

SEWER SERVICE EXPANSION AREA
SEWERSHED "L"
ENGINEERING REPORT

Prepared for:

**Village of
Sag Harbor**



Prepared by:



**CAMERON
ENGINEERING**

March 2022



SAG HARBOR SEWER SERVICE EXPANSION AREA – SEWERSHED “L” ENGINEERING REPORT

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1. Executive Summary

This Engineering Report has been prepared to provide the necessary details to expand the sewer service area within the Village of Sag Harbor, Suffolk County, NY. The purpose of expanding sewer service to unsewered areas are based on several important reasons. First, the Village of Sag Harbor is surrounded by marine waters that have a rich history dating back centuries. These waters fuel a robust tourism business that greatly assists the economics of the Village. In addition to the trade from the seasonal visitors, recreational and commercial activities within the Village rely on these waterways being in a healthy environmental state. The Village owns and operates a wastewater treatment facility (Facility) that serves as the front line of defense of the Village’s waterways. This asset currently receives sewage flow from a relatively small portion (13%) of the parcels located within the Village’s boundaries. The balance of the parcels located in the Village utilize cesspools and septic tanks for the treatment of wastewater. These onsite wastewater treatment systems (OWTS) have limited capabilities to reduce pollutants to levels that are not harmful to the Village’s marine waters. The Facility performs well in removing nitrogen from the wastewater to significantly lower levels than OWTS. Nitrogen on Long Island has been declared public enemy number one by Suffolk County Executive because of various water quality issue it causes such as harmful algae bloom, wetland loss, shellfish bed closures and fish kills. Studies performed by Dr. Christopher Gobler of Stony Brook University’s Center for Clean Water Institute on the Village’s waterways has confirmed these conditions can be present on occasion. To further reduce the impact of nitrogen in the local waterways, the Village is proposing to extend sewers to take advantage of approximately 90,000 gpd of excess capacity. Connecting parcels now on OWTS to the sewer system will significantly reduce the amount of nitrogen leaching into the Village’s receiving waters.

The Village of Sag Harbor’s Sewer Master Plan has identified several sewersheds within the Village that were ranked as highly critical with respect to their impact on the Village’s waterways. Sewershed “L” has been identified as a priority sewershed due to its proximity to the harbor, density of parcels, short travel time of OWTS effluent to the harbor. Sewershed L is adjacent to existing sewer service which enhances its ranking for consideration of a



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sewer extension. The details of the proposed sewerage of Sewershed L are provided in this Engineering Report.

The Village boundary, as well as all the original sewershed boundaries are shown on Figure 1. Figure 2 shows an aerial diagram for the updated Sewershed “L”. The draft Master Plan originally identified a total of thirty-three (33) parcels for sewerage. Subsequent evaluation resulted in the addition of seven (7) parcels. The updated boundaries now include a total of forty (40) parcels. The engineering design and drawings for new sewers addresses the 40 parcels. The final boundaries are to be confirmed in the Map & Plan document when it is accepted and approved for the project.



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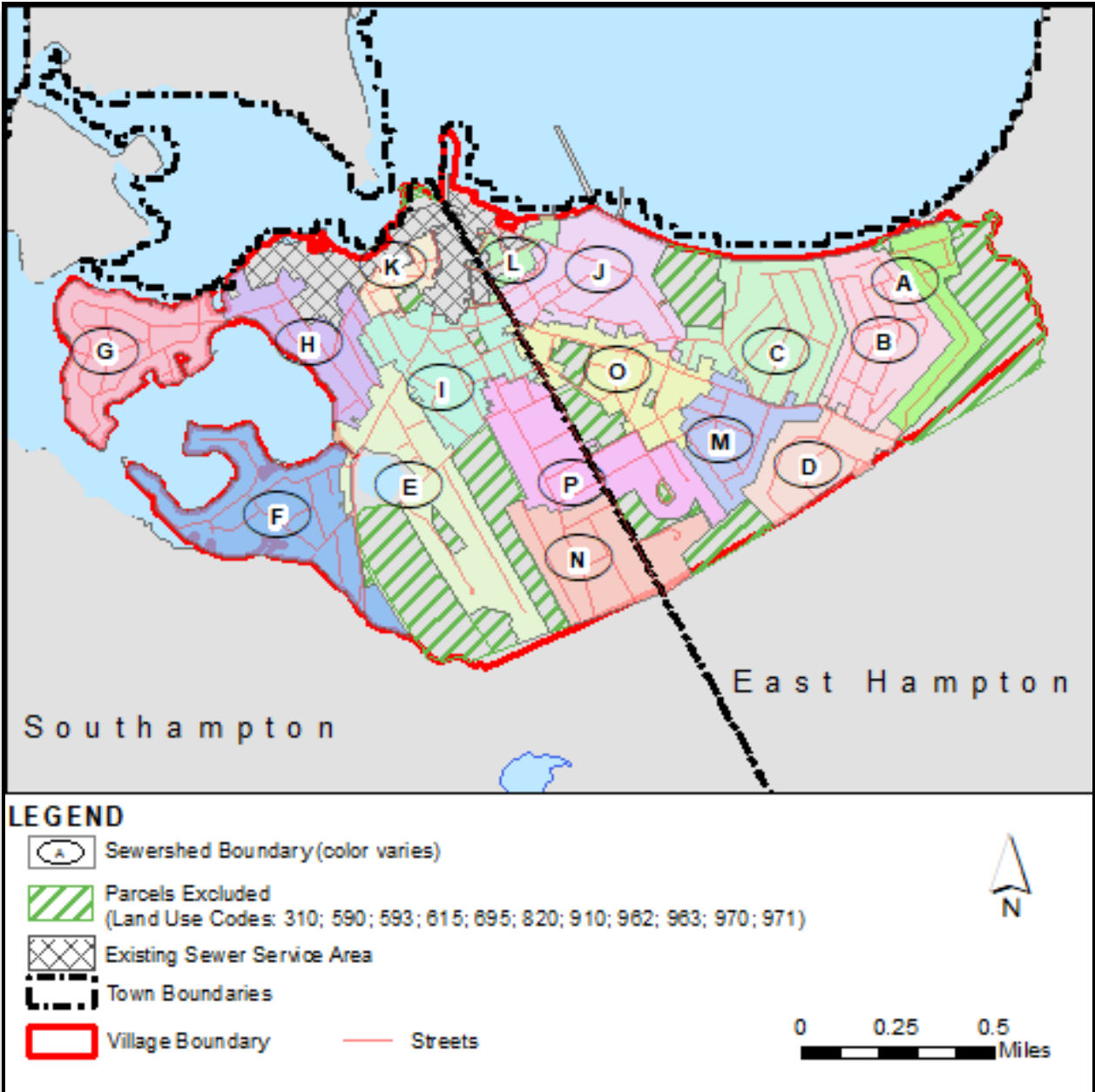


