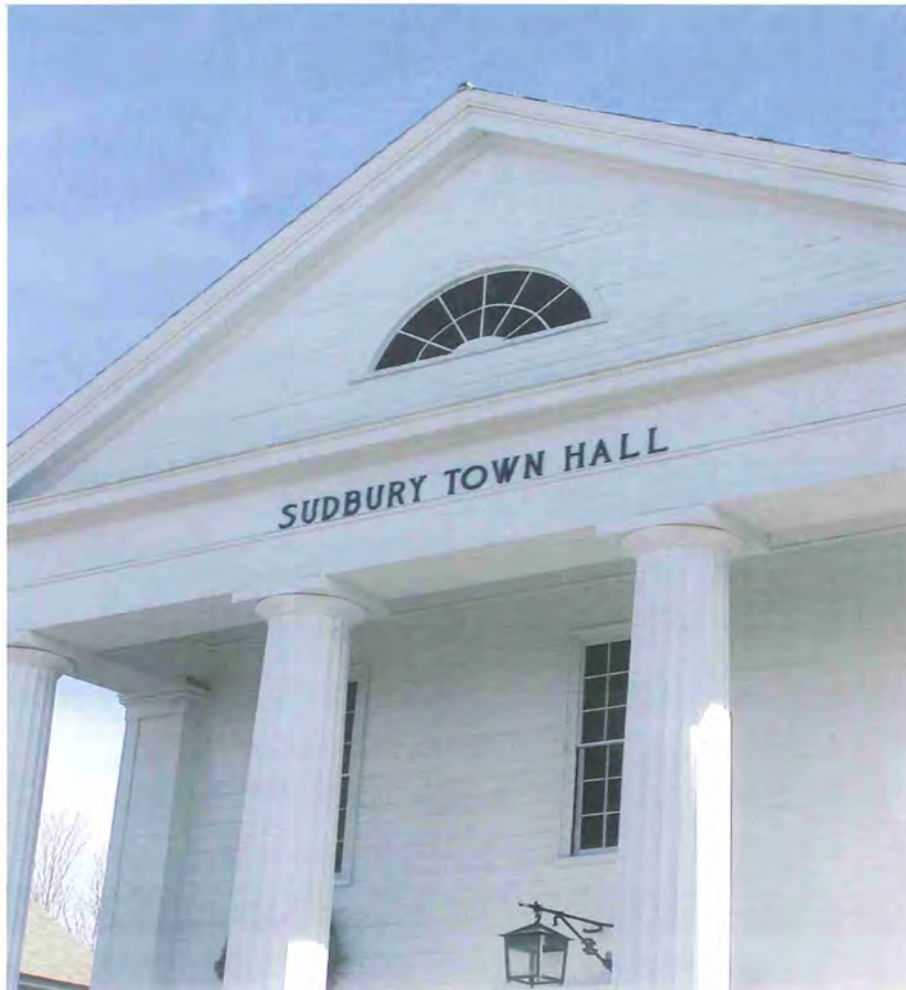


**TOWN OF SUDBURY, MASSACHUSETTS
ROUTE 20 BUSINESS DISTRICT
WASTEWATER MANAGEMENT PLAN UPDATE
AUGUST 2010**



INTRODUCTION / GOALS

Both the long-term growth and health of many New England communities is constrained by the need to manage both water supplies and wastewater disposal resulting in a constant struggle to identify sustainable solutions that maintain economic viability. This is certainly true in the Town of Sudbury, which relies almost entirely on individual, on-site, subsurface systems for the disposal and treatment of wastewater, and relies on underground aquifers for its drinking water. While the compatibility between these systems does not appear to be a widespread problem in the residential areas of town, commercial property owners are experiencing difficulty in treating and disposing of wastewater in an economically feasible manner due to physical and regulatory constraints (e.g. soil conditions, depth to groundwater, aquifer protection, Title V regulations, etc.).

Protection of the town's water supply is of heightened concern since the central portion of the Route 20 business district is within Zone II of the town's main drinking water wells at the Raymond Road Aquifer. Approximately 383 acres in Sudbury is currently zoned commercial or in commercial use.

With the exception of a few acres in other parts of town, the commercial districts are located in and around the Route 20 corridor, hereinafter referred to as the Route 20 business district. There is pressure in Sudbury to achieve economic sustainability by balancing residential growth with an economically viable commercial sector. However the compatibility between development growth and groundwater protection have proven challenging for the Town.



Recognizing the need to properly manage and responsibly treat wastewater generated in the Route 20 corridor, Sudbury developed a Technical Advisory Committee (TAC) to undertake wastewater planning efforts and identify areas of concern for wastewater collection, treatment, and disposal and develop a viable and sustainable solution.

This document provides an overview of the wastewater planning efforts performed to date by the TAC, Town of Sudbury staff, and various sub-consultants and summarizes the current status of the process, and the next critical steps. Specifically, the following topics are discussed:

- Chapter 1 Wastewater Management Needs
- Chapter 2 Wastewater Recharge Evaluation/Site Screening
- Chapter 3 Conceptual Layout/System Components
- Chapter 4 Plan of Action/Schedule/Estimated Costs

CHAPTER 1:

WASTEWATER MANAGEMENT NEEDS

1. WASTEWATER MANAGEMENT NEEDS

The assessment of municipal wastewater needs is a dynamic, evolving process. Changes over time can be influenced by numerous factors, including:

- Changes in economic goals or plans (e.g., planned developments, modified commercial or industrial practices).
- Septic system or treatment system failures.
- General municipal growth and residential development.

The Town has been investigating wastewater options for the Route 20 business district for approximately 20 years. The most recent study, completed in June of 2001 and titled Assessment of Wastewater Management Needs for the Route 20 Business District, substantiated the concern that septic systems are a limiting factor in the economic development of existing businesses along the Route 20 corridor and provided a preliminary evaluation of alternatives for wastewater treatment and disposal. The study area for this assessment was defined as follows:

“Properties fronting on Route 20, zoned commercial, industrial, or multifamily residential from the Wayland line to Lafayette Road, and Union Avenue, from Route 20 to Codjer lane, including the Caviccio property on Codjer Lane.”



For the purposes of the needs assessment, the study area was broken into three distinct areas (West, Central, and East) separated by non-business districts and further defined in Figure 1.

The primary tool created in this study was a parcel-by-parcel matrix-type analysis to identify the adequacy of existing wastewater disposal systems to meet existing and projected needs in the study area (See Appendix A, Table 3-1, Wastewater Needs Matrix). This matrix was used to characterize the severity of the problem and rank the needs of each parcel as critical, priority, or non-priority (Appendix A, Figure 3-2, Parcel Ranking). Based on this analysis, it was determined that the majority of the critical and priority properties were located in the Central Area.

In order to assess the magnitude of the Route 20 business district's wastewater disposal needs, future daily wastewater flows were estimated using build out projections based on the December 2000 Metropolitan Area Planning Council analysis. A detailed breakdown of these flows can be found in Appendix A, Table 4-11, Summary of Build-Out Wastewater Design Flows. These projected flows are summarized as follows:

Build-Out Wastewater Design Flows (based on 2001 Analysis)

Eastern Area	103,275 gpd
Central Area	106,808 gpd
Western Area	73,449 gpd
Total	283,532 gpd

Based on the data compiled in 2001, it was determined that the TAC would pursue a decentralized wastewater treatment facility designed to treat the most critical needs portion of the study area, which focused on the Central area. Since completion of the 2001 study, the TAC has been focused on locating a site with permeable subsurface conditions that can accept and treat no less than 100,000 gpd of wastewater while maintaining watershed health and minimizing ecological impacts.

Updates to 2001 Analysis

Considering that approximately nine (9) years have passed since completion of the 2001 Assessment of Wastewater Management Needs for the Route 20 Business District, it is prudent at this time to provide some updated information with regard to the study area and the estimated/anticipated wastewater flows generated in the area:

- The TAC has identified additional commercial parcels in the Route 20 Business District that are zoned residential but should be included in the study area.
- The TAC excluded residential properties in the initial analysis due to the “no-growth” sentiment of the Town. However, the DEP has requested an analysis of all residential properties within the study area since denying access to any property fronted by the proposed municipal collection system would require special legislation.
- Through discussions with the Health Agent, information regarding Title 5 failures, changes in treatment systems, changes in commercial property uses, and changes in approved wastewater discharges in the study area have been updated (see Appendix B).
- The need for a more comprehensive solution to individual Title V septic systems has increased since 2001.

All of the above information was incorporated into an updated assessment of the potential wastewater flows as follows:

Updated Build-Out Wastewater Design Flows

Eastern Area	103,275 gpd
Central Area	112,598 gpd
Western Area	102,767 gpd
Total	318,640 gpd

Based on this information, the estimated flows in the Eastern Area remain the same, the Central Area shows a slight increase, and the Western Area exhibits the largest increase since the 2001 analysis, due primarily to the inclusion of residential properties in this area. These flows, in combination with the groundwater discharge capacity of the selected site (see Chapter 2), will form the basis for the conceptual design of the collection, treatment, and disposal systems.

CHAPTER 2:

WASTEWATER RECHARGE EVALUATION/SITE SCREENING

2. WASTEWATER RECHARGE EVALUATION/SITE SCREENING

The need to identify feasible sites for the discharge of treated effluent was established early in the planning process. Finding a suitable site and determining the permissible flow under the Department of Environmental Protection's (DEP) groundwater discharge requirement will drive project design and costs. Sites that meet DEP permitting criteria generally are underlain by permeable soils, have a sufficient depth to groundwater, and have a significant saturated thickness, allowing for the assimilation of discharge into a given watershed. Additionally, these sites must have little to no impact on environmentally sensitive resources.

As previously discussed, the TAC has been focused on identifying a site that can accept and treat **no less than** 100,000 gpd of treated wastewater effluent. Recharging these daily volumes requires a site of sufficient size to accommodate the Soil Absorption System (SAS) as well as the associated infrastructure (e.g., tanks, pumping equipment, controls). The site may, but does not have to, include the wastewater treatment process equipment/facility.

The site screening process for this project began by looking at all town-owned parcels in close proximity to Route 20. This search was hampered by the close proximity of the Town's drinking water supply wells (i.e. Zone II) and high groundwater conditions, which are the same conditions plaguing the existing Title 5 systems in the Route 20 Business District. The search was then expanded to all town-owned parcels within one mile of Route 20 and private parcels in close proximity to Route 20. When this once again proved unsuccessful, the search was expanded to all large parcels within three miles of Route 20. The TAC tested nine sites that had been identified as potential parcels in this analysis. A table of screened (or potential) parcels is included in Appendix B, as well as a brief description as to why they were eliminated from consideration.

In the search for acceptable sites, a hydrogeologic evaluation was performed at the current DPW facility, the option of a potential shared disposal system with Raytheon Corporation was investigated, and several additional parcels located within Town were screened. Following this preliminary work, several viable sites were recently identified for further evaluation:

- Haskell Field on Fairbank Road
- Parcels 293/301 along Old Lancaster Road
- Curtis Middle School

These sites, as well as all other screened parcels, are depicted on Figure 2.

Initially, each of the three selected sites was evaluated to identify any potentially sensitive environmental receptors including critical habitat, wetlands, private and public

well systems, and state designated Areas of Critical Environmental Concern (ACECs). These evaluations indicated that each site had no serious restrictions with respect to state permitting requirements, although the property along Old Lancaster Road was in close proximity to Hop Brook.

Following the initial environmental evaluations, subsurface borings were conducted at each location. The borings were intended to:

- Determine depth to groundwater.
- Define stratigraphy or layering of subsurface deposits.
- Identify depth to bedrock.
- Evaluate saturated thickness and permeability of subsurface deposits.



If subsurface conditions were suitable, the information collected could be used to evaluate groundwater mounding below these fields, calculate preliminary flow rates and complete a conceptual design of the proposed subsurface absorption system.

The results of the subsurface investigation were presented to the TAC in a summary report. Fine grained silts and silty sand deposits were found to limit the amount of treated wastewater that can be discharged at the Haskell field site and the property on Old Lancaster Road. In contrast, soil deposits below the playing fields of Curtis Middle School were found to be suitable for the development of a large scale Subsurface Absorption System (SAS). The Curtis Middle School property is shown on Figure 3 along with the location of completed borings at this site.

