APPENDIX A

MAP AMENDMENT APPLICATION

TOWN OF WESTPORT

ON LAKE CHAMPLAIN
22 CHAMPLAIN AVENUE
P.O. BOX 465
WESTPORT, N.Y. 12993-0465
(518) 962-4419
Fax (518) 962-4550

Michael Tyler, Supervisor
Steven Viens, Deputy Supervisor
Dennis Westover, DPW Superintendent

Barry Morrison, Councilperson
Nancy Page, Councilperson
David Kirkby, Councilperson

The following resolution was brought before the Westport Town Board at the July 10, 2018 Regular Meeting.

RESOLUTION #125
HAMLET EXPANSION

On a motion by Councilperson Morrison, seconded by Councilperson Viens, and approved on a roll call vote.

4	Ayes	Kirkby, Viens, Morrison, Tyler
1	Nay	Page

RESOLVED that the Town Board of the Town of Westport is in support of possible hamlet expansion at the golf course property bordering Stevenson Road.

I, Julie Schreiber, Clerk of the Town of Westport NY, do hereby certify that I have compared the foregoing copy with the original filed in this office on the 11th day of July 2018, and that it is a correct and true copy thereof.

IN TESTIMONY THEREOF, I have hereunto set my hand and affixed my seal the 25th day of July 2018.

Julie Schreiber
Town Clerk of Westport NY



EITHER PART A OR PART B MUST BE FILLED IN; BOTH ARE FILLED IN ONLY IF THE OWNER OF RECORD OF THE LAND INVOLVED AND THE LEGISLATIVE BODY OF THE LOCAL GOVERNMENT APPLY TOGETHER.

PART A (to be filled out only by a landowner requesting a change in the Official Map)

1. OWNER OF RECORD

Name Consolidated Mortgages, LLC

Address 1701 Commerce Ave.

Vero Beach, Floirda 32963

Telephone 218-349-1051

Cell Phone 218-349-1051

2. APPLICANT'S REPRESENTATIVE

Name Robert Hall - Managing Member

Address 49 Country Club Way

Westport, N.Y. 12993

Telephone 218-349-1051

Cell Phone 218-349-1051

3. THE LANDOWNER MUST SUBMIT THE INSTRUMENT OF TITLE (USUALLY A DEED)

4. THE APPLICANT MUST PROVIDE THE NAMES AND ADDRESSES OF BOTH ADJACENT LANDOWNERS AND THOSE WITHIN THE AREA BEING REQUESTED FOR RECLASSIFICATION, FROM THE LATEST COMPLETED TAX ASSIGNMENT ROLL

RECEIVED
ADIRONDACK PARK AGENCY
JUL 30 2018

PART B (to be filled out only if a local government is applicant or co-applicant)

1. **LEGISLATIVE BODY OF LOCAL GOVERNMENT**

Supervisor or Mayor: Michael K. Tyler Supervisor

Address: 22 Champlain Ave.
PO Box 465
Westport, N.Y. 12993

Telephone: 518-962-4416

Cell Phone:

2. **APPLICANT'S REPRESENTITIVE**

Name: George Hainer Building Codes/Zoning Officer

Address: 22 Champlain Ave.
PO Box 465
Westport, NY 12993

Telephone: 518-962-2037

Cell Phone:

3. SECTION 583.1(c) OF THE AGENCY'S RULES AND REGULATIONS REQUIRES THAT THE REQUEST SHALL BE MADE BY RESOLUTION OF THE LEGISLATIVE BODY AND A CERTIFIED COPY SUBMITTED TO THE AGENCY

4. THE APPLICANT MUST PROVIDE THE NAMES AND ADDRESSES OF BOTH THE ADJOINING LANDOWNERS AS WELL AS THOSE WITHIN AND NEARBY THE AREA BEING REQUESTED FOR RECLASSIFICATION, FROM THE LATEST COMPLETED TAX ASSIGNMENT ROLL

PART C (to be filled out by all applicants)

1. **GENERAL DESCRIPTION OF LAND**

   A. Town **Town of Westport**

   County **Essex County**

   Village _____

   B. What is the size of the parcel to be considered? **29** acres

   C. Current Land Use area classification(s) **Resource Management**

   D. Requested classification(s) **Hamlet**

2. **ADIRONDACK PARK AGENCY HISTORY**
   (to be filled out by landowner/applicant only)

3. A. **Tax Map Description**

   Map(Section) **66.4**

   Block **1**

   Parcel(s) **12.100**

   B. **Has this property been a part of any previous agency permit, letter of non-jurisdiction, map amendment or enforcement action?**
   Yes **X** No _____

   If yes, number and date of permit **# 2009-67 6-3-=2009**
   Date of non-jurisdictional letter _____
   Map Amendment number _____
   Enforcement File Number _____

Request for amendments must be accompanied by maps of a sufficient scale to allow the Agency to identify the boundaries of the requested amendment area. Copies of the Tax Map(s) delineating the area will suffice.

4. SPECIFIC INFORMATION MUST BE PROVIDED IF APPLICABLE

A. **Public infrastructure**[1]

Attached a map showing existing water and/or sewer lines and the boundaries of existing water and/or sewer district(s).

B. **Public Service**

Attach a map delineating

1. Nearest fire department
2. Nearest public schools
3. Nearest police (local or State)
4. Public road network within two mile radius

C. **Existing Development**

Attach a copy of the current Tax Map(s) within a one-half mile radius of the parcel(s) being proposed for reclassification. Note on this map(s) the location and type of existing development on each lot.

D. **Soils Information**

Attach a map delineating the current available U.S. Department of Agriculture Natural Resource Conservation Service soils mapping and accompanying soils unit forms for the area(s) proposed for reclassification. See your county Soil and Water Conservation District Office (SWCD) or Cornell Cooperative Extension Agent for this information.

E. **Topography and Water Resources**

Attached appropriate United States Geological Survey or New York State Department of Transportation 7.5 Minute Series (1:24,000 scale) Topographic map for the area(s) proposed for reclassification.

F. **Flood Hazard**

Attach a map delineating the current Federal Emergency Management Agency (F.E.M.A.) identified flood hazard zone for the area(s) proposed for reclassification. This can be obtained from the County SWCD office or the Cornell Cooperative Extension Agent.

G. **Agriculture District**

Attach a map showing any active or proposed agriculture distinct involving all or portion of the parcel(s) proposed for reclassification. See your Cornell Cooperative Extension Agent office for this information.

H. **Wetlands**

In counties with Official Freshwater Wetland Maps (Hamilton, Warren, Essex, Clinton, Lewis and Oneida), attach a copy of the Official Freshwater Wetlands Map with the parcel(s) requested for reclassification. This information may be obtained from the County Clerk's office or by contacting the Agency.

---

[1] USGS or NYS Department of Transportation 7.5' (1:24.000 scale) map will suffice.

PART D JUSTIFICATION

Based upon the specific information in the previous section, state why the lands involved more accurately reflect the character description and the purposes, policies and objectives (as set forth in Section 805 of the Adirondack Park Agency Act attached hereto) of the requested classification. Please use additional sheet(s) if necessary.

As part of the town's landuse plan the proposed acreage is designated as a potential growth area to our hamlet. It is part of the Southern agricultural land district and is currently in outdoor recreation use (i.e.,golf course). The approximately 29± acres abuts our town's hamlet line and is a natural extension of our Hamlet as the town's water and sewer districts serve our hamlet area and the extension to this area would have minimal impact.

The open space area west of the 29± acres would remain open and continue to be golf course use, while the 29± acre parcel would serve both public and economic benefits to the town and would allow for better planning for the golf club expansion project.

Hamlet areas will serve as the service and growth centers in the park, and as such increasing our Hamlet area by the proposed approximately 29± acres would provide much needed services in housing and tourist and transient accommodations. Over the past several years Westport has lost over 40 rooms/ tourist accommodations, by fires, foreclosures, and conversions to single family dwellings and has lost through conservation easements and purchases in excess of 50 building rights on resource management agricultural lands.

Even though this hamlet expansion will displace some agricultural land the abundance of agricultural land is still plentiful as can be seen by the enormous green (APA land classification map) around our hamlet area and throughout the Town. It makes sense to allow this minor expansion given it already abuts to the Hamlet area and is already in the Town's water district and it also abuts our sewer district.

This amendment will add to the housing and tourist accommodation so desperately needed in all small Adirondack towns and in keeping with the Governors' desire to boost this industry within these small towns and to provide an economic stimulus that will help keep these towns vibrant.

Applicant's signature _____

Applicant's Representative signature (if applicable) _____

X Local Municipality Town of Westport

X Title Supervisor Town of Westport
(if necessary)

X Date 7/26/2018

PART D JUSTIFICATION

Based upon the specific information in the previous section, state why the lands involved more accurately reflect the character description and the purposes, policies and objectives (as set forth in Section 805 of the Adirondack Park Agency Act attached hereto) of the requested classification. Please use additional sheet(s) if necessary.

Proposed Land area is within 500 feet of existing former village/Hamlet boundary line. It will be serviced by town sewer & water lines. the Hamlet is currently serviced by water & sewer lines minimal impact on town sewer district. It will allow improved planning for development at Westport Golf. All Development will be connected to sewer district. Proposed Move of Hamlet line will allow for improved layout for development without increasing total Number of Development units. the change also allows for A Buffer Between Development at Westport Golf and current Homes on Main Street in Westport

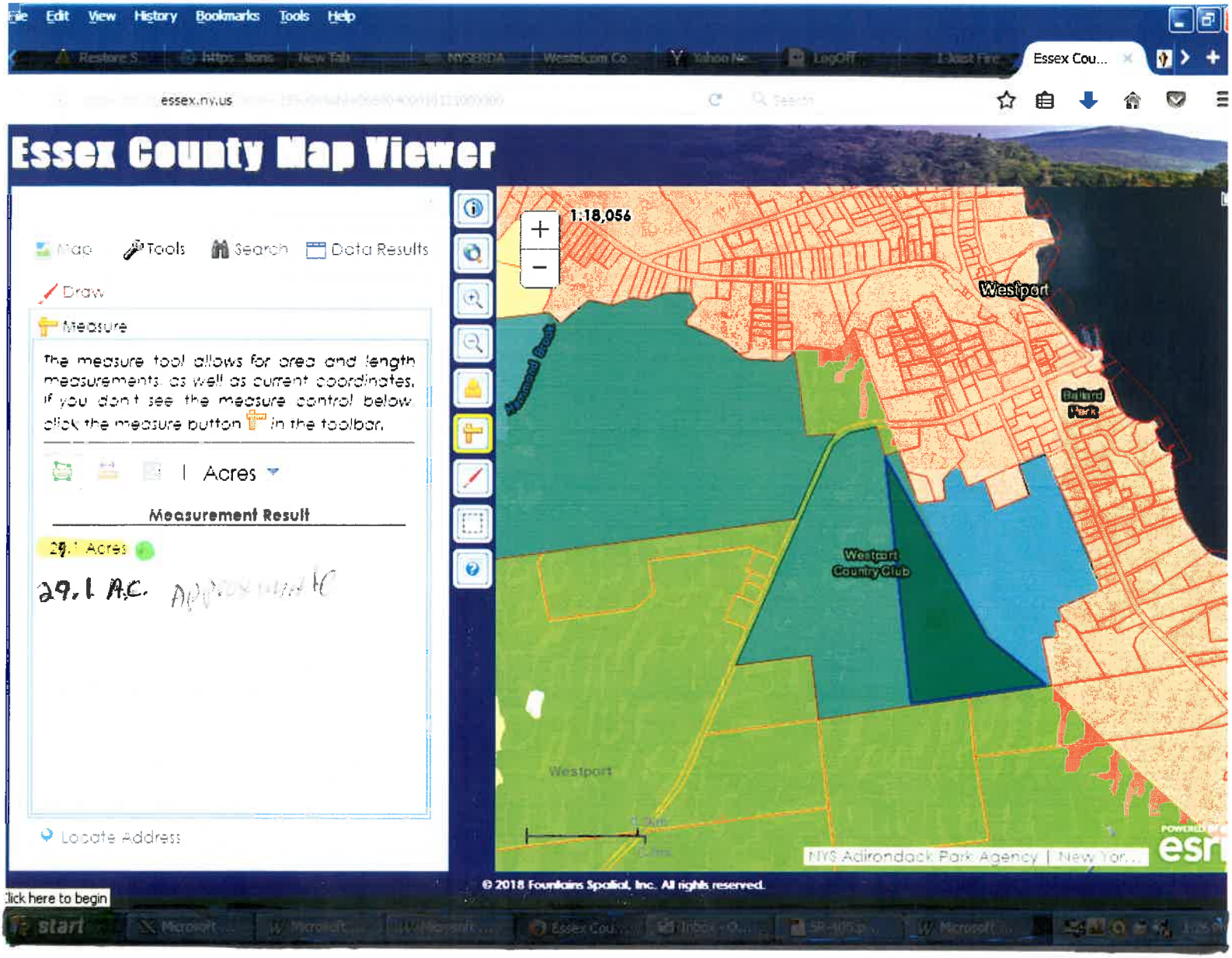
Applicant's signature Robert Hall

Applicant's Representative signature (if applicable) Robert Hall

Local Municipality

Title (if necessary)

Date 7/26/2018


Edit View History Bookmarks Tools Help
essex.ny.us
Essex County Map Viewer
Map
Tools
Search
Data Results
Draw
Measure
The measure tool allows for area and length measurements as well as current coordinates. If you don't see the measure control below click the measure button in the toolbar.
Acres
Measurement Result
29.1 Acres
29.1 AC.
Locate Address
1:18,056
Westport
Ballard Park
Westport Country Club
Westport
NYS Adirondack Park Agency | New Yor...
esri
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Click here to begin
start

c. Dimensional Requirements

Intensity:	42.7 acres per principal building
Minimum lot size:	2 acres
Minimum setback from center of right-of-way:	100 feet or prevailing setback
Minimum side and rear setbacks:	30 feet
Minimum road frontage:	200 feet
Minimum shoreline frontage:	200 feet (Located in Boquet Recreational River area)
Minimum setback from shoreline:	150 feet

31.080 Village Growth - Recreation District (VG - REC)

Description: Area adjacent to the former Village of Westport which is part of the southern Agricultural Lands and Rural Residential - 8.5 South, but is currently in outdoor recreation use (i.e., golf course).

Land Use Goals: Recognize existing pattern of use as desirable for the economic welfare of the community.

Land Use Policy: Create a sub-district which accommodates the existing pattern of development as an allowed use. Transfer of development rights into this subdistrict from its larger surrounding districts creates the possibility for more intensive, recreation-oriented development.

31.081 Agricultural Lands - Village Growth Recreation District

a. Permitted uses:

- < single-family dwelling
- < agricultural use & structure
- < private resource extraction
- < home occupation

b. Uses allowable by special permit:

- < multi-family dwelling
- < forestry use & structure
- < accessory apartment
- < major public utility as a Class A Regional project except in lands classified as Hamlet
- < outdoor recreation
- < bed & breakfast
- < public utility

c. Dimensional Requirements

Intensity:	42.7 acres per principal building
Minimum lot size:	0.5 acre
Minimum setback from center of right-of-way:	50 feet or prevailing setback
Minimum side and rear setbacks:	15 feet
Minimum road frontage:	80 feet

31.090 Agricultural Lands - Airport/Commercial, Industrial District

Description: Area within the Southern Agricultural Land District with a development cluster consisting of former Airport Inn Restaurant and gas station, former DIPAK, and airport.

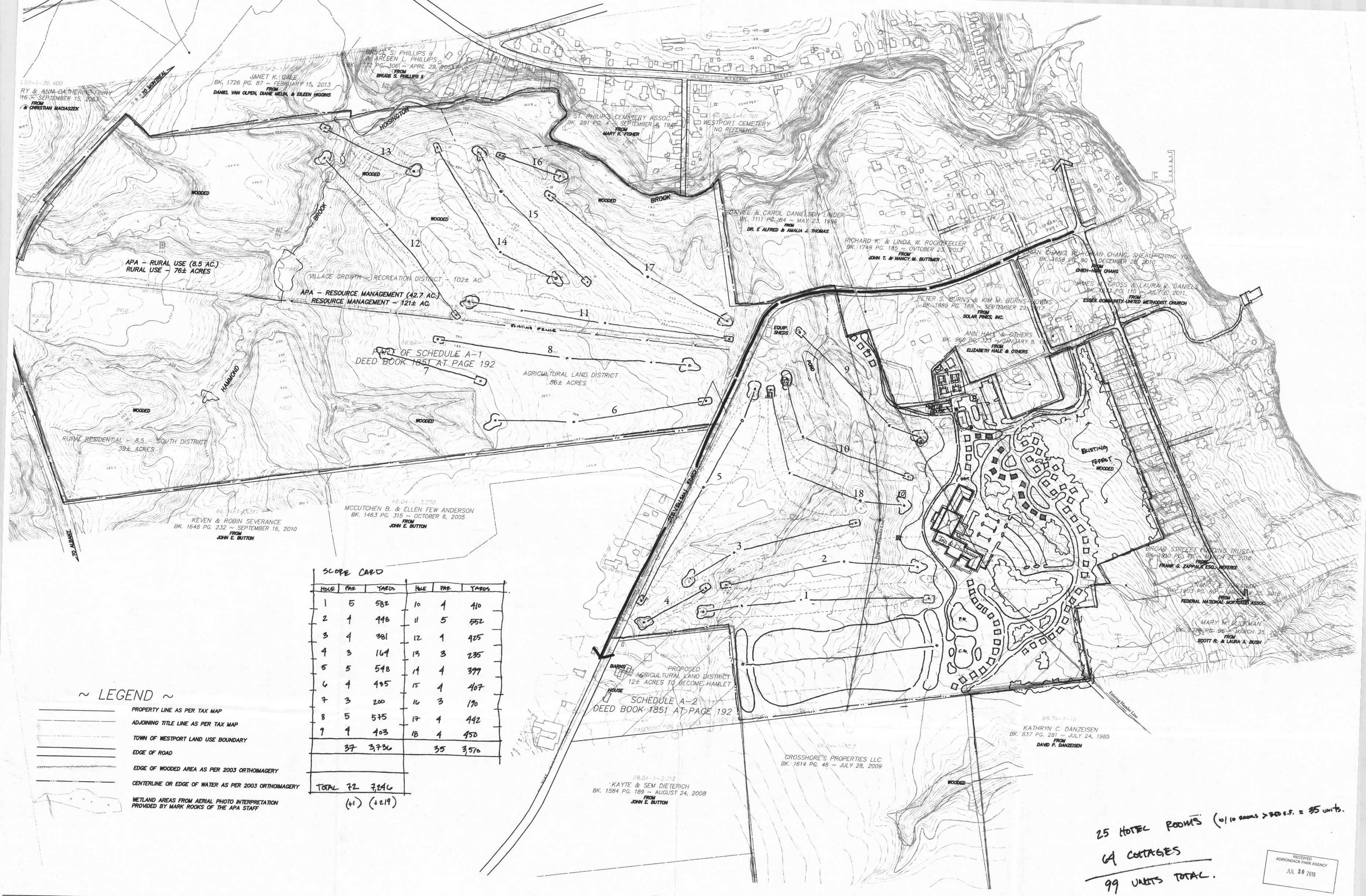
Land Use Goals: Recognize existing pattern of use as desirable to the economic and social welfare of the community.

Land Use Policy: Create a sub-district which accommodates the existing pattern of development as an allowed use.

31.091 Agricultural Lands - Airport/Commercial Industrial District

a. Permitted uses:

- < agricultural use & structure
- < private resource extraction



SCORE CARD

HOLE	PAR	YARDS	HOLE	PAR	YARDS
1	5	582	10	4	410
2	4	448	11	5	552
3	4	381	12	4	425
4	3	164	13	3	235
5	5	548	14	4	399
6	4	435	15	4	407
7	3	200	16	3	190
8	5	575	17	4	492
9	4	403	18	4	450
	37	3,736		35	3,510
TOTAL	72	7,246			
	(+1)	(+219)			

~ LEGEND ~

- PROPERTY LINE AS PER TAX MAP
- ADJOINING TITLE LINE AS PER TAX MAP
- TOWN OF WESTPORT LAND USE BOUNDARY
- EDGE OF ROAD
- EDGE OF WOODED AREA AS PER 2003 ORTHOIMAGERY
- CENTERLINE OR EDGE OF WATER AS PER 2003 ORTHOIMAGERY
- WETLAND AREAS FROM AERIAL PHOTO INTERPRETATION PROVIDED BY MARK ROOKS OF THE APA STAFF

25 HOTEL ROOMS (10 rooms > 300 s.f. = 35 units.
64 COTTAGES
99 UNITS TOTAL.

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ADIRONDACK PARK AGENCY
JUL 30 2018

SCALE: 1" = 200'-0"
200 0 100 200 400

Base Map
Westport Country Club
Westport, NY

Concept - 7.19.18

APPENDIX B

SUPPLEMENTAL APPLICATION MATERIALS

Town of Westport
Sewer District Expansion
Map Plan Report

Prepared for the

Town of Westport
22 Champlain Ave
P.O. Box 465
Westport, NY 12993

Prepared by

Engineering Ventures, PC
208 Flynn Avenue, Suite 2A
Burlington, Vermont 05401

March 2019, updated

EV Job# 18347

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2. Background
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5. Adequacy of the Westport Sewage Treatment Plant
6. Capital Project Cost
7. Project Financing and User Charges
8. Recommendations

Attachments

- (Date TBD) Town of Westport Town Board Resolution Authorizing Engineering Ventures, PC on behalf of the Westport Golf Club, and no cost to the Town, to prepare a Map, Plan and Report (MPR) for the expansion of the existing Sewer District #1.

- Draft Supplemental Environmental Impact Statement (DEIS) Map Amendment 2018-02 (Town of Westport). Amendment to the Office of Adirondack Park Land Use and Development Plan Map in the Town of Westport, Essex County (Map Amendment 2018-02) to Reclassify approximately 32 acres pursuant to the Adirondack Park Agency Act, Section 805(2) (c) (1) and 805(2)(c)(2), from Resource Management to Hamlet, as described in the Draft Supplemental Environmental Impact Statement as prepared by the APA dated 11/9/2018.

- Town of Westport Sewer District Expansion Map.

- Town of Westport Sewer District Expansion Plan

Figure 1 - Location Plan

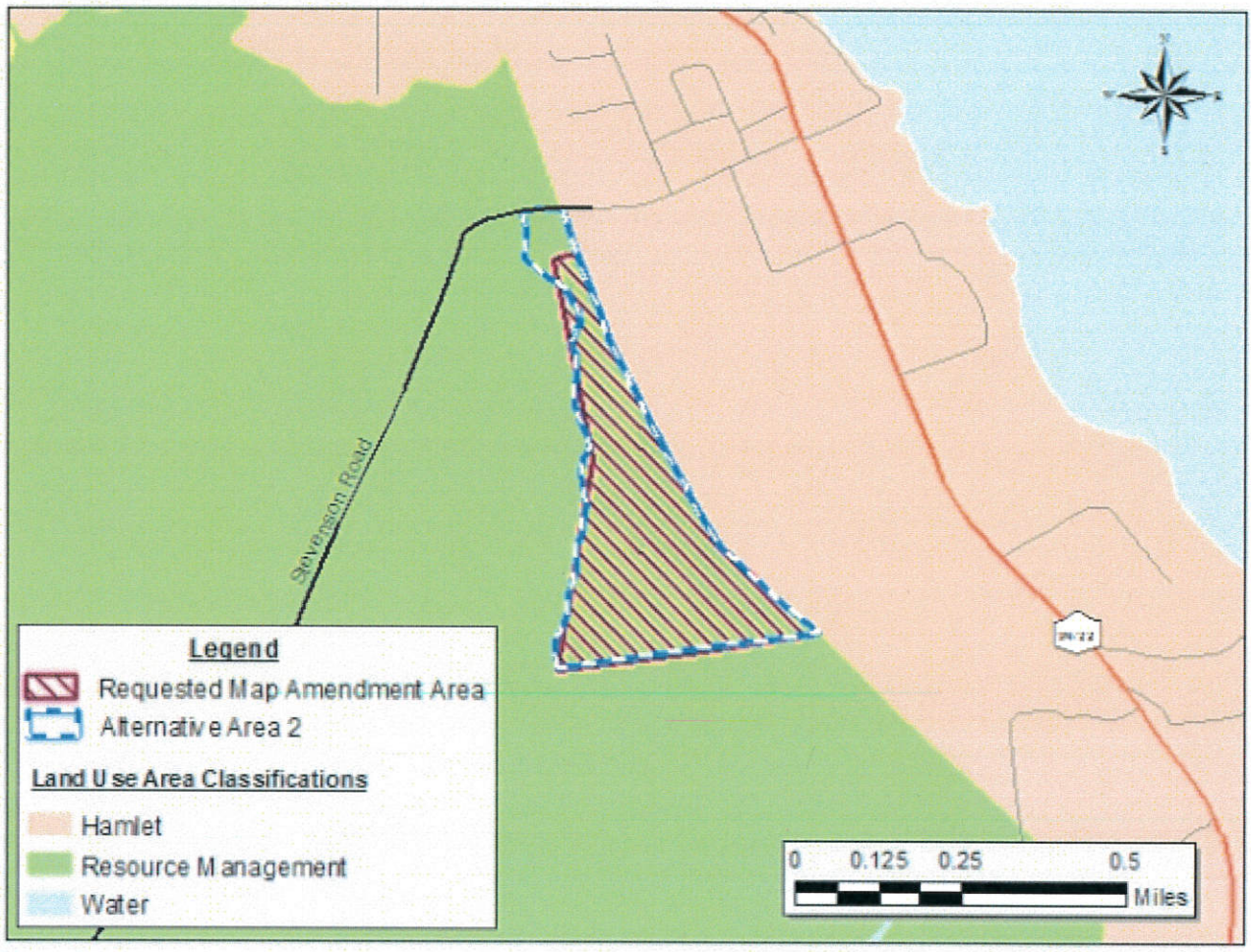


Figure 8. A map showing the requested map amendment area and Alternative Area 2, an alternative geographic configuration.

1. Authorization

The Town Board of the Town of Westport ("Town") has authorized Engineering Ventures, PC on behalf of the Westport Country Club, and at no cost to the Town, to prepare a Map, Plan and Report (MPR) for the expansion of the existing Sewer District #1 to match the proposed Amendment to the Official Adirondack Park Land Use and Development Plan Map in the Town of Westport, Essex County (Map Amendment 2018-02) to Reclassify approximately 29 acres pursuant to the Adirondack Park Agency Act, Section 805(2)(c)(1) and 805(2)(c)(2), from Resource Management to Hamlet, as described in the Draft Supplemental Environmental Impact Statement as prepared by the APA dated 11/9/2018.

Accordingly, this Map and Plan has been prepared in accordance with New York State Town Law, Article 12, Section 202-b, "Increase or Improvements of Facilities".

2. Background

The Town of Westport has expressed the need for residential and commercial expansion using the principles of smart growth for sustainable development to allow economic growth and development in the Town. Smart growth, which balances economic development and preservation of the environment, has two important benefits:

- it enables communities to integrate land suitable for development into the fabric of the existing hamlet, thus concentrating rather than dissipating resources,
- and it complements the protection of forests, farmland and other forms of open space by avoiding visually unappealing, and resource-inefficient sprawl and strip development.

One area that has seen numerous unsuccessful attempts for development and was identified for future development in the Blue-Ribbon Commission report, is the Westport Country Club property front 9 holes.

While the entire front 9 holes, and driving range, lands of the Westport Country Club golf course is entirely within the Town of Westport Water District #1 boundary, only a portion of the front 9 property, the eastern portion of the parcel, is within the Town of Westport Sewer District boundary. Previous development studies and efforts of the Westport Country Club property have focused on this eastern portion of the front nine property, which abuts historic homes on NYS RTE. 9N&22.

Notable Historical Context.

- The Town of Westport Sewer District came into existence around 1960 when a major sewage collection and treatment plant project linked individually owned, and small private community owned sewage systems. This new sewer district followed the Village of Westport Government boundary.
- When the Adirondack Park Agency came into existence in 1973, via the Adirondack Park Agency Act, Section 805, the Village of Westport was designated as an APA Hamlet land use area.
- The Village of Westport was dissolved in 1992.
- The Old Village Line/sewer district boundary/APA hamlet land use line is an arc that traversed the Westport Country Club front nine property. As stated in the DEIS, the present Hamlet line, on the Westport Country Club lands does not follow appropriate boundaries for land classification area as required by Section 805(2)(c)(5). Typical land use boundaries follow roads, streams, municipal boundaries, great lot boundaries, as well as setback or one-tenth and one-quarter mile from these.

In the absence of the old Village of Westport Municipal boundary, dissolved in 1992, the present Hamlet land use line does follow the typical APA boundary criteria. However, using the APA classification criteria, a more appropriate Hamlet line on the Country Club property would be one that follows the centerline of Stevenson Road, the centerline of an unnamed stream, and a setback from a Great Lot boundary. This is explained in Alternative 2 in the draft Supplemental Environmental Impact Statement (DEIS) Map Amendment 2018-02 (Town of Westport). This alternative adds approximately 32 acres to the Hamlet area in Westport.

Of interest is the development potential/scenarios for the Country Club property within the Hamlet land use area. The Country Club has two APA land use classifications, Hamlet and Resource Management. Hamlet being the least restrictive for development, and Resource Management being the most restrictive for development. Under the APA act, a project within a Hamlet land use area is non-jurisdictional to the APA if there are less than 100 units, and the structures are not over 40 feet in height, and wetlands are not impacted. Typically, 99 units are proposed in these circumstances to preserve the APA non-jurisdictional status. In comparison, virtually all development is jurisdiction to the APA in the Resource Management land use area.

The Town zoning districts generally correspond/agree with these APA land uses boundaries. Land within the present Sewer District, on the Country Club property, is V-RESII PD with an allowable ½ acre per principal building density, and can be developed as a Planned Development. Land outside the Sewer District boundary, on the Country Club property, per Town zoning is VG-REC. Presently, the existing Sewer District Line, corresponding APA Hamlet line, and Town zoning district line, would allow the development of an estimated 80 units in the Sewer District area, on the Country Club lands. This estimated maximum being dictated by Town Zoning.

For the above reasons, all past development proposal scenarios for the Country Club have focused future development in the present APA Hamlet land use area, which matches the Town V-RESII PD area, pushing potential development near the Country Club eastern property line, within the existing sewer district boundary, and adjacent to historic homes on NYS RTE. 9N&22. In most of these past proposals the existing 200' wooded buffer was substantially reduced, or eliminated, to build the 80 proposed units.

However under the prosed Sewer District and Hamlet line change, if the Hamlet land use line is adjusted to match the location suggested in Alternative 2 in the draft Supplemental Environmental Impact Statement (DEIS) Map Amendment 2018-02 (Town of Westport), the potential future development can shift away from the eastern boundary of the Golf Course, further away for the historic homes, and preserve the existing 200 foot+/- wide wooded buffer between the homes and the Country Club. Furthermore, the overall development potential is affected by the Sewer District and Hamlet line change and the addition of 32 acres to the APA Hamlet land use. If the Town

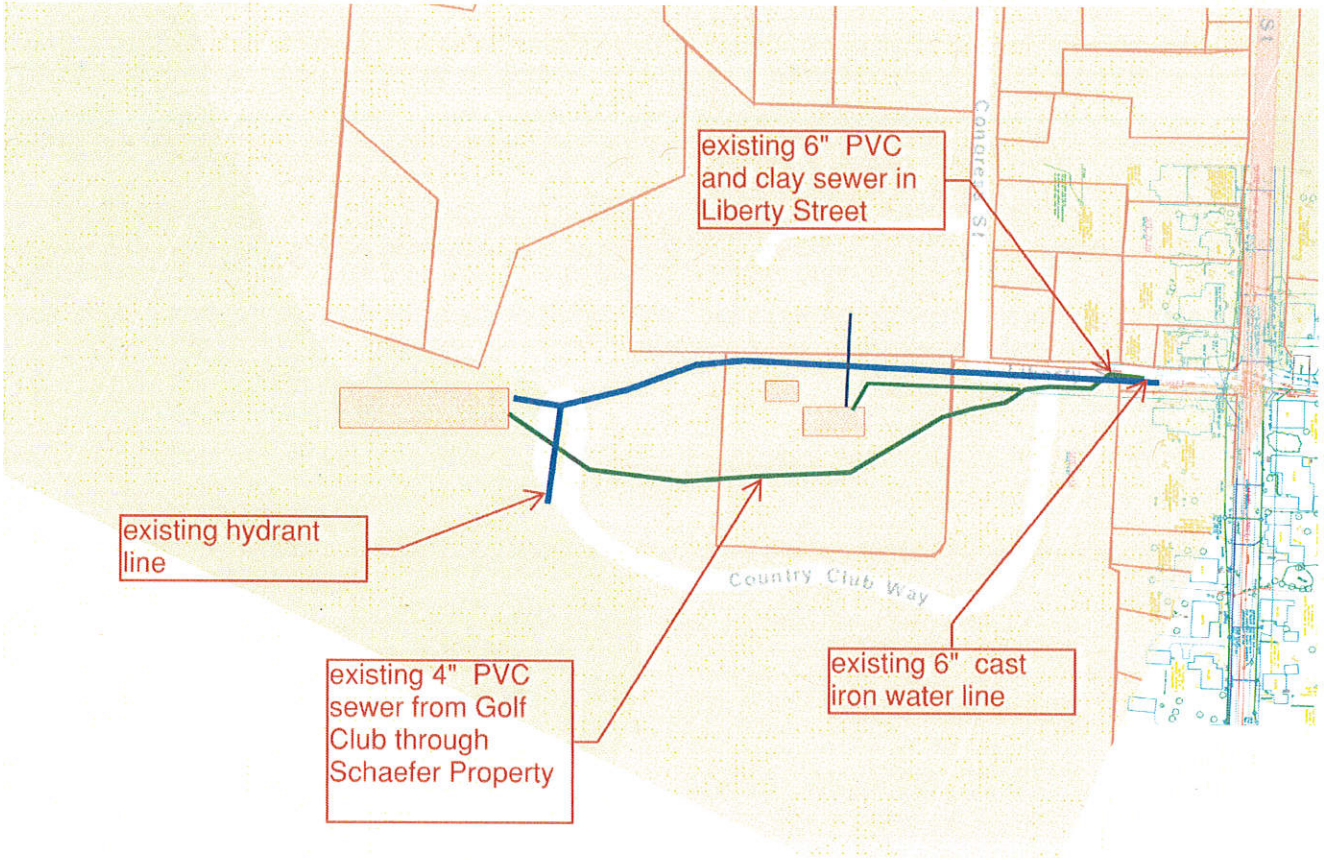
correspondingly changes the Town V-RESII PD area to match the new Sewer District line the development potential will increase. In this circumstance, the maximum development limiting factor would be the APA non-jurisdictional status, capped at 99 units.

The largest benefit to the development potential for the Country Club is the shift of the to a more appropriate location, and the preservation of the wooded buffers between historic homes and the Country Club land.

3. Proposed Improvements

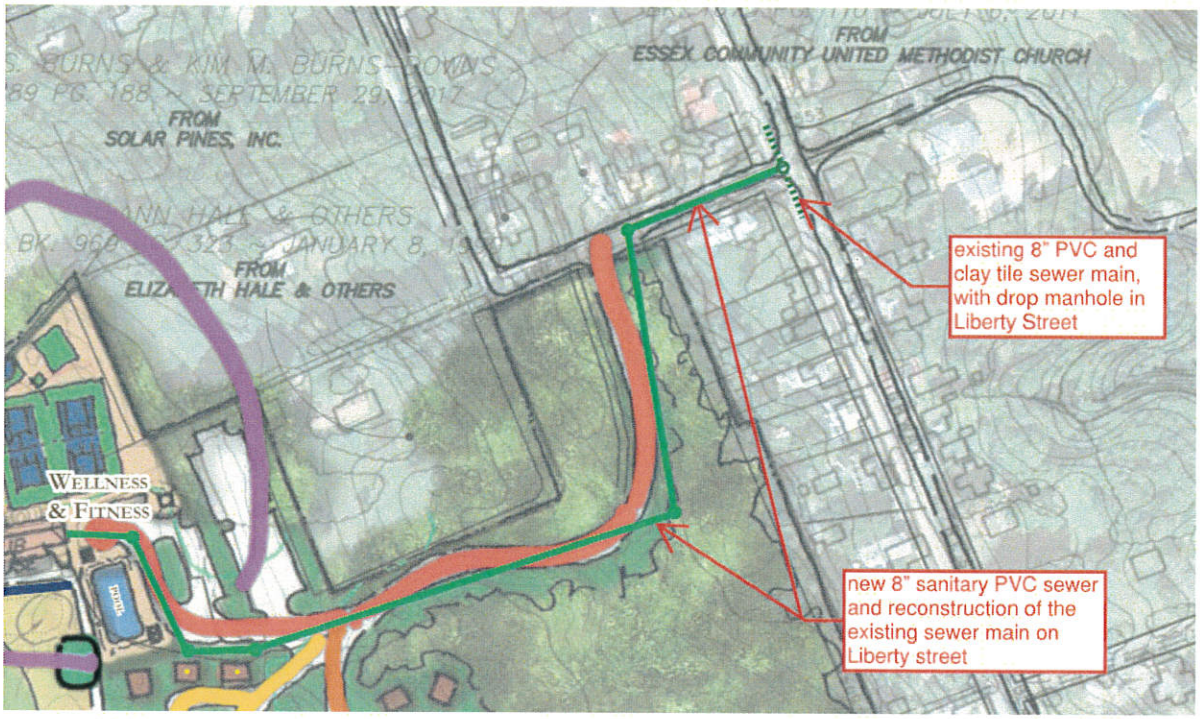
A boundary map amendment to the Hamlet land use line to the location suggested Alternative 2 in the draft Supplemental Environmental Impact Statement (DEIS) Map Amendment 2018-02 (Town of Westport), does not bring sewer service to the new proposed Hamlet area. Improvements to the sewage collection system need to be constructed.

There is an existing 8" PVC and clay tile sanitary sewer main, built in the early 1970's, that travels north-south on Rte. 9N&22. Liberty Street is serviced by an existing 6" PVC and clay tile sanitary sewer that may have been built in the early to mid-1900's. The Country Club House is serviced by a relatively new (2010 +/-) 4" PVC sewer, relatively shallow (3 foot +/-), sewer line that traverses the Hale/Schaefer property and connects to the Liberty Street sewer, most likely between the intersection of Liberty Street and Congress Street and the Country Club entrance road, per old sewer maps and discussions with the Town. Unfortunately, there is not a manhole in this area to indicate the exact location of the tie-in point. This existing 4" PVC, shallow sewer line will not be adequate to service the potential development on the Country Club Golf Course. A new Sewer line on Liberty Street and the Country Club property will need to be constructed.



4. Project Description

For any potential development on the Country Club property, a new 8" PVC sewer line, with manholes, could be constructed down the Country Club entrance road, to a location east on the Liberty Street/Country Club entrance road, and end in a manhole. Additionally, a new 8" sanitary PVC sewer line would be required, and the reconstruction of the existing sewer main on Liberty Street would also be required. We recommend that a public/private partnership agreement be developed to upgrade the Liberty Street sewer to an 8" PVC sewer, and a private sanitary sewer service be constructed for the Country Club development project, to serve any new development along with the existing Club House.



5. Adequacy of the Westport Sewage Treatment Plant to handle its existing flows and the projected flows from the proposed Country Club Development

The 12-31-18 Town of Westport Sewer District #1 Collection system Evaluation by AES Northeast PLLC uses collected data to analyze and review the capacities and issues related to the existing collection and treatment system. The Waste Water Treatment Plant (WWTP) receives a significant amount of Infiltration and Inflow (I&I) and the report takes an in-depth look at the collection system and provides project-based solutions to eliminate as much I&I as possible.

In this report the following is noted:

- Permitted capacity of the (WWTP) = 0.18 MGD or 180,000 Gallons Per Day (GPD).
- The majority of the I&I is from leaking pipes and manholes constructed of vitrified clay and concrete block in the 1960's.
- The dry-weather summer flow to the WWTP is 57,000 GPD, well below the permitted limit.
- The wet weather flow is upwards of 257,000 GPD.
- Theoretically there could be 200,000 GPD of I&I removed by collection system repairs.
- Under the design criteria section in the report, the areas listed for repair or replacement could greatly reduce, or eliminate, I&I. Congress and Liberty

Streets is an area identified for repair or replacement and has a projected design reduction of 7,200 GPD (5 gallons per minute).

- The report recommends repairs to the leaking pipes and manholes and a replacement of the Old Arsenal pump station, while recommending only minor upgrades to the other collection system pump stations, including the Marina Pump Station, where the expanded sewer district area would flow.
- The report looked at the present undeveloped areas of the Sewer District, the Town zoning in the Sewer District, and estimates that if developed, the increase in sewer flow to the WWTP would be 48,590 GPD. 12,590 of which resulting from potential development at the Westport Country Club.

The proposed sewer district expansion project proposes to perform much of the recommended improvements to the Congress Street and Liberty Street area, and therefore has positive effect on diminishing the I&I, with a planned reduction of 7,200 GPD. This means that the net increase in water load to the WWTP would be 12,590 GPD – 7,200 GPD = 5,390 GPD. The proposed Country Club development would equate to an approximate 9.5% dry weather waste load increase, and still be significantly under the permitted WWTP capacity if the other I&I improvements were implemented. It is the writers understanding that the Town of Westport is, or will be, actively seeking funding for the I&I reduction improvements listed in the AES study.

It is again worth noting again that the Westport Country Club development can be constructed wholly within the existing Sewer District as previously proposed projects have identified. The new proposed district boundary and increased Sewer District area to allow for the potential development to take place in a more desirable area for development, by preserving the existing 200-foot vegetative buffer that boarders the existing residential homes on Main Street NYS RTE 9N, and is a significant improvement the Town's development future. This in turn will attempt to satisfy the originally expressed need for residential and commercial expansion using the principles of smart growth for sustainable development, and to allow economic growth and development in the Town.

6. Capital Project Cost

As shown in the table below, the estimated project cost for the proposed sewage collection 8" PVC line on Liberty Street and into the Country Club property to the development area, including the existing club house and restaurant, is approximately $237,223. Surveying, and Engineering for the change in the Sewer District (creation of the Map Plan and Report), plus the Surveying, Engineering and construction inspection costs for the sewer improvements are estimated at 15% of the construction cost, making

the total estimated project costs $272,800. The improvements will be at no cost to the Town as the future development will pay for the installation of the sewer district improvements in Liberty Street. Upgrades to the collection system beyond Liberty Street due to I&I issues and aging infrastructure will be handled at the Sewer District Level. The addition of up to 99 units at the Country Club Golf Couse will help pay for these Sewer District improvements.

Opinion of Probable Cost for:
Westport Golf Club
Westport, New York

ENGINEERING VENTURES PC

Sanitary Improvements - Liberty Street to Club House Date: February 15, 2019 By: HKW/PG

Item	Quantity	Unit Price		Total
8" SDR 35 PVC Sanitary Lines	1,419 LF	$80.00 /LF	$	113,520.00
6" SDR 35 PVC Sanitary Service Lines	160 LF	$50.00 /LF	$	8,000.00
Sanitary Trenching	1,404 CY	$20.00 /CY	$	28,071.11
Sanitary Pipe Bedding (sand borrow)	468 CY	$27.00 /CY	$	12,632.00
Sanitary Manholes	5 EA	$5,000.00 EA	$	25,000.00
Liberty Street Pavement Replacement	1,250 LF	$40.00 /SY	$	50,000.00
	Total Concept Cost for Sanitary Improvements		**$**	**237,223.11**

7. Project Financing and User Charges

The costs of financing this project will be borne by the Country Club development project. Water and Sewer District Capital taxes will be generated from the development and will be calculated by a combination of Assessed Value and unit users' fees. This additional revenue can be used to help finance the local share for the other sewer district I&I improvements.

8. Recommendations and Conclusions

It is recommended that the information presented in this Map, Plan and Report be presented to the residents within the sewer district during a public hearing. The public hearing should be scheduled once the Town Board has accepted this report in accordance with Article 12 of Town Law. Should the Town Board decide following the public hearing that the project is in the public interest, the Board should pass a resolution authorizing:

- the expansion of the sewer district as suggested in Alternative 2 in the draft Supplemental Environmental Impact Statement (DEIS) Map Amendment 2018-02 (Town of Westport),

- and allowing the owner of the Westport Country Club to develop engineering plans and seek to obtain appropriate permits for the sewer collection system improvements on Liberty Street

Respectfully submitted,

Engineering Ventures, PC

Peter Gibbs, PE – Vice President

DESCRIPTION OF BOUNDS ~ ***2019 Westport Sewer District Expansion***

Being described in Schedule A
attached hereto and made a part hereof.

SCHEDULE A

2019 Westport Sewer District Expansion

All that certain parcel of land being located in the Town of Westport, County of Essex, State of New York and being bounded and described as follows;

Beginning at a computed point in the centerline and at the westerly end of Washington Street on the westerly bounds of the former Village Limits of said Westport being the northeast corner of the herein described area and running the following three courses along said former Village Limits;

1. S 20°-43′-50″ E 20.31 feet to a found 1″ iron pipe 0.5′ below grade, and continuing on the same course of S 20°-43′-50″ E additional distance of 751.52 feet for a total distance of 771.83 feet to a computed point located on the east bounds of the herein described parcel, the southwest corner of Forcier as described in deed book 1024 at page 166;

2. S 31°-22′-43″ E 1336.80 feet to a computed point;

3. S 48°-39′-22″ E 753.10 feet to a found 1.5′ high 1″ iron pipe located at the southeast corner of the herein described parcel, the southeast corner of Consolidated Mortgages LLC as described in deed book 1851 at page 192, the northeast corner of Kathryn C. Danzeisen as described in deed book 837 at page 281 and the west bounds of Mary H. Glickman as described in deed book 1729 at page 96;

4. S 81°-21′-42″ W 748.65 feet to a found 2′ high 1″ iron pipe located at the northwest corner of said Danzeisen and the northeast corner of Crosshore's Properties LLC;

5. S 80°-54′-34″ W 750.78 feet to a computed point located at the southwest corner of the herein described parcel, and along the north bounds of said Crosshore's Properties LLC;

6. N 08°-57′-30″ E 620.00 feet to a computed point;

7. N 04°-55′-00″ E 460.00 feet to a computed point;

8. N 11°-30′-00″ W 445.00 feet to a computed point;

9. N 06°-00′-00″ E 495.00 feet to a computed point;

10. N 50°-05′-00″ W 415.00 feet to a computed point;

11. N 01°-03′-07″ W 317.51 feet to a computed point located at the northwest corner of the herein described parcel and in the centerline of Stevenson Road, also known as Essex County Route 44 and running the following two courses along said centerline of road;

12. N 85°-07′-20″ E 94.17 feet to a computed point;

13. N 89°-23′-21″ E 78.15 feet to a computed point at the point of beginning, containing 32.21 acres, more or less, within the above described bounds.

The above description taken from a Map of Survey prepared for the Town of Westport for the Proposed 2019 Sewer District Extension by Kevin A. Hall, Land Surveyor, Elizabethtown, N.Y. and filed in the Essex County Clerk's Office as Map No. 7608.

N.Y.S. GRID NORTH
~1983 DATUM~

MAGNETIC NORTH
2019

15°07'±

120 0 120 240 360
GRAPHIC SCALE – FEET

400' FROM CENTERLINE

66.04–1–2.000
DANIEL & CAROL DANIELSON LINDER
BK. 1111 PG. 84

N 85°07'20"E 94.17'
N 89°23'21"E 78.15'
C.P.
20.31'
WASHINGTON STREET

66.04–1–12.100
CONSOLIDATED MORTGAGES LLC
BK. 1851 PG. 192

FOUND 2" HIGH 1" IRON PIPE.

ECCO MAP #3521
ECCO MAP #3322

66.66–3–11.000
ROCKEFELLER
BK. 1748 PG. 185

66.66–3–10.1
NANCY PAGE
BK. 1827 PG. 297

66.66–3–2
JANET J. BONNETTE
BK. 1935 PG. 263

66.66–3–3
HENRY F. & ELIZABETH F. COX
BK. 871PG. 182

BONNETTE
COX

66.66–3–4
ALLAN & DONNA BEAL
BK.659 PG. 262

CONGRESS STREET

N 01°30'30"W 317.51'

S 20°43'50"E 771.83'
751.52'

N 50°30'00"W 415.00'

66.66–3–9.112
FORCIER
BK. 845 PG.260

66.66–3–6.000
PETER S. BURNS & KIM M. BURNS–DOWNS
BK. 1880 PG. 188

ECCO MAP #2833
ECCO MAP #3521
ECCO MAP #1904

LIBERTY STREET

66.66–3–9.111
FORCIER
BK. 1024 PG. 166

ECCO MAP #3521

N 05°01'00"E 495.00'

ECCO MAP #2304

66.66–3–7.000
ANN HALE & OTHERS
BK. 962 PG. 323

SOUTH MAIN STREET

A/K/A ESSEX COUNTY ROUTE 44

TOWN OF WESTPORT
DISTRICT #1 – SECTION #6
FILED MAP No. #185
400' EITHER SIDE OF STEVENSON ROAD

STEVENSON ROAD

400' FROM CENTERLINE

G10 G5 T6 T18 G18 G9 T9 T10 G6 T7 G8 G7 T5 T4 T8 G3 G4 G2 G1 T3 T2

VG–REC
H
AL

PROPOSED
32.21± ACRE
SEWER DISTRICT EXPANSION

N 11°30'00"W 455.00'

S 31°27'43"E 1356.80'

N 04°53'30"E 460.00'

N 04°53'30"E 620.00'

S 45°39'22"E 75.10'

66.04–1–12.100
CONSOLIDATED MORTGAGES LLC
BK. 1851 PG. 192

66.74–1–12.12
NANCY E. FARAGAN
BK. 1903 PG. 60

66.74–1–1.191
MARY H. GLICKMAN
BK. 1729 PG. 96

66.04–1–7.000
CONSOLIDATED MORTGAGES LLC
BK. 1851 PG. 192

66.04–1–3.312
KAYTE & SEM DIETERICH
BK. 1584 PG. 189
ECCO MAP #6132

FOUND 0.5" HIGH 1 1/2" IRON PIPE.

N 80°54'34"E 660.00' (TIE)

66.04–1–12.2
CROSSHORE'S PROPERTIES LLC
BK. 1614 PG. 46
ECCO MAP #6392

750.78'
S 80°54'34"W

FOUND 2" HIGH 1" IRON PIPE.

748.65'
S 81°21'42"W

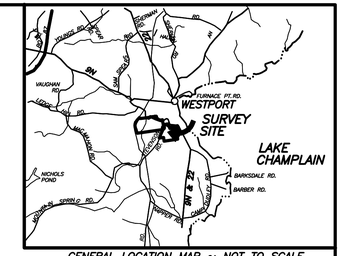
66.74–1–15
KATHRYN C. DANZEISEN
BK. 837 PG. 281

FOUND 1.5" HIGH 1" IRON PIPE.

A/K/A N.Y.S. ROUTES 9N & 22

~ LEGEND ~

- PROPERTY LINE AS PER MAP OR DEED
- PROPERTY LINE BY TAX MAP
- ADJOINING TITLE LINE AS PER TAX MAP OR DEED
- EXISTING TOWN OF WESTPORT WATER DISTRICT #1 BOUNDARY
- PROPOSED SEWER DISTRICT BOUNDARY
- EXISTING TOWN OF WESTPORT LAND USE BOUNDARY
- AREA OF PROPOSED SEWER DISTRICT EXPANSION
- ECCO MAP #3521 – ESSEX CO. CLERK'S OFFICE FILED MAP NUMBER
- T5 – TEE WITH HOLE No.
- G7 – GREEN WITH HOLE No.
- SAND TRAP



GENERAL LOCATION MAP ~ NOT TO SCALE

~ TOWN OF WESTPORT ~ ZONING MAP LEGEND

H HAMLET DISTRICTS – SECTION 31.010
AL AGRICULTURAL LAND DISTRICT – SECTION 31.03
RR – 8.5 S RURAL RESIDENTIAL – 8.5 – SOUTH DISTRICT – SECTION 31.044
VG – REC VILLAGE GROWTH – RECREATION DISTRICT – SECTION 31.050

~ NOTES ~

#1 UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUBDIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

#2 ONLY COPIES FROM THE ORIGINAL OF THIS SURVEY, SIGNED AND DATED IN RED INK AND MARKED WITH THE LAND SURVEYOR'S EMBOSSED SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES.

TOWN OF WESTPORT
PROPOSED 2019 SEWER DISTRICT EXTENSION

SHOWING A 32.21± ACRE PARCEL IN LANDS ZONED BY THE TOWN OF WESTPORT AS AGRICULTURAL DISTRICT AND AS VILLAGE GROWTH – RECREATIONAL DISTRICT

BEING A COMPOSITE OF FORMER SURVEYS, DEEDS AND MAPS OF RECORD, THE TOWN OF WESTPORT TAX MAPS, AERIAL PHOTOGRAPHY AND LIMITED FIELD WORK.

TOWN OF WESTPORT ~ COUNTY OF ESSEX ~ STATE OF NEW YORK
SCALE 1"= 120' MARCH 13, 2019

PRELIMINARY
MARCH 30, 2019

KEVIN A. HALL
LAND SURVEYOR
ELIZABETHTOWN, N.Y.
LS #49787

ONLY COPIES FROM THE ORIGINAL OF THIS SURVEY, SIGNED AND DATED IN RED INK AND MARKED WITH THE LAND SURVEYOR'S EMBOSSED SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES.

WE–91–133–E

TOWN OF WESTPORT

ON LAKE CHAMPLAIN
22 CHAMPLAIN AVENUE
P.O. BOX 465
WESTPORT, N.Y. 12993-0465
(518) 962-4419
Fax (518) 962-4550

Michael Tyler, Supervisor
Steven Viens, Deputy Supervisor
Dennis Westover, DPW Superintendent

Barry Morrison, Councilperson
Nancy Page, Councilperson
David Kirkby, Councilperson

The following resolution was brought before the Westport Town Board at the May 28, 2019 Regular Meeting.

RESOLUTION #94
MAP/PLAN/REPORT ACCEPTANCE

On a motion by Deputy Supervisor Viens, seconded by Councilperson Morrison, and approved on a roll call vote.

4	Ayes	Page, Kirkby, Morrison, Viens
0	Nays	

RESOLVED that the Town Board of the Town of Westport accepts the Map/Plan/Report and directs the surveyor to file the Map and description with the Essex County Clerk as follows:

The following described parcel of land is situated in the Town of Westport, County of Essex, State of New York. The tax map parcel number named herein are based on the 2019 Essex County tax maps.
The following property as identified in the 2019 Essex County tax map will comprise Sewer district extension #1.
Tax Map No. 66.4-1-12.100

2019 Westport Sewer District Expansion description
All that certain parcel of land being located in the Town of Westport, County of Essex, State of New York and being bounded and described as follows:

Beginning at a computed point in the centerline and at the westerly end of Washington Street on the westerly bounds of the former Village Limits of said Westport being the northeast corner of the herein described area and running the following three courses along said former Village Limits;

1. S 20°-43'-50" E 20.31 feet to a found 1" iron pipe 0.5' below grade, and continuing on the same course of S 20°-43'-50" E additional distance of 751.52 feet for a total distance of 771.83 feet to a computed point located on the east bounds of the herein described parcel, the southwest corner of Forcier as described in deed book 1024 at page 166;

2. S 31°-22'-43" E 1336.80 feet to a computed point;

3. S 48°-39'-22" E 753.10 feet to a found 1.5' high 1" iron pipe located at the southeast corner of the herein described parcel, the southeast corner of Consolidated Mortgages LLC as described in deed book 1851 at page 192, the northeast corner of Kathryn C. Danzeisen as described in deed book 837 at page 281 and the west bounds of Mary H. Glickman as described in deed book 1729 at page 96;

4. S 81°-21'-42" W 748.65 feet to a found 2' high 1" iron pipe located at the northwest corner of said Danzeisen and the northeast corner of Crosshore's Properties LLC;

5. S 80°-54'-34" W 750.78 feet to a computed point located at the southwest corner of the herein described parcel, and along the north bounds of said Crosshore's Properties LLC;

6. N 08°-57'-30" E 620.00 feet to a computed point;

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8. N 11°-30'-00" W 445.00 feet to a computed point;

9. N 06°-00'-00" E 495.00 feet to a computed point;

10. N 50°-05'-00" W 415.00 feet to a computed point;

11. N 01°-03'-07" W 317.51 feet to a computed point located at the northwest corner of the herein described parcel and in the centerline of Stevenson Road, also known as Essex County Route 44 and running the following two courses along said centerline of road;

12. N 85°-07'-20" E 94.17 feet to a computed point;

13. N 89°-23'-21" E 78.15 feet to a computed point at the point of beginning, containing 32.21 acres, more or less, within the above-described bounds.

The above description taken from a Map of Survey prepared for the Town of Westport for the Proposed 2019 Sewer District Extension by Kevin A. Hall, Land Surveyor, Elizabethtown, N.Y. and filed in the Essex County Clerk's Office as Map No. 7608.

I, Julie Schreiber, Clerk of the Town of Westport NY, do hereby certify that I have compared the foregoing copy with the original filed in this office on the 29th day of May 2019, and that it is a correct and true copy thereof.
IN TESTIMONY THEREOF, I have hereunto set my hand and affixed my seal the 30th day of May 2019.

Julie Schreiber
Town Clerk of Westport NY



TOWN OF WESTPORT

ON LAKE CHAMPLAIN
22 CHAMPLAIN AVENUE
P.O. BOX 465
WESTPORT, N.Y. 12993-0465
(518) 962-4419
Fax (518) 962-4550

Michael Tyler, Supervisor
Steven Viens, Deputy Supervisor
Dennis Westover, DPW Superintendent

Barry Morrison, Councilperson
Nancy Page, Councilperson
David Kirkby, Councilperson

The following resolution was brought before the Westport Town Board at the May 28, 2019 Regular Meeting.

RESOLUTION #95
TOWN OF WESTPORT SEWER DISTRICT EXTENSION #1

On a motion by Councilperson Morrison, seconded by Deputy Supervisor Viens, and approved on a roll call vote.

4	Ayes	Page, Kirkby, Morrison, Viens
0	Nays	

Be it resolved in the matter of the Extension #1 of Sewer District #1 in the Town of Westport, Essex County, State of New York:

WHEREAS, a request has been received from Consolidated Mortgages LLC and the Westport Country Club by the Town of Westport to submit a map amendment reclassifying approximately a 32.21-acre parcel currently zoned in a resource management area to be changed to a Hamlet designation; and

WHEREAS, the Town of Westport submitted a map amendment request to the Adirondack Park Agency for approval of the land use classification change from resource management and to add this 32.21 acre area to our Hamlet area; and

WHEREAS, the Adirondack Park Agency outlined in a Draft Environmental Impact Statement the need to establish a sewer district extension in order to achieve this goal; and

WHEREAS, the Town of Westport at their April 23, 2019 Town Board meeting passed a resolution that directs Consolidated Mortgages LLC and Westport Country Club to create a Map/Plan/Report for the extension of the Westport Sewer District #1 on behalf of the Town of Westport, at no cost to the Town of Westport and further, there will be no additional cost to the residents of the current Sewer District 1, and the cost to residents of Extension # I will be the present sewer usage fee plus the present ad valorem tax based on the per $1,000 of assessed valuation; and

WHEREAS, the Town Board of Westport declared itself lead agency under SEQRA and the Town Board determined that sewer district #1 extension is an unlisted action and further, The Town Board of Westport adopted a resolution to conduct a SEQRA public hearing on the Map/Plan/Report on May 14, 2019 at 6:30pm at the Town Hall and to publish this SEQRA public hearing notice, along with the description of the Sewer District #1 extension in the Town's legal paper at least 10 days ahead of the May 14th meeting; and

WHEREAS, the public hearing was held on May 14, 2019 at 6:30pm and Engineering Ventures made a presentation to the Town Board and public explaining the proposed Westport Sewer District #1 extension, the Map/Plan/Report; and

WHEREAS, the SEQRA public hearing was closed with no public comment; and

WHEREAS, at the regular board meeting at 7:00pm May 14, 2019 the short SEQR EAF was reviewed and as a result it was determined that the proposed unlisted action will not result in any significant adverse environmental impacts; and

WHEREAS, at the May 28, 2019 Town Board meeting the Town Board passed a resolution accepting the Map/Plan/Report and directed the surveyor to file the Map and description with the Essex County Clerk as follows:

The following described parcel of land is situated in the Town of Westport, County of Essex, State of New York. The tax map parcel number named herein are based on the 2019 Essex County tax maps.
The following property as identified in the 2019 Essex County tax map will comprise Sewer district extension #1.
Tax Map No. 66.4-1-12.100

2019 Westport Sewer District Expansion description

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1. 1.S 20°-43'-50" E 20.31 feet to a found 1" iron pipe 0.5' below grade, and continuing on the same course of S 20°-43'-50" E additional distance of 751.52 feet for a total distance of 771.83 feet to a computed point located on the east bounds of the herein described parcel, the southwest corner of Forcier as described in deed book 1024 at page 166;

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described in deed book 1851 at page 192, the northeast corner of Kathryn C. Danzeisen as described in deed book 837 at page 281 and the west bounds of Mary H. Glickman as described in deed book 1729 at page 96;

4. S 81°-2l'-42" W 748.65 feet to a found 2' high 1" iron pipe located at the northwest corner of said Danzeisen and the northeast corner of Crosshore's Properties LLC;

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The above description taken from a Map of Survey prepared for the Town of Westport for the Proposed 2019 Sewer District Extension by Kevin A. Hall, Land Surveyor, Elizabethtown, N.Y. and filed in the Essex County Clerk's Office as Map No. 7608; and

WHEREAS, the Town Board directs to send all relevant materials to the Adirondack Park Agency for their review to proceed with the map amendment process to change the land classification from resource management to Hamlet designation; and

WHEREAS, the Town Board further requests the Planning Board to coordinate with the Adirondack Park Agency at the conclusion of the Map Amendment process to begin the process to change the Town zoning of the 32.23 acres from 42.7 ac land use density to appropriate Hamlet zoning density classifications.

NOW THEREFORE BE IT RESOLVED, the said described Sewer District Extension #1 is established, subject to a permissive referendum, effective May 28, 2019.

I, Julie Schreiber, Clerk of the Town of Westport NY, do hereby certify that I have compared the foregoing copy with the original filed in this office on the 29th day of May 2019, and that it is a correct and true copy thereof.

IN TESTIMONY THEREOF, I have hereunto set my hand and affixed my seal the 30th day of May 2019.



Julie Schreiber
Town Clerk of Westport NY

Town of Westport

Sewer District #1
Collection System Evaluation

NYSEFC Engineering Planning Grant (EPG)
Project No.: 63590

Prepared for the
Town of Westport
PO Box 465
Westport, NY 12993

March 28, 2019



AES NORTHEAST
Architecture, Engineering, and Land Surveying Northeast, PLLC
10-12 City Hall Place, Plattsburgh, New York
Tel: 518-561-1598 Fax: 518-561-1990
www.aesnortheast.com
AES Project No. 4524

EXECUTIVE SUMMARY

PROJECT BACKGROUND & HISTORY

ALTERNATIVE ANALYSIS

SUMMARY & COMPARISON OF ALTERNATIVES

RECOMMENDED ALTERNATIVE

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1) EXECUTIVE SUMMARY

1.1 Background

The Town of Westport owns and operates two (2) central sewage treatment facilities. One, located at 14 Marks Street, is adjacent to Hoisington Brook and serves Sewer District 1. The plant collects all the wastewater from the Hamlet of Westport (formerly the Village of Westport) and discharges the effluent into Lake Champlain. The Westport plant is currently authorized to discharge up to 0.18 million gallons per day (MGD) of treated effluent. This effluent discharge is in accordance with the conditions of the State Pollution Discharge Elimination System (SPDES) Permit 02-0222 issued by the New York State Department of Environment Conservation (NYSDEC).

The other sewage treatment facility, located at 834 NYS Route 22, receives raw sewage from the Hamlet of Wadhams collection system. The plant treats all the influent and discharges it into the Bouquet River. The Wadhams plant is authorized to discharge into the river in accordance with the SPDES Permit 021-7760 issued by the NYSDEC. The Wadhams collection system is known as Sewer District 2.

This report focuses on the Westport wastewater treatment plant for Sewer District 1.

1.2 Purpose

The WWTP currently receives a significant amount of Inflow and Infiltration (I&I) from the collection system causing the facility to violate its average day flow limit of 0.18 MGD. The SPDES permit for the plant has a requirement for the Town to study and report on efforts to find and eliminate I&I in the collection system. This report is meant to be a part of the process of the Town's work to find an eliminate I&I. The report affords the opportunity to take a more in-depth look at the collection system and provide project-based solutions to eliminate as much I&I as is feasible.

The report documents the inflow and infiltration investigation performed on the collection system. In turn, the report can be used to obtain funding to repair the noted deficiencies in the system.

1.3 Evaluations Conducted

AES, Westport's wastewater treatment plant operator, and the Essex County Environmental Manager worked in conjunction to conduct flow monitoring studies, manhole inspections, sewer main inspections, and general site visits. In addition, previous reporting and studies were used to supplement data where applicable.

1.4 Recommendations

In general, the I&I problem in the collection system can be attributed to leaking manholes and pipes. The majority of the system was installed in the late 1960's and consists primarily of VCT pipe and a combination of concrete block and precast concrete manholes. It is evident that these leaks are severe in many cases. The majority appear to be in relatively good structural condition. Therefore, repairs (pipe and manhole lining) coupled with some manhole and sewer main replacement in key sections will be the most cost-effective repair method. In addition, there are few sections of pre-1968 pipe, including laterals, which require replacement and possibly relocation for better access.

Four pump stations were evaluated as part of this investigation. It is recommended that the Old Arsenal pump station be removed and replaced with individual progressive cavity pumps. The remaining pump stations require minor rehabilitation.

A complete internal investigation of all sewer mains was outside of the scope of this report. However, the recommended alternative is to rehabilitate a significant portion of the sewer mains and manholes, an internal investigation will be conducted during the schematic/preliminary design of the project. This work can be completed by an outside contractor with capabilities of videoing, recording, and performing full sewer main cleaning. Upon review of the videos, the final

recommendation for replacement, lining, or spot repair with slip lining can be determined. In order facilitate this approach, the project estimates include the cost of slip lining with a specific percentage of footage for replacement pipe and the cost of spot repairs. Based on site observations, it is expected that the majority of the sewer mains are in acceptable condition to be slip lined. Sewer mains that have been determined to be in too poor of condition have been slated for replacement.

Due to the likelihood of funding and cost limitations and to allow for the ability to seek maximum grant funding for the project, the work has been proposed in phases. The phases are prioritized based on the estimated impact to I&I reduction.

2) Project Background & History

2.1 Relevant Documentation, Previous Reports, Local Planning Documents, Jurisdictional Permitting Agencies, and Regulatory Design Manuals.

2.1.1 Relevant Documentation

The following documents have been included for reference.

a. NYS DEC Correspondence

- SPDES Permit Renewal Letter Dated 2/17/2016
- New York State Department of Environmental Conservation (NYSDEC) Permit # NY0020222
- NYSDEC Letter, Review of 2015 Collection System Monitoring and Maintenance Annual Report

Refer to Appendix A: *Relevant Documents*.

2.1.2 Previous Reports

The following reports were reviewed as in preparation of this report.

- Town of Westport: Flow Management Plan - July 9, 2010: AES Northeast, PLLC.
  - Sewage Collection System Investigation and Evaluation
  - Flow Monitoring at Manholes and WWTP effluent.
  - WWTP Performance Objectives and Evaluation.

For a copy of the July 9, 2010 report, refer to Appendix B: *Existing Report*.

2.1.3 Jurisdictional Permitting Agencies

a. Town of Westport (SEQR)

Per the NYSDEC website *"In New York State, most projects or activities proposed by a state agency or unit of local government, and all discretionary approvals (permits) from a NYS agency or unit of local government, require an environmental impact assessment as prescribed by. [Statutory authority: Environmental Conservation Law Sections 3-0301(1) (b), 3-0301(2)(m) and 8-0113]. SEQR requires the sponsoring or approving governmental body to identify and mitigate the significant environmental impacts of the activity it is proposing or permitting.*

Environmental assessments are standardized through use of the Environmental Assessment Form (EAF). The Environmental Assessment Forms are in a pdf format that can be filled and saved. To assist applicants in preparing the Part 1 of either the Short or Full EAF, the NYSDEC has developed EAF Workbooks and a GIS mapping program (the EAF Mapper) that searches spatial data bases and provides answers to location-based questions which are automatically filled onto a pdf copy of an EAF and provided to the user. The spatial data used by the EAF mapping program to complete the new EAFs is based on the GIS data sets used and maintained by DEC, or actively maintained by various agencies and shared with DEC.

