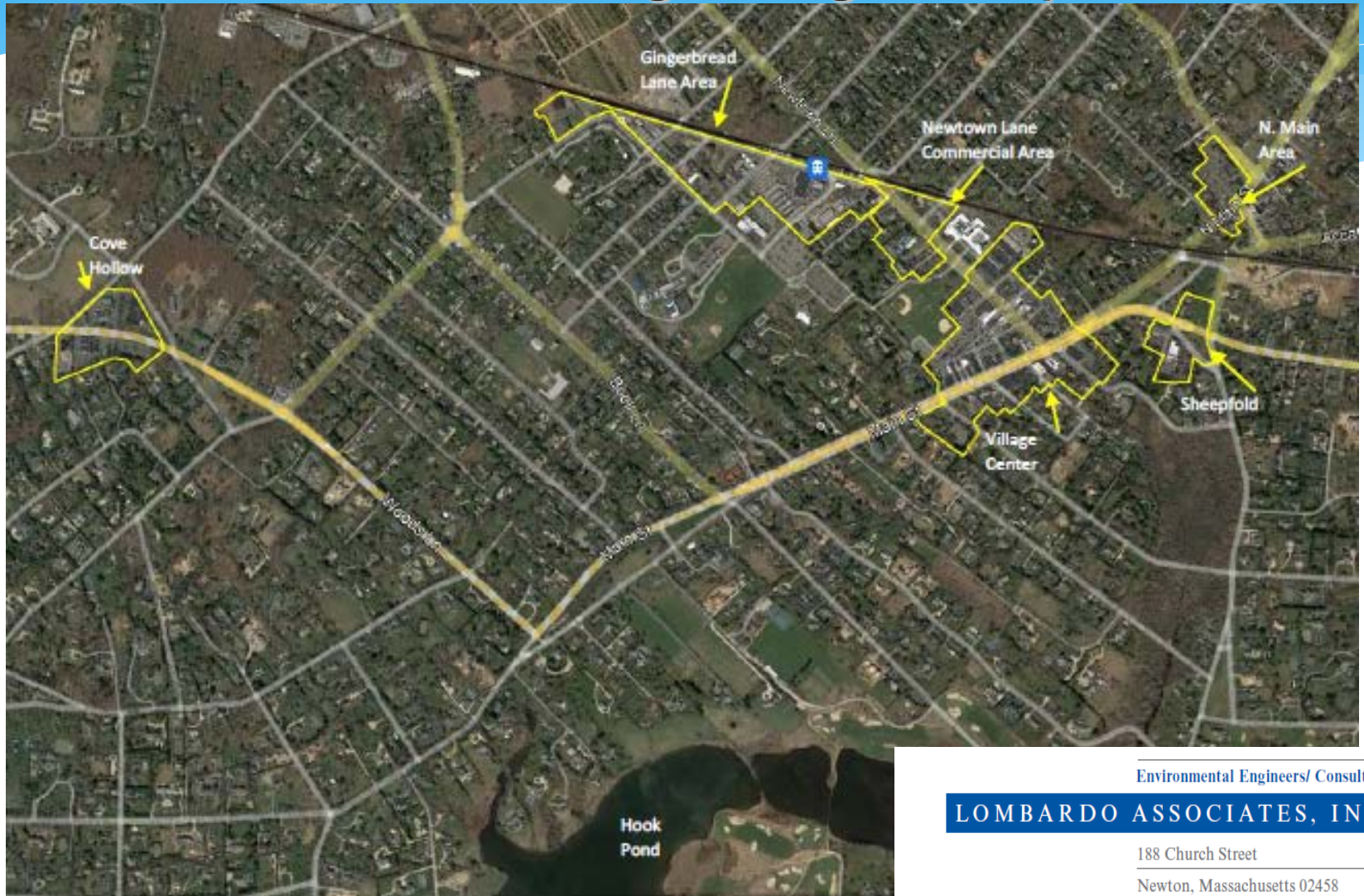


# Village of East Hampton Wastewater Management Peer Review & Recommended Engineering Plan Report



Environmental Engineers/ Consultants

**LOMBARDO ASSOCIATES, INC.**

188 Church Street

Newton, Massachusetts 02458

53 Hill Street Southampton, NY

## Project Scope of Work

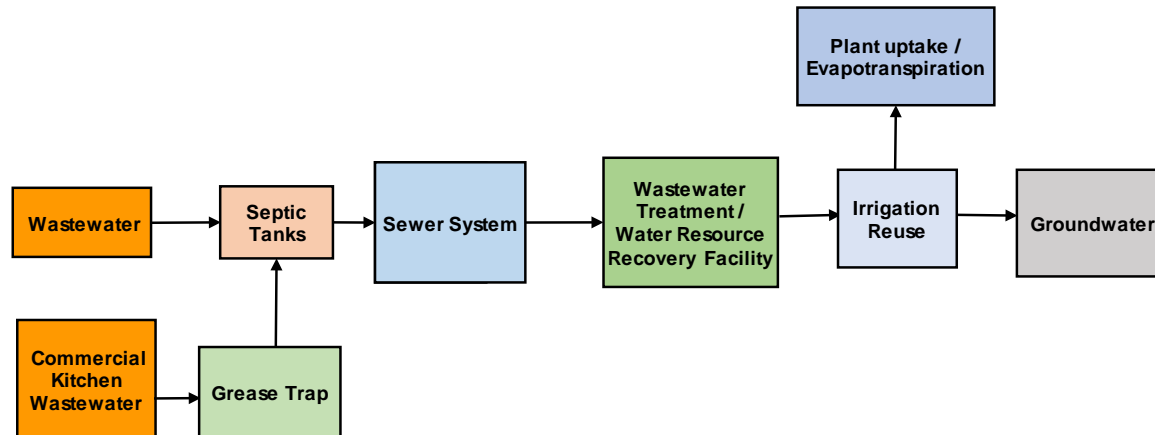
1. Review of Existing Plan and Relevant Data and Service Areas Definitions
2. Identification and Evaluation of Alternative Wastewater Management Approaches
3. NYSDEC and SCDHS Meetings
4. Recommended Wastewater Management Plan

