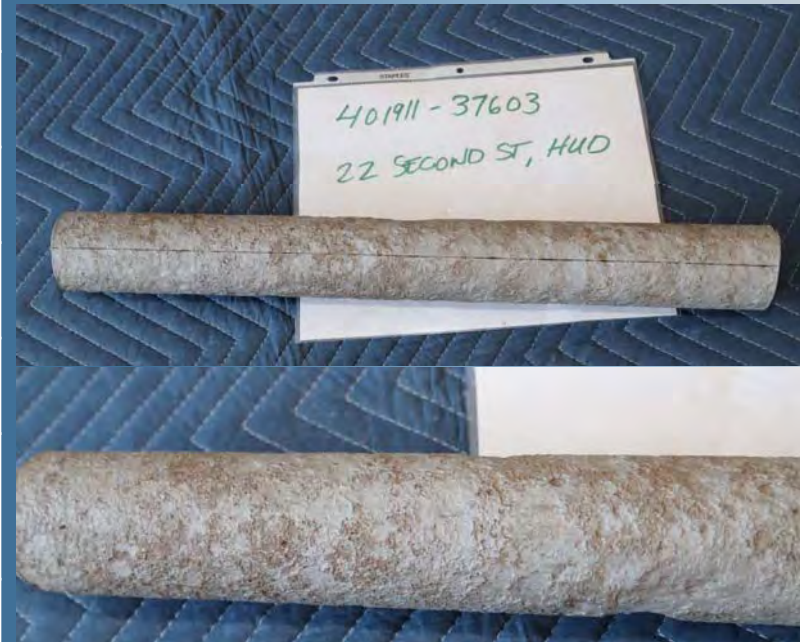
FY 2020

Address	Salvail Ct & Canal St
Town	Nashua
Pipe Size	2"
Install Date	1928
Wall Thickness	0.154"
Age	91
Pressure	12 in water column
Ground PH	76
Pipe Condition	10-20% wall loss/ light corrosion



FY 2020

Address	Second St & Oakwood St
Town	Hudson
Pipe Size	2"
Install Date	1949
Wall Thickness	0.154"
Age	70
Pressure	12 in water column
Ground PH	7
Pipe Condition	Heavy corrosion/50% wall loss/ open seam



2019 Bare Steel Replacement Reports



FY 2019

Address	1-132 Allds St Mulvaney St sample
Town	Nashua
Pipe Size	2"
Install Date	1940
Wall Thickness	0.154"
Age	78
Pressure	12 in water column
Ground PH	6
Pipe Condition	100 % wall loss in areas



FY 2019

Address	1-21 Fowell Ave
Town	Nashua
Pipe Size	2"
Install Date	1924
Wall Thickness	0.154"
Age	94
Pressure	12 in water column
Ground PH	7
Pipe Condition	30-50% wall loss in pits



FY 2019

Address	171-185 Concord St Damon Ave sample
Town	Nashua
Pipe Size	2"
Install Date	1954
Wall Thickness	0.154"
Age	64
Pressure	12 in water column
Ground PH	7
Pipe Condition	100% wall loss in pits



FY 2019

Address	126-226 Pine St Lovell St sample
Town	Nashua
Pipe Size	2"
Install Date	1957
Wall Thickness	0.154"
Age	61
Pressure	12 in water column
Ground PH	6
Pipe Condition	100% wall loss in pits



2018 Bare Steel Replacement Reports



FY 2018

Address	5-67 Williams St
Town	Nashua
Pipe Size	2"
Install Date	1940
Wall Thickness	0.154"
Age	77
Pressure	12 in water column
Ground PH	7.5
Pipe Condition	30% wall loss in pits



FY 2018

Address	14-38 Brook St
Town	Nashua
Pipe Size	2"
Install Date	1924
Wall Thickness	0.154"
Age	93
Pressure	12 in water column
Ground PH	7
Pipe Condition	25-50% wall loss in pits



FY 2018

Address	4-26 Nutt St
Town	Nashua
Pipe Size	2"
Install Date	1924
Wall Thickness	0.154"
Age	93
Pressure	12 in water column
Ground PH	6
Pipe Condition	100% wall loss in pits Heavy Corrosion



FY 2018

Address	3-75 Blossom St
Town	Nashua
Pipe Size	2"
Install Date	1915
Wall Thickness	0.154"
Age	102
Pressure	12 in water column
Ground PH	6
Pipe Condition	100% wall loss in pits Very Poor Condition



FY 2018

Address	28-36 Fifield St & Winnwood St
Town	Nashua
Pipe Size	2"
Install Date	1959
Wall Thickness	0.154"
Age	58
Pressure	12 in water column
Ground PH	7
Pipe Condition	30% wall loss in pits General Corrosion/Pitting



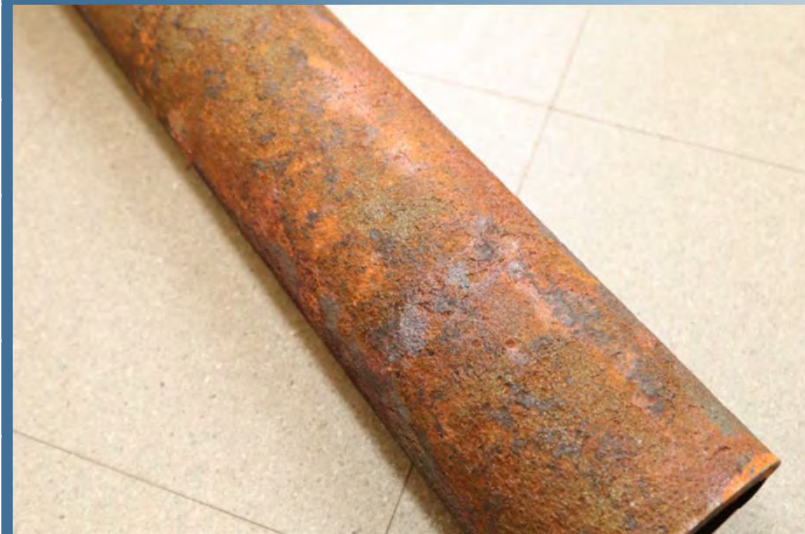
FY 2018

Address	75-235 Lake St
Town	Nashua
Pipe Size	2"
Install Date	1900
Wall Thickness	0.154"
Age	117
Pressure	12 in water column
Ground PH	7
Pipe Condition	30% wall loss in pits General Scaling/Pitting



FY 2018

Address	4-22 Peabody St
Town	Tilton
Pipe Size	4"
Install Date	1931
Wall Thickness	0.237"
Age	86
Pressure	60 psig
Ground PH	7
Pipe Condition	20% wall loss in pits Light Corrosion/Pitting

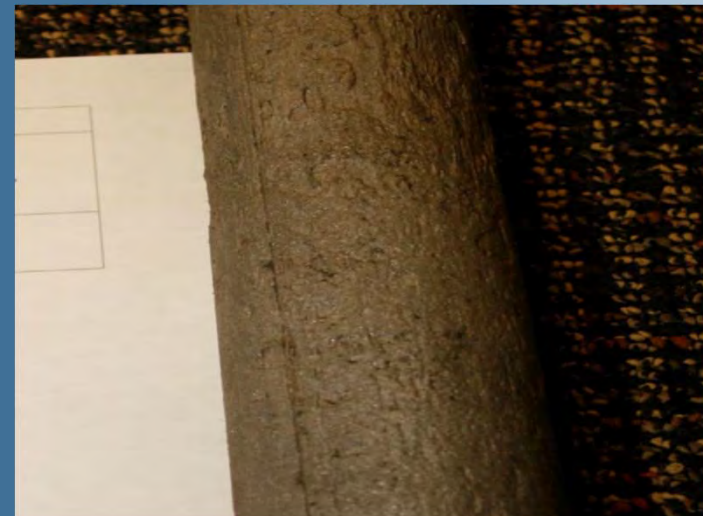
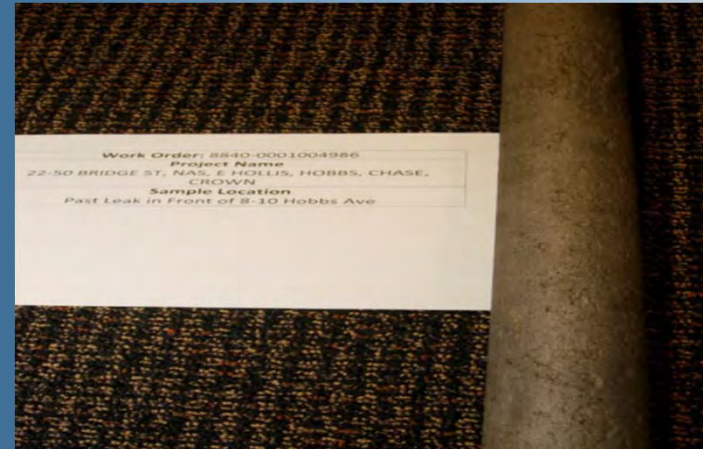


