MANCHESTER-BY-THE-SEA

SELECT BOARD • TOWN HALL
Manchester-by-the-Sea, Massachusetts 01944-1399
Telephone (978) 526-2000 FAX (978) 526-2001

April 26, 2022

Ms. Sarah Mellish, Chairperson
MBTS Zoning Board of Appeals
Town Hall
10 Central Street
Manchester-by-the-Sea, MA 01944

RE: SLV's 40B application and Municipal Sewer

Dear Madam Chair,

I write to convey the recent vote the Select Board acting as the Sewer Commission took in their capacity as the Town's Sewer Commissioners regarding the recent request by SLV to connect their proposed 40B project at Shingle Hill to the municipal sewer system. Our vote is to request the applicant pursue on on-site wastewater disposal system.

The proposed site lies outside the existing sewer district (see attached district map). In 2016 the Town completed a Comprehensive Wastewater Management Plan (CWMP) that took a look at the sewer plant's capacity, the existing sewer district, and possible expansion of the sewer system into high need areas of Town. The CWMP identified six areas of Town that potentially could benefit from being served by our sewer system. The Limited Commercial District near Route 128 Exit 50 was one such potential area. However, the first choice for wastewater disposal for any area outside of the existing sewer district is to pursue an on-site wastewater disposal system where possible. We as Sewer Commissioners have this as our policy based on the need to allow for better ground-water recharge. Wastewater that is processed at the sewer plant is discharged into the ocean and thus does not immediately help to recharge our groundwater. Wise water management requires that we take a more aggressive role in restoring the water that is withdrawn from our local aquifer. We also need to make sure we have capacity to serve the existing sewer district which has virtually no ability for on-site disposal systems.

We recommend that you have the applicant provide an analysis of the ability to construct an on-site wastewater disposal system. If such a system is not possible due to the physical limitations of the site, a full analysis of how the proposed project would connect to the municipal sewer system and the needed improvements to the collection system to handle the project generated flows should be completed by the applicant before consideration can be given to connecting the project to the Town's wastewater treatment system.

Sincerely,

Jeffrey Bodmer-Turner
Sewer Commissioner
Select Board Chair
Manchester-by-the-Sea MA

Attachments: Sewer District Map
Select pages from the CWMP

Excerpts from:

CDR | MAGUIRE

COMPREHENSIVE WASTEWATER MANAGEMENT PLAN

Town of Manchester-by-the-Sea

A Report to: Town of Manchester-by-the-Sea

Draft – August 1, 2015
Final – August 5, 2016

Prepared by: CDR Maguire Inc.
2 Granite Ave, Suite 150
Milton, MA 02186

Executive Summary

This Comprehensive Wastewater Management Plan (CWMP) report is the result of a collaborative work effort between the Town of Manchester–by-the-Sea (MBTS) and its Wastewater Steering Committee, local town officials, and the town's CWMP consultant CDR Maguire. Information obtained from various previous reports and studies along with updated local Board of Health and Wastewater Treatment Facility records served as the basis for this report required by the Massachusetts Department of Environmental Protection (MassDEP) Administrative Consent Order (ACOPE-NE-1N003).

Key findings for the CWMP are as follows:

1) Reliance on on-site systems as the primary method of wastewater treatment is and will remain the main strategy for all areas of town outside of the current sewer collection area. Inspections, maintenance, repairs and replacement of these systems will be performed. The Board of Health operates a highly effective Title 5 monitoring system which it continues to improve. The Board anticipates the number of I/A systems to expand.
2) Town growth projections are very modest. Recent trends are expected to continue with overall population declining slightly over the planning period while there is anticipated a slight uptick in the number of households as household size continues to decrease.
3) The Town's WWTP has operated at approximately 70% of permitted capacity for the past five years (0.47 mgd vs 0.67 mgd). The plant can readily handle additional capacity in the range of 96,000 gpd to 200,000 as shown in Table ES-2. As the Town continues to remove unwanted infiltration and inflow, additional capacity will become available.
4) WWTP capacity is targeted to serve the following needs:
    a. Existing sewer service area infill
    b. Possible sewer service area extension to the town's LCD zoning area
    c. Possible sewer service area extension to the Raymond Street area (if on-site solutions prove unsuccessful)
    d. Minor sewer service area extensions to the West Manchester area and the Smith's Point area.

    The total estimated wastewater flow expected for the targeted service needs for the planning period is 67,870 gpd while at full build-out the maximum expected additional wastewater flow is approximately 122,360 gpd. The capacities for each targeted service area are detailed in Table ES-8 in this section.
5) The Town will continue its aggressive removal of infiltration and inflow sources as well as implement a pro-active WWTP equipment replacement program.

