

Preliminary Engineering Report

For

Lakeview Condominiums Municipal Sewer Connection NH Route 4A Enfield, New Hampshire

(Project No. 10068-01)

Project Applicant:

Town of Enfield
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Preparation Date: January 29, 2016
Final Date: March 14, 2016

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TABLE OF CONTENTS

| | | |
|-----|---|----|
| 1.0 | PROJECT PLANNING | 1 |
| 1.1 | Location | 1 |
| 1.2 | Environmental Resources Present..... | 1 |
| 1.3 | Population Trends | 5 |
| 1.4 | Community Engagement | 5 |
| 2.0 | EXISTING FACILITIES..... | 5 |
| 2.1 | Location Map | 5 |
| 2.2 | History..... | 6 |
| 2.3 | Condition of Existing Facilities | 6 |
| 2.4 | Financial Status of any Existing Facilities..... | 8 |
| 2.5 | Water/Energy/Waste Audits | 8 |
| 3.0 | NEED FOR PROJECT | 8 |
| 3.1 | Health, Sanitation, and Security..... | 8 |
| 3.2 | Aging Infrastructure..... | 9 |
| 3.3 | Reasonable Growth..... | 9 |
| 4.0 | ALTERNATIVES CONSIDERED | 9 |
| 4.1 | Description..... | 9 |
| 4.2 | Design Criteria | 12 |
| 4.3 | Maps..... | 12 |
| 4.4 | Environmental Impacts | 12 |
| 4.5 | Land Requirements | 13 |
| 4.6 | Potential Construction Problems..... | 14 |
| 4.7 | Sustainability Considerations..... | 16 |
| 4.8 | Engineer's Opinion of Probable Cost | 16 |
| 5.0 | SELECTION OF AN ALTERNATIVES..... | 17 |
| 5.1 | Life Cycle Cost Analysis | 17 |
| 5.2 | Non-Monetary Factors | 19 |
| 5.3 | Preferred Alternative..... | 20 |
| 6.0 | PROPOSED PROJECT (RECOMMENDED ALTERNATIVE) | 21 |
| 6.1 | Preliminary Project Design | 21 |
| 6.2 | Project Schedule..... | 21 |
| 6.3 | Permit Requirements..... | 22 |
| 6.4 | Sustainability Considerations..... | 22 |
| 6.5 | Total Engineer's Opinion of Probable Cost of Preferred Alternative..... | 23 |
| 6.6 | Annual Operating Budget | 23 |
| 7.0 | CONCLUSIONS AND RECOMMENDATIONS | 24 |

APPENDICES

| | |
|------------|--------------------------------------|
| Appendix A | Site Exhibits |
| Appendix B | Site Photographs |
| Appendix C | Engineer's Opinion of Probable Costs |
| Appendix D | Letter of Deficiency |
| Appendix E | Fiscal Year 2014 And 2015 Documents |

1.0 PROJECT PLANNING

1.1 Location

Lakeview Condominiums (Lakeview) is a residential housing complex located on New Hampshire (NH) Route 4A across from the southeastern shore of Mascoma Lake. Lakeview consists of 29 condominium buildings with 131 units and is described on the Town of Enfield (Town) Tax Map 7 as Lot 21-1 and Lot 21-2. The municipal sewer extension will extend from a new pump station located on the Lakeview property westerly approximately 8,900 linear feet (LF) along the southerly edge of the NH Route 4A highway corridor to a gravity manhole serving Lower Shaker Village.

Refer to Exhibit 1, USGS Map for site location, and Exhibits 2, 3 and 4, aerial context map showing the proposed project alignment.

1.2 Environmental Resources Present

A separate Environmental Report has been prepared for this project and is included with the Preliminary Engineering Report by reference. Refer to Table 1 Environmental Resources Impact Evaluation Summary for a tabular synopsis of the environmental resources identified in the project area. The following list identifies those resources that will be impacted to some degree by the project and will require mitigation through design or construction methodology:

- General Land Use – Zoning: Public utilities are considered “essential services” and are only allowed by Special Exception from the Town Zoning Board of Adjustment (ZBA).
- Floodplains: There are four stream or drainage crossings for the project, three of which are within the Federal Emergency Management Agency (FEMA) mapped 100-year flood plain. Design and construction methods must meet FEMA and New Hampshire Department of Environmental Services (NHDES) requirements for construction in flood hazard zones.
- Wetlands: Each of the four streams or drainage courses are mapped surface waters and most likely have wetlands with associated bank areas. Some level of permitting with the NHDES Wetlands Bureau is probable.
- Historic Properties: The project is routed directly through the Enfield NH Shaker Historic District (District) listed on the National Registry of Historic Places. Although the utility alignment will be within the NH Route 4A state right-of-way (ROW), the NH Division of Historical Resources (NHDHR) may have special requirements for construction through the District.
- Threatened and Endangered Species: One threatened species has been identified in the vicinity of the project. Coordination will be required at the State and Federal level; however, impact to the identified species is not anticipated.
- Water Quality –Wellhead Protection Areas: The project passes through five wellhead protection areas and close to one additional public water supply. Design and construction methods will require review of resources in order to provide protection.

- Water Quality – Surface Water Impairment: Mascoma Lake is listed as an impaired surface water and has a one-mile buffer defined around it as a No Additional Loading area. The project lies wholly in this buffer and coordination with the NHDES will likely be required to document that no impacts or additional loading will occur.
- Water Quality – Surface Water Quality Protection Act (SWQPA): Portions of the project lie within the 250 SWQPA buffer and will require NHDES permitting.
- Transportation: No impacts are anticipated to State and local transportation resources. The project utility alignment will lie totally within the NH Route 4A state highway ROW and will require New Hampshire Department of Transportation (NHDOT) permitting.

Table 1: Environmental Resources Impact Evaluation Summary

| Environmental Resources | Source of Information | Specific Resource | Possible Impacts |
|--------------------------------|---|---|---|
| General Land Use | Town Zoning Map and Ordinance | Project lies wholly within R1 Residential Zoning District | Essential Services require Special Exception from ZBA. |
| General Land Use | Town Zoning Ordinance | Wetland Area and Steep Slope Areas | No impacts identified; project not within Town mapped special areas. |
| General Land Use | Town Zoning Ordinance | Flood Hazard Areas | Town has adopted FEMA mapping; three crossings of 100-year floodplain identified at streams; no impact to floodplain anticipated; construction methods must meet FEMA requirements. |
| General Land Use | Town Assessors Maps | Conservation Land | Conservation land areas identified adjacent to Lower Shaker Village; no impacts anticipated since construction is within NH Route 4A ROW. |
| Important Farmland | USDA Natural Resources Conservation Service Soil Mapping and Agricultural Evaluation Worksheet for Grafton County | Agricultural Land | All fields south and west of Route 4A are mapped as prime farmland, farmland of state importance, or farmland of local importance; no impacts anticipated since construction is within NH Route 4A ROW. |

| Environmental Resources | Source of Information | Specific Resource | Possible Impacts |
|-----------------------------------|--|--|---|
| Formally Classified Lands | National Park Service, NHDES, New Hampshire Division of Parks and Recreation | National Parks and Monuments, National Natural Landmarks, National Battlefield Park Sites, Wilderness Areas, Wild and Scenic Rivers, State Parks, Tribal Lands | None of these areas are present in or adjacent to project area. |
| Formally Classified Lands | Town | Recreational Areas | A portion of the project is bordered by the Shaker Recreational Field; no impacts anticipated since construction is within NH Route 4A ROW. |
| Floodplains | FEMA Insurance Rate Map | Floodplains and Floodways | Mascoma Lake is a dam-controlled lake with a Zone AE flood elevation of 754. Three drainage tributaries have mapped flood plains; no impacts are anticipated to floodplain drainage; construction techniques must meet FEMA requirements. |
| Wetlands | US Fish & Wildlife National Wetlands Inventory, NH Granit GIS Mapping | Mapped Wetland Areas | Mascoma Lake, Smith Pond, and several wetland areas are identified within the project geographic area; no impacts anticipated to mapped wetland features. The project involves crossing four drainage courses or streams and it is likely that some permitting with NHDES will be required. |
| Historic Properties | NHDHR | Historic and Archeologic Sites | The project is routed through Enfield NH Shaker Historic District listed on the National Register of Historic Places. No impacts are anticipated since construction is within disturbed area of NH Route 4A ROW and is a linear, underground utility line. |
| Threatened and Endangered Species | New Hampshire Natural Heritage Bureau (NH NHB), US Fish & Wildlife Service | Threatened or Endangered Species, Critical Habitat | One threatened species is listed in the area, no critical habitats. NH NHB has concluded that no impacts to species or habitat will occur due to the project. |

| Environmental Resources | Source of Information | Specific Resource | Possible Impacts |
|--|--|--|--|
| Other Biological Resources | New Hampshire Fish & Game Department | Wildlife Management Areas (WMA) | Two wildlife management areas are identified adjacent to the project area; the Henry Laramie WMA and the Lower Shaker WMA. No impacts are anticipated since construction is within the NH Route 4A ROW. |
| Water Quality | NHDES | Public Water Systems, Wellhead Protection Areas | There are six public water system supply wells and five wellhead protection areas serving four properties located along the project corridor. No impacts are anticipated with proper construction materials and design. |
| Water Quality | NHDES | Surface Water Impairment | Mascoma Lake is listed with the NHDES as an impaired water for which No Additional Loading Criteria applies. The state has identified a one mile buffer around the lake as a no additional loading area. It is not anticipated that the project will cause impacts under surface water impairment criteria review. |
| Water Quality | NHDES | Surface Water Quality Protection Act (SWQPA) | NHDES has defined Mascoma Lake on their Consolidated List of Waterbodies subject to the SWQPA, and has defined a 250' buffer for regulatory purposes. The beginning and end of the project alignment will likely be within the 250' buffer, although no impacts to the lake are anticipated. |
| Coastal Resources | US Fish & Wildlife Services | Coastal Resources | None of these areas are present in or adjacent to the project area. |
| Socio-Economic & Environmental Justice | Census Bureau | Economic Data, Minority or Low Income Population | The project is intended to serve a defined low income population in the Town of Enfield. There are no impacts under this criteria. |
| Air Quality | NHDES | Air Quality | There are no identified air nonattainment areas located near the project area; no impacts are anticipated to air quality. |
| Transportation | NHDOT | Airports, Navigation, Highway Safety | There are no impacts anticipated to any of these criteria. There are no airports or navigational areas directly affected by the project. Highway safety will be addressed by using proper construction methodology and traffic control within the NH Route 4A corridor, and will be permitted through the NHDOT. |
| Noise | Town Zoning Ordinance and Site Plan Review Regulations | Noise Levels | There are no noise ordinances adopted in the Town; the project will not impact the rural residential nature of the NH Route 4A corridor. |

1.3 Population Trends

The Lakeview site was originally designed to accommodate a total of 154 units in 33 buildings. At the present time only 131 units in 29 buildings have been constructed. Additionally, the connection of the site to municipal sanitary sewer may allow additional buildings or units to be considered for land currently occupied by disposal fields. The proposed design will accommodate the potential future site residential expansion. No off-site growth is intended to be facilitated by this municipal sewer extension.

Many Lakeview residents work for local companies, educational institutions (Dartmouth College of Hanover), hospitals (Dartmouth-Hitchcock Medical Center (DHMC) of Lebanon, Alice Peck Day Hospital of Lebanon or the Veterans Administration Hospital in White River Junction, Vermont), and some residents use their unit seasonally.

Approximately 45% of the Lakeview units are currently owner occupied. The remainder units are rental units with a current 6% vacancy. The rental units provide residential opportunities for many secondary and post-secondary students of Dartmouth College and medical residents with DHMC.

1.4 Community Engagement

The Town partnered with Lakeview as it's public fiscal agent and is sponsoring the project. The Town recently discussed the project in a public meeting on January 19, 2016. Discussions with Town officials and residents were conducted for 20 minutes during the three-hour meeting.

The Town has actively engaged with many residents of Lakeview who are involved in various community groups; volunteers at the regional Mascoma High School and local hospitals, charitable programs, as well as local government and civic groups.

The Valley News is a daily newspaper based in Lebanon, New Hampshire. The Valley News has followed the progression of Lakeview since project conception and through its various phases of development, changes to operations, and activities held there. We understand the Valley News has interviewed residents of Lakeview and the Town about the proposed project and plans to publish a news article in the near future.

2.0 EXISTING FACILITIES

2.1 Location Map

Refer to Exhibit 1, the USGS Location Map showing the Lakeview site and the proposed sewer extension alignment, and Exhibit 9, Site Map, showing the existing Lakeview site layout.

2.2 History

The current Lakeview property configuration is comprised of adjacent parcels, which include the construction or renovation of 29 multi-unit buildings in seven prior planned phases. The seven planning phases included the construction of 27 buildings and renovations of a former farmhouse and barn for a total current 131 units. Phase I was the initial 'Declaration of Condominium of Lakeview Condominium,' signed and notarized on December 23, 1985. Phase I also included the first two 7-unit buildings and established the restrictions, covenants and by-laws for Lakeview members. The first amendment, in August 1986, included the addition of the lands of the former farmhouse and barn. The former farmhouse and barn were renovated to multi-unit buildings, and two more multi-unit buildings were included. The completed Phase II included a total of 6 buildings and 35 units. Phases III, IV and V included buildings that were planned but not complete by December 1987. The total completed and included into Lakeview in December 1987 totaled of 10 buildings and 62 units.

Planning and completion of eight buildings in Phase VI and nine buildings in Phase VII were performed concurrent to the completion of the six buildings planned in Phases III, IV, and V. These 29 buildings for 131 total Lakeview units have existed by February 1992.

The 17 completed buildings in the planned Phases I through V are served by 11 different on-site sanitary waste disposal systems. The 11 different on-site sanitary waste disposal systems are located in proximity to the buildings. Three additional buildings from Phase VII are served by two on-site sanitary waste disposal systems. The remaining buildings of Phases VI and VII are served by the four off-site sanitary waste disposal systems for a total of 17 separate sanitary waste disposal systems.

The on-site water supply, storage and distribution network serving Lakeview was revised and additional components were constructed through the phases of expansion as described above. Currently, a total of two drilled wells pump potable water to a single water storage tank. The water storage tank is located above the buildings in elevation. This water system supplies water with booster pumps and hydro-pneumatic tanks to provide pressure to the entire Lakeview distribution network. The water system has existed since February 1992.

2.3 Condition of Existing Facilities

Lakeview operates seventeen separate on-site sanitary waste disposal systems. Thirteen of these systems are located within the Lakeview property boundaries, and four of these systems are located southwest of the Lakeview property on privately owned land. Lakeview has a deeded easement on the property to operate and maintain water and wastewater components. Refer to Exhibit 9, Existing On-site Wastewater Systems Site Map.