Figure 1 – Village of Sag Harbor and Original Sewershed “L” Boundary



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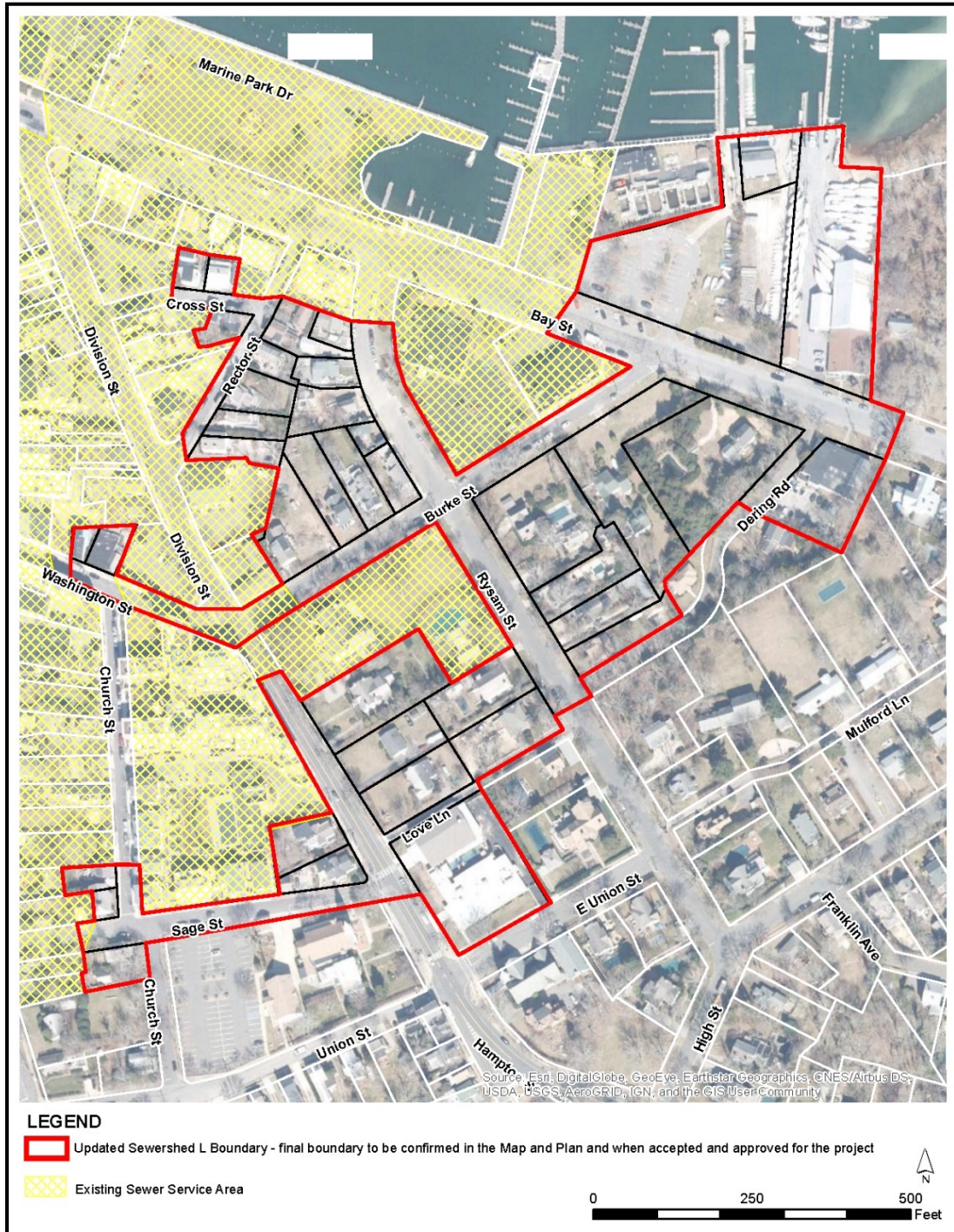


Figure 2 - Updated Sewershed “L” and Existing Sewer Service Area



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2. Project Background and History

2.1. Overview

The final draft Sewer Master Plan (“Plan”) has recently (January 2022) been submitted to the Village for its review. The Plan is to provide guidance to the Village on the management of wastewater generated by its residents and its downtown commercial district. Presently, approximately 13% of the parcels within the Village are sewered, with the remaining parcels utilizing on-site wastewater treatment systems (“OWTS”).

The Village’s boundaries lie within the Town of Southampton and Town of East Hampton. There are 2,180 parcels within the Village of Sag Harbor. Approximately 55% are located within the Town of Southampton and approximately 45% are located within the Town of East Hampton. As previously noted, the vast majority of the parcels within the Village are unsewered and rely on OWTS such as cesspools and septic tanks for wastewater treatment.

Potential Environmental Justice Areas are U.S. Census block groups of 250 to 500 households each that, in the Census, had populations that met or exceeded at least one of the following statistical thresholds:

1. At least 52.42% of the population in an urban area reported themselves to be members of minority groups; or
2. At least 26.28% of the population in a rural area reported themselves to be members of minority groups; or
3. At least 22.82% of the population in an urban or rural area had household incomes below the federal poverty level.

Based on current information from New York State and U.S. Environmental Protection Agency, there are no potential Environmental Justice areas located within the Village. The Village recognizes that the health of the Village’s vibrancy and economy is tied directly to the quality of the local surface waters including the inland embayments and the Harbor area. The Plan will be important in identifying management measures to protect these waterbodies.



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The Village’s Wastewater Treatment Facility (“Facility”) is a critical asset and plays a significant role in determining where and when the Village should consider extending sewers or creating alternative treatment capacity. The WWTP has an estimated 88,500 to 90,000 gallons per day (gpd) of available excess capacity. This benchmark serves as a cap for connecting new flows to the Facility. Once this benchmark is reached, there would be no further connections, unless the WWTP is expanded or application(s) of new treatment technologies within the existing WWTP footprint can provide additional treatment capacity are installed.

2.2. Project Need

The environmental impact from the discharge from onsite wastewater treatment systems (“OWTS”) is well documented. According to Suffolk County Subwatershed Wastewater Plan, while the source of nitrogen to individual water bodies varies, it is estimated that 63.6 percent of the nitrogen reaching groundwater in Suffolk County subwatersheds originates from on-site wastewater treatment systems.

In addition to the harm to the Villages local surface waters, inland embayments and the harbor area noted in the prior section, the few existing commercial properties located within the proposed Sewershed “L” Service Area are limited to discharging wastewater volumes in accordance with Suffolk County Department of Health Services (“SCDHS”). Proposed Sewershed “L” Service is located in Suffolk County Groundwater Management Zone IV, therefore SCDHS maximum allowable flow is 600 gallons per day (gpd) per acre. It is also completely located in the 0-2 year groundwater contribution area, which means the discharge from existing onsite wastewater treatment systems (“OWTS”) on each property reaches receiving waters in less than 2 years. Access to gravity sewer mains that would collect, and transfer wastewater generated within the proposed Sewershed “L” Service Area to the Villages existing WWTP would have a significant positive effect on environmental conditions to both the health and quality of groundwater and receiving waters.



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3. Project Scope

3.1. Proposed Updated Sewershed “L” Service Area

The proposed Sewershed “L” Service Area was presented in Figure 2; and focuses on expanding the existing sewer service within the Village to improve the quality of the local groundwater and surface waters, inland embayments and Harbor area. Physical characteristics, such as property lines and streets, guided the boundary of Sewershed “L”.

The proposed Sewershed “L” Service Area is currently unsewered and relies on onsite wastewater treatment systems (“OWTS”) such as cesspools and septic tanks. Those systems are not designed to meet NSF/ANSI 245 (residential wastewater treatment system standard capable of removing 50% of the nitrogen). As the efficacy of conventional septic and cesspool system are limited for removal of nitrogen from the wastewater, excessive nitrogen leaching into the groundwater from OWTS is the number one source of excess nitrogen loading into the Villages local surface waters, inland embayments and harbor area located to the north of the proposed Service Area. This results in eutrophication of those waters and result in hypoxia as well as rust tide in the local water as reported by SUNY Stony Brook and cited in the Suffolk County Subwatershed Wastewater Plan.

