

SUFFIELD WPCA

**Congamond Lakes
Sewer Feasibility
Study – Final Report**



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COMMITMENT and INTEGRITY DRIVE RESULTS

**Project No. 0228575.34
Suffield, CT WPCA**

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EXECUTIVE SUMMARY

The Congamond Lakes Study Area refers to properties along the eastern shores of the Congamond Lakes. The area consists of approximately 500 homes in Suffield, CT. The area is currently served by private drinking water wells and onsite septic systems. This infrastructure is aging, and there is a concern that septic systems may be failing or inadequately treating wastewater which is ultimately contaminating the Lakes. This feasibility study assesses potential wastewater management options for the area. Woodard & Curran assessed three potential sewer service area configurations, as well as three treatment and disposal options. Specifically, the disposal options include connections to the nearby collection systems of Southwick or Suffield, as well as an on-site community Wastewater Treatment Facility (WWTF).

Woodard & Curran ultimately identified five feasible alternatives which are a combination of the three potential service area configurations and three treatment/disposal options (Table ES-1). The reduced area options A and B were not included under Alternatives 2 and 3 because those projects would be substantially more costly on a per home basis and were therefore not evaluated in detail. Options 1A and 1B were evaluated because they have the highest likelihood of impacting the lake, Option 1A being within the 300' buffer and Option 1B being the sub areas abutting the lakes. It was also determined that combining wastewater solutions was not viable due to the substantial capital cost of each solution which would ultimately increase costs on a per home basis.

Table ES-1 Summary of Wastewater Alternatives

Alt.	Service Areas	Average Daily Flow (GPD)	Wastewater Solutions
1A	300' Buffer along lake; existing use only	50,000	Inter-Municipal Connection to Southwick discharging to Westfield WRF
1B	Serves only subareas abutting the Lake	75,000	
1C	Buildout of Study Area	150,000	
2	Buildout of Study Area	150,000	7-mile Force Main to Suffield collection system
3	Buildout of Study Area	150,000	Community WWTF with groundwater disposal

Figure ES-1 presents the three service areas. The proposed collection systems vary based on the A, B, and C service area configurations which uses gravity and or low-pressure sewers. Due to topographical challenges low-pressure sewers are recommended for service areas 1A and 1B to avoid daisy-chaining a series of wastewater pumping stations that would substantially increase both capital and operating costs.

Key considerations for each wastewater solution alternative are as follows:

- Alternative 1: Southwick to Westfield WRF – This study includes a high-level evaluation of downstream upgrades in the Southwick system which vary substantially across the flow scenarios. Determination of both the acquisition cost and total available capacity from Southwick are critical next steps if that solution is further considered.
- Alternative 2: Suffield WPCF – Limited upgrades to the Suffield WPCA system are anticipated but due to the length of and associated capital and operating costs of the force main to Suffield this solution is less desirable.
- Alternative 3: Community WWTF – This solution would require acquiring property for both the treatment facility and discharge location which are not determined at this time.

Table ES-2 presents the estimated capital costs for the project.

Table ES-2: Summary of Capital Costs and Estimated Users¹

Alt.	Service Area & Solution	Assessable EDUs	Collection System Cost	Conveyance, Treatment and Disposal Costs	Total Project Costs	Notes
1A	300' Buffer Area to Southwick	295	\$12.5M	\$9.5M	\$22.0M	\$ Least Total Cost and Least Cost per EDU
1B	Lake-Abutting Subareas to Southwick	358	\$14.9M	\$12.9M	\$27.8M	\$
1C	Study Area to Southwick	633	\$38.3M	\$19.1M	\$57.4M	\$\$\$ Highest Total Cost and Highest Cost per EDU
2	Study Area to Suffield	633	\$38.3M	\$17.7M	\$56.0M	
3	Study Area to Local WWTF	633	\$38.3M	\$26.1M	\$64.4M	

¹. All costs are presented in 2022 and should be escalated to the mid-point of construction once a project schedule is established. Due to the current period of high inflation and bidding/construction price volatility costs could be not projected at this time.

Alternative 1A is the least cost option with Alternative 1B the next least cost option. Alternatives 1C, 2 and 3 have the highest costs as they service the entire study area. Key assumptions in the cost determination include the downstream upgrades and capacity acquisition for the Southwick connection. Further, it seems unlikely at this time that Southwick would be amenable to considering an IMA of 75,000 or 150,000 gpd as they had initially only allocated 50,000 gpd for this area which would preclude Alternatives 1B and 1C.

As presented in Section 6, without alternative funding, the costs per EDU for each alternative are on the order of \$50,000 to \$100,000. However, factoring in current low interest rates available through the Clean Water Fund (CWF) and a 30-year term, these costs equate to \$3,900 annually for Alternative 1A (\$333 monthly), \$4,100 annually for Alternative 1B and close to \$5,000 for Alternatives 1C, 2 and 3.

Due to the high capital costs of each of these alternatives (and associated cost per EDU), it is anticipated that the project would likely require additional funding. There are many financing and funding opportunities that may apply to this project and there are currently additional opportunities related to Federal stimulus funding associated with the current economic recovery. These funding options should be explored and monitored to identify programs that may be a good fit and provide a substantial capital cost reduction. Alternative 1A would benefit the most from such a program because it has the lowest capital costs and alternative funding would have the largest percentage impact on this project. A summary of the funding and financing options is presented below and is discussed in detail in Section 6.

- Tax Increment Financing TIF (Capital Recovery)
- Sewer Assessments (Capital Recovery)
- Clean Water Fund (Financing)
- Federal Funding (Infrastructure Bill and Earmarks)

Many of the funding alternatives considered are more likely to fund a project once it is well defined or “shovel ready”. However, the design effort may also be fundable through one of the funding mechanisms. Advancing to final design or

at a minimum the conceptual design including site survey, preliminary design, and furthering permitting/regulatory discussions would better position the project to solicit funding. Alternative 1A, having the lowest capital cost and most direct impact for protecting the lake is the alternative that will likely benefit the most from grant funding. Public outreach efforts and garnering support from Stakeholders are also considerations for soliciting funding and should be pursued to better understand local support for the project.

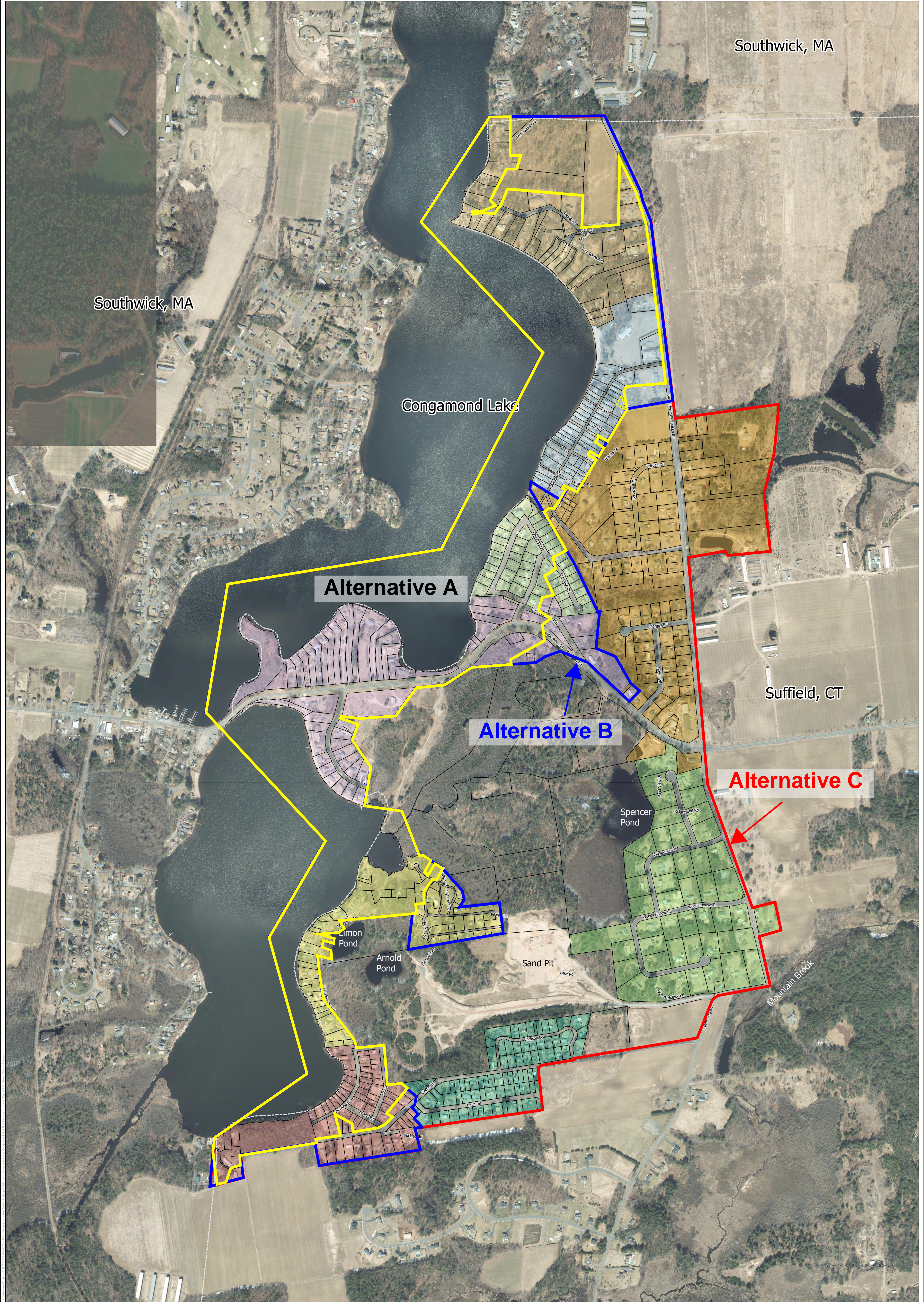
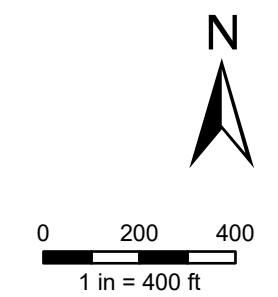


Figure ES-1:
Sewer Service Area
Alternatives

Suffield WPCA

- Legend**
- Suffield Town Boundary
 - Parcel Boundary
 - Sewer Sub Areas**
 - Sub Area 1
 - Sub Area 2
 - Sub Area 3
 - Sub Area 4
 - Sub Area 5
 - Sub Area 6
 - Sub Area A
 - Sub Area B
 - Sub Area C
 - Study Area**
 - Alternative A - 50,000 GPD
 - Alternative B - 75,000 GPD
 - Alternative C - 150,000 GPD (Entire Study Area)



1. INTRODUCTION AND BACKGROUND

1.1 Project Drivers

The Congamond Lakes (the Lakes) are a series of spring fed freshwater lakes located in the Town of Southwick, Massachusetts, along the Northwest portion of Suffield, Connecticut. The Lakes consist of approximately 465 acres of water separated into three distinct bodies: North Pond, Middle Pond and South Pond. The area adjacent to the Lakes within Suffield, Connecticut is heavily developed, and homes occupy a large percentage of the shoreline. The Connecticut side does not have sanitary sewer and homes are on aging individual septic tanks. There is concern that pollutants from these septic systems may be contaminating the Lakes. The area (both in Connecticut (CT) and Massachusetts (MA)) is in a MA Zone II drinking water supply protection area, as it is the aquifer of a large public drinking water well serving customers in MA. As such, Southwick has previously connected the homes on the Massachusetts side of the lake to a sanitary sewer system that discharges to the Westfield, Massachusetts Water Recovery Facility (Westfield WRF).

As the parcels along the lake on the Connecticut side are small, there are several homes whose private drinking water wells and septic tanks do not meet the minimum separating distances as required by the Connecticut Public Health Code. As part of the 2020 Wastewater Facilities Plan effort, Woodard & Curran contacted the North Central District Health Department (NCDHD) who identified several homes near the Lakes that had been granted exceptions to the code. The NCDHD generally avoids granting such exceptions when possible and is in favor of working with sewer districts to eliminate them to protect groundwater.

1.2 Local Wastewater Management

There are two sewer districts within 10 miles of the Congamond Lakes area. The Town of Suffield, CT Water Pollution Control Authority (WPCA) operates a centralized collection system and treatment facility in the eastern section of Town approximately 6 miles away. The Town of Southwick, MA operates the collection system on the adjacent and opposite shores of the Lakes. A potential connection point lies directly North of Suffield on Babb's Road. As previously noted, the Southwick collection system discharges to the Westfield system with ultimate treatment at the Westfield WRF. Figure 1- 1 provides a site locus of the Congamond Lakes area in relation to the neighboring communities.

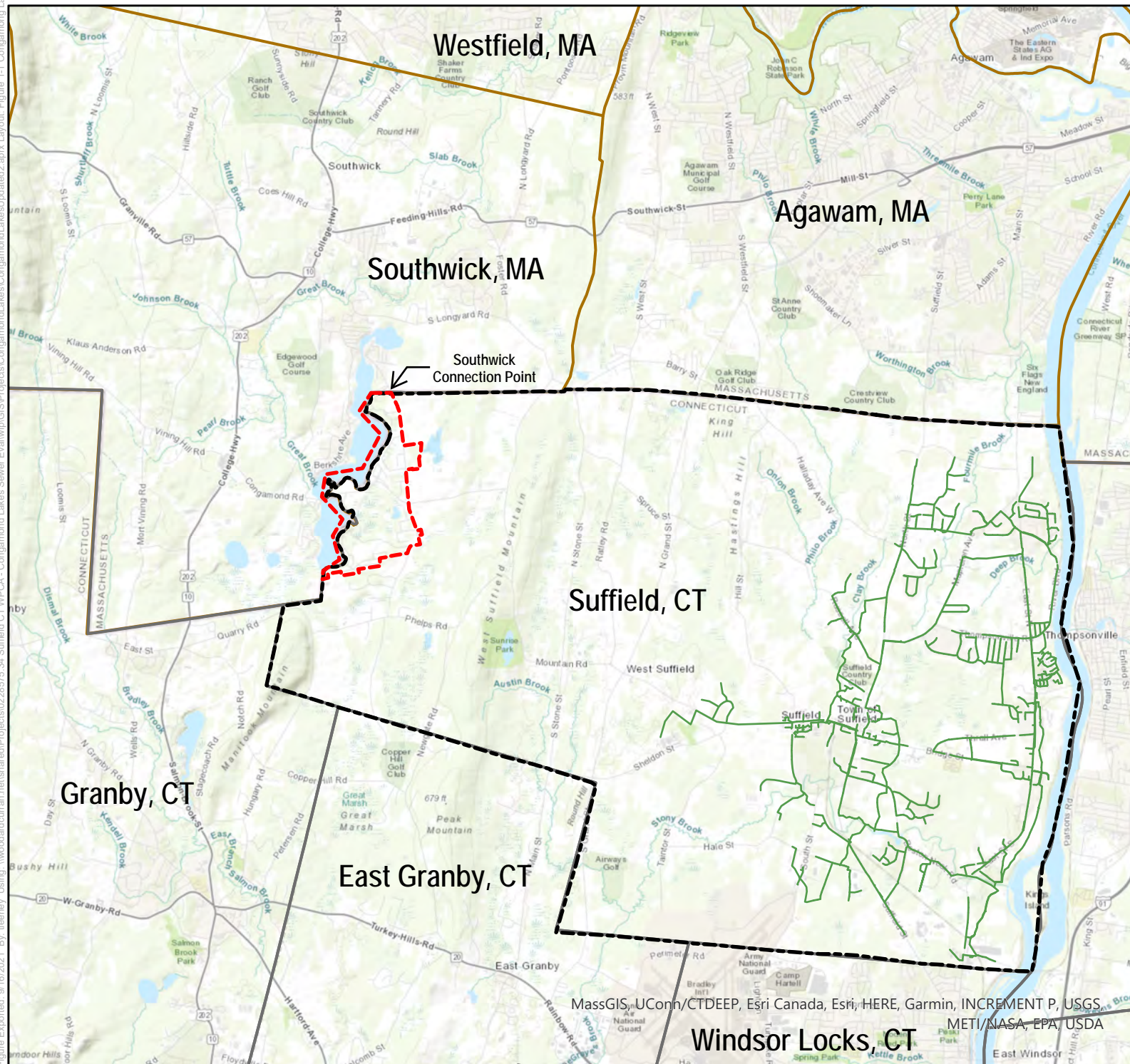


Figure 1-1: Congamond Lakes Site Locus

Suffield, CT



Legend

- Study Area Boundary
- Suffield Town Boundary
- CT Town Boundary
- Suffield Wastewater Collection System
- MA Town Boundaries

0 4,000 8,000
1 in = 8,000 ft



Project #: 0228575.34
Map Created: November 2021

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1.3 Project Scope

In 2013 the Suffield WPCA commissioned a report that investigated several alternatives to provide wastewater management for the Lakes area including serving portions of the area with a single community treatment system, connection to Southwick, Massachusetts for ultimate treatment and disposal in Westfield, and combinations thereof. This evaluation serves as an update to the 2013 study and provides an assessment of the most appropriate and feasible means to sewer the evaluation area.

The specific scope of this study was developed to address the project drivers and consists of the following:

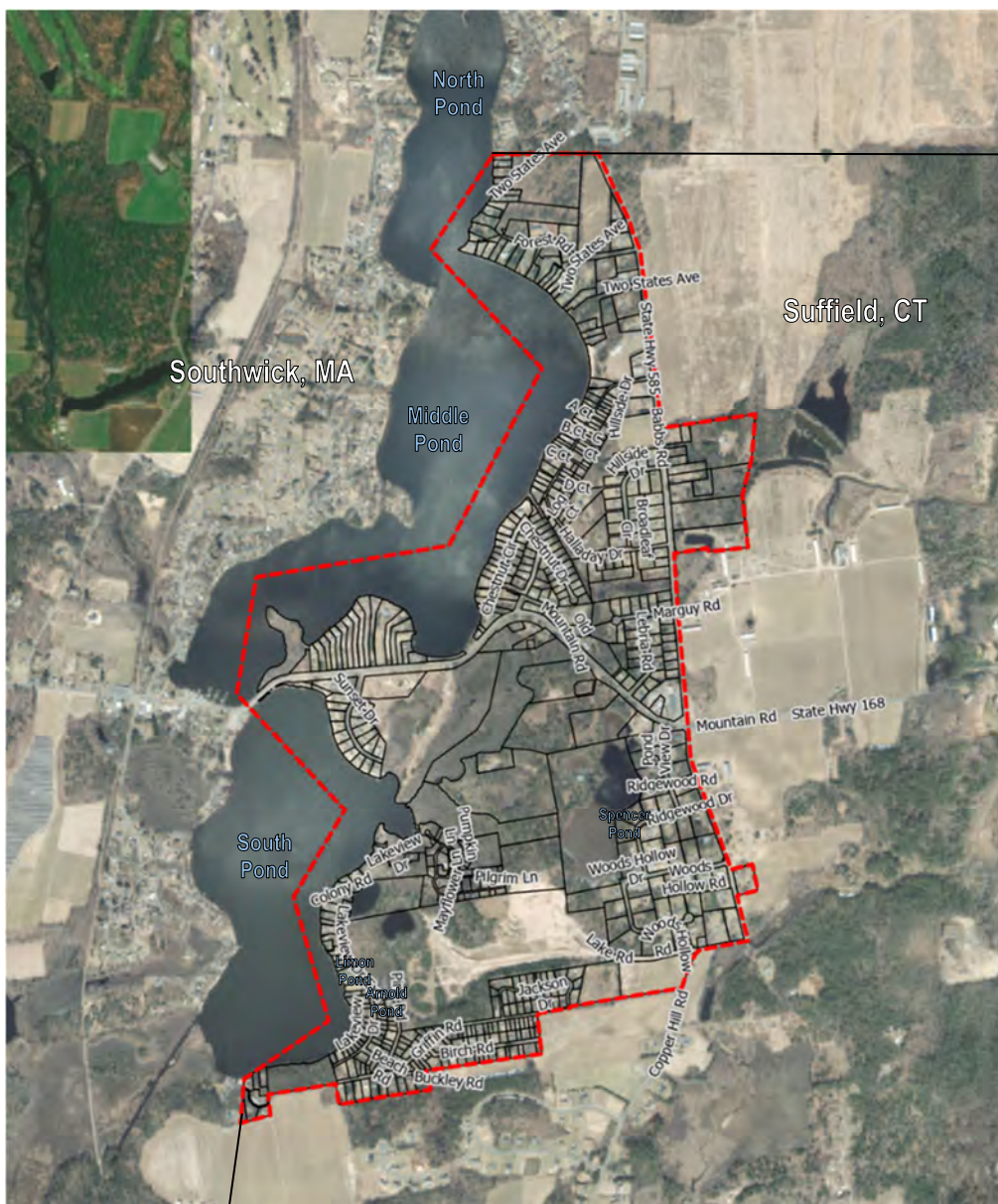
- **Existing Conditions Assessment:** Reviewing previous efforts from the 2013 report and analyzing zoning, land use, and environmental conditions.
- **Design Flows:** Estimating current and future wastewater flows based upon zoning and land use data along with Connecticut Department of Public Health (CT DPH) requirements and the New England Interstate Water Pollution Control Commission “TR-16 Guides for the Design of Wastewater Treatment Works” (TR-16) design guidelines.
- **Alternative Analysis:** Evaluating alternatives including a community system, a sewer system connected to Southwick and Westfield, MA, combinations of the two, and a force main to the Suffield WPCA collection system.
- **Proposed Alternative and Preliminary Design:** Developing a preliminary sewer layout based upon the study area topography, design flows, and current buildout. An engineer’s opinion of probable cost was included in the sewer development for several feasible alternatives.
- **Project Cost and Funding:** Reviewing funding and financing opportunities with various cost recovery options, including public funding, betterments, and a sewer rate charge analysis.
- **Regulatory Requirements and Environmental Permitting:** Discussions with regulatory authorities on permitting requirements and other considerations for future design.

2. EXISTING CONDITIONS ASSESSMENT

2.1 Initial Study Area

The area referred to as Congamond Lakes is typically defined as the area between the lakefront (eastern boundary), Route 585/Babb's Road and Copper Hill Road (western boundary), Griffin Road (southern boundary), and the CT/MA State border (northern boundary). The area directly adjacent to the shoreline is heavily populated. The eastern side of Babbs Road and the southern side of Griffin Road are mostly farmland. There is a small cluster of homes near Broadleaf Circle on Babbs Road. This area is shown in Figure 2-1.

Figure 2-1: Study Area Aerial View



As the potential pollutants to the Lakes are a primary concern, the 2013 report identified land parcels within 500 feet of the lake to be part of the study and expanded the area to Babbs Road and Griffin Road. Woodard & Curran used this area as an initial study area for potential sewer service. Additional properties were included across from Babb's Road in an effort to decrease the project cost per EDU as described in Section 3.1.1. This boundary is referred to as the "study area" throughout this report. This area is approximately 650 acres in size.

2.2 Zoning and Land Use

The Town of Suffield's Planning & Zoning Commission has adopted Zoning Regulations and a Zoning Map to regulate the use of land throughout the Town. The Town has several residential, industrial, commercial, planned development, and mixed-use zones. However, there are only four different zones in the study area. Suffield publishes zoning information on the Town's GIS website. This report uses the most recent data set available, published in 2013. The zones are as follows:

- **Residential Use** – Three residential zones (R-11, R-20, and R-45), are defined according to minimum lot size. (R-11 is 11,000 square feet, R-20 is 20,000 square feet, and R-45 is 45,000 square feet). These zones are primarily single-family units.
- **Town Scale Commercial** – These zones are neighborhood-oriented, industrial/commercial, or service needs.

A map of zoning is provided in Figure 2-2. An approximate breakdown of zoning by acreage within the study area is included in Table 2-1. A breakdown by parcel is not included as a large percentage of parcels have multiple zones. The study area is mainly residential zoned 45,000 SF lots (approximately 1 acre), however, the majority of the parcels on the lakefront are only zoned as 20,000 SF lots.

Table 2-1: Zoning Distribution within Study Area

Zone	Distribution by Acreage	
	Approximate Acreage	% of Total
R-11 (11,000 SF lots)	10.0	1.6%
R-20 (20,000 SF lots)	156.5	24.3%
R-45 (45,000 SF lots)	465.9	72.3%
Town Scale Commercial	11.6	1.8%
Total	644	--

Suffield's GIS parcel data also denotes land use. Land Use is separate from the Town's zoning regulations and identifies whether the parcel is municipally or privately owned, single or multi-family, developed or vacant, and if the parcel is a lakefront property. Table 2-2 shows the distribution of land use by parcel and by acre within the study area.

Table 2-2: Distribution of Parcels by Land Use in the Study Area

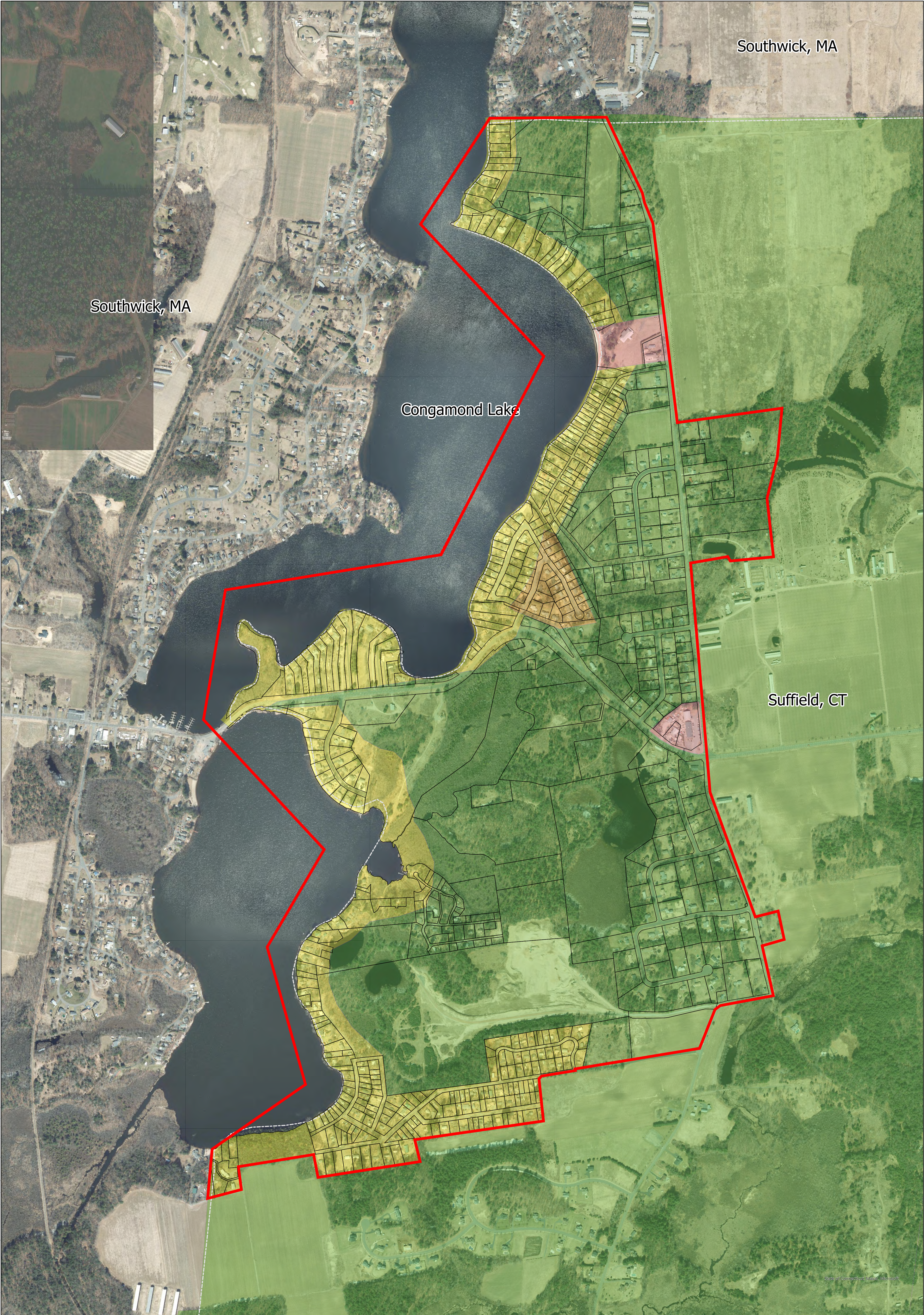
Land Use	Distribution by Parcel		Distribution by Acreage	
	No. of Parcels	% of Total	Approximate Acreage	% of Total
Municipally Owned	8	1.3%	36.1	5.6%
Single Family with Apartment or Commercial, Two Family, Multiple Houses	11	1.8%	8.8	1.4%
Single Family ⁽¹⁾	477	79.0%	300.5	46.7%
Farmland (Tillable A-D)	4	0.6%	10.1	1.6%
Vacant ⁽²⁾	36	6.0%	98.2	15.3%
Vacant Unbuildable	57	9.4%	145.3	22.6%
Other ⁽³⁾	11	1.8%	1.8	0.3%
Total	604	--	644	

Notes

¹ Single Family includes both Single Family Waterfront and Single-Family land use parcels.

² Vacant includes both Vacant Lake Front and Vacant land use parcels.

³ Other includes parcels that had a blank land use code with no parcel data. These parcels either split a home with another parcel or are too small for development.



Southwick, MA

Southwick, MA

Congamond Lake

Suffield, CT

Figure 2-2:
Zoning

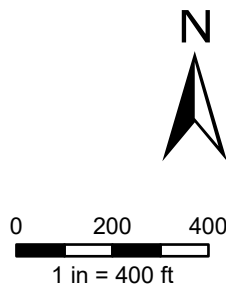
Suffield WPCA

Legend

- Suffield Town Boundary
- Study Area
- Parcel Boundary

General Zoning

- 1-3 Unit Residential, Low Density
- 1-3 Unit Residential, Medium-Low Density
- 1-3 Unit Residential, Medium Density
- Town Scale Commercial



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2.3 Environmental Conditions

Woodard & Curran considered environmental conditions in the area that may limit potential growth. These include wetlands, protected open space, drinking water protection, and exceptions to the public health code, and are described in this section and presented in Figures 2-3, 2-4, and 2-5.

2.3.1 Wetlands

In the State of Connecticut, wetlands are defined by a soil layer published by the Connecticut Department of Energy and Environmental Protection (CT DEEP). There is a large section of wetlands spread through the central part of the study area, as shown in Figure 2-3. Wetland soils total approximately 14.4% (93 acres) of the total study area. Wetland locations impact potential future development, which is discussed further in Section 3.2.

2.3.2 Protected Open Space

There are three parcels designated as open space by CT DEEP. Two of those parcels are municipally owned and are near the northern portion of the study area. Those two parcels combined are approximately 8.6 acres in size. The additional open space parcel is privately owned and is approximately 27.5 acres in size.

2.3.3 Drinking Water Protection

Drinking water sources are heavily regulated in Connecticut by CT DPH. Woodard & Curran identified both surface water and groundwater classifications within the study area on Figure 2-3. There are three Class A surface water ponds. Spencer Pond takes up 8 acres of the large, privately-owned open space parcel. The remaining two ponds, Limon Pond and Arnold Pond, are near the southwestern corner of the study area and are approximately 3 acres each. Surface water quality data was also sourced from CT DEEP.

Most of the study area (87.5%) is within a wellhead protection area as defined by CT DPH. All parcels which are not within the wellhead protection area are in the southeast corner of the study area.

CT DPH also regulates aquifers and has established aquifer protection areas. The study area does not include any CT DPH aquifer protection areas; however, most of the area is in a MA Zone II drinking water protection area as shown on Figure 2-3. This MA drinking water protection classification is associated with a public drinking water supply well that pumps over 100 gallons per minute. Wells of this size are associated with large service areas, such as towns or cities.

2.3.4 Public Health Code Exceptions

There is a private water company that serves a portion of the area; however, most homes have private drinking water wells. As described in Section 1.1 there are many properties that are too small for the wells and septic tanks to have the minimum separating distances defined by the Public Health Code. (The separating distance is greater than the length of the property itself). The properties within the Congamond Lakes area that do not meet these minimum separating distances are shown in Figure 2-4. The regulatory authority, NCDHD, has issued exceptions to these properties as they were developed prior to the Public Health Code. NCDHD typically recommends eliminating these exceptions when feasible, as they pose a potential public health hazard.

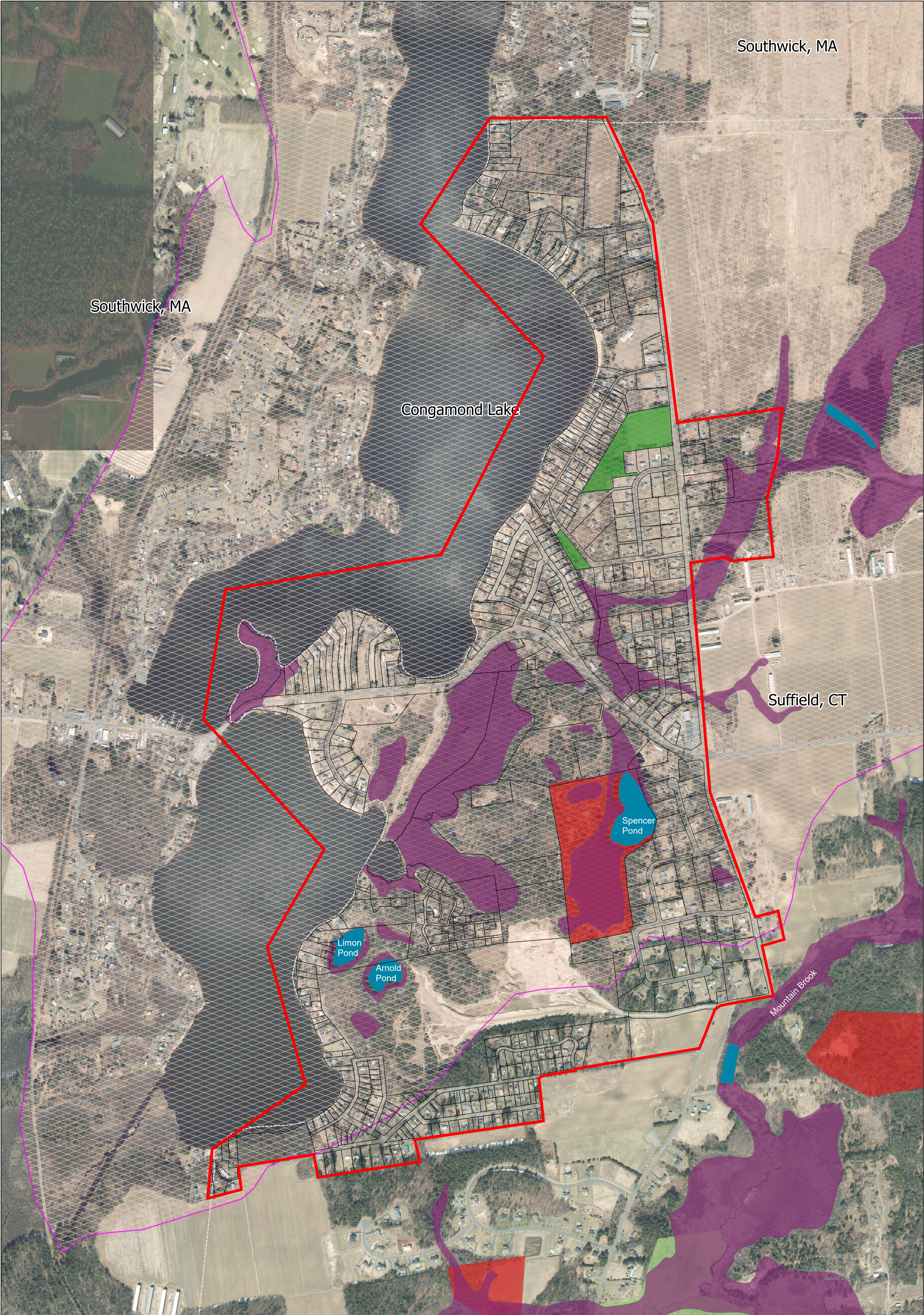


Figure 2-3: Environmental Conditions

Suffield WPCA

Legend

- Suffield Town Boundary
- Study Area
- Parcel Boundary
- CT Wetlands
- MA Zone II Drinking Water Protection
- CT Surface Water Quality Class A
- CT Protected Open Space
- Land Trust
- Municipal
- Private

Scale

0 200 400

1 in = 400 ft

North Arrow

N

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3. DESIGN FLOWS

Woodard & Curran used US Census and Town GIS data, TR-16 guidelines, and the Connecticut DPH Public Health Code: On-Site Sewage Disposal Regulations and Technical Standards for Subsurface Sewage Disposal Systems (Public Health Code) to estimate the wastewater flows for the area. Woodard & Curran performed an analysis on estimated flows to provide sewer to the current population within the study area, as well as potential buildout flows in the area.