The Legislature has made SEQR self-enforcing; that is, each agency of government is responsible to see that it meets its own obligations to comply."

b. Adirondack Park Agency (APA)

For communities located within the Adirondack Park, the APA has land use designations that can affect improvement projects and set restrictions and setbacks from natural resources such as streams and wetlands. The project planning area falls within the Hamlet area of the Town. Hamlets are the least regulated areas (by the APA) of the park, however certain criteria, specifically wetlands if present, may require an APA permit.

c. The New York State Department of Environmental Conservation (NYSDEC)

NYSDEC also has environmental regulatory review for all major projects involving the surface waters of the State of New York, both discharging to, and the taking of, water from those natural resources, discharges and taking of groundwater aquifer water resources, and various storm water and wetland regulations that may pertain to the planning process for a community. NYSDEC also is responsible to verify that all sanitary sewer projects comply with all applicable regulations.

d. The New York State Department of Transportation (NYSDOT)

NYSDOT owns and operates state highways, as well as manages preservation efforts for scenic byways and highways. NYSDOT typically owns, or secures through easement, a Right-of-Way (ROW) to allow maintenance and protection of the roads that it manages. NYSDOT allows municipalities to install infrastructure, such as utility lines, within the NYSDOT ROW. All installations must comply with all NYSDOT standards and must not adversely impact the roadways. NYSDOT requires review of all engineering plans for work within the ROW and must approve the plans. In addition, highway work permits are required of the contractor that dictate traffic control, bonding, etc.

e. U.S. Army Corps of Engineering (ACOE)

ACOE is a U.S. Federal Agency under the Department of Defense. It is one of the world's largest public engineering, design, and construction management agencies. The ACOE's regulatory program is authorized to protect the Nation's aquatic resources through evaluation of permit applications for essentially all construction activities that occur in the Nation's waters, including wetlands. Waters of the United States include all navigable waters, tributaries to navigable waters, and adjacent wetlands. Navigable waters are defined as "those waters that are subject to the ebb and flow of the tide and/or are presently being used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce." The Corps must first determine if the waters at the project site are jurisdictional and subject to the requirements of the Section 404 permitting program. Once jurisdiction has been established, permit review and authorization follows a sequential process that encourages avoidance of impacts, followed by minimizing impacts and, finally, requiring mitigation for unavoidable impacts to the aquatic environment.

f. Environmental Protection Agency (EPA)

The US EPA develops the regulations and implementation strategies that are required of municipalities with regard to water quality. In New York, regulation and enforcement is typically handled through the NYSDEC, however EPA can become involved in certain cases.

2.1.4 Regulatory Design Manuals

g. NYSDEC Design Manual

New York State Department of Environmental Conservation, *"Design Standards for Intermediate –Sized Wastewater Treatment Systems*," published in 2012.

h. "10 States Standards"

Great Lakes – Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, "Recommended Standards for Wastewater Facilities," published in 2004.

2.2 Site Information

2.2.1 Location

The Town of Westport is located in the eastern portion of Essex County, New York. All of the boundaries of the Town are located within the Adirondack Park. This report focuses on Sewer District #1, which provides service to users within the Hamlet of Westport.

Refer to Figure 2.2.1: *General Location Map.*

2.2.2 Land Use

a. State Conservation Areas – Wild Forests and Wilderness Areas

The Town of Westport has two state designated conservation areas located within the Town boundaries. These areas include a portion of Hammond Pond Wild Forest Area, and nearly all of Split Rock Mountain Wild Forest. The projected project area is not in either of these designated areas.

It is noted that the Westport Boat Launch is classified as an Intensive Use Area by the NYSDEC. An intensive use area is an area where the state provides facilities for intensive forms of outdoor recreation by the public. Two types of intensive use areas are defined by this plan: campground and day use areas. These areas provide overnight accommodations or day use facilities for a significant number of visitors to the Park and often function as a base for use of wild forest, wilderness, primitive and canoe areas.

A wilderness area is an area of state land or water having a primeval character, without significant improvement or protected and managed so as to preserve, enhance and restore, where necessary, its natural conditions.

Wild forest areas convey less of a sense of remoteness and provide fewer outstanding opportunities for solitude for visitors and, therefore, are managed to provide opportunities for a greater variety or recreational activities and a higher intensity of recreational use.

The presence of the designated forest and wilderness areas provides multiple opportunities for residents and visitors to the region to directly experience the natural environment.

All land, both public and private, within the Adirondack Park has been designated a land use classification by the APA. The land use classification sets restrictions on land use and development and establishes setbacks from natural resources. The purpose of the APA land use classifications is to balance private ownership and economic growth and development with maintaining the natural character of the Adirondack Park.

The entire existing Sewer District #1 is located in area designated as Hamlet. A Hamlet designation is the least restrictive and allows for the most usages on the smallest lot sizes.

Refer to Figure 2.2.2: *APA Land Use.*

b. Scenic Byways

New York State and the federal government both have programs that identify historically and visually significant highways and manage projects in and around these highways to avoid disturbing aesthetics of the areas around the

highways. Designated highways are known as Scenic Byways. NYSDOT is the agency responsible for managing this program.

Upon review of the list of Scenic Byways, it was found that the "Lakes to Locks Passage" runs through Westport along NYS Route 9N, and 22. Portions of the proposed project are along or adjacent to this highway, however, as this is a sewer project and the work is either buried or on side streets, no impact is expected of the Scenic Byways.

Refer to Figure 2.2.3: *NYSDOT Scenic Byways*.

c. Zoning

The land use regulations of the Adirondack Park will be the limiting factor in the amount of growth that can occur with planning area. The Town of Westport adopted "new" zoning regulations after the Village of Westport was reclassified as a Hamlet in 1992.

Refer to Figure 2.2.3A: *Zoning Map.*

2.2.3 Environmental and Historical Review

a. Environmental Impact Assessment in New York State (SEQR)

Proposed projects within the Town of Westport are anticipated to require an environmental impact assessment per the requirements of 6 NYCRR Part 617 State Environmental Quality Review. Per the NYSDEC website *"In New York State, most projects or activities proposed by a state agency or unit of local government, and all discretionary approvals (permits) from a NYS agency or unit of local government, require an environmental impact assessment as prescribed by. [Statutory authority: Environmental Conservation Law Sections 3-0301(1) (b), 3-0301(2)(m) and 8-0113]. SEQR requires the sponsoring or approving governmental body to identify and mitigate the significant environmental impacts of the activity it is proposing or permitting.*

Environmental assessments are standardized through use of the Environmental Assessment Form (EAF). The Environmental Assessment Forms are in a pdf format that can be filled and saved. To assist applicants in preparing the Part 1 of either the Short or Full EAF, the NYSDEC has developed EAF Workbooks and a GIS mapping program (the EAF Mapper) that searches spatial data bases and provides answers to location-based questions which are automatically filled onto a pdf copy of an EAF and provided to the user. The spatial data used by the EAF mapping program to complete the new EAFs is based on the GIS data sets used and maintained by DEC, or actively maintained by various agencies and shared with DEC.

The Legislature has made SEQR self-enforcing; that is, each agency of government is responsible to see that it meets its own obligations to comply."

A SEQR determination will be made by the Town during the funding process for the proposed project.

b. New York State Office of Parks, Recreation, & Historic Preservation (SHPO)

New York's State Historic Preservation Office (SHPO) helps communities identify, evaluate, preserve, and revitalize their historic, archeological, and cultural resources. The SHPO administers programs authorized by both the National Historic Preservation Act of 1966 and the New York State Historic Preservation Act of 1980. The SHPO is responsible to review archeological reports prepared on behalf of the town, as the town will be required to retain a professional archeologist for review of any projects receiving state or federal aid. If archeological finds are discovered, the SHPO will direct how they are addressed and preserved. SHPO utilizes an online mapper, Cultural Resource Informational System (CRIS) that can be accessed to identify potential cultural resources that may be located in the project planning area.

SHPO will be consulted as part of the funding process of the project.

2.2.4 Geologic Conditions

a. Topography

The topography of Sewer District #1 is vitally important to the layout and need for pump stations in the collection system. The Hamlet of Westport, which is covered by the sewer district, is located along the foothills of the Adirondack Mountains and along the shores of Lake Champlain. In this particular location, the main road through Town, NYS RT 9N/22 happens to be located about halfway between the streets of higher elevation and the lower shoreline. In the south end of Town, all sewers generally flow from west to east across the highway and are connected to a sewer main installed at the halfway point down the slope between the highway and shore of Lake Champlain. A number of pump stations pump flows up from the shoreline to that sewer main. For the north end of Town, all sewers generally flow north down relatively steep terrain to Sisco Street and to the treatment plant. Hoisington Brook effectively separates the north and south sides of the Town. Due to steep side slopes, utilizing gravity flow from the south to the north is relatively difficult.

Refer to Figure 2.2.4: *USGS Topography*.

b. Soils

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service operates the Web Soil Survey, which includes the soils of Essex County (NRCS USDA, 2013). The soils in the area of the existing effluent structure is fill from previous upgrade and installation.

The United States Department of Agriculture (USDA) Web Soil Survey was utilized for information on soil type, hydrologic soil group classification, and depth to any restrictive feature.

The project site contains a wide array of soil types but all are of generally loamy character, ranging from loamy fine sands to silty clay loams and slopes of 3% and steeper.

Soils are also classified into Hydrologic Soil Groups (HSG) to indicate the minimum rate of infiltration obtained for bare soil after prolonged wetting. The HSGs for the Project area are largely A, C and C/D soils. The following is a general description of HSGs:

HSG	Soil Texture
A	Sand, loamy sand, or sandy loam (highest infiltrating soil)
B	Silt loam or loam
C	Sandy clay loam
D	Clay loam, silty clay loam, sandy clay, silty clay, or clay (lowest infiltrating soil)

USDA also provides information on depth to any restrictive feature (i.e., bedrock), and "representative" depth to water table. The restrictive features vary from 0" to >200"+ for Westport. Depth to water table ranges from 48' to >200'. The representative depth to water table does not depict seasonal water table variations, and is not deemed to reflect the rise in water table attributable to the seasonal I&I observed in the collection system. A subsurface investigation was not performed for this report.

Refer to Figure 2.2.5: *USDA Soil Map.*

Refer to Figure 2.2.6: *USDA Hydrologic Soil Groups.*

Refer to Figure 2.2.7: *USDA Depth to Soil Restrictive Features.*

Refer to Figure 2.2.7A: *USDA Depth to Water Table.*

2.2.5 Environmental Resources

a. Water Bodies

Westport is surrounded by a few surface water bodies that ultimately drain towards Lake Champlain. Water bodies in the project planning area include Hoisington Brook, and Hammond Brook. These water bodies are all classified as Class C (T) by the NYSDEC. Lake Champlain is classified as Class A. Special requirements apply to sustain these waters that support drinking water, and valuable and sensitive fisheries.

NYSDEC describes the meaning of these classifications of water bodies as follows.

- Class AA and Class A water bodies are used or are suitable for use as drinking water.
- Class C water bodies are suitable to support fisheries and are suitable for non-contact use.
- The (T) designation indicates that the water body may support trout population.

Per NYSDEC: *"Certain waters of the state are protected on the basis of their classification. Streams and small water bodies located in the course of a stream with a classification of AA, A, or B, or with a classification of C with a standard of (T) or (TS) are collectively referred to as "protected streams," and are subject to the stream protection provisions of the Protection of Waters regulations."*

As a result of the water body designation, permits (Article 15) for any disturbance of the water body will be required.

Hoisington Brook begins at Mount Hoisington, travels northeast until it meets NYS Route 9N, where it then follows along Westport Main Street, and finally discharges into Lake Champlain. This is also where the WWTP in Westport is.

The existing sewer main crosses Hoisington Brook with cast iron pipe near the north end of Mill Street, sending all waste water that is southeast of the brook, across and into the treatment plant. Any work performed on these sewer mains will likely impact Hoisington Brook.

Hammond Brook discharges into Hoisington Brook near NYS Route 9N/Main St. and the Westport Country Club.

With the proximity of these water bodies to sewer mains and the ultimate outlets into Lake Champlain, the condition of the sewer mains are of utmost importance. A failure of any of the mains could lead to a direct (or indirect) discharge of raw sewage into these waters.

b. Wetlands

With its abundance of surface water resources, the Town and surrounding areas have several APA designated wetlands.

A map showing the approximate location of NYSDEC and APA regulated wetlands is included. The wetlands data has been compiled from readily available government databases. The wetlands mapping is provided to indicate projects with potential wetland impacts. If wetlands are identified in the project area, field verification of the exact location of the wetlands should be performed by a wetland biologist. Wetlands under 1 acre may not be jurisdictional by the APA, however the ACOE will likely take jurisdiction if any work disturbs the wetlands (even temporarily).

It appears that there are no regulated wetlands within the project planning area.

Refer to Figure 2.2.8: *APA & DEC Wetlands*.

c. Endangered Species

Both the New York Department of Environmental Conservation (NYSDEC) and United States Fish & Wildlife Service (USFWS) online databases were utilized to determine the presence of potential endangered species in the project planning area. The NYSDEC mapper and the USFWS resource search indicated that the Indiana Bat and the Northern Long-Eared Bat have the potential to be impacted within the Town of Westport.

Refer to Figure 2.2.9: NYSDEC Environmental Resource Mapper and Figure 2.2.10: USFWS IPAC System Trust Resources.

Working in areas that may impact the Indiana Bat places requirements related to tree cutting. Tree cutting is generally restricted to November 1st to March 31st, or if cutting must occur outside of those months, then biologists must be called in to determine if there will be any impacts to the bat. The Northern Long-Eared Bat is federally listed as a threatened species. Both bats typically hibernate in caves/mines in the winter and roost in trees in the summer. Similar precautions should be taken to protect both species, although the requirements for protection of the Indiana Bat are more stringent based on its classification as Endangered.

Refer to Figure 2.2.11: *USFWS Bat Fact Sheets* for the USFWS details for working in an area inhabited by the Indiana Bat and Northern Long Eared Bat.

d. Spills and Brownfields

The New York State Department of Environmental Conservation maintains databases of spill incidents and environmental remediation sites being addressed under one of the Division of Environmental Remediation's remedial programs (State Superfund, Brownfield Cleanup, Environmental Restoration, and Voluntary Cleanup).

A search of the spills database revealed quite a few spill incidents within the project area over the last 10 years (from 2007 through 2017). "Date Spill Closed" means the date the spill case was closed by the case manager in the Department of Environmental Conservation (the Department). The spill case was closed because either; a) the records and data submitted indicate that the necessary cleanup and removal actions have been completed and no further remedial activities are necessary, or b) the case was closed for administrative reasons (e.g., multiple reports of a single spill consolidated into a single spill number). The Department however reserves the right to require additional remedial work in relation to the spill, if in the future it determines that further action is necessary.

A #2 fuel oil was spilled due to an equipment failure at the Westport Hotel, 6691 Main Street, on 1/15/2008, case closed the following day. Five gallons of waste oil was spilled due to abandoned drums at EW Adams Hardware, 6592 Main Street, on 9/18/2008, case closed 10/2/2008. On 10/7/2009, #2 fuel oil was spilled at 3 Pebble Beach, due to an equipment failure, and the case was closed on 11/2/2011. One gallon of #2 fuel oil was spilled due to an equipment failure at Westport Central School, 25 Sisco Street, on 12/27/2009, and the case closed on 3/10/2011. An unknown petroleum was spilled on the Collins Oil Tank Property, NYS Route 22, on 7/2/2010, and was closed 3/10/2011. There was a #2 fuel oil spill, amount and cause unknown, at the WWTP, on 18 Marks Road, on 3/31/2011, case closed on 4/14/2011. A spill of floor drainage, creosote, #2 fuel oil, and gasoline occurred at Bessboro Farms LLC, 72 Maple Way, on 8/23/2011, and was closed 11/15/2011. One gallon of diesel was spilled at the Westport Marina, on 6/24/2012, and was closed on 7/6/2012. On 6/12/2013, #2 fuel oil was spilled due to an equipment failure, at 3 West Orchard Terrace, and the case was closed on 7/25/2013. Twenty-five gallons of hydraulic oil was spilled at the intersection of Camp Dudley and NYS Route 9N, due to an equipment failure, on 7/24/2013, and was closed on 7/26/2013. A Casella Line Leak produced five gallons of hydraulic oil to spill, location listed as Arsenal Rd./ Rt. 22/ Dudley Rd., on 9/25/2013, and was closed on 9/25/2013. On 12/16/2013, #2 fuel oil was spilled at 6226 NYS Route 9N, case was closed on 1/16/2014. At 20 Washington Street there was 0.04 gallons of diesel spilled on 8/8/2014, and was closed on the same day. On 9/25/2014, sixty gallons of diesel was spilled on Sisco Street by a commercial vehicle, and the case was

closed on 9/26/2014. A storm caused one gallon of transformer oil to spill at 240 Lee Way, on 7/20/2015, case closed on 8/4/2015. An equipment failure caused 0.05 gallons of #2 fuel oil to spill at a catch basin on school property, 25 Sisco Street, on 5/4/2017, and the case has not yet been closed.

A search of the Remedial Site Database produced a list of no remediation sites located within the Town of Westport.

2.2.6 Floodplain Considerations

The map for the entire Town of Westport collection system, numbered 3614950001A, became effective June 4, 1984. The map shows that most of the sewer collection system is located in what is called Zone X, an area determined to be outside the 500-year flood plain. The shoreline is listed in the Zone AE, a special flood hazard area inundated by 100-year flood, with base flood elevations determined to be at 102 feet. At least one pump station and sections of abandoned sewer main are likely within or just outside of Zone AE.

Refer to Figure 2.2.12: *FEMA Flood Hazard*.

2.3 Ownership and Service Area

2.3.1 Sewer District

Sewer District #1 encompasses the former Village and now Hamlet of Westport. The existing district does not currently extend beyond the Hamlet boundaries.

There are 400 service connections billed at 459.5 EDUs.

Refer to Figure 2.3.1: Sewer District #1 Boundary Map.

2.3.2 Outside Users

There are no known outside users at the time of the writing of this report.

2.3.3 Industrial Discharges or Hauled Waste (e.g. source, volume, composition)

N/A: Collection System Evaluation

2.3.4 Population Trends and Growth

According to the 2000 Census, there were 1,362 persons in the Town of Westport. According to the American Community Survey, sponsored by the U.S. Census Bureau, the 2010 population was 1,312 persons along with the Census Designated Place of Westport at 518 persons(American Community Survey, 2010 Data), resulting in an approximate 3.8% population decrease.

2.4 Existing Facilities & Present Condition

2.4.1 General Description & History

a. Wastewater Collection and Treatment System

The Town of Westport sanitary sewage collection system combine inside the wastewater treatment plant grounds, just prior to entry to the treatment plant's influent chamber, located at 14 Marks Road.

The plans for the original Water Pollution Control Plant, at this same location, are dated February of 1968. Construction was likely completed sometime around 1970. A separate contract with the same date included the installation of about 25,000 lineal feet of vitrified clay tile (VCT) pipe, including 4 pump stations, to serve as the sanitary sewer main lines

for the former Village. Prior to this, all sanitary sewer was fed directly into Lake Champlain with no treatment. Several of the sanitary lines pre-1968 were replaced in this contract. It is unknown when these lines were installed.

In 2007, the wastewater treatment plant got a major upgrade with two new sequencing batch reactors, reed beds, control room, and other amenities. Also at this time, about 3000' of sanitary sewer main was replaced with new polyvinyl chloride (PVC) pipe on Main Street / NYS Route 22. The expected useful life of VCT is 50 years, so the entire collection system, less ~3000', is nearing or has passed this mark.

2.4.2 Permit Conditions

The specific permit requirements are found in the SPDES permit included in the appendices. The relevant permit requirement to the report is the monthly average day flow of 0.18 MGD. The goal of the report is to reduce flows to below this level.

2.4.3 Regulatory Compliance Requirements

The Town is not under an Order on Consent, however the requirement to study and address I&I is a permit requirement which has the same, if not more, regulatory strength and the Town is obligated to complete this work. The Permit requirement should have the same benefits for funding as an Order would.

2.4.4 Compliance Issues

The history of flow violations at the WWTP is the reason for this study.

2.4.5 Data Collection

The first step in performing the sewer investigation was to gather all available existing mapping and load it into AutoCAD and GIS software. AES Northeast collected electronic mapping using the Trimble Terraflex software to obtain GIS manhole locations and pictures. The collected data was then drafted into the computer programs for use in analysis of the system. Manholes not found while using the GIS system were reproduced into the CAD drawing using previous drawing from Joseph A. Kestner Consulting Engineer, drawn in 1968.

Flow meters were deployed in key locations and the data downloaded and processed.

Visual observations of the collection system on dry and rainy days, pump station evaluations, manhole evaluations, limited sewer main inspections were also utilized.

2.4.6 History of Storm Damage

No specific Storm Damage was reported; however, it was noted that the Old Arsenal pump station is likely located in the flood plain of Lake Champlain and may have been at least partially flooding during previous flood events. Also, an existing sewer main that once fed the pump station has been abandoned, likely due to the potential for flooding.

2.4.7 Existing Energy Consumption

The existing pump stations are the only source of energy use in the collection system. Energy evaluations, as necessary are included in the individual pump station inspection reports.

2.4.8 Design Flow and Waste Loads

The overall design flow for the wastewater treatment plant is 0.18 MGD. The goal of any work is to reduce the incoming flows to that level or below.

2.4.9 Existing Flow and Waste Loads

The following graphs show the available daily flow data from the treatment plant's effluent flow meter. Since the WWTP is a sequencing batch reactor, measuring the effluent does not show incoming flow spikes, but simply a totalization for the day.

Refer to Figure 2.4.1: 2016 Daily Average Flow Data.

Refer to Figure 2.4.2: 2016 Daily Average Flow Data with Precipitation Totals.

Refer to Figure 2.4.3: 2017 Daily Average Flow Data.

Refer to Figure 2.4.4: 2017 Daily Average Flow Data with Precipitation Totals.

Refer to Figure 2.4.5: 2018 Daily Average Flow Data.

Refer to Figure 2.4.6: 2018 Daily Average Flow Data with Precipitation Totals.

As 2018 has the most complete data, showing wet and dry periods that data will be used to draw conclusions. Dry weather, summer flows are approximately 57,000 GPD. The approximately wettest month from April 5, 2018 to May 13, 2018 was 257,000 GPD. This leaves a theoretical ability to remove 200,000 GPD on average.

2.4.10 Description of Existing Facilities & Location Map

The report focuses on the collection system for Sewer District #1. While the overall entire collection system was evaluated, it is outside of the scope of this report to inspect every manhole and every sewer main. A representative number of manholes and sewer mains were inspected. These inspections allow for evaluations of the system to be determined with recommendations. To aid in the reporting process, the sewer district has been broken down into eight service areas. The service areas were broken into logical section with end points either at a pump station or a connection to another service area. In this way, proposed recommendations can be by service area and as a whole.

Refer to Figure 2.4.7: *Existing Sewer*. Individual service area maps are included below.

2.4.11 Pump Station #1 (Mill Street / Marina) Service Area

This pump station carries all sanitary sewer south of the Hoisington Brook across the bridge. At this point, there is some sanitary sewer getting pumped three times before hitting the treatment plant. In addition to receiving all flow from the Old Arsenal and Worman areas, this pump station also takes all flow from the following streets; Harris Ln, Orchard Terrance, Front St, 1st St, 2nd St, Mill St, Washington St, and Main St between Mill and Washington.

The sewer mains, manholes, and laterals in this area are expected to leak heavily, but are expected to be in generally good condition, structurally. Each of these components require repair or replacement. The pump station is generally in good condition, but experiences issues due to ragging.

Refer to Figure 2.4.8: *Pump Station #1 Service Area*.

Refer to Appendix C: *Pump Station #1 & Mill Street/Marina Service Area Investigation*.

2.4.12 Pump Station #2 & Worman Road Service Area

This area of the sewer district is the southernmost portion, covering roughly 4,000' of sewer main pipe, all VCT, except for a 45' stretch under state road, and the Worman Road Pump Station (P.S. #2). Beginning at 6209 NYS Route 9N/22, this area extends north up to the Sunny Side Way Road. The pump station pumps from the shoreline up to the Middle Interceptor main line, at which point also meets with flow from NYS Route 9N. There is also a pump station south of

the sewer district, which takes sanitary flows from the Westport Health Center into the system (this is a purported private pump station and was not evaluated). The only section that appears to not have been replaced in 1968 was from MH 10 to MH 7, on the Windward Circle.

The sewer mains, manholes, and laterals in this area are expected to leak heavily, but are expected to be in generally good condition, structurally. Each of these components require repair or replacement. The pump station is generally in good condition.

Refer to Figure 2.4.9: *Pump Station #2 Service Area*.

Refer to Appendix D: *Pump Station #2 & Worman Road Service Area Investigation*.

2.4.13 Pump Station #3 & Old Arsenal Road Service Area

The Old Arsenal Road Service Area services 5 homes and the Westport Yacht Club. The sewer from these connections flows via gravity to Pump Station #3, which is located on the banks of Lake Champlain. The pump station is deteriorating, nearly inaccessible and should be replaced and relocated. The VCT portions of the sewer main are suspected of being generally structurally sound but having leaks and/or leaky joints. The majority of the manholes appear to leak, with those near the pump station suffering from sulfide attack. The manholes in this service area require repair or replacement. Based on the final location of the proposed pump station(s), the existing manholes, pipes, and laterals should be reviewed and inspected and any that are no longer needed should be properly abandoned and disconnected from the collection system.

Refer to Figure 2.4.10: *Pump Station #3 Service Area*.

Refer to Appendix E: *Pump Station #3 & Old Arsenal Road Service Area Investigation*.

2.4.14 Pump Station #4 & Fire Fly Lane Service Area

This service area is small, only serving a handful of homes. The pump station was not able to be fully inspected, but no major problems were reported by the operator. The main problem is that the electrical box has a tree grown up around it. There is some evidence of leakage into the system, which is suspected to come from manholes.

Refer to Figure 2.4.11: *Pump Station #4 Service Area*.

Refer to Appendix F: *Pump Station #4 & Fire Fly Lane Service Area Investigation*.

2.4.15 Sisco and Main Street Service Area

While getting there in various ways, all sewer in this area flows to Sisco Street. This main line represents roughly a third of the collection system, and is the only gravity fed line into the treatment plant. All pipe in this area is VCT, some dating pre-1968, although it is unclear exactly how much. Sisco Street and Harbor View Terrace consists mainly of pre-1968 sewers, while Eagle Street, Champlain Avenue, Main Street, and its connectors were installed in 1968. Of note in this area is that the interceptors to Sisco all run through back yards often through wet areas. Flow monitoring has shown that this area does contribute to I&I in the collection system, although it appears to be less so than from other areas. The sewers that connect to Sisco Street appear to be the most in need of repair. The majority of manholes in this service area leak and require repair or replacement.

Refer to Figure 2.4.12: *Sisco & Main Service Area*.

Refer to Appendix G: *Sisco and Main Street Service Area Investigation*.

2.4.16 West Main Street Service Area

This area represents all sewer north of Sisco Street. The entire sewer main runs along NYS Route 9N, and all of the manholes are in the NYSDOT right-of-way. The main crosses under Route 9N three times in this area. All of the pipe material here is VCT, and none of it was pre-existing in 1968. All flow in this area is gravity fed, flowing into Sisco Street.

It appears that this area contributes significantly to I&I in the system. It appears that the pipe upstream from MH 112, which is mainly located with NYSDOT ditch lines contributes during high groundwater seasons. The manholes in this service area leak. All of the manholes and the main upstream from MH 112 require repair or replacement.

Refer to Figure 2.4.13: *West Main Service Area*.

Refer to Appendix H: *West Main Street Service Area Investigation*.

2.4.17 Congress & Liberty Street Service Area

This section appears to contribute some, but a relatively small amount of I&I to the collection system. It is suspected that laterals, especially the golf course lateral (due to length and location) contribute the most to I&I. The laterals require repair or replacement. Manholes, even relatively new 2007 manholes leak and require repair or replacement.

Refer to Figure 2.4.14: *Congress & Liberty Service Area*.

Refer to Appendix I: *Congress & Liberty Streets Service Area Investigation*.

2.4.18 Harris Lane Service Area

This service area has a mix of 1968 and pre-1968 pipe. This service area contributes some, but a relatively small amount of I&I to the collection system. The pre-1968 pipe requires replacement and portions require relocation due to locations on private property that are difficult to access.

Refer to Figure 2.4.15: *Harris Lane Service Area*.

Refer to Appendix J: *Harris Lane Service Area Investigation*.

2.5 Definition of the Problem

2.5.1 Health, Sanitation, and Security

The primary regulatory driver of the project planning area is the SPDES Permit requirement for investigating, managing and reporting on stormwater reductions in the collection system. Average day flows to the WWTP are over the permitted level during high flow time periods (e.g. spring). High flows into the WWTP not only cause permit violations, but lead to higher O&M costs to treat the water, the potential for sewer overflows of untreated or partially treated water, and reduced the ability for the Town to grow. Economic growth of a Town is directly tied to infrastructure and no new sewer connections are allowed until flows are reduced.

2.5.2 Infiltration

A significant amount of infiltration was identified in certain areas of the collection system. While every drop of water may not have been identified and it is difficult to put a perfectly quantifiable number on every potential reduction, the areas identified as needing rehabilitation and replacement should significantly reduce flows to the treatment plant. A

large number of the manholes in many parts of the system leak severely and there is strong evidence of the sewer mains leaking.

2.5.3 Reasonable Growth

The US Census data shows a net decrease in population in the Town of Westport. Growth in the sewer district will likely come from two sources.

Vacant Lots:

There are 63 vacant lots within the current district. At 450 GPD (assumed value per home) that equates to 36,000 GPD of additional flow.

Refer to Table 2.5.1: *Vacant Lots Classification.*

Hamlet Expansion:

The Town is currently working with the APA to expand the area of Hamlet to include an additional area that will allow for the construction of a new rental development property (individual and combined rental units). This development would then be connected to the Town's sewer system.

Assuming a reasonably number of rental units (gathered from available sources) the following additional flow is expected.

Refer to Table 2.5.2: Hamlet Expansion.

The total reasonable expansion is:

Expansion Component	GPD
Development Located at Westport Country Club	12,590
Vacant Lots	36,000
Total	48,590

For information related to the hamlet expansion, refer to Appendix K: *Hamlet Expansion Documentation*.

2.5.4 Water, Energy, Sustainability, and/or Waste Considerations

The following items have been considered for sustainability when evaluating the project planning areas.

a. Water and Energy Efficiency

The replacement or rehabilitation of VCT pipe and manholes will reduce or eliminate I&I, therefore, less wastewater will be discharged to the wastewater treatment plant and resulting in less energy consumption.

b. Green Infrastructure

The proposed projects utilize traditional replacement, rehabilitation methods, and new construction. Green infrastructure is generally not installed for sanitary sewer applications. However, by reducing I&I at the project planning areas, there will be less frequent SSOs which will protect the environment.

2.5.5 Storm and Flood Impacts

Due to the topography of the area, most of the sewer system is outside of any flood zones. The notable exception is the Old Arsenal pump station which is located in or very near the flood plain for Lake Champlain. This pump station should be eliminated or relocated out of this area.

2.5.6 Compliance with Accepted Standards

The existing sewer system is generally in compliance with existing standards. The pipes meet minimum sizes, slopes, manhole locations, etc. The problem with the sewer system is leaking manholes and pipes.

2.6 Financial Status

The Town of Westport charges the following for the Sewer District:

Usage: $270/year

Debt: 0.391320/$1000 of assessed value (Ad Valorem)

There are 459.5 Equivalent Dwelling Units (EDUs) that are billed within the Town, at 400 service connections. A summary of the Sewer District appropriations and estimated reviews provided by the Town is included in the Appendices.

Refer to Appendix L: *Sewer District Financial Information*.

3) ALTERNATIVE ANALYSIS

3.1 Description

Two alternatives have been selected for each service area. The selected alternatives for each area together will form the recommended project. The Do Nothing Alternative has not been selected because this does not meet the needs of the Town and it shall not be considered further.

3.1.1 Pump Station #1 & Mill Street / Marina

a. Alternative 1:

Alternative 1 would repair or replace all of the manholes in the service area and repair (with Cured-in-Place-Pipe (CIPP)) or replace the sewer mains in the service area. Laterals would be repaired or replaced in this service area. A full cleaning and inspection of the sewer mains and manholes during the preliminary design phase would determine the ability to repair or replace the manholes, sewer mains, and laterals. It is possible that some of these may not require any work. The pump station would receive screening.

b. Alternative 2:

Alternative 2 would replace all of the manholes, sewer mains, and laterals in-kind. The pump station would receive screening.

3.1.2 Pump Station #2 & Worman Road Service Area

a. Alternative 1:

Alternative 1 would repair or replace all of the manholes in the service area and repair (with Cured-in-Place-Pipe (CIPP)) or replace the sewer mains in the service area. Laterals would be repaired or replaced in this service area. A full cleaning and inspection of the sewer mains and manholes during the preliminary design phase would determine the ability to repair or replace the manholes, sewer mains, and laterals. It is possible that some of these may not require any work.

b. Alternative 2:

Alternative 2 would replace all of the manholes, sewer mains, and laterals in-kind.

3.1.3 Pump Station #3 & Old Arsenal Road Service Area

The existing pump station is in a poor location and requires replacement. The existing manholes, sewer mains, and lateral connections require repair and/or replacement.

a. Alternative 1:

Alternative 1 would replace the existing pump station with a series of individual progressive cavity grinder pumps. This work would necessitate reconfiguration of the existing laterals for connection to the new grinder pumps and a new force main to connect the grinder pumps to MH 26. The Westport Yacht Club is purported to have its own pump station, however one is included here for estimating purposes should final design necessitate replacement of that pump station.

It may be possible to reuse the existing gravity main as a casing pipe for the new force main.

All existing gravity mains and laterals would be abandoned.

b. Alternative 2:

Alternative 2 would replace the existing pump station with a combination of individual progressive cavity grinder pump stations for 46 Old Arsenal Road and the Westport Yacht Club (if required) and a single packaged pump station to serve the remaining homes. The pump station would have a generator plug for a portable generator. The existing manholes and gravity pipe to remain in service would be repaired with high strength grout and slip lining, respectively.

3.1.4 Pump Station #4 & Fire Fly Lane Service Area

a. Alternative 1:

Alternative 1 would provide minimal upgrades to the pump station (relocating the electrical box) and repairing of the manholes.

b. Alternative 2:

Alternative 2 would completely replace the pump station with a new prepackaged pump station. The manholes would be repaired.

3.1.5 Sisco and Main Street Service Area

a. Alternative 1:

Alternative 1 would repair or replace all of the manholes in the service area and approximately 25% of the sewer mains would be repaired (with Cured-in-Place-Pipe (CIPP)) or replaced in the service area. Approximately 25% of the laterals would be repaired or replaced in this service area. A full cleaning and inspection of the sewer mains and manholes during the preliminary design phase would determine the ability to repair or replace the manholes, sewer mains, and laterals. It is possible that some of these may not require any work. The areas to be repaired/replaced were outlined in the appendices.

b. Alternative 2:

Alternative 2 would replace all of the manholes and 25% of the sewer mains and laterals in-kind. The areas to be repaired/replaced were outlined in the appendices.

3.1.6 West Main Street Service Area

a. Alternative 1:

Alternative 1 would repair or replace all of the manholes in the service area and approximately 50% of the sewer mains would be repaired (with Cured-in-Place-Pipe (CIPP)) or replaced in the service area. Approximately 50% of the laterals would be repaired or replaced in this service area. A full cleaning and inspection of the sewer mains and manholes during the preliminary design phase would determine the ability to repair or replace the manholes, sewer mains, and laterals. It is possible that some of these may not require any work. The areas to be repaired/replaced were outlined in the appendices.

b. Alternative 2:

Alternative 2 would replace all of the manholes and 50% of the sewer mains and laterals in-kind. The areas to be repaired/replaced were outlined in the appendices.

3.1.7 Congress & Liberty Streets Service Area Investigation.

a. Alternative 1:

Alternative 1 would replace a number of the laterals, particularly the golf course's lateral.

b. Alternative 2:

Alternative 2 would replace the mainline pipe and the laterals, including the golf course lateral.

3.1.8 Harris Lane Service Area

a. Alternative 1:

Alternative 1 would replace the pre-1968 pipe on Orchard Terrace, Front Street and Washington Street. The main from Orchard Street would be rerouted to Washington Street to eliminate the pipe from MH 121 to MH 53. Laterals in the areas to be replaced would also be replaced.

b. Alternative 2:

Alternative 2 would replace the pre-1968 pipe on Orchard Terrace, Front Street and Washington Street. The main from Orchard Street would be rerouted to Washington Street to eliminate the pipe from MH 121 to MH 53. On all 1968 mains, all manholes would be repaired or replaced in the service area and percentage the sewer mains would be repaired (with Cured-in-Place-Pipe (CIPP)) or replaced in the service area. The laterals would be repaired or replaced in this service area. A full cleaning and inspection of the sewer mains and manholes during the preliminary design phase would determine the ability to repair or replace the manholes, sewer mains, and laterals. It is possible that some of these may not require any work.

3.1.9 Design Criteria

All work shall be subjected to the design requirements of NYSDEC Design Manual and 10 States Standards.

A final basis of design report will be submitted with the final design plans to show that all design criteria are met.

The flow data used for this report does not line up perfectly for a direct comparison, as the data was taken at different times and under different weather conditions, however, analyzing the data produces the following estimate of reduction of flow for each section.

Per the 2018 flow data, approximately 200,000 GPD (139 GPM) (during the wettest time periods) is estimated to be I&I. The table below shows the estimated totals per service area that can reasonably be removed.

Mill Street/Marina	20 GPM (based on observed flow in MH 37)
Worman	40 GPM (based on flow in .5" rain storm)
Old Arsenal	26 GPM (based on flow from a rain storm & pump hours)
Fire Fly	Negligible
Sisco & Main	10 GPM (based on handheld measurements)
West Main	30 GPM (based on handheld measurements)
Congress & Liberty	5 GPM (based on flow monitoring)
Harris Lane	5 GPM (based on flow monitoring)
Total	136 GPM (196,000 GPD)

3.1.10 Map

Figure 3.10.1: *Pump Station #1 & Mill Street / Marina Alternatives.*

Figure 3.10.2: *Pump Station #2 & Worman Road Alternatives*.

Figure 3.10.3: *Pump Station #3 & Old Arsenal Road Alternatives.*

Figure 3.10.4: *Pump Station #4 & Fire Fly Lane Alternatives.*

Figure 3.10.5: *Sisco and Main Street Alternatives.*

Figure 3.10.6: *West Main Street Alternatives.*

Figure 3.10.7: *Congress & Liberty Streets Alternatives*.

Figure 3.10.8: *Harris Lane Alternatives.*

3.1.11 Environmental Impacts

All new construction and replacement activities will temporarily disturb areas. The majority of work will be within paved roads or lawn areas. Impacts to wildlife, endangered species, water bodies, and wetlands are minimal or not present. Moreover, the following may be applicable to these potential construction projects:

- All construction activities must comply with NYSDEC stormwater regulations. Projects disturbing more than one (1) acre will be required to develop a Stormwater Pollution Prevention Plan (SWPPP). Projects less than one (1) acre may still require stormwater protections.
- Soil spoils resulting from construction should be disposed at an approved fill area.
- The Indiana Bat may be present within the project planning areas. Tree cutting restrictions may be applicable to these projects, if habitat is identified during the National Environmental Policy Act (NEPA) review process.

Slip lining and rehabilitating manholes requires minimal ground disturbance.

a. Impacts of No Action Alternatives

The No Action Alternative leaves the Town susceptible to $37,500/Day fines from NYSDEC for non-compliance with permit requirements. In addition, flows that exceed the permit of the plant can cause operational problems and the potential to release untreated or partially treated sewage into the environment. In addition, the Town will not be allowed to authorize the construction of new service connections, specifically at least 1 hotel. The No Action Alterative does not meet the needs of the Town.

b. General Impacts of Replacement Alternatives

Impacts of the replacement alternatives are relatively minimal are related to construction activities. Area where open cut excavation for replacement or repair will have the greatest impact from soil disturbances, however these can be minimized with the proper stormwater controls and restoration. Slip lining of manholes and lining of manholes have minimal impacts, usually limited to truck access to specific area.

c. Alternative Specific Impacts

The alternatives for the Old Arsenal Road service area relate to the ownership and maintenance of the pump stations for properties. With individual pump stations as proposed in Alternative 1, the property owner pays for the electricity

and generally the maintenance of the pump station. A combined pump station as proposed in Alternative 2 is owned and maintained by the Town.

3.1.12 Land Requirements

The majority of the sewer mains studied are installed on private land. It is unknown if the Town has easements for these sewer mains. If not, easements will have to be obtained for all sewer mains on private property. A portion of the work may involve replacing individual property laterals. Therefore, temporary construction easements may be required. Alternative 2 for Old Arsenal Road may require the purchase of a small piece of property for the relocated pump station. All other work not on private property is in road right of ways.

3.1.13 Potential Construction Problems

The main potential construction problem relates to access. As many of the existing sewer mains are located across private property, some off steep slopes, careful consideration will have to be given to access for construction equipment. Rehabilitation by slip lining and manhole lining will minimize the need for disturbance and access. As there are two pump stations that pump into the Marina pump station, any work on that pump station or lines will have to be carefully coordinated.

3.1.14 Sustainability Considerations

The following items have been considered for sustainability when evaluating the project planning areas.

a. Water and Energy Efficiency

The replacement or rehabilitation of VCT pipe and manholes will reduce or eliminate I&I, therefore, less wastewater will be discharged to the wastewater treatment plant and resulting in less energy consumption.

b. Green Infrastructure

The proposed projects utilize traditional replacement, rehabilitation methods, and new construction. Green infrastructure is generally not installed for sanitary sewer applications. However, by reducing I&I at the project planning areas, there will be less frequent SSOs which will protect the environment.

3.1.15 Impact on Existing Facilities

There is little difference between the recommended alternatives for the impact on existing facilities. The work, whether replacement or rehabilitation is intended to reduce flows, which will only have a positive impact of downstream sewer mains and/or pump station.

3.1.16 Schedule and Constructability

There is little difference between the alternatives for schedule and constructability.

3.1.17 Storm and Flood Resiliency

There is little difference between the alternatives for storm and flood resiliency. The majority of the collection system is outside of flood plains. Both alternatives for Old Arsenal pump station remove the infrastructure that is in or near the flood plain, out of the flood plain.

3.2 Cost Estimates

Refer to Table 3.2.1: *Cost Estimates Comparison*.

3.3 Non-Monetary Factors

Where possible, rehabilitation (through slip lining or manhole lining), has been explored which reduces physical impact to the sites. Where rehabilitation is not possible, alternatives involving improving access to the mains and minimizing piping costs have been reviewed.

4) SUMMARY & COMPARISON OF ALTERNATIVES

4.1 Life Cycle Analysis

Refer to Table 4.1.1: *Life Cycle Cost Analysis.*

4.2 Alternative Comparison

A matrix to compare the two alternatives for each service area have been developed and are included here:

Refer to Table 4.2.1: *Pump Station #1 & Mill Street/Marina Alternative Comparison Matrix.*

Refer to Table 4.2.2: *Pump Station #2 & Worman Road Alternative Comparison Matrix.*

Refer to Table 4.2.3: *Pump Station #3 & Old Arsenal Road Alternative Comparison Matrix.*

Refer to Table 4.2.4: *Pump Station #4 & Fire Fly Lane Alternative Comparison Matrix.*

Refer to Table 4.2.5: *Sisco and Main Street Alternative Comparison Matrix.*

Refer to Table 4.2.6: *West Main Street Alternative Comparison Matrix.*

Refer to Table 4.2.7: *Congress & Liberty Streets Alternative Comparison Matrix.*

Refer to Table 4.2.8: *Harris Lane Alternative Comparison Matrix.*

5) RECOMMENDED ALTERNATIVE

Alternatives have been presented for the eight service areas. An alternative has been recommended for each of these service areas and combined these will form the capital project will be listed on the NYSEFC Intended Use Plan (IUP).

5.1 Basis of Selection

5.1.1 Pump Station #1 & Mill Street / Marina

Alternative 1 is selected as it is expected that the majority of the sewer mains can be lined, and the manholes repaired. The internal inspection during schematic/preliminary design will show exactly what sections of main need repair or replacement and what manholes and laterals can be lined and which need replacement. Adding screening to the pump station is recommended with either alternative.

5.1.2 Pump Station #2 & Worman Road Service Area

Alternative 1 is selected as it is expected that the majority of the sewer mains can be lined, and the manholes repaired. The internal inspection during schematic/preliminary design will show exactly what sections of main need repair or replacement and what manholes and laterals can be lined and which need replacement.

5.1.3 Pump Station #3 & Old Arsenal Road Service Area

Alterative 1 is selected because the infrastructure repairs necessary to maintain the gravity collection system and then install a municipal pump station are greater (and therefore more expensive) then installing individual progressive cavity grinder pump stations. As this will require a relatively small number of these pump stations and the force mains can be installed relatively easily, this alternative will allow the Town to eliminate all existing infrastructure and eliminate the I&I from this section.

5.1.4 Pump Station #4 & Fire Fly Lane Service Area

Alternative 1 is selected because the replacement of the electrical box is the main issue with the pump station.

5.1.5 Sisco and Main Street Service Area

Alternative 1 is selected as it is expected that the majority of the sewer mains can be lined, and the manholes repaired. The internal inspection during schematic/preliminary design will show exactly what sections of main need repair or replacement and what manholes and laterals can be lined and which need replacement.

5.1.6 West Main Street Service Area

Alternative 1 is selected as it is expected that the majority of the sewer mains can be lined, and the manholes repaired. The internal inspection during schematic/preliminary design will show exactly what sections of main need repair or replacement and what manholes and laterals can be lined and which need replacement.

5.1.7 Congress & Liberty Streets Service Area Investigation.

Alternative 1 is recommended if the golf course hotel project is implemented. The existing pipe will likely be needed to support the increased flows from the golf course.

5.1.8 Harris Lane Service Area

Alternate 1 is recommended as these lines are pre-1968 and are poorly located. It is not expected that slip lining and repair will be a viable option. The relocated lines as proposed with Alternate 1 will improve access to the mains.

5.2 Project Map

Refer to Figure 5.2.1: *Selected Alternatives Overall Map*.

5.3 Cost Estimate

The total cost for the recommend project is shown if the first table. Breakdowns of individual project costs are shown in subsequent tables.

Refer to Table 5.3.1: *Recommended Alternative Total Project Costs.*

Refer to Table 5.3.2: *Pump Station #1 & Mill Street/Marina Alternative 1.*

Refer to Table 5.3.3: *Pump Station #2 & Worman Road Alternative 1.*

Refer to Table 5.3.4: *Pump Station #3 & Old Arsenal Road Alternative 1.*

Refer to Table 5.3.5: *Pump Station #4 & Fire Fly Lane Alternative 1.*

Refer to Table 5.3.6: *Sisco and Main Street Alternative 1.*

Refer to Table 5.3.7: *West Main Street Alternative 1.*

Refer to Table 5.3.8: *Congress & Liberty Streets Alternative 1.*

Refer to Table 5.3.9: *Harris Lane Alternative 1.*

Refer to Table 5.3.10: *Soft Costs.*

5.4 Project Phasing

Projects such as this take considerable funds to complete. Typically, multiple funding agencies are involved. Depending on the type of project, it may be more advantageous to pursue one big project or several smaller projects in a phased manner. The proposed project has been broken into phases to allow the Town to pursue the best funding possible.

Only Phase 1 is recommended at this time to reduce flows and reduce the likelihood of a permit violation. It is possible, and probable, that this work will be successful in accomplishing this goal, however if addition flow reductions prove to be necessary, then the Town can pursue additional phases.

Phase 2 and 3 are only recommended at this time if funds allow but are included here to make them eligible for funding.

The proposed phases are broken down as follows:

5.4.1 Phase 1

- Pump Station #1 & Mill Street/Marina
- Pump Station #2 & Worman Road
- Pump Station #3 & Old Arsenal Road

5.4.2 Phase 2

- Sisco and Main Street
- West Main Street

5.4.3 Phase 3

- Pump Station #4 & Fire Fly Lane
- Congress & Liberty Streets
- Harris Lane

5.5 Project Schedule

The proposed project schedule applies to Phase 1 only. The schedule has been developed to allow adequate time to secure financing and properly design and construct the project. The schedule is realistic based on experience with many funding agencies and allows the Town time for resubmissions should an application not be accepted on the first round. Funding applications are generally only available once per year and must be sequenced properly to meet all of the eligibility requirements. It is important to note that the more funding that is secured for Phase 1, the more likely Phases 2 and 3 can be completed.

Refer to Table 5.5.1: *Proposed Project Schedule*.

5.6 Potential Project Funding

For Phase 1 only, two funding scenarios have been presented, both assume that the Town qualifies for hardship or 0% financing from EFC. This is not a given and must be applied for. Scenario 1 assumes a 25% WIIA grant from EFC and scenario 2 assumes additional grants that the Town may be eligible for.

Refer to Table 5.6.1: *Phase 1 Project Financing and User Rates - Funding Scenario 1*.

Refer to Table 5.6.2: *Phase 1 Project Financing and User Rates - Funding Scenario 2*.

In order to maintain eligibility for financing of Phases 2 and 3, the same funding scenarios are presented for the project including all three phases.

Refer to Table 5.6.3: *Phase 1, 2, & 3 Project Financing and User Rates - Funding Scenario 1*.

Refer to Table 5.6.4: *Phase 1, 2, & 3 Project Financing and User Rates - Funding Scenario 2*.

5.7 Sustainability Considerations

This project focuses on an existing sanitary sewer system, there are not a lot of options for changing the system for sustainability purposes, however the goal of the project is to reduce I&I. This by its nature promotes sustainability as it reduces the energy needed to pump and treat wastewater.

5.8 Next Steps

The next steps in the funding process include listing the project on NYSEFC's IUP in the summer of 2019.

It is recommended that the first step in design process is to hire a sewer main cleaning firm to inspect the sewer mains. From this the final scope of work (rehab or replacement) can be determined.

This report is considered a preliminary engineering report and is intended to be approvable for financing. A formal basis of design report will be required to be submitted for approval along with drawing and specification submissions.

5.9 Attached Signed Engineering Report Certification

Refer to Appendix M: *Engineering Report Certification*.

5.10 Attached Signed Smart Growth Assessment

Refer to Appendix N: *Smart Growth Assessment.*

6) FIGURES

Figure 2.2.1: *General Location Map*

Figure 2.2.2: *APA Land Use*

Figure 2.2.3: *NYSDOT Scenic Byways*

Figure 2.2.3A: *Zoning Map*

Figure 2.2.4: *USGS Topography*

Figure 2.2.5: *USDA Soil Map*

Figure 2.2.6: *USDA Hydrologic Soil Group*

Figure 2.2.7: *USDA Depth to Soil Restrictive Features*

Figure 2.2.7A: *USDA Depth to Water Table*

Figure 2.2.8*: APA & DEC Wetlands*

Figure 2.2.9: NYSDEC Environmental Resource Mapper

Figure 2.2.10: USFWS IPAC System Trust Resources

Figure 2.2.11: *USFWS Bat Fact Sheets*

Figure 2.2.12: *FEMA Flood Hazard*

Figure 2.3.1: Sewer District #1 Boundary Map

Figure 2.4.1: 2016 Daily Average Flow Data

Figure 2.4.2: 2016 Daily Average Flow Data with Precipitation Totals

Figure 2.4.3: 2017 Daily Average Flow Data

Figure 2.4.4: 2017 Daily Average Flow Data with Precipitation Totals

Figure 2.4.5: 2018 Daily Average Flow Data

Figure 2.4.6: 2018 Daily Average Flow Data with Precipitation Totals

Figure 2.4.7: *Existing Sewer*

Figure 2.4.8: *Pump Station #1 Service Area*

Figure 2.4.9: *Pump Station #2 Service Area*

Figure 2.4.10: *Pump Station #3 Service Area*

Figure 2.4.11: *Pump Station #4 Service Area*

Figure 2.4.12: *Sisco & Main Service Area*

Figure 2.4.13: *West Main Service Area*

Figure 2.4.14: *Congress & Liberty Service Area*

Figure 2.4.15: *Harris Lane Service Area*

Figure 3.10.1: *Pump Station #1 & Mill Street / Marina Alternatives*

Figure 3.10.2: *Pump Station #2 & Worman Road Alternatives*

Figure 3.10.3: *Pump Station #3 & Old Arsenal Road Alternatives*

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Figure 3.10.5: *Sisco and Main Street Alternatives*

Figure 3.10.6: *West Main Street Alternatives*

Figure 3.10.7: *Congress & Liberty Streets Alternatives*

Figure 3.10.8: *Harris Lane Alternatives*

Figure 5.2.1: *Selected Alternatives Overall Map*

7) TABLES

Table 2.5.1: *Vacant Lots Classification*

Table 2.5.2: Hamlet Expansion

Table 3.2.1: *Cost Estimates Comparison*

Table 4.1.1: *Life Cycle Cost Analysis*

Table 4.2.1: *Pump Station #1 & Mill Street/Marina Alternative Comparison Matrix*

Table 4.2.2: *Pump Station #2 & Worman Road Alternative Comparison Matrix*

Table 4.2.3: *Pump Station #3 & Old Arsenal Road Alternative Comparison Matrix*

Table 4.2.4: *Pump Station #4 & Fire Fly Lane Alternative Comparison Matrix*

Table 4.2.5: *Sisco and Main Street Alternative Comparison Matrix*

Table 4.2.6: *West Main Street Alternative Comparison Matrix*

Table 4.2.7: *Congress & Liberty Streets Alternative Comparison Matrix*

Table 4.2.8: *Harris Lane Alternative Comparison Matrix*

Table 5.3.1: *Recommended Alternative Total Project Costs*

Table 5.3.2: *Pump Station #1 & Mill Street/Marina Alternative 1*

Table 5.3.3: *Pump Station #2 & Worman Road Alternative 1*

Table 5.3.4: *Pump Station #3 & Old Arsenal Road Alternative 1*

Table 5.3.5: *Pump Station #4 & Fire Fly Lane Alternative 1*

Table 5.3.6: *Sisco and Main Street Alternative 1*

Table 5.3.7: *West Main Street Alternative 1*

Table 5.3.8: *Congress & Liberty Streets Alternative 1*

Table 5.3.9: *Harris Lane Alternative 1*

Table 5.3.10: *Soft Costs*

Table 5.5.1: *Proposed Project Schedule*

Table 5.6.1: *Phase 1 Project Financing and User Rates - Funding Scenario 1*

Table 5.6.2: *Phase 1 Project Financing and User Rates - Funding Scenario 2*

Table 5.6.3: *Phase 1, 2, & 3 Project Financing and User Rates - Funding Scenario 1*

Table 5.6.4: *Phase 1, 2, & 3 Project Financing and User Rates - Funding Scenario 2*

8) APPENDICES

Appendix A: *Relevant Documents*

Appendix B: *Existing Report*

Appendix C: *Pump Station #1 & Mill Street/Marina Service Area Investigation*

Appendix D: *Pump Station #2 & Worman Road Service Area Investigation*

Appendix E: *Pump Station #3 & Old Arsenal Road Service Area Investigation*

Appendix F: *Pump Station #4 & Fire Fly Lane Service Area Investigation*

Appendix G: *Sisco and Main Street Service Area Investigation*

Appendix H: *West Main Street Service Area Investigation*

Appendix I: *Congress & Liberty Streets Service Area Investigation*

Appendix J: *Harris Lane Service Area Investigation*

Appendix K: *Hamlet Expansion Documentation*

Appendix L: *Sewer District Financial Information*

Appendix M: *Engineering Report Certification*

Appendix N: *Smart Growth Assessment*



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Figure 2.2.1 General Location Map

Town of Westport in Essex County NY

4524
Westport(T)
I&I Study

Notes:
1. Aerial photography is from on-line orthoimagery provided by ESRI ArcMap program.
2. Tax map parcel numbers, parcel lines, and owner names are from AES's version of the 2018 County GIS shapefile.
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1 inch = 50,000 feet

0 25,000 50,000
Feet

N

Nys Route 9N
Pheasant Way
Homeport Way
22
9N
Hoisington Brook
Main St
Sisco St
Marks Rd
Ledge Hill Rd
Whalen Ln
Ledge Hill Rd
Nys Route 9N
Eagle Ln
Westport
Main St
Washington St
2nd
Front St
Harris Ln
Ballard Park
Hammond Brook
Stevenson Rd
Country Club Way
Old Arsenal Rd
Lake Champlain
Westport Country Club
Sunnyside Way
22
Worman Rd
Main St
Stone House Cir
Maple Way
Stevenson Rd
Hammond Brook

Land Classification

- Canoe Area
- Hamlet
- Intensive Use
- Low Intensity
- Resource Management
- Rural Use
- Water

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Figure 2.2.2: APA Land Use

Adirondack Park Association Classified Land Use

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1 inch = 1,500 feet

0 800 1,600
Feet

N

Nys Route 9N
Pheasant Way
Hoisington Brook
Main St
Homeport Way
Sisco St
Marks Rd
Ledge Hill Rd
Whalen Ln
Ledge Hill Rd
Nys Route 9N
Eagle Ln
Hammond Brook
Westport
Washington St
2nd
Front St
Harris Ln
Ballard Park
Lake Champlain
Stevenson Rd
Country Club Way
Old Arsenal Rd
Westport Country Club
Sunnyside Way
Worman Rd
Main St
Store House Cir
Maple Way
Stevenson Rd
Hammond Brook

Scenic Byways

Lakes to Locks Passage

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Figure 2.2.3: NYSDOT Scenic Byways

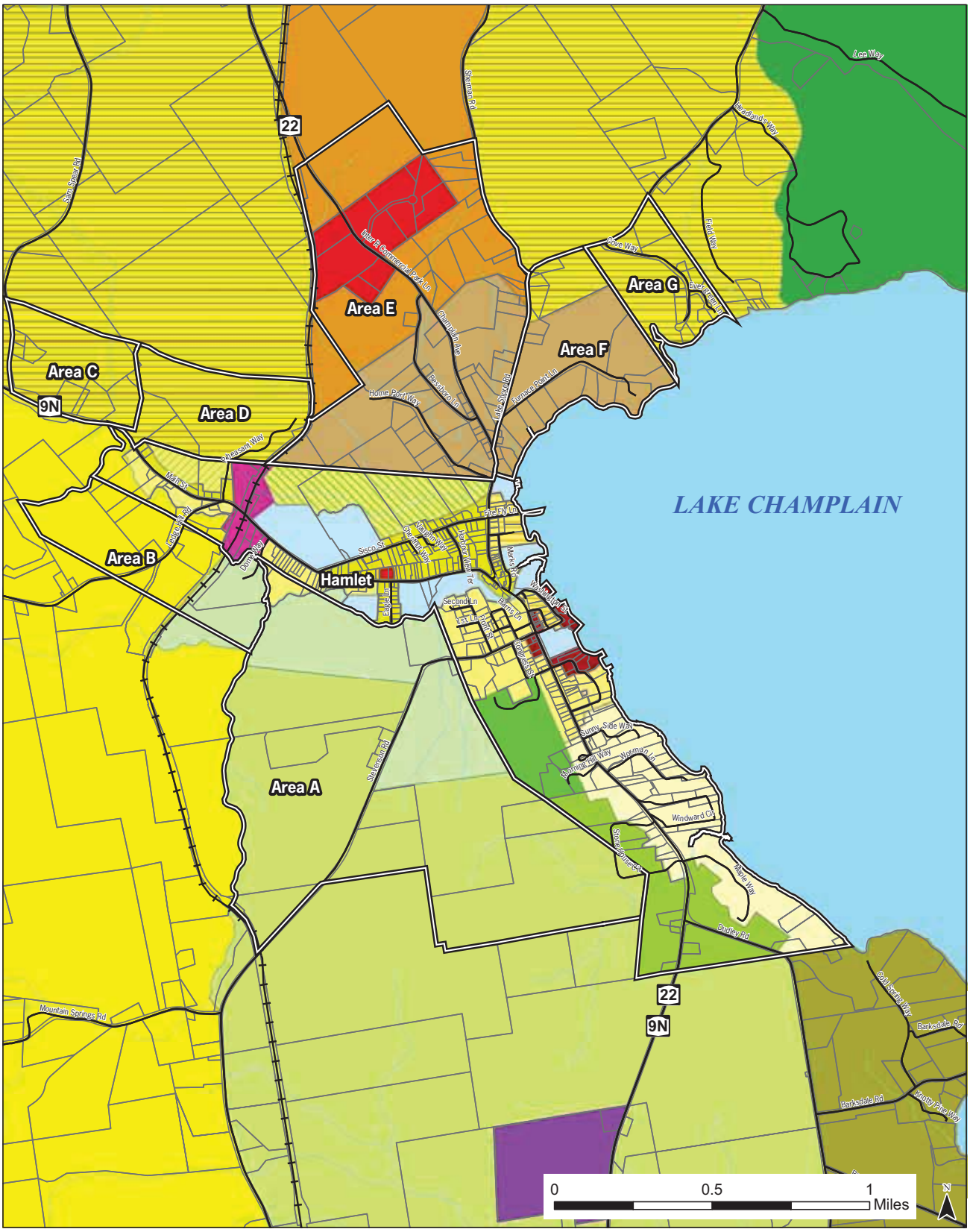
NYS Department of Transportation Scenic Byways Routes

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1 inch = 1,500 feet

0 790 1,580
Feet



WESTPORT, NY

WESTPORT HAMLET STUDY AREA
CURRENT ZONING

March 2010

KEY

Zoning District		
AL	RR 8.5 S	V-RES II (t)
COMM IND	RR- 5 COMM, IND	V-RES II (t)(a)
FL	V-BUS	V-RES II PD (a)
LM/C	V-FAC	V-RES II PD (cc)
LR	V-IND	V-RES III
RR 5	V-MGT	VG-REC
RR 8.5 N	V-RES I	VG-RES
	V-RES II	water

PROJECT # 2010 - 10005 - Copyright © 2010 Saratoga Associates. All Rights Reserved.
This map is computer generated using data acquired by Saratoga Associates from various sources and is intended only for reference, conceptual planning and presentation purposes. This map is not intended for and should not be used to establish boundaries, property lines, location of objects or to provide any other information typically needed for construction or any other purpose when engineered plans or lnad surveys are required.
File Location: B:\2010\10005\Maps\WestportHamletZoning.mxd

SARATOGA ASSOCIATES
Landscape Architects, Architects, Engineers, and Planners, P.C.
New York City • Saratoga Springs • Syracuse

FIGURE 2.2.3A
ZONING MAP



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Figure 2.2.4: USGS Topography

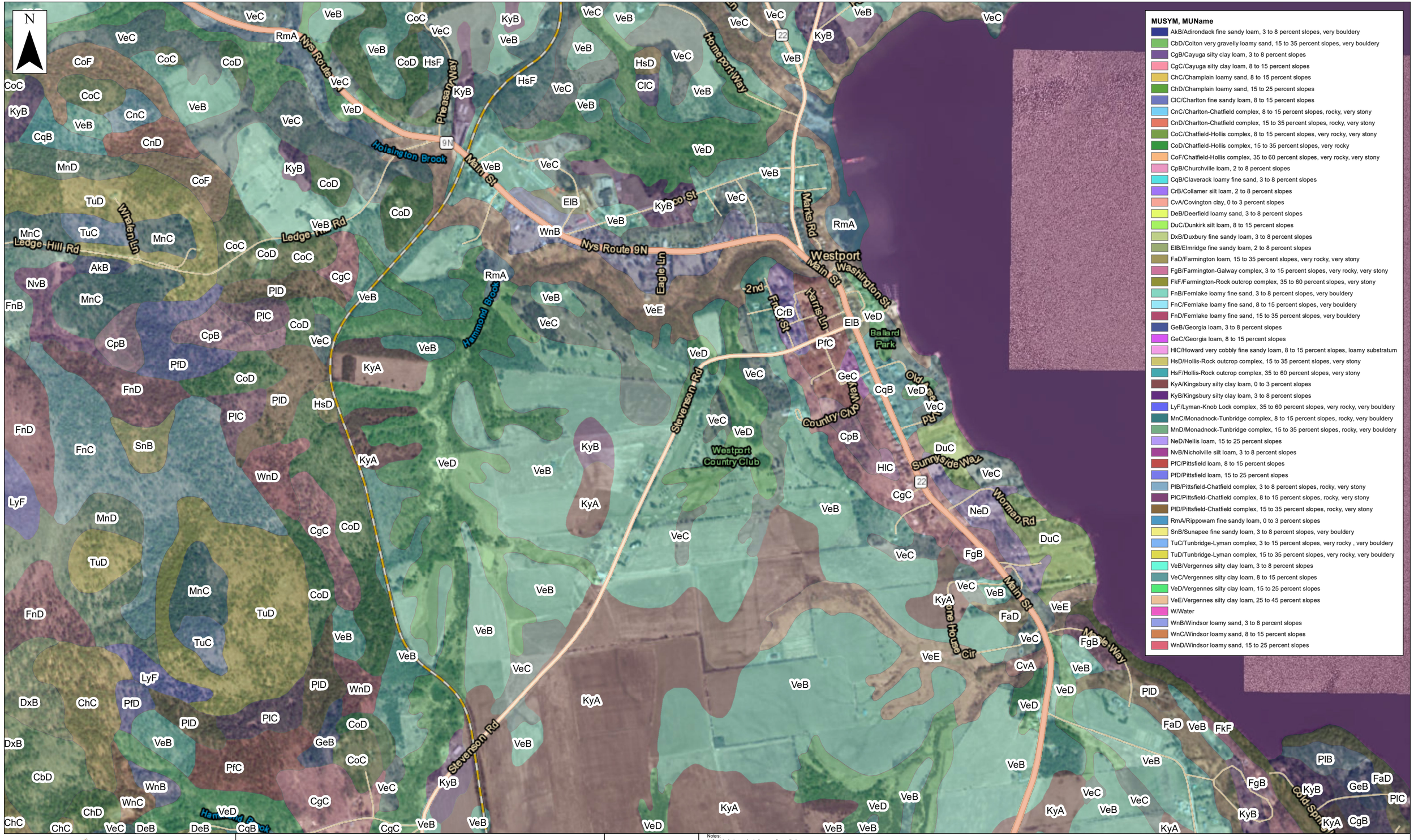
USGS Digital Map Series

4524
Westport(T)
I&I Study

Notes:
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1 inch = 1,500 feet

0 790 1,580
Feet



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Figure 2.2.5 USDA Soils

USDA Soils Map of Westport and their Descriptions

4524
Westport(T)
I&I Study

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1 inch = 1,500 feet

0 790 1,580
Feet

N

Nys Route 9N
Pheasant Way
Homeport Way
Hoisington Brook
Main St
Sisco St
Marks Rd
Whalen Ln
Ledge Hill Rd
Eagle Ln
Hammond Brook
2nd
Front St
Harris Ln
Washington St
Ballard Park
Stevenson Rd
Country Club Way
Old Arsenal Rd
Westport Country Club
Sunnyside Way
Worman Rd
Stone House Cir
Maple Way
Lake Champlain

Hydrologic Soils Group
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

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Figure 2.2.6: USDA Hydrologic Soils Group