CHAPTER 3:

CONCEPTUAL LAYOUT/SYSTEM COMPONENTS

3. CONCEPTUAL LAYOUT/SYSTEM COMPONENTS

Conceptually, municipal wastewater systems can be divided into several key components including:

- Collection System
- Treatment Facility
- Subsurface Disposal

In order to develop a better understanding of both the costs and permitting requirements associated with the design and construction of a decentralized wastewater treatment system capable of meeting the future needs of the study area, a conceptual layout of the proposed wastewater system was developed. This layout was based on the assumptions that 1) a proposed disposal site at the Curtis Middle School could handle all of the proposed wastewater from the Central and West Areas (including additional parcels on Route 20 between these areas); and 2) that the treatment facility would be sited at the town owned "Bushey" parcel in the West Area on Boston Post Road. The East Area identified in the 2002 Needs Assessment was determined to be the least critical, and its distance to the treatment disposal facilities resulted in its elimination for treatment in this proposal. Therefore the potential system would only be initially designed for the West and Central Areas, to the extent that further hydrogeological investigations demonstrate this capacity.

This chapter is intended to provide an overview of the entire system and a discussion on each of the major system components. A conceptual schematic layout of the major components of the proposed wastewater system is shown in Figure 4.

Collection System

Based on the above criteria, a conceptual collection system layout was developed for the central and western needs areas. Although significant design work is still needed, current potential conceptual design includes a combination of gravity and pressure sewers with a wastewater pump station and force main to convey wastewater to the proposed treatment plant site. It also includes a discharge pump station and force main to transmit treated effluent from the treatment facility to the disposal site.

Gravity Sewers, Pump Station and Force Main

Gravity sewers are depicted to serve all properties located in the Central Area, including Route 20, Union Avenue and Station Road. The gravity-collected wastewater flows would collect at a pump station located on Route 20 in the vicinity of Nobscot Road and would then be transmitted to the proposed wastewater treatment facility by force main.

Pressure Sewers

Preliminary elevation profiles of the West Area indicate that gravity sewers may not be a cost effective means of transporting wastewater due to large differences in elevation between the West Area and the proposed wastewater treatment facility. As a result, pressure sewers and individual grinder pumps are envisioned at this time to serve all properties located in the West Area.

Wastewater Treatment Facility

Primary issues related to the wastewater treatment facility include siting and process selection. Siting a facility is often driven by the economics of land cost. Thus, municipal facilities are often sited on property owned or controlled by the municipality. The selected treatment process must meet multiple criteria, but in general should be cost effective over the life of the facility, minimize operational problems, and provide a sufficient level of treatment that meets both state and local requirements. The potential plant site and the conceptual process design are discussed below.

WWTP Site:

Wastewater generated in the West and Central Areas would be transmitted to the wastewater treatment facility via the previously mentioned collection system. The proposed location for siting of the Wastewater Treatment Facility is on town property located at 641 Boston Post Road (Parcel K06-505). This property is located adjacent to Longfellow Glen's eastern property line. There are no structures currently built on this parcel. A portion of this property was taken out of conservation restriction (70,000 square feet) and is available for municipal use. This property is most favorable for siting of the wastewater treatment facility for the following reasons:

- It is a town-owned property so permission does not need to be obtained from a private entity.
- It is situated away from developed residential areas.
- It is located within the West Area and is in close proximity to the Central Area so that raw wastewater does not have to be conveyed significant distances prior to treatment.
- At 1.6 acres, the available

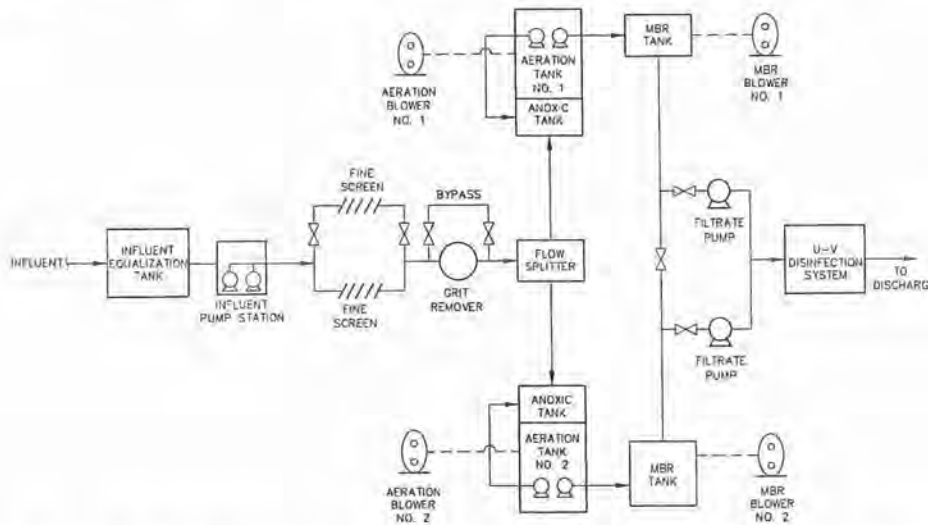


land area to site the facility is sufficient.

The attached Figure 5 depicts a conceptual layout and footprint of the WWTP.

WWTP Process:

The membrane bioreactor (MBR) process is being considered for wastewater treatment. The MBR process is based on the Modified Ludzack-Ettinger (MLE) activated sludge process, which includes an anoxic zone for denitrification, followed by an aerobic zone for BOD removal and nitrification prior to membrane filtration. Effluent from this chamber is removed through a polymer membrane filter system that acts as the clarification process. This filtration process will be capable of eliminating a high percentage of organic matter, bacteria and viruses from the effluent. Following disinfection by chemical or ultra-violet (UV) means, this treated effluent can be discharged without further treatment to an effluent disposal system. To meet the proposed effluent discharge limit of ≤ 5 mg/l total nitrogen, a denitrification sand filter will be included with the MBR treatment process.



MBR plants do not rely on the settling of sludge for proper operation, but rather on positive filtration, which thereby allows a WWTF to operate at higher than normal mixed liquor (sludge) concentrations. Since the MBR plant can operate at high sludge concentrations, the volume of process tankage is greatly reduced, which can result in a smaller footprint for the WWTF than other activated sludge processes. Operating at high mixed liquor concentrations allows the plant to operate efficiently during flow and load variations. This technology also has the ability to meet the stringent permit requirements for groundwater discharge and the potential for reuse.

The advantages to the MBR process include:

- High level of treatment is achieved.
- Smaller site requirements.
- Use of low-tech technologies for operational control.

Based on the design of past MBR wastewater treatment facilities and their associated flows, it is estimated that an area of approximately 25,000 square feet (0.57 acres) will be required to accommodate a wastewater treatment facility of adequate size to treat the identified flows associated with the West and Central Areas. This does not include the required area associated with the subsurface disposal system.

Treated Effluent Transmission and Disposal

Once the collected wastewater is treated, it will be transmitted through a force main to the Curtis Middle School athletic fields for discharge into the ground. The proposed discharge force main (see Figure 4) begins at the wastewater treatment facility and follows Horse Pond Road for approximately 1.7 miles until the Middle School is reached. Horse Pond Road is the most favorable route for discharge for the following reasons:

- It is the most direct route to the discharge site.
- Since it is the most direct route, it is also the most cost effective route.
- The route is completely within the Town Right of Way and thereby does not require easements on private property.

Figure 6 provides a footprint of the area at the Curtis Middle School that would potentially be utilized for installation of the SAS system. It is important to note that it is not anticipated that the entire area would be disturbed as a portion of the area would be set aside as a reserve area as required by DEP. In the event of failure of the original leaching area, an adequate reserve area capable of replacing the capacity of the original leaching area is required. The existing leaching field for the school would remain in its current location and function independently from the proposed system.



There are no odor, health, or visual impacts associated with the proposed SAS system. The effluent from the MBR process will actually be of a much higher quality compared with the effluent associated with the existing septic system at the Curtis Middle School. The table below provides a comparison of the effluent quality associated with septic systems as compared with the effluent associated with a MBR wastewater treatment facility.

Parameter	Septic System Effluent	MBR Plant Effluent
BOD ₅	100-250 mg/L	< 2 mg/l
Ammonia	25-40 mg/L	< 0.3 mg/l
Total Nitrogen	30-50 mg/L	< 3.0 mg/l
Phosphorous	7-20 mg/L	< 0.3 mg/l
TSS	20-140 mg/L	< 3.0 mg/l
Fecal Coliform	0.1 x 10 ⁶ – 100 x 10 ⁶ CFU/100 mL	<10 CFU/100 mL

The MBR effluent is purified effluent, which does not contain any solids. Due to the high quality of the effluent, it can be reused for non-potable needs such as irrigation and toilet water.

As a result of the U-V disinfection that occurs at the MBR plant, there are no odors associated with the effluent.

The Soil Absorption System is located entirely below grade so there are no apparent visual impacts. If the system were located at the Curtis Middle School as proposed, the playing fields would be restored to their pre-construction condition. The long-term use of the site for recreational purposes will not be impacted.

The groundwater discharge of effluent will comply with the requirements of DEP's Groundwater Discharge Permit Program.

CHAPTER 4:

PLAN OF ACTION/ SCHEDULE/ESTIMATED COSTS

4. PLAN OF ACTION/SCHEDULE/ESTIMATED COSTS

The primary focus for moving this project forward remains finding a site that can accept and treat a sufficient volume of treated wastewater effluent. The conceptual layout outlined in Chapter 3 assumes that the Curtis Middle School is a viable site, but this still needs to be confirmed through additional hydrogeologic investigations. Understanding that the project is currently in the conceptual stage and any projections of schedule and timeframe are subject to wide variations, the remaining tasks to be considered in bringing the project to completion, with anticipated schedules and timeframes, are as follows:

- Initial Submittal of Project Evaluation Form (PEF) – August 2010
- Hydrogeologic Investigations - Fall 2010
- Project Engineering Report (PER) – November 2010 thru February 2011
- Town Meeting Authorization of Design Funding – April 2011
- MEPA Process – April thru July 2011
- Final Design and Permitting (including SRF Application) – July 2011 thru December 2012
- Re-Submittal of Project Evaluation Form (PEF) – August 2011
- Groundwater Discharge Permit – September 2011 thru September 2012
- Town Meeting Authorization of Construction Funding – April 2012
- Public Bid/Award Process – January thru April 2013
- Construction – May 2013 thru December 2014

PEF Submittal

Understanding that the town intends to seek financial assistance for construction of the project through the State Revolving Fund (SRF) loan program of the DEP, a PEF submittal is the first step in that process. The PEF basically provides criteria to justify the environmental need for the project. The 2011 PEF applications are due by August 31, 2010 and it is anticipated that the final CY2011 Intended Use Plan (IUP) will be issued by January 2011. Projects appearing on the IUP must meet the following deadlines to remain eligible for the funding:

- Local Appropriation of Construction Cost – June 30, 2011

- Completed SRF Application (including plans and specifications) – October 15, 2011

- Commencement of Construction – June 30, 2012

Based on the current anticipated time frames, it is unlikely that the project will be able to meet the time frames quoted above for inclusion on the CY2011 IUP. That considered, it is still recommended that a PEF be submitted this year to establish your standing on the list and identify areas that could potentially earn more points on a future submittal. The plan would then be to resubmit the PEF in August 2011 with additional information for consideration on the CY2012 IUP.

At this point it is recommended that a PEF be submitted by the August 31, 2010 deadline, using the existing 2001 Needs Analysis and this update as supporting documentation. Subsequent to that submittal date, additional data can be provided in support of the application and the plan would be to complete the hydrogeologic investigations and at least a portion of the PER in the fall of 2010 for consideration under the PEF process. For more information on the 2011 PEF process, see the following link: <http://www.mass.gov/dep/water/approvals/srfforms.htm>.

Hydrogeologic Investigations

As discussed herein in Chapter 2, the preliminary borings at the Curtis Middle School suggest favorable subsurface conditions for the disposal of treated wastewater effluent. The next step is to perform additional hydrogeological investigations to define the final design capacity that can be permitted under DEP's Ground Water Discharge permit process. Based on a June 23, 2010 meeting with the Sudbury School Committee, verbal authorization was given to proceed with the required testing beneath the existing ball fields at the Curtis Middle School.