The various systems were installed as different phases of site development occurred, but in general most of the systems date back to the late 1980's or early 1990's. We estimate that the fourteen systems located within the Lakeview

property are 20 to 25 years old. With proper maintenance it is typical for concrete components (such as septic tanks and pump stations) to last between 20 and 30 years without deterioration. Most piping systems have the same life expectancy. The portion of the system most prone to failure is the actual wastewater leachfield. With proper maintenance the life expectancy of these systems can vary between 10 and 20 years. Although the fourteen existing systems appear to be operating well without signs of operational difficulties, they require increased maintenance or cleaning, and will almost certainly require replacement one or more times during the life-cycle of this project.

The upper four leachfields are currently off-line. The systems were installed in 1989 and were rebuilt in 1993 as a result of a NHDES Administrative Order after the systems began to fail and legal action against the installing contractor. They were rebuilt in place as gravity systems using Geo-Flow distribution piping in accordance with the Court Order and negotiations with the NHDES, which included reduced flow and monitoring. In 2009 two of the four fields (NO and PK) presented operational issues. After alternative and cost analyses by the Lakeview Board and its Property Manager, and negotiations with the NHDES, it was determined that reconstruction of field NO and PK would be the least expensive short term solution without replacing receiving materials and affecting the other three nearby systems. Field NO was reconstructed using an EnviroSeptic system (similar to but more advanced than the Geo-Flow system), and field PK was constructed as a pressure distribution system. Field NO experienced operational issues again in 2014 and the field was taken off-line, while the remaining three fields (LM, PK, and QR) continued to provide disposal. Operational problems were observed in all three fields, but primarily field PK beginning in April/May 2014. System operations, investigations, and evaluations continued with troubleshooting the systems, until April 2015 when the NHDES Subsurface Bureau issued a Letter of Deficiency (LOD) requiring positive action to improve system operations. As a result of that letter, and interaction with the NHDES, Lakeview took all of the four beds off-line and began trucking, transporting, and disposing of effluent from those four fields to an off-site wastewater treatment facility. See Appendix D for a copy of the LOD.

The existing lower pump station associated with the upper four fields is in poor condition, the upper pump station is in fair condition, and several other distribution structures are in poor operational condition. If the existing systems are to be returned to service it is likely that all components will need replacement and/or reconstruction in the near term. The systems may require significant expansion and additional construction measures to achieve the required level of treatment and loading and to meet current NHDES regulations.

Lakeview continues to operate the fourteen lower disposal sites and to transport the wastewater effluent that is associated with the upper four fields off-site for disposal. At the time of construction, there were no other reasonable options for sanitary sewage disposal than the construction of onsite wastewater disposal systems. The use of a municipal sewer extension provides a viable economic option to Lakeview that will meet their immediate and long term sanitary sewage disposal needs while removing direct impacts on water quality within Mascoma Lake.

There are no known deficiencies with the water supply system for quantity or quality. The water supply system is sampled and reported as required by NHDES for quality and routine maintenance has been performed as necessary.

2.4 Financial Status of any Existing Facilities

We understand the Town has provided the USDA with substantial financial information regarding their current Rural Development Community Program Loan Agreement. The current USDA loan agreement, 34-005-0690120036 Loan #4, has existed since 1990 and final payment is expected in June 2016.

The latest substantial submission of this information was provided on October 29, 2015 for the current loan. This information included:

- End-of-Year Report Checklist/Contact Information
- Town Financial Report for Year Ended December 31, 2014
- 2014 Annual Report
- 2015 Proposed Budget (MS-737)
- Annual User Report for Fiscal Year 2014
- 2015 Water Quality Report
- Water & Sewer Rate Chart
- Updated list of the Current Governing Body
- Evidence of Insurance Coverage
- Waste Water System – Verification of Emergency Response Plan & Vulnerability Assessment
- Drinking Water System – Verification of Emergency Response Plan & Vulnerability Assessment

The Annual User Report for Fiscal Year 2014 and the 2015 Proposed Budget are included in Appendix E.

2.5 Waste/Energy/Waste Audits

Lakeview is considering performing a Waste and Energy Audit in the Summer of 2016.

3.0 NEED FOR PROJECT

3.1 Health, Sanitation, and Security

The upper four fields were taken off-line because of system saturation and potential breakout, which could result in the release of partially treated sanitary waste into the environment. This would pose an immediate risk to surface water quality in streams and drainage courses passing through the site and entering Mascoma Lake in the vicinity of a publicly used beach area. It also could pose an immediate risk to public health since potential breakouts would occur adjacent to access roads and trails used by the public to access conservation lands west of the Lakeview complex. The four fields are also directly upgradient of the residential units that make up the Lakeview complex.

The discontinuance of these four on-site septic fields has removed reliable, long-term sewage disposal capability from nine of the condominium buildings associated with the westernmost development of the Lakeview complex. The lack

of reliable wastewater disposal has resulted in significant operating costs as the effluent wastewater is transported off-site for disposal in a municipally operated facility. An immediate solution is required for these nine buildings, and a long term solution for the entire complex as the existing infrastructure nears the end of its life cycle.

3.2 Aging Infrastructure

All components of the on-site sanitary wastewater disposal systems are 20 to 25 years old. As previously noted, concrete components (pump stations, septic tanks, valve vaults) have an expected life of 40 years when maintained properly. At this time the lower pump station, the holding tank, and the upstream septic tank are in poor condition resulting in significant groundwater infiltration into these structures. Although maintenance has eliminated some groundwater infiltration in sewer manholes and piping, the concrete structures are deteriorated to the point where replacement appears to be the only viable option.

Other parts of the various collection systems will require increasing maintenance over the life cycle of this project. These include collection manholes, building services, and collection sewer piping. Finally, all septic disposal leachfields are nearing the end of their reasonable operating life and can be expected to require increased maintenance and replacement within the next ten years.

Simply stated, the original systems are at the end of their expected operating life and will require increased maintenance in order to keep them operational. When increased maintenance is not reasonable or cost effective, all system components will require replacement and renovation to allow future use.

3.3 Reasonable Growth

The Lakeview site was originally designed to accommodate a total of 154 units in 33 buildings. At the present time only 131 units in 29 buildings have been constructed. Additionally, the connection of the site to municipal sanitary sewer may allow additional buildings or units to be considered for land currently occupied by disposal fields. The proposed design will accommodate this potential future site residential expansion. No off-site growth is intended to be facilitated by this municipal sewer extension.

4.0 ALTERNATIVES CONSIDERED

4.1 Description

The following alternatives were considered as part of the overall planning evaluation conducted for the Lakeview sewer extension project.

4.1.1 No Build Option 1: No Build Option 1 assumes that no new systems will be constructed at the Lakeview site, but that system maintenance, cleaning, and repair will be used to restore the systems to operating condition. This option is not feasible in the long term for the site following reasons:

- The site systems are currently under a NHDES LOD requiring substantive changes to be made to redesign, reconstruct, or repair the existing systems to return them to proper regulatory operating compliance. Simple maintenance or cleaning will not be sufficient to meet the intent of the LOD. Four or more systems will need to be redesigned, permitted and constructed to comply with the intent of the LOD.
- As a result of 1993 court action and NHDES negotiations, the native subsurface soils underlying the four upper beds LM, NO, PK and QR do not appear to be suitable to support the full capacity originally intended for these systems at this time. (e.g., Additional data suggest that the beds may not be capable of infiltrating the original design flows without substantial improvements.) Larger, expanded beds, or additional beds with significant improvements would be required to handle the original design flows.
- Because of the low infiltration rates of the remaining native soils at the site, there is no guarantee that it will be possible to designate additional or expanded areas that can be permitted for on-site disposal under the current NHDES regulations.
- The collection and pumping systems associated with the upper four beds cannot be economically maintained to restore their integrity and operation. They are severely deteriorated to the point that complete replacement appears to be required.
- Although it is understood that Lakeview has a permanent easement for the construction, installation, operation, and maintenance of the upper four fields on the adjacent private land, recent interaction with the landowner indicates that it may be desirable to maintain all systems associated with wastewater treatment or disposal on land directly owned by Lakeview.
- The remaining fourteen beds serving the easternmost portion of the Lakeview complex are nearing the end of their typical design operating life. It is likely that increased maintenance will be required to keep these systems operating, and that the majority of the system components will require replacement in the next ten years.

4.1.2 No Build Option 2: No Build Option 2 assumes that:

- The lower fourteen beds serving the easternmost portion of the Lakeview complex can be maintained in good operating condition and in full compliance with the current NHDES regulations for the next ten years by aggressive cleaning, monitoring and maintenance. This period of time will allow Lakeview to set aside funds for the probable replacement of a portion of lower field areas at the end of that planning period.
- The upper four beds will be taken out of service, surficial features will be removed, permanent structures (weirs and pump stations) will be cleaned and abandoned in place, some repair will be made to the lower holding tanks located upstream of the deteriorated pump station to allow more effective sewage pumping, and the flow from the nine buildings served by this system will continue to

be pumped, transported, and disposed of at a municipal treatment facility under a long term contract.

4.1.3 Design, Permit, and Construct On-site Disposal Systems: This option assumes that:

- A subsurface evaluation will be conducted on the upper easement area and that four expanded, or more than four newly designed septic disposal fields will be evaluated, designed, permitted and constructed. It further assumes that all deteriorated components associated with the upper field will be replaced (pump stations, structures, distribution systems and controls).
- The fourteen lower fields will be replaced within the next ten years. This will require design, permitting, and construction. It is assumed that some of the existing concrete septic tanks and pump stations can be rehabilitated rather than replaced.
- All system replacements will be designed in accordance with the current NHDES regulations, and in accordance with the recent LOD.

4.1.4 Design, Permit, and Construct Municipal Sewer Extension - Alignment Option A: This option assumes that:

- A single duplex pump station with emergency generator will be sited on the Lakeview property to serve all existing units and any planned future units. Where possible, existing piping or collection systems will be incorporated into the system.
- A 6-inch diameter forcemain will be routed along the eastern and southern side of NH Route 4A within the state highway ROW and will extend to a new manhole located near Lower Shaker Village at Chosen Vale Lane.
- The remaining sewer will be gravity sewer into the existing municipal collection system that routes flow from Lower Shaker Village into the Town pump station.
- Flow will be pumped from this location for ultimate treatment and disposal in the City of Lebanon Wastewater Treatment Facility.

4.1.5 Design, Permit, and Construct Municipal Sewer Extension – Alignment Option B: This option assumes that:

- A single duplex pump station with emergency generator will be sited on the Lakeview property to serve all existing units and any planned future units. Where possible, existing piping or collection systems will be incorporated into the system.
- A 6-inch diameter forcemain will be routed along the eastern and southern side of NH Route 4A within the state highway ROW and will extend to a new manhole located near Lower Shaker Village at Landing Road.
- The remaining sewer will be gravity sewer into the existing municipal collection system located within Lower Shaker Village, and through that sewer to the Town pump station.
- Flow will be pumped from this location for ultimate treatment and disposal in the City of Lebanon Wastewater Treatment Facility.

4.2 Design Criteria

The design parameters for sanitary sewer projects must comply with the NHDES Env-Wq 700 Standards of Design and Construction for Sewerage and Wastewater Treatment Facilities. On-site treatment and disposal systems must comply with NHDES Env-Wq 1000 Subdivision and Individual Sewage Disposal System Design Rules. The evaluation of alternatives, development of Engineer's Opinion of Probable Costs (EOPC), and life cycle cost review were based on the design, construction, and operating requirements outlined in the NHDES regulations and are in compliance with applicable State and Local regulations and current good engineering practice.

4.3 Maps

The following maps are included in Appendix A of this report to illustrate the existing conditions and proposed improvements:

- Exhibit 1 USGS Location Map
- Exhibit 2 Overall Context Plan (aerial)
- Exhibit 3 Alignment Option A Context Plan (aerial)
- Exhibit 4 Alignment Option B Context Plan (aerial)
- Exhibit 5 Photographic Log 1 (tax map with parcels)
- Exhibit 6 Photographic Log 2 (tax map with parcels)
- Exhibit 7 Photographic Log 3 (tax map with parcels)
- Exhibit 8 Photographic Log 4 (tax map with parcels)
- Exhibit 9 Existing On-site Wastewater System Site Map

Exhibits 5, 6, 7, and 8 have locations along the NH Route 4A corridor keyed to photographs that are included in Appendix B.

4.4 Environmental Impacts

A more detailed description of environmental resources is included in the separate Environmental Report and summarized in Table 1 of this report. The following Table 2 summarizes possible impacts to identified resources for each of the alternatives considered.

Table 2: Environmental Impacts of Alternatives

| Alternative | General Land Use | Farmland | Classified Lands | Floodplains | Wetlands | Historic Resources | Threatened and Endangered Species | Water Quality | Air Quality | Transportation |
|--------------------------|------------------|-----------|------------------|-------------|-----------|--------------------|-----------------------------------|---------------|-------------|----------------|
| No Build Option 1 | No Impact | No Impact | No Impact | No Impact | No Impact | No Impact | No Impact | Moderate | No Impact | No Impact |
| No Build Option 2 | No Impact | No Impact | No Impact | No Impact | No Impact | No Impact | No Impact | Moderate | No Impact | No Impact |
| On-Site Disposal Systems | Low | No Impact | No Impact | No Impact | Low | No Impact | No Impact | Moderate | No Impact | No Impact |

| Alternative | General Land Use | Farmland | Classified Lands | Floodplains | Wetlands | Historic Resources | Threatened and Endangered Species | Water Quality | Air Quality | Transportation |
|---------------------------------------|------------------|----------|------------------|-------------|----------|--------------------|-----------------------------------|---------------|-------------|----------------|
| Municipal Sewer Extension Alignment A | Low | Low | No Impact | Moderate | Low | Moderate | Low | Low | No Impact | Low |
| Municipal Sewer Extension Alignment B | Low | Low | No Impact | Moderate | Low | Moderate | Low | Low | No Impact | Low |

Notes:

1. No Build Option 1 assumes that existing on-site wastewater systems will be cleaned, maintained, and repaired to restore operability. No new systems will be constructed.
2. No Build Option 2 assumes that the 14 existing on-site wastewater systems on the eastern portion of the Lakeview site will be cleaned and maintained in operation; that the upper four fields serving nine buildings will be abandoned; and that wastewater effluent from the nine buildings will be collected and transported for disposal off-site at a municipal wastewater treatment facility.
3. On-Site Disposal Systems assumes that all 17 on-site wastewater disposal systems will be redesigned, permitted, and reconstructed on-site at their present locations.
4. Municipal Sewer Extension Alignment A assumes that all 17 on-site wastewater disposal systems will be abandoned and removed to the extent possible, that wastewater from the entire Lakeview site will be collected and routed to an on-site pump station, and that sanitary sewage will be pumped via a combination of forcemain and gravity sewer into the Town collection system and pump station serving Lower Shaker Village.
5. Municipal Sewer Extension Alignment B is the same as Alignment A except that the connection point is within the Lower Shaker Village collection system.
6. Potential Impacts on the identified environmental resource is further described as:
 - High – Significant Impacts to the environmental resource are likely and full mitigation of the impacts may not be possible
 - Moderate – Impacts to the environmental resource are likely and full mitigation of impacts can be achieved through design and construction methods.
 - Low – Limited temporary impacts to the environmental resource may occur; no mitigation is likely required
 - No Impact – No measureable impacts to environmental resource have been identified

4.5 Land Requirement

We have evaluated each of the alternatives for land requirements and the following paragraphs summarize our findings.