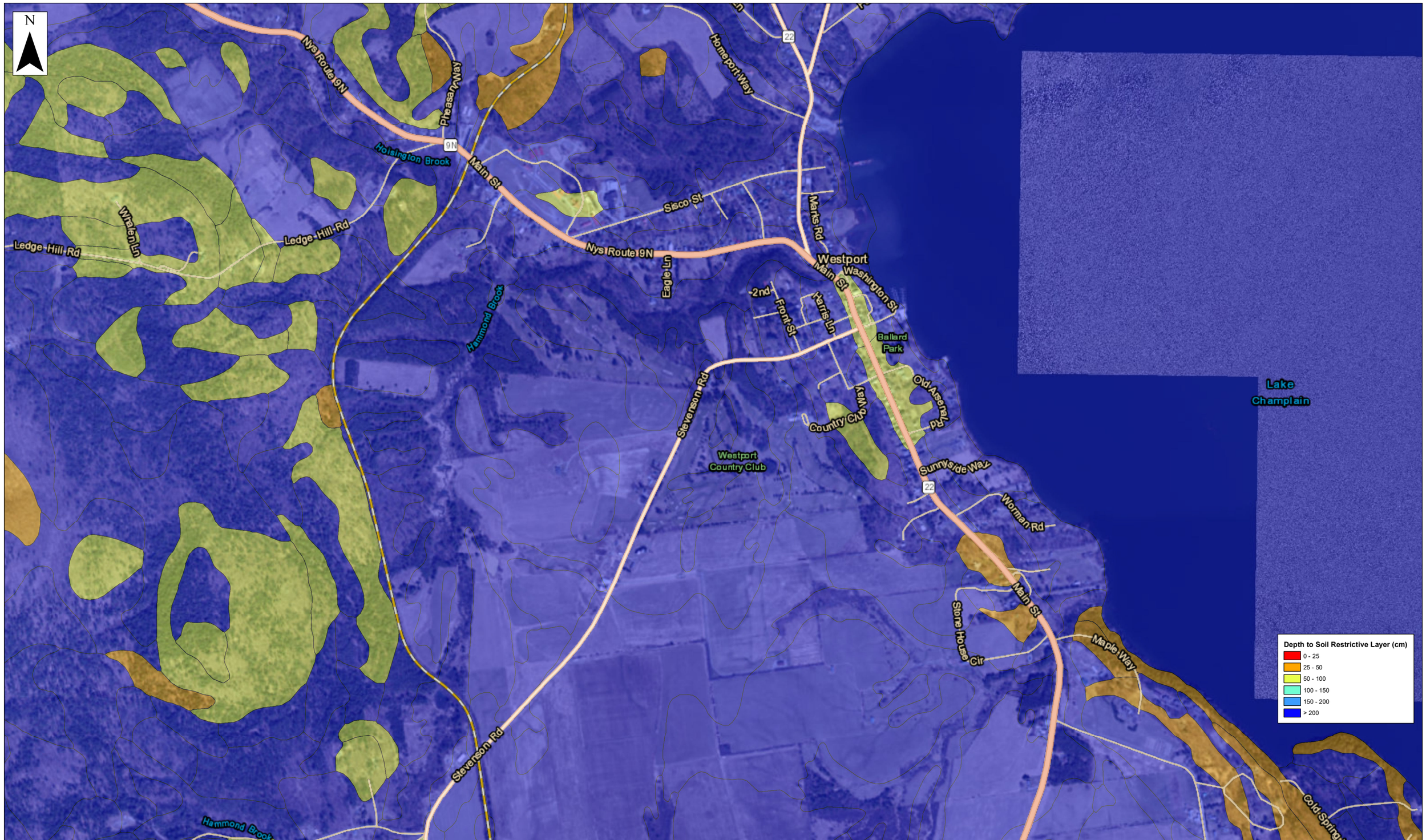
USDA Soils Map of Westport and their Hydrolic Soils Groups

4524
Westport(T)
I&I Study

Notes:
1. Aerial photography is from on-line orthoimagery provided by ESRI ArcMap program.
2. Tax map parcel numbers, parcel lines, and owner names are from AES's version of the 2016 County GIS shapefile.
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1 inch = 1,500 feet

0 790 1,580
Feet



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Figure 2.2.7 Depth to Soil Restrictive Features

USDA Soils Map of Westport and the Depth to Any Restrictive Features

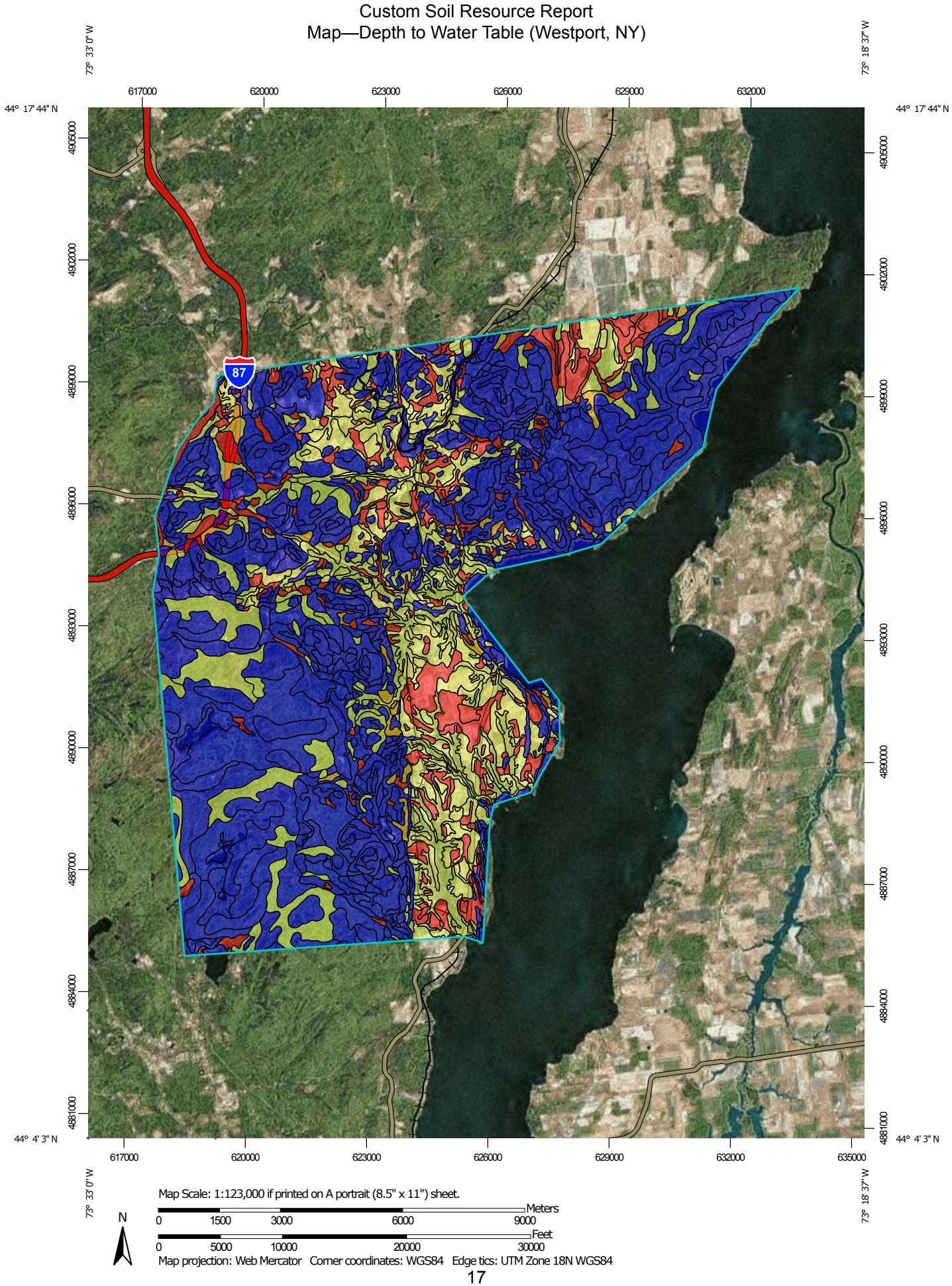
4524
Westport(T)
I&I Study

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1 inch = 1,500 feet

0 790 1,580
Feet

FIGURE 2.2.7A USDA DEPTH TO WATER TABLE



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

0 - 25

25 - 50

50 - 100

100 - 150

150 - 200

> 200

Not rated or not available

Soil Rating Lines

0 - 25

25 - 50

50 - 100

100 - 150

150 - 200

> 200

Not rated or not available

Soil Rating Points

0 - 25

25 - 50

50 - 100

100 - 150

150 - 200

> 200

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

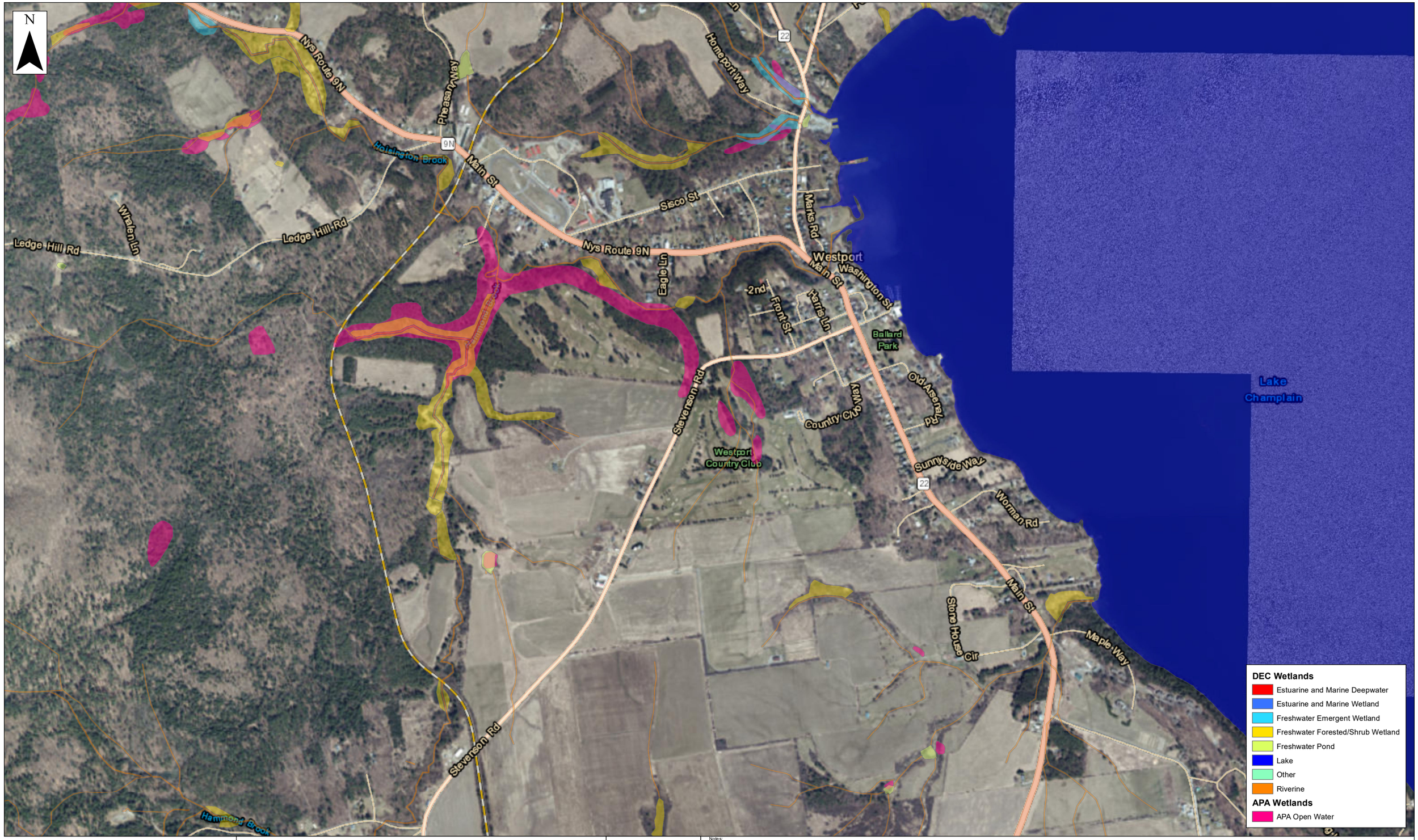
This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Essex County, New York
Survey Area Data: Version 16, Sep 3, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 28, 2012—Mar 29, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



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2.2.8 APA & DEC Wetlands

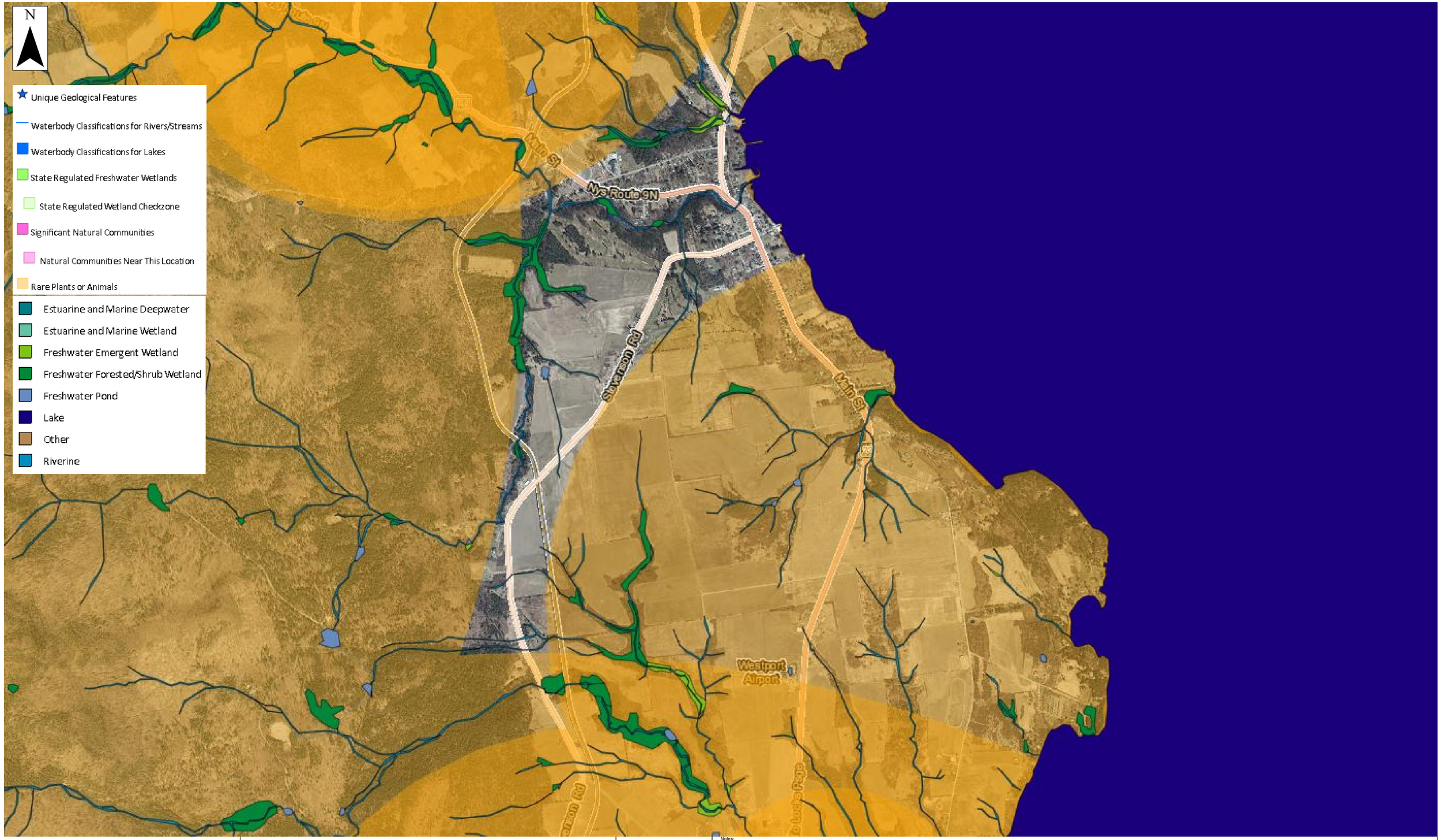
Adirondack Park Association and NYSDEC
Wetland Classification and Boundaries

4524
Westport(T)
I&I Study

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1 inch = 1,500 feet

0 790 1,580
Feet



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Figure 2.2.9 NYSDEC Environmental Resource Mapper

Based on Information from NYSDEC Website

4524
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1 inch = 2,000 feet

0 1,000 2,000
Feet

IPaC **U.S. Fish & Wildlife Service**

FIGURE 2.2.10 NYSDEC Environmental Resource Mapper

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

Essex County, New York



Local office

New York Ecological Services Field Office

(607) 753-9334
(607) 753-9699

3817 Luker Road
Cortland, NY 13045-9385

http://www.fws.gov/northeast/nyfo/es/section7.htm

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

NOT FOR CONSULTATION

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

Indiana Bat Myotis sodalis — Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/5949

Northern Long-eared Bat Myotis septentrionalis — Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/9045

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

NOT FOR CONSULTATION

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the

Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Dunlin *Calidris alpina arcticola* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Eastern Whip-poor-will *Antrostomus vociferus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20

NOT FOR CONSULTATION

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Golden-winged Warbler Vermivora chrysoptera — Breeds May 1 to Jul 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8745

Semipalmated Sandpiper Calidris pusilla — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Snowy Owl Bubo scandiacus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wood Thrush Hylocichla mustelina — Breeds May 10 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

NOT FOR CONSULTATION

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted

Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

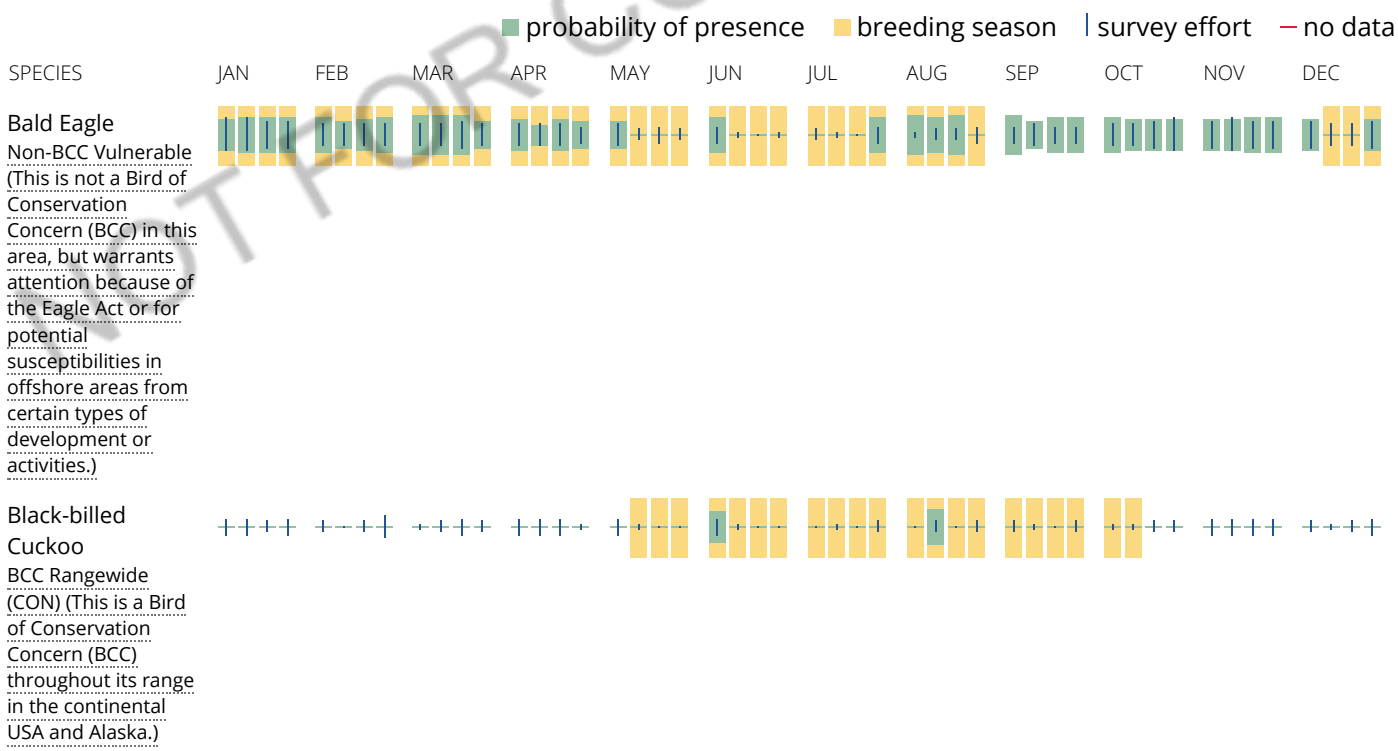
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

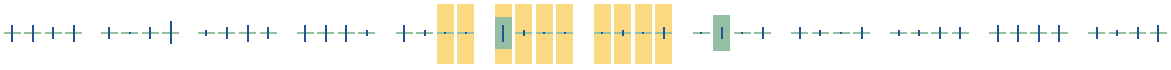
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

DRAFT FOR CONSULTATION



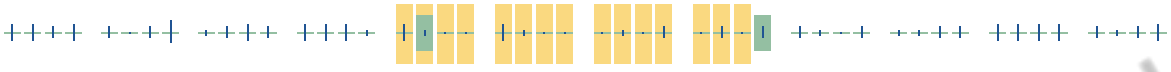
Bobolink
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



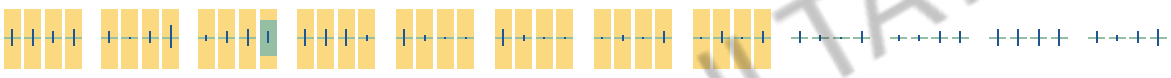
Dunlin
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



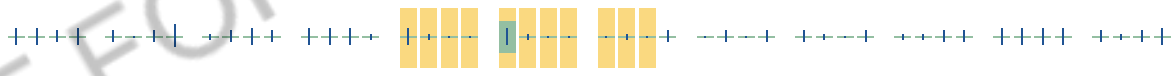
Eastern Whip-poor-will
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Golden Eagle
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



Golden-winged Warbler
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Semipalmated Sandpiper
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Snowy Owl
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



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Wood Thrush
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

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Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

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Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

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Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters.

Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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Figure 2.2.11
USFWS Bat Fact Sheets

Indiana Bat
(Myotis sodalis)

The Indiana bat is an endangered species. Endangered species are animals and plants that are in danger of becoming extinct. Threatened species are those that are likely to become endangered in the foreseeable future. Identifying, protecting, and restoring endangered and threatened species are primary objectives of the U.S. Fish and Wildlife Service's endangered species program.



Photo by Rich Fields

Indiana bats eat up to half their body weight in insects each night.

What is the Indiana Bat?

Description

The scientific name of the Indiana bat is *Myotis sodalis* and it is an accurate description of the species. Myotis means "mouse ear" and refers to the relatively small, mouse-like ears of the bats in this group. Sodalis is the Latin word for "companion." The Indiana bat is a very social species; large numbers cluster together during hibernation. The species is called the Indiana bat because the first specimen described to science in 1928 was based on a specimen found in southern Indiana's Wyandotte Cave in 1904.

The Indiana bat is quite small, weighing only one-quarter of an ounce (about the weight of three pennies). In flight, it has a wingspan of 9 to 11 inches. The fur is dark-brown to black. The Indiana bat is similar in appearance to many other related species. Biologists can distinguish it from similar species by comparing characteristics such as the structure of the foot and color variations in the fur.

Habitat

Indiana bats hibernate during winter in caves or, occasionally, in abandoned mines. For hibernation, they require cool, humid caves with stable temperatures, under 50° F but above freezing. Very few caves within the range of the species have these conditions.

Hibernation is an adaptation for survival during the cold winter months when no insects are available for bats to eat. Bats must store energy in the form of fat before hibernating. During the six months of hibernation the stored fat is their only source of energy. If bats are disturbed or cave temperatures increase, more energy is needed and hibernating bats may starve.

After hibernation, Indiana bats migrate to their summer habitat in wooded areas where they usually roost under loose tree bark on dead or dying trees. During summer, males roost alone or in small groups, while females roost in larger groups of up to 100 bats or more. Indiana bats also forage in or along the edges of forested areas.

Reproduction

Indiana bats mate during fall before they enter caves to hibernate. Females store the sperm through winter and become pregnant in spring soon after they emerge from the caves.

After migrating to their summer areas, females roost under the peeling bark of dead and dying trees in groups of up to 100 or more. Such groups are called maternity colonies. Each female in the colony gives birth to only one pup per year. Young bats are nursed by the mother, who leaves the roost tree only to forage for food. The young stay with the maternity colony throughout their first summer.

Feeding Habits

Indiana bats eat a variety of flying insects found along rivers or lakes and in uplands. Like all insect-eating bats, they benefit people by consuming insects that are considered pests or otherwise harmful to humans. Their role in insect control is not insignificant – Indiana bats eat up to half their body weight in insects each night.

Range

Indiana bats are found over most of the eastern half of the United States. Almost half of all Indiana bats (207,000

in 2005) hibernate in caves in southern Indiana. In 2005, other states which supported populations of over 40,000 included Missouri (65,000), Kentucky (62,000), Illinois (43,000) and New York (42,000). Other states within the current range of the Indiana bat include Alabama, Arkansas, Connecticut, Iowa, Maryland, Michigan, New Jersey, North Carolina, Ohio, Oklahoma, Pennsylvania, Tennessee, Vermont, Virginia, West Virginia. The 2005 population estimate is about 457,000 Indiana bats, half as many as when the species was listed as endangered in 1967.

Why is the Indiana Bat Endangered?

Human Disturbance

Indiana bats, because they hibernate in large numbers in only a few caves, are extremely vulnerable to disturbance. During hibernation, they cluster in groups of up to 500 per square foot. Since the largest hibernation caves support from 20,000 to 50,000 bats, it is easy to see how a large part of the total population can be affected by a single event. Episodes of large numbers of Indiana bat deaths have occurred due to human disturbance during hibernation.

Cave Commercialization and Improper Gating

The commercialization of caves – allowing visitors to tour caves during hibernation – drives bats away. Changes in the structure of caves, such as blocking an entrance, can change the temperature in a cave. A change of even a few degrees can make a cave unsuitable for hibernating bats. Some caves are fitted with gates to keep people out, but improper gating that prevents access by bats or alters air flow, temperature, or humidity can also be harmful. Properly constructed gates are beneficial because they keep people from disturbing hibernating bats while maintaining temperature and other requirements and allowing access for bats.

Summer Habitat Loss or Degradation

Indiana bats use trees as roosting and foraging sites during summer months. Loss and fragmentation of forested habitats can affect bat populations.

Pesticides and Environmental Contaminants

Insect-eating bats may seem to have an unlimited food supply, but in local areas, insects may not be plentiful because of pesticide use. This can also affect the quality of the bats' food supply. Many scientists believe that population declines occurring today might be due, in part, to pesticides and environmental contaminants. Bats may be affected by eating contaminated insects, drinking contaminated water, or absorbing the chemicals while feeding in areas that have been recently treated.

What is Being Done to Prevent Extinction of the Indiana Bat?

Listing

Prompted by declining populations caused by disturbance of bats during hibernation and modification of hibernacula, the Indiana bat was listed in 1967 as "in danger of extinction" under the Endangered Species Preservation Act of 1966. It is listed as "endangered" under the current Endangered Species Act of 1973. Listing under the Endangered Species Act protects the Indiana bat from take (harming, harassing, killing) and requires Federal agencies to work to conserve it.

Recovery Plan

The Endangered Species Act requires that recovery plans be prepared for all listed species. The U.S. Fish and Wildlife Service developed a recovery plan for the Indiana bat in 1983 and is now revising that Plan. The recovery plan describes actions needed to help the bat recover.

Habitat Protection

Public lands like National Wildlife Refuges, military areas, and U.S. Forest Service lands are managed for Indiana bats by protecting forests. This means ensuring that there are the size and species of trees needed by Indiana bats for roosting; and providing a supply of dead and dying trees that can be used as roost sites. In addition, caves used for hibernation are managed to maintain suitable conditions for hibernation and eliminate disturbance.

Education and Outreach

Understanding the important role played by Indiana bats is a key to conserving the species. Helping people learn more about the Indiana bat and other endangered species can lead to more effective recovery efforts.

U.S. Fish & Wildlife Service
1 Federal Drive
Fort Snelling, Minnesota 55111
612/713-5350
http://www.fws.gov/midwest/endangered

December 2006

Northern Long-Eared Bat

Myotis septentrionalis

The northern long-eared bat is federally listed as a threatened species under the Endangered Species Act. ***Endangered*** species are animals and plants that are in danger of becoming extinct. ***Threatened*** species are animals and plants that are likely to become endangered in the foreseeable future. Identifying, protecting and restoring endangered and threatened species is the primary objective of the U.S. Fish and Wildlife Service's Endangered Species Program.



Photo by Steve Taylor, University of Illinois

This northern long-eared bat, observed during an Illinois mine survey, shows visible symptoms of white-nose syndrome.

What is the northern long-eared bat?

Appearance: The northern long-eared bat is a medium-sized bat with a body length of 3 to 3.7 inches and a wingspan of 9 to 10 inches. Their fur color can be medium to dark brown on the back and tawny to pale-brown on the underside. As its name suggests, this bat is distinguished by its long ears, particularly as compared to other bats in its genus, *Myotis*.

Winter Habitat: Northern long-eared bats spend winter hibernating in caves and mines, called hibernacula. They use areas in various sized caves or mines with constant temperatures, high humidity, and no air currents. Within hibernacula, surveyors find them hibernating most often in small crevices or cracks, often with only the nose and ears visible.

Summer Habitat: During the summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags (dead trees). Males and non-reproductive females may also roost in cooler places, like caves and mines. Northern long-eared bats seem to be flexible in selecting roosts, choosing roost trees based on suitability to retain bark or provide cavities or crevices. They rarely roost in human structures like barns and sheds.

Reproduction: Breeding begins in late summer or early fall when males begin to swarm near hibernacula. After copulation, females store sperm during hibernation until spring. In spring, females emerge from their hibernacula, ovulate and the stored sperm fertilizes an egg. This strategy is called delayed fertilization.

After fertilization, pregnant bats migrate to summer areas where they roost in small colonies and give birth to a single pup. Maternity colonies of females and young generally have 30 to 60 bats at the beginning of the summer, although larger maternity colonies have also been observed. Numbers of bats in roosts typically decrease from the time of pregnancy to post-lactation. Most bats within a maternity colony give birth around the same time, which may occur from late May or early June to late July, depending where the colony is located within the species' range. Young bats start flying by 18 to 21 days after birth. Maximum lifespan for the northern long-eared bat is estimated to be up to 18.5 years.

Feeding Habits: Like most bats, northern long-eared bats emerge at dusk to feed. They primarily fly through the understory of forested areas feeding on moths, flies, leafhoppers, caddisflies, and beetles, which they catch while in flight using echolocation or by gleaning motionless insects from vegetation.

Range: The northern long-eared bat's range includes much of the eastern and north central United States, and all Canadian provinces from the Atlantic Ocean west to the southern Yukon Territory and eastern British Columbia. The species' range includes 37 States and the District of Columbia: Alabama, Arkansas, Connecticut, Delaware, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming.

Why is the northern long-eared bat in trouble?

White-nose Syndrome: No other threat is as severe and immediate as

this. If this disease had not emerged, it is unlikely that northern long-eared bat populations would be experiencing such dramatic declines. Since symptoms were first observed in New York in 2006, white-nose syndrome has spread rapidly from the Northeast to the Midwest and Southeast; an area that includes the core of the northern long-eared bat's range, where it was most common before this disease. Numbers of northern long-eared bats (from hibernacula counts) have declined by up to 99 percent in the Northeast. Although there is uncertainty about the rate that white-nose syndrome will spread throughout the species' range, it is expected to continue to spread throughout the United States in the foreseeable future.

Other Sources of Mortality:
Although no significant population declines have been observed due to the sources of mortality listed below, they may now be important factors affecting this bat's viability until we find ways to address WNS.

Impacts to Hibernacula: Gates or other structures intended to exclude people from caves and mines not only restrict bat flight and movement, but also change airflow and microclimates. A change of even a few degrees can make a cave unsuitable for hibernating bats. Also, cave-dwelling bats are vulnerable to human disturbance while hibernating. Arousal during hibernation causes bats to use up their energy stores, which may lead to bats not surviving through winter.

Loss or Degradation of Summer Habitat: Highway construction, commercial development, surface mining, and wind facility construction permanently remove habitat and are activities prevalent in many areas of this bat's range. Many forest management activities benefit bats by keeping areas forested rather than converted to other uses. But, depending on type and timing, some forest management activities can cause mortality and temporarily remove or degrade roosting and foraging habitat.

Wind Farm Operation: Wind turbines kill bats, and, depending on the species, in very large numbers. Mortality from windmills has been documented for northern long-eared bats, although a small number have been found to date. However, there are many wind projects within a large portion of the bat's range and many more are planned.

What Is Being Done to Help the Northern Long-Eared Bat?

Disease Management: Actions have been taken to try to reduce or slow the spread of white-nose syndrome through human transmission of the fungus into caves (e.g. cave and mine closures and advisories; national decontamination protocols). A national plan was prepared by the Service and other state and federal agencies that details actions needed to investigate and manage white-nose syndrome. Many state and federal agencies, universities and non-governmental organizations are researching this disease to try to control its spread and address its affect. See www.whitenosesyndrome.org/ for more.

Addressing Wind Turbine Mortality: The Service and others are working to minimize bat mortality from wind turbines on several fronts. We fund and conduct research to determine why bats are susceptible to turbines, how to operate turbines to minimize mortality and where important bird and bat migration routes are located. The Service, state natural resource agencies, and the wind energy industry are developing a Midwest Wind Energy Habitat Conservation Plan, which will provide wind farms a mechanism to continue operating legally while minimizing and mitigating listed bat mortality.

Listing: The northern long-eared bat is listed as a threatened species under the federal Endangered Species Act. Listing a species affords it the protections of the Act and also increases the priority of the species for funds, grants, and recovery opportunities.

Hibernacula Protection: Many federal and state natural resource agencies and conservation organizations have protected caves and mines that are important hibernacula for cave-dwelling bats.

What Can I Do?

Do Not Disturb Hibernating Bats: To protect bats and their habitats, comply with all cave and mine closures, advisories, and regulations. In areas without a cave and mine closure policy, follow approved decontamination protocols (see http://whitenosesyndrome.org/topics/decontamination). Under no circumstances should clothing, footwear, or equipment that was used in a white-nose syndrome affected state or region be used in unaffected states or regions.

Leave Dead and Dying Trees Standing: Like most eastern bats, the northern long-eared bat roosts in trees during summer. Where possible and not a safety hazard, leave dead or dying trees on your property. Northern long-eared bats and many other animals use these trees.

Install a Bat Box: Dead and dying trees are usually not left standing, so trees suitable for roosting may be in short supply and bat boxes may provide additional roost sites. Bat boxes are especially needed from April to August when females look for safe and quiet places to give birth and raise their pups.

Support Sustainability: Support efforts in your community, county and state to ensure that sustainability is a development goal. Only through sustainable living will we provide rare and declining species, like the northern long-eared bat, the habitat and resources they need to survive alongside us.

Spread the Word: Understanding the important ecological role that bats play is a key to conserving the northern long-eared and other bats. Helping people learn more about the northern long-eared bat and other endangered species can lead to more effective recovery efforts. For more information, visit www.fws.gov/midwest/nleb and www.whitenosesyndrome.org

Join and Volunteer: Join a conservation group; many have local chapters. Volunteer at a local nature center, zoo, or national wildlife refuge. Many state natural resource agencies benefit greatly from citizen involvement in monitoring wildlife. Check your state agency websites and get involved in citizen science efforts in your area.



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Phone: (518) 561-1598 Fax: (518) 561-1990
www.aesnortheast.com

Figure 2.2.12 FEMA Flood Hazard

There are no FEMA Flood Hazards Around Westport

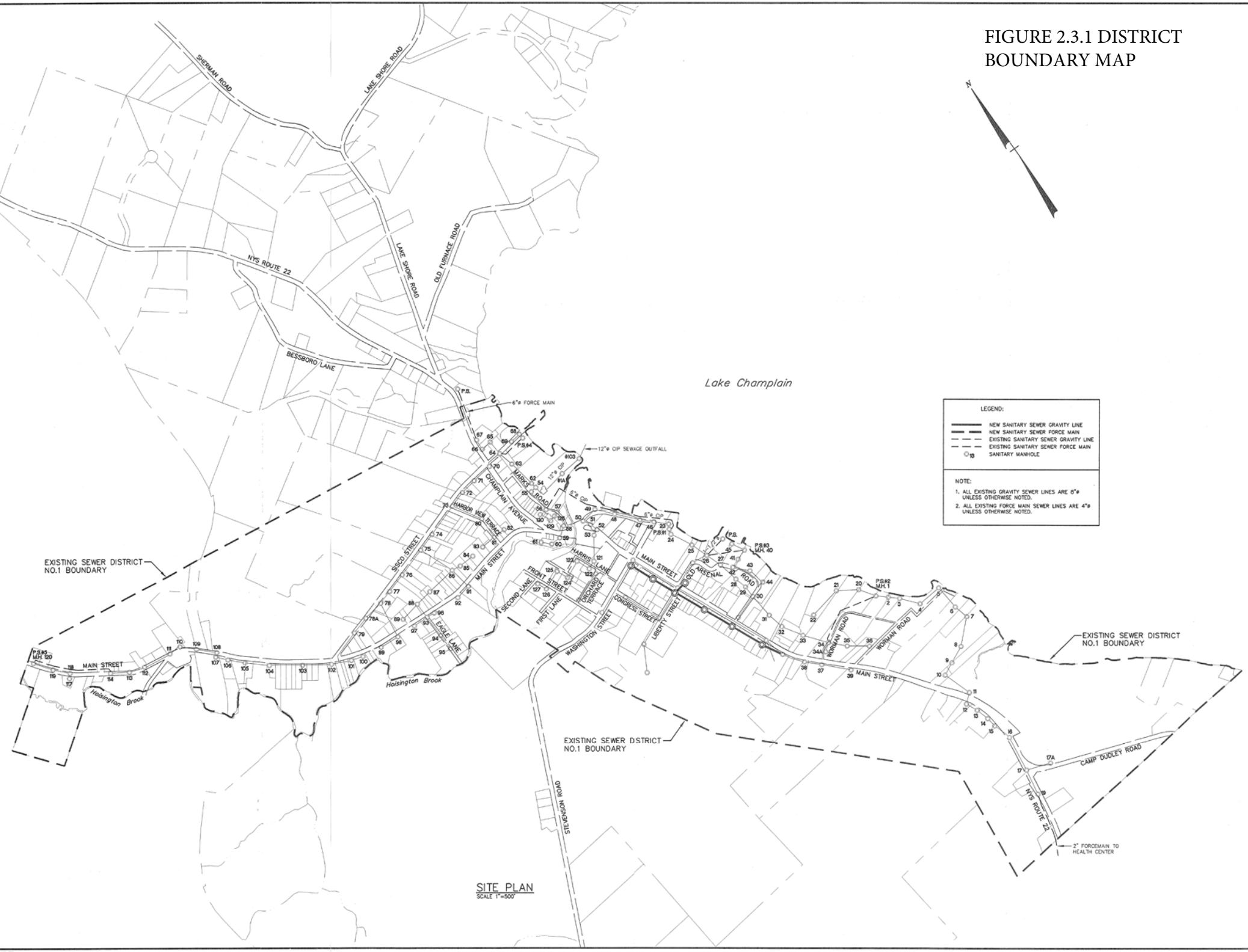
4524
Westport(T)
I&I Study

Notes:
1. Aerial photography is from on-line orthoimagery provided by ESRI ArcMap program.
2. Tax map parcel numbers, parcel lines, and owner names are from AES's version of the 2018 County GIS shapefile.
Parcel lines have been digitized by County from earlier paper copies of tax maps to create the County GISW shapefile.
Tax map line do not accurately depict the true location of property lines. For accurate determination of the location of property lines, consult a Land Surveyor licensed by the State of New York.

1 inch = 1,500 feet

0 790 1,580
Feet

FIGURE 2.3.1 DISTRICT BOUNDARY MAP



SITE PLAN
SCALE 1"=500'

THE BERNIER CARR GROUP

SITE PLAN
EXISTING WASTEWATER COLLECTION SYSTEM

Figure 2.4.1
Town of Westport
Sewer District #1 Collection System Evaluation
2016 Daily Average Flow Data

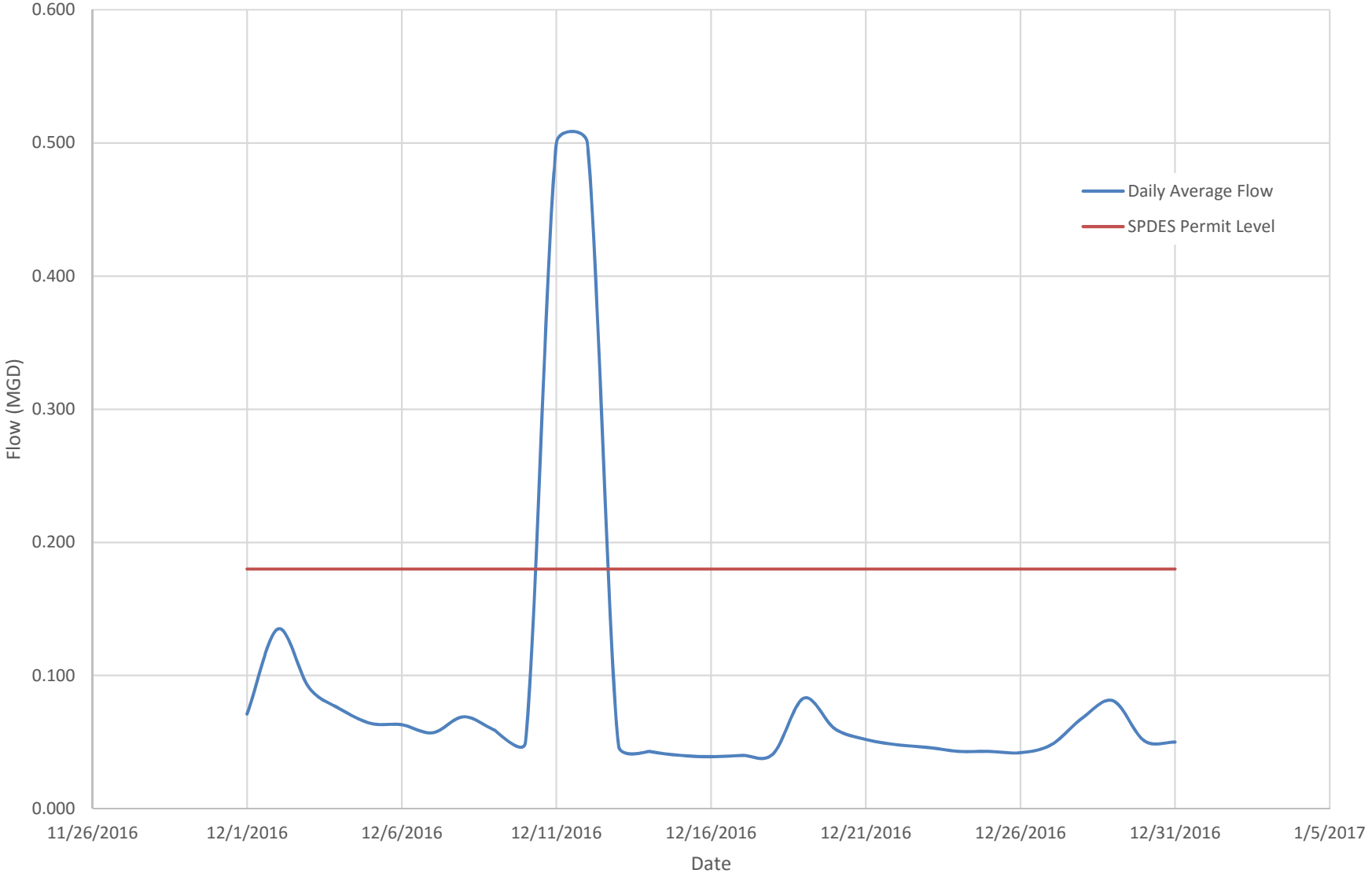


Figure 2.4.2
Town of Westport
Sewer District #1 Collection System Evaluation
2016 Daily Average Flow and Precipitation Totals

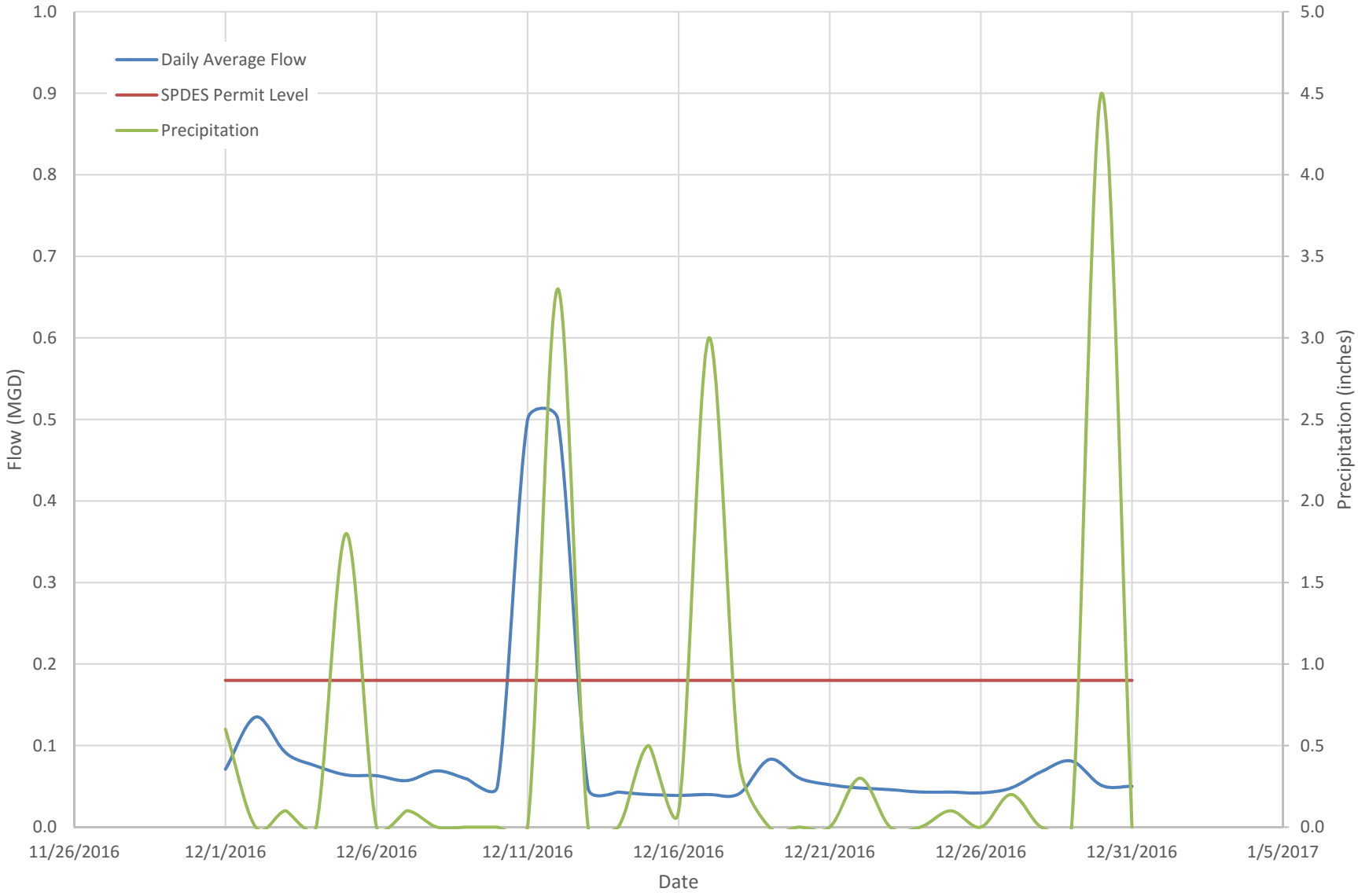


Figure 2.4.3
Town of Westport
Sewer District #1 Collection System Evaluation
2017 Daily Average Flow Data

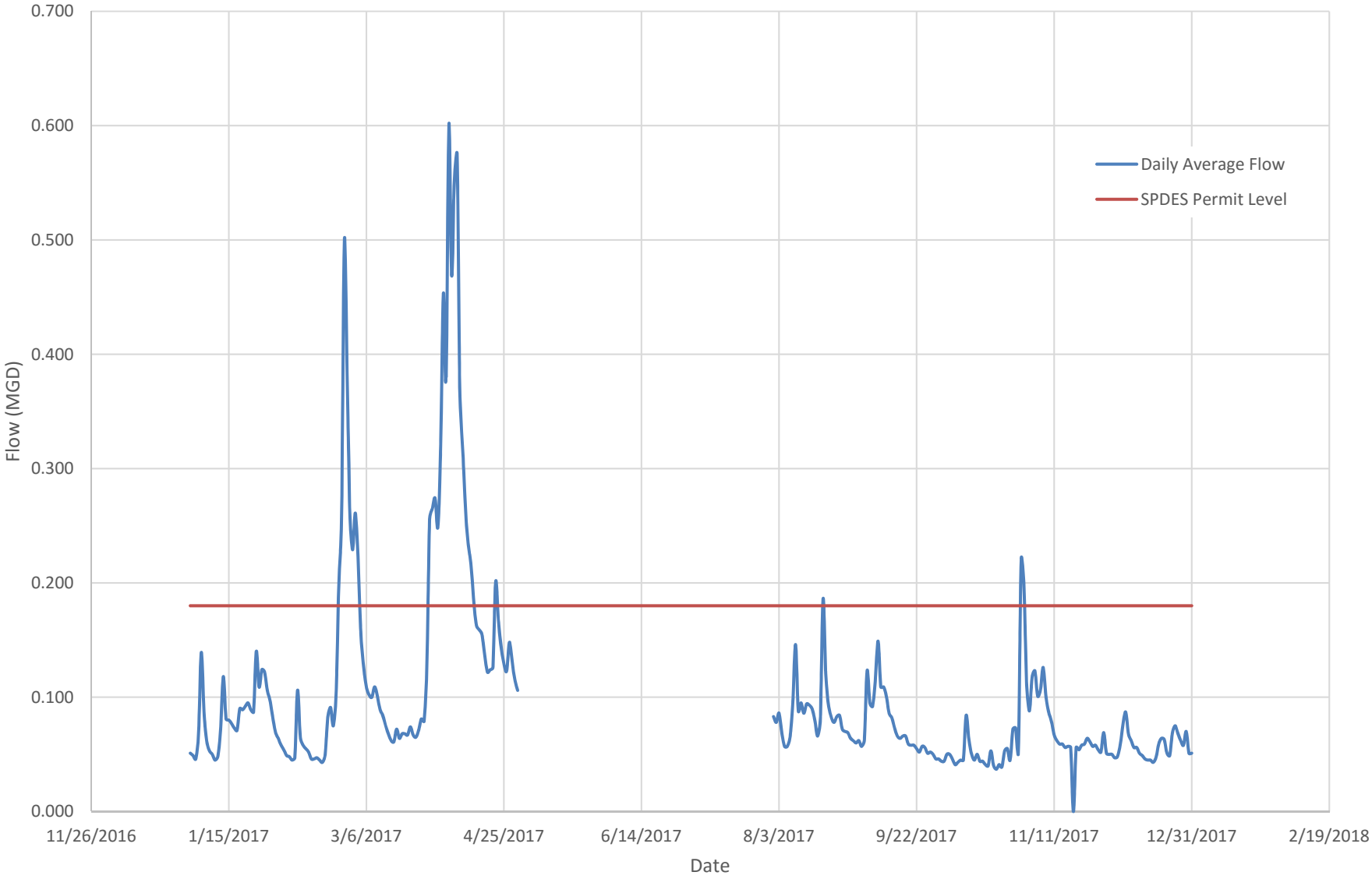


Figure 2.4.4
Town of Westport
Sewer District #1 Collection System Evaluation
2017 Daily Average Flow and Precipitation Totals

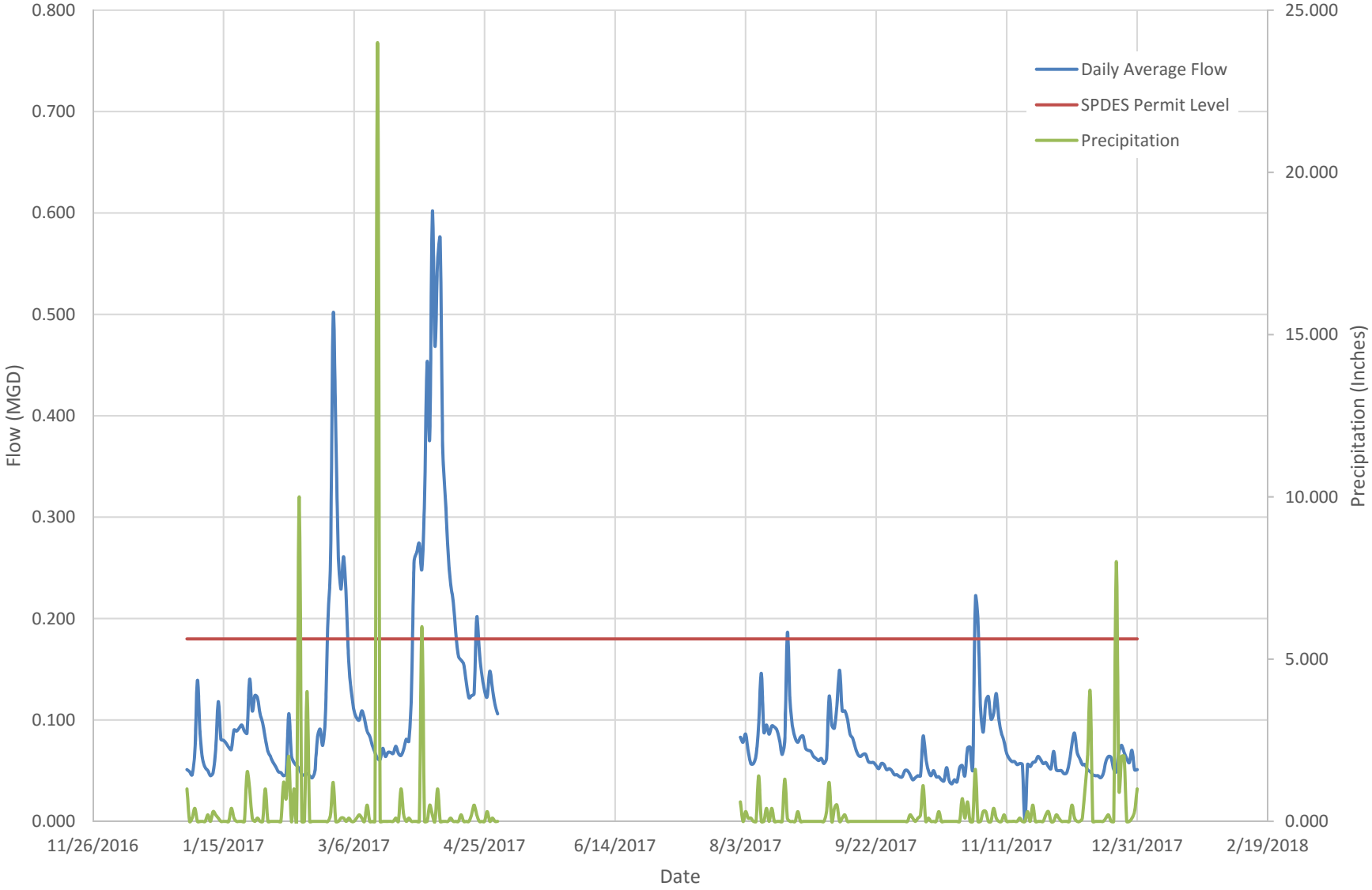


Figure 2.4.5
Town of Westport
Sewer District #1 Collection System Evaluation
2018 Daily Average Flow Data

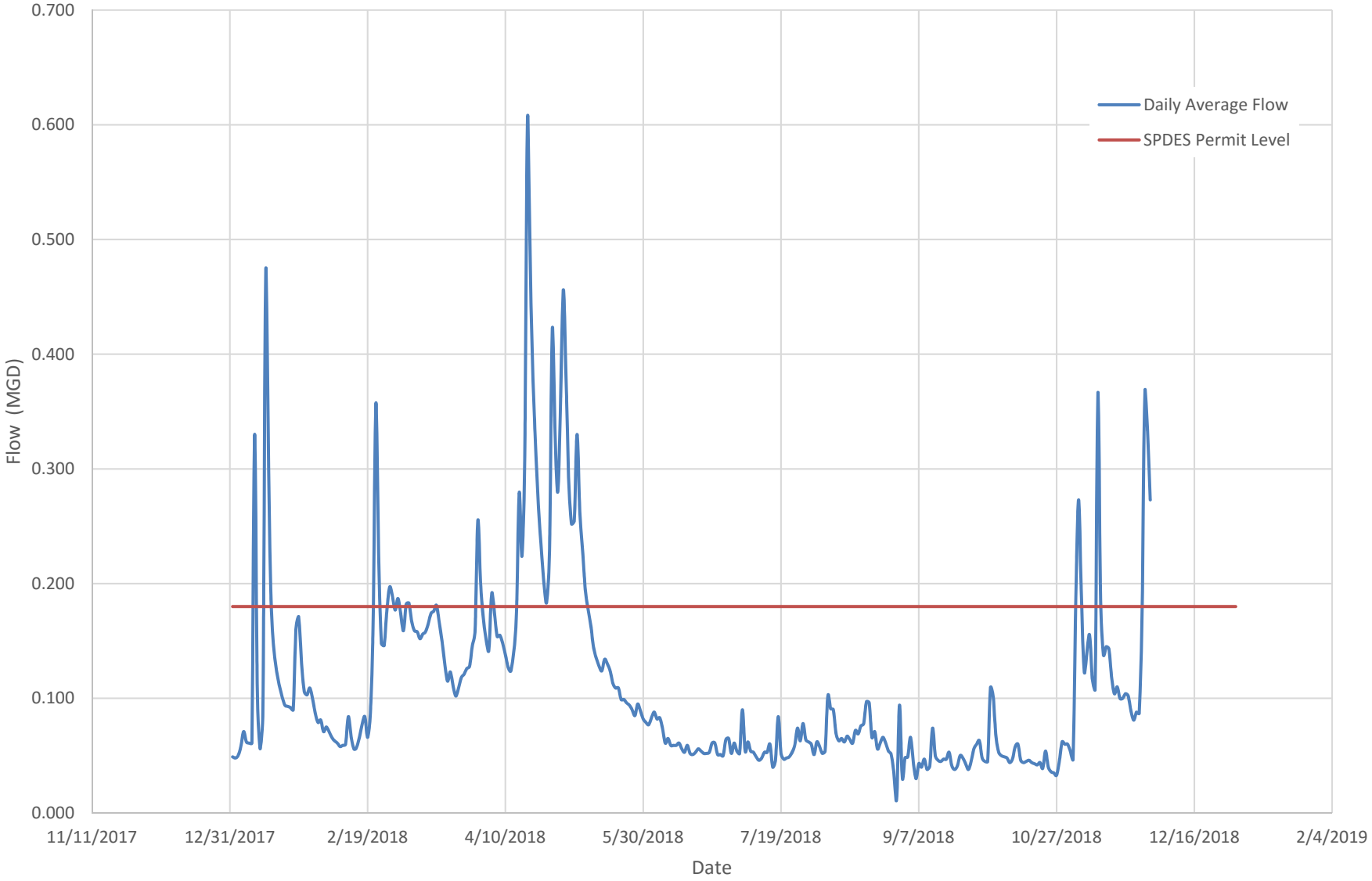
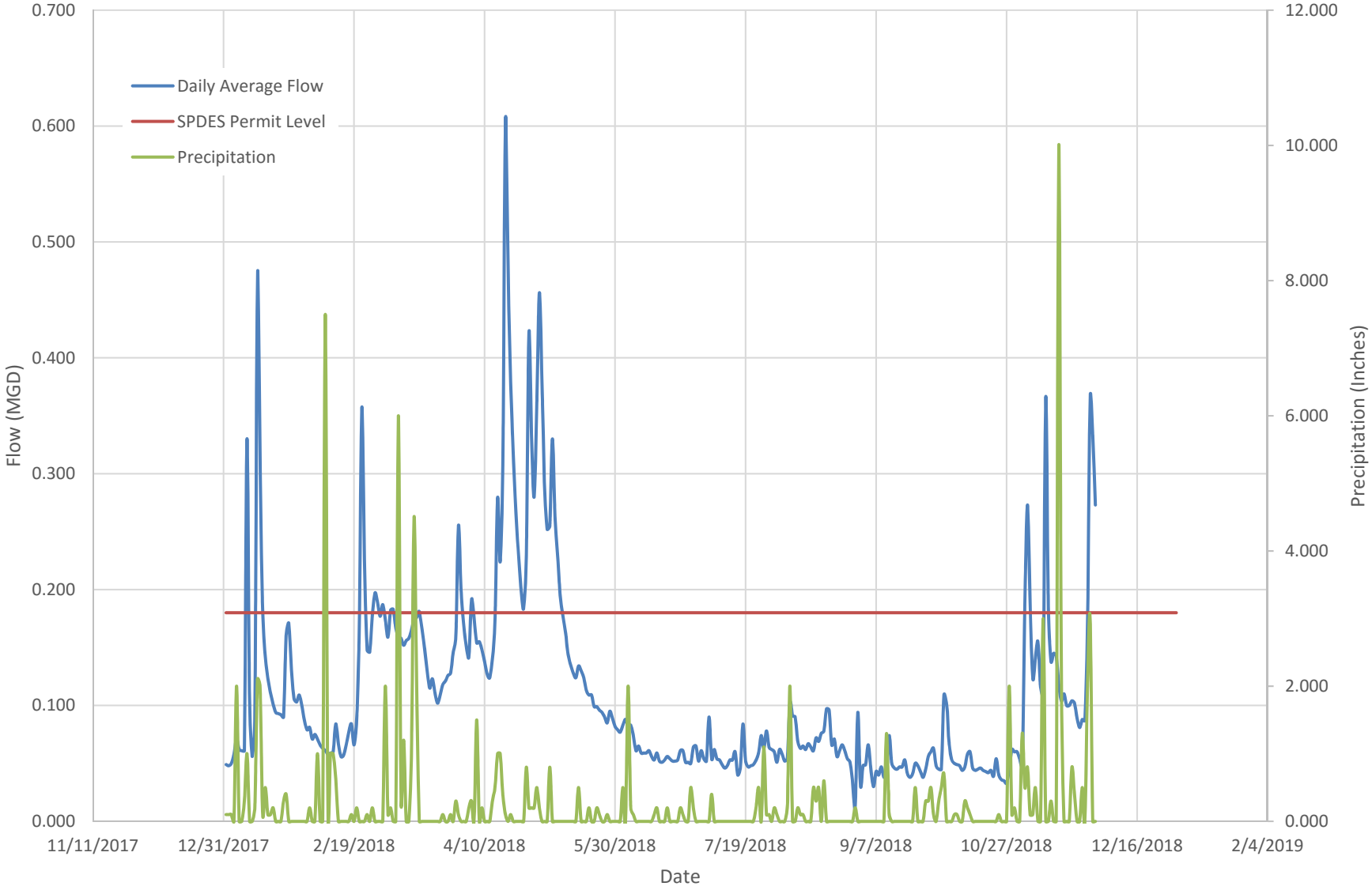


Figure 2.4.6
Town of Westport
Sewer District #1 Collection System Evaluation
2018 Daily Average Flow and Precipitation Totals



N

Ledge Hill Rd
Whalen Ln
Ledge Hill Rd
Nys Rd
Pheasant Way
Homeport Way
Hammond Brook
Stevenson Rd
Westport
Main St
2nd St
Ln
Ballard Park
Country Club Way
Westport Country Club
Sunnyside Way
Worman Rd
Main St
Stone House Cir
Maple Way
Lake Champlain

Sewer District #1
Manhole Locations

Sewer Sections

Force Mains
Marina
Worman
Old Arsenal
Fire Fly Lane
Main Street
West Main Street
Liberty street
Harris Street

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Figure 2.4.7 Existing Sewer

Sewer Based on Manhole Collection and Historic Maps

4524
Sewer District #1 Collection System Evaluation

Notes:
1. Aerial photography is from on-line orthoimagery provided by ESRI ArcMap program.
2. Tax map parcel numbers, parcel lines, and owner names are from AES's version of the 2018 County GIS shapefile. Parcel lines have been digitized by County from earlier paper copies of tax maps to create the County GISW shapefile. Tax map line do not accurately depict the true location of property lines. For accurate determination of the location of property lines, consult a Land Surveyor licensed by the State of New York.

1 inch = 1,500 feet

0 790 1,580
Feet

N

MH 23
PS 1
MH 24
MH 25
MH 26
MH 28
MH 29
MH 30
MH 31
MH 33
MH 34A
MH 35
MH 36
MH 37
MH 38
MH 39

Ballard Park
Main St
Bay Breeze Ln
Front St
Harris Ln
1st Ln
Orchard Ter
Stevenson Rd
Congress St
Liberty St
Country Club Way
Westport Country Club
Old Arsenal Rd
Sunnyside Way
Rolling Hills Way
Morning Hill Way
Worman Rd

Manhole Locations

Sewer Sections

Force Mains

Marina

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Figure 2.4.8 Pump Station #1 Service Area

Sewer Service Section Around the Marina Pump Station #1

4524
Sewer District #1
Collection System
Evaluation

Notes:
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1 inch = 500 feet

0 270 540
Feet



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Figure 2.4.9 Pump Station #2 Service Area

Sewer Service Section Around the Worman Pump Station #2

4524
Sewer District #1
Collection System
Evaluation

Notes:
1. Aerial photography is from on-line orthoimagery provided by ESRI ArcMap program.
2. Tax map parcel numbers, parcel lines, and owner names are from AES's version of the 2018 County GIS shapefile. Parcel lines have been digitized by County from earlier paper copies of tax maps to create the County GISW shapefile. Tax map line do not accurately depict the true location of property lines. For accurate determination of the location of property lines, consult a Land Surveyor licensed by the State of New York.

