COMPARATIVE ANALYSIS OF THE RETAIL NATURAL GAS SERVICE PROPOSALS SUBMITTED TO THE TOWN OF EPPING FROM LIBERTY UTILITIES (ENERGYNORTH) AND NORTHERN UTILITIES (UNITIL) PREPARED FOR: THE TOWN OF EPPING, NH

October 2018

Introduction

The Town of Epping, NH is the subject of a Petition for Authority to Operate as a Public Utility, filed with the New Hampshire Public Utilities Commission ("NHPUC") by Northern Utilities ("NU"), a subsidiary of Unitil Corporation ("Unitil"), which, in effect, would give NU the exclusive franchise rights to supply natural gas service in Epping. Unitil serves NH towns to the east of Epping, including Exeter and, in 2014 received the franchise rights from the NHPUC to extend into Brentwood. Liberty Utilities ("LU") has filed a Petition to Approve Firm Supply and Transportation Agreements and the Granite Bridge Project with the NHPUC which includes the construction of a high-pressure natural gas transmission main on the NH Rt. 101 highway corridor from the seacoast to the Merrimack River. In addition, LU is proposing to construct a cryogenic liquified natural gas storage tank in the southwest section of the Town of Epping with direct access to the natural gas pipeline proposed on the NH Rt. 101 corridor. This tank will liquify natural gas from the pipeline, presumably during the off-peak summer season, and re-gasify the gas for injection back into the pipeline during the on-peak winter season in order to supply gas to customers in its service territories. LU has also stated that the Granite Bridge Project will present the opportunity to provide natural gas service to municipalities along the route, such as Epping.

Due to the expressed mutual interest by NU and LU to supply natural gas service to the Town of Epping, and rather than standby while the NHPUC evaluates NU's gas franchise application in isolation, without comparison to what LU may be able to offer epping, the Selectmen of the Town of Epping issued a Request for Proposal ("RFP") for the Town's natural gas distribution service in Epping.

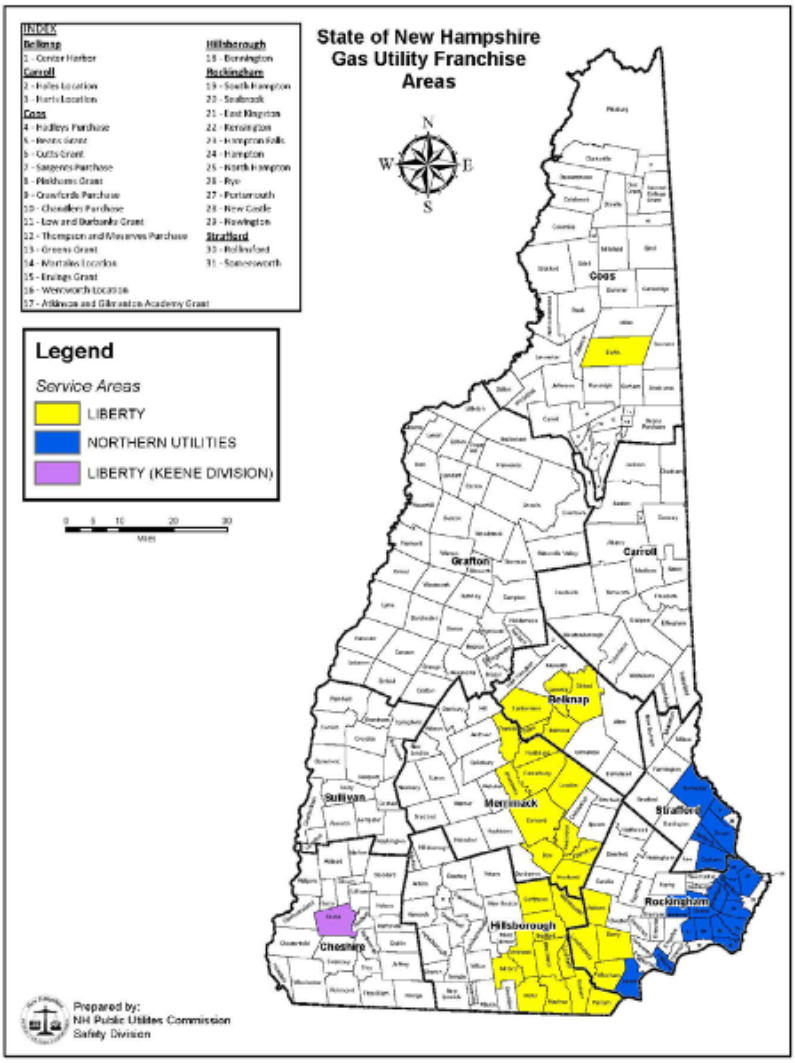
Both NU and LU have submitted responses to the Epping Selectmen's RFP to supply natural gas distribution service in Epping. This report analyzes and compares the merits of NU's and LU's RFP responses.

NU is one of three wholly-owned subsidiaries of Unitil. NU provides natural gas service to customers in southeastern New Hampshire and southern and central Maine. NU's sister subsidiaries are Unitil Energy Systems, Inc., providing electric service in the southeastern seacoast and state capital regions of New Hampshire, and Fitchburg Gas and Electric Light Company, providing electric and natural gas service in north central Massachusetts, including Fitchburg, MA. Unitil acquired NU, as well as Granite State Gas Transmission, Inc., in 2008

LU is the rate regulated generation, transmission, and distribution subsidiary of Algonquin Power and Utilities Corporation ("APUC") and provides electricity, natural gas, and water utility service in twelve U.S. states. APUC's non-regulated assets are included in its Liberty Power Group. In New England, LU serves electricity customers in New Hampshire as Granite State Electric Co. and natural gas customers in New Hampshire and Massachusetts. LU acquired its current gas distribution system, formerly EnergyNorth Natural Gas, as well as Granite State Electric, from National Grid in July of 2012.

Franchise maps for New Hampshire, Massachusetts, and Maine are provided in Figure 1, Figure 2, and Figure 3, respectively. NU and its Massachusetts' affiliate, Fitchburg Gas and Electric, as well as LU, and its affiliate Granite State Electric, are included in these maps.

Figure 1



Communities Served

Liberty Utilities (Natural Gas)			Unitil/Northern Utilities (Natural Gas)			NH Gas Corp. (Propane)	Concord Steam Corp. (Steam)
Allenstown	Franklin	Merrimack	Atkinson	Hampton	Portsmouth	Keene	Concord
Amherst	Gilford	Milford	Dover	Hampton Beach	Rochester		
Auburn	Goffstown	Nashua	Durham	Hampton Falls	Rollinsford		
Bedford	Hollis	Northfield	East Kingston	Kensington	Salem		
Belmont	Hooksett	Pelham	East Rochester	Madbury	Seabrook		
Berlin	Hudson	Pembroke	Exeter	Newington	Somersworth		
Boscawen	Laconia	Sanbornton	Gonic	North Hampton	Stratham		
Bow	Litchfield	Tilton	Greenland	Plaistow			
Canterbury	Londonderry	Windham					
Concord	Loudon						
Derry	Manchester						

Figure 2

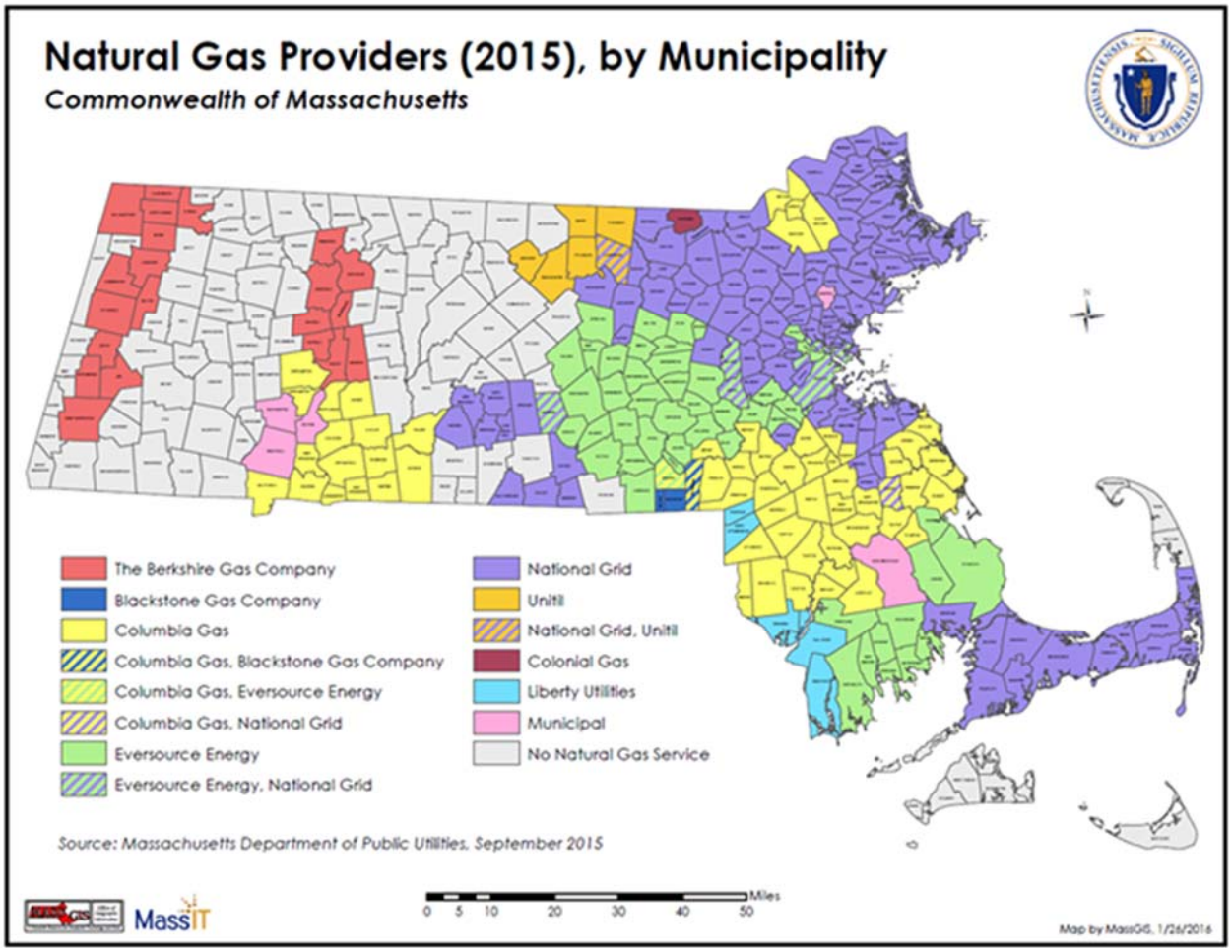
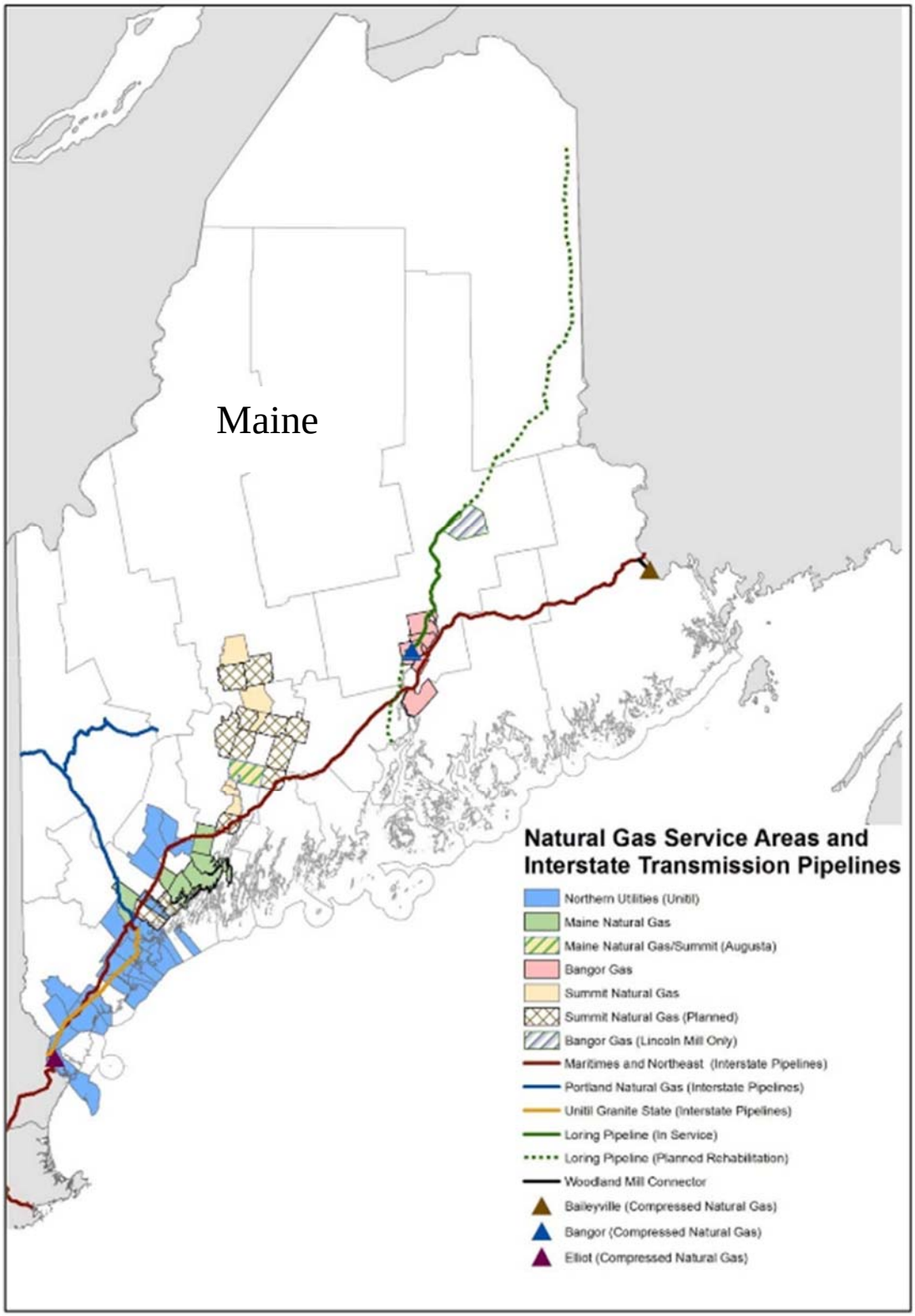

Natural Gas Providers (2015), by Municipality
Commonwealth of Massachusetts
The Berkshire Gas Company
Blackstone Gas Company
Columbia Gas
Columbia Gas, Blackstone Gas Company
Columbia Gas, Eversource Energy
Columbia Gas, National Grid
Eversource Energy
Eversource Energy, National Grid
National Grid
Unitil
National Grid, Unitil
Colonial Gas
Liberty Utilities
Municipal
No Natural Gas Service
Source: Massachusetts Department of Public Utilities, September 2015
MassIT
0 5 10 20 30 40 50
Miles
Map by MassGIS, 1/26/2016

Figure 3


Maine
Natural Gas Service Areas and Interstate Transmission Pipelines
Northern Utilities (Unitil)
Maine Natural Gas
Maine Natural Gas/Summit (Augusta)
Bangor Gas
Summit Natural Gas
Summit Natural Gas (Planned)
Bangor Gas (Lincoln Mill Only)
Maritimes and Northeast (Interstate Pipelines)
Portland Natural Gas (Interstate Pipelines)
Unitil Granite State (Interstate Pipelines)
Loring Pipeline (In Service)
Loring Pipeline (Planned Rehabilitation)
Woodland Mill Connector
Baileyville (Compressed Natural Gas)
Bangor (Compressed Natural Gas)
Eliot (Compressed Natural Gas)

Franchising of Retail Gas Distribution

In New Hampshire, the NHPUC has general jurisdiction over the public utilities operating within the state. State law allows for a regulated public, or a public utility seeking to be regulated and operate in the state, to apply for a franchise to operate within the streets of a particular community. Franchise rights permit a utility provider to utilize the public rights-of-way, have use to go over land and land rights within a community, and the authority to acquire by eminent domain any lands needed to provide its utility service. This is true for gas distribution systems, electric distribution and transmission systems, water distribution and transmission systems, and legacy telephone companies. To a limited and lesser extent, utilities such as sewer systems can be structured in a similar fashion. A NHPUC petition for franchise proceeding allows an affected municipality the opportunity to intervene and participate in the process; however, after consideration of a town's perspective, the ultimate decision to grant franchise rights is made by the NHPUC.

Once authority has been granted there is no expiration to the franchise rights, although, subject to NHPUC approval, the rights can be transferred to another regulated company or to a municipal utility through acquisition or otherwise. Franchise authority gives the utility a monopoly to serve a particular community but, while technically it may or may not be exclusive, it is not practical for more than one utility provider to run natural gas pipe within the same road. If a municipality is not prepared to identify and communicate its concerns and desires regarding a potential franchisee, e.g. construction techniques, operating protocols, operating permits, inspections, safety protocols, service area market goals, etc., all decisions will default to the utility. In the absence of community participation, the utility may define its service area and neglect significant areas of a municipality that desire the service. As noted, it is not practical for another service provider to expand into the community to serve territories bypassed by the initial franchisee, leaving areas beyond the initial franchisee's territory with no opportunity for the utility's service.

To date, NU has petitioned the NHPUC for full franchise authority in the Town of Epping. NU's application defines its proposed service area as the commercial zone along NH Rt. 125 and NH Rt. 101 in the vicinity at Exit 7. The town requested and was granted intervenor rights in the proceeding, while Liberty Utilities' request for intervenor rights was denied. In order to explore the potential interest of other natural gas companies in providing natural gas service within the Town of Epping, Epping's Board of Selectmen, issued a RFP inviting any and all gas companies interested in seeking franchise rights within the municipality express its interest and to submit its proposal for the Board's review and evaluation.. Two utility providers with existing franchises within the State of New Hampshire responded to the RFP – Northern Utilities and Liberty Utilities.

Request for Proposals

The Request for Proposals issued by the Town of Epping requested that the following information be submitted for review and evaluation by the Selectmen and its consultants so as to enable the Selectmen to decide which natural gas service provider would best serve the Epping community. Each company provided a response to each item of the RFP. The items that are presented below in ***italics and bold*** are the items discussed in this comparative analysis, however, a review of each company's complete response is recomme nded.

1. Company identification including:
    - ***a. Full name and official address of the company submitting the proposal, as well the organization chart of itself and related parties;***
    - ***b. Identify the countries and/or states that the company or its related parties operate in; and***
    - c. Does the company or its related parties file a FERC Form 1 or FERC Form 2? If so, provide the company name for each entity filing the reporting.
2. Company profile to include, at a minimum the following:
    - ***a. Current operating statistics:***
        - ***i. quantity in miles of existing natural gas mains network;***
        - ***ii. total number of current natural gas customers;***
        - iii. ***identify each NH town currently served;***
        - iv. total quantity of natural gas sold;
        - v. quantity of gas sold by customer class – residential, commercial, and industrial;
        - vi. total cost of natural gas sold; and
        - vii. cost of natural gas sold by customer class – residential, commercial, and industrial.
    - b. Summary of the company's:
        - i. current rate structure to include the customer rates by customer class;
        - ii. pass through gas cost per dekatherm per customer class;
        - iii. total annual operations cost;
        - iv. total annual maintenance cost;
        - v. total annual general and administrative cost;
        - vi. current depreciation rate schedule;
        - vii. total depreciation reserves by FERC account number;
        - ***viii. overall rate of return on rate base;***
        - ***ix. overall return on equity;***
        - ***x. cost of debt; and***
        - ***xi. debt to equity ratio.***
    - c. Most recent annual report made to the NH PUC (Form F-16).
    - d. Most recent report to NH PUC of customer satisfaction metrics.
    - e. Plans and budgets for planned improvements and replacements to the company's existing gas distribution systems.

3. Description of the proposed Epping service area to include:
    a. identification of the geographic areas to be served including a map;
    b. Identification of specific residential, commercial and industrial areas or customers expected to be included in the proposed service area;
    c. timetable for construction;
    d. marketing study and conclusions;
    e. marketing plan to address potential residential, commercial, and industrial customers;
    f. density requirements – minimum developed density to initiate service for residential, commercial, and/or industrial customers;
    g. anticipated customer mix and timeframe to execute the mix - number of potential residential, commercial, and industrial customers; and
    h. estimated customer investment for each customer class, e.g. scope of work and expense that the customer will be required to pay to connect to the natural gas service.
4. Details of the design and construction of the distribution pipe extensions and include:
    a. map showing pipe specification in the intended routes and service areas;
    b. construction specifications and techniques to be utilized for the pipe installation;
    c. construction plans, anticipated cutting permits, and project supervision;
    d. anticipated materials and specifications of pipe to include at a minimum the sizes of mains, types of pipes, and maximum allowable operating pressure ratings; and
    e. estimated cost by pipe size by foot including all indirect costs.
5. Specified procedures for disruption of public and private roadways and drives, traffic control, and reconstruction of all disrupted areas.
6. Planned and anticipated community outreach programs to incentivize customers to connect to the natural gas service.
7. Planned and anticipated financial assistance programs to be provided by the company for the cost of conversion to natural gas and assistance with customer's stranded costs.

Responses to Request for Proposals

Two regulated natural gas distribution companies submitted responses – NU and LU. These responses have been reviewed and analyzed to provide a summary and systematic comparison of each. The following discussion addresses factors and/or responses that we deem are especially relevant for consideration by the Town of Epping. These factors are identified in the preceding RFP in ***italics and bold***. Throughout the following discussion, tables will be included that illustrate, and in some cases contrast, each company's submissions. These tables consist of four columns described as follows:

1. Item # - Cross reference to the RFP item being addressed in the response.
2. Request – The request being addressed in the response.
3. Liberty Utilities / EnergyNorth – Summary of LU's response.
4. Northern Utilities / Unitil – Summary of NU's response.

Table 1 provides each company's response to item 1-a which provides the full name and business address. This information is self-explanatory. Organization charts submitted by each company are provided as Appendix A. Note that, for the purposes of this presentation, the organization charts submitted by the companies have been truncated to highlight each company's New Hampshire operations. In particular, LU's organization includes business holdings throughout North America and it submitted multiple charts to define its organizational structure.

Table 1

Item #	Request	Liberty Utilities / EnergyNorth	Northern Utilities / Unitil
1-a.	Full name and official address of the company submitting the proposal, as well the organization chart of itself and related parties.	Liberty Utilities (Energy North Natural Gas) 15 Buttrick Road Londonderry, NH 03053 (LU Reference Page 3)	Northern Utilities 6 Liberty Lane West Hampton, NH 03842 (NU Reference Page 5)

Table 2 provides each company's response to item 1-b, which is a list of the countries and/or states that the company or its related parties operate in. LU is a diversified utility provider operating throughout portions of the US & Canada. NU operates in the New England states of New Hampshire, Maine, and Massachusetts.