## The Peer Review identified data conflicts / missing information regarding:

1. No Comprehensive Report issued,
2. Flow estimates basis not provided,
3. Sewer system layouts,
4. Lack of information on wastewater treatment technology,

# Alternative wastewater management / water resource recovery plan developed that consists of:

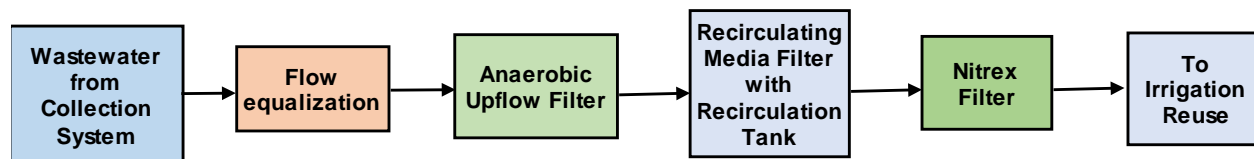
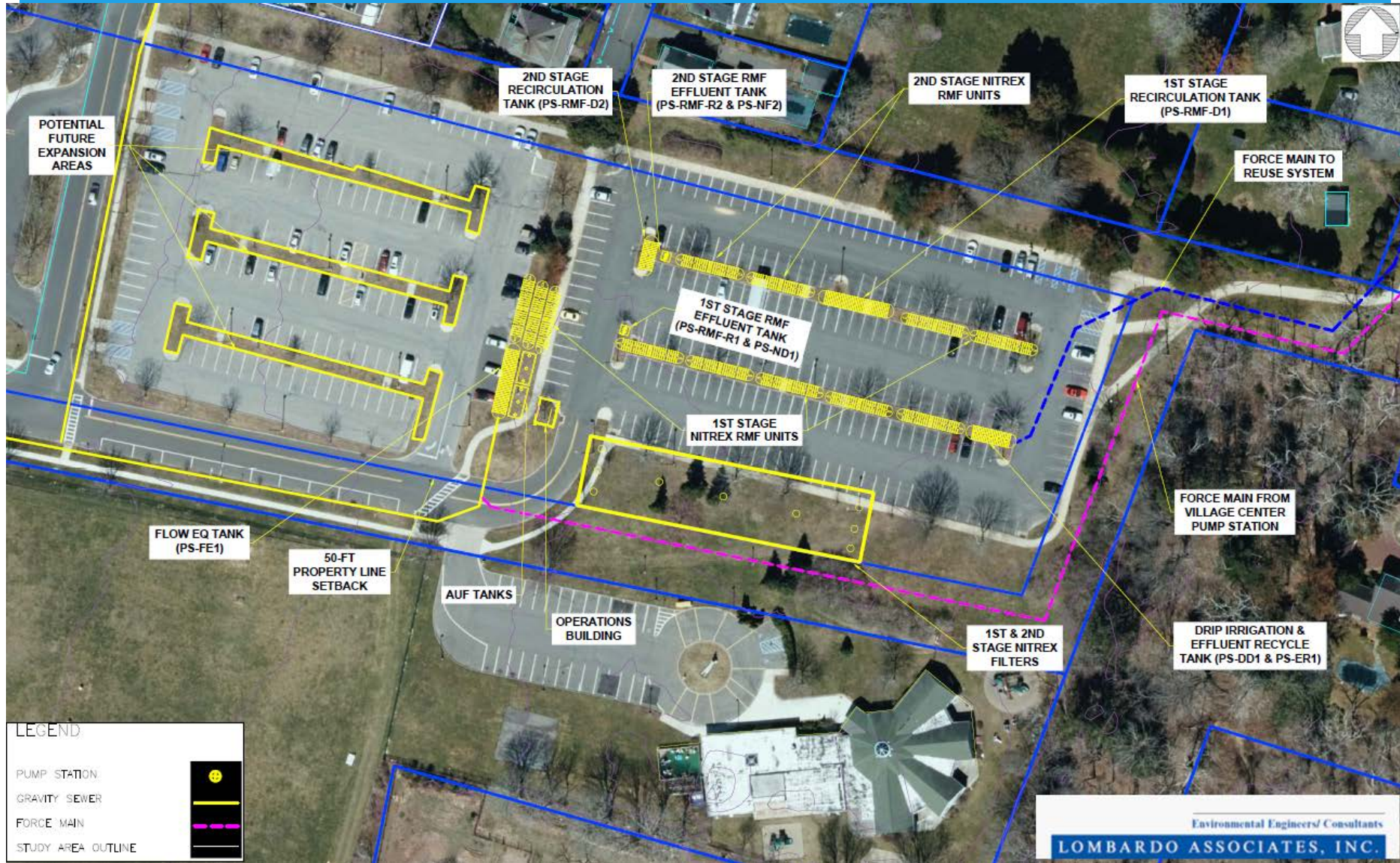
1. Wastewater collection/transport using a septic tank-effluent system
2. Water Resource Recovery Facility / wastewater treatment under the long-term parking lot at 2 Gingerbread Lane
3. Reuse of reclaimed water for subsurface drip irrigation / subsurface discharge at Herrick Park