2017 Bare Steel Replacement Reports



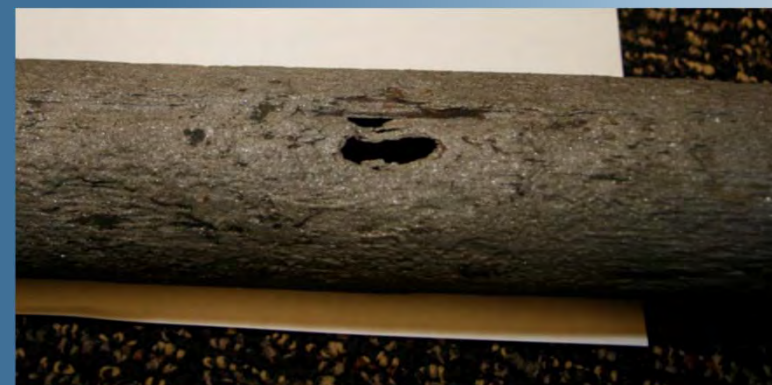
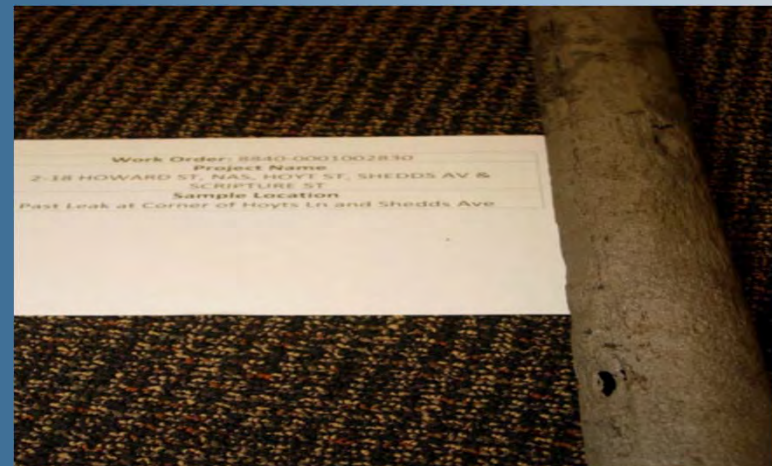
FY 2017

Address	22-50 Bridge St
Town	Nashua
Pipe Size	2"
Install Date	1904
Wall Thickness	0.188 in
Age	112
Pressure	12 in water column
Ground PH	6
Pipe Condition	50% Wall Loss/ Poor Condition



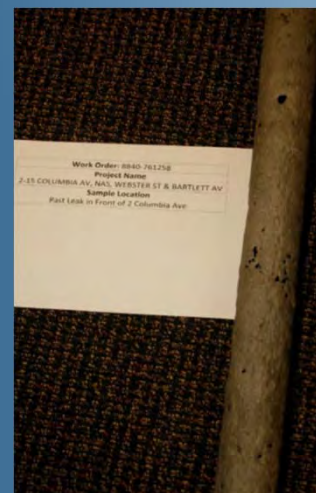
FY 2017

Address	18 Howard St
Town	Nashua
Pipe Size	2"
Install Date	1912
Wall Thickness	0.188 in
Age	104
Pressure	12 in water column
Ground PH	6
Pipe Condition	100% Wall Loss/ Very Poor Condition



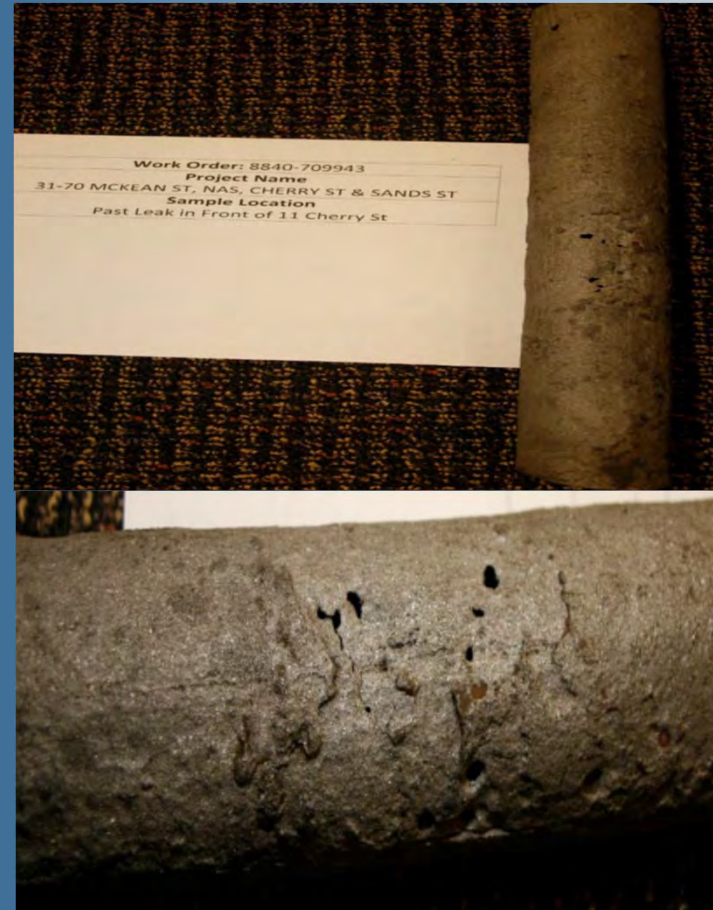
FY 2017

Address	2-15 Columbia Ave
Town	Nashua
Pipe Size	2"
Install Date	1915
Wall Thickness	0.188 in
Age	101
Pressure	12 in water column
Ground PH	6
Pipe Condition	100% Wall Loss/ Very Poor Condition



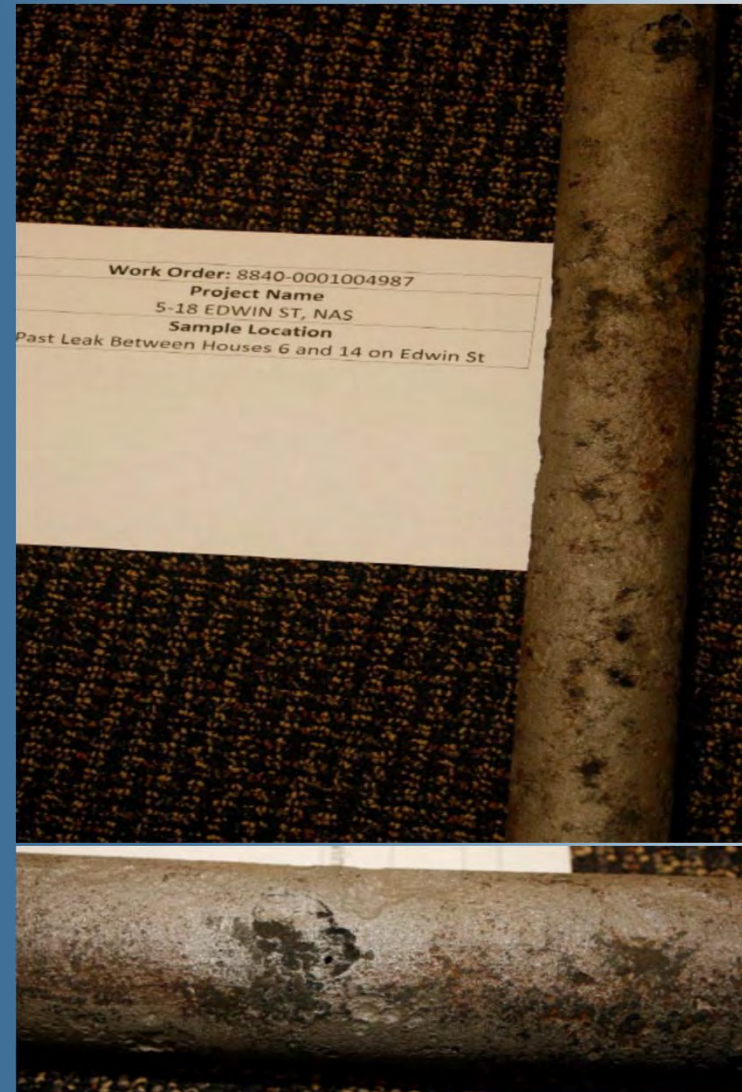
FY 2017

Address	31-70 McKean St
Town	Nashua
Pipe Size	2"
Install Date	1923
Wall Thickness	0.188 in
Age	93
Pressure	12 in water column
Ground PH	6
Pipe Condition	100% Wall Loss/ Very Poor Condition



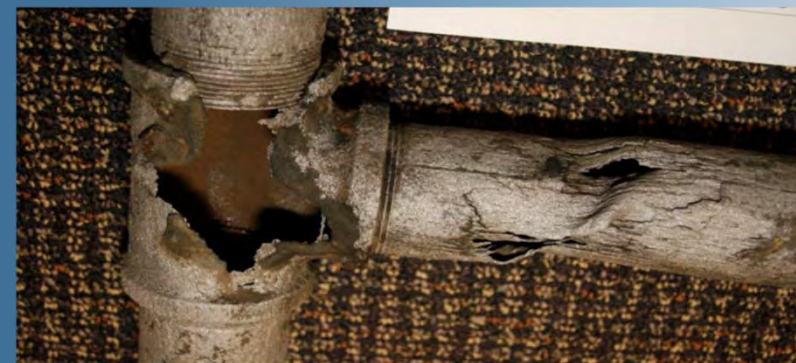
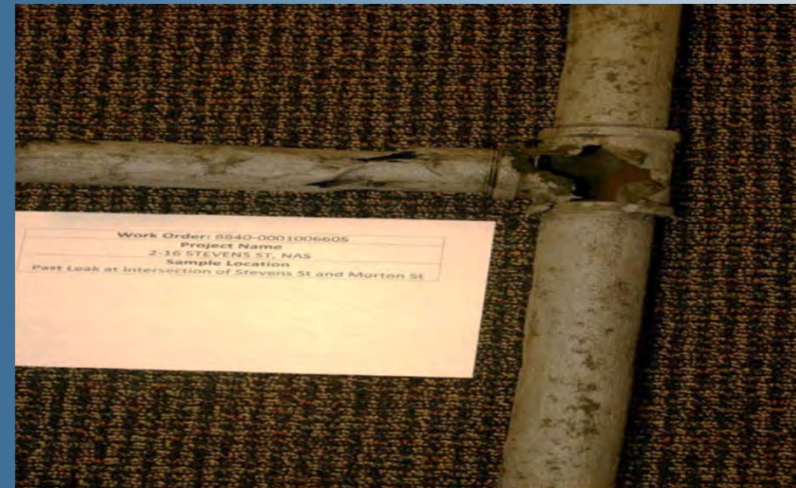
FY 2017