Table 2

Item #	Request	Liberty Utilities / EnergyNorth	Northern Utilities / Unitil
1-b.	Identify the countries and/or states that the company or its related parties operate in.	**United States:** Arizona, Arkansas, California, Connecticut, Georgia, Illinois, Iowa, Kansas, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, Nevada, Oklahoma, Pennsylvania, Texas **Canada:** Alberta, Manitoba, New Brunswick, Saskatchewan (LU Reference Page 4)	**United States:** New Hampshire, Maine, Massachusetts (NU Reference Page 5)

Items 2-a(i) – 2-a(iii) requests the quantity of pipe owned, number of customers, and a list of each community served within the state. The company responses are included in Table 3 and represent each company's size and scope in NH. LU's presence in NH, based on number of customers, is 2.7 times that of NU. The size and scope of a utility is an important consideration. Larger utility companies can take advantage of economies of scale. For instance, overhead and other fixed operating costs can be spread over a greater number of customers, resulting of generally lower rates on a per customer basis. As is portrayed in the NH Franchise Map (Figure 1), NU's customers

are focused in the southeastern corner of the state, while LU's service territory is primarily in the southcentral region of NH.

Table 3

Item #	Request	Liberty Utilities / EnergyNorth	Northern Utilities / Unitil
2-a. i.	Quantity in miles of existing natural gas mains network.	In 2017 1,395 miles of natural gas and 31 miles of propane (LU Reference Page 4)	In 2017 537.37 miles (NU Reference Page 8)
2-a. ii.	Total number of current natural gas customers.	92,044 (LU Reference Page 4)	33,860 (NU Reference Page 8)
2-a. iii.	Identify each NH town currently served.	Allenstown Amherst Auburn Bedford Belmont Berlin Boscawen Bow Canterbury Concord Derry Franklin Gilford Goffstown Hollis Hooksett Hudson Laconia Litchfield Londonderry Loudon Manchester Merrimack Milford Nashua Northfield Pelham Pembroke Sanbornton Tilton Winnisquam (LU Reference Page 5)	Atkinson Brentwood Dover Durham East Kingston Exeter Greenland Hampton Hampton Falls Kensington Madbury Newington North Hampton Plaistow Portsmouth Rochester Rollinsford Salem Seabrook Somersworth Stratham (NU Reference Page 9)

RFP requests 2-b(viii) through 2-b(xi) ask for very specific information regarding each company's overall rate of return, return on equity, cost of debt, and debt to equity ratio. Each company's response is summarized in Table 4. This information is essential to the rate-making process and directly affects the rates that are charged by the utility and paid by its customers. In addition to recovering its cost of service, a public utility is allowed to earn a return on its investment. This rate is established during a company's rate case proceeding and is subject to the authority of the NHPUC. The overall rate of return for LU and NU are 6.8% and 7.59%, respectively. This 12% difference is driven by NU's slightly higher return on equity, (9.5% compared to LU's 9.3%) and

significantly higher cost of debt (5.55% compared to LU's 4.42%). A higher rate of return, all else being equal, directly impacts the cost of service because it translates into higher customer rates. While the return on equity rates are not significantly different, the difference in the cost of debt is substantial, especially when you consider that half of the company's capital investment in pipes, services, and meters. The debt to equity ratios for both companies are similar and are consistent with the expectations established by the NHPUC under cost of service regulation for public utilities.

Table 4

Item #	Request	Liberty Utilities / EnergyNorth	Northern Utilities / Unitil
2-b. viii.	Overall rate of return on rate base.	6.80% NHPUC Docket No. DG 17-048 (LU Reference Page 6)	7.59% NHPUC Docket No. DG 17-070 (NU Reference Page 10)
2-b. ix.	Overall rate of return on equity.	9.30% NH PUC Docket No. DG 17-048 (LU Reference Page 6)	9.50% NHPUC Docket No. DG 17-070 (NU Reference Page 10)
2-b. x.	Cost of debt.	4.42% (LU Reference Page 7)	5.55% NHPUC Docket No. DG 17-070 (NU Reference Page 10)
2-b. xi.	Debt to equity ratio.	100.01% (Slight difference due to rounding) (LU Reference Page 7)	93% (NU Reference Page 10)

Item 3 of the RFP relates to each company's proposed expansion into the Town of Epping. Item 3-b asks each company to identify the residential, commercial, and industrial areas and/or customers expected to be included in each company's proposed Epping service area. This request was designed to solicit the company's intent in developing its gas system throughout the community, not only in the existing NH Rt. 125 and NH Rt. 101 commercial area, but also the willingness to develop the surrounding commercial and residential areas of the town. LU provides a narrative of its three-phase plan summarizing each phase of construction, the streets to be served, and the adjacent areas where natural gas will be available to those property owners who elect to convert to natural gas appliances. NU proposes two work zones - the first along NH Rt. 27 to the intersection of NH Rt. 125 and a second zone at the south of the entrance ramp onto NH Rt. 101 to the Brentwood town line. NU's proposed service territories are primarily commercial zones within Epping. Table 5 summarizes each company's response to item 3-b.

Table 5

Item #	Request	Liberty Utilities / EnergyNorth	Northern Utilities / Unitil
3-b	Identification of specific residential, commercial and industrial areas or customers expected to be included in the proposed service area.	**Phase 1:** The distribution system will initiate from the proposed gate station with a directional bore under Route 101 onto Holt Road. This bore location will require final approval from NHDOT. The distribution system will continue north on Holt Road passing and providing access to Hickory Hill Road and Norris Court. At Mill Pond Road the system continues north to Route 27 (Pleasant Street), as well as southeast continuing on Mill Pond Road. On Route 27 the system will head west and cross into Raymond. In Raymond the system will turn south onto Prescott Road continuing to the Walmart Distribution Center. This section of the system will allow gas access to the neighborhood in the southwest corner of Epping. Starting from the intersection of Mill Pond Road and Route 27 the system will also head east towards Route 125. At Route 125 the system will proceed south toward Brickyard Plaza. The streets included, or with potential access to natural gas, include: Holt Rd, Mills Pond Rd, Peninsula Dr, Shannon Dr, San Antonio Dr, Algay Dr, Depot Rd, Gable Dr, Fuller Ln, Winslow Way, Franks Way, Hickory Hill Rd, Friend St, Riverview Ct, Wilson Dr, Midnight Sun Dr, Whitey Ct, Colt Ln, Jenness Rd, Old State Rd, Ledgewood Ln, Lamprey Village Dr, Norris Ct, Pleasant St, Joshua Ln, Black Jack Ct, Hunter Dr, School St, Crown Ct, Hackett Ct, Page Ln, Gatchell Way, Hutch Ct. (LU Reference Page 9)	Mains extension will be installed along the Rockingham Rail Trail. Should the route change to follow Route 27, the parcels on the immediate north side of Route 27 will also have access to natural gas. Northern Utilities expects to evaluate additional main extensions following the initial buildout. (NU Reference Page 101)
		Phase 2: This section of the distribution system will commence from piping installed during Phase 1 on Route 27. From the intersection of Route 27 and Main Street the system will head north along Main Street toward, and inclusive of, the Epping School Complex. This portion of the system includes High Street, Cate Street and Elm Street. From the intersection of Route 125 and Main Street the system also extends east along Water Street to Route 125. This section also includes Mill Street. From the intersection of Main Street and route 27 heading south along Main Street the system will include a distribution main on St. Laurent Street, Church Street, Railroad Ave, and a portion of Fremont road. Streets included, or with potential access to natural gas, in this Phase 2 include: Main St, Center Ct, Elm St, Pearson Way, Moore St, St Laurent St, Exeter Rd, Bartlett St, Academy St,Bennington Ct, Pike St, Church St, Fremont Rd, High St, Cate St, Mill St, Water St, Jannell Ct, Leddy Dr. (LU Reference Page 10)	
		Phase 3: This phase would originate at the intersection of Route 27 and Blake Road. The system would continue north along Blake road to Prescott Road. From Blake Road the system would connect to Prescott Road and Old Bridge Lane. This phase of construction would most likely require contributions in aid of construction (CIAC) from customer to receive service, unless more development occurs before construction begins. CIACS are estimated to be less that $1,500 per customer. Streets included or with potential access to natural gas in this phase include: Blake Rd, Old Bridge Ln, Anthony Ln, Ironwood Dr, Cider St, Cortland Dr,Shepherd Ln, Saddle Brook Ln, Prescott Rd, Debbie Ln, MacIntosh Ln, Wood Dr, Molly Way, Rosewood Ct, Orchard Hill Rd, Apple Way. (LU Reference Page 10)	

Overlay maps, provided as Figures 4 through 13, were developed by our staff based on each company's written description of the its anticipated service area within Epping. Figure 4 represents LU's phase 1 and includes the construction of its distribution line off the new storage tank as the gas feed source to NH Rt. 27 and then traveling west and into Raymond to serve the Walmart Distribution Center and east to serve the Rt. 27 corridor to Rt. 125 and south on Rt. 125 past Rt. 101 to the Brentwood town line. LU's phase 2 proposal, portrayed in Figure 5, is to build-out the Rt. 125 corridor around Main Street in Epping, including Railroad Ave., St. Laurent St., and up to the adjacent western side of Rt. 125, a residential and commercial region. Figure 6 shows LU's proposed third phase to build-out in the area of west Epping with the potential to serve residential subdivisions and small businesses. Figure 7 provides a comprehensive view of LU's three phases combined. Figure 8 is an additional overlay to show the streets and areas that will gain direct access to natural gas as a result of LU's proposal. Note that phase 1, 2 and 3 are shown in blue and the roads that will have access to natural gas are indicated in pink.

Each map is also provided in large format (11 X 17) as Appendix B attached.