# Proposed Water Resource Recovery System with Drip Irrigation

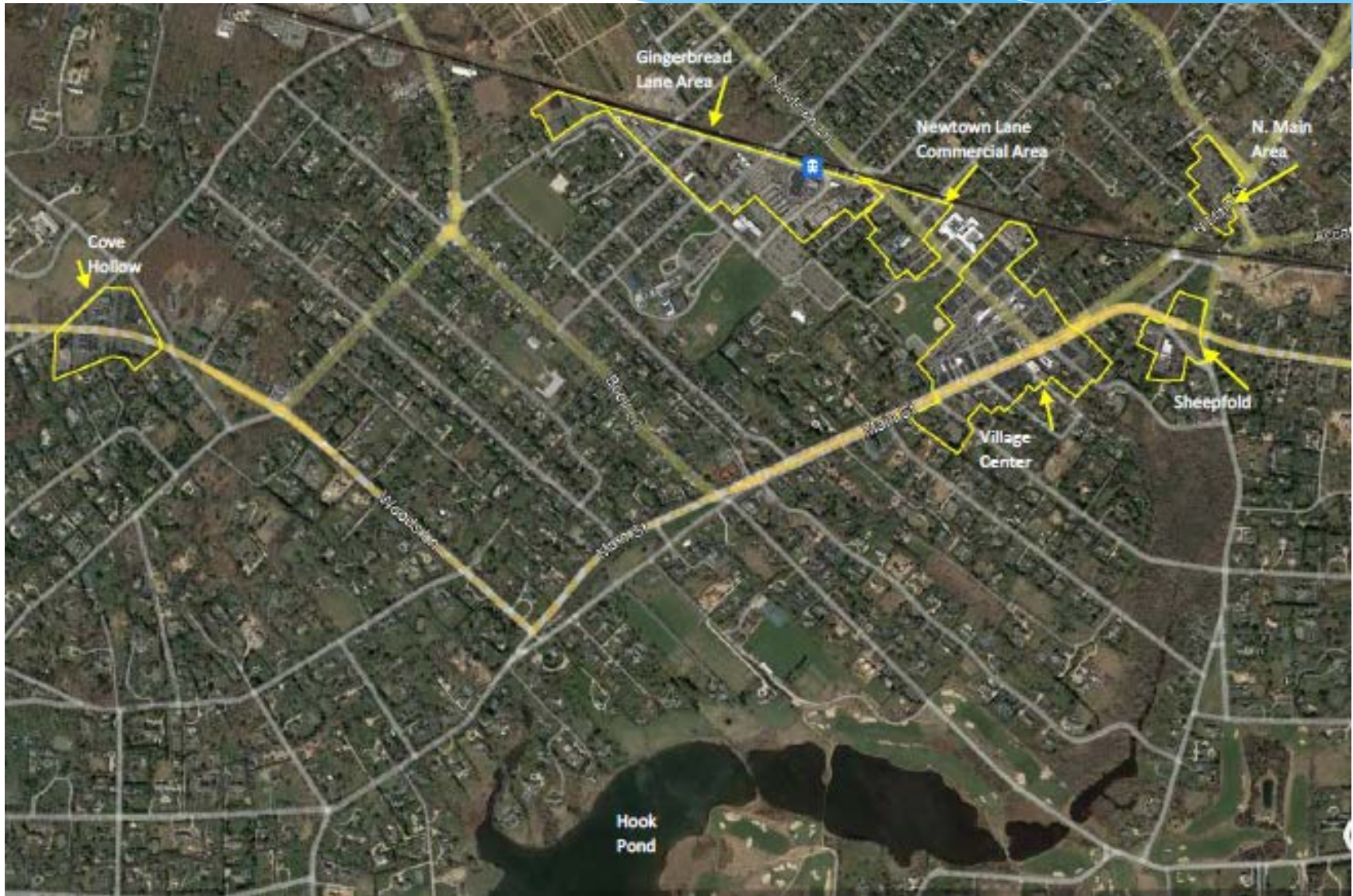


# Proposed Water Resource Recovery Facility Layout



Collection System Costs - Proposed Option					
Abandon Existing Septic		130	#	\$8,000	\$1,040,000
Repair / Replace Septic Tank		130	#	\$8,000	\$1,040,000
Gravity Sewer		11,800	EA	\$150	\$1,770,000
Low Pressure Sewer		920	LF	\$140	\$128,800
On-Property Pump (STEP)		20	#	\$5,000	\$100,000
Pump Station - Large		1	#	\$150,000	\$150,000
Pump Station - Small		1	#	\$75,000	\$75,000
Force Main		3,500	LF	\$150	\$525,000
<b>Subtotal - Collection System Construction Costs</b>					<b>\$4,828,800</b>
Miscellaneous		10%			\$482,880
Contingency		20%			\$965,760
Admin. & Financing		5%			\$241,440
Engineering		20%			\$1,255,500
<b>Total Collection System Capital Costs</b>					<b>\$7,774,380</b>
<b>Subtotal - WWTF System Construction Costs</b>					<b>\$7,068,000</b>
Miscellaneous		10%			\$706,800
Contingency		20%			\$1,413,600
Parking Lot Restoration		1			\$300,000
Admin. & Financing		5%			\$353,400
Engineering & admin		20%			\$1,837,700
<b>Total WWTF System Capital Costs</b>					<b>\$11,679,500</b>
<b>Total Collection &amp; WRRF &amp; Irrigation System Capital Costs (2021 \$)</b>					<b>\$19,453,880</b>
<b>Total Collection &amp; WRRF &amp; Irrigation System Capital Costs (2026 \$)</b>					<b>\$23,668,600</b>

1. Village Center
2. Newtown Lane Commercial Area
3. Gingerbread Lane Area
4. Sheepfold & 5. N. Main Area