Table ES-4. Screening of Preliminary Alternatives			
Alternative	Pros	Cons	Assessment
On-Site Systems	➢Reasonable Costs/Household ➢Limits Development & Growth in concurrence with town planning ➢Recharges groundwater locally	➢Possibility of failure and future water quality issues ➢Town Wastewater Management Program for monitoring & maintenance advised	Feasible for further consideration
Communal Treatment Systems	➢Reasonable Costs/Household ➢Limits Development & Growth in concurrence with town planning ➢Recharges groundwater locally	➢Generally "poor" soils limits possible sites ➢Limited available parcels of suitable size to service an entire needs area	Limited Feasibility May be an option for small neighborhoods or portions of a needs area
Connecting to Neighboring Systems		➢No adjacent municipal collection systems within reasonable distance ➢Requires long term agreement with neighboring community	Not Feasible
Sewer Expansion to Manchester WWTF	➢May be cost comparable to On-lot systems ➢Some WWTF capacity available ➢Improves long-term water quality	➢Sewer Extensions not currently permitted per Consent Order ➢Limited Available WWTF capacity ➢WWTF Capacity increase not permitted per Ocean Sanctuaries Act ➢May promote development growth along proposed sewers ➢Water "lost" in discharge to ocean	Feasible for further consideration
Sewer Expansion to New WWTF		➢Ocean Sanctuaries Act permit limits any new WWTF to a groundwater disposal system ➢Limited suitable sites available ➢Costs prohibitive as compared to other options ➢New facility would require extensive permitting	Not Feasible

Based upon the preliminary screening process it was determined that the on-site systems, communal systems, and sewer expansion/extensions would be further investigated for each study area. A conceptual sewer expansion plan for each area was developed that would extend sewer service to all lots of concern within a study area. Estimated wastewater flows and a comparison of cost/lots served between sewer expansion and on-lot systems were developed for each area. The results of this analysis are shown in Table ES-5. While Study Areas 1 and 2 were evaluated individually, Study Areas 3, 4 and 5 were combined when developing a possible conceptual sewer expansion plan.

prove to be a more beneficial, long-term environmental solution than continued reliance on replacement systems. A communal system in conjunction with Gloucester, although ideal, is not considered viable at the current time, however may be a possibility down the line. Should communal systems prove to be difficult or unreasonable to implement, the final option the town should consider is extending sewers to the Raymond Street area. This is the least desirable alternative because it could spur unwanted growth in the area and negatively impact the town's stated goals to maintain the current character of the town.

The town is however advised to reserve capacity at the treatment plant in the event that all options prove ineffective and the Raymond Street area must be tied into the collection system.

The outline of the Recommended Plan with both the primary or preferred alternative and a secondary alternative is summarized in Table ES-7.

Table ES-7. Recommended Plan

Study Area	Preferred/Primary	Alternative/Secondary
Study Area 1 West Manchester	On-Site Wastewater Management with Limited Sewer Extensions	-
Study Area 2 Smith's Point	On-Site Wastewater Management with Limited Sewer Extensions	-
Study Area 3 Coolidge Point Road	On-Site Wastewater Management	-
Study Area 4 Raymond Street	On-Site Wastewater Management *	Sewer Expansion
Study Area 5 Hickory Hill	On-Site Wastewater Management	-
Study Area 6 LCD Area	Sewer Expansion	On-Site Wastewater Management

* The town should consider small neighborhood communal systems or a more expansive communal system with Gloucester should that opportunity arise.

The elements of the overall Recommended Plan are outlined below.

On-Site Systems

Reliance on on-site systems as the primary method of wastewater treatment is the main strategy for all areas of town outside of the current sewer collection area. Inspections, maintenance, repairs and replacement of these systems will be performed as required to comply with existing regulations until such time as new regulations are adopted by the town.

Table ES-8. Wastewater Flow Projections for the Recommended Plan		
Study Area	Full Build-out ADF (gpd)	Planning Period ADF (gpd)
Infill	15,000	11,250
Study Area 1 West Manchester (Forster & Wood Crest Sewer Ext)	3,360	2,100
Study Area 2 Smith's Point (Beach Street Sewer Extension)	6,930	3,990
Study Area 3 Coolidge Point	-	-
Study Area 4 Raymond Street Sewer Expansion	35,070	19,530*
Study Area 5 Hickory Hill	-	-
Study Area 6 LCD	62,000	31,000*
TOTAL	122,360	67,870