No Build Option 1: Currently Lakeview owns the land on which the fourteen lower waste disposal sites are located, and has a permanent easement on the privately owned land on which the upper four waste disposal sites and systems are located. No additional permanent land or easement acquisition is required for this option.

No Build Option 2: Currently Lakeview owns the land on which the fourteen lower waste disposal sites are located. If the upper four waste disposal sites are removed from the Lakeview system and abandoned or demolished, Lakeview can modify the existing easement to only apply to the remaining water supply well, storage tank, and distribution system located on the privately owned parcel. No additional permanent land or easement acquisition is required for this option.

Construct New On-Site Disposal Systems: Currently Lakeview owns the land on which the lower waste disposal sites are located. Lakeview has a permanent

easement on approximately 27.2 acres of land to construct, install, operate, and maintain sewage disposal facilities including one or more sewage pumping stations, leach beds, and sewer lines in the approximate location shown on the site plan for Phase VI (Plan 5010). This easement also allows pumping water from the well presently located on the property, and for the construction, operation, maintenance, repair and replacement of one or more water pumps, water tank, and water pipeline. The initial legal opinion from the Lakeview attorney would support reconstruction of waste disposal systems within the easement area to satisfy the permit requirements of the NHDES. At this time, it is understood that no additional permanent land or easement acquisition is required for this option. However, since it is likely that the four upper fields will need to be expanded in footprint or number, additional legal research should take place into the actual area of the easement granted and any possible limitations of development or construction that can take place within the easement.

Municipal Sewer Extension Alignment A: Lakeview owns the land on which the new collection systems and pump station would be located. The forcemain and the gravity sewer components would be wholly located within the NH Route 4A corridor. Lakeview would own, operate, and maintain the sewer building service connections and the on-site collection system up to its entry into the pump station. The Town of Enfield would likely own, operate, and maintain the pump station and the municipal sewer extension. All work within the NH Route 4A corridor would require permitting with the NHDOT. Some type of easement or permanent construction ROW would need to be negotiated to allow the Town access to the municipal sewer extension for maintenance, repair, or upgrade.

Municipal Sewer Extension Alignment B: The same parameters apply for this option as the Municipal Sewer Extension Alignment A. Additionally, work will need to take place within the Landing Road corridor. This appears to be a privately owned road and some type of easement or permanent construction ROW would need to be negotiated to allow the Town access to the municipal sewer extension for maintenance, repair, or upgrade.

4.6 Potential Construction Problems

We have evaluated each of the alternatives for potential construction problems and the following paragraphs summarize our findings.

No Build Option 1: Since no new construction is occurring, there are no construction problems identified for this option. The upper four disposal sites are currently on privately owned land and operate under a permanent easement granted to Lakeview. It is likely that the current owner of this land will object to continued operation of sanitary disposal fields on his land. This may complicate obtaining NHDES approval for this Option.

No Build Option 2: Since no new construction is occurring, there are no construction problems identified for this option. As noted for No Build Option 1, the four upper disposal sites are currently on privately owned land. If they are designated to be abandoned, demolished, or otherwise taken out of service the current landowner would likely support this option.

Construct New On-Site Disposal Systems: The fourteen lower disposal fields and systems would likely be reconstructed within the same general footprint that they currently occupy. No construction problems were previously identified for these sites when they were first developed. The four upper disposal fields and systems will likely require expansion by increasing the existing footprint of the disposal fields, or by adding one or more additional disposal fields. It is our opinion that reconstruction of replacement systems on the upper privately owned parcel will be difficult due to the steepness of the property, the presence of areas of poor subsurface soil conditions, and the presence of possible wetlands, high groundwater table, or surficial drainage courses. It is also likely that the current owner of the land will object to the reconstruction and/or expansion of the sanitary disposal sites.

Municipal Sewer Extension Alignment A: There are no identified construction problems associated with the collection system or pump station that would be located on the Lakeview property. There are several construction challenges that are identified for the forcemain and gravity sewer alignment, but it is our opinion that these can be addressed with the choice of proper construction techniques. These include:

- There are four stream or drainage course crossings. Three of these have mapped floodplain associated with them. Any construction at these crossings will likely need directional drilling under the drainage area, and may also require additional design features to comply with FEMA requirements for construction within floodplains.
- The proposed forcemain alignment passes through four wellhead protection areas of public water supplies. The NHDES may require additional protection within these zones to prevent leakage of sanitary sewage within the zone.
- Although the NH Route 4A corridor is mapped as a 4-rod ROW (66 feet), an evaluation of the highway corridor indicates that tree lines, overhead utility poles, drainage culverts, driveways, privately owned roads, potentially historic stone walls, and recently installed privately owned landscape features may be present within the ROW. The locations of each of these site features will need to be carefully surveyed at the beginning of design, and the improvements designed or constructed to minimize impact to these features, or to protect and restore them as part of the construction sequence.
- About 40% of the planned municipal sewer extension alignment is within the Enfield NH District. Although all construction will take place within the NH Route 4A ROW, it is probable that the NH DHR may require special construction techniques or construction monitoring when operating within the District.
- All of the sanitary sewer work will take place within the 1-mile buffer of Mascoma Lake, a NH impaired surface water. It is unlikely that additional design or construction requirements will be imposed upon the project due to the surface water impairment, but additional permitting or coordination may be required at the State level.

Municipal Sewer Extension Alignment B: The same parameters apply for this option as the Municipal Sewer Extension Alignment A.

4.7 Sustainability Considerations

Lakeview is already implementing water efficiency and water conservation measures as part of their operation of a public water system. This includes monitoring of daily metered supply, low-flow fixtures installations, and monitoring individual units for leaking fixtures or uncontrolled water usage. Water Use Efficiency will continue to be applied to any of the alternatives evaluated under this project.

Lakeview has not recently completed an energy audit on their water and wastewater systems, but intends to complete a survey in 2016. All new systems installed under this project will comply with the current energy code for high efficiency motors, lighting, and control features. At the present time Lakeview operates two large, and several smaller pump stations to transfer wastewater to disposal fields. No increase in sanitary wastewater flows are anticipated under this project and none of the alternatives will increase energy costs or usage. It is likely that consolidation of the multiple systems into one common pump station will actually reduce energy and operating costs over the life of the project.

This project involves the construction of sanitary sewage improvements within the existing Lakeview site. At this time, there are no opportunities to install green infrastructure related to stormwater management since peak volumes or drainage patterns will not change under any of the alternatives.

Currently Lakeview operates multiple pump stations and 17 on-site disposal fields. The two alternatives related to installation of a municipal sewer extension will reduce the complexity of the existing systems, and improve operability while lowering maintenance and operating costs. On-site disposal systems have a typical design life of less than 25 years before requiring significant reconstruction or replacement. The two municipal sewer extension alternatives have an anticipated life of 50 years and provide a significant improvement to wastewater disposal at the site. This will in turn promote a more sustainable use of the site as currently developed and increased owner satisfaction regarding utility infrastructure.

4.8 Engineer's Opinion of Probable Cost

An EOPC has been developed for construction costs, engineering and permitting costs, and associated legal or owner costs for each of the alternatives presented above. Additionally, operation and maintenance (O&M) annual budgets have been prepared for each alternative and utilized in the final analysis of life-cycle costs. Copies of the EOPCs and O&M budgets are included in Appendix C of this report and summarized below in Table 3.

5.0 **SELECTION OF AN ALTERNATIVE**

5.1 **Life Cycle Cost Analysis**

Table 3: Life Cycle Cost Analysis to Evaluation Alternative Options

| Alternative Option | 0 – 2 years | 2 – 5 years | 5 – 10 years | 10 – 50 years |
|---|--------------------|--------------------|---------------------|----------------------|
| No Build Option 1 | \$1,556,900 | \$1,614,500 | \$1,710,500 | \$10,209,740 |
| No Build Option 2 | \$549,752 | \$1,224,380 | \$2,328,760 | \$21,415,440 |
| Design, Permit, and Construct On-site Disposal Systems | \$3,090,650 | \$3,100,250 | \$3,196,250 | \$11,464,250 |
| Design, Permit, and Construct Municipal Sewer Extension Alignment Option A | \$1,775,711 | \$1,983,329 | \$2,329,359 | \$5,097,599 |
| Design, Permit, and Construct Municipal Sewer Extension Alignment Option B | \$1,731,466 | \$1,939,084 | \$2,285,114 | \$5,053,354 |

Notes:

No Build – Option 1

- 0 – 2 years cost listed considers:
 - Replacing the upper fields and infrastructure at \$1,518,500 immediately
 - Two annual operation and maintenance costs of \$19,200 annually
- 2 – 5 years cost listed considers:
 - Replacing the upper fields and infrastructure at \$1,518,500 immediately
 - Five annual operation and maintenance costs of \$19,200 annually
- 5 – 10 years cost listed considers:
 - Replacing the upper fields and infrastructure at \$1,518,500 immediately
 - Ten annual operation and maintenance costs of \$19,200 annually
- 10 – 50 years cost listed considers:
 - Replacing the upper fields and infrastructure at \$1,518,500 immediately
 - Replacing the lower fields and infrastructure at \$1,131,240 in 10 years
 - Replacing the upper fields again at \$1,600,000 in 25 years anticipating the cost for inflation
 - Replacing the upper fields again at \$3,200,000 in 50 years anticipating the cost for inflation
 - Replacing the lower fields again at \$1,800,000 in 50 years anticipating the cost for inflation
 - Fifty annual operation and maintenance costs of \$19,200 annually

No Build – Option 2

- 0 – 2 years cost listed considers:
 - The actual cost for septic pumping, repair and pumping in 2015 was \$224,876 for Lakeview.
 - Assumes the one-time cost of \$100,000 in removal of existing fields and infrastructure, also includes upgrading infrastructure for long-term pumping immediately
 - Two annual pumping, operation and maintenance costs of \$224,876 annually
- 2 – 5 years cost listed considers:
 - Assumes the one-time cost of \$100,000 in removal of existing fields and infrastructure, also includes upgrading infrastructure for long-term pumping immediately
 - Five annual pumping, operation and maintenance costs of \$224,876 annually
- 5 – 10 years cost listed considers:
 - Assumes the one-time cost of \$100,000 in removal of existing fields and infrastructure, also includes upgrading infrastructure for long-term pumping immediately

- Ten annual pumping, operation and maintenance costs of \$224,876 annually
- 10 – 50 years cost listed considers:
 - Assumes the one-time cost of \$100,000 in removal of existing fields and infrastructure, also includes upgrading infrastructure for long-term pumping immediately
 - Twenty-five annual pumping, operation and maintenance costs of \$224,876
 - Twenty-five annual pumping, operation and maintenance costs of \$449,752 anticipating the cost for inflation after 25 years
 - Replacing the upper fields and infrastructure at \$1,518,500 immediately
 - Replacing the lower fields and infrastructure at \$1,131,240 in 10 years
 - Replacing the lower fields again at \$1,800,000 in 50 years anticipating the cost for inflation

Design, Permit, and Construct On-Site Disposal Systems

- 0 – 2 years cost listed considers:
 - Replacing the upper fields and associated infrastructure and lower fields and lower fields associated infrastructure at \$3,004,250 immediately
 - Two annual operation and maintenance costs of \$19,200 annually
- 2 – 5 years cost listed considers:
 - Replacing the upper fields and associated infrastructure and lower fields and lower fields associated infrastructure at \$3,004,250 immediately
 - Five annual operation and maintenance costs of \$19,200 annually
- 5 – 10 years cost listed considers:
 - Replacing the upper fields and associated infrastructure and lower fields and lower fields associated infrastructure at \$3,004,250 immediately
 - Ten annual operation and maintenance costs of \$19,200 annually
- 10 – 50 years cost listed considers:
 - Replacing the upper fields and associated infrastructure and lower fields and lower fields associated infrastructure at \$3,004,250 immediately
 - Replacing the upper fields and lower fields at \$2,500,000 in 25 years anticipating the cost for inflation
 - Replacing the upper fields and lower fields at \$5,000,000 in 50 years anticipating the cost for inflation
 - Fifty annual operation and maintenance costs of \$19,200 annually

Design, Permit, and Construct Municipal Sewer Extension – Alignment Option A

(Lifetime cost for Alignment Option A is based on construction by directional drilling as shown in the attached EOPC. An optional EOPC for Alignment Option A, based on construction by open cut trench if it becomes a viable approach, is also provided in Appendix C)

- 0 – 2 years cost listed considers:
 - Remove minor existing system components and construct municipal sewer extension at \$1,637,299 immediately
 - Two annual operation and maintenance costs of \$6,700 annually
 - Two annual user fee costs of \$62,506 annually
- 2 – 5 years cost listed considers:
 - Remove minor existing system components and construct municipal sewer extension at \$1,637,299 immediately
 - Five annual operation and maintenance costs of \$6,700 annually
 - Five annual user fee costs of \$62,506 annually
- 5 – 10 years cost listed considers:
 - Remove minor existing system components and construct municipal sewer extension at \$1,637,299 immediately
 - Ten annual operation and maintenance costs of \$6,700 annually
 - Ten annual user fee costs of \$62,506 annually
- 10 – 50 years cost listed considers:
 - Remove minor existing system components and construct municipal sewer extension at \$1,637,299 immediately
 - Fifty annual operation and maintenance costs of \$6,700 annually
 - Numerous lifetime repairs and equipment replacements for \$167,500

- Fifty annual user fee costs of \$62,506 annually

Design, Permit, and Construct Municipal Sewer Extension – Alignment Option B

- 0 – 2 years cost listed considers:
 - Remove minor existing system components and construct municipal sewer extension at \$1,593,054 immediately
 - Two annual operation and maintenance costs of \$6,700 annually
 - Two annual user fee costs of \$62,506 annually
- 2 – 5 years cost listed considers:
 - Remove minor existing system components and construct municipal sewer extension at \$1,593,054 immediately
 - Five annual operation and maintenance costs of \$6,700 annually
 - Five annual user fee costs of \$62,506 annually
- 5 – 10 years cost listed considers:
 - Remove minor existing system components and construct municipal sewer extension at \$1,593,054 immediately
 - Ten annual operation and maintenance costs of \$6,700 annually
 - Ten annual user fee costs of \$62,506 annually
- 10 – 50 years cost listed considers:
 - Remove minor existing system components and construct municipal sewer extension at \$1,593,054 immediately
 - Numerous lifetime repairs and equipment replacements for \$167,500
 - Fifty annual operation and maintenance costs of \$6,700 annually
 - Fifty annual user fee costs of \$62,506 annually

5.2 Non-Monetary Factors

Table 4: Non-Monetary Factors to Evaluate Alternative Options

| Alternative Option | Health Standard Violations | Permitting Difficulty | Neighboring Land Dependence Issues | Long Term Service Reliability | Historic Land Impacts | Shoreland Lake Buffer Impacts | Total Score |
|--|----------------------------|-----------------------|------------------------------------|-------------------------------|-----------------------|-------------------------------|-------------|
| No Build Option 1 | 1 | 3 | 2 | 1 | 3 | 3 | 13 |
| No Build Option 2 | 2 | 2 | 3 | 2 | 3 | 3 | 15 |
| Design, Permit, and Construct On-site Disposal Systems | 3 | 1 | 1 | 3 | 5 | 5 | 18 |
| Design, Permit, and Construct Municipal Sewer Extension Alignment Option A | 5 | 5 | 5 | 5 | 5 | 5 | 30 |

| Alternative Option | Health Standard Violations | Permitting Difficulty | Neighboring Land Dependence Issues | Long Term Service Reliability | Historic Land Impacts | Shoreland Lake Buffer Impacts | Total Score |
|--|----------------------------|-----------------------|------------------------------------|-------------------------------|-----------------------|-------------------------------|-------------|
| Design, Permit, and Construct Municipal Sewer Extension Alignment Option B | 5 | 4 | 4 | 5 | 2 | 2 | 22 |

Scoring Matrix Individual Factor Values based on a scoring scale system for a ‘Least Preferred’ evaluation to be a 1, and for a ‘Most Preferred’ evaluation to be a 5.