# NP Recommendations

- Village Center (Phase IA), Upper Newtown Lane (Phase IB), Gingerbread Lane and Railroad Avenue Phase II could be served by an Appendix A system at the Schenck property on Newtown Lane.
- Full Phases I, II and III build out requires a full-100,000 gpd WWTP at Village DPW parcel on Accabonac Road.
- SCDHS Appendix A System for the commercial downtown with Innovative/Alternative (I/A) systems for Single Family Homes (for the Phase III area).



Phase	Description	ADF	Cum Flow
IA & IB	Village Center & Upper Newtown Lane	14,997	
II	Railroad Ave. / Gingerbread Lane Area	2,226	17,223
III	Residential Area in Hook Pond Watershed	50,713	67,936
Total		67,936	

ADF = Average Daily Flow in gallons per day (gpd)

NP Estimated Project Costs (in millions)		Option 1	Option 2	Option 3
		Areas IA & IB	Area II	Area III
Estimated Flow (gpd)		14,997	2,226	50,713
STP Construction Costs		\$ 3.00	\$ 3.50	\$ 5.00
Collection System (gravity)		\$ 1.00	\$ 1.25	\$ 5.90
Collection System (LPS)				\$ 4.50
Grinder Pump Units (GPU)				\$ 3.00
Pump Station		\$ 0.50	\$ 0.50	\$ 1.00
Force Main		\$ 1.15	\$ 1.15	\$ 1.15
House Connections		\$ 1.25	\$ 1.50	
Abandon Septic Systems		\$ 1.25	\$ 1.50	\$ 3.75
Subtotal		\$ 8.15	\$ 9.40	\$ 24.30
Contingency	20%	\$ 1.63	\$ 1.88	\$ 4.86
Subtotal		\$ 9.78	\$ 11.28	\$ 29.16
Engineering & CM	10%	\$ 0.98	\$ 1.128	\$ 2.916
TOTAL Cost (2020 Dollars)		\$ 10.76	\$ 12.4	\$ 32.1
TOTAL Cost (2021 Dollars)		3% \$ 11.10	\$ 13.60	\$ 33.10
TOTAL Cost (2026 Dollars at 4%/yr)		4% \$ 13.50	\$ 16.55	\$ 40.27