There are no known Innovative/Alternative (“I/A”) on-site systems installed in the proposed service area, however one property has a permit application pending with the SCDHS for an I/A system approval to construct.

Sewershed “L” is located in proximity to existing sewer service areas “J” and “K” and shares common factors of smaller parcel size (increased building/wastewater density), high groundwater and short travel time (<2 years) to the surface waters.

As indicated in the Table 1 (“Land Use Summary”) below, the Sewershed “L” Service Area currently includes 40 parcels with 30 parcels (75%) being residential (Medium or High Density). Currently, the land use in Sewershed L is predominantly single family homes.



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Table 1 – Land Use Summary

Land Use Categories	Parcel Count	Area (acres)
Commercial	5	1.893
Institutional	2	0.835
Recreation and Open Space	2	1.625
Residential (Medium Density)	12	4.754
Residential (High Density)	18	2.113
Vacant	1	0.006
TOTALS:	40	11.226

As indicated above, the proposed Sewershed “L” is comprised of approximately 11.226 acres of land with thirty-three (85%) parcels located in the Town of East Hampton and seven (15%) parcels located in the Town of Southampton. The zoning classifications are R20 (Residence), VB (Village Business) and WF (Waterfront). Zoning and land use within the proposed Sewershed “L” Service Area are shown on Figures 3 and 4, respectively.



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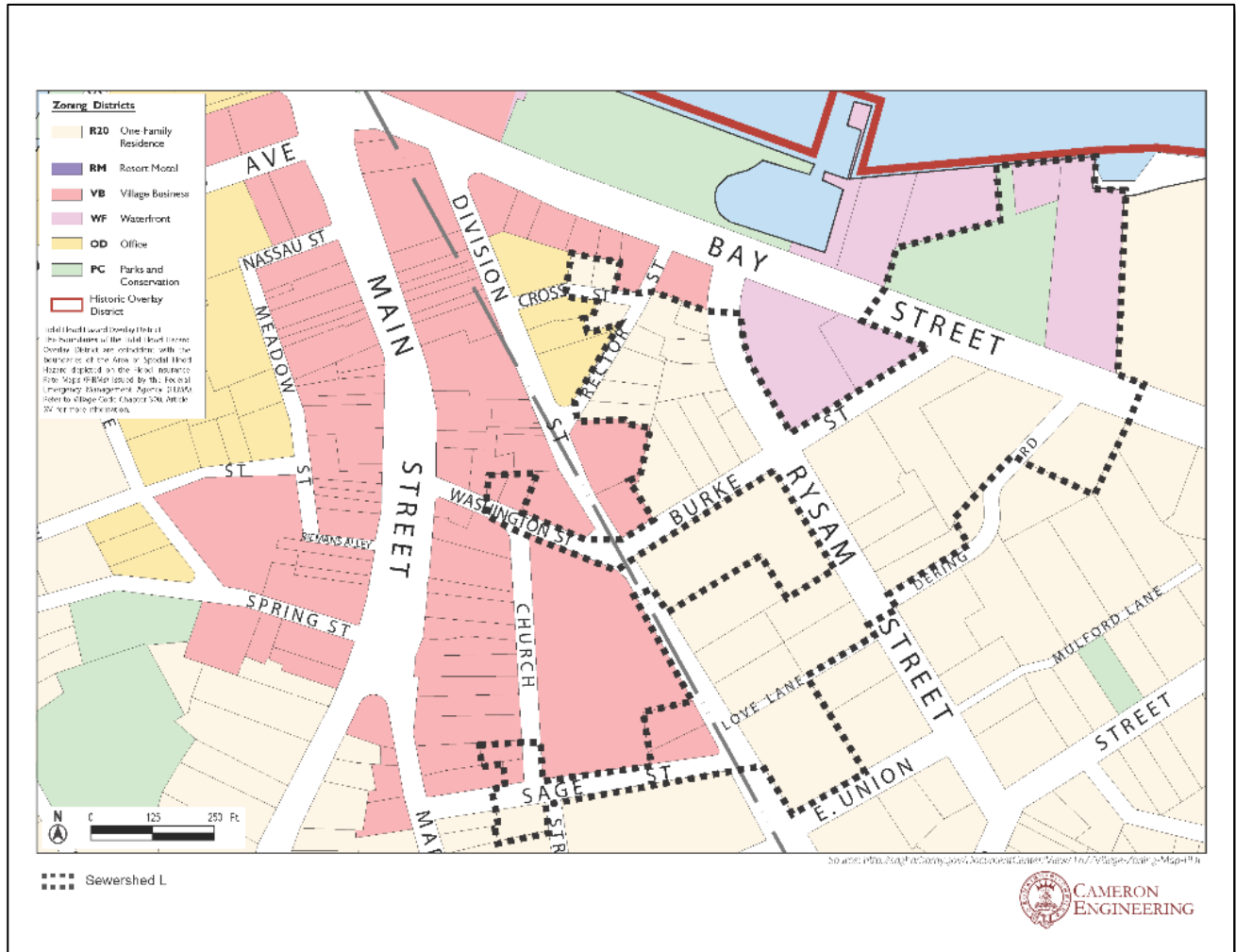


Figure 3 – Zoning for Sewershed “L” and Vicinity



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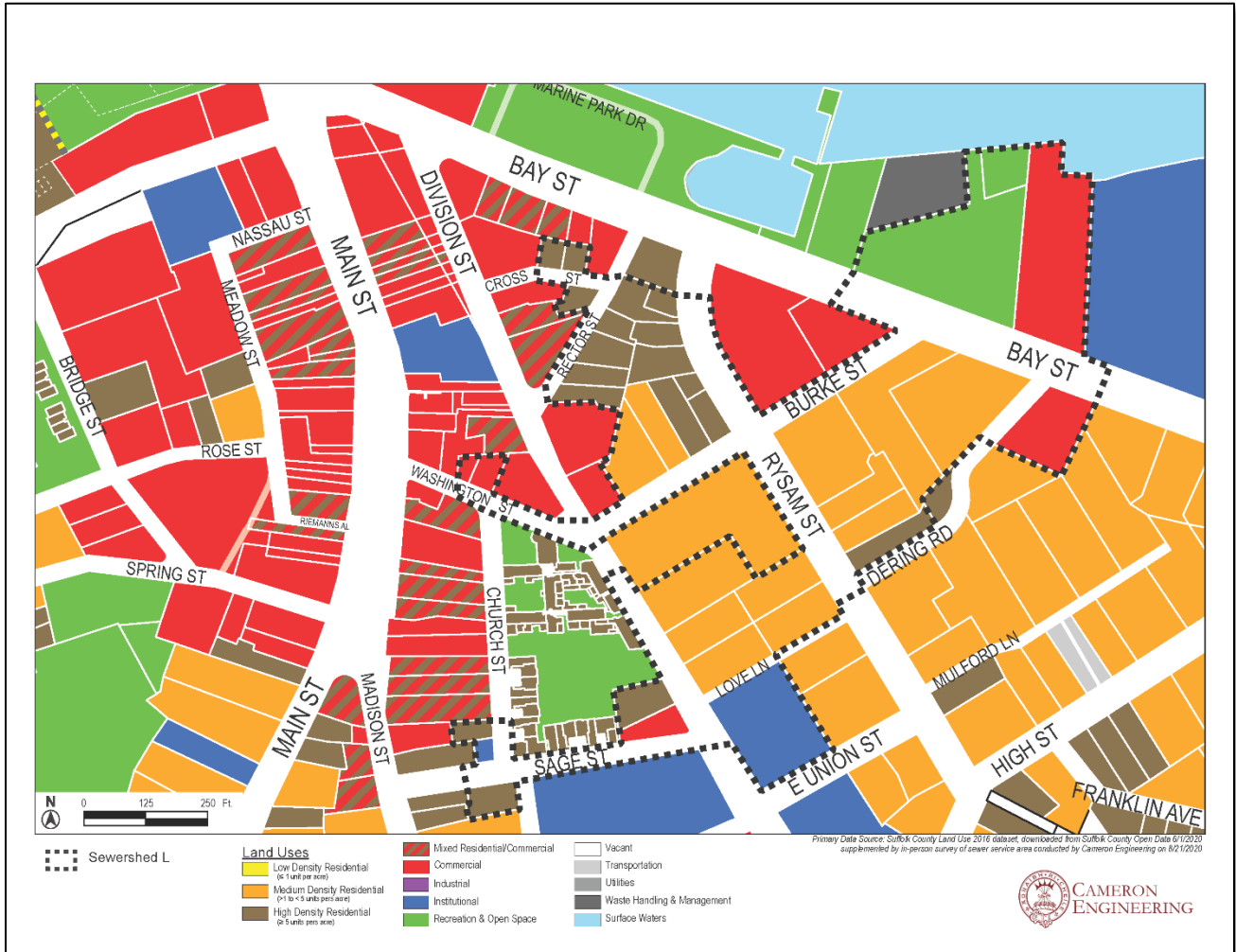