1 inch = 600 feet

0 325 650
Feet

N

Orchard Ter
Merrihew Ln
Harris Ln
Washington St
Ballard Park
Main St
Front St
Stevenson Rd
Congress St
Liberty St
Country Club Way
Old Arsenal Rd

PS 3
MH 45
MH 40
NULL
PS 3
MH 27
MH 41
MH 42
MH 43
MH 44

Manhole Locations

Sewer Sections

Force Mains

Old Arsenal

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Figure 2.4.10 Pump Station #3 Service Area

Sewer Service Section Around the Old Arsenal Pump Station #3

4524

Sewer District #1 Collection System Evaluation

Notes:
1. Aerial photography is from on-line orthoimagery provided by ESRI ArcMap program.
2. Tax map parcel numbers, parcel lines, and owner names are from AES's version of the 2018 County GIS shapefile.
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1 inch = 250 feet

0 130 260

Feet

N

Homeport Way

Lake Champlain

69

22

59

51

99

MH 68

Fire Fly Ln

MH 69

PS 4

199

Sisco St

39

22

89

30

99

Champlain Ave

Fleur de Lys Way

20

99

Harbour View

Manhole Locations

Sewer Sections

Force Mains

Fire Fly Lane

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Figure 2.4.11 Pump Station #4 Service Area

Sewer Service Section Around Fire Fly Lane Pump Station #4

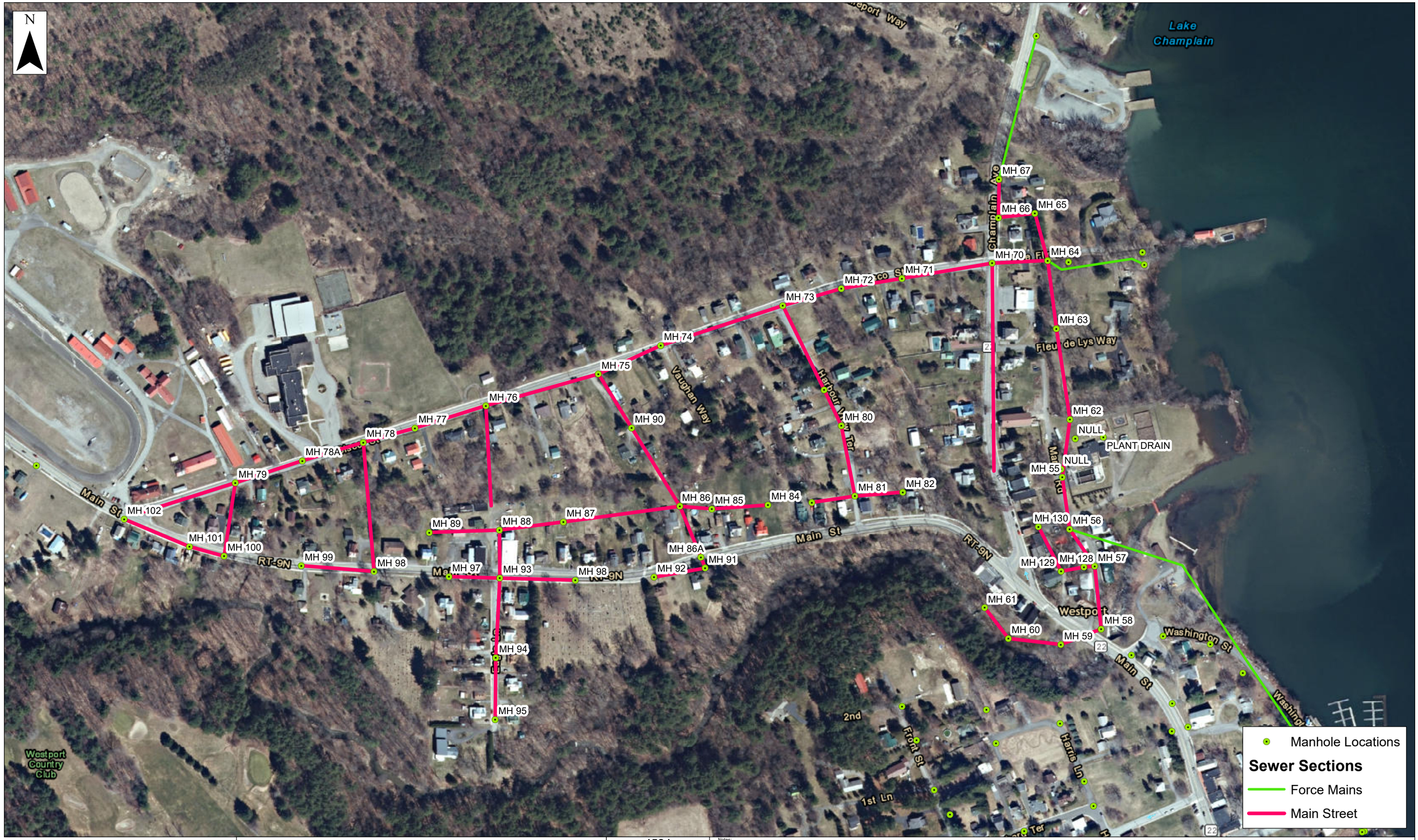
4524
Sewer District #1
Collection System
Evaluation

Notes:
1. Aerial photography is from on-line orthoimagery provided by ESRI ArcMap program.
2. Tax map parcel numbers, parcel lines, and owner names are from AES's version of the 2018 County GIS shapefile. Parcel lines have been digitized by County from earlier paper copies of tax maps to create the County GISW shapefile. Tax map line do not accurately depict the true location of property lines. For accurate determination of the location of property lines, consult a Land Surveyor licensed by the State of New York.

1 inch = 200 feet

0 110 220

Feet



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Figure 2.4.12 Sisco & Main Service Area

Sewer Service Section Around Main Street
Pump Station at the Treatment Plant

4524
Sewer District #1
Collection System
Evaluation

Notes:
1. Aerial photography is from on-line orthoimagery provided by ESRI ArcMap program.
2. Tax map parcel numbers, parcel lines, and owner names are from AES's version of the 2018 County GIS shapefile. Parcel lines have been digitized by County from earlier paper copies of tax maps to create the County GISW shapefile. Tax map line do not accurately depict the true location of property lines. For accurate determination of the location of property lines, consult a Land Surveyor licensed by the State of New York.

1 inch = 400 feet

0 220 440
Feet

N

MH 120
MH 118
MH 117A
MH 117
MH 117
MH 16
MH 15
MH 116
MH 115
MH 14
MH 115A
MH 114 A
MH 114
MH 113A
MH 113
MH 112
MH 111
MH 110
MH 109
MH 108
MH 107
MH 106
MH 105
MH 104
MH 103

Main St
Pheasant Way
St Lawrence and Hudson
Amtrak-Westport
Hoisington Brook
Ledge Hill Rd
Ledge Hill Rd
Dome Valley Rd
Sisco St
Main St

Manhole Locations

Sewer Sections

Force Mains

West Main Street

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Figure 2.4.13 West Main Service Area

Sewer Service Section Around West Main Street

4524

Sewer District #1 Collection System Evaluation

Notes:
1. Aerial photography is from on-line orthoimagery provided by ESRI ArcMap program.
2. Tax map parcel numbers, parcel lines, and owner names are from AES's version of the 2018 County GIS shapefile. Parcel lines have been digitized by County from earlier paper copies of tax maps to create the County GISW shapefile. Tax map line do not accurately depict the true location of property lines. For accurate determination of the location of property lines, consult a Land Surveyor licensed by the State of New York.

1 inch = 428 feet

0 230 460
Feet

N

Front St
1st Ln
Harris Ln
Bay Breeze Way
Ballard Park
Orchard Ter
Harris Ln
Front St
Main St
NMH 1
Ballard Park
Stevenson Rd
NMH 2
CLEANOUT
NMH 10
NMH 3
NMH 11
NULL
NMH 4
NMH 12
Old Arsenal Rd
NMH 5
NMH 13
Main St
Country Club Way
NMH 6
Westport Country Club
NMH 7
Sunnyside Way
NMH 8
NMH 9
Rolling Hills Way
Main St
Morning Hill Way
Norman Rd

Manhole Locations

Sewer Sections

Force Mains

Liberty street

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Figure 2.4.14 Congress & Liberty Service Area

Sewer Service Section Around Liberty Street to Pump Station #1

4524

Sewer District #1 Collection System Evaluation

Notes:
1. Aerial photography is from on-line orthoimagery provided by ESRI ArcMap program.
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1 inch = 400 feet

0 220 440
Feet

N

MH 127
MH 125
MH 123
MH 126
MH 124
MH 126A
MH 122
MH 126B
MH 122A
MH 122B
MH 122C
MH 51A
MH 49
MH 50
MH 48
MH 51
MH 52
MH 53
MH 47
MH 46

RT-9N
Main St
Front St
2nd
1st Ln
Harris Ln
Bridge View Ln
Washington St
Bay Breeze Way
Merrihew Ln
Stevenson Rd
Ballard Park

Manhole Locations

Sewer Sections

Force Mains

Harris Street

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Figure 2.4.15 Harris Lane Service Area

Sewer Service Section from Harris Lane to Pump Station #1

4524
Sewer District #1
Collection System Evaluation

Notes:
1. Aerial photography is from on-line orthoimagery provided by ESRI ArcMap program.
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1 inch = 200 feet

0 110 220
Feet

N

MH 23
PS 1
MH 24
MH 25
MH 26
MH 28
MH 29
MH 30
MH 31
MH 33
MH 34A
MH 35
MH 36
MH 37
MH 38
MH 39

Ballard Park
Liberty St
Main St
Old Arsenal Rd
Rolling Hills Way
Morning Hill Way
22

Manhole Locations
Replace in Kind
Slipline

Figure 3.10.1: Pump Station #1 & Mill Street/ Marina Alternatives

Sewer Service Section Around the Marina Pump Station #1

4524

Sewer District #1 Collection System Evaluation

Notes:
1. Aerial photography is from on-line orthoimagery provided by ESRI ArcMap program.
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1 inch = 400 feet

0 200 400
Feet

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Figure 3.10.2: Pump Station #2 & Worman Road Alternatives

Sewer Service Section Around the Worman Road Pump Station #2

4524

Sewer District #1 Collection System Evaluation

Notes:
1. Aerial photography is from on-line orthoimagery provided by ESRI ArcMap program.
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1 inch = 600 feet

0 300 600
Feet

N

Ballard Park

PS 3
MH 45
MH 27
PS 3
NULL
MH 41
MH 42
MH 43
MH 44
Old Arsenal Rd
Main St
22
Sunnyside Way

Manhole Locations
Replace in Kind
Slipline

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Figure 3.10.3: Pump Station #3 & Old Arsenal Road Alternatives

Sewer Service Section Around Old Arsenal Road Pump Station #3

4524
Sewer District #1
Collection System
Evaluation

Notes:
1. Aerial photography is from on-line orthoimagery provided by ESRI ArcMap program.
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1 inch = 300 feet

0 150 300
Feet





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Figure 3.10.4: Pump Station #4 & Fire Fly Lane Alternatives

Sewer Service Section Around the Fire Fly Pump Station #4

4524

Sewer District #1 Collection System Evaluation

Notes:
1. Aerial photography is from on-line orthoimagery provided by ESRI ArcMap program.
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1 inch = 300 feet

0 150 300
Feet

N

MH 71
MH 72
MH 73
MH 74
MH 75
MH 76
MH 77
MH 78
MH 78A
MH 79
MH 80
MH 81
MH 82
MH 84
MH 85
MH 86
MH 87
MH 88
MH 89
MH 90
MH 91
MH 92
MH 93
MH 94
MH 95
MH 97
MH 98
MH 99
MH 100
MH 86A
Vaughan Way
Harbour View Ter
Main St
RT-9N
2nd
1st Ln
Front St

Manhole Locations
Replace in Kind
Slipline

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Figure 3.10.5: Sisco and Main Street Alternatives

Sewer Service Section Around Main Street Pump Station and Sisco Street

4524
Sewer District #1
Collection System
Evaluation

Notes:
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1 inch = 400 feet

0 200 400
Feet

N

Main St

Pheasant Way

St Lawrence and Hudson

MH 120
MH 118
MH 117A
MH 117
MH 117
MH 16
MH 116
MH 15
MH 115
MH 14
MH 115A
MH 114 A
MH 114
MH 113
MH 113A
MH 112
MH 111
mtrak-
MH 110
ort
MH 109
MH 108
MH 107
MH 106
MH 105
MH 104
MH 103

ge Hill Rd

Hoisington Bro

Manhole Locations
Replace in Kind
Slipline

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Figure 3.10.6: West Main Street Alternatives

Sewer Service Section Around West Main Street Pump Station #5

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Sewer District #1
Collection System
Evaluation

Notes:
1. Aerial photography is from on-line orthoimagery provided by ESRI ArcMap program.
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1 inch = 600 feet

0 300 600
Feet

N

2nd
Front St
1st Ln
Orchard Ter
Harris Ln
Main St
Washington St
Bay Breeze Way
Ballard Park
NMH 1
Front St
Harris Ln
Main St
Ballard Park
Stevenson Rd
NMH 2
CLEANOUT
Congress St
NMH 10
NMH 3
NMH 11
Liberty St
Liberty
NULL
NMH 4
NMH 12
Old Arsenal Rd
NMH 5
NMH 13
Main St
Country Club Way
NMH 6
Westport Country Club
NMH 7
Sunnyside Way
NMH 8
NMH 9
Way

Manhole Locations
New Construction

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Figure 3.10.7: Congress & Liberty Streets Alternatives

Sewer Service Section Around Liberty Street and Congress

4524
Sewer District #1
Collection System
Evaluation

Notes:
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1 inch = 400 feet

0 200 400
Feet

N

RT-9N

Westport

22

Main St

MH 51A

MH 49

MH 50

MH 48

MH 51

MH 53

MH 52

Washington St

MH 47

MH 46

Ballard Park

MH 127

MH 125

MH 123

MH 126

MH 124

Front St

Harris Ln

MH 122

MH 126A

MH 122A

MH 126B

MH 122B

MH 122C

NMH 1

Bay Breeze Way

Front St

Ballard Park

tevenson Rd

Congress St

NMH 2

CLEANOUT

NMH 10

NMH 3

Liberty St

NULL

NMH 4

22

NMH 5

Manhole Locations

Replace in Kind

New Construction

Slipline

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Figure 3.10.8: Harris Lane Alternatives

Sewer Service Section Around Harris Lane and Washington Street

4524
Sewer District #1
Collection System
Evaluation

Notes:
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1 inch = 300 feet

0 150 300
Feet

N

Sewer District #1

Manhole Locations

Chosen Alternative

Force Mains

Mill Street & Marina; Majority of the Sewers will be lined and Manholes will be repaired.

Worman Road; Majority of the Sewers will be lined and Manholes will be repaired.

Old Arsenal; Install individual progressive Cavity Grinder Pupms and associated Force Mains. Eliminate existing infrastructure

Fire Fly Lane; Replacement of Electrical Box at Pump Station

Sisco & Main Street; Majority of the Sewers will be lined and Manholes will be repaired.

West Main; Majority of the Sewers will be lined and Manholes will be repaired.

Congress & Liberty Street; Replace Laterals if the Golf Course Project Goes Forward

Harris Lane; Replace in Kind Existing Pipe and Reroute Main

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Figure 5.2.1: Selected Alternatives Overall Map

Selected Alternative 1 for All Sections; Includes Alternative Summary

4524

Sewer District #1 Collection System Evaluation

Notes:
1. Aerial photography is from on-line orthoimagery provided by ESRI ArcMap program.
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1 inch = 1,500 feet

0 790 1,580

Feet

Table 2.5.1
Town of Westport
Sewer District #1 Collection System Evaluation
Vacant Lot Classification

Class. No.	Class. Des.	No. of Parcels	Subdivisions	EDU	No. of buildings	GPD per Unit	Total GPD
311	Residential Vacant Land	44	-	3	1	150	19800
312	Residential Land Including a Small Improvement	8	-	3	1	150	3600
315	Underwater Vacant Land	4	-	0	1	0	0
322	Residential Vacant Land over 10 acres	1	10	3	1	150	4500
330	Vacant Land located in Commercial Areas	6	-	3	3	150	8100
Totals	**-**	**63**	**-**	**-**	**-**	**-**	**36000**

Table 2.5.2
Town of Westport
Sewer District #1 Collection System Evaluation
Hamlet Expansion

Type of Use	Unit	No. of Uses	GPD per Unit	Total GPD
Hotel Room	Room	25	110	2750
Hotel Cottage	Bedroom	64	110	7040
Restaurant	Seat	80	35	2800
Total	-	-	-	**12590**

Table 3.2.1
Town of Westport
Sewer District #1 Collection System Evaluation
Cost Estimate Comparison

Pump Station #1 & Mill Street/Marina		
Description	**Alternative 1**	**Alternative 2**
Total Construction Cost	$ 626,500	$ 939,008.89

Pump Station #2 & Worman Road		
Description	**Alternative 1**	**Alternative 2**
Total Construction Cost	$ 412,169	$ 789,602.67

Pump Station #3 & Old Arsenal Road		
Description	**Alternative 1**	**Alternative 2**
Total Construction Cost	$ 243,598	$ 254,866.25

Pump Station #4 & Fire Fly Lane		
Description	**Alternative 1**	**Alternative 2**
Total Construction Cost	$ 19,760	$ 63,972.22

Sisco and Main Street		
Description	**Alternative 1**	**Alternative 2**
Total Construction Cost	$ 375,031	$ 923,664.44

West Main Street		
Description	**Alternative 1**	**Alternative 2**
Total Construction Cost	$ 276,126	$ 454,179.56

Congress & Liberty Streets		
Description	**Alternative 1**	**Alternative 2**
Total Construction Cost	$ 155,235	$ 312,494.58

Harris Lane		
Description	**Alternative 1**	**Alternative 2**
Total Construction Cost	$ 542,250	$ 599,970.15

Soft Costs		
Description	**Alternative 1**	**Alternative 2**
Total Construction Cost	$ 530,134	$ 396,695.56

Project Contingencies	$ 318,080	$ 473,445
Total	$ 3,498,885	$ 5,207,900

Table 4.1.1
Town of Westport
Sewer District #1 Collection System Evaluation
Life Cycle Cost Analysis

Pump Station #1 & Mill Street/Marina								
Alternative	Construction Costs	Annual O&M	Period (N)	Real Interest Rate (i)	USPW (O&M) Multiplier	Total O&M (20 Years) (USPW)	Salvage Value	NPV
Alternative 1	$ 626,500.44	$ 1,892.15	$ 20.00	1.6%	17.00	$ 32,167.68	$ -	$ 658,668.13
Alternative 2	$ 939,008.89	$ 1,892.15	$ 20.00	1.6%	17.00	$ 32,167.68	$ -	$ 971,176.57

Pump Station #2 & Worman Road								
Alternative	Construction Costs	Annual O&M	Period (N)	Real Interest Rate (i)	USPW (O&M) Multiplier	Total O&M (20 Years) (USPW)	Salvage Value	NPV
Alternative 1	$ 412,169.33	$ 2,222.71	$ 20.00	1.6%	17.00	$ 37,787.31	$ -	$ 449,956.65
Alternative 2	$ 789,602.67	$ 2,222.71	$ 20.00	1.6%	17.00	$ 37,787.31	$ -	$ 827,389.98

Pump Station #3 & Old Arsenal Road								
Alternative	Construction Costs	Annual O&M	Period (N)	Real Interest Rate (i)	USPW (O&M) Multiplier	Total O&M (20 Years) (USPW)	Salvage Value	NPV
Alternative 1	$ 243,598.40	$ 1,242.83	$ 20.00	1.6%	17.00	$ 21,128.75	$ -	$ 264,727.15
Alternative 2	$ 254,866.25	$ 6,571.30	$ 20.00	1.6%	17.00	$ 111,715.91	$ -	$ 366,582.17

Pump Station #4 & Fire Fly Lane								
Alternative	Construction Costs	Annual O&M	Period (N)	Real Interest Rate (i)	USPW (O&M) Multiplier	Total O&M (20 Years) (USPW)	Salvage Value	NPV
Alternative 1	$ 19,760.00	$ 6,571.30	$ 20.00	1.6%	17.00	$ 111,715.91	$ -	$ 131,475.91
Alternative 2	$ 63,972.22	$ 6,571.30	$ 20.00	1.6%	17.00	$ 111,715.91	$ -	$ 175,688.14

Sisco and Main Street								
Alternative	Construction Costs	Annual O&M	Period (N)	Real Interest Rate (i)	USPW (O&M) Multiplier	Total O&M (20 Years) (USPW)	Salvage Value	NPV
Alternative 1	$ 375,031.22	$ 1,366.67	$ 20.00	1.6%	17.00	$ 23,234.12	$ -	$ 398,265.34
Alternative 2	$ 923,664.44	$ 1,366.67	$ 20.00	1.6%	17.00	$ 23,234.12	$ -	$ 946,898.57

West Main Street								
Alternative	Construction Costs	Annual O&M	Period (N)	Real Interest Rate (i)	USPW (O&M) Multiplier	Total O&M (20 Years) (USPW)	Salvage Value	NPV
Alternative 1	$ 276,125.78	$ 951.35	$ 20.00	1.6%	17.00	$ 16,173.56	$ -	$ 292,299.34
Alternative 2	$ 454,179.56	$ 951.35	$ 20.00	1.6%	17.00	$ 16,173.56	$ -	$ 470,353.12

Congress & Liberty Streets								
Alternative	Construction Costs	Annual O&M	Period (N)	Real Interest Rate (i)	USPW (O&M) Multiplier	Total O&M (20 Years) (USPW)	Salvage Value	NPV
Alternative 1	$ 155,235.02	$ 472.60	$ 20.00	1.6%	17.00	$ 8,034.50	$ -	$ 163,269.52
Alternative 2	$ 312,494.58	$ 472.60	$ 20.00	1.6%	17.00	$ 8,034.50	$ -	$ 320,529.08

Harris Lane								
Alternative	Construction Costs	Annual O&M	Period (N)	Real Interest Rate (i)	USPW (O&M) Multiplier	Total O&M (20 Years) (USPW)	Salvage Value	NPV
Alternative 1	$ 542,250.15	$ 768.92	$ 20.00	1.6%	17.00	$ 13,072.10	$ -	$ 555,322.25
Alternative 2	$ 599,970.15	$ 1,171.37	$ 20.00	1.6%	17.00	$ 19,914.01	$ -	$ 619,884.16

Table 4.2.1
Town of Westport
Sewer District #1 Collection System Evaluation
Pump Station #1 & Mill Street/Marina Alternative Comparison Matrix

	Environmental Impacts	Land Requirements	Potential Construction Problems	Sustainability Considerations	Impact on Existing Facilities:	Schedule and Constructability	Storm and Flood Resiliency	Cost Estimates	Non-Monetary Factors
Alternative 1	☑	☑	☑	☑	☑				
Comments	Temporary, construction related, and semi-permanent, minimal ground disturbance & tree clearing for spot repairs	Verification of Easements for current line	Access through private property, however minimal only for spot repairs	Maintains gravity sewer were applicable, reduces I&I and overall pumping costs	Temporary, construction related	Lining and repair work is generally performed quickly (days instead of weeks)	N/A Buried sewer main. Pump Station work is the same and elevations must be verified to be above flood stages	Costs Significantly Lower	Minimum disturbance to property owners.
Alternative 2	☐	☑	☐	☑	☑				
Comments	Minimal semi-permanent, ground disturbance for the entire project for excavation and may require tree clearing	Verification of Easements for current line	Access through private property, full excavations and disturbance for majority of project	Maintains gravity sewer were applicable, reduces I&I and overall pumping costs	Temporary, construction related	Full replacement is takes longest	N/A Buried sewer main. Pump Station work is the same and elevations must be verified to be above flood stages	Costs Significantly Higher	Maximum disturbance to property owners.

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Table 4.2.2
Town of Westport
Sewer District #1 Collection System Evaluation
Pump Station #2 & Worman Road Alternative Comparison Matrix

	Environmental Impacts	Land Requirements	Potential Construction Problems	Sustainability Considerations	Impact on Existing Facilities:	Schedule and Constructability	Storm and Flood Resiliency	Cost Estimates	Non-Monetary Factors
Alternative 1	☑	☑	☑	☑	☑				
Comments	Temporary, construction related, and semi-permanent, minimal ground disturbance & tree clearing for spot repairs	Verification of Easements for current line	Access through private property, however minimal only for spot repairs	Maintains gravity sewer were applicable, reduces I&I and overall pumping costs	Temporary, construction related	Lining and repair work is generally performed quickly (days instead of weeks)	N/A Buried sewer main. Pump Station work is the same and elevations must be verified to be above flood stages	Costs Significantly Lower	Minimum disturbance to property owners.
Alternative 2	☐	☑	☐	☑	☑				
Comments	Minimal semi-permanent, ground disturbance for the entire project for excavation and may require tree clearing	Verification of Easements for current line	Access through private property, full excavations and disturbance for majority of project	Maintains gravity sewer were applicable, reduces I&I and overall pumping costs	Temporary, construction related	Full replacement is takes longest	N/A Buried sewer main. Pump Station work is the same and elevations must be verified to be above flood stages	Costs Significantly Higher	Maximum disturbance to property owners.

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Table 4.2.3
Town of Westport
Sewer District #1 Collection System Evaluation
Pump Station #3 & Old Arsenal Road Alternative Comparison Matrix

	Environmental Impacts	Land Requirements	Potential Construction Problems	Sustainability Considerations	Impact on Existing Facilities:	Schedule and Constructability	Storm and Flood Resiliency	Cost Estimates	Non-Monetary Factors
Alternative 1	☑	☑	☑	☑	☑				
Comments	Temporary, construction related, and semi-permanent, minimal ground disturbance & tree clearing for spot repairs, work is near road and away from Lake	Eliminates pump station on private property, may need easements for new grinder pumps	Access through private property, access to existing pump station for demolition	adds additional smaller pump stations, but overall reduces pumping by reducing I&I	Majority of work can be completed without disturbing existing pump station	Likely faster due to easier work conditions	Work is above flood plain	Costs Significantly Lower	Minimum disturbance to property owners.
Alternative 2	☐	☐	☐	☐	☐				
Comments	Minimal semi-permanent, ground disturbance for the entire project for excavation and may require tree clearing, work requires extensive clearing to access existing pump station near lake and work near lake	Town already has easements, but access requirements may necessitate changes to easements	Access through private property, full excavations and disturbance for majority of project	reduces I&I and overall pumping costs	Will require significant bypass pumping operations	Likely longer due to location of work	Work is at or near flood plain of Lake Champlain	Costs Significantly Higher	Maximum disturbance to property and long term access issues

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Table 4.2.4
Town of Westport
Sewer District #1 Collection System Evaluation
Pump Station #4 & Fire Fly Lane Alternative Comparison Matrix

	Environmental Impacts	Land Requirements	Potential Construction Problems	Sustainability Considerations	Impact on Existing Facilities:	Schedule and Constructability	Storm and Flood Resiliency	Cost Estimates	Non-Monetary Factors
Alternative 1	☑	☑	☑	☑	☑				
Comments	Temporary, construction related	None, Town has easements (to be verified)	Minimal, relates to bypass pumping during electrical downtime	n/a, pump station	Minimal, relates to bypass pumping during electrical downtime	Likely faster due to smaller scope of work	Work is above flood plain	Costs Significantly Lower	Scope is what is necessary to make pump station functional
Alternative 2	☑	☑	☐	☑	☐				
Comments	Temporary, construction related	None, Town has easements (to be verified)	Minimal, relates to bypass pumping during electrical and pump station downtime which will be longer	n/a, pump station	Minimal, relates to bypass pumping during electrical and pump station downtime which will be longer	Likely longer due to larger scope of work	Work is above flood plain	Costs Significantly Higher	Scope is above and beyond what is necessary to make pump station functional

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Table 4.2.5
Town of Westport
Sewer District #1 Collection System Evaluation
Sisco and Main Street Alternative Comparison Matrix

	Environmental Impacts	Land Requirements	Potential Construction Problems	Sustainability Considerations	Impact on Existing Facilities:	Schedule and Constructability	Storm and Flood Resiliency	Cost Estimates	Non-Monetary Factors
Alternative 1	☑	☑	☑	☑	☑				
Comments	Temporary, construction related, and semi-permanent, minimal ground disturbance & tree clearing for spot repairs	Verification of Easements for current line	Access through private property, however minimal only for spot repairs	Maintains gravity sewer	Temporary, construction related	Lining and repair work is generally performed quickly (days instead of weeks)	N/A Buried sewer main.	Costs Significantly Lower	Minimum disturbance to property owners.
Alternative 2	☐	☑	☐	☐	☑				
Comments	Minimal semi-permanent, ground disturbance for the entire project for excavation and may require tree clearing	Verification of Easements for current line	Access through private property, full excavations and disturbance for majority of project	Maintains gravity sewer were	Temporary, construction related	Full replacement is takes longest	N/A Buried sewer main.	Costs Significantly Higher	Maximum disturbance to property owners.

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Table 4.2.6
Town of Westport
Sewer District #1 Collection System Evaluation
West Main Street Alternative Comparison Matrix

	Environmental Impacts	Land Requirements	Potential Construction Problems	Sustainability Considerations	Impact on Existing Facilities:	Schedule and Constructability	Storm and Flood Resiliency	Cost Estimates	Non-Monetary Factors
Alternative 1	☑	☑	☑	☑	☑				
Comments	Temporary, construction related, and semi-permanent, minimal ground disturbance & tree clearing for spot repairs	Verification of Easements for current line	Access through private property, however minimal only for spot repairs	Maintains gravity sewer	Temporary, construction related	Lining and repair work is generally performed quickly (days instead of weeks)	N/A Buried sewer main.	Costs Significantly Lower	Minimum disturbance to property owners.
Alternative 2	☐	☑	☐	☐	☑				
Comments	Minimal semi-permanent, ground disturbance for the entire project for excavation and may require tree clearing	Verification of Easements for current line	Access through private property, full excavations and disturbance for majority of project	Maintains gravity sewer were	Temporary, construction related	Full replacement is takes longest	N/A Buried sewer main.	Costs Significantly Higher	Maximum disturbance to property owners.

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Table 4.2.7
Town of Westport
Sewer District #1 Collection System Evaluation
Congress & Liberty Streets Alternative Comparison Matrix

	Environmental Impacts	Land Requirements	Potential Construction Problems	Sustainability Considerations	Impact on Existing Facilities:	Schedule and Constructability	Storm and Flood Resiliency	Cost Estimates	Non-Monetary Factors
Alternative 1	☑	☑	☑	☑	☑				
Comments	Minimal semi-permanent, ground disturbance for the entire project for excavation and may require tree clearing	Verification of Easements for current line	Access through private property	Maintains gravity sewer	Temporary, construction related	Shortest due to smaller scope	N/A Buried sewer main.	Costs Significantly Lower	Scope of work identified to maximize cost benefit
Alternative 2	☑	☑	☐	☐	☑				
Comments	Minimal semi-permanent, ground disturbance for the entire project for excavation and may require tree clearing	Verification of Easements for current line	Access through private property	Maintains gravity sewer were	Temporary, construction related	Longer due to increased scope	N/A Buried sewer main.	Costs Significantly Higher	Increased scope, while ideal, does not provide enough benefit for the cost

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Table 4.2.8
Town of Westport
Sewer District #1 Collection System Evaluation
Harris Lane Alternative Comparison Matrix

	Environmental Impacts	Land Requirements	Potential Construction Problems	Sustainability Considerations	Impact on Existing Facilities:	Schedule and Constructability	Storm and Flood Resiliency	Cost Estimates	Non-Monetary Factors
Alternative 1	☑	☑	☑	☑	☑				
Comments	Temporary, construction related, and semi-permanent, ground disturbance & tree	Verification of Easements for current line, majority of work in road right of way	Access through private property, full excavations and disturbance for majority of project	Maintains gravity sewer	Temporary, construction related	Shortest due to smaller scope	N/A Buried sewer main.	Costs Significantly Lower	Scope of work identified to maximize cost benefit
Alternative 2	☑	☑	☑	☑	☑				
Comments	Temporary, construction related, and semi-permanent, ground disturbance & tree, minimal addtioanl distrubance for slip lined sections	Verification of Easements for current line, majority of work in road right of way	Access through private property, full excavations and disturbance for majority of project, minimal addtioanl access for slip lining and repairs	Maintains gravity sewer were	Temporary, construction related	Longer due to increased scope	N/A Buried sewer main.	Costs Significantly Higher	Increased scope, while ideal, does not provide enough benefit for the cost

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Table 5.3.1
Town of Westport
Sewer District #1 Collection System Evaluation
Recommended Alternative Total Project Costs

Service Area	Chosen Alternative	Cost
Phase 1		
Pump Station #1 & Mill Street/Marina	Alternative 1	$626,500.44
Pump Station #2 & Worman Road	Alternative 1	$412,169.33
Pump Station #3 & Old Arsenal Road	Alternative 1	$ 243,598
	Total Construction Cost	$ 1,282,268
	Soft Costs	$ 256,454
	Project Contingencies @ 10%	$ 153,872
	Total Cost	**$ 1,692,594**
Phase 2		
Pump Station #4 & Fire Fly Lane	Alternative 1	$ 19,760
Sisco and Main Street	Alternative 1	$ 375,031
	Total Construction Cost	$ 394,791
	Soft Costs	$ 130,231
	Project Contingencies @ 10%	$ 52,502
	Total Cost	**$ 577,525**
Phase 3		
West Main Street	Alternative 1	$ 276,126
Congress & Liberty Streets	Alternative 1	$ 155,235
Harris Lane	Alternative 1	$ 542,250
	Total Construction Cost	$ 973,611
	Soft Costs	$ 143,449
	Project Contingencies @ 10%	$ 111,706
	Total Cost	**$ 1,228,766**
Total All Three Phases		
	Total Construction Cost	$ 2,650,670
	Soft Costs	$ 530,134
	Project Contingencies @ 10%	$ 318,080
	Total Cost	$ 3,498,885

Table 5.3.2
Town of Westport
Sewer District #1 Collection System Evaluation
Pump Station #1 & Mill Street/Marina Alternative 1

No.	Description of Item	Units	Est. Qty	Cost/Unit	Total Cost
1	4" SDR 26 PVC Open Cut Excavation	LF	250	$ 50.00	$ 12,500
2	6" SDR 26 PVC Open Cut Excavation	LF		$ 55.00	$ -
3	8" SDR 26 PVC Open Cut Excavation	LF	815	$ 80.00	$ 65,200
4	Camera Inspection Pre For CIPP	LF	3,260	$ 2.50	$ 8,150
5	Camera Inspection Post For CIPP	LF	3,260	$ 2.50	$ 8,150
6	Heavy Cleaning For CIPP	LF	3,260	$ 5.00	$ 16,300
7	8" CIPP	LF	3,260	$ 35.00	$ 114,100
8	4" CIPP Lateral	LF	250	$ 20.00	$ 5,000
9	Manhole Rehabilitation	EA	8	$ 2,000.00	$ 16,000
10	4' Dia. Sanitary Manhole	EA	3	$ 5,000.00	$ 15,000
11	Cleanout	EA	20	$ 300.00	$ 6,000
12	Cleanout W/Road Box	EA	2	$ 400.00	$ 800
13	Flowable Fill Existing Sewer Mains	CY		$ 500.00	$ -
14	Abandon Existing Manholes	EA		$ 500.00	$ -
15	Asphalt Pavement Repairs	SY	272	$ 40.00	$ 10,867
16	Concrete Sidewalk	SY		$ 50.00	$ -
17	Drop Inlet Protection	EA		$ 500.00	$ -
18	Silt Fencing	LF	4,075	$ 4.00	$ 16,300
19	Unmarked Utility	EA	2	$ 1,100.00	$ 2,200
20	Maintenance and Protection of Traffic	LS	1	$ 10,000.00	$ 10,000
21	Rock Removal	CY	91	$ 100.00	$ 9,056
22	Select Granular Fill	CY	1,087	$ 20.00	$ 21,733
23	#2 Stone	Tons	136	$ 40.00	$ 5,433
24	Mobilization	LS	1	$ 10,283.67	$ 10,284
25	Testing	LS	1	$ 3,427.89	$ 3,428
26	Marina Pump Station Upgrades (Screening)	LS	1	$ 270,000.00	$ 270,000
				Total Construction Cost	$ 626,500

Table 5.3.3
Town of Westport
Sewer District #1 Collection System Evaluation
Pump Station #2 & Worman Road Alternative 1

No.	Description of Item	Units	Est. Qty	Cost/Unit	Total Cost
1	4" SDR 26 PVC Open Cut Excavation	LF	375	$ 50.00	$ 18,750
2	6" SDR 26 PVC Open Cut Excavation	LF		$ 55.00	$ -
3	8" SDR 26 PVC Open Cut Excavation	LF	960	$ 80.00	$ 76,800
4	Camera Inspection Pre For CIPP	LF	3,840	$ 2.50	$ 9,600
5	Camera Inspection Post For CIPP	LF	3,840	$ 2.50	$ 9,600
6	Heavy Cleaning For CIPP	LF	3,840	$ 5.00	$ 19,200
7	8" CIPP	LF	3,840	$ 35.00	$ 134,400
8	4" CIPP Lateral	LF	375	$ 20.00	$ 7,500
9	Manhole Rehabilitation	EA	9	$ 2,000.00	$ 18,000
10	4' Dia. Sanitary Manhole	EA	3	$ 5,000.00	$ 15,000
11	Cleanout	EA	30	$ 300.00	$ 9,000
12	Cleanout W/Road Box	EA	3	$ 400.00	$ 1,200
13	Flowable Fill Existing Sewer Mains	CY		$ 500.00	$ -
14	Abandon Existing Manholes	EA		$ 500.00	$ -
15	Asphalt Pavement Repairs	SY	320	$ 40.00	$ 12,800
16	Concrete Sidewalk	SY		$ 50.00	$ -
17	Drop Inlet Protection	EA		$ 500.00	$ -
18	Silt Fencing	LF	2,400	$ 4.00	$ 9,600
19	Unmarked Utility	EA	2	$ 1,100.00	$ 2,200
20	Maintenance and Protection of Traffic	LS	1	$ 10,000.00	$ 10,000
21	Rock Removal	CY	107	$ 100.00	$ 10,667
22	Select Granular Fill	CY	1,280	$ 20.00	$ 25,600
23	#2 Stone	Tons	160	$ 40.00	$ 6,400
24	Mobilization	LS	1	$ 11,889.50	$ 11,890
25	Testing	LS	1	$ 3,963.17	$ 3,963
26	Worman Road PS Upgrades	LS	-	$ -	$ -
				Total Construction Cost	$ 412,169

Table 5.3.4
Town of Westport
Sewer District #1 Collection System Evaluation
Pump Station #3 & Old Arsenal Road Alternative 1

No.	Description of Item	Units	Est. Qty	Cost/Unit	Total Cost
1	4" SDR 26 PVC Open Cut Excavation	LF	-	$ 50.00	$ -
2	6" SDR 26 PVC Open Cut Excavation	LF		$ 55.00	$ -
3	8" SDR 26 PVC Open Cut Excavation	LF	-	$ 80.00	$ -
4	Camera Inspection Pre For CIPP	LF	-	$ 2.50	$ -
5	Camera Inspection Post For CIPP	LF	-	$ 2.50	$ -
6	Heavy Cleaning For CIPP	LF	-	$ 5.00	$ -
7	8" CIPP	LF	-	$ 35.00	$ -
8	4" CIPP Lateral	LF	-	$ 20.00	$ -
9	Manhole Rehabilitation	EA	-	$ 2,000.00	$ -
10	4' Dia. Sanitary Manhole	EA	-	$ 5,000.00	$ -
11	Cleanout	EA	6	$ 300.00	$ 1,800
12	Cleanout W/Road Box	EA	1	$ 400.00	$ 240
13	Flowable Fill Existing Sewer Mains	CY	70	$ 500.00	$ 34,950
14	Abandon Existing Manholes	EA	3	$ 500.00	$ 1,500
15	Asphalt Pavement Repairs	SY	-	$ 40.00	$ -
16	Concrete Sidewalk	SY		$ 50.00	$ -
17	Drop Inlet Protection	EA		$ 500.00	$ -
18	Silt Fencing	LF	214	$ 4.00	$ 854
19	Unmarked Utility	EA	2	$ 1,100.00	$ 2,200
20	Maintenance and Protection of Traffic	LS	1	$ 10,000.00	$ 10,000
21	Rock Removal	CY	-	$ 100.00	$ -
22	Select Granular Fill	CY	-	$ 20.00	$ -
23	#2 Stone	Tons	-	$ 40.00	$ -
24	Mobilization	LS	1	$ 5,638.34	$ 5,638
25	Testing	LS	1	$ 515.45	$ 515
26	Individual Pump Station	EA	6	$ 8,250.00	$ 49,500
27	Prepackaged Pump Station	EA	-	$ 52,750.00	$ -
28	2" HDPE FM (Directional Drill)	LF	350	$ 75.00	$ 26,250
29	2" HDPE FM (Open Cut)	LF	100	$ 75.00	$ 7,500
30	1.25" HDPE FM (Directional Drill)	LF	608	$ 65.00	$ 39,488
31	1.25" HDPE FM (Open Cut)	LF	203	$ 65.00	$ 13,163
32	Abandon Existing PS	LS	1	$ 50,000.00	$ 50,000
				Total Construction Cost	$ 243,598

Table 5.3.5
Town of Westport
Sewer District #1 Collection System Evaluation
Pump Station #4 & Fire Fly Lane Alternative 1

No.	Description of Item	Units	Est. Qty	Cost/Unit	Total Cost
1	4" SDR 26 PVC Open Cut Excavation	LF	-	$ 50.00	$ -
2	6" SDR 26 PVC Open Cut Excavation	LF		$ 55.00	$ -
3	8" SDR 26 PVC Open Cut Excavation	LF	-	$ 80.00	$ -
4	Camera Inspection Pre For CIPP	LF	-	$ 2.50	$ -
5	Camera Inspection Post For CIPP	LF	-	$ 2.50	$ -
6	Heavy Cleaning For CIPP	LF	-	$ 5.00	$ -
7	8" CIPP	LF	-	$ 35.00	$ -
8	4" CIPP Lateral	LF	-	$ 20.00	$ -
9	Manhole Rehabilitation	EA	2	$ 2,000.00	$ 4,000
10	4' Dia. Sanitary Manhole	EA	-	$ 5,000.00	$ -
11	Cleanout	EA	-	$ 300.00	$ -
12	Cleanout W/Road Box	EA	-	$ 400.00	$ -
13	Flowable Fill Existing Sewer Mains	CY	-	$ 500.00	$ -
14	Abandon Existing Manholes	EA	-	$ 500.00	$ -
15	Asphalt Pavement Repairs	SY	-	$ 40.00	$ -
16	Concrete Sidewalk	SY		$ 50.00	$ -
17	Drop Inlet Protection	EA		$ 500.00	$ -
18	Silt Fencing	LF	-	$ 4.00	$ -
19	Unmarked Utility	EA	-	$ 1,100.00	$ -
20	Maintenance and Protection of Traffic	LS	-	$ 10,000.00	$ -
21	Rock Removal	CY	-	$ 100.00	$ -
22	Select Granular Fill	CY	-	$ 20.00	$ -
23	#2 Stone	Tons	-	$ 40.00	$ -
24	Mobilization	LS	1	$ 570.00	$ 570
25	Testing	LS	1	$ 190.00	$ 190
26	Individual Pump Station	EA	-	$ 8,250.00	$ -
27	Prepackaged Pump Station	EA	-	$ 52,750.00	$ -
28	2" HDPE FM (Directional Drill)	LF	-	$ 75.00	$ -
29	2" HDPE FM (Open Cut)	LF	-	$ 75.00	$ -
30	1.25" HDPE FM (Directional Drill)	LF	-	$ 65.00	$ -
31	1.25" HDPE FM (Open Cut)	LF	-	$ 65.00	$ -
32	Relocate Electrical Panel	LS	1	$ 15,000.00	$ 15,000
				Total Construction Cost	$ 19,760

Table 5.3.6
Town of Westport
Sewer District #1 Collection System Evaluation
Sisco and Main Street Alternative 1

No.	Description of Item	Units	Est. Qty	Cost/Unit	Total Cost
1	4" SDR 26 PVC Open Cut Excavation	LF	688	$ 50.00	$ 34,375
2	6" SDR 26 PVC Open Cut Excavation	LF		$ 55.00	$ -
3	8" SDR 26 PVC Open Cut Excavation	LF	498	$ 80.00	$ 39,800
4	Camera Inspection Pre For CIPP	LF	1,990	$ 2.50	$ 4,975
5	Camera Inspection Post For CIPP	LF	1,990	$ 2.50	$ 4,975
6	Heavy Cleaning For CIPP	LF	1,990	$ 5.00	$ 9,950
7	8" CIPP	LF	1,990	$ 35.00	$ 69,650
8	4" CIPP Lateral	LF	688	$ 20.00	$ 13,750
9	Manhole Rehabilitation	EA	28	$ 2,000.00	$ 56,000
10	4' Dia. Sanitary Manhole	EA	12	$ 5,000.00	$ 60,000
11	Cleanout	EA	55	$ 300.00	$ 16,500
12	Cleanout W/Road Box	EA	6	$ 400.00	$ 2,200
13	Flowable Fill Existing Sewer Mains	CY		$ 500.00	$ -
14	Abandon Existing Manholes	EA		$ 500.00	$ -
15	Asphalt Pavement Repairs	SY	166	$ 40.00	$ 6,633
16	Concrete Sidewalk	SY		$ 50.00	$ -
17	Drop Inlet Protection	EA		$ 500.00	$ -
18	Silt Fencing	LF	622	$ 4.00	$ 2,488
19	Unmarked Utility	EA	2	$ 1,100.00	$ 2,200
20	Maintenance and Protection of Traffic	LS	1.50	$ 10,000.00	$ 15,000
21	Rock Removal	CY	55	$ 100.00	$ 5,528
22	Select Granular Fill	CY	663	$ 20.00	$ 13,267
23	#2 Stone	Tons	83	$ 40.00	$ 3,317
24	Mobilization	LS	1	$ 10,818.21	$ 10,818
25	Testing	LS	1	$ 3,606.07	$ 3,606
				Total Construction Cost	$ 375,031

Table 5.3.7
Town of Westport
Sewer District #1 Collection System Evaluation
West Main Alternative 1

No.	Description of Item	Units	Est. Qty	Cost/Unit	Total Cost
1	4" SDR 26 PVC Open Cut Excavation	LF	375	$ 50.00	$ 18,750
2	6" SDR 26 PVC Open Cut Excavation	LF		$ 55.00	$ -
3	8" SDR 26 PVC Open Cut Excavation	LF	380	$ 80.00	$ 30,400
4	Camera Inspection Pre For CIPP	LF	1,520	$ 2.50	$ 3,800
5	Camera Inspection Post For CIPP	LF	1,520	$ 2.50	$ 3,800
6	Heavy Cleaning For CIPP	LF	1,520	$ 5.00	$ 7,600
7	8" CIPP	LF	1,520	$ 35.00	$ 53,200
8	4" CIPP Lateral	LF	375	$ 20.00	$ 7,500
9	Manhole Rehabilitation	EA	12	$ 2,000.00	$ 24,000
10	4' Dia. Sanitary Manhole	EA	4	$ 5,000.00	$ 20,000
11	Cleanout	EA	60	$ 300.00	$ 18,000
12	Cleanout W/Road Box	EA	6	$ 400.00	$ 2,400
13	Flowable Fill Existing Sewer Mains	CY		$ 500.00	$ -
14	Abandon Existing Manholes	EA		$ 500.00	$ -
15	Asphalt Pavement Repairs	SY	127	$ 40.00	$ 5,067
16	Concrete Sidewalk	SY		$ 50.00	$ -
17	Drop Inlet Protection	EA		$ 500.00	$ -
18	Silt Fencing	LF	475	$ 4.00	$ 1,900
19	Unmarked Utility	EA	2	$ 1,100.00	$ 2,200
20	Maintenance and Protection of Traffic	LS	5	$ 10,000.00	$ 50,000
21	Rock Removal	CY	42	$ 100.00	$ 4,222
22	Select Granular Fill	CY	506.67	$ 20.00	$ 10,133
23	#2 Stone	Tons	63	$ 40.00	$ 2,533
24	Mobilization	LS	1	$ 7,965.17	$ 7,965
25	Testing	LS	1	$ 2,655.06	$ 2,655
				Total Construction Cost	$ 276,126

Table 5.3.8
Town of Westport
Sewer District #1 Collection System Evaluation
Congress & Liberty Streets Alternative 1

No.	Description of Item	Units	Est. Qty	Cost/Unit	Total Cost
1	4" SDR 26 PVC Open Cut Excavation	LF	100	$ 50.00	$ 5,000
2	6" SDR 26 PVC Open Cut Excavation	LF		$ 55.00	$ -
3	8" SDR 26 PVC Open Cut Excavation	LF	1,000	$ 80.00	$ 80,000
4	Camera Inspection Pre For CIPP	LF	-	$ 2.50	$ -
5	Camera Inspection Post For CIPP	LF	-	$ 2.50	$ -
6	Heavy Cleaning For CIPP	LF	-	$ 5.00	$ -
7	8" CIPP	LF	-	$ 35.00	$ -
8	4" CIPP Lateral	LF	100	$ 20.00	$ 2,000
9	Manhole Rehabilitation	EA	3	$ 2,000.00	$ 6,000
10	4' Dia. Sanitary Manhole	EA	4.00	$ 5,000.00	$ 20,000
11	Cleanout	EA	8	$ 300.00	$ 2,400
12	Cleanout W/Road Box	EA	1	$ 400.00	$ 320
13	Flowable Fill Existing Sewer Mains	CY		$ 500.00	$ -
14	Abandon Existing Manholes	EA		$ 500.00	$ -
15	Asphalt Pavement Repairs	SY	67	$ 40.00	$ 2,667
16	Concrete Sidewalk	SY		$ 50.00	$ -
17	Drop Inlet Protection	EA		$ 500.00	$ -
18	Silt Fencing	LF	500	$ 4.00	$ 2,000
19	Unmarked Utility	EA	1	$ 1,100.00	$ 1,100
20	Maintenance and Protection of Traffic	LS	1	$ 10,000.00	$ 5,000
21	Rock Removal	CY	28	$ 100.00	$ 2,778
22	Select Granular Fill	CY	666.67	$ 20.00	$ 13,333
23	#2 Stone	Tons	167	$ 40.00	$ 6,667
24	Mobilization	LS	1	$ 4,477.93	$ 4,478
25	Testing	LS	1	$ 1,492.64	$ 1,493
				Total Construction Cost	$ 155,235

Table 5.3.9
Town of Westport
Sewer District #1 Collection System Evaluation
Harris Lane Alternative 1

No.	Description of Item	Units	Est. Qty	Cost/Unit	Total Cost
1	4" SDR 26 PVC Open Cut Excavation	LF	500	$ 50.00	$ 25,000
2	6" SDR 26 PVC Open Cut Excavation	LF		$ 55.00	$ -
3	8" SDR 26 PVC Open Cut Excavation	LF	1,620	$ 80.00	$ 129,600
4	Camera Inspection Pre For CIPP	LF	-	$ 2.50	$ -
5	Camera Inspection Post For CIPP	LF	-	$ 2.50	$ -
6	Heavy Cleaning For CIPP	LF	-	$ 5.00	$ -
7	8" CIPP	LF	-	$ 35.00	$ -
8	4" CIPP Lateral	LF	500	$ 20.00	$ 10,000
9	Manhole Rehabilitation	EA	-	$ 2,000.00	$ -
10	4' Dia. Sanitary Manhole	EA	7	$ 5,000.00	$ 35,000
11	Cleanout	EA	40	$ 300.00	$ 12,000
12	Cleanout W/Road Box	EA	4	$ 400.00	$ 1,600
13	Flowable Fill Existing Sewer Mains	CY	106	$ 500.00	$ 53,014
14	Abandon Existing Manholes	EA	7	$ 500.00	$ 3,500
15	Asphalt Pavement Repairs	SY	1,800	$ 40.00	$ 72,000
16	Concrete Sidewalk	SY	450	$ 50.00	$ 22,500
17	Drop Inlet Protection	EA	5	$ 500.00	$ 2,500
18	Silt Fencing	LF	1,620	$ 4.00	$ 6,480
19	Unmarked Utility	EA	2	$ 1,100.00	$ 2,200
20	Maintenance and Protection of Traffic	LS	2	$ 10,000.00	$ 20,000
21	Rock Removal	CY	720	$ 100.00	$ 72,000
22	Select Granular Fill	CY	2,160	$ 20.00	$ 43,200
23	#2 Stone	Tons	270	$ 40.00	$ 10,800
24	Mobilization	LS	1	$ 15,641.83	$ 15,642
25	Testing	LS	1	$ 5,213.94	$ 5,214
				Total Construction Cost	$ 542,250

Table 5.3.10
Town of Westport
Sewer District #1 Collection System Evaluation
Soft Costs

Phase 1

No.	Description of Item	Percentage	Alternative 1	Alternative 2
1	Cleaning and Inspection	2.50%	$ 32,056.70	$ 49,587
2	Design*	7.50%	$ 96,170.11	$ 148,761
3	Bid	0.50%	$ 6,411.34	$ 9,917
4	Construction	2.50%	$ 32,056.70	$ 49,587
5	RPR	5.00%	$ 64,113.41	$ 99,174
6	PM	1.00%	$ 12,822.68	$ 19,835
7	Legal	1.00%	$ 12,822.68	$ 19,835
	Total	**20.00%**	**$ 256,453.64**	**$ 396,695.56**

Phase 2

No.	Description of Item	Percentage	Alternative 1	Alternative 2
1	Cleaning and Inspection	2.50%	$ 16,278.93	$ 34,446
2	Design*	7.50%	$ 48,836.78	$ 103,338
3	Bid	0.50%	$ 3,255.79	$ 6,889
4	Construction	2.50%	$ 16,278.93	$ 34,446
5	RPR	5.00%	$ 32,557.85	$ 68,892
6	PM	1.00%	$ 6,511.57	$ 13,778
7	Legal	1.00%	$ 6,511.57	$ 13,778
	Total	**20.00%**	**$ 130,231.40**	**$ 275,568.80**

Phase 3

No.	Description of Item	Percentage	Alternative 1	Alternative 2
1	Cleaning and Inspection	2.50%	$ 17,931.13	$ 24,411
2	Design*	7.50%	$ 53,793.39	$ 73,233
3	Bid	0.50%	$ 3,586.23	$ 4,882
4	Construction	2.50%	$ 17,931.13	$ 24,411
5	RPR	5.00%	$ 35,862.26	$ 48,822
6	PM	1.00%	$ 7,172.45	$ 9,764
7	Legal	1.00%	$ 7,172.45	$ 9,764
	Total	**20.00%**	**$ 143,449.03**	**$ 195,287.39**
	Total Soft Costs		$ 530,134.07	$ 867,551.75

*Includes Basis of Design Report & O&M Updates as Required

Table 5.5.1
Town of Westport
Sewer District #1 Collection System Evaluation
Proposed Project Schedule

Task	Deadline
Report Submission, Comment, Response, & Approval	6/30/2019
EFC IUP Listing	8/1/2019
Develop Plan and Secure Financing	12/31/2022
Final Design and Submisson to DEC (Review Set)	3/1/2024
Final Approvable Plans and Spec Submission to DEC	7/1/2024
Substaintial Completion (Sewer Mains and Pump Stations in Service)	12/31/2025
Project Closeout	9/1/2026

Table 5.6.1
Town of Westport
Sewer District #1 Collection System Evaluation
Phase 1 Project Financing and User Rates - Funding Scenario 1

Total Project Costs

Improvement Projects

Pump Station #1 & Mill Street/Marina	$	**626,500.44**
Pump Station #2 & Worman Road	$	**412,169.33**
Pump Station #3 & Old Arsenal Road	$	**243,598.40**
Pump Station #4 & Fire Fly Lane	$	**-**
Sisco and Main Street	$	**-**
West Main Street	$	**-**
Congress & Liberty Streets	$	**-**
Harris Lane	$	**-**
Soft Costs	$	**256,453.64**
Project Contingencies @ 10%	$	**153,872.18**
Total Project Cost	$	**1,692,594.00**

Available Funding

NYS EFC, CWSRF Financing (Assuming Hardship)	$	1,692,594
OCR ($1,000,000 max)	$	-
Northern Borders ($500,000 max)	$	-
WIIA (25% of non-grant)	$	423,148
Total Loan	$	1,269,445
Anticipated Loan Period	30 yrs	
Anticipated interest rate	0.00%	
Cost of Loan (Interest and Debt annually)	$	**42,314.85**

Estimated Cost Per User

Existing Annual Sewer Rates

# of User Units (EDU)s	459.5

Summary of Total Costs Per User

2017 O&M	$	270.00
2017 Existing Debt (Does not Include proposed 2015 report work)	$	197.44
Proposed Debt Increase	$	92.09
Proposed New Rate	$	559.53

Table 5.6.2
Town of Westport
Sewer District #1 Collection System Evaluation
Phase 1 Project Financing and User Rates - Funding Scenario 2

Total Project Costs

Improvement Projects

Pump Station #1 & Mill Street/Marina	$	**626,500.44**
Pump Station #2 & Worman Road	$	**412,169.33**
Pump Station #3 & Old Arsenal Road	$	**243,598.40**
Pump Station #4 & Fire Fly Lane	$	**-**
Sisco and Main Street	$	**-**
West Main Street	$	**-**
Congress & Liberty Streets	$	**-**
Harris Lane	$	**-**
Soft Costs	$	**256,453.64**
Project Contingencies @ 10%	$	**153,872.18**
Total Project Cost	$	**1,692,594.00**

Available Funding

NYS EFC, CWSRF Financing (Assuming Hardship)	$	1,692,594
OCR ($1,000,000 max)	$	1,000,000
Northern Borders ($500,000 max)	$	500,000
WIIA (25% of non-grant)	$	48,148
Total Loan	$	144,445
Anticipated Loan Period	30 yrs	
Anticipated interest rate	0.00%	
Cost of Loan (Interest and Debt annually)	$	**4,814.85**

Estimated Cost Per User

Existing Annual Sewer Rates

# of User Units (EDU)s	459.5

Summary of Total Costs Per User

2017 O&M	$	270.00
2017 Existing Debt (Does not Include proposed 2015 report work)	$	197.44
Proposed Debt Increase	$	10.48
Proposed New Rate	$	477.91

Table 5.6.3
Town of Westport
Sewer District #1 Collection System Evaluation
Phase 1, 2, & 3 Project Financing and User Rates - Funding Scenario 1

Total Project Costs

Improvement Projects

Pump Station #1 & Mill Street/Marina	$	**626,500.44**
Pump Station #2 & Worman Road	$	**412,169.33**
Pump Station #3 & Old Arsenal Road	$	**243,598.40**
Pump Station #4 & Fire Fly Lane	$	**19,760.00**
Sisco and Main Street	$	**375,031.22**
West Main Street	$	**276,125.78**
Congress & Liberty Streets	$	**155,235.02**
Harris Lane	$	**542,250.15**
Soft Costs	$	**530,134.07**
Project Contingencies @ 10%	$	**318,080.44**
Total Project Cost	$	**3,498,884.87**

Available Funding

NYS EFC, CWSRF Financing (Assuming Hardship)	$	3,498,885
OCR ($1,000,000 max)	$	-
Northern Borders ($500,000 max)	$	-
WIIA (25% of non-grant)	$	874,721
Total Loan	$	2,624,164
Anticipated Loan Period	30 yrs	
Anticipated interest rate	0.00%	
Cost of Loan (Interest and Debt annually)	$	**87,472.12**

Estimated Cost Per User

Existing Annual Sewer Rates

# of User Units (EDU)s	459.5

Summary of Total Costs Per User

2017 O&M	$	270.00
2017 Existing Debt (Does not Include proposed 2015 report work)	$	197.44
Proposed Debt Increase	$	190.36
Proposed New Rate	$	657.80

Table 5.6.4
Town of Westport
Sewer District #1 Collection System Evaluation
Phase 1, 2, & 3 Project Financing and User Rates - Funding Scenario 2

Total Project Costs

Improvement Projects

Pump Station #1 & Mill Street/Marina	**$**	**626,500.44**
Pump Station #2 & Worman Road	**$**	**412,169.33**
Pump Station #3 & Old Arsenal Road	**$**	**243,598.40**
Pump Station #4 & Fire Fly Lane	**$**	**19,760.00**
Sisco and Main Street	**$**	**375,031.22**
West Main Street	**$**	**276,125.78**
Congress & Liberty Streets	**$**	**155,235.02**
Harris Lane	**$**	**542,250.15**
Soft Costs	**$**	**530,134.07**
Project Contingencies @ 10%	**$**	**153,872.18**
Total Project Cost	**$**	**3,334,676.61**

Available Funding

NYS EFC, CWSRF Financing (Assuming Hardship)	$	3,334,677
OCR ($1,000,000 max)	$	1,000,000
Northern Borders ($500,000 max)	$	500,000
WIIA (25% of non-grant)	$	458,669
Total Loan	$	1,376,007
Anticipated Loan Period	30 yrs	
Anticipated interest rate	0.00%	
Cost of Loan (Interest and Debt annually)	**$**	**45,866.92**

Estimated Cost Per User

Existing Annual Sewer Rates

# of User Units (EDU)s	459.5

Summary of Total Costs Per User

2017 O&M	$	270.00
2017 Existing Debt (Does not Include proposed 2015 report work)	$	197.44
Proposed Debt Increase	$	99.82
Proposed New Rate	$	567.26

APPENDIX A

RELEVANT DOCUMENTS

SPDES PERMIT

New York State Department of Environmental Conservation
Division of Environmental Permits
NYSDEC HEADQUARTERS
625 BROADWAY
ALBANY, NY 12233
(518) 402-9167

SPDES PERMIT RENEWAL

2/17/2016

Michael K Tyler
Town of Westport
22 Champlain Ave PO Box 465
Westport NY 12993-0465

Permittee Name: TOWN OF WESTPORT
Facility Name: WESTPORT WWTP
Ind. Code: 4952 County: ESSEX
DEC ID: 5-1550-00016/00001 SPDES No.: NY0020222
Permit Effective Date: 6/1/2016
Permit Expiration Date: 5/31/2021

Dear Permittee,

The State Pollutant Elimination System (SPDES) permit renewal for the facility referenced above is approved with the new effective and expiration dates. This letter together with the previous valid permit for this facility effective on 12/06/2011 and any subsequent modifications constitute authorization to discharge wastewater in accordance with all terms, conditions and limitations specified in the previously issued permit(s).

As a reminder, SPDES permits are renewed at a central location in Albany in order to make the process more efficient. All other concerns with your permit, including applications for permit modification or transfer to a new owner, a name change, and other questions, should be directed to:

Regional Permit Administrator
NYSDEC Region 5 Headquarters
1115 St Rte 86
Ray Brook, NY 12977-0296
(518) 897-1211

If you have already filed an application for modification of your permit, it will be processed separately by that office.

If you have questions concerning this permit renewal, please contact LINDY SUE CZUBERNAT at (518) 402-9167.

Sincerely,

Stuart M. Fox

Stuart M. Fox
Deputy Chief Permit Administrator

cc:

RPA	RWE	BWP
BWC	File	EPA

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

State Pollutant Discharge Elimination System (SPDES)
DISCHARGE PERMIT

Industrial Code: 4952
Discharge Class (CL): 07
Toxic Class (TX): N
Major Drainage Basin: 10
Sub Drainage Basin: 01
Water Index Number: C
Compact Area: NEIWPCC

SPDES Number: NY – 002 0222
DEC Number: 5-1550-00016/00001
Effective Date (EDP): 06/01/2006
Expiration Date (ExDP): 05/31/2016
Modification Dates: (EDPM) 01/01/2012

This SPDES permit is issued in compliance with Title 8 of Article 17 of the Environmental Conservation Law of New York State and in compliance with the Clean Water Act, as amended, (33 U.S.C. §1251 et.seq.) (hereinafter referred to as "the Act").

PERMITTEE NAME AND ADDRESS

Name: Town of Westport Attention: Town Supervisor
Street: 22 Champlain Ave, P.O. Box 465
City: Westport State: New York Zip Code: 12993-0465

is authorized to discharge from the facility described below:

FACILITY NAME AND ADDRESS

Name: Westport Sewer District No. 1 Wastewater Treatment Plant
Location (C,T,V): Town of Westport County: Essex
Facility Address: 18 Marks Road
City: Westport State: New York Zip Code: 12993-0465
NYTM -E: 625.247 NYTM - N: 4893.620
From Outfall No.: 001 at Latitude: 44 ° 11 ' 8.1 " & Longitude: 73 ° 26 ' 3.41 "
into receiving waters known as: Lake Champlain Class: A

And; (list other Outfalls, Receiving Waters & Water Classifications)

in accordance with: effluent limitations; monitoring and reporting requirements; other provisions and conditions set forth in this permit; and 6 NYCRR Part 750-1.2(a) and 750-2.

DISCHARGE MONITORING REPORT (DMR) MAILING ADDRESS

Mailing Name: Westport S.D. No. 1 Wastewater Treatment Plant
Street: P.O. Box 465
City: Westport State: New York Zip Code: 12993-0465
Responsible Official or Agent: Chief Operator Phone: 518 962-4419

This permit and the authorization to discharge shall expire on midnight of the expiration date shown above and the permittee shall not discharge after the expiration date unless this permit has been renewed, or extended pursuant to law. To be authorized to discharge beyond the expiration date, the permittee shall apply for permit renewal not less than 180 days prior to the expiration date shown above.

DISTRIBUTION: Cheri Jamison, BWP, Permits Coordinator
Bill Lupo, Regional Water Engineer
Michelle Josilo, EPA Region 2
Jason Denno, NYS EFC
Susan Kennedy, Department of Health

Permit Administrator:	Michael J. McMurray
Address:	P.O. Box 296, Route 86 Ray Brook, New York 12977-0296
Signature: Michael J McMurray	Date: 12/6/11

PERMIT LIMITS, LEVELS AND MONITORING DEFINITIONS

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
	This cell describes the type of wastewater authorized for discharge. Examples include process or sanitary wastewater, storm water, non-contact cooling water.	This cell lists classified waters of the state to which the listed outfall discharges.	The date this page starts in effect. (e.g. EDP or EDPM)	The date this page is no longer in effect. (e.g. ExDP)

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQ.	SAMPLE TYPE
e.g. pH, TRC, Temperature, D.O.	The minimum level that must be maintained at all instants in time.	The maximum level that may not be exceeded at any instant in time.	SU, °F, mg/l, etc.		

PARA-METER	EFFLUENT LIMIT	MINIMUM LEVEL (ML)	ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE
	Limit types are defined below in Note 1. The effluent limit is developed based on the more stringent of technology-based limits, required under the Clean Water Act, or New York State water quality standards. The limit has been derived based on existing assumptions and rules. These assumptions include receiving water hardness, pH and temperature; rates of this and other discharges to the receiving stream; etc. If assumptions or rules change the limit may, after due process and modification of this permit, change.	For the purposes of compliance assessment, the analytical method specified in the permit shall be used to monitor the amount of the pollutant in the outfall to this level, provided that the laboratory analyst has complied with the specified quality assurance/quality control procedures in the relevant method. Monitoring results that are lower than this level must be reported, but shall not be used to determine compliance with the calculated limit. This ML can be neither lowered nor raised without a modification of this permit.	Action Levels are monitoring requirements, as defined below in Note 2, that trigger additional monitoring and permit review when exceeded.	This can include units of flow, pH, mass, Temperature, concentration. Examples include µg/l, lbs/d, etc.	Examples include Daily, 3/week, weekly, 2/month, monthly, quarterly, 2/yr and yearly.	Examples include grab, 24 hour composite and 3 grab samples collected over a 6 hour period.

Note 1: DAILY DISCHARGE.: The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants expressed in units of mass, the 'daily discharge' is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the 'daily discharge' is calculated as the average measurement of the pollutant over the day.

DAILY MAX.: The highest allowable daily discharge. DAILY MIN.: The lowest allowable daily discharge.

MONTHLY AVG: The highest allowable average of daily discharges over a calendar month, calculated as the sum of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

7 DAY ARITHMETIC MEAN (7 day average): The highest allowable average of daily discharges over a calendar week.

30 DAY GEOMETRIC MEAN: The highest allowable geometric mean of daily discharges over a calendar month, calculated as the antilog of: the sum of the log of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

7 DAY GEOMETRIC MEAN: The highest allowable geometric mean of daily discharges over a calendar week.

RANGE: The minimum and maximum instantaneous measurements for the reporting period must remain between the two values shown.

Note 2: ACTION LEVELS: Routine Action Level monitoring results, if not provided for on the Discharge Monitoring Report (DMR) form, shall be appended to the DMR for the period during which the sampling was conducted. If the additional monitoring requirement is triggered as noted below, the permittee shall undertake a short-term, high-intensity monitoring program for the parameter(s). Samples identical to those required for routine monitoring purposes shall be taken on each of at least three consecutive operating and discharging days and analyzed. Results shall be expressed in terms of both concentration and mass, and shall be submitted no later than the end of the third month following the month when the additional monitoring requirement was triggered. Results may be appended to the DMR or transmitted under separate cover to the same address. If levels higher than the Action Levels are confirmed, the permit may be reopened by the Department for consideration of revised Action Levels or effluent limits. The permittee is not authorized to discharge any of the listed parameters at levels which may cause or contribute to a violation of water quality standards.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL No.	LIMITATIONS APPLY:	RECEIVING WATER	EFFECTIVE	EXPIRING
001	All Year	Lake Champlain	EDP	ExDP

PARAMETER	EFFLUENT LIMIT					MONITORING REQUIREMENTS				FN
								Location		
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	
Flow	Monthly average	0.180	MGD			Continuous	Recorder		X	
Flow	Daily maximum	Monitor	MGD			Continuous	Recorder		X	
BOD_5	Monthly average	30	mg/l	34	lbs/dy	1 per month	24-hr. comp.	X	X	
BOD_5	7 day average	45	mg/l	51	lbs/dy	1 per month	24-hr. comp.	X	X	
BOD_5 Percent Removal	Monthly average	85	%				Calculated			1
Solids, Suspended	Monthly average	30	mg/l	34	lbs/dy	1 per month	24-hr. comp.	X	X	
Solids, Suspended	7 day average	45	mg/l	51	lbs/dy	1 per month	24-hr. comp.	X	X	
Solids, Suspended Percent Removal	Monthly average	85	%				Calculated			1
Solids, Settleable	Daily maximum	0.3	ml/l			1 per day	Grab	X	X	
pH	Range	6.0 – 9.0	SU			1 per day	Grab	X	X	
Phosphorus, Total (as P)	12 Month rolling average			2.00	lbs/dy	1 per month	24-hr. comp.		X	
Phosphorus, Total (as P)	Monthly average	Monitor	mg/l	Monitor	lbs/dy	1 per month	24-hr. comp.	X	X	
Temperature	Daily maximum	Monitor	Deg C			1 per day	Grab	X	X	
Effluent Disinfection required: [X] All Year [ ] Seasonal from _____ to _____.										
Chlorine, Total Residual	Daily maximum	2.0	mg/l			1 per day	Grab		X	
Coliform, Fecal	30 day geometric mean	200	No./100 ml			1 per month	Grab		X	
Coliform, Fecal	7 day geometric mean	400	No./100 ml			1 per month	Grab		X	

FOOTNOTES: 1. Effluent shall not exceed 15 % of influent concentration.