5.3 Preferred Alternative

The preferred alternative is to design, permit, and construct a municipal sewer extension using Alignment Option A. The following reasons support this alternative.

- The preferred alternative provides an economically practical, long-term solution that addresses the immediate sanitary waste disposal needs and any future projected buildout for the Lakeview property.
- The preferred alternative simplifies a complex sanitary waste disposal system consisting of multiple pump stations, forcemains, gravity collection systems, septic tanks, and seventeen on-site sanitary leachfields with a single duplex pump station, a simplified gravity collection system, and a single forcemain. Long term maintenance and operating costs will be reduced with the single system.
- The existing sanitary disposal leachfields are upgradient of the Mascoma Lake and within the one mile radius in which no further loading or impacts to water quality are allowed. The preferred alternative eliminates seventeen indirect discharge points to the groundwater table flowing into Mascoma Lake. It therefore provides significant water quality benefit.
- The preferred alternative brings all wastewater collection and pumping systems totally within property controlled by Lakeview, or within the state controlled NH Route 4A corridor. This eliminates the need for possible environmental impacts on privately owned lands.
- A single duplex pump station with emergency generator will be sited on the Lakeview property to serve all existing units and any planned future units. Where possible, existing piping or collection systems will be incorporated into the system.
- A 6-inch diameter forcemain will be routed along the eastern and southern side of NH Route 4A within the state highway ROW and will extend to a new manhole located near Lower Shaker Village.
- The remaining sewer will be gravity sewer into the existing municipal collection system that route flow from Lower Shaker Village into the Town pump station.
- Flow will be pumped from this location for ultimate treatment and disposal in the City of Lebanon Wastewater Treatment Facility.

6.0 PROPOSED PROJECT (RECOMMENDED ALTERNATIVE)

6.1 Preliminary Project Design

The following summary provides the initial basis of design for the preferred alternative:

- The Lakeview water system is monitored on a monthly basis and the actual water usage recorded from metered data. Historically the water usage for the existing 131 units is 13,500 gallons per day (GPD) as an average daily flow. This equates to an average flow of 103 GPD per existing unit.
- The NHDES regulations require that a new or replacement system be sized utilizing typical design flows for the type of development use that account for maximum occupancy of the space. For the average two-bedroom condominium the NHDES design flow rate is 300 GPD.
- Utilizing the existing unit count and the planned site buildout, the total condominium units for the initial design is 154 units with a total projected average daily sewage flow of 46,200 GPD.
- The average flow rate is calculated as 32 gallons per minute (GPM). The NHDES requires that a peaking factor of 6.0 be utilized for a system of this size. The peak pump design flow will therefore be 192 GPM.
- This flow can be handled in a 4-inch or 6-inch diameter forcemain, typically constructed of High Density Polyethylene (HDPE) with fused joint construction. This type of material can be installed using open trench cut or directional drilling methods of construction. The forcemain will be designed to provide a minimum solids cleaning velocity of 3 feet per second.
- The NHDES regulations require a pump station of this size to be a duplex solids handling station equipped with a backup emergency generator for power outages. We will install a suitably sized emergency generator operating on a propane fuel source. The new pump station will be located on the eastern portion of the Lakeview property to allow a gravity sewer collection system to be installed for the majority of the property.
- The proposed system will be designed in accordance with the requirements of NHDES Env-Wq 700 Standards of Design and Construction for Sewerage and Wastewater Treatment Facilities.

6.2 Project Schedule

The following table represents the proposed schedule for the selected alternative:

| | |
|-------------------------------------|-------------------|
| Initial SRF Application: | July, 2015 |
| Initial USDA Application: | January 29, 2016 |
| LIDAR Survey Data Review: | February 16, 2016 |
| Selection for Engineering Services: | February 11, 2016 |
| Town Meeting: | March 12, 2016 |
| Commence Field Surveying Work: | March 14-28, 2016 |
| Commence Field Investigation Work: | March 14-28, 2016 |

| | |
|--------------------------------------|-----------------------------|
| Preliminary Design: | February 8 – April 30, 2016 |
| Governor and Council Approval: | June 1-14, 2016 |
| Final Design: | March 15 – May 31, 2016 |
| Construction Advertisement: | June 15 - 30, 2016 |
| Construction Bid Complete/Award: | July 7, 2016 |
| Construction Mobilization: | July 7, 2016 |
| Construction Substantial Completion: | November 21, 2016 |

6.3 Permit Requirements

The following permits will be required for the construction of the preferred alternative:

- Sign-off from the NHDES Alteration of Terrain Bureau that no permit is required from their office due to the linear nature of the project within a state highway ROW.
- Some level of wetland permitting is anticipated from the NHDES Wetlands Bureau for the four stream crossings.
- A NHDES SWQPA permit will be required for the limited work within the 250 buffer region of Mascoma Lake.
- A NHDOT Excavation Permit will be required for installation of the sewer piping within the state highway corridor ROW.
- A NHDES Sewer Connection Permit will be required for the design of the on-site collection system, pump station, and off-site sewer mains.
- A Federal Notice of Intent to Construct and the preparation of a Stormwater Pollution Prevent Plan will be required to comply with state and federal EPA regulations.
- Additional investigation or review may be required by the NHDHR based on their findings concerning the work within the Enfield NH Shaker Historic District.
- A Special Exception will be required from the Town ZBA to allow the installation of an “essential service” within the zoning districts covered by the project.
- Site Plan Review will likely be required from the Town Planning Board due to the significant alteration of the on-site wastewater collection systems.

6.4 Sustainability Considerations

Lakeview is a residential community serving a critical housing need in the Upper Valley. Its location on Mascoma Lake offers unprecedented recreational amenities, and its proximity to the City of Lebanon, Hanover, and the I-89 highway corridor makes it a much needed work-force housing development in an expanding Upper Valley hub. The Lakeview development is nearing a key milestone in their development and continued use. At the present time the previously installed sanitary sewage collection, treatment, and disposal systems are nearing the end of their projected life. When Lakeview was first conceived an initial evaluation of the possibility of connecting into the municipal sewer system

was completed, but it was deemed impractical at the time of site development. It is appropriate to reconsider connection to the municipal sewer system based on improvements to service area and the increasing challenge in locating suitable land for on-site disposal systems. We believe the preferred alternative, installation of a municipal sewer extension, will provide the level of sustainability required to insure the quality of life and the site amenities of the Lakeview neighborhood.

The preferred alternative will offer a simplified solution to a currently complex collection, treatment and disposal system that has significant maintenance and operating requirements. All new systems will be designed with the latest energy efficiency standards in mind, and the new construction will bring the 25 year old systems in line with current federal and state regulations and standards for wastewater systems. The preferred alternative will also remove indirect discharge of the wastewater flows from the development into the groundwater system that is hydraulically connected to the Mascoma Lake, an impaired surface water. This will have an immediate environmental benefit not only to the Lakeview community but also to the entire Mascoma Lake community and recreational users.

6.5 Total Engineer's Opinion of Probable Cost of Preferred Alternative

For this project, the total opinion of probable cost estimate is provided within our 'Conceptual EOPC for Design, Permit, and Construct Sewer Extension – Alternative Option A (Construct by Directional Drill)' dated January 29, 2016. This EOPC was developed for the selected alternative and is in the amount of \$1,637,299. See Appendix C for EOPC as referenced. Total project cost opinion is presented in the following table:

| | |
|-----------------------------------|--------------------|
| 1. Construction | \$1,637,299 |
| 2. Design Engineering (15%) | \$245,595 |
| 3. Construction Engineering (10%) | \$163,730 |
| 4. Construction Contingency (5%) | \$81,865 |
| 5. Legal & Management | \$50,000 |
| Total Estimated Costs | \$2,178,489 |

6.6 Annual Operating Budget

We performed review with the Town and Lakeview to understand their typical annual operating and maintenance costs. Based on this review, we are providing an EOPC for the operation and maintenance of the selected alternative to be \$7,440 annually.

In review with the Town, we understand the sewer usage by Lakeview would be at a rate of \$12.72 per 1,000 gallons of metered flow per quarter of the year. This rate was discussed to be the new rate the Town will charge in 2016. Fees from the Town would be invoiced to individual units as feasible by available water usage meters.

Total fees have been calculated based on the current metered water usage of the all 131 units of Lakeview at 13,500 GPD. Based on this daily average usage, the total quarterly user fees from Lakeview to the Town is estimated at \$15,626.52. Based on four quarterly payments, the annual user fees are estimated at \$62,506.08.

These costs are included in the life-cycle cost analysis of this report.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the environmental, life-cycle cost and non-monetary factors analyses documented throughout this study, the preferred and selected alternative is the 'Design, Permit, and Construct Sewer Extension – Alternative Option A.' The selection of this alternative is reflected within the application documents.

APPENDICES

APPENDIX A – SITE EXHIBITS

APPENDIX B – SITE PHOTOGRAPHS

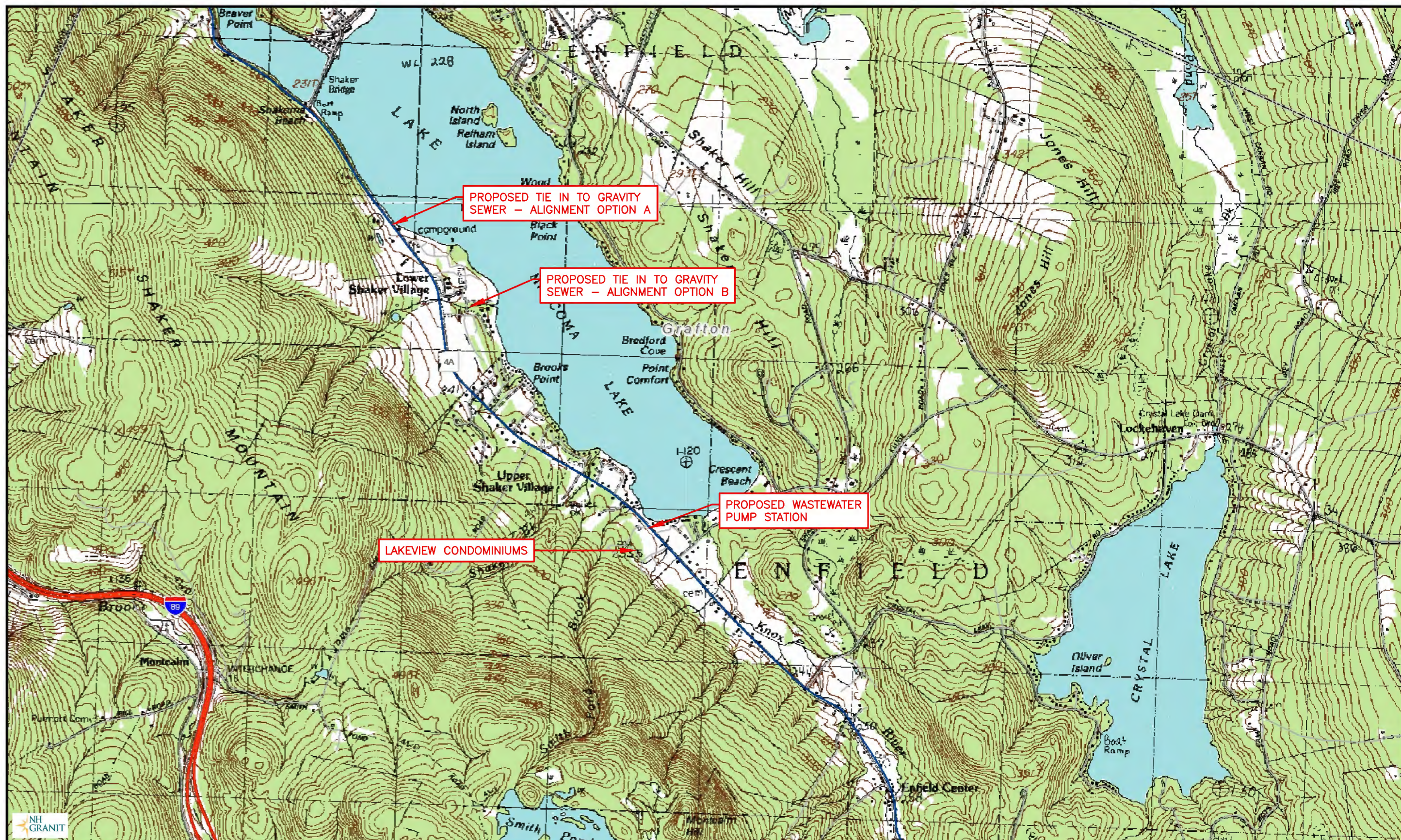
APPENDIX C – ENGINEER’S OPINION OF PROBABLE COSTS