Figure 4 – Land Uses for Sewershed “L” and Vicinity

3.2. Topography and Groundwater Depth

As shown in Figure 5, the topography within Sewershed “L” slopes down to the north from Division Street to Bay Street. The Village’s existing WWTP is located on Bay Street which is conducive for the design and use of gravity sewers.



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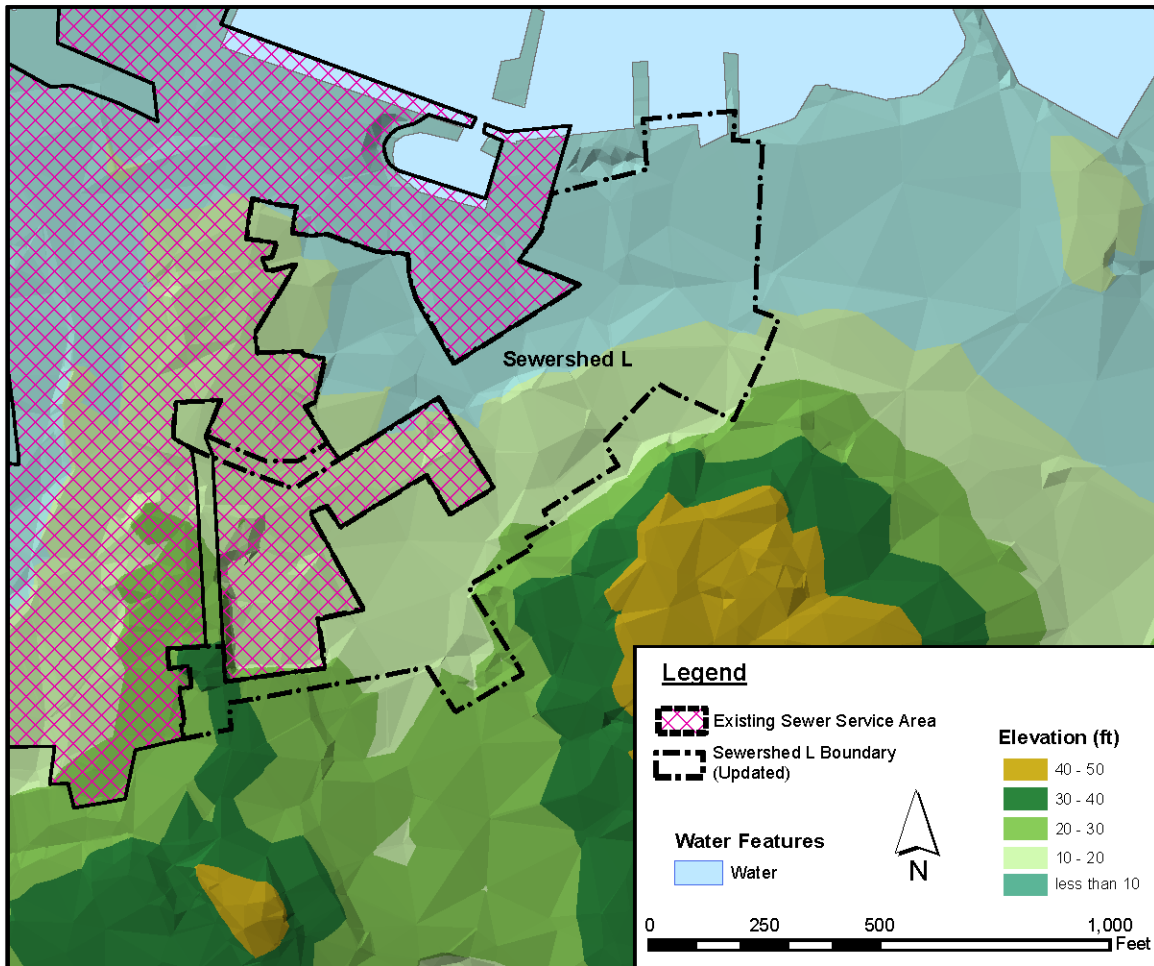


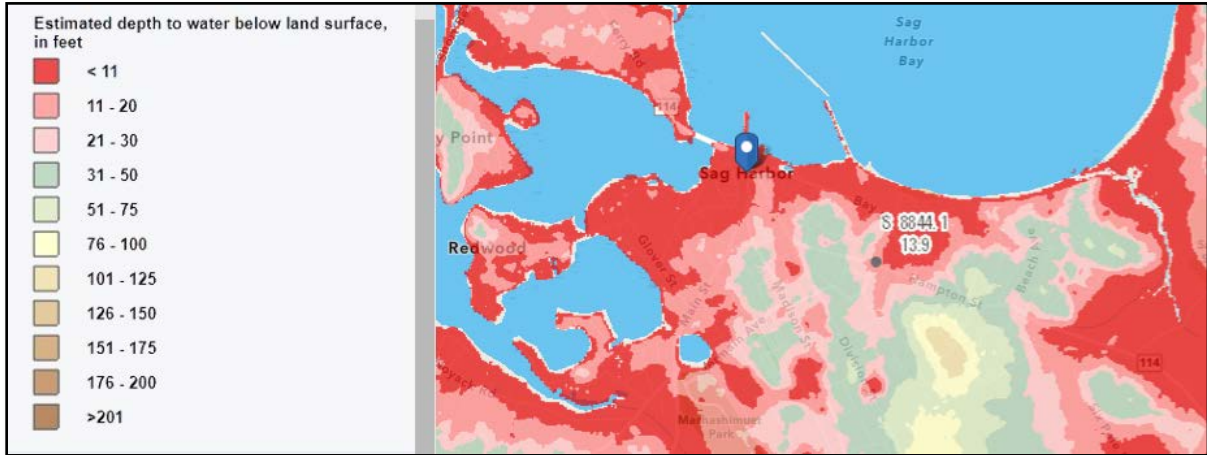
Figure 5 – Topographic Map

As shown on Figure 6, the minimum and maximum depths to groundwater within Sewershed “L” are 4 feet and 14 feet, respectively. The depth to groundwater loosely coincides with the topography of the area, that is, the closer you are to surface water the shallower the groundwater depth from the surface. General groundwater flow direction within Sewershed “L” is north toward Sag Harbor Bay.