3.1 Estimated Current Wastewater Flows

This section describes the approach to estimate wastewater production in the area for the existing uses.

There are two use categories of flows that were considered in the analysis: residential and commercial/industrial flows. Parcels were identified as residential or commercial/industrial based upon the Town zoning and land use data.

3.1.1 Residential Flows

In keeping with the values established by the 2020 Wastewater Facilities Plan, residential flow was calculated by multiplying the average person per household in Suffield (per the 2020 US Census, 2.6 persons per household), by the TR-16 guideline of an average wastewater flow of 70 gallons per day (GPD) per person to obtain an average daily wastewater flow of 182 GPD per household, or 1 equivalent dwelling unit (EDU).

3.1.2 Commercial/Industrial Flows

The Public Health Code establishes the design flow for both commercial and industrial properties as 0.1 GPD per square foot (SF) of building footprint. This standard includes a safety factor of 1.5 times the daily average in their reference values, so the 0.1 GPD/SF was divided by 1.5 to obtain a value of 0.07 GPD/SF average daily use. Gross building square footage was obtained from the Town GIS parcel data, and this value was multiplied by the 0.07 GPD/SF to obtain the average commercial/industrial wastewater flow per parcel.

3.1.3 Vacant Lots

There are many vacant lots within the potential service area. As they currently do not have any wastewater infrastructure they were excluded from current flows. Vacancy was assessed by reviewing land use data from the Town GIS. This list of potentially vacant parcels was confirmed through an analysis of aerial mapping. There were four instances of homes developed on parcels listed as vacant in the land use data: three homes on “vacant” lots and one home on a “vacant unbuildable” lot. Flow projections were adjusted for these discrepancies.

3.1.4 Babb’s Beach Recreational Area

Babb’s Beach is one of the larger commercial/industrial parcels in the area. This property consists of a beach recreation area and a former “big band” era dance hall. Current wastewater service is provided by portable restrooms. According to the Town Planner, there are no plans to reopen the dance hall or provide water or sewer service to the facility. As such, this parcel was excluded from the current flows estimate.

3.1.5 Infiltration and Inflow

Flow estimates also account for infiltration and inflow (I/I). TR-16 indicates using an I/I factor of 250-500 GPD/inch-diameter mile (IDM) to represent a normal range of infiltration for gravity sewer systems in good condition. The Town of Suffield Policies and Requirements for Extensions and Repairs to Existing Sewage Facilities, January 2012, (Suffield Technical Standards) recommends 100 GPD/IDM to represent newer sewer systems. An I/I value of 250 GPD/IDM

was used for flow calculations to be conservative and was applied to low-pressure and gravity sewer. The pipe diameter (in inches) and the length of sewer (in miles) are multiplied by the 250 GPD/IDM I/I factor to obtain the estimated current amount of I/I flow.

3.1.6 Current Flow Estimates

Table 3-1 shows the estimated residential and commercial/industrial, and I/I flows along with the number of EDUs obtained from Town parcel data for the current development within the entire study area.

Due to potential constraints of the treatment and disposal infrastructure, the WPCA may only sewer a portion of the area. These flows are broken down into different alternatives in Section 4.

Table 3-1: Estimated Current Wastewater Flows

Land Use	Average Daily Flow (ADF)		Peaking Factor ¹	Peak Hourly Flow (PHF)	
Residential	94,000	GPD	5	326	GPM
Commercial / Industrial	2,000	GPD	5	7	GPM
I/I	12,000	GPD	-	8	GPM
Total	108,000	GPD	-	342	GPM
Equivalent Dwelling Units ²	633	EDUs			

¹ Based on peaking Factor of 5 per TR-16

² EDU value was developed by dividing the total flow by the flow per EDU as developed in Section 3.1.1

3.2 Potential Future Wastewater Flows

Woodard & Curran estimated potential future flows by calculating potential buildout flows for residential and industrial/commercial users. This analysis assumed that each parcel would be developed to the extent allowable by current zoning and land use within in the study area using the methodology for residential, commercial, and industrial users outlined in Section 3.1. This analysis also assumed that land use and zoning would not change. Specifically, the following assumptions were made:

- “Vacant” parcels will be developed; while
- “Unbuildable” parcels may not be developed,
- Protected open space will not be developed, and
- Wetlands will not be developed.

Most of the potential development is on residential parcels. The flows for maximum residential development and the two undeveloped commercial properties are detailed in this section.

3.2.1 Residential Flows

Future residential flows for vacant parcels were estimated by multiplying the maximum number of dwellings per parcel based on zoning by the flow per EDU (182 gpm as detailed in Section 3.1). The maximum number of dwellings per parcel was calculated by dividing the parcel size by the residential zoning allowance (11,000 SF, 20,000 SF or 45,000 SF). Table 3-2 presents the flow per acre for each residential zone.

If the vacant parcel had wetlands or a water body on the property, the corresponding area was subtracted from the total parcel acreage to obtain a more accurate value for developable land on the parcel. Some vacant parcels were too small or oddly shaped for development; these parcels were not included in the future flows.

Table 3-2: Wastewater Flow per Residential Zone

Zone	Wastewater Flow
R-11 (11,000 SF lots)	721 GPD/acre
R-20 (20,000 SF lots)	396 GPD/acre
R-45 (45,000 SF lots)	176 GPD/acre

3.2.2 Sand Pit Operation

There is a large 75-acre parcel in the central region of the study area. This parcel is a sand pit operation. Operations at the sand pit are nearing completion, and the Suffield Town Planner indicated that upon completion, the lot may be rezoned and subdivided for development. As a portion of the parcel is within wetlands, only some of the land is considered developable. Future flow estimates for this parcel are approximately 12,000 GPD average daily flow.

3.2.3 Babb's Beach Recreation Area

While there are no known near-term plans to develop the beach and dance hall and provide sewer service, it may potentially be developed in the next several decades. As such, future flows include development on this parcel. Flows for this parcel were estimated by using the Public Health Code design value of 3.5 GPD/attendee for recreational facilities divided by the 1.5 safety factor to obtain an average daily flow of 2.3 GPD/attendee. The National Register of Historic Places states that up to 3,000 attendees may occupy the property. The 3,000 attendees multiplied by the 2.3 GPD/attendee results in a potential future wastewater flow of 7,000 GPD for the parcel.

3.2.4 Infiltration and Inflow

I/I was also accounted for in the future flows. I/I future flow estimates followed the same methodology as current flow estimates detailed in Section 3.1.5. The amount of I/I for future flows is notably larger than estimated current flows because of the potential for subdivision development on the 75-acre sand pit parcel. Such a subdivision would require additional gravity pipe within the parcel, which would in turn increase the associated amount of I/I (2,000 GPD).

3.2.5 Potential Future Flow Estimates

Table 3-3 presents the estimated average daily and peak hourly residential, commercial/industrial, and I/I flows, along with the number of EDUs for the future potential development within the study area.

These flows are broken down into different alternatives in Section 4.

Table 3-3: Future Wastewater Flows

Land Use	Average Daily Flow (ADF)		Peaking Factor ¹	Peak Hourly Flow (PHF)	
Residential	127,000	GPD	5	427	GPM
Commercial / Industrial	9,000	GPD	5	31	GPM
I/I	14,000	GPD	-	10	GPM
Contingency	4,000	GPD	5	14	GPM
Total	150,000	GPD	-	482	GPM
Equivalent Dwelling Units ²	748	EDUs			

¹ Based on peaking Factor of 5 per TR-16

² EDU value was developed by dividing the total flow by the flow per EDU as developed in Section 3.1.1

4. COLLECTION SYSTEM DEVELOPMENT AND PRELIMINARY DESIGN

4.1 Sewer Service Area Boundary Development

This report presents three potential boundaries for the Congamond Lakes sewer service area. These boundaries are for the sewer collection system itself; conveyance, transportation, and disposal alternatives are assessed in Section 5. The three potential sewer service areas are as follows:

- Alternative A: Maximum 50,000 GPD (Based on a 300-foot buffer from the lakefront)
- Alternative B: Maximum 75,000 GPD (Serves only the subareas abutting the lake)
- Alternative C: 150,000 GPD (Serves the entire study area)

The development of each of these alternatives, including a discussion of the buffer and subareas is detailed in this section.

4.1.1 Development of Sub Areas

The topography of the study area is hilly. Ground surface elevations in the roadways of the study area range from 228 ft near the shoreline to 264 ft on Griffin Road. Complex topography along with distinctly separated neighborhoods lead to the development of nine different sewer service areas within the study area, referred to as “sub areas”. Sub areas 1 through 6 comprise the development closest to the Lakes. The remaining three subareas (A, B, and C) were distinguished separately because they are farther from the Lakes along Babb’s Road.

The sub-areas were established around current development. There are several large regions of undeveloped land within the center of the study area. As these areas are developed over time, additional subareas may be added. While these parcels are not defined in a sub area, the potential flow from these parcels are included in the future flow projections detailed in Section 3.

4.1.2 Alternative A – Maximum 50,000 GPD

As part of this study, Woodard & Curran and the Suffield WPCA met with the Southwick Department of Public Works (DPW) to discuss the potential for an interconnection to their collection system. Although Southwick DPW was unable to provide any definitive guidance without additional Town leadership approval, they advised that the Board may limit the potential interconnection to a maximum of 50,000 GPD as that was the previously established allocation for Suffield. They are most concerned with pollutants from septic tanks within a 300-foot buffer zone from the lake. Alternative A includes the properties within this buffer zone from the shoreline. Similarly with the development of the study area, limited additional properties were included where it would be cost-effective. This alternative only supports existing use, it does not support development.

Due to the topography of the area, all properties in Alternative A will be served by low-pressure sewer service (LPSS). A breakdown of estimated flows is provided in Table 4-1. The boundary for Alternative A is presented in Figure 4-1.

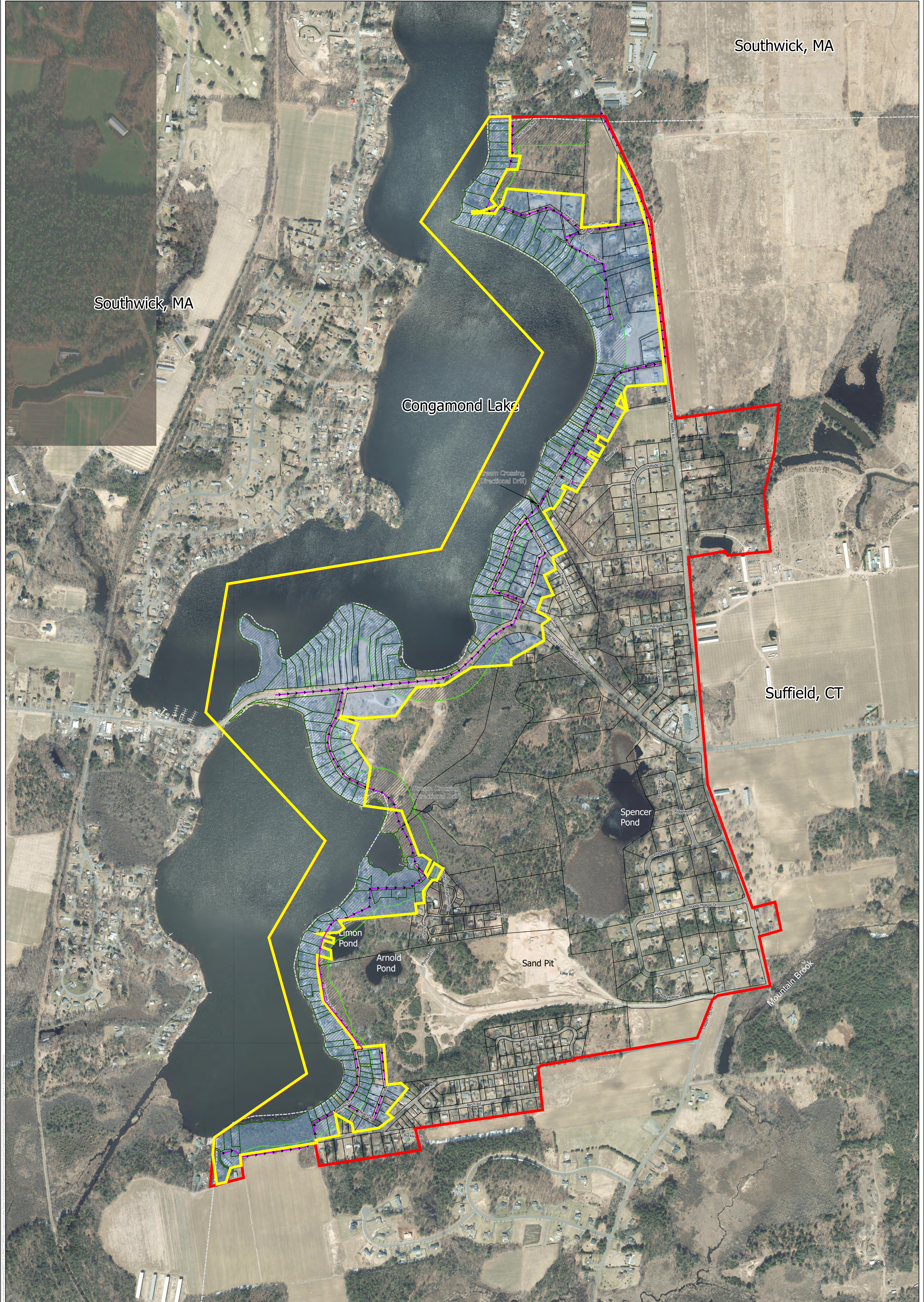
Table 4-1: Flow Projections – Alternative A

Land Use		Average Daily Flow (ADF)		Peak Hourly Flow (PHF) ¹	
<i>Estimated Existing</i>	Residential	48,000	GPD	183	GPM
	Commercial / Industrial	-	GPD	-	GPM
	I/I	2,000	GPD	8	GPM
	Total	50,000	GPD	191	GPM
	Equivalent Dwelling Units ²	264	EDUs	-	-

¹ Based on Peaking Factor of 5.5 per TR-16.

² EDU value was developed by dividing the total flow by the flow per EDU as developed in Section 3.1.1

Additional details on the potential Southwick Connection are described in Section 5.



Southwick, MA

Southwick, MA

Congamond Lake

Suffield, CT

Spencer Pond

Limon Pond

Arnold Pond

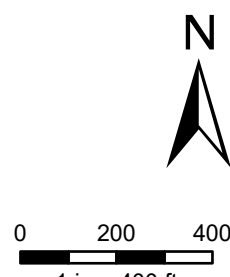
Sand Pit

Mountain Brook

Figure 4-1:
Alternative A Sewer Service
Area and Boundary

Suffield WPCA

- Legend**
- Suffield Town Boundary
 - Parcel Boundary
 - 300 ft Buffer
 - Proposed Low Pressure Sewer
- Study Area**
- Alternative A - Lakefront Area
 - Study Area
 - Alternative A Parcels



Project #: 0228575.34
Map Created: February 2022

Third Party GIS Disclaimer: This map is for reference and graphical purposes only and should not be relied upon by third parties for any legal decisions. Any reliance upon the map or data contained herein shall be at the users' sole risk. Data Sources: CT DEEP, CT DPH, Town of Suffield

4.1.3 Alternative B – Reduced Study Area

Alternative B focuses on the sub areas nearest to the Lakes to target the potential pollution in the Lakes from failing septic tanks. Alternative B is comprised of sub areas 1 through 6. This alternative only supports existing use, it does not support development.

Due to the topography of the area, all properties in Alternative B will also be served by low-pressure sewer service (LPSS). A breakdown of estimated flows is provided in Table 4-2. The boundary for Alternative B is presented in Figure 4-2.

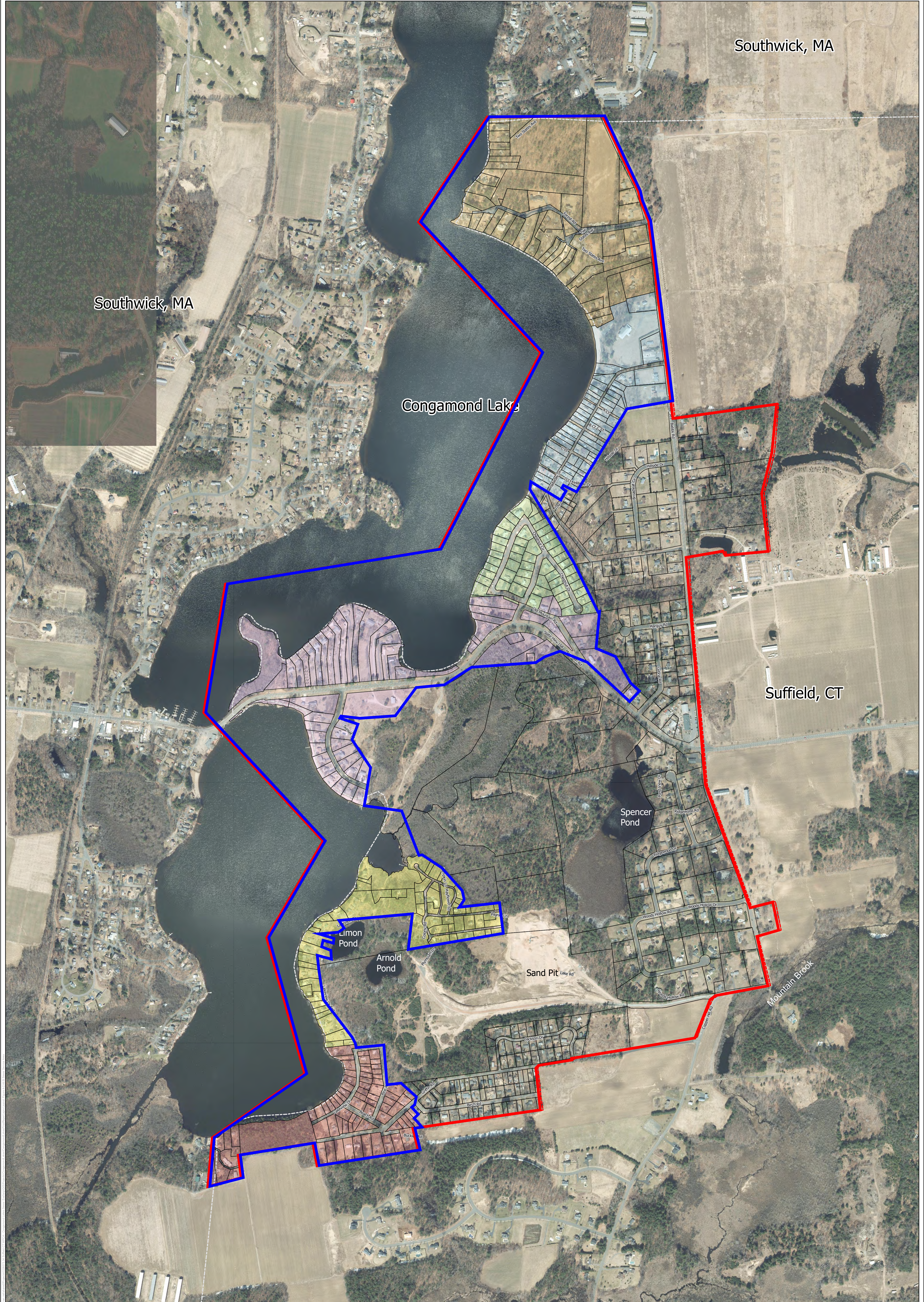
Table 4-2: Flow Projections – Alternative B

Land Use		Average Daily Flow (ADF)		Peak Hourly Flow (PHF) ¹	
Estimated Existing	Residential	72,000	GPD	275	GPM
	Commercial / Industrial	-	GPD	-	GPM
	I/I	3,000	GPD	2	GPM
	Total	75,000	GPD	277	GPM
	Equivalent Dwelling Units ²	396	EDUs	-	-

¹ Based on peaking Factor of 5.5 per TR-16.

² EDU value was developed by dividing the total flow by the flow per EDU as developed in Section 3.1.1

Additional details on the potential Southwick Connection are described in Section 5.1.1.



4.1.4 Alternative C – Entire Study Area

Alternative C includes the entire study area between the Lakes and Babb's Road. Due to the size of the area, Alternative C includes a combination of gravity sewer and low-pressure sewer service. The study area was further refined to include some additional properties across from Babb's Road. These parcels were added as there would already be a gravity main in the road to serve these parcels.

There are 7 proposed pump stations to address the complex topography. A breakdown of current and future estimated flows is provided in Table 4-3. The boundary for Alternative C is presented in Figure 4-3.

Alternative C addresses both the failing septic systems and the properties with exceptions to the public health code.

Table 4-3: Flow Projections – Alternative C

Land Use		Average Daily Flow (ADF)		Peak Hourly Flow (PHF) ¹	
Estimated Existing	Residential	94,000	GPD	326	GPM
	Commercial / Industrial	2,000	GPD	7	GPM
	I/I	12,000	GPD	8	GPM
	Total	108,000	GPD	342	GPM
	Equivalent Dwelling Units ²	528	EDUs	-	-
Estimated Future	Residential	123,000	GPD	427	GPM
	Commercial / Industrial	9,000	GPD	31	GPM
	I/I	14,000	GPD	10	GPM
	Contingency	4,000	GPD	14	GPM
	Total	150,000	GPD	482	GPM
	Equivalent Dwelling Units ²	748	EDUs	-	-

¹ Based on peaking Factor of 5 per TR-16.

² EDU value was developed by dividing the total flow by the flow per EDU as developed in Section 3.1.1

Additional details on the potential Southwick Connection are described in Section 5.1.1.

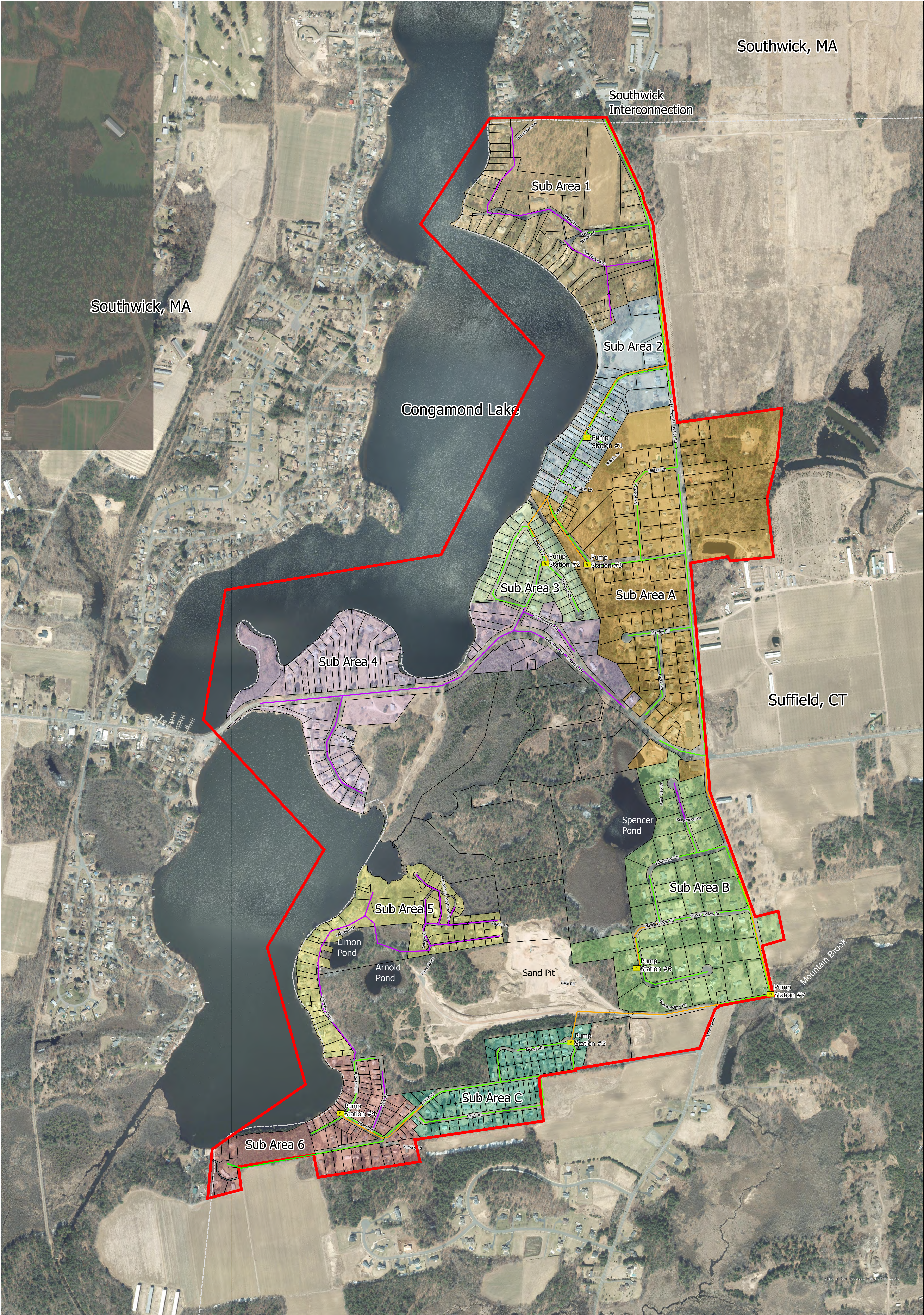


Figure 4-3:
Alternative C Sewer Service
Area and Boundary

Suffield WPCA

Legend

Suffield Town Boundary

Alternative C - 150,000 GPD (Entire Study Area)

Parcel Boundary

Pump Stations

Proposed Sewer

Force Main

Gravity

Low Pressure

Sewer Sub Areas

Sub Area 1

Sub Area 2

Sub Area 3

Sub Area 4

Sub Area 5

Sub Area 6

Sub Area A

Sub Area B

Sub Area C

0

200

400

1 in = 400 ft

N

WOODARD & CURRAN

Project #: 0228575.34

Map Created: February 2022

Third Party GIS Disclaimer: This map is for reference and graphical purposes only and should not be relied upon by third parties for any legal decisions. Any reliance upon the map or data contained herein shall be at the users' sole risk. Data Sources: CT DEEP, CT DPW, Town of Suffield

4.2 Sewer Collection System Opinion of Probable Costs

Table 4-4 provides cost estimates for each Alternative for the construction of the infrastructure within the service area boundaries. All costs are listed in 2022 dollars. Conveyance, treatment, and disposal costs are discussed in Section 5.

Table 4-4: Opinion of Probable Costs – Sewer Collection System

			Alternative A – 50,000 gallons		Alternative B – 75,000 gallons		Alternative C – 150,000 gallons	
Item	Unit Cost	Units	Quantity	Cost	Quantity	Cost	Quantity	Cost
Gravity Sewer	\$500	LF	0	\$0	0	\$0	30,500	\$15,250,000
Low Pressure Sewers	\$300	LF	23,000	\$6,900,000	27,050	\$8,116,000	16,500	\$4,950,000
Force Main	\$250	LF	0	\$0	0	\$0	9,600	\$2,400,000
Pump Station	\$400,000	EA	0	\$0	0	\$0	7	\$2,800,000
Grinder Pumps	\$5,000	EA	296	\$1,480,000	396	\$1,980,000	177	\$885,000
Water Crossing	\$100,000	EA	2	\$200,000	2	\$200,000	1	\$100,000
<i>Construction Subtotal</i>				<i>\$8,580,000</i>		<i>\$10,296,000</i>		<i>\$26,400,000</i>
Contingency	20%			\$1,716,000		\$2,059,000		\$5,280,000
Engineering – Design	10%			\$858,000		\$1,030,000		\$2,640,000
Engineering – Construction	15%			\$1,287,000		\$1,544,000		\$3,960,000
Total Collection System Construction Cost¹				\$12,441,000		\$14,929,000		\$38,280,000

5. ALTERNATIVES ANALYSIS

This section provides an analysis of options to convey and wastewater from the study area. Alternatives include the following:

- Alternative 1: Connection to Southwick and Westfield WRF
 - Alternative 1A: 50,000 GPD to Southwick (Serves Alternative A as described in in Section 4.1.2)
 - Alternative 1B: 75,000 GPD to Southwick (Serves Alternative B as described in in Section 4.1.3)
 - Alternative 1C: 150,000 GPD to Southwick (Serves the entire study area, Alternative C as described in in Section 4.1.4)
- Alternative 2: Force Main to Suffield Collection System (Serves the entire study area, Alternative C as described in in Section 4.1.4)
- Alternative 3: Community Wastewater Treatment Facility with Groundwater Disposal (Serves the entire study area, Alternative C as described in in Section 4.1.4)

5.1 Alternative 1: Connection to Southwick and Westfield WRF

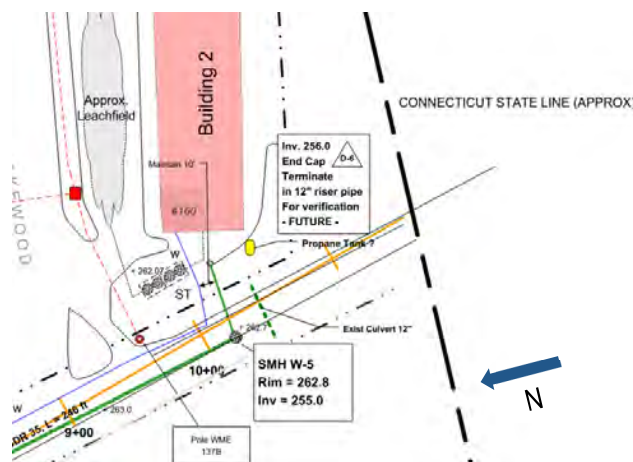
As described in Section 4, Southwick operates a collection system on the opposite shores of the Lakes, within Massachusetts. This collection system discharges to the Westfield WRF for treatment and disposal. Southwick has an intermunicipal agreement (IMA) with the City of Westfield where Westfield will accept up to 0.5 million gallons average daily flow, with a maximum peak daily flow of 1.5 million gallons at their facility (Appendix A).

Southwick is currently only using approximately 150,000 gallons per day out of their 500,000 gallons per day allotment. Accordingly, Southwick could theoretically accommodate the full potential flow from the Suffield study area (also approximately 150,000 gallons per day) without requiring an additional request from the City of Westfield. However, Southwick likely intends to preserve the majority of this capacity for future in-Town needs.

If Suffield were to connect the study area to Southwick's collection system, Suffield would likely enter an IMA with Southwick to obtain a portion of their allotted flow. A sample IMA is provided in Appendix B. This IMA would likely include a capital fee for any upgrades to the collection system as well as an ongoing transport and conveyance fee as further described in this Section.

Southwick has already installed a potential connection point to their collection system directly North of the study area in Babb's Road. This connection includes an 8-inch diameter pipe that terminates in a manhole approximately 130 feet from the border, as shown in Figure 5-1.

Figure 5-1: Approximate Location of Southwick Connection



Source: Shaheen, W., Analytical Engineering, Inc. 2019. Proposed Sewer Connection System Lakewood Village Apartments, Southwick, MA for Winton Corporation. Granby, MA., Salisbury, MA.: Shaheen, W., Analytical Engineering, Inc.

5.1.1 Downstream Capacity Concerns

As described in Section 4, during initial feasibility discussions with the Town of Southwick Department of Public Works, Southwick stated that the 8-inch pipe was installed as the Town had planned on potentially receiving a 50,000-gallon average daily flow from the study area. While planning was done to include the 8-inch pipe, there had previously been no analysis on whether downstream infrastructure could accept the flow contribution from Suffield. Woodard & Curran performed a high-level analysis on the downstream infrastructure and found that some infrastructure downstream of the connection with Suffield will likely require and upgrade to provide additional capacity. This includes portions of the downstream collection system and two of Southwick's pump stations (Point Grove Road and Powder Mill). As Woodard & Curran did not have access to sewer profiles of the downstream infrastructure, further analysis would be required to confirm the capacity of Southwick's downstream infrastructure.

5.1.2 Connection Charges

To be conservative, the costs presented in this report assume that Southwick will charge the Suffield WPCA the entire cost to upgrade the downstream infrastructure within Southwick as well as a connection fee of \$2,000,000. The actual cost impact will be negotiated with the Town of Southwick while defining the IMA, as there will be cost sharing opportunities. For example, during the establishment of the current Southwick/Westfield IMA, Westfield was required to upgrade the WRF to accept the capacity of Southwick's anticipated collection system. Southwick was charged a bond to cover the cost of the additional capacity, rather than the entire facility. Under the IMA, Southwick pays a user fee (the industrial user rate) plus a conveyance fee (an additional 10%). As of July 1, 2021, the total of the user and conveyance fees is \$5.17/1,000 gallons. The fee structure will be renegotiated in 2022.

5.1.3 Opinion of Probable Costs

A high-level cost estimate for a connection to Southwick for each of the collection alternatives (Alternative A: 50,000 gallons, Alternative B: 75,000 gallons, and Alternative C: 150,000 gallons) is provided below. These combinations of collection system and disposal alternatives will be referred to herein as Alternatives 1A, 1B, and 1C, accordingly and are presented in Tables 5-1 through 5-3.

Table 5-1: Opinion of Probable Costs – Alternative 1A (50,000 GPD to Southwick)

Item	Qty	Unit	Unit Cost	Cost
Mobilization/Demobilization	1	LS	-	\$240,400
Upgrade Point Grove Road Pump Station to 600 GPM Capacity ¹	1	EA	\$1,800,000	\$1,800,000
8" Force Main (Replace 6")	950	LF	\$250	\$238,000
15" Gravity Sewer (Replace 12") ²	200	LF	\$550	\$110,000
Upgrade Powder Mill Pump Station to 850 GPM Capacity ^{1,3}	1	EA	\$2,000,000	\$2,000,000
15" Gravity Sewer (Replace 12")	1,200	LF	\$550	\$660,000
Subtotal				\$5,048,400
Contingency (20%)				\$1,010,000
Design Fee (10%)				\$505,000
Engineering (Bidding and Construction Administration, 15%)				\$757,000
Police (5% of Sewer Main and Force Main Work)				\$51,000
Other/ Miscellaneous				\$100,000
Capacity Purchase from Southwick				\$1,010,000
Subtotal – Connection Construction Cost				\$9,480,000
Collection System Construction Cost (Alternative A ⁴)				\$12,411,000
Total Cost				\$21,921,000

¹ Cost estimate assumes a masonry building to be conservative.

² Only the section from Depot Street to the Pump Station is anticipated to need additional capacity.

³ No upgrades are anticipated at the downstream 10" force main.

⁴ See Table 4-4 for a cost breakdown.

Table 5-2: Opinion of Probable Costs – Alternative 1B (75,000 GPD to Southwick)

Item	Qty	Unit	Unit Cost	Cost
Mobilization/Demobilization	1	LS	-	\$316,000
12" Gravity Sewer (Replace 8")	3,030	LF	\$500	\$1,515,000
Upgrade Point Grove Road Pump Station to 882 GPM Capacity ¹	1	EA	\$1,800,000	\$1,800,000
10" Force Main (Replace 6")	950	LF	\$250	\$238,000
15" Gravity Sewer (Replace 12") ²	200	LF	\$550	\$110,000
Upgrade Powder Mill Pump Station to 1,132 GPM Capacity ^{1,2}	1	LF	\$2,000,000	\$2,000,000
18" Gravity Sewer (Replace 12")	1,200	LF	\$550	\$660,000
Subtotal				\$6,639,150
Contingency (20%)				\$1,328,000
Design Fee (10%)				\$664,000
Engineering (Bidding and Construction Administration, 15%)				\$996,000
Police (5% of Sewer Main and Force Main Work)				\$127,000
Other/ Miscellaneous				\$100,000
Capacity Purchase from Southwick				\$3,000,000
Subtotal – Connection Construction Cost				\$12,860,000
Collection System Construction Cost (Alternative B ⁴)				\$14,929,000
Total Cost				\$27,789,000

¹ Cost estimate assumes a masonry building to be conservative.