Address	5-18 Edwin St
Town	Nashua
Pipe Size	2"
Install Date	1961
Wall Thickness	0.188 in
Age	55
Pressure	12 in water column
Ground PH	6
Pipe Condition	100% Wall Loss/ Very Poor Condition



FY 2017

Address	2-16 Stevens St
Town	Nashua
Pipe Size	2"
Install Date	1904
Wall Thickness	0.188 in
Age	112
Pressure	12 in water column
Ground PH	7
Pipe Condition	100% Wall Loss/ Very Poor Condition



2016 Bare Steel Replacement Reports



FY 2016

Address	48 Newbury St NAS (On Underhill St)
Town	Nashua
Pipe Size	2"
Install Date	Unknown
Wall Thickness	0.188 in
Age	Unknown
Pressure	12 in water column
Ground PH	6
Pipe Condition	100% Wall Loss/ Very Poor Condition



FY 2016

Address	49 Summer St (On Salem St)
Town	Nashua
Pipe Size	2"
Install Date	1924
Wall Thickness	0.218 in
Age	91
Pressure	12 in water column
Ground PH	6
Pipe Condition	100% Wall Loss/ Very Poor Condition



2015 Bare Steel Replacement Reports



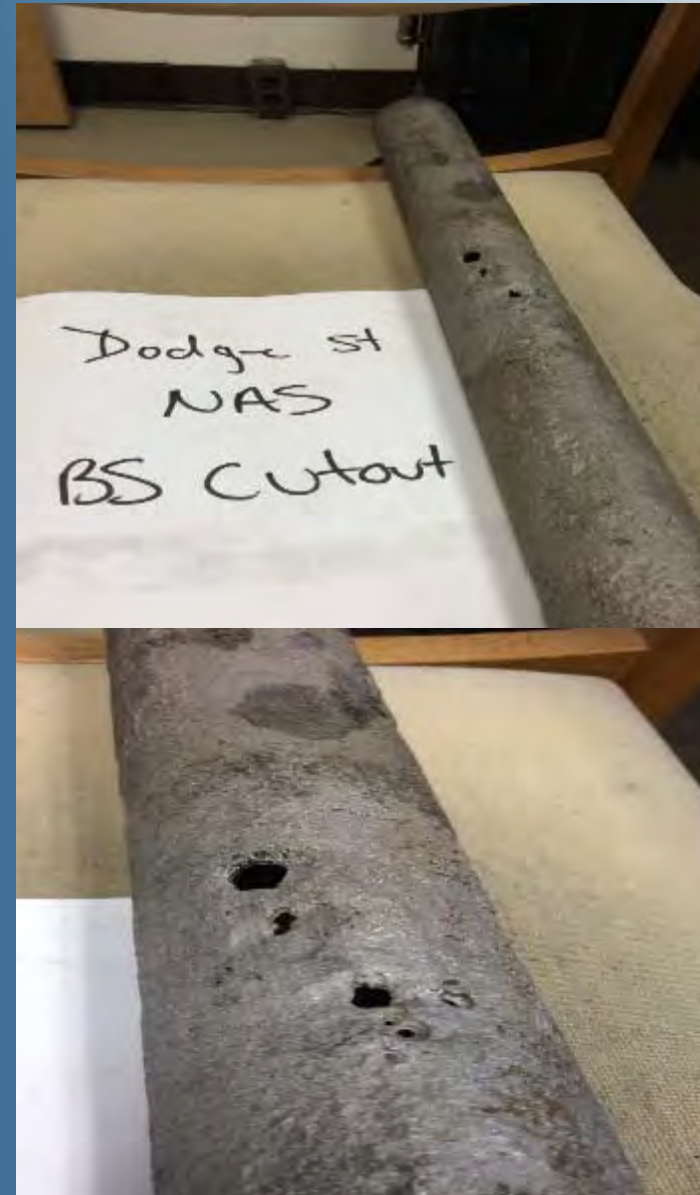
FY 2015

Address	Pennichuck St & Caron Ave
Town	Nashua
Pipe Size	2"
Install Date	1956/1960
Wall Thickness	0.143 in
Age	58
Pressure	12 in water column
Ground PH	6
Pipe Condition	100% Wall Loss/ Very Poor Condition



FY 2015

Address	90 Dodge St
Town	Nashua
Pipe Size	2"
Install Date	1959
Wall Thickness	0.160 in
Age	55
Pressure	12 in water column
Ground PH	6
Pipe Condition	100% Wall Loss/ Very Poor Condition



FY 2015

Address	93 Walnut St
Town	Nashua
Pipe Size	2"
Install Date	1913
Wall Thickness	0.160 in
Age	101
Pressure	12 in water column
Ground PH	6
Pipe Condition	100% Wall Loss/ Very Poor Condition



FY 2015

Address	57 Spaulding St
Town	Nashua
Pipe Size	2"
Install Date	1956
Wall Thickness	0.139 in
Age	58
Pressure	12 in water column
Ground PH	6
Pipe Condition	100% Wall Loss/ Very Poor Condition



FY 2015

Address	95 Shaker Road (Shaker Rd School)
Town	Concord
Pipe Size	1"
Install Date	Unknown
Wall Thickness	0.133 in
Age	Unknown
Pressure	60 psig
Ground PH	6
Pipe Condition	27% Wall Loss/ Fair Condition



FY 2015

Address	249 Medford St
Town	Manchester
Pipe Size	2"
Install Date	1956/1960
Wall Thickness	0.160 in
Age	58
Pressure	60 psig
Ground PH	6
Pipe Condition	100% Wall Loss/ Very Poor Condition



FY 2015

Address	348 Lincoln St
Town	Manchester
Pipe Size	3"
Install Date	1954
Wall Thickness	0.234 in
Age	60
Pressure	60 psig
Ground PH	6
Pipe Condition	12% Wall Loss/ Fair Condition



2014 Bare Steel Replacement Reports



FY 2014

Address	1-34 Dickerman St
Town	Nashua
Pipe Size	2"
Install Date	1902/1925
Wall Thickness	0.154 in
Age	111
Pressure	12 in water column
Ground PH	7.5
Pipe Condition	90% Wall Loss/ Poor Condition



FY 2014

Address	1-44 Revere St & Fernwood St
Town	Nashua
Pipe Size	2"
Install Date	1902/1925
Wall Thickness	0.188 in
Age	111
Pressure	12 in water column
Ground PH	7
Pipe Condition	37% Wall Loss/ Moderate Condition



FY 2014

Address	17-28 Sunset Dr
Town	Belmont
Pipe Size	2"
Install Date	Unknown
Wall Thickness	0.188 in
Age	Unknown
Pressure	60 psig
Ground PH	6
Pipe Condition	100% Wall Loss/Very Poor Condition



FY 2014

Address	8-18 Maple St
Town	Nashua
Pipe Size	2"
Install Date	1957
Wall Thickness	0.154 in
Age	56
Pressure	12 in water column
Ground PH	6.5
Pipe Condition	39% Wall Loss/Moderate Condition



FY 2014

Address	3-25 Pratt St & Zellwood St
Town	Nashua
Pipe Size	2"
Install Date	1894/1914
Wall Thickness	0.188 in
Age	119
Pressure	60 psig
Ground PH	7
Pipe Condition	100% Wall Loss/ Very Poor Condition



FY 2014

Address	5-21 Ridge St
Town	Nashua
Pipe Size	2"
Install Date	Unknown
Wall Thickness	0.154 in
Age	119
Pressure	12 in water column
Ground PH	6.5
Pipe Condition	39% Wall Loss/ Moderate Condition



FY 2014

Address	1-6 Jewell Lane
Town	Nashua
Pipe Size	2"
Install Date	1947
Wall Thickness	0.154 in
Age	66
Pressure	12 in water column
Ground PH	7
Pipe Condition	32% Wall Loss/ Moderate Condition



2013 Bare Steel Replacement Reports



FY 2013

Address	5-19 Lemon St
Town	Nashua
Pipe Size	2"
Install Date	1902/1925
Wall Thickness	Unknown
Age	110
Pressure	12 in water column
Ground PH	6
Pipe Condition	100% Wall Loss/ Very Poor Condition



FY 2013

Address	2-13 Grove St
Town	Nashua
Pipe Size	2"
Install Date	1910
Wall Thickness	Unknown
Age	102
Pressure	12 in water column
Ground PH	7
Pipe Condition	Deep Pitting/ Poor Condition