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Source: USGS <https://ny.water.usgs.gov/maps/li-dtw/>

Figure 6 – Depth to Groundwater

4. Sewer Availability

4.1. Existing Wastewater Treatment Plant Capacity

The Village’s Wastewater Treatment Facility (“Facility”) has a design capacity of 250,000 gallons per day (gpd). In accordance with New York State Department of Environmental Conservation (“NYSDEC”) requirements, a Facility Plan will be required once the annual average flow at the Facility reaches 95% of its design capacity, which would equal 237,500 gpd. Peak daily flows in prior high summer seasons have ranged from 137,000 to 149,000 gpd (refer to table below). Due to the COVID-19 pandemic, peak flows in 2020 were lower than prior years, so the data for 2020 will not be used for peak flow analysis.

Table 2 – Facility Maximum Average Daily Flow Summary

Year	Maximum Average Daily Flows (gpd)
2017	137,000
2018	149,000
2019	138,000
2020	121,000



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For the purposes of this engineering report, an additional 88,500 gpd of new flow could be allocated before the 237,500 gpd benchmark flow would be reached whereby a Facility Plan would need to be prepared. Utilizing the Suffolk County Department of Health Services sewage flow factor of 300 gpd for a Single-Family Residence (“SFR”), the available or excess capacity is equivalent to approximately 295 single family homes (i.e., 88,500 gpd ÷ 300 gpd/SFR).

The discussion of the WWTP capacity presumes that the operability of the Village’s wastewater treatment plant may become more challenging once the flow level increases and approaches the facility’s design capacity. Presently at the reduced flow levels, the WWTP often has two and at times three tanks offline during the off-season low flow period. This provides the operations staff with flexibility to divert flow to an empty tank to allow to perform scheduled maintenance work on piping, valves, aeration headers and air diffusers. Having an empty tank or two also provides the flexibility to operations staff to take a tank offline for unscheduled maintenance or an emergency event(s). This operational flexibility is significantly reduced once peak flows increase and more or all the process tanks are on line 100% of the time.

4.2. Projected Wastewater Flows and Nitrogen Loading

The estimated sewage flows in gallons per day, and nitrogen loadings in pounds per day and pounds per year within the proposed Sewershed “L” are summarized as follows:

Table 3 – Nitrogen Loading Per Land Use

Land Use Categories	Est. Sewage Flows (gpd)	Est. Nitrogen Loading (lbs/day)	Est. Annual Nitrogen Loading (lbs/yr)
Residential	9,600	5.20	1,898
Non-Residential	5,062	2.74	1,000
TOTALS:	14,662	7.94	2,898



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As shown in the table above, an estimated 2,898 lbs/year of nitrogen loading is currently being discharged to the groundwater. This amount of nitrogen will be reduced by 2675 lbs/yr (92%) should the parcels in Sewershed L be connected to the new sewer system once completed.

The estimated wastewater generation rate within the proposed Sewershed “L” Service Area is approximately 14,662 gpd. Based on the available excess capacity at the Village’s treatment plant (i.e., 88,500 gpd), the Facility will be capable of accepting and treating the additional wastewater flows from the proposed Sewershed “L” Service Area.

Based on Recommended Standards for Wastewater Facilities, 2004 Edition (“Ten States’ Standards”), an 8-inch diameter gravity sewer pipe @ 0.40% slope are the minimum requirements for public sewer. Eight (8) inch diameter, DR-18 gravity sewer piping is proposed within the proposed Sewershed “L” Service Area with connection to existing 8, 10 and 12-inch diameter gravity sewers. Based on the above requirements, the capacity of an 8-inch diameter DR-18 gravity sewer pipe flowing 75% full is approximately 0.65 mgd = 650,000 gpd. Therefore, 8-inch diameter DR-18 gravity sewers will be of sufficient size to convey wastewater within the proposed Sewershed “L” Service Area to the existing WWTP

The Village of Sag Harbor has reported no problems experienced with the existing 8, 10 and 12-inch diameter connecting sewers in the vicinity of the proposed Sewershed “L” Service Area.

The proposed sewers within proposed Sewershed “L” Service Area are presented on Figure 7 and will be designed in accordance with Ten States’ Standards (i.e., 0.40% slope for 8-inch diameter, DR-18 pipe) and will connect to existing gravity sewer infrastructure for proper conveyance and treatment at the Villages existing WWTP.



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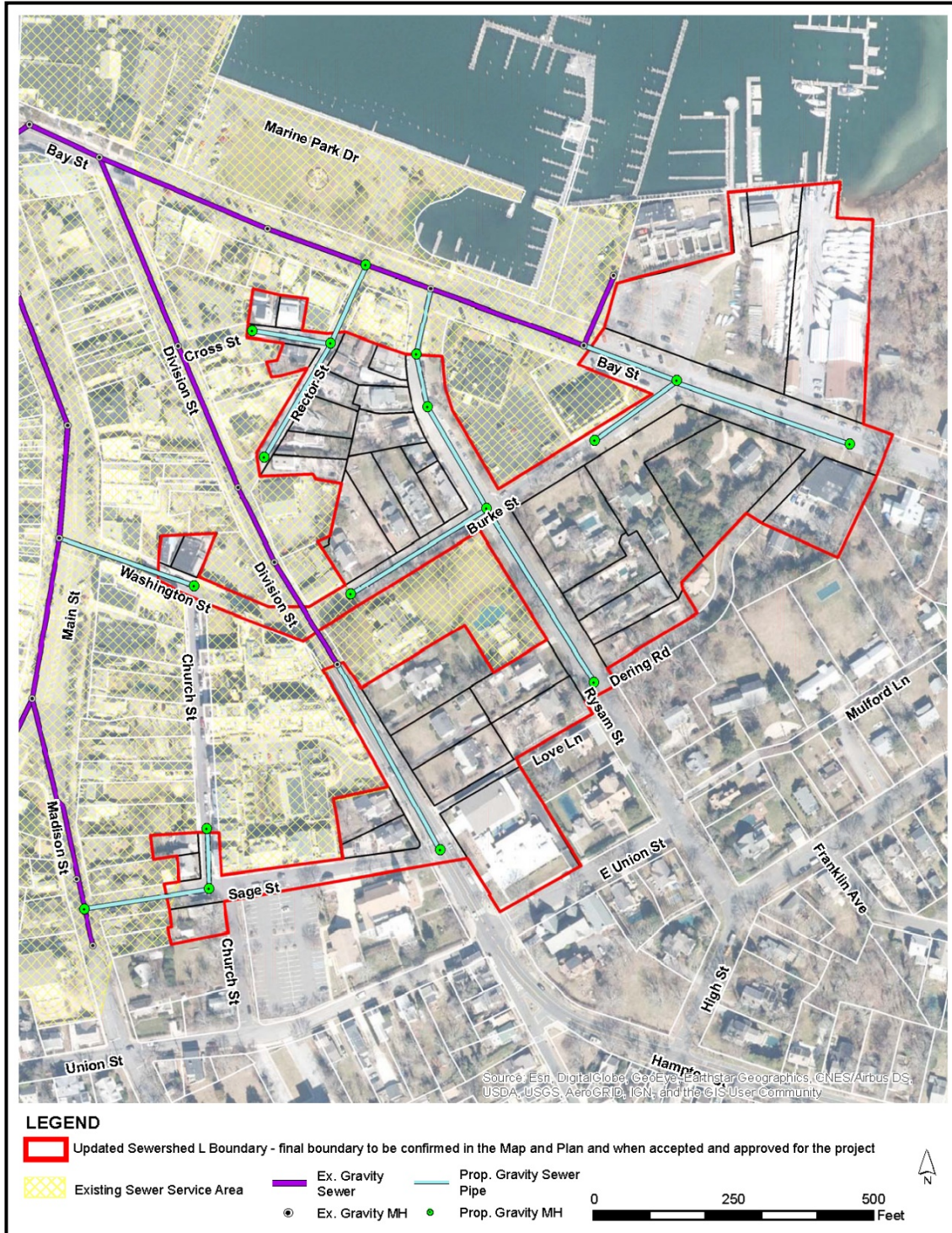