APPENDIX D – LETTER OF DEFICIENCY

APPENDIX E – FISCAL YEAR 2014 AND 2015 DOCUMENTS

APPENDIX A

SITE EXHIBITS



Pathways Consulting, LLC

240 Mechanic Street, Suite 100
Lebanon, New Hampshire 03766
(603) 448-2200 FAX: (603) 448-1221

USGS LOCATION MAP

LAKEVIEW CONDOMINIUMS

ROUTE 4A — ENFIELD NEW HAMPSHIRE

SCALE: 1"=24,000'
DESIGNED BY: JDD
DRAWN BY: JDD
CHECKED BY: RWR
DATE: 1/21/16
PROJ. NO. 10068-01

EXHIBIT

1



Pathways Consulting, LLC

240 Mechanic Street, Suite 100
Lebanon, New Hampshire 03766
(603) 448-2200 FAX: (603) 448-1221

OVERALL CONTEXT PLAN
LAKEVIEW CONDOMINIUMS
ROUTE 4A — ENFIELD NEW HAMPSHIRE

SCALE: 1"=700'
DESIGNED BY: JDD
DRAWN BY: JDD
CHECKED BY: RWR
DATE: 1/21/16
PROJ. NO. 10068-01

EXHIBIT

2





Pathways Consulting, LLC

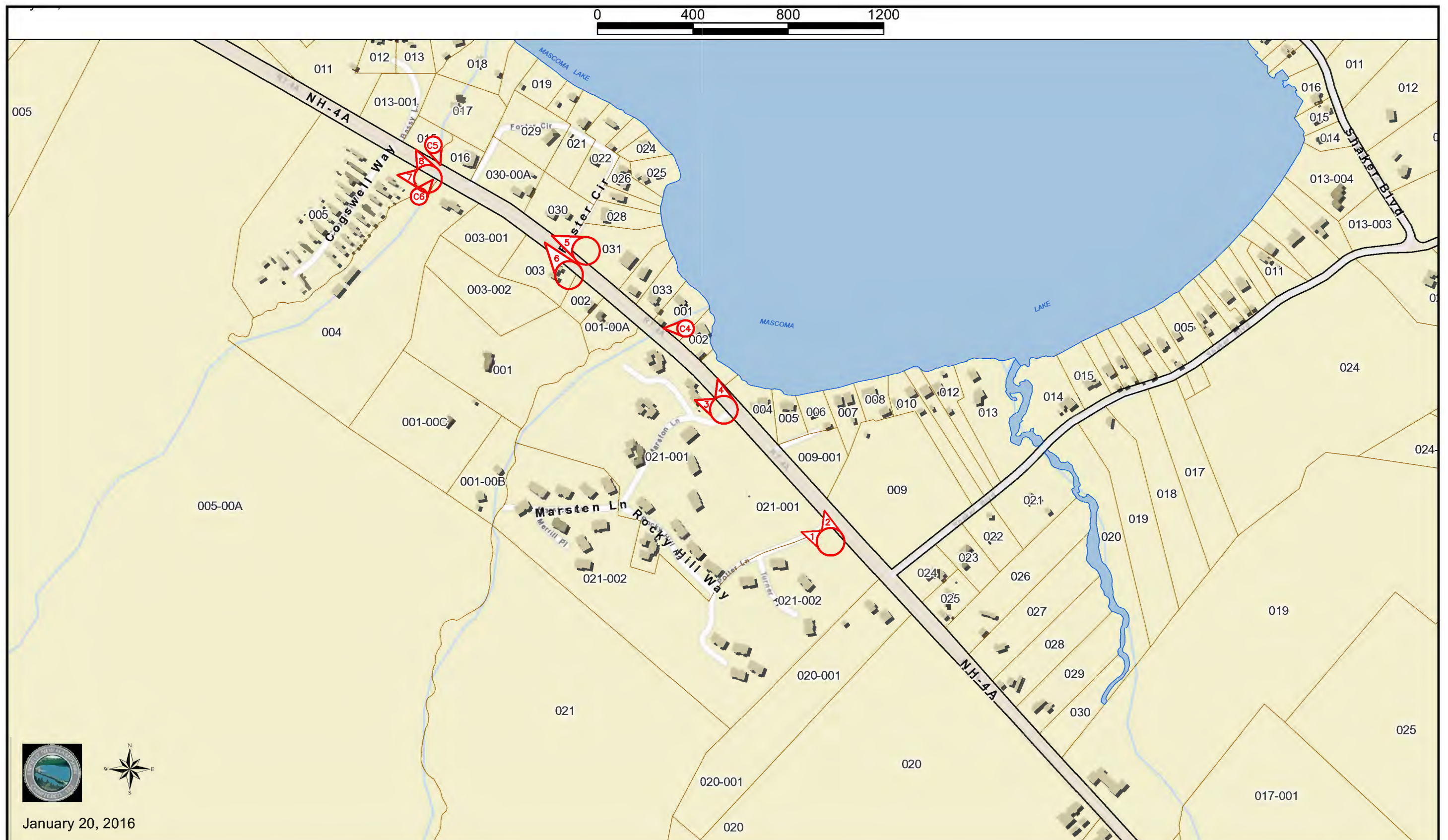
240 Mechanic Street, Suite 100
Lebanon, New Hampshire 03766
(603) 448-2200 FAX: (603) 448-1221

ALIGNMENT OPTION B CONTEXT PLAN
LAKEVIEW CONDOMINIUMS
ROUTE 4A — ENFIELD NEW HAMPSHIRE

| |
|--------------------|
| SCALE: 1"=500' |
| DESIGNED BY: JDD |
| DRAWN BY: JDD |
| CHECKED BY: RWR |
| DATE: 1/21/16 |
| PROJ. NO. 10068-01 |

EXHIBIT

4



January 20, 2016

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Pathways Consulting, LLC

240 Mechanic Street, Suite 100
Lebanon, New Hampshire 03766
(603) 448-2200 FAX: (603) 448-1221

PHOTOGRAPHIC LOG 1

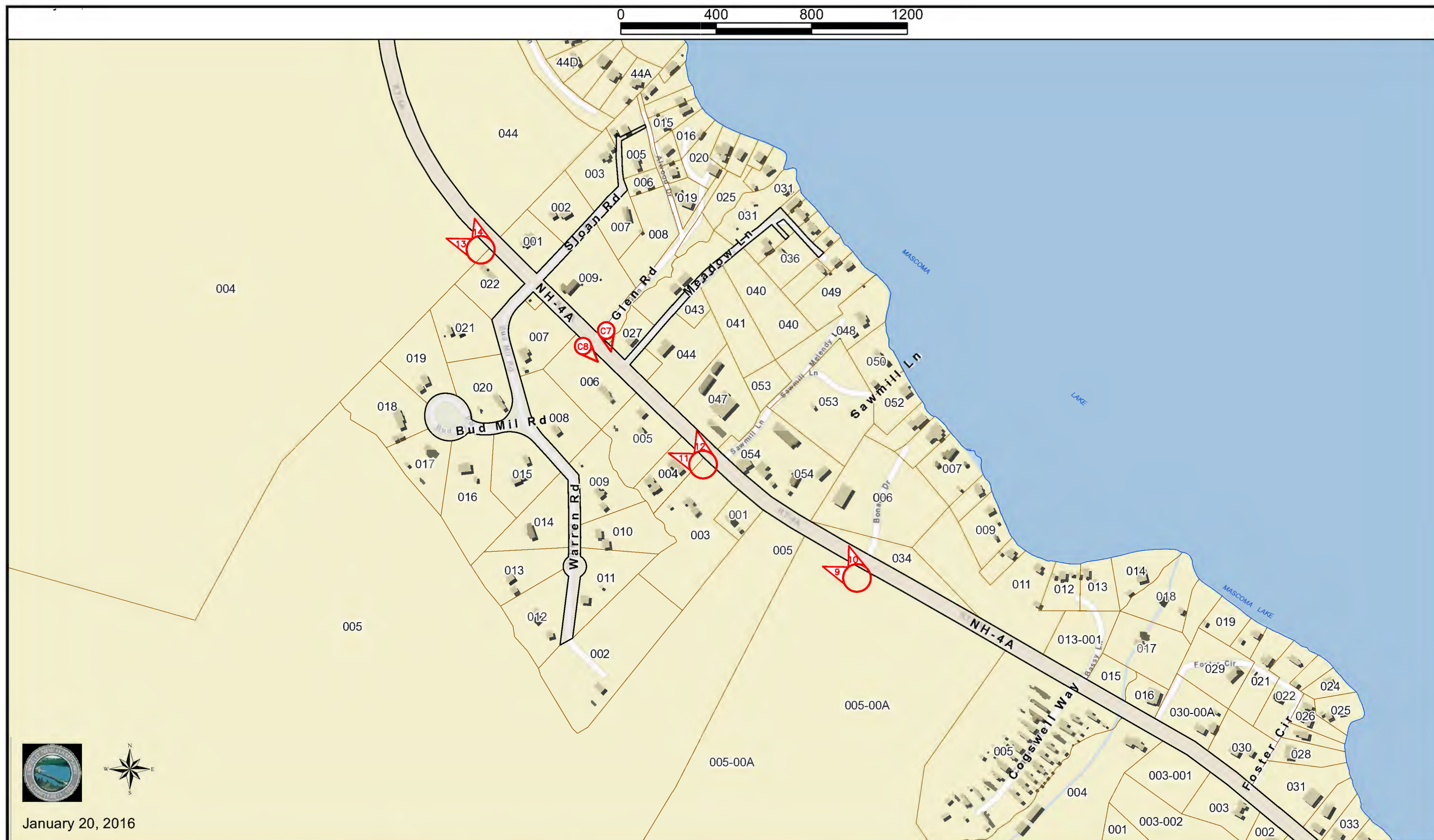
LAKEVIEW CONDOMINIUMS

ROUTE 4A — ENFIELD NEW HAMPSHIRE

| |
|--------------------|
| SCALE: 1"=400' |
| DESIGNED BY: JDD |
| DRAWN BY: JDD |
| CHECKED BY: RWR |
| DATE: 1/21/16 |
| PROJ. NO. 10068-01 |

EXHIBIT

5



January 20, 2016

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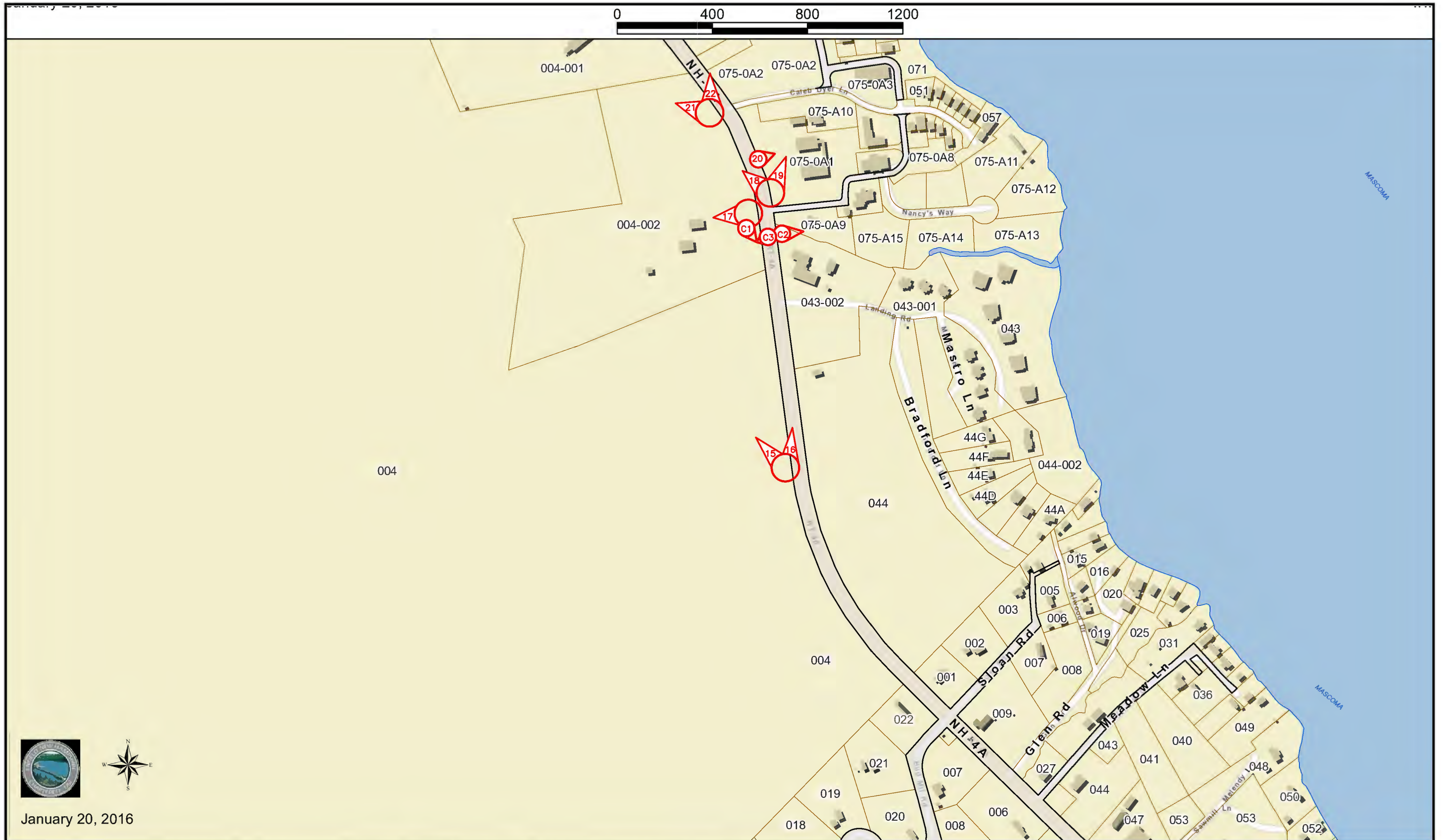
240 Mechanic Street, Suite 100
Lebanon, New Hampshire 03766
(603) 448-2200 FAX: (603) 448-1221

PHOTOGRAPHIC LOG 2
LAKEVIEW CONDOMINIUMS
ROUTE 4A — ENFIELD NEW HAMPSHIRE

SCALE: 1"=400'
DESIGNED BY: JDD
DRAWN BY: JDD
CHECKED BY: RWR
DATE: 1/21/16
PROJ. NO. 10068-01

EXHIBIT

6



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PHOTOGRAPHIC LOG 3
LAKEVIEW CONDOMINIUMS
ROUTE 4A — ENFIELD NEW HAMPSHIRE

SCALE: 1"=400'
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PROJ. NO. 10068-01

EXHIBIT

7



January 20, 2016

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Pathways Consulting, LLC

240 Mechanic Street, Suite 100
Lebanon, New Hampshire 03766
(603) 448-2200 FAX: (603) 448-1221

PHOTOGRAPHIC LOG 4
LAKEVIEW CONDOMINIUMS
ROUTE 4A — ENFIELD NEW HAMPSHIRE

| |
|--------------------|
| SCALE: 1"=400' |
| DESIGNED BY: JDD |
| DRAWN BY: JDD |
| CHECKED BY: RWR |
| DATE: 1/21/16 |
| PROJ. NO. 10068-01 |