MERCURY MINIMIZATION PROGRAM

The permittee shall inspect each tributary dental facility at least once every five years to verify compliance with the wastewater treatment operation, maintenance, and notification elements of 6NYCRR Part 374.4. Inspection and/or outreach to other industrial/commercial sectors which may contribute mercury is also recommended. All new or increased tributary discharges, including hauled wastes, which are from sources that are industrial in nature shall be evaluated for mercury content and if levels exceed 500 ng/l then authorization shall be obtained from the Department prior to acceptance. Equipment and materials which may contain mercury shall be also evaluated by the permittee and replaced with mercury free alternatives where environmentally preferable. A file shall be maintained containing the notices submitted by dental offices and all other pertinent information. This file shall be available for review by NYDEC representatives and copies shall be provided upon request. A permit modification may be necessary to include more stringent requirements for POTWs which do not maintain low mercury effluent levels. Note – the mercury-related requirements in this permit conform to the mercury Multiple Discharge Variance specified in NYDEC policy DOW 1.3.10.

DISCHARGE NOTIFICATION REQUIREMENTS

a) The permittee shall maintain the existing identification signs at all outfalls to surface waters, which have not been waived by the Department in accordance with 17-0815-a of the Environmental Conservation Law. The sign(s) shall be conspicuous, legible and in as close proximity to the point of discharge as is reasonably possible while ensuring the maximum visibility from the surface water and shore. The signs shall be installed in such a manner to pose minimal hazard to navigation, bathing or other water related activities. If the public has access to the water from the land in the vicinity of the outfall, an identical sign shall be posted to be visible from the direction approaching the surface water.

The signs shall have **minimum** dimensions of eighteen inches by twenty four inches (18" x 24") and shall have white letters on a green background and contain the following information:

N.Y.S. PERMITTED DISCHARGE POINT

SPDES PERMIT No.: NY 002 0222

OUTFALL No. : 001

For information about this permitted discharge contact:

Permittee Name: Westport Sewer District No. 1 Wastewater Treatment Plant

Permittee Contact: Town of Westport
22 Champlain Avenue
P.O. Box 465
Westport, NY 12993-0465

Permittee Phone: (518) – 962-4419

OR:

NYSDEC Division of Water Regional Office Address : NYS DEC Region 5
P.O. Box 296, Route 86
Ray Brook, NY 12977

NYSDEC Division of Water Regional Phone: (518) - 897 -1241

b) For each discharge required to have a sign in accordance with a), the permittee shall provide for public review at a repository accessible to the public, copies of the Discharge Monitoring Reports (DMRs) as required by the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of this permit. This repository shall be open to the public, at a minimum, during normal daytime business hours. The repository may be at the business office repository of the permittee or at an off-premises location of its choice (such location shall be the village, town, city or county clerk's office, the local library or other location as approved by the Department). In accordance with the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of your permit, each DMR shall be maintained on record for a period of five years.

c) The permittee shall periodically inspect the outfall identification signs in order to ensure that they are maintained, are still visible and contain information that is current and factually correct.

SCHEDULE OF COMPLIANCE

The permittee shall comply with the following schedule:

a) **Collection System Monitoring & Maintenance**

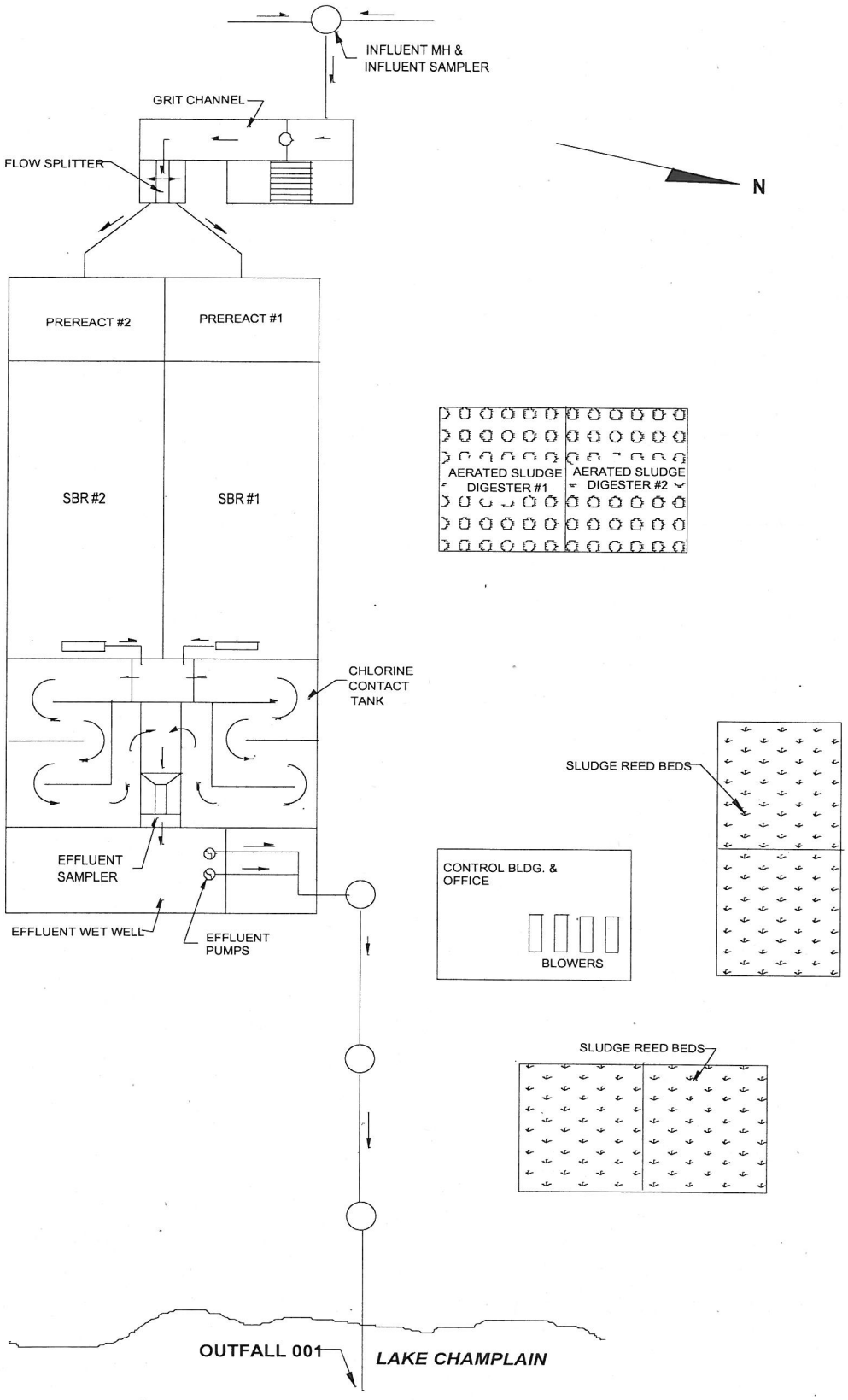
Outfall Number(s)	Compliance Action	Due Date
	1. Permittee shall implement an ongoing sewer system assessment, flow monitoring, correction and maintenance plan for the purpose of controlling infiltration and inflow into the collection system so as not to contribute to exceedances of permitted flow capacity at the WWTP.	EDP
	2. The plan shall be conducted for a period of 5 years.	EDP plus 5 years
	3. The permittee shall submit an annual report detailing the actions taken the preceding year in accordance with Compliance Action 1. above. The report shall include: a) a description of the collection system areas investigated to include street locations, manholes, length of sewers, etc. b) a description of collection system areas repaired/replaced including sewerline lengths, number of manholes, etc. c) dates of investigation(s) and repairs/replacements.	January 31st of each year

The above compliance actions are one time requirements. When this permit is administratively renewed by NYSDEC letter entitled A SPDES NOTICE/RENEWAL APPLICATION/PERMIT, the permittee is not required to repeat the submission. The above due dates are independent from the effective date of the permit stated in the letter of SPDES NOTICE/RENEWAL APPLICATION/PERMIT.

b) The permittee shall submit copies of any document required by the above schedule of compliance to NYSDEC Regional Water Engineer at the location listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS, unless otherwise specified in this permit or in writing by the Department.

MONITORING LOCATION FOR OUTFALL 001

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) specified below:



RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

a) The permittee shall also refer to 6 NYCRR Part 750-1.2(a) and 750-2 for additional information concerning monitoring and reporting requirements and conditions.

b) The monitoring information required by this permit shall be summarized, signed and retained for a period of five years from the date of the sampling for subsequent inspection by the Department or its designated agent. **Also, monitoring information required by this permit shall be summarized and reported by submitting;**

[X] (if box is checked) completed and signed Discharge Monitoring Report (DMR) forms for each 1 month reporting period to the locations specified below. Blank forms are available at the Department's Albany office listed below. The first reporting period begins on the effective date of this permit and the reports will be due no later than the 28th day of the month following the end of each reporting period.

[ ] (if box is checked) an annual report to the Regional Water Engineer at the address specified below. The annual report is due by February 1 and must summarize information for January to December of the previous year in a format acceptable to the Department.

[X] (if box is checked) a monthly "Wastewater Facility Operation Report..." (form 92-15-7) to the:

[X] Regional Water Engineer and/or [ ] County Health Department or Environmental Control Agency specified below

Send the DMRs with **original signatures** to:

Department of Environmental Conservation
Division of Water
Bureau of Water Compliance Programs
625 Broadway
Albany, New York 12233-3506

Phone: (518) 402-8177

Send a **copy** of each DMR page to:

Department of Environmental Conservation
Regional Water Engineer
P. O. Box 296, Route 86
Ray Brook, New York 12977-0296

Phone: (518) 897-1241

Send an **additional copy** of each DMR page to:

c) Noncompliance with the provisions of this permit shall be reported to the Department as prescribed in 6 NYCRR Part 750-1.2(a) and 750-2.

d) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

e) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculations and recording of the data on the Discharge Monitoring Reports.

f) Calculation for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

g) Unless otherwise specified, all information recorded on the Discharge Monitoring Report shall be based upon measurements and sampling carried out during the most recently completed reporting period.

h) Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section five hundred two of the Public Health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquiries regarding laboratory certification should be sent to the Environmental Laboratory Accreditation Program, New York State Health Department Center for Laboratories and Research, Division of Environmental Sciences , The Nelson A. Rockefeller Empire State Plaza, Albany, New York 12201.

DEC REVIEW LETTER

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Office of Environmental Quality, Region 5
1115 State Route 86, PO Box 296, Ray Brook, NY 12977
P: (518) 897-1241 | F: (518) 897-1245
www.dec.ny.gov

Via Email Only

May 11, 2016

Honorable Michael Tyler
Supervisor, Town of Westport
PO Box 465, 22 Champlain Ave
Westport, NY 12993
Email: supervisor@westportny.net

RE: Review of 2015 Collection System Monitoring and Maintenance Annual Report
Westport Sewer District #1 WWTP
SPDES No. NY 002-0222
Westport (T), Essex County

Dear Supervisor Tyler:

This letter acknowledges receipt of the permit-required 2015 Collection System Monitoring and Maintenance Annual Report on February 1, 2016. The Collection System Monitoring and Maintenance Schedule was added to the permit as an Inflow and Infiltration (I&I) investigation and reduction program which was supposed to include flow monitoring within the collection system.

The enclosed graph of Effluent DMR data shows that while baseline dry weather flows average 50,000-60,000 gpd of treated sewage discharged to the lake, wet weather flows contribute I&I surges of several times the plant design volume.

While continued progress has been made by the Town staff since the inception of the formal reporting program in 2012 with the support of NYRWA and a private contractor, greater than half of the sanitary sewer system remains to be investigated. The Flow Management Plan and Performance Evaluation submitted on behalf of the Town by AES Northeast in July 2010 recommended flow monitoring at key manholes (#79, #72, #26) in the system, as well as video and smoke testing. Flow monitoring and sump pump connection surveys should be included in the annual monitoring and maintenance work and it is unclear whether this has been done.

Please be aware of funds currently available via NYSDEC and Environmental Facilities Corporation (EFC) for Engineering Planning Grants (EPG) up to $100,000 for qualifying municipalities and projects such as I&I investigations. The required 20% match may include in-kind services. This year's **application deadline is Friday July 29, 2016**. Detailed information may be found at the following websites:

- http://www.dec.ny.gov/pubs/81196.html
- http://www.dec.ny.gov/pubs/83186.html
- http://www.efc.ny.gov/Default.aspx?tabid=485

Given that many inflow problems can be attributed to insufficient municipal stormwater infrastructure, the Town may also want to explore EFC's Green Innovation Grant Program (GIGP). Information may be found at http://www.efc.ny.gov/Default.aspx?tabid=461 . This year's application deadline is July 29, 2016 and the required 10% match may be provided by in-kind goods and services. It is possible that an Engineering Report produced with an EPG may be used as the Feasibility Study required as part of the GIGP application. Please contact EFC for further information.

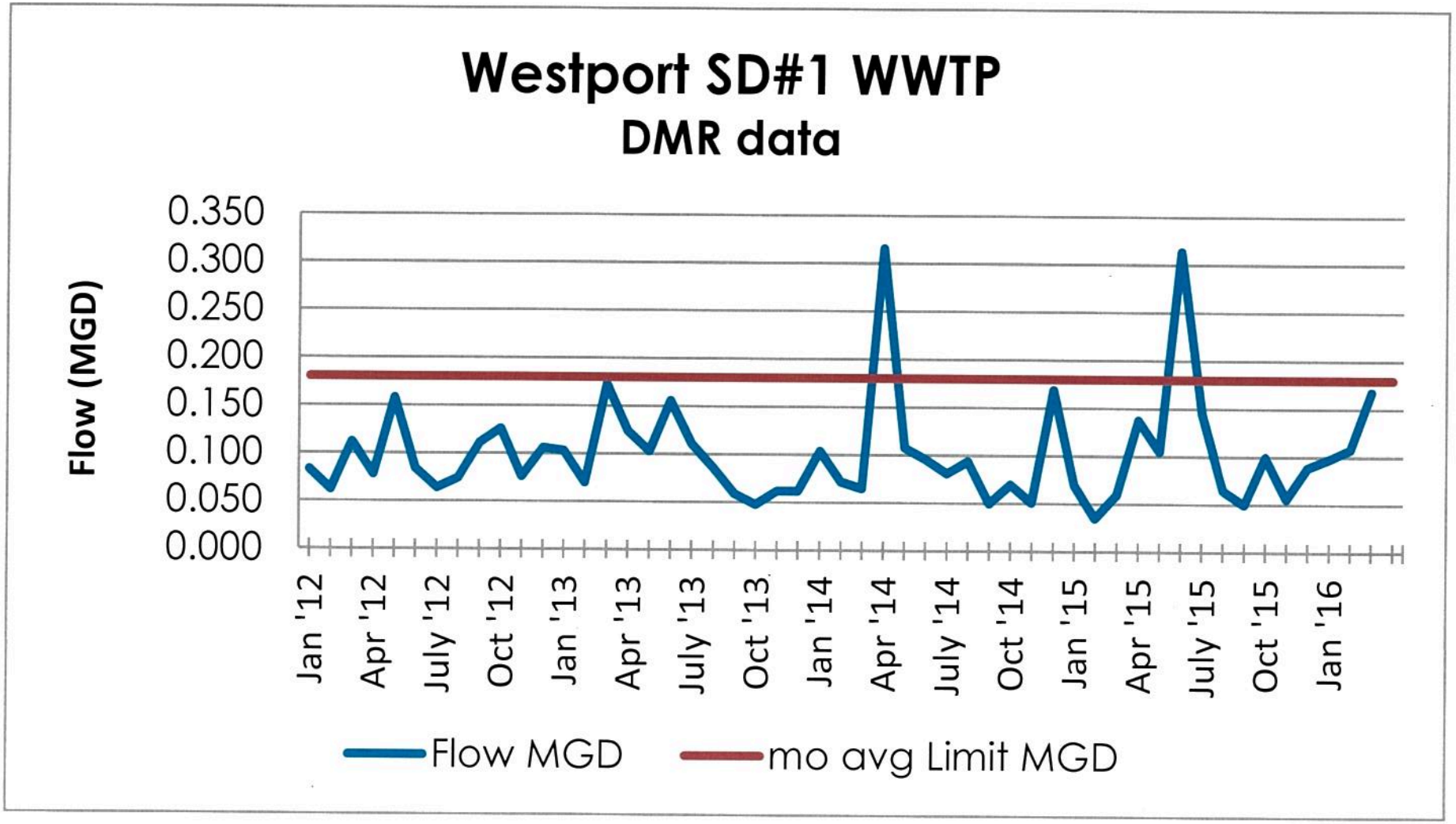
If you have any questions or comments regarding the enclosed, please contact me.

Sincerely,

Tamara J. Venne
Environmental Program Specialist

TJV:pm

ec: Town Board
D. Westover, Superintendent DPW
D. St. Louis, Chief Operator
R. Wagner, PE
J. Denno, EFC


Westport SD#1 WWTP
DMR data
Flow (MGD)
0.350
0.300
0.250
0.200
0.150
0.100
0.050
0.000
Jan '12
Apr '12
July '12
Oct '12
Jan '13
Apr '13
July '13
Oct '13
Jan '14
Apr '14
July '14
Oct '14
Jan '15
Apr '15
July '15
Oct '15
Jan '16
Flow MGD
mo avg Limit MGD

APPENDIX B

EXISTING REPORT

Town of Westport

Wastewater Treatment Plant Flow Management Plan and Performance Evaluation

July 9, 2010

Prepared by:
AES Northeast, PLLC
10-12 City Hall Place
Plattsburgh, New York 12901

Prepared for:
Town of Westport
22 Champlain Ave., PO Box 465
Westport, New York 12993

Architecture, Engineering, and Land Surveying Northeast, PLLC
10-12 City Hall Place, Plattsburgh, New York
Tel: 518-561-1598 Fax: 518-561-1990
www.aesnortheast.com

AES Project No. 3616

Introduction

Sewage Collection System
Investigation Documentation

Wastewater Treatment Performance
Objectives

Evaluation of
Sanitary Sewer Collection

Wastewater Treatment Plant
Evaluation

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Figures

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Town of Westport
Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
July 9, 2010

AES Project No. 3616

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- 1.2 Background

2 Sewage Collection System Investigation Documentation
- 2.1 Manhole Inspection
- 2.2 Sanitary Sewer Main Inspection
- 2.3 Flow Monitoring

3 Wastewater Treatment Performance Objectives
- 3.1 Current Flow and Loadings
- 3.2 Permit Water Quality Objectives
- 3.3 Flow Management and Performance Goals
- 3.4 Future Growth
- 3.5 Flow Management Goals

4 Evaluation of Sanitary Sewer Collection
- 4.1 Inflow and Infiltration Evaluation
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- 5.1 Major Unit process: Sequencing Batch Reactor

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7 Figures

8 Tables

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- Manhole Inspection Photos
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10 Appendices
- Appendix A NYS DEC SPDES Permit
- Appendix B Town of Westport, Wastewater Treatment Plant Flow Management Plan and Performance Evaluation 1968 Collection System Mapping
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Town of Westport, Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
July 9, 2010

AES Project No. 3616

1 Introduction

1.1 Purpose

The Town of Westport owns and operates a small sewer collection and wastewater treatment system for the small Hamlet area of Westport located in the Town, along the shores of Lake Champlain. The facility is operated under New York State Department of Environmental Conservation (NYS DEC) Permit # NY 002-0222. A copy of the permit can be found in Appendix A.

In 2007, the Town received notification from NYS DEC that the plant was in exceedance of design flow for the facility based on the Flow Management Annual Certification Form submitted by the Town. The Town responded to the request by NYS DEC and submitted a Flow Management Plan to the Department. In 2009, the Town again received notification from NYS DEC that the plant was in exceedance of the design flow for the facility for the prior year's annual flow (2008) in the form of a Notice of Violation. The Notice stipulated that the Town would again need to submit a Flow Management Plan prepared by a NYS Licensed Professional Engineer.

The purpose of this report is to fulfill the requirements of the NYS DEC requested Flow Management Plan. In conjunction with this investigation, the Town also commissioned investigation into the potential re-rating of the design capacity of the wastewater treatment facility above the current stated design capacity. This report will therefore conduct a limited Performance Evaluation of the facilities hydraulic and secondary treatment unit processes to identify the true capacity of the plant.

1.2 Background

The following documents are referenced in coordination with this Report:

- NYS DEC State Pollution Discharge Elimination System (SPDES) Discharge Permit # NY002-0222 (Appendix A).
- NYS DEC Letter Dated February 6th 2009, Notice of Violation – Requirement for a Flow Management Plan.
- Engineering Report: *"Town of Westport, Sewer District No. 1 Wastewater Collection and Treatment Facilities Improvements"* Dated August 2003, By Bernier Carr and Associates.

- Current Conditions: "..excursions of hydraulic overloading exceeding permit limits are common during traditional wet seasons and run off events. During high flow events, permit requirements for BOD and TSS percent removal are sometimes not met."
- Report Recommendations: Report cites that I&I is pervasive and states that it would be cost prohibitive to correct. The report recommendation was therefore to construct a new treatment facility designed to handle "extraneous as well as domestic sewage flows."
- Basis of Design: Existing flow date for 2000 to 2002 was utilized, averaged over the (3) year period, resulting in a 100,000 gpd base flow. A reserve capacity of 20% (or 22560 gpd) was allotted, and 12,800 gpd was assigned for future anticipated growth. Anticipated design flow ratings:
    - Average Day flow: 135,000 gpd
    - Maximum Monthly Average Day Flow: 400,000 gpd
    - Instantaneous Peak Flow: 1,000,000 gpd

- NYS DEC Wastewater Treatment Facility Design, Planning and Flow Management Annual Certification Form – Refer to Appendix C.

2 Sewage Collection System Investigation Documentation

2.1 Manhole Inspection

To date, several manholes in the Town of Westport have been partially inspected. Inspection data was taken from short video clips provided to AES Northeast by the Town that were compiled in May 2009. These videos do not provide a complete view of the manholes, especially the rim and cover of the manholes. A brief summary of the manholes is listed below. Missing data will be collected and published at a later date.

Old Arsenal Road

Manhole 44: A partial inspection reveals that this manhole has laterals that have been improperly connected to the manhole. Holes have been cut in the precast concrete sides and 4" PVC laterals have been installed. The laterals were not connected with properly sealing integral rubber boots. One lateral opening appears to have been partially sealed with concrete and the other has essentially no seal around it. There are two prime locations for Inflow/Infiltration (I&I) to enter the manhole. One lateral appears to have a steady drip. Sewage debris has built up on the bench walls, especially near the laterals. The laterals should also have been formed as drop laterals. The bench walls are very wet. Debris appears to be stuck to the side walls.

Manhole 43: A partial inspection reveals that this manhole has very wet walls as well as a deteriorating brick riser section. There appears to be very little flow in this manhole (at the time of inspection) which may be leading to the deposition of debris in the invert. There are two holes around the invert in and one hole around the invert out that may be able to allow water into the manhole. These holes, coupled with the low flow, may be a receipt for water to seep into the manholes. If water is not seeping into the manholes, it may exfiltrate. The holes are not large enough to determine if infiltration or exfiltration is actually occurring.

Manhole 42: A partial inspection reveals that this manhole has laterals that have been improperly connected to the manhole. Holes have been cut in the precast concrete sides and 4" PVC laterals have been installed. The laterals were not connected with properly sealing integral rubber boots. One lateral opening appears to have been partially sealed with concrete and the other has essentially no seal around it. There are two prime locations for Inflow/Infiltration (I&I) to enter the manhole. One lateral appears to have a steady drip. Sewage debris has built up on the bench walls, especially near the laterals. The laterals should also have been formed as drop laterals. The bench walls are very wet. Debris appears to be stuck to the side walls.

Manhole 41: A partial inspection reveals that this manhole has a deteriorating brick riser section as well as pot-marked concrete walls. There seems to be a significant amount of I&I impacting this manhole. Manhole walls were coved in a scale that appears to be from I&I. Manhole walls are stained from water. The flow into the manhole is very black. This

indicates a surcharged section of pipe that has gone anaerobic and is causing a hydrogen sulfide release. This hydrogen sulfide is combining with water infiltrating the manhole to create sulfuric acid. This sulfuric acid is attacking and degrading the concrete walls and the mortar around the brick riser section. Streaked corrosion is evident on the walls of the manholes.

Manhole 40: To be inserted at a later date.

Champlain Street

Manhole 70: This manhole is constructed of concrete blocks around which the mortar has severely deteriorated. The manhole did not appear wet at the time of inspection; however, with the mortar missing, it is possible that water would find its way into the manhole. The bench walls have been built up for a drop invert.

2.2 Sanitary Sewer Main Inspection

To date, a partial inspection of the sewer collection system for the Town of Westport has been performed. The Town provided AES Northeast with sewer videos that were complied in May 2009. Sewer sections on Old Arsenal Road, Champlain Street and NYS Route 9N were inspected.

In general, the sewer mains inspected to date are a mix of clay tile and iron pipe. These sewer mains seem to be in reasonably good condition, structurally. However, the sewer mains are characterized by very low slope. In several sections there appears to be inconsistent grade between manholes, with very steep sections and very flat sections. This inconsistent grade and low slope is causing surcharged conditions, which was evident by surcharged sections of pipe that were found during the video inspection as well as by greasy deposits along the sides of the pipe. In addition, there was a significant amount of grease and other debris built up in the invert of the pipe. This is likely due to low slope and low flow. It is important to note that several of these videos were difficult to fully view as the picture was unclear, therefore, it is possible that some defects, such as minor cracking, was missed.

It should be noted from the inspections reviewed to date that the installation of clay tile has been in relatively good condition with very little evidence of leaking joints typical of clay tile. This may be attributed to the clay tile being properly installed but also evident of modern elastomeric gasketed joints.

Old Arsenal Road

MH 44 to MH 43: This section of sewer main has (2) 6" "laterals" or "lateral sewers" connection that has been improperly tied to the sewer main. This 6" pipe enters the main at 3 o'clock with essentially no slope into the manhole. One 6" pipe has a root mass near the top of the connection point to the main. All 6" pipes should be connected to the sewer main at a manhole, or at a minimum of a 45 degree angle to prevent clogging. Portions of

the section of sewer main were surcharged. This section of sewer main has surcharged portions, multiple slightly offset joints, greasy build-up, debris in the invert, and possibly an inconsistent grade. There is one section of pipe that appears to have a longitudinal crack at 9 o'clock. This section appears to be VCP pipe.

MH 43 to MH 42: This section of sewer main has surcharged portions, a slightly offset joint, greasy build-up, debris in the invert, and possibly an inconsistent grade. This section appears to be VCP pipe. During the inspection of this video, it appears that an unknown manhole exits between MH 43 and MH 42. This requires further investigation. This section appears to be VCP pipe.

MH 42 to MH 41: The video for this section was difficult to see as it was very fuzzy. It appeared that the line was in relatively good condition; however, there was debris and grease built up in the invert of the pipe. This section appears to be an iron pipe.

MH 41 to MH 40: The video for this section was difficult to see as it was very fuzzy. It appeared that the line was in relatively good condition; however, there was debris and grease built up in the invert of the pipe. This section appears to be an iron pipe.

Champlain Street

MH 70 to the South: This section of sewer main is characterized by heavy grease deposits and a build-up of debris in the invert of the pipe. It is likely that this section of sewer main has poor slope. This section of sewer main has a 6" "lateral" or "lateral sewer" connection that has been improperly tied to the sewer main. This 6" pipe enters the main at 3 o'clock with essentially no slope into the manhole. This particular 6" lateral has debris stuck in the invert of the 6" pipe. All 6" pipes should be connected to the sewer main at a manhole, or at a minimum of a 45 degree angle to prevent clogging. Portions of the section of sewer main were surcharged. There were multiple slightly offset joints. This section appears to be an iron pipe.

MH 70 to the North: This section was not fully investigated because the pipe was surcharged to more than half-full at a point approximately 17' from MH 70. This section appears to be an iron pipe.

MH 67 to MH 66: This section could not be fully investigated because the pipe was completely block by a root mass approximately 7' from MH 67.

NYS Route 9N

MH 112- MH 111: This section is characterized by several slightly offset joints, a joint with a root mass, greasy build-up on the side of the pipe, and deposition of large pieces of grease and debris in the invert of the pipe. This section appears to be VCP pipe.

2.3 Flow Monitoring

Treatment plant flow data was compiled from records supplied by the Town of Westport operations staff since the treatment plant came on line in 2006. The average daily flow data can be found in Figure 2.1, Figure 2.2, Figure 2.3 and Figure 2.4 for 2006 through 2009 respectively. A summary of this data respective to the evaluation is listed in Part 3.

The wastewater treatment plant (since its construction), has only recorded flow based on the effluent of the plant. This presents a real problem in evaluating the hydraulic parameter of the "peak hourly flow" coming into the facility, which is critical for evaluation of all mainstream unit processes. Specific to a Flow Management Plan, this is particularly problematic based on the fact that the plant effluent is from a batch process. This alters the ability to characterize flow patterns conveyed to the plant.

With the absence of an influent flow meter, portable flow measuring and logging was installed in the influent sanitary sewer line entering the treatment facility in the spring of 2009. Flow data collected can be found in Figure 2.5 through Figure 2.15. From the data presented, the following influent flow characteristics are as follows:

- Peak Hourly Flow (July 1st 2009): 1.49 mgd.
- Instant Peak Flow (July 1st 2009): 1.667 mgd

Evident from influent flow monitoring, is the significant inflow and infiltration effects on the wastewater treatment plant peak hourly flows, peak day flows, and even average day flows. In addition to the efforts of the Town to locate sources of inflow and infiltration, more recent attempts have been made to quantify sources already identified and potentially isolate segments of the collection system. Found in Appendix B is a map of the sewer collection system, representing the historic 1968 vintage collection system that served as the interceptor sewer project for the older sanitary drains to Lake Champlain and surrounding tributary streams. Flow monitoring was broken down into the following sections:

- Manhole 72 (Located near the bottom of Sisco Street): This manhole carries approximately 1/3 of the collection sewer and represents the only main gravity sewer entering the wastewater treatment plant. Shown in Figure 2.16 is the flow data collected to date.
- Manhole 79 (Located at the top of Sisco Street): This manhole collects (older) sanitary sewers from Rte. 9 going north. Between Manhole 72 and this location (2) lateral sewers are collected and should total flows at Manhole 72. Shown in Figure 2.17 (data pending) is the flow data collected to date.
- Pump Station #1 (Marina Pump Station): This pump station is the collection point for all sewers in the south end of the hamlet divided by Hammond brook. Figure 2.18 is the estimated average hourly flow coming into the pump station based on pump monitoring. This is based on a reconstruction of the pump and systems curve for the application found in Figure 2.19.
- Manhole 26: This manhole is the collection point for sewers coming south of the Old Arsenal area. Pump station #1 is separated from Manhole 26 by an additional (2) tributary sewers. Collected through this manhole is the Old Arsenal area,

sewers along the lake (from the Worman Road Pump Station) and a small section of sanitary from along Rte. 9. Shown in Figure 2.20 is the flow data collected to date.

- Pump Station #2 (Worman Road Pump Station): This pump station is the collection point for sanitary sewers on the extreme south end running along the lake and extending to the southern most section of Rte. 9 going south. Shown in Figure 2.21 is the estimated average hourly flow coming into the pump station based on pressure monitoring of the pump discharge. This is based on a reconstruction of the pump and systems curve for the application found in Figure 2.22.

3 Wastewater Treatment Performance Objectives

The objective in accordance with the Flow Management Plan criteria is to achieve annual average flows below the design flow of the facility. In accordance with the conditions of design listed above, the first area of focus is the reduction of Inflow/Infiltration noted in Section 2.

Secondly, investigations will be conducted to expand the rated capacity for treatment. As indicated in the introduction of the report, the Town desires a re-rating of the design flow in order to achieve compliance with NYS DEC Wastewater Treatment Facility Design, Planning and Flow Management Annual Certification, while still maintaining treatment.

This approach of Inflow/Infiltration reduction is consistent with NYS DEC and WEF published design standards for reduction prior to treatment capacity increases. Funding agencies also consider this approach necessary for responsible expenditures for potential improvements to collection and treatment. The same could be said for responsible action of the Board in the spending of tax dollars for improvements.

3.1 Current Flow and Loadings

Wastewater treatment plant flow and loading data was compiled for only the past 2 years (2008 and 2009 Discharge Monitoring Reports (DMRs)), summarized in Table 3.1 and Table 3.2, respective to each year. This information, compiled on a monthly basis, will be utilized to evaluate loading conditions to the plant. Daily data was also compiled from these reports to evaluate flow conditions and peak loading periods from data recorded by the operator from 2006 to 2009. This data is summarized in Figures 2.1 through Figure 2.4 as previously discussed.

The following is pertinent flow information from the review of the above data:

- Peak Month Average Day Flow 2006: December (0.190 mgd)
- Peak day Flow 2006: December 2rd (0.491 mgd)
- Peak Month Average Day Flow 2007: April (0.328 mgd)
- Peak day Flow 2007: April 18th (0.785 mgd)
- Peak Month Average Day Flow 2008: April (0.347 mgd)
- Peak day Flow 2008: April 2nd (0.560 mgd)
- Peak Month Average Day Flow 2009: March (0.241 mgd)
- Peak day Flow 2009: March 12th (0.448 mgd)

The following is a summary of loading conditions to the plant from the above mentioned data:

- Avg BOD 2008 [Concentration: 123.67 mg/L 145.35 Loading: lbs/day]
- Peak month BOD 2008 [Concentration: 84 mg/L 277.42 Loading: lbs/day]
- Avg BOD 2009 [Concentration: 135.75 mg/L 118.45 Loading: lbs/day]
- Peak Month BOD 2009 [Concentration: 360 mg/L 225.18 Loading: lbs/day]
- Avg TSS 2008 [Concentration: 109.32 mg/L 129.50 Loading: lbs/day]

- Peak Month TSS 2008 [Concentration: 110 mg/L 289.90 Loading: lbs/day]
- Avg TSS 2009 [Concentration: 118.92 mg/L 104.04 Loading: lbs/day]
- Peak Month TSS 2009 [Concentration: 264 mg/L 198.16Loading: lbs/day]

3.2 Permit Water Quality Objectives

The table below is a summary of the permit as well as reiterating some of the more notable water quality and performance based effluent limits for the extent of this evaluation.

Summary of Existing Permit Limits				
Parameter	***Type***	***Limit***	***Loading***	***Notes***
Flow	Monthly Average	135,000 gpd		From Permit
BOD	Monthly Avg	30 mg/L	34 lbs/day	85% Monthly Avg removal
BOD	7 day arithmetic mean	45 mg/L	51 lbs/day	
TSS	Monthly Avg	30 mg/L	34 lbs/day	85% Monthly Avg removal
TSS	7 day arithmetic mean	45 mg/L	51 lbs/day	
Settleable Solids	Daily max.	0.3 ml/L		
Phosphorus	Annual Rolling Avg		2 lbs/day	

Referring to Table 3.1 and Table 3.2 all pounds loading in the effluent appears to be in compliance for both 30 day and 7 day averages. Current treatment plant receiving water loadings are presented in Figure 3.1 and Figure 3.2 for 2008 and 2009, respectively. Only one violation is noted for percent removals for BOD during the month of March, 2009. This was the result of a low influent BOD due to Inflow and infiltration dilution. On the topic of flow rates, the monthly average flow for the plant was in exceedance of the 0.135 mgd permit limit (7) times in 2008, and (4) times in 2009.

With all due respect, in accordance with the operating data, the treatment plant appears to have performed well in meeting the essential pollutant limits established as a part of the discharge permit, even under adverse hydraulic conditions.

3.3 Flow Management Plan and Performance Goals

NYS DEC Wastewater Treatment Facility Design, Planning and Flow Management Annual Certification Form consist of two major criteria, that being the Annual Average Flow criteria and the Design BOD and TSS loading criteria. From these annual evaluations comes the following:

- Flow Management Plan
- Future Growth (Load) Planning

Flow Management Plan Criteria: The purpose of this document and its main focus is on the Flow Management Plan. The criteria for this annual certification of flow is based on the average of the (12) month average daily flows reported on the Discharge Monitoring

Reports. Data evaluated for the past (2) years can be found in Table 3.1, summarized as follows:

- Design Average Flow: 135,000 gpd
- 2008 Annual Average Flow: 173,000 gpd
- 2009 Annual Average Flow: 127,000 gpd

From a review of the past data (back to 2006), and information noted from the previously stated Engineering Report, the Town has been in and out of compliance with this criteria dependant on the weather.

The following is a list of items that must be a part of the plan with comments as to the status:

a. The Town has the legal authority in all parts of the Wastewater Treatment Plant service area (i.e., those served in a district for which the Town has exercise over or a private service contract) for the purpose of implementing corrective programs and regulating sewer use. (Need Sewer Use ordinance and Statement from the Town regarding Districts and outside users.)
b. An inventory of all known facilities or projects that have applied for sewer connection in order to determine if in fact there is capacity. (Need confirmation from the Town that the listed future expansion is all inclusive).
c. A schedule of implementation for all flow reduction measures. (Need to complete a collection system evaluation, some out of contract work completed for isolation via flow monitoring).
d. A map delineating the service area. (Map attached, information provided by the Town)
e. Description of future reporting on implementation of the plan to the Regional Water Engineer. (Need updates from Item (c) to complete).
f. Document water conservation measures. The Town has installed water meters throughout the town).
g. Reduction of infiltration and inflow through collection system monitoring, removal of roof leaders, and footing drains. (Related to Item (c) above).
h. Measures to maximize sewer system and sewage treatment works capacity. (Composite correction Program of a Comprehensive Performance Evaluation).
i. Engineering report assuring annual average flow does not exceed 95% of the plant design flow. (Re-rating the plant).
j. Capital improvement plan necessary to assure annual average flows do not exceed 95% of the plant design capacity. (The 2005 plant upgrade was intended to comply with this requirement).

Future Growth (Load) Planning: This facet of annual certification is not in the scope of this report, rather, this like Item (j) previous, is meant to have been implemented in capital improvement projects like the Facilities Improvement Project of 2005. It is herein briefly described due to the fact that all loading is not merely hydraulic, but organic as well. The two criteria go hand-in-hand when facing annual certification. The loading calculation is the average BOD or TSS concentration for the month, multiplied by the average flow for that month (different than the DMR calculation found in the tables before mentioned). A plant is in exceedance of the loading criteria when (8) out of the (12) months are in excess of the

design pounds loading. Figure 3.3 and Figure 3.4 demonstrate the compliance with this aspect of the annual certification form. The following is a summary of the current loading on the Future Growth Planning:

- 2008: (1) month out of (12) were in excess of this criteria
- 2009: (2) months out of (12) were in excess of this criteria

This issue comes to light when a requested re-rating of the hydraulic capacity of a wastewater treatment facility takes place, such as in Item (i) listed above. This re-rating of the hydraulic capacity was performed in effort to gain compliance under the Flow Management Plan to gain capacity, may in fact be used to justify expansion of the service area, therefore increasing loadings in excess of loading criteria.

3.4 Future Growth

Though not expressed by the Town for the purposes of this report, indication was made in the Engineering Report previously referenced, that expansion areas were necessary for the foreseeable future. These areas are listed as follows:

• 40 unit Motel	4,000 gpd
• (4) 3 bedroom homes	1,800 gpd
• (10) home Development (3) bedroom homes	4,500 gpd
• Industrial Park	2,500 gpd
Sub-Total	12,800 gpd

In addition, an unidentified "reserve capacity" was also mentioned of 22,560 gpd. It is unknown if this figure was an attempt at quantifying projected growth for the design life of the facility or a design safety factor. Without information as to the purpose or origin, at this time, the "reserve capacity" will not be used as a part of the Flow Management Plan. Future growth for the purposes of this document will be taken as the above mentioned expansions, as re-calculated in Table 3.3. The following is a summary (based only on information provided through the previously mentioned design document):

- Average Daily Flow Increase: 12,800 gpd
- Peak Hourly Flow Increase: 51,000 gpd
- BOD Pounds Loading: 23 lbs/day
- TSS Pounds Loading: 26 lbs/day

3.5 Flow Management Goals

Due to the fact that collection system evaluations were not a part of this scope of work, the Flow Management Plan will be focused on the potential for re-rating the wastewater treatment plant for the existing and proposed development in compliance with Item (i) of the Flow Management Plan criteria.

4 Evaluation of Sanitary Sewer Collection

The main purpose of the evaluation of the collection system has been understood from the Flow Management Plan requirements to focus on the reduction of Inflow/Infiltration effects as it pertains to compliance impacts at the wastewater treatment plant. The following evaluations of data collected in Section 2 of this report therefore reflect this emphasis.

Based on the flow data collected to date, the current flow rates routinely exceed the desired performance goals of the plant. The current manhole and sanitary sewer inspection identify some potentially significant Inflow/Infiltration problems; however, this inspection does not quantify the effects of the deficiencies located.

Based on the findings to date, further study will be required in order to isolate areas of Inflow/Infiltration impact by flow monitoring key manholes in the collection system. These areas may be isolated for further video inspection and smoke testing areas.

4.1 Inflow and Infiltration Evaluation

(to be inserted at a latter date)

4.2 Manhole Evaluations

(to be inserted at a latter date)

4.3 Sanitary Sewer Line Evaluation

(to be inserted at a latter date)

5 Wastewater Treatment Plant Evaluation

The evaluation of the wastewater treatment plant is for the purpose of understanding impacts to the wastewater treatment plant for both existing flow rates and proposed flow conditions in accordance with NYS DEC Wastewater Treatment Facility Design, Planning and Flow Management Annual Certificate Form, Part C, Paragraph 1: Flow Management Plan, Subparagraph (ii) item (h) measures to maximize sewage treatment works capacity, and Item (i) Engineering Report assuring annual average flow does not exceed 95% of the plant design flow.

The following conditions are used for the purpose of evaluating the treatment plant's capability to treat both existing and anticipated treatment plant flows.

- Peak Hourly Flow: 1,500,000 gpd (existing) + 64,000 gpd proposed = 1,564,000 gpd (use 1,600,000 gpd)
- Peak Day Flow: 785,000 gpd (existing) + 12,800 gpd = 797,800 gpd, (use 800,000 gpd)
- Peak Month Flow: 347,000 gpd + 12,800 gpd = 359,800 gpd (use 360,000 gpd)
- Average Day flow: 173,000 gpd (existing) + 12,800 gpd = 185,800 gpd
- Design Loadings: 225 lbs/day BOD/TSS (existing) and 25 mg/l proposed averaged with diluted Inflow infiltration 200 mg/l @ design flow of 185,800 gpd = 310 lbs/day near future loading.

5.1 Major Unit Process: Sequencing Batch Reactor

The following is a summary of the design parameters for the existing wastewater treatment plant specific to the central unit process of the Sequencing Batch Reactor (SBR):

- Average Day Flow: 135,000 gpd
- Peak Day Flow: 520,000 gpd
- Peak Hourly Flow (PWWF1): 706,600 gpd
- Peak Hourly Flow (PWWF2): 1,050,000 gpd
- BOD [Concentration: 200 mg/L 225 Loading: lbs/day]
- TSS [Concentration: 200 mg/L 225 Loading: lbs/day]
- SBR Average Decant Rate: 875 gpm or 1,300,000 gpd
- SBR Peak Decant Rate: 1750 gpm or 2,500,000 gpd

This particular SBR is of the Intermittent Cyclic Extended Aeration System (ICEAS) design, a proprietary system of Austgen Biojet (ABJ), a Division of Sanitare Corporation. This does present some challenge for evaluation purposes since some aspects of conventional treatment standards are therefore difficult to apply to this system. The following is the basic design aspects of the system that have been re-evaluated:

- Pre-react zone sized for selection through high FM ratio, anoxic conditions, and diffusion of eddy currents. The system currently utilizes complete basin anoxic conditions. This is marginally suitable for proper operation for anoxic conditions and

will therefore require modification to accommodate the increased hydraulic push. Its function as a high FM selector appears to be adequate.

- Main react zone is sized along with the pre-react zone to meet required HDT, BOD loading, and settled sludge volume requirements. According to calculations it appears that the peak monthly flow rate used to evaluate adequate Hydraulic Detention Time is diminished in its current and future condition, reducing it from the design 1.4 days to roughly 0.7 days. BOD loadings to the basin appear to be adequate for the present and future condition being roughly 8.5 lbs/day/1,000 ft^3.
- In basin waste sludge pumps, used for regulating the target MCRT, MLSS, FM, and blanket levels. Though not directly related to the capacity of the facility the pump application does not have any means of accurately measuring the waste sludge flow. This is problematic being that this is the means of adjusting those parameters critical to the central unit process of the plant.
- Decanter is designed to maintain an appropriate Weir Overflow Rate (WOR), and limit approach velocity gradient for drawing clear supernatant off the surface of the SBR with scum exclusion. The current decanter does not meet conventional WOR design. This may not be of significance, however, may need to be revisited with the manufacturer.
- Fine bubble aeration grid of approximately 150 diffusers per basin, with air requirements per of 230 scfm is supplied under the original design. Due to increases in loading and recalculating air requirements, some anticipated loss in de-nitrification and the expected air requirement will rise to 364 scfm. Due to the fact that the aeration system limiting factor is mixing, this appears to be adequate at this time.
- Aeration blower design is based the required air and varies from traditional extended aeration, but follow the same principles. The current blower capability appears to be roughly 240 scfm depending on the actual back pressure. (Backpressure on the system is a topic discussed under separate cover). As stated previously, it appears that an increase in aeration may be necessary up to 364 scfm.

Found below is a summary of design parameters discussed

Secondary Treatment (Conventional Design Summary)		
Referenced Standards	**Existing Equipment with Projected Conditions**	**Comments**
Aeration Tank Hydraulic Loading: 24 hr detention time (required for peak month flows)	@0.360 MGD, 17 hrs HDT	Peak Month Flow does not meet HDT. Potential loss of NOD treatment.
Tank loading : 15 lb BOD_5/d/1,000 ft^3	@ 0.065 MGD: 8.5 lb BOD_5/d/1,000 ft^3 (2 basin)	Meets the required standard, based on average water level.
Required O_2 Demand GLUMRB, conventional extended air: 2050cf/lb BOD/day or 364 scfm	240 SCFM w/(1) blowers in operation, (1) spare	See MUPE 5.4, for actual air required. 267 scfm required, exiting blower reported to be 240 scfm.
Clarification: Surface Settling rate of 900 gpd/SF for nutrient removals	Surface Area (main tank) 1990 Sf, 804 gpd/SF	Adequate for peak hourly flow.

6 Recommendations

Based on calculations fundamental to the SBR process, there is a potential for re-rating at the higher flow rates for the hydraulic condition with some modifications to the system. The following are some initial recommendations in order to perform a re-rating per the Town's request:

- The system will experience a shortened detention time which is, and will in the future, interfere with the bio-nutrient removal aspects of the SBR. The effects of this could result in release of nitrite into the downstream chlorine contact tank. Nitrite interference can make it extremely difficult to maintain adequate chlorine residuals. The sure way to have corrected this is with expansion of the SBR aeration tank. Since the Town has just overseen a completed an upgrade, expansion of the aeration tank is not considered due to cost and poor public perception. In place of this, one alternative is to reconstruct the selector zone for re-aeration. The anticipated cost of this modification is estimated to be $27,000.
- In basin sludge recirculation pumps, used for the conditioning of the biology in conjunction with the anoxic zone is recommended. The anticipated cost of this modification is estimated to be $68,000.
- The second concern is related to the potential future organic load. The tank volume of the SBR appears to be adequate for the parameters analyzed. However, there may be times when due to spring transitions into the summer, or on hot days, air may be in short supply for adequate oxidation. This may also be further complicated by the shortened hydraulic detention times which will likely decrease the de-nitrification credit, allowing for reduced air requirements. The result may be a need for replacing the blower block with a new unit. The anticipated cost of this modification is estimated to be $22,000 assuming the same frames and enclosures can be utilized.
- It is recommended that flow measurement be installed for the waste sludge pumps. As the plant is pushed to its maximum loading limits, increase process control will be necessary to ensure the plant is maintaining consistent biological mass under aeration. The anticipated cost of this modification is estimated to be $8,000.
- To accommodate modifications to the process, the SBR control center will need to be re-programmed with new time settings for the changes in hydraulic loading and the additional equipment. This will allow the descent mechanism to operate quicker during peak flow events, minimizing the potential loss of solids. The anticipated cost of this modification is estimated to be $12,000.

One aspect to keep in mind as these recommendations are considered is the fact that this process is proprietary. The Town will want to adhere to standard practice of the manufacturer as improvements are implemented. In addition, based on prior discussion on the proprietary ICEAS system, some further investigation may be necessary on items covered under U.S. registered patents. This could present some difficulty.

Prior to finalizing recommendations for the re-rating, it is recommended that consideration be given to the discussion in Part 3 of this report. This is an under-designed facility that will by design, has limitations. A re-rating of the capacity of the facility may change DEC Notice of Violations sent to the Town, but it will not alter the future design life. The purpose and intent of

the Flow Management Plan is to first reduce Inflow/Infiltration (I&I) effects. It is recommended to wait for the results of collection system monitoring which is not a part of the current contract, but currently being conducted.

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Town of Westport, Wastewater Treatment Plant
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DMR Average Daily Flow Data: 2006

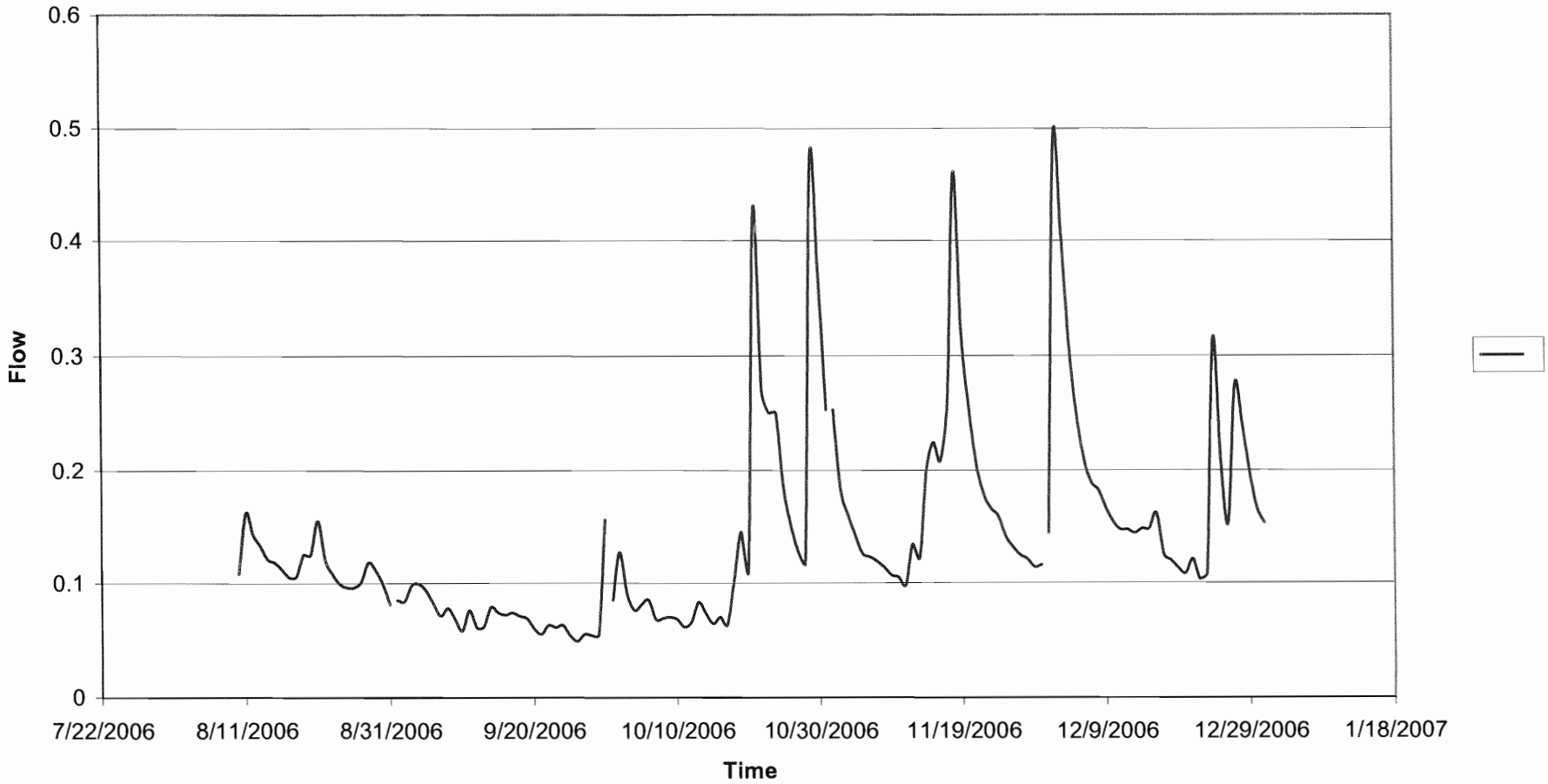


Figure 2.2

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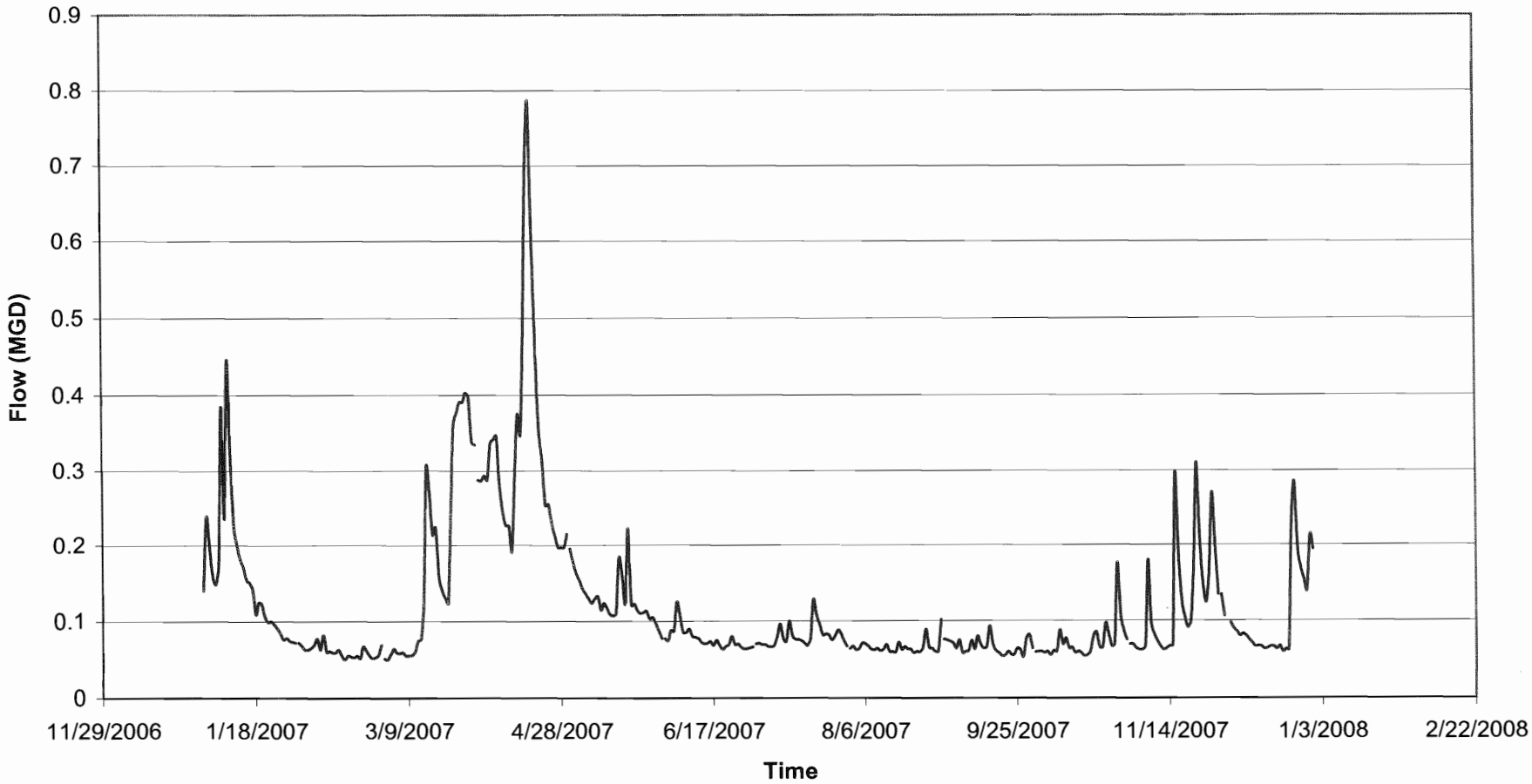


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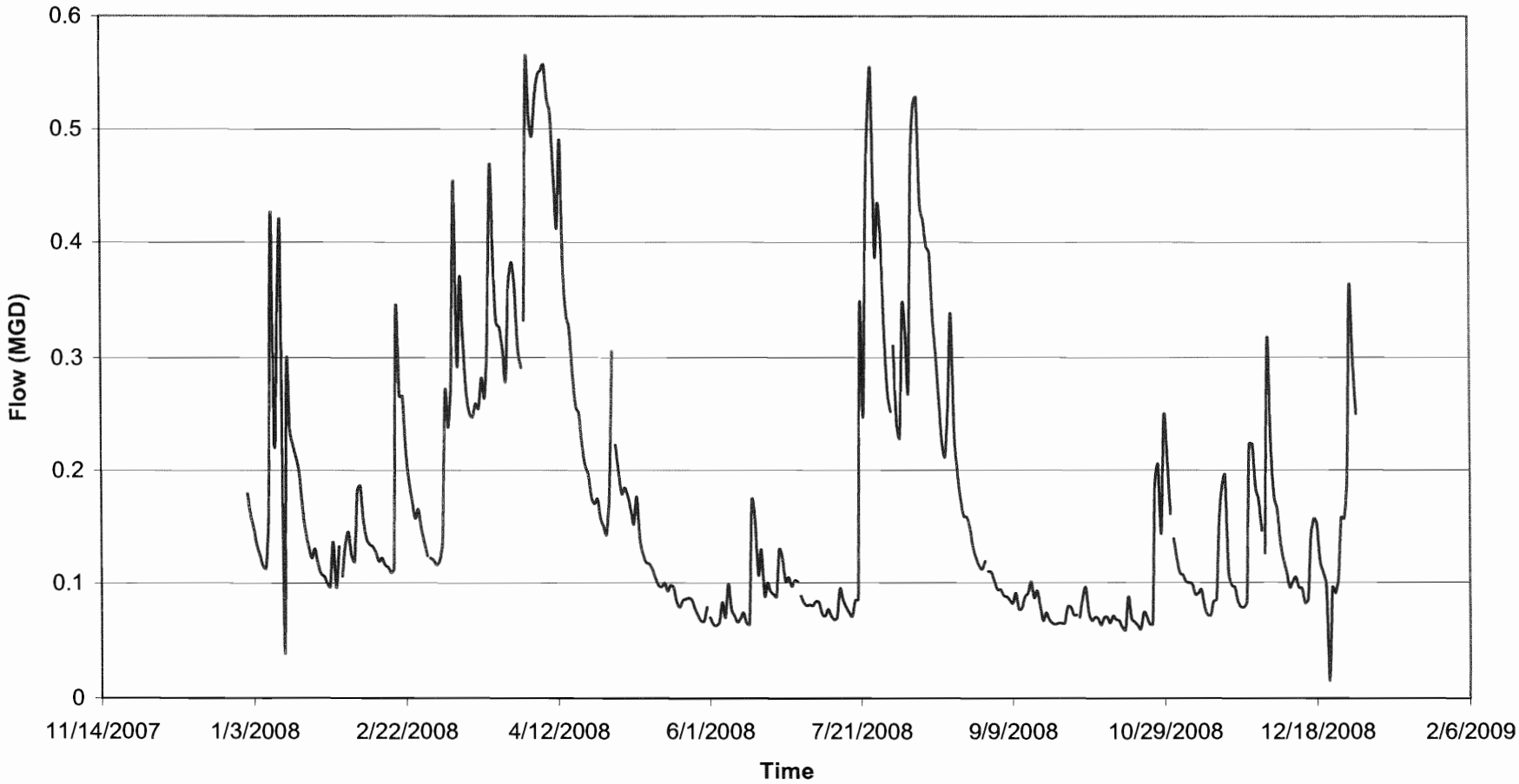


Figure 2.4

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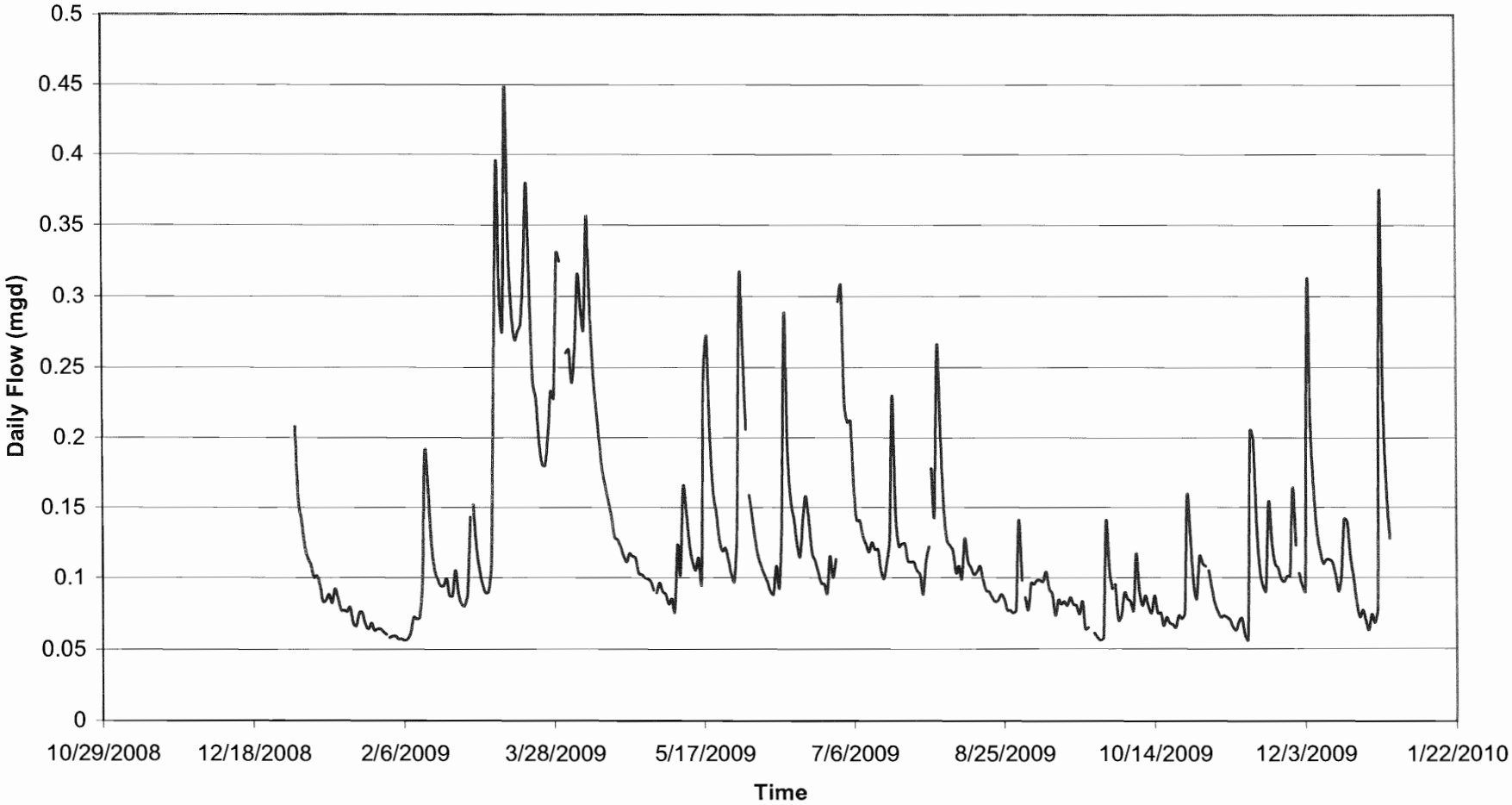


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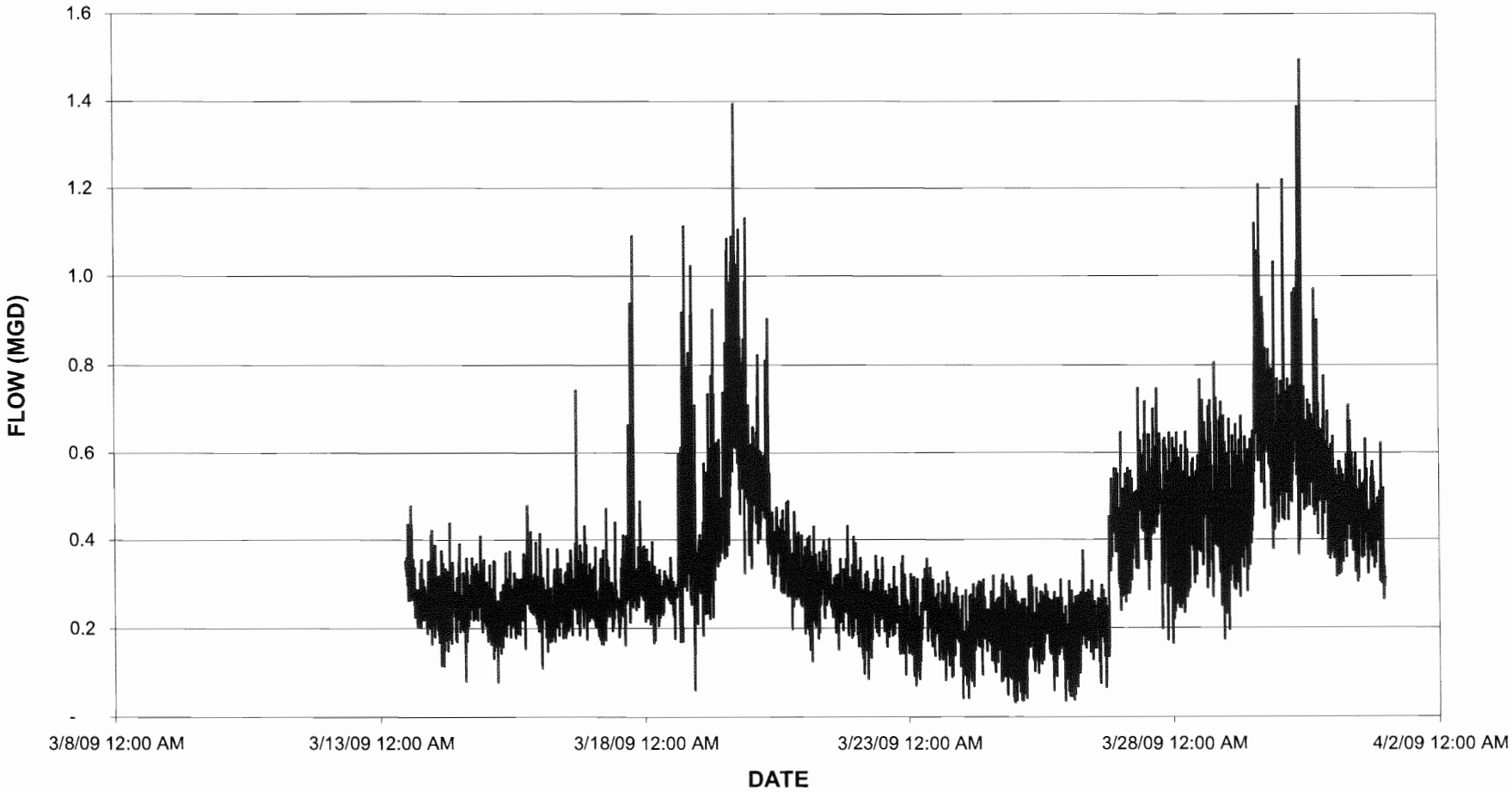