Figure 7 – Update Sewershed “L” Proposed Gravity Sewers



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5. Collection and Conveyance System

5.1. Overview

Gravity sewers are the most widely used method of collecting and transporting wastewater. Gravity sewers are also the most common method of sewage collection throughout Suffolk County. Village of Sag Harbor employees are familiar with the installation, operation, and maintenance associated with gravity systems and their appurtenances. Design for gravity sewers is governed by Ten States’ Standards, Suffolk County Department of Public Works and Village of Sag Harbor requirements as well as by good engineering practice. Based on available topographic information and a site reconnaissance, a gravity sewer system will be the basis of sewage collection and conveyance for the proposed Sewershed “L” Service Area.

5.2. Gravity Sewer Collection System

Figure 7 provided a schematic of the proposed gravity sewer collection system consisting of 8-inch diameter, DR-18 PVC piping and precast concrete manholes to accommodate Ten States’ Standards, Suffolk County Department of Public Works and Village of Sag Harbor requirements.

The new gravity sewers within the proposed Sewershed “L” Service Area will be located on the following streets: Sage, Church, Washington, Division, Rysam, Burke, Rector, Cross and Bay and will discharge to existing sewers located on Madison Street, Main Street, Division Street and Bay Street.

Spurs and building connection laterals will be installed within the existing roadway right of way and up to the connecting parcel property line for each parcel included within the Sewershed “L” Service Area. The gravity sewer piping will follow the general contour of the topography. The location at each business, house trap, exterior sanitary piping and existing onsite wastewater treatment system (“OWTS”), including cesspools and septic tanks, will need to be verified. Existing sanitary



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pipings exiting the rear of a building will likely require routing inside the building structure to exit the front or, in the rear alleyways, to the side street to connect to the new sewer main located in the street. Some building structures may require ejector pumps to connect to the new sewer main located in the street.

6. Environmental Considerations

6.1. State and Local Agencies

An action is subject to review under the State Environmental Quality Review Act (“SEQR”) if any state or local agency has the authority to issue a discretionary permit, license or other type of approval for that action. The proposed action (sewer extension) does not appear to meet or exceed threshold established under Type I and is not on the list of Type II action. Hence, a coordinated review by local and state involved agencies including the Village of Sag Harbor (as Lead Agency), Suffolk County Department of Health Services, Town of Southampton, Town of East Hampton and NYSDEC will be required. A completed environmental review in the form of an Environmental Assessment Form (EAF) and supporting documentation will likely designate the Project as an Unlisted Action and passing of a Negative Declaration is expected. A copy of the Short Environmental Assessment Form is provided in the Appendix C.

7. Cost Considerations

A Map & Plan will be prepared for the sewerage of the proposed Sewershed “L” Service Area. The Map & Plan is used in establishing the boundaries of the service area and developing the costs of sewers (debt service and O&M) that the users will be assessed for the proposed Sewershed “L” Service Area sewer project.



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7.1. Cost Estimate

A few assumptions were made to complete the cost estimate. These assumptions do not represent a final design but provide approximate budgetary costs to assess the feasibility of the Project and to assist the Village in pursuing grants and other financing avenues. The assumptions include the following:

- Collection and Conveyance System: 8-inch diameter DR-18 PVC gravity sewer piping is recommended for the proposed Sewershed “L” Service Area. The cost estimate assumes a curb-to-curb pavement restoration where the new gravity sewers are installed.
- Costs for on-site wastewater treatment system (“OWTS”) abandonment and individual property owners’ connections are not included. The property’s sanitary piping (i.e., building connection) may need to be rerouted to the street to connect to the newly installed sewer main if it currently exists in the rear of building.
- Hazardous materials abatement (soil and groundwater) is not included.
- Legal and administrative costs to establish the proposed Sewershed “L” Service Area are provided on a percentage (5%) of projected capital costs.
- Groundwater dewatering is anticipated based on the limited data reviewed regarding subsurface conditions and available USGS well information. A subsurface investigation is needed to confirm assumptions. This task would be completed during the detailed design phase. Note that any dewatering operation that requires treatment because of contaminants found in the groundwater will increase dewatering cost based on treatment need.
- A 20 percent design contingency was added to the construction cost along with reasonable and customary soft costs (i.e., engineering and construction management). The cost has been escalated to the year 2023 in anticipation of the midpoint of construction for a one-year construction period starting in mid-2022.



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- Costs exclude major utility relocation and unforeseen conditions with an allowance provided for these items. A detailed site survey and utility investigation is needed to properly estimate these costs and would be conducted during the detailed design phase.

As shown on Table 4 below, the total estimated cost for sewer infrastructure for the 40 parcels in the Town of East Hampton and the Town of Southampton is \$6.18M with a total project cost of approximately \$7.1M. Soft costs associated with engineering, construction administration and construction management are approximately \$0.92M. These costs include full depth sewer trench restoration and pavement overlay. These costs do not include closure of existing OWTS, pavement striping, traffic signal loops and sidewalk/curb restoration, and provisions for building/house connections to the new gravity sewer system spur.

For reference, the total construction cost for the seven (7) parcels in the Town of Southampton is \$631,579, which is the sum of the right-of-way construction cost of \$492,671, parcel connection cost of \$128,408 (\$18,344 per parcel x 7 parcels) and parcel connection oversight cost of \$10,500 (\$1,500 per parcel x 7 parcels). The total construction cost for the thirty-three (33) parcels in the Town of East Hampton is \$5,546,097. Soft costs remain the same at approximately \$924,568, which resulted in a total project cost, for the thirty-three (33) parcels in the Town of East Hampton, of approximately \$6,470,665.

Table 4 - Capital Cost Estimate – Construction and Soft Costs for 40 Parcels

Description	Cost
Total Construction Costs: (inc. Labor, Material, Equipment, General Conditions, Escalation 2023, Contractor Overhead & Profit, 20% Design Contingency, Contractor Bonds & Insurance, and Contract Allowances & Unit Prices)	\$6,177,676
Engineering Design	\$306,800
Construction Administration	\$175,000
Construction Inspection	\$442,768
GRAND TOTAL	\$7,102,244



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8. Alternatives Analysis

The alternatives to sewerage the proposed Sewershed “L” Service Area as defined in this document include a No Action option, individual Innovative & Alternative (“I&A”) treatment systems option and a communal/Intermediate sized sewerage treatment system option. A discussion of each option is provided in the following sections.

8.1. No Action

Under this option, parcels currently located in the unsewered proposed Sewershed “L” Service Area would continue to have their sanitary wastewater treated by their respective existing onsite wastewater treatment systems (OWTS). The efficacy of these systems is limited with respect to overall reduction of pollutants and does not provide protection of the Village’s waterways. Eutrophication and hypoxic conditions in the local waters will continue; therefore, the no action alternative is not a viable option.