EXHIBIT

8

Topographic Map of
Enfield, NH

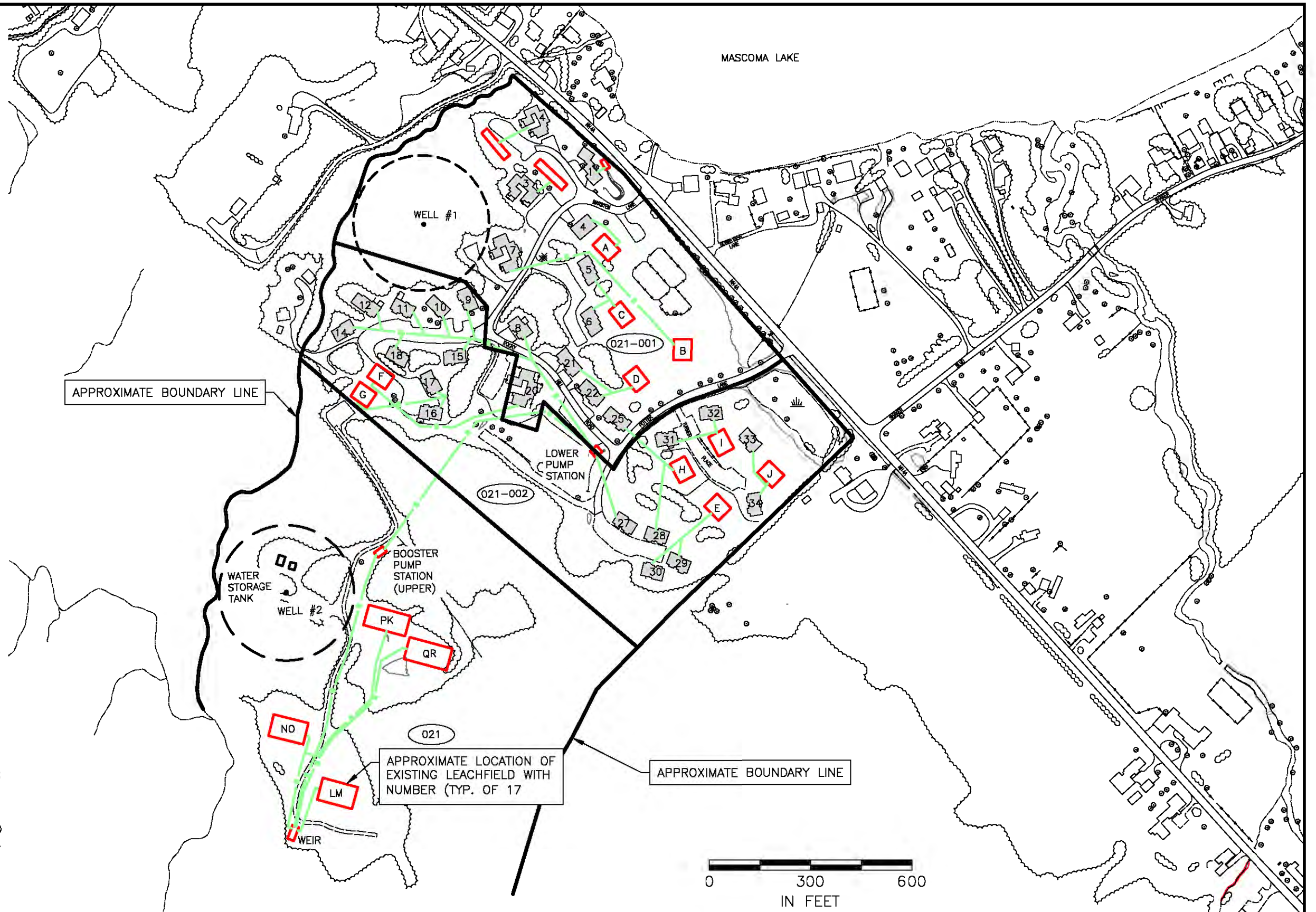


Legend

- SWAMP
- TREE
- UNKNOWN
- ROAD (PAVED)
- ROAD (UNPAVED)
- ROAD CENTERLINE
- PARKING (PAVED)
- PARKING (UNPAVED)
- DRIVE (PAVED)
- DRIVE (UNPAVED)
- TRAIL
- SUBSIDENCE
- AIRPORT RUNWAY
- RETAINING WALL
- FENCE
- STONE WALL
- RAILROAD
- BRIDGE
- BUILDING
- CEMETERY OUTLINE
- FOUNDATION
- PILE
- BUILDING CONSTRUCTION
- TRAILER
- STORAGE TANK
- LAKE/POND
- STREAM
- RIVER
- SWAMP
- CULVERT
- DAM
- TREE LINE



BACKGROUND MAPPING FROM
TOWN OF ENFIELD TOPOGRAPHIC
MAPS. BOUNDARY IS
APPROXIMATE FROM THE TOWN
OF ENFIELD TAX MAPS.
LOCATIONS OF LEACHFIELDS AND
SEWER LINES ARE APPROXIMATE.



Pathways Consulting, LLC

240 Mechanic Street, Suite 100
Lebanon, New Hampshire 03766
(603) 448-2200 FAX: (603) 448-1221

EXISTING ON-SITE WASTEWATER SYSTEMS SITE MAP

LAKEVIEW CONDOMINIUMS

ROUTE 4A — ENFIELD NEW HAMPSHIRE

SCALE: 1"=300'
DESIGNED BY: JDD
DRAWN BY: JDD
CHECKED BY: RWR
DATE: 1/21/16
PROJ. NO.10068-01

EXHIBIT

9

APPENDIX B

SITE PHOTOGRAPHS



Photograph 1: Looking northwesterly from intersection of NH Route 4A and Potter Lane, the southernmost entrance to Lakeview (on left). Stone wall is located along the treeline.



Photograph 2: Taken from same location as Photograph 1 but looking generally along NH Route 4A corridor. Mascoma Lake is located beyond homes on right. Alignment of sewer will be along left side of road corridor.



Photograph 3: Looking northwesterly from intersection of NH Route 4A and Karston Lane, the main entrance to Lakeview (on left). Utility pole is installed within highway ROW as an indication of width of corridor.



Photograph 4: Taken from same location as Photograph 3, but looking generally along NH Route 4A corridor. Mascoma Lake is beyond treeline on right.



Photograph 5: Taken at intersection with Foster Circle and generally looking northwesterly. Larger residential and undeveloped parcels on left.



Photograph 6: Taken across NH Route 4 from Foster Circle. Foster Circle development visible on right. Width of travel lane, paved shoulder, and gravel shoulder shown in this photograph.



Photograph 7: Taken just before intersection with Cogswell Lane. Wilson Mobile Home Park is located on left. Another typical stone wall is located along this entranceway.



Photograph 8: Taken from same location as Photograph 8, but looking down road corridor. Some undeveloped land along right side of corridor with homes clustered closer to the lake front.



Photograph 9: Taken at intersection with Bonardi Drive (on right). Treeline and overhead utility poles give some sense of width of highway ROW. Developed drainage ditch is present at this location. Mostly undeveloped land to left.



Photograph 10: Taken from same location as Photograph 9, but looking at clustered development along right side of high corridor. Car on right is parked at Bonardi Drive, which provides access to lakefront properties.



Photograph 11: Taken across road from Gray's Marina. Most residences are set back from roadway and are less than 50 years old in this neighborhood. Higher topography to left forces utilities closer to road surface.



Photograph 12: Taken from same location as Photograph 11. Gray's Marina is visible on right. Some light commercial properties are located adjacent to north and east side of NH Route 4A.



Photograph 13: Taken across the road from the beginning of the recreation fields. This area is largely agricultural land or open land. LaSalette shrine property is on left.



Photograph 14: Taken at same location as Photograph 13, but with view of recreational fields to right.



Photograph 15: Taken at about the mid point of the recreational fields on right. Church family hay barn and stone machine shop are visible on left.



Photograph 16: Taken at the same location as Photograph 15 but looking towards end of recreational fields on right. Landing Road is just before red barn on right.



Photograph 17: Looking westerly at Church family barn and stone machine shop. LaSalette shrine lies to right of picture.



Photograph 18: Taken from same general location as Photograph 17, but looking along road curvature. The buildings in the background left are the LaSalette shrine.



Photograph 19: Taken from same location as Photograph 18, but looking at historic buildings located on right. Large stone house is immediately on right, but not visible. Chapel building is visible on right.



Photograph 20: Looking directly at large stone house and chapel building.



Photograph 21: Taken just past intersection with Caleb Dyer Lane. LaSalette shrine buildings are on left.



Photograph 22: Taken at the same location as Photograph 21, but looking along road alignment. Entrance sign for LaSalette shrine is visible in left background. Other buildings associated with Lower Shaker Village are visible on right.



Photograph 23: Taken at LaSalette shrine entrance drive, Reconciliation Chapel is just visible in background.



Photograph 24: Taken at the same location as Photograph 23, but looking towards Lower Shaker Village development on right. Chosen Vale Lane is visible at center of picture.



Photograph 25: End of project area. Looking down highway corridor. Town of Enfield pump station building is visible on left background.



Photograph 26: Large stone wall across from Bonardi Lane. Large hewn blocks suggest part of a barn or structure foundation.



Photograph 27: Representative stacked stone wall along entrance at Mobile Home Park. This is typical of stone walls located along highway corridor.



Photograph 28: Another longer representative stone wall along highway corridor. This wall is located at about 600 NH Route 4A directly across from Shaker Farms.



Photograph C1: Looking generally eastward at bridge structure over unnamed drainage course just south of Lower Shaker Village. Refer to Photographs C2 and C3 for channel features.



Photograph C2: Looking generally eastward at outlet of bridge flow. This drainage discharges into Mascoma Lake. Portions of outlet changer are lined with hewn rock.



Photograph C3: Looking generally westward at inlet to bridge flow. Portions of upstream channel are lined with hewn stone.



Photograph C4: Outlet of culvert under NH Route 4A carrying Smith Pond Brook on the western boundary of Lakeview property. Flow is left to right into Mascoma Lake.



Photograph C5: Looking at outlet of culvert flow located at Upper Valley Automotive, across from Mobile Home Park. Flow is right to left into Mascoma Lake.



Photograph C6: Inlet of culvert under NH Route 4A carrying unnamed drainage channel adjacent to Mobile Home Park. Flow is right to left.



Photograph C7: Looking southwesterly at outlet of culvert near Glen Road. Flow is from right to left towards Mascoma Lake.



Photograph C8: Inlet drainage into culvert shown in Photograph C7. This area picks up drainage from subdivision development on Warren Road to right.

APPENDIX C

ENGINEER'S OPINION OF PROBABLE COSTS

| CONCEPTUAL ENGINEER'S OPINION OF PROBABLE COST (EOPC) FOR DESIGN, PERMIT, AND CONSTRUCT SEWER EXTENSION - ALTERNATIVE OPTION A (CONSTRUCT BY DIRECTIONAL DRILL) PREPARED BY PATHWAYS CONSULTING, LLC (Project No. 10068-01) January 29, 2016 | | | | | |
|---|---|----------|------|--------------|-----------------------|
| Item | Item Description | Quantity | Unit | Unit Cost | Total Cost |
| Off-Site Sewer Construction | | | | | |
| 1 | Primary Pump Station and Miscellaneous Components at Lakeview Condominiums | 1 | AL | \$250,000.00 | \$250,000.00 |
| 2 | Backup Generator at Lakeview Pump Station (Propane) | 1 | LS | \$15,000.00 | \$15,000.00 |
| 3 | 6" DR11 Sewer Forcemain (Directional Drill) In Gravel (6' Depth) | 5,726 | LF | \$70.00 | \$400,820.00 |
| 4 | 6" DR11 Sewer Forcemain (Directional Drill) Through Rock/Ledge (20% Allowance) (6' Depth) | 1,432 | LF | \$115.00 | \$164,680.00 |
| 5 | Forcemain Cleanout Manholes (Assume every 1000 feet) | 6 | EA | \$4,500.00 | \$27,000.00 |
| 6 | 4' Diameter Sewer Manhole | 5 | EA | \$3,200.00 | \$16,000.00 |
| 7 | 12" SDR35 PVC Sewer Main Gravity | 1,691 | LF | \$68.00 | \$114,988.00 |
| 8 | Trench Patching for Drilling and Manhole Pits (Assume 12'x12' Patch every 1000') Reuse Existing Gravel, Patch with 5" Bituminous Concrete | 100 | SY | \$52.00 | \$5,200.00 |
| 9 | Trench Patching for Driveways In Gravity Sewer Section Reuse Existing Gravel, Patch with 5" Bituminous Concrete | 150 | SY | \$40.00 | \$6,000.00 |
| 10 | Loam (4" Thickness, Green Space) | 250 | CY | \$32.00 | \$8,000.00 |
| 11 | Seed and Mulch Lawn Areas (Green Space) | 2,250 | SY | \$2.00 | \$4,500.00 |
| 12 | Miscellaneous Tree Removal and Trimming | 1 | AL | \$4,000.00 | \$4,000.00 |
| Subtotal for Off-site Construction | | | | | \$1,016,188.00 |
| On-site Improvements (Relocate Upper Pump Station Flow to New Lower Pump Station) Assume Abandon Upper Fields in Place | | | | | |
| 13 | Upper Pump Station Remove Components Fill and Abandon | 1 | LS | \$10,000.00 | \$10,000.00 |
| 14 | Strip and Stockpile Topsoil (Assume 14' Width where Trenching) | 160 | CY | \$10.00 | \$1,600.00 |
| 15 | 4' Diameter Sewer Manhole | 7 | EA | \$3,200.00 | \$22,400.00 |
| 16 | 8" PVC Sewer Main | 960 | LF | \$58.00 | \$55,680.00 |
| 17 | Gravel Driveway Trench and Restore | 40 | SY | \$20.00 | \$800.00 |
| 18 | Loam Reuse Existing (4" Thickness, Green Space) Assume 14' Width Disturbance | 160 | CY | \$16.00 | \$2,560.00 |
| 19 | Seed and Mulch Lawn Areas (Green Space) Assume 14' Width Disturbance | 1,450 | SY | \$2.00 | \$2,900.00 |
| Subtotal for On-site Improvements (Relocate Upper Pump Station Flow to New Lower Pump Station) Assume Abandon Upper Fields in Place | | | | | \$95,940.00 |
| On-site Improvements (Install Sewer Mains to New Pump Station from All Other Fields) Assume Abandon Existing Fields in Place | | | | | |
| 20 | Unit Service Connections | 14 | EA | \$1,000.00 | \$14,000.00 |
| 21 | Tree Removal Allowance | 1 | AL | \$10,000.00 | \$10,000.00 |
| 22 | Strip and Stockpile Topsoil (Assume 14' Width where Trenching) | 220 | CY | \$10.00 | \$2,200.00 |
| 23 | 4' Diameter Sewer Manhole | 14 | EA | \$3,200.00 | \$44,800.00 |
| 24 | 8" PVC Sewer Main | 1,270 | LF | \$58.00 | \$73,660.00 |
| 25 | 6" PVC Sewer Service (Realignment) | 770 | LF | \$50.00 | \$38,500.00 |
| 26 | Gravel Driveway Trench and Restore | 80 | SY | \$20.00 | \$1,600.00 |
| 27 | Loam Reuse Existing (4" Thickness, Green Space) Assume 14' Width Disturbance | 220 | CY | \$16.00 | \$3,520.00 |
| 28 | Seed and Mulch Lawn Areas (Green Space) Assume 14' Width Disturbance | 2,000 | SY | \$2.00 | \$4,000.00 |
| Subtotal for On-site Improvements (Install Sewer Mains to New Pump Station from All Other Fields) Assume Abandon Existing Fields in Place | | | | | \$192,280.00 |
| Erosion Control | | | | | |
| 29 | Erosion Control Allowance | 1 | LS | \$20,000.00 | \$20,000.00 |
| Subtotal for Erosion Control | | | | | \$20,000.00 |
| Mobilization/Demobilization/Miscellaneous Work & Cleanup | | | | | |
| 30 | Mobilization/Demobilization (Assume Approximately 5% of Construction Cost) | 1 | LS | \$66,220.40 | \$66,220.40 |
| 31 | Miscellaneous Work & Cleanup (Assume Approximately 2.5% of Construction Cost) | 1 | LS | \$33,110.20 | \$33,110.20 |
| Subtotal for Mobilization/Demobilization/Miscellaneous Work & Cleanup | | | | | \$99,330.60 |

| | |
|---|-----------------------|
| CONCEPTUAL EOPC FOR PROJECT CONSTRUCTION | \$1,423,738.60 |
| 15% CONSTRUCTION CONTINGENCY | \$213,560.79 |
| TOTAL CONCEPTUAL EOPC FOR PROJECT CONSTRUCTION | \$1,637,299.39 |