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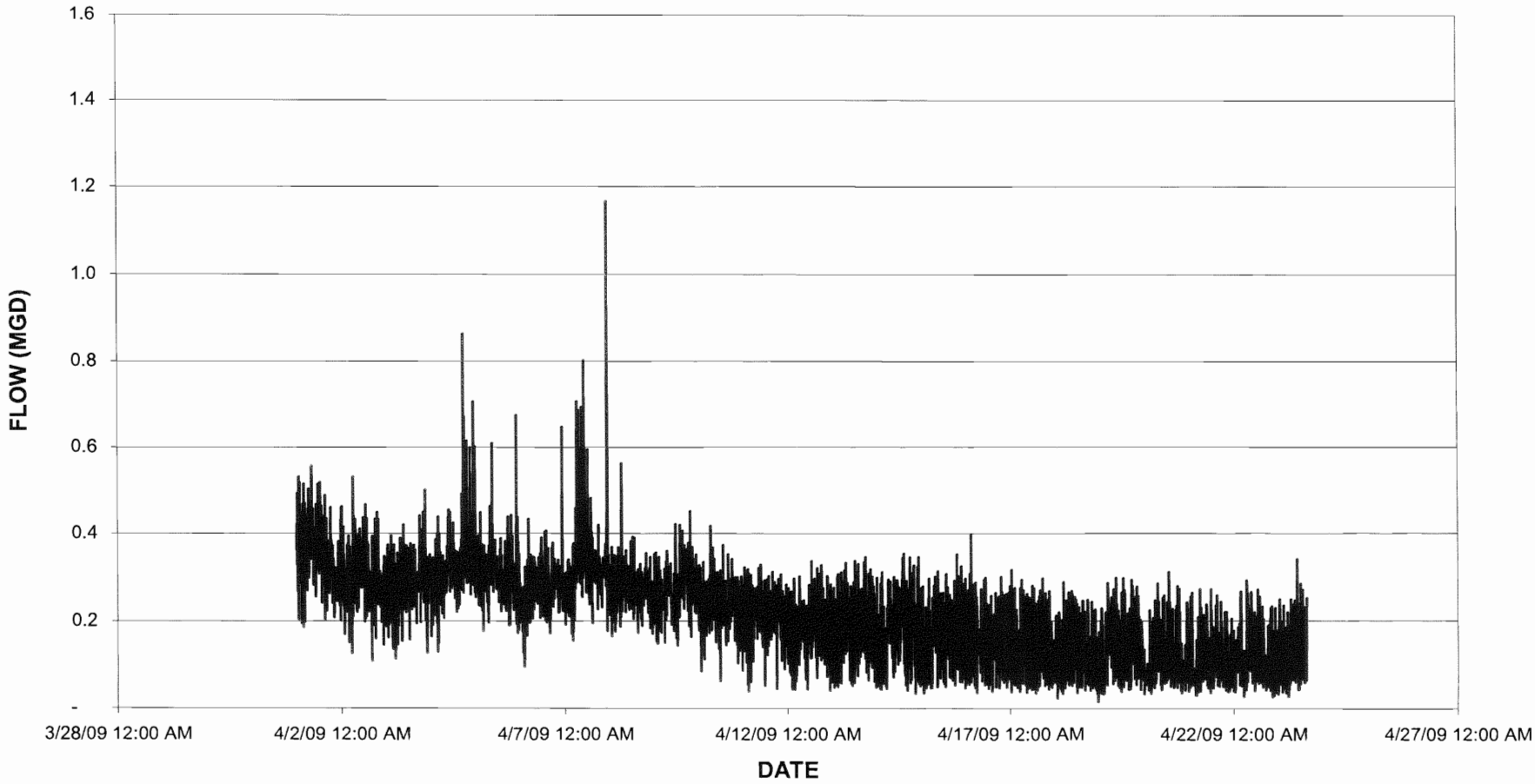


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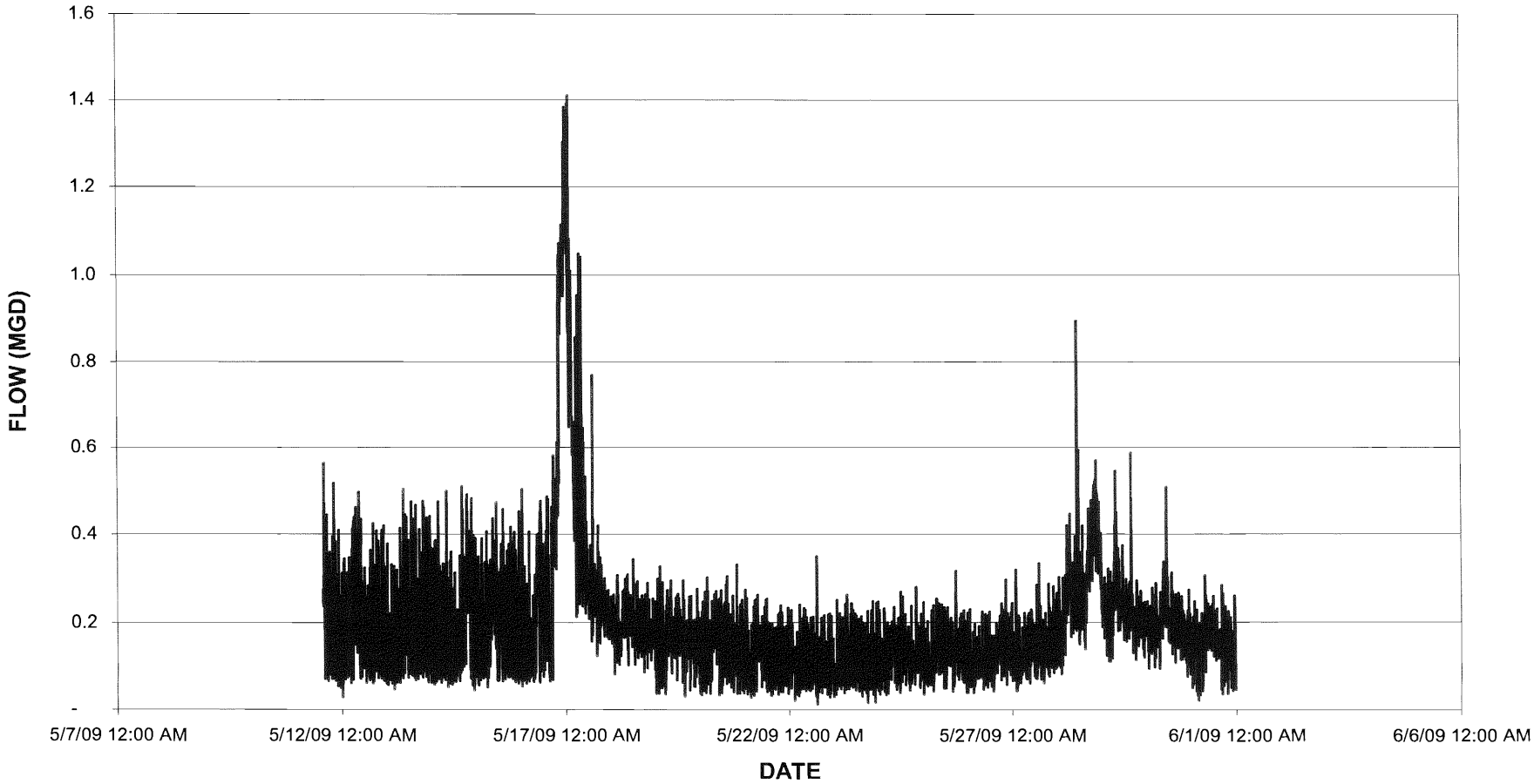


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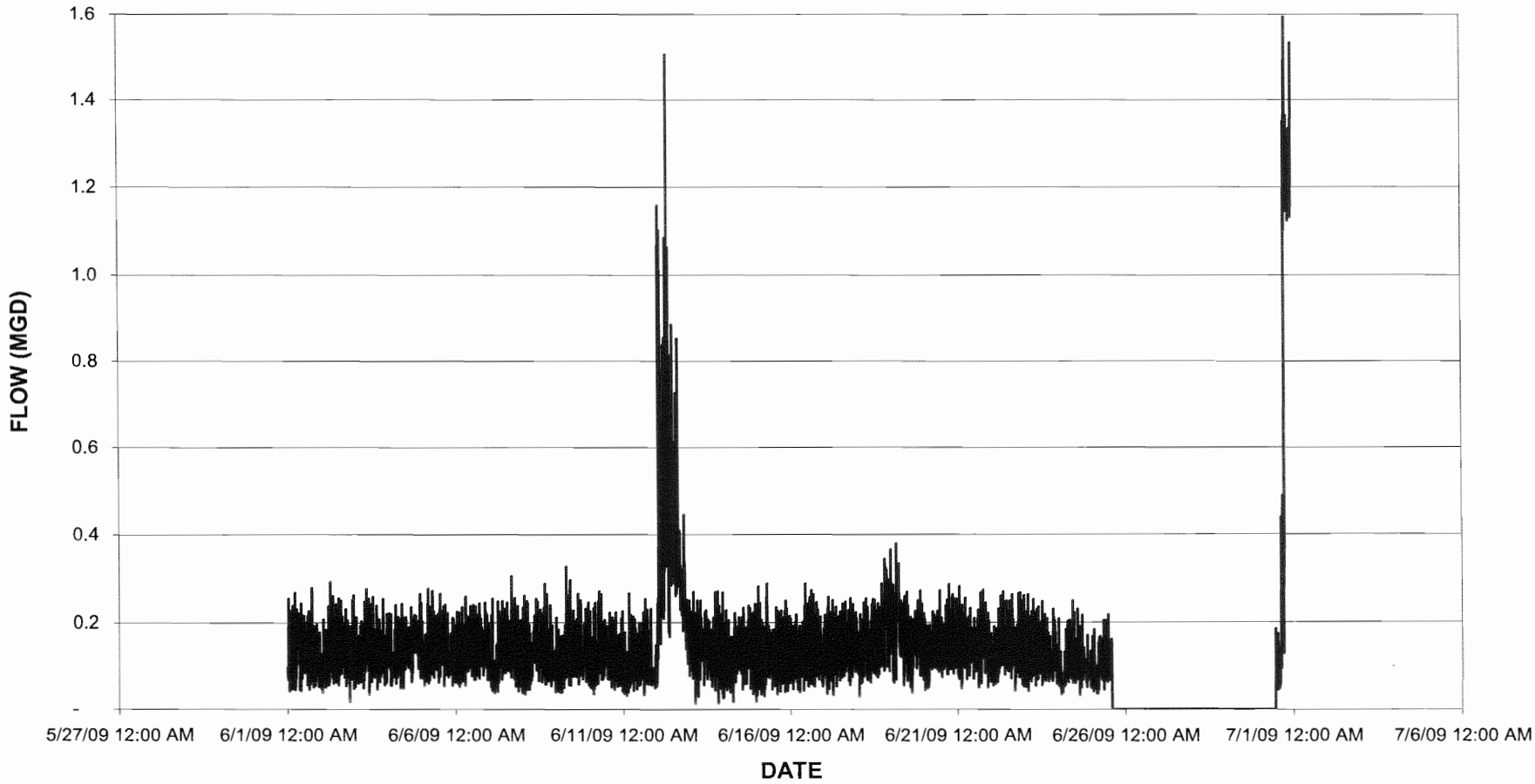


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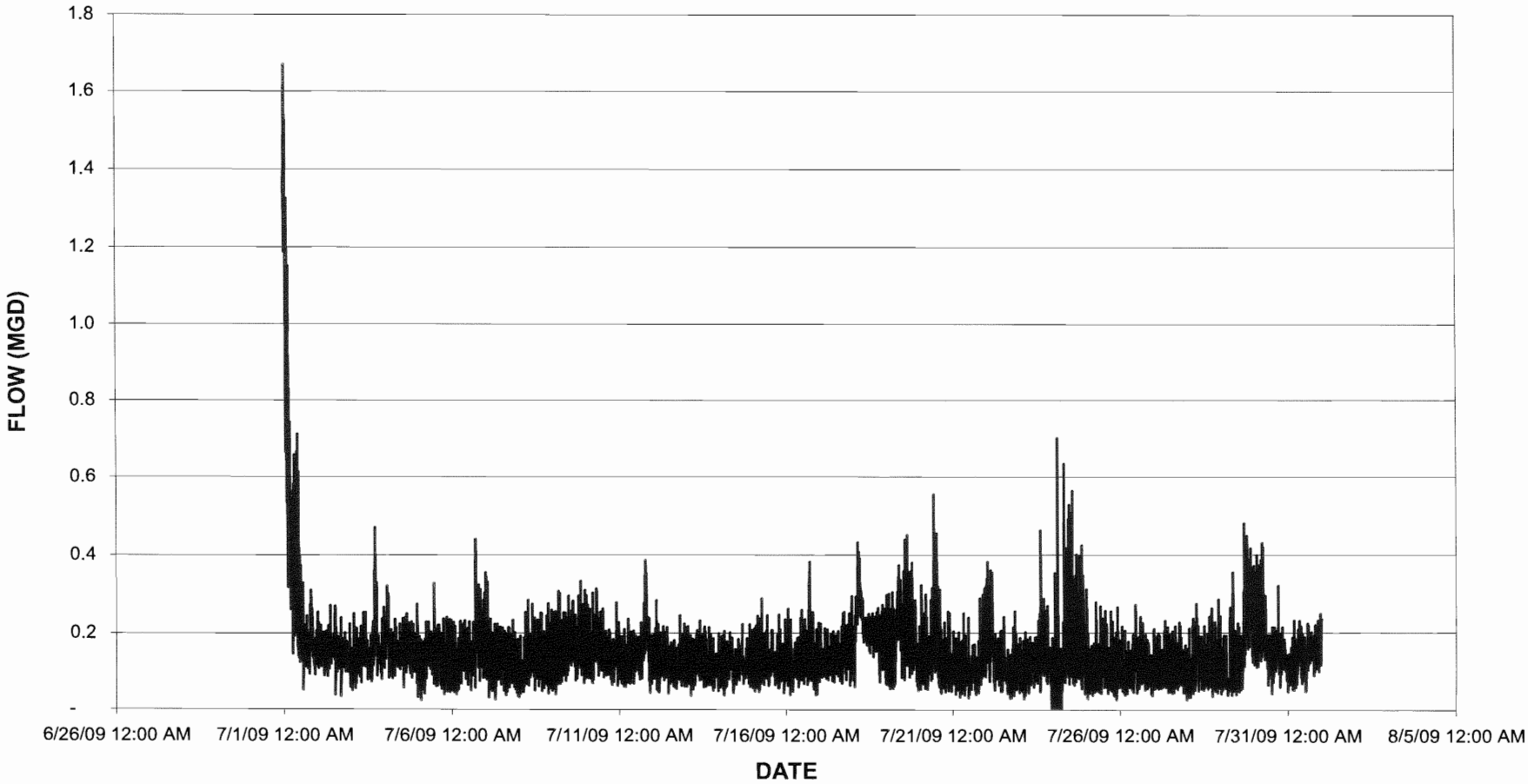


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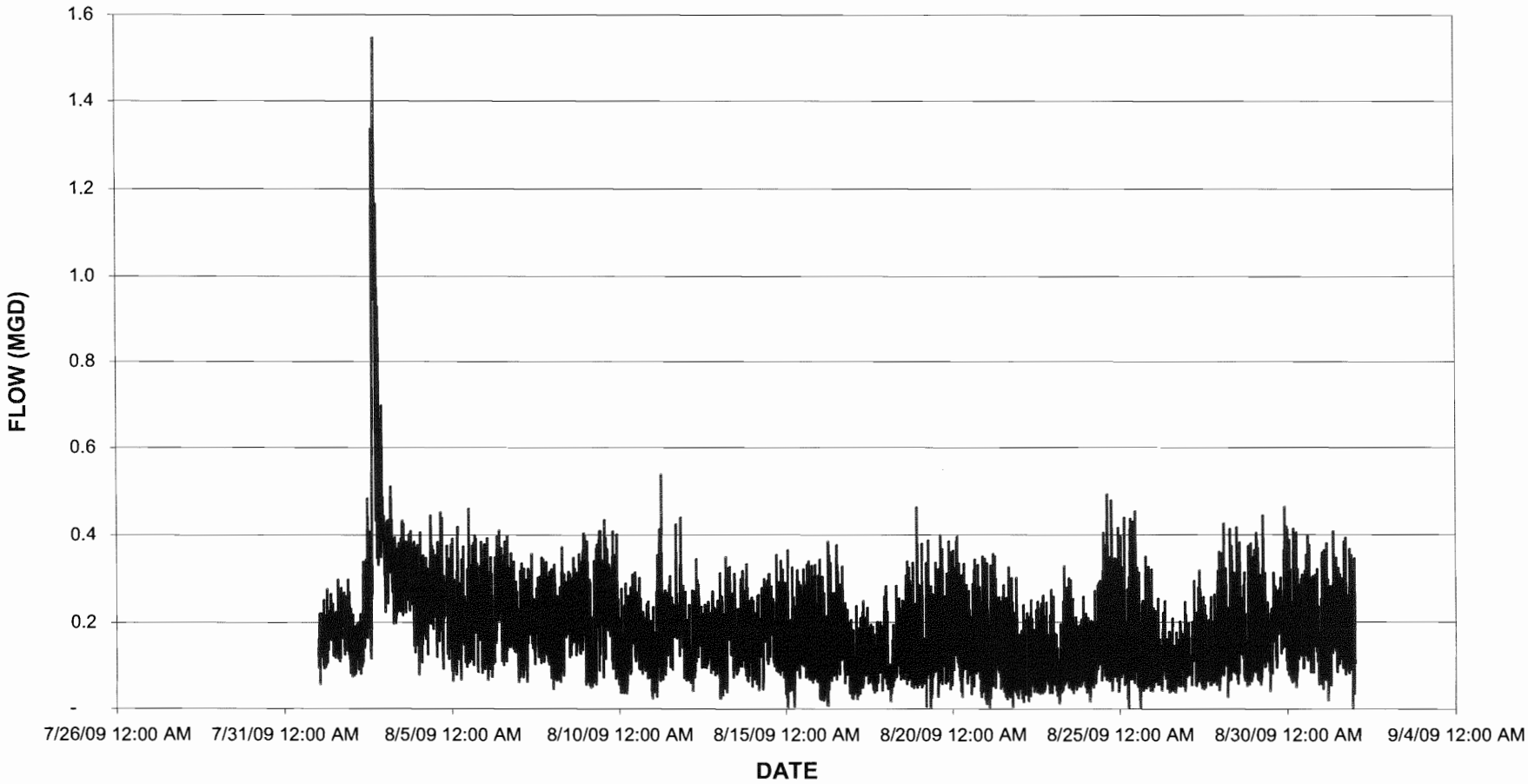


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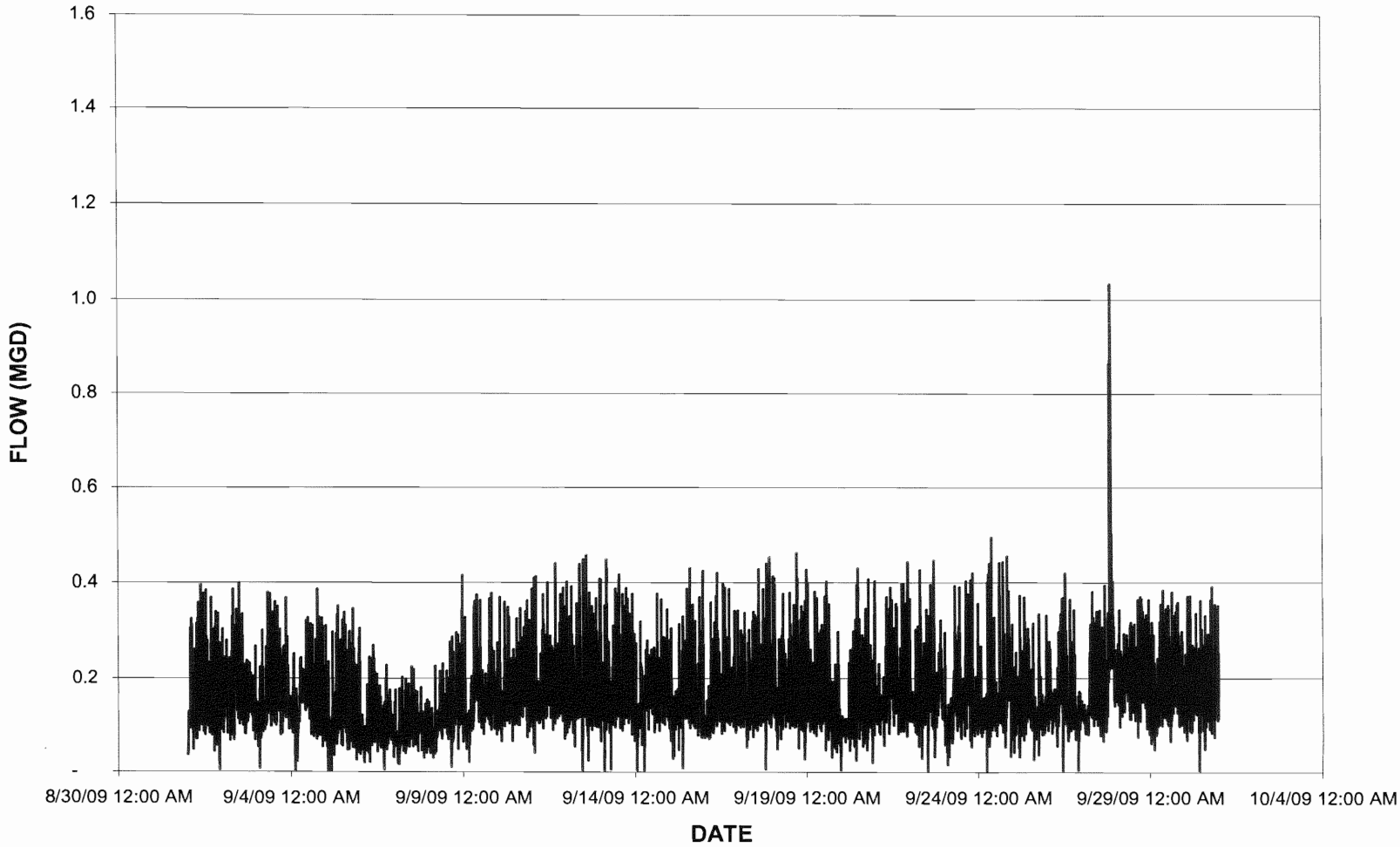


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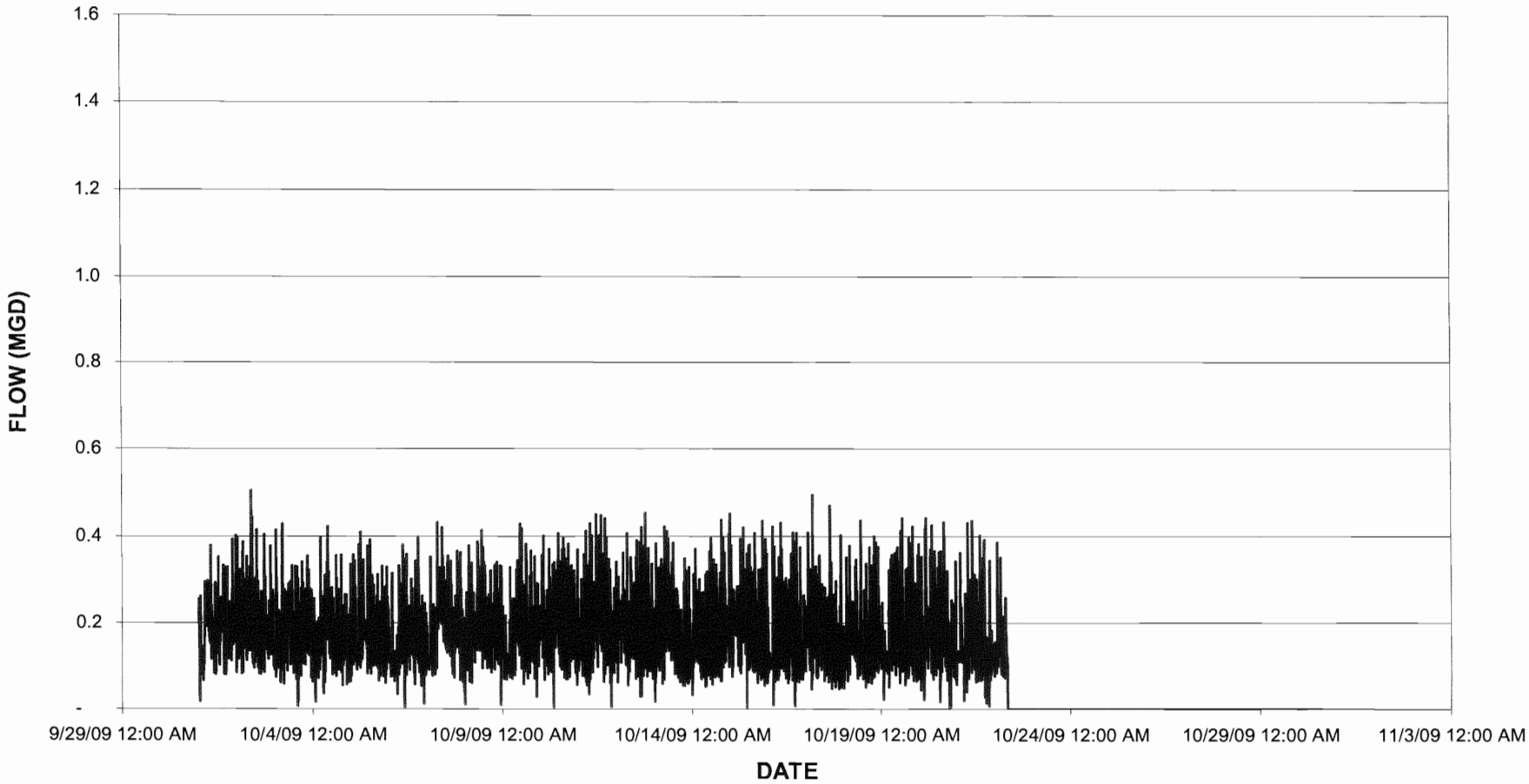


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Flow Management Plan and Performance Evaluation
Influent Flow Monitoring - November 2009

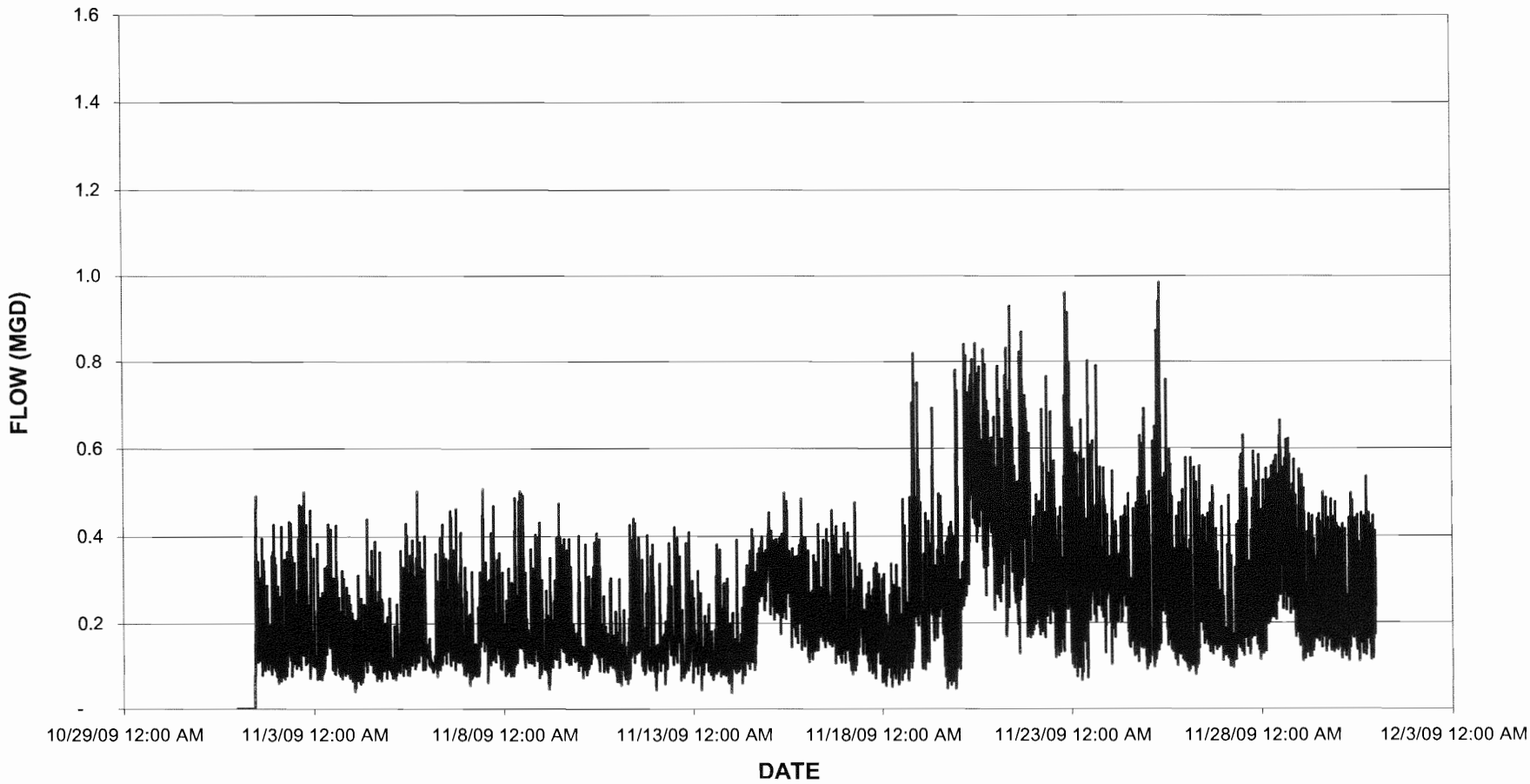


Figure 2.14

Town of Westport Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
Influent Flow Monitoring - December 2009

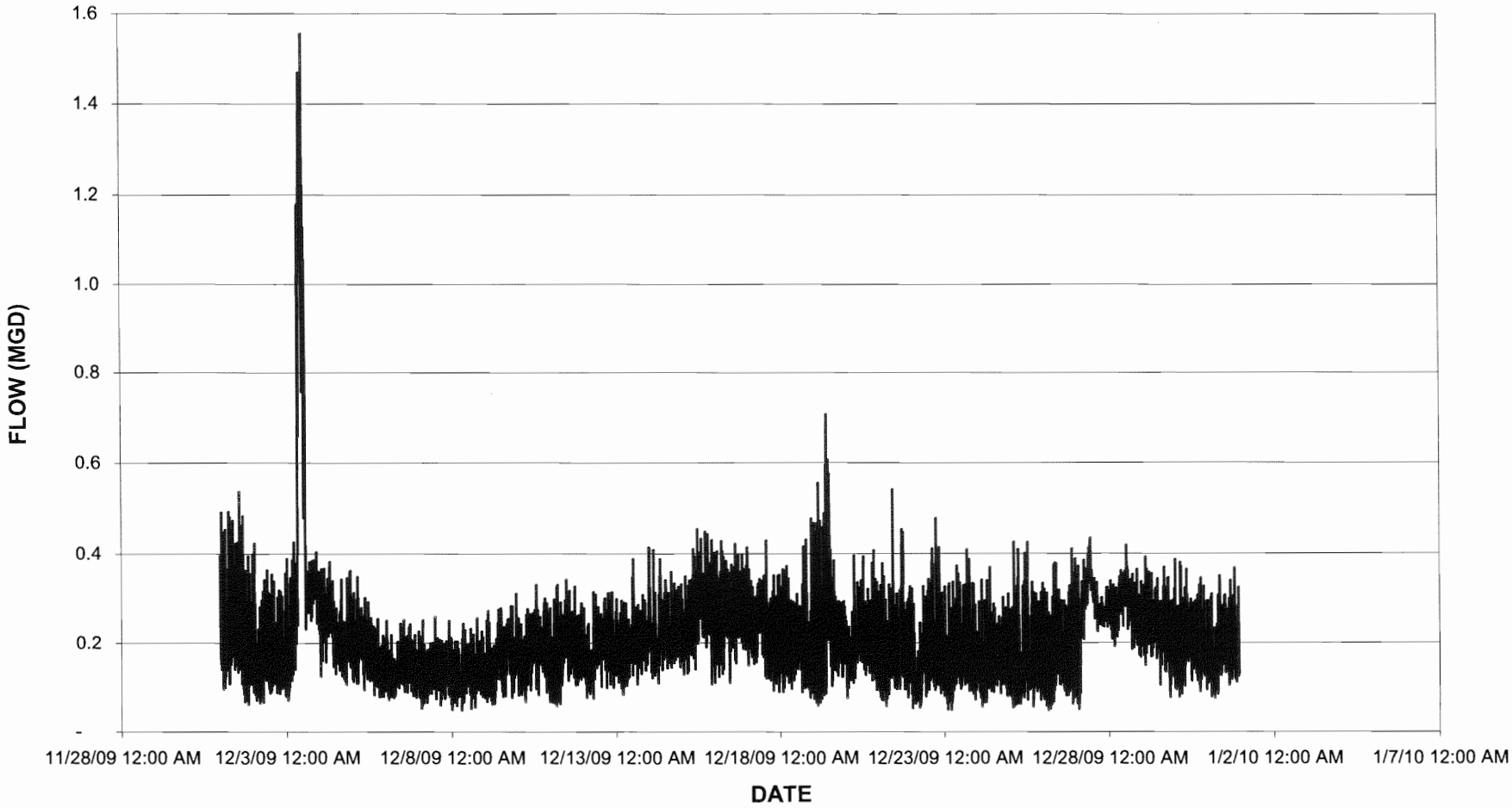


Figure 2.15

Town of Westport Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
Influent Flow Monitoring - January 2010

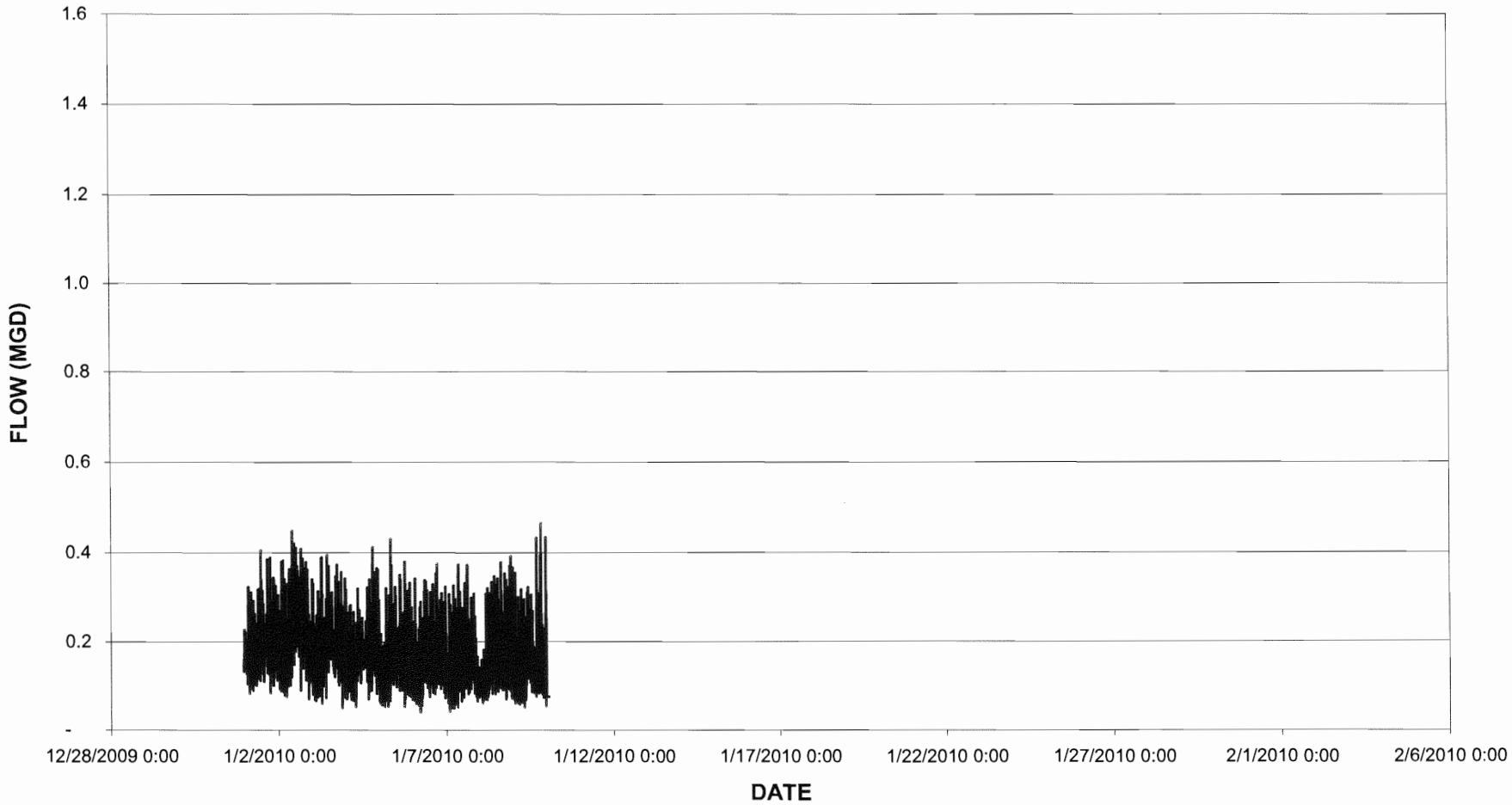


Figure 2.16

Town of Westport, Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
Collection System Monitoring, Sisco Street, MH 72, May 20 to Jun 30, 2010

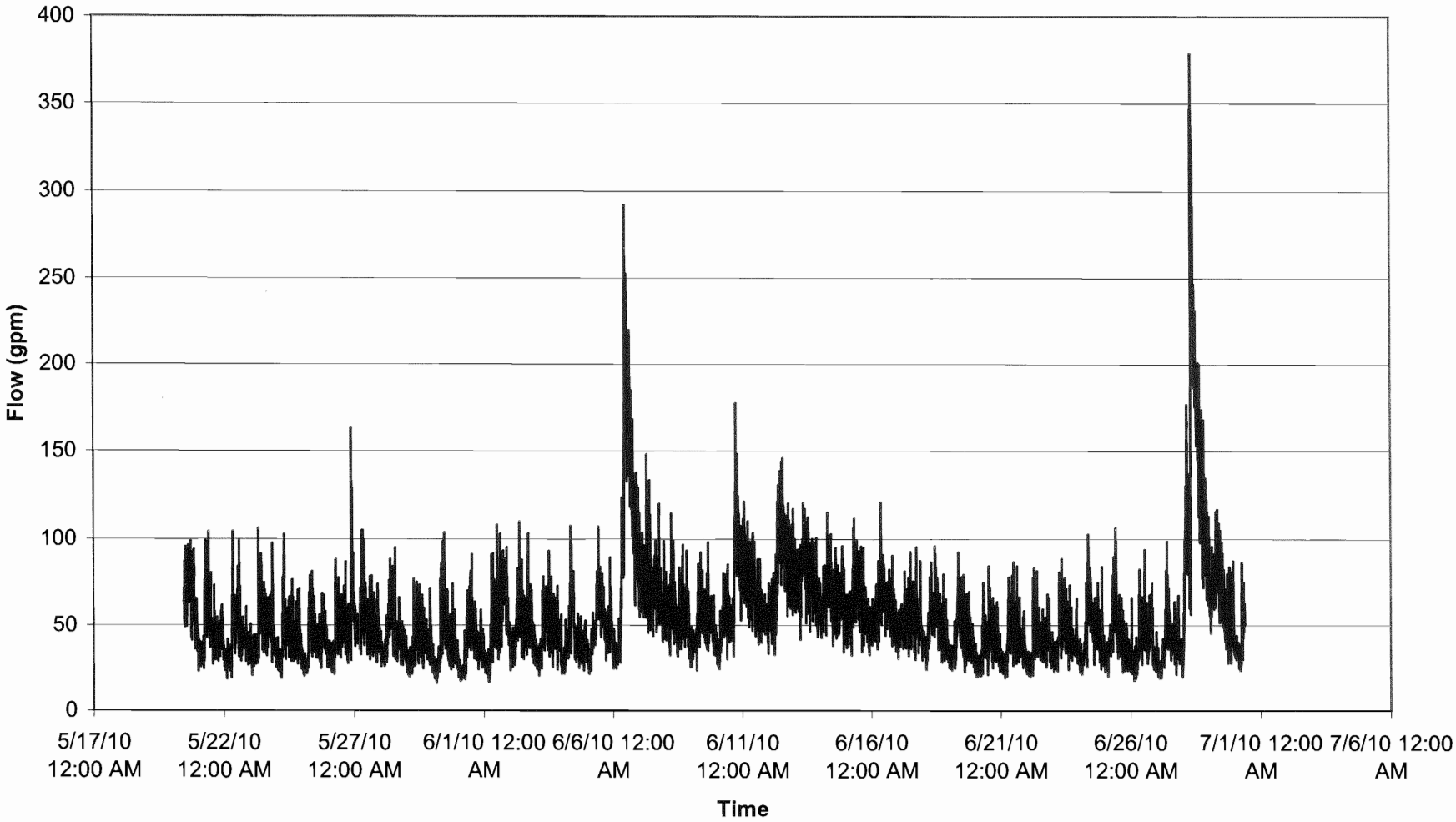


FIGURE 2.17 (UNAVAILABLE)

Figure 2.18

Town of Westport, Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
Collection System Monitoring, Marina Pump Station, (June 25 to June 30, 2010)

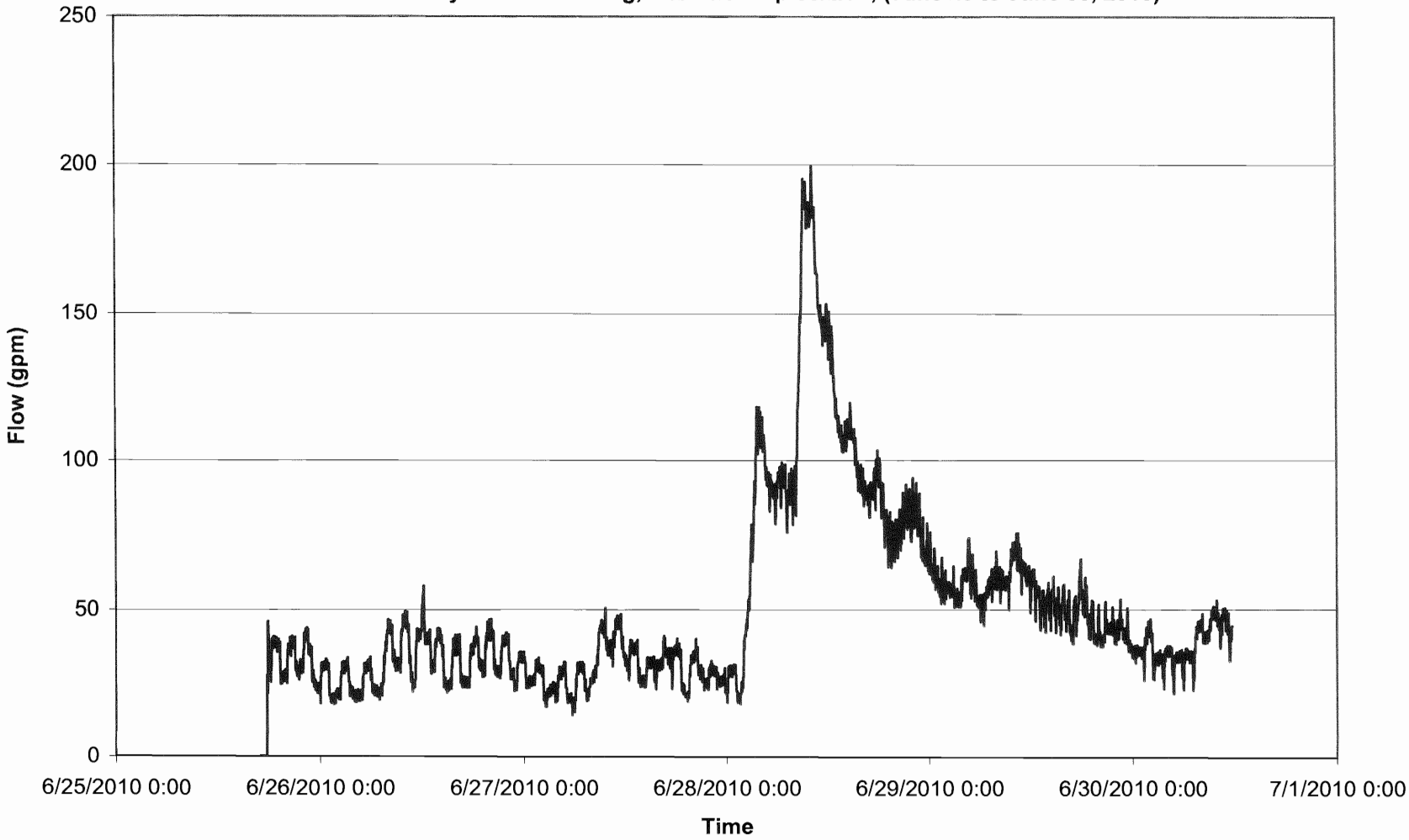


Figure 2.19
Town of Westport, Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
Marina Pump Station: S&L Model 4b2a, 1760 rpm, 8.125 inch impeller

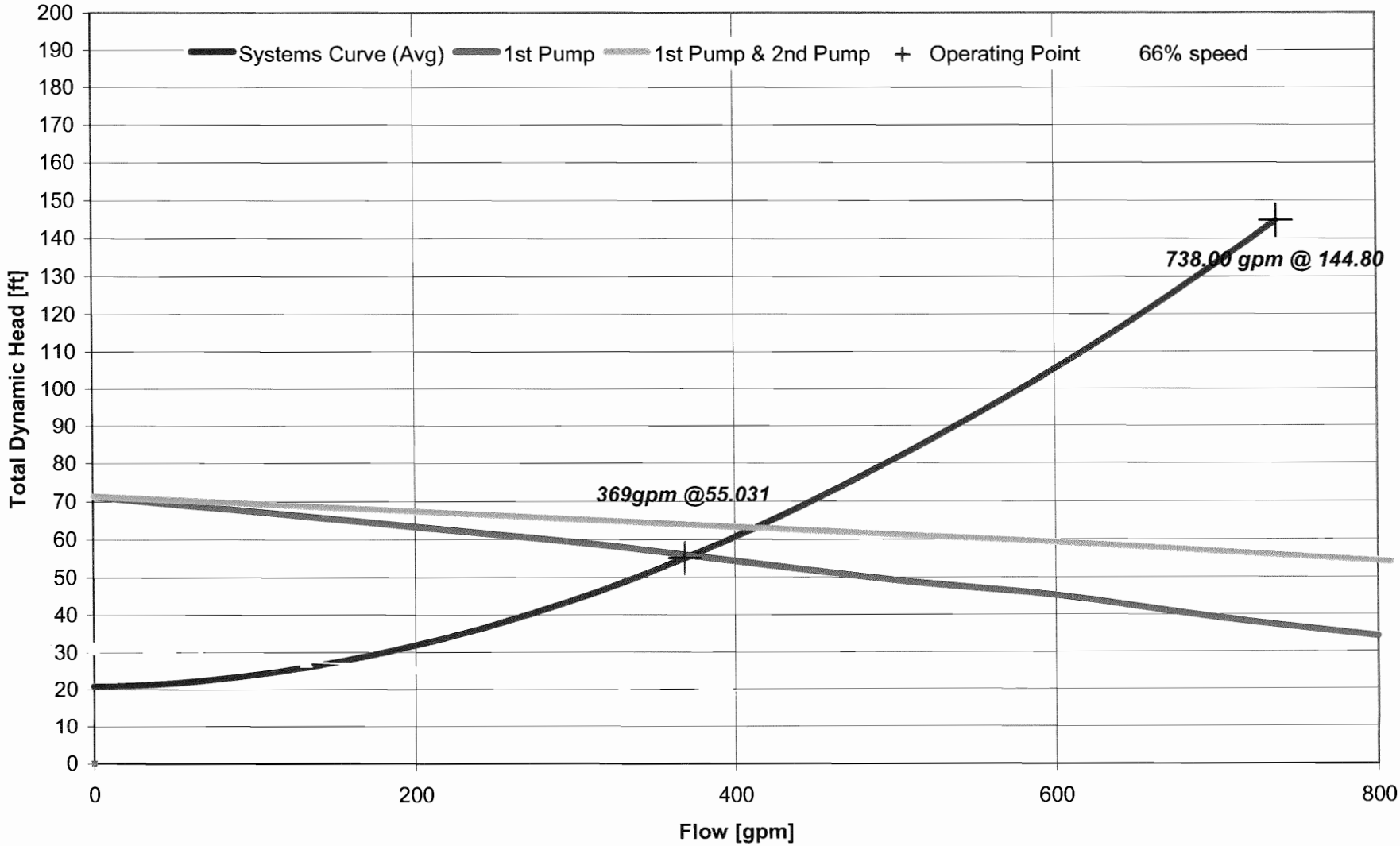


Figure 2.20

Town of Westport, Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
Collection System Monitoring, Manhole 26, May 20 to June 30, 2010

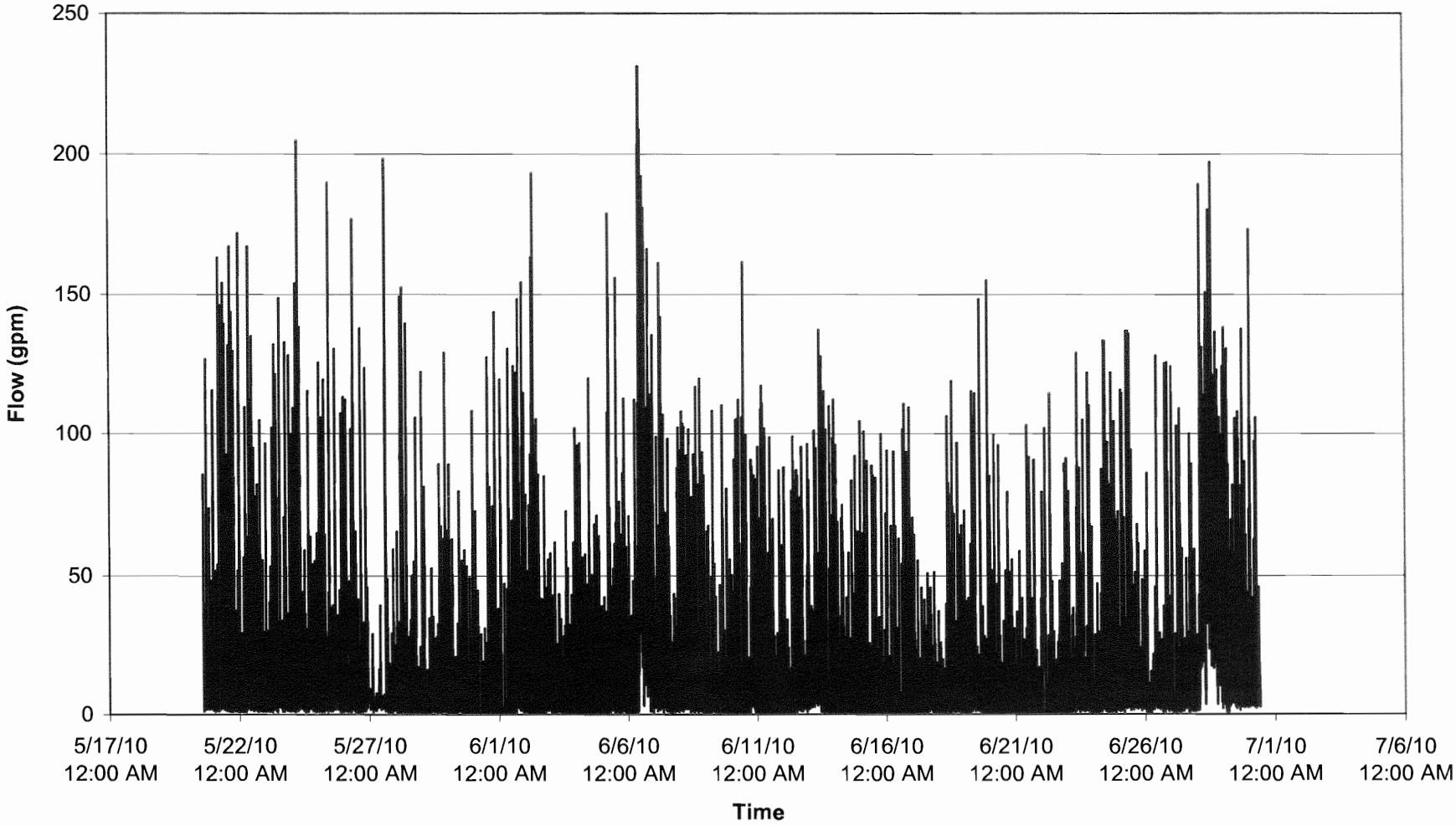


Figure 2.21

Town of Westport, Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
Collection System Monitoring, Worman Road Pump Station (June 25 to June 30, 2010)

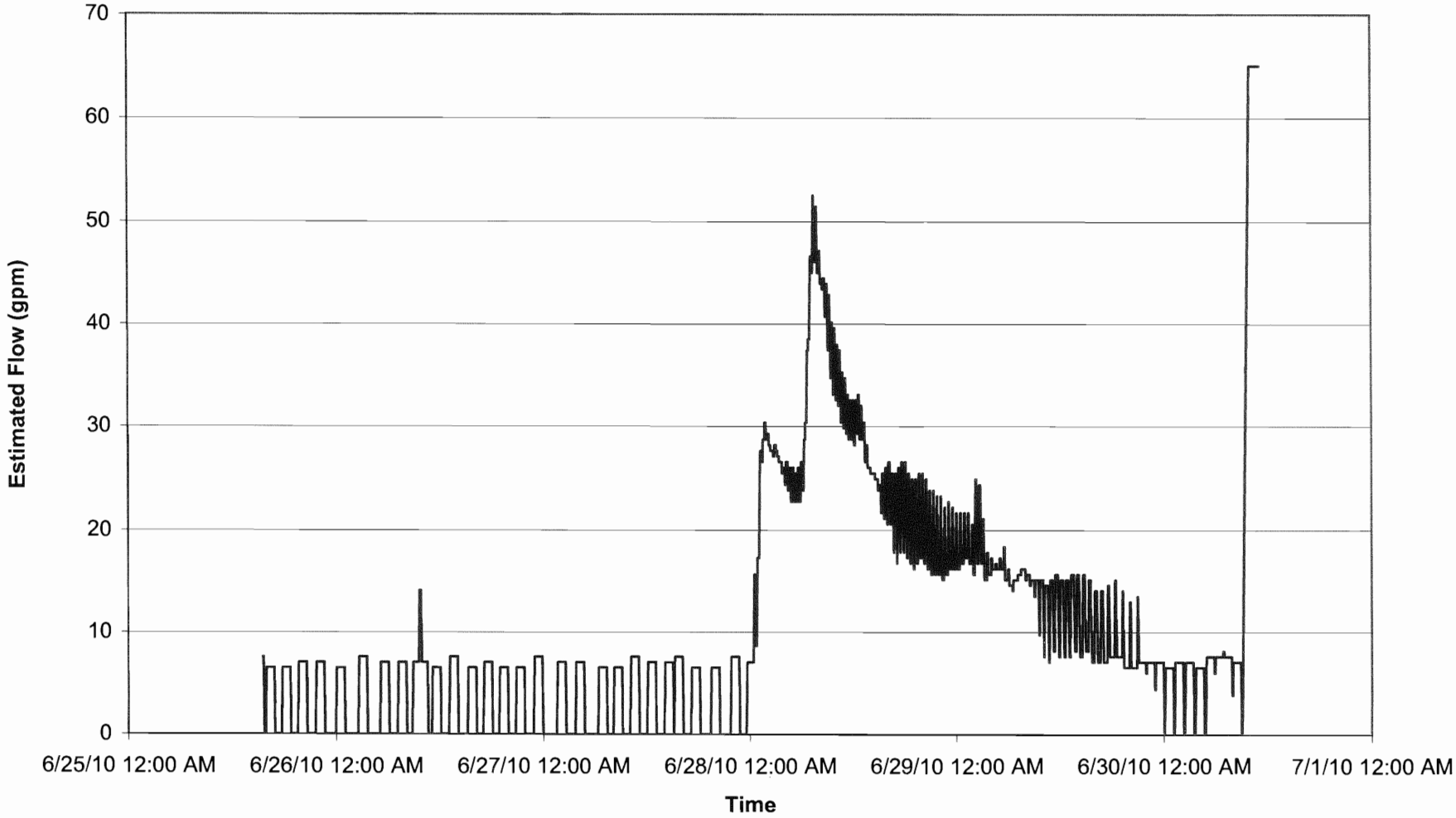


Figure 2.22

Town of Westport, Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
Worman Road Pump Station: Gorman Rupp Model T4, 2050 RPM

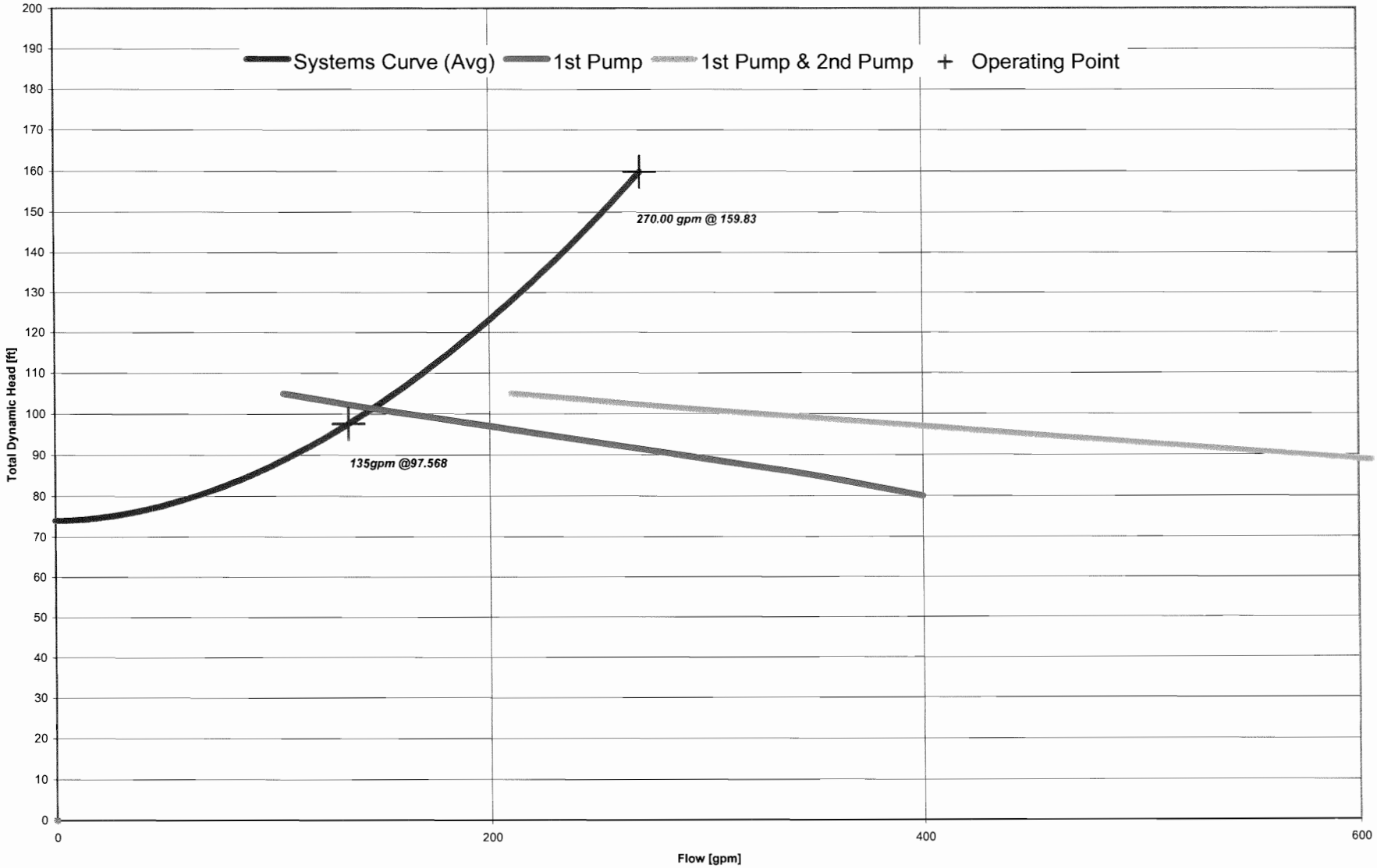


Figure 3.1

Town of Westport, Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
DMR Effluent Loadings: 2008

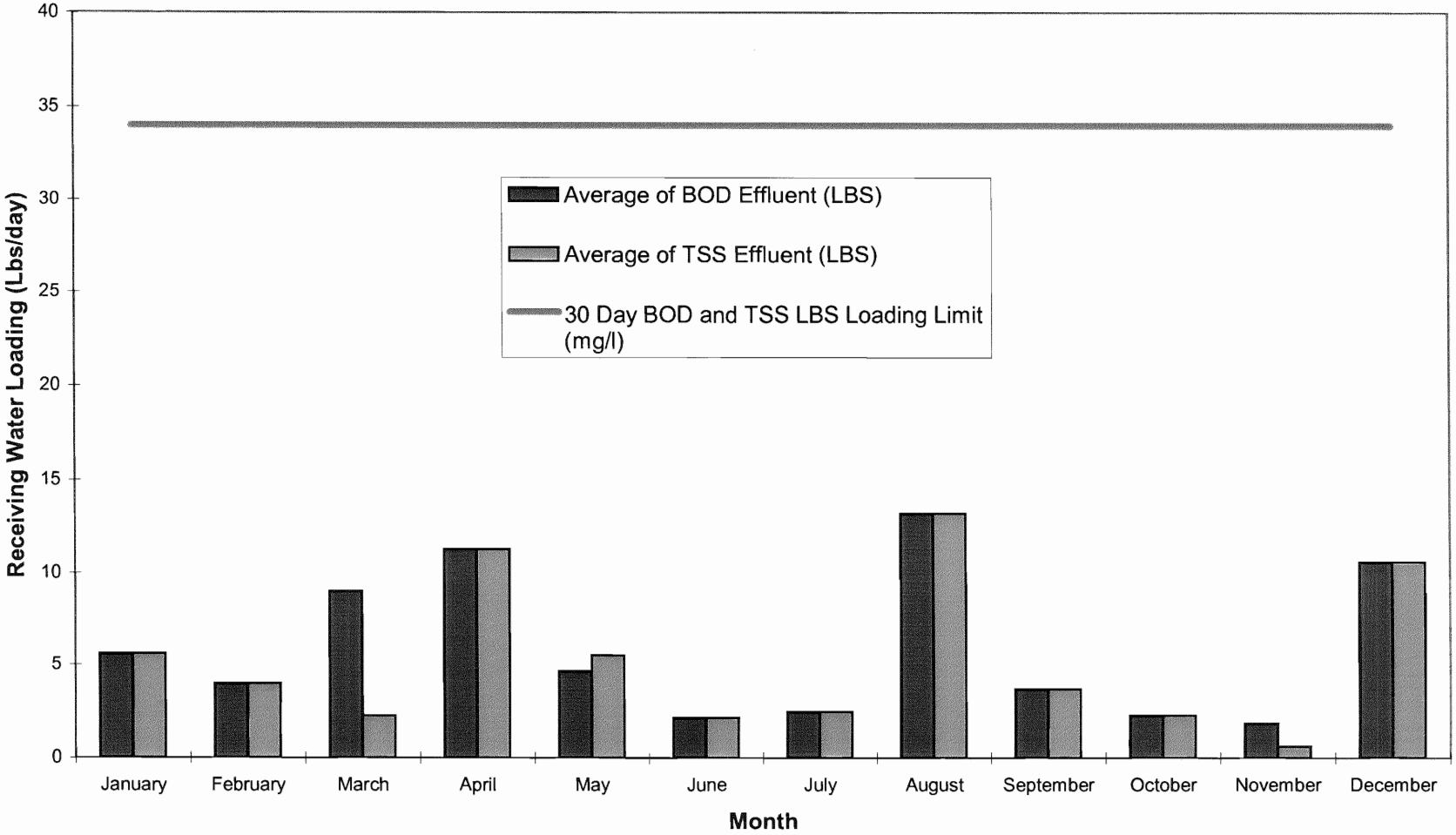


Figure 3.2

Town of Westport, Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
DMR Effluent Loadings: 2009

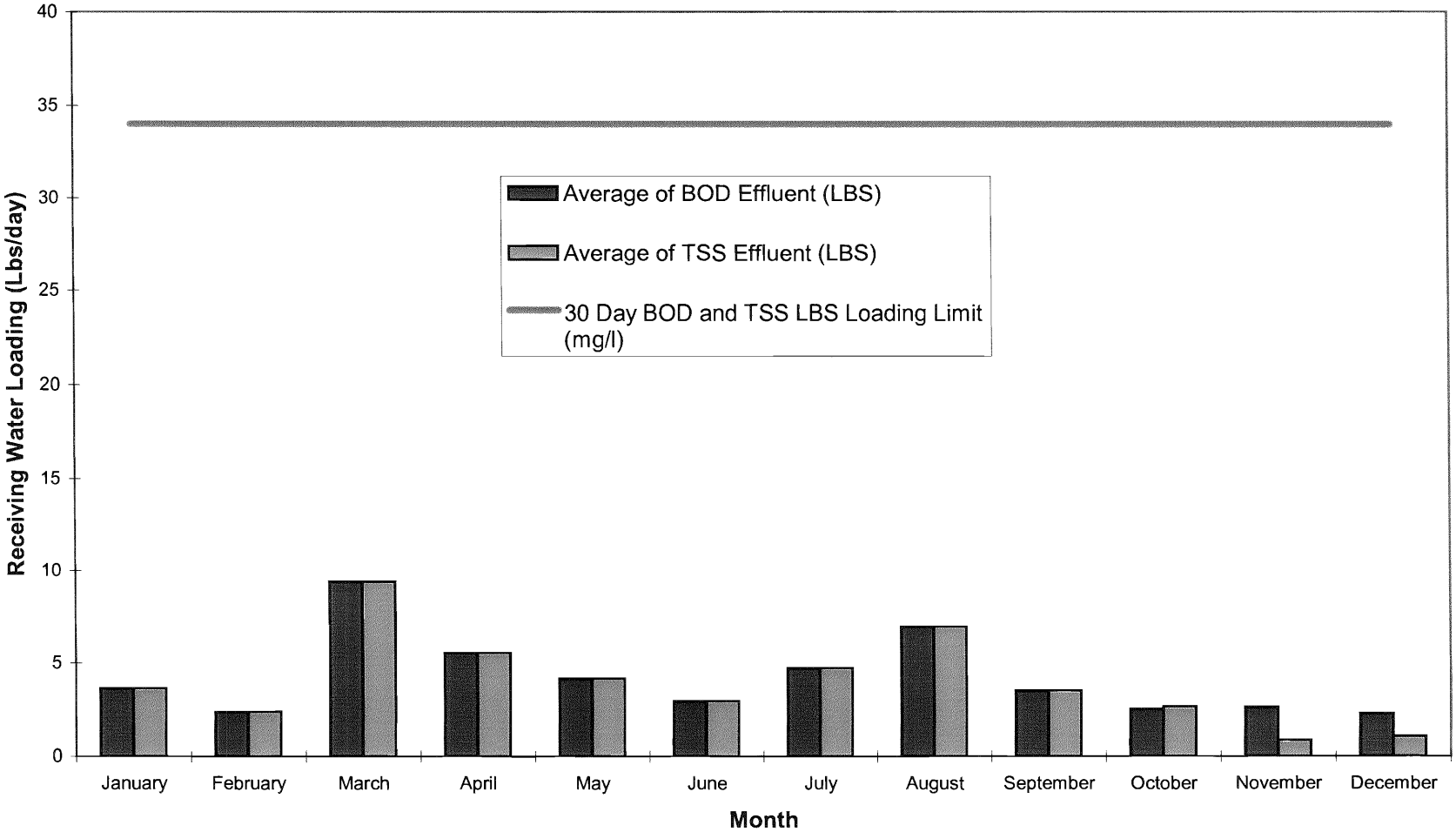


Figure 3.3

Town of Westport, Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
Annual Certification Loadings: 2008