Figure 4

Liberty Utilities Phase 1

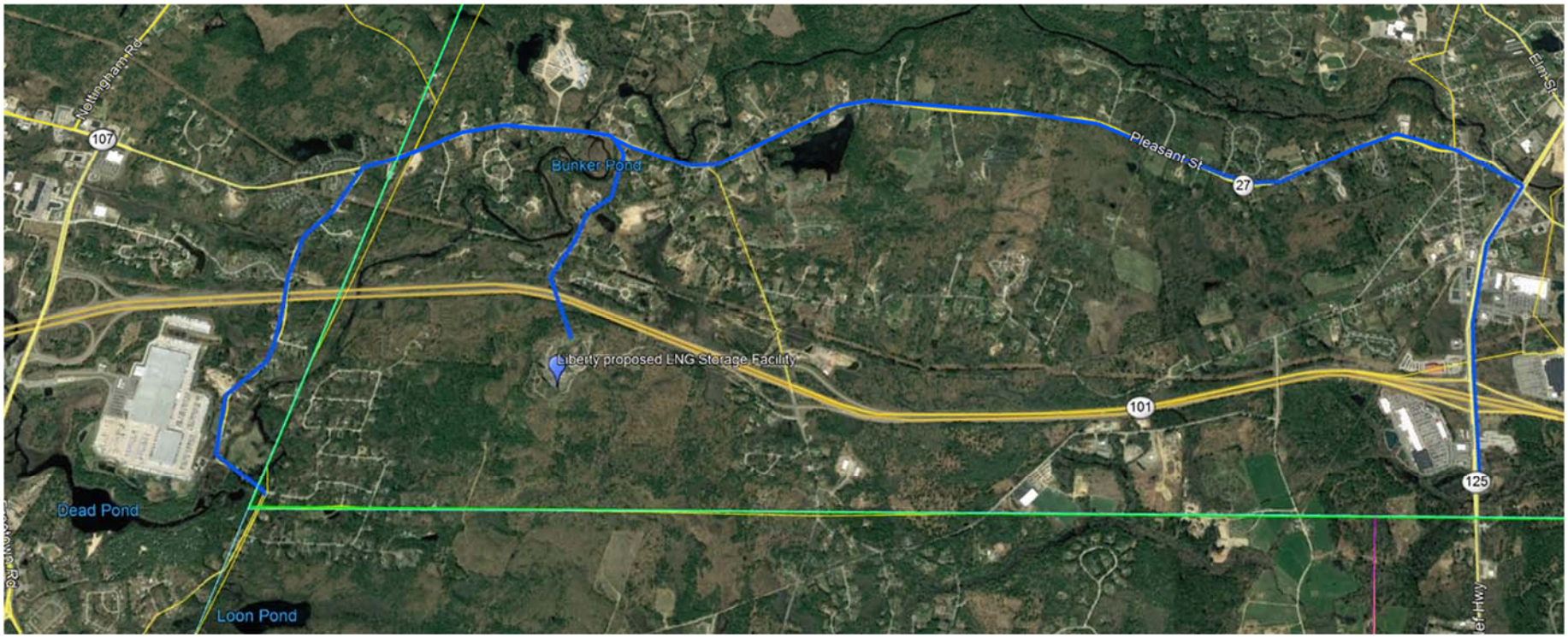


Figure 5

Liberty Utilities Phase 2

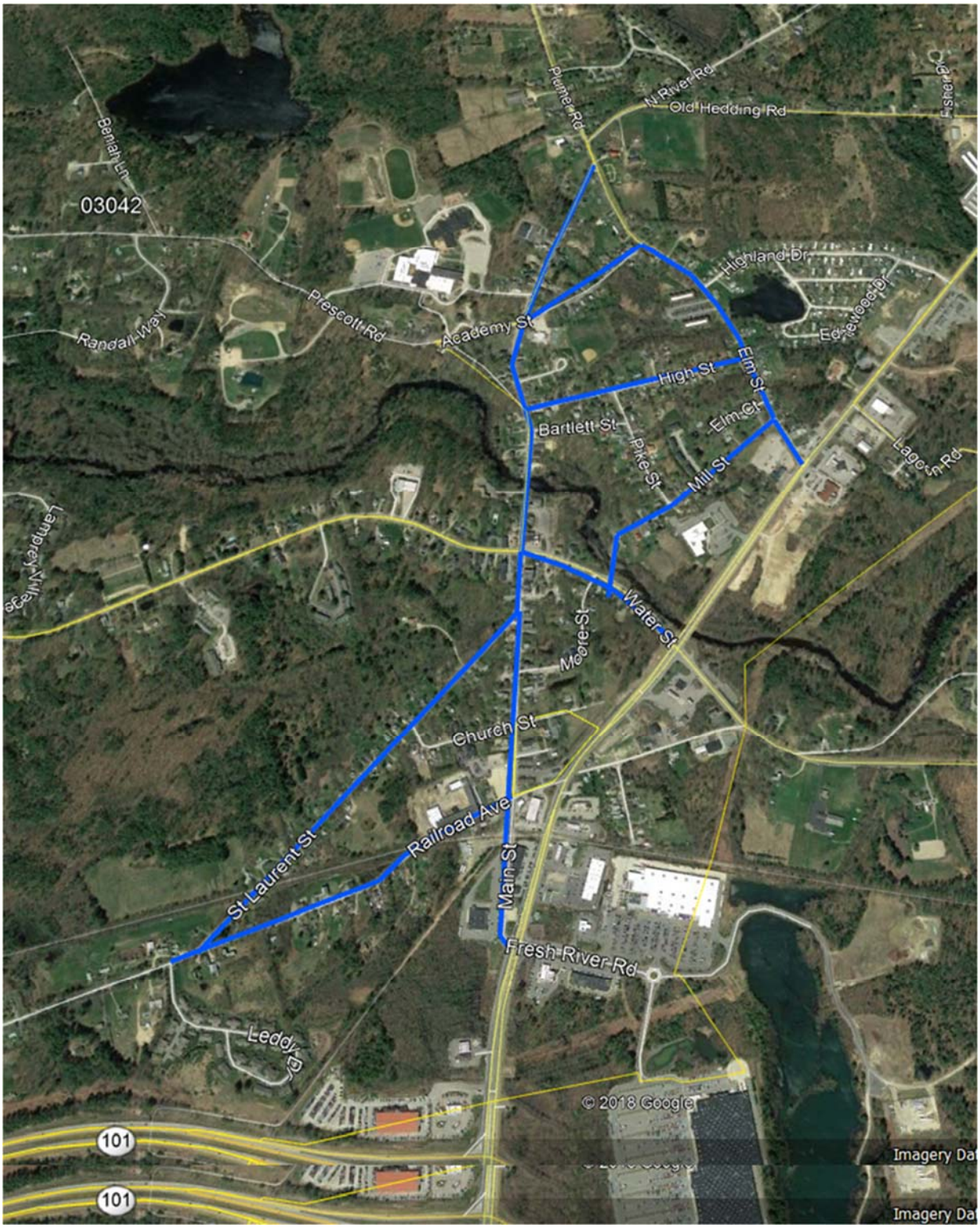


Figure 6

Liberty Utilities Phase 3

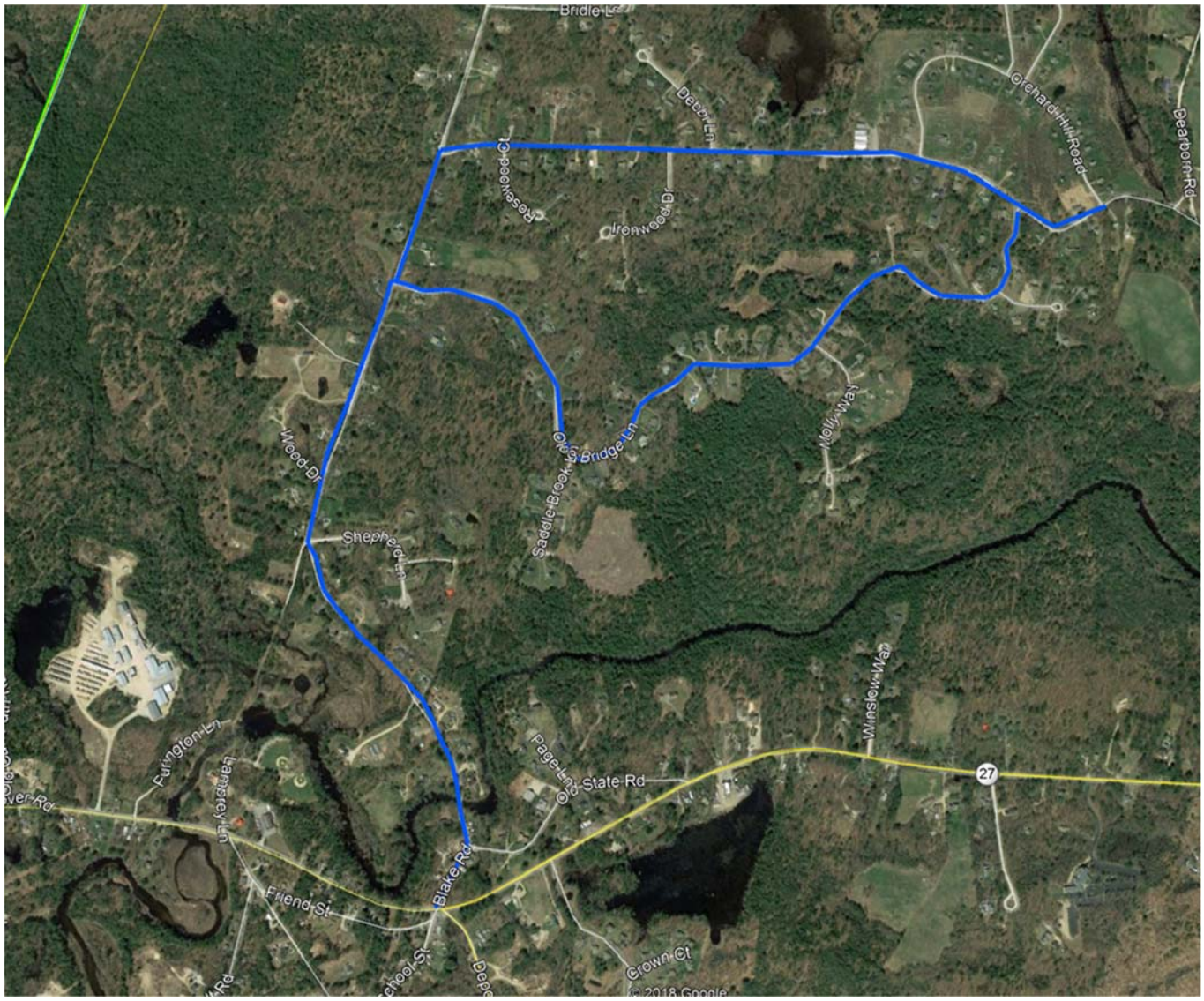


Figure 7

Liberty Utilities Phase 1, 2 & 3

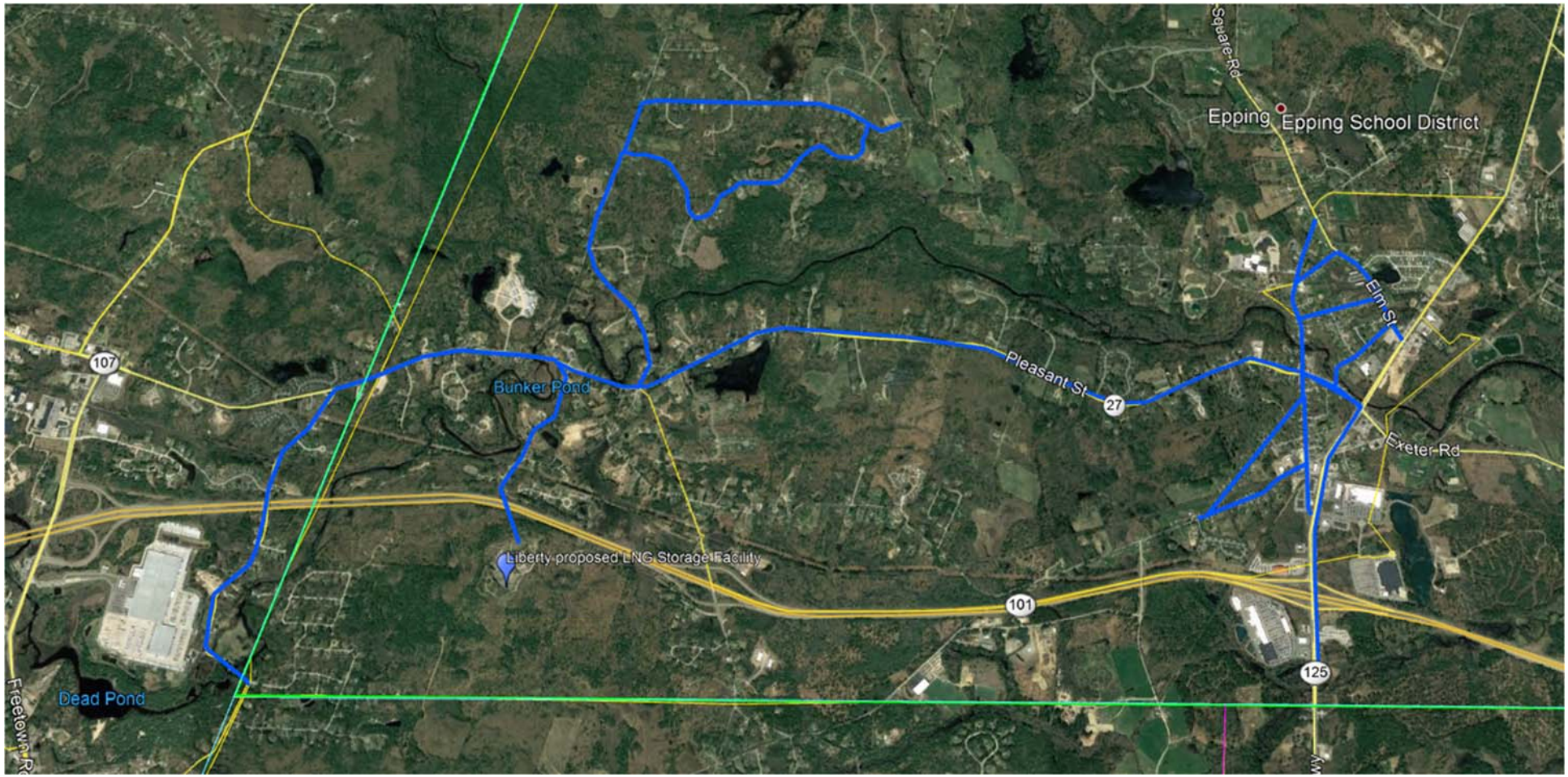
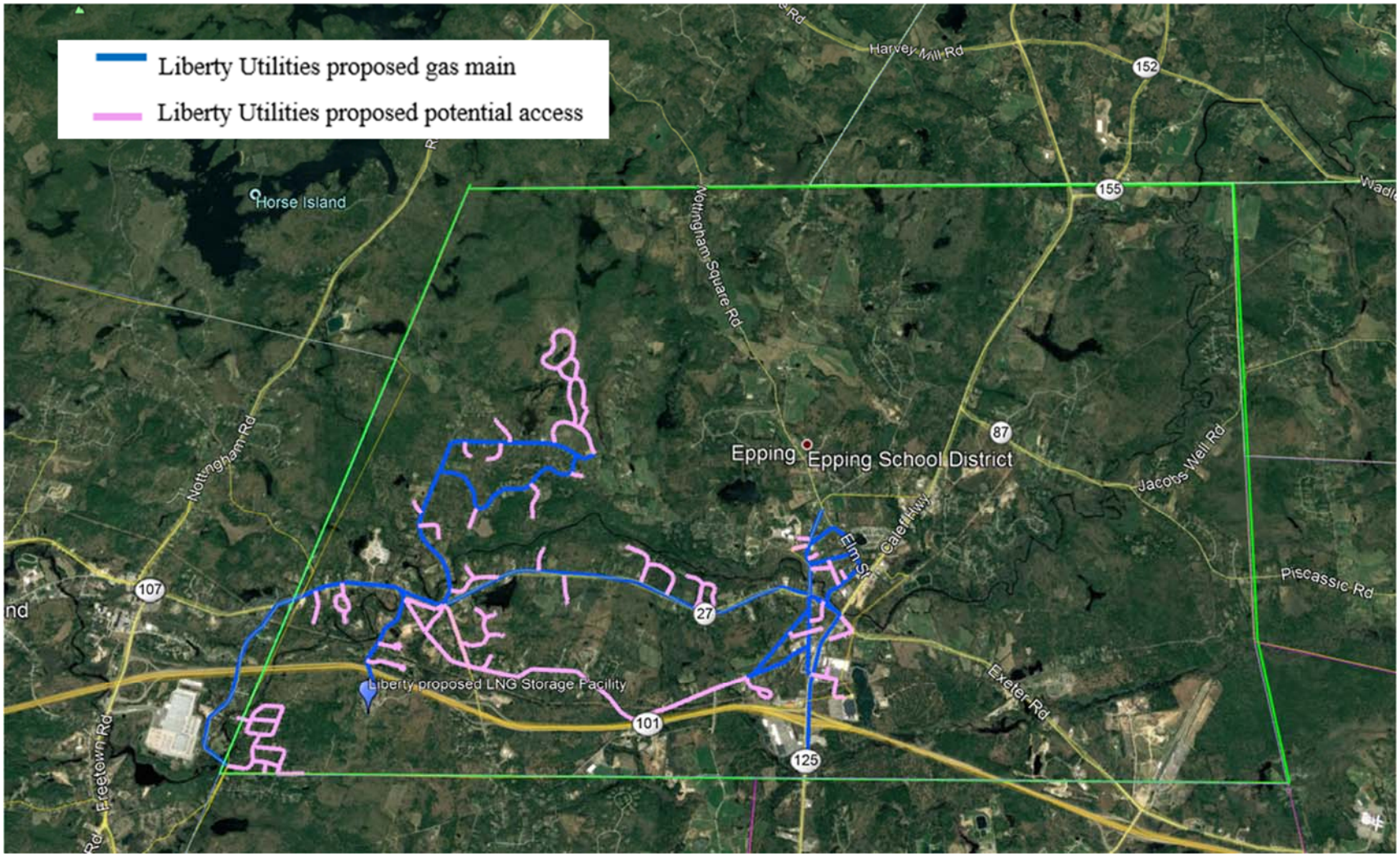


Figure 8

Liberty Utilities Proposed Phase 1, 2 &3 With Potential Gas Access



NU proposes two work zones in the eastern portion of Epping. The first work zone extends the proposed gas main from the Exeter Road to the railroad tracks and then along the railroad tracks to Rt. 125. A north and south spur is proposed on Rt. 125 to the Brentwood town line. Figures 9, 10, and 11 show the NU work zones and pipeline expansion in red. Figure 12 overlays NU's two work zones in red with the LU proposal represented in blue. The final overlay, Figure 13, includes that totality of both NU and LU's proposals – NU in red, LU in blue, and the streets, previously discussed, with access to LU service shown in pink. Figure 13 is a good compilation of each company's proposal on one map.

Figure 9

Northern Utilities Zone 1

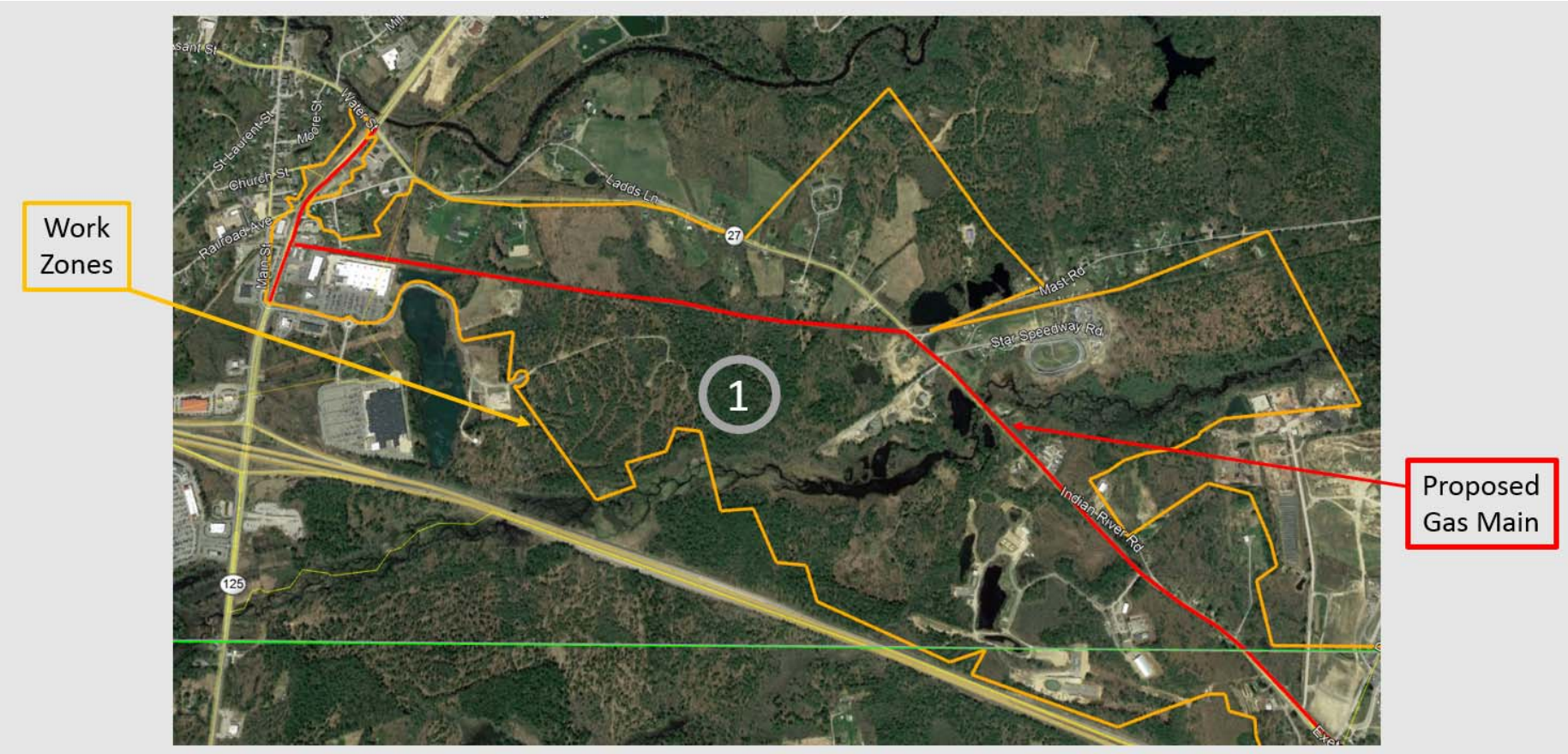


Figure 10

Northern Utilities Zone 2

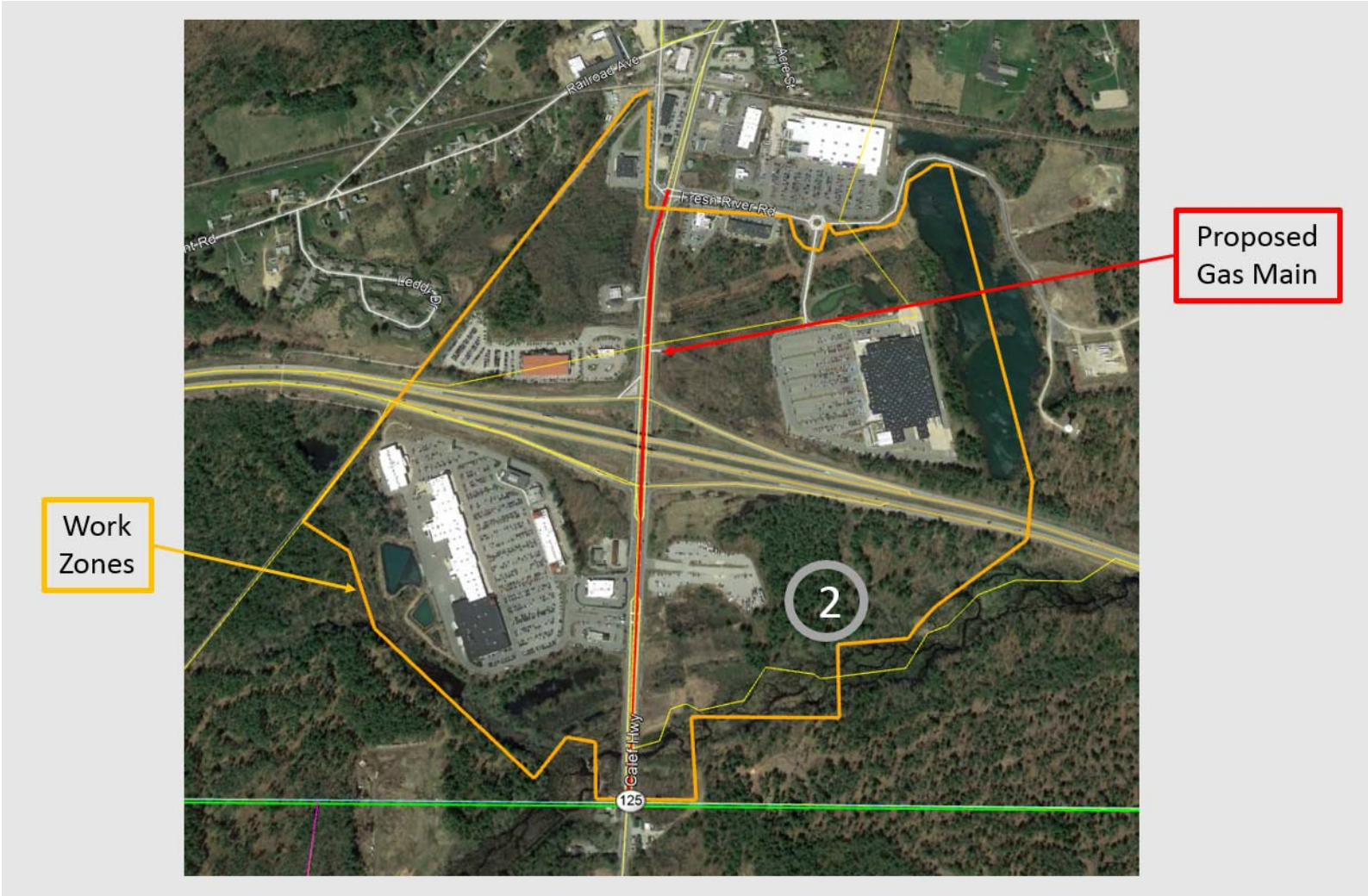


Figure 11

Northern Utilities Zones 1 & 2

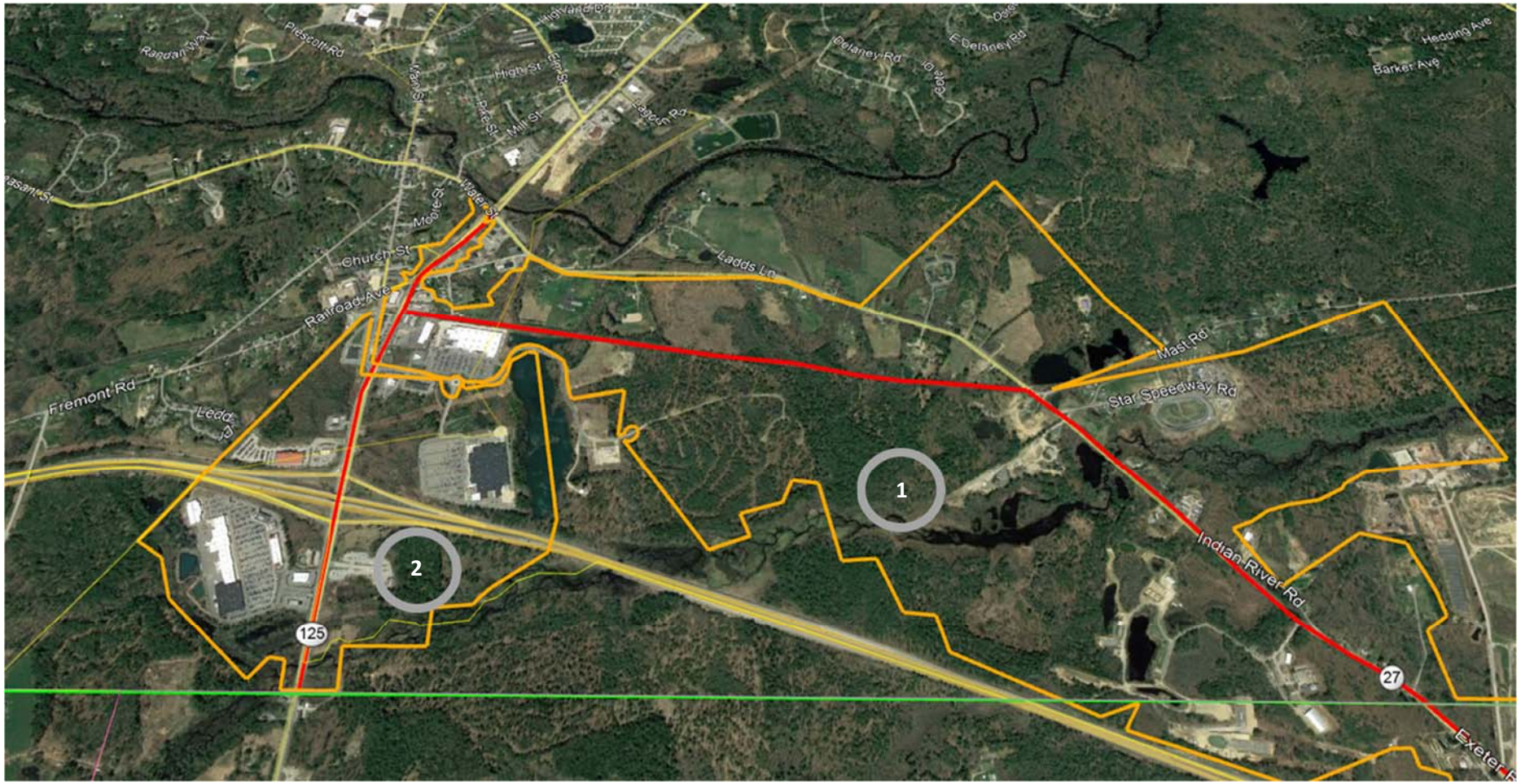


Figure 12

Utility Proposed Gas Main Routes

Liberty

Northern

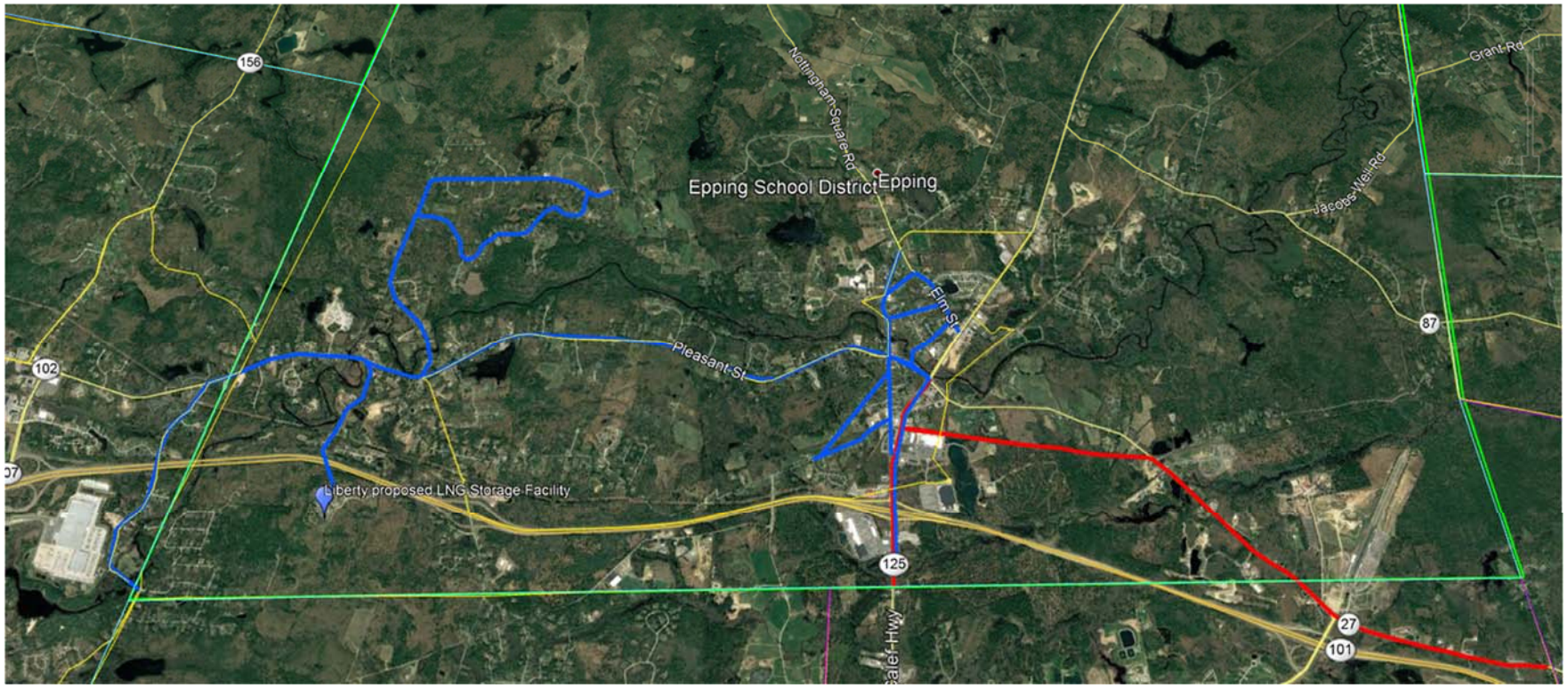
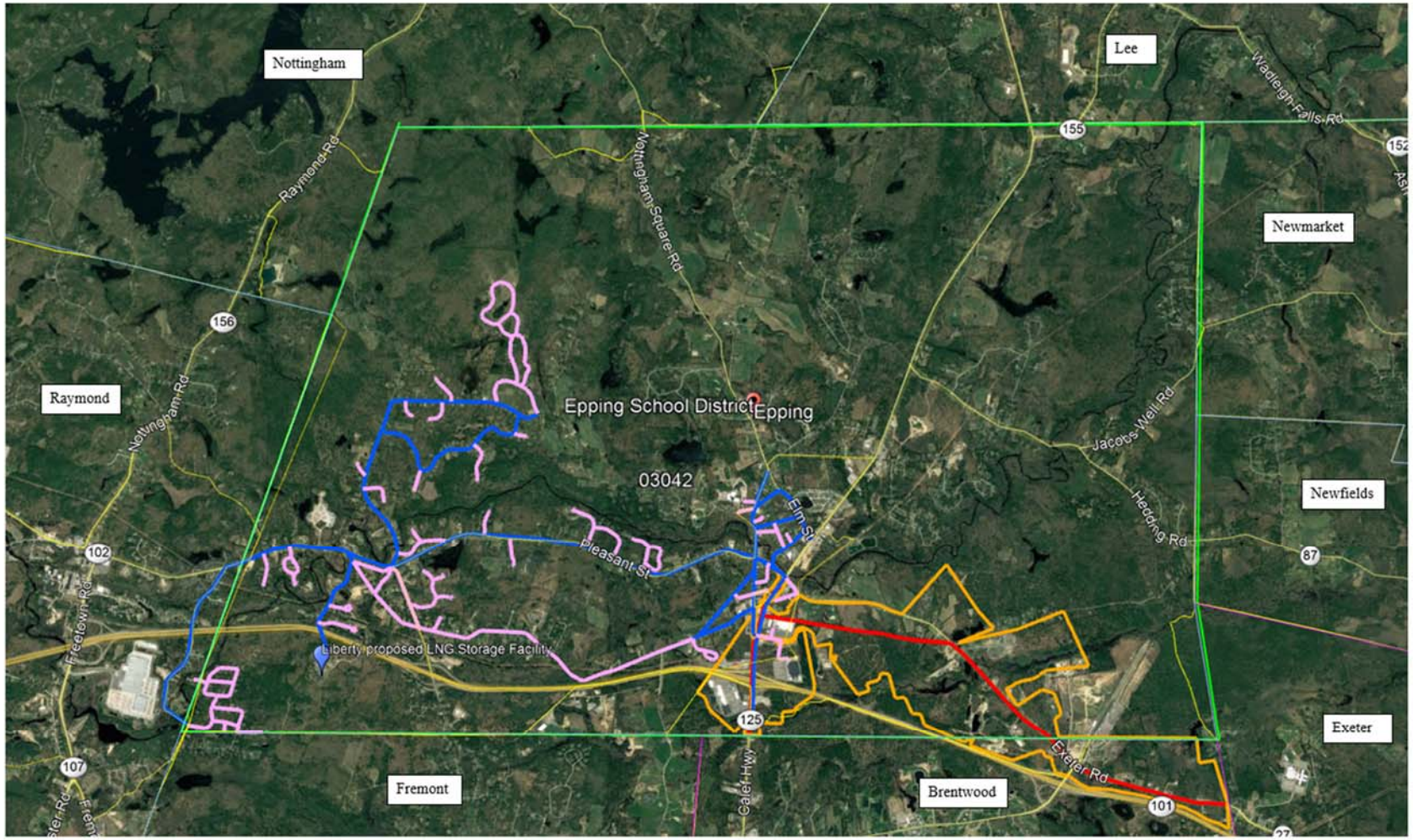


Figure 13

Utility Prosed Gas Main Routes and Liberty Access Areas Opened Up



Each company provided an estimated timetable for construction in their response to Item 3-c which is summarized below in Table 6. LU links its proposed construction time-table to the regulatory process which includes three proceedings. The Granite Bridge project to install a high-pressure gas transmission line down NH Rt. 101, as well as the cryogenic storage tank in the Town of Epping require approvals from the NHPUC and the New Hampshire Site Evaluation Committee ("NHSEC"). In addition, LU will be subject to a franchise petition with the NHPUC to serve the Town of Epping. NU states that it is actively involved in acquiring the necessary state and local permits and approvals for Zone 1. It anticipates completing Zone 1 in 2019 and Zone 2 in 2020.