The initial step in this process is the development and submittal of a hydrogeologic work plan for DEP approval. This work plan will include test pits, percolation tests, shallow and deep observation wells, and a load scale test. Results of this testing will allow the development of a ground water flow model to predict final design flows and potential mounding impacts. All findings will be documented in a summary report. It is anticipated that this work will be performed in the fall of 2010.

PER Completion

In order to be considered for SRF funding and/or to navigate the MEPA process, some form of a Project Engineering Report (PER) is required. As discussed above, the goal would be to commence this report during the fall of 2010 for some consideration under the PEF process. The basic scope of this report has been discussed with the TAC and the DEP. A portion of the proposed scope has been completed between the 2001 Needs Analysis and this update. The hydrogeologic investigations discussed above also provide

critical information for the final PER. The major remaining tasks under the PER are as follows:

- Updates to the needs analysis matrix
- Evaluation of possible regional solutions (Marlborough Easterly or Framingham)
- Wastewater System Conceptual Design (based on results of hydrogeological investigations) & Estimated Costs
- Cost Allocation/Financing Alternatives
- Identification of Regulatory Issues
- Meetings/Public Participation

Town Meeting Authorizations

In order to move beyond the PER phase of the project, additional town meeting authorizations will be required. With the conceptual design completed through the PER process, the town will be equipped with the information they need to appropriate monies for design and permitting of the project, including the MEPA process and the ground water discharge permit, at the 2011 Annual Town Meeting. Subsequent to that, sufficient progress should be made during 2011 such that anticipated construction costs and authorization to proceed with State Revolving Loan funds will be available for consideration at the 2012 Annual Town Meeting.

MEPA Process

With the PER complete and funding in place for final design and permitting of the project, the next step in getting authorization to construct the project is the Massachusetts Environmental Policy Act (MEPA) process. Based on the MEPA thresholds (see [MEPA Regulations Section 11.03](#)) it appears as though the best approach for this project is to submit an expanded Environmental Notification Form (ENF). Hopefully, an Environmental Impact Report (EIR) will not be required but if it is, it is assumed that it will be a single EIR.

It is anticipated that the MEPA process would commence in May 2011, upon completion of the PER. The expanded ENF process can take anywhere from two to six months to navigate. If an EIR is determined to be required, this could add another six months or more to the process.

Final Design and Permitting (including SRF Application)

Assuming the MEPA process proceeds at a reasonable pace, initial comments from the MEPA unit could be secured as early as July 2011 and the project could proceed to final design and permitting at that time. Assuming the project qualifies for the CY 2012 SRF funding, the anticipation would be to have the final design (plans and specifications) ready for submittal with the SRF application in October 2012. Final permits and SRF approval would be secured by the end of 2012.

Groundwater Discharge Permit

Submittal of a groundwater discharge permit requires completion of a significant portion of the treatment process design, including a detailed site plan, the actual infiltration system, a hydraulic profile of the process, and process flow diagram. Assuming that the design commences in July 2011 as discussed above, it is possible that the groundwater discharge permit process could commence in September 2011, with the hope of securing the actual permit by September 2012.

Bidding & Construction

It is not uncommon for projects of this nature to be divided into two separate construction contracts, one for the collection system and the other for the treatment system. Based on timeframes discussed above, it is anticipated that the advertising and bidding process could commence in January 2013 and continue through April 2013. Construction would commence in the spring of 2013 and continue through the end of 2014.

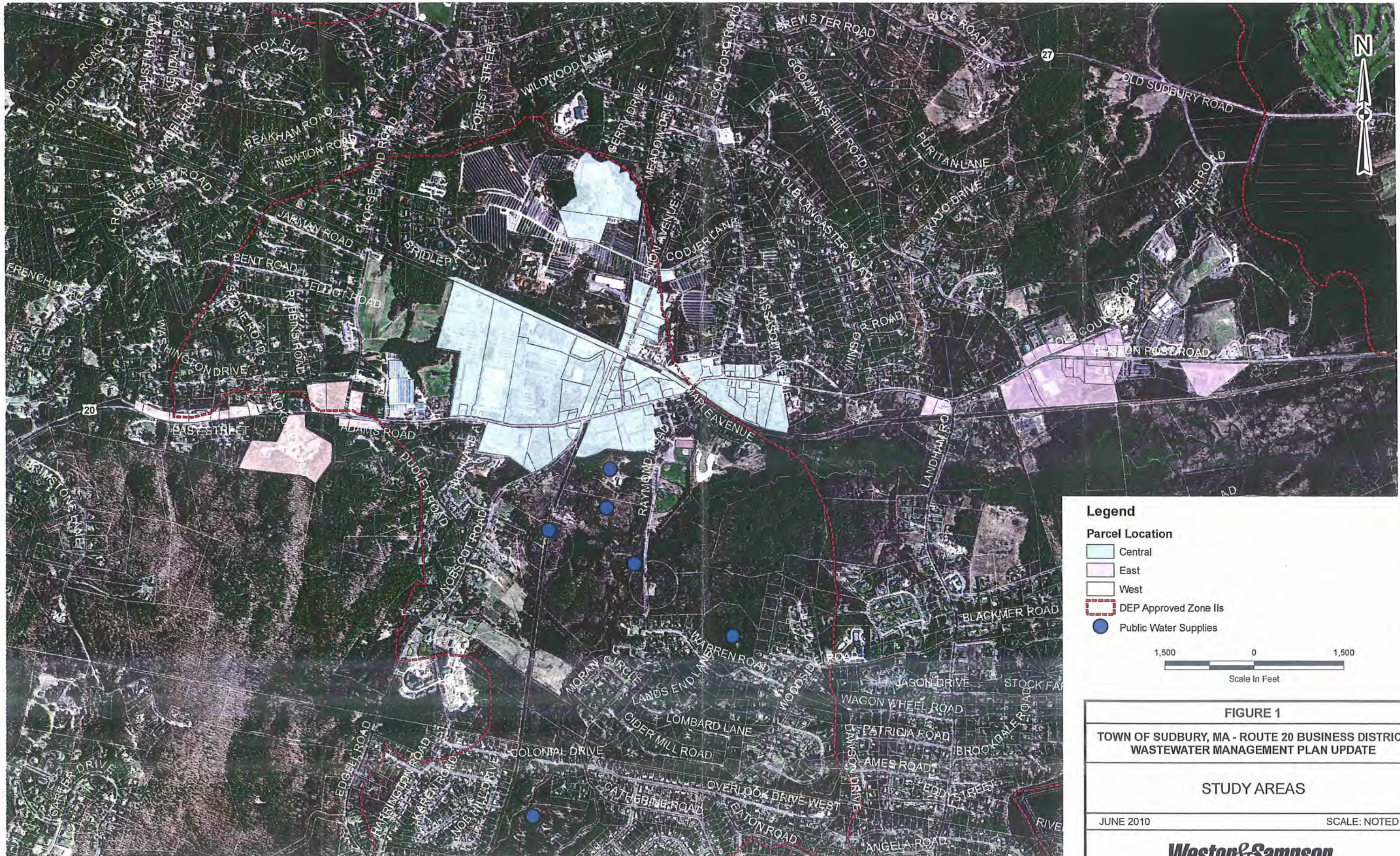
Preliminary/Conceptual Estimated Costs

Please note that at the current conceptual stage of this project, there are a multitude of assumptions that could ultimately result in a wide variation in the cost of the project. At this time, based on the information discussed herein, our initial conceptual cost estimate is as follows:

Preliminary/Final Design & Permitting	
Hydrogeologic Investigations	\$55,000
PER	\$45,000
MEPA (not including EIR if required)	\$50,000
Groundwater Discharge Permit	\$100,000
Final Contract Documents (including permits & SRF)	\$600,000 to 800,000
Subtotal	Say \$1 M
Construction	
Collection & Transmission System	\$3.2 M
SAS System (@ Curtis Middle School)	\$1.5 M
WWTF (MBR system @ Bushey Property)	\$ 7.5 M
Engineering Construction Services	\$1.5 M
Police Details	\$200,000
Land/Legal/Other	\$100,000
Subtotal	\$14 M
Total Estimated Cost to Complete	\$15 M

FIGURES:

- Figure 1: Study Areas
- Figure 2: Wastewater Recharge (Screened Sites)
- Figure 3: Curtis Middle School – Site Map
- Figure 4: Proposed Wastewater System Layout
- Figure 5: Potential Wastewater Treatment Facility Footprint
- Figure 6: Limits of Potential Subsurface Disposal Field