Option II 2020 dollars increase to 2021 by 10% vs 3% for others

# Candidate Parcels for Wastewater Treatment & Disposal





# Evaluation of Candidate Sites

Site #	Owner	Evaluation	Short List Recommendation
1	KEYSPAN ENERGY DEVELOPMENT CORP	Property outside of Village; 3,000 feet from Study area . Need Town approval for route. Acquisition	No
2	NORFRED CORP	Cost of property acquisition	Yes
3	State of NY - Open Space	Stormwater drainage area. State ownership located outside Village	No
4	WAINSCOTT HAMLET CENTER LLC	Private ownership. Excessive distance of 15,000++ feet & major road work	No
5	Town of East Hampton	Excessive distance of 15,000++ feet and major road work	No
6	EHV DPW Property	7,400 feet force main. Major roads thru Town. Residential area	No
8	EHV Property	Not legally available for project	No
9	P.C. SCHENCK & SONS, LLC	Private ownership. Too small	No
10	EHV Property	Very attractive	Yes

### APPENDIX D LAI PROPERTY WASTEWATER FLOW CALCULATIONS

STUDY AREA #	BLDG #	PARCEL ID	ADDRESS	# of Uses	USE Descriptions	BLDG AREA (ft <sup>2</sup> )	WW Flow (gpd)	WW Flow % of Total
1	30	0301002000100015003	11 FRESNO PL	1	Restaurant w/seats	2,583	780	1.20%
1	26	0301002000100008000	4 FRESNO PL	1	Non-Medical Office Space	295	18	0.03%
1	27	0301002000100008000		1	Non-Medical Office Space	3,498	210	0.32%
1	24	0301002000100009000	8 FRESNO PL	1	Retail - Dry Store	1,170	35	0.05%
1	25	0301002000100009000		1	Non-Medical Office Space	286	17	0.03%
1	28	0301002000100019002	12 GINGERBREAD LA	1	Residence - Single Family	4,703	330	0.51%
1	29	0301002000100019002		0	No WW Structure	334	0	0.00%
1	31	0301002000100019002		1	Non-Medical Office Space	535	32	0.05%
1	47	0301002000100019002		0	No WW Structure	263	0	0.00%
1	59	0301002000100019002		1	Non-Medical Office Space	1,003	60	0.09%
1	60	0301002000100019002		2	Non-Medical Office Space; Residence - Single Family	1,122	343	0.53%
1	58	0301002000100011000	22 GINGERBREAD LA	1	Residence - Single Family	855	330	0.51%
1	23	0301002000100025000		3	Retail - Dry Store; Medical Office Space; Non-Medical Office Space	6,249	781	1.20%
1	21	0301002000100003000	60 GINGERBREAD LA	0	No WW Structure	301	0	0.00%
1	41	0301002000100005000	50 GINGERBREAD LN	1	Non-Medical Office Space	2,119	127	0.20%

# Wastewater Flow by Study Area and Use Type

Study Area	WW Flow (gpd)	# of Parcels (gpd)	# of Buildings
Gingerbread Lane	14,774	44	69
Newtown Lane Commercial	6,729	19	25
North Main	7,506	6	7
Sheepfold	2,123	6	7
Village Center	34,187	52	58
Miscellaneous / Contingency	10,000		

**Total**      **75,318**              **127**              **166**

Use Type	Description	Gingerbread Lane	Newtown Ln. Com.	N Main	Sheepfold	Village Center	
1	Retail - Dry Store	1,238	1,207	182	216	5,795	
2	Wet Store, no Food Service (Hair, Nail, Pet)	153	232	248	0	409	
3	Wet Store, w/food (take-out, max 16 seats)	1,600	0	91	0	653	
4	Non-Medical Office Space	3,866	811	179	814	7,872	
5	Medical Office Space	312	886	0	122	243	
6	Restaurant w/seats	1,980	0	4,212	0	8,310	
7	Bar / Patio	0	0	0	0	0	
8	Residence - Single Family	3,300	2,200	0	0	770	
9	Residence - Multi Family	330	1,320	1,320	222	1,980	
10	Day School / Day Camp	0	0	0	0	0	
11	No WW Structure	0	0	0	0	0	
12	Spa / Fitness Center, No showers	56	0	0	0	886	
13	Spa / Fitness Center w/showers	0	0	0	0	2,267	
14	Convenience Store / Market Farm Stand	14	0	0	0	1,234	
15	General Industrial / Storage / Greenhouse	1,924	0	0	0	280	
16	Not used	0	0	0	0	0	
17	Library / Firehouse / Precinct / Museum	0	73	1,275	748	0	
18	Not Used	0	0	0	0	0	
19	Theater	0	0	0	0	900	
21	Cafeteria / Catering Hall / Conference Room	0	0	0	0	188	
22	Hotel	0	0	0	0	2,400	
	<b>Total Flow (gpd)</b>	<b>14,774</b>	<b>6,729</b>	<b>7,506</b>	<b>2,123</b>	<b>34,187</b>	<b>65,318</b>
			<b>Miscellaneous / Contingency Flow (gpd)</b>				<b>10,000</b>
			<b>Total Design Flow (gpd)</b>				<b>75,318</b>