Table 6

Item #	Request	Liberty Utilities / EnergyNorth	Northern Utilities / Unitil
3-c.	Timetable for construction.	* Construction for the Epping distribution system is dependent on three regulatory approvals. The first two are the NH Public Utilities Commission (NHPUC) and NH site Evaluation Committee (NHSEC). The third would be approval of a franchise petition to serve Epping. If liberty were selected through this RFP process we would immediately file a petition with the NHPUC for the franchise rights to serve Epping. *In late 2017 Liberty filed its request for approval of the Granite Bridge project with the NHPUC, and is planning to file for approval with the NHSEC in early 2019. *Liberty anticipates that any franchise award for Epping would be conditioned on an NHSEC approval of Granite Bridge. Construction of Granite Bridge and the Epping distribution system would begin simultaneously. The company expects the Granite Bridge pipeline construction along with the initial phases of construction of the Epping distribution could be completed in 2022, depending on the length of the NHSEC review. (LU Reference Pages 10-11)	Northern Utilities is currently in the detailed design phase of this project. We have held multiple meetings with the NH DOT. Northern expects to begin construction once it gets all the necessary state and local permits and approvals. It is expected that Zone 1 will be completed in 2019 and Zone 2 will be completed in 2020. (NU Reference Page 102)

Item 3-f summarized in Table 7, asks each company to identify the density requirements and minimum developed density to initiate natural gas service. Both companies report that they do not impose density requirements to initiate service. LU has a "Standard Offer" for a free 100-foot service line from an existing natural gas main. Customer payments are based on a comparison of the anticipated revenue vs. the direct costs of construction. Contribution in Aid of Construction ("CIAC") are initiated in cases where expected revenues over an eight-year period (6 years for commercial customers) is less than the direct construction costs. No CIAC is required if the expected revenues are more than the construction costs. LU also offers a rate design called "Managed Expansion Program". Rather than pay the CIAC up front, this rate structure allows a customer to pay over time through a 30% higher distribution rate (a portion of the rate structure) for ten years. NU uses a discounted cash flow method to evaluate main and service line extensions. This requires the company to estimate the cost of capital expenditures associated with the customer extension, the net revenue to be derived from the potential customer, the associated operation and maintenance expenses, depreciation, and property and other taxes. Cash flows are discounted over

twenty years for residential customers and ten years for commercial customers. If the net present value ("NPV") is zero or greater, no CIAC is required; if the net present value is negative, the excess cost is required to be paid by the initial customer for service.

Table 7

Item #	Request	Liberty Utilities / EnergyNorth	Northern Utilities / Unitil
3-f.	Density requirements – minimum developed density to initiate service for residential, commercial, and/or industrial customers.	Liberty does not have a density requirement. Offers a free 100 foot service line from an existing natural gas main. (LU Reference Pages 13-14)	Unitil does not impose a density requirement For residential customers Unitil offers Standard offer Service ("SOS") and will apply the SOS when a single new service is required for residential gas heating. The SOS provides for installation of 100 feet of service pipe from a gas main at no charge to serve residential heating loads. (NU Reference Pages 103,106)
		Customers that require a main extension and a service line extension, Liberty has a tariff containing a Service and Main Extension Policy that compares the cost of building the new main and services with the expected revenue received from the customers. This is 8 years for residential and 6 years for commercial. If revenues are expected to be greater payment is not required. If it is less the customer would need to make a contribution-in-aid-of-construction payment ("CIAC"). (LU Reference Pages 13-14)	Unitil uses a DCF method when evaluating main and service line extensions. This method considers an estimate of the cost of capital expenditures associated with the proposed extension, an estimate of net revenue, estimate of the associated operation and maintenance expenses, depreciation and property and other taxes. These cash flows are discounted over 20 years for residential customers and 10 years for commercial customers. If the net present value is zero or greater no CIAC is required. If the net present value is negative a CIAC is required. (NU Reference Pages 103,106)
		Liberty offers a rate design called Managed Expansion Program. This rate structure allows customers to pay a 30% higher distribution rate for 10 years instead of paying CIAC. (LU Reference Pages 13-14)	

Item 3-g addresses each company's anticipated customer mix and number of potential customers. The summarized response is below in Table 8. LU's proposal anticipates 2,456 residential customers and 403 commercial customers in the Town of Epping. NU estimates that there are approximately 300 potential customers, including commercial and residential in its proposed Epping service area. The company does not expect that this entire market potential will seek natural gas service.

Table 8

Item #	Request	Liberty Utilities / EnergyNorth	Northern Utilities / Unitil
3-g.	Anticipated customer mix and timeframe to execute the mix - number of potential residential, commercial, and industrial customers.	Conservative estimates 2,456 - Residential 403 - Commercial (LU Reference Page 14)	300 potential customers (NU Reference Page 103, Map on Page 104-105)

The most significant capital cost to install the distribution system in the Town is the cost of service mains, e.g. the pipe. Item 4-e requires each company to estimate the total cost (direct & indirect) of pipe by size by foot. LU has provided a cost estimate for 2", 4", 6", 8", and 12" pipe ranging from $40 per lineal foot to $110 per lineal foot. NU has estimated the cost for 2", 4", and 8" pipe from approximately $70 per lineal foot to $93.50 per lineal foot. This information is summarized in Table 9 on the following page.

Table 9

Item #	Request	Liberty Utilities / EnergyNorth	Northern Utilities / Unitil	
4-e.	Estimated cost by pipe size by foot including all indirect costs.	Cost per foot	Cost per foot	Estimated Length
	2"	$40.00	$69.67	4,200
	4"	$49.00	$69.26	2,875
	6"	$61.00	na	n/a
	8"	$73.00	$93.50	27,815
	12"	$110.00	na	n/a
		These estimates are based on over 1000' main extension, primarily installed off-pavement (does not include services). These are approximate estimates based upon preliminary engineering, material costs, and average installation costs. (LU Reference Page 16)	NU's total cost for mains is estimated to be $3,092,524. Services will be HDPE SDR-11 with an MAOP of 99 psig and individually sized based on the required load. (NU Reference Page 110)	

For Item 6, each company provided a narrative of its planned and anticipated community outreach programs to incentivize customers to connect to natural gas service. Those responses are summarized in Table 10 below.

Table 10

Item #	Request	Liberty Utilities / EnergyNorth	Northern Utilities / Unitil
6	Planned and anticipated community outreach programs to incentivize customers to connect to the natural gas service.	*Liberty believes in local and hands on approach. The sales and marketing team lives and works in the communities it serves. Liberty works with residential and commercial customers, answering questions, concerns and making sure that customers and their contractors have what they need to convert. * Liberty offers managed expansion rates, which pay down up front contributions-in-aid-of-construction over time. (LU Reference Page 18)	*Unitil will focus communicating the benefits of natural gas to its potential customers. This will be communicated through direct mail, print, radio, television, email, online banners and social media. *The company will also reach out to plumbing and heating contractors who serve the region to help assist consumers with the decision process of switching their aging equipment to natural gas. (NU Reference Page 170)

Planned and anticipated financial assistance programs provided by each company was requested for Item 7 of the RFP. These responses are summarized in Table 11. LU has committed to allocate $500,000 to a natural gas conversion assistance fund to aid in reducing up-front customer costs that may be incurred when switching to natural gas for their heating needs. These funds would not be recovered through customer rates. NU offers natural gas conversion burners and water heaters to residential and commercial property owners through its the EasyCare Rental program. Under this program, the customer pays a monthly fee for the rented equipment and its maintenance, but standard installation of the equipment is free. Both companies subscribe to the New Hampshire Saves program, a collaborative of NH's electric and natural gas utilities working together to advance energy efficiency in the state. The program provides customers with information and incentives to save energy, reduce costs, and protect NH's environment. Incentives include rebates for high efficiency furnaces, boilers, water heaters, heating controls, and heat recovery ventilators.

Table 11

Item #	Request	Liberty Utilities / EnergyNorth	Northern Utilities / Unitil
7	Planned and anticipated financial assistance programs to be provided by the company for the cost of conversion to natural gas and assistance with customer's stranded costs.	**1)** Company commits to create a natural gas conversion assistance fund to assist customers in switching to natural gas for their heating needs. This fund would allocate $500,000 to the residents of Epping. **2)** NHSaves Program (LU Reference Pages 18-19)	**1)** Unitil offers natural gas conversion burners and water heaters to residential and commercial property owners through the EasyCare Rental Program. This program is the easiest, fastest and most inexpensive way to convert to natural gas. Unitil provides no fees for standard installation of equipment or for its maintenance. The customer pays a low monthly fee. **2)** NHSaves Program (NU Reference Pages 171-186)

Financial Comparison and Metrics

Of significant importance for the town to consider are the financial operating measurements of each company, their cost of service to the ratepayers, and the imbedded cost of each company's operations. Each company submits an annual report to the NHPUC. Be advised that while LU's annual report consists of the company's NH-only operations, sections of NU's NH annual report reflect its property and operations in Maine, as well as NH. It is assumed that NU makes certain allocations of cost components between its NH and Maine operations. While additional analysis would be required to understand the allocation for each account reported, a competent and reasonable review of the company's financial reporting has been performed to provide a reliable comparison of the companies.

Selected operating data is summarized for LU and NU for the five-year period from 2013 to 2017 in Appendices C and D, respectively. Appendix E provides a side by side look at the LU & NU 2017 operating data. We believe that the 2017 operating results are a reliable proxy for use by the Town of Epping to compare the two company's submitting proposals for gas service to the Town. Leading up to 2017, both companies have grown steadily in number of customers, revenues, cost of service, and quantity of gas sold. Each company has also realized the industry-wide decrease in the cost of gas and each company completed a rate case with the NHPUC in 2016.

When reviewing the operating data for a regulated public utility, it is important to consider the differences between residential vs. commercial service. Residential customers make up the majority of the customer count, however the commercial customers typically consume nearly as much or more of the quantity of gas sold. LU & NU are no exception. Another important factor to consider is the quantity of gas transmitted for others. Each company reports a significant quantity of gas delivered to others under a tariff that pays for the distribution delivery system.

The final section of Appendices C, D, & E, Rate Class Analysis, provides an overview of important cost measurements to consider for each company by rate class – residential, commercial, and transmission for others. Measures of revenues by quantity of gas sold are calculated, as well as the cost of gas per dekatherm ("Dth") sold. Because of the disparity that exists in rates and quantity of gas sold to each customer class, depending on a single composite measure of revenue per Dth sold in comparing gas companies is unreliable. The Rate Class Analysis allows for a comparison of reported facts and figures for each company under its individual NHPUC cost of service and rate design. Absent a new rate case, these are the regulatory frameworks that customers in the Town of Epping will be subject to.

Notes of comparison are provided as part of the analyses in the tables from Appendices C, D, & E. Additionally, in concert with the table notes, the following is a brief discussion of the measurements that we deem especially significant for the Town's consideration.

- In terms of size and scope, LU is nearly 3 times larger than NU in terms of customer count, sells nearly 2 times the quantity of gas, has more than 2 times the net plant, and realizes 2 times the total gas revenues.
- LU is largely a residential service provider with 55% of its 2017 total operating revenues from residential sales, compared to 42% for NU.
- Total operating revenues per Dth of gas sold is an indication of the rate disparity between LU and NU. In 2017, LU's residential customers paid an average of $13.04 per Dth purchased while NU customers paid approximately $16.46 per Dth, or 26% more than LU customers.
- Commercial / Industrial revenues make up 34% and 28% of total revenues for NU and LU, respectively.
- In 2017, NU's commercial / industrial customers paid an average of 6% more than LU's customers per Dth - $11.60 and 10.93, respectively.
- Each company realized approximately the same portion of their revenues through the transmission of gas for others – 12% for LU and 13% for NU. However, in terms of quantity of gas sold, 42% of LU's gas is sold via the transmissions for others, compared to 52% of NU's gas sold through the transmission for others.
- The total revenues for transmission of gas for others per Dth is $2.06 for NU and $2.36 for LU. NU's indicated rate for this customer class is nearly 15% more than LU's rate.
- NU's cost of gas per Dth sold (excluding the transmission of gas for others) was 33% more than LU. NU and LU paid an average of $8.04 and $6.02 per Dth of gas sold, respectively. This is an indication of each company's gas commodity purchasing power and is influenced by the size and scope of each company.
- Earnings before interest, tax, depreciation, and amortization ("EBITDA") is an indication of a company's operating performance without considering income taxes, the cost of debt, and depreciation and amortization schedules. In 2017 each company had an EBITDA that was 55% of its gross margin (revenues less the cost of gas sold).

2018 Rate Analysis

Based on annual reporting, the aggregate cost of service for residential customers in 2017 was $13.04 and $16.46 per Dth for Liberty Utilities and Northern Utilities, respectively. This calculation indicates that, annually on average, a NU residential customer will pay approximately 26% more than a LU residential customer for natural gas service. To better understand this disparity in charges, an additional analysis of each company's monthly tariffs was also conducted.

A New Hampshire residential customer's monthly bill for natural gas is made up of several distinct rates that include:

1. Monthly Customer / Meter Charge – Fixed monthly charge.
2. Delivery Charge – Calculated on customer usage (therms) per month. This charge is made up of the standard delivery charge plus the local delivery adjustment clause charge (LDAC). Prior to May of 2018 LU and NU had two delivery charge rates. LU had a delivery charge rate for the first 100 therms used and a lower rate for therms used in excess of 100. NU had a delivery charge rate for the first 50 therms used and a lower rate for therms used in excess of 50. As of May 2018, each company charged the same delivery rate for all therms used.
3. Cost of Gas – The pass-through cost of gas calculated on customer usage (therms) per month.

These rates are subject to NHPUC oversight. They are seasonal - designated between summer months (May – October) and winter months (November – April). The cost of gas is subject to adjustment in accordance with the commodity pricing. Both companies completed rate cases in 2017.

The Tables in Appendix F represent the anticipated annual natural gas cost for a residential heating customer during 2018 for LU and NU. The annual therms per residential customer is estimated to be 733.5, based on the average therms used per year, per customer, for both NU – 720 & LU - 747 (720 + 747 = 1,467 ÷ 2 + 733.5). Natural gas usage is not equal on a month to month basis. The estimated amount of gas used per month (column G) is based on the NU & LU combined average monthly dispersion of gas sold in 2017 and is represented in column F. The individual rates for each company are represented in columns B, C, D and E and the calculated monthly charges for each are represented in columns H, I, J, and K. Column L calculates the estimated total bill for each month in 2018.

Based on this estimated 2018 billing analysis, on average, a LU and NU customer will pay a total of $1,102.86 and $1,283.48 per year for natural gas. This analysis indicates that, based on the 2018 rate structures of each company, a NU residential customer will pay approximately 16% more than a LU residential customer for natural gas service.

Based on annual reporting, the aggregate cost of service for commercial / industrial customers in 2017 was $10.96 and $11.60 per Dth for Liberty Utilities and Northern Utilities, respectively. This calculation indicates that, annually on average, a NU commercial / industrial customer will pay approximately 6% more than a LU commercial / industrial customer for natural gas service. The rate structure for commercial / industrial customers is more complicated because they are based on customer type, time of delivery – low or high peak, and quantity purchased. The distinct rates are similar to those of the residential customers - monthly customer charge, delivery charge, and cost of gas charge. Overall, the commercial / industrial rates can best be compared on a customer by customer basis. The individual rates and rate structures are not conclusive in providing a comparison of the companies.

NHPUC Recent Franchise Proceedings

Since 2014, the NHPUC has seen increased activity in natural gas franchise matters. In 2014, NU filed a petition and was granted franchise rights to serve the Town of Brentwood. NU's primary

reason for extending its gas service into the community was to serve two industrial customers – Owens Corning and Pike Industries. Each had signed CIAC agreements committing to pay half of the estimated $1.9 million total project costs. In addition to the two primary customers, NU noted that the mains would be in reach of Exeter High School and the Rockingham County Complex, as well as 24 residences, 34 small businesses, and 9 medium-sized businesses. The company said that it would aggressively pursue potential customers along the route. As of 2017, the company had two additional customers for a total of four Brentwood customers.

In 2015, LU filed for franchise rights to serve Pelham and Windham. The proposal would bring gas service to the majority of the commercial corridor along NH Rt. 37 and NH Rt. 11 including local schools and approximately 2,500 residential customers. At the time that the petition was filed, NU held the franchise rights for Pelham, yet had not provided regulated gas service to the community since 2006, nor did it have any immediate plan to do so. In 2017, as a result of this docket, NU's franchise rights were terminated, and LU was granted the franchise rights for both Pelham and Windham.

In 2015, Valley Green Natural Gas, LLC ("Valley Green") filed for natural gas franchise rights to serve Lebanon and Hanover. Two months later LU filed a petition to serve the same area. After more than a year, LU filed a petition to stay the proceeding so that it could negotiate a reconciliation with Valley Green. As a result, Valley Green withdrew its petition for a franchise. LU then filed a petition to reopen the matter. The petition was denied, noting that LU's business plan was "under development" and that its petition was premature. The NHPUC indicated that it would consider a new petition once LU had fully developed its business plan.

In 2015, LU filed a petition for franchise rights in the towns of Jaffrey, Rindge, Swanzey, and Winchester that depended on the Kinder Morgan Northeast Energy Direct Pipeline. In 2016, Kinder Morgan announced that it would not continue to pursue its NH pipeline plan. As a result, LU filed a petition to amend its request for franchise rights for Swanzey only, noting that it would serve this community through LU's existing infrastructure in Keene. In late 2016, the NHPUC denied the petition to amend noting that the action was premature due to unresolved matters related to its Keene infrastructure and an incomplete economic analysis for this expansion.

In 2016, LU filed a new petition for franchise rights in Lebanon and Hanover. The petition was approved in March of 2018 subject to a settlement agreement executed by LU, the Office of Consumer Advocate, and NHPUC Staff. There is no interstate pipeline system for Liberty to connect to within 50 miles of Hanover and Lebanon. As such, LU's plan is for an off-pipeline system that includes the construction of a liquefied natural gas storage and vaporization facility, a compressed natural gas decompression facility, and four 60,000-gallon horizontal storage vessels. LNG will be trucked to the facility and off loaded into the storage tanks before being treated and injected into the distribution system. LU's market assessment identified 9,225 potential customers in the area, and highlighted ten potential anchor customers including Dartmouth College, Dartmouth Hitchcock Medical Center, and Pike Industries.

Based on a review of these filings, we have made several observations. First, there is robust interest in expanding the current natural gas distribution footprint in New Hampshire. This appears

to be driven by the desire of commercial / industrial customers to take advantage of the current economies of natural gas. Second, the NHPUC demands a rigorous adjudication process in considering a utility's petition to expand into a new service territory. The NHPUC requires safeguards that reduce the risk to the utility's existing customers, as well as any potential new customers. Finally, the commercial / industrial base of a community is what drives expansion into a new territory because of the large quantity of gas that such a customer demands. The value that a utility places on serving residential customers is evident in its planned service territory, its customer mix market analysis, and its marketing plan.

Recommendation

The Town of Epping has identified its priorities relative to natural gas service as follows:

1. The more people/businesses in Epping that can be served by natural gas…the better. There is no preference for industrial/commercial customers over residential. The Town would like natural gas to be offered to all customer classes and as many property owners – businesses & residences - as possible.
2. The Town is concerned with the utility's commitment to the project. If selected, it is important to the Town that the utility follow through with the plan as stated and provide natural gas service to the Epping community. The Town would like to avoid a situation in which a company is selected, holds the franchise, and then neglects to serve the community.
3. Cost of gas and service is important. Lower rates will be viewed favorably.
4. Time is NOT of the essence. The Town is less concerned with "when" the service is started, than other factors.

Based on these priorities, and the proposals submitted by NU and LU, we recommend that the municipality choose Liberty Utilities to provide natural gas distribution service to the Epping community.

Our analysis reveals that LU proposes to serve nearly 3,000 customers in Epping. NU has identified only 300 potential customers in primarily commercial zones of the municipality. LU's plan includes the same commercial/industrial district areas as NU where it will serve these same large-quantity customers, but it also includes almost 2,500 residential customers in numerous residential neighborhoods. In terms of extent of service, LU's plan will encompass a larger geographic area and reach more potential customers.

Both companies appear to be committed to their plans. NU's expansion into Epping dovetails from their recent expansion into Brentwood. LU has significant interests in the community by way of the Granite Bridge Project.

The financial analysis provided within this report compares the operating data of NU and LU. This information indicates that NU's residential customers paid 26% more per Dth and its commercial/industrial customers pay 6% more per Dth than LU's customers in 2017. Based on the approved 2018 rates, we estimate that NU's residential customers will pay approximately 16% more than LU customers for service. Factors that influence this disparity in rates are:

1. NU's cost of gas sold is 34% more than LU's cost of gas sold. This expense is a pass through to the rate-payer and directly affects the customer's overall cost of gas.