Legend

Parcel Location

- Central
- East
- West
- DEP Approved Zone IIs
- Public Water Supplies

1,500 0 1,500
Scale In Feet

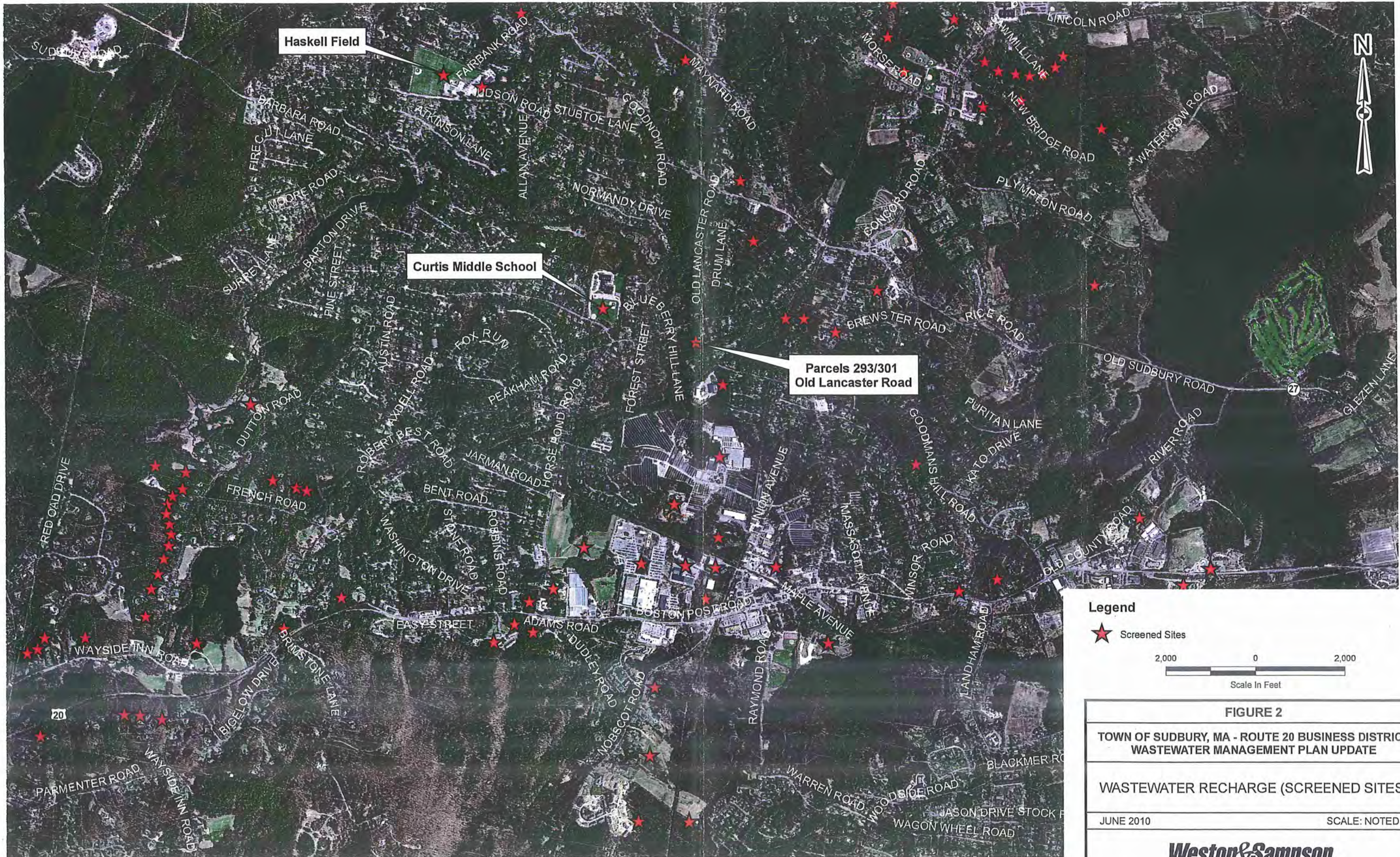
FIGURE 1

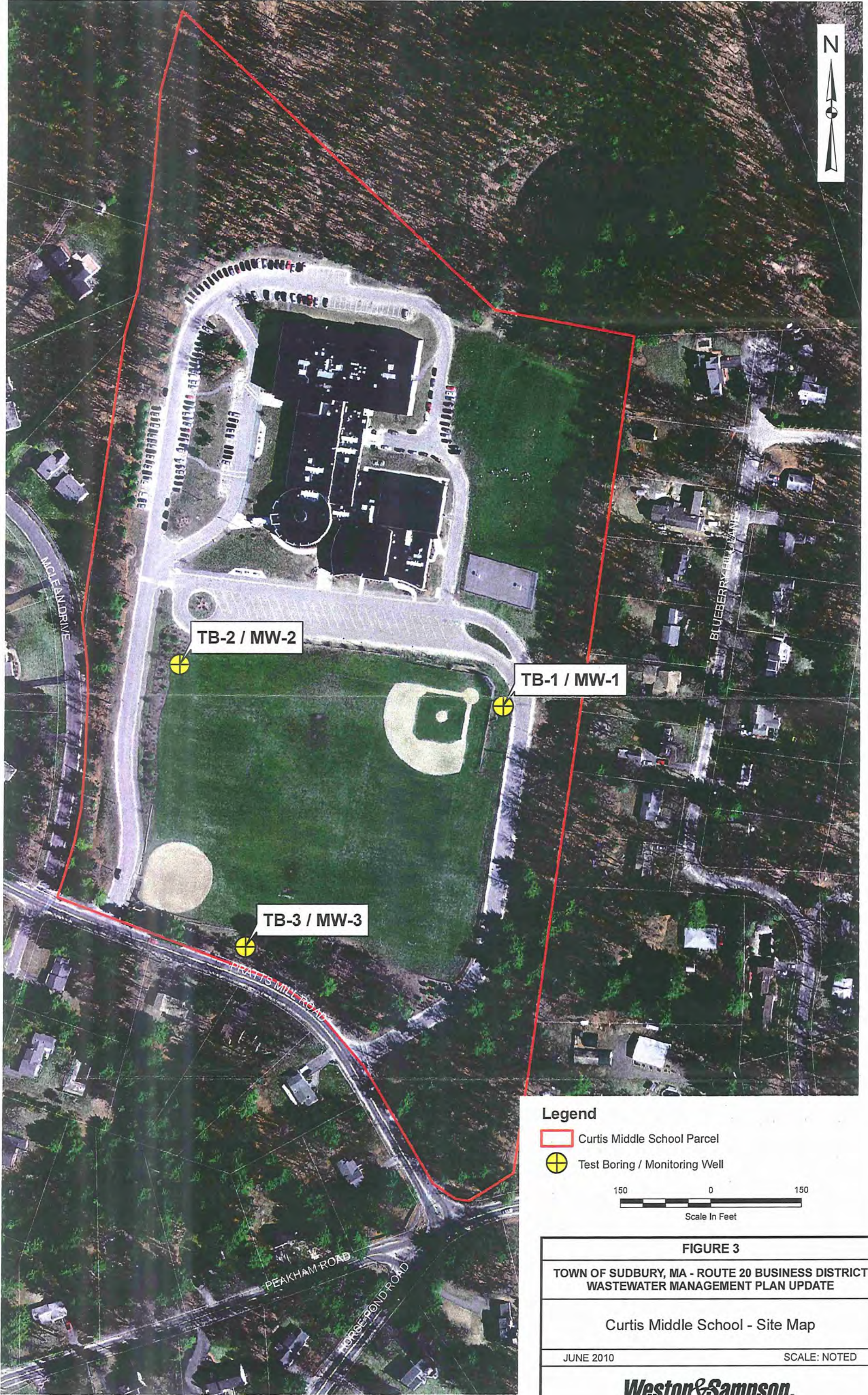
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WASTEWATER MANAGEMENT PLAN UPDATE**

STUDY AREAS



JUNE 2010 SCALE: NOTED

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Legend

-  Curtis Middle School Parcel
-  Test Boring / Monitoring Well

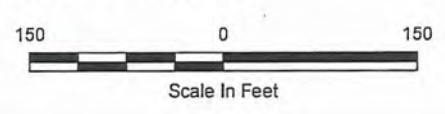


FIGURE 3

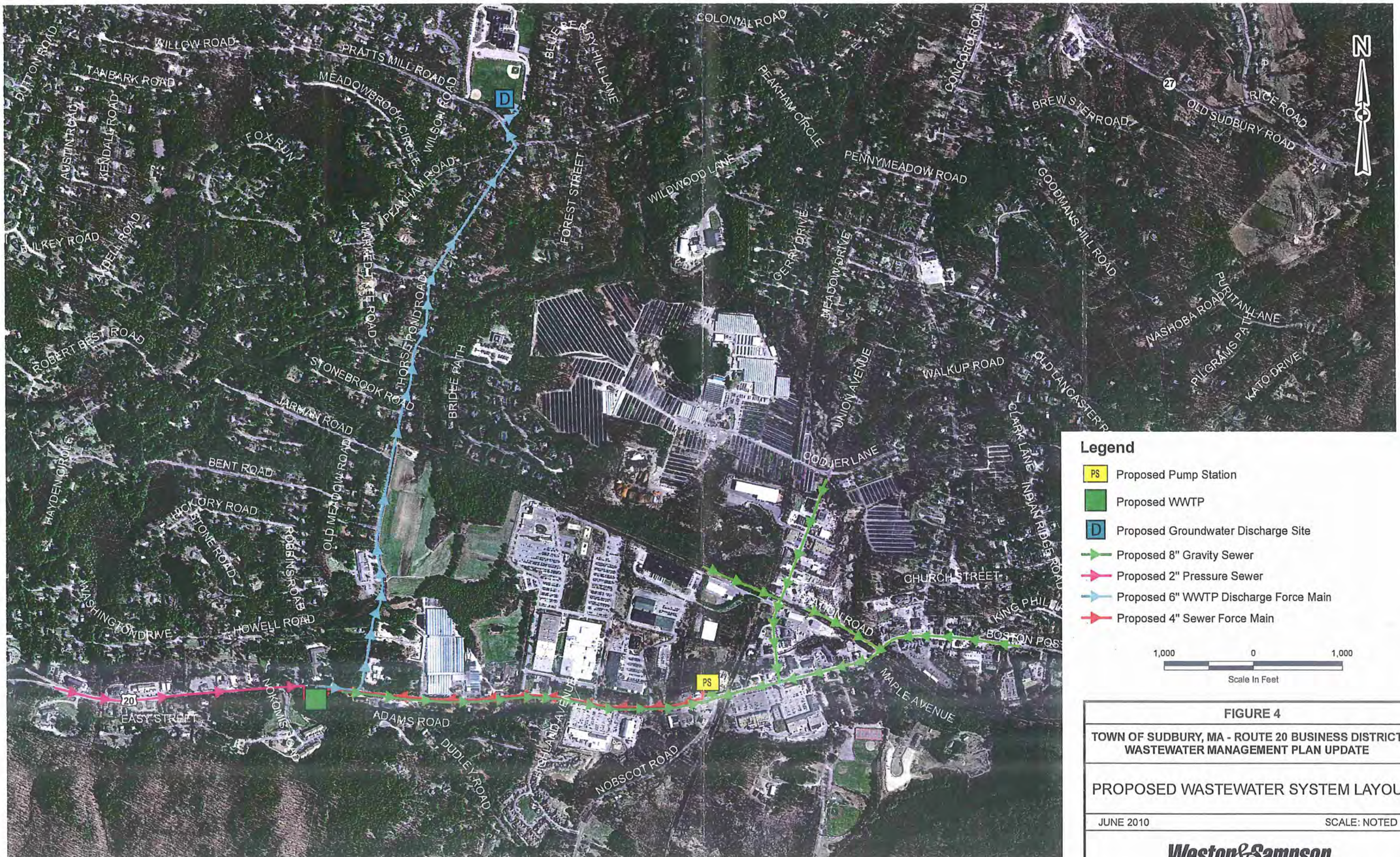
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WASTEWATER MANAGEMENT PLAN UPDATE

Curtis Middle School - Site Map

JUNE 2010

SCALE: NOTED

Weston & Sampson



Legend

- PS Proposed Pump Station
- Proposed WWTP
- D Proposed Groundwater Discharge Site
- Proposed 8" Gravity Sewer
- Proposed 2" Pressure Sewer
- Proposed 6" WWTP Discharge Force Main
- Proposed 4" Sewer Force Main

1,000 0 1,000
Scale In Feet

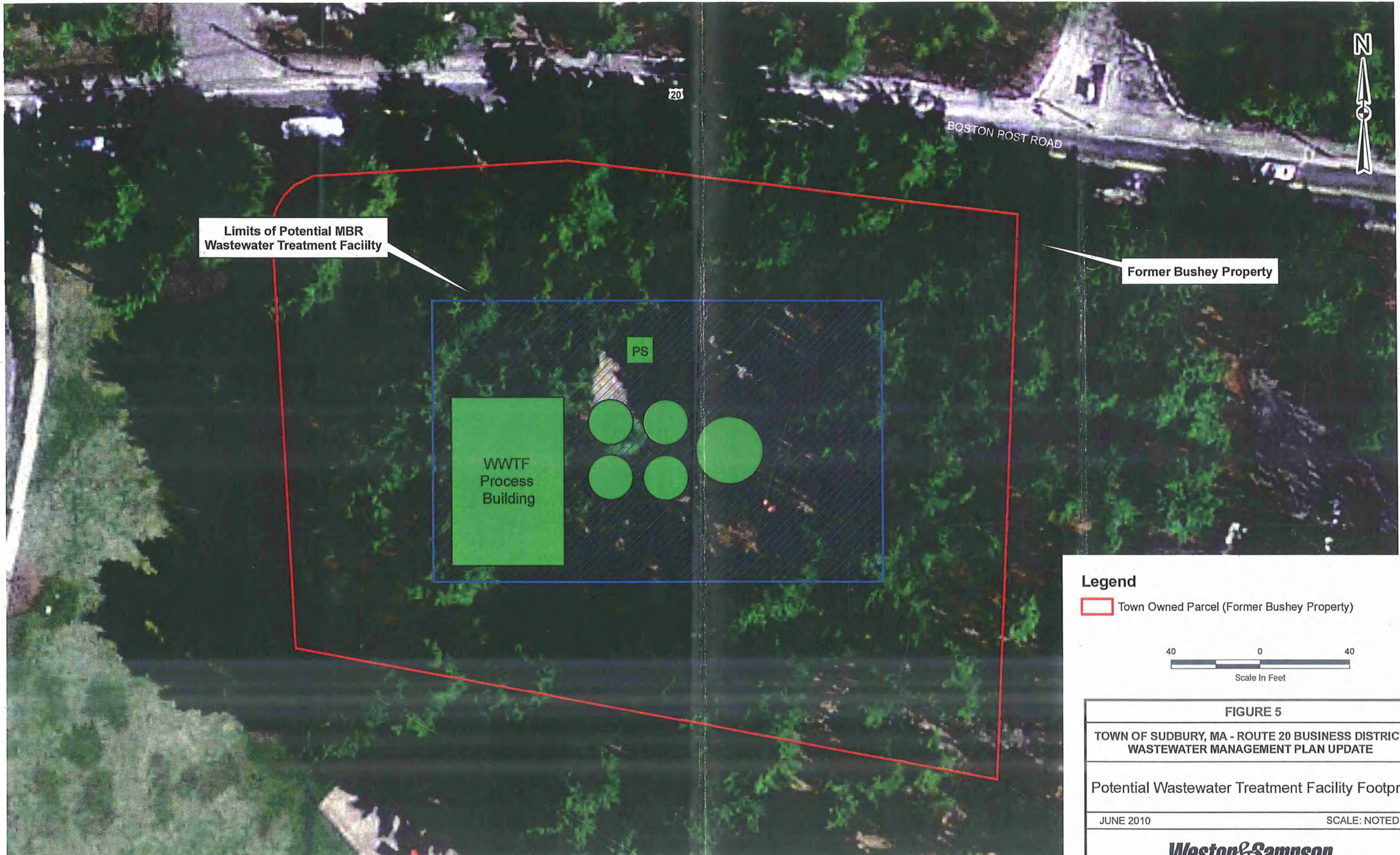
FIGURE 4

**TOWN OF SUDBURY, MA - ROUTE 20 BUSINESS DISTRICT
WASTEWATER MANAGEMENT PLAN UPDATE**

PROPOSED WASTEWATER SYSTEM LAYOUT

JUNE 2010 SCALE: NOTED

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Limits of Potential MBR
Wastewater Treatment Facility