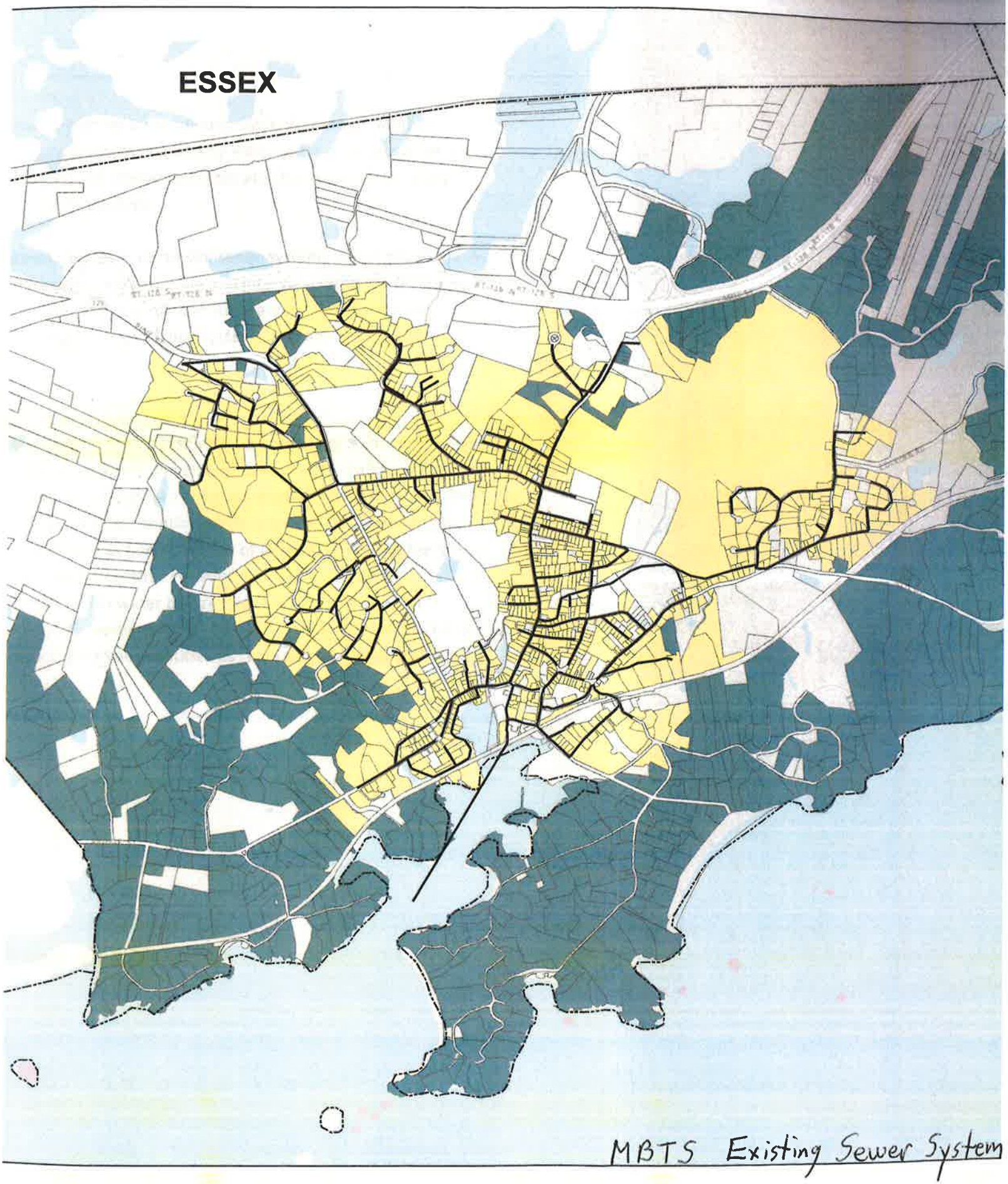
*Capacity for these flows should be reserved at the WWTF.

Manchester WWTF

The existing Manchester WWTF does not require upgrade or expansion to meet current NPDES permit conditions and projected wastewater flows from planned sewer extension and sewer expansions. However, improvements and equipment replacement are recommended to improve operational performance and efficiency of the plant. The upgrades would improve the operating range and efficiency of the key pumps and equipment, replace aging equipment; as well as improve operator control and maintenance requirements. Some of the more significant recommended improvements include: to replace and re-size influent and effluent pumps; adding VDF controls to the influent and effluent pumps; replace and re-sizing aeration blowers; replace and re-sizing of diaphragm sludge pumps; replacement of waste sludge pumps; upgrade and replacement of SCADA panels. Further, it is recommended that the town begin to plan for and evaluate potential climate change impacts at the Manchester WWTF.

Infiltration and Inflow (I/I) Removal Program

A formal infiltration and inflow (I/I) removal program should be continued to address the issues documented in the town's December 2013 Infiltration/Inflow Analysis report. Ongoing efforts to reduce I/I and eliminate possible salt water intrusion sources are currently underway in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