² Only the section from Depot Street to the Pump Station is anticipated to need additional capacity.

³ No upgrades are anticipated at the downstream 10" force main.

⁴ See Table 4-4 for a cost breakdown.

Table 5-3: Opinion of Probable Costs – Alternative 1C (150,000 GPD to Southwick)

Item	Qty	Unit	Unit Cost	Cost
Mobilization/Demobilization	1	LS	-	\$421,000
12" Gravity Sewer (Replace 8")	3,030	LF	\$500	\$1,515,000
Upgrade Point Grove Road Pump Station to 882 GPM Capacity ¹	1	EA	\$1,800,000	\$1,800,000
10" Force Main (Replace 6")	950	LF	\$250	\$238,000
15" Gravity Sewer (Replace 12")	3,900	LF	\$550	\$2,145,000
Upgrade Powder Mill Pump Station to 1,132 GPM Capacity ^{1,2}	1	LF	\$2,000,000	\$2,000,000
18" Gravity Sewer (Replace 12")	1,200	LF	\$600	\$720,000
Subtotal				\$8,839,000
Contingency (20%)				\$1,768,000
Design Fee (10%)				\$884,000
Engineering (Bidding and Construction Administration, 15%)				\$1,326,000
Police (5% of Sewer Main and Force Main Work)				\$267,000
Other/ Miscellaneous				\$100,000
Capacity Purchase from Southwick				\$6,000,000
Subtotal – Connection Construction Cost				\$19,190,000
Collection System Construction Cost (Alternative C ³)				\$38,280,000
Total Cost				\$57,470,000

¹ Cost estimate assumes a masonry building to be conservative.

² No upgrades are anticipated at the downstream 10" force main.

³ See Table 4-4 for a cost breakdown.

5.2 Alternative 2: Force Main to Suffield Collection System

Woodard & Curran developed a high-level cost estimate for a connection to the Suffield collection system. This alternative had previously been considered cost prohibitive, however, the costs of a force main are comparable to the other alternatives. Costs are provided for reference purposes.

The basis for this estimate is a force main along Mountain Road in Suffield to discharge into the Mountain Road Pump Station (Pump Station #3), as shown in Figure 5-2. No analysis has been performed on the available capacity in the downstream infrastructure.

5.2.1 Opinion of Probable Costs

A high-level cost estimate for this alternative is provided in Table 5-4 below. This cost estimate assumes that there will be a new relay pump station, and that given the age of the equipment, some upgrades will be required to the Mountain Road Pump Station.

Table 5-4: Opinion of Probable Costs – Alternative 2 (Force Main to Suffield)

Item	Qty	Unit	Unit Cost	Cost
Force Main to WPCA System	39,000	LF	\$250	\$9,750,000
Stream Crossing	4	EA	\$10,000	\$40,000
Relay Pump Station ¹	1	EA	\$1,000,000	\$1,000,000
Upgrade Mountain Road Pump Station ²	1	EA	\$1,000,000	\$1,000,000
Subtotal				\$11,790,000
Contingency (20%)				\$2,358,000
Design Fee (10%)				\$1,179,000
Engineering (Bidding and Construction Administration, 15%)				\$1,769,000
Police (5% of Sewer Main and Force Main Work)				\$488,000
Other/ Miscellaneous				\$100,000
Subtotal – Connection Construction Cost				\$17,690,000
Collection System Construction Cost (Alternative C ³)				\$38,280,000
Total Cost				\$55,970,000

¹ Estimate includes an additional relay pump station due to high operating pressure from the service area to the Mountain Road pump station.

² Estimate includes some minor upgrades to the existing pump station.

³ See Table 4-4 for a cost breakdown.

Figure Exported: 10/15/2021, By: ftenney, Using: \\woodardcurran.net\shared\Projects\0228575.34_Suffield CT WPCA - Congamond Lakes Sewer_Eval\wp\GIS\Projects\Congamond Lakes Sewer_Lay\Layout2.aprx Layout: Alternative D

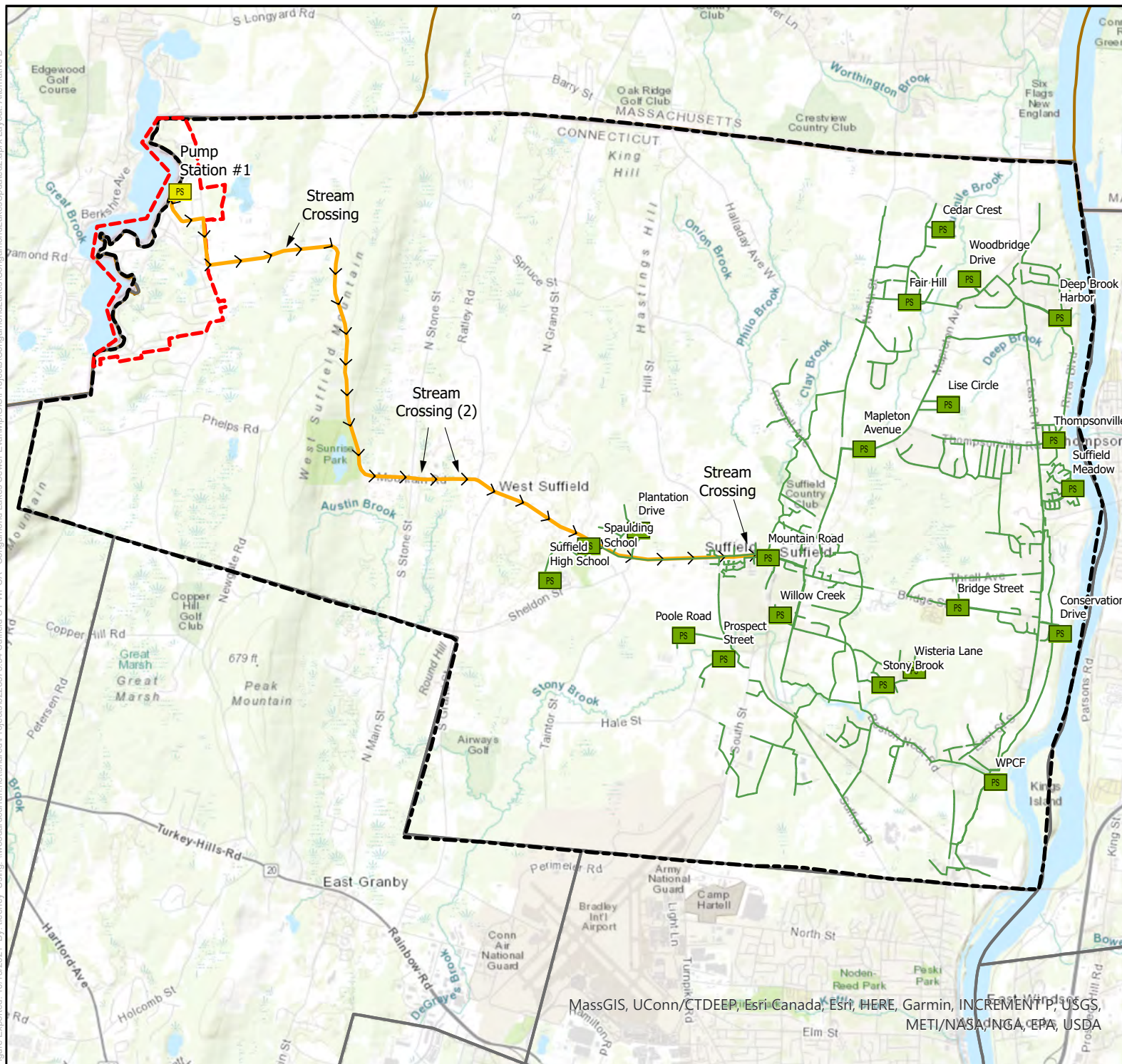


Figure 5-2:
Sewer Layout: Force
Main to Suffield
Collection System

Suffield WPCA



Legend

- PS Existing Suffield Pump Stations
- Suffield Wastewater Collection System
- PS Proposed Pump Station
- Alternative D Force Main
- Study Area Boundary
- Suffield Town Boundary
- CT Town Boundary
- MA Town Boundaries

0 3,000 6,000
1 in = 6,000 ft



Project #: 0228575.34
Map Created: November 2021

Third Party GIS Disclaimer: This map is for reference and graphical purposes only and should not be relied upon by third parties for any legal decisions. Any reliance upon the map or data contained herein shall be at the users' sole risk. Data Sources: Suffield WPCA, CT DEEP, MA DEP

MassGIS, UConn/CTDEEP, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, NGA, EPA, USDA

5.3 Alternative 3: Community Wastewater Treatment Facility with Groundwater Disposal

This Alternative includes the construction of a small wastewater treatment facility (WWTF) for groundwater discharge. The facility would include a packaged treatment facility and groundwater disposal field. There are several developable parcels of land within or directly adjacent to the study area that are large enough for a facility.

CT DEEP was contacted regarding the feasibility of this alternative. A groundwater discharge system is permitted under the Subsurface Sewage Disposal Program at CT DEEP. While they have not been permitted in recent years, the subsurface team has stated they are not opposed to new groundwater disposal facilities. Should the WPCA want to pursue this alternative, further study on the soils (with CT DEEP's involvement) would be required and would include without limitation test pits and borings.

While multiple treatment technologies may be viable, the cost basis is a membrane bioreactor (MBR) and groundwater disposal field. Woodard & Curran has experience planning and designing facilities using this technology for similar projects.

5.3.1.1 Opinion of Probable Costs

A high-level cost estimate for this alternative is provided in Table 5-3 below.

Table 5-5: Opinion of Probable Costs – Alternative 3 (Community WWTF)

Item	Qty	Unit	Unit Cost	Cost
General Conditions, OH&P ¹	1	EA	\$1,270,000	\$1,270,000
WWTF – MBR ² (150,000 avg day)	300,000	GPD	\$40	\$12,000,000
Gravity Sewer	600	LF	\$300	\$180,000
Influent Force Main-from Field	700	LF	\$200	\$140,000
Groundwater Disposal Field	1	EA	\$3,900,000	\$3,900,000
Subtotal				\$17,500,000
Contingency (20%)				\$3,500,000
GWDP Application				\$50,000
Design Fee (10%)				\$1,750,000
Hydrogeology (1%)				\$175,000
Permitting (1%)				\$175,000
SCADA Integration (1%)				\$175,000
Engineering (Bidding and Construction Administration, 15%)				\$2,625,000
Police Details (1%)				\$175,000
Subtotal – Connection Construction Cost				\$26,125,000
Collection System Construction Cost (Alternative C ³)				\$38,280,000
Total Cost				\$64,405,000

¹ General Conditions, OH&P include 30% of all non WWTF as the WWTF costs are inclusive of GC and OH&P.

² WWTF cost includes pretreatment tanks, building, process tanks and equipment. Leach field or piping to or from the facility are not included in these costs

³ See Table 4-4 for a cost breakdown.

5.4 Combination Alternative – Southwick Connection and Community System

This alternative would include the construction of a treatment facility in addition to sending limited flow to the Southwick collection system. As this alternative would include not only the capital costs of the treatment facility but the construction of an additional pipe to the Southwick collection system, it is cost prohibitive.

5.4.1 Community Septic System

CT DEEP's Municipal and Subsurface Sewage groups proposed the investigation of a community septic system. In this alternative, individual homeowners have septic tanks that connect to a common leach field. This would be very similar to the existing Suffield WPCA Kent Farms community system. Due soil conditions a common leach field would require a very large area of land away from the shoreline, and therefore does not appear to be a viable alternative.

5.5 Summary of Feasible Alternatives

The feasible alternatives are summarized in Table 5-5. Each of these alternatives have high capital costs. Additional costs such as operation and maintenance and potential funding mechanisms and cost recovery options are discussed further in Section 6.

Table 5-6: Feasible Alternatives

Alt	Description	Flow (gpd)	EDUs	Connection Alternative Cost	Collection System Construction Cost (Section 4)	Total Project Cost	Supports Existing Use or Buildout of Area
1A	Southwick Connection	50,000	264	\$9,480,000	\$12,441,000	\$21,921,000	Existing Use Only
1B	Southwick Connection	75,000	319	\$12,860,000	\$14,929,000	\$27,789,000	Existing Use Only
1C	Southwick Connection	150,000	528	\$19,190,000	\$38,280,000	\$57,470,000	Buildout
2	FM to Suffield	150,000	528	\$17,690,000	\$38,280,000	\$55,970,000	Buildout
3	Community WWTF	150,000	528	\$26,125,000	\$38,280,000	\$64,405,000	Buildout

6. FUNDING AND FINANCING

As with any large project, funding and financing have a large impact on the financial viability of the overall effort. Due to the number of alternatives under consideration, this is especially applicable to the addition of centralized wastewater service to the Congamond Lakes area.

The following subsections of this chapter will review the expected financial obligations and impacts associated with each of the alternatives under consideration.

6.1 Capital Cost Recovery for Congamond Lakes

Each of the sewer alternatives for the Congamond Lakes area will have similar conditions associated with the funding and repayment of the costs associated with system construction and operation.

Capital and operational costs are usually recovered in very different ways in a newly built system (as opposed to an expansion of an existing system). Table 6-1 outlines the major classes of these costs and the manner of cost recovery which are generally used for each cost category.

As a note, for several of the operational costs, the recovery methods refer to the need for a “subsidy.” This is in reference to the inadequate nature of partially connected customer bases to fully fund the full operational costs of assets designed and operated in a manner needed to serve all potential customers within the service area. For example, when accounting for the operational costs associated with pumping stations, the pumping stations generally cost the same to operate (with exception of electricity) whether all customers are connected or only a subset of the properties within the intended service area.

6.1.1 Description of Capital and Operations Cost Categories

In a case like Congamond Lakes, where a non-served area installs sewers, there are two basic types of costs to be considered. The first is the upfront capital expenses associated with making sewer service available and the second is the ongoing costs associated with operating the system after installation. A brief description of each type of cost and the manner of repayment is provided in the following sections.

6.1.1.1 Capital – Collection System Installation

The first category of costs associated with each of the alternatives is the upfront capital cost associated with the construction of facilities for the collection and conveyance of the sewage to a treatment works. These costs, which are detailed in prior sections of this report, would usually be bonded by either the WPCA or Town with the debt service fully covered by assessments on the properties within the service area. The assessments could be through property betterments, the establishment of a tax increment financing (TIF) district or a combination thereof. Each of these is described in greater detail later in this Section.

In either case, the WPCA should plan on establishing a separate reserve account to handle betterment and other payments which are paid more quickly than the repayment schedule of the bond to ensure that these payments are used only for covering the capital costs required for construction.

Table 6-1: Cost Categories and Repayment Methods

Type of Costs		Description	Manner of Repayment
Capital Costs	Collection System Installation	Construction of sewers and pumping stations in Suffield	As a bonded cost, these would generally be funded through property assessments to properties in the service area
	Southwick Transmission Upgrades	Upgrade of conveyance capacity in Southwick	As a bonded cost, these would generally be funded through property assessments to properties in the service area
	Treatment Capacity	Either purchase of treatment capacity or construction of treatment works	As a bonded cost, these would generally be funded through property assessments to properties in the service area
Operational Costs	Staffing	Staffing and overtime for the operations of the collection system and possibly treatment plant	Operational costs are usually funded through user rates, however, in new systems, these costs often need to be subsidized until all customers in service area are connected
	Expenses	Electricity, chemicals, etc. associated with system operations	Operational costs are usually funded through user rates, however, in new systems, these costs often need to be subsidized until all customers in service area are connected
	Overhead	Indirect support costs from WPCA (billing, accounting assistance, etc.)	Overhead costs are generally funded through user rates
	Treatment and Disposal	Cost for treatment and disposal of wastewater through another community	If connected to a regional provider, as flow dependent costs, these would generally be paid for through user rates of connected customers. If operating a treatment plant, the rates would likely need to be subsidized until all customers in the service are connected.
	Wheeling Costs	Charges from communities that convey sewage to a Treatment and Disposal (T&D) facility	Similar to T&D these would generally be funded through user rates as they are usually flow dependent.

6.1.1.2 Capital – Conveyance Upgrades

Similar to the collection system, and assuming that an alternative including conveyance to the Westfield treatment works is selected, the costs of upgrading conveyance facilities through Southwick will be an upfront cost which would usually be covered through bonding. These costs are also described in earlier section of this report for each scenario. Also similar to the costs associated with collection system installation, the debt service incurred to construct these facilities would generally be expected to be paid through the application of either betterment or TIF requirements upon the properties to be serviced by the project.

Importantly, the bonding for these costs may not be eligible for certain state subsidized funding (CWF – See Section 6.4.2.1) since these improvements would be made to assets not directly owned by the WPCA. As such, any bonding associated with these upgrades would likely need to be funded through a general obligation bond of the WPCA or Town.

6.1.1.3 Capital – Treatment and Disposal Capacity – Construction or Purchase

The final cost which would be expected to be recovered through bonding, concurrent with construction of collection and conveyance facilities, is the construction or purchase of adequate treatment capacity to serve the areas being sewered. Various scenarios detailed in prior sections of this report provide the estimated costs associated with each of these options. As with collection system and conveyance costs, these would be expected to be repaid through the use of betterments or other taxation of properties in the service area.

Also, similar to conveyance upgrades, the bonding associated with these costs will likely need to be made through the use of general obligation bonds as the WPCA will not own the asset being acquired (but only the disposal capacity thereof).

6.1.1.4 Operations Costs – Staffing, Expenses, and Overhead – Collection and Management

Estimates of the costs of operating the collection system (including WPCA owned pumping stations) have been made using a combination of current WPCA budgets based upon the type and extent of system installed under the various alternatives. These types of costs also include the billing and accounting services associated with operating the new service area.

These costs are usually recouped through service charges (wastewater rates) applied to properties connected to the newly constructed system. Due to the likely extended period over which potentially serviced properties will connect, these costs may need to be subsidized by the larger WPCA before all properties in the Congamond Lakes service area are being billed for service.

6.1.1.5 Operations Costs – Staffing, Expenses, and Overhead – Treatment

In the event that the scenario including WPCA-owned treatment is selected, estimates have been made of the annual operating costs associated with a new treatment works to service the Congamond Lakes service area. In the event that the WPCA elects to convey the flow from the service area to the existing WPCF for treatment, an estimate of the incremental increase in treatment costs has been made to reflect the impact on current operations.

Similar to the costs associated with operating the collection system, these costs would generally be covered through wastewater rates charged to connected customers. Consequently, a similar temporary subsidy of these costs by the larger WPCA may be needed until all potentially served properties are connected and being charged for service.

6.1.1.6 Operations Costs – Southwick Treatment and Disposal

In addition to the standard operational expenses associated with WPCA owned assets, a number of the scenarios envision sending flow from this service area to the Westfield WRF under an intermunicipal agreement (IMA). Based upon a review of the existing agreement between Westfield and Southwick, it is expected that these costs will be directly related to the volume of flow generated and conveyed to Westfield. As a cost directly linked to the number of customers, these costs would be expected to be fully covered through the application of wastewater rates and would not need a subsidy from the larger WPCA.

6.1.1.7 Operations Costs – Wheeling Costs

The final type of operations costs associated with transmitting sewage collected in the Congamond Lakes service area through the Town of Southwick's collection system to the Westfield treatment plant. This would be a cost negotiated between the WPCA and Southwick and estimates based upon similar arrangement elsewhere have been made on what these might be. As a side note, it is possible that the WPCA could cover both T&D and Wheeling costs through a single IMA with the Town of Southwick under which Congamond Lakes would use a portion of Southwick's already negotiated IMA with the City of Westfield. While this would simplify the contractual nature of the relationship, it would not be expected to offer significant saving on either operations or the cost of acquiring treatment capacity.

6.1.2 Description of Cost Recovery Methods for Various Cost Categories

There are two primary cost recovery methods under consideration; cost recovery based upon properties within the service areas (both served and non-served properties), and cost recovery based upon connected customers. As discussed in the Table 6-1, the capital costs for installing the systems and preparing the utility to provide sanitary sewer service would generally be paid for on the first basis and the actual operational costs associated with operating the installed system would generally be repaid using customer charges to the connected customer base.

It is important to note that the recovery of capital costs can be completed using two different methods. The first is the creation of a Betterment District where properties are assessed a set value based upon the cost of the infrastructure constructed. The most common type of assessment using betterments is based upon the EDU (Equivalent Dwelling Unit) basis which uses certain characteristics (i.e., bedroom counts, bathroom counts, square footage, lot frontage, etc.) to equally distribute the capital costs amongst the properties being assessed. A second method involves the establishment of a TIF (tax increment financing) district in which the property owners within the district have an incremental increase in the normal property tax bill to fully or partially cover the cost of the capital investments.

For operational costs, the recovery of these expenses is generally handled on a flow-based basis, whether that be by an estimated flow per EDU or through direct measurement.

6.2 Probable Capital and Operational Costs of Alternatives

As there are still significant uncertainties on the availability of funds and the grant portions which may become available associated with the American Rescue Plan Act (ARPA), we have provided a series of estimates for these costs. Table 6-2 presents the five scenarios for Congamond Lakes and the costs associated with each. The capital and operational costs are separated because there is currently limited guidance on the financing which may become available through the Clean Water Fund.

Table 6-2: Summary of Feasible Alternatives per Assessable EDU

	Alternative 1A	Alternative 1B	Alternative 1C	Alternative 2	Alternative 3
Description	50,000 GPD to Southwick	75,000 GPD to Southwick	150,000 GPD to Southwick	FM to Suffield	Community WWTF
CAPITAL COSTS					
Capital Outlay	\$22,921,000	\$28,789,000	\$58,470,000	\$56,970,000	\$65,405,000
Grant % of Capital	0%	0%	0%	0%	0%
Assessable EDU Count	295	358	633	633	633
Betterment/Assessable EDU	\$77,698	\$80,416	\$92,370	\$90,000	\$103,325
Repayment Period	30	30	30	30	30
Finance Rate (APR)	3%	3%	3%	3%	3%
Annual Repayment	\$3,964	\$4,103	\$4,713	\$4,592	\$5,272
OPERATIONS COSTS					
Collections Costs	\$49,505	\$74,257	\$148,515	\$148,515	\$148,515
Treatment Costs	\$85,775	\$128,663	\$257,325	\$148,515	\$193,069
Wheeling Costs	\$8,578	\$12,866	\$25,733	\$0	\$0-
Annual Cost/Assessable EDU	\$524	\$524	\$524	\$360	\$414

Notes:

- 1 These scenarios finance the debt associated with each scenario with a 30-year loan, a 3% financing rate, and no grant percentage from the ARPA;
 - a. The per EDU costs shown for capital also include the assumption that the properties in the service areas will be developed by 50% of the remaining expansion capacity through the term of the financing.
- 2 These differences provide significantly different outcomes for the capital spending but the outcomes for the annual operational costs, being based upon existing budgets and IMA agreements, are accurate given the existing WPCA budgets and inter-municipal T&D contract between Southwick and Westfield.
- 3 Attached to this report is a file which will allow the WPCA to assess changes in financing outcomes as more information on ARPA rollout becomes available.

6.3 Additional Considerations

6.3.1 Negotiation of Inter-Municipal Agreement(s)

If Suffield elects to move forward with a connection to the Westfield WRF through Southwick, Suffield will need to enter into an Intermunicipal Agreement (IMA) with the Town of Southwick and/or City of Westfield. A sample IMA is provided in Appendix B.

As a general rule, interstate compacts are usually controlled under federal law. However, there are examples of non-Massachusetts sewer utilities with T&D agreements with regional Massachusetts wastewater utilities. Specifically, the Town of Salem, NH discharges its sewage to the Greater Lawrence Sanitary District in Lawrence, MA. This arrangement has been successfully in force for over thirty years and has many similarities to the arrangement under consideration for Congamond Lakes. The IMA in Appendix B is the most recent version of their agreement.

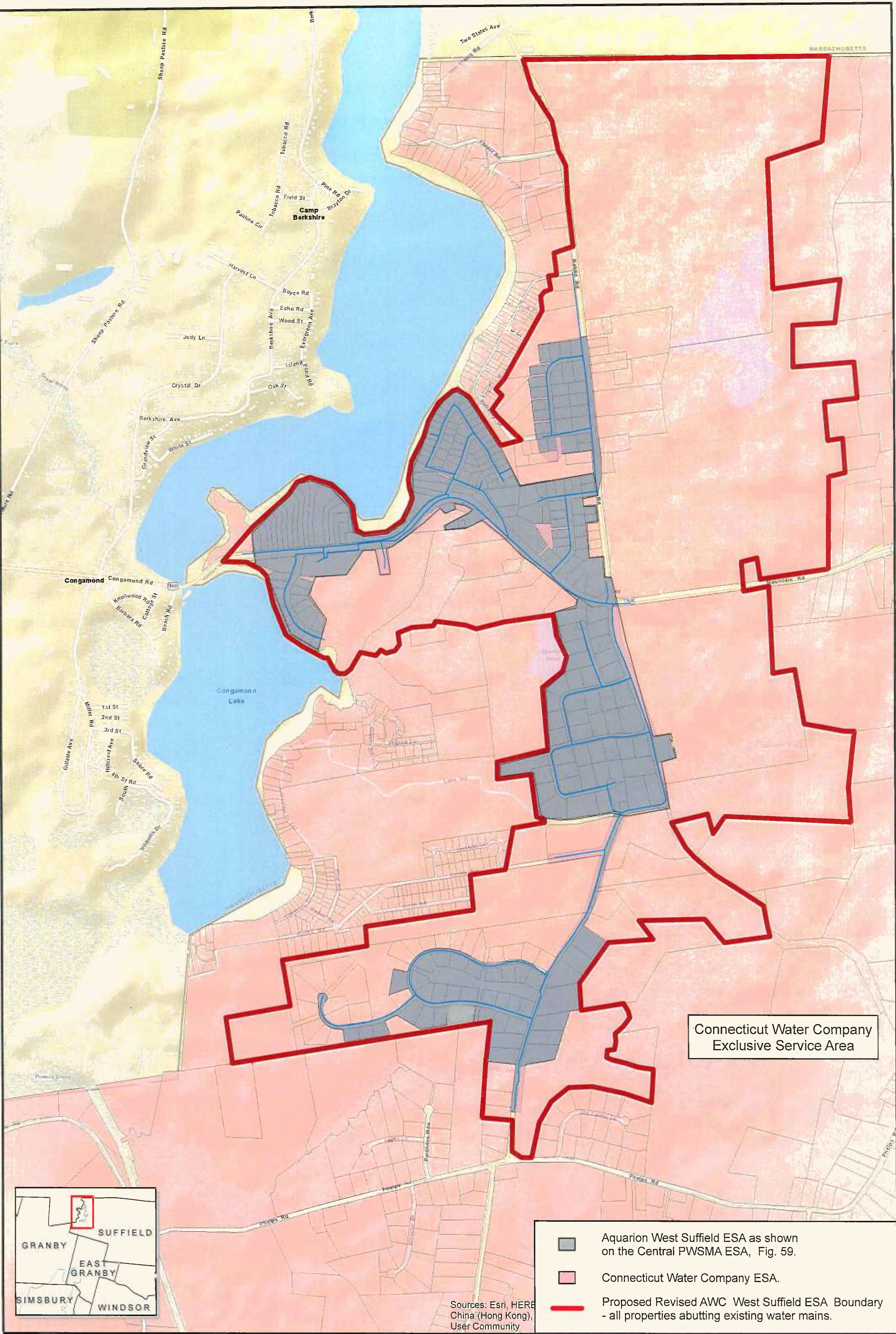
6.3.2 IMA Best Practices Manual (MADEP)

The Massachusetts DEP has published a Manual of Best Practices Manual for the establishment and structuring of IMAs. Assuming the WPCA is considering entering into an IMA with a utility in Massachusetts, it should be familiar with the Commonwealth's guidance on the agreements before starting this conversation. The guidance document is attached in Appendix C.

6.3.3 Cost Sharing with Local Utilities

Private water companies in Connecticut are often looking to increase their customer base. There is a precedent in Connecticut for some of these private water companies to work with sewer districts to share some of the construction costs and install water service in conjunction with the sewer project.

The private water companies who may be interested in expanding their service to the area include Aquarion Water Company (who already serves a portion of the study area) and Connecticut Water Company (who is under negotiations to be acquired by Eversource). Figure 6-1 provides a map of a 2018 request from Aquarion Water Company to the Central Region Water Utility Coordinating Committee to expand their exclusive service area within the region.



6.3.4 Cost Sharing with Town Departments

There may be cost sharing opportunities with other Town Departments. For example, if the Suffield Department of Public Works (DPW) anticipates paving within the service area, the paving project could directly follow the sewer installation. DPW and the WPCA would avoid the additional cost and public aggravation of paving the area twice.

6.3.5 Private Grinder Pumps

The cost estimates in this study include the purchase of low-pressure sewer grinder pumps. Occasionally municipalities will remove these from the project costs and require the pumps be purchased directly by the homeowners. This option is not recommended, as although the homeowner will still bear the cost of the pump (if not directly, through user fees), the private purchase of grinder pumps may cause more problems and maintenance issues for the WPCA in the long term. Homeowners are generally less knowledgeable, may make mistakes, and may not conform to the established standards for such equipment. While the costs of the pumps are included in the project, it is assumed homeowners will be responsible for long-term maintenance of their pump.

6.4 Potential Project Funding Sources

Woodard & Curran identified several potential funding opportunities to support this project. This section provides information on the grant and loan programs most likely to be available to the Town based on its demographic characteristics and the project parameters. This project may be eligible for both State and Federal funding programs.

6.4.1 Town Funding Characteristics

According to the US Census Bureau 2019 American Communities Survey, the Town of Suffield has an estimated population of 15,688, a Median Household Income (MHI) of \$114,208, and a poverty rate of 1.4%. By comparison, the MHI and poverty rate for Hartford County are \$75,381 and 10.9%, respectively, and for the State are \$78,883 and 10%. The Town's population (greater than 10,000) may preclude eligibility under the USDA Rural Development Water and Environment Program. Similarly, the Town's MHI and poverty rate in relation to the Hartford region eliminates potential funding under the US Economic Development Administration's Economic Adjustment Assistance program which provides infrastructure support to communities experiencing adverse economic changes that occur suddenly or over time (eligible EDA EEA projects must also be identified in the region's Comprehensive Economic Development Strategy).

As of September 2020, the Town had an S&P Global Bond Rating of AA+.

6.4.2 State Programs

6.4.2.1 CT Department of Energy and Environmental Protection Clean Water Fund

The CT DEEP administers the Clean Water Fund (CWF) to provide grants and loans to municipalities to finance planning, design, and construction of wastewater facility, collection, and treatment projects. Eligible projects include developing solutions to problem areas of septic system failures. Under the program, collection system projects are eligible for loan only programs and are funded from program reserves on a first-come, first-served basis with a \$4 million per year project cap. Requests to Place Projects on the FY 2022 Clean Water Fund Priority List were due in December 2021, and the program is awaiting capitalization by the State Bond Commission.

6.4.2.2 CT Office of Policy and Management Local Capital Improvement Program (LoCIP)

The Connecticut Office of Policy and Management (OPM) administers the Local Capital Improvement Program (LoCIP) to distribute State Bond funds to municipalities to reimburse the cost of eligible local capital improvement projects, such

as road, bridge, sewer/water, and public building construction activities. Eligible applicants include any town, city, borough, consolidated town and city, or consolidated town and borough. Eligible LoCIP projects include construction, renovation, enlargement, or repair of sewage treatment plants, and sanitary, stormwater, or sewer lines. Project costs eligible for LoCIP reimbursement include, but are not limited to, procurement and installation of permanently fixed equipment, engineering services, and architectural services. Each year, OPM provides a formula-based entitlement to each municipality's available LoCIP balance, with funds accumulating from year to year. Each municipality's entitlement balance is announced annually in March, at which time applicants may apply for funding authorization. Requests are accepted on an ongoing basis until the municipal entitlement has been fully allocated. Under the 2021 LoCIP entitlements effective March 1, 2021, the Town of Suffield received \$91,594 (added to its available entitlement account). The most recent LoCIP Project Authorization for the Town of Suffield is dated July 2018.

6.4.2.3 CT Office of Policy and Management Small Town Economic Assistance Program (STEAP)

The Connecticut Office of Policy and Management administers the Small-Town Economic Assistance Program (STEAP) to preserve the historical integrity and beauty of Connecticut's small towns by funding economic development, community conservation and quality-of-life capital projects for localities that are ineligible to receive Urban Action (CGS Section 4-66c) bonds through reimbursement. In 2020, for the first time in four years, approximately \$11 million was made available. Eligible municipalities are determined by the FY20 Public Investment Community Index and CGS 4-66g(b) and include the Town of Suffield. Only capital projects are eligible and include new construction, expansion, renovation or replacement of an existing facility or facilities; priorities under the program include infrastructure and water pollution control to reduce environmental impacts. Eligible project costs include the cost of land, design, engineering, architectural planning, and contract services needed to complete the project. The maximum grant request for the 2020 round was \$128,205.

6.4.3 Federal Programs

6.4.3.1 USDA Rural Development Water and Waste Disposal Loan and Grant Program

The USDA Rural Development Water and Environment program provides long-term, low-interest loans for sanitary sewer collection, treatment, and disposal to households and businesses in eligible rural areas. An eligible area includes rural areas and towns with populations of 10,000 or fewer residents; while the Town of Suffield exceeds the program threshold, the Congamond Lakes area may qualify as a rural area. The program is intended for applicants not otherwise able to obtain commercial credit on reasonable terms. The loan term is up to a 40-year payback period, based on the useful life of the facilities and is financed with a fixed interest rate. The interest rate is based on the need for the project and the median household income of the area to be served.

6.4.3.2 Long Island Sound Futures Fund

The Long Island Sound Futures Fund provides funding for projects that secure clean water and healthy watersheds, restore thriving habitats and abundant wildlife, and engage the public in creating sustainable and resilient communities around Long Island Sound. The Futures Fund program is administered by the National Fish and Wildlife Foundation (NFWF) in collaboration with US EPA, US Fish and Wildlife Service, and the Long Island Sound Study (LISS). All projects must be located within the Long Island Sound (LIS) watershed boundary, which includes the Town of Suffield. Water Quality Nitrogen Removal projects must be in areas of NY, CT, MA, NH and VT that are within the Long Island Sound watershed. The applicability of this program to the Congamond Lakes project would depend on the ability to quantify the amount of nitrogen removed from the watershed as a result of implementation. In prior years, the implementation project awards have ranged from \$20,000 to \$300,000. A minimum 50% non-federal match for the total project cost is required. The program typically opens the first quarter of each year.

6.4.4 Federal Stimulus and Earmarks

6.4.4.1 The American Rescue Plan State and Local Fiscal Recovery Funds

The American Rescue Plan, signed into law on March 11, 2021, included a \$350 billion relief package for states and local governments, with \$130.2 billion designated for municipalities. In addition to COVID response, premium pay for essential workers, and government services revenue affected by COVID, these funds can be used “to make necessary investments in water, sewer, and broadband infrastructure.” According to US Treasury guidance, any water or sewer project that is eligible under the State Revolving Fund program is eligible to use the ARPA fiscal recovery funds.

The Town of Suffield’s total allocation under the ARP Fiscal Recovery Fund is \$4,680,162.56 and is being issued in two 50% tranches one year apart. Assuming that the Town filed the requisite paperwork with the State Office of Policy and Management by June 9, 2021, it would have received its first Tranche (2021) payment of \$2,340,081.28 by the end of that month. The second Tranche payment will be issued one year from the first.

Local governments can use their Fiscal Recovery Funds to cover costs incurred between March 3, 2021 and December 31, 2024. Funds must be obligated by December 31, 2024 and expended by December 31, 2026.