Former Bushey Property

WWTF
Process
Building

PS

Legend

Town Owned Parcel (Former Bushey Property)

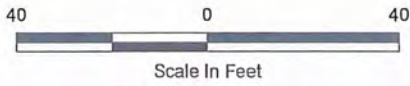
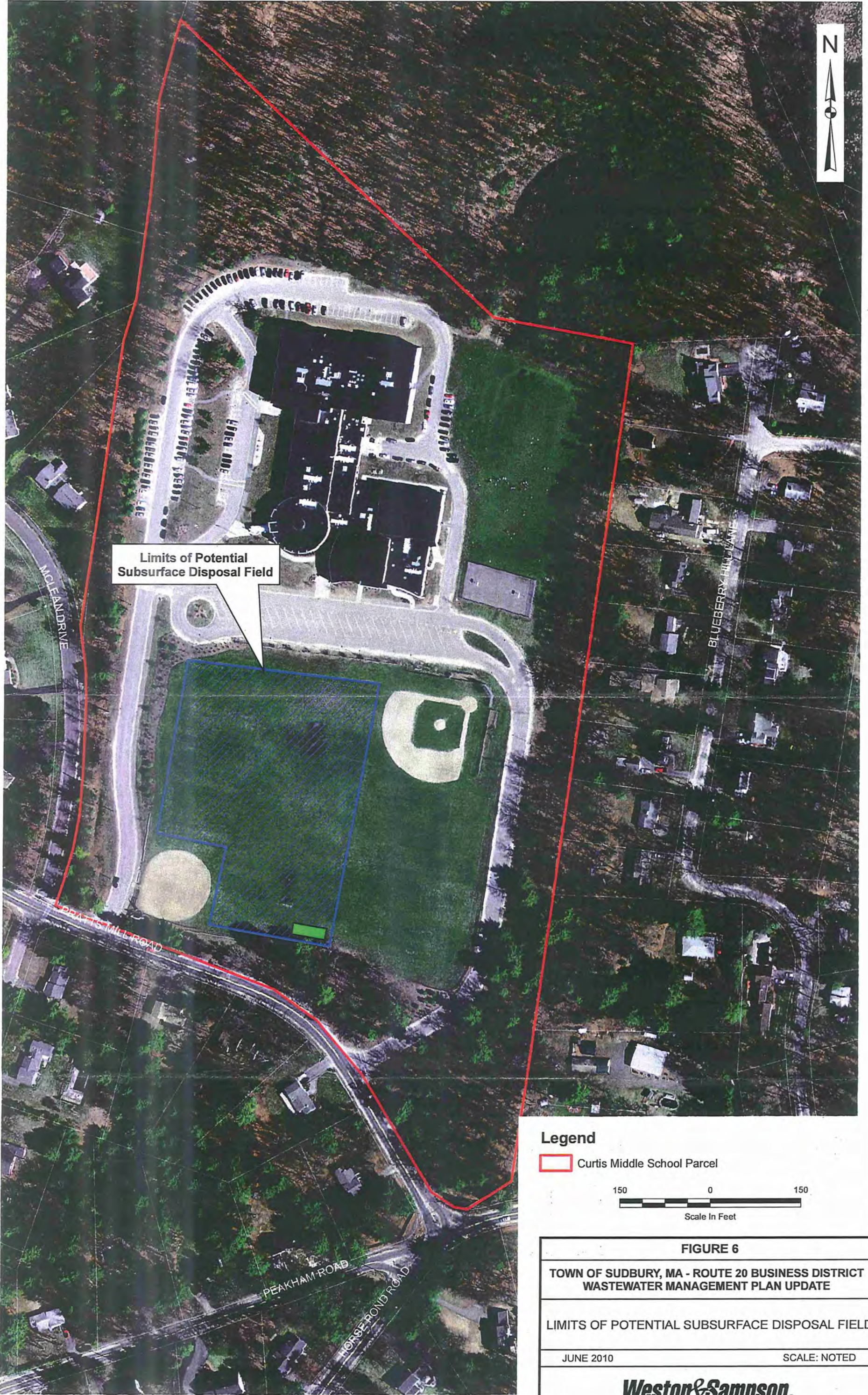



FIGURE 5	
TOWN OF SUDBURY, MA - ROUTE 20 BUSINESS DISTRICT WASTEWATER MANAGEMENT PLAN UPDATE	
Potential Wastewater Treatment Facility Footprint	
JUNE 2010	SCALE: NOTED
Weston&Sampson®	



Limits of Potential Subsurface Disposal Field

Legend

 Curtis Middle School Parcel

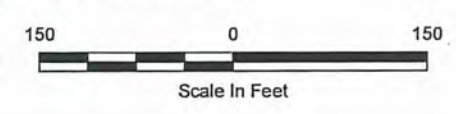


FIGURE 6

TOWN OF SUDBURY, MA - ROUTE 20 BUSINESS DISTRICT WASTEWATER MANAGEMENT PLAN UPDATE

LIMITS OF POTENTIAL SUBSURFACE DISPOSAL FIELD

JUNE 2010

SCALE: NOTED



APPENDIX A:

**EXCERPTS FROM 2001 “ASSESSMENT OF
WASTEWATER MANAGEMENT NEEDS FOR
THE ROUTE 20 BUSINESS DISTRICT”**

TABLE 3-1
WASTEWATER NEEDS MATRIX

WASTEWATER MANAGEMENT NEEDS ASSESSMENT

Street Number	Assessor's Number	Use - Business Name	Design Flow [gpd]	Built Before 1978	Built Between 1978-1995	Required Leach Field Repair	Insufficient land area for Repair or Expansion	Disposal > 10,000 gpd without GW Discharge Permit	Severe Soil Restrictions	Depth To Groundwater (< 5')	Setback for Resource Area or within Floodplain	Frequency Of Pumping (>2/yr)	Within Nitrogen Sensitive Area	Nitrogen Sensitive Area with >440 gpd per acre	Total
				(4 pts)	(3 pts)	(4 pts)	(4 pts)	(4 pts)	(2 pts)	(2 pts)	(2 pts)	(2 pts)	(2 pts)	(2 pts)	
BOSTON POST RD															
33 BP	K12-003	DC REALTY TRUST	588	X					X	X					8
78 BP	K11-012	CAR WASH(leachfield in Wayland)	3,750	X					X	X					8
83 BP	K11-015	HAVENCRAFT	1,050	X			X			X	X				12
84 BP	K11-013	TOWN LINE HARDWARE	200				X		X	X					8
88 BP	K11-011	ANTIQUE SHOP	200				X			X					6
95 BP	K11-017	MASS HIGHWAY	200							X	X	X			6
100 BP	K11-010	AUTO DIAGNOSTICS	977	X						X	X				8
103 BP	K11-016	RESTAURANT (New System)	3,520												0
104 BP	K11-008	PAPA GINOS	3,520		X					X		X			7
111 BP	K11-101	OFFICE - VILLAGE EAST	1,635		X		X								7
119 BP	K11-018	RETAIL - FRANK'S SPOKE	207		X										3
120 BP	K11-007	SKY RESTAURANT	8,050			X			X			X			8
121 BP	K11-200	OFFICE - RKK REALTY	364		X										3
128 BP	K11-004	OFFICE - STANMAR	1,700		X					X					5
136 BP	K11-003	NURSING HOME - WINGATE	14,200		X			X		X		X			11
141 BP	K11-019	ATHLETIC FACILITY	5,737							X	X				4
150 BP	K11-002	BEST FRIENDS PET KENNEL ¹	8,000				X			X					6
151 BP	K11-020	BUDDY DOG	540	X			X		X	X	X				14
163 BP	K10-014	BOSTON EDISON SUBSTA.	0												0
209 BP	K10-008	GAS - SUDBURY AUTO	220		X	X									7
215 BP	K10-007	OFFICE - BAY PATH	1,720		X				X						5
316 BP	K09-405	AUTO REPAIR - ALEXANDER	200	X			X			X					10
320 BP	K09-401	BEARLY READ BOOKS	200	X			X			X					10
321-325 BP	K09-590	OFFICE - MILL BROOK II	5,250		X				X		X				7
327-329 BP	K09-057	OFFICE - MILL BROOK I	765		X					X	X				7
330 BP	K09-049	HUNT HOUSE BED	450		X										3
333 BP	K09-056	OMEGA MORTGAGE	200		X				X	X	X				9
335 BP	K09-055	CLOUD 9 TOYS	200		X										3
339 BP	K09-054	RKK REALTY	200		X	X									7
344 BP	K09-032	OFFICE - QUILTED OR NOT	576				X		X						6
345 BP	K09-053	OFFICE - SUDBURY PLACE	892		X		X								7
346 BP	K09-031	OFFICE, CLINICAL COMMUN.	200	X		X									8
348 BP	K09-030	HITCHCOCK STORE	410		X										3
351 BP	K09-052	OFFICE - NE TELEPHONE	200	X			X		X		X				12
353 BP	K09-051	MEMORY GARDEN	200		X		X								7
354 BP	K09-029	OFFICE SUDBURY MUSIC	200		X		X			X					9
357 BP	K09-050	RETAIL - MAGGIE FLOOD	200	X			X				X				10
361-389 BP	K08-026,029	MILL VILLAGE (several systems)	2,025	X	X	X	X		X	X	X	X			23
370 BP	K08-036	OFFICE -BARTON PROP.	200		X										3

TABLE 3-1 (Cont'd.)