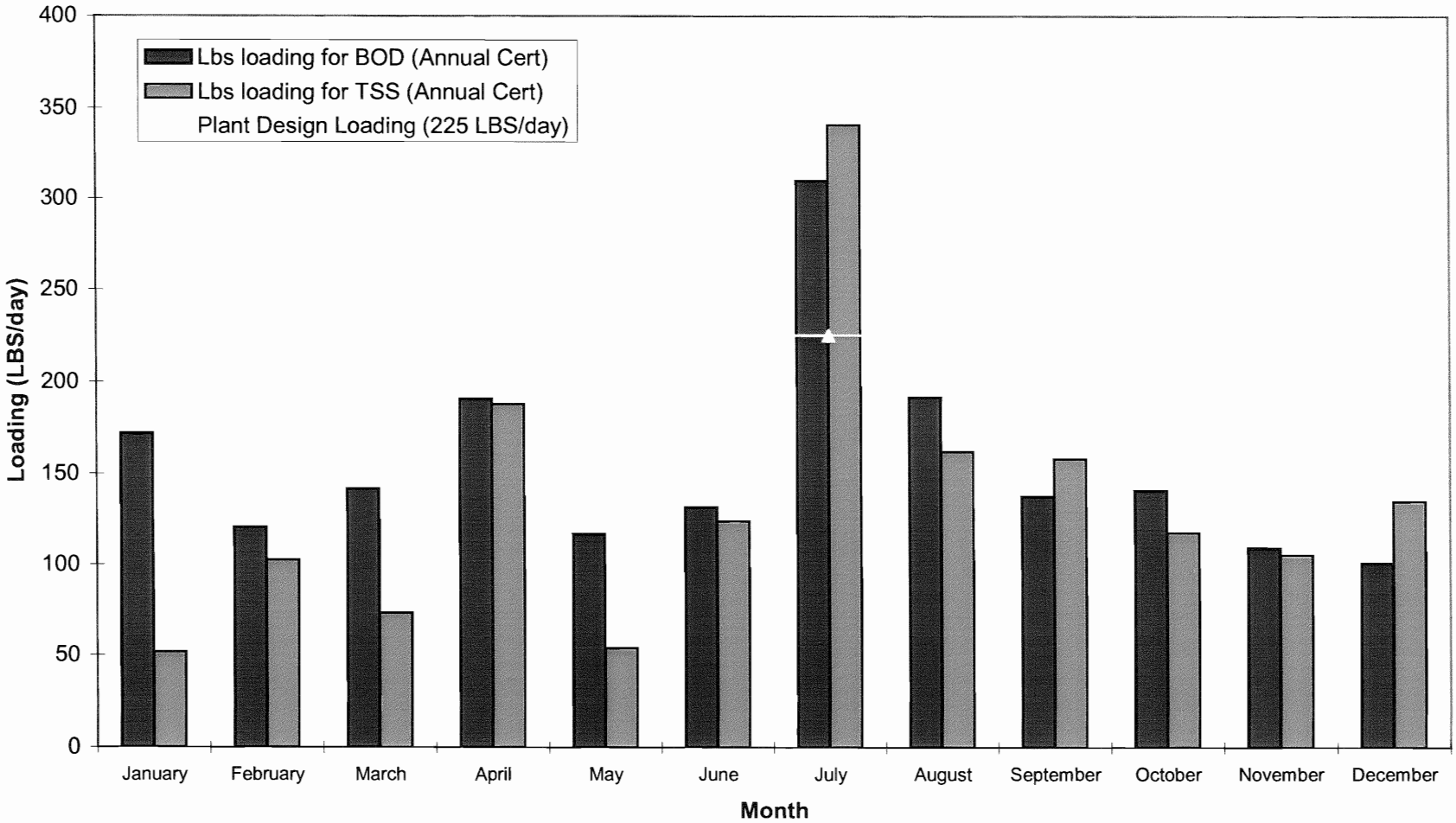
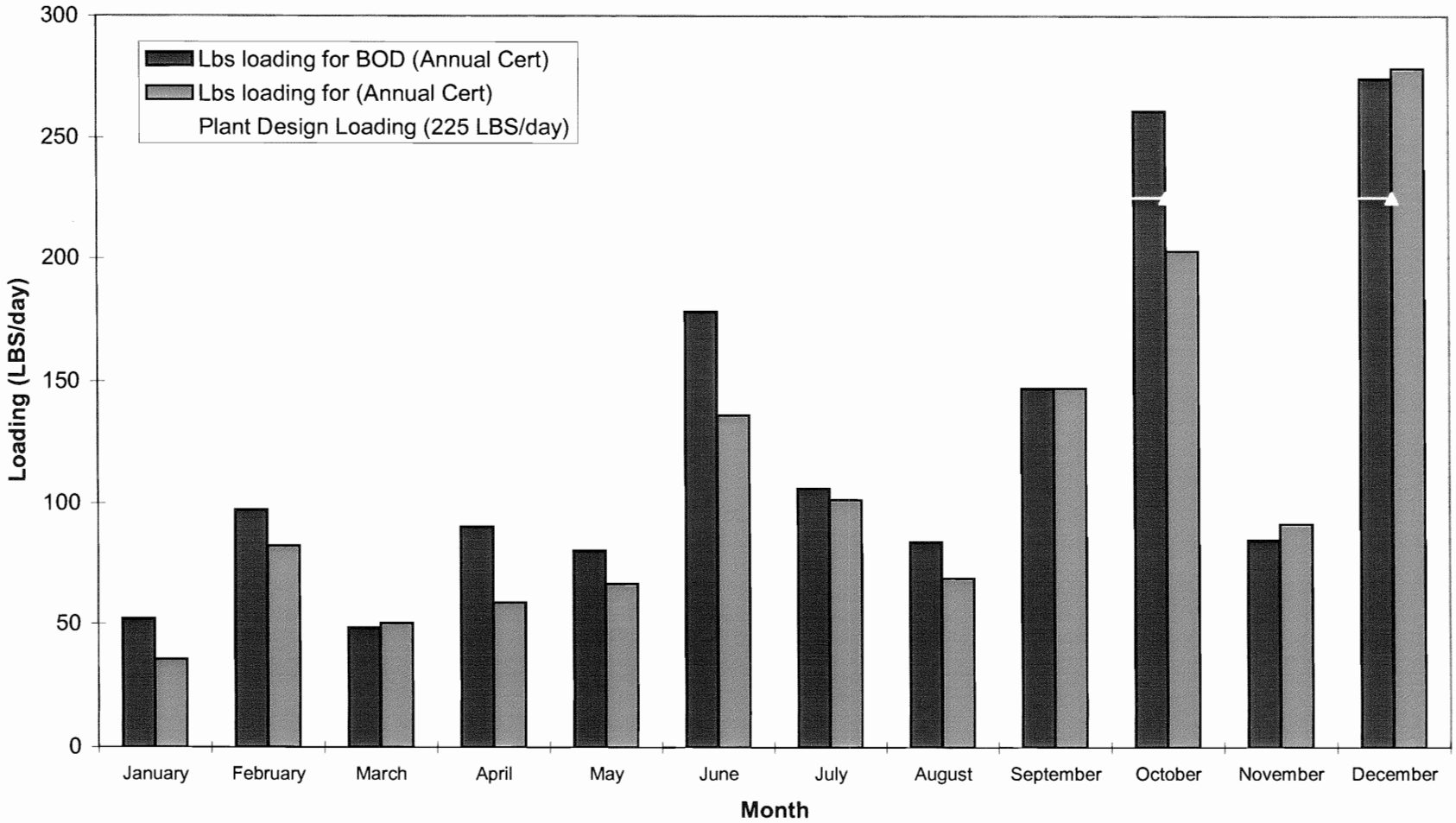


Figure 3.4

Town of Westport, Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
Annual Certification Loadings: 2009



List of Tables

Table 3.1 Town of Westport, Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
DMR Monthly Data Summary: 2008

Table 3.2 Town of Westport, Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
DMR Monthly Data Summary: 2009

Table 3.3 Town of Westport, Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
Projected Increase in Flows and Loadings

Table 3.1
Town of Westport, Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
DMR Monthly Data Summary: 2008

	Month												
Data	January	February	March	April	May	June	July	August	September	October	November	December	Grand Total
Sum of Daily Precip In/Day	12.40	**40.30**	11.00	3.40	0.70	6.40	10.80	7.00	1.70	4.90	2.90	36.20	137.70
Average of Daily Average MGD	0.172	0.157	0.284	0.347	0.117	0.093	0.186	0.274	0.082	0.094	0.119	0.147	0.173
Max of Daily Average MGD	0.43	0.34	0.47	0.56	0.22	0.17	0.55	0.53	0.11	0.25	0.22	0.36	0.56
Max of Inst. Max. MGD	1.33	1.33	1.33	1.33	1.15	1.33	1.33	1.33	0.97	1.33	1.33	1.35	1.35
Average of BOD Influent (mg/l)	120.00	92.00	60.00	66.00	120.00	170.00	200.00	84.00	200.00	180.00	110.00	82.00	123.67
Average of BOD Influent (LBS)	167.13	91.31	134.61	186.05	112.09	89.32	121.76	277.42	181.81	100.58	66.05	216.11	145.35
Average of Modified BOD Effluent (mg/L)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	4.00	3.92
Average of BOD Effluent (LBS)	5.57	3.97	8.97	11.28	4.60	2.10	2.44	13.21	3.64	2.24	1.80	10.54	5.77
Average of TSS Influent (mg/l)	36.00	78.00	30.80	65.00	55.00	160.00	220.00	71.00	230.00	150.00	106.00	110.00	109.32
Average of TSS Influent (LBS)	50.14	77.41	69.10	183.23	75.23	84.07	133.94	234.49	209.08	83.82	63.65	289.90	129.50
Average of TSS Effluent (LBS)	5.57	3.97	2.24	11.28	5.47	2.10	2.44	13.21	3.64	2.24	0.60	10.54	5.27
Average of Phosphorus Effluent (mg/l)	2.10	0.73	0.51	0.23	0.87	2.60	1.80	0.41	0.74	2.90	2.50	1.10	1.37
Average of BOD % removal	0.97	0.96	0.93	0.94	0.97	0.98	0.98	0.95	0.98	0.98	0.97	0.95	0.96
Average of TSS % removal	0.89	0.95	0.97	0.94	0.93	0.98	0.98	0.94	0.98	0.97	0.99	0.96	0.96

Table 3.2
Town of Westport, Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
DMR Monthly Date Summary: 2009

	Month												
Data	January	February	March	April	May	June	July	August	September	October	November	December	Grand Total
Sum of Daily Precip In/Day	31.20	**3.90**	5.60	1.80	5.70	4.40	6.30	4.50	2.90	4.00	4.00	13.30	87.60
Average of Daily Average MGD	0.089	0.090	0.241	0.180	0.139	0.126	0.145	0.114	0.084	0.087	0.101	0.127	0.127
Max of Daily Average MGD	0.21	0.19	0.45	0.36	0.31	0.29	0.31	0.27	0.14	0.16	0.21	0.37	0.45
Max of Inst. Max. MGD	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
Average of BOD Influent (mg/l)	70.00	130.00	24.00	60.00	69.00	170.00	88.00	88.00	210.00	360.00	100.00	260.00	135.75
Average of BOD Influent (LBS)	63.63	76.98	56.24	83.07	71.36	124.77	103.48	152.66	182.15	225.18	86.74	195.16	118.45
Average of Modified BOD Effluent (mg/L)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	3.00	3.83
Average of BOD Effluent (LBS)	3.64	2.37	9.37	5.54	4.14	2.94	4.70	6.94	3.47	2.50	2.60	2.25	4.20
Average of TSS Influent (mg/l)	48.00	110.00	25.00	39.00	57.00	130.00	84.00	72.00	210.00	280.00	108.00	264.00	118.92
Average of TSS Influent (LBS)	43.63	65.14	58.59	53.99	58.95	95.41	98.78	124.90	182.15	175.14	93.67	198.16	104.04
Average of TSS Effluent (LBS)	3.64	2.37	9.37	5.54	4.14	2.94	4.70	6.94	3.47	2.63	0.87	1.05	3.97
Average of Phosphorus Effluent (mg/l)	0.87		0.39	0.72	0.98	1.10	0.84	1.70	5.80	2.00	1.10	0.90	1.49
Average of BOD % removal	0.94	0.97	0.83	0.93	0.94	0.98	0.95	0.95	0.98	0.99	0.97	0.99	0.95
Average of TSS % removal	0.92	0.96	0.84	0.90	0.93	0.97	0.95	0.94	0.98	0.99	0.99	0.99	0.95

Table 3.3

Town of Westport, Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
Projected Increase in Flows and Loadings

User Units

Classification	# of Units	Flow Per unit	Average Day Flow	Peak Hourly Factor**	Peak Hourly Flow
Residential					
(2) bedroom home	0	300	0	5	0
(3) bedroom home *	4	450	1800	5	9000
(4) bedroom home	0	600	0	5	0
Major Development					
Golf Course Fairway (3) bedroom homes	10	450	4500	5	22500
Commercial					
40 unit Motel (used 100 gpd/unit, - are these with or without kitchenette?)	40	100	4000	5	20000
Industrial					
(unassigned park development)	No design criteria listed		2500	5	12500
(potential Emergency Services Building)	No design criteria listed				
		Total Avg Day	12,800	Total Peak hr	64,000

GLUMRB - 2004

Flow per Capita	0.0001 MGD

	Lbs	mg/L	Design (mg/L)	Loading (lbs/day
BOD	0.17	203.84	220	23
TSS	0.20	239.81	240	26

Design Statement	Design Standard
* Single Family home (assumed 3 bedrooms) 400 gpd per NYS DEC, Used 450 to be consistent w/ prior reporting	NYSDEC DSWWTW - 1988
Diverging from NYS DEC design flows, every bedroom there after taken as 150 gpd in keeping w/GLUMRB	GLUMRB - 2004
Restaurants 35/day per unit, (no reported restaurants w/ development	NYSDEC DSWWTW - 1988
Motel 100 gpd/unit, 150 with kitchenette	NYSDEC DSWWTW - 1988
Restaurant 35 gpd/unit.	NYSDEC DSWWTW - 1988
** Peak factor of (4) used for new construction	GLUMRB - 2004

Inspection Photos

Photos	Town of Westport, Wastewater Treatment Plant Flow Management Plan and Performance Evaluation Manhole Inspection Photos
Photos	Town of Westport, Wastewater Treatment Plant Flow Management Plan and Performance Evaluation Sewer Main Inspection Photos

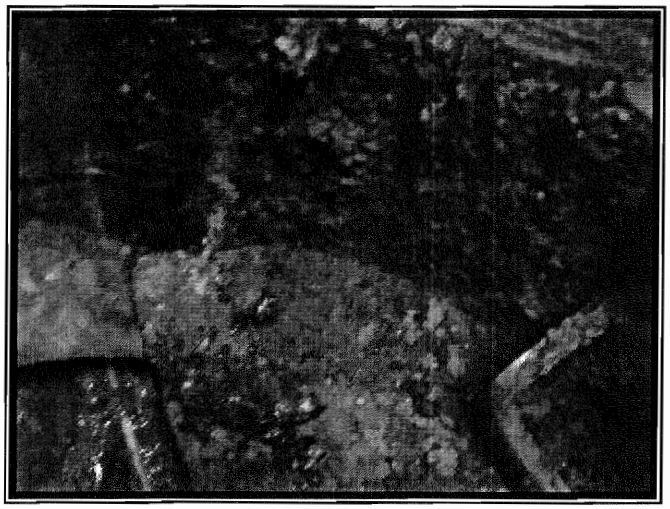
MANHOLE INSPECTION PHOTOS

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Town of Westport
Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
AES Project No. 3616

Manhole: 41

Location: Old Arsenal Road



General Inlet/Outlet Configuration

Not Inspected at this time.

Cover and Frame

Not Inspected at this time.

Corbel and Walls

Precast Concrete Manhole.
Concrete is pot-marked and has significant I&I issues. Manhole is covered in scaling from I&I. Streaked corrosion is evident on the walls of the manholes.

Bench Walls and Invert / Trough

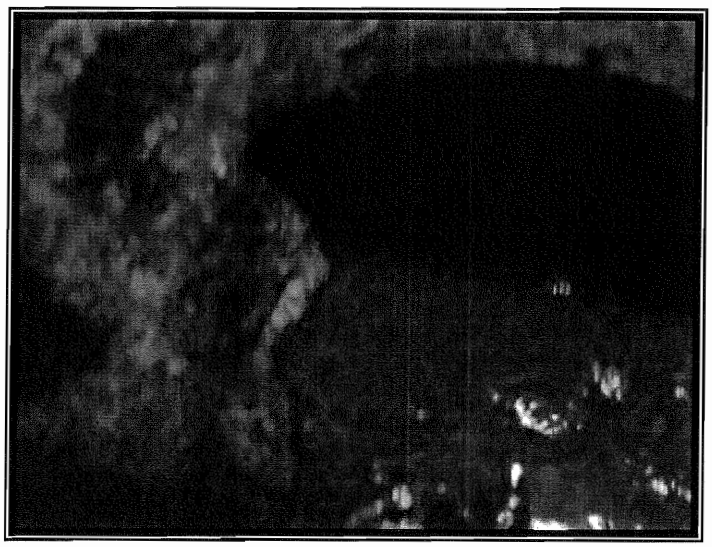
Formed from concrete. Debris in invert of Inv. Out

Steps

Not Inspected at this time.

General Condition

A partial inspection reveals that this manhole has a deteriorating brick riser section as well as pot-marked concrete walls. There seems to be a significant amount of I&I impacting this manhole. Manhole walls were coved in a scale that appears to be from I&I. Manhole walls are stained from water. The flow into the manhole is very black. This indicates a surcharged section of pipe that has gone anaerobic and is causing a hydrogen sulfide release. This hydrogen sulfide is combining with water infiltrating the manhole to create sulfuric acid. This sulfuric acid is attacking and degrading the concrete walls and the mortar around the brick riser section. Streaked corrosion is evident on the walls of the manholes.

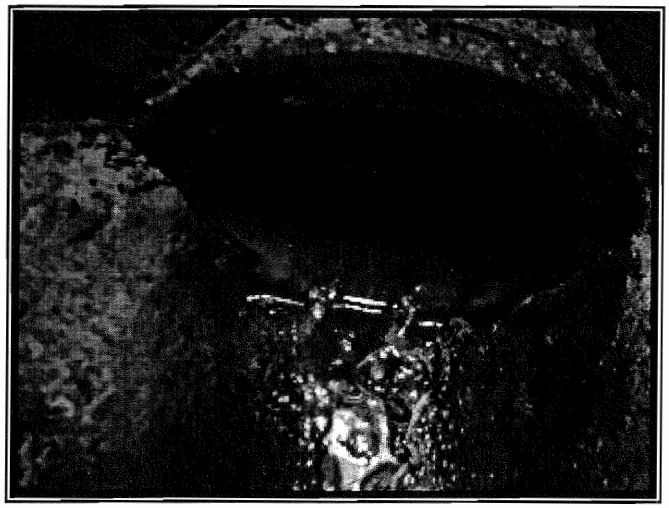


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Town of Westport
Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
AES Project No. 3616

Manhole: 43

Location: Old Arsenal Road



General Inlet/Outlet Configuration

Not Inspected at this time.

Cover and Frame

Not Inspected at this time.

Corbel and Walls

Precast Concrete Manhole. Concrete is pot-marked. Brick riser section appears to be deteriorating. Walls are wet.

Bench Walls and Invert / Trough

Formed from concrete. Debris in invert (very low flow may be contributing to this). There are two holes around the Invert in and one hole around the invert out that may be able to allow water into the manhole. Debris on bench walls.

Steps

Not Inspected at this time.

General Condition

A partial inspection reveals that this manhole has very wet walls as well as a deteriorating brick riser section. There appears to be very little flow in this manhole (at the time of inspection) which may be leading to the deposition of debris in the invert. There are two holes around the invert in and one hole around the invert out that may be able to allow water into the manhole. These holes coupled with the low flow may be a receipt for water to seep into the manholes. If water is not seeping into the manholes, it may exfiltrate. The holes are not large enough to determine if infiltration or exfiltration is actually occurring.

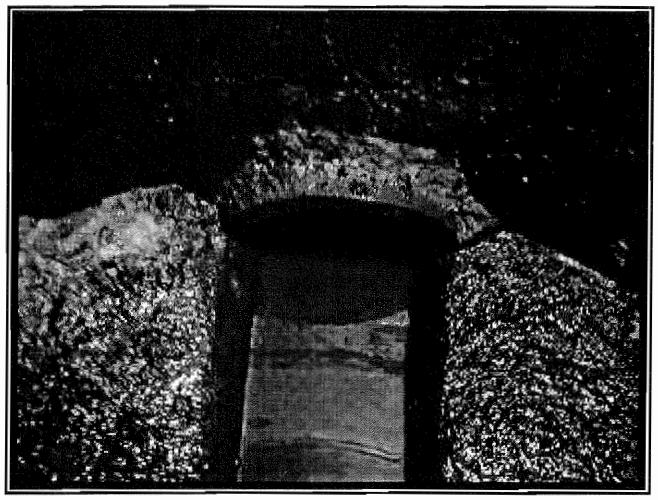


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Town of Westport
Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
AES Project No. 3616

Manhole: 44

Location: Old Arsenal Road



General Inlet/Outlet Configuration

Not Inspected at this time.

Cover and Frame

Not Inspected at this time.

Corbel and Walls

Precast concrete manhole. Concrete is pot-marked.

Bench Walls and Invert / Trough

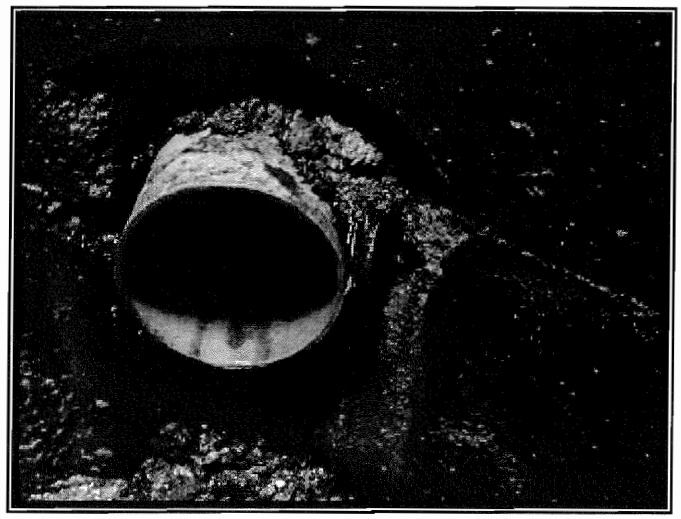
Formed from concrete. Debris in invert and on bench walls. Bench walls are very wet.

Steps

Not Inspected at this time.

General Condition

A partial inspection reveals that this manhole has laterals that have been improperly connected to the manhole. Holes have been cut in the precast concrete sides and 4" PVC laterals have been installed. The laterals were not connected with properly sealing integral rubber boots. One lateral opening appears to have been partially sealed with concrete and the other has essentially no seal around it. There are two prime locations for I&I to enter the manhole. One lateral appears to have a steady drip. Sewage debris has built up on the bench walls, especially near the laterals. The laterals should also have been formed as drop laterals. The bench walls are very wet. Debris appears to be stuck to the side walls.



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Town of Westport
Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
AES Project No. 3616

Manhole: 42

Location: Old Arsenal Road



General Inlet/Outlet Configuration

Not Inspected at this time.

Cover and Frame

Not Inspected at this time.

Corbel and Walls

Precast concrete manhole. Concrete is pot-marked. Walls are stained from water. Connection between base section and barrels sections shows a high level of infiltration including severe rust staining around the invert pipes (which are clay tile).

Bench Walls and Invert / Trough

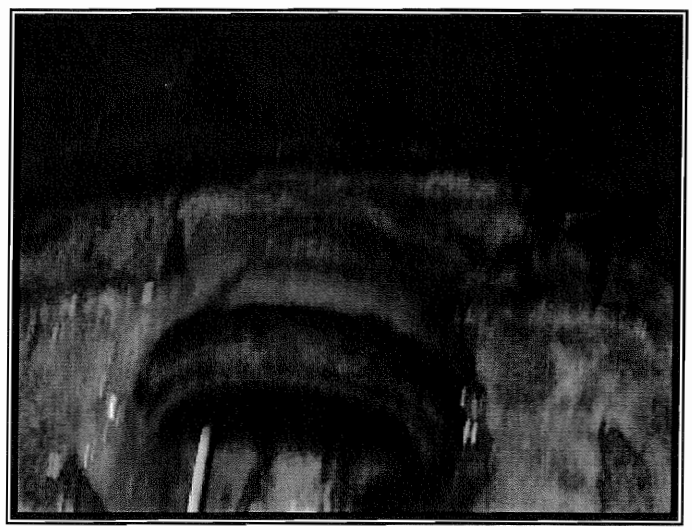
Formed from concrete. Debris on bench walls.

Steps

Not Inspected at this time.

General Condition

A partial inspection reveals that this manhole is very wet from infiltration. Debris is present on the bench walls. The walls are stained by water and rust stains are evident around the invert pipes and between the connection point of the base and barrel sections.

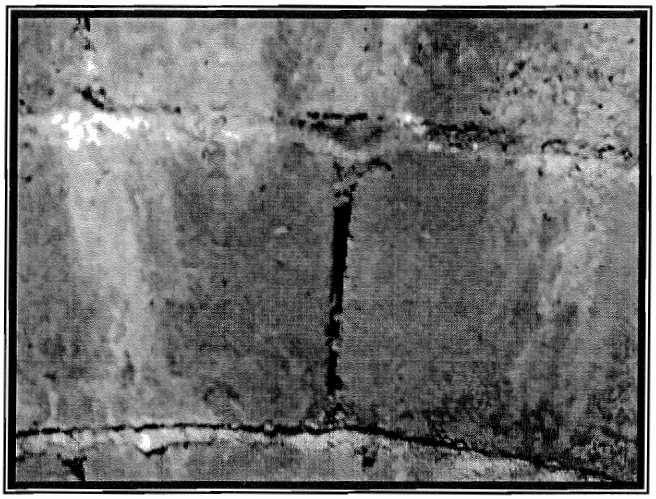


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Town of Westport
Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
AES Project No. 3616

Manhole: 70

Location: Champlain Street



General Inlet/Outlet Configuration

Not Inspected at this time.

Cover and Frame

Not Inspected at this time.

Corbel and Walls

This manhole is constructed of laid up concrete blocks. The mortar has severely deteriorated, and in some places is missing altogether. While this manhole did not appear to be wet during the time of inspection, the missing grout may be a location for I&I to enter the manhole.
The manhole has a brick riser.

Bench Walls and Invert / Trough

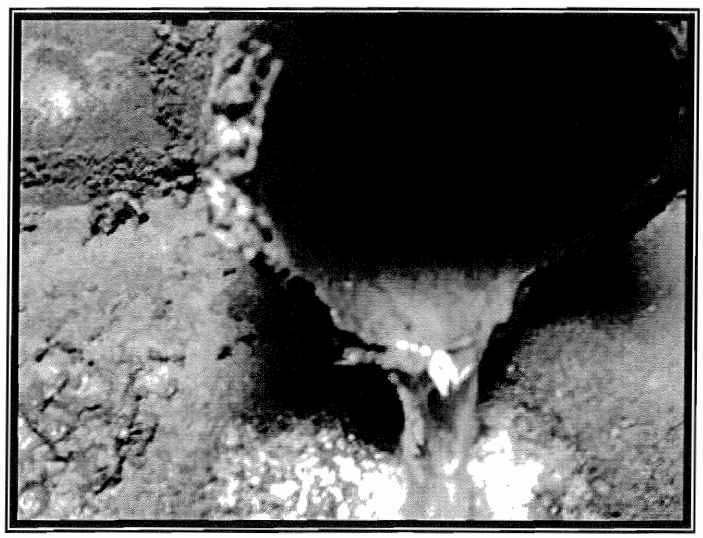
Bench walls are built-up for what is presumably a drop invert.

Steps

Not Inspected at this time.

General Condition

This manhole is constructed of concrete blocks around which the mortar has severely deteriorated. The manhole did not appear wet at the time of inspection, however with the mortar missing, it is possible that water would find its way into the manhole. The bench walls have been built up for a drop invert.



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Town of Westport
Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
AES Project No. 3616

Manhole: 40

Location: Old Arsenal Road



Cover and Frame

Not Inspected at this time.

Corbel and Walls

Not Inspected at this time.

Bench Walls and Invert / Trough

The trough appears to be poorly formed and there appears to be water boiling up into the water stream from below.

General Inlet/Outlet Configuration

Not Inspected at this time.

Steps

Not Inspected at this time.

General Condition

Rooted pipe inverts.

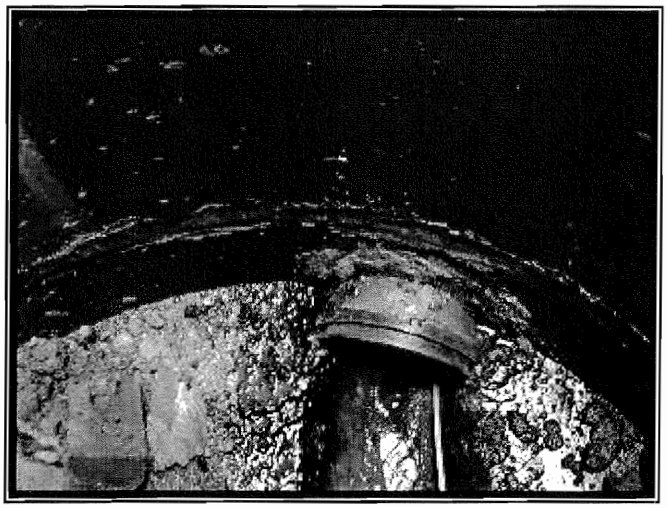


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Town of Westport
Wastewater Treatment Plant
Flow Management Plan and Performance Evaluation
AES Project No. 3616

Manhole: Steve's Place

Location: Old Arsenal Road



General Inlet/Outlet Configuration

Not Inspected at this time.

Cover and Frame

Not Inspected at this time.

Corbel and Walls

Manhole is pre-cast construction and appeared to be in good condition at the time of inspection.

Bench Walls and Invert / Trough

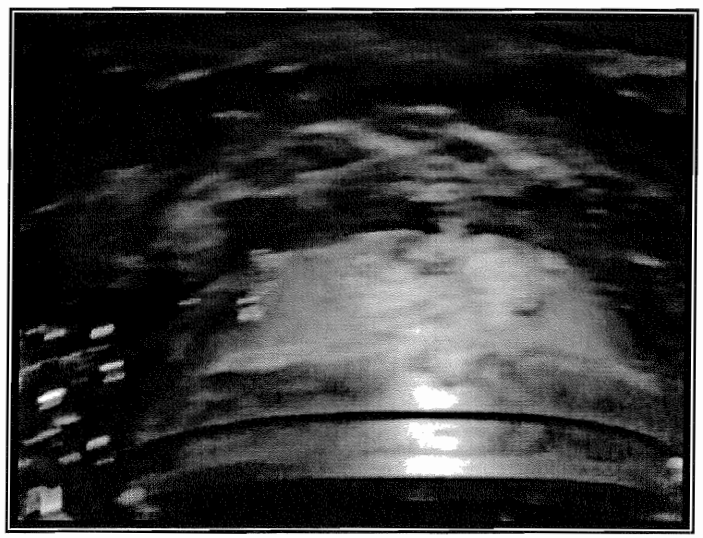
Manhole trough has some signs of debris. Of particular interest is the elastomeric joints of the clay tile sections.

Steps

Not Inspected at this time.

General Condition

The manhole appeared to be in good condition at the time of inspection.



SEWER MAIN INSPECTION PHOTOS

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Sewer Main - MH 43 - MH 42

Location: Old Arsenal Road

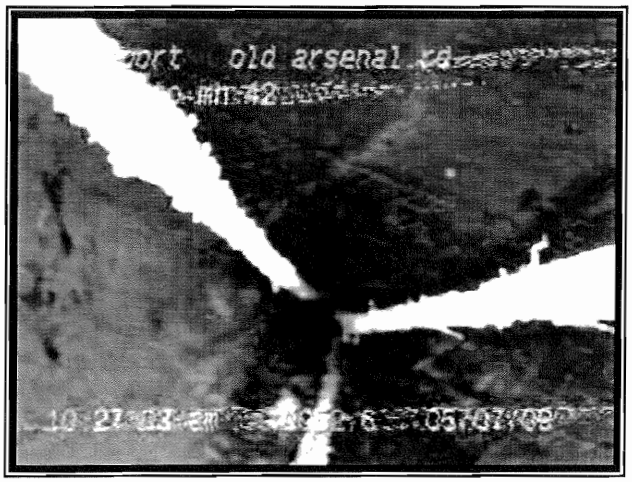
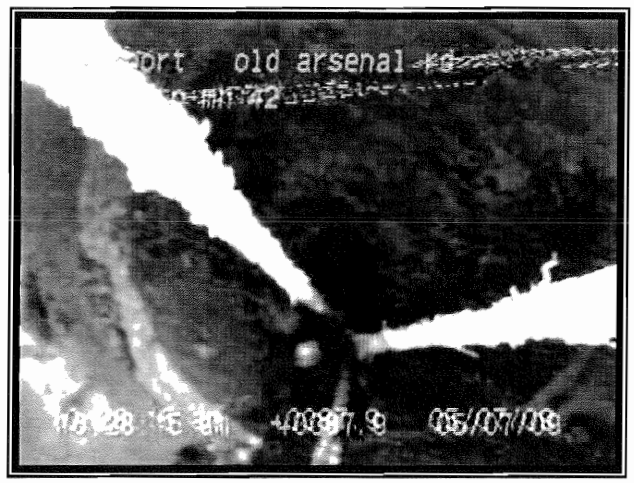


Photo (Left)

Debris is Pipe:
Evidence of low/poor slope.

Photo (Right)

Slight Misalignment of Pipe Joints:
Evidence of poor installation of pipes or shifting of pipes over time.



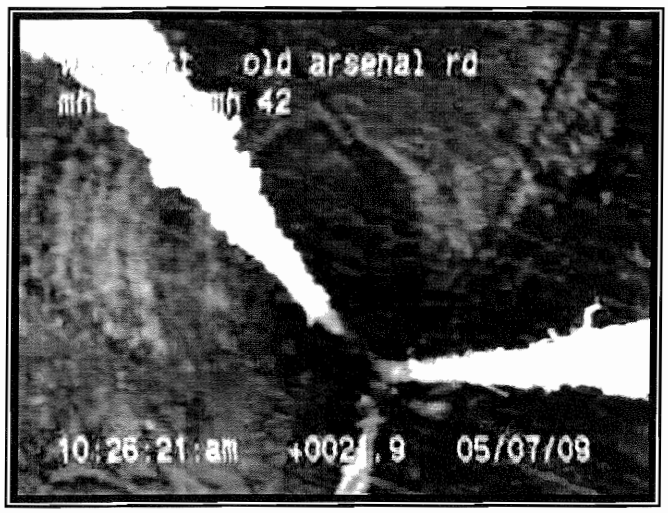


Photo (Left)

Greasy Build-up:
Evidence of surcharge.

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Flow Management Plan and Performance Evaluation

AES Project No. 3616

Sewer Main - MH 43 - MH 42

Location: Old Arsenal Road



Photo (Left)

Pipe Surcharged:
Evidence of low/poor slope.

Photo (Right)

Pipe Surcharged:
Evidence of low/poor slope.

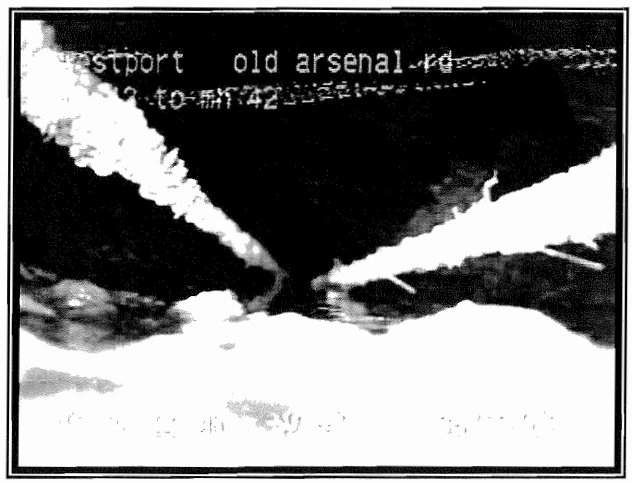




Photo (Left)

Debris:
Evidence of poor slope.

Spider Webs:
Evidence of low flows

Slight Misalignment of Pipe Joints:
Evidence of poor installation of pipes or shifting of pipes over time.

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AES Project No. 3616

Sewer Main - MH 42 - MH 41

Location: Old Arsenal Road



Photo (Left)

Although it is difficult to tell in this picture, this section of pipe appears to be iron pipe. There was some debris built up in the invert of the pipe. The quality of the video of this section of pipe is not good; therefore, a through evaluation of this section of pipe has not been performed.

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AES Project No. 3616

Sewer Main - MH 44 - MH 43

Location: Old Arsenal Road

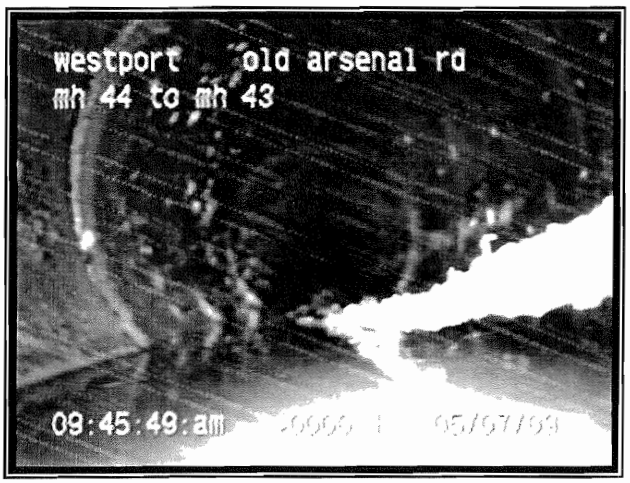


Photo (Left)

Pipe Surcharged:
Evidence of low/poor slope.

Greasy Build-up:
Evidence of surcharge
(more than what is currently shown).



Photo (Right)

Debris:
Evidence of poor slope.



Photo (Left)

Slight Misalignment of Pipe Joints:
Evidence of poor installation of pipes or shifting
of pipes over time.

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Sewer Main - MH 44 - MH 43

Location: Old Arsenal Road



Photo (Left)
Improper Pipe Connection:

6" "lateral" connection. This pipe connection is either an individual lateral or a lateral sewer that has been improperly connected to the sewer system. Any time a 6' pipe is connected to an 8" sewer main, a manhole is required at the connection point. In addition, the 6' pipe is installed at a very minimal slope that does not allow for proper flow of the wastewater into the main pipe. This low slope can lead to debris backup and possible plugging.

Photo (Right)

Another Improperly connected 6" "lateral" pipe.

Roots
Roots are present near this lateral. The root mass is currently small, but could swell to completely block the pipe, which could cause the pipe to plug.





Photo (Left)

Pipe Surcharged:
Evidence of low/poor slope.

Debris:
Evidence of poor slope

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AES Project No. 3616

Sewer Main - MH 41 - MH 40

Location: Old Arsenal Road

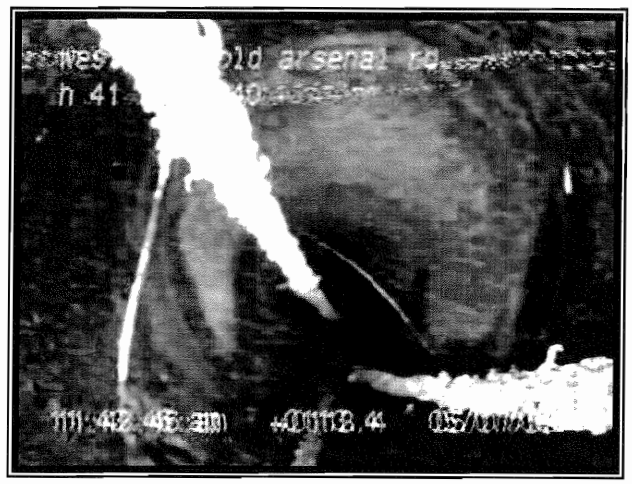


Photo (Left)

Debris:
Evidence of poor slope.

Photo (Right)

Misaligned of Pipe Joints:
Evidence of poor installation of pipes or shifting of pipes over time.



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AES Project No. 3616

Sewer Main - MH 67 - MH 66

Location: Champlain Street



Photo (Left)

Roots:
Pipe is completely blocked by a root mass just a few feet from the manhole. The remainder of the pipe could not be inspected due to this root mass. The root mass could potentially cause the sewer main to plug and surcharge.

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AES Project No. 3616

Sewer Main - MH 70 to North

Location: Champlain Street



Photo (Left)

Surcharged Pipe:
This pipe was significantly surcharged. The surcharged pipe prevented the inspection of the remainder of the manhole.

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AES Project No. 3616

Sewer Main - MH 112 - MH 111

Location: NYS Route 9N



Photo (Left)

Debris:
Evidence of poor slope.

Slight Misalignment of Pipe Joints:
Evidence of poor installation of pipes or shifting of pipes over time.

Pipe Surcharged:
Evidence of Low/Poor Slope

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Wastewater Treatment Plant
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Sewer Main - MH 70 to the South

Location: Old Arsenal Road

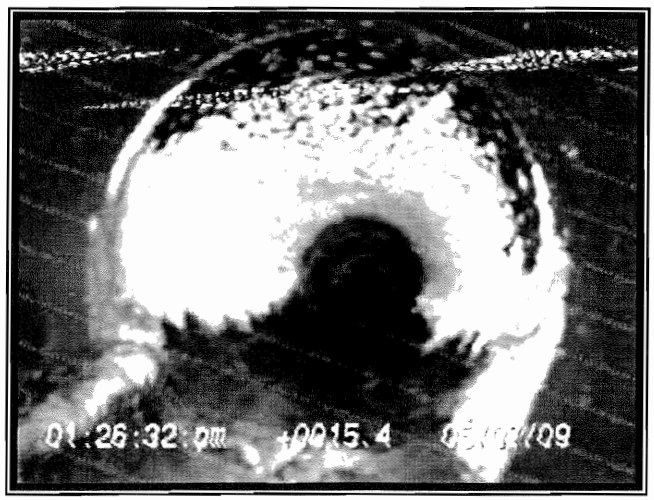


Photo (Left)

Debris:
Evidence of poor slope.

Photo (Right)

Greasy Build-up:
Evidence of surcharge
(more than what is currently shown).



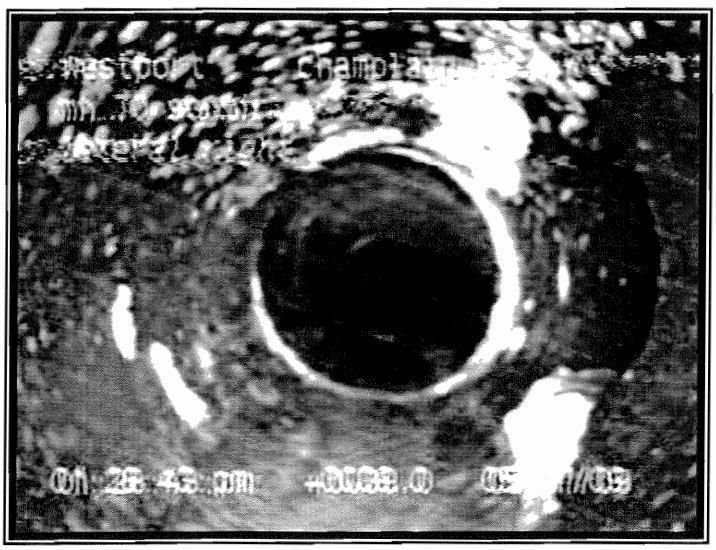


Photo (Left)

Improper Pipe Connection:
6" "lateral" connection. This pipe connection is either an individual lateral or a lateral sewer that has been improperly connected to the sewer system. Any time a 6' pipe is connected to an 8" sewer main a manhole is required at the connection point. In addition the 6' pipe is installed at a very minimal slope that does not allow for proper flow of the wastewater into the main pipe. This low slope can lead to debris backup and possible plugging. Debris is stuck in the invert of this 6" line.

List of Appendices

Appendix A	NYS DEC SPDES Permit
Appendix B	Town of Westport, Wastewater Treatment Plant Flow Management Plan and Performance Evaluation 1968 Collection System Mapping
Appendix C	NYS DEC Wastewater Treatment Facility Design, Planning and Flow Management Annual Certification Form

APPENDIX A

New York State Department of Environmental Conservation
Division of Environmental Permits, Region 5
1115 NYS Route 86 - PO Box 296, Ray Brook, New York 12977
Phone: (518) 897-1234 • **FAX:** (518) 897-1394
Website: www.dec.state.ny.us

February 21, 2007

MODIFICATION TO PERMIT

RECEIVED
FEB 2 2 2007
NYSDEC Region 5
Environmental Quality

Mr. Daniel W. Connell, Supervisor
Town of Westport
PO Box 305
Westport, NY 12993

Re: Facility: Westport Sewer District 1 WWTP
SPDES No. NY-002 0222
DEC #5-1550-00016/00001
Westport (T), Essex Co.

Dear Mr. Connell:

In response to your application dated February 2, 2006 and as described in our January 8, 2007 Notice of Complete Application, enclosed is your modified State Pollutant Discharge Elimination System permit and associated conditions.

Please refer to the permit Special Conditions for appropriate effluent limits, monitoring requirements and other conditions. The Department maintains authority regarding the terms of this permit in accordance with 6 NYCRR 750. This regulation may be accessed from the internet at the Department's website at http://www.dec.state.ny.us/website/dow/part750.pdf. If you do not have website access, you may obtain a paper copy of the regulation at the above address and phone number.

If you should have any questions concerning any aspect of this permit, please contact Vincent Kavanagh, Environmental Engineer at Department offices in Ray Brook, at (518) 897-1243.

Sincerely,

Michael J. McMurray
Deputy Regional Permit Administrator

MJM:slq
enclosures

c: W. Wasilauski, Regional Water Engineer
V. Kavanagh, Water
Permit Coordinator, Water Permits
W. Amberman, NYS DOH
D. St. Louis, Plant Operator
M. Lehman, Bernier Carr & Associates, PC

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

State Pollutant Discharge Elimination System (SPDES)
DISCHARGE PERMIT

First3.99

Industrial Code:	4952	SPDES Number:	NY- 002 0222
Discharge Class (CL):	07	DEC Number:	5-1550-00016/00001
Toxic Class (TX):	N	Effective Date (EDP):	06/01/06
Major Drainage Basin:	10	Expiration Date (ExDP):	05/31/11
Sub Drainage Basin:	01	Modification Dates EDPM:	04/01/07
Water Index Number:	C	Attachment(s):	
Compact Area:	NEIWPCC		

This SPDES permit is issued in compliance with Title 8 of Article 17 of the Environmental Conservation Law of New York State and in compliance with the Clean Water Act, as amended, (33 U.S.C. §1251 et.seq.)(hereinafter referred to as "the Act").

PERMITTEE NAME AND ADDRESS

Name: **Town of Westport** Attention: **Supervisor**

Street: **North Main Street**

City: **Westport** State: **NY** Zip Code: **12993**

is authorized to discharge from the facility described below:

FACILITY NAME AND ADDRESS

Name: **Westport Sewer District No. 1 WWTP**

Location (C,T,V): **Westport (T)** County: **Essex**

Facility Address: **Marks Road**

City: **Westport** State: **NY** Zip Code: **12993**

NYTM -E: 625.247 NYTM - N: 4893.620

From Outfall No.: **001** at Latitude: **44 °** **11 ′** **06 ″** & Longitude: **73 °** **25 ′** **59 ″**

into receiving waters known as: **Lake Champlain** Class: **A**

and; (list other Outfalls, Receiving Waters & Water Classifications)

in accordance with: effluent limitations; monitoring and reporting requirements; other provisions and conditions set forth in this permit; and 6 NYCRR Part 750-1.2(a) and 750-2.

DISCHARGE MONITORING REPORT (DMR) MAILING ADDRESS

Mailing Name: **Westport S.D. No. 1 Wastewater Treatment Plant**

Street: **PO Box 305**

City: **Westport** State: **NY** Zip Code: 12993

Responsible Official or Agent: **Chief Plant Operator** Phone: **(518) 962-4419**

This permit and the authorization to discharge shall expire on midnight of the expiration date shown above and the permittee shall not discharge after the expiration date unless this permit has been renewed, or extended pursuant to law. To be authorized to discharge beyond the expiration date, the permittee shall apply for permit renewal not less than 180 days prior to the expiration date shown above.

DISTRIBUTION:

BWP
W. Wasilauski, RWE
W. Amberman, DOH
D. St. Louis, Operator
M. Lehman, P.E. - Bernier, Carr & Associates, P.C.

Deputy Regional Permit Administrator: Michael J. McMurray

Address: 1115 NYS Route 86 - P.O. Box 296
Ray Brook, NY 12977-0296

Signature: Michael J. McMurray Date: 2/21/07

PERMIT LIMITS, LEVELS AND MONITORING DEFINITIONS

OUTFALL	Limitations Apply	RECEIVING WATER	EFFECTIVE	EXPIRING
	This cell describes the type of wastewater authorized for discharge. Examples include sanitary and combined (sanitary & stormwater) wastewater.	This cell lists classified waters of the state to which the listed outfall discharges.	The date this page starts in effect. (Estimated Date of Permit (EDP) or Estimated Date of Permit Modification (EDPM))	The date this page is no longer in effect

PARA-METER e.g., pH, TRC, Temperature, D.O.	Effluent Limitation Type The minimum level that must be maintained at all instants in time.	Effluent Limitation The maximum level that may not be exceeded at any instant in time.	UNITS SU, °F, mg/l, etc.	SAMPLE FREQUENCY	SAMPLE TYPE
	Daily Avg., Range, Daily Min., and Daily Max. are defined below. 30 day arithmetic mean (30 day average) is the arithmetic mean of all sample values measured during the monitoring period of one month (30 days) in length. 7 day arithmetic mean (7 day average) is the arithmetic mean of all sample values measured during the monitoring period of one week (7 days) in length. 30 day geometric mean is the geometric mean of samples taken within a 30 consecutive day period. 7 day geometric mean is the geometric mean of samples taken within a 7 consecutive day period. See DMR Manual for more information.	The effluent limitation is developed based on the more stringent of technology-based standards, required under the Clean Water Act, or New York State water quality standards. All determinations of compliance with substance specific discharge limits are made by comparing monitoring results to the effluent limitation.	This can include units of flow, pH, temperature, mass or concentration. Examples include SU, °F, µg/l, lbs/d, etc.	Examples include daily, 3/week, weekly, 2/month, monthly, quarterly, 2/yr and yearly.	Examples include grab, 24 hour composite and 3 grab samples collected over a 6 hour period.

DAILY DISCHARGE.: The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants expressed in units of mass, the 'daily discharge' is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the 'daily discharge' is calculated as the average measurement of the pollutant over the day.

DAILY MAX.: The highest allowable daily discharge. DAILY MIN.: The minimum allowable discharge during a calendar day. Calculated in the same manner as the DAILY MAX.

DAILY AVG.: The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. (Monthly average).

RANGE: The minimum instantaneous measurement and the maximum instantaneous measurement taken over the reporting period comprise the reportable range.

FINAL PERMIT LIMITS, AND MONITORING REQUIREMENTS

OUTFALL NUMBER	LIMITATIONS APPLY:	RECEIVING WATER	EFFECTIVE	EXPIRING
001	[x] All Year [ ] Seasonal from _____ to _____	Lake Champlain	06/01/06	05/31/11

PARAMETER	Effluent Limitations					Monitoring Requirements				Foot Notes
	Type	Limitation	Units	Limitation	Units	SAMPLE FREQUENCY	SAMPLE TYPE	Location Influent	Location Effluent	
Flow	30 day arithmetic mean	0.135	mgd			Continuous	Recorder		x	
BOD_5	Monthly average	30	mg/l	34	lbs/d	1/Month	6 Hr. Comp	x	x	(1)
BOD_5	7 Day Average	45	mg/l	51	lbs/d	1/Month	6 Hr. Comp.		x	
Solids, Suspended	Monthly average	30	mg/l	34	lbs/d	1/Month	6 Hr. comp.	x	x	(1)
Solids, Suspended	7 day average	45	mg/l	51	lbs/d	1/Month	6 Hr. comp.		x	
Solids, Settleable	Daily Maximum	0.3	ml/l			1/Day	Grab		x	
pH	Range	6.0 - 9.0	SU			1/Day	Grab		x	
Phosphorus, Total (as P)	12 month Rolling Average	2.00	lbs/day			1/Month	6 Hr. Comp.		x	(2)
Temperature	Monitor		Deg C			1/Day	Grab	x	x	
Effluent disinfection required: [X] All Year [ ] Seasonal from _____ to _____										
Coliform, Fecal	30 day geometric mean	200	No./100 ml			1/Month	Grab		x	
Coliform, Fecal	7 day geometric mean	400	No.100 ml			1/Month	Grab		x	
Chlorine, Total Residual	Daily Max.	2.0	Mg/l			1/Day	Grab		x	

FOOTNOTES:

(1) and effluent shall not exceed 15 % and 15 % of influent values for BOD_5 & TSS respectively.

(2) The 12-month rolling average shall be computed as follows: the sum of [the current month's + the past 11 month's 30 day arithmetic mean in lbs/day] divided by 12.

DISCHARGE NOTIFICATION REQUIREMENTS

a) The permittee shall, except as set forth in (c) below, maintain the existing identification signs at all outfalls to surface waters, which have not been waived by the Department in accordance with 17-0815-a. The sign(s) shall be conspicuous, legible and in as close proximity to the point of discharge as is reasonably possible while ensuring the maximum visibility from the surface water and shore. The signs shall be installed in such a manner to pose minimal hazard to navigation, bathing or other water related activities. If the public has access to the water from the land in the vicinity of the outfall, an identical sign shall be posted to be visible from the direction approaching the surface water.

The signs shall have **minimum** dimensions of eighteen inches by twenty four inches (18" x 24") and shall have white letters on a green background and contain the following information:

N.Y.S. PERMITTED DISCHARGE POINT

SPDES PERMIT No.: NY_____

OUTFALL No. :____

For information about this permitted discharge contact:

Permittee Name:

_____

Permittee Contact:

_____

Permittee Phone: ( ) - ### - ####

OR:

b) For each discharge required to have a sign in accordance with a), the permittee shall provide for public review at a repository accessible to the public, copies of the Discharge Monitoring Reports (DMRs) as required by the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of this permit. This repository shall be open to the public, at a minimum, during normal daytime business hours. The repository may be at the business office repository of the permittee or at an off-premises location of its choice (such location shall be the village, town, city or county clerk's office, the local library or other location as approved by the Department). In accordance with the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of your permit, each DMR shall be maintained on record for a period of five years.

c) If, upon November 1, 1997, the permittee has installed signs that include the information required by 17-0815-a(2)(a), but do not meet the specifications listed above, the permittee may continue to use the existing signs for a period of up to five years, after which the signs shall comply with the specifications listed above.

d) The permittee shall periodically inspect the outfall identification signs in order to ensure that they are maintained, are still visible and contain information that is current and factually correct.

MONITORING LOCATION

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) specified below:

Influent Monitoring Location: Influent chamber flow distribution splitter box.

Effluent Monitoring Location: Effluent chamber following the chlorine contact tank.

RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

a) The permittee shall also refer to 6 NYCRR Part 750-1.2(a) and 750-2 for additional information concerning monitoring and reporting requirements and conditions.

b) The monitoring information required by this permit shall be summarized, signed and retained for a period of at least five years from the date of the sampling for subsequent inspection by the Department or its designated agent. **Also, monitoring information required by this permit shall be summarized and reported by submitting;**

[X] (if box is checked) completed and signed Discharge Monitoring Report (DMR) forms for each 1 month reporting period to the locations specified below. Blank forms are available at the Department's Albany office listed below. The first reporting period begins on the effective date of this permit and the reports will be due no later than the 28th day of the month following the end of each reporting period.

[ ] (if box is checked) an annual report to the Regional Water Engineer at the address specified below. The annual report is due by February 1 and must summarize information for January to December of the previous year in a format acceptable to the Department.

[X] (if box is checked) a monthly "Wastewater Facility Operation Report..." (form 92-15-7) to the:
[X] Regional Water Engineer and/or [ ] County Health Department or Environmental Control Agency specified below

Send the **original** (top sheet) of each DMR page to:

Department of Environmental Conservation
Division of Water
Bureau of Water Compliance Programs
625 Broadway
Albany, New York 12233-3506

Phone: (518) 402-8177

Send the **first copy** (second sheet) of each DMR page to:

Department of Environmental Conservation
Regional Water Engineer
Region 5
Route 86, P.O. Box 296
Ray Brook, NY 12977-0296

Phone: (518) 897-1243

Send an **additional copy** of each DMR page to:

c) Noncompliance with the provisions of this permit shall be reported to the Department as prescribed in 6 NYCRR Part 750-1.2(a) and 750-2.

d) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

e) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculations and recording of the data on the Discharge Monitoring Reports.

f) Calculation for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

g) Unless otherwise specified, all information recorded on the Discharge Monitoring Report shall be based upon measurements and sampling carried out during the most recently completed reporting period.

h) Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section five hundred two of the Public Health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquiries regarding laboratory certification should be sent to the Environmental Laboratory Accreditation Program, New York State Health Department Center for Laboratories and Research, Division of Environmental Sciences, The Nelson A. Rockefeller Empire State Plaza, Albany, New York 12201.

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SPDES PERMIT FACT SHEET: Wastewater Data, Receiving Water Data, and, Permit Limit Derivation.

(see last pages of fact sheet for explanatory notes).

Date	September 11, 2006
Permit Writer	Vin Kavanagh
WQ Engineer	Ed Reilly

(1) General Permittee Data:

Permit Number	Permittee Name	Facility Name	Location (C, T, V)	County	Industrial Code	Major/Sub Basin
NY 002 0222	Town of Westport	Westport S. D. #1 Wastewater Treatment Plant	Westport (T)	Essex	4952	10/01

(2) Summary of Final Outfall Flow Rate(s) and Receiving Water Data:

Outfall Information					**Receiving Water Information**								
	Latitude	Longitude	Flow Rate (MGD)					*For use by WQ Engineer* - Critical Data					
Outfall #	° , ' , "	° , ' , "	Average	Maximum or Design	Name	Class	Water Index Number	7Q10 (MGD)	30Q10 (MGD)	Dilution/ Mixing	pH (SU)	Temp (°F)	Hardness (mg/l)
001	44 11 06	73 25 59	0.100	0.135	Lake Champlain	A	C	NA	NA	10:1	6.21-8.8	25	74

(3) Individual Outfall Data Summaries and Permit Limit Development:

Outfall	001

FOR "A" LIMITS

Type of Treatment:	Mechanically cleaned bar screen, bypass hand-cleaned bar screen, grit removal system, SBR treatment equipment with splitter box reaction chamber and aeration chamber, chemical feed system for phosphorus removal, disinfection system, final effluent pump station, and emergency generator.
and	
Sludge Handling:	Aerated sludge treatment and reed sludge treatment beds.

Effluent Parameter (Units) (concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)	**Existing Effluent Quality**				**Technology Based Effluent Limit**				**Water Quality Based Effluent Limit**				**Permit Basis** (T or WQ)
	concentration		mass		conc.	mass	Type	Basis	AWQC conc.	Effluent conc.	mass	Type	
	Avg	Max	Avg	Max									
Whole Effluent Toxicity (WET) TESTING									Recommended?		YES/NO		
Flow Rate, units = MGD	Average		Maximum										
pH (SU)	Minimum 6.4		Maximum 8.0				Range		6.0-9.0			RANGE	WQ
Effluent Disinfection: [ ] All Year [X] Seasonal from: June 1 - September 30													
Fecal Coliform(30 day/7 day), #/100 ml	-	-	-	-	200/400		GM	BPJ - 6NYCRR 703.4					T
Total Coliform (30 day median / Maximum), #/100 ml	-	-	-	-	Monitor		Monitor	BPJ - 6NYCRR 703.4					T
Chlorine, T otal Residual, mg/l*	-	-	-	-	2.0		DM	BPJ	0.05 µg/l	0.1 mg/l		Daily Max	WQ*

* Per NYSDEC Interim Guidance on Total Chlorine Residual (June 1991), for discharge situations with less than 30:1 dilution, alternative practices for disinfection, or dechlorination, shall be required for disinfection.

(4) Additional Issues:

Water Quality Based Effluent Limits (WQBELs):
New York State water quality regulations (for surface waters) are implemented by applying the Total Maximum Daily Load (TMDL) process to watersheds, drainage basins or waterbody segments on a pollutant specific basis. The analysis determines if there is a "reasonable potential" that the discharge of a pollutant will result in exceedance of ambient water quality criteria (AWQC). If there is a reasonable potential for an exceedance of AWQC, the TMDL is used to establish waste load allocations for point sources and load allocations for nonpoint sources of the pollutant. For point sources, the waste load allocations are translated to WQBELs for inclusion in SPDES permits. Reference - TOGS 1.3.1, USEPA Guidance for Water Quality - Based Decisions: The TMDL Process, 40 CFR 130 and the Clean Water Act 303(d).

The following table has been completed only for those parameters for which WQBELs were determined to be necessary.

Parameter	Total Phosphorus	TP WQ GV in Lk Champlain	Lk Champ. Mon. Prog. Median TP Value	Lk Champ. Mon. Prog. Median Chl a Value	Compliance with TMDL ?
Amount to be Allocated (TMDL)	5.34 #/day	0.014 mg/l	0.013 mg/l	3.64 mg/l	**YES**
Number of Sources	2				
Allocation to this Permit	2.00 #/day				

Statistics:
The statistical methods utilized are consistent with TOGS 1.2.1 and the USEPA, Office of Water, Technical Support Document For Water Quality-based Toxics Control, March 1991, Appendix E. Generally based on lognormal analysis. If other data distributions such as normal or delta-lognormal are utilized it is noted below. Statistical calculations were not performed for parameters with insufficient data. Generally, ten or more data points are needed to calculate percentiles. Two or more data points are necessary to calculate an average and a maximum.

Schedule of Compliance:

(5) Summary of Proposed Permit Changes:

Compared to the issued permit, the following significant changes are proposed -

1. Outfall 001 - The flow limit is being modified to reflect the new design maximum monthly average flow of 135,000 gpd for the recently upgraded WWTP.

(6) Explanatory Notes:

Please note that some of these terms are not applicable to every fact sheet.

AL - Action level calculated in accordance with TOGS 1.2.1 (non POTWs) and TOGS 1.3.3 (POTWs). See the permit for a complete definition.
AVG or Av - Average. The arithmetic mean.
AWQC - Ambient water quality criteria for the receiving water. The applicable standard, guidance value or estimated value in accordance with TOGS 1.1.1, TOGS 1.3.1 and 6NYCRR 700-705.
Basis - The technical analysis, internal guidance, regulation and/or law upon which an effluent limit or monitoring requirement is proposed.
BAT - Best Available Technology Economically Achievable in accordance with TOGS 1.2.1 (non POTWs) and TOGS 1.3.3 (POTWs), 40 CFR 125, 6NYCRR 754, ECL 17-0811 and the Clean Water Act.
BCT - Best Conventional Control Technology in accordance with TOGS 1.3.4, 40 CFR 125, 6NYCRR 754, ECL 17-0811 and the Clean Water Act.
BPJ - Best Professional Judgement in accordance with TOGS 1.2.1 (non POTWs) and TOGS 1.3.3 (POTWs), 40 CFR 122 and 125, 6NYCRR 754.1, ECL 17-0811 and the Clean Water Act.
BPT - Best Practicable Control Technology in accordance with TOGS 1.2.1, 40 CFR 125, 6NYCRR 754, ECL 17-0811 and the Clean Water Act.
Conc. - Concentration in units of mg/l, ug/l or ng/l.
DA - Daily Average, The total discharge during a month divided by the number of days in the month or the summation of total discharge divided by the number of samples taken during the month.
DAM - ___ Day Arithmetic Mean
DM - Daily Maximum, The highest total discharge of a calendar day within a month..
Design Flow - Treatment system design capacity as noted in an approved engineering report.
Final - Final permit period requirements. A level of performance that must be achieved according to a schedule specified in either the permit or a consent order.
g/d - Grams per day discharged.
GM - Geometric Mean
GW - Groundwater effluent limitation developed in accordance with TOGS 1.2.1 (nonPOTWs), TOGS 1.3.3 (POTWs), TOGS 1.1.2 and 6NYCRR 703.
Ind - Indicated parameter. See definition in section (4).
Interim - Interim permit period requirements. A level of performance that must be achieved while improvements are being implemented in order to achieve final permit period requirements.
lbs/d or #/d - Pounds per day discharged.
Mass - Mass discharge in units of #/d or g/d discharge.
Max or Mx - The maximum value.
MGD - Million gallons per day.
mg/l - Milligrams per liter.
Dilution/Mixing - Used to determine dilution available in receiving waters. For lakes, estuaries and slowly flowing rivers and streams, mixing zone dilution is generally assumed to be 10:1 unless data is available to indicate otherwise.
Model - Calibrated water quality model applied in accordance with TOGS 1.3.1.
Mon - Monitor only.
NA - The characteristics of this parameter and the reported discharge levels do not justify routine monitoring or a limit. Also indicates "not applicable".
ng/l - Nanograms per liter. 1000 ng/l = 1 ug/l = 0.001 mg/l.
PQL - The DEC published or site specific practical quantitation limit; the concentration in wastewater at which analytical results are thought to be accurate to within approximately plus or minus thirty percer
R - "Rolled Over", i.e. the specific requirement in this permit is equivalent to the previous permit. R(T) is roll over of a technology based requirement and R(WQ) is roll over of a WQBEL.
Range - The discharge is limited to a range of effluent values, e.g. a pH limit of (6.0-9.0) SU.
RREL - EPA's Risk Reduction Engineering Laboratory treatability database.
T - Technology based effluent limit or requirement.
TOGS - Technical and Operational Guidance Series. Internal guidance to permit drafters used by the NYSDEC Division of Water to aid in permit drafting. Copies of these guidance documents may be obtained from the internet at http://www.dec.state.ny.us/website/dow/togs/index.htm.
ug/l - Micrograms per liter. 1000 ug/l = 1 mg/l.
WET- Whole Effluent Toxicity (testing). See TOGS 1.3.2.
WQ - Water quality.
WQBEL - Water quality-based effluent limit. See information in section (4).
7Q10 - The minimum average 7 consecutive day flow at a recurrence interval of 10 years. Applicable to evaluations involving aquatic health based AWQC.
30Q10 - The minimum average 30 consecutive day flow at a recurrence interval of 10 years. Applicable to evaluations involving human health based AWQC.
95% - The 95th percent confidence interval for the historical effluent data used to draft the permit.
99% - The 99th percent confidence interval for the historical effluent data used to draft the permit.
133 - Secondary treatment requirements in accordance with TOGS 1.3.3, 40 CFR 133, 6NYCRR 754, ECL 17-0509 and the Clean Water Act.
* - These parameters represent scans. Detections vary among the compounds which are included in the scans. The listed value represent the maximum detected level of any compound in the scan.

New York State Department of Environmental Conservation
Division of Environmental Permits, Region 5
1115 NYS Route 86 - PO Box 296, Ray Brook, New York 12977
Phone: (518) 897-1234 • **FAX:** (518) 897-1394
Website: www.dec.state.ny.us

February 21, 2007

MODIFICATION TO PERMIT

RECEIVED
FEB 22 2007
NYSDEC Region 5
Environmental Quality

Mr. Daniel W. Connell, Supervisor
Town of Westport
PO Box 305
Westport, NY 12993

Re: Facility: Westport Sewer District 1 WWTP
SPDES No. NY-002 0222
DEC #5-1550-00016/00001
Westport (T), Essex Co.