6.4.4.2 The Bipartisan Infrastructure Framework (Infrastructure and Investment Jobs Act of 2021)

The Bipartisan Infrastructure framework (HR 3684) provides \$11.7 billion each to the CWSRF and DWSRF programs over the next 5 years (FY2022 through 2026), a substantial increase in funding that will increase principal forgiveness on the loans and is likely to increase the percentage of grants available. This document was signed into law by the President on November 15 as Public Law No: 117-58.

6.4.4.3 Congressional and Senate Earmarks

Early in 2021, the House and Senate reestablished the earmark process last available in 2011. A second round of this process is expected to reopen in early 2022 but may not reoccur thereafter, dependent on the 2022 election results. Under this process, the WPCA can apply to its Congressional member and/or Senators for funding consideration under the Interior Subcommittee’s EPA State and Tribal Assistance Grant program (STAG) to assist with implementing the septic to sewer project for Congamond Lakes. The Town would be required to demonstrate the ability to fund 20% of the project cost at the time of application and document broad community support. The Interior Subcommittee also looks favorably on projects that are listed on the State’s most recent CWSRF Intended Use Plan/Priority Project List. If interested in pursuing earmarks, we recommend that the WPCA consult with its Representative and Senators at the earliest opportunity. Woodard & Curran can help facilitate these discussions.

7. ENVIRONMENTAL PERMITTING AND REGULATORY REQUIREMENTS

Woodard & Curran contacted local stakeholders and agencies to assess potential permitting and regulatory requirements.

7.1 Downstream Utilities

Woodard & Curran contacted the two utilities that own and operate the potential downstream infrastructure, Town of Southwick, and the City of Westfield.

7.1.1 Southwick, MA

As discussed throughout this report, Woodard & Curran and the Suffield WPCA met with Southwick DPW to discuss the potential for an interconnection to their collection system. Southwick confirmed they are currently only using approximately 150,000 gallons per day out of their 500,000 gallons per day allotment. Although Southwick DPW was unable to provide any definitive guidance without additional Town leadership approval, they advised that the Town of Southwick will likely limit the potential interconnection to a maximum of 50,000 GPD.

7.1.2 Westfield, MA

Woodard & Curran contacted the City of Westfield Department of Public Works (DPW) regarding the potential for an interconnection through Southwick or directly to their collection system. Westfield DPW, like Southwick, noted that any decision would have to go through City Council approval, however, at this time they were not looking for additional capacity at the plant. The WRF had been operating near capacity during several notable wet-weather events. They also confirmed that Southwick is only using a fraction of their allotted capacity.

7.2 CT Regulatory Authorities

7.2.1 North Central District Health Department (NCDHD)

The local public health regulatory authority is the North Central District Health Department (NCDHD), which regulates Suffield and 7 neighboring towns in Connecticut.

Woodard & Curran initially contacted NCDHD as part of the Wastewater Facilities Plan effort. NCDHD provided a list of the parcels that do not meet the minimum required separating distances between the private drinking water wells and septic tanks that have been grandfathered in under a public health exception (See Section 2.3.4 for a map of these public health exceptions).

Woodard & Curran contacted NCDHD again during this Feasibility Study effort to ascertain potential permit requirements and design considerations. NCDHD reaffirmed their concern with these public health exceptions. The properties adjacent to the lakes present a more significant concern than those properties farther from the lakes.

NCDHD also advised that for any low-pressure sewer service (included in each alternative), by public health code, the grinder pump must be outside the home and at least 75 feet from any infrastructure. This is a challenge due to the limited plot sizes. NCDHD did express an interest to work with the WPCA to find a solution, as grinder pumps are preferred to the current failing septic tanks. NCDHD requested to be apprised if a project moves forward. At minimum, a formal review would be required during the design stage. This review would likely take place after CT DEEP has completed its review.

7.2.2 CT Department of Energy and Environmental Protection

Woodard & Curran contacted the DEEP Municipal Wastewater and Subsurface Sewage groups to ascertain potential permit requirements and design considerations. DEEP Municipal Wastewater is familiar with this project due to their involvement in the prior WMC Report. DEEP Municipal Wastewater supports a project to help with pollutants in the area. DEEP advised that the review requirements could vary greatly depending on the selected alternative. Review requirements would also vary depending on the incorporation of the sewer service area. Due to this variability, the DEEP Municipal Group recommended a subsequent meeting after an alternative is selected. DEEP also noted that funding may be available for such a project.

Woodard & Curran also contacted the DEEP Subsurface Sewage group for Alternative 3, the community treatment system alternative. The Subsurface Sewage group regulates groundwater discharges. New community groundwater discharge systems are heavily regulated and would require DEEP's involvement in preliminary design. This includes but is not limited to a review of the potential site location and soil suitability, and witness to soil borings.

7.3 Massachusetts Environmental Policy Agency (MEPA)

Woodard & Curran contacted the Massachusetts Environmental Policy Agency regarding potential permit requirements and design considerations. A MEPA Pre-Filing meeting is required by Massachusetts regulations for any infrastructure project, particularly a new sewer service to a municipality or sewer district across a municipal boundary through new or existing pipelines. This regulation is typically for new customers in Massachusetts. While this project will include a new sewer service in Connecticut, it will not include any new customers in Massachusetts; all the residential customers will be in Connecticut. In addition, the boundary that is crossed is a State boundary, not a town boundary. As such, MEPA held a formal decision until an alternative has been selected, and additional state agencies may comment.

8. CONCLUSIONS AND NEXT STEPS

Woodard & Curran's analysis identified five feasible, but very costly solutions, as identified in Table 8-1 below. Although these alternatives are costly, Woodard & Curran also identified many potential funding and financing mechanisms to lower the cost per user.

Table 8-1: Summary of Feasible Alternatives

Alt	Description	GPD	Estimated Total Project Cost	Reduces Pollutants in Lake?	Addresses all Public Health Code Exceptions? ¹	Additional Considerations	Notes
1A	Southwick Connection	50,000	\$22.0M	Yes	Most	Southwick and Westfield seem amenable	\$ Least Total Cost and Least per EDU Cost
1B	Southwick Connection	75,000	\$27.8M	Yes	Yes	Southwick has indicated this will require additional negotiation	\$\$
1C	Southwick Connection	150,000	\$57.4M	Yes	Yes	Southwick has indicated this will require additional negotiation	\$\$\$ Highest Total Costs and Highest Cost per EDU
2	FM Suffield	150,000	\$56.0M	Yes	Yes	Potential maintenance and odor issues with a long force main	
3	Community WWTF	150,000	\$64.4M	Yes	Yes	Will require significant additional permitting requirements	

¹ This assessment is for the study area only. There are additional public health exceptions in the Town of Suffield that are not in the Congamond Lakes study area.

As summarized in Table 8-1. Alternative 1A is the lowest capital cost, followed by Alternative 1B. Alternatives 1C, 2 and 3 have a significantly higher capital cost, more than double 1A and 1B. Options 1A, 1B, and 1C have conservative connection costs, as they include the full downstream upgrades and capacity acquisition that should be negotiated with Southwick. In addition, Alternative 1A appears most feasible at this time as Southwick planned for a 50,000 allotment for Suffield when developing the IMA with Westfield.

The funding analysis in Section 6 highlights the potential for a cost reduction through funding and financing mechanisms. An annual EDU cost in the order of \$50,000 to \$100,000 can be reduced to 3,900 annually for Alternative 1A (\$330 monthly), \$4,100 annually for Alternative 1B (\$342 monthly) and close to \$5,000 annually for Alternatives 1C,

2 and 3 through a 30- year loan. Funding opportunities through the Clean Water Fund or funding from Federal Infrastructure stimulus or earmarks could even further reduce these user costs. If the WPCA were to move forward this project, we recommend pursuing funding for Alternative 1A. This alternative would allow the WPCA to maximize this benefit, as it has the lowest capital costs, and a set value of alternative funding would have the largest percentage impact on the project.

8.1 Next Steps

Due to the criticality of funding in this project the Suffield WPCA should consider making this project most desirable for the funding entities. The funding options to explore include the following:

- Tax Increment Financing TIF (Capital Recovery)
- Sewer Assessments (Capital Recovery)
- Clean Water Fund (Financing,)
- Federal Funding (Infrastructure Bill and Earmarks)

Many of the funding and financing programs will fund a design effort. Projects with a well-defined scope and benefits are more likely to be selected. The project would be better positioned for funding by advancing the conceptual design including site survey, preliminary design, and furthering permitting/regulatory discussions. As Alternative 1A has the lowest capital cost, and as the shoreline option has the most direct impact for protecting the lake, it will likely be attractive for State or Federal funding programs.

Public support can also bolster a project's attractiveness to funding and financing programs. This project may gain public support as it will improve public health and environmental considerations in the area. A public outreach campaign can notify the public and key stakeholders of the project benefits and gather this support.

9. REFERENCES

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- State of Connecticut Department of Public Health 2018. On-site Sewage Disposal Regulations and Technical Standards for Subsurface Sewage Disposal Systems. Hartford, CT.: State of Connecticut Department of Public Health.
- Suffield Water Pollution Control Authority. 2016. Financial Fact Sheet. Suffield, CT.: Suffield Water Pollution Control Authority.
- Town of Suffield, Connecticut. 2020. Financial Statements as of and for the Year Ended June 30, 2020. Suffield, CT.: Town of Suffield, Connecticut.
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- United States Department of the Interior National Park Service. 2006. National Register of Historic Places, Babb's Beach, Suffield, Hartford County, Connecticut, National Register #06000591.
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APPENDIX A: WESTFIELD/SOUTHWICK INTERMUNICIPAL AGREEMENT

AGREEMENT BETWEEN THE
TOWN OF SOUTHWICK AND THE CITY OF WESTFIELD
FOR THE TREATMENT AND DISPOSAL OF WASTEWATER

This Agreement is made and entered into as of this 5th day of October, 1998, by and between the TOWN OF SOUTHWICK, Massachusetts (hereinafter referred to as "TOWN"), a municipal corporation organized under the laws of the Commonwealth of Massachusetts, acting by and through its Board of Selectmen and authorized by Town Meeting; and the CITY OF WESTFIELD, Massachusetts (hereinafter referred to as "WESTFIELD" or "CITY"), a municipal corporation organized under the laws of the Commonwealth of Massachusetts, acting by and through its Mayor and authorized by its City Council.

WITNESSETH THAT:

WHEREAS, WESTFIELD and the TOWN deem it to be in the public interest to enter into an agreement whereby WESTFIELD will receive, treat, and dispose of the TOWN'S domestic, commercial, and industrial sewage through WESTFIELD'S sewage works and wastewater treatment facilities; and

WHEREAS, The TOWN has appropriated funds to proceed with the agreement details discussed herein; and

WHEREAS, WESTFIELD and the TOWN are authorized by Chapter 40, Section 4A to enter into intermunicipal agreements for the provision of municipal

services and said agreements are exempted from the operation of Chapter 30B of the General Laws.

NOW THEREFORE, in consideration of the mutual promises and covenants contained herein, and for other good and valuable consideration the receipt of which is hereby acknowledged, the parties hereto covenant and agree as follows:

1.0 Definitions

For the purposes of this Agreement, unless the context in which they are used clearly indicates otherwise, the following terms are defined as indicated:

1.1 "Average Daily Flow" shall mean the total flow as measured by the Metering Station within a period of time being generally one year, divided by the number of days within that period of time.

1.2 "BOD" denotes Biochemical Oxygen Demand and shall mean the quantity of dissolved oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedures in five (5) days at twenty (20) degrees Centigrade (68 degrees Fahrenheit) expressed in milligrams per liter (mg/l).

1.3 "Chargeable Flow" shall mean the total sewage flow from the TOWN during the calendar quarter, the fiscal year, or any other billing period, metered in accordance with the provisions hereinafter provided for in this Agreement.

1.4 "Chlorine Demand" shall mean the amount in milligrams per liter (mg/l) of chlorine required to be added to water, wastewater or other liquids to achieve a

combined chlorine residual, after fifteen (15) minutes contact, of one (1.0) milligram per liter.

1.5 "City" shall mean the City of Westfield, a municipal corporation of the Commonwealth of Massachusetts.

1.6 "Combined Sewer" shall mean a sewer receiving and conveying both surface runoff and sewage.

1.7 "EPA" shall mean the Environmental Protection Agency of the United States of America.

1.8 "Industrial Sewage" shall mean the liquid wastes and liquid borne wastes from industrial manufacturing processes, laboratories, trades, or businesses and any other wastewater as distinct from domestic sewage.

1.9 "Construction Cost" shall mean the total construction cost of modifications to the Westfield Sewage Works necessary to complete the Project or as may be necessary in the future to maintain or improve the Project. Such costs shall include, but not be limited to, administrative and construction costs, engineering and legal fees, and interest charges.

1.10 "Peak Flow Rate" shall mean the average of the three highest hourly rates of flow expressed in million gallons per day (MGD) recorded at the Metering Station during any calendar month.

1.11 "pH" shall mean the logarithm (to the base ten) of the reciprocal of the weight of hydrogen ions in grams per liter (gm/l) of solution.

1.12 "Project" shall mean the transmission and treatment facilities required to be constructed within the City to implement this Agreement.

1.13 "Secondary Treatment" shall mean the treatment of wastewater by physical, biological and chemical methods.

1.14 "Sewage" shall mean a combination of the water-carried wastes from residences, business buildings, institutions, and industrial establishments, together with such ground, surface and storm waters as may be present.

1.15 "Sewage Treatment Plant" shall mean the City's sewage treatment facilities located on Neck Road, Westfield.

1.16 "Sewage Works" shall mean all facilities for collecting, pumping, conveying, treating, and disposing of sewage.

1.17 "Suspended Solids (SS)" shall mean solids that either float on the surface of, or are in suspension in, water, sewage, or other liquids, and which are removable by laboratory filtering, expressed in milligrams per liter by weight (or pounds per day).

1.18 "Westfield Sewer Ordinances and/or Regulations" shall mean ordinances or regulations duly passed by the City of Westfield or its Board of Public Works that limit or prohibit the discharge of specified wastes and waters. This definition includes any future ordinances or regulations or amendments to existing ordinances or regulations of general applicability to the CITY and the TOWN. The CITY shall give the TOWN notice of the meeting or meetings of the Westfield City Council or Board of Public Works at which the adoption of such future ordinances or

regulations is deliberated or voted upon (it being acknowledged that there are presently no such regulations in effect) or the amendment of such ordinances or future regulations is deliberated or voted upon. The TOWN shall have the opportunity to be heard at such City Council and/or Board of Public Works meetings, and copies of the proposed ordinance, regulation or amendment thereof shall be given to the TOWN with such notice or at the same time that the Board of Public Works or Public Works Department staff submit such ordinance, regulation or amendment to the City Council or Board of Public Works for consideration or at the same time such ordinance, regulation or amendment is sent for publication, if publication is required. Notice of such City Council or Board of Public Works meetings is to be given at least twenty-one days prior to the event, in writing, to the Chief Administrative Officer of the TOWN, or such different official of which the TOWN shall have given Westfield written notice, unless the ordinance or regulation is an emergency ordinance or regulation, in which case such notice shall be given to the TOWN as is reasonable under the circumstances. The terms and requirements of the Westfield Sewer Ordinances and/or Regulations shall at all times supersede and prevail over the terms and requirements of this Agreement unless such Sewer Ordinances and/or Regulations have the effect of changing the terms of this Agreement pertaining to the Sewage volume limits of Section 6.0 and all financial terms of the Agreement.

2.0 Treatment, Control, and Characteristics of Sewage Discharge

2.1 The CITY shall receive, treat, and dispose of the TOWN'S sewage in accordance with all existing or future laws, regulations, ordinances, water quality standards, orders and decrees of any governmental authority having jurisdiction over the treatment and disposal of said sewage and subject to any implementation schedule issued therefor by any such governmental authority.

2.2 The TOWN'S sewage flow shall not contain sewage from any sources outside the TOWN, including any other municipality or district, without specific written approval from the CITY.

2.3 The TOWN agrees to adopt and enforce a sewer use ordinance or regulation which is acceptable to state and federal agencies having jurisdiction over the same and which incorporates Westfield's Sewer Ordinances and/or Regulations. Failure to do so shall not excuse noncompliance with any other terms of this Agreement.

2.4 The TOWN will not discharge into the WESTFIELD Sewage Works sewage which is not amenable to being treatable by the sewage treatment processes employed, or which prevents or limits the sewage treatment plant from meeting the requirements of the State and/or Federal Agency having jurisdiction over the discharge of sewage. The TOWN shall bear sole responsibility for regulating and implementing this requirement.

2.5 WESTFIELD, or its authorized agent, will have the right to require the TOWN to inspect sewage which it discharges into the City's Sewage Works. At its discretion, the CITY may have a representative participate in the inspection.

2.6 The TOWN will not discharge into the CITY'S Sewage Works sewage which is prohibited under the CITY'S sewer use ordinances and/or regulations.

2.7 All measurements of volume and characteristics of the TOWN'S sewage received by the CITY shall be made at a sampling/metering station to be constructed as hereinafter provided in this Agreement.

3.0 Enforcement Authority

3.1 The TOWN shall have the primary duty to administer and enforce its sewer bylaws or regulations.

3.2 The TOWN designates the CITY as the agent of the TOWN, acting by and through the CITY'S Board of Public Works or its agents, for the purpose of enforcing the TOWN'S sewer bylaws or regulations against users subject to the TOWN'S jurisdiction. The TOWN'S bylaws or regulations shall restate this agency and shall require any TOWN consumer to consent formally to the provisions of this agency. All administrative and judicial penalties and fines assessed pursuant to acts taken under this agency authority shall be the property of and paid to the CITY.

3.3 Upon the TOWN'S failure to enforce its bylaws or regulations within seven days of notice from the CITY to the TOWN alleging that the TOWN has failed to enforce its bylaws or regulations, the CITY may take any enforcement action it deems necessary to enforce the bylaws or regulations. The CITY may take any

actions under the TOWN'S sewer bylaws or regulations which the TOWN could take including but not limited to enforcement by administrative fines or civil or criminal enforcement in any appropriate court.

3.4 In addition, the CITY may, as agent of the TOWN, take emergency action to stop, prevent or lessen any discharge which presents, or may present, an imminent or immediate threat or danger to the health, safety, or welfare of human beings or which reasonably appears, in the CITY'S discretion, to threaten the environment or which threatens to cause interference with the treatment process, pass through of substances which could cause the CITY to violate the terms of its discharge permit, or sludge contamination.

3.5 The TOWN will reimburse the CITY for all of the CITY'S costs incurred in enforcing the TOWN'S sewer bylaws or regulations within thirty days after receipt of an accounting of such costs.

3.6 If the authority of the CITY to act as agent for the TOWN under this Agreement is called into question by any user, court, state or federal agency, department, board or otherwise, the TOWN will take whatever action is necessary to ensure the enforcement of its sewer bylaws or regulations to the fullest extent against its users including but not limited to enforcing its regulations on its own behalf at the request of the CITY and/or amending this Agreement or its bylaws or regulations to clarify the CITY'S authority. If, for any reason, the CITY'S authority as agent is not recognized and the CITY asks the TOWN to enforce its bylaws or regulations or clarify the CITY'S authority, the TOWN shall do so.

3.7 Nothing contained herein shall be construed as limiting in any way the TOWN'S authority to enforce its sewer bylaws or regulations.

4.0 Term of Agreement

The term of this Agreement shall be for a period of twenty-five (25) years from the date hereof. Before the end of such term, reauthorization must occur and a new Agreement reached to continue the services provided by WESTFIELD to the TOWN.

5.0 Collection and Transmission of Sewage

5.1 The TOWN shall be responsible for, and agrees to assume, all capital costs associated with the construction of necessary sewage works within the TOWN. All sewage works in The TOWN shall be constructed in accordance with federal and state guidelines. All sewage works in the TOWN shall be operated and maintained in accordance with federal and state guidelines and in accordance with the CITY'S sewer ordinances and regulations. The TOWN shall periodically advise WESTFIELD on the progress of the construction of Sewage Works within the TOWN, and the anticipated date of completion of such Sewage Works.

5.2 WESTFIELD will allow the TOWN to construct the necessary sewage works within WESTFIELD to convey and discharge the TOWN'S sewage from town/city boundary line to the Westfield Sewage Works. The CITY will acquire any interests in property necessary to complete said construction. All costs associated with said construction and acquisitions shall be borne by the TOWN.

5.3 All sewage works constructed by the TOWN within the City of WESTFIELD shall be constructed in accordance with WESTFIELD'S specifications, including but not limited to type and size of pipes, permits, testing, surety, and acceptance procedures, and condition in which the TOWN is to put land owned by the CITY. Upon acceptance of the sewage works by the Westfield Board of Public Works, all of the sewage works within the CITY constructed by the TOWN become the property of the CITY. Such specifications shall not require construction to a higher standard than the standard to which Westfield or its contractors construct other public sewers within Westfield. The TOWN agrees to construct a sewer line in Westfield from the TOWN boundary to South Meadow Road. The sewer line shall meet the specifications of the CITY'S Board of Public Works. The size of the sewer line shall allow for a capacity of 500,000 gallons average daily flow from the TOWN plus an amount to be specified by the Board of Public Works that may be generated from within the CITY.

It is understood, and mutually agreed, that it will be necessary to construct an additional sewer line from South Meadow Road to the Sewage Treatment Plant to accommodate increases in flow as set forth in subparagraphs 1 and 2, below. The TOWN shall pay the costs of the design and construction of the additional sewer line. Either of the following circumstances will necessitate the additional sewer line:

- 1) The metered average daily flow from the TOWN reaches 175,000 gallons per day.

2) The CITY'S Board of Public Works determines that the existing Sewage Works from South Meadow Road to the Sewage Treatment Plant does not have the capacity to handle the combined flows from the TOWN and the CITY.

5.4 The TOWN'S sewage flow shall be metered at a point in WESTFIELD near the city/town boundary line between the TOWN and WESTFIELD by adequately maintained metering devices acceptable to both parties. The TOWN shall construct the metering station and shall bear the expense of such construction. Such metering station shall be adequate to measure the TOWN'S flow rates provided for in this Agreement. WESTFIELD shall own, maintain and repair such metering devices as necessary. Provision shall be made to enable the metering devices to be read at WESTFIELD'S sewage treatment plant located on Neck Road, Westfield, Massachusetts and the TOWN'S Offices.

6.0 Sewage Treatment Volumes and Characteristics

6.1 WESTFIELD agrees to construct, operate and maintain an expansion of the sewage treatment plant and sewage works to provide secondary sewage treatment of the TOWN'S sewage as referred to in this agreement. WESTFIELD agrees to provide the following capacities to the TOWN in the Sewage Works for the TOWN'S sewage:

Average Daily Flow	0.5 mgd
Peak Daily Flow	1.5mgd

No increase in flow above 175,000 gallons average daily flow shall be allowed prior to the construction of the additional sewer line from South Meadow Road to the Sewage Treatment Plant, as provided in paragraph 5.3.

6.2 Exceeding the volumes of 6.1 shall constitute a material breach of this Agreement. The CITY shall determine such a breach based on an average monthly flow. For such breach, the CITY will charge the TOWN twenty percent (20%) of the agreed upon fees in addition to the agreed upon fees for that portion of the flow that exceeds the agreed upon volume limits ("Quantity Surcharge"). The TOWN agrees to pay all Quantity Surcharges. In addition, such breach may subject the TOWN to monetary penalties and/or the City's refusal to accept the Town's sewage beyond the agreed upon amount of flow and/or termination of this Agreement.

6.3 The characteristics of the TOWN'S sewage received by WESTFIELD for treatment shall comply with and not exceed the standards set forth in WESTFIELD'S Sewer Ordinances and/or Regulations.

6.4 When necessary to determine BOD and Suspended Solids concentrations for the purposes of ensuring that the TOWN'S sewage strength is within the parameters of the treatment capability of the Westfield treatment plant, BOD and Suspended Solids shall be determined from proportional, composite, 24-hour samples obtained at the Sampling/Metering Station. The average daily BOD and SS, in pounds per day, shall be determined from the average of not less than fourteen (14) samples, taken on at least two consecutive seven-day periods within each calendar quarter, as hereinafter described in this Agreement.

6.5 In the event that damage is done to the sewage works, the treatment process is adversely affected, the effluent quality deteriorates, treatment costs are increased, or fines and/or penalties are levied against the CITY as a result of quality or quantity of the discharge of the TOWN, this shall constitute a material breach of this Agreement. All costs resulting from said discharge shall be billed to and paid by the TOWN.

6.6 Exceeding the parameters of BOD and Suspended Solids shall constitute a material breach of this Agreement. For such breach, the City will charge the TOWN twenty percent (20%) of the agreed upon fees in addition to the agreed upon fees for the time period that the TOWN'S sewage flow exceeds the parameters ("Quality Surcharge"). The TOWN agrees to pay all Quantity Surcharges. In addition, such breach may subject the TOWN to monetary penalties and/or termination of this Agreement.

7.0 Sewer Entrance Fee

7.1 The TOWN shall pay to WESTFIELD a Sewage Entrance Fee of \$125,000.

7.2 The TOWN shall pay to WESTFIELD the Sewage Entrance Fee in one lump sum no later than thirty (30) days prior to the date of commencement of initial treatment of the TOWN'S sewage by WESTFIELD at WESTFIELD'S sewage treatment plant.

8.0 Expansion of Sewage Treatment Plant

8.1 The parties acknowledge that the capacities the City agrees to provide the TOWN, as set forth in Paragraph 5.1, require the City to expand the capacity of its sewage works by constructing an addition to the existing sewage treatment plant. The City will expand its sewage treatment plant by 50%, increasing its capacity for average daily flow from 4 mgd to 6 mgd, in part to handle the anticipated average daily flow of 0.5 mgd from the TOWN.

8.2 As 0.5 mgd represents 25% of the 2 mgd increase in capacity, the TOWN agrees to pay the CITY 25% of the construction costs of the expansion of the sewage treatment plant.

8.3 The TOWN shall make full payment of its agreed to share of the construction costs no later than thirty (30) days prior to the first date that the CITY must make payment pursuant to the CITY'S financing arrangement for construction costs.

8.4 As an alternative to the payment provision in Paragraph 8.3, the TOWN may make equal annual payments for the term of years that the CITY makes payments under the provisions of its financial arrangement to pay the construction costs. The annual payment date shall be November 1. The TOWN must first provide a guarantee that it will make the annual payments. The CITY may accept or refuse the guarantee provided by the TOWN. The TOWN'S guarantee must be accepted by the Mayor, as the CITY'S agent, no later than 90 days prior to the first date that the CITY must make payment pursuant to the CITY'S financing

arrangement. If the CITY refuses to accept the TOWN'S guarantee, the TOWN must fulfill its payment obligation as set forth in paragraph 8.3.

8.5 As an alternative to the payment provisions in Paragraphs 8.3 and 8.4, the TOWN may make equal annual payments for the term of years that the CITY makes payments under the provisions of its financial arrangement to pay the construction costs. The annual payment date shall be November 1. If the CITY does not receive the full annual payment from the TOWN by the annual payment date, the TOWN agrees to pay a penalty of 20% of the outstanding balance of the annual payment. If the CITY does not receive the outstanding balance of the annual payment plus the penalty by the next annual payment date, the outstanding balance of the annual payment of the prior year and penalty shall be added to the annual payment then due. Said outstanding balance, penalty and annual payment shall constitute the total amount due for the annual payment ("adjusted annual payment"). If unpaid by the annual payment date, the 20% penalty shall be calculated based on the adjusted annual payment.

9.0 Rate Setting

9.1 The Westfield City Council periodically sets a rate for industrial users of the Sewage Works for the compliance, treatment and disposal of their sewage based on a per one thousand cubic foot basis ("Industrial Rate)). The TOWN agrees to pay the Industrial Rate plus ten percent (10%) for the conveyance, treatment, and disposal of its sewage.

9.2 The TOWN reserves the right to audit, at its own expense, the records of the Board of Public Works and the Department of Public Works pertaining to the CITY'S Sewage Works.

10.0 Pretreatment

10.1 WESTFIELD reserves the right at anytime to require the TOWN to pretreat its sewage prior to discharge to the WESTFIELD Sewage Works if the TOWN'S sewage flow arriving at the meter station exceeds the requirements of this Agreement or of the CITY'S ordinances.

11.0 Termination or Suspension of Services

11.1 For any material breach of this Agreement, continued for a period of one (1) month after notice thereof in writing by the other party, either party may terminate this Agreement by giving notice thereof to the other party in writing, which termination shall become effective not earlier than three (3) calendar years after the date of receipt of said notice, unless sooner terminated by mutual agreement of the parties. Upon receipt of said notice, both parties shall enter into discussions within thirty (30) days from the date thereof to assure proper termination of the Agreement.

11.2 If a material breach of this Agreement by the TOWN creates a substantial risk of imminent harm to the health, safety or welfare of the public, the CITY may suspend or limit services immediately to the extent necessary to address said harm. The CITY will provide notice to the TOWN of the suspension or

limitation as soon as reasonably possible. The suspension or limitation will remain in effect only as long as the emergency created by the breach continues.

11.3 In addition to those remedies hereinabove provided for in paragraph 11.1 or 11.2, the parties hereto shall have the right to invoke any remedy available to them under this Agreement or under law or equity.

12.0 Notice of Changes in Discharge

12.1 The TOWN agrees to notify WESTFIELD as far in advance as possible of any anticipated or planned increases or decreases which are significant in either the quantity or quality of the sewage to be discharged to WESTFIELD'S sewage treatment facility. In no case shall changes in quantity or quality of sewage exceed the volumes or parameters established by this Agreement without prior permission of the City.

13.0 Guaranty of Sewage Disposal

13.1 The CITY agrees to receive, treat, and dispose of the TOWN'S sewage. The CITY guarantees to provide this service for up to 175,000 gallons per day dependent upon DEP approval of a sewer extension permit. The CITY guarantees to provide this service for up to 500,000 gallons of sewage per day dependent upon DEP approval of a sewer extension permit and upon the construction of the expansion of the Sewage Treatment Plant.

14.0 Sampling of Wastes

14.1 The parties hereto agree that the determination of character and concentration of sewage shall be in accordance with standard methodologies approved by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federal, or their successors, or any other method mutually agreed upon by the parties, and subject further to the provisions contained in paragraphs 14.2, 14.3, and 14.4 set forth below.

14.2 The sampling and determination of the character and concentration of the TOWN'S sewage shall be the responsibility of WESTFIELD or its authorized agent. The TOWN shall be furnished copies of all determinations.

14.3 The CITY shall collect samples at the Sampling/Metering Station in such a manner as to be representative of the actual quality of the sewage. WESTFIELD or its authorized agent shall collect a least fourteen (14) representative proportional composite samples from any two periods of seven (7) consecutive days in each quarter. The mathematical average of the concentrations thus obtained shall be multiplied by the TOWN'S quarterly flow to determine the appropriate quarterly BOD and suspended solids (SS). The TOWN shall have access to said Sampling/Metering Station and may use available sampling and metering equipment located at such Station to conduct intermittent or continuous sewage sampling which it may need or desire for its own use and records.

14.4 The TOWN may conduct its own flow metering, sampling and analytical program and submit the results relating to the volume, character and concentration of its sewage to WESTFIELD. Copies of flow metering data and portions of sewage

samples collected by The TOWN as part of a sampling and analytical program shall be made available to WESTFIELD upon its request at no cost and in adequate quantities for analysis by WESTFIELD for characteristics and concentrations.

15.0 Measurement of Flow

15.1 The parties agree that the measurement of Average Daily Flow shall be determined for the TOWN based upon readings obtained by suitable metering equipment installed in a Sampling/Metering Station. Provisions relative to the installation, operation, and maintenance of said Sampling/Metering Station shall be as follows:

- (A) The TOWN shall, at its own expense, construct as part of this project a sampling/metering station on its sewer line to be constructed in WESTFIELD as close as possible to the town/city boundary line and in a location approved by the CITY. Such sampling/metering station shall be operated and maintained by the CITY.
- (B) The CITY shall provide the TOWN with sewage volumes of the TOWN for the preceding billing cycle based upon the meter readings. The TOWN shall have access to the Sampling/Metering Station described above during normal business hours and at the convenience of the CITY personnel.
- (C) In the event the metering equipment exhibits intermittent or erratic metering measurements, or is temporarily put out of order or service for

any reason, the volume of sewage will be estimated based upon the previous three month average.

16.0 Conditional Agreement

16.1 The TOWN'S obligations hereunder are contingent upon The TOWN' S ability to complete construction and installation of its sewage works and facilities in The TOWN, and to complete the construction and installation of the sewer main from the city/town boundary line to the existing Westfield Sewage Works within three years of the date of this Agreement.

16.2 The CITY'S obligations to accept in excess of 175,000 gallons per day hereunder are contingent upon the CITY'S ability to obtain financing satisfactory to the CITY for construction costs for the expansion of the Sewage Treatment Plant.

17.0 Amendments and Waivers

17.1 No officer, official, agent or employee of the CITY or the TOWN shall have the power to amend, modify or alter this Agreement or waive any of its provisions or to bind the CITY or the TOWN by making any promise or representation not contained herein except by an amendment, in writing, executed by both municipal corporations in the same manner as this Agreement is executed. Neither party may rely on any conduct, statements, action, inaction or course of conduct of the employees, agents or officers of the other party as having changed, modified or amended this Agreement. Neither party shall be construed as waiving any provisions of the Agreement unless the waiver is executed in writing as an amendment to this Agreement. No waiver by either party of any default or breach

shall constitute a waiver of any subsequent default or breach. Forbearance or indulgence in any form or manner by either party shall not be construed as waiver of any term or condition hereto nor shall it limit the legal or equitable remedies available to that party.

18.0 Miscellaneous Provisions

Severability - If any provision of this Agreement shall be held by a Court to be legally invalid or unenforceable, such invalidity or unenforceability shall not affect the whole Agreement, but the whole Agreement shall be construed as if not containing the provision, and the rights and obligations of the parties shall be construed and enforced accordingly.

Massachusetts Law - The parties hereto agree that this Agreement is a Massachusetts contract and its provisions and terms shall be construed and interpreted by and under the laws of the Commonwealth of Massachusetts.

Binding Effect - This agreement shall be binding on each of the parties hereto, and each of their successors, legal representatives and assigns.

Authority - As evidenced by the respective Town Clerk's and City Clerk's Certificate attached hereto, each of the parties hereto represents that it has the authority to enter into and perform its obligations under this Agreement, that all actions have been taken and all approvals have been obtained which are requisite to the authorization of this Agreement, and that the persons executing this Agreement on behalf of each party are authorized to do so.

Effectiveness of Agreement - the effective date of this Agreement shall be the date upon which the Agreement is signed and executed by The TOWN and WESTFIELD.

Notices - All termination notices and notices of breach of contract given by one party to the other under this Agreement shall be sent by registered or certified mail, return receipt requested, or shall be delivered in hand, to:

Representing WESTFIELD:
Mayor
City of Westfield
City Hall
59 Court Street
Westfield, MA 01085

Representing SOUTHWICK:
Chairperson
Board of Selectmen
Town Hall
Southwick, MA 01077

Entire Agreement - This Agreement constitutes the entire Agreement between the parties and any other agreements, whether written or oral, that may exist are excluded from the terms hereof, unless specifically referred to herein.

Cumulative Rights - Any and all rights and remedies which either party may have hereunder shall be cumulative and the exercise of any one or such rights shall not bar the exercise of any other right or remedy which said party may have.

Exclusive Forum - The parties hereto agree that the sole and exclusive place, status, and forum of this Agreement shall be Hampden County, Massachusetts. It is the express intention of the parties to this Agreement that the exclusive venue of all legal actions and procedures of any nature whatsoever shall be either the Superior Court Department of the Trial Court of the Commonwealth of Massachusetts sitting in the Hampden County Hall of Justice, Springfield,

Massachusetts, or the United States District Court sitting in Springfield,

Massachusetts.

IN WITNESS WHEREOF, The CITY OF WESTFIELD, acting and through its Mayor, and the TOWN OF SOUTHWICK, acting by and through its Board of Selectmen, have executed this Agreement as a sealed instrument as of the day and year first above written.