2012 Bare Steel Replacement Reports



FY 2012

Address	18-56 Ash St
Town	Nashua
Pipe Size	2"
Install Date	1928
Wall Thickness	Unknown
Age	83
Pressure	12 in water column
Ground PH	6.5
Pipe Condition	100% Wall Loss/ Very Poor Condition



FY 2012

Address	55-100 W North St
Town	Manchester
Pipe Size	8"
Install Date	1960
Wall Thickness	Unknown
Age	51
Pressure	12 in water column
Ground PH	6
Pipe Condition	Deep Pitting/ Poor Condition



2011 Bare Steel Replacement Reports



FY 2011

Address	20-34 School St
Town	Hudson
Pipe Size	2"
Install Date	1947
Wall Thickness	Unknown
Age	63
Pressure	12 in water column
Ground PH	7.5
Pipe Condition	Deep Pitting/ Fair to Poor Condition



FY 2011

Address	2-18 Faxon St & 1-7 Faxon Ave
Town	Nashua
Pipe Size	2"
Install Date	1912
Wall Thickness	Unknown
Age	98
Pressure	12 in water column
Ground PH	7.5
Pipe Condition	Multiple Large Holes/ Very Poor Condition



FY 2011

Address	116-130 Bowers St
Town	Nashua
Pipe Size	2"
Install Date	1913
Wall Thickness	Unknown
Age	97
Pressure	12 in water column
Ground PH	7
Pipe Condition	Heavy Wall Loss/ Poor Condition



FY 2011

Address	1-19 Perkins St & 41-46 Bradley St
Town	Concord
Pipe Size	1.5"
Install Date	1955
Wall Thickness	Unknown
Age	55
Pressure	12 in water column
Ground PH	7
Pipe Condition	Deep Pitting/ Fair to Poor Condition



FY 2011

Address	Chester St-59 Berkeley St
Town	Nashua
Pipe Size	2"
Install Date	1947
Wall Thickness	Unknown
Age	63
Pressure	12 in water column
Ground PH	7
Pipe Condition	Visible Holes/ Very Poor Condition



2010 Bare Steel Replacement Reports



FY 2010

Address	2-7 Cornell St
Town	Concord
Pipe Size	2"
Install Date	1955
Wall Thickness	Unknown
Age	54
Pressure	60 psig
Ground PH	7 to 8
Pipe Condition	Good Condition
	Coated Steel



FY 2010

Address	83 Pleasant St
Town	Concord
Pipe Size	2"
Install Date	1900
Wall Thickness	Unknown
Age	109
Pressure	12 in water column
Ground PH	6
Pipe Condition	Some Areas of Pitting and Wall Loss



FY 2010

Address	25-28 Depot St
Town	Franklin
Pipe Size	2"
Install Date	1931
Wall Thickness	Unknown
Age	78
Pressure	60 psig
Ground PH	6
Pipe Condition	Good Condition
	Coated Steel



FY 2010

Address	80-113 Blossom St
Town	Nashua
Pipe Size	2"
Install Date	1908 & 1913
Wall Thickness	Unknown
Age	101
Pressure	12 in water column
Ground PH	5
Pipe Condition	Extremely Poor Condition



FY 2010

Address	5-11 Bristol St
Town	Nashua
Pipe Size	4"
Install Date	1947, 1951, 1954, 195?
Wall Thickness	Unknown
Age	62
Pressure	12 in water column
Ground PH	7
Pipe Condition	Moderate Uniform Pitting/ Fair Condition



FY 2010

Address	12-25 Buck St
Town	Nashua
Pipe Size	2"
Install Date	1901, 1903 & 1911
Wall Thickness	Unknown
Age	108
Pressure	12 in water column
Ground PH	6 to 7
Pipe Condition	Heavy Pitting/ Poor Condition



FY 2010

Address	2-4 Fourth St
Town	Nashua
Pipe Size	2"
Install Date	1926
Wall Thickness	Unknown
Age	83
Pressure	12 in water column
Ground PH	6
Pipe Condition	Significant Deep Pitting/ Poor Condition



FY 2010

Address	31-39 Newbury St
Town	Nashua
Pipe Size	2"
Install Date	1898, 1910, 1928
Wall Thickness	Unknown
Age	111
Pressure	12 in water column
Ground PH	3 to 4
Pipe Condition	Significant Wall Loss/ Poor Condition



FY 2010

Address	5-21 Winter St
Town	Tilton
Pipe Size	4"
Install Date	1931
Wall Thickness	Unknown
Age	78
Pressure	60 psig
Ground PH	7
Pipe Condition	Fair Condition



2009 Bare Steel Replacement Reports



FY 2009

Address	Concord St
Town	Concord
Pipe Size	2"
Install Date	1953
Wall Thickness	0.166 in
Age	55
Pressure	12 in water column
Ground PH	7 to 8
Pipe Condition	Deep pitting/Significant wall loss



FY 2009

Address	2 Woodman St
Town	Concord
Pipe Size	1.5"
Install Date	1929
Wall Thickness	0.130 in
Age	79
Pressure	12 in water column
Ground PH	7 to 8
Pipe Condition	Deep pitting/Significant wall loss



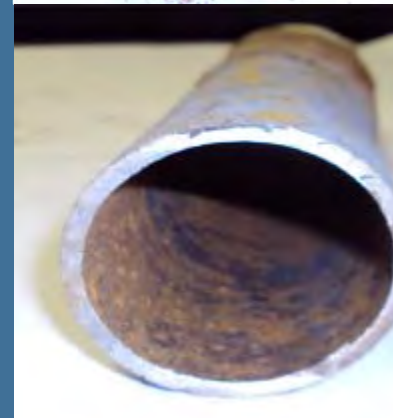
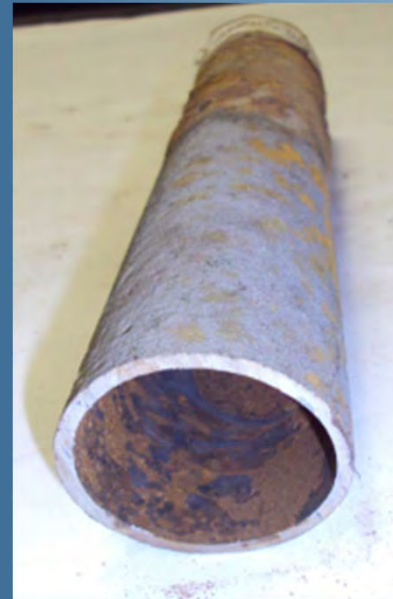
FY 2009

Address	Connell St
Town	Hudson
Pipe Size	2"
Install Date	1928
Wall Thickness	0.139 in
Age	80
Pressure	12 in water column
Ground PH	6 to 7
Pipe Condition	Deep pitting/Significant wall loss



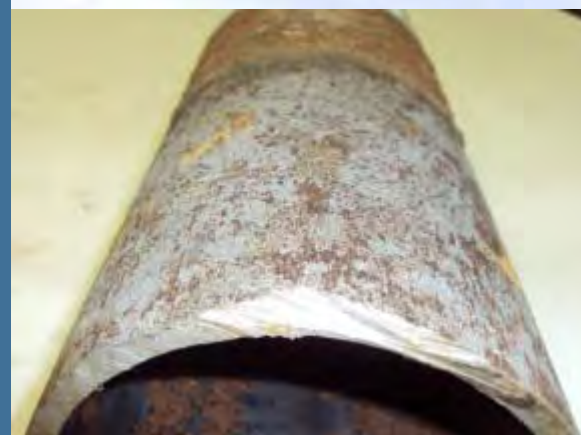
FY 2009

Address	Gloria Avenue
Town	Hudson
Pipe Size	2"
Install Date	1954
Wall Thickness	0.148 in
Age	54
Pressure	60 psig
Ground PH	7 to 8
Pipe Condition	Fair Condition



FY 2009

Address	Library St
Town	Hudson
Pipe Size	4"
Install Date	1908
Wall Thickness	0.234 in
Age	100
Pressure	12 in water column
Ground PH	6
Pipe Condition	Fair Condition



FY 2009

Address	Mulberry St
Town	Nashua
Pipe Size	2"
Install Date	1912
Wall Thickness	0.124 in
Age	96
Pressure	12 in water column
Ground PH	7 to 8
Pipe Condition	Concentrated Deep Pitting



FY 2009

Address	Prescott St & Putnam St
Town	Nashua
Pipe Size	2"
Install Date	1924
Wall Thickness	Not Taken Due to Poor Condition
Age	84
Pressure	12 in water column
Ground PH	6 to 7
Pipe Condition	Pipe Breakage and Pit Holes



FY 2009

Address	Reed Ct
Town	Nashua
Pipe Size	2"
Install Date	1908
Wall Thickness	0.121 in
Age	100
Pressure	12 in water column
Ground PH	6
Pipe Condition	Significant Wall Loss



Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities

DG 20-049

FY 2020 Cast Iron/Bare Steel Replacement Program Results

Staff Data Requests - Set 2

Date Request Received: 5/15/20
Request No. Staff 2-1

Date of Response: 5/29/20
Respondent: Brian Frost

REQUEST:

Please provide the Company's projected timeline to complete the replacement of all CIBS mains and services within the Company's service territories. Please include the following information:

- a) Existing miles of cast iron mains at the start and end of each year;
- b) Existing miles of cast iron services at the start and end of each year;
- c) Existing miles of bare steel mains at the start and end of each year;
- d) Existing miles of bare steel services at the start and end of each year;
- e) Linear footage replaced each year;
- f) Annual cost of CIBS replacement;
- g) Annual average cost per foot of CIBS replacement.