Street Number	Assessor's Number	Use - Business Name	Design Flow [gpd]	Built Before 1978 Code	Built Between 1978-1995 Codes	Required Leach Field Repair	Insufficient land area for Repair or Expansion	Disposal > 10,000 gpd without GW Discharge Permit	Severe Soil Restrictions	Depth To Groundwater (< 5')	Setback for Resource Area or within Floodplain	Frequency Of Pumping (>2/yr)	Within Nitrogen Sensitive Area	Nitrogen Sensitive Area with >440 gpd per acre	Total
				(4 pts)	(3 pts)	(4 pts)	(4 pts)	(4 pts)	(2 pts)	(2 pts)	(2 pts)	(2 pts)	(2 pts)	(2 pts)	
378 BP	K08-037	DUNKIN DONUTS	910		X						X	X			7
394 BP	K08-082	LOTUS BLOSSOM ¹	2,100				X		X	X	X		X	X	14
400 BP	K08-081	PRUDENTIAL REALTY	200	X			X		X	X	X		X		16
410 BP	K08-080	RUGGED BEAR PLAZA	1,740		X		X			X	X		X	X	15
415 BP	K08-006	POLICE STATION	400		X		X			X			X	X	13
418-420 BP	K08-079	RETAIL/RESTAURANT/OFFICE	1,030		X		X			X			X	X	13
423 BP	K08-004	SUDBURY CROSSING MALL	4,200		X		X			X			X		11
424-428 BP	K08-078, 079	BLOCKBUSTER, SDBY PIZZA	540	X		X	X			X		X	X	X	20
430 BP	K08-077	COLONIAL AUTO	656		X		X			X			X	X	13
432 BP	K08-069	GAS STATION - MOBIL	600	X						X			X	X	10
439 BP	K08-003	RETAIL-SUDBURY FARMS ¹	7,706		X	X	X		X		X		X		17
440 BP	K08-067	JEWELRY STORE	315		X				X	X			X	X	11
442 BP	K08-058	RETAIL - WESTPORT GAS	300	X					X				X	X	10
450 BP	K08-066	OFFICE - COMMUNITY	188	X					X	X	X		X		12
454 BP	K08-065	CLAPPERS	570		X		X			X	X		X		13
465 BP	K08-002	SUDBURY GAS STATION	200	X			X		X				X		12
470 BP	K08-064	SUDBURY GULF (Public Petro)	300	X			X		X				X	X	14
474 BP	K07-008	RETAIL - KAPPY'S LIQUORS	420		X		X		X				X	X	13
477 BP	K07-007	SULLIVAN TIRE COMPANY	500	X						X			X		8
480 BP	K08-062	VACANT	420	X					X	X	X		X		12
490 BP	K07-018	INDUST. - CHISWICK PARK	6,441		X				X	X			X		9
505, 507-525 BP	K07-05, 06	RETAIL - STAR PLAZA	6,630		X	X							X		9
526-528 BP	K07-011-013	R&D - RAYTHEON	50,000		X								X		5
593 BP	K06-026	RETAIL - DUDLEY SQUARE	696		X										3
616 BP	K06-012	SUDBURY MEDICAL CENTER	1,532		X	X	X			X			X	X	17
621 BP	K06-028	BARNSTEAD SHOPS	1,231		X		X					X			9
642 BP	K06-04	NURSING HOME (in failure)	14,000	X		X		X		X		X	X	X	20
642 BP	K06-05	VACANT (nursing home)	0							X			X		4
655 BP	K06-501	LONGFELLOW GLEN/ 4 Systems	32,000		X			X							7
684 BP	K05-019	AUTO REPAIR	712	X			X			X					10
694 BP	K05-017	RESTAURANT - BLUE LION	4,900	X						X		X			8
708 BP	K05-015	DENTIST	820	X						X					6
712 BP	K05-013	SUDBURY RENTAL	260	X											4
730 BP	K05-012	RETAIL - WAYSIDE PLAZA	1,724		X		X					X			9
736 BP	K05-011	FRUGAL FLOWERS	592								X				2
738 BP	K05-07	HOTEL - CLARION CARRIAGE	5,500		X		X					X			9

TABLE 3-1 (Cont'd.)

Street Number	Assessor's Number	Use - Business Name	Design Flow [gpd]	Built Before 1978 Code	Built Between 1978-1995 Codes	Required Leach Field Repair	Insufficient land area for Repair or Expansion	Disposal > 10,000 gpd without GW Discharge Permit	Severe Soil Restrictions	Depth To Groundwater (< 5')	Setback for Resource Area or within Floodplain	Frequency Of Pumping (>2/yr)	Within Nitrogen Sensitive Area	Nitrogen Sensitive Area with >440 gpd per acre	Total	
				(4 pts)	(3 pts)	(4 pts)	(4 pts)	(4 pts)	(2 pts)	(2 pts)	(2 pts)	(2 pts)	(2 pts)	(2 pts)		
740 BP	K05-05	OFFICE - SUDBURY DESIGN	1,452	X								X			6	
CONCORD RD																
5-15,17,19 C	K08-035	RETAIL - MACKINNONS	1,418		X										3	
8 C, 356 BP	K09-027,028	OFFICE - NB TAYLOR	426	X											4	
CODJER LANE																
57 CL / U	J08-23	SUDBURY DENTAL CENTER	2,000		X					X	X				7	
110 CL	J08-04, 05	CAVICCHIO GREENHOUSES	825										X		2	
KING PHILIP RD																
68 KP	K09-033	OFFICE BUILDING/RESIDENTIAL	200	X											4	
NOBSCOT RD																
237-239 N	K08-001	FUEL SVC - INTERSTATE OIL	200		X	X							X		9	
OLD COUNTY RD																
35 OC	K11-009	DANCER' STORE SHOP	200	X						X					6	
9 OC	K11-025	INDUST. - LEWIS PROPERTY	3,000		X					X					5	
UNION AVENUE																
1 U	K08-070	OFFICE - DESIGNWISE	700		X		X		X	X			X	X	15	
15 U	K08-071	SUDBURY COFFEE, PRINTER	360		X	X			X	X		X	X	X	17	
18 U	K08-076	POST OFFICE	1,194		X		X		X	X		X	X	X	17	
21 U	K08-090	OFFICE - MCNEIL VET.	255		X		X			X			X		11	
22 U	K08-075	OFFICE - FLEET	352	X					X	X		X	X	X	14	
23 U	K08-073	VACANT (BAYBANK ATM)	200	X						X			X		8	
25U	K08-060	WAREHOUSE - NE DOOR	1,540	X			X			X	X		X		14	
27U	K08-056	SAXONVILLE LUMBER	100	X						X			X		8	
28 U	K08-074	SUDBURY LUMBER	418	X			X		X	X			X		14	
33 U	K07-017	WAREHOUSE - CHISWICK	2,400		X		X			X		X	X		13	
39 U	K08-053	BOSEKY LTD/CARPET CARSEL.	642	X			X		X	X		X	X	X	18	
46 U	K08-041	PRECOURT CHARLES	200	X					X	X			X		10	
55-57 U	K08-052	EDWARD TUCKER	1,094	X			X		X	X			X	X	16	
56 U	K08-044	GRANCO REALTY TRUST	532	X			X		X	X			X	X	16	
60 U	K08-045	GRANCO REALTY TRUST	944		X		X		X	X			X	X	15	
64 U	K08-046	MACOT REALTY TRUST	390		X		X		X	X	X		X		15	
65 U	K08-051	METHODS, INC.	1,214		X		X		X	X	X	X	X	X	19	
75-83 U	K08-050	EDWARD TUCKER	2,604	X					X	X	X		X	X	14	
80 U	K08-047	SCHOFIELD/Union & Palmer	180	X			X		X	X	X		X		16	
Total Existing Design Flow			244,319												Total	981

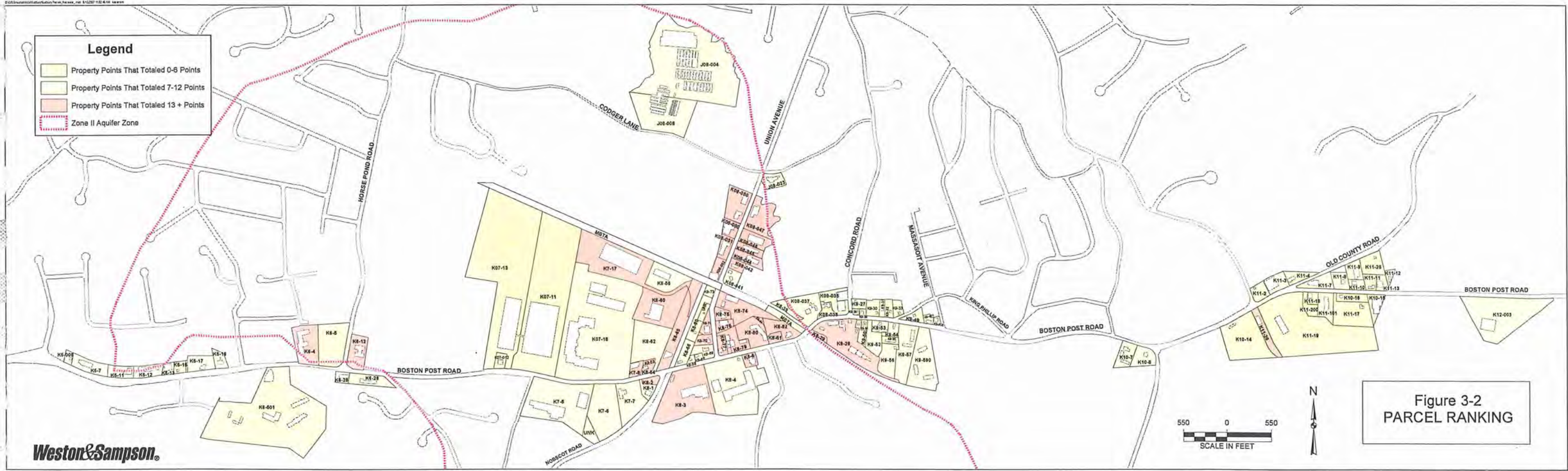
LEGEND:

Blue shaded cells	= Information that was provided by the BOH.
Non-Priority Property	= Property that totaled 0-6 points.
Priority Property	= Property that totaled 7-12 points.
Critical Property	= Property that totaled 13+ points.

Avg Points = 10

NOTE:

¹ FAST sytem in use on site.



Legend

- Property Points That Totaled 0-6 Points
- Property Points That Totaled 7-12 Points
- Property Points That Totaled 13 + Points
- Zone II Aquifer Zone

**Figure 3-2
PARCEL RANKING**

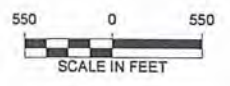


TABLE 4-11

SUMMARY OF BUILD-OUT WASTEWATER DESIGN FLOWS (gpd)

WASTEWATER MANAGEMENT NEEDS ASSESSMENT

Area	"Non-priority" Flows	"Priority" Flows	"Critical" Flows	Total Flows
West	37,313	18,428	17,708	73,449
Central	10,101	51,982	44,725	106,808
East	49,520	52,727	1,028	103,275
Totals	96,934	123,137	63,461	283,532

APPENDIX B:

UPDATES TO 2001 ANALYSIS

MEMORANDUM

TO: Technical Advisory Committee
FROM: Vonnie Reis, Weston & Sampson
DATE: June 14, 2007
SUBJECT: Sudbury PER, report updates

Update to site information:

A meeting was held with Bob Leupold to discuss changes to the Rt. 20 corridor wastewater matrix. Updates to Title 5 status, upgrades, variances, and the installation of I/A systems were reviewed for each of the previously identified parcels. A list of potential disposal sites was also reviewed.

Previously identified disposal sites:

- Many of the previously identified sites have been sold, developed, or are under agreement.
- Bob did not think Raytheon had changed their position re: working with the town. He thought that they would probably be interested in a connection if sewer was installed, however.
- There are three properties from the original list that still have potential:
 - The “Young” property (owner - Geo. Young, Health Dept. in Foxboro) is in Chpt. 61. Town has first refusal. Mr. Young has not been willing to let the town access the property for testing. Septic tests on adjacent properties indicated high groundwater levels (5-6 ft.). Surficial geology maps show good soils.
 - Military training field – records show good soils.
 - A town-owned property off Old Framingham St. near Nobscott. Likely to have high groundwater but good soils. Very close to Well #7. Travel time may be an issue.

There are several properties on the town-wide list compiled by Bob and Jody that still need to be assessed.

Updates to priority ranking:

Changes to parcel matrix:

- Town Line Hardware – Title 5 failure, not upgraded yet.
- Stanmar – use change. Will be new BMW dealership. Installing new Title 5 system.
- Mill Village – Of the 4 disposal fields, one is in failure. They are pumping more than twice per year.
- Lotus Blossom – they have a FAST system. They had to replace the leaching area because flow was not going through the grease trap. The system appears to be working now.
- #418-420 Retail space – currently for sale. Failed Title 5 inspection. Pumping more than twice per year.
- Clappers – name change to Acapulco's.
- Nursing home (#642 BPR) – new FAST system and groundwater discharge permit (>10,000 gpd).
- Frugal Flowers (#736 BPR) – upgraded system to 1,412 gpd. No variance.
- Saxonville Lumber (#27 Union) – name change to Sudbury Lumber. Upgraded to 740 gpd. No variance.
- Post Office (#16 Union) – no longer a full service PO – name change to PO Annex. Installed FAST system for 630 gpd. Perc < 2 mpi. Variance – 3-ft. to groundwater.
- Edward Tucker – name change to Santangelo Landscaping.
- Sudbury Coffee (#15 Union) – Upgraded to FAST system. Variance for wetland setback (<50-ft).

Bob reported that, in general, systems in this area are functioning at current capacities, but that there is no potential for increases to capacity for most systems, therefore development potential of this area is limited.