CITY OF WESTFIELD

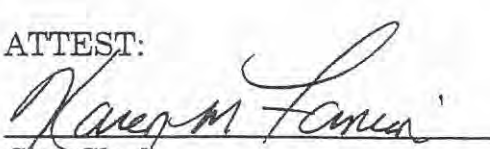
By: 

Mayor

10/28/98

Date

ATTEST:


City Clerk

Oct. 29, 1998
Date

APPROVED AS TO FORM


City Solicitor

10/28/98


Date



TOWN OF SOUTHWICK
BOARD OF SELECTMEN

ATTEST:

By: 

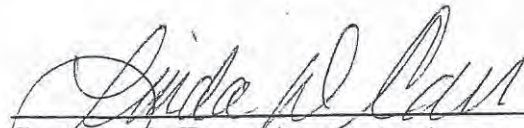

Town Clerk

By: 

12/4/98
Date

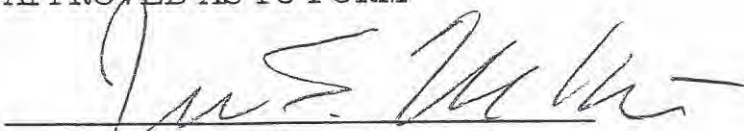
By: 

APPROVED AS TO APPROPRIATION:



Southwick Town Accountant

APPROVED AS TO FORM



Southwick Town Counsel

10/2/98
Date

COPY

FIRST AMENDMENT, MODIFICATION AND CONFIRMATION AGREEMENT TO
AGREEMENT BETWEEN THE TOWN OF SOUTHWICK AND
CITY OF WESTFIELD FOR THE TREATMENT AND DISPOSAL OF WASTEWATER

AGREEMENT ("Agreement") made this 24 day of September, 2003 by and between the Town of Southwick, Massachusetts, a municipal corporation organized under the laws of the Commonwealth of Massachusetts, acting by and through its Board of Selectmen and authorized by Town Meeting (hereinafter the "Town") and the City of Westfield, Massachusetts, a municipal corporation organized under the laws of the Commonwealth of Massachusetts, acting by and through its Mayor and authorized by its City Council (hereinafter the "City").

WHEREAS, on October 5, 1998 the Town and City entered into an Agreement between the Town of Southwick and City of Westfield for the Treatment and Disposal of Wastewater wherein the City agreed to receive, treat and dispose of the Town's domestic, commercial and industrial sewage through the City's sewage works and wastewater treatment facilities (hereinafter the "IMA"); and

WHEREAS, for purposes of the Agreement herein, all capitalized terms used herein shall have the same meaning ascribed to them as set forth within the IMA; and

WHEREAS, the IMA provides for the City to periodically set the rate for industrial users of the Sewage Works for the conveyance, treatment and disposal of their sewage based on a per one thousand (1,000) cubic foot basis ("Industrial Rate"); and

WHEREAS, pursuant to the terms of the IMA, the Town agrees to pay the Industrial Rate plus ten (10%) percent for the conveyance, treatment and disposal of its sewage; and


WHEREAS, the Town and the City by way of this Agreement, desire to memorialize in writing the Industrial Rate to be charged to the Town effective July 1, 2002.

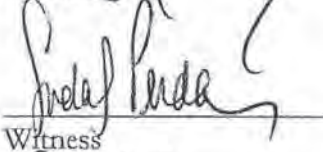
NOW, THEREFORE, in consideration of the foregoing and other good and valuable consideration the receipt and sufficiency which is hereby acknowledge, the parties hereby agree as follows:

1. By the execution of this Agreement, the Town and the City hereby agree that effective July 1, 2002 the Industrial Rate charged to the Town shall be Two and 91/100 (\$2.91) Dollars per one thousand (1,000) gallons plus ten (10%) percent thereby making the effective rate Three and 20/100 (\$3.20) Dollars per one thousand (1,000) gallons.
2. By the execution of this Agreement, the Town and the City hereby agree and acknowledge that because the Town, by virtue of Section 8.0 of the IMA participates in the cost of the expansion of the City sewage treatment plant by separate payment, any future rate set by the City for the conveyance, treatment, and disposal of Town sewage pursuant to the IMA shall not include any surcharge for capital costs associated with funding the expansion of the sewage treatment plant.
3. No later than fourteen (14) days after the execution of this Agreement, the City shall recalculate its prior billings to conform, as required, to the rate stated at number 1, above,

and tender to the Town a statement setting forth all sums owed by the Town to the City as sewer use fees through the then most recent meter reading. Within thirty (30) days of receipt of said statement, the Town shall tender payment to the City. Thereafter, the City shall tender bills to the Town to coincide with the City's regular, quarterly utility billings with payment to be due thirty (30) days from date of billing.

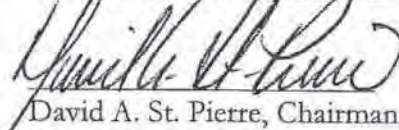
4. By the execution of this Agreement, the Town and the City do hereby expressly acknowledge, agree and confirm that except for the amendment to the IMA as set forth above, all of the terms and conditions contained in the IMA dated October 5, 1998 are hereby ratified and confirmed in all respects.
5. The Agreement shall be executed in two counterparts, each executed counterpart constituting an original but both counterparts together constituting only one instrument.
6. The parties hereto hereby represent and agree that they have the authority to make and perform this Agreement, in all respects, upon the terms set forth herein.
7. This Agreement will be construed under the laws of the Commonwealth of Massachusetts.


Witness

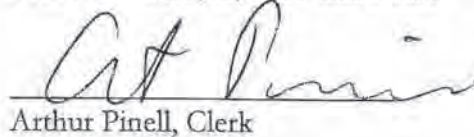

Witness


Witness


TOWN OF SOUTHWICK


David A. St. Pierre, Chairman


Fred B. Arnold, II, Vice Chairman

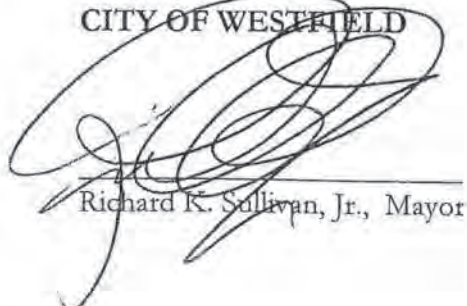

Arthur Pinell, Clerk

Approved as to form:

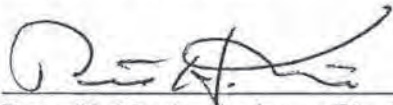

Kenneth J. Albano, Esquire
Town Counsel


Witness

CITY OF WESTFIELD


Richard K. Sullivan, Jr., Mayor

Approved as to form:

A handwritten signature in black ink, appearing to read "P. H. Martin", written over a horizontal line.

Peter H. Martin, Assistant City Solicitor



ATTORNEYS AT LAW

MICHAEL S. RATNER
PAUL R. SALVAGE
GARY L. FIALKY
MICHAEL B. KATZ
PAUL H. ROTHSCHILD
STEPHEN N. KREVALIN
HYMAN G. DARLING
MARK J. BEGLANE
GARY G. BRETON
MICHAEL J. COYNE
KENNETH J. ALBANO
RICHARD A. CORBERT
JAY A. GABRIEL*
ROBERT S. MURPHY, JR.
PHILIP R. SMITH
FRANCIS R. MIRKIN
MICHELLE M. BEGLEY*
MARTIN C. DUNN*
JULIE A. DIALESSI-LAFLEY*
GINA M. BARRY*
DONNA L. WEXLER
JUSTIN H. DION*
ADAM J. BASCH**
*ADMITTED ALSO IN CT
**ADMITTED ALSO IN NY

OF COUNSEL
JAMES M. SWEENEY
ELIZABETH A. GINTER

RETIRED
PHILIP C. SMITH

GEORGE A. BACON
(1869-1945)
PETER D. WILSON
(1908-1989)
JUSTIN COHEN
(1913-1987)

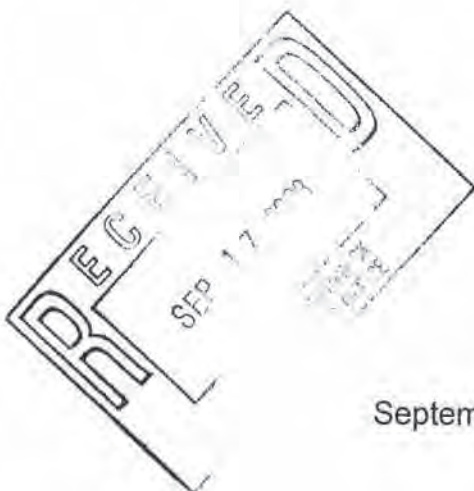
33 STATE STREET
SPRINGFIELD, MA 01103-2003
FAX (413) 739-7740
TELEPHONE (413) 781-0560

9 CHAPEL STREET
WESTFIELD, MA 01085-3062
FAX (413) 562-0548
TELEPHONE (413) 562-9607

351 PLEASANT STREET
NORTHAMPTON, MA 01060-3998
FAX (413) 588-5959
TELEPHONE (413) 584-3250

334 ELLA GRASSO TURNPIKE
WINDSOR LOCKS, CT 06096-1047
FAX (860) 654-1948
TELEPHONE (860) 623-6482

www.bacon-wilson.com



September 16, 2003

Karl J. Stinehart, Chief Administrative Officer
Town of Southwick
454 College Highway
Southwick, MA 01077

RE: Southwick/Westfield IMA Amendment

Dear Karl:

Enclosed herein for the Town's records, please find one original agreement in connection with the above-captioned matter. In addition to the forgoing, I am also returning the two checks previously delivered to the City of Westfield for prior billing.

At this juncture, it is my understanding that you will issue a new check for the outstanding billing and thereafter await the next quarterly billing from the City.

Thank you again for your assistance in resolving this matter.

Very truly yours,

Kenneth J. Albano

KJA/mvh
Enclosure
27250.002

**SECOND AMENDMENT, MODIFICATION AND CONFIRMATION
AGREEMENT TO INTERMUNICIPAL AGREEMENT BETWEEN THE TOWN
OF SOUTHWICK AND THE CITY OF WESTFIELD FOR THE TREATMENT
AND DISPOSAL OF WASTEWATER**

AGREEMENT ("Agreement") made this ___ day of January, 2011 by and between the Town of Southwick, Massachusetts, a municipal corporation organized under the laws of the Commonwealth of Massachusetts, acting by and through its Board of Selectmen and authorized by Town Meeting (hereinafter the "Town") and the City of Westfield, Massachusetts, a municipal corporation organized under the laws of the Commonwealth of Massachusetts, acting by and through its Mayor and authorized by its City Council (hereinafter "City").

WHEREAS, on October 5, 1998 the Town and the City entered into an Agreement between the Town of Southwick and the City of Westfield for the Treatment and Disposal of Wastewater wherein the City agreed to receive, treat and dispose of the Town's domestic, commercial and industrial sewage through the City's sewage works and wastewater treatment facilities (hereinafter the "IMA"), and;

WHEREAS, the IMA provides for the City to periodically set the rate for industrial users of the Sewage Works for the conveyance, treatment and disposal of their sewage based on a per one thousand (1,000) cubic foot basis ("Industrial Rate"), and;

WHEREAS, pursuant to Section 9.0 of the IMA, the Town agrees to pay for the Industrial Rate plus ten (10%) percent for the conveyance, treatment and disposal of its sewage, and;

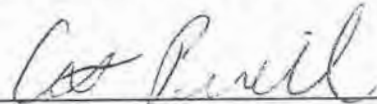
WHEREAS, pursuant to Section 8.0 of the IMA, because the Town agrees to participate in the cost of the expansion of the City sewage treatment plant by separate payment, any rate set by the City for the conveyance, treatment and disposal of Town sewage pursuant to the IMA shall not include any surcharge for capital costs associated with funding the expansion of the sewage treatment plant, and;

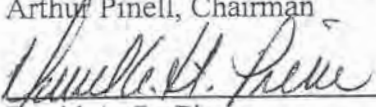
WHEREAS, the Town and the City, by way of this agreement, desire to memorialize in writing the Industrial Rate to be charged to the Town effective January 2011.

NOW, THEREFORE, in consideration of the foregoing and other good and valuable consideration the receipt and sufficiency which is hereby acknowledged, the parties hereby agree to the following:

1. Effective January 1, 2011 the Industrial Rate charged to the Town shall be Three Dollars and Eighteen Cents (\$3.18) per one thousand (1,000) gallons plus ten (10%) percent thereby making the effective rate Three Dollars and Fifty Cents (\$3.50) per one thousand (1,000) gallons.
2. No later than fourteen (14) days after the execution of this Agreement, the City shall recalculate its prior billings to conform, as required, to the rate stated at number 1, above, and tender to the Town a statement setting forth all sums owed by the Town to the City as sewer user fees through the then most current meter reading. Within thirty (30) days of receipt of said statement, the Town shall tender payment to the City. Thereafter, the City shall tender bills to the Town to coincide with the City's regular, quarterly utility billings with payment to be due thirty (30) days from the date of billing.
3. By the execution of this Agreement, the Town and the City do hereby expressly acknowledge and agree that except for the amendment to the IMA as set forth above, all of the terms and conditions contained in the IMA dated October 5, 1998 are hereby ratified and confirmed in all respects. This Second Amendment replaces the First Amendment to the Agreement dated September 8, 2003.
4. The Agreement shall be executed in two counterparts, each executed counterpart constituting an original but both counterparts together constituting only one instrument.
5. The parties hereto hereby represent and agree that they have the authority to make and perform this Agreement, in all respects, upon the terms set forth herein.
6. This Agreement will be construed under the laws of the Commonwealth of Massachusetts.

**TOWN OF SOUTHWICK
BOARD OF SELECTMEN**

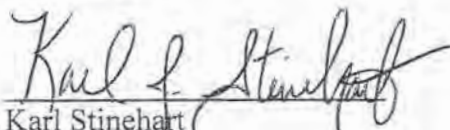


Arthur Pinell, Chairman


David A. St. Pierre


Nicholas Boldyga

ATTEST:

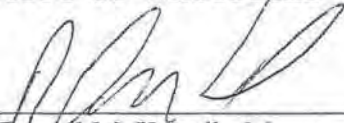


Karl Stinehart
Chief Administrative Officer

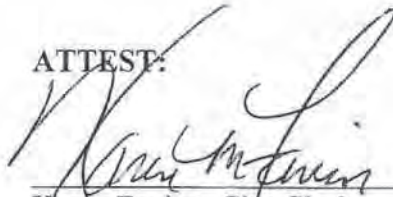
Approved as to form:


Town Counsel *KEVIN J. WALSH*

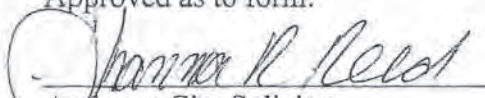
CITY OF WESTFIELD


Daniel M. Knapik, Mayor

ATTEST:


Karen Fanion, City Clerk

Approved as to form:


Assistant City Solicitor

4

January 14, 2011

Karl J. Stinehart
Chief Administrative Officer
Town of Southwick
454 College Highway
Southwick, MA 01077

Re: City of Westfield/Second Amendment - IMA

Dear Karl:

Enclosed herein, please find duplicate original Agreements in connection with the above captioned matter. In your review, you will note I have approved the Amendment to form and I have signed off on same.

At this juncture, I would ask that you submit each original to the Selectmen for final execution and thereafter return one (1) original to my attention for final delivery to Attorney Reed, Assistant City Solicitor.

Naturally, if you or the Selectmen have any questions or concerns regarding this matter, please do not hesitate to communicate with me.

Very truly yours,



Kenneth J. Albano

KJA/mar
27250.001
Enclosure



City of Westfield, Massachusetts
Office of the City Solicitor
59 Court Street
Westfield, Massachusetts 01085

Tel: (413) 572-6260

Fax: (413) 568-6745

February 25, 2016

Karl Stinehart
Chief Administrative Officer
Town of Southwick
454 College Highway
Southwick, MA. 01077

Re: IMA Amendment for Sewer Costs

Dear Mr. Stinehart:

Enclosed please one original fully endorsed copy of the Third Amendment to the Intermunicipal Agreement between the City of Westfield and the Town of Southwick.

Should you have any questions please do not hesitate to contact our office.

Very truly yours,

A handwritten signature in cursive script that reads "Amanda Hines".

Amanda Hines
Legal Secretary

Encl (1)

**THIRD AMENDMENT, MODIFICATION AND CONFIRMATION
AGREEMENT TO INTERMUNICIPAL AGREEMENT BETWEEN THE TOWN
OF SOUTHWICK AND THE CITY OF WESTFIELD FOR THE TREATMENT
AND DISPOSAL OF WASTEWATER**

AGREEMENT ("Agreement") made this 22 day of February, 2016 by and between the Town of Southwick, Massachusetts, a municipal corporation organized under the laws of the Commonwealth of Massachusetts, acting by and through its Board of Selectmen and authorized by Town Meeting (hereinafter the "Town") and the City of Westfield, Massachusetts, a municipal corporation organized under the laws of the Commonwealth of Massachusetts, acting by and through its Mayor and authorized by its City Council (hereinafter "City").

WHEREAS, on October 5, 1998 the Town and the City entered into an Agreement between the Town of Southwick and the City of Westfield for the Treatment and Disposal of Wastewater wherein the City agreed to receive, treat and dispose of the Town's domestic, commercial and industrial sewage through the City's sewage works and wastewater treatment facilities (hereinafter the "IMA"), and;

WHEREAS, the IMA provides for the City to periodically set the rate for industrial users of the Sewage Works for the conveyance, treatment and disposal of their sewage based on a per one thousand (1,000) cubic foot basis ("Industrial Rate"), and;

WHEREAS, pursuant to Section 9.0 of the IMA, the Town agrees to pay for the Industrial Rate plus ten (10%) percent for the conveyance, treatment and disposal of its sewage, and;



WHEREAS, pursuant to Section 8.0 of the IMA, because the Town agrees to participate in the cost of the expansion of the City sewage treatment plant by separate payment, any rate set by the City for the conveyance, treatment and disposal of Town sewage pursuant to the IMA shall not include any surcharge for capital costs associated with funding the expansion of the sewage treatment plant, and;

WHEREAS, the Town and the City, by way of this agreement, desire to memorialize in writing the Industrial Rate to be charged to the Town effective July 2016.

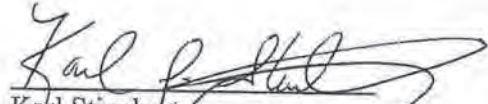
NOW, THEREFORE, in consideration of the foregoing and other good and valuable consideration the receipt and sufficiency which is hereby acknowledged, the parties hereby agree to the following:

1. Effective July 1, 2016 the Industrial Rate charged to the Town shall be Three Dollars and 80/100 (\$3.80) per one thousand (1,000).
2. Effective July 1, 2017 the Industrial Rate charged to the Town shall be Four Dollars and 05/100 (\$4.05) per one thousand (1,000) gallons.
3. Effective July 1, 2018 the Industrial Rate charged to the Town shall be Four Dollars and 28/100 (\$4.28) per one thousand (1,000) gallons.
4. Effective July 1, 2019 the Industrial Rate charged to the Town shall be Four Dollars and 48/100 (\$4.48) per one thousand (1,000) gallons.
5. Effective July 1, 2020 the Industrial Rate charged to the Town shall be Four Dollars and 60/100 (\$4.60) per one thousand (1,000) gallons.
6. Effective July 1, 2021 the Industrial Rate charged to the Town shall be Four Dollars and 70/100 (\$4.70) per one thousand (1,000) gallons.
7. No later than fourteen (14) days after the execution of this Agreement, the City shall recalculate its prior billings to conform, as required, to the rate stated at number 1, above, and tender to the Town a statement setting forth all sums owed by the Town to the City as sewer user fees through the then most current meter reading. Within thirty (30) days of receipt of said statement, the Town shall tender payment to the City. Thereafter, the City shall tender bills to the Town to coincide with the City's regular, quarterly utility billings with payment to be due thirty (30) days from the date of billing.
8. By the execution of this Agreement, the Town and the City do hereby expressly acknowledge and agree that except for the amendment to the IMA as set forth above, all of the terms and conditions contained in the IMA dated October 5, 1998 are hereby ratified and confirmed in all respects. This Third Amendment replaces the Second Amendment to the Agreement dated January of 2011 and the First Amendment to the Agreement dated September of 2003.
9. The Agreement shall be executed in two counterparts, each executed counterpart constituting an original but both counterparts together constituting only one instrument.
10. The parties hereto hereby represent and agree that they have the authority to make and perform this Agreement, in all respects, upon the terms set forth herein.
11. This Agreement will be construed under the laws of the Commonwealth of Massachusetts.

TOWN OF SOUTHWICK
BOARD OF SELECTMEN


Russell D. Fry


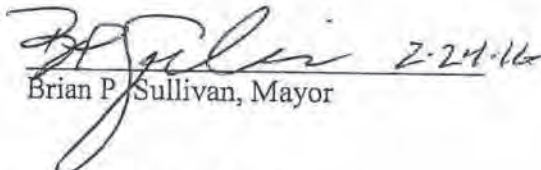
ATTEST:


Karl Stinehart
Chief Administrative Officer

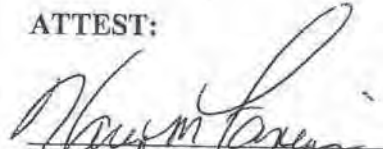
Approved as to form:


Town Counsel *Kenneth J. Russo Esq.*

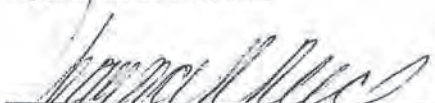
CITY OF WESTFIELD


Brian P. Sullivan, Mayor

ATTEST:


Karen Fanion, City Clerk

Approved as to form:


Law Department

I:\lawdatabase\waterresourcesdepartment\sewerraterechanges2015\srr

APPENDIX B: SAMPLE IMA: GLSD/SALEM INTERMUNICIPAL AGREEMENT

**AGREEMENT BETWEEN THE GREATER LAWRENCE SANITARY DISTRICT AND
THE TOWN OF SALEM, NEW HAMPSHIRE FOR TREATMENT AND DISPOSAL OF
WASTEWATER**

The Greater Lawrence Sanitary District established as a body politic and corporate by Chapter 750, Massachusetts General Laws (1968), as amended, and the Town of Salem (a governmental subdivision of the State of New Hampshire) covenant and agree pursuant to Chapter 750, Massachusetts General Laws (1968), as amended, and New Hampshire RSA Chapter 53-A, as amended:

1. Purpose and Intent

The purpose of this Agreement is to provide for the regional wastewater system operated by the Greater Lawrence Sanitary District to receive wastewater from the Town of Salem, New Hampshire, and a certain limited area (within the Town of Windham, N.H.) vital to the protection of its public water supply, depicted on Attachment "A", appended hereto and made a part hereof, and thereby to:

- a. Effect economies and efficiencies in the treatment of wastewaters for all the communities involved; and,
- b. Improve the quality and protection of the area's waters.

2. Consideration

The parties acknowledge that there is an existing connection agreement between the District and Salem dated July 27, 1982, as amended June 30, 1984, which is a thirty year agreement expiring in December 2017. The term of that Agreement allowed the Town of Salem to have a full thirty years use of the District facilities from December 1986 to December 2017, pursuant to the amended Agreement dated June 30, 1984.

The consideration for this Agreement is the mutual advantage referred to in Paragraph 1 hereof, the payments which have been made by the Town of Salem and payments to be made by the Town of Salem, the cooperative support of the Greater

Lawrence Sanitary District and the provisions by that District for wastewater treatment and disposal services.

3. Definitions

As used in this Agreement:

- a. "District" means the Greater Lawrence Sanitary District.
- b. "Lawrence" means the City of Lawrence.
- c. "Methuen" means the City of Methuen.
- d. "Andover" means the Town of Andover.
- e. "North Andover" means the Town of North Andover.
- f. "Salem" means the Town of Salem and such territory beyond its town limits from which it collects or may collect wastewater and transports the same to the interceptor or interceptors of the Greater Lawrence Sanitary District for treatment and disposal pursuant to this Agreement. The area beyond town limits lies within the Town of Windham, New Hampshire, and is shown on Attachment "A", appended hereto and made a part hereof.
- g. "Wastewater" means a combination of the water-carried wastes from residences, commercial buildings and facilities, institutions and industrial establishments, together with incidental infiltration as may be collected and transported in sewer lines.
- h. "District Commission" means the Commission established as the District's governing body by Section 2 of Chapter 750 of the Acts of 1968 Commonwealth of Massachusetts, as amended.
- i. "Member Municipalities" means Lawrence, Methuen, Andover, and North Andover.
- j. "District Rules and Regulations" means the District's Rules and Regulations covering discharge of wastewater, drainage, substances or waste, dated April 2, 2008, a copy of which is included as Attachment "B" to this Agreement.
- k. "Significant Industrial User" is as defined in the District Rules and Regulations.

4. Reception, Treatment and Disposal of Salem Wastewater

- a. Salem has one or more sewer lines and facilities within the State of New Hampshire to collect wastewater and convey it to one or more sewer lines of the District system at the Massachusetts/New Hampshire boundary line, as shown on Attachment "C".
- b. The District does not have title, property interest or equity in any facilities or works within Salem, nor shall it have any responsibility or authority with respect to any such facilities or works other than the right of entry and inspection provided pursuant to Paragraph 7(c) hereof. By operation of this Agreement and in accordance with its terms, Salem shall have the right to the reception, treatment and disposal of its wastewater by the District, but Salem shall not acquire any title, property interest or equity in the facilities and works of the District or other District assets. Nor shall Salem have responsibility for any debts of the District, except for operating, debt service, and capital project cost allocations as defined in this Agreement.
- c. Upon the execution of the Agreement, Salem shall be entitled to deliver and the District shall receive wastewater not to exceed 5.0 million gallons daily (MGD) as an arithmetic average daily flow. The average shall be calculated on a calendar year basis. The allowable peak hourly flow shall not exceed a rate of 14.5 MGD and the maximum daily flow shall not exceed 9.0 MGD. Salem shall be charged for its wastewater flow based on its metered flow on a quarterly basis. Salem reserves the right to request an increase to these flow limits in the future, but such increase would require formal amendment to this Agreement, and consent of the District Commission. Flow shall be metered by the District on the Massachusetts side of the state line at a point or points where the only flows are originating in Salem.
- d. All wastewater flow conveyed by Salem to the District under this agreement shall originate from the "GLSD service area" within Salem and Windham, as shown Attachment "A", appended hereto and made a part hereof. Salem shall not re-assign treatment capacity provided under this agreement to another community, or convey flow from parts of Salem outside of the designated GLSD service area without formal amendment to this agreement and consent of the District Commission.
- e. Flows shall be metered at the border of Massachusetts so that the meter will record only flows that originate in Salem. Salem shall be responsible for maintenance of

the meter vault or other protective structure, and for eventual replacement of the meter when the meter reaches the end of its useful life. The District shall be responsible for calibration, maintenance and repair of the meter and associated telemetry.

- f. Salem shall monitor levels of infiltration/inflow (I/I) included in the flow to the District and, if evidence of excessive I/I exists, Salem shall take action it reasonably deems appropriate to reduce (I/I) to an acceptable level. The District has the right to review I/I information gathered by Salem to ensure that I/I is maintained at an acceptable level. Salem shall provide the GLSD a copy of information required by NPDES Permit No. MA 0100447, Section E, Item 3. (See Attachment D). Additional information may be requested when NPDES Permit MA 0100447 is reissued.

5. **Payments by Salem**

- a. From and after the date when the District receives wastewater from Salem, Salem shall pay for the treatment and disposal thereof on the same basis as the member municipalities. In accordance with the procedures and practices of the District, Salem shall have the sole responsibility for making such payments and may levy sewerage and other charges on persons within its territory as may be authorized or allowed by its own laws and the laws of the Commonwealth of Massachusetts.
- b. From and after the date when the District receives wastewater from Salem, Salem shall pay for a portion of the District's debt service and make a contribution to District capital projects. Member Municipalities and Salem, New Hampshire currently pay these costs based on pre-determined percentages. Similarly, Salem shall pay 10.8% of the District's annual debt service and 10.8% of the District's annual contribution to capital projects, with percentages currently paid by other communities adjusted accordingly. In accordance with the procedures and

practices of the District, Salem shall have the sole responsibility for making such payments and may levy sewerage and other charges on persons within its territory as may be authorized or allowed by its own laws and the laws of the Commonwealth of Massachusetts.

6. Full Waste Treatment and Disposal Services

Salem shall be entitled to have its wastewater flow, or so much thereof as it may elect, received, treated and disposed of by the District. The District shall be responsible for the degree and character of wastewater treatment and for disposal of all effluents and sludge in accordance with applicable law. The Salem entitlement shall be subject to the limitations set forth in Paragraph's 4 (c) and 4(d).

7. Discharges into Sewers

- a. The rules, regulations and requirements of the District prescribing and limiting the content of wastewater discharged, placed or otherwise permitted to flow into the sewers tributary to the treatment facilities of the District shall apply within Salem. Salem shall adopt such local laws and shall make such contractual arrangements as may be necessary to assure proper observance of the aforementioned rules, regulations and requirements with respect to wastewaters originating with Salem and delivered to the District for treatment and disposal thereby. Salem shall enforce the aforementioned rules, regulations and requirements within its territory with due diligence.
- b. The District rules, regulations and requirements relating to the content of wastewaters discharged, placed or otherwise permitted to flow into its sewers shall be nondiscriminatory and shall be applied to and administered equally throughout the district and to any wastewaters of Salem delivered to the District.
- c. The Town of Salem through its local ordinances shall facilitate the entry of representatives of the District and the Commonwealth of Massachusetts for the purpose of inspecting sewers and appurtenant facilities owned by the Town of Salem, as well as any dischargers into the sewers and appurtenant facilities owned

by the Town of Salem. District representatives and authorized representatives of the Commonwealth of Massachusetts may exercise the rights set forth herein for the purpose of ascertaining the state of compliance with District's rules and regulations and any discharge permits which have been issued by the District.

- d. Permits for Significant Industrial Users that discharge into the sewers of Salem for conveyance to the District shall be issued and administered by the District in accordance with all applicable laws and subject to the provisions of this Agreement. Prior to issuance of any such permit, the District shall provide a draft thereof to Salem and shall have the appropriate consultation with Salem to assure that the permit and any other arrangements in connection therewith are consistent with the sewer ordinances of the District and Salem. It shall be the responsibility of the District and Salem to coordinate necessary reviews and approvals and to furnish such information with respect to its permits as may be required by law.
- e. No wastes, including any liquid, solid or septic wastes which are generated at residential, commercial or industrial facilities, shall be discharged to the sanitary system by means other than a permanent sewer connection to the public sewer system, provided, however, that the District shall receive, treat and dispose of septage originating within Salem and brought to the District by haulers licensed by Salem at the same rates and under the same conditions as for septage originating within the District's members and municipalities.

8. Representation

Salem shall be given timely notice of all meetings and shall be entitled to have one representative in attendance at all meetings of the District Commission. Such representative shall not vote but shall otherwise be entitled to all the rights and privileges of members, including the right to be present and participate in executive sessions. The representative of Salem shall be chosen and shall serve in such manner, for such term and subject to such other conditions as Salem may provide.

9. Access to Books and Records

A duly designated representative of Salem shall have access to all books and records of the District at reasonable times and shall be entitled to receive or make copies of any

information contained therein. Salem also shall have the right to inspect the District facilities for informational purposes given reasonable notice.

10. Membership in the District

It is the intention of the parties that the District shall operate as a single, integrated regional system, including the territory of all communities served by it. To that end, it is recognized that the experience under this Agreement and the welfare of the region as a whole may lead to the admission of Salem as a full member of the District. However, any such action shall require negotiation and adoption of a separate agreement and such other steps as may be required by law. The Executive Director of the District is designated as the administrator of the project contemplated in the Agreement. The administrator shall be responsible for the preparation and maintenance of the budget for the District in accordance with the standard budget for the District in accordance with the standard process followed by the District. If the town of Salem seeks admission to the District, the Town shall provide a written request to the Executive Director. Said request shall be acted upon within 90 days of said request by the Full Commission. Said request shall require a majority vote of the Full Commission and special legislation to be filed with the Massachusetts legislature approval. The legislation for Admissions of Salem if approved by District Commission shall be filed within 90 days of said vote of Commission.

11. Term: Effective Date: Termination: Renewal

- a. The term of this Agreement shall be thirty years. It shall commence on the effective date which is defined to be the time after the parties have executed the same. The Board of Selectmen of the Town of Salem or its authorized representative and the District Commission, acting jointly, shall ascertain the occurrence of these conditions and shall declare this Agreement in effect.
- b. This Agreement may be amended or terminated earlier than its expiration date by mutual action of the District and Salem. For the purposes of this paragraph, such action shall be by the District Commission in the case of the District and, in the case of Salem, by its governing body.
- c. Both the District and Salem recognize that, due to the nature of the services provided, renewal of the Agreement is contemplated. It is agreed that the renewal agreement will be based upon the same principles of proportionality that are

contained in this Agreement. Under any circumstances, Salem will have the option to continue under the terms of this Agreement for a period of time which will allow Salem to have a full 30 years use of the District facilities.

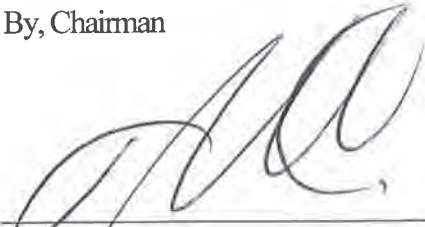
12. **Dispute Resolution**

The parties hereby submit to the exclusive jurisdiction of the State Courts of Massachusetts in the event of any dispute or controversy, and any litigation shall be heard by the Massachusetts Court System. Massachusetts Law shall be applied as the controlling law in any dispute, controversy, or litigation.

13. **Potential Additional Flow**

In the event Salem's flow reaches 90% of its arithmetic average daily flow over the calendar year, peak hourly flow or maximum daily flow as set forth in Section 4. C, Salem shall provide written notice to the District. Within 90 days of said written notice by Salem, the District shall inform Salem in writing of its analysis regarding the flows and the existing or potential impacts on the District. Additional flow, beyond the quantities as outlined in Section 4. C, are prohibited without a mutually agreed upon amendment between the District and Salem.

GREATER LAWRENCE
SANITARY DISTRICT
By, Chairman


Chairman

TOWN OF SALEM, NH

By, Town Manager


Town Manager

State of New Hampshire
Commonwealth of Massachusetts

Roxburyham, ss
Essex, ss:

On 10/7/14, before me, the undersigned notary public, personally appeared KEITH HICKEY, the above-named and proved to me through satisfactory evidence of identification being KNOWN TO ME, to be the person whose name is signed on this document, and acknowledged to me that he/she signed it voluntarily for its stated purpose and that the foregoing instrument is his/her free act and deed.


Notary Public:
JP



Essex, ss.

On Nov 10, 2014 before me, the undersigned notary public, personally appeared THOMAS CONNORS, the above-named and proved to me through satisfactory evidence of identification being Known to me, to be the person whose name is signed on this document, and acknowledged to me that he/she signed it voluntarily for its stated purpose and that the foregoing instrument is his/her free act and deed.