RESPONSE:

The Company does not have a projected timeline to complete replacement of all cast iron and bare steel mains. Additionally, since a CIBS-specific timeline is not available, projected data is not separated between cast iron, bare steel, gas mains, or gas services. Likewise, the Company does not have projections of future costs specifically for cast iron and bare steel replacement.

Looking at past filings, in Docket No. DG 19-054 the Company had 66.0 miles of cast iron and bare steel main remaining at the conclusion of the FY 2019 replacement program. In this docket the Company described a total planned cast iron and bare steel replacement during the year from all types of work as 12.9 miles. Based upon this year's planned construction, and simply assuming this year's rate of CIBS replacement will continue in future years, a future calendar is listed below.

Year	Total Replacement (miles)	Cast Iron and Bare Steel Remaining (miles)
End of FY 2019 Program		53.1
FY 2020–21	8	45.1
FY 2021–22	8	37.1

Year	Total Replacement (miles)	Cast Iron and Bare Steel Remaining (miles)
FY 2022–23	8	29.1
FY 2023–24	8	21.1
FY 2024–25	8	13.1
FY 2025–26	8	5.1
FY 2026–27	5.1	0

	2020	2021	
CapEx - Replenishment			
Mandated			
Cathodic Protection Program	\$ 400,000	\$ 400,000	
Cathodic Protection/Corrosion Mitigation Program	\$ 5,000	\$ 5,000	
Corrosion & Miscellaneous Fitting	\$ 150,000	\$ 150,000	
Leak Repairs	\$ 1,000,000	\$ 1,200,000	
Meter Protection Program	\$ 300,000	\$ 300,000	
Meter Work Project (Meter Purchases)	\$ 1,000,000	\$ 1,420,545	
Replacement Services Random	\$ 10,000	\$ 10,000	
Replacement Services Random (Due to Leaks)	\$ 550,000	\$ 350,000	
Replacement Services Random (Non Leaks)	\$ 350,000	\$ 150,000	
Reserve for Unidentified Mandated Projects	\$ 200,000	\$ 200,000	
Valve Installation/Replacement	\$ 90,000	\$ 90,000	
Regulatory			
Main Replacement LPP	\$ 9,042,804	\$ 9,495,000	CIBS Program
Main Replacement LPP-Restoration	\$ 4,114,376	\$ 4,000,000	
Discretionary			
Aldyl-A Replacement Program	\$ -	\$ 450,000	
Capital Tools/Equipment	\$ 35,000	\$ 25,000	
Dispatch and Control Center	\$ 10,000	\$ 10,000	
K Meter Replacement Program	\$ 430,000	\$ 430,000	
Main Replacement Fitting LPP	\$ 740,501	\$ 1,000,000	
Main Replacement Reactive	\$ 500,000	\$ 500,000	
Nashua Paving	\$ 800,000	\$ -	
Regulator removal Hi line LOU	\$ 50,000	\$ 175,000	
Reserve for Unidentified Projects	\$ 25,000	\$ 25,000	
RTU Replacement Program	\$ 60,000	\$ 60,000	
SCADA Capital Improvements	\$ 80,000	\$ 80,000	
Transportation Fleet and Equipment Purchases	\$ 198,000	\$ -	
Upgrade Synergi Software	\$ 60,000	\$ 65,000	
Safety			
2' Jamesbury replacement program	\$ 60,000	\$ 60,000	
CapEx - Improvement			
Mandated			
Dresser Coupling Replacement Program	\$ 500,000	\$ 550,000	
Inactive Service Program	\$ 75,000	\$ 75,000	
Install Security Equipment - EN Facilities	\$ 50,000	\$ 100,000	
LNG/LPG Capital Improvements	\$ 100,000	\$ 100,000	
Main Replacement City/State Construction	\$ 5,118,485	\$ 5,200,000	
Pre-Code Stee Pipe Protection Program/Replacement	\$ 268,778	\$ 300,000	
Service Replacement City/State Construction	\$ 25,000	\$ 25,000	
Service Replacement Fitting City/State Construction	\$ 303,000	\$ 270,000	
Safety			
Discretionary			
Fortis Software	\$ 98,659	\$ -	
EN Facilities Capital Improvements	\$ 600,000	\$ 600,000	
Facility Improvements & Additions - Keene	\$ 25,000	\$ 5,000	
Finance Unalloc Burden	\$ 703,143	\$ 700,000	
Flir Cameras - Security -Manchester	\$ 986,000	\$ -	
Flir Cameras - Security-Keene	\$ 364,000	\$ -	
Gas System Control & Regulation (ENG)	\$ 350,000	\$ 325,000	
Gas System Planning & Reliability	\$ 2,900,000	\$ 2,900,000	
GPS Mapping Equipment	\$ 15,000	\$ -	
iRestore System Enhancements	\$ 200,000	\$ -	
IT - Software, Equipment & Infrastructure	\$ 75,000	\$ 75,000	
IT Systems Allocations - Corporate	\$ 55,000	\$ 500,000	
Material Bar Coding	\$ 187,500	\$ -	
NH GIS & OMS Database Split & Tuning	\$ 95,000	\$ -	
Purchase Misc Capital Equipment & Tools	\$ 280,000	\$ 295,000	
SAP-Ariba EN Portion Procure to Pay Software	\$ 350,798	\$ -	
SCADA Data center upgrades	\$ 50,000	\$ -	
Service Mapping Project	\$ 100,000	\$ -	
Transportation Fleet and Equipment Purchases	\$ 2,663,000	\$ 2,600,000	
CapEx - Growth			
Growth			
CNG/LNG Costs (placeholder)	\$ 627,628	\$ -	
Granite Bridge Alternative 2020	\$ 50,000	\$ -	
Growth Fitting	\$ 1,504,528	\$ 1,500,000	
Growth New Main	\$ 4,774,420	\$ 4,799,455	
Main Replacement/Growth Fitting	\$ 5,000	\$ 5,000	
Marketing & Sales	\$ -	\$ 100,000	
New Reinforcement Main for Growth ENG	\$ 368,180	\$ 1,000,000	
New Service Comm/Industrial	\$ 1,097,723	\$ 1,030,000	
New Service Residential	\$ 3,156,007	\$ 4,025,000	
Reserve for Unidentified Growth ENG	\$ 1,577,469	\$ 1,600,000	
Windham-Pelham Managed Expansion Project	\$ 450,000	\$ -	
	\$ 50,410,000	\$ 49,330,000	



Steven E. Mullen
Director, Rates & Regulatory Affairs
O: 603-216-3516
E: Steven.Mullen@libertyutilities.com

May 13, 2020

Via ERF and US Mail

Debra A. Howland
Executive Director
New Hampshire Public Utilities Commission
21 S. Fruit Street, Suite 10
Concord, NH 03301-2429

**Re: Liberty Utilities (EnergyNorth Natural Gas) Corp. and Liberty Utilities (EnergyNorth Natural Gas) Corp – Keene Division both d/b/a Liberty Utilities
E-22 Proposed Expenditures for Additions, Extensions and Capital Improvements to Fixed Capital – 2020 Construction Season**

Dear Ms. Howland:

Pursuant to Puc 509.11, enclosed for filing please find Liberty Utilities' E-22 Report of Proposed Expenditures for Additions, Extensions and Capital Improvements to Fixed Capital. Please note this report has been filed via the Commission's Electronic Report Filing System.

Thank you for your attention to this matter. Please do not hesitate to call if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Steven E. Mullen".

Steven E. Mullen

Enclosure

2149/2150

NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION
YEARLY REPORT OF PROPOSED EXPENDITURES FOR ADDITIONS, EXTENSIONS AND CAPITAL IMPROVEMENTS TO FIXED CAPITAL
(In Compliance with Puc 509.11)

No.	LOCATION		PIPE SPECIFICATIONS			ESTIMATED COST	DESCRIPTION	
	TOWN	STREET	SIZE	MATERIAL	LENGTH			
1	Various	Service Replacement Fitting City/State Construction				\$ 303,000	Blanket project under EnergyNorth for main replacement for city/state construction	8840-1925
2	Various	Main Replacement City/State Construction				\$ 4,654,819	Blanket project under EnergyNorth for fitting replacement for city/state construction	8840-1923
3	Keene	Main Replacement City/State Construction				\$ 463,666	Blanket project under Keene for fitting replacement for city/state construction	8843-1908
4	Keene	Service Replacement City/State Construction				\$ 25,000	Blanket project under Keene for fitting replacement for city/state construction	8843-1909
TOTAL						\$ 5,446,485		

Supervisor's Name / Title: Richard MacDonald / Vice President Operations
 (please print)

Supervisor's Signature: Rich MacDonald Digitally signed by Rich MacDonald
 Date: 2020.05.12 10:03:54 -04'00'

Date Submitted: May 12, 2020

NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION
YEARLY REPORT OF PROPOSED EXPENDITURES FOR ADDITIONS, EXTENSIONS AND CAPITAL IMPROVEMENTS TO FIXED CAPITAL
(In Compliance with Puc 509.11)