8.2. Innovative & Alternative (“I&A”) Treatment System

For small flow parcels, new development or significant redevelopment of existing structures, parcel Owner’s would install an approved Innovative & Alternative (“I&A”) treatment system. These systems are currently designed to treat residential wastewater up to approximately 500 gpd. The capital cost and operation and maintenance costs of individual I&A treatment systems for each parcel are extensive, and the systems can achieve treatment standard of no greater than 19 mg/l of total nitrogen versus 8 mg/l of total nitrogen by Sag Harbor Wastewater Treatment Plant. Beside less effective nitrogen removal, other pollutant removal such as BOD and TSS are less than what can be achieved at the Village’s WWTP. With high groundwater conditions existing in portions of Sewershed L, the efficacy of I/A systems is questionable. If the Village is not capable of funding the sewerage



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of Sewershed L then the limited use of I/A systems should be considered. If the Village is committed to funding and providing an expansion of sewers into Sewershed L then individual I&A treatment systems are not viable option for providing sewer service for the proposed Sewershed “L” Service Area.

8.3. Communal Wastewater Treatment Systems

Communal/Intermediate sized wastewater treatment systems are typically sized between 15,000 and 30,000 gpd although smaller capacity systems can be considered as an alternative to individual I/A systems. Communal/Intermediate sized wastewater treatment systems include packaged treatment plants or other types of treatment systems (i.e., constructed treatment wetland). As previously noted, the projected flow of approximately 14,662 gpd from the proposed Sewershed “L” Service Area is below the typically communal/Intermediate sized wastewater treatment system where efficiency can be realized. In addition, the capital cost, permitting, and logistics of managing the operation and maintenance (O&M) of these treatment facilities is difficult. As a result, the communal/Intermediate Sized wastewater treatment system alternative does not appear to be a viable option for providing sewer service for the proposed Sewershed “L” Service Area.

It is important to note that the Village’s existing WWTP will be capable of treating the additional wastewater flow (i.e., excess capacity) of 14,662 gpd from the proposed Sewershed “L” Service Area. In addition, the Village Sewer Code requires parcel owners to connect to gravity sewers should it become available within a predefined time period specified by the Village Board. As a result, gravity sewers appear to be the most viable alternative for sewerage of the proposed Sewershed “L” Service Area.



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9. Project Schedule

The following table provides a theoretical schedule for this project. The schedule would be subject to the time frames for the Sewer Extension processes. The bid and award of the construction contract would not start until the sewer extension area has been formally established.

Table 5 – Project Schedule

Task	Date
Engineering Design Completed	April 2022
Draft Map & Plan	May 2022
SEQRA Finalized	June 2022
Public Meetings	March 2022 – July 2022
Final Map & Plan	June 2022 - August 2022
Project Financing	February 2022 – May 2023
Permits	May 2023
Bid & Award	January 2023 - June 2023
Construction NTP	February 2023 - July 2023
Construction Completion	July 2024 - January 2025



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**SAG HARBOR
SEWER SERVICE EXPANSION AREA – SEWERSHED “L”
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10. Appendix A, B and C

As per requirements for the Preliminary Engineering Report, the following forms have been provided:

Appendix A – Engineer’s Report Certification

Appendix B – Detailed Construction Cost Estimate

Appendix C – SEQR Short Form EAF & State Historic Preservation Office
Determination Letter



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**SAG HARBOR
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APPENDIX A

Engineer’s Report Certification



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Engineering Report Certification

To Be Provided by the Professional Engineer Preparing the Report

During the preparation of this Engineering Report, I have studied and evaluated the cost and effectiveness of the processes, materials, techniques, and technologies for carrying out the proposed project or activity for which assistance is being sought from the New York State Clean Water State Revolving Fund. In my professional opinion, I have recommended for selection, to the maximum extent practicable, a project or activity that maximizes the potential for efficient water use, reuse, recapture, and conservation, and energy conservation, taking into account the cost of constructing the project or activity, the cost of operating and maintaining the project or activity over the life of the project or activity, and the cost of replacing the project and activity.

Title of Engineering Report: Sag Harbor Sewer Service Expansion Area – Sewershed “L”
Engineering Report

Date of Report: March 15, 2022

Professional Engineer’s Name: Stephen Hadjiyane, P.E., BCEE, Associate Partner

Signature:

Date:

Effective:





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**SAG HARBOR
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March 2022

Engineering Report Certification

To Be Provided by the Professional Engineer Preparing the Report

During the preparation of this Engineering Report, I have studied and evaluated the cost and effectiveness of the processes, materials, techniques, and technologies for carrying out the proposed project or activity for which assistance is being sought from the New York State Clean Water State Revolving Fund. In my professional opinion, I have recommended for selection, to the maximum extent practicable, a project or activity that maximizes the potential for efficient water use, reuse, recapture, and conservation, and energy conservation, taking into account the cost of constructing the project or activity, the cost of operating and maintaining the project or activity over the life of the project or activity, and the cost of replacing the project and activity.

Title of Engineering Report: Sag Harbor Sewer Service Expansion Area – Sewershed “L”
Engineering Report

Date of Report: March 15, 2022

Professional Engineer’s Name: Stephen Hadjiyane, P.E., BCEE, Associate Partner

Signature:

Date:

Effective:



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**SAG HARBOR
SEWER SERVICE EXPANSION AREA – SEWERSHED “L”
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APPENDIX B

Detailed Construction Cost Estimate



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Village of Sag Harbor, NY
Sewer Service Expansion Area - Sewershed "L"
Gravity Sewer Probable Construction Cost Estimate

Date: 2/11/2022

Item No.	Item Description	Unit	Quantity	Material Cost		Labor Cost		Total Cost
				Unit Cost	Total Cost	Unit Cost	Total Cost	
1	6" Dia. DR-18 Pipe (Gravity Sewer Piping)	LF	660	\$15	\$9,900	\$50	\$33,000	\$42,900
2	8" Dia. DR-18 Pipe (Gravity Sewer Piping)	LF	3,140	\$21	\$65,940	\$50	\$157,000	\$222,940
3	Sawcut Roadway	LF	7,600	-	-	\$5.00	\$38,000	\$38,000
4	Excavation Support and Protection (trench boxes)	Days	50	\$1,500	\$75,000	\$1,000	\$50,000	\$125,000
5	Excavation/Backfill (all piping and manholes)	CY	13,700	-	-	\$59	\$801,450	\$801,450
6	Unsuitable Backfill (hauling & disposal)	CY	1,370	-	-	\$42	\$57,540	\$57,540
7	Precast Concrete Sewer Manhole, 5' diameter, 10' deep	Ea.	3	\$15,000	\$45,000	\$15,000	\$45,000	\$90,000
8	Precast Concrete Sewer Manhole, 5' diameter, 15' deep	Ea.	14	\$20,000	\$280,000	\$20,000	\$280,000	\$560,000
9	SCDPW Watertight Frame and Cover	Ea.	17	\$550	\$9,350	\$550	\$9,350	\$18,700
10	Lateral House Connection Pipe Spurs to ROW	Ea.	40	\$1,000	\$40,000	\$1,000	\$40,000	\$80,000
11	Utility Relocation	LS	1	-	-	-	-	\$250,000
12	Maintenance and Protection of Traffic	LS	1	-	-	-	-	\$73,000
13	6-inch Aggregate Base Course	CY	570	\$25	\$14,250	\$25	\$14,250	\$28,500
14	4-inch Asphalt Binder Course	Tons	769	\$150	\$115,350	\$150	\$115,350	\$230,700
15	2-inch Asphalt Top Course	Tons	385	\$150	\$57,750	\$150	\$57,750	\$115,500
16	Temporary Asphalt	Tons	385	\$25	\$9,625	\$25	\$9,625	\$19,250
17	Sediment & Erosion Control	LS	1	-	-	-	-	\$50,000
18	Dewatering	Days	46	-	-	\$17,480	\$796,214	\$796,214
19	Pavement Milling (trench width +2')	SY	3,378	-	-	\$12	\$40,533	\$40,533
20	1.5 inch Milled Overlay (trench width +2')	Tons	289	\$150	\$43,350	\$150	\$43,350	\$86,700