Notary Public:
My Commission Expires:



JOYCE C. CAMPAGNONE
Notary Public
Commonwealth of Massachusetts
My Commission Expires
April 25, 2019

List of Figures and Attachments

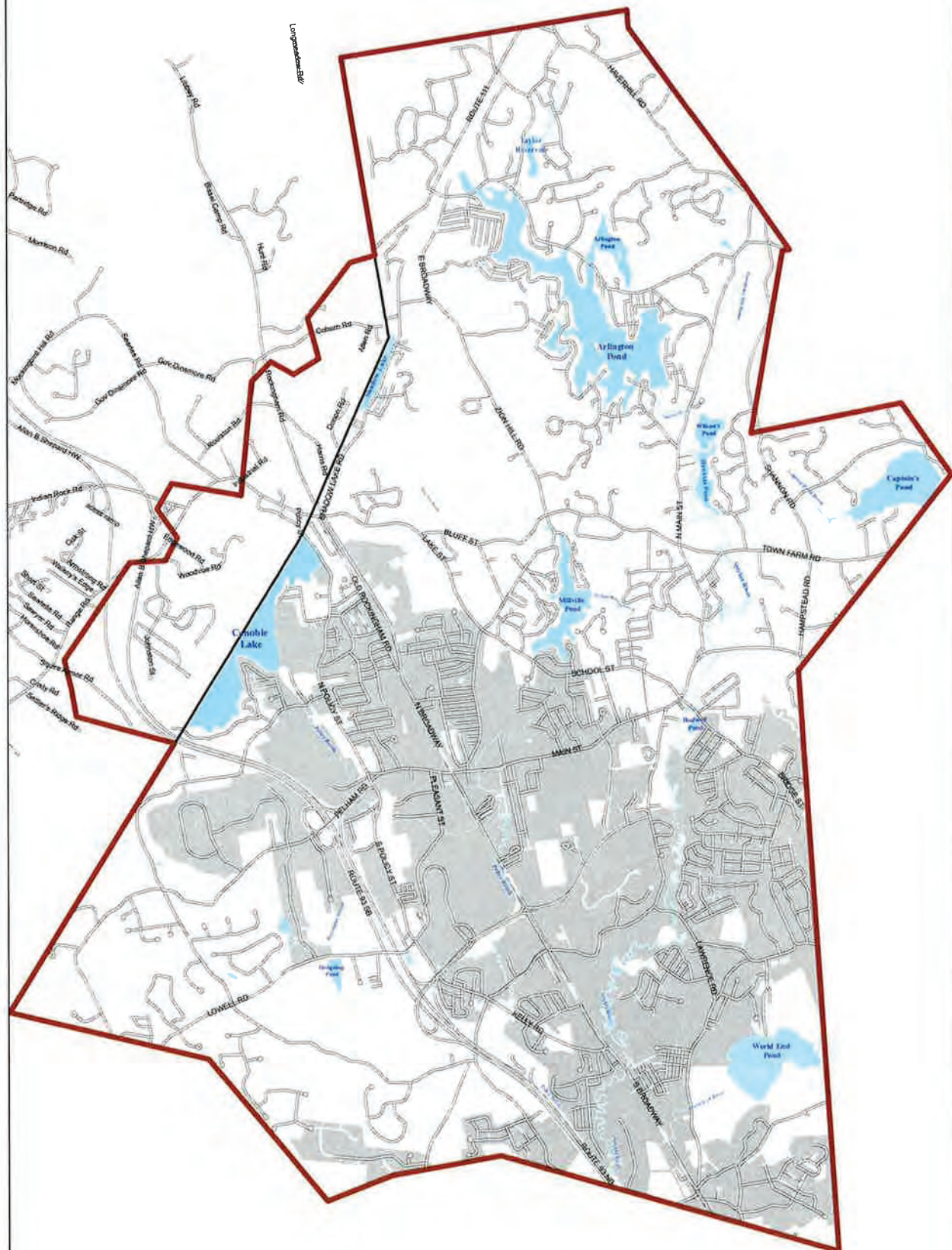
Attachment A - The GLSD Service Area within Salem

Attachment B - District Rules and Regulations Covering Discharge of Wastewater, Drainage, Substances or Waste, dated April 2, 2008

Attachment C - Sewer Connection Area

Attachment D- NPDES Permit No. MA0100447

Attachment A – The GLSD Service Area within Salem



June 2014



GREATER LAWRENCE SANITARY DISTRICT

RULES AND REGULATIONS

COVERING

- **DISCHARGE OF WASTEWATER**
- **DRAINAGE**
- **SUBSTANCES OR WASTE**

REVISED April 2, 2008

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SECTION 1.0 GENERAL PROVISIONS:

1.1 Purpose and Policy

These Rules and Regulations set forth requirements for direct and indirect contributions into the wastewater collection systems (sewer system) of the City of Lawrence, Town of Andover, Town of North Andover, City of Lawrence, Town of Andover, Town of North Andover, City of Methuen, Massachusetts and the Town of Salem, New Hampshire and the wastewater treatment system of the Greater Lawrence Sanitary District. These Rules and Regulations enable the District to comply with all applicable Local, State and Federal laws including the Clean Water Act (33 United States Code § 1251 et seq.) of 1987, the Federal Water Quality Act of 1987 (33 United States Code § 125/et seq.), and the General Pretreatment Regulations (40 CFR Part 403). The regulations apply to all Users of the District POTW, whether inside or outside of the District.

The Objectives of These Rules and Regulations Are:

- (a) To prevent the introduction of pollutants into the POTW which, will interfere with The operation of the POTW or contaminate the resulting sludge generated;
- (b) To prevent discharge of pollutants that would pass through the POTW, inadequately treated into the receiving waters or the atmosphere or otherwise be incompatible with the treatment plant;
- (a) To improve the opportunity to reduce, recycle, and reclaim wastewater and or sludges;
- (d) To provide for equitable distribution of costs for the operation and maintenance of the POTW;
- (e) To protect the health and safety of the workers in the collection (sewer) system and the wastewater treatment facility;
- (f) To enable the District to comply with its National Pollutant Discharge Elimination System (NPDES) permit conditions, sludge use and disposal requirements and any other Federal or State laws to which the treatment facility is subject.

These Rules and Regulations provide for the regulation of direct and indirect contributors to the POTW through the issuance of permits, control documents and through enforcement of the general requirements for the Users. These Rules and Regulations authorize monitoring and enforcement activities, require Users to report, assume that existing customer's capacity will not be preempted, and provide for setting of fees for the equitable distribution of costs resulting from the industrial pretreatment program.

These Rules and Regulations shall apply to the City of Lawrence, Town of Andover, Town of North Andover, and the City of Methuen, Massachusetts and the Town of Salem, New Hampshire and to the persons or the wastes outside the District who are, by contract or agreement with the District, Users of the District's POTW.

- (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiate and direct other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; can ensure that the necessary systems are established or actions taken to gather complete and accurate information for control mechanism requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- (b) If the User is a partnership or sole proprietorship: a general partner or proprietor, respectively.
- (c) If the User is a Federal, State or local governmental facility: a director or highest official appointed or designated to oversee the operation and performance of the activities of the government facility, or their designee.
- (d) The individuals described in paragraphs a through c above may designate another authorized representative if the authorization is in writing, the authorization specifies the individual or person responsible for the overall operation of the facility from which the discharge originates or having overall responsibility for the environmental matters for the company, and the written authorization is submitted to the District.
- (e) If the authorization under paragraph d above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, or company, a new authorization satisfying the requirements of paragraph d of this section must be submitted to the District prior to or together with any reports to be signed by an authorized representative.
- (5) **Best Management Practices or BMPs** The schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to implement the prohibitions listed in § 403.5(a)(1) and (b). BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw materials storage.
- (6) **Biochemical Oxygen Demand (BOD)** The quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure, five (5) days at 20 degrees centigrade expressed in terms of concentration {milligrams per liter (mg/L)}.
- (7) **CFR** (Code of Federal Regulations) Codification of the general and permanent rules published in the Federal Register by the Executive Departments and agencies of the Federal Government.
- (8) **CMR** (Code of Massachusetts Regulations) Codification of the general and permanent rules published in the Massachusetts Register by the Division of Water Pollution Control and agencies of the State of Massachusetts.
- (9) **Categorical Standards** Any regulation containing pollutant discharge limits promulgated by the EPA in accordance with Sections 307 (b) and (c) of the Act (33

operation of the publicly owned treatment works and who is charged with certain duties and responsibilities by these Rules and Regulations, or his/her duly authorized representative.

- (19) **Existing Source** Any source of discharge, the construction or operation of which commenced prior to the publication by the EPA of proposed National Pretreatment Standards, which will be applicable to such source if the standards are thereafter promulgated in accordance with Section 307 of the Act.
- (20) **Grab Sample** A sample which is taken from a waste stream on a one-time basis with no regard to the flow in the waste stream and without consideration of time over a period of time not to exceed fifteen (15) minutes.
- (21) **Gray Water Waste** Human excrement and waste produced from sources such as household showers, dish washing operations, and sinks which are collected in holding tanks. It is also human excrement which flows into leaching fields and distribution box units within subsurface treatment systems. Contained within this waste may be sources from ground water infiltration and surface waters. This waste does not contain sludge wastes present in most septic tanks.
- (22) **Hauler** Any person whose business it is to collect and transport holding tank wastes.
- (23) **Holding Tank Waste** Any waste from holding tanks such as vessels, chemical toilets, campers, trailers, or septic tanks, or wastes from establishments without access to a sewer and without a satisfactory on-site treatment system, or wastewater sludges from other wastewater treatment facilities.
- (24) **Indirect Discharge** The Discharge or the introduction of domestic and non-domestic pollutants from any source which is conveyed to the District by any means (including holding tank waste discharged into the system).
- (25) **Interference** A discharge, which alone or in conjunction with a discharge or discharges from other sources, inhibits or disrupts the POTW, its treatment processes or operations or its sludge processes, use or disposal; and therefore, is a cause of a violation of the District's NPDES Permit, or prevention of sewage sludge use or disposal by the POTW in accordance with 405 of the Act, (33 U.S.C. 1345) or any criteria, guidelines, or regulations developed pursuant to Subtitle D of the Solid Waste Disposal Act (SWDA), the Clean Air Act, the Toxic Substances Control Act, Title II Resource Conservation and Recovery Act (RCRA) or more stringent State or local regulations (including those contained in any State sludge management plan prepared pursuant to Title IV of SWDA) applicable to the method of disposal or use employed by the POTW.
- (26) **Local Discharge Limits (Local Limits)** Limits developed by the District as approved by the EPA and defined by 40 CFR Part 403.5 (d).
- (27) **Medical Waste** Isolation Waste, infectious agents, human blood and blood products, pathological waste, sharps, body parts, contaminated bedding, surgical wastes, potentially contaminated laboratory wastes, and dialysis wastes.

- (b) Entered into a binding contractual obligation for the purchase of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under this paragraph.
- (32) **Non-domestic Source Conveying Pollutants to the POTW** A source of Indirect Discharge which does not constitute a "discharge of pollutants: under regulations issued pursuant to Section 402, of the Act. (33 U.S.C. 1342).
- (33) **Pass Through** A discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharge from other sources, is a cause of a violation of any requirement of the District's NPDES permit, including an increase in the magnitude or duration of a violation.
- (34) **Permitting** To authorize an industrial wastewater discharge, treated groundwater discharge, or temporary discharge.
- (35) **Person** Any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity or any other legal entity, or their representatives, agents or assigns. The masculine gender shall include the feminine, the singular shall include the plural where indicated by the context.
- (36) **pH** {expressed in standard units} The logarithm (base 10) of the reciprocal of the concentration of hydrogen ions.
- (37) **Pollution** The man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.
- (38) **Pollutant** Any dredged soil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discharged equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into a navigable water.
- (39) **Pretreatment or Treatment** The reduction of the amount of pollutants, the elimination of pollutants, or the alternation of the nature of pollutant properties in wastewater to a less harmful state prior to or in lieu of discharging or otherwise introducing such pollutants into a POTW. The reduction or alternation can be obtained by physical, chemical or biological processes, or other process changes, except as prohibited by 40 CFR Part 403.6 (d).
- (40) **Pretreatment Requirements** Any substantive or procedural requirement related to pretreatment, other than a National Pretreatment Standard, imposed on an industrial User.
- (41) **Publicly Owned Treatment Works (POTW)** A treatment works as defined by section 212 of the Act, (33 U.S.C. 1292) which is owned in this instance by

- (48) **Significant Noncompliance (SNC)** An industrial User is in significant non-compliance if its violation meets one or more of the following criteria:
- (a) Chronic violations of wastewater Discharge limits, defined here as those in which 66 percent or more of all of the measurements taken for the same pollutant parameter during a 6 month period exceed (by any magnitude) a numeric Pretreatment Standard or Requirement, including instantaneous limits, as defined by 40 CFR 403.3(l);
 - (b) Technical Review Criteria (TRC) violations, defined here as those in which 33 percent or more of all of the measurements taken for the same pollutant parameter during a 6 month period equal or exceed the product of the numeric Pretreatment Standard or Requirement including instantaneous limits, as defined by 40 CFR 403.3(l) multiplied by the applicable TRC (TRC=1.4 for BOD, TSS, fats, oil, and grease, and 1.2 for all other pollutants except pH);
 - (c) Any other violation of a Pretreatment Standard or Requirement as defined by 40 CFR 403.3(l) (daily maximum, long-term average, instantaneous limit, or narrative standard) that the POTW determines has caused, alone or in combination with other Discharges, Interference or Pass Through (including endangering the health of POTW personnel or the general public);
 - (d) Any discharge of a pollutant that has caused imminent endangerment to human health, welfare or to the environment or has resulted in the POTW's exercise of its emergency authority under paragraph (f)(1)(vi)(B) of this section to halt or prevent such a discharge;
 - (e) Failure to meet, within 90 days after the schedule date, a compliance schedule milestone contained in a local control mechanism or enforcement order for starting construction, completing construction, or attaining final compliance;
 - (f) Failure to provide, within 45 days after the due date, required reports such as baseline monitoring reports, 90-day compliance reports, periodic self-monitoring reports, and reports on compliance with compliance schedules;
 - (g) Failure to accurately report noncompliance;
 - (h) Any other violation or group of violations, which may include a violation of Best Management Practices, which the POTW determines will adversely affect the operation or implementation of the local Pretreatment program.

The District will comply with the public participation requirements of 40 CFR Part 25 in the enforcement of National Pretreatment Standards. These procedures shall include provision for at least annual public notification in a newspaper(s) of general circulation that provides meaningful public notice within the jurisdiction(s) served by the District, of Industrial Users which, at any time during the previous 12 months, were in significant noncompliance with applicable Pretreatment requirements.

- (a) Any liquid, solids or gasses which by reason of their nature or quantity are, or may be, sufficient either alone or by interaction with other substances or cause fire or explosion or be injurious in any other way to the POTW or to the operations of the POTW. At no time shall two successive readings on an explosion hazard meter at the point of discharge into the system (or at any point in the system) be more than five percent (5%) nor any single reading over ten percent (10%) of the Lower Explosive Limit (LEL) of the meter. Prohibited materials include, but are not limited to, gasoline, kerosene, naphtha, ethers, alcohols, ketones, aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides and sulfides and any other hazard to the system. In no case wastestreams with a closed cup flashpoint of less than one hundred forty (140) degrees Fahrenheit (60 degrees c) using test methods specified in 40 CFR Part 261.21.
- (b) Solid or viscous substances which may cause obstruction to the flow in a sewer resulting in interference, such as, but not limited to: grease, garbage with particles greater than one-half inch (1/2") in any dimension, animal guts or tissues, paunch manure, bones, hair, hides or fleshing, entrails, whole blood, feathers, ashes, cinders, sand, spent lime, stone or marble dust, metal, glass, straw, shavings, grass clippings, rags, spend grains, spent hops, wastepaper, wood, plastics, gas, tar, asphalt residues, residues from refining, or processing of fuel or lubricating oil, mud, or glass grinding or polishing wastes.
- (c) Any wastewater having pH less than 5.5 or greater than 10.5 or wastewater having any other corrosive property capable of causing damage or hazard to structures, equipment, and/or personnel of the POTW.
- (d) Any wastewater containing toxic pollutants in sufficient quantity, either singly or by interaction with any pollutants, to injure or interfere with any wastewater treatment process, constitute a hazard to humans or animals, to create a toxic effect in the receiving waters of the POTW, or to exceed the limitation set forth in a National Pretreatment Standard.
- (e) Any noxious or malodorous liquids, gases, vapors, fumes, or solids which either singly or by interaction with other wastes are sufficient to create a public nuisance or hazard to life or are sufficient to prevent entry into the sewers for maintenance and repair.
- (f) Any substance which may cause the POTW's effluent or any other product of the POTW such as residues, sludges, or scums, to be unsuitable for reclamation and reuse or to interfere with the reclamation process. In no case, shall a substance discharged to the POTW cause the POTW to be in non-compliance with sludge use or disposal criteria, guidelines or regulations affecting sludge use or disposal developed pursuant to the Solid Waste Disposal Act, the Clean Air Act, or State criteria applicable to the sludge management method being used.
- (g) Any substance which will cause the POTW to violate its NPDES Permit or the receiving water quality standards.

than limitations imposed under these Rules and Regulations for sources in that subcategory, shall immediately supersede the limitations imposed under these Rules and Regulations. The Executive Director shall notify all affected User(s) of the applicable reporting requirements under 40 CFR Part 403.12.

2.3 Modification of National Categorical Pretreatment Standards

Where the District's wastewater treatment plant achieves consistent removal of pollutants limited by National Categorical Pretreatment standards, the District may apply to the Approval Authority for modification of specific limits in the National Categorical Pretreatment Standard. Such modified limits shall not cause the POTW to violate the POTW's permit limitations or conditions or any POTW sludge requirements, and shall not modify any local discharge limitations established by these Rules and Regulations.

- (a) Removal reduction in the amount of a pollutant in the POTW treatment plant's effluent or alteration of the nature of a pollutant during treatment at the POTW treatment plant, but shall not mean dilution of a pollutant in the POTW treatment plant.
- (b) Consistent removal shall mean the average of the lowest fifty (50) percent of the removal of a specific pollutant by the POTW treatment process measured according to Section 2.3. (c) of these Rules and Regulations and using all sample data obtained for the measured pollutant during the time period prescribed in Section 2.3. (c) of these Rules and Regulations. The District may utilize a removal credit equal to or, at its discretion, less than its consistent removal rate.
- (c) Data shall be representative of yearly and seasonal conditions to which the POTW is subjected and of the quality and quantity of normal effluent and influent flow. Influent and effluent operational data shall be obtained through 24-hour flow-proportional composite samples. At least twelve (12) samples shall be taken at approximately equal intervals throughout one full year and these samples shall be evenly distributed over the days of the week.
In addition, historical data may be used to supplement or replace, in whole or in part, the minimum twelve (12) samples required herein. Analysis of all samples shall be performed in accordance with 40 CFR Part 136 and amendments thereto, or other method approved by the Administrator.
- (d) Modified discharge limits for a specific pollutant shall be derived by use of the following formula:

$$Y = \frac{X}{1 - r}$$

WHERE:

x = Pollutant discharge limit specified in the applicable Categorical Pretreatment Standard

2.5 State Requirements

State requirements and limitations on discharges shall apply in any case where they are more stringent than Federal requirements and limitations of these Rules and Regulations.

2.6 District's Right of Revision

The District reserves the right to establish by amendment of these Rules and Regulations more stringent limitations or requirements on discharges to the wastewater treatment plant if deemed necessary to comply with the objectives presented in Section 1.1 of these Rules and Regulations.

2.7 Excessive Discharge

No User shall ever increase the use of process water, or in any way, attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in a National Categorical Pretreatment Standard, or in any other pollutant-specific limitation developed by the District or State.

2.8 Accidental Discharges and Slug Discharges

Each User shall provide protection from accidental or slug discharges including non-routine batch discharges of prohibited materials as specified in Section 2.1, or other substances regulated by these Rules and Regulations. Facilities to prevent accidental discharge of prohibited materials shall be provided and maintained by the User at the User's own cost and expense. A detailed plan showing facilities and operating procedures to provide this protection shall be submitted to the District for review, and shall be approved by the District before construction of such facility.

The plan must, at a minimum, include all requirements for a slug control plan specified by 40 CFR 403.8 (f) (2) (v). All existing Users shall complete such a plan as required by July 24, 1991.

- (a) No User who commences contribution to the POTW after the effective date of these Rules and Regulations shall be permitted to introduce pollutants into the POTW until accidental / slug discharge plans have been reviewed and if necessary approved by the District. Review and approval of such plans and operating procedures shall not relieve the industrial User from the responsibility to modify the User's facility as necessary to meet the requirements of these Rules and Regulations.
- (b) Non-Accidental Slug Loads – The District shall require a slug/spill control plan to control non-accidental slug loads as a condition of being issued a permit.

2.8.1 Immediate Notice – Accidental or Slug Discharge

Any User that experiences an upset in operations, a spill or a slug load discharge which could cause problems at the District's facilities, shall inform the Greater Lawrence Sanitary District immediately. For the purposes of this section, immediate notification shall consist of the best practicable notice, reasonable calculation to reach responsible District personnel at the earliest possible opportunity.

- (1) A description of the indirect discharge and cause of non-compliance;
- (2) The period of non-compliance including exact dates and times or, if not corrected, the anticipated time the non-compliance is expected to continue; and:
- (3) Steps being taken and/or planned to reduce, eliminate, and prevent recurrence of the non-compliance.
- (4) In any enforcement proceeding, the User seeking to establish the occurrence of an upset shall have the burden of proof.
- (5) Steps being taken and/or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
- (6) Users shall control production of all discharges to the extent necessary to maintain compliance with categorical pretreatment standards upon reduction, loss, or failure of its treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

2.8.3.2 Affirmative Defense – General Prohibitions

The use of an affirmative defense shall apply for violations of the general prohibitions contained in section 2.1 (b), (e), (j), (k), or (n) only if the User can demonstrate that:

- (a) The User did not know or have reason to know that its discharge, alone or in conjunction with other discharges, would cause pass through or interference; and;

A local limit designed to prevent pass through and interference was developed for each pollutant in the Users discharge that caused pass through or interference and the User was in compliance with each such limit directly prior to and during the pass through or interference event or;

- (b) If a local limit designed to prevent pass through and/or interference, as the case may be, has not been developed for the pollutant(s) that caused the pass through or interference, the User's discharge directly prior to and during the pass through or interference did not change substantially in nature or constituents from the User's prior discharge activity when the POTW was regularly in compliance with the POTW's NPDES permit requirements and, in the case of interference, applicable requirements for sewage sludge use or disposal.

2.9 Notice to Employees

A notice shall be permanently posted on the User's bulletin board or other prominent place advising employees whom to call in the event of a dangerous discharge. Employers shall insure that all employees who may cause or suffer such a dangerous discharge to occur are advised of the emergency notification procedure.

3.3 Due Dates for Charges and Fees; Interest

- (a) Fees for discharging septage or holding tank wastewater shall be due prior to discharge of said septage or holding tank wastewaters.
- (b) All other charges and fees as set forth in the District's Schedule of Charges and Fees (Appendix C) shall be due on or before thirty (30) days after the dates of billing specified on the District's bill.
- (c) Interest of one percent (1%) will be assessed on all bills unpaid thirty (30) days after billing, and additional interest of (1%) shall be added for each additional thirty (30) day period thereafter.

SECTION 4 – ADMINISTRATION

4.1 Wastewater Discharge Permits

4.1.1 General Permits

All Significant Industrial Users proposing to connect to or to contribute to the District shall obtain a Wastewater Discharge Permit before connecting to or contributing to the POTW. All existing Significant Industrial Users shall obtain a permit within ninety (90) days after the effective date of these Rules and Regulations.

4.1.2 Permit Application

Significant Industrial Users required to obtain a permit shall complete and file with the District an application in the form prescribed by the District and accompanied by a fee as specified in the latest cost recovery table as approved by the Executive Director. New Significant Industrial User's shall apply at least thirty (30) days prior to connecting to or contributing to the POTW. In support of the application, the User shall submit, in units and terms appropriate for evaluation, the following information:

- (a) Name, address and location (if different from the address);
- (b) SIC number according to the Standard Industrial Classification Manual, Bureau of Management and Budget, 1987, as amended;
- (c) Wastewater constituents and characteristics – The results of sampling and analysis identifying the nature and concentration of the pollutants listed in Appendix B of these Rules and Regulations, Table A (45 pollutants including EPA method 601, 602), and any additional pollutants regulated by an applicable categorical standard;
- (d) Time and duration of contribution;
- (e) Average daily and thirty (30) minute peak wastewater flow rates, including daily, monthly and seasonal variations if any;

- (m) Any other information as may be deemed by the District to be necessary to evaluate the permit application. The Executive Director will evaluate the data furnished by the User and may require additional information. After evaluation and acceptance of the data furnished, the Executive Director may issue a permit subject to terms and conditions provided herein.

4.1.3 PERMIT MODIFICATIONS – NEW USERS

- (a) Permits shall be modified as soon as possible, no later than ninety (90) days subsequent to a change in applicable National Categorical Pretreatment Standards. The permit of Users subject to such standards shall be revised to require compliance with such standards within the time frame described by such standards. Where a User subject to a National Categorical Pretreatment Standard has not previously submitted an application for a permit as required by Section 4.1.2, the User shall apply for a permit within 180 days after the promulgation of the applicable Categorical National Pretreatment Standard.

4.1.4 PERMIT MODIFICATIONS – Existing Permitted Users

- (a) Within 180 days of the promulgation of an applicable National Categorical Pretreatment Standard, Users with an existing permit shall submit to the Executive Director the information required by Section 4.1.2 (h) and (i).

4.1.5. PERMIT CONDITIONS

IU's shall be expressly subject to all provisions of these Rules and Regulations, to all provisions of permits issued to IU's pursuant to these Rules and Regulations and all other applicable regulations, User charges and fees established by the District. Permits must contain at a minimum the following:

- (a) Limits on the average and maximum wastewater constituents and characteristics;
- (b) Specifications for monitoring programs which may include sampling locations, frequency of sampling, number, types and standards for tests, and reporting schedule;
- (c) Requirements for submission of technical reports or discharge reports as specified in Section 4.2.
- (d) Requirements for maintaining and retaining plant records relating to wastewater discharge as specified by the District, and for affording District access thereto;
- (e) Requirement to notify the District prior to any new introductions of wastewater constituents or any substantial change in the volume or character of the wastewater constituents being introduced into the wastewater treatment system.

The User shall be informed of any proposed changes in his permit at least 30 days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule, as established by the District, for compliance, not to exceed federal deadlines.

4.1.7 PERMIT TRANSFER

Permits may be reassigned or transferred to a new owner and/or operator only upon prior approval of the District.

- (a) The permittee must give at least thirty (30) days advance notice to the Executive Director.
- (b) The notice must include a written certification by the new owner which:
 - (I) States that the new owner has no immediate intent to change the facility's operations and processes.
 - (II) Identifies the specific date on which the transfer is to occur.
 - (III) Acknowledges full responsibility for complying with the existing permit.
 - (IV) Is signed by an Authorized Representative of the new User.

4.2 REPORTING REQUIREMENTS FOR PERMITTEE

4.2.1 Baseline Report:

Within 180 days after the effective date of a National Categorical Pretreatment Standard, Or 180 days after the final administrative decision made upon a category determination submission under 40 CFR Part 403.6 (a) (4), whichever is later, existing Industrial Users subject to such National Categorical Pretreatment Standards and currently discharging to or scheduled to discharge to the POTW shall submit to the District a report which contains the information listed in Section 4.2.1 (a) through (g) of these Rules and Regulations. Where reports containing this information already have been submitted to Regional Administrator in compliance with the former requirements of 40 CFR Part 128.140 (b) (1977), the Industrial User will not be required to submit this information again. At least 90 days prior to commencement of discharge, new sources, and source that become Industrial Users subsequent to the promulgation of an applicable National Categorical Pretreatment Standard, shall be required to submit to the District a report which contains the information listed in Section 4.2.1(d) and (e) of these Rules and Regulations:

- (a) **Identifying Information:** The User shall submit the name and address of the facility including the name of the operator and owners.
- (b) **Permits:** The User shall submit a list of any environmental control permits held by or for the facility.

validated analytical methods or any other applicable sampling and analytical procedures, including procedures suggested by the District or other parties, approved by the Administrator.

- (VI) The District may allow the submission of a baseline report which utilized only historical data so long as the data provides information sufficient to determine the need for industrial pretreatment measures.
- (VII) The baseline report shall indicate the time, date and place of sampling and methods of analysis, and shall certify that such sampling and analysis is representative of normal work cycles and expected pollutant discharges to the POTW.

(f) **Certification**

A statement reviewed by an authorized representative (as defined in Section 1.1.4 of these Rules and Regulations) of the Industrial User and certified to by a qualified professional, indicating whether National Categorical Pretreatment Standards are being met on a consistent basis, and, if not, whether additional operation and maintenance (O and M) and/or additional pre-treatment is required for the Industrial User to meet the National Pretreatment Standards and Requirements.

Signatory Requirements for POTW Reports:

Reports submitted to the Approval Authority by the POTW in accordance with 40 CFR 403.12(i) (Annual Report) must be signed by a principal executive officer, ranking elected official or other duly authorized employee. The duly authorized employee must be an individual or position having responsibility for the overall operation of the facility or the Pretreatment program. This authorization must be made in writing by the principal executive officer or ranking elected official, and submitted to the Approval Authority prior to or together with the report being submitted.

(g) **Compliance Schedule**

If additional pretreatment and/or O and M will be required to meet the National Pretreatment Categorical Standards or Local Limit, the shortest schedule by which the Industrial User will provide such additional pretreatment and/or O and M. The completion date in this schedule shall not be later than the compliance date established for the applicable National Categorical Pretreatment Standard.

- (I) Where the Industrial User's National Categorical Pretreatment Standard has been modified by a removal allowance (40 CFR Part 403.7), the combined wastestream formula (40 CFR Part 403.6 (e)), and/or a Fundamentally Different Factors variance (40 CFR Part 403.13) at the time the User submits the report required by these Rule and Regulations, the information required by Section 4.2.1 (f)

report. All analyses shall be performed in accordance with procedures established by the Administrator pursuant to section 304 (h) of the Act and contained in Part 136 of Title 40 of the Code of Federal Regulations (40 CFR Part 136) and amendments thereto, or with any other test procedures approved by the administrator (see 40 CFR Part 136.4., "Application for alternate test procedures"). Sampling shall be performed in accordance with the techniques approved by the Administrator. Where 40 CFR Part 136 does not include sampling or analytical techniques for the pollutants in question, or where the Administrator determines that the sampling and analytical techniques contained in 40 CFR Part 136 are inappropriate for the pollutant in question, sampling and analyses shall be performed using validated analytical methods or any other sampling and analytical procedures, including procedures suggested by the Executive Director or other parties, and approved by the Administrator.

4.2.5 Monitoring and Analysis to Demonstrate Continued Compliance

(I) The reports required by Sections 4.2.1, 4.2.2, 4.2.3 and 4.2.4 of these Rules and Regulations shall contain the results of sampling and analysis of the discharge, including the flow and nature and concentration, or production and mass where requested by the District, of pollutants contained therein which are limited by the applicable National Categorical Pretreatment Standards or Local Limits.

This sampling and analysis may be performed by the District in lieu of the Industrial User. Where the District performs the required sampling and analysis in lieu of the Industrial User, the User will not be required to submit the compliance certification required under Sections 4.2.1 (f) and 4.2.2 of these Rules and Regulations. In addition, where the District itself collects all the information required for the report, including flow data, the Industrial User will not be required to submit the report.

(II) If sampling performed by an Industrial User indicates a violation, the User shall notify the District within 24 hours of becoming aware of the violation. The User shall also repeat the sampling and analysis and submit the results of the repeat analysis to the District within 30 days after becoming aware of the violation. Where the District has performed the sampling and analysis in lieu of the Industrial User, the District must perform the repeat sampling and analysis unless it notifies the User of the violation and requires the User to perform the repeat analysis. Resampling is not required if:

(i) The District performs sampling at the Industrial User at a frequency of at least once per month, or

(ii) The District performs sampling at the User between the time when the initial sampling was conducted and the time when the User or the District receives the results of this sampling.

(III) The reports required in Sections 4.2.1, 4.2.2, 4.2.3 and 4.2.4 of these Rules and Regulations must be based upon data obtained through appropriate sampling and analysis performed during the period covered by the report, which data are representative of conditions occurring during the reporting period. The District shall require that frequency of monitoring necessary to assess and assure compliance by Industrial Users with applicable Pretreatment Standards and Requirements. Grab samples must be used for pH, cyanide, total phenols, oil and grease, sulfide, and volatile organic compounds. For all other

- (II) The dates analyses were performed.
- (III) Who performed the analyses.
- (IV) The analytical techniques/methods used and
- (V) The results of such analyses.

Any industrial User subject to the reporting requirements established in Section 4.2 of these Rules and Regulations shall retain for a minimum of three years any records of monitoring activities and results (whether or not such monitoring activities are required by these Rules and Regulations) and shall make such records available for inspection and copying by the Regional Administrator and the Executive Director. This period of retention shall be extended during the course of any unresolved litigation regarding the Industrial User or when requested by the Regional Administrator.

4.4 Inspection and Sampling

The Permittee shall allow the Greater Lawrence Sanitary District, or an authorized representative of the Greater Lawrence Sanitary District, upon presentation of credentials and other documents as may be required by law, to:

- (a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the wastewater discharge permit;
- (b) Have access to and copy any records that must be kept under the conditions of these Rules and Regulations.
- (c) Inspect at any time any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under the wastewater discharge permit or the Rule and Regulations;
- (d) Sample or monitor, for the purposes of assuring permit compliance, any substances or parameters at any location; and
- (e) Inspect any production, manufacturing, fabricating, or storage area where pollutants, regulated under the permit and these rules and Regulations, could originate, be stored, or be discharged to the sewer system.

4.5 Pretreatment

Users shall provide necessary wastewater treatment as required to comply with these Rules and Regulations and shall achieve compliance with all National Categorical Pretreatment Standards and/or Local Limits within the time limitations as specified by the Federal Pretreatment Regulations or the Districts requirements respectively. Any facilities required to pre-treat wastewater to a level acceptable to the District shall be provided, operated, and

- (b) Septage/Holding Tank wastewater will be accepted from communities that have been approved by the Executive Director.
- (c) The hauler must be licensed by the community where the septage and holding tank wastewater is collected.
- (d) Haulers shall follow designated routes to get to the District POTW.
- (e) Haulers shall ensure that septage and holding tank wastewater does not leak onto the ground near the point of discharge to the POTW and that all exposed areas are washed to remove traces of waste where odors might develop.

The fee for discharging septage and holding tank wastewater shall be set by the District. These fees may be revised by the District as needed to cover the District's cost to handle, analyze and treat the wastewater. The following requirements apply to the fees charged for the disposal of septage and holding tank wastewater. The rates are shown in Appendix C.

- (a) Tickets are purchased from the District in advance of disposing of the wastes. Tickets can be purchased at the District office by mailing a check for the proper amount.
- (b) Each ticket must be properly filled out and presented to the monitor on duty at the District septage receiving station.
- (c) The haulers may discharge the wastewater only after being given permission to discharge by the monitor.
- (d) No hazardous waste as defined under 40 CFR Part 261 will be accepted under any conditions. Also, no waste having any characteristics specified in Section 2.1 of these Rules and Regulations will be accepted.

4.7.2 Commercial and Industrial Holding Tank Wastewater Receiving

Any person wishing to discharge commercial or industrial holding tank wastewater at the District POTW shall apply to the District for permission. Wastes categorized under the National Categorical Pretreatment Standards shall require a wastewater discharge permit as specified in Section 4 before any disposal can take place. This request for a permit should include the following information:

- (a) Name and address of the person requesting permission to discharge holding tank wastewater.
- (b) Location of the holding tank.
- (c) Description of the activities at the site of the holding tank, e.g., manufacturing, restaurant, laundry, industry etc.
- (d) Volume of the holding tank, the requested volume to be discharged and the anticipated frequency of the discharge.

User describing the cause of the harmful contribution and the measures taken to prevent any further occurrence shall be submitted to the District within 5 days of the occurrence.

5.2 Revocation of Permits

Any User who violates the following conditions of these Rules and Regulations, or applicable state and federal regulations, is subject to permit revocation in accordance with the procedures of Section 5 of these Rules and Regulations.

- (a) Failure of a User to factually report the wastewater constituents and characteristics of his discharge.
- (b) Failure of the User to report significant changes in operation, or wastewater volume, constituents and characteristics.
- (c) Refusal of reasonable access to the User's premises for the purpose of inspection or monitoring.
- (d) Violation of conditions of the permit; or
- (e) Violation of the pretreatment standards in Section 2 of these Rules and Regulations.