# Top 20 Properties Wastewater Flows

45% of total

Parcel ID	Address	Use	WW Flow (gpd)	Flow % Total
0301003000500002000	10 MAIN ST	Retail - Dry Store; Spa / Fitness Center, No showers; Retail - Dry Store; Restaurant w/seats; Non-Medical Office Space	4,320	5.68%
0301003000800001000	94 MAIN ST	Cafeteria / Catering Hall / Conference Room; Hotel; Restaurant w/seats	3,488	4.59%
0301004000100009000	79 N MAIN ST	Restaurant w/seats; Residence - Multi Family	3,228	4.25%
0301003000200004002	34 NEWTOWN LA	Retail - Dry Store; Non-Medical Office Space; Restaurant w/seats	2,337	3.07%
0301002000100023000	21 RAILROAD AVE	Retail - Dry Store	1,650	2.17%
0301004000200004001	68 NEWTOWN LA	Spa / Fitness Center w/showers; Wet Store, w/food (take-out, max 16 seats)	1,591	2.09%
0301003000500020003	36 MAIN ST	Theater; Retail - Dry Store; Non-Medical Office Space	1,497	1.97%
0301004000100034000	74 N MAIN ST	Restaurant w/seats; Non-Medical Office Space	1,493	1.96%
0301002000200028000	95 NEWTOWN LA	Residence - Multi Family	1,430	1.88%
0301002000100018000	31 RACE LN	Retail - Dry Store; Restaurant w/seats	1,382	1.82%
0301002000200017000	105 NEWTOWN LA	Wet Store, no Food Service (Hair, Nail, Pet); Wet Store, w/food (take-out, max 16 seats); Non-Medical Office Space; Residence - Multi Family	1,335	1.76%
0301003000400013000	21 NEWTOWN LA	Retail - Dry Store; Restaurant w/seats	1,263	1.66%
0301003000400001000	67 NEWTOWN LA	Convenience Store / Market Farm Stand; Wet Store, w/food (take-out, max 16 seats)	1,229	1.62%
0301002000200005000	3 RAILROAD AVE	Residence - Single Family; Non-Medical Office Space	1,195	1.57%
0301003000600011000	20 PARK PL	Non-Medical Office Space; Restaurant w/seats	1,167	1.54%
0301003000400035000	53 NEWTOWN LN	Retail - Dry Store; Non-Medical Office Space; Restaurant w/seats	1,139	1.50%
0301003000600017002	26 PARK PL	Non-Medical Office Space; Spa / Fitness Center w/showers	1,083	1.43%
0301004000200004002	66 NEWTOWN LN	Retail - Dry Store; Non-Medical Office Space	1,049	1.38%
0301004000100010003	N MAIN ST	Library / Firehouse / Precinct / Museum	1,033	1.36%
0301002000200030000	87 NEWTOWN LA	Retail - Dry Store; Medical Office Space	961	1.26%

Total Flow (gpd) 33,869 44.56%

POTENTIAL AVAILABLE  
AREA FOR WWTF

# 29 King Road & DPW Sites



~95,000-SQ-FT  
AVAILABLE AREA  
OUTSIDE 200-FT  
BUILDING AND 150-FT  
PROPERTY LINE  
SETBACK.



May 17, 2022

Pio Lombardo  
Lombardo Associates, Inc.  
188 Church St.  
Newton, MA 20485

Re: Application #1-4724-02503/00001  
Village of East Hampton Sewer District

Dear Pio Lombardo:

The Department of Environmental Conservation (DEC) has completed a review of your client's request most recent submission, dated March 24, 2022, to establish a new sewer district and we have the following comments.

**Comments on Form NY-2A:**

1. The contact information in Section 1.1 must be a Village of East Hampton official, or Section 1.3 must be filled out with a contact for the Village.
2. The application proposes two pump stations. Therefore, Section 2.1 must be checked "yes" and Table H must be completed.
3. Table F and Table H must be selected in Section 6.1
4. Section 6.2 must be signed by a Village of East Hampton executive officer.
5. You must detail why Table A notes the value of mercury is "TBD" and indicate whether mercury from industrial sources can be expected.
6. As proposed, the effluent will be used as an irrigation source. Therefore, Table C and Table D must be completed.
7. Table F appears incomplete. Please complete this table.

**Comments on the Engineering Report:**

1. You must provide more detailed information for the proposed STEG and STEP systems in Section 6.2, including general sizes for each residential and commercial area. Detailed drawings, calculations and narratives are required for each pump station.
2. The pH limits in Section 6.3 are noted as ranging from 5.5 to 8.5. This must be corrected to the acceptable range of 6.5 to 8.5.
3. Figure 6-5 on page 41 appears to be missing the proposed sewer route.

4. Additional details are required for the proposed anaerobic upflow filter, including the size of the filter openings. Calculations for the removal of 50+% of septic tank effluent BOS/TSS loads must be provided.
5. Additional details are required for the proposed recirculating media filter (RMF):
  - The size of filter openings must be specified.
  - You must detail the claim that oxygen is not depleted using RMF technology. Specifically, you must note how oxygen is provided. If oxygen is achieved by circulation and ventilation, then calculations must be provided.
  - Odor control system information must be discussed.
  - Note whether RT-1 is in series with RT-2, and whether RT-2 has Dose Pump Stations.
6. You must indicate how influent BOD, TSS and TKN levels were determined in Table 6-4, showing calculations.
7. Please provide calculations for the Nitrex denitrification filter.
8. Figure 6-6 notes straw wattle proposed for erosion and sediment control. Straw wattle is not an approved method per the New York State Standards and Specifications for Erosion and Sediment control, and must be removed from the drawing.