2. Based on each company's most recent rate case at the NHPUC, NU's cost of debt is 5.55% and LU's cost of debt is 4.42%. The utility's cost of debt is passed on to its rate-payers as a factor in the company's overall rate of return. The higher the overall rate of return, the higher the rates paid by the utility's customers.
3. Similar to the cost of debt, the company's return on equity is passed on to its rate-payers as a factor of the company's overall rate of return. LU's return on equity is 9.3% compared to NU's higher rate of 9.5%. Again, the higher the overall rate of return, the higher the rates paid by the utility's customers.

NU's higher debt and equity costs result in an overall rate of return that is nearly 12% higher than LU's overall rate of return. This, combined with the higher cost of gas, results in a higher cost of service to NU customers. As such, based on cost to potential Epping customers, we believe that LU's rates will be lower than NU's rates.

As noted, LU does not plan to commence construction of its distribution system until it receives regulatory approval for its Granite Bridge project. NU's plans are not contingent on any complimentary project and would likely be able to offer service to customers much sooner than LU. That said, the timing of service is of low priority to the Town of Epping.

Although not a stated consideration, it is assumed that the Town is concerned with customer satisfaction and safety. We have reviewed submissions of each company, as well as public documents, that indicate that customer satisfaction for each company is satisfactory. There is not an abundance of complaints that would lead to a conclusion that either company would provide a less than favorable customer experience.

For any gas distribution company, safety must be a priority. The NHPUC logs gas pipeline safety incidents and notes any resulting property damage, bodily injury, and fatalities. Since Liberty acquired the NH distribution system in 2012 there have been no incidents reported. Since Unitil acquired the NH Northern Utilities system in 2008, there have been two reported incidents. In 2008, twenty-four days after acquisition, a snow plow or excessive snow damaged a meter and caused a fire on Church St. in Gonic, resulting in $200,000 in property damage, no bodily injury, and no fatalities. In 2015, snow buildup on a meter set on Locke St. in Hampton resulted in property damage totaling $158,000, no bodily injury, and no fatalities. The 29 Year Historical Gas Pipeline Safety Incidents in New Hampshire table, issued by the NHPUC, is being provided as Appendix F for your information.

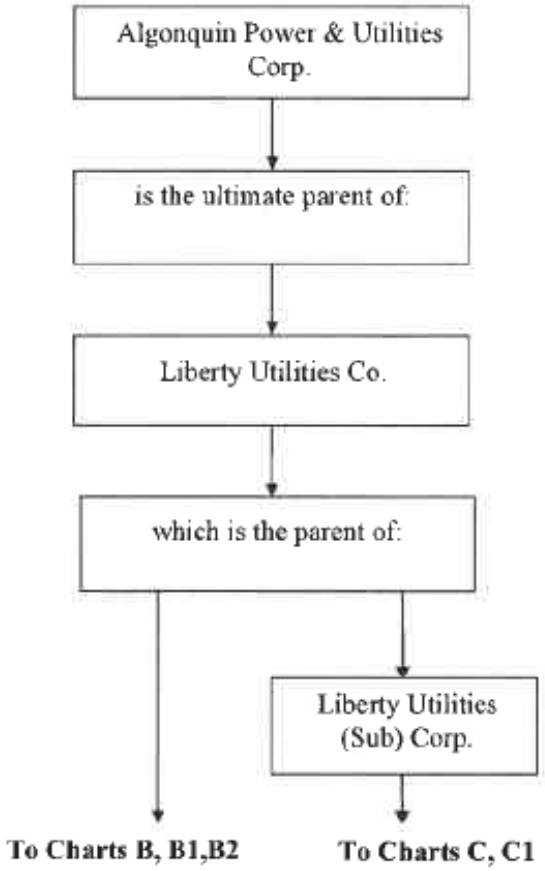
Since 1990, the NHPUC has worked with gas companies through its accelerated bare steel replacement program. In 1990, the NHPUC recognized that leak prone pipes within the streets of NH required a systematic replacement and began working with gas companies to initiate an accelerated bare steel replacement program that continues today. Both LU and NU have participated in this program. In 2017 NU replaced the final segments of the 26 miles of bare steel and cast iron mains identified for replacement. As of 2017, LU had replaced 111 miles (59%) and 14 miles (64%) of its cast iron and bare steel mains, respectively, leaving 78 miles of cast iron and 7 miles of bare steel mains to be replaced. Both LU and NU are safety conscious and there does not appear to be a discernable difference in their commitment to providing safe and reliable natural gas to its customers.

Based on LU's commitment to serve more of Epping's population – both commercial and residential, coupled with its lower customer rates, we recommend that the Town support Liberty Utility in its efforts to secure the franchise to provide natural gas to the Epping community.

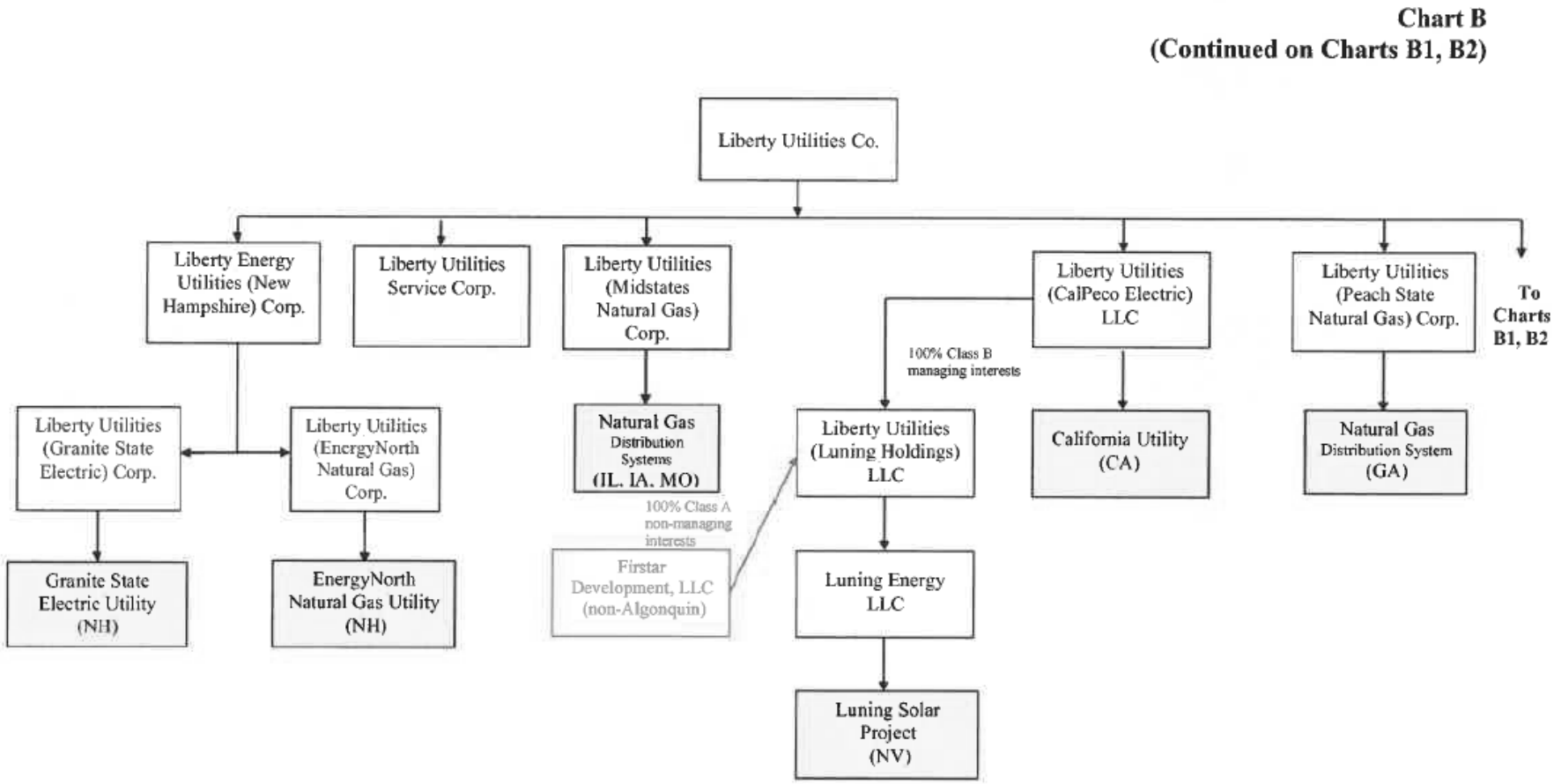
Appendix A
Organization Charts

Organization Chart

Liberty Utilities



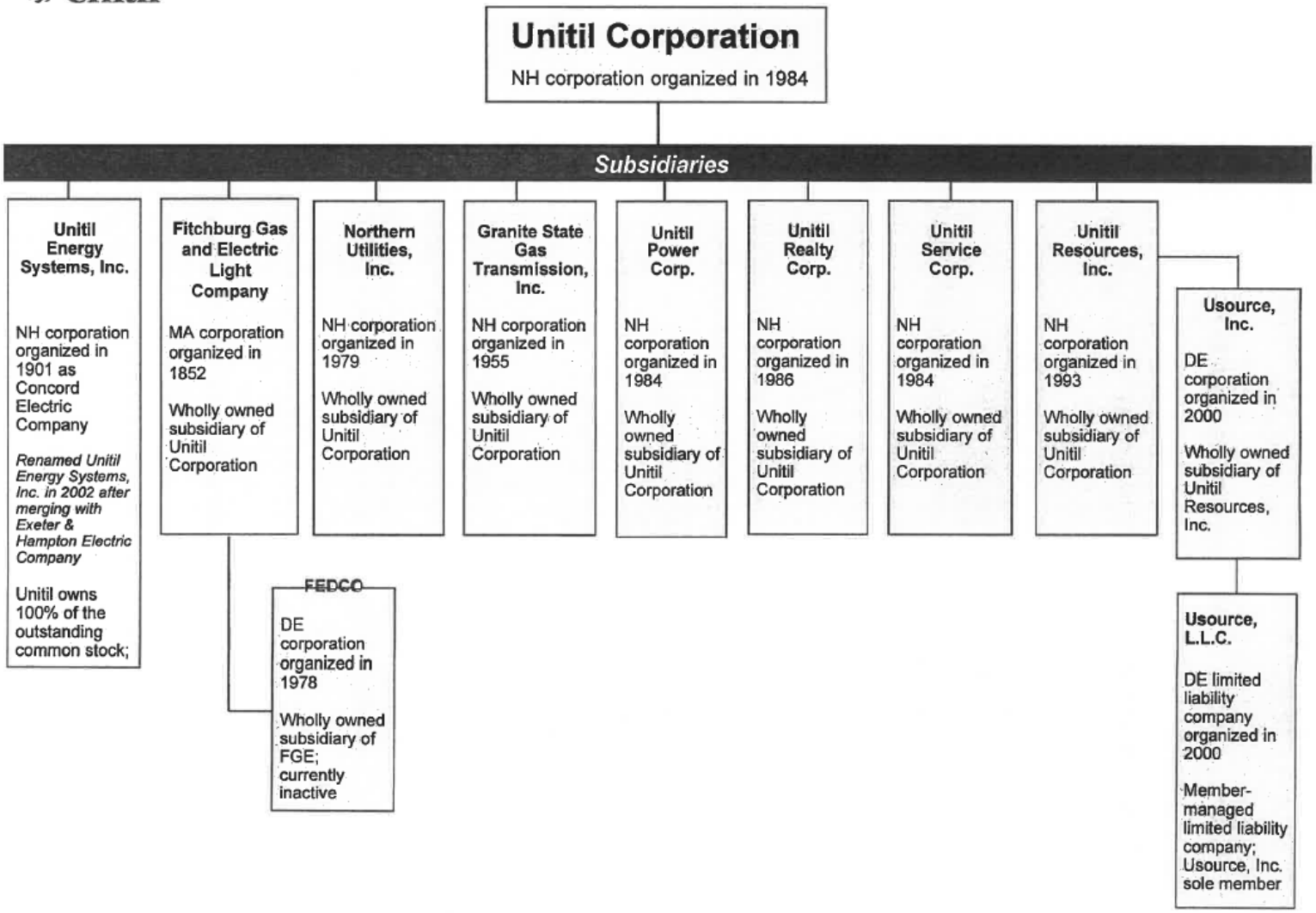
Organization Chart



Organization Chart

Unitil

RFP-1 Attachment 1
Page 1 of 1



Appendix B

Large Format Maps (11 X 17)