5.3 Notification of Violation

Whenever the District finds that any User has violated or is violating these Rules and Regulations, the permit User's wastewater discharge or any prohibition, limitation of requirements contained herein, the District may serve upon such person a written notice stating the nature of the violation. With 30 days of the date of the notice, a plan for the satisfactory correction thereof shall be submitted to the District by the User. Submission of this plan in no way relieves the User of liability for any violations occurring before or after receipt of the Notice of Violation. Nothing in this Section shall limit the authority of the District to take any action without first issuing a Notice of Violation.

5.4 Show Cause Hearing

5.4.1 Show Cause Hearing

The District may order any User who causes or allows an unauthorized discharge to enter the POTW to show cause before the District Commission why the proposed enforcement action should not be taken. A notice shall be served on the User specifying the time and place of the hearing to be held by the District Commission regarding the violation, the reasons why the action is to be taken, the proposed enforcement action, and directing the User to show cause before the District Commission why the proposed enforcement action should not be taken. The notice of the hearing shall be served personally or by registered or certified mail (return receipt requested) at least ten (10) days before the hearing. Service may be made on any agent or officer of a corporation.

6.2 Falsifying Information

Any person who knowingly makes any false statements, representation or certification in any application, record, report, plan or other document filed or required to be maintained pursuant to these Rules and Regulations, or permit, or who falsifies, tampers with or knowingly renders inaccurate any monitoring device or method required under these Rules and Regulations, shall, upon conviction, be punished by a fine of not more than \$ 1,000 or by imprisonment for not more than six (6) month, or by both.

Section 7 – Severability

If any provision, paragraph, word, section or article of these Rules and Regulations is invalidated by any court of competent jurisdiction, the remaining provisions, paragraphs, words, sections, and chapters shall not be affected and shall continue in full force and effect.

Section 8 – Conflict

All other Ordinances of the member communities and parts of other Ordinances of the member communities inconsistent or conflicting with any Section of these Rules and Regulations are hereby repealed to the extend of such inconsistency or conflict.

Section 9 – Effective Date

These Rules and Regulations shall be in full force and effect on the 2nd day of April 2008.

**GREATER LAWRENCE SANITARY DISTRICT
RULES AND REGULATIONS
COVERING
DISCHARGE OF WASTEWATER, DRAINAGE, SUBSTANCES OR WASTES
APPENDIX A
CATEGORICAL STANDARDS**

This appendix lists industries with categorical limits, the Federal Register reference and the date of promulgation. The information is not complete since all categorical standards have not been established. However, those standards become effective when they are adopted.

<u>INDUSTRIAL CATEGORY</u>	<u>40 C.F.R. PART</u>	<u>DATE OF PROMULGATION</u>
Dairy Products Processing	405	07/09/86
Grain Mills	406	07/09/86
Canned and Preserved Fruits and Vegetable Processing	407	07/9/86
Canned & Preserved Fruits and Vegetable Processing	408	07/09/86
Sugar Processing	409	07/09/86
Textile Mills	410	09/01/83
Cement Manufacturing	411	08/29/79
Feedlots	412	02/11/75
Electroplating	413	01/31/85
Organix Chemicals, Plastics & Synthetic Fibers	414	06/29/89
Inorganic Chemical Manufacturing	415	09/25/84
Soap and Detergent Mfg.	417	02/11/75

<u>INDUSTRIAL CATEGORY</u>	<u>40 C.F.R. PART</u>	<u>DATE OF PROMULGATION</u>
Paving & Roofing Materials (tars & asphalt)	443	07/24/75
Paint Formulating	446	07/28/75
Ink Formulating	447	07/28/75
Gum & Wood Chemicals Manufacturing	454	05/18/78
Pesticide Chemicals	455	09/29/78
Explosive Mfg.	457	03/09/76
Carbon Black Mfg.	458	01/09/78
Photographic	459	07/14/76
Hospital	460	05/06/78
Battery Mfg.	461	08/28/86
Plastics Molding and Forming	463	12/17/84
Metal Molding & Casting	464	06/16/86
Coil Coating	465	08/24/84
Porcelain Enameling	466	09/06/85
Aluminum Forming	467	12/27/88
Copper Forming	468	06/20/86
Electrical & Electronic Components	469	01/31/85
Nonferrous Metals Forming and Metal Powders	471	04/04/89
Organic Chemicals and Plastics and Synthetic Fibers	455	02/01/90

Please include a statement certifying as to the presence or absence of algaecides, PCB's and other chlorinated organic compounds and pesticides. If present, list the compound, the concentration and where it was tested. The analyses are to be conducted in accordance with the methods prescribed in the latest edition of 40 CFR Part 136 Tables 1A, 1B, 1C and 1D.

c - composite samples

g - grab samples

* Self-Monitoring Parameters

** Those industries with a T.T.O. (Total Toxic Organic) limitation in their discharge permit must refer to the permit citation for a complete list of T.T.O. compounds.

Note - Industrial Discharge Permits may contain additional parameters which must be submitted semiannually for Self-Monitoring Reporting (SMLR) requirements.

2. SAMPLING FREQUENCY

The following sampling frequency shall be used as a guide in determining how often the District will sample each industry. It is independent of the self-monitoring requirements stipulated in 4.4.2.

<u>FLOW, GPD</u>	<u>COMPLIANCE SAMPLING</u>
Less than 10,000	4 / Year
10,001 – 100,000	8 / Year
Greater than 100,001	10 / Year

**GREATER LAWRENCE SANITARY DISTRICT
RULES AND REGULATIONS
COVERING
DISCHARGE OF WASTEWATER, DRAINAGE, SUBSTANCES OR WASTES
APPENDIX D
USER CHARGES AND COST ALLOCATIONS**

Chapter 750 of the Massachusetts Acts of 1968, as amended by Chapter 320 of the Massachusetts Acts of 1970 (said Acts being those that established the District) set forth the allocation of capital costs and operation and maintenance costs between the member municipalities of the District.

Federal regulations require that a system of user charges be adopted by all applicants for Federal treatment works construction grants to enable the grantee to be financially self-sufficient with respect to operation and maintenance of a treatment works. In addition, grantees are required to recover from industrial users, certain costs allocable to industrial users.

The District, a grantee of Federal treatment works construction grants, established the following system of User Costs and Industrial Cost Recovery as Appendix D to its existing Rules and Regulations.

CAPITAL COST ALLOCATION TO MEMBER MUNICIPALITIES

Section 5 of the Acts which established the District states:

“The cost of capital outlay to be apportioned to the member municipalities, including principal payments and interest on debt issued for such capital outlay purposes, shall be apportioned among the member municipalities according to the estimated cost of separate facilities required by each municipality to accomplish the abatement of water pollution provided for in the abatement plan to which such costs relate to the total of such estimated costs for all the municipalities, as shall be determined by the District Commission in such abatement plan”.

Based on FY 2015, the allocation to member municipalities is as follows:

Community Assessment Percentages		
	Capital/Debt Service w/o Dracut Statute Based	Capital/Debt Service w/ Dracut Statute Based
Lawrence	53.20%	52.54%
Methuen	21.90%	21.63%
Andover	7.10%	7.01%
North Andover	7.00%	6.91%
Salem, NH	10.80%	10.67%
Dracut	0%	1.25%
Total	100.00%	100.00%

$$\frac{\text{B.O.D.}_i}{\text{B.O.D.}_p} \times P_B \times \text{OM} + \frac{\text{S.S.}_i}{\text{S.S.}_p} \times P_s \times \text{OM} =$$

LEGEND

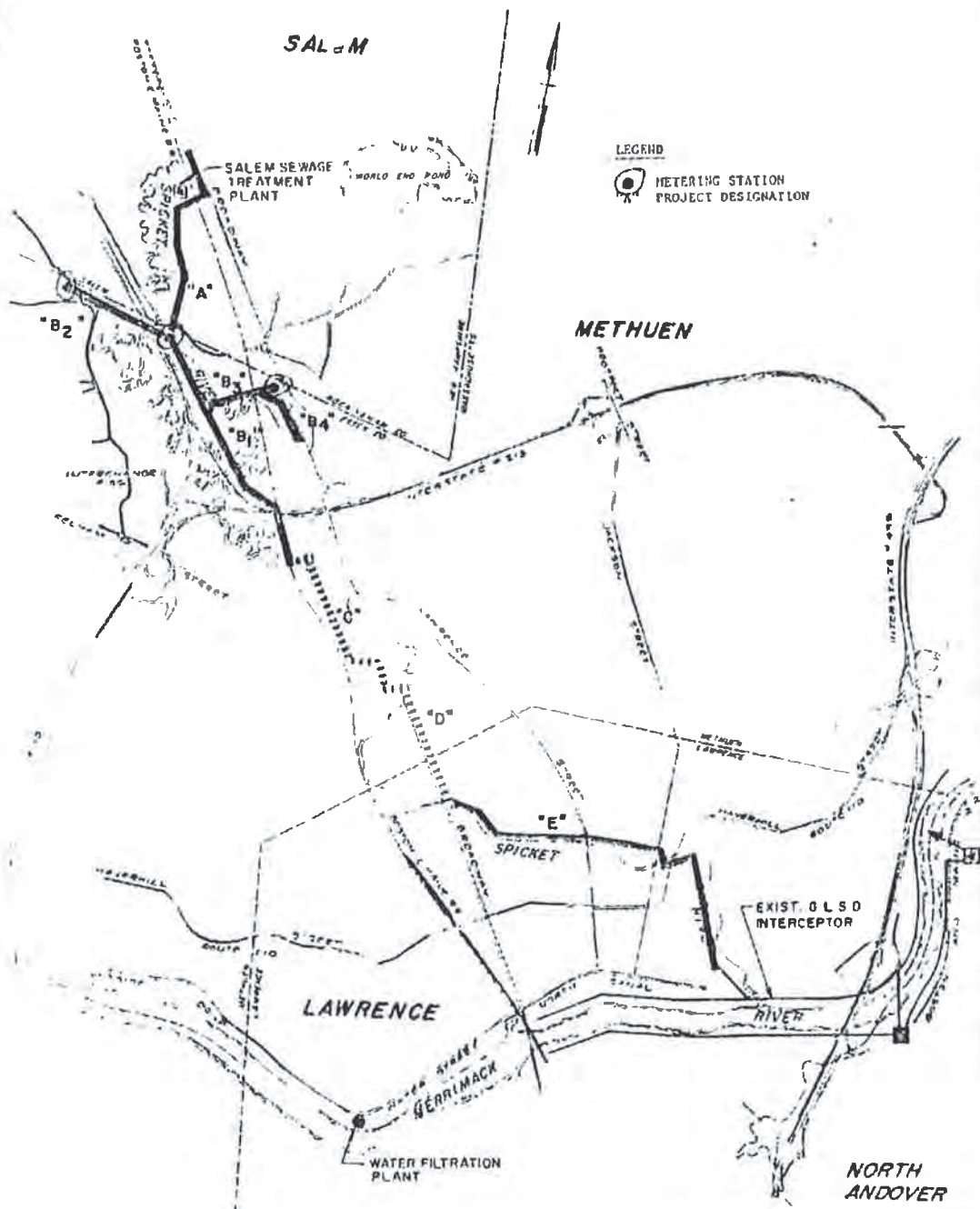
B.O.D. _i	B.O.D. from industry in excess of domestic wastewater expressed in pounds per day. (Ind. Flow mgd. X 8.34) x (Ind. B.O.D. mg/l – 250 mg/l).
S.S. _i	Suspended solids from industry in excess of domestic wastewater expressed in pounds per day (Ind. Flow mgd x 8.34) x (Ind. S.S.mg/l – 300 mg/l).
B.O.D. _p	Average loading of Biochemical Oxygen Demand of the GLSD plant influent for the period expressed in pounds per day.
S.S.p	Average loading of Suspended Solids of the GLSD plant influent for the period expressed in pounds per day.
P _B	The percentage of the Operations and Maintenance (O&M) costs to treat and remove B.O.D. The percentage shall be 22% for the period corresponding to the District's fiscal year ending June 30, 1996 and thereafter shall be as established by the District Commission.
P _s	The percentage of the Operations and Maintenance (O&M) costs to treat and remove T.S.S. The percentage shall be 17% for the period corresponding to the District's fiscal year ending June 30, 1996 and thereafter shall be as established by the District Commission.
47,000 lbs./day	The District's influent B.O.D. average daily loading as designed to maintain compliance with the NPDES discharge permit.
61,000 lbs./day	The District influent S.S. average daily loading as designed to maintain compliance with the NPDES discharge permit.
CC	Amount of annual capital cost (principal and interest) on bonds for Contract No. 1 (Treatment Plant, Contract No. 1(Wastewater Treatment Plant Expansion), and any other Capital Cost related to the treatment of B.O.D. and S.S. by the District.
OM	Operating and Maintenance costs for the wastewater treatment facilities excluding the main pumping station .

INDUSTRIAL SURCHARGE BILLING AND COLLECTION PROCEDURES

Within thirty (30) days after the last day of each month, the District will invoice each industrial user subject to surcharge assessment, a monthly preliminary industrial surcharge. The preliminary industrial surcharge shall be based upon each user's prior year surcharge and will be calculated as follows. -For each user the prior year surcharge will be divided by twelve (12) and that amount will be billed each month until the actual surcharge is calculated. When the actual surcharge is calculated, the District will subtract all preliminary invoices billed from the actual surcharge due and invoice for the balance. If the preliminary billings exceed the actual surcharge the District will calculate the credit and issue a refund to the user. In the case of a user that does not have a prior year surcharge and becomes subject to surcharge assessment in the current year, the preliminary surcharge billings will be calculated with the user's current year surcharge data. If the prior year surcharge significantly exceeds the user's current year surcharge due to changes in wastewater characteristics (ie. significantly lower flow, B.O.D. and/or suspended solids) the user may request modification of the preliminary surcharge billings. The user's request shall be in writing and shall describe the reasons why a modification of the preliminary surcharge billings is requested. All modifications to the preliminary surcharge billings are subject to approval by the District's Board of Commissioners.

If any industrial user's assessed surcharges remain unpaid after a period of ninety (90) days, the District will take all necessary actions, including but not limited to discontinuance of services, available to it to recover these back charges.

(C)



INTERCEPTOR CONNECTIONS

- A" SALEM
- "B" METHUEN ("B" NORTH BROADWAY PROJECT)
- "C" METHUEN (PINE STREET REPLACEMENT)
- "D" METHUEN (SPICKET RIVER RELIEF INTERCEPTOR)
- "E" LAWRENCE (SPICKET RIVER RELIEF INTERCEPTOR)

**SALEM, NEW HAMPSHIRE
FACILITIES PLAN UPDATE**

REGIONAL WASTEWATER SYSTEM
INTERCEPTOR SEWERS
SALEM, N.H./RISD PROJECT

**G/UNDERWOOD
ENGINEERS**

MAP 2

Attachment D – NPDES Permit No. MA0100447

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

Greater Lawrence Sanitary District (the Permittee)

is authorized to discharge from the facility located at

**240 Charles Street
North Andover, Massachusetts 01845
and five combined sewer overflows (CSO)**

to receiving waters named

Merrimack River and Spicket River

in accordance with effluent limitations, monitoring requirements, and other conditions set forth herein. The Massachusetts municipalities of Lawrence, Andover, North Andover, and Methuen, and Salem, New Hampshire, (the Co-permittees) are co-permittees for specific activities required in Part I. D., Unauthorized Discharges, Part I.E., Operation and Maintenance of the Sewer System, and Part I.F., Alternate Power Source. The Massachusetts municipalities of Lawrence and Methuen are co-permittees for specific activities in Part I.G., Combined Sewer Overflows. The responsible Municipal Departments are:

**City of Lawrence
Department of Public Works
200 Common Street
Lawrence, MA 01840**

**Town of Andover
Department of Public Works
397 Lowell Street
Andover, MA 01810**

**Town of North Andover
Department of Public Works
384 Osgood Street
North Andover, MA 01845**


**Town of Methuen
41 Pleasant Street, Rm 205
Methuen, MA 01844**

**and Town of Salem New Hampshire *
Public Works Department
21 Cross Street
Salem, New Hampshire 03079**


This permit shall become effective sixty days from the date of signature.

This permit and the authorization to discharge expire at midnight, five (5) years from the effective date. This permit supersedes the permit issued on February 26, 1998, and modified on March 17, 1998. This permit consists of 17 pages in Part I including effluent limitations, monitoring requirements, Attachment: A through E, and 35 pages in Part II including General Conditions and Definitions.

Signed this 11 day of August, 2005



Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA



Director
Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

* This permit is issued jointly by EPA and MADEP to GLSD and the Co-permittees in Massachusetts. The permit is issued to Town of Salem, New Hampshire solely by EPA.

A.1. During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall serial number **001**, treated effluent to the Merrimack River. Such discharges shall be limited and monitored as specified below.

<u>EFFLUENT CHARACTERISTIC</u>		<u>EFFLUENT LIMITS</u>			<u>MONITORING REQUIREMENTS</u>		
PARAMETER	AVERAGE MONTHLY	AVERAGE WEEKLY	AVERAGE MONTHLY	AVERAGE WEEKLY	MAXIMUM DAILY	MEASUREMENT FREQUENCY	SAMPLE TYPE
FLOW ²	*****	*****	52 MGD	*****	Report MGD	CONTINUOUS	RECORDER
BOD ₅	13,010 lbs/day	Report lbs/day	30 mg/l	45 mg/l	50 mg/l ¹	5/WEEK	24-HOUR COMPOSITE ^{3,4,5}
TSS	13,010 lbs/day	Report lbs/day	30 mg/l	45 mg/l	50 mg/l ¹	5/WEEK	24-HOUR COMPOSITE ^{3,4,5}
pH RANGE ¹	6.5 - 8.3 SU SEE PERMIT PAGE 6 OF 17, PARAGRAPH I.A.1.b.					1/DAY	GRAB ³
TOTAL CHLORINE RESIDUAL ^{6,7}	*****	*****	Report	*****	Report	CONTINUOUS	RECORDER
TOTAL CHLORINE RESIDUAL ^{6,7}	*****	*****	150 ug/l	*****	260 ug/l	1/DAY	GRAB ³
FECAL COLIFORM ^{1,6}	*****	*****	200/100 cfu's/ml	*****	400/100 cfu's/ml	5/WEEK	GRAB ³
DISSOLVED OXYGEN (April 1 - October 31)	NOT LESS THAN 5.0 mg/l					1/DAY	GRAB ³

CONTINUED FROM PREVIOUS PAGE

A.1. During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall serial number 001, treated effluent to the Merrimack River. Such discharges shall be limited and monitored as specified below.

<u>EFFLUENT CHARACTERISTIC</u>		<u>EFFLUENT LIMITS</u>				<u>MONITORING REQUIREMENTS</u>	
<u>PARAMETER</u>	<u>AVERAGE MONTHLY</u>	<u>AVERAGE WEEKLY</u>	<u>AVERAGE MONTHLY</u>	<u>AVERAGE WEEKLY</u>	<u>MAXIMUM DAILY</u>	<u>MEASUREMENT FREQUENCY</u>	<u>SAMPLE TYPE</u>
AMMONIA NITROGEN ⁸	*****	*****	*****	*****	REPORT	1/QUARTER	24-HOUR COMPOSITE ^{4,5}
TOTAL KJELDAHL NITROGEN ⁸	*****	*****	*****	*****	REPORT	1/QUARTER	24-HOUR COMPOSITE ^{4,5}
NITRITE & NITRATE NITROGEN ⁸	*****	*****	*****	*****	REPORT	1/QUARTER	24-HOUR COMPOSITE ^{4,5}
TOTAL PHOSPHORUS ⁸	*****	*****	*****	*****	REPORT	1/MONTH	24-HOUR COMPOSITE ^{4,5}
WHOLE EFFLUENT TOXICITY ^{9,10,11,12}	Acute LC ₅₀ ≥ 100% Chronic C-NOEC ≥ Report					4/YEAR	24-HOUR COMPOSITE ⁵

All sampling shall be representative of the effluent that is discharged through outfall 001 to the Merrimack River. A routine sampling program shall be developed in which samples are taken at the same location, same time and same days of every month. Any deviations from the routine sampling program shall be documented in correspondence appended to the applicable discharge monitoring report that is submitted to EPA.

Footnotes:

1. Required for State Certification.
2. For flow, report maximum and minimum daily rates and total flow for each operating date. Total flow is an annual average limit, which shall be reported as a rolling average. The first value will be calculated using the monthly average flow for the first full month ending after the effective date of the permit and the eleven previous monthly average flows. Each subsequent month's DMR will report the annual average flow that is calculated from that month and the previous 11 months.
3. Effluent parameters that require 24-hour composite samples shall be taken prior to the effluent discharging at the chlorine contact chamber. One year from the effective date of the permit, effluent parameters that require 24-hour composite samples shall be taken at the outfall structure. Effluent parameters that require grab samples shall be taken at the outfall structure.

Any change in sampling location must be reviewed and approved in writing by EPA and MADEP. All samples shall be tested using the analytical methods found in 40 CFR §136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR §136. Samples shall be 24-hour composites unless specified as a grab sample in 40 CFR §136.

4. Sampling required for influent and effluent.
5. A 24-hour composite sample will consist of at least twenty four (24) flow proportional grab samples, which are flow proportional, and taken during one working day. Working day is defined as a twenty-four hour period such as midnight on Monday through midnight on Tuesday the following day.
6. Fecal coliform and total residual chlorine monitoring will be conducted year round. Fecal coliform is a State certification requirement. Fecal coliform discharges shall not exceed a monthly geometric mean of 200 colony forming units (cfu's) per 100 ml, nor shall they exceed 400 cfu's per 100 ml as a daily maximum. Fecal coliform samples shall be taken 5 times per week and conducted concurrently with the TRC sampling described below.

The chlorination system shall include an alarm for indicating system interruptions or malfunctions. Any interruption or malfunction of the chlorine dosing system that may have resulted in levels of chlorine that were inadequate for achieving effective disinfection shall be reported with the monthly DMRs. The report shall include the date and time of the interruption or malfunction, the nature of the problem and, the estimated amount of time that the reduced levels of chlorination occurred.

The permittee has thirty days from the effective date of the permit to have any new equipment fully operational to meet the TRC requirements.

7. The permittee shall collect one TRC grab sample per day for compliance purposes. Any additional grab sample monitoring results shall be included in the compliance report. The results of the grab samples and a comparison to the continuous analyzer reading, including the time of the grab samples, shall be included with the DMRs.

The permittee shall also report the average monthly and maximum daily discharge of TRC using data collected by the continuous TRC analyzer. The permittee shall collect and analyze a minimum of one grab sample per day for calibration purposes. The same daily grab sample can be used for both compliance and calibration. Four continuous recording graphs (1/week) showing weekly data or an equivalent alternative record that provides the same data, shall be submitted with the monthly DMRs.

The permittee shall substitute three TRC grab sample per day, for any day that they are unable to comply with the continuous recording requirement.

The permittee has thirty days from the effective date of the permit to have any new equipment fully operational to meet the TRC requirements.

8. The permittee shall report two of the quarterly samples during high flow events when secondary treatment is bypassed. A high flow event is defined as flow that exceeds 30 MGD.
9. The permittee shall conduct chronic (and modified acute) toxicity tests four times per year. The chronic test may be used to calculate the acute LC_{50} at the 48 hour exposure interval. The permittee shall test the daphnid, Ceriodaphnia dubia, only. Toxicity test samples shall be collected during the second week in the months of January, April, July, and October. The test results shall be submitted by the last day of the month following the completion of the test. The results are due February 28, May 31, August 31, and November 30, respectively. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Dates Second Week in	Submit Results By:	Test Species	Acute Limit LC_{50}	Chronic Limit C-NOEC
January April July October	February 28 th May 31 th August 31 th November 30 th	<u>Ceriodaphnia dubia</u> (daphnid)	$\geq 100\%$	Report

10. The LC_{50} is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent (no dilution) shall cause no more than a 50% mortality rate.
11. C-NOEC (chronic-no observed effect concentration) is defined as the highest concentration of toxicant or effluent to which organisms are exposed in a life cycle or partial life cycle test which causes no adverse effect on growth, survival, or reproduction at a specific time of observation as determined from hypothesis testing where the test results exhibit a linear dose-response relationship. However, where the test results do not exhibit a linear dose-response relationship, the permittee must report the lowest concentration where there is no observable effect.

12. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A Section IV., DILUTION WATER** in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required in **Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called "Guidance Document") which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A**. The "Guidance Document" has been sent to all permittees with their annual set of DMRs and Revised Updated Instructions for Completing EPA's Pre-Printed NPDES Discharge Monitoring Report (DMR) Form 3320-1 and is not intended as a direct attachment to this permit.

Any modification or revocation to this "Guidance Document" will be transmitted to the permittees as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachment A**.

Part I.A.1. (Continued)

- a. The discharge shall not cause a violation of the water quality standards in the receiving waters.
 - b. The pH of the effluent shall not be less than 6.5 nor greater than 8.3 at any time.
 - c. The discharge shall not cause objectionable discoloration, odor or turbidity of the receiving waters.
 - d. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
 - e. The permittee shall minimize the use of chlorine while maintaining adequate bacterial control. A reasonable margin of safety shall be maintained in chlorine use to ensure continuous effective disinfection.
 - f. The results of sampling for any parameter above its required frequency must also be reported.
2. All POTWs must provide adequate notice to the Director of the following:
- a. Any new introduction of pollutants into the POTW from an indirect discharger in a primary industry category discharging process water; and
 - b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

- c. For purposes of this paragraph, adequate notice shall include information on:

- (1) the quantity and quality of effluent introduced into the POTW; and
- (2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

3. Prohibitions Concerning Interference and Pass Through:

Pollutants introduced into POTW's by a non-domestic source (user) shall not pass through the POTW or interfere with the operation or performance of the works.

4. Toxics Control

- a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.
- b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

5. Numerical Effluent Limitations for Toxicants

EPA or MA DEP may use the results of the toxicity tests and chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

B. LIMITATIONS FOR INDUSTRIAL USERS:

1. Pollutants introduced into POTW's by a non-domestic source (user) shall not Pass Through the POTW or Interfere with the operation or performance of the works.
2. The permittee shall develop and enforce specific effluent limits (local limits) for Industrial User(s), and all other users, as appropriate, which together with appropriate changes in the POTW Treatment Plant's Facilities or operation, are necessary to ensure continued compliance with the POTW's NPDES permit and sludge use or disposal practices. Specific local limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond. Within 120 days of the effective date of this permit, the permittee shall prepare and submit a written technical evaluation to the EPA analyzing the need on whether or not its currently approved local limits need to be revised. As part of this evaluation, the permittee shall assess how the POTW performs with respect

to influent and effluent of pollutants, water quality concerns, sludge quality, sludge processing concerns/inhibition, biomonitoring results, activated sludge inhibition, worker health and safety and collection system concerns. In preparing this evaluation, the permittee shall complete and submit the attached form (Attachment B) to the pretreatment coordinator along with a technical evaluation to assist in determining whether existing local limits need to be revised. Justifications and conclusions should be based on actual plant data if available and should be included in the report. Should the evaluation reveal the need to revise local limits, the permittee shall complete the revisions within 120 days of notification by EPA and submit the revisions to EPA for approval. The Permittee shall carry out the local limit revisions in accordance with EPA Guidance Manual for the Development and Implementation of Local Discharge Limitations Under the Pretreatment Program (December, 1987).

C. INDUSTRIAL PRETREATMENT PROGRAM

1. The permittee shall implement the Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the permittee's approved Pretreatment Program, and the General Pretreatment Regulations, 40 CFR 403. At a minimum, the permittee must perform the following duties to properly implement the Industrial Pretreatment Program (IPP):
 - a. Carry out inspection, surveillance, and monitoring procedures which will determine, independent of information supplied by the industrial user, whether the industrial user is in compliance with the Pretreatment Standards. At a minimum, all significant industrial users shall be sampled and inspected at the frequency established in the approved IPP but, in no case less than once per year, and maintain adequate records.
 - b. Issue or renew all necessary industrial user control mechanisms within 90 days of their expiration date or within 180 days after the industry has been determined to be a significant industrial user.
 - c. Obtain appropriate remedies for noncompliance by any industrial user with any pretreatment standard and/or requirement.
 - d. Maintain an adequate revenue structure for continued implementation of the Pretreatment Program.
2. The permittee shall provide the EPA and MA DEP with an annual report describing the permittee's pretreatment program activities for the twelve month period ending 60 days prior to the due date in accordance with 403.12(i). The annual report shall be consistent with the format described in Attachment C of this permit and shall be submitted no later than September 1 of each year.
3. The permittee must obtain approval from EPA prior to making any significant changes to the industrial pretreatment program in accordance with 40 CFR 403.18(c).

4. The permittee must assure that applicable National Categorical Pretreatment Standards are met by all categorical industrial users of the POTW. These standards are published in the Federal Regulations at 40 CFR 405 et. seq.
5. The permittee must modify its pretreatment program to conform to all changes in the Federal Regulations that pertain to the implementation and enforcement of the industrial pretreatment program. The permittee must provide EPA, in writing, within 180 days of this permit's effective date proposed changes, **if applicable**, to the permittee's pretreatment program deemed necessary to assure conformity with current Federal Regulations. At a minimum, the permittee must address in its written submission the following areas: (1) revisions to an enforcement response plan; (2) revise the local sewer-use ordinance or regulation, as appropriate, to be consistent with Federal Regulations; (3) slug control evaluations. The permittee will implement these proposed changes pending EPA Region I's approval under 40 CFR 403.18. This submission is separate and distinct from any local limits analysis submission described in Part I.B., If the permittee has already submitted the above documents to EPA for approval and is awaiting an EPA decision, this section shall not apply.

D. UNAUTHORIZED DISCHARGES

The permit only authorizes discharges in accordance with its terms and conditions and only from outfalls listed in Part I.A.1. of this permit and the combined sewer overflow outfalls identified in Attachment D of the permit. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs) are not authorized by this permit and shall be reported in accordance with Part II. Section D.1.e. (1) of the General Requirements of this permit (Twenty-four hour reporting).

E. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the separate sewer system shall be in compliance with the General Requirements in Part II, and the following terms and conditions. Each co-permittee is required to complete the following activities for the collection system which it owns.

1. Maintenance Staff

Provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit.

2. Preventative Maintenance Program

Maintain an ongoing preventative maintenance program to prevent overflows and bypasses caused by malfunctions or failures of the separate sewer system infrastructure. The program shall include an inspection program designed to identify all potential and actual unauthorized discharges.

3. Infiltration/Inflow Control Plan:

Develop and implement a plan to control infiltration and inflow (I/I) to the separate sewer systems. The plan shall be submitted to EPA, MA DEP and, GLSD within six months of the effective date of this permit (see page 1 of this permit for the effective date) and shall describe the co-permittees' program for preventing I/I related effluent limit violations, and all unauthorized discharges of wastewater, including overflows and bypasses due to excessive I/I. In addition, the plan shall also prioritize the I/I removal program in areas tributary to combined sewer areas so that the frequency, duration and volume of discharges from combined sewer overflows is minimized or reduced during the effective period of this permit.

The plan shall include:

- An ongoing program to identify and remove sources of I/I. The program shall include the necessary funding level and the source(s) of funding.
- An inflow identification and control program that focuses on the disconnection and redirection of illegal sump pumps and roof down spouts. Priority should be given to removal of public and private inflow sources that are upstream from, and potentially contribute to, known areas of sewer system backups and/or overflows.
- Identification and prioritization of areas that will provide increased aquifer recharge as the result of reduction/elimination of I/I to the system.
- An educational public outreach program for all aspects of I/I control, particularly private inflow.

Reporting Requirements:

A summary report of all actions taken to minimize I/I during the previous calendar year shall be submitted to EPA and the MA DEP annually, by the anniversary date of the effective date of this permit. The summary report shall, at a minimum, include:

- A map and a description of inspection and maintenance activities conducted and corrective actions taken during the previous year.
- Expenditures for any I/I related maintenance activities and corrective actions taken during the previous year.
- A map with areas identified for I/I related investigation/action in the coming year.
- A calculation of the annual average I/I, the maximum monthly I/I for the reporting year.
- A report of any I/I related corrective actions taken as a result of unauthorized discharges reported pursuant to 314 CMR 3.19(20) and reported pursuant to the Section 1.D., Unauthorized Discharges section of this permit.

- A report documenting all new extensions/connections, including the location of the extensions/connections and the quantity of wastewater flow added to the system. The location of work completed on I/I removal, the nature of the work and, an estimate of the amount of I/I removed from the system shall also be documented. The report shall include a summary of the net effect of new extensions/connections and I/I removed on the frequency, duration and volume of discharges from combined sewer overflows.

F. ALTERNATE POWER SOURCE

In order to maintain compliance with the terms and conditions of this permit, the permittee and co-permittees shall continue to provide an alternative power source with which to sufficiently operate the Publicly Owned Treatment Works as defined at 40 CFR §403.3.

G. COMBINED SEWER OVERFLOWS (CSOs)

1. Effluent Limitations

During wet weather, the permittee is authorized to discharge storm water/wastewater from combined sewer outfalls listed in Attachment D, subject to the following effluent limitations.

- a. The discharges shall receive treatment at a level providing Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT) to control and abate conventional pollutants and Best Available Technology Economically Achievable (BAT) to control and abate non-conventional and toxic pollutants. The EPA has made a Best Professional Judgement (BPJ) determination that BPT, BCT, and BAT for combined sewer overflow (CSO) control include the implementation of Nine Minimum Controls (NMC) specified below and detailed further in Part I.G.2. "Nine Minimum Controls, Minimum Implementation Levels" of this permit:
 - (1) Proper operation and regular maintenance programs for the sewer system and combined sewer overflows.
 - (2) Maximum use of the collection system for storage.
 - (3) Review and modification of the pretreatment program to assure CSO impacts are minimized.
 - (4) Maximization of flow to the POTW for treatment.
 - (5) Prohibition of dry weather overflows from CSOs.
 - (6) Control of solid and floatable materials in CSO.
 - (7) Pollution prevention programs that focus on contaminant reduction activities.

- (8) Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts.
- (9) Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

Implementation of these controls is required by the effective date of the permit. Documentation of the implementation of these controls has been submitted and is currently under review by EPA and the State. EPA and the State consider that approvable documentation must include the minimum requirements set forth in Part I.G.2 of this Permit and additional activities the permittee can reasonably undertake.

- b. The discharges shall not cause or contribute to violations of Federal or State Water Quality Standards.

2. Nine Minimum Controls, Minimum Implementation Levels

- a. The permittee must implement the nine minimum controls in accordance with the documentation provided to EPA and MADEP or as subsequently modified to enhance the effectiveness of the controls. This implementation must include the following controls plus other controls the Permittee can reasonably implement as set forth in the documentation.

The Cities of Lawrence and Methuen must implement NMCs #1, 2 and, 7. NMCs # 1, 2 and, 7 pertain to operation and maintenance of their separate collection systems and runoff to their collection systems.

- b. Each CSO structure/regulator, pumping station and/or tidegate shall be routinely inspected, at a minimum of once per month, to insure that they are in good working condition and adjusted to minimize combined sewer discharges and tidal surcharging. (NMC # 1, 2 and 4). The following inspection results shall be recorded: the date and time of the inspection, the general condition of the facility, and whether the facility is operating satisfactorily. If maintenance is necessary, the permittee shall record: the description of the necessary maintenance, the date the necessary maintenance was performed, and whether the observed problem was corrected. The permittee shall maintain all records of inspections for at least three years.

The State and EPA have the right to inspect any CSO related structure or outfall at any time without prior notification to the permittee.

- c. Discharges to the combined system of septage, holding tank wastes or other material which may cause a visible oil sheen or containing floatable material are prohibited during wet weather when CSO discharges may be active. (NMC# 3, 6, and 7).
- d. Dry weather overflows (DWOs) are prohibited (NMC# 5). All dry weather sanitary and/or industrial discharges from CSOs must be reported to EPA and the

State within 24 hours and provide a written report within 5 days in accordance with the reporting requirements for plant bypass (Paragraph D.1.e (1) of Part II, the General Requirements, of this permit).