LOCATION			PIPE SPECIFICATIONS			ESTIMATED COST	DESCRIPTION	
No.	TOWN	STREET	SIZE	MATERIAL	LENGTH			
1	Various	Main Replacement Reactive				\$ 500,000	Blanket program to provide for replacement of gas mains and services during urgent or emergency situations which fall outside the normal scope of integrity, reinforcement, reliability and public works blankets.	8840-1916
2	Various	Replacement Services Random (Due to Leaks)				\$ 550,000	Blanket project to provide random replacement services due to leaks	8840-1905
3	Various	Leak Repairs				\$ 1,000,000	Blanket program to address main valve cluster leaks which reoccur year to year after maintenance by replacing these assets.	8840-1910
5	Various	Main Replacement LPP				\$ 12,715,474	Blanket program under EnergyNorth to address defects affecting the physical soundness of distribution and facilities before they become a safety-related problem. The program calls for the prioritized replacement of unprotected bare steel and cast iron pipe.	8840-1911/2011
4	Various	Main Replacement Fitting LPP				\$ 740,501	Blanket program under EnergyNorth to identify and replace meter installations associated with the LPP Main Replacement Program.	8840-1913
6	Keene	Main Replacement LPP				\$ 441,706	Blanket program under Keene to address defects affecting the physical soundness of distribution and facilities before they become a safety-related problem. The program calls for the prioritized replacement of unprotected bare steel and cast iron pipe.	8843-2011
TOTAL						\$ 15,947,681		

Date Submitted: _____

NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION
YEARLY REPORT OF PROPOSED EXPENDITURES FOR ADDITIONS, EXTENSIONS AND CAPITAL IMPROVEMENTS TO FIXED CAPITAL
(In Compliance with Puc 509.11)

No.	LOCATION		PIPE SPECIFICATIONS			ESTIMATED COST	DESCRIPTION	
	TOWN	STREET	SIZE	MATERIAL	LENGTH			
1	Various	New Reinforcement Main for Growth				\$ 368,180	Blanket project under EnergyNorth created as a placeholder for anticipated growth for year-ahead activity.	8840-1948
	Various	Growth New Main				\$ 4,674,420	Blanket project under EnergyNorth for new main growth based on historical spending trends and anticipated year-ahead activity.	8840-1947
2	Various	Growth Fitting				\$ 1,504,528	Blanket project under EnergyNorth for growth fitting (meters & services) based on historical spending trends and anticipated year-ahead activity.	8840-1949
3	Various	New Service Comm/Industrial				\$ 1,067,723	Blanket project under EnergyNorth for new commercial/industrial service based on historical spending trends and anticipated a year-ahead activity.	8840-1951
4	Various	New Service Residential				\$ 3,131,007	Blanket project under EnergyNorth for new residential service based on historical spending trends and anticipated a year-ahead activity.	8840-1950
	Pelham	Windham-Pelham Managed Expansion Project				\$ 450,000	Blanket project for subsequent restoration/completion required by the Town of Pelham.	8840-1961
	Keene	Growth New Main				\$ 100,000	Blanket project under Keene for new main growth based on historical spending trends and anticipated year-ahead activity.	8843-1915
5	Keene	Main Replacement/Growth Fitting				\$ 5,000	Blanket project under Keene for growth fitting (meters & services) based on historical spending trends and anticipated year-ahead activity.	8843-1916
	Keene	New Service Residential				\$ 25,000	Blanket project under Keene for new residential service based on historical spending trends and anticipated a year-ahead activity.	8843-1917
	Keene	New Service Comm/Industrial				\$ 30,000	Blanket project under Keene for new commercial/industrial service based on historical spending trends and anticipated a year-ahead activity.	8843-1918
TOTAL						\$ 11,355,858		

Supervisor's Name / Title: Richard MacDonald / Vice President Operations

(please print)

Supervisor's Signature:

Rich MacDonald

Digitally signed by Rich MacDonald
Date: 2020.05.12 10:05:10 -04'00'

Date Submitted: _____

NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION
YEARLY REPORT OF PROPOSED EXPENDITURES FOR ADDITIONS, EXTENSIONS AND CAPITAL IMPROVEMENTS TO FIXED CAPITAL
(In Compliance with Puc 509.11)

No.	LOCATION		PIPE SPECIFICATIONS			ESTIMATED COST	DESCRIPTION
	TOWN	STREET	SIZE	MATERIAL	LENGTH		
1	Various	Reserve for Unidentified Mandated Projects				\$ 200,000	
2	Various	Upgrade Synergi Software				\$ 60,000	
3	Various	Inactive Service Program				\$ 75,000	
4	Various	GPS Mapping Equipment				\$ 15,000	
5	Various	Service Mapping Project				\$ 100,000	
6	Various	Meter Protection Program				\$ 300,000	
7	Various	Cathodic Protection Program				\$ 400,000	
8	Various	Replacement Services Random (Non Leaks)				\$ 350,000	
9	Various	Corrosion & Miscellaneous Fitting				\$ 150,000	
10	Various	Valve Installation/Replacement				\$ 85,000	
11	Various	K Meter Replacement Program				\$ 430,000	
12	Various	Dispatch and Control Center				\$ 10,000	
13	Various	Purchase Misc Capital Equipment & Tools				\$ 280,000	
14	Various	Regulator removal Hi line LOU				\$ 50,000	
15	Various	SCADA Capital Improvements				\$ 80,000	
16	Nashua	Nashua Paving				\$ 800,000	
17	Various	LNG/LPG Capital Improvements				\$ 100,000	
18	Various	Reserve for Unidentified Growth ENG				\$ 1,577,469	
19	Various	Gas System Control & Regulation (ENG)				\$ 350,000	
20	Various	Pre-Code Steel Pipe Protection Program/Replacement				\$ 268,778	
21	Various	IT - Software, Equipment & Infrastructure				\$ 50,000	
22	Various	Gas System Planning & Reliability				\$ 2,900,000	
23	Various	SCADA Data center upgrades				\$ 50,000	
24	Various	IT Systems Allocations - Corporate				\$ 55,000	
25	Various	Dresser Coupling Replacement Program				\$ 500,000	
26	Various	iRestore System Enhancements				\$ 200,000	
27	Various	Flir Cameras - Security -Manchester				\$ 986,000	
28	Various	NH GIS & OMS Database Split & Tuning				\$ 95,000	
29	Various	RTU Replacement Program				\$ 60,000	
30	Various	2' Jamesbury replacement program				\$ 60,000	
31	Various	SAP-Ariba EN Portion Procure to Pay Software				\$ 350,798	
32	Various	Fortis Software				\$ 98,659	
33	Various	Material Bar Coding				\$ 187,500	
34	Various	Transportation Fleet and Equipment Purchases				\$ 2,663,000	
35	Various	Meter Work Project (Meter Purchases)				\$ 1,000,000	
36	Various	EN Facilities Capital Improvements				\$ 600,000	
37	Various	Install Security Equipment - EN Facilities				\$ 50,000	
38	Various	Granite Bridge Alternative 2020				\$ 50,000	
39	Various	Finance Unalloc Burden				\$ 703,143	
40	Keene	Capital Tools/Equipment				\$ 35,000	
41	Keene	Cathodic Protection/Corrosion Mitigation Program				\$ 5,000	
42	Keene	CNG/LNG Costs (placeholder)				\$ 627,628	
43	Keene	Facility Improvements & Additions - Keene				\$ 25,000	
44	Keene	Flir Cameras - Security-Keene				\$ 364,000	
45	Keene	IT - Software, Equipment & Infrastructure				\$ 25,000	
46	Keene	Keene HP Conversion to CNG				\$ -	
47	Keene	Replacement Services Random				\$ 10,000	
48	Keene	Reserve for Unidentified Projects				\$ 25,000	
49	Keene	Transportation Fleet and Equipment Purchases				\$ 198,000	
50	Keene	Valve Installation/Replacement				\$ 5,000	
TOTAL						\$ 17,659,975	

Supervisor's Name / Title: Richard MacDonald / Vice President Operations

(please print)

Supervisor's Signature:

Rich MacDonald

Digitally signed by Rich MacDonald
 Date: 2020.05.12 10:05:38 -04'00'