Dear Mr. Connell:

In response to your application dated February 2, 2006 and as described in our January 8, 2007 Notice of Complete Application, enclosed is your modified State Pollutant Discharge Elimination System permit and associated conditions.

Please refer to the permit Special Conditions for appropriate effluent limits, monitoring requirements and other conditions. The Department maintains authority regarding the terms of this permit in accordance with 6 NYCRR 750. This regulation may be accessed from the internet at the Department's website at http://www.dec.state.ny.us/website/dow/part750.pdf. If you do not have website access, you may obtain a paper copy of the regulation at the above address and phone number.

If you should have any questions concerning any aspect of this permit, please contact Vincent Kavanagh, Environmental Engineer at Department offices in Ray Brook, at (518) 897-1243.

Sincerely,

Michael J. McMurray
Deputy Regional Permit Administrator

MJM:slq
enclosures

c: W. Wasilauski, Regional Water Engineer
V. Kavanagh, Water
Permit Coordinator, Water Permits
W. Amberman, NYS DOH
D. St. Louis, Plant Operator
M. Lehman, Bernier Carr & Associates, PC

APPENDIX B

APPENDIX C

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WASTEWATER TREATMENT FACILITY DESIGN, PLANNING AND FLOW MANAGEMENT 2008 ANNUAL CERTIFICATION FORM

WASTEWATER TREATMENT FACILITY PERMITTEE NAME	NYSDEC REGION	SPDES PERMIT NUMBER	DESIGN FLOW, MGD

Section 1. Flow: Compare the annual average flow to the flow limit in the permit:

All flow calculations must be based on total flow during calendar year 2008. For wastewater treatment facilities (WWTFs) with seasonal flow limits, calculate the average flow for each of the seasonal flow limits based on the data collected during calendar year 2008. If the design flow for the treatment facility is unknown, the design flow should be estimated using the Recommended Standards for Wastewater Facilities, 2004 Edition ("Ten States Standards"). You may order this document by accessing the following web site: **http://www.hes.org/**

For WWTFs monitoring **monthly average** flow, calculate the annual average flow by averaging the 12 monthly average flows for 2008.

For WWTFs monitoring **quarterly** average flow, calculate the annual average flow by averaging the 4 quarterly flows for 2008.

For WWTFs monitoring **semiannual** flow, calculate the annual average flow by averaging the 2 semiannual measurements for 2008.

For WWTFs monitoring **annual average** flow or **12 month rolling average** flow, use the annual average flow calculated for 2008.

	Year-round value (or Season 1	Season 2 *(if applicable)*	
Indicate dates that seasonal limits apply:	_____	_____	
a. What was the actual annual average flow, using the appropriate method above?	_____	_____	MGD
b. What is the design flow of the treatment WWTF, multiplied by 95% (0.95)?	_____	_____	MGD

c. Did the annual average flow exceed 95 % of the design flow? ☐ Yes ☐ No

If the answer to c. above is yes, a Flow Management Plan must be prepared in accordance with 6 NYCRR Part 750-2.9(c)(1) and be submitted to the Regional Water Manager no later than August 1, 2009.

d. Has a Flow Management Plan been submitted to the Department? ☐ Yes ☐ No Date submitted: _____

Section 2. Loadings: Compare the design BOD and TSS influent loadings to the actual BOD and TSS loadings:

All calculations for Biochemical Oxygen Demand (BOD), or Carbonaceous Biochemical Oxygen Demand (CBOD), if applicable, and Total Suspended Solids (TSS) must be based on total loadings during calendar year 2008. For WWTFs with seasonal limits, calculate the average loading for each of the seasonal limits based on the data collected during calendar year 2008. If the design influent loading for the treatment facility is unknown, the design loading should be estimated using the Recommended Standards for Wastewater Facilities, 2004 ("Ten States Standards").

For WWTFs monitoring **monthly average** loadings, use the actual loadings as reported on your DMRs during calendar year 2008.

For WWTFs monitoring **quarterly, semiannual, or annual** loadings, calculate the actual loadings by averaging the loadings as reported during calendar year 2008«Report_Year».

For WWTFs that have no influent monitoring requirements please check this box and proceed to section 4: ☐

	Year-round value (or Season 1)	Season 2 *(if applicable)*	
a. The Design influent loading for BOD (or CBOD if applicable) is	_____	_____	lbs/d
b. The Design influent loading for Total Suspended Solids is	_____	_____	lbs/d

_- Continued on other side of form -

WWTF DESIGN, PLANNING AND FLOW MANAGEMENT
2008 ANNUAL CERTIFICATION FORM

Section 2. Loadings (continued):

For WWTFs monitoring monthly average loadings:

c. Did the **actual** influent loading for either BOD (or CBOD) or TSS, as determined from WWTF operational data as submitted on the DMRs **exceed** the monthly average **design** influent loading for any eight of 12 months during 2008? ☐ Yes ☐ No

For WWTFs monitoring quarterly loadings:

c. Did the **actual** influent loading for either BOD (or CBOD) or TSS, as determined from WWTF operational data as submitted on the DMRs **exceed** the quarterly average **design** influent loading for any three quarters during 2008? ☐ Yes ☐ No

For WWTFs monitoring semiannual loadings:

c. Did the **actual** influent loading for either BOD (or CBOD) or TSS, as determined from WWTF operational data as submitted on the DMRs **exceed** the **design** influent loading for both readings during 2008? ☐ Yes ☐ No

For WWTFs monitoring annual loadings:

c. Did the **actual** influent loading for either BOD (or CBOD) or TSS, as determined from WWTF operational data as submitted on the DMRs **exceed** the annual influent loading for 2008? ☐ Yes ☐ No

If the answer to 2.c. is yes, a Plan for Future Growth must be submitted to the Regional Water Manager in accordance with 6 NYCRR Part 750-2.9(c)(2) no later than August 1, 2008.

For all permittees:

d. Has a Plan for Future Growth been submitted to the Department? ☐ Yes ☐ No If yes, date submitted:

e. Has the WWTF discharge exceeded a SPDES permit effluent limit for BOD, CBOD, Ultimate Oxygen Demand or Total Suspended Solids for any four or more months during two consecutive calendar quarters, or (for facilities with quarterly monitoring) for two consecutive quarters? ☐ Yes ☐ No

Section 3. Implementation of Plan for Future Growth and Sewer Moratorium:

If the answers to **BOTH 2.c. and 2.e are yes**, the permittee must begin implementation of the Plan for Future Growth and immediately cease the approval of further sewer connections to the WWTF in accordance with 6 NYCRR 750-2.9(C)(3).

Section 4. Additional Information:

a. Is the facility currently under Order on Consent to address flow and/or loading concerns? ☐ Yes ☐ No

b. Are additional comments and explanations attached to this form? ☐ Yes ☐ No

Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print Name: _____ Title: _____

Signature: _____ Date: _____

This form must be signed by the **chief fiscal officer** of the permittee

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WASTEWATER TREATMENT FACILITY DESIGN, PLANNING AND FLOW MANAGEMENT

ANNUAL CERTIFICATION FORM INSTRUCTIONS

Please complete the attached form in accordance with the instructions below. If you have any questions regarding the information to be submitted or the calculations required for this form, please contact the Regional Water Engineer as found below or on the RECORDING, REPORTING AND MONITORING page of your SPDES Permit.

1. Flow: Compare the annual average flow to the flow limit in the permit:

All flow calculations must be made based on total flow. For WWTFs with one monthly average flow limit, calculate the average annual flow by averaging the 12 monthly average flows reported on the monthly DMRs for calendar year 2008. For WWTFs monitoring quarterly average flow, calculate the average annual flow by averaging the 4 quarterly flows for 2008. For WWTFs monitoring semiannual flow, calculate the average annual flow by averaging the 2 semiannual measurements for 2008. For WWTFs monitoring annual average flow or 12 month rolling average flow, use the annual average flow calculated for 2008.

For WWTFs with seasonal flow limits, calculate the average flow for each of the seasonal flow limits based on the data collected during calendar year 2008. For example, if the facility has seasonal limits that apply from May through October, Season 1 would be the average flow from May through October, while Season 2 would be the average flow from January through April and November through December. The dates used for the seasonal flow rate calculations should be included on the form in the space provided. If either of the seasonal calculations exceed 95% of the design flow, the "Yes" box must be checked and a Flow Management Plan must be prepared in accordance with 6 NYCRR Part 750-2.9(c)(1) and submitted to the Regional Water Engineer no later than August 1, 2009.

If a Flow Management Plan has been previously submitted to the Department, indicate the date of submission on the line in Item 1.d.

The design flow of the treatment facility shall be in accordance with that listed in the most recent design documents or treatment plant rating submitted to and approved by this Department. If the design flow for the treatment facility is unknown, the design flow should be estimated using the "Recommended Standards for Wastewater Facilities, 2004 Edition" (Ten States Standards), which can be ordered from this website: http://www.hes.org .

The requirements for the flow management plan contained in 6 NYCRR Part 750-2.9(c)(1) are attached for reference.

2. Loadings: Compare the design BOD and TSS influent loadings to the actual BOD and TSS loadings:

The design influent loadings are not included on the preprinted DMR. These numbers may be found in the facility's engineering design documents, O&M plans, or in more recent engineering reports if the treatment facility has had a recent upgrade. Use the most recent design loadings data available for purposes of this calculation. If you cannot locate the facility's design influent loadings criteria, please contact the plant engineer. If the design loadings for the treatment facility are unknown, the loadings should be estimated using the "Recommended Standards for Wastewater Facilities, 2004 Edition" (Ten States Standards), which can be ordered from this website: http://www.hes.org .

If the wastewater treatment facility uses Biochemical Oxygen Demand (BOD) as a measure of treatment system performance, use BOD loadings in these calculations. If the facility uses CBOD as a measure of treatment system performance, use CBOD loadings in these calculations.

Facilities with no influent monitoring requirements should check the box in Item 2 and proceed to Section 4.

To calculate the actual influent loadings in lbs/day, facilities that perform daily sampling should multiply the average monthly concentration on the DMR (in mg/l) by the average monthly flow (in MGD) and a conversion factor of 8.34. For facilities with less than daily sampling, i.e., monthly, weekly, etc., the daily flow from the POTW on the date that the sample was collected shall be used to determine the loadings. These individual daily loadings should be averaged for the monthly actual influent loading. For WWTFs monitoring quarterly, semiannual, or annual loadings, calculate the actual loadings by averaging the loadings as reported during calendar year 2008.

If either of the seasonal calculations exceed the design loading, the "Yes" box must be checked. Should the actual influent loading for either BOD (or CBOD) or TSS exceed the design influent loading, you may include an explanation for these exceedances. Check the "Yes" box in Item 4.b. if a written explanation is attached. If the facility has previously submitted a Plan for Future Growth, indicate the date that the plan was submitted in Item 3.d.

The requirements for the plan for future growth contained in 6 NYCRR Part 750-2.9(c)(2) are attached for reference.

3. Implementation of Plan for Future Growth and Sewer Moratorium:

Review the facility's DMRs to determine whether the discharge from the POTW has exceeded a SPDES permit effluent limit for BOD, CBOD, Ultimate Oxygen Demand (including 28 day BOD), or Total Suspended Solids for any four or more months during two

consecutive calendar quarters during 2008. If the answer to this question is "Yes", an immediate moratorium on additional sewer connections shall be imposed and the approval of sewer connections to the POTW must cease immediately. The requirements for the sewer connection moratorium contained in 6 NYCRR Part 750-2.9(c)(3) are attached for reference.

4. Additional Information:

If the facility is currently under an Order on Consent with the Department that addresses flow and/or loadings concerns, check the "Yes" box in Item 4.a.

If you have attached additional comments or explanations, check the "Yes" box in Item 4.b.

CERTIFICATION STATEMENT:

This form must be signed by the municipality's chief fiscal officer, such as the mayor, comptroller, treasurer, city manager or chief financial officer. This person may differ from the person who signs the facility's DMR.

SUBMITTAL INSTRUCTIONS:

Please submit copies of this form by **March 28, 2009** to the NYSDEC Bureau of Water Compliance, 625 Broadway, Albany NY 12233-3506 and the Regional Water Engineer at the address and phone number listed on the RECORDING, REPORTING AND MONITORING page of your SPDES Permit.

REGIONAL WATER ENGINEER CONTACT INFORMATION

Mailing Address: Mail Form to "*Regional Water Engineer*"	**Regional Water Engineer Telephone**
NYSDEC REGION 1, SUNY Stony Brook, 50 Circle Road, Stony Brook, NY 11790-3409	(631) 444-0405
NYSDEC REGION 2, One Hunters Point Plaza, 47-40 21st St, Long Island City, NY 11101-5407	(718) 482-4933
NYSDEC REGION 3, 21 South Putt Corners, New Paltz, NY 12561	(845) 256-3000
NYSDEC REGION 3 Sub-Office 100 Hillside Ave. Suite 1W White Plains, NY 10603	(914) 428-2505
NYSDEC REGION 4, 1130 North Westcott Road., Schenectady, NY 12306-2014	(518) 357-2045
NYSDEC REGION 5, PO Box 296, 1115 State Route 86, Ray Brook. NY 12977-0296	(518) 897-1241
NYSDEC REGION 5 SUB-OFFICE, PO Box 220, 232 Golf Course Road, Warrensburg, NY 12885-0220	(518) 623-3671
NYSDEC REGION 6, State Office Bldg.,317 Washington St., Watertown, NY 13601-2245	(315) 785-2513
NYSDEC REGION 6 SUB-OFFICE, State Office Building., 207 Genesee St., Utica NY 13501-2885	(315) 793-2554
NYSDEC REGION 7, 615 Erie Boulevard West, Syracuse, NY 13204-2400	(315) 426-7500
NYSDEC REGION 8, 6274 East Avon-Lima Rd., Avon, NY 14414-9519	(585) 226-2466
NYSDEC REGION 9, 270 Michigan Ave., Buffalo, NY 14203-2999	(716) 851-7070

Part 750 -2.9

(c) POTW DESIGN, PLANNING AND FLOW MANAGEMENT

(1) Flow Management Plan

(i) Within 120 days of when the permittee determines in accordance with paragraph 4 of this subdivision that the annual average flow value for a calendar year to a POTW has reached or exceeded 95 percent of that POTW's design flow, the permittee shall submit to the Regional Water Engineer a flow management plan to identify and implement reductions in hydraulic loading to the POTW treatment plant or failing that, approvable engineering reports, plans and specifications and/or capital improvements as necessary to stabilize annual average flows below the POTW treatment plant design flow. This plan shall be certified by a professional engineer licensed to practice in the State of New York and endorsed by the chief fiscal officer of the municipality. The provisions of the plan may reflect new efforts or may refer to existing, ongoing efforts. The flow management plan shall, at a minimum, include provisions for:

(a) A statement to the effect that the permittee has the authority in all parts of the POTW service area to implement or cause to be implemented the provisions of this subdivision or, if the permittee does not have such authority, a proposed schedule, not to exceed three years, to obtain such authority or a statement from the permittee's designated legal representative that existing law precludes the permittee from obtaining such authority;

(b) An inventory of all known facilities/projects that have applied to connect to the sewer system and a determination if there is capacity for connection;

(c) A schedule of implementation for all flow reduction measures identified herein;

(d) A map delineating the service area as defined; and

(e) A description of information that will be reported during implementation of the plan to the Regional Water Engineer and a schedule for such reporting.

(ii) The flow management plan required by subparagraph (i) of this paragraph shall also include provisions for implementation of any or all of the following that are necessary to stabilize influent flows below design flows:

(a) Water conservation measures to reduce customer usage by measures including but not limited to customer metering, meter calibration, retrofitting existing plumbing fixtures with water conservation fixtures and revision of water rate structures;

(b) Reduction of infiltration and inflow through continuous measures including but not limited to sewer system metering, evaluation and rehabilitation, removal of roof leaders and footing drains from separate sanitary sewers and installation of separate storm sewers;

(c) Prevention of future sources of infiltration and inflow where feasible through measures including but not limited to implementation of standards for sewer installation and requirements to provide for adequate drainage from roof leaders and footing drains in new construction;

(d) Measures to maximize sewer system and sewage treatment works capacity at a minimum cost; and/or

(e) Approvable engineering reports and/or plans and specifications to assure annual average flows do not exceed 95 percent of the POTW treatment plant design flow.

(f) Capital improvements necessary to assure annual average flows do not exceed 95 percent of the POTW treatment plant design flow.

(iii) Within 90 days of submittal to the Regional Water Engineer of the plan required under subparagraphs (i) and (ii) of this paragraph, the permittee shall begin to implement the provisions of said program in accordance with the proposed schedule or cause the provisions of said program to be implemented by another party.

(iv) The Regional Water Engineer may object to the plan, or implementation of the plan, submitted in accordance with subparagraph (i) and (ii) of this paragraph if the plan does not provide for substantive and effective measures to reduce hydraulic loading to the POTW. Within 90 days of receipt of written notification from the Regional Water Engineer documenting the aspects of the plan that must be revised, the permittee shall submit a revised plan that addresses the department's objection(s).

(c) POTW DESIGN, PLANNING AND FLOW MANAGEMENT

(2) Planning

(i) Within 120 days of when the permittee determines that the actual influent mass loading of Biochemical Oxygen Demand or Total Suspended Solids to a POTW has reached or exceeded the design influent loading for those parameters for any eight calendar months during a calendar year, the permittee shall submit a plan for future growth at the POTW. The plan shall include:

(a) Provisions for obtaining any necessary funding; and Part 750 - 2, Page 61 Effective May 11, 2003

(b) Provisions for preparation and submission to the Regional Water Engineer of approvable engineering reports and/or plans and specifications to provide for growth of discharges in the POTW service area.

(c) A demonstration of the permittee"s ability to impose a connection moratorium in any and all parts of the service area or, if the permittee does not have such authority, a proposed schedule, not to exceed three years, to obtain such authority or a statement from the permittee's designated legal representative that existing law precludes the permittee from obtaining such authority.

(ii) The Regional Water Engineer may object to the plan, or implementation of the plan, submitted in accordance with subparagraph (i) of this paragraph if the plan does not provide for substantive and effective measures to accommodate future growth of discharges from the POTW service area. Within 90 days of receipt of written notification from the Regional Water Engineer documenting the aspects of the plan that must be revised, the permittee shall submit an approvable, revised plan that addresses the department's objection(s).

(iii) Within 90 days of submittal to the Regional Water Engineer of the plan required under subparagraph (i) of this paragraph, the permittee shall begin to implement the plan to obtain the authority required under clause '(c)' of subparagraph (i) of this paragraph.

(3) Plan Implementation and Sewer Connection Moratorium

For POTWs that have exceeded the design influent loading criteria set forth in paragraph (2) of this subdivision, within 90 days of when the permittee determines that, in accordance with the annual review required by paragraph (4) of this subdivision, that the effluent discharge from a publicly owned treatment works has exceeded a SPDES permit limit for Biochemical Oxygen Demand or Ultimate Oxygen Demand for any four or more months during two consecutive calendar quarters, or a SPDES permit limit for Total Suspended Solids for any four or more months during two
consecutive calendar quarters , the permittee shall:

(i) Begin to implement the plan developed in accordance with paragraph (2) of this subdivision or in accordance with subparagraph (i) of that paragraph; and

(ii) Cease the further approval of sewer connections to the POTW.

APPENDIX C

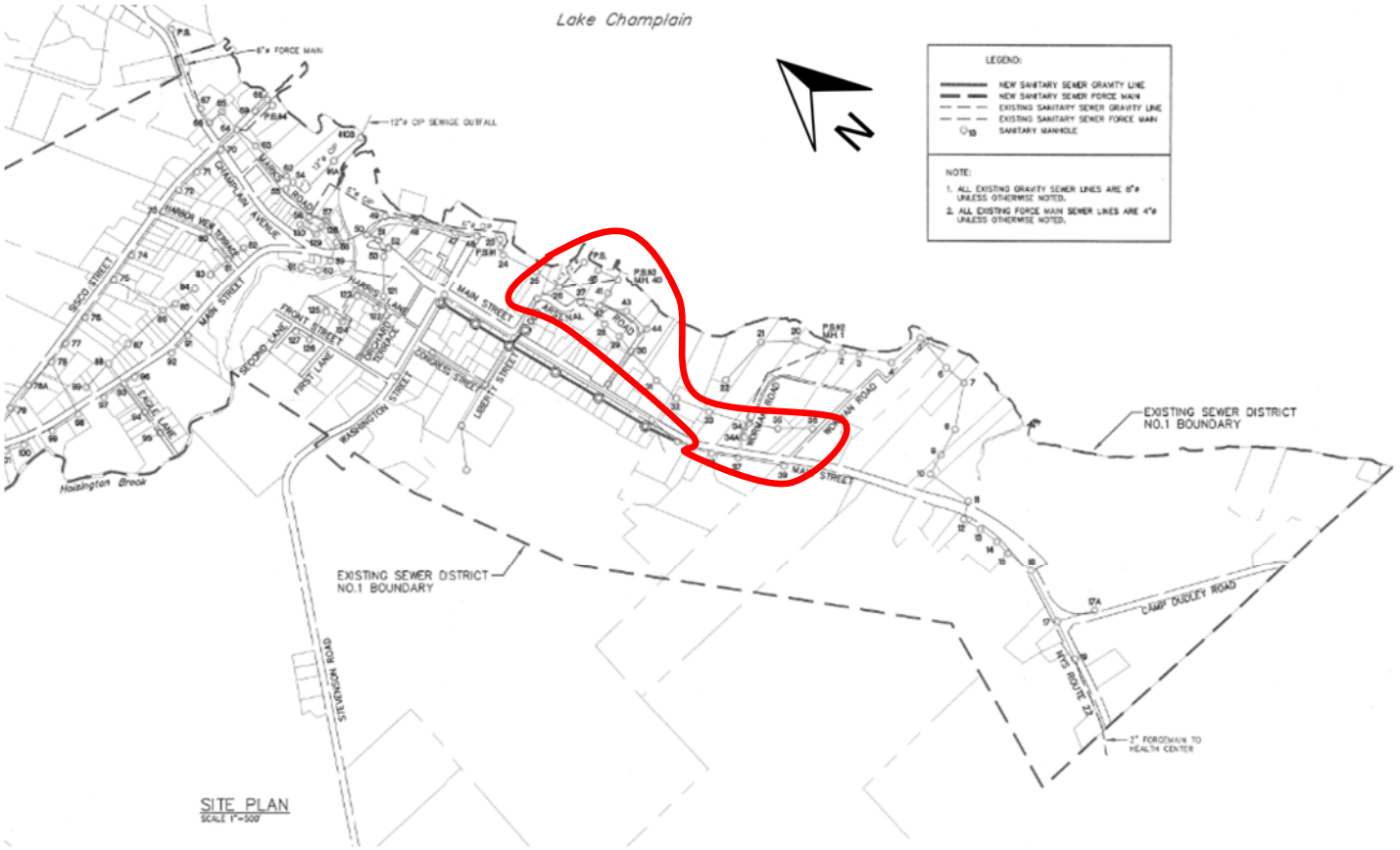
PUMP STATION #1 &
MILL STREET/MARINA
SERVICE AREA INVESTIGATION

AES NORTHEAST
Architecture, Engineering, and Land Surveying Northeast, PLLC
10 -12 City Hall Place, Plattsburgh, NY 12901

Town of Westport
Sewer District #1
Collection System Evaluation
Appendix C
Pump Station #1 & Mill St/Marina Service Area Investigations

Location Map

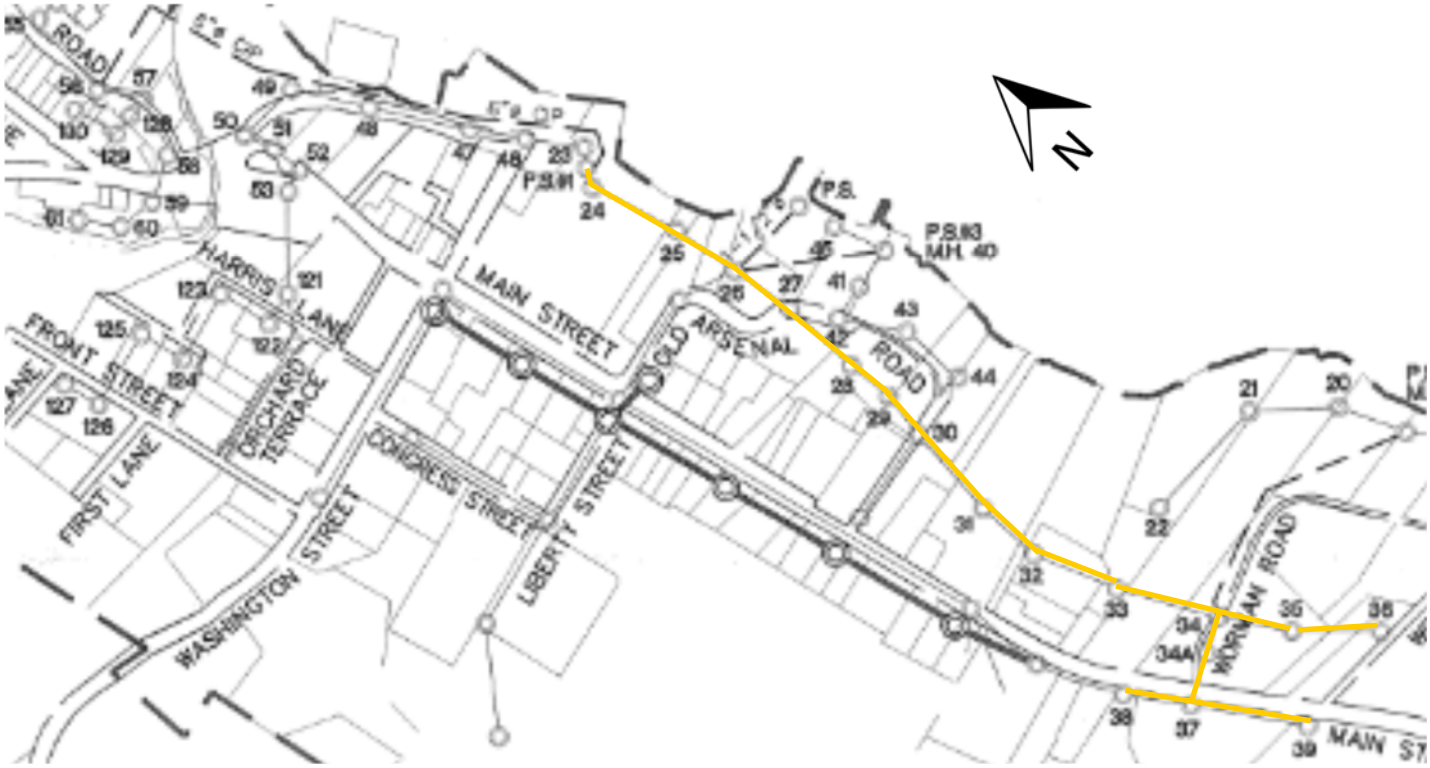
The Marina Pump Station (#1) is the largest pump station in the sewer district, receiving pumped flows from the Worman Road and Old Arsenal Road pump stations and gravity flow from the Liberty & Congress Street and Harris Lane service areas. Flow is pumped from the pump station to Marks road where it continues via gravity to the WWTP. The main sewer line analyses as part of this service area is the "Middle Interceptor Sewer" from MH 26 to MH 35 and additional sections from MH 34 to MH 38 and from MH 37 to MH 39.



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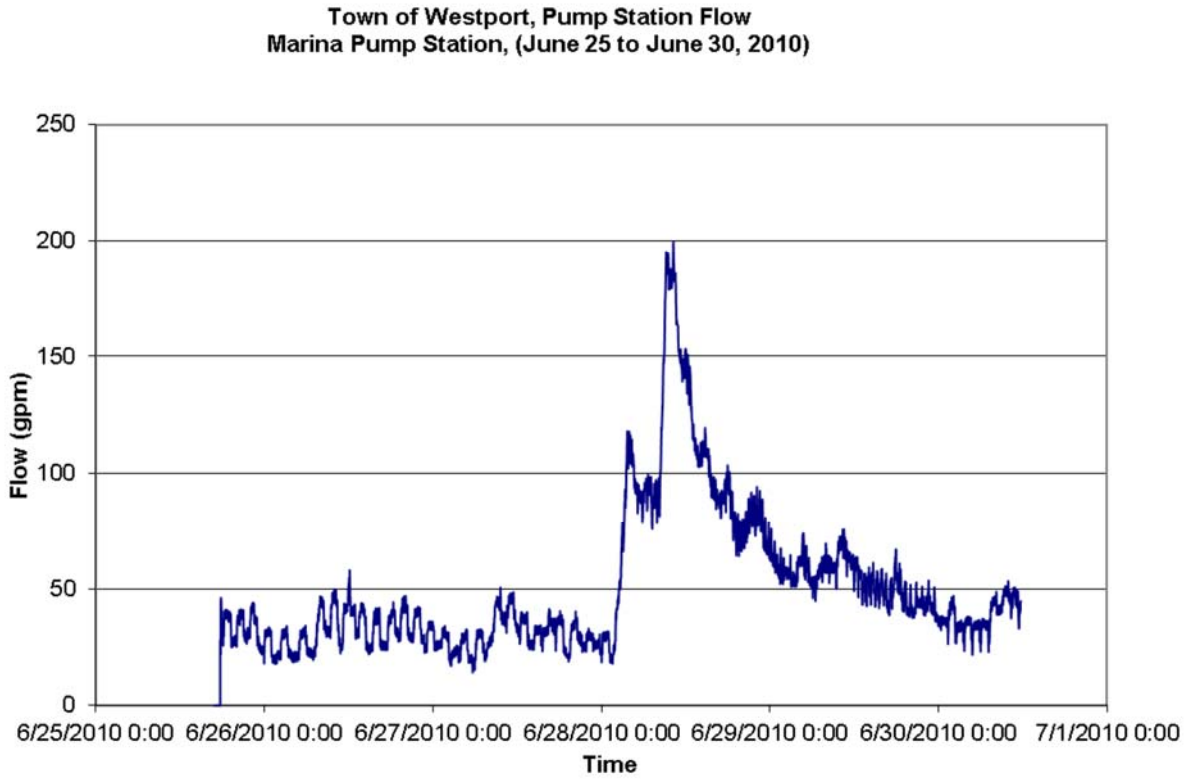
Pump Station Inspections

Location:
The Marina pump station is located to the south of the Westport Marina, approximately 60 feet south of the intersection of Mill St. and Washington St Ext. The pump station is located along the shore of Lake Champlain, approximately 70 feet from the shore.



The Issue:
In April 2018, AES inspected to the pump station to ascertain its condition and note possible improvements. The main issue documented at the pump station is that during peak flows both pumps are running continuously to keep up with incoming flows. This pump station is the collection point for all sewers in the south end of the hamlet divided by Hammond brook.

The figure below is the estimated average hourly flow coming into the pump station based on pump monitoring conducted previously. This monitoring was conducted during the summer and the peak shown in the graph was observed during a 0.5" rain event. Based on maintenance records for the pump station, ragging of the pumps are the most common maintenance issue at the station.



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Pump Station Inspections

Evaluation:

The S&L duplex pump station consists of both a wet well and a dry well, approximately 15 ft. in depth, with a separate above ground electrical cabinet containing power, controls and VFDs for both of the pumps. The main pump panel is located down in the drywell with the pumps. An emergency generator and transfer switch are located adjacent to the electrical cabinet.

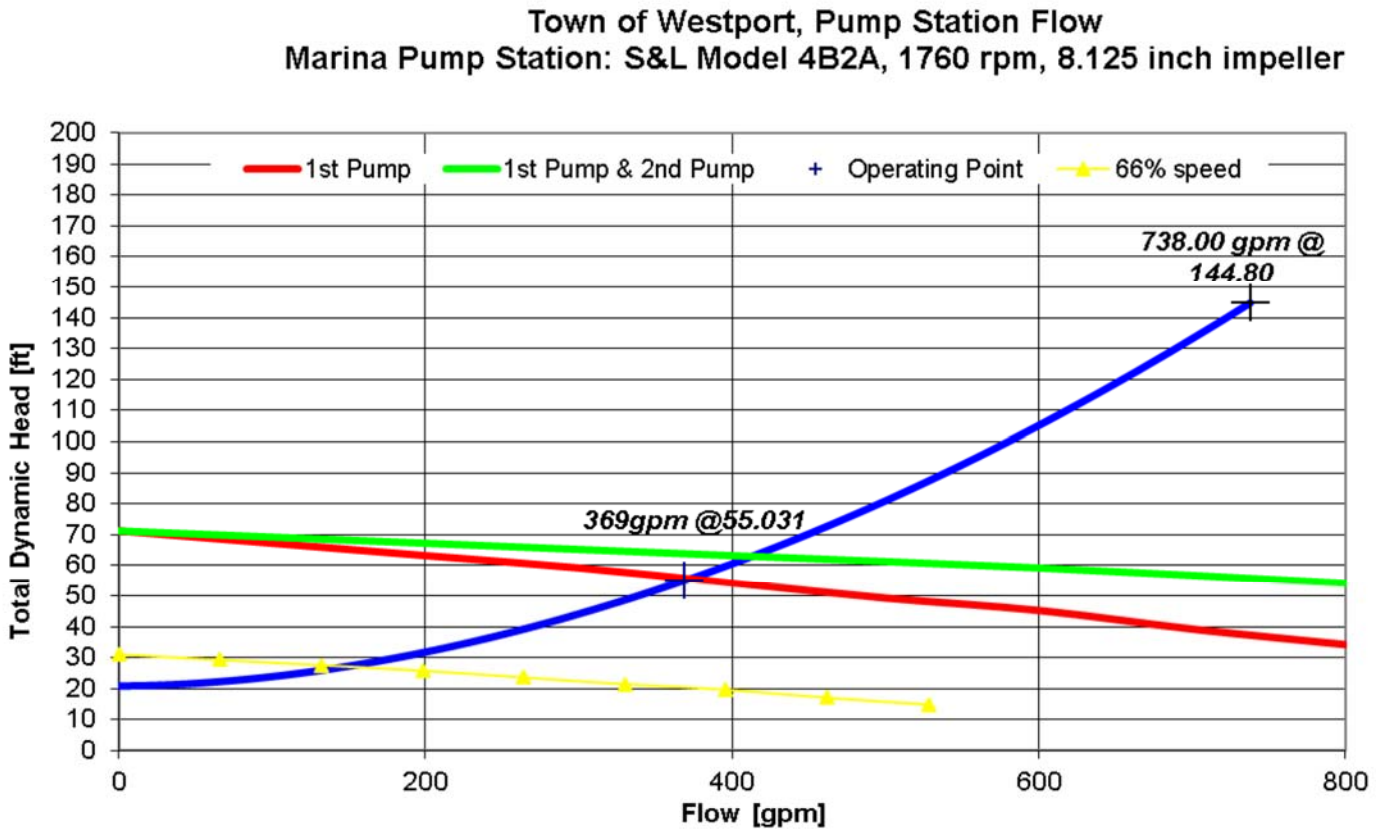
The pump station is equipped with two Series4B Model 2A 10 HP 1760 RPM solids-handling flooded suction pumps. Both pumps are equipped with VFDs and 8.125" impellers. The pump station serves the southern area of the Hamlet. This pump station also re-pumps the force main discharges from both the Worman and Arsenal pump stations located to the South.



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Pump Station Inspections

Due to the pumps operating on VFD's, pump output for the existing pump station was not readily available. Based on our understanding of the force main condition and construction, the approximated system curve is shown in the figure below. The pump curve(s) for the station are also overlaid in figure below. The red and green curves show a single pump and both pumps running condition. During the inspection of the pump station, it was noted the VFD programing for pump 1 normally runs the pump at 66%. This operating condition is shown by the yellow curve.



Based on observation of the pump station during a time with no precipitation, there were a couple points of note. The first is that pump #2 sounded as if it was cavitating or grinding when it was running during the inspection. The water level of the pump station was also rising with #2 running at 85% speed. Later investigation by the Operator determined that the operation of both pumps was being impacted by ragging. The pumps were cleaned out and returned to service.

From the information gathered and calculated in the report, it's clear that I&I is contributing greatly to the flow entering the pump station. During just a 0.5" rain event, the flow to the pump station increased more than 5 times the normal flow of the previous 2 days.

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Pump Station Inspections

Conclusion:

Based on the observations in the field and conversations with the Operator it appears that the pump station is running effectively. The greatest difficulty encountered is ragging of the pumps, reducing pump output and efficiency. Installation of wet well screens upstream from the pump station would greatly alleviate ragging issues and improve pump efficiency and reliability.

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Manhole Inspections

A limited, but representative number of manholes were inspected in this service area. As is typical in this collection system, the manholes appear to be a significant source of I&I. Even manholes with previous repairs leak. Leaks occur through cracks, around the frames and just generally through the walls of the manholes. MH 39 is leaking severely under the frame and cover.

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MH 27



This manhole receives flow from most of the manholes south from itself and from manhole 12. From this manhole, all flow goes towards the treatment plant. This manhole is structurally sound, however infiltration enters through cracks around the rim and from the seams.

Although not shown in this exterior shot of the manhole, this manhole is found in the middle of the street and is not at grade, allowing storm water to sit in and around the rim.



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MH 32



This manhole receives flow from the lower end of the Worman area.

Most of the ground water enters through cracks around the rim and from between the blocks seams. The cracks have been spot repaired but water is still coming in from around the patches and can be seen in the bottom on the manhole.

The staining indicated that the infiltration is not constant, but it is frequent enough to allow staining of blocks.

As shown in the exterior pictures, this manhole is found in a field linking the southern section to the sections flowing towards the plant, and the area could be a contributing factor to groundwater infiltration.

Similar to a lot of the other manholes in this system, there is a lack of sealing of the seams of the precast concrete.



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MH 37



These pictures show the effects of the infiltration coming from the two manholes shown on the previous pages, MH 38, and MH 39. Some infiltration can be seen in the picture to the left, coming through the risers, however the most serious effects occur before this manhole. This flow, in the spring time, but during a dry day is estimated at 20 gpm and is almost all infiltration.



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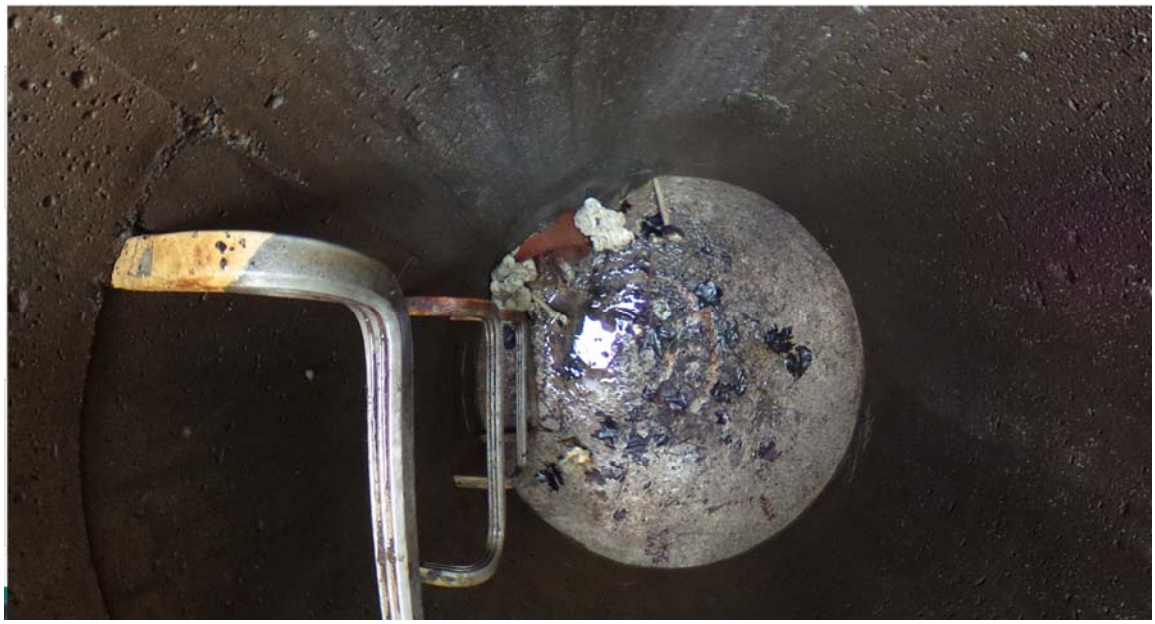
MH 38



This manhole also receives an extreme amount of infiltration. Most of the water enters through cracks around the invert. The cracks have been repaired but water is still coming in, and can be seen in the bottom on the manhole.

This is a dead-end manhole, used for cleaning purposes, so by design should not receive any water. There is also a significant amount of water infiltrating through all precast joints in the walls. As shown in the exterior pictures, this manhole is also in the NYS Route 9N ditch line, the most likely source of this infiltration.





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MH 39



This manhole is cause of an extreme amount of infiltration. It is a dead end manhole with no services, and therefore should have no flow at all of water. The picture to the bottom left shows the manhole is located in the ditch line where storm water is collected from NYS Route 9N. One can see that water doesn't necessarily collect around the manhole. The top left picture shows the frame has been shifted from the corbel and walls. The area where the ditch line is, is where most of the water is coming in under the frame.

The rest of the infiltration is coming through the joint in precast levels, shown in the picture to the right. That picture also depicts the rippling effect of water pouring into the manhole. This amount of excess water has completely eroded the bench walls. At this point, water needs to completely fill up to about 4" to flow into the pipe.





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MH 49



Most of the infiltration enters through cracks around the rim and from the seams between the concrete sections.

As shown in the exterior pictures, this manhole is found in the middle of the street and is not at grade, allowing storm water to sit in and around the rim that can then leak inside.

This manhole receives flow from all of the manholes south from Washington Street, and the other sections of sewer line south. From this manhole, all flow goes into the last few manholes into the treatment plant.





Similar to a lot of the other manholes in this system, there is a lack of sealing with the seams of the precast concrete.

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Sewer Main Inspections

A complete internal video inspection of the sewer mains is outside of the scope of this report. However, limited, representative videos were taken of the 1968 era VCT pipe. In general the pipes are expected to be structurally sound with good slope. All pipes are minimum of 8" and meet minimum sizing requirements. It is expected that the pipes leak, either through cracks or more likely leaking joints. In general, slopes appear to be adequate and meet minimum design requirements.

Specific Defects Noted:

- Visual inspection of flows in the manholes indicate an extremely high level of infiltration into the pipe between manholes 37 and 38 and between manholes 37 and 39.

Additional Items of Note:

- It is difficult to determine from the existing drawings, but it is assumed that there are at least a few existing pre-1968 sewer mains that were tied into the system.
- It is assumed that the majority of sewer service connections are pre-1968.

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Recommendations

Pump Station:
No changes to pumps, controls, etc, are recommended. It is recommended that screening is installed a head of the pump station.

Manholes:
The majority of manholes in this service area should be repaired or replaced. Those manholes that only exhibit leakage can be repaired and lined with high strength grout or replaced. Manholes that exhibit structural deterioration due to sulfide attack should be replaced. A final inspection during design can provide final recommendations. It is possible that some manholes may not need any work.

Sewer Mains:
The sewer mains in this service area should be repaired or replaced (if they are to remain in service). It is expected that the majority of the lines leak in a least some manner. A full inspection is proposed to be performed during the preliminary design phase. This inspection would involve cleaning and CCTV inspection of the pipes. During this inspection, any structural deficiencies will be flagged for repair or replacement. Any sections that are found to be structurally sound can be repaired with cured-in-place-pipe (CIPP) or and any that are not can be replaced. For the purposes of estimating, an assumed liner footage of pre-1968 pipe has been included for replacement, as it is assumed that this pipe will be beyond repair. The exact location and amount of such pipe is not completely known from the drawings.

Laterals:
It is assumed that the majority of laterals in the section are pre-1968 and require replacement or repair. Additional investigation during preliminary design should identify which laterals require replacement or rehabilitation.

Other:
Manholes, main lines, and lateral pipes that are no longer in service should be properly abandoned and disconnected form the collection system.

APPENDIX D

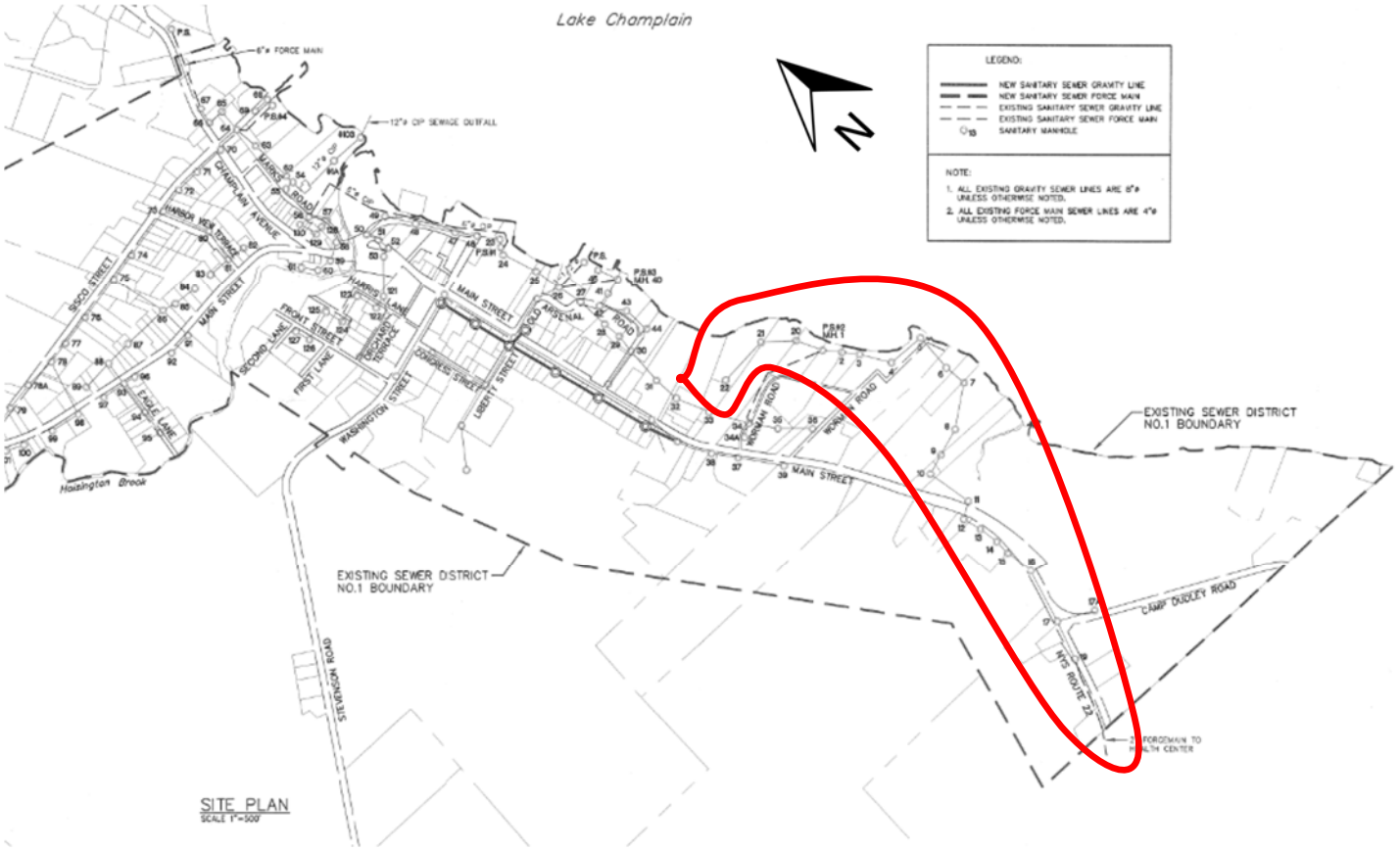
PUMP STATION #2
& WORMAN ROAD SERVICE AREA
INVESTIGATION

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Pump Station #2 & Worman Road Service Area Investigations

Location Map

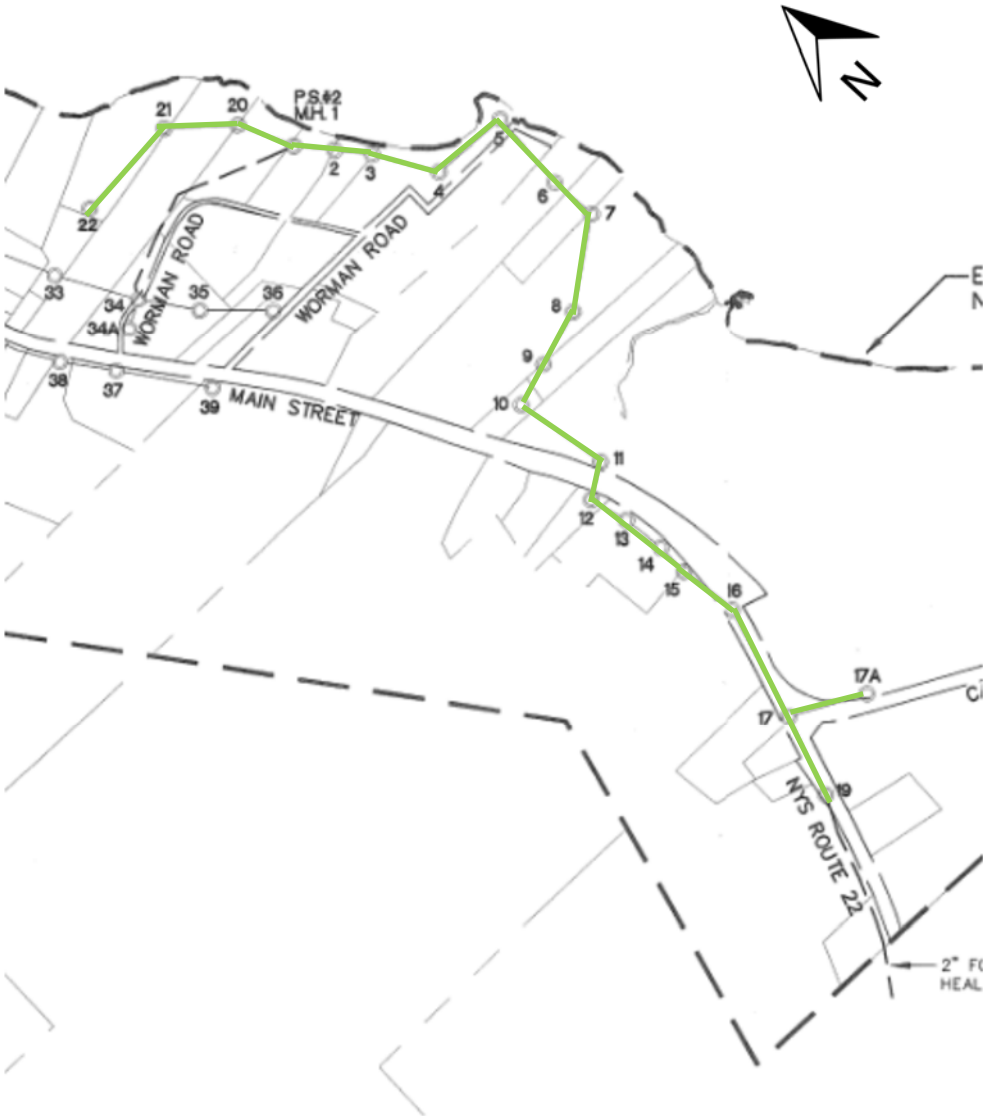
This area of the sewer district is the southernmost portion, covering nearly 5,000' of sewer main pipe, all VCT, except for a 45' stretch under state road, and the Worman Road Pump Station (P.S. #2). Beginning at 6209 NYS Route 9N/22, this area extends north up to the Sunny Side Way Road. The pump station pumps from the shoreline up to the Middle Interceptor main line. There is also a pump station south of the sewer district, which takes sanitary flows from the Westport Health Center into the system. The only section that appears to not have been replace in 1968 was from MH 10 to MH 7, on the Windward Circle.



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Collection System Map



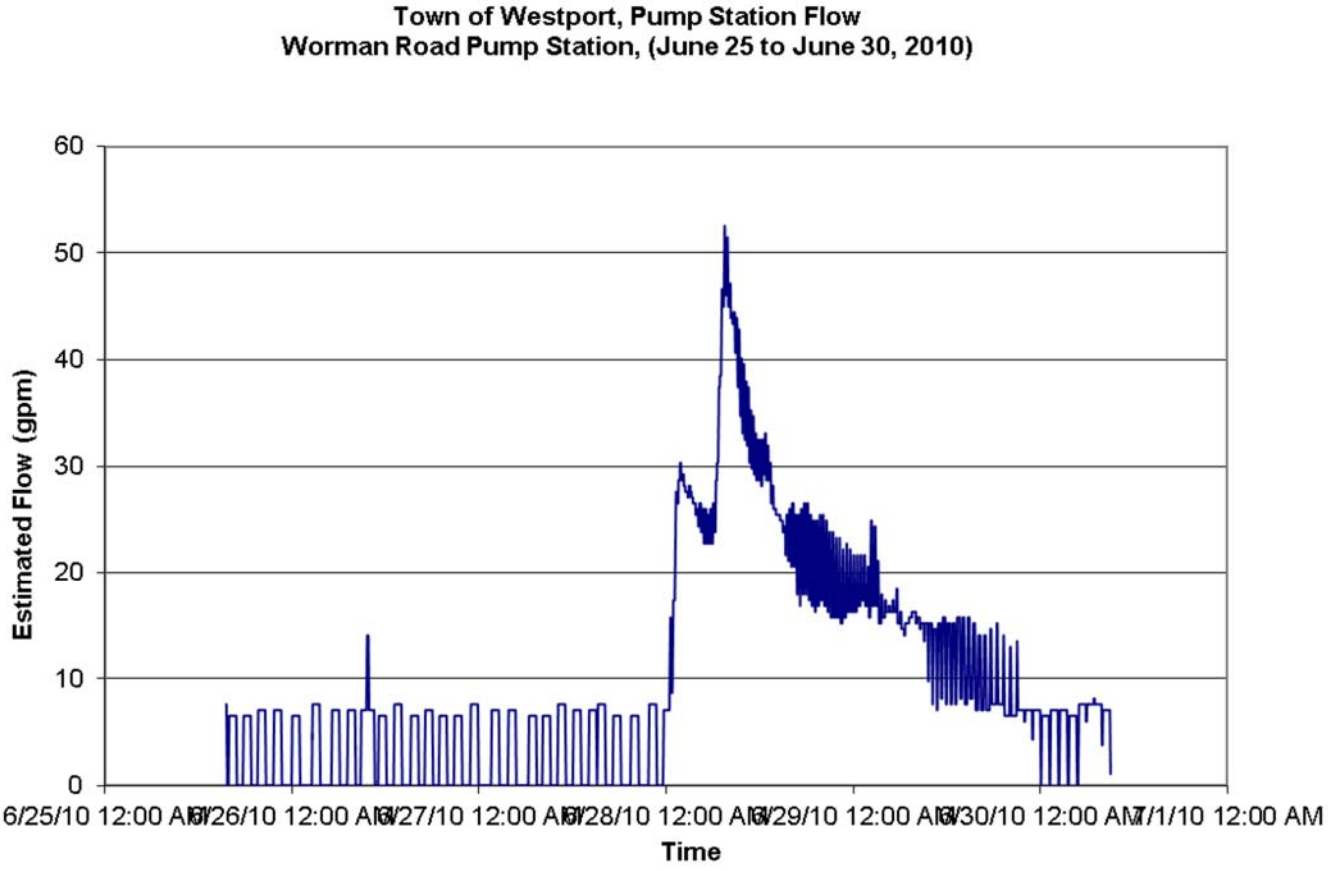
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Pump Station Inspections

Location:
The Worman Road pump station is located toward the eastern end of Worman road, approximately 1,100 feet east of the intersection of Worman Rd. and Main St. (St. Rt. 9N). The pump station is located along the shore of Lake Champlain, approximately 50 feet from the shore.

The Issue:
In April 2018, AES inspected to the pump station to ascertain its condition and note of possible improvements. The main issue influencing the station appears to be I&I entering the system. It was also noted during the inspection that when the pump station shut down the gauge swung up and down a total differential of roughly 8 psi. This could be due to air trapped in the system or an issue with the check valve. This pump station is the collection point for sanitary sewers on the extreme south end of the Hamlet running along the lake and extending to the southernmost section of Rte. 9N, going south.

The figure below is the estimated average hourly flow coming into the pump station based on pump monitoring conducted previously. This monitoring was conducted during the summer and the peak shown in the graph was observed during a 0.5" rain event.



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Pump Station Inspections

Evaluation:

The pump station consists of long, rural runs of gravity sewer (approx. 5,000 LF total) tied to a duplex Smith & Loveless suction lift pump station. The pump station is equipped with a 6' precast wet well with 2 suction lift wastewater pumps and vacuum priming pumps mounted at ground level. The backup generator is located approximately 75' to east and an electrical backboard mounted between the pump station wet well and the generator.



The pump station is equipped with two S&L Model 4B2D 15 HP 1800 RPM solids-handling suction lift pumps. The station is powered by 208V, three phase power coming in through an underground service.

During the pump station inspection, the pump station was timed during a pumping cycle. Based on the details from the site visit and information available from the town, the station and force main parameters, elevations and distances are estimated below:

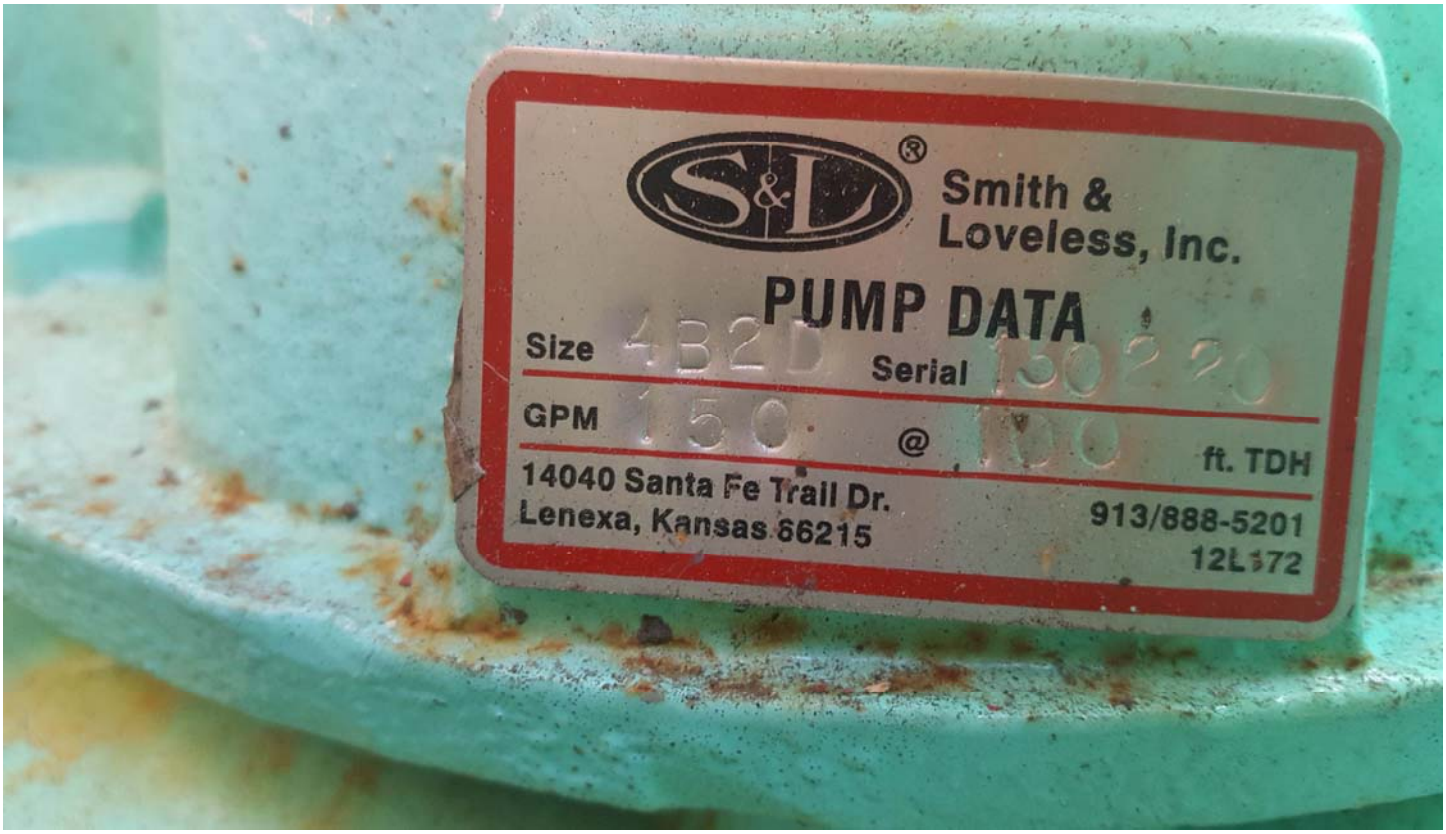
- Pump station wet well diameter: 6'
- Pump station elevation control: Pressure Transducer
- Low level pump off elevation: 159.5"
- High level pump on elevation: 133.7"

The design conditions for the pump station per the operations and maintenance manual is 150 gpm at 100 ft of TDH. The pump curve was obtained and the system curve was calculated. Based on the calculations, both motors are operating within their maximum horsepower.

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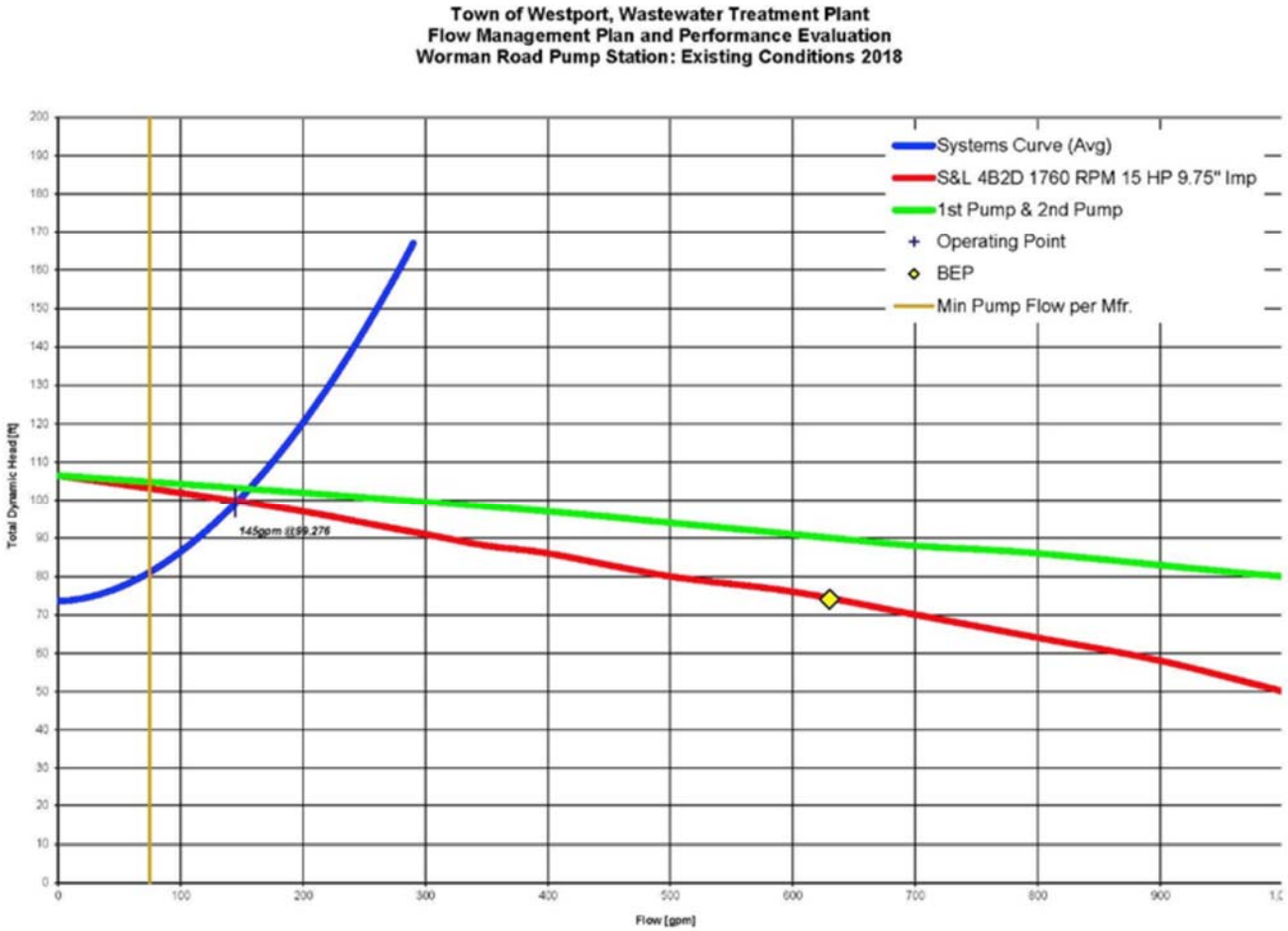
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Sewer District #1
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Appendix D
Pump Station #2 & Worman Road Service Area Investigations

Pump Station Inspections



Pump Station Inspections

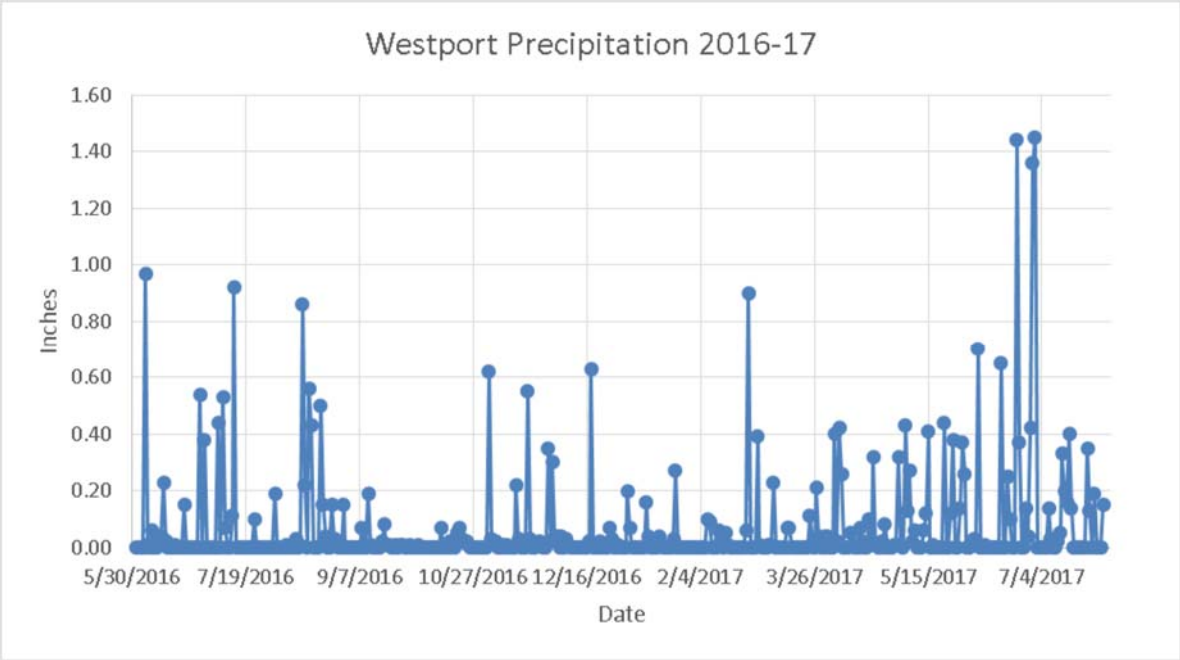
The original pump design point is very far to the left on the selected pump curve, near the minimum manufacture recommended flow. The calculated operating point is 145 gpd at 99 ft TDH, indicating that the pumps are operating near their design point. So, the pumps are operating as intended, but the original pump selection itself is not ideal. Maximum pump efficiency at that point is approximately 38%, versus 78% when the pump is operating near its best efficiency point (BEP). Refer to the figure below. Based on the station's run time of 4 min 20 sec, and the storage volume of the pump station being 455 gallons, the flow rate was calculated. The calculated pumping rate of 105 gpm does not closely match the name plate data or calculated pump operating point. This discrepancy may be due to variation in the measurements taken, leakage past the check valve, or the fact that the pump is operating so far to the left on the curve and at such a reduced efficiency that there can be variability in the pump output.