NOTE: This Conceptual EOPC was established from aerial mapping from NHGranite.com, dated April 8, 2015. In providing this EOPC, the Client understands that Pathways Consulting, LLC (Pathways) has no control over the cost or availability of labor, equipment, materials, market conditions, the Contractor's method of pricing, or actual design components. All quantities are assumed for this conceptual EOPC, which was developed based on our experience with other similar projects, but without the benefit of regulatory input and review, particularly with the New Hampshire Department of Transportation (NHDOT). Pathways makes no warranty, express or implied, that the bids or the negotiated cost of the work will not vary from this EOPC. Developing formal plans and permits with the State of New Hampshire Department of Environmental Services and the NHDOT is the only way to establish the proper project scope and quantities. Disposal fees and removal of leachfields is not included in this EOPC.

CONCEPTUAL ENGINEER'S OPINION OF PROBABLE COST (EOPC)
FOR
DESIGN, PERMIT, AND CONSTRUCT SEWER EXTENSION - ALTERNATIVE OPTION A (CONSTRUCT BY OPEN CUT)
PREPARED BY PATHWAYS CONSULTING, LLC (Project No. 10068-01)
January 29, 2016

| Item | Item Description | Quantity | Unit | Unit Cost | Total Cost |
|--|--|----------|------|--------------|---------------------|
| Off-Site Sewer Construction | | | | | |
| 1 | Primary Pump Station and Miscellaneous Components at Lakeview Condominiums | 1 | AL | \$250,000.00 | \$250,000.00 |
| 2 | Backup Generator at Lakeview Pump Station (Propane) | 1 | LS | \$15,000.00 | \$15,000.00 |
| 3 | 6" DR11 Sewer Forcemain (Open Cut) In Gravel (6' Depth) | 5,726 | LF | \$65.00 | \$372,190.00 |
| 4 | 6" DR11 Sewer Forcemain (Open Cut) Through Rock/Ledge (20% Allowance) (6' Depth) | 1,432 | LF | \$110.00 | \$157,520.00 |
| 5 | Forcemain Cleanout Manholes (Assume every 1000 feet) | 6 | EA | \$4,500.00 | \$27,000.00 |
| 6 | 4' Diameter Sewer Manhole | 5 | EA | \$3,200.00 | \$16,000.00 |
| 7 | 12" SDR35 PVC Sewer Main Gravity | 1,691 | LF | \$68.00 | \$114,988.00 |
| 8 | Trench Patching for Drilling and Manhole Pits (Assume 12'x12' Patch every 1000') Reuse Existing Gravel, Patch with 5" Bituminous Concrete | 100 | SY | \$52.00 | \$5,200.00 |
| 9 | Trench Patching for Driveways In Gravity Sewer Section Reuse Existing Gravel, Patch with 5" Bituminous Concrete | 150 | SY | \$40.00 | \$6,000.00 |
| 10 | Loam (4" Thickness, Green Space) | 250 | CY | \$32.00 | \$8,000.00 |
| 11 | Seed and Mulch Lawn Areas (Green Space) | 2,250 | SY | \$2.00 | \$4,500.00 |
| 12 | Miscellaneous Tree Removal and Trimming | 1 | AL | \$4,000.00 | \$4,000.00 |
| Subtotal for Off-site Construction | | | | | \$980,398.00 |
| On-site Improvements (Relocate Upper Pump Station Flow to New Lower Pump Station) Assume Abandon Upper Fields in Place | | | | | |
| 13 | Upper Pump Station Remove Components Fill and Abandon | 1 | LS | \$10,000.00 | \$10,000.00 |
| 14 | Strip and Stockpile Topsoil (Assume 14' Width where Trenching) | 160 | CY | \$10.00 | \$1,600.00 |
| 15 | 4' Diameter Sewer Manhole | 7 | EA | \$3,200.00 | \$22,400.00 |
| 16 | 8" PVC Sewer Main | 960 | LF | \$58.00 | \$55,680.00 |
| 17 | Gravel Driveway Trench and Restore | 40 | SY | \$20.00 | \$800.00 |
| 18 | Loam Reuse Existing (4" Thickness, Green Space) Assume 14' Width Disturbance | 160 | CY | \$16.00 | \$2,560.00 |
| 19 | Seed and Mulch Lawn Areas (Green Space) Assume 14' Width Disturbance | 1,450 | SY | \$2.00 | \$2,900.00 |
| Subtotal for On-site Improvements (Relocate Upper Pump Station Flow to New Lower Pump Station) Assume Abandon Upper Fields in Place | | | | | \$95,940.00 |
| On-site Improvements (Install Sewer Mains to New Pump Station from All Other Fields) Assume Abandon Existing Fields in Place | | | | | |
| 20 | Unit Service Connections | 14 | EA | \$1,000.00 | \$14,000.00 |
| 21 | Tree Removal Allowance | 1 | AL | \$10,000.00 | \$10,000.00 |
| 22 | Strip and Stockpile Topsoil (Assume 14' Width where Trenching) | 220 | CY | \$10.00 | \$2,200.00 |
| 23 | 4' Diameter Sewer Manhole | 14 | EA | \$3,200.00 | \$44,800.00 |
| 24 | 8" PVC Sewer Main | 1,270 | LF | \$58.00 | \$73,660.00 |
| 25 | 6" PVC Sewer Service (Realignment) | 770 | LF | \$50.00 | \$38,500.00 |
| 26 | Gravel Driveway Trench and Restore | 80 | SY | \$20.00 | \$1,600.00 |
| 27 | Loam Reuse Existing (4" Thickness, Green Space) Assume 14' Width Disturbance | 220 | CY | \$16.00 | \$3,520.00 |
| 28 | Seed and Mulch Lawn Areas (Green Space) Assume 14' Width Disturbance | 2,000 | SY | \$2.00 | \$4,000.00 |
| Subtotal for On-site Improvements (Install Sewer Mains to New Pump Station from All Other Fields) Assume Abandon Existing Fields in Place | | | | | \$192,280.00 |
| Erosion Control | | | | | |
| 29 | Erosion Control Allowance | 1 | LS | \$20,000.00 | \$20,000.00 |
| Subtotal for Erosion Control | | | | | \$20,000.00 |
| Mobilization/Demobilization/Miscellaneous Work & Cleanup | | | | | |
| 30 | Mobilization/Demobilization (Assume Approximately 5% of Construction Cost) | 1 | LS | \$64,430.90 | \$64,430.90 |
| 31 | Miscellaneous Work & Cleanup (Assume Approximately 2.5% of Construction Cost) | 1 | LS | \$32,215.45 | \$32,215.45 |
| Subtotal for Mobilization/Demobilization/Miscellaneous Work & Cleanup | | | | | \$96,646.35 |

| | |
|---|-----------------------|
| CONCEPTUAL EOPC FOR PROJECT CONSTRUCTION | \$1,385,264.35 |
| 15% CONSTRUCTION CONTINGENCY | \$207,789.65 |
| TOTAL CONCEPTUAL EOPC FOR PROJECT CONSTRUCTION | \$1,593,054.00 |

NOTE: This Conceptual EOPC was established from aerial mapping from NHGranite.com, dated April 8, 2015. In providing this EOPC, the Client understands that Pathways Consulting, LLC (Pathways) has no control over the cost or availability of labor, equipment, materials, market conditions, the Contractor's method of pricing, or actual design components. All quantities are assumed for this conceptual EOPC, which was developed based on our experience with other similar projects, but without the benefit of regulatory input and review, particularly with the New Hampshire Department of Transportation (NHDOT). Pathways makes no warranty, express or implied, that the bids or the negotiated cost of the work will not vary from this EOPC. Developing formal plans and permits with the State of New Hampshire Department of Environmental Services and the NHDOT is the only way to establish the proper project scope and quantities. Disposal fees and removal of leachfields is not included in this EOPC.

APPENDIX D

LETTER OF DEFICIENCY



The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES



Thomas S. Burack, Commissioner

LETTER OF DEFICIENCY
LRM 15-004

APRIL 27, 2015

Debora Matteau, President
Lakeview Condominium Association
c/o TPW
PO BOX 1051
NORWICH, VT, 05055

RE: Land Resources Management File #2841, NH Route 4a, Enfield, Lot 7, Map 21

Dear Debora Matteau:

On November 12, 2014, personnel from the Department of Environmental Services (DES) conducted an inspection of the above-referenced property. The purpose of the inspection was to determine compliance with RSA 485-A and applicable rules relative to subsurface septic system installation, operation and maintenance.

During the inspection, DES personnel observed the following:

1. Several areas of possible breakout of sewage from leach fields serving the Lakeview Condominium Association were visible. Env-Wq 1003.22, Replacement of Systems in Failure; Pumping Required requires the submission of new plans to replace a failed septic system, and that the tank serving such system be pumped at sufficient frequency to prevent wastewater from exiting the tank.
2. The property owner has also provided numerous photographs demonstrating possible breakout of sewage from several of the leach fields serving the condominium association.

DES believes these deficiencies can be corrected by taking the following action(s):

1. Engage a permitted septic system designer to prepare and submit septic system plans and specifications to DES for the total wastewater load generated on the Property.
2. Obtain approval to construct the system.
3. Construct and obtain approval to cover and use the system.
4. Operate and maintain the system in accordance with NH Administrative Rule Env-Wq 1023.

RSA 485-A was enacted to protect water supplies, to prevent pollution in the surface and groundwaters of the state, and to prevent potential health hazards.

DES believes that the cited deficiencies can be corrected within 60 days and a report describing

the corrective measures can be submitted to this office within 60 days of the receipt of this letter. DES personnel may conduct another inspection at a later date to determine whether you have come into and are maintaining full compliance with the applicable statute and rules.

If compliance is not achieved within this period, DES may take further action against the Association including issuing an order requiring that the deficiencies be corrected and/or referring the matter to the New Hampshire Department of Justice for injunctive relief. DES personnel may re-inspect the property at a later date to determine whether you have come into, and are maintaining, full compliance with applicable laws and rules. DES reserves the right to pursue monetary penalties for the deficiencies noted in this letter as well as any deficiencies noted in subsequent inspections of the property.

Please address all documents, correspondence and submissions in response to the foregoing requests to DES, as follows:

Richard J. de Seve, Compliance Supervisor
Land Resources Management Program
Department of Environmental Services
PO Box 95
Concord, NH 03302-0095

If you have any questions about this letter, please contact Richard J. de Seve at 271-3442 or by e-mail at Richard.deseve@des.nh.gov.

Sincerely,



Robert A. Tardif, P.E.
Acting Administrator
Subsurface Systems Bureau

CERTIFIED MAIL: 7007 3020 0000 5320 7712

cc: DES Legal Unit
Paul T. Carroccio, P.E., TPW Management, LLC, 32 VT Route 30, PO Box 708, Bondville, VT 05340
Russell W. Rohloff, P.E., Pathways Consulting, LLC, 240 Mechanic Street, Suite 100, Lebanon, NH 03766

cc: Rene Pelletier, Asst. Director, Water Division
Enfield Board of Selectmen
Enfield Conservation Commission

APPENDIX E

FISCAL YEAR 2014 AND 2015 DOCUMENTS

Annual User Report

Fiscal Year's End: 2014

| Number of Users on the System: | Water # of Connections | Sewer # of Connections |
|--------------------------------|---------------------------|---------------------------|
| Residential | <u>448</u> | <u>451</u> |
| Commercial | <u>17</u> | <u>23</u> |
| Industrial | <u>1</u> | <u>1</u> |
| Institutional | <u>10</u> | <u>5</u> |

Our Town/Village/Organization has a mandatory hookup for water customers: YES ☒ NOOur Town/Village/Organization has a mandatory hookup for sewer customers: ☒ YES NOOur Town/Village/Organization has a mandatory meter requirement for water usage: ☒ YES NOOur average residential annual water bill is: \$ 376.00Our average residential annual sewer bill is: \$ 820.00

Our billing is sent out: Annually

Semi Annual

☒ Quarterly

Monthly

Other (Please specify) _____

ACTUAL & BUDGETED EXPENSES & ENCUMBRANCE

Report Sequence = Fund or Acct Group
 Account = First thru Last; Mask = 03-###-###
 Level of Detail = OBJECT; Level = 9