Subtotal \$3,726,927

Probable Construction Cost Estimate basis is as follows:

- References such as Means, plus cost adjustment factor for Tri-State Area.
- Vendor quotes for materials/equipment.
- Previous unit costs from similar contracts completed.
- Items 13 thru 16 for trench restoration. Items 19 and 20 for curb-to-curb mill and paving.
- Does not include pavement striping, traffic signal loops and sidewalk/curb restoration.

Bonds & Insurance 3% \$111,808

Subtotal \$3,838,735

Overhead 10% \$383,874

Profit 11% \$422,261

Subtotal \$4,644,870

Design Contingency 20% \$928,974

Escalation to Midpoint of Construction 3% \$139,346

Division 1 General Conditions 10% \$464,487

Total Construction Costs \$6,177,676

Engineering Design LS \$306,800

Construction Management/Administration 10% \$617,768

GRAND TOTAL \$7,102,244



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**SAG HARBOR
SEWER SERVICE EXPANSION AREA – SEWERSHED “L”
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APPENDIX C

SEQR Short Form Assessment Form

&

State Historic Preservation Office Determination Letter



**SAG HARBOR
SEWER SERVICE EXPANSION AREA – SEWERSHED “L”
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**Short Environmental Assessment Form
Part 1 - Project Information**

Instructions for Completing

Part 1 – Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 – Project and Sponsor Information			
Village of Sag Harbor, Suffolk County, New York			
Name of Action or Project: Sewer Service Expansion Area - Sewershed "L"			
Project Location (describe, and attach a location map): Project located within the roadway right-of-way within the Village of Sag Harbor, Suffolk County, New York (Refer to attached location map)			
Brief Description of Proposed Action: Project provides for the expansion of sewer service within the Village of Sag Harbor, Suffolk County, New York. New gravity sewers within the proposed Sewershed "L" Service Area will be located within the roadway right-of-way on the following streets: Sage, Church, Washington, Division, Rysam, Burke, Rector, Cross and Bay and will discharge to existing sewers located on Madison Street, Main Street, Division Street and Bay Street. The new gravity sewers will consist of 8-inch diameter piping and precast concrete manholes designed in accordance with Ten States' Standards, Suffolk County Department of Public Works and Village of Sag Harbor requirements.			
Name of Applicant or Sponsor: Village of Sag Harbor		Telephone: 631-725-0222	
Address: 55 Main Street		E-Mail: clerk@sagharborny.gov	
City/PO: Sag Harbor		State: New York	Zip Code: 11963
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.		NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/>
2. Does the proposed action require a permit, approval or funding from any other government Agency? If Yes, list agency(s) name and permit or approval: NYSDEC		NO <input type="checkbox"/>	YES <input checked="" type="checkbox"/>
3. a. Total acreage of the site of the proposed action? _____ 0.70 acres			
b. Total acreage to be physically disturbed? _____ 0.70 acres			
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? _____ 0.70 acres			
4. Check all land uses that occur on, are adjoining or near the proposed action: <input checked="" type="checkbox"/> Urban <input type="checkbox"/> Rural (non-agriculture) <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Residential (suburban) <input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Aquatic <input checked="" type="checkbox"/> Other(Specify): Roadway right-of-way <input type="checkbox"/> Parkland			



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5. Is the proposed action.	NO	YES	N/A
a. A permitted use under the zoning regulations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Consistent with the adopted comprehensive plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	NO	YES	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?	NO	YES	
If Yes, identify: Name: Peconic Bay and Environs, Reason: Protect public health, water, vegetation, & scenic beauty, Agency: Suffolk County, Date: 7-12-88	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Other: Special Groundwater Protection Area (South Fork) CEA, Long Pond CEA, Peconic Bay and Environs CEA			
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	NO	YES	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. Are public transportation services available at or near the site of the proposed action?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
9. Does the proposed action meet or exceed the state energy code requirements?	NO	YES	
If the proposed action will exceed requirements, describe design features and technologies:			
Not Applicable	<input type="checkbox"/>	<input type="checkbox"/>	
10. Will the proposed action connect to an existing public/private water supply?	NO	YES	
If No, describe method for providing potable water:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
11. Will the proposed action connect to existing wastewater utilities?	NO	YES	
If No, describe method for providing wastewater treatment:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?	NO	YES	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Sag Harbor Village Historic District; Sag Harbor Hills; Azurest & Ninevah Subdivisions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?			
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	NO	YES	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres:			



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14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:		
<input type="checkbox"/> Shoreline	<input type="checkbox"/> Forest	<input type="checkbox"/> Agricultural/grasslands
<input type="checkbox"/> Wetland	<input checked="" type="checkbox"/> Urban	<input checked="" type="checkbox"/> Suburban
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered? Northern Long-eared Bat, Rare Dragonflies, and Damselflies listed as Endangered or Threatened.	NO	YES
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
16. Is the project site located in the 100-year flood plan?	NO	YES
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes,	NO	YES
a. Will storm water discharges flow to adjacent properties?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe:	<input type="checkbox"/>	<input type="checkbox"/>

18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)? If Yes, explain the purpose and size of the impoundment:	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>

19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe:	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>

20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe:	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE		
Applicant/sponsor/name:	<u>H. Aidan Corish</u>	Date: <u>2/12/2022</u>
Signature:	<u><i>A. A. Corish</i></u>	Title: <u>Trustee</u>

PRINT FORM



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**SAG HARBOR
SEWER SERVICE EXPANSION AREA – SEWERSHED “L”
ENGINEERING REPORT**

March 2022

State Historic Preservation Office Determination Letter



**Parks, Recreation,
and Historic Preservation**

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

January 12, 2022

Mark Rauber
Engineering Director
Cameron Engineering & Assoc.
177 Crossways Park Drive
Woodbury, NY 11797

Re: DEC
Installation of New Sanitary Sewers
Sag Harbor, Suffolk Co.
21PR08434

Dear Mark Rauber:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials in accordance with the New York State Historic Preservation Act of 1980 (section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (6NYCRR Part 617).

The project consists of sewer service area expansion. The project area is entirely within the National Register Listed Sag Harbor Historic District and is adjacent to an eligible boundary expansion. Because of this, and because ground disturbance is proposed, we have reviewed the project.

It is the opinion of OPRHP that the project will have No Adverse Impact on historic resources.

If you have any questions, I can be reached at sloane.bullough@parks.ny.

Sincerely,

Sloane Bullough
Historic Sites Restoration Coordinator by email only

New York State Office of Parks, Recreation and Historic Preservation
Division for Historic Preservation, Peebles Island, PO Box 189, Waterford, New York 12188-0189
(518) 237-8643 • <https://parks.ny.gov/shpo>