Figure 4

Liberty Utilities Phase 1

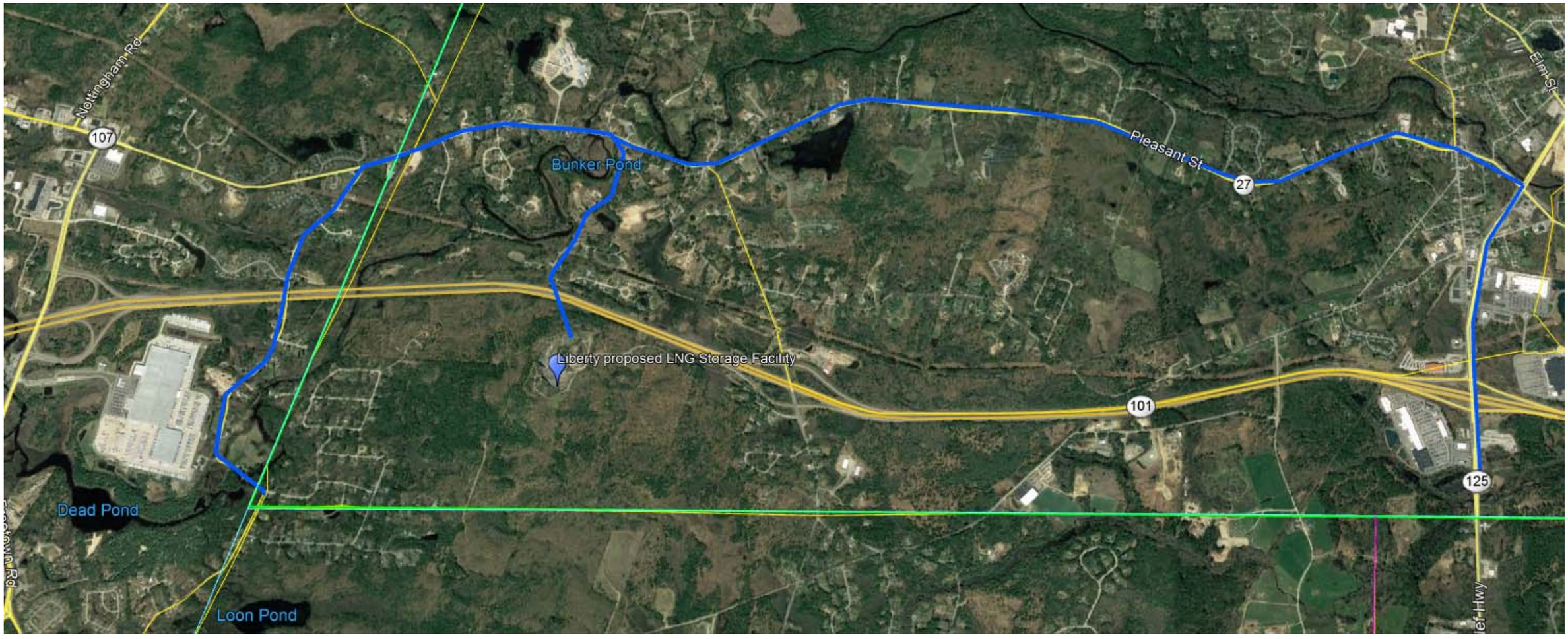


Figure 5

Liberty Utilities Phase 2

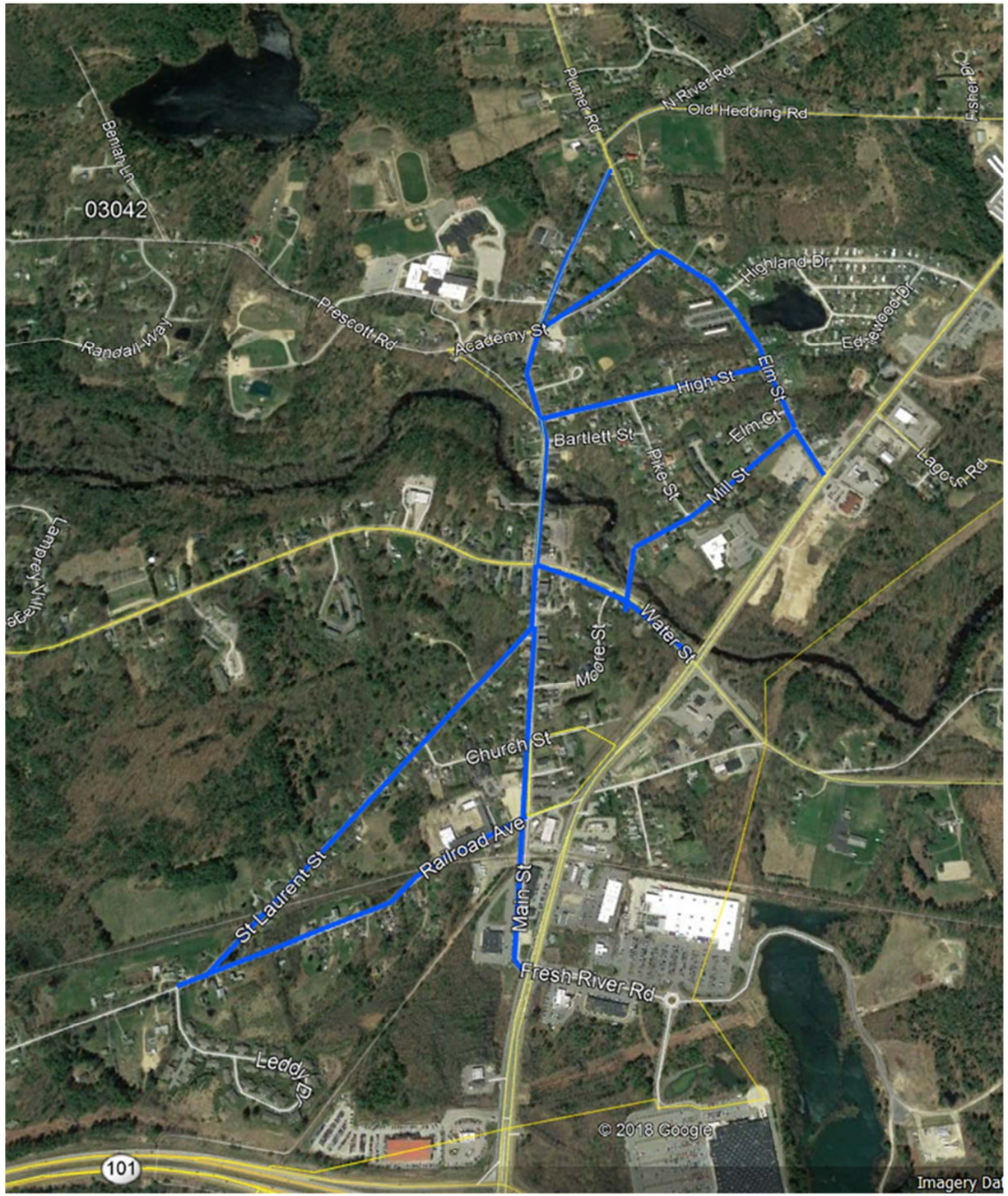


Figure 6

Liberty Utilities
Phase 3

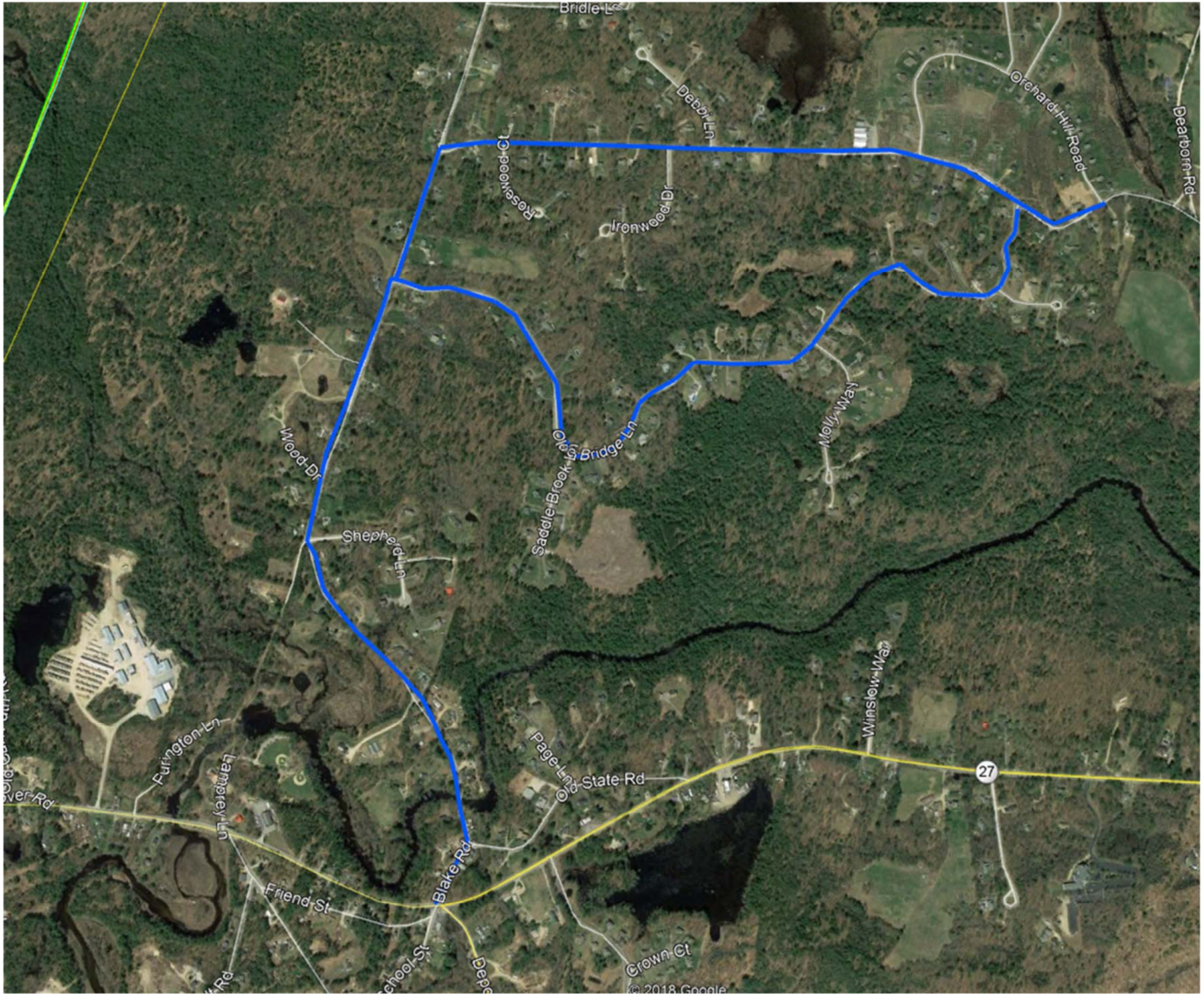


Figure 7

Liberty Utilities Phase 1, 2 & 3

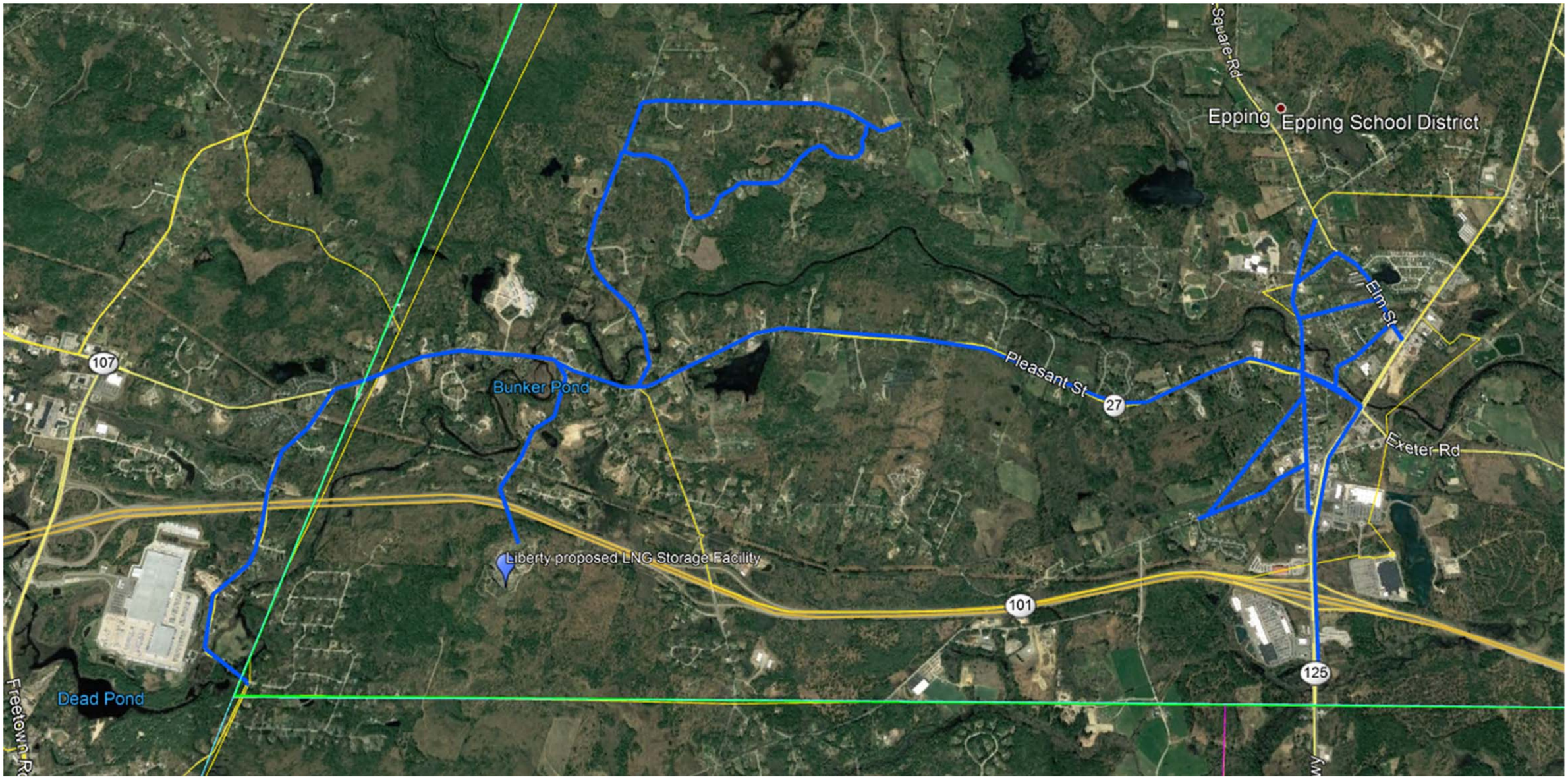


Figure 8
Liberty Utilities Proposed Phase 1, 2 & 3 With Potential Gas Access Routes

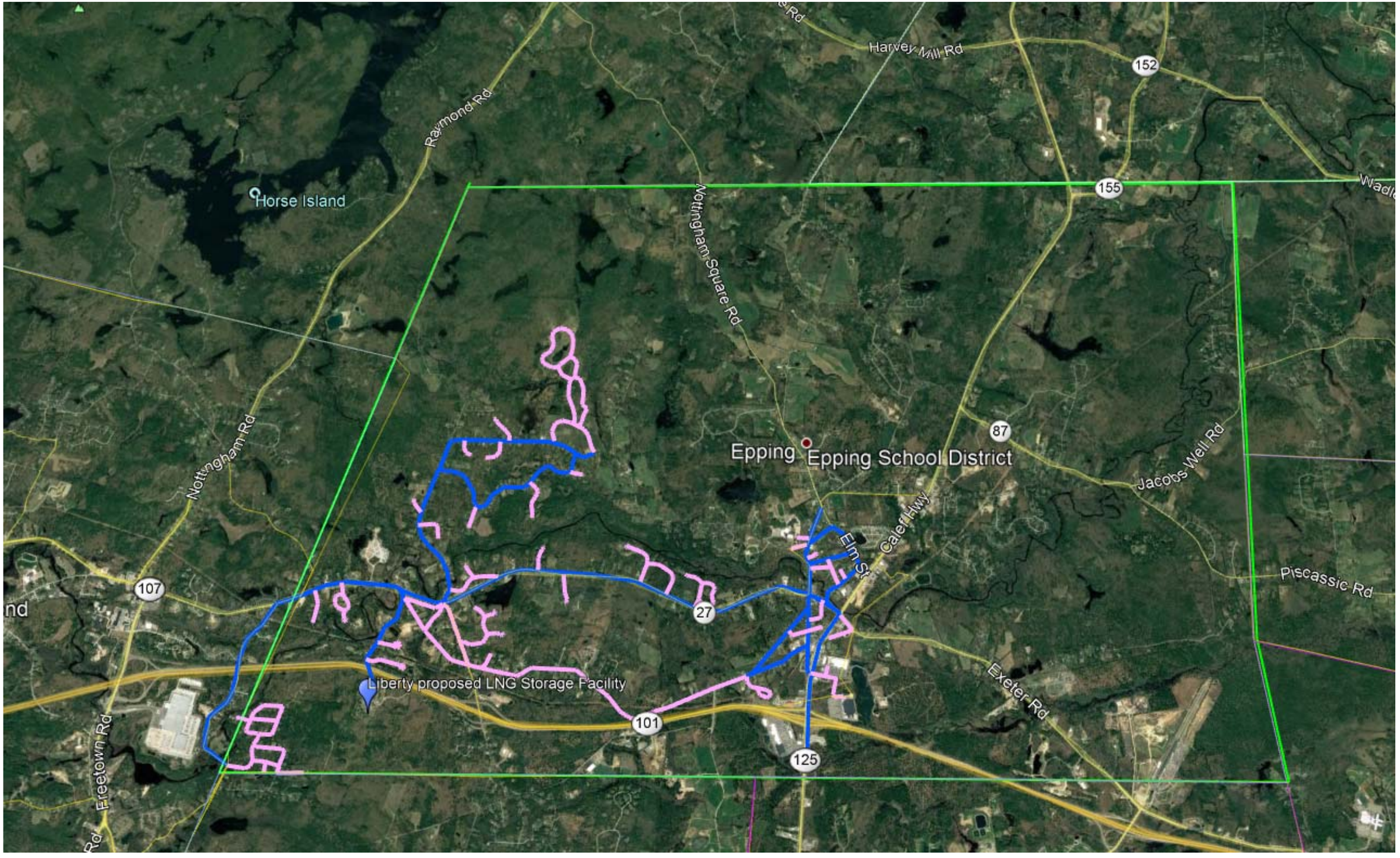


Figure 9

Northern Utilities Zone 1

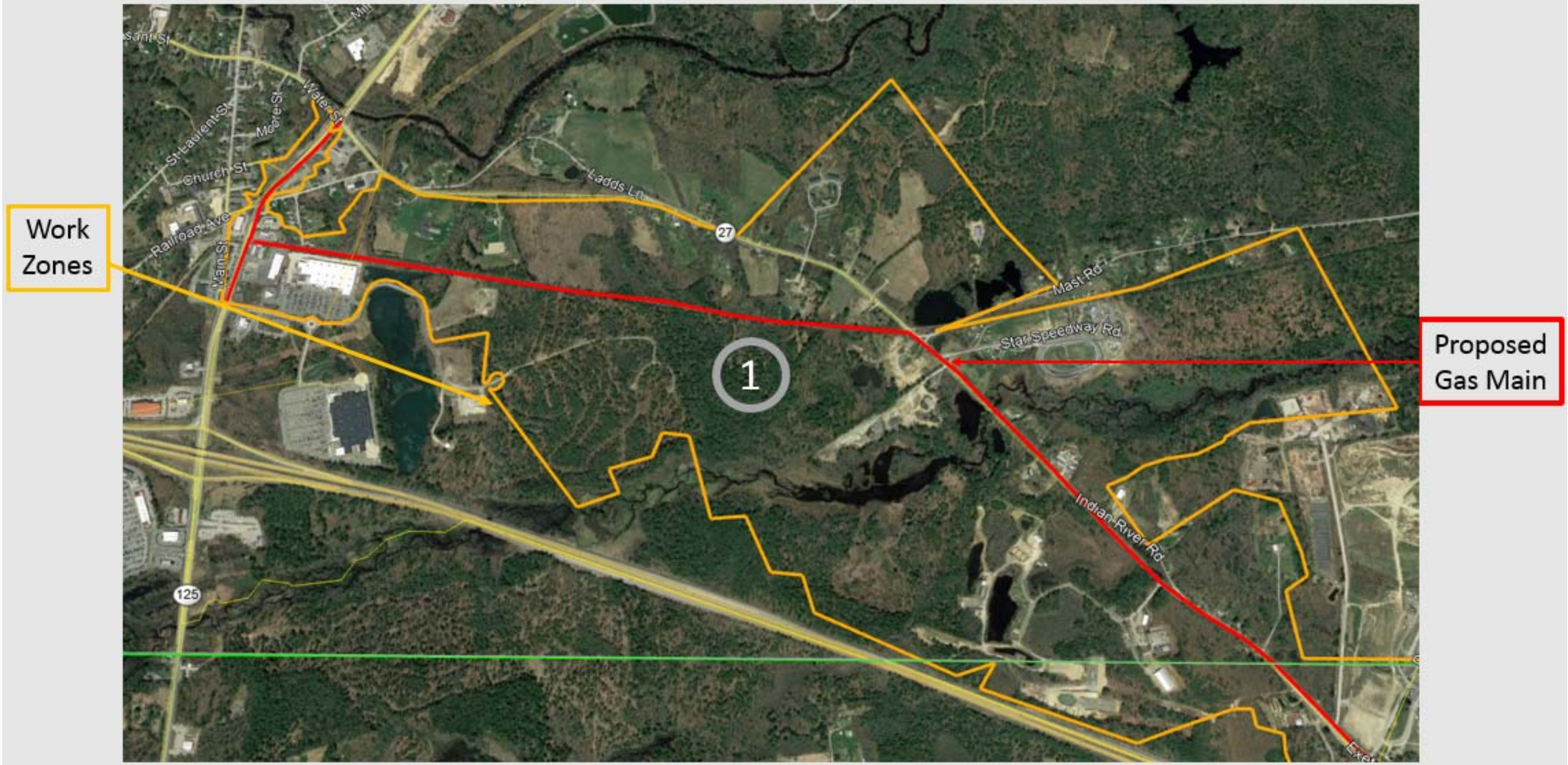


Figure 10

Northern Utilities Zone 2

Figure 11

Northern Utilities Zones 1 & 2

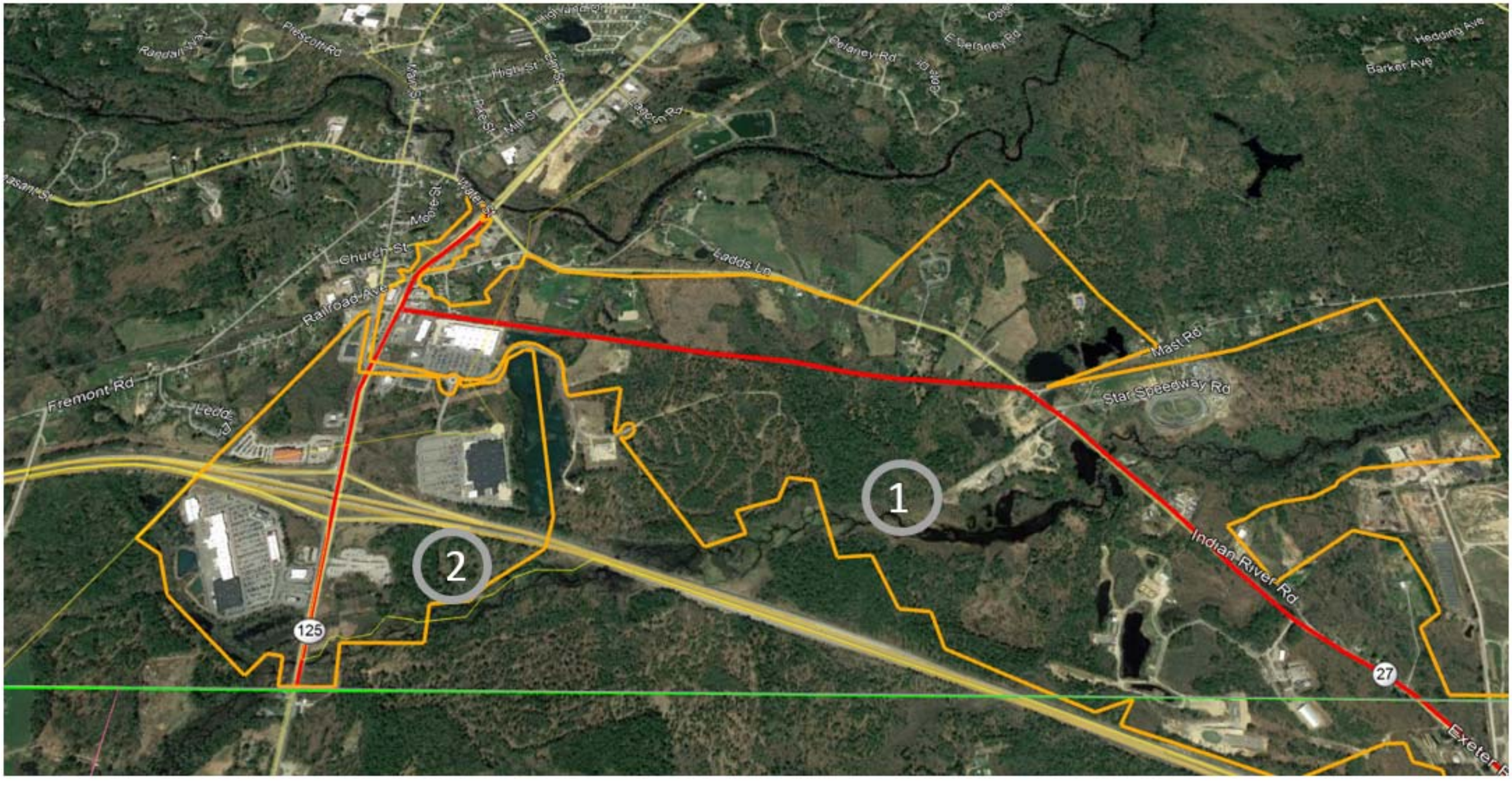


Figure 12

Utility Proposed Gas Main Routes

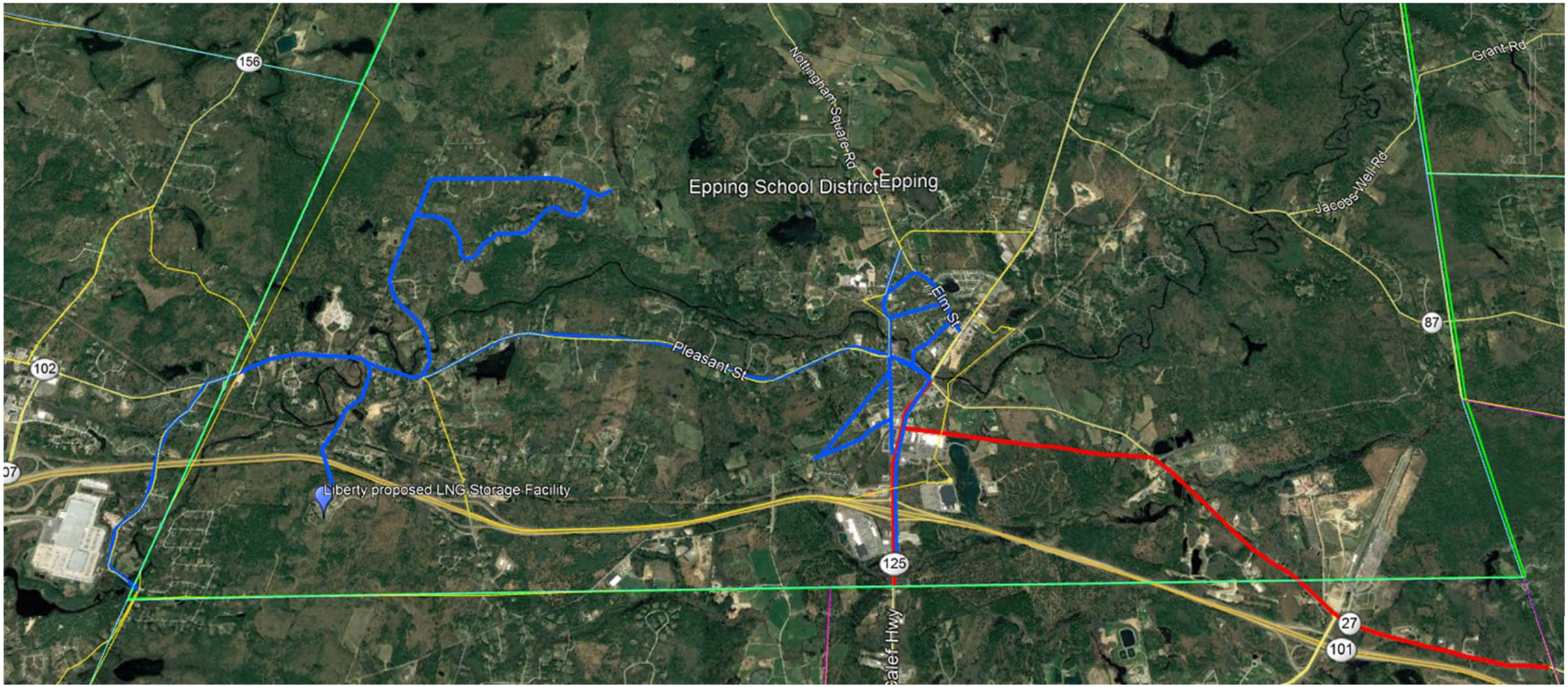
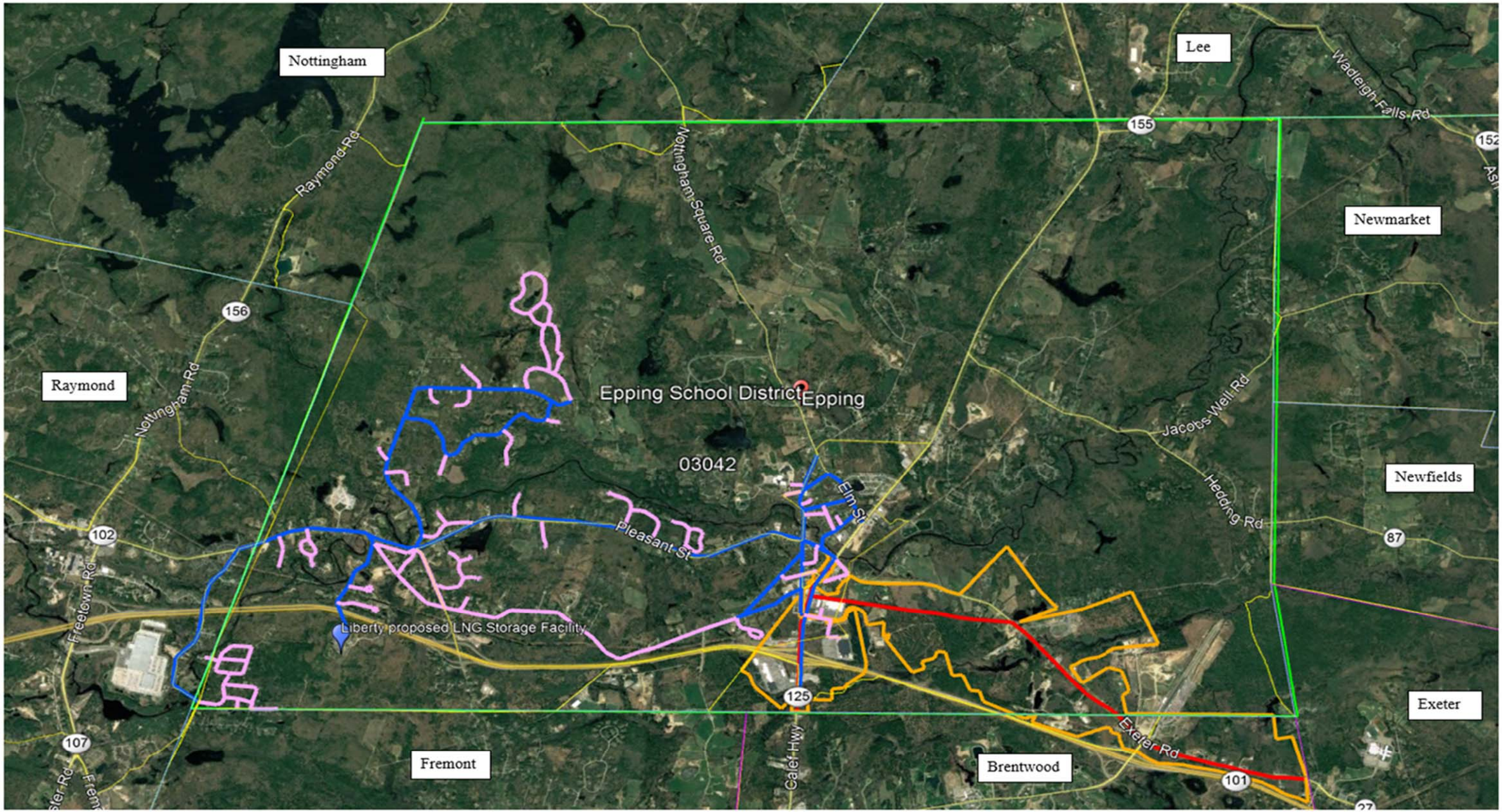