Fund: SEWER DEPARTMENT

Period: January 2015 to Closing 2015

| Account Number | Account Name | Current Year Budgeted | Period Expenditures | Current Year Expenditures | Encumbrances | Balance Remaining | Percent Left |
|--|-------------------------------|--------------------------|------------------------|------------------------------|--------------|----------------------|-----------------|
| GENERAL GOVERNMENT OPERATING BUDGET | | | | | | | |
| GENERAL GOVERNMENT | | | | | | | |
| PERSONNEL ADMINISTRATION | | | | | | | |
| 03-4155-210 | Health Insurance | 23643.00 | 15245.42 | 15245.42 | 0.00 | 8397.58 | 35.52 |
| 03-4155-212 | Delta Dental | 530.00 | 2543.43 | 2543.43 | 0.00 | (2013.43) | (379.89) |
| 03-4155-215 | Life/Disability Ins | 524.00 | 132.24 | 132.24 | 0.00 | 391.76 | 74.76 |
| 03-4155-220 | EMPLOYER PAID FICA | 3419.00 | 1930.70 | 1930.70 | 0.00 | 1488.30 | 43.53 |
| 03-4155-225 | EMPLOYER PAID MEDICARE | 800.00 | 455.79 | 455.79 | 0.00 | 344.21 | 43.03 |
| 03-4155-230 | EMPLOYER PAID RETIREMENT NHRS | 6157.00 | 2994.36 | 2994.36 | 0.00 | 3162.64 | 51.37 |
| 03-4155-231 | EMPLOYER PAID ICMA | 178.00 | 205.27 | 205.27 | 0.00 | (27.27) | (15.32) |
| 03-4155-240 | UNEMPLOYMENT COMPENSATION INS | 135.00 | 0.00 | 0.00 | 0.00 | 135.00 | 100.00 |
| 03-4155-250 | WORKERS' COMPENSATION INS | 1790.00 | 0.00 | 0.00 | 0.00 | 1790.00 | 100.00 |
| 03-4155-260 | SECTION 125 ADMINISTRATION | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **TOTAL** PERSONNEL ADMINISTRATION | | 37176.00 | 23507.21 | 23507.21 | 0.00 | 13668.79 | 36.77 |
| GENERAL GOVERNMENT BUILDINGS | | | | | | | |
| 03-4194-730 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **TOTAL** GENERAL GOVERNMENT BUILDINGS | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **TOTAL** GENERAL GOVERNMENT | | 37176.00 | 23507.21 | 23507.21 | 0.00 | 13668.79 | 36.77 |
| SANITATION | | | | | | | |
| SANITATION ADMINISTRATION | | | | | | | |
| 03-4321-110 | SALARIES AND WAGES | 55377.00 | 47353.21 | 47353.21 | 0.00 | 8023.79 | 14.49 |
| 03-4321-113 | NEW HIRE/PHYSICALS/MEDICAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4321-140 | OVERTIME | 1000.00 | 2213.14 | 2213.14 | 0.00 | (1213.14) | (121.31) |
| 03-4321-210 | INSURANCE - HEALTH | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4321-212 | INSURANCE - DENTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4321-215 | INSURANCE - LIFE/STD | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4321-220 | EMPLOYER PAID FICA | 0.00 | 202.61 | 202.61 | 0.00 | (202.61) | 0.00 |
| 03-4321-225 | EMPLOYER PAID MEDICARE | 0.00 | 47.41 | 47.41 | 0.00 | (47.41) | 0.00 |
| 03-4321-230 | RETIREMENT~NHRS | 0.00 | 931.44 | 931.44 | 0.00 | (931.44) | 0.00 |

ACTUAL & BUDGETED EXPENSES & ENCUMBRANCE

Report Sequence = Fund or Acct Group

Account = First thru Last; Mask = 03-####-###

Level of Detail = OBJECT; Level = 9

Fund: SEWER DEPARTMENT

Period: January 2015 to Closing 2015

| Account Number | Account Name | Current Year Budgeted | Period Expenditures | Current Year Expenditures | Encumbrances | Balance Remaining | Percent Left |
|-------------------------------------|--------------------------------|--------------------------|------------------------|------------------------------|--------------|----------------------|-----------------|
| 03-4321-231 | RETIREMENT ~ ICMA | 0.00 | 58.43 | 58.43 | 0.00 | (58.43) | 0.00 |
| 03-4321-240 | INSURANCE - UNEMPLOYMENT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4321-250 | INSURANCE - WORKER'S COMP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4321-260 | SECTION 125 ADMINISTRATION | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4321-301 | AUDITING SERVICES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4321-320 | LEGAL EXPENSES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4321-341 | TELEPHONE/COMMUNICATIONS | 3200.00 | 1255.64 | 1255.64 | 0.00 | 1944.36 | 60.76 |
| 03-4321-342 | TELEMETRY/SCADA | 2000.00 | 1779.30 | 1779.30 | 0.00 | 220.70 | 11.04 |
| 03-4321-343 | DIGSAFE | 120.00 | 87.00 | 87.00 | 0.00 | 33.00 | 27.50 |
| 03-4321-390 | BOOKKEEPING SERVICES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4321-396 | INTERNET | 1200.00 | 239.88 | 239.88 | 0.00 | 960.12 | 80.01 |
| 03-4321-522 | INSURANCE - PROPERTY/LIABILITY | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4321-530 | PUBLIC INFORMATION | 200.00 | 0.00 | 0.00 | 0.00 | 200.00 | 100.00 |
| 03-4321-560 | DUES | 500.00 | 50.00 | 50.00 | 0.00 | 450.00 | 90.00 |
| 03-4321-620 | OFFICE SUPPLIES | 500.00 | 58.38 | 58.38 | 0.00 | 441.62 | 88.32 |
| 03-4321-625 | POSTAGE | 600.00 | 762.70 | 762.70 | 0.00 | (162.70) | (27.12) |
| 03-4321-630 | ADMIN REPAIRS & SVC CONTRACTS | 1000.00 | 258.56 | 258.56 | 0.00 | 741.44 | 74.14 |
| 03-4321-680 | UNIFORMS & SAFETY GEAR | 600.00 | 260.75 | 260.75 | 0.00 | 339.25 | 56.54 |
| 03-4321-681 | SEWER DEPT HEALTH & SAFETY | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4321-691 | CUSTOMER DIRECT BILLING | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4321-810 | PROFESSIONAL DEVELOPMENT | 500.00 | 102.95 | 102.95 | 0.00 | 397.05 | 79.41 |
| 03-4321-840 | MILEAGE | 100.00 | 19.55 | 19.55 | 0.00 | 80.45 | 80.45 |
| **TOTAL** SANITATION ADMINISTRATION | | 66897.00 | 55680.95 | 55680.95 | 0.00 | 11216.05 | 16.77 |
| SEWER OPERATIONS | | | | | | | |
| 03-4326-110 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-115 | CONTRACTED SERVICES | 700.00 | 425.90 | 425.90 | 0.00 | 274.10 | 39.16 |
| 03-4326-140 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-210 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-212 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-215 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-220 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-225 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-230 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-240 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-250 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-260 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-301 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-310 | SURVEY & ENGINEERING | 4000.00 | 0.00 | 0.00 | 0.00 | 4000.00 | 100.00 |
| 03-4326-320 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-341 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-342 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

A C T U A L & B U D G E T E D E X P E N S E S & E N C U M B R A N C E

Report Sequence = Fund or Acct Group

Account = First thru Last; Mask = 03-####-###

Level of Detail = OBJECT; Level = 9

Fund: SEWER DEPARTMENT

Period: January 2015 to Closing 2015

| Account Number | Account Name | Current Year Budgeted | Period Expenditures | Current Year Expenditures | Encumbrances | Balance Remaining | Percent Left |
|---|--------------------------------|--------------------------|------------------------|------------------------------|--------------|----------------------|-----------------|
| 03-4326-343 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-390 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-391 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-396 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-410 | ELECTRICAL UTILITIES | 10000.00 | 13016.50 | 13016.50 | 0.00 | (3016.50) | (30.17) |
| 03-4326-411 | HEATING OIL | 50.00 | 0.00 | 0.00 | 0.00 | 50.00 | 100.00 |
| 03-4326-414 | HEATING GAS | 300.00 | 0.00 | 0.00 | 0.00 | 300.00 | 100.00 |
| 03-4326-430 | BUILDING MAINTENANCE | 100.00 | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 |
| 03-4326-522 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-530 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-610 | SUPPLIES | 1000.00 | 2017.36 | 2017.36 | 0.00 | (1017.36) | (101.74) |
| 03-4326-612 | ODOR CONTROL | 1500.00 | 694.40 | 694.40 | 0.00 | 805.60 | 53.71 |
| 03-4326-613 | WATER METERS | 1500.00 | 1151.00 | 1151.00 | 0.00 | 349.00 | 23.27 |
| 03-4326-614 | COLLECTION SYSTEM MAINTENANCE | 24000.00 | 21405.15 | 21405.15 | 0.00 | 2594.85 | 10.81 |
| 03-4326-615 | PUMP STATION MAINTENANCE | 10000.00 | 4144.15 | 4144.15 | 0.00 | 5855.85 | 58.56 |
| 03-4326-617 | WASTEWATER TREATMENT | 295000.00 | 271070.00 | 271070.00 | 0.00 | 23930.00 | 8.11 |
| 03-4326-620 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-625 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-630 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-632 | EQUIPMENT RENTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-635 | GASOLINE | 1500.00 | 928.31 | 928.31 | 0.00 | 571.69 | 38.11 |
| 03-4326-636 | DIESEL FUEL | 50.00 | 0.00 | 0.00 | 0.00 | 50.00 | 100.00 |
| 03-4326-650 | GROUNDS & EASEMENT MAINTENANCE | 500.00 | 150.00 | 150.00 | 0.00 | 350.00 | 70.00 |
| 03-4326-660 | VEHICLE/EQUIP REPAIRS/MAINT | 500.00 | 481.72 | 481.72 | 0.00 | 18.28 | 3.66 |
| 03-4326-680 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-681 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-691 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-730 | SPECIAL PROJECTS | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-731 | PHOTOGRAMMETRIC MAPPING | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-740 | NEW & REPLACEMENT EQUIPMENT | 1000.00 | 0.00 | 0.00 | 0.00 | 1000.00 | 100.00 |
| 03-4326-810 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4326-840 | DELETED ACCOUNT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **TOTAL** SEWER OPERATIONS | | 351700.00 | 315484.49 | 315484.49 | 0.00 | 36215.51 | 10.30 |
| **TOTAL** SANITATION | | 418597.00 | 371165.44 | 371165.44 | 0.00 | 47431.56 | 11.33 |
| **TOTAL** GENERAL GOVERNMENT OPERATING BUDGET | | 455773.00 | 394672.65 | 394672.65 | 0.00 | 61100.35 | 13.41 |

DEBT SERVICE

PRINCIPAL - LONG-TERM BONDS AND NOTES

A C T U A L & B U D G E T E D E X P E N S E S & E N C U M B R A N C E

Report Sequence = Fund or Acct Group

Account = First thru Last; Mask = 03-####-###

Level of Detail = OBJECT; Level = 9

Fund: SEWER DEPARTMENT

Period: January 2015 to Closing 2015

| Account Number | Account Name | Current Year Budgeted | Period Expenditures | Current Year Expenditures | Encumbrances | Balance Remaining | Percent Left |
|--------------------------------------|---------------------------------------|--------------------------|------------------------|------------------------------|--------------|----------------------|-----------------|
| 03-4711-980 | PRINCIPAL EXPENSE | 5958.00 | 6303.62 | 6303.62 | 0.00 | (345.62) | (5.80) |
| ***TOTAL** | PRINCIPAL - LONG-TERM BONDS AND NOTES | 5958.00 | 6303.62 | 6303.62 | 0.00 | (345.62) | (5.80) |
| INTEREST - LONG-TERM BONDS AND NOTES | | | | | | | |
| 03-4721-981 | INTEREST-LONG TERM NOTES/BONDS | 1191.00 | 1086.11 | 1086.11 | 0.00 | 104.89 | 8.81 |
| ***TOTAL** | INTEREST - LONG-TERM BONDS AND NOTES | 1191.00 | 1086.11 | 1086.11 | 0.00 | 104.89 | 8.81 |
| OTHER DEBT SERVICE CHARGES | | | | | | | |
| 03-4790-991 | LOAN FEES | 2756.00 | 2514.14 | 2514.14 | 0.00 | 241.86 | 8.78 |
| ***TOTAL** | OTHER DEBT SERVICE CHARGES | 2756.00 | 2514.14 | 2514.14 | 0.00 | 241.86 | 8.78 |
| ***TOTAL** | DEBT SERVICE | 9905.00 | 9903.87 | 9903.87 | 0.00 | 1.13 | 0.01 |
| CAPITAL OUTLAY & CAPITAL RESERVE | | | | | | | |
| CAPITAL OUTLAY | | | | | | | |
| MACHINERY, VEHICLES AND EQUIPMENT | | | | | | | |
| 03-4902-740 | ALARM-MONITOR-CTRL SYS UPGRADE | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4902-741 | SEWER MAIN CLEANER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4902-760 | SEWER VEHICLES & EQUIPMENT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4902-761 | PICKUP TRUCK | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03-4902-762 | UTILITY VEHICLE | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ***TOTAL** | MACHINERY, VEHICLES AND EQUIPMENT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ***TOTAL** | CAPITAL OUTLAY | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| TRANSFERS TO SPECIAL REVENUE FUNDS | | | | | | | |
| 03-4912-001 | TRANSFER TO CAPITAL RESERVE | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ***TOTAL** | TRANSFERS TO SPECIAL REVENUE FUNDS | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| CAPITAL RESERVE & TRUST FUNDS | | | | | | | |

A C T U A L & B U D G E T E D E X P E N S E S & E N C U M B R A N C E

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|--|--|--------------------------|------------------------|------------------------------|--------------|----------------------|-----------------|
| ----- | | | | | | | |
| TRANSFERS TO CAPITAL RESERVE FUNDS | | | | | | | |
| ----- | | | | | | | |
| 03-4915-730 | SEWER CAPITAL RESERVE | 25000.00 | 25000.00 | 25000.00 | 0.00 | 0.00 | 0.00 |
| | | ----- | ----- | ----- | ----- | ----- | ----- |
| **TOTAL** | TRANSFERS TO CAPITAL RESERVE FUNDS | 25000.00 | 25000.00 | 25000.00 | 0.00 | 0.00 | 0.00 |
| | | ----- | ----- | ----- | ----- | ----- | ----- |
| **TOTAL** | CAPITAL RESERVE & TRUST FUNDS | 25000.00 | 25000.00 | 25000.00 | 0.00 | 0.00 | 0.00 |
| | | ----- | ----- | ----- | ----- | ----- | ----- |
| **TOTAL** | CAPITAL OUTLAY & CAPITAL RESERVE | 25000.00 | 25000.00 | 25000.00 | 0.00 | 0.00 | 0.00 |
| | | ----- | ----- | ----- | ----- | ----- | ----- |
| MISCELLANEOUS / CAPITAL RESERVE EXPENSES | | | | | | | |
| ----- | | | | | | | |
| 03-5709-004 | TRANSFERS FRM CAP. RESERVES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | ----- | ----- | ----- | ----- | ----- | ----- |
| **TOTAL** | MISCELLANEOUS / CAPITAL RESERVE EXPENSES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | ----- | ----- | ----- | ----- | ----- | ----- |
| **TOTAL** | SEWER DEPARTMENT | 490678.00 | 429576.52 | 429576.52 | 0.00 | 61101.48 | 12.45 |