Date Submitted: _____

WO Number	Project Name	Town	Scope	Primary Material Project Affects	Total Main Relay Length	Total Main Abandon Only Length	Sum of Relay and Abandon Length (Column F + Column G)	Total Number Of Services in Project	Loaded Cost Estimate	Project Cost/Foot (Column J/Column H)
402011-37618	101 Major Dr, NAS	NASHUA	Relay 575' of 6" CI LP and 735' 4" CI LP on Major Dr from Burke St to Squadring St with 2" PL 60R. Transfer all services.	CI	1,100		1,100	9	\$207,055	\$188.23
402023-37620	1-15 Main St Fletcher St, NAS	NASHUA	Due to paving, relay approx. 200' of 6" CI LP on Main St from Lowell St to Thayer Ct with 6" PL LP. Relay approx. 65' of 6" CI LP on Fletcher St from Main St with 4" PL LP.	CI	265		265	1	\$199,204	\$751.71
402011-37605	1-22 Second St, Ferry St, School St, and Oakwood St	HUDSON	Relay approximately 665' 4" BS LP (1949) and 85' 4" PL LP (2006) on Second St from Oakwood St to Ferry St with 2" PL 60R gas main. Relay approximately 200' 2" BS LP (1960), 30' 3" PL LP (2006), and 150' 2" CS LP (1962) on School St from Second St to Third	BS	1,445		1,445	12	\$384,742	\$266.26
402011-37626	1-32 FARLEY ST, NAS	NASHUA	Relay 420' 4" CI LP (1929) and 30' 4" PL LP (2003) on Farley St with 2" PL 60R main. Relay 325' 4" CI LP (1909) on Reservoir St with 2" PL 60R main. Relay 485' 2" BS LP (1900) and 60' 4" CI LP (1928) on Wellington St with 2" PL 60R main. Relay 615' 4" CI	CI	2,045		2,045	24	\$711,674	\$348.01
402023-37607	1-4 Hookssett Rd, Webster St, Beech St	MANCHESTER	Due to paving, relay approx. 130' of 6" CI LP main on Webster St from Beech St to Hookssett Rd with 8" PL LP. Relay approx. 220' of 4" CI LP main on Beech St from Webster St to #921 Beech St with 4" PL LP. Abandon approx. 190' of 6" CI LP main on Hookssett Rd	CI	350	190	540	3	\$143,415	\$265.58
402023-37615	1-4 Lowell St	NASHUA	Due to paving, relay approx. 120' of 2" BS LP main on Lowell St from Hamilton St to the end of the street with 4" PL LP.	BS	120		120	2	\$72,621	\$605.18
402016-37604	16 Euclid Ave	NASHUA	Due to an encroachment, relay approx. 30' of 6" CI LP main on Euclid Ave at #16 Euclid with new 6" PL LP.	CI	30		30	0	\$44,534	\$1,484.47
402023-37608	1-61 Jobin Dr	MANCHESTER	Due to paving, relay approx. 470' of 4" CI LP main on Jobin Dr from S Willow St to Miami Ct with 2" PL 60R.	CI	470		470	6	\$149,035	\$317.10
402023-37601	1-8 Allison St, CCD	CONCORD	Relay 90' of 4" CI LP with 4" PL LP. Transfer all services.	CI	90		90	1	\$45,108	\$501.20
402023-37622	194-233 Main St	NASHUA	Due to paving, relay approx. 900' of 8" CI LP on Main St from W Pearl St to W Hollis St with 12" PL LP.	CI	900		900	9	\$824,818	\$916.46
402011-37603	21-69 S State St, CCD	CONCORD	Relay 145' of 3" CI LP with 4" PL LP on Wall St. Relay 287' of 10" CI LP with 4" PL LP on S State St from Wall St to Fayette St. Relay 258' of 4" CI LP with 4" PL LP on Fayette St. Relay 152' of 6" CI LP with 6" PL LP on Thompson St. Relay 820' of 10"	CI	2,275		2,275	36	\$724,117	\$318.29
402023-37602	231-339 Kelley St, Alkase St, and Youville St	MANCHESTER	Install approx. 240' of 6" PL LP on Montgomery St from Bremer St to the existing 6" PL LP dead end at #627 Montgomery. Extend approx. 365' of 2" 60 PSIG main on Kelley St from the existing 4" PL 60 PSIG dead end at #63 Reed St to Youville St. Relay approx.	CI	905	1,980	2,885	29	\$417,873	\$144.84
402023-37603	253-309 Lake Ave	MANCHESTER	Due to paving, relay approx. 700' of 3" CI LP main on Lake Ave from Beech St to Maple St with 6" PL LP.	CI	700		700	11	\$268,113	\$383.02
402023-37616	28-30 Lovewell St	NASHUA	Due to paving, relay approx. 80' of 2" BS LP main on Lovewell St from Ritter St to Madison St with 4" PL LP.	BS	80		80	3	\$57,115	\$713.94
402023-37604	396-430 Lake Ave	MANCHESTER	Due to paving, relay approx. 375' of 4" CI LP main on Lake Ave from Wilson St to Hall St with 4" PL LP.	CI	375		375	10	\$184,999	\$493.33
401911-37607	42-68 S Spring St	CONCORD	Relay approximately 785' 4" CI LP (1899, 1857) on S Spring St with 2" PL 60R main. Tie over services on existing LP main to HP.	CI	785		785	19	\$226,573	\$288.63
402023-37609	499-786 Massabesic St	MANCHESTER	Due to paving, relay approx. 645' of 4" CI LP main on Massabesic St from Tarrytown Rd to #773 Massabesic with new 4" PL LP main. Abandon approx. 750' of 6" CI & PL LP main on Massabesic St from Jewett St to #541 Massabesic.	CI	645	750	1,395	17	\$265,659	\$190.44
402023-37606	621-642 Hall St	MANCHESTER	Due to paving, relay approx. 310' of 3" CI LP main on Hall St from E High St to Lowell St with 4" PL LP.	CI	310		310	6	\$101,121	\$326.20
402023-37621	69-168 Main St, Water St Factory St	NASHUA	Due to paving, relay approx. 825' of 6" & 12" CI LP main on Main St from Pearson Ave to High St with new 12" PL LP. Relay approx. 270' of 4" CI & CS LP main on Water St with new 4" PL LP. Relay approx. 105' of 4" CI & CS LP main on Factory St with new 4"	CI	1,200		1,200	7	\$836,441	\$697.03
402023-37624	72-80 Allison St, CCD	CONCORD	Relay 285' of 4" CI LP with 4" PL LP. Transfer all services.	CI	285		285	6	\$107,866	\$378.48
402011-37625	84-136 LEDGE ST, NAS FIRST-SEVENTH STS (CIBS)	NASHUA	Relay approximately 795' 3" CI LP (1923) and 5' 4" PL LP (1995) on Ledge St from Third St to Seventh St with 8" PL LP. Relay approximately 370' 4" CI LP (1922), 155' 4" BS (1950), and 75' 4" PL LP (2005, 2006) on Seventh St from new regulator pit outlet	CI	1,400		1,400	21	\$911,429	\$651.02
402016-37601	9 Amherst St	NASHUA	Due to a drainage conflict, relay approx. 10' of 6" CI LP main at 9 Amherst St with new 6" PL LP.	CI	10		10	1	\$38,336	\$3,833.60
402011-37624	91-109 S State St, CCD	CONCORD	Relay 510' of 10" CI LP with 8" PL LP. Transfer all services.	CI	510		510	3	\$163,729	\$321.04
432011-37601	Adams St	KEENE	Due to paving, relay approx. 1,120' of 4" CI LP main on Adams St from Elliot St to Baker St with new 4" PL LP. Extend approx. 180' of 4" PL LP main on Adams St from Elliot St to #11 Adams and tie into new 4" PL LP main installed in 2019 Job #431911-37601	CI	1,300	155	1,455	13	\$197,250	\$135.57
402016-37606	Amherst St at Vernon St	NASHUA	Due to a drainage encroachment, relay approx. 30' of 6" CI LP on Amherst St at Vernon St with new 6" PL LP.	CI	60		60	0	\$74,456	\$1,240.93
402011-37631	Batchelder Ave, MNC	MANCHESTER	Relay on Batchelder Ave from Hayward St with 2" PL 60R. Relay on Hayward St from Union St to Beech St with 2" PL 60R. Do not disturb 12" CI LP on Hayward St.	CI	840		840	23	\$471,412	\$561.20
402011-37620	Booth St, NAS	NASHUA	Relay approximately 725' of 2" BS LP (1948, 1949) and 2" PL LP (1991) on Booth St from Watson Ave to dead end with 2" PL 60R main.	BS	725		725	13	\$208,154	\$287.11
402011-37616	Bridge St, MNC	MANCHESTER	Relay approximately 1295' 3" CI LP (1892, 1894) and 35' 4" PL LP (2013) on Bridge St from Maple St to Ashland St with 2" PL 60R main. Install approximately 40' of 2" PL 60R on Russell St at Bridge St intersection to stub out. Install approximately 40' of 2"	CI	1,380		1,380	33	\$488,554	\$354.02
402023-37613	Burnett St	NASHUA	Due to paving, relay approx. 255' of 4" CI LP main on Burnett St from Rice St to Oakland Ave with new 4" PL LP. Relay approx. 45' of 4" CS LP main on Rice St at Burnett St with new 4" PL LP. Relay approx. 30' of 4" CI LP main on Burnett St into Oakland Av	CI	330		330	6	\$206,075	\$624.47
402011-37609	Central St, MNC	MANCHESTER	Abandon on 1160' 6" CI (1907) on Central St from Maple St to Union St and tie over services to existing parallel 60R main.	CI	0	1,160	1,160	3	\$33,652	\$29.01
402023-37625	Church St at Main St	LACONIA	Due to paving, relay approx. 70' of 8" CI LP main at the intersection of Church St and Main St with new 6" PL LP.	CI	70		70	0	\$42,573	\$608.19
402023-37623	Crescent St, NAS	NASHUA	Due to sewer replacement, relay approx. 220' of 4" CI LP main on Crescent St from Manchester St to the service for #5 Abbott St with new 4" PL LP. Abandon approx. 90' of 4" CI LP main on Crescent St from the service for #5 Abbott St to Abbott St.	CI	220	90	310	4	\$154,325	\$497.82
402011-37623	Downing St, CCD	CONCORD	Relay 483' of 4" CI LP with 2" PL 60R. Transfer all services.	CI	483		483	3	\$111,258	\$230.35
402011-37615	Dubouque St, MNC	MANCHESTER	Relay on Dubouque St from Kelley St to Amory St with 4" PL LP.	CI	670		670	16	\$339,074	\$506.08
432011-37602	Elliot St	KEENE	Due to paving, relay approx. 120' of 4" CI LP on Gates St from #11 Elliot St to Main St with 4" PL LP.	CI	120		120	0	\$37,786	\$314.88
402023-37614	Field St	NASHUA	Due to paving, relay approx. 325' of 4" CI LP main on Field St from Ferwood St to Main St with 4" PL LP.	CI	325		325	5	\$175,798	\$540.92
401923-37607	Goffs Falls Bridge	MANCHESTER	Due to bridge reconstruction, HDD 360' of 6" PL 60 PSIG main under the Goffs Falls Bridge. Tie into the existing 6" CS 60 PSIG main east of the bridge and the 6" PL 60 PSIG main west of the bridge. Relay approx. 275' of 2" PL 60 PSIG service for 200 Kelle	CI	675		675	1	\$216,888	\$321.32
402011-37614	Harrington Ave, MNC	MANCHESTER	Relay on Harrington Ave from Caled Rd to S Elm St with 4" PL LP. Relay on W Harrington Ave from S Elm St to house number 25 with 4" PL LP. Relay on S Elm St from Harrington Ave to house number 286 with 4" PL LP. Relay on Maplewood St from Harrington Ave t	CI	1,915	75	1,990	26	\$541,526	\$272.12
402011-37612	Hillcrest Ave, MNC	MANCHESTER	Relay on Hillcrest Ave from Caled Rd to dead end with 4" PL LP. Relay on Rosedale Ave from Caled Rd to house number 33 with 4" PL LP.	CI	870		870	13	\$363,206	\$417.48
402011-37628	Holly Ave, MNC	MANCHESTER	Relay 930' of 4" CI LP with 4" PL LP from S Taylor St to S Hall St and 540' of 4" CI LP with 4" PL LP from 562 to 622 Holly Ave. Transfer all services.	CI	1,470		1,470	21	\$408,936	\$278.19
402011-37619	Lund St, NAS	NASHUA	Relay on Lund St from Nowell St to Lake St with 2" PL 60R. Relay on Brewster St from Lund St to Linwood St with 2" PL 60R. Tie over services and abandon 2" BS LP on Nowell St from Lund St to Dexter St.	CI	2,250	270	2,520	24	\$568,177	\$231.42
402023-37628	Mammoth Rd	MANCHESTER	Relay approximately 2320' of 6" CI, CS, & PL LP main on Mammoth Rd from Wayland Ave to #25 Mammoth Rd with 6" PL LP.	CI	2,470		2,470	33	\$786,369	\$318.37
402011-37622	Perley St, CCD	CONCORD	Relay 420' of 8" CI LP with 8" PL LP. Transfer all services.	CI	420		420	6	\$158,082	\$376.39
402016-37603	Platts Ave	MANCHESTER	Relay approx. 160' of 2" BS 60 PSIG main on Platts Ave from Candia Rd to #136 Platts with new 2" PL 60 PSIG main.	BS	160		160	3	\$79,916	\$499.48
432011-37603	River St	KEENE	Due to paving, relay approx. 425' of 4" CI LP on River St from Castle St to #75 River St with 4" PL LP.	CI	425		425	8	\$85,302	\$200.71
431908-37601	Roxbury St Bridge	KEENE	Abandon 150' of 6" CI and 150' of 8" CI, replace with 8" PL under box culvert prior to install. Cast iron Main will be encroached upon as part of city box culvert replacement. Hole to be opened by city contractor. Keene Personnel to perform all pipe work.	CI	300	3	303	2	\$113,562	\$374.79
402011-37621	Russell Ave, NAS	NASHUA	Relay approximately 785' 4" CI LP (1924) on Russell Ave from Main St to #15 Field St with 2" PL 60R main. Relay approximately 300' 2" BS LP (1911, 1959) on Russell Ave from #15 Field St to dead end with 2" PL 60R main.	CI	1,190		1,190	19	\$313,054	\$263.07
432011-37606	Russell St at McKinley St	KEENE	Due to a water conflict, relay approx. 30' of 4" CI LP main on Russell St at the intersection of McKinley St with new 4" PL LP.	CI	30		30	0	\$38,759	\$1,291.97
432011-37605	South St	KEENE	Relay approx. 760' of 4" CI LP main on South St from Monadnock St to Baker St with new 4" PL LP.	CI	760		760	13	\$121,368	\$159.69
402011-37610	Union St, MNC	MANCHESTER	Relay on Union St from Hayward St to Silver St with 4" PL LP. Relay on Batchelder Ave from Hayward St to Harvard St with 2" PL 60R. Relay on Harvard St from Union St to Beech St with 2" PL 60R. Do not disturb 12" CI LP on Hayward St.	CI	920		920	38	\$536,828	\$583.51
432008-37601	Winchester St	KEENE	Due to road reconstruction, relay approx. 1,140' of 8" CS S PSIG main on Winchester St from Key Rd to Island St with 8" PL S PSIG.	CI	1,140		1,140	6	\$350,104	\$307.11
Total All Materials					37,813	4,673	42,486	568	\$14,323,021	\$513.93
Miles					7.16	0.89	8.05			
Total Primary Material "C"					35,283	4,673	39,956	535	\$13,520,473	
Miles					6.68	0.89	7.57			
Total Primary Material "BS"					1,085	0	1,085	21	\$417,806	
Miles					0.21	0.00	0.21			