- e. The permittee shall quantify and record all discharges from combined sewer outfalls (NMC# 9). Quantification may be through direct measurement or estimation. When estimating, the permittee shall make reasonable efforts, i.e. gaging, measurements, to verify the validity of the estimation technique. The following information must be recorded for each combined sewer outfall for each discharge event:
- Estimated duration (hours) of discharge;
 - Estimated volume (gallons) of discharge; and
 - National Weather Service precipitation data from the nearest gage where precipitation is available at daily (24-hour) intervals and the nearest gage where precipitation is available at one-hour intervals. Cumulative precipitation per discharge event shall be calculated.

The permittee shall maintain all records of discharges for at least six years after the effective date of this permit.

Annually no later than March 31st, the permittee shall submit a certification to the State and EPA which states that all discharges from combined sewer overflow outfalls were recorded and records maintained for the previous calendar year.

- f. The permittee shall install and maintain identification signs for all combined sewer outfall structures (NMC# 8). The signs must be located at or near the combined sewer outfall structures and be easily readable by the public. These signs shall be in English. In areas where the primary language is not English, additional signs shall be located at or near the CSO structures in languages that notify the Community of the CSO. These signs shall be a minimum of 12 x 18 inches in size, with white lettering against a green background, and shall contain the following information:

GREATER LAWRENCE SANITARY DISTRICT
WET WEATHER
SEWAGE DISCHARGE
OUTFALL (discharge serial number)

3. Annual CSO Report from Permittee

By April 30, 2006 and April 30th each year thereafter that the permit is in effect, the permittee shall submit a report which includes the following information;

- a. Activation frequency and discharge volume for each CSO during the previous calendar year. The report shall include this information for each of the authorized CSO discharges listed on Attachment E.

- b. Precipitation during the previous year for each day, including total rainfall, peak intensity, and average intensity.
- c. A certification which states that the previous calendar year's monthly inspections were conducted, results recorded, and records maintained.
- d. A summary of modifications to the approved NMC program which have been evaluated, and a description of those which will be implemented during the upcoming year.

In the first annual report submitted in accordance with this permit, the permittee shall submit a public notification plan to describe the measures actively being taken to meet NMC #8 (see NMC #8 in Part I.G.a.8), and an evaluation of further measures to enhance the public notification program, including the following;

- i. Outfall signs visible from both water and land.
- ii. Signs/Notices at areas where people may be using CSO-impacted waters for recreation such as swimming, boating or fishing. The notice would include information on the health risks posed by CSOs and links for additional information on CSOs and water quality.
- iii. Evaluate the infield instruments, including the interceptor levels and river level to determine threshold events which will cause overflows.
- iv. Quarterly postings on the permittee's website which would give the locations of the CSOs, and associated health risks and estimates of CSO activations and volumes.
- v. Annual press release and notification to interested individuals and groups on the progress of the CSO abatement work, also noting contacts for additional information on CSOs and water quality.
- vi. Notice to local health agents and other downstream public officials, including drinking water treatment plants (where appropriate), shellfish wardens, and harbor masters, and the Massachusetts Department of Environmental Protection within 24 hours of activation of CSOs. The public notification plan shall include a schedule for implementation of enhanced public notice measures.

H. SLUDGE CONDITIONS

- 1. The permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices and with the CWA Section 405(d) technical standards.
- 2. The permittee shall comply with the more stringent of either the state or federal (40 CFR part 503), requirements.

3. The requirements and technical standards of 40 CFR part 503 apply to facilities which perform one or more of the following use or disposal practices.
 - a. Land application - the use of sewage sludge to condition or fertilize the soil
 - b. Surface disposal - the placement of sewage sludge in a sludge only landfill
 - c. Sewage sludge incineration in a sludge only incinerator
4. The 40 CFR part 503 conditions do not apply to facilities which place sludge within a municipal solid waste landfill. These conditions also do not apply to facilities which do not dispose of sewage sludge during the life of the permit but rather treat the sludge e.g lagoons, reed beds, or are otherwise excluded under 40 CFR 503.6. See Sludge Guidance.
5. The permittee shall use and comply with the attached sludge compliance guidance document to determine appropriate conditions. Appropriate conditions contain the following elements.
 - General requirements
 - Pollutant limitations
 - Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
 - Management practices
 - Record keeping
 - Monitoring
 - Reporting

Depending upon the quality of material produced by a facility, all conditions may not apply to the facility.

6. The permittee shall monitor the pollutant concentrations, pathogen reduction and vector attraction reduction at the following frequency. This frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year

less than 290	1/ year
290 to less than 1500	1 /quarter
1500 to less than 15000	6 /year
15000 +	1 /month

7. The permittee shall sample the sewage sludge using the procedures detailed in 40 CFR 503.8.
8. The permittee shall submit an annual report containing the information specified in the guidance by February 19. Reports shall be submitted to the address contained in the reporting section of the permit. Sludge monitoring is not required by the permittee when the permittee is not responsible for the ultimate sludge disposal.

The permittee must be assured that any third party contractor is in compliance with appropriate regulatory requirements. In such case, the permittee is required only to submit an annual report by February 19 containing the following information:

- Name and address of contractor responsible for sludge disposal
- Quantity of sludge in dry metric tons removed from the facility by the sludge contractor

I. MONITORING AND REPORTING

1. Reporting

Monitoring results obtained during each calendar month shall be summarized and reported on Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the following month.

Signed and dated originals of these, and all other reports required herein, shall be submitted to the Director and the State at the following addresses:

Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

The State Agency is:

Massachusetts Department of Environmental Protection
Northeast Regional Office
Bureau of Resource Protection
1 Winter Street
Boston, MA 02108

Signed and dated Discharge Monitoring Report Forms and toxicity test reports required by this permit shall also be submitted to the State at:

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

Signed and dated Industrial Pretreatment reports and Industrial User reports revising local limits required by this permit shall also be submitted to the State at:

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention - Industrial Waste Section
1 Winter Street
Boston, MA 02108

J. STATE PERMIT CONDITIONS

This Discharge Permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MA DEP) for the Greater Lawrence Sanitary District, and the co-permittees in Massachusetts, under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MA DEP pursuant to M.G.L. Chap. 21, §43.

Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this Permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this Permit is declared invalid, illegal or otherwise issued in violation of Federal law, this Permit shall remain in full force and effect under State law as a Permit issued by the Commonwealth of Massachusetts.

**APPENDIX C: COMMONWEALTH OF MASSACHUSETTS IMA BEST PRACTICES
MANUAL**

Inter-Municipal Agreements: A Best Practice

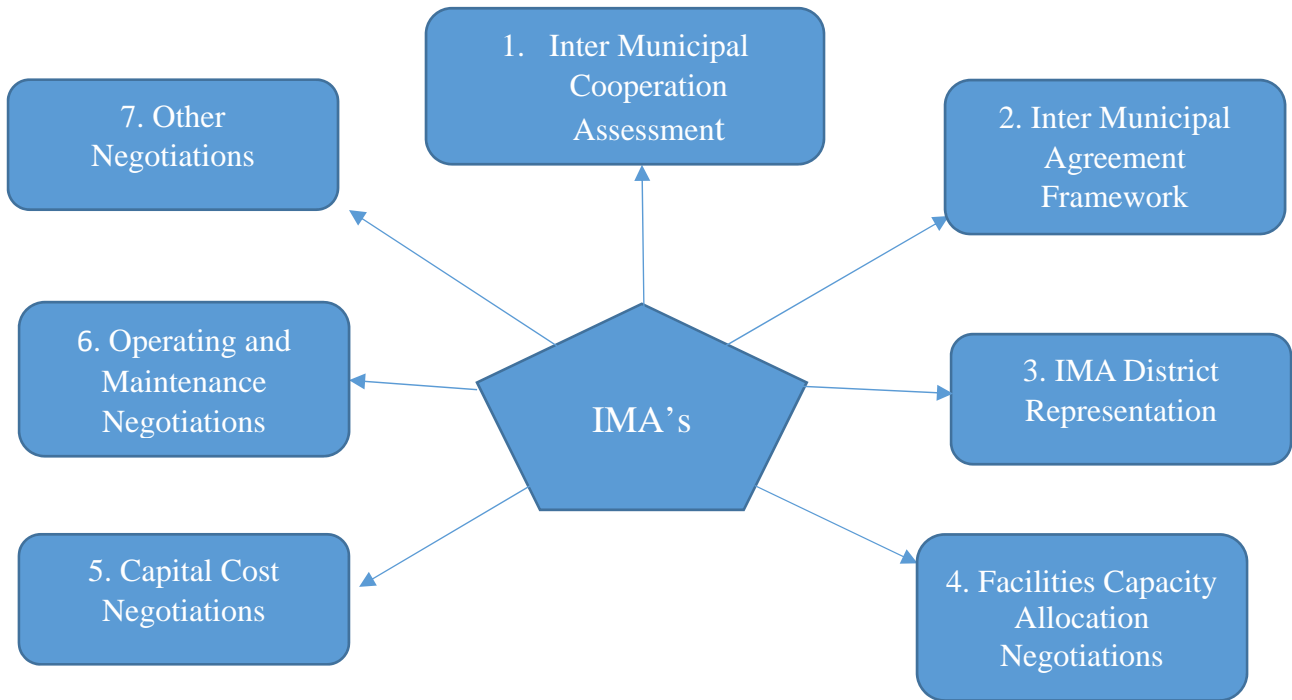
Introduction	
Purpose	<p>This guide will help you understand:</p> <ul style="list-style-type: none">• Inter-Municipal Co-Operations on Water Infrastructure project• The Basics of Inter-municipal Agreements (IMA's) for Water Infrastructure• Typical process for coming to agreements• Overcoming obstacles in IMA's negotiations
Target Audience	<p>This guidance is intended for community leaders that are considering a cooperative approach to solving water and/or sewer problems with one or more neighboring community. This guidance is also intended for planners, engineers, legal and financial advisors to use as a steppingstone to open communications that gives inter-municipal cooperation a chance at a successful outcome. It can also be used as a reference tool when existing IMA's must be amended or are up for renewal. To a certain extent, some of the issues presented in this guidance document can also be useful in structuring "intra" municipal agreements for drinking water and sewer service facilities.</p>

Inter-Municipal Agreements
<p>IMA's have been in place between Massachusetts communities for many years and in many communities for both drinking water and sewer facilities and their use. There are generally three (3) types of IMA's; namely formal written contracts, joint service(s) agreements; and service exchange announcements. This document focuses on formal written contracts, since the latter two types of IMA's are rarely used by water and sewer utilities.</p> <p>The Commonwealth demonstrated its support for and encouragement toward intercommunity agreements with the passage of Chapter 188 of the Acts of 2008. That Special Act, among other things, made it easier for municipalities to enter into IMA's by shifting the authority for town approval to the Board of Selectmen. This relaxing of requirements for local approvals still maintains all other requirements for IMA's, including financial safeguards and reporting. The provision does not apply to cities, where Mayoral and City Council approvals are required.</p> <p>There are both challenges and benefits relating to IMA's. Since the primary cost savings resulting from inter-municipal cooperation can be substantial that can often be the impetus for municipal governments to get together for their mutual benefit. Regulatory agency official encouragement and increased grants or other funding can also motivate local governments to work together toward common goals.</p>

Challenges to IMA's	Benefits of IMA's
<ul style="list-style-type: none"> • Timing/Scheduling of municipal planning activities do not coincide • Lack of Regional Scope in Municipal Infrastructure Planning • Community unwillingness to share essential water supplies and sewer treatment facilities with other towns • Limited system(s) capabilities; Limited expansion options; Unwillingness to expand systems • Inability to provide, and pay for, added uncommitted system capacity for growth • Isolated/distant facilities that aren't cost effective to connect and consolidate • Inter-basin Transfer issues • Inadequate/undersized transmission facilities for regional capacity needs • Water Management Act permitting issues • NPDES Permitting Issues • Groundwater Discharge Permitting Issues • Bordering Community disputes / disagreements • Poor experiences with past attempts at inter-municipal cooperation • Inter-town competition for economic development dependent upon water/sewer 	<ul style="list-style-type: none"> • Economies of Scale in capital and annual operation and maintenance costs • Cost sharing resulting in lower costs for cooperating communities • Consolidated siting of facilities that are often a challenge and difficult to site • Cooperation with and Elimination of Redundancy in: <ul style="list-style-type: none"> - Operation and Maintenance - System monitoring and reporting - Permit Compliance - Administration - Budgeting and billing • Lower per unit treatment costs • Larger service area in which to find the best sites for regional facilities, often times resulting in lower costs • Centralized/consolidated operations

Implementing IMA's: The Core Framework
<p>The following framework should be followed to implement IMA's. This framework includes:</p> <ol style="list-style-type: none"> 1. Inter Municipal Cooperation Assessment, 2. IMA Framework, 3. IMA District Representation, 4. Agreement Negotiations – Facilities Capacity Considerations, 5. Agreement Negotiations – Capital Cost Considerations, 6. Agreement Negotiations – Operating and Maintenance; and 7. Negotiating Other Items. <p>Several IMA best practices are listed for each framework element.</p>

Flow Chart: The Seven Core Elements of IMA's



1. Inter-municipal Cooperation Assessments

The first step in establishing IMA's is to determine if any inter-municipal cooperation opportunities exist. This is typically undertaken during the planning level or through a feasibility studies for water resources. All Water Resources Management Planning documents typically include regional option evaluations, with a level-of-detail commensurate with the plan scope and viability of more obvious regional options. Oftentimes the evaluation of regional solutions is conducted by one municipality and any serious consideration for a regional solution can be short-circuited by that community or neighboring communities that have no interest in cooperating or collaborating with their neighbors. Integrated Water Resource Management Plans, Water Resource Management Plans and Comprehensive Wastewater Management Plans all typically include cooperative regional considerations as part of the alternatives analyses. In some cases, the lesser detailed investigations including Project Engineering Reports or Preliminary Engineering Reports will focus on limited study areas that could, with some creativity, involve shared municipal solutions.

In reviewing regional considerations, the following factors should be evaluated:

- Targeted watershed management planning recommendations
- Assessment of available uncommitted drinking water and/or sewer system capacity in neighboring towns
- Future drinking water and/or sewer system capacity needs regardless of neighboring community needs
- Possible facility siting issues in all involved communities
- Duplication of facilities and/or excess system capacity that is not needed, allowing for consolidation of facilities and services
- Age, condition, capacity and effectiveness of current systems to meet water and sewer quantity and quality demands of the community
- Regulatory constraints on future use of facilities
- Feasibility of "fix it first" options to maximize use of existing facilities/systems

You should:

- Determine if more than one inter-municipal option is available to the community
- Evaluate all viable options for cost/benefit of the proposal as well as environmental benefits over the short and long-term
- Potential cost savings/environmental benefits can be used to promote cooperative efforts
- Consider concurrence with regional plans or area-wide management plans in such evaluations, as projects that are not consistent with such regional plans may make the project more challenging to get permitted or financed by state regulatory or funding agencies

Best Practices include:

- Assisting a neighboring community to address facility needs and/or rehabilitation that can create available capacity by completing needed system improvements or eliminating system deficiencies
- Working cooperatively in joint planning level investigations
- Considering offsets or trading of services to meet the needs of nearby communities
- Using regional planning agency staff to serve as facilitators toward intermunicipal cooperation
- Giving regional cooperation serious consideration beyond perfunctory and rudimentary inter-town communications to check out neighboring towns' needs/concerns
- Including inter-town communications and/or meetings in planning project work scope to give as much credence as possible to regional solutions and mutual aid
- Including citizen representatives and/or non-elected officials as participants

2. IMA's - Framework

The second step in establishing IMA's is developing the IMA Framework. IMA's can take several forms. There are three (3) basic forms of IMA's: formal contracts; joint service agreements; and service(s) exchange arrangements. This document will focus on formal contracts primarily related to water infrastructure facilities and services as the best practice. In addition to IMA's, the establishment of regional districts for water and/or sewer service and the agreements that are developed to describe the legal framework and responsibilities of district member communities (similar to IMA's) will also be discussed.

IMA's in Massachusetts are generally governed by Chapter 40, Section 4A of the MA General Laws (MGLs). Chapter 188 of the Acts of 2008 expedited the IMA negotiation and execution process for towns. However, the law does not simplify the process for cities to agree to and execute IMA's. In most cases, IMA's involve major community expenditures warranting borrowing for capital projects, which requires a two-thirds vote of town meeting or town/city council. As such, the need for town meeting or town/city council approvals cannot usually be obviated.

Essential elements of an IMA include:

1. Two or more recognized governmental units, such as a city, town, water or sewer district, water and sewer commission (under Chapter 40N; Section 25 of the MGLs) or a state agency
2. A description of services to be provided or to be performed jointly or on behalf of one or more of the governmental units by a legally authorized governmental unit.
3. Provision for a term of not more than 25 years
4. Authority for the governmental units to raise funds and borrow monies to meet the obligations under the IMA.
5. Provision for financial reporting and safeguards, including budgeting, record keeping and audits
6. Provision of guarantees for the governmental unit's future revenue stream from other participating municipalities, regardless of annual appropriations

Regional water and/or sewer districts are typically established through special legislation whereby a completely separate entity is established to own, operate, and maintain common facilities for sewer transmission, treatment and disposal; or drinking water supply, treatment and distribution. Recent examples of such newly formed districts include the Mattapoisett River Valley Water District that provides drinking water to the member towns of Fairhaven, Marion, Mattapoisett and Rochester, formed in 2004. On the sewer side, the MFN Regional Wastewater District involving the towns of Mansfield, Foxboro and Norton was formed to provide sewer treatment, effluent recharge and disposal in 2014. Those two districts have similar agreements between member towns that reference Chapter 40; Section 25 of the MGLs. In the case of the MFN Regional Wastewater District, the resultant district agreement between the three towns had its genesis in IMA's between Mansfield and Foxboro, and Mansfield and Norton.

Massachusetts Law provides three (3) mechanisms to establish such districts:

1. General State Law
2. Special (Session) Acts of the state legislature
3. Municipal Home Rule Authority

Under the Massachusetts Clean Water Act, the Massachusetts Department of Environmental Protection (MassDEP) is authorized to propose the establishment of water pollution abatement districts consisting of one or more cities or towns. Similar to an IMA arrangement, this regional entity is independent, administered by a district commission, and can, with MassDEP's assistance, be formed without a

special act of the legislature. This option is rarely, if ever, used. It should also be noted that MassDEP rarely, if ever, gets involved with communities seeking to sign an IMA, since most of the issues being negotiated are for the communities to decide. In the unusual event that an IMA negotiation process becomes protracted or gets close to being abandoned, MassDEP could work to get the parties back to the negotiations if it is obvious that regional cooperation is the best option for both communities.

State law also authorizes municipalities to enter into IMA's to jointly perform a service that a municipality is authorized to do individually or to allow one municipality to perform as a service for another.

The preferred and more common route to establish a regional district is through a Special Act of the state legislature. Typically, the municipal legislative body (town meeting or city council) must approve a home rule petition before it can be acted on by the legislature. The regional district approval process typically requires active roles by all involved towns and their executive branch, legal counsel, and state legislators, not to mention coordination with MassDEP and other state agencies. Involved municipality approvals should typically be solicited concurrently to provide clear direction to the state legislative bodies with regard to consistent definition of district boundaries, jurisdictions, and authority.

Best practices for establishing the legal mechanism for an IMA or regional district, include:

- Determining whether an IMA or regional district approach is preferred, with the user communities working in concert with the owner community on the preferred arrangement
- Coordinating with applicable state agencies and local representatives and state senators to co-sponsor the Special Act(s), in the event that a regional district approach is preferred
- Developing consensus as to the Section of the MGLs that the IMA or district agreement will be established under

3. IMA/District Representation

The third step in developing IMA's is to form the district. Once it is determined that intermunicipal cooperation is beneficial to the involved municipalities and the form of the agreement is decided, the negotiation phase can begin in earnest. The level of representation by member municipalities on a regional district commission needs to be established. In some cases, the level of representation can become a negotiable issue. The level of "control" based on commission membership can become an issue within a district, oftentimes loosely based on the relative flow contribution or use assigned to the community. In districts where each community seeks to have equal say, an equal number of representatives from each community can often be established.

The number of representatives from each community can vary depending upon involved community preferences, but generally does not exceed three. In some districts, representation is by residents/elected officials of the community, while in others, professional staff (i.e. DPW Director, Town Manager, Town Engineer, etc.) can serve as district officials, with those commissioners appointed by city and/or town elected officials. In some districts, like the South Essex Sewerage District, board membership includes a chairperson who is appointed by the Governor of the Commonwealth.

Clearly the first step towards a mutually acceptable district commission is agreement on its authority/representation. The key is to have district officials who recognize their role in serving the district as a whole, while also looking out for the interests of the community that each district official represents. This first step sets the tone for future district-wide decision making on many issues.

In those instances when "user" communities execute an IMA with the "owner" community (i.e. the community that owns the water supply/treatment facility or sewer treatment and disposal facility), there is typically no representation, when it comes to determining "regional system" issues. In those cases, the IMA must establish a solid, clearly understood framework for the future of all involved communities.

Typically, the "owner" community is also the "host" community where the water supply or sewer treatment facilities are located. These communities typically have extended themselves financially as the central point of a facility sized to serve more than that community's needs. That initial financial commitment can often be made based on regional planning studies/river basin planning studies or a series of coordinated individual municipal studies. In any event, initial system needs and projected needs over an established planning period (usually 20 years) serve as the basis for the relative ownership of regional facilities. Once again system capacity ownership doesn't translate into "say" or a seat at the decision-making table. The "owner" community that typically acts first to build water supply/treatment or sewer treatment facilities and extends itself to pay for the facility has earned the right to control most aspects of the facility and to be responsible for proper operation and maintenance. The roles and responsibilities of "user" communities who may "partner" with capacity commitments, typically have limited influence based on the IMA terms. Where district representation is based on capacity owned (or population served), protocols and procedures for increasing (or decreasing) membership should be considered.

Best Practices for IMA/District Representation Include:

- Deciding if an "owner-user" relationship is appropriate
- Establishing representation when communities decide to be "partners" in the formation of a district
- Deciding on the district governance with the number and qualifications of board members established
- Naming/electing board members should be included in concurrent enabling home rule petitions/legislation

4. Agreement Negotiations/Facilities Capacity Allocations

The fourth step in establishing IMA's is negotiating facilities' capacity allocations. This is the most important, and oftentimes the lengthiest, step in inter-governmental cooperation. Virtually any disputable issue can introduce delays in the negotiation process, and, on occasion, result in the parties not reaching an agreement. Once again, it is important that municipalities put their agendas, needs (and wants) on the table for discussion early in the regional cooperation/collaboration process.

Typically, communities can easily agree on "formulas" for assigning projects costs for capital and operation and maintenance expenditures. However, even the relative allocation of capacities, and timing of municipal facility construction and services (i.e. water/sewer service areas) need to be understood and actively agreed upon by all parties. The level of initial and future facility needs and the staging of owner/regional district facility construction to meet those needs are typically factored into the equation/formulas.

As some towns move through the water resources planning process, capacity requirements (and the timing of same), can change markedly. Such capacity changes can be completely under the control of the municipality, if that municipality is mostly developed. In some cases unanticipated private developments (or projected/anticipated development that gets delayed, postponed or cancelled) can also dramatically change sewer capacity requirements. As such, municipalities need to develop reasonable capacity needs projections that are adequate and include some room for growth, but do not exaggerate their collective needs, which could result in a larger-than-needed project.

The above issues are not as critical when municipalities collaborate in sharing drinking water supplies/treatment facilities. Relative allocation of water supply capacities among "member" municipalities can be set recognizable limitations in the supplies available based on technical and regulatory limitations.

Best Practices Include:

- Establishing reasonable existing and future capacity/supply needs
- Anticipating changes in those capacity/supply needs and provide for re-allocation or preliminary design changes prior to final commitments
- Providing for capacity/supply volumes that serve as a "contingency" for all involved communities without impacting permit approvals due to exaggerated growth factors, if needed

5. Agreement Negotiations/Capital Cost Considerations

The fifth step in developing IMA's is to negotiate capital cost considerations. Typically the capital cost of facilities paid by each community is based on the built system capacity allocated to each community. This is, perhaps, the easiest of all allocation formulas where each community's allocation divided by total system/design flow or capacity is applied to the total "regional" capital cost share. It may be appropriate to identify "special cost considerations" to account for conditions or impacts on one or more communities that do not apply to all communities. These can include:

1. Prior capital investments for facilities to be used by "new" communities
2. Land or other asset contributions to the "Regional Project", possible including:
 - a. Well supplies and Zone 1 (and Zone 2) protected areas
 - b. Existing Treatment Facilities, portions of which will be used by other communities in the region
 - c. Effluent disposal/recharge facilities including back-up sites purchased to meet future needs of all communities
 - d. Impacts associated with facility siting, including possible adjacent or nearby property value impacts
3. Other difficult-to-quantify facility siting impacts
4. Transmission/distribution facilities that are needed by some, but not all, involved communities

The above items can often be taken into account by applying an actual percentage of system design basis to specific facilities, which in some cases can be significant and in other cases negligible or non-existent. Techniques to account for special cost considerations can include:

- PILOTs (Payments in lieu of taxes)
- HCFs (Host community fees)
- Impact fees/Special assessments
- Base facility cost and future facility cost allocations

In determining proportionate costs to communities in an IMA, the methodology used most often is a percentage of use on capacity assigned to each community. These proportions are usually based on average day use (or demand) for water supplies or treatment facilities. For other facilities costs, maximum day flow (or demand) and even peak flow (or demand) can be used, as appropriate. The above flow/demand/cost allocations typically provide for the most equitable cost sharing of capital expenditures. In some agreements where "upsizing" of a facility or facilities is required, the use of "incremental costs" above the baseline owner/host community cost, could be considered for use. Such an approach typically does not provide a monetary benefit to the owner/host municipality, and therefore, is not a common practice.

Another item that can sometimes be factored into cost allocations is when grants or other revenue sources are involved. In some cases, such funding can be limited to specific portions of capital projects effecting proportionate cost shares. This and other cost allocation formulas are best described and understood through the use of example calculations attached to IMA's or regional district agreements.

Best Practices for Addressing Capital Costs Include:

- Identifying prior community facility and/or capital contributions and financial and non-financial impacts that are not equivalent across all member communities (Prior community investments in facility construction or equipment that will continue to be used and that are not fully depreciated and collection/transmission facilities that are only used by some member communities are just a few such examples)
- Determining the basis (and payment for) capital cost investments by specific municipalities
- Developing consensus for the applicability, use, and basis for present impacts and commitments, and use of previously committed project assets

6. Agreement Negotiations/Annual Cost Considerations - O&M Expenses

The sixth step in establishing IMA's is to negotiate operation and maintenance (O&M) expenditures. In earlier IMA's, little thought was given to fairly allocating annual O&M expenses to participating communities in regional systems or shared municipal water and sewer systems. Capital costs were typically allocated based on percentage ownership and O&M costs were based solely on the volume of drinking water used by each community or the volume of sewer treated. However, there has been a trend over the past few decades wherein annual O&M expenditures have been allocated through other methodologies. Those methods include breaking out annual fixed (or semi-fixed) costs from those cost items that are "flow-variable".

In most IMA's/regional agreements fixed (or semi-fixed) costs are allocated to communities based on capacity owned or allocated. These are typically annual costs that would be expended regardless of actual flow or use. Staff costs, equipment maintenance costs, capital improvements, equipment replacement, etc., typically are considered as fixed costs. Conversely, electricity and other energy costs, chemicals, sludge handling and disposal, etc. typically vary with actual flow or use. As such, these costs are assessed to each community based on the actual water used or sewage treated. It should be noted that depending upon the district/regional facility, the cost factors incurred under each category can vary widely. The allocations established can sometimes be set to "equalize" certain cost factors or provide an allocation formula that offsets other cost factors. Regardless, the community representatives should agree on criteria to be used and how certain costs will be distributed among its participants.

Often communities can sell portions of their system capacity/ownership/allocation to other "outside" communities. While certain restrictions may stipulate that capacity must be offered "internally" before selling system ownership or capacity to new communities, this can be an opportunity to charge higher costs to "outsiders". Such a surcharge can be assessed to capital and/or annual O&M expenses.

Best Practices for Allocating O&M Costs to Involved Municipalities Include:

- Developing a detailed chart of accounts for use in developing annual O&M budgets
- Using the chart of accounts for tracking all expenditures
- Determining if different cost allocation bases will be used for fixed costs and flow-variable costs
- Dividing the chart of accounts into flow-variable and fixed cost items
- Prepare a draft/example O&M budget using the chart of accounts, and together with actual capacity allocations and assumed usage provide an attached example to clearly depict how future O&M costs will be distributed
- Tracking actual fixed and flow-variable expenditures quarterly and calculate cost allocations based on actual flows, if appropriate
- If tracking actual fixed and flow-variable expenditures is not a viable option, use budgeted costs adjusted later based on recorded actual quarterly flows/use
- Agreeing on the billing methodology including use of budgeted vs. actual flow/usage
- Providing for "truing up" annual billings at the end of the fiscal year by using actual flows and actual expenditures and adjusting the cost up or down as appropriate
- Including a "miscellaneous" category or contingency account to allow for unexpected large expenditures that could not have been anticipated during the budgeting process
- Considering using a "reserve" account for a safety factor or to build up capital or operating reserves on an annual basis for unexpected equipment repairs, rentals, replacement and/or increased staff needs to deal with extremes in weather and high or low flow or use volumes
- Providing for separate tracking and accounting of services or products that are used by the municipality for its own utilities and for the regional entity
- Separate identifiers or account numbers should be used if possible, or calculated percentages of use should be applied accordingly

7. Negotiating Other Terms and Conditions

The last step in developing IMA's is to negotiate other terms and conditions. These include the length of the agreement (Term), budgeting procedures, budgeting and accounting processes, and general terms and conditions. Each is highlighted below.

A. Term

Under Massachusetts law, the maximum term for an IMA is 25 years. With most regional districts or IMA's, terminating such an IMA or regional agreement for water and/or sewer systems after 25 years is not a reasonable option. In addition, despite best attempts to clearly state all agreement provisions, an interim review of the IMA is often desired. Such interim reviews every five to ten years are programmed in IMA's. Those reviews and any resultant changes can be conducted by professional staff for each municipality or by the principals responsible for executing the IMA/regional agreement.

Best Management Practices for Agreement Terms Include:

- Provisions to extend the agreement well beyond an initial 25 year term
- Provisions for agreement termination that include owners onerous requirements of the party proposing termination including continuation of certain fixed cost payments by the terminating party
- Provisions for routine review of the Agreement at established intervals (i.e. every 5 or 10 years)
- Procedures to modify the IMA at any time, upon mutual agreement

B. Budgeting Procedures

Municipal budgeting for cities and towns with their own water and/or sewer enterprise funds can be challenging and time consuming. Meeting with boards of selectmen, finance committees/advisory committees, and capital improvement committees, etc. can take weeks or months to arrive at budgets that are acceptable to all reviewing parties. The introduction of another layer of budget preparation and review can leave even less time to deal effectively with "local" budgets, especially when a district or neighboring towns must be depended upon to provide their budget figures in a timely manner. Regional districts and owner communities involved in an IMA must be held to strict timeframes for draft budget preparation, budget review, and budget approval to allow municipalities enough time to generate their annual budgets.

Best Practices for Budgeting Schedules include:

- Determining the budgeting submission and approval processes and timing for all involved communities
- Setting a schedule for regional district or IMA community's budgets that allows for draft budgets and final budgets to be coordinated with all communities, factoring in the timing for all community approvals

C. Budgeting and Accounting Processes

Inevitably, the "owner" town in an IMA will be using some of the same staff, equipment and supplies for its own drinking water facilities (or sewer collection system) that are employed in operating and maintaining the regional or shared system. Presuming that a detailed chart of accounts is used for tracking all regional costs, sufficient records of the regional vs local costs must be maintained. These could be as basic as an assumed percentage of the time allotted for each employee or as detailed as daily time sheets/reports for each individual.

Where only treatment services are being provided to the regional system, there could typically be a complete separation of duties. However, when other services, such as landscaping, snow plowing,

general building maintenance, etc. are provided by owner town employees who also work on the regional system, the cost for their time, equipment and materials used must be accounted for separately.

Similarly, when the same engineering consultants and/or legal counsel are used for both local and regional entities, the contracts for the work (if any) and hours expended by them need to be tracked and accounted for separately. This can be more complicated when those same consultants and legal advisors serve in the same role for both entities. Details must be provided when those individual town agents attend regional district meetings on behalf of the municipality and regional entity.

A system of checks and balances wherein an independent review (or possibly even an end-of-year audit) may be justified if the shared duties and expenditures are significant.

The Best Management Practices for Budgeting and Accounting Processes Would Include:

- Providing for adequate tracking of staff who are assigned duties both for the regional entity and owner municipality
- When rotating personnel shifts are used in operating pumping stations, metering stations, etc. some of which are regional and some that are local, time and cost allocation or tracking procedures that are acceptable to all parties need to be developed
- Indirect costs assigned to the regional district or shared IMA facilities operations should be a subset of that assigned to the water and/or sewer system
- Formulas or procedures for determining shares of indirect costs assigned to an enterprise fund must be developed and described, possibly using an example calculation in the IMA
- Purchasing of supplies and equipment that are used by both the regional and owner municipality should reflect separate, clearly defined identifiers, possibly even separate invoicing
- End-of-year statements should be made available to “user” municipalities to demonstrate allocation of shared staff, equipment, materials, and services
- Procedures for annual reviews or audits should be included in the IMA or regional district agreement(s)

D. General Terms and Conditions

All IMA’s or regional district agreements should include standard terms and conditions. Some agreements provide much greater detail of responsibilities of the parties when there are outside reviewing agencies involved based on their interventions or legal requirements and activities, that could be part of an Administrative Consent Order (ACO); or possibly an ACO-P (which includes a penalty provision). In those cases, responsibilities of additional third parties or regional entities should be clearly spelled out.

In some cases “user communities” or communities that are part of a regional district could be named as “Co-Permittees” under a NPDES Permit or other similar permit. In that case, the required actions of each entity and remedies for inaction must be spelled out in the IMA/regional district agreement.

Refer to Attachment 1 for a checklist of the terms and conditions for an IMA.

The following is a check list of terms and conditions for an IMA as presented by the Massachusetts Department of Revenue at a previous municipal law seminar: These terms and conditions are more typically used for all IMA's in Massachusetts. As such, the following checklist is, in itself, a Best Management Practice.

Terms and Conditions of An Inter-Municipal Agreement Between Towns

I. General Terms:

- A. State the names of each participating city and town
- B. Identify the effective date and term of agreement
- C. State the general purpose of the agreement
- D. State that costs will be shared
- E. State how municipalities may terminate participation (required)
- F. State how the agreement may be amended
- G. Acknowledge acceptance of liability under agreement
- H. Include a severability clause; identify applicable laws
- I. Provide addresses for official notices

II. Operations Terms and Conditions

- A. Describe services to be provided
- B. Identify personnel or department to perform services
- C. Establish reporting relationship and successorship in shared department
- D. Specify where shared services, personnel or department will be located
- E. Establish lines of communication among participating municipalities
- F. Describe dispute resolution process

III. Finance Terms and Conditions

- A. Identify salaries, wages and benefits to be shared
- B. Identify operating expenses to be shared
- C. Address sharing of capital cost incurred prior to and after agreement date
- D. Describe how each participant approves the shared budget

- E. Describe how shared costs will be allocated
- F. Describe payment methodology
- G. Specify insurance and indemnification requirements

IV. Provisions for Financial Safeguards Required by c.40,s.4A

- A. The OWNER town must maintain accurate and comprehensive records of services performed, costs incurred, and reimbursements and contributions received
- B. The OWNER town must arrange for the performance of annual audits of such records, which audits can be part of the OWNER town's annual, independent audit of its financial statements
- C. The OWNER town must ensure that all officers or staff responsible for carrying out terms and conditions of this AGREEMENT shall give appropriate performance bonds
- D. The OWNER town must provide the PARTIES with monthly expenditure reports and quarterly revenue reports and any other information reasonably requested by NON-OWNER town to present a complete picture of the financial condition of the shared department, function or position
- E. The PARTIES otherwise must comply with all other provisions of M.G.L.c.40,s.4A

V. Signatures

- A. Provide lines for signatures, titles, and date of a city mayor and each city councilor, town board of selectmen, elected water and/or sewer commission, and/or district prudential committee.



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