Residential properties in Rt. 20 corridor:

A review of aerial photographs and a drive by was conducted and assumptions made regarding residential use of some of the parcels. For the West section, 17 potentially residential properties were observed. None were observed in the Central section. For the East section, 18 were observed. The status of the septic systems at these sites should be reviewed and updated in the PER. An additional 35 parcels at 330 gpd would add 11,550 gpd to the needed flow capacity.

Pedersen, Steve

From: Leupold, Bob [LeupoldB@sudbury.ma.us]

Sent: Thursday, June 17, 2010 3:57 PM

To: Pedersen, Steve

Cc: Kablack, Jody

Subject: RE: Wastwater Management Needs - Route 20 Business District

Hi Steve, The Young property was sold for residential development. Site not adequate for large wastewater discharge. Recent septic upgrades/replacements:

307 Boston Post Rd – Day Care Facility, failing leach area replaced 12/08; 3127 gpd design

320 B.P. Rd – Retail/Hair Salon - failed leach area replaced and tight tank installed 6/08 for 400gpd

321-325 B.P. Rd – Millbrook Office Condos – Three Septic Tanks and Leach fields replaced 8/09 – 703 gpd, 889 gpd & 680 gpd design flows

394 B.P. Road – Lotus Blossom Restaurant - 10,000 gallon grease trap installed and leach field replaced 9/09 – 7,930 gpd

416 -420 B.P. Road – Office/retail/restaurant – Septic Tank, Pump chamber and leach field replaced 12/08 – 2,444 gpd design

424 B.P. Rd – Retail space – new septic tank and leach field- 5/09 – 460 gpd

457 B.P. Rd – Friendly’s Ice Cream – installed new septic tank, pump chamber, FAST unit and leach field -8/09 - 2,450 gpd

509 B.P. Rd –Sudbury Plaza- 8,000 gallon septic tank upgrade and 1,500 gallon grease trap installed 2006. Leach field for 8,800 gpd design flow in failure and to be replaced in 2010.

As you can see these are significant & costly commercial septic upgrades that have occurred in the past four years. All the above involved failed systems and no increase of design flow for the replacements. Bob

From: Pedersen, Steve [mailto:pederses@wseinc.com]

6/21/2010

Sent: Wednesday, June 16, 2010 3:53 PM

To: Leupold, Bob

Cc: Kablack, Jody; Martin, Blake

Subject: Wastwater Management Needs - Route 20 Business District

Hi Bob-

I hope all is well! In preparing information for the 6/23 meeting with the School Committee, I was hoping to get any updated Title 5 information you may have in the Route 20 Business District. The last time we updated the information was June of 2007 (see attached memo) so I was just looking for recent upgrades, variances, failures, etc. in the project corridor. Any information would be appreciated, let me know if you have any questions.

-Steve

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Steven K. Pedersen

Associate

Weston & Sampson Engineers, Inc.

5 Centennial Drive

Peabody, MA 01960

Telephone: (978) 532-1900, ext.2409

Direct Fax: (978) 573-4087

Email: ***pederses@wseinc.com***

Potential Parcels
Sudbury PER
September 2007

POTENTIAL PARCELS					
Site Name	Address	Assessor Map	Acreage	Description	Tested?
Cavicchio	Codjer Lane	J07-41,J08-4,5,6,501	75	Potential parcel, Landowner currently not interested	
DPW	275 Old Lancaster	H08-049	4 usable	Lens of clay, anticipated mounding close to garage floor elevation; soil testing completed, TOWN OWNED	Yes
Clark (Cavicchio)	Codjer Lane	J07-012	10	Previous landfill; uncooperative owner	
Stone Farm	Horse Pond Rd	K06-600	58	APR, possible land swap, soils questionable; Zone 2; owner not interested	
Military Training Field	Old County Rd	K11-006	3.17	Historic site; TOWN OWNED	
Haskell Field	Fairbank Road	F05-005	29	Recreational Use, Zone 2, irrigation wells; TOWN OWNED	
Curtis Middle School	Pratts Mill Road	H07-027	43.56	Zone 3; good possibility, distance to Route 20 an issue; TOWN OWNED	
OTHER POTENTIAL PARCELS/NO KNOWN SOIL INFO					
Site Name	Address	Assessor Map	Acreage	Description	Tested?
Wright	333 MAYNARD RD	E06-0004	8.1	Zone 2, may be too small, distance to Route 20 an issue	
Atkins	343 MAYNARD RD	E06-0005	4.15	Zone 2, may be too small, distance to Route 20 an issue	
CHESNAIS HEATHER TRS	152 NEW BRIDGE RD	F10-0017	6.81	May be too small, distance to Route 20 an issue	
SAINI RIJU & ANJALI	154 NEW BRIDGE RD	F10-0018	5.46	May be too small, distance to Route 20 an issue	
FEUDO PETER JR	136 NEW BRIDGE RD	F10-0029	5.82	May be too small, distance to Route 20 an issue, potential wetlands	
ROSEN MARK J TRUSTEE	27 SAWMILL LN	F10-0313	6.58	May be too small, distance to Route 20 an issue, potential wetlands	
PEPPERCORN	28 SAWMILL LN	F11-0316	8	May be too small, distance to Route 20 an issue, potential wetlands	
IONESCU	17 OAKRIDGE RD	F11-0317	5	May be too small, distance to Route 20 an issue, potential wetlands	
DEGREGORY KAREN T	11 OAKRIDGE RD	F11-0318	5	May be too small, distance to Route 20 an issue, potential wetlands	
Dickey	Newbridge Road	G11-500	73.5	Distance to Route 20 an issue	
WOLLENSAK	60 PENNYMEADOW RD	H08-0012	5.46	Zone 3, may be too small	
JOHNSON	301 OLD LANCASTER RD	H08-0037,040	6	Zone 3, may be too small	

Potential Parcels
Sudbury PER
September 2007

Weaver	Old Lancaster Road	H08-008	11.5	Zone 3; near DPW Building	
SULLIVAN	28 FRENCH RD	J04-0004	5.15	Zone 3, may be too small, distance to Route 20 an issue, potential wetlands	
KERNS ELEANOR &	247 DUTTON RD	J04-0106	7	Zone 3, distance to Route 20, potential wetlands	
SILVESTER AGNES M	150 WAYSIDE INN RD	K02-0002	9.53	Zone 3	
LORANT SUZANNE G &	194 WAYSIDE INN RD	K02-0318	6.08	Zone 3	
PAVLAN LINDA J	188 WAYSIDE INN RD	K02-0319	5.02	Zone 3; wetlands, but may be possible if combined with parcel 318	
SCHIRMER	850 BOSTON POST RD	K04-0001	5.6	Zone 3	
Levy	64 Peakham Road	K04-009	5	Zone 3	
Longfellow Glen	655 Boston Post Rd	K06-501	22.61	Zone 3; large system currently on site but possible redevelopment	
DEVINE JOSEPH &	33 BOSTON POST RD	K12-0003	8.8	Zone 3; Richey and Clapper	
PEED ROBERT W TR	BOSTON POST RD	L02-0200	5.01	Zone 3	
EXCLUDED PARCELS					
Site Name	Address	Assessor Map	Acreage	Reason for Exclusion	Tested?
Hodder/Topham	DeMarco Rd	G08-033	4.09	Wetlands	
Libby	77 Water Row	H11-400	31	Recently acquired by Town for open space	
Meader	Horse Pond Rd	K06-009,010,011	5	7-8' to water table, vernal pool; recently developed into subdivision	Yes
Sykes	625 Boston Post Rd	K06-29	2.76	Bad soils, no capacity, high gw	Yes
Bushey	Boston Post Rd	K06-505	1.6	Too small, single house lot only capacity available.	Yes
Raytheon	526-528 Boston Post Rd	K07-11,13	49	Not interested. DEP ordered upgrade. Flow=28,000 (of 50,000) GPD	
Bartlett	Boston Post Rd	K07-14	12	Wetlands	
Chiswick Park	490 Boston Post Rd	K07-17,18	35	Room for WWTF, not for gw disposal	
Saxonville Lumber	27 Union Ave	K08-56	3	Sold to Sudbury Lumber. High gw & limited space	
Reider Property	480 Boston Post Road	K08-62	4.5	Sold to Emerson Medical; fully developed	
George	Boston Post Rd	K10-110,111	1.12	Wetlands	

Potential Parcels
Sudbury PER
September 2007

WS Septage Facility	Boston Post Rd	K12		Viable site, costly, questionable capacity, in between 2 landfills	
Sudbury Water District	Nobscot Rd	L07-018	2.8	Near active well	
Lettery	Landham Rd	L09-600	28	Vernal pools & wetlands; recently developed into subdivision	
Mahoney	Old Framingham Rd	M07-004,005	40	Slope issues. Drops off quickly to wet area/upland glacial, 15-30 mpi, boulders	Yes
Newell	Old Framingham Rd	M07-006	30	Recently developed into senior housing	
Hodder	136 HUDSON RD	G08-0700	7.52	Unsuitable soils; Zone 3	
Fairbank School	40 FAIRBANK RD	F06-0001	8.05	Zone 2; very limited land area	
Grinham	97 FAIRBANK RD	F06-0005	4.1	Zone 2; wetlands	
Haynes	MORSE RD	F09-0004	9.6	High groundwater, poor soils	
Featherland Park	MORSE RD	F09-0006	5.77	High groundwater, poor soils	
McCormick	55 HUNT RD	F09-0217	5.13	Poor soils	
Nixon School	Concord/Newbridge Road	F09-030	21	Possibly, depends on land area needed	
555 Concord Road LLC	555 CONCORD RD	F10-0010	5.8	Unsuitable soils, topography	
Gelsinon	520 CONCORD RD	F10-0019	4.07	Wetlands	
Booma	233 CONCORD RD	H09-0016	8.8	Zone 3; shallow soils	
Beers	277 OLD SUDBURY RD	H09-0051	9	Zone 3; wetlands	
Greenberg	171 DUTTON RD	J03-0006	10	Zone 3; topography; soils limited	
RHOME	161 DUTTON RD	J03-0007	5	Zone 3; topography; soils limited	
ABRAMS	153 DUTTON RD	J03-0008	5.06	Zone 3; topography; soils limited	
Casey	145 DUTTON RD	J03-0009	5.67	Zone 3; topography; soils limited	
Adams	137 DUTTON RD	J03-0010	5.34	Zone 3; topography; soils limited	
Bell	48 FRENCH RD	J04-0002	8.61	Zone 3; topography; soils limited	
Sittler	76 OLD LANCASTER RD	J09-0022	4.15	Zone 3; unsuitable soils	
Lowell	35 DUTTON RD	K03-0001	5.28	Zone 3; topography; soils limited	
Fryling	61 DUTTON RD	K03-0003	5.09	Zone 3; topography; soils limited	

Potential Parcels
Sudbury PER
September 2007

Winter	71 DUTTON RD	K03-0004	5.04	Zone 3; topography; soils limited	
Morgan	87 DUTTON RD	K03-0005	5.6	Zone 3; topography; soils limited	
Sacherski	101 DUTTON RD	K03-0006	5	Zone 3; topography; soils limited	
Wendel	111 DUTTON RD	K03-0007	5.35	Zone 3; topography; soils limited	
Maroni	123 DUTTON RD	K03-0008	5.45	Zone 3; topography; soils limited	
Watts	133 DUTTON RD	K03-0009	6.67	Zone 3; topography; soils limited	
Henderson	BOSTON POST RD	K06-0005	4.05	Zone 2; wetlands	
Precourt	Union Ave	K08-0038	4.07	Zone 2; poor soils	
Milt Bartlett	Off Union Ave	K08-055	21.3	Zone 2; wetlands	
McCarthy	55 MAPLE AVE	K09-0074	4.07	Zone 2; poor soils	
SHYLOVSKY THEODORE W	192 BOSTON POST RD	K10-0018	8.54	Wetlands	
GUPTA BRINDA & MALATHI	202 WAYSIDE INN RD	L01-0001	5.02	Zone 3; high groundwater	
KEELAN JOHN & COLLEEN	1095 BOSTON POST RD	L02-0204	5	Zone 3; topography	
DUVALL	BOWDITCH RD	L02-0211	5.04	Zone 3; topography	
ROBELEN SUSAN	BOWDITCH RD	L03-0211	5.06	Zone 3; topography	
Hubelbank	167 MAYNARD RD	F07-0012	5.22	Zone 3; unsuitable soils	
Clark	Nobscot Road	L07-200	27	Zone 2, too close to well field	
Wayside Inn	Wayside Inn Road	L03-001,002		Zone 3; high groundwater, historic site	
Young	804 Boston Post Rd	K04-0015	7	Zone 3; soils not adequate for system size	Yes
O'KELLEY	16 FRENCH RD	J04-0005	8.87	Wetlands	