LIBERTY UTILITIES DAILY CONSTRUCTION SCHEDULE
 Wednesday, June 10, 2020

SOC CONTACT INFORMATION		COUNT PER INSPECTOR	DIVISION	
PAUL ROGOSIENSKI - GAS OPERATIONS MANAGER	(603) 327-6140	0	SOUTH	6
ANTHONY BELAND - SUPERVISOR SOUTH	(603) 589-3920	0	CENTRAL	5
BURROWS - S	(407) 879-5430	2	NORTH	2
BROWNELL - S	(603) 765-1772	0		
GALLANT - S	(774) 452-5528	3		
STEVE ROKES - MANAGER KEENE	(603) 209-2582	0		
MCCORD - S	(413) 475-0008	1		
IAN CRABTREE - SUPERVISOR CENTRAL	(978) 758-3504	0		
SMART - C	(603) 765-1782	0		
RICARDO - C	(603) 777-7721	3		
ROUSSEAU - C	(603) 661-5675	2		
HEATH LYNCH - SUPERVISOR NORTH	(603) 327-4092	0		
PAYNE - N	(603) 231-6323	1		
BARNES - N	(203) 627-9608	0		
TINKER - N	(603) 630-3216	1		
TOTAL CREWS ASSIGNED AN INSPECTOR		13		

CONTRACTOR	CREW COUNT
MEARS	2
MIDWAY	3
RHW	4
FEENEY	4
TOTAL CREWS	13

DIVISION	LU SPAN OF CONTROL	CREW LEADER	CELL	ADDRESS	TOWN	JOB/ PERMIT #	MAIN	SERVICE	OTHER	CRITICAL TASK	CONTR. SUPER	CELL	CONTRACTOR
CENTRAL	RICARDO	Bruce Terrio	603-759-9587	253-309 Lake Av	MNC	402023-37603/115269		X			Tom Cowgill	857-309-6657	FEENEY
CENTRAL	RICARDO	Dionne, Al	(978) 360-1973	1568 Hooksett Rd	HOK	402051-38001018		X			Bennett, Dan	(508) 889-0720	MIDWAY
CENTRAL	RICARDO	Justin Pearce	603-234-7331	Dubuque St	MNC	402011-37615	X				Mark Nelson	603-309-0890	RHW
CENTRAL	ROUSSEAU	Joel Decato	603-396-3065	Mammoth Rd	MNC	402023-3763	X				Mark Nelson	603-309-0890	RHW
CENTRAL	ROUSSEAU	Darrin Lahaye Jr	978-478-8236	166 Riverbank Rd	MNC	402050-38001056/116410		X			Tom Cowgill	857-309-8657	FEENEY
NORTH	PAYNE	Terrio, Dale	(978) 360-2388	S. State St	CCD	402011-37603	X		X		Bennett, Dan	(508) 889-0720	MIDWAY
NORTH	TINKER	Masse, Jason	(603) 913-6430	56 Dow Rd	BOW	402051-38001024			X		Bennett, Dan	(508) 889-0720	MIDWAY
SOUTH	BURROWS	McKenney, William	603-770-6076	Harvest Moon	LON	401747-37642	X				Ricardo, Dave	603-440-4138	MEARS
SOUTH	BURROWS	Xavien Lagoa	978-320-7271	11 Bridle Path	LON	401947-37686/n/a	X			TIE-IN	Beavan McNamara	857-309-6785	FEENEY
SOUTH	GALLANT	Enright, Dan	603-396-6587	Farley St Permit 19-490	NAS	402011-37626	X				Ricardo, Dave	603-440-4138	MEARS
SOUTH	GALLANT	Joe Sarette	603-210-3014	49 Hunt St	NAS	401950-38001302			X		Gene Allen	603-396-2872	RHW
SOUTH	GALLANT	Joe Paddock	978-968-4185	89 West Hollis St	NAS	402050-38001057/20-255			X		Beavan McNamara	857-309-6785	FEENEY
SOUTH	MCCORD	Shawn James	603-234-0654	Roxbury St Bridge	KNE	431908-37601	X			CUT & CAP	Gene Allen	603-396-2871	RHW

TO BE PROVIDED
Pending Liberty Clarification Response