**Additional Division of Water Comments:**

1. Monitoring wells are required. You must provide locations of the proposed monitoring wells with at least 1 well upgradient and 2 wells downgradient.
2. Additional information is required regarding the proposed effluent irrigation system:
  - A cross section depicting the groundwater table at the proposed irrigation location is required. NYS design standards require at least a 2' separation between groundwater and the irrigation system components. The plan must note the composition and porosity of the soil in the proposed irrigation area.
  - A maintenance plan must be provided, detailing how the Village will maintain the system and address issues such as clogging.
  - *Due to public health concerns, DEC highly recommends disinfection of the effluent and requests an updated design that includes a UV disinfection system. DEC has requested comments from the New York State Department of Health (DOH) for the proposed use of effluent as irrigation. Please be advised that additional comments on the matter may follow once DEC receives comments from DOH.*
  - If mercury or any other chemical listed in Table C or Table D are present in the effluent, irrigation is not recommended and additional treatment will be required.
3. A plan must be submitted for the proposed collection system that includes:
  - Drawings for the STEG, STEP, pipe routes, profiles, pump station, pipe materials, manholes, air-relief valves, water tightness test methods and construction procedures.
  - The plan must detail how the Village will maintain the STEG and STEP process.

- Please be advised that irrigation will not be permitted for industrial wastewater. The plan must detail how the Village will enforce the requirement that industries and residences only discharge sanitary waste.
4. All new applications for wastewater treatment require submission of a contingency plan that must be in place in the event of a treatment system or collection system failure. Please submit a contingency plan for our review.
  5. You must detail how the facility will operate and discharge during all seasons, including the non-growing winter season, and weather events, peak season versus off-peak, and during exceptionally wet weather when the groundwater table is high or the soil is saturated.
  6. A project that will involve soil disturbance of one or more acres must obtain coverage under the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity. This permit is not issued out of this Regional office. Please visit the following webpage for more information: <https://www.dec.ny.gov/chemical/43133.html>
  7. You must detail how members of the public will be restricted from entering the treatment systems and operations facility.

Please revise the documents as indicated above and submit two copies of revised documents to my attention, with a cover letter detailing which items were revised. Be advised that additional comments from Bureau of Ecosystem Health staff may follow.

This application will remain incomplete until a final SEQR decision has been made. If the Village of East Hampton intends to act as Lead Agency, please provide their intent in writing accompanied with a completed Full Environment Assessment Form (copy enclosed).

Please contact Brian Lee of the Division of Water unit at [brian.lee@dec.ny.gov](mailto:brian.lee@dec.ny.gov) with any technical questions, or myself at 631-444-0364 with any procedural questions.

Sincerely,



Elyssa Scott  
Environmental Analyst

cc: Village of East Hampton  
B. Lee - DOW  
File

**From:** Scott, Elyssa E (DEC) <[Elyssa.Scott@dec.ny.gov](mailto:Elyssa.Scott@dec.ny.gov)>  
**Sent:** Tuesday, June 14, 2022 3:13 PM  
**To:** Pio Lombardo <[pio@lombardoassociates.com](mailto:pio@lombardoassociates.com)>  
**Subject:** RE: 1-4724-02503/00001 Village of East Hampton Proposed Sewer District

Good afternoon Pio,

I looked further into what is required at this time in the permitting process. As per the State Pollutant Discharge Elimination System Permit regulations (6 NYCRR Part750), specifically Part 750-1.7(a)(15), engineering reports and plans and specifications are listed as permit application requirements for all dischargers seeking to obtain an individual SPDES permit. I'm not sure about what DEC has approved in the past regarding wastewater plans that became the basis of the plans and specs, but in this case Division of Water staff require all the information as requested in the May 17<sup>th</sup> letter as the Village is proposing a unique design. DEC regional staff do not routinely review upflow filtration and Nitrex systems, nor is using treated wastewater as irrigation a routine proposal. Therefore, DEC staff are requiring the information from the 5/17/22 letter at this time.

Please feel free to give me a call if you have any questions. I'll be at my desk until around 4:30 today.