**TABLE 4-9
EAST AREA FLOW**

WASTEWATER MANAGEMENT NEEDS ASSESSMENT

Address	Assessor's Number	Use - Business Name	Existing Flow [gpd]	Build-Out Flow [gpd]
BOSTON POST RD				
33 BP	K12-003	DC REALTY TRUST	588	6,578
78 BP	K11-012	CAR WASH(leachfield in Wayland)	3,750	4,966
83 BP	K11-015	HAVENCRAFT	1,050	1,998
84 BP	K11-013	TOWN LINE HARDWARE	200	265
88 BP	K11-011	ANTIQUE SHOP	200	265
95 BP	K11-017	MASS HIGHWAY	200	381
100 BP	K11-010	AUTO DIAGNOSTICS	977	1,294
103 BP	K11-016	RESTAURANT (New System)	3,520	6,698
104 BP	K11-008	PAPA GINOS	3,520	4,661
111 BP	K11-101	OFFICE - VILLAGE EAST	1,635	3,111
119 BP	K11-018	RETAIL - FRANK'S SPOKE	207	394
120 BP	K11-007	SKY RESTAURANT	8,050	10,661
121 BP	K11-200	OFFICE - RKK REALTY	364	693
128 BP	K11-004	OFFICE - STANMAR	1,700	8,116
136 BP	K11-003	NURSING HOME - WINGATE	14,200	18,805
141 BP	K11-019	ATHLETIC FACILITY	5,737	10,917
150 BP	K11-002	BEST FRIENDS PET KENNEL	8,000	10,594
151 BP	K11-020	BUDDY DOG	540	1,028
163 BP	K10-014	BOSTON EDISON SUBSTA.	0	0
209 BP	K10-008	GAS - SUDBURY AUTO	220	388
215 BP	K10-007	OFFICE - BAY PATH	1,720	3,034
OLD COUNTY RD				
35 OC	K11-009	DANCER' STORE SHOP	200	265
9 OC	K11-025	INDUST. - LEWIS PROPERTY	3,000	8,163
TOTAL			59,578	103,275

TABLE 4-6
CENTRAL AREA FLOW

WASTEWATER MANAGEMENT NEEDS ASSESSMENT

Address	Assessor's Number	Use - Business Name	Existing Flow [gpd]	Build-Out Flow [gpd]
BOSTON POST RD				
316 BP	K09-405	AUTO REPAIR - ALEXANDER	200	465
320 BP	K09-401	RETAIL HAIR SALON	400	930
321-325 BP	K09-590	OFFICE - MILL BROOK II	2,272	5,278
327-329 BP	K09-057	OFFICE - MILL BROOK I	765	1,777
330 BP	K09-049	HUNT HOUSE BED	450	1,045
333 BP	K09-056	OMEGA MORTGAGE	200	465
335 BP	K09-055	CLOUD 9 TOYS	200	465
339 BP	K09-054	RKK REALTY	200	465
344 BP	K09-032	OFFICE - QUILTED OR NOT	576	1,338
345 BP	K09-053	OFFICE - SUDBURY PLACE	892	2,072
346 BP	K09-031	OFFICE, CLINICAL COMMUN.	200	465
348 BP	K09-030	HITCHCOCK STORE	410	953
351 BP	K09-052	OFFICE - NE TELEPHONE	200	465
353 BP	K09-051	MEMORY GARDEN	200	465
354 BP	K09-029	OFFICE SUDBURY MUSIC	200	465
357 BP	K09-050	RETAIL - MAGGIE FLOOD	200	465
361-389 BP	K08-026,029	MILL VILLAGE (several systems)	2,025	4,705
370 BP	K08-036	OFFICE -BARTON PROP.	200	465
378 BP	K08-037	DUNKIN DONUTS	910	2,114
394 BP	K08-082	LOTUS BLOSSOM	7,930	10,585
400 BP	K08-081	PRUDENTIAL REALTY	200	267
410 BP	K08-080	RUGGED BEAR PLAZA	1,740	2,322
415 BP	K08-006	POLICE STATION	400	515
418-420 BP	K08-079	RETAIL/RESTAURANT/OFFICE	2,444	3,263
423 BP	K08-004	SUDBURY CROSSING MALL	4,200	5,410
424-428 BP	K08-078	RETAIL SPACE	460	614
430 BP	K08-077	COLONIAL AUTO	656	875
432 BP	K08-069	GAS STATION - MOBIL	600	801
439 BP	K08-003	RETAIL-SUDBURY FARMS	7,706	9,926
440 BP	K08-067	JEWELRY STORE	315	420
442 BP	K08-058	RETAIL - WESTPORT GAS	300	400
450 BP	K08-066	OFFICE - COMMUNITY	188	251
454 BP	K08-065	CLAPPERS	570	761
465 BP	K08-002	SUDBURY GAS STATION	200	316
470 BP	K08-064	SUDBURY GULF (Public Petro)	300	400
474 BP	K07-008	RETAIL - KAPPY'S LIQUORS	420	561
477 BP	K07-007	SULLIVAN TIRE COMPANY	500	790
480 BP	K08-062	VACANT	420	582
490 BP	K07-018	INDUST. - CHISWICK PARK	6,441	8,920
505, 507-525 BP	K07-05, 06	RETAIL - SUDBURY PLAZA	8,800	10,341
CONCORD RD				
5-15,17,19 C	K08-035	RETAIL - MACKINNONS	1,418	3,294
8 C, 356 BP	K09-027,028	OFFICE - NB TAYLOR	426	990

TABLE 4-6 (continued)
CENTRAL AREA FLOW

WASTEWATER MANAGEMENT NEEDS ASSESSMENT

Address	Assessor's Number	Use - Business Name	Existing Flow [gpd]	Build-Out Flow [gpd]
CODJER LANE				
57 CL / U	J08-23	SUDBURY DENTAL CENTER	2,000	2,632
110 CL	J08-04, 05	CAVICCHO GREENHOUSES	825	1,086
KING PHILIP RD				
68 KP	K09-033	OFFICE BUILDING/RESIDENTIAL	200	465
NOBSCOT RD				
237-239 N	K08-001	FUEL SVC - INTERSTATE OIL	200	316
UNION AVENUE				
1 U	K08-070	OFFICE - DESIGNWISE	700	934
15 U	K08-071	SUDBURY COFFEE, PRINTER	360	480
18 U	K08-076	POST OFFICE	630	841
21 U	K08-090	OFFICE - MCNEIL VET.	255	340
22 U	K08-075	OFFICE - FLEET	352	470
23 U	K08-073	BAYBANK ATM VACANT	200	267
25U	K08-060	WAREHOUSE - NE DOOR	1,540	2,133
27U	K08-056	SAXONVILLE LUMBER	740	1,021
28 U	K08-074	SUDBURY LUMBER	418	558
33 U	K07-017	WAREHOUSE - CHISWICK	2,400	3,324
39 U	K08-053	BOSEKY LTD/CARPET CARSEL.	642	845
46 U	K08-041	PRECOURT CHARLES	200	263
55-57 U	K08-052	EDWARD TUCKER	1,094	1,440
56 U	K08-044	GRANCO REALTY TRUST	532	700
60 U	K08-045	GRANCO REALTY TRUST	944	1,242
64 U	K08-046	MACOT REALTY TRUST	390	513
65 U	K08-051	METHODS, INC.	1,214	1,598
75-83 U	K08-050	EDWARD TUCKER	2,604	3,427
80 U	K08-047	SCHOFIELD/Union & Palmer	180	237
All Central Area Properties, Except Raytheon*		TOTAL	75,954	112,598

*Raytheon was excluded, because it is currently operating a WWTF under a DEP approved groundwater discharge permit.

**TABLE 4-3
WEST AREA FLOW**

WASTEWATER MANAGEMENT NEEDS ASSESSMENT

Address	Assessor's Number	Use - Business Name	Existing Flow [gpd]	Build-Out Flow [gpd]
BOSTON POST RD				
593 BP	K06-026	RETAIL - DUDLEY SQUARE	696	1,454
616 BP	K06-012	SUDBURY MEDICAL CENTER	1,532	1,747
621 BP	K06-028	BARNSTEAD SHOPS	1,231	2,572
642 BP	K06-04, 05	NURSING HOME (in failure)	14,000	15,961
655 BP	K06-501	LONGFELLOW GLEN/ 4 Systems	32,000	32,000
684 BP	K05-019	AUTO REPAIR	712	879
694 BP	K05-017	RESTAURANT - BLUE LION	4,900	6,053
708 BP	K05-015	DENTIST	820	1,013
712 BP	K05-013	SUDBURY RENTAL	260	321
730 BP	K05-012	RETAIL - WAYSIDE PLAZA	1,724	2,130
736 BP	K05-011	FRUGAL FLOWERS	1,412	1,744
738 BP	K05-07	HOTEL - CLARION CARRIAGE	5,500	6,794
740 BP	K05-05	OFFICE - SUDBURY DESIGN	1,452	1,794
Fronted Non-District Parcels			28,305	28,305
TOTAL			94,544	102,767

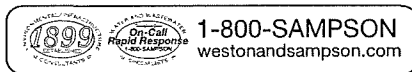
Additional Potential Flows from Fronted Properties (Not Previously Included)

Parcel	Zoned As	Description	Approx. Building Footprint (sq. ft.) (If Applicable)	Number of Stories (If Applicable)	Approx. Square Footage	Estimated Flows (gpd)
K05-0031	Residential	Child Care Center	20,000	2	40,000	3,127
K05-0266	Residential	Single Family Home				330
K05-0000	Residential	17 Duplexes = 34 Units				11,220
K05-0210	Residential	Single Family Home				330
K05-0211	Residential	Single Family Home				330
K05-0212	Residential	Single Family Home				330
K05-0213	Residential	Undeveloped				0
K05-0001	Residential	Single Family Home				330
K05-0032	Residential	Single Family Home				330
K05-0020	Residential	American Legion	2,000	1	2,000	150
K06-0303	Residential	Child Care Center	3,500	1	3,500	263
K06-0002	Residential	Animal Hospital	5,000	2	10,000	750
K06-0003	Residential	Funeral Home	8,500	2	17,000	1,275
K06-0040	Residential	Single Family Home				330
K06-0502	Residential	Undeveloped				0
K06-0029	Residential	Undeveloped				0
K06-0013	Residential	Single Family Home				330
K06-0014	Residential	Dog Pound	2,500	1	2,500	188
K06-0016	Residential	Greenhouses	20,000	1	20,000	1,500
K06-0018	Residential	Commercial Property (Boats)	4,000	1	4,000	300
K07-0015	Residential	Greenhouses	See K06-0016			0
K07-0014	Residential	Farmhouse?	3,000	2	6,000	450
K06-0602	Residential	Farm?	10,000	2	20,000	1,500
K06-0022	Residential	Single Family Home				330
K06-0021	Residential	Single Family Home				330
K06-0020	Residential	Single Family Home				330
K06-0019	Residential	Single Family Home				330
K07-0001	Residential	Single Family Home				330
K07-0002	Residential	Single Family Home				330
K07-0003	Residential	Single Family Home				330
K07-0102	Residential	Single Family Home				330
K07-0103	Residential	Single Family Home				330
K08-0007	Residential	Small office building	2,000	2	4,000	300
K08-0012	Residential	Single Family Home				330
K08-0013	Residential	Art Studio	2,500	1	2,500	188
K08-0025	Residential	Single Family Home				330
K08-0040	Industrial	Commercial / Industrial	6,000	1	6,000	450
K08-0039	Industrial	Commercial / Industrial	5,000	1	5,000	375
			TOTAL:			28,305

Notes:

1. All single family homes assigned a flow of 330 gpd per Title V.
2. All other properties assigned a flow of 75 gpd/1,000 sqft. (This is the office building design flow as outlined in Title V.)

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