Figure 13

Utility Proposed Gas Main Routes and Liberty Access Areas Opened Up



Appendix C
Liberty Utilities
Select Operating Data
YE 2013 – YE 2017

Liberty Utilities - Select Operating Data 2013 - 2017

		2013	2014 [1]	2015	2016	2017
1						
2	Customer Count	85,959	87,825	89,014	93,936	92,044
3	Population	536,912	535,395	540,100	542,905	546,005
4						
5	**Utility Plant**					
6	Plant in Service	NHPUC Annual Report, p. 17, ln. 3	$ 361,053,443	$ 379,701,715	$ 426,304,434	$ 453,568,528	$ 485,723,431
7	Completed Construction not Classified	NHPUC Annual Report, p. 17, ln. 6	-	15,907,115	7,509,616	28,098,321	42,277,446
8	TOTAL Utility Plant	Sum of Lines 6 - 7	361,053,443	395,608,830	433,814,050	481,666,849	528,000,877
9	Held for Future Use	NHPUC Annual Report, p. 17, ln. 10	-	-	459,308	459,308	433,920
10	Construction Work in Progress	NHPUC Annual Report, p. 17, ln. 11	20,160,773	23,605,783	17,676,263	12,384,979	11,231,685
11	Acquisition Adjustments	NHPUC Annual Reprot, p. 17, ln. 12	-	-	-	-	-
12	**TOTAL Utility Plant**	**Sum of Lines 8 - 11**	**381,214,216**	**419,214,613**	**451,949,621**	**494,511,136**	**539,666,482**
13	Accumulated Provisions for Depreciation, Amortization & Depletion	NHPUC Annual Report, p. 17, ln. 22	(100,266,104)	(104,930,733)	(114,774,571)	(125,436,149)	(130,926,210)
14	Amortization of Plant Acquisition Adjustment	NHPUC Annual Report, p. 17, ln. 32	-	-	-	-	-
15	**NET Utility Plant**	**Sum of Lines 12 thru 14**	**$ 280,948,112**	**$ 314,283,880**	**$ 337,175,050**	**$ 369,074,987**	**$ 408,740,272**
16							
17	**Utility Operating Income**						
18	**Base Operating Revenues**						
19	Residential Sales	NHPUC Annual Report, p. 28, col. d, ln. 2	$ 31,391,348	$ 29,612,708	$ 36,258,785	$ 37,593,071	$ 41,671,966
20	Commercial & Industrial Sales	NHPUC Annual Report, p. 28, col. d, ln. 4 & 5	15,179,300	15,188,741	17,305,762	17,886,201	17,956,841
21	Unbilled Revenues	NHPUC Annual Report, p. 28, col. d, ln. 7	-	-	-	-	-
22	**Total Base Revenues**	**Sum of Lines 19 thru 21**	**$ 46,570,648**	**$ 44,801,449**	**$ 53,564,547**	**$ 55,479,272**	**$ 59,628,807**
23	**Gas Operating Revenues (Cost of Gas)**						
24	Residential Sales	NHPUC Annual Report, p. 28, col. f, ln. 2	42,768,811	60,820,727	54,655,902	30,353,122	33,885,520
25	Commercial & Industrial Sales	NHPUC Annual Report, p. 28, col. f, ln. 4 & 5	27,157,375	39,589,086	38,932,518	14,359,353	20,605,001
26	Unbilled Revenues	NHPUC Annual Report, p. 28, col. f, ln. 7					
27	**Total Gas Operating Revenues**	**Sum of Lines 24 thru 26**	**$ 69,926,186**	**$ 100,409,813**	**$ 93,588,420**	**$ 44,712,475**	**$ 54,490,521**
28	Other Sales to Public Authorities	NHPUC Annual Report, p. 28, col. b, ln. 6	-	-	-	3,200	8,800
29	Sales for Resale	NHPUC Annual Report, p. 28, col. b, ln. 9	8,258,715	4,928,628	2,785,170	2,729,123	2,179,448
30	Forefeited Discounts	NHPUC Annual Report, p. 28, col. b, ln. 15	-	-	-	-	-
31	Misc. Service Revenues	NHPUC Annual Report, p. 28, col. b, ln. 16	262,340	865,588	1,408,915	847,735	901,290
32	Revenues from Trans of Gas of Others through Distribution Facilities	NHPUC Annual Report, p. 28, col. b, ln. 19	11,649,804	11,248,309	13,150,654	13,494,254	16,173,667
33	Rent from Gas Property	NHPUC Annual Report, p. 28, col. b, ln. 24	-	-	-	-	-
34	Other Gas Revenues	NHPUC Annual Report, p. 28, col. b, ln. 26	949,317	1,782,001	(7,563,880)	2,787,590	3,301,434
35	**Total Gas Revenues**	**Line 22 + Line 27 + (Sum of Lines 28 thru 34)**	**$ 137,617,010**	**$ 164,035,788**	**$ 156,933,826**	**$ 120,053,649**	**$ 136,683,967**
36							
37	Avg. No. of Customers per Mo. - Residential	NHPUC Annual Report, p. 28, col. j, ln. 2	75,515	75,824	78,626	79,129	79,810
38	Avg. No. of Customers per Mo. - Commercial / Industrial	NHPUC Annual Report, p. 28, col. j, ln. 3	9,063	9,046	9,376	9,201	9,173
39	Avg. No. of Customers per Mo. - Trans of Gas of Others through Distribution Facilities	NHPUC Annual Report, p. 28, col. j, ln. 19	2,119	2,151	2,332	2,620	2,632
40	**Total Avg. No. of Customers per Mo.**	**Sum of Lines 37 thru 39**	**86,697**	**87,021**	**90,334**	**90,950**	**91,615**
41							
42	Dekatherm of Natural Gas Sold - Residential	NHPUC Annual Report, p. 28, col. h, ln. 2	5,733,766	6,158,851	6,235,033	3,958,260	5,794,076
43	Dekatherm of Natural Gas Sold - Commerical / Industrial	NHPUC Annual Report, p. 28, col. h, ln. 3	3,688,914	3,987,775	3,776,761	2,456,636	3,526,669
44	Dekatherm of Natural Gas Sold - Unbilled Revenues	NHPUC Annual Report, p. 28, col. h, ln. 7	-	-	-	-	-
45	Dekatherm of Natural Gas Sold - Sales for Resales	NHPUC Annual Report, p. 28, col. h, ln. 9	-	-	-	-	-
46	Dekatherm of Natural Gas Sold - Trans of Gas of Others through Distsribution Facilities	NHPUC Annual Report, p. 28, col. h, ln. 19	6,369,477	6,589,770	6,587,602	4,785,029	6,859,311
47	**Total Dekatherm of Natural Gas Sold**	**Sum of Lines 42 thru 46**	**15,792,157**	**16,736,396**	**16,599,396**	**11,199,925**	**16,180,056**
48							

Liberty Utilities - Select Operating Data 2013 - 2017

			2013	2014 [1]	2015	2016	2017
49	Operating Revenues	NHPUC Annual Report, p. 11, ln. 2	$ 137,617,008	$ 164,035,787	$ 156,933,825	$ 120,053,649	$ 136,683,967
50	Cost of Gas Sold	NHPUC Annual Report, p. 35, ln. 97	82,817,882	104,812,245	82,886,454	46,795,944	56,127,721
51	**Gross Margin**	**Line 49 - Line 50**	**$ 54,799,126**	**$ 59,223,542**	**$ 74,047,371**	**$ 73,257,705**	**$ 80,556,246**
52							
53	Operation Expenses excl. Cost of Gas	NHPUC Annual Report, p. 11, ln. 4 & p. 35, ln 97	$ 23,543,532	$ 24,113,786	$ 25,170,898	$ 23,178,232	$ 22,071,011
54	Maintenance Expenses	NHPUC Annual Report, p. 11, ln. 5	1,200,734	4,318,850	4,083,313	2,889,738	2,926,039
55	Depreciation Expenses	NHPUC Annual Report, p. 11, ln. 6	9,989,845	7,978,764	10,773,200	11,610,051	12,786,243
56	Amort. & Depl. Of Utility Plant	NHPUC Annual Report, p. 11, ln. 7	16,410	608,603	2,082,422	2,123,142	2,173,446
57	Amort. Of Utility Plant Acq. Adj.	NHPUC Annual Report, p. 11, ln. 8	-	-	-	-	-
58	Regulatory Debits	NHPUC Annual Report, p. 11, ln. 11	382,902	103,194	409,200	409,200	409,203
59	(Less) Regulatory Credits	NHPUC Annual Report, p. 11, ln. 12	-	387,090	1,110,772	2,217,552	2,537,193
60	Taxes Other Than Income Taxes	NHPUC Annual Report, p. 11, ln. 13	(21,146)	9,879,197	9,488,586	10,060,520	10,963,572
61	Income Taxes - Federal	NHPUC Annual Report, p. 11, ln. 14	-	-	20,121	-	-
62	Income Taxes - Other	NHPUC Annual Report, p. 11, ln. 15	-	164,500	(164,500)	231,000	220,214
63	Provision for Deferred Income Taxes	NHPUC Annual Report, p. 11, ln. 16	3,361,364	3,630,343	6,507,899	6,128,035	6,628,169
64	Investment Tax Credit Adj. - Net	NHPUC Annual Report, p. 11, ln. 18	-	-	-	-	-
65	Total Utility Operating Expenses	Sum of Lines 53 thru 64	38,473,641	51,184,327	59,481,911	58,847,470	60,715,090
66	**NET Utility Operating Income**	**Line 51 - Line 65**	**$ 16,325,485**	**$ 8,039,215**	**$ 14,565,460**	**$ 14,410,235**	**$ 19,841,156**
67							
68	**EBITDA Calculation**						
69	Operating Revenues	Line 49	$ 137,617,008	$ 164,035,787	$ 156,933,825	$ 120,053,649	$ 136,683,967
70	Less: Cost of Gas Sold	Line 50	82,817,882	104,812,245	82,886,454	46,795,944	56,127,721
71	Less: Operations Expenses	Line 53	23,543,532	24,113,786	25,170,898	23,178,232	22,071,011
72	Less: Maintenance Expenses	Line 54	1,200,734	4,318,850	4,083,313	2,889,738	2,926,039
73	Less: Taxes Other Than Income Taxes	Line 60	(21,146)	9,879,197	9,488,586	10,060,520	10,963,572
74	**EBITDA**	**Line 69 - (Sum of Lines 70 thru 73)**	**$ 30,076,006**	**$ 20,911,709**	**$ 35,304,574**	**$ 37,129,215**	**$ 44,595,624**

Liberty Utilities - Select Operating Data 2013 - 2017

			2013	2014 [1]	2015	2016	2017
75	**Rate Class Analysis**						
76	**Residential Sales**						
77	Res Base Op Revs as a % of Total Base Revs	Line 19 ÷ Line 22	67%	66%	68%	68%	70%
78	Res Gas Op Revs as a % of Total Gas Op Revs	Line 24 ÷ Line 27	61%	61%	58%	68%	62%
79	Avg Number of Res Cust as a % of Total Avg Number of Cust	Line 37 ÷ Line 40	87%	87%	87%	87%	87%
80	Dth of Nat Gas Sold to Res. Cust as a % of Total Dth	Line 42 ÷ Line 47	36%	37%	38%	35%	36%
81	Res Base Op Revs / Res Dth Sold	Line 19 ÷ Line 42	$5.47	$4.81	$5.82	$9.50	$7.19
82	Res Gas Op Revs / Res Dth Sold	Line 24 ÷ Line 42	$7.46	$9.88	$8.77	$7.67	$5.85
83	Total Res Op Revs / Res Dth Sold	(Lines 19 + 24) ÷ Line 42	$12.93	$14.68	$14.58	$17.17	$13.04
84	Total Res Op Revs / Total Op Revs	(Lines 19 + 24) ÷ Line 35	54%	55%	58%	57%	55%
85							
86	**Commercial / Industrial Sales**						
87	Comm/Ind Base Revs as a % of Total Base Revs	Line 20 ÷ Line 22	33%	34%	32%	32%	30%
88	Comm/Ind Gas Op Revs as a % of Total Gas Op Revs	Line 25 ÷ Line 27	39%	39%	42%	32%	38%
89	Avg Number of Comm/Ind Cust as a % of Total Avg Number of Cust	Line 38 ÷ Line 40	10%	10%	10%	10%	10%
90	Dth of Nat Gas Sold to Comm/Ind Cust as a % of Total Dth	Line 43 ÷ Line 47	23%	24%	23%	22%	22%
91	Comm/Ind Base Op Revs / Comm/Ind Dth Sold	Line 20 ÷ Line 43	$4.11	$3.81	$4.58	$7.28	$5.09
92	Comm/Ind Gas Op Revs / Comm/Ind Dth Sold	Line 25 ÷ Line 43	$7.36	$9.93	$10.31	$5.85	$5.84
93	Total Comm/Ind Op Revs / Comm/Ind Dth Sold	(Lines 20 + 25) ÷ Line 43	$11.48	$13.74	$14.89	$13.13	$10.93
94	Total Comm/Ind Op Revs / Total Op Revs	(Lines 20 + 25) ÷ Line 35	31%	33%	36%	27%	28%
95							
96	**Transmission of Gas for Others Sales**						
97	Revs from the Trans of Nat Gas to Others as a % of Total Revenues	Line 32 ÷ Line 35	8%	7%	8%	11%	12%
98	Avg Number of Trans Cust as a % of Total Avg Number of Cust	Line 39 ÷ Line 40	2%	2%	3%	3%	3%
99	Dth of Nat Gas Trans to Others as a % of Total Dth	Line 46 ÷ Line 47	40%	39%	40%	43%	42%
100	Revs from Trans of Nat Gas to Others / Dth of Nat Gas Trans.	Line 32 ÷ Line 46	$1.83	$1.71	$2.00	$2.82	$2.36
101	Total Revs from the Trans to Others / Total Op Revs	Line 32 ÷ Line 35	8%	7%	8%	11%	12%
102							
103	Cost of Gas Sold / Dth of NG Sold	Line 50 ÷ Line 47	$8.79	$10.33	$8.28	$7.29	$6.02
104	Company Reported Rev (excl. Unbilled Revs) per Therm Units Sold						
105							
106	Total Utility Plant	Line 12	$ 381,214,216	$ 419,214,613	$ 451,949,621	$ 494,511,136	$ 539,666,482
107	Net Utility Plant	Line 15	$ 280,948,112	$ 314,283,880	$ 337,175,050	$ 369,074,987	$ 408,740,272
108	Net Utility Plant as a % of Total Utility Plant	Line 15 ÷ Line 12	74%	75%	75%	75%	76%

Appendix D
Northern Utilities
Select Operating Data
YE 2013 – YE 2017

Northern Utilities - Select Operating Data 2013 - 2017

			2013	2014	2015	2016	2017
1							
2	Customer Count		30,221	31,150	31,713	32,282	33,037
3	Population		216,347	216,844	217,815	223,261	224,275
4							
5	**Utility Plant**						
6	Plant in Service	MEPUC Annual Report, p. 21, col. c, ln. 3	$ 155,585,083	$ 171,626,606	$ 186,483,678	$ 205,055,527	$ 221,266,863
7	Completed Construction not Classified	MEPUC Annual Report, p. 21, col. c, ln. 6	6,382,600	7,142,994	7,950,054	4,810,560	13,996,649
8	TOTAL Utility Plant	Sum of Lines 6 - 7	161,967,683	178,769,600	194,433,732	209,866,087	235,263,512
9	Held for Future Use	MEPUC Annual Report, p. 21, col. c, ln. 10	-	-	-	-	-
10	Construction Work in Progress	MEPUC Annual Report, p. 21, col. c, ln. 11	2,271,252	2,695,792	3,783,126	5,832,344	3,875,298
11	Acquisition Adjustments	MEPUC Annual Report, p. 21, col. c, ln. 12	(9,408,175)	(9,408,175)	(9,408,175)	(9,408,175)	(9,408,175)
12	**TOTAL Utility Plant**	**Sum of Lines 8 - 11**	**154,830,760**	**172,057,217**	**188,808,683**	**206,290,256**	**229,730,635**
13	Accumulated Provisions for Depreciation, Amortization & Depletion	MEPUC Annual Report, p. 21, col. c, ln. 22	(55,502,996)	(57,556,699)	(61,477,716)	(65,869,111)	(71,130,467)
14	Amortization of Plant Acquisition Adjustment	MEPUC Annual Report, p. 21, col. c, ln. 32	4,782,489	5,723,307	6,664,124	7,604,942	8,545,759
15	**NET Utility Plant**	**Sum of Lines 12 thru 14**	**$ 104,110,253**	**$ 120,223,825**	**$ 133,995,091**	**$ 148,026,087**	**$ 167,145,927**
16							
17	**Utility Operating Income**						
18	**Base Operating Revenues**						
19	Residential Sales	NHPUC Annual Report, p. 28, col. d, ln. 2	10,667,999	13,512,795	15,524,274	15,215,731	16,179,241
20	Commercial & Industrial Sales	NHPUC Annual Report, p. 28, col. d, ln. 4 & 5	6,366,198	8,893,629	9,402,596	8,947,067	9,205,243
21	Unbilled Revenues	NHPUC Annual Report, p. 28, col. d, ln. 7	565,931	(291,801)	(44,568)	(151,597)	279,215
22	**Total Base Revenues**	**Sum of Lines 19 thru 21**	**$ 17,600,128**	**$ 22,114,623**	**$ 24,882,302**	**$ 24,011,201**	**$ 25,663,699**
23	**Gas Operating Revenues (Cost of Gas)**						
24	Residential Sales	NHPUC Annual Report, p. 28, col. f, ln. 2	14,010,333	17,771,971	16,126,270	10,868,908	12,889,623
25	Commercial & Industrial Sales	NHPUC Annual Report, p. 28, col. f, ln. 4 & 5	14,250,063	20,034,034	19,117,799	12,113,407	14,131,800
26	Unbilled Revenues	NHPUC Annual Report, p. 28, col. f, ln. 7	641,614	303,725	(1,622,889)	716,949	186,467
27	**Total Gas Revenues**	**Sum of Lines 24 thru 26**	**$ 28,902,010**	**$ 38,109,730**	**$ 33,621,180**	**$ 23,699,264**	**$ 27,207,890**
28	Other Sales to Public Authorities	NHPUC Annual Report, p. 28, col. b, ln. 6	-	-	-	-	-
29	Sales for Resale	NHPUC Annual Report, p. 28, col. b, ln. 9	9,447,430	7,684,179	5,958,987	3,382,422	4,891,768
30	Forfeited Discounts	NHPUC Annual Report, p. 28, col. b, ln. 15	115,134	138,774	158,330	104,863	97,464
31	Misc. Service Revenues	NHPUC Annual Report, p. 28, col. b, ln. 16	786,903	782,097	751,110	721,444	675,919
32	Revenues from Trans of Gas of Others through Distribution Facilities	NHPUC Annual Report, p. 28, col. b, ln. 19	7,860,386	8,465,447	8,178,231	8,411,697	8,862,509
33	Rent from Gas Property	NHPUC Annual Report, p. 28, col. b, ln. 24	107,100	261,326	66,029	152,772	140,676
34	Other Gas Revenues	NHPUC Annual Report, p. 28, col. b, ln. 26	(662,876)	(1,665,305)	2,525,749	4,463,678	1,518,998
35	**Total Gas Revenues**	**Line 22 + Line 27 + (Sum of Lines 28 thru 34)**	**$64,156,215**	**$75,890,871**	**$76,141,918**	**$64,947,341**	**$69,058,923**
36							
37	Avg. No. of Customers per Mo. - Residential	NHPUC Annual Report, p. 28, col. j, ln. 2	23,230	23,854	24,532	25,045	25,534
38	Avg. No. of Customers per Mo. - Commercial / Industrial	NHPUC Annual Report, p. 28, col. j, ln. 3	5,675	5,585	5,743	5,794	5,811
39	Avg. No. of Customers per Mo. - Trans of Gas of Others through Distribution Facilities	NHPUC Annual Report, p. 28, col. j, ln. 19	857	1,043	969	980	975
40	**Total Avg. No. of Customers per Mo.**	**Sum of Lines 37 thru 39**	**29,762**	**30,482**	**31,244**	**31,819**	**32,320**
41							
42	Dekatherm of Natural Gas Sold - Residential	NHPUC Annual Report, p. 28, col. h, ln. 2	1,689,143	1,868,314	1,855,124	1,648,396	1,765,904
43	Dekatherm of Natural Gas Sold - Commerical / Industrial	NHPUC Annual Report, p. 28, col. h, ln. 3	1,787,865	2,161,108	2,306,715	1,890,296	2,012,060
44	Dekatherm of Natural Gas Sold - Unbilled Revenues	NHPUC Annual Report, p. 28, col. h, ln. 7	57,754	(98,125)	(34,579)	(23,211)	98,886
45	Dekatherm of Natural Gas Sold - Sales for Resales	NHPUC Annual Report, p. 28, col. h, ln. 9	96,093	67,189	63,918	50,954	74,013
46	Dekatherm of Natural Gas Sold - Trans of Gas of Others through Distsribution Facilities	NHPUC Annual Report, p. 28, col. h, ln. 19	4,033,630	4,127,729	4,168,800	4,318,933	4,292,479
47	**Total Dekatherm of Natural Gas Sold**	**Sum of Lines 42 thru 46**	**7,664,485**	**8,126,215**	**8,359,978**	**7,885,368**	**8,243,342**
48							