Elyssa

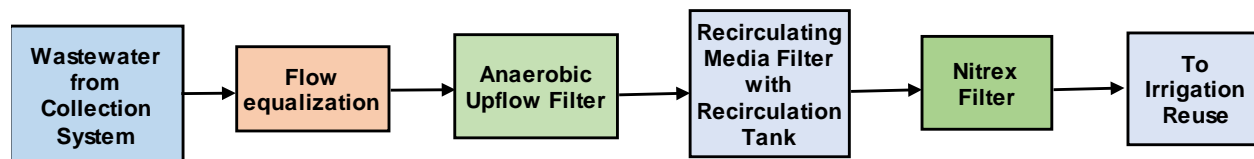
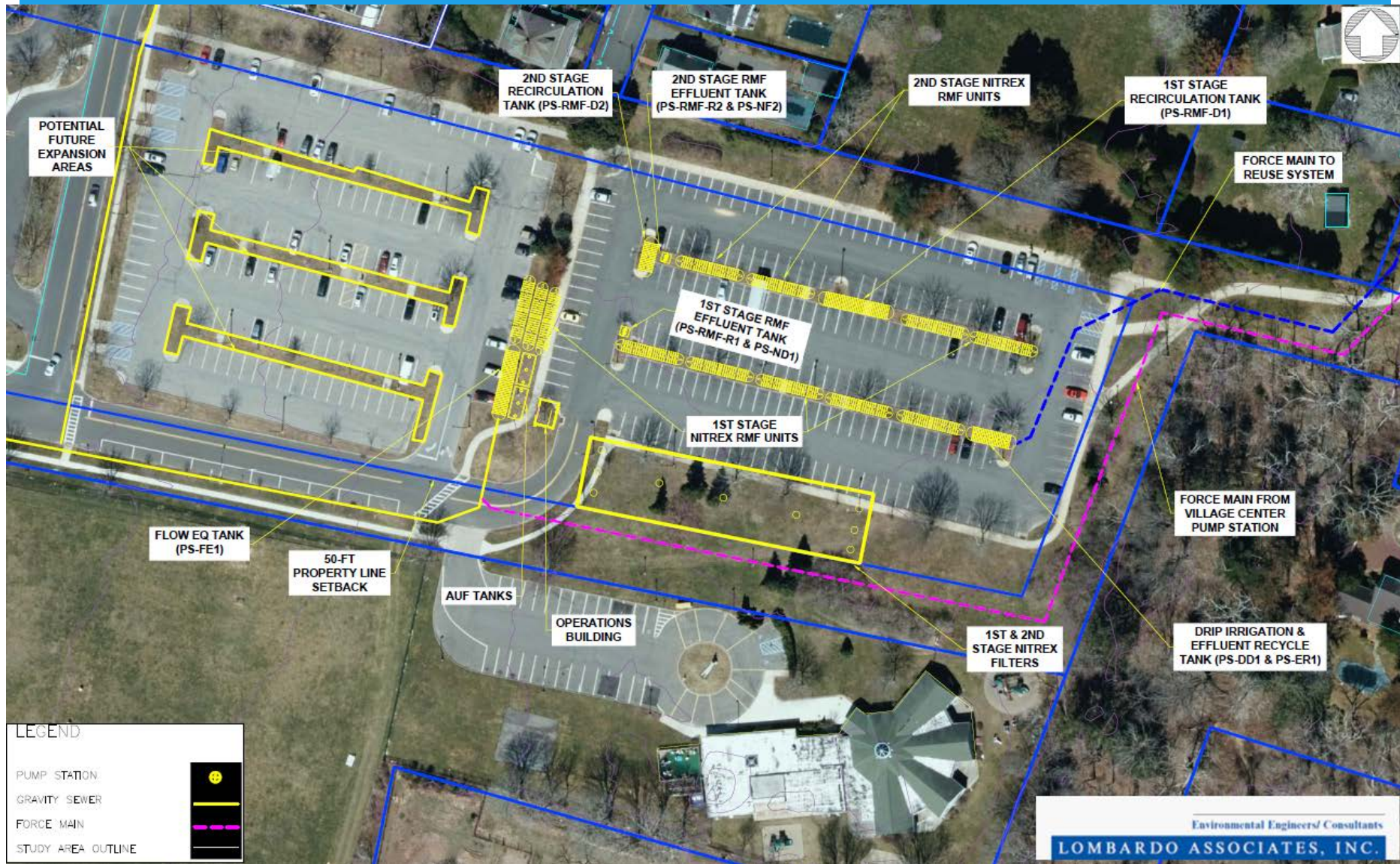
**Elyssa Scott**

she/her/hers

Environmental Analyst, Division of Environmental Permits

**New York State Department of Environmental Conservation**  
50 Circle Road, Stony Brook, NY 11790  
P: (631) 444-0364 | [elyssa.scott@dec.ny.gov](mailto:elyssa.scott@dec.ny.gov)

# Proposed Water Resource Recovery Facility Layout



# Questions / Discussion

Pio Lombardo, P.E.

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Environmental Engineers/ Consultants

**LOMBARDO ASSOCIATES, INC.**

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188 Church Street

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Newton, Massachusetts 02458

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[www.LombardoAssociates.com](http://www.LombardoAssociates.com)

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Tel: 617-964-2924

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Fax: 617-332-5477

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[Pio@LombardoAssociates.com](mailto:Pio@LombardoAssociates.com)

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