Northern Utilities - Select Operating Data 2013 - 2017

			2013	2014	2015	2016	2017
49	Operating Revenues	NHPUC Annual Report, p. 11, ln. 2	$ 64,156,215	$ 75,890,871	$ 76,141,918	$ 64,947,341	$ 69,058,923
50	Cost of Gas Sold	NHPUC Annual Report, p. 35, ln. 97	35,366,077	41,732,969	40,209,523	29,536,385	31,783,469
51	**Gross Margin**	**Line 49 - Line 50**	**$ 28,790,138**	**$ 34,157,902**	**$ 35,932,395**	**$ 35,410,956**	**$ 37,275,454**
52							
53	Operation Expenses excl. Cost of Gas	NHPUC Annual Report, p. 11, ln. 4 & p. 35, ln 97	$ 10,371,274	$ 11,133,313	$ 12,722,621	$ 12,248,509	$ 12,074,168
54	Maintenance Expenses	NHPUC Annual Report, p. 11, ln. 5	844,221	732,611	885,902	706,070	625,072
55	Depreciation Expenses	NHPUC Annual Report, p. 11, ln. 6	4,575,226	5,003,869	5,565,273	6,118,814	6,553,188
56	Amort. & Depl. Of Utility Plant	NHPUC Annual Report, p. 11, ln. 7	446,796	496,816	491,842	426,964	40,485
57	Amort. Of Utility Plant Acq. Adj.	NHPUC Annual Report, p. 11, ln. 8	(940,818)	(940,818)	(940,818)	(940,817)	(940,817)
58	Regulatory Debits	NHPUC Annual Report, p. 11, ln. 11	915,949	768,576	769,921	588,349	588,349
59	(Less) Regulatory Credits	NHPUC Annual Report, p. 11, ln. 12	-	-	-	-	-
60	Taxes Other Than Income Taxes	NHPUC Annual Report, p. 11, ln. 13	2,450,290	3,354,140	3,240,165	3,763,930	4,109,614
61	Income Taxes - Federal	NHPUC Annual Report, p. 11, ln. 14	19,238	177,105	(226,650)	3,227,137	447,244
62	Income Taxes - Other	NHPUC Annual Report, p. 11, ln. 15	(37,776)	(981,197)	962,594	(269,172)	(419,898)
63	Provision for Deferred Income Taxes	NHPUC Annual Report, p. 11, ln. 16	2,539,808	4,638,434	2,660,085	4,699	3,758,341
64	Investment Tax Credit Adj. - Net	NHPUC Annual Report, p. 11, ln. 18	(12,840)	(3,203)	-	-	-
65	Total Utility Operating Expenses	Sum of Lines 53 thru 64	21,171,368	24,379,646	26,130,935	25,874,483	26,835,746
66	**NET Utility Operating Income**	**Line 51 - Line 65**	**$ 7,618,770**	**$ 9,778,256**	**$ 9,801,460**	**$ 9,536,473**	**$ 10,439,708**
67							
68	**EBITDA Calculation**						
69	Operating Revenues	Line 49	$64,156,215	$75,890,871	$76,141,918	$64,947,341	$69,058,923
70	Less: Cost of Gas Sold	Line 50	$35,366,077	$41,732,969	$40,209,523	$29,536,385	$31,783,469
71	Less: Operations Expenses	Line 53	$10,371,274	$11,133,313	$12,722,621	$12,248,509	$12,074,168
72	Less: Maintenance Expenses	Line 54	$844,221	$732,611	$885,902	$706,070	$625,072
73	Less: Taxes Other Than Income Taxes	Line 60	$2,450,290	$3,354,140	$3,240,165	$3,763,930	$4,109,614
74	**EBITDA**	**Line 69 - (Sum of Lines 70 thru 73)**	**$15,124,353**	**$18,937,838**	**$19,083,707**	**$18,692,447**	**$20,466,600**

Northern Utilities - Select Operating Data 2013 - 2017

			2013	2014	2015	2016	2017
75	**Rate Class Analysis**						
76	**Residential Sales**						
77	Res Base Op Revs as a % of Total Base Revs	Line 19 ÷ Line 22	61%	61%	62%	63%	63%
78	Res Gas Op Revs as a % of Total Gas Op Revs	Line 24 ÷ Line 27	48%	47%	48%	46%	47%
79	Avg Number of Res Cust as a % of Total Avg Number of Cust	Line 37 ÷ Line 40	78%	78%	79%	79%	79%
80	Dth of Nat Gas Sold to Res. Cust as a % of Total Dth	Line 42 ÷ Line 47	22%	23%	22%	21%	21%
81	Res Base Op Revs / Res Dth Sold	Line 19 ÷ Line 42	$6.32	$7.23	$8.37	$9.23	$9.16
82	Res Gas Op Revs / Res Dth Sold	Line 24 ÷ Line 42	$8.29	$9.51	$8.69	$6.59	$7.30
83	Total Res Revs / Res Dth Sold	(Lines 19 + 24) ÷ Line 42	$14.61	$16.74	$17.06	$15.82	$16.46
84	Total Res Revs / Total Op Revs	(Lines 19 + 24) ÷ Line 35	38%	41%	42%	40%	42%
85							
86	**Commercial / Industrial Sales**						
87	Comm/Ind Base Revs as a % of Total Base Revs	Line 20 ÷ Line 22	36%	40%	38%	37%	36%
88	Comm/Ind Gas Op Revs as a % of Total Gas Op Revs	Line 25 ÷ Line 27	49%	53%	57%	51%	52%
89	Avg Number of Comm/Ind Cust as a % of Total Avg Number of Cust	Line 38 ÷ Line 40	19%	18%	18%	18%	18%
90	Dth of Nat Gas Sold to Comm/Ind Cust as a % of Total Dth	Line 43 ÷ Line 47	23%	27%	28%	24%	24%
91	Comm/Ind Base Op Revs / Comm/Ind Dth Sold	Line 20 ÷ Line 43	$3.56	$4.12	$4.08	$4.73	$4.58
92	Comm/Ind Gas Op Revs / Comm/Ind Dth Sold	Line 25 ÷ Line 43	$7.97	$9.27	$8.29	$6.41	$7.02
93	Total Comm/Ind Op Revs / Comm/Ind Dth Sold	(Lines 20 + 25) ÷ Line 43	$11.53	$13.39	$12.36	$11.14	$11.60
94	Total Comm/Ind Op Revs / Total Op Revs	(Lines 20 + 25) ÷ Line 35	32%	38%	37%	32%	34%
95							
96	**Transmission of Gas for Others Sales**						
97	Revs from the Trans of Nat Gas to Others as a % of Total Revenues	Line 32 ÷ Line 35	12%	11%	11%	13%	13%
98	Avg Number of Trans Cust as a % of Total Avg Number of Cust	Line 39 ÷ Line 40	3%	3%	3%	3%	3%
99	Dth of Nat Gas Trans to Others as a % of Total Dth	Line 46 ÷ Line 47	53%	51%	50%	55%	52%
100	Revs from Trans of Nat Gas to Others / Dth of Nat Gas Trans.	Line 32 ÷ Line 46	$1.95	$2.05	$1.96	$1.95	$2.06
101	Total Revs from the Trans to Others / Total Op Revs	Line 32 ÷ Line 35	12%	11%	11%	13%	13%
102							
103	Cost of Gas Sold / Dth of NG Sold	Line 50 ÷ Line 47	$9.74	$10.44	$9.59	$8.28	$8.04
104	Company Reported Rev (excl. Unbilled Revs) per Therm Units Sold						
105							
106	Total Utility Plant	Line 12	$ 154,830,760	$ 172,057,217	$ 188,808,683	$ 206,290,256	$ 229,730,635
107	Net Utility Plant	Line 15	$ 104,110,253	$ 120,223,825	$ 133,995,091	$ 148,026,087	$ 167,145,927
108	Net Utility Plant as a % of Total Utility Plant	Line 15 ÷ Line 12	67%	70%	71%	72%	73%

Appendix E
Liberty Utilities & Northern Utilities
Select Operating Data
YE 2017 Comparison

Liberty Utilities & Northern Utilities Select Operating Data - YE 2017 Comparison

		2017		Notes
1		**Liberty Utilities**	**Northern Utilities**	
2	Customer Count	92,044	33,037	
3	Population	546,005	224,275	
4				
5	**Utility Plant**			
6	Plant in Service	$ 485,723,431	$ 221,266,863	
7	Completed Construction not Classified	42,277,446	13,996,649	
8	TOTAL Utility Plant	528,000,877	235,263,512	
9	Held for Future Use	433,920	-	
10	Construction Work in Progress	11,231,685	3,875,298	
11	Acquisition Adjustments	-	(9,408,175)	
12	**TOTAL Utility Plant**	**539,666,482**	**229,730,635**	
13	Accumulated Provisions for Depreciation, Amortization & Depletion	(130,926,210)	(71,130,467)	
14	Amortization of Plant Acquisition Adjustment	-	8,545,759	
15	**NET Utility Plant**	**$ 408,740,272**	**$ 167,145,927**	
16				
17	**Utility Operating Income**			
18	**Base Operating Revenues**			
19	Residential Sales	41,671,966	16,179,241	
20	Commercial & Industrial Sales	17,956,841	9,205,243	
21	Unbilled Revenues	-	279,215	
22	**Total Base Revenues**	**$ 59,628,807**	**$ 25,663,699**	
23	**Gas Operating Revenues (Cost of Gas)**			
24	Residential Sales	33,885,520	12,889,623	
25	Commercial & Industrial Sales	20,605,001	14,131,800	
26	Unbilled Revenues	-	186,467	
27	**Total Gas Revenues**	**$ 54,490,521**	**$ 27,207,890**	
28	Other Sales to Public Authorities	8,800	-	
29	Sales for Resale	2,179,448	4,891,768	
30	Forfeited Discounts	-	97,464	
31	Misc. Service Revenues	901,290	675,919	
32	Revenues from Trans of Gas of Others through Distribution Facilities	16,173,667	8,862,509	
33	Rent from Gas Property	-	140,676	
34	Other Gas Revenues	3,301,434	1,518,998	
35	**Total Gas Revenues**	**$136,683,967**	**$69,058,923**	
36				
37	Avg. No. of Customers per Mo. - Residential	79,810	25,534	
38	Avg. No. of Customers per Mo. - Commercial / Industrial	9,173	5,811	
39	Avg. No. of Customers per Mo. - Trans of Gas of Others through Distribution Facilities	2,632	975	
40	**Total Avg. No. of Customers per Mo.**	**91,615**	**32,320**	
41				
42	Dekatherm of Natural Gas Sold - Residential	5,794,076	1,765,904	
43	Dekatherm of Natural Gas Sold - Commerical / Industrial	3,526,669	2,012,060	
44	Dekatherm of Natural Gas Sold - Unbilled Revenues	-	98,886	
45	Dekatherm of Natural Gas Sold - Sales for Resales	-	74,013	
46	Dekatherm of Natural Gas Sold - Trans of Gas of Others through Distsribution Facilities	6,859,311	4,292,479	
47	**Total Dekatherm of Natural Gas Sold**	**16,180,056**	**8,243,342**	
48				

Liberty Utilities & Northern Utilities Select Operating Data - YE 2017 Comparison

		2017		Notes
1		**Liberty Utilities**	**Northern Utilities**	
49	Operating Revenues	$ 136,683,967	$ 69,058,923	
50	Cost of Gas Sold	56,127,721	31,783,469	
51	**Gross Margin**	**$ 80,556,246**	**$ 37,275,454**	
52				
53	Operation Expenses excl. Cost of Gas	$ 22,071,011	$ 12,074,168	
54	Maintenance Expenses	2,926,039	625,072	
55	Depreciation Expenses	12,786,243	6,553,188	
56	Amort. & Depl. Of Utility Plant	2,173,446	40,485	
57	Amort. Of Utility Plant Acq. Adj.	-	(940,817)	
58	Regulatory Debits	409,203	588,349	
59	(Less) Regulatory Credits	2,537,193	-	
60	Taxes Other Than Income Taxes	10,963,572	4,109,614	
61	Income Taxes - Federal	-	447,244	
62	Income Taxes - Other	220,214	(419,898)	
63	Provision for Deferred Income Taxes	6,628,169	3,758,341	
64	Investment Tax Credit Adj. - Net	-	-	
65	Total Utility Operating Expenses	60,715,090	26,835,746	
66	**NET Utility Operating Income**	**$ 19,841,156**	**$ 10,439,708**	
67				
68	**EBITDA Calculation**			
69	Operating Revenues	$136,683,967	$69,058,923	
70	Less: Cost of Gas Sold	$56,127,721	$31,783,469	
71	Less: Operations Expenses	$22,071,011	$12,074,168	
72	Less: Maintenance Expenses	$2,926,039	$625,072	
73	Less: Taxes Other Than Income Taxes	$10,963,572	$4,109,614	
74	**EBITDA**	**$44,595,624**	**$20,466,600**	

Liberty Utilities & Northern Utilities Select Operating Data - YE 2017 Comparison

		2017		Notes
1		Liberty Utilities	Northern Utilities	
75	**Rate Class Analysis**			
76	**Residential Sales Metrices**			
77	Residential Base Revs as a % of Total Base Revenues	70%	63%	
78	Residential Gas Op Revs as a % of Total Gas Op Revenues	62%	47%	
79	Avg Number of Residential Cust as a % of Total Avg Number of Cust	87%	79%	
80	Avg Dekatherms of Nat Gas Sold to Residential Cust as a % of Total Dekatherms	36%	21%	Approximately 36% of the gas sold by LU was sold to residential customers, compared to 21% of NU's gas sold to residential customers.
81	Base Operating Revenues / Dekatherms Sold	$7.19	$9.16	NU's Base Revs / Dth is 27% higher than LU's Base Revs / Dth.
82	Gas Operating Revenues / Dekatherms Sold	$5.85	$7.30	NU's Gas Revs / Dth is 25% higher than LU's Gas Revs / Dth.
83	Total Operating Revenues / Dekatherms Sold	$13.04	$16.46	NU's Total Revs / Dth is 26% higher than LU's Total Revs / Dth.
84	Total Residential Revenues / Total Operating Revenues	55%	42%	
85				
86	**Commercial / Industrial Sales Metrices**			
87	Comm/Ind Base Revs as a % of Total Base Revenues	30%	36%	
88	Comm/Ind Gas Op Revs as a % of Total Gas Op Revenues	38%	52%	
89	Avg Number of Comm/Ind Cust as a % of Total Avg Number of Cust	10%	18%	
90	Avg Dekatherms of Nat Gas Sold to Comm/Ind Cust as a % of Total Dekatherms	22%	24%	
91	Base Operating Revenues / Dekatherms Sold	$5.09	$4.58	NU's Base Revs / Dth is 10% lower than LU's Base Revs / Dth.
92	Gas Operating Revenues / Dekatherms Sold	$5.84	$7.02	NU's Gas Revs / Dth is 20% higher than LU's Gas Revs / Dth.
93	Total Operating Revenues / Dekatherms Sold	$10.93	$11.60	NU's Total Revs / Dth is 6% higher than LU's Total Revs / Dth.
94	Total Comm/Ind Operating Revenues / Total Operating Revenues	28%	34%	
95				
96	**Transmission of Gas for Others Sales Metrices**			
97	Revenues from Trasmission to Others as a % of Total Revenues	12%	13%	
98	Average Number of Transmission Customers as a % of Total Avg Number of Cust	3%	3%	
99	Avg Dekatherms of Nat Gas Trans to Others as a % of Total Dekatherms	42%	52%	
100	Revenues from Trans of Gas of Others / Dekatherms of Natural Gas Trans.	$2.36	$2.06	
101	Total Trans Revenues / Total Operating Revenues	12%	13%	
102				
103	Cost of Gas Sold / Total Dekatherms of NG Sold (Excludes Dth of Gas Transmitted for Others)	$6.02	$8.04	NU's Cost of Gas is approximately 34% more than LU's Cost of Gas.
104	Company Reported Revenue (excl. Unbilled Revs) per Therm Units Sold			
105				
106	Total Utility Plant	$ 539,666,482	$ 229,730,635	
107	Net Utility Plant	$ 408,740,272	$ 167,145,927	
108	**Net Utility Plant as a % of Total Utility Plant**	**76%**	**73%**	

Appendix F
Rate Analysis

Liberty Utilities

Residential Heat - Rate Class R-3

Estimated Average Customer Billing

	A	B	C	D	E	F	G	H	I	J	K	L
		Delivery Rates including LDAC										
Line No.		Base Monthly Charge	Delivery Rate - First 50 Therms $/therm	Delivery Rate - Excess 50 Therms $/therm	Cost of Gas Rate - $/therm	Monthly Dispersion of Dth Customer Sales	Annual Dispersion of Avg Annual Customer Therms	Base Monthly Charge	Delivery Charge - First 50 Therms @ $/therm	Delivery Charge - Excess 50 Therms @ $/therm	Cost of Gas @ $/therm	Total Bill
1	January	24.43	0.4719	0.4053	0.6445	16.54%	121.32	$24.43	$47.19	$8.64	$78.19	$158.45
2	February	24.43	0.4719	0.4053	0.8056	15.53%	113.92	$24.43	$47.19	$5.64	$91.78	$169.04
3	March	24.43	0.4719	0.4053	0.8056	15.02%	110.15	$24.43	$47.19	$4.11	$88.73	$164.46
4	April	24.43	0.4719	0.4053	0.8056	12.62%	92.60	$24.43	$43.70	$0.00	$74.60	$142.73
5	May	14.88	0.6525	0.6525	0.3133	6.22%	45.62	$14.88	$29.77	$0.00	$14.29	$58.94
6	June	14.88	0.6525	0.6525	0.3916	3.96%	29.04	$14.88	$18.95	$0.00	$11.37	$45.20
7	July	14.88	0.6525	0.6525	0.3127	2.61%	19.12	$14.88	$12.48	$0.00	$5.98	$33.33
8	August	15.02	0.6576	0.6576	0.3665	2.44%	17.90	$15.02	$11.77	$0.00	$6.56	$33.35
9	September	15.02	0.6576	0.6576	0.3916	2.50%	18.37	$15.02	$12.08	$0.00	$7.19	$34.29
10	October	15.02	0.6576	0.6576	0.3916	2.91%	21.37	$15.02	$14.06	$0.00	$8.37	$37.45
11	November	15.02	0.6162	0.6162	0.7411	5.83%	42.75	$15.02	$26.34	$0.00	$31.68	$73.05
12	December	15.02	0.6162	0.6162	*0.7411*	13.82%	101.34	$15.02	$61.62	$0.83	$75.10	$152.57
13						**Total**	**733.5**	**$217.46**	**$372.33**	**$19.22**	**$493.85**	**$1,102.86**

Northern Utilities

Residential Heat - Rate Class R-5

Estimated Average Customer Billing

	A	B	C	D	E	F	G	H	I	J	K	L
		Delivery Rates including LDAC										
Line No.		Base Monthly Charge	Delivery Rate - First 50 Therms $/therm	Delivery Rate - Excess 50 Therms $/therm	Cost of Gas Rate - $/therm	Monthly Dispersion of Dth Customer Sales	Annual Dispersion of Avg Annual Customer Therms	Base Monthly Charge	Delivery Charge - First 50 Therms @ $/therm	Delivery Charge - Excess 50 Therms @ $/therm	Cost of Gas @ $/therm	Total Bill
14	January	21.36	0.7028	0.5892	0.7103	16.54%	121.32	$21.36	$35.14	$42.02	$86.17	$184.69
15	February	21.36	0.7028	0.5892	0.8646	15.53%	113.92	$21.36	$35.14	$37.66	$98.50	$192.66
16	March	21.36	0.7028	0.5892	0.8646	15.02%	110.15	$21.36	$35.14	$35.44	$95.23	$187.17
17	April	21.36	0.7028	0.5892	0.8646	12.62%	92.60	$21.36	$35.14	$25.10	$80.06	$161.66
18	May	21.36	0.6446	0.6446	0.3975	6.22%	45.62	$21.36	$29.40	$0.00	$18.13	$68.90
19	June	21.36	0.6446	0.6446	0.3975	3.96%	29.04	$21.36	$18.72	$0.00	$11.54	$51.62
20	July	21.36	0.6446	0.6446	0.3975	2.61%	19.12	$21.36	$12.32	$0.00	$7.60	$41.28
21	August	21.36	0.6446	0.6446	0.3975	2.44%	17.90	$21.36	$11.54	$0.00	$7.12	$40.02
22	September	21.36	0.6446	0.6446	0.4860	2.50%	18.37	$21.36	$11.84	$0.00	$8.93	$42.13
23	October	21.36	0.6446	0.6446	0.4860	2.91%	21.37	$21.36	$13.78	$0.00	$10.39	$45.53
24	November	21.36	0.7351	0.7351	0.8271	5.83%	42.75	$21.36	$31.43	$0.00	$35.36	$88.15
25	December	21.36	0.7351	0.7351	*0.8271*	13.82%	101.34	$21.36	$36.76	$37.74	$83.82	$179.68
26						**Total**	**733.5**	**$256.32**	**$306.35**	**$177.96**	**$542.85**	**$1,283.48**

Appendix G

NHPUC

29 Year Historical Gas Pipeline Safety Incidents in New Hampshire

29 YEAR HISTORICAL GAS PIPELINE SAFETY INCIDENTS IN NEW HAMPSHIRE *

	LIBERTY UTILITIES		UNITIL		NH GAS		UNH		GORHAM PAPER & TISSUE		ANDROSCOGGIN VALLEY REG REF DISTRICT		LPG (ALL)		INTERSTATE 4 PIPELINES [A]
	Federal Incident	State Incident	Federal Incident	State Incident	Federal Incident	State Incident	Federal Incident	State Incident	Federal Incident	State Incident	Federal Incident	State Incident	Federal Incident	State Incident	Federal Incident
2018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	1[H]	1[H]	1[I]	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0	N/A[E]	N/A[E]	0	0	0
2010	0	0	0	0	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0	0	0
2009	0[B]	0[B]	0	0	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0	0	0
2008	0	0	1[C]	1[C]	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0	0	0
2007	0	0	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0	0	0
2006	0	0	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0	0	0
2005	0	0	1[D]	1[D]	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0	0	0
2004	0	0	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0	0	0
2003	0	0	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0
2002	0	0	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0
2001	0	0	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0
2000	0	0	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0
1999	0	0	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0
1998	0	0	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0
1997	0	0	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0
1996	0	0	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0
1995	0	0	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0
1994	0	0	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0
1993	0	0	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0
1992	1[F]	1[F]	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0
1991	0	0	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0
1990	1[G]	1[G]	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0
1989	0	0	0	0	0	0	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	N/A[E]	0
TOTAL	2		3		1		0		0		0		0		0

Notes:

A. refers to Tennessee Gas Pipeline, Granite State Gas Transmission, Portland Natural Gas Transmission, and Maritimes and Northeast Pipeline combined

B. Determined non-jurisdictional (downstream of gas meter) customer gas piping gas leak, resulted in 1 fatality and estimated property damage of $149,700 , Manchester 2/24/2009

C. Estimated property damage $200,000.00 no fatalities, no bodily injury, Church St, Gonic; 12/24/2008, snow plow or excessive snow damaged meter and caused fire

D. Estimated property damage $522,400.00 no fatalities, no bodily injury, Ashford Ave, Hampton; 1/7/2005, 3rd party excavation damage

E. N/A years in which NH PUC Safety Division was not inspecting under PHMSA certification or pipeline facility was not in existence

F. Estimated property damage $75,000.00 no fatalities, no bodily injury 1/28/1992, Concord St, Nashua; 3rd party excavation damage

G. Estimated property damage $85,000.00 no fatalities, no bodily injury 3/8/1990, Messer St, Laconia; 3rd party excavation damage

H. Estimated property damage $158,000.00 no fatalities, no bodily injury 2/20/2015, Locke St, Hampton; Snow Buildup on Meter Set

I. Estimated property damage $0.00 no fatalities, no bodily injury 12/19/2015, Keene Propane/Air Plant, Keene Abnormal BTU Mixture deemed significant by operator did not trigger state "accident"

* All Incident Data does not include underground damage prevention events less than $5,000.00 unless bodily injury or fatality occurred

* State Incident has lower property damage reporting requirements of $5,000.00 per PUC 508.03(b)(4) and 504.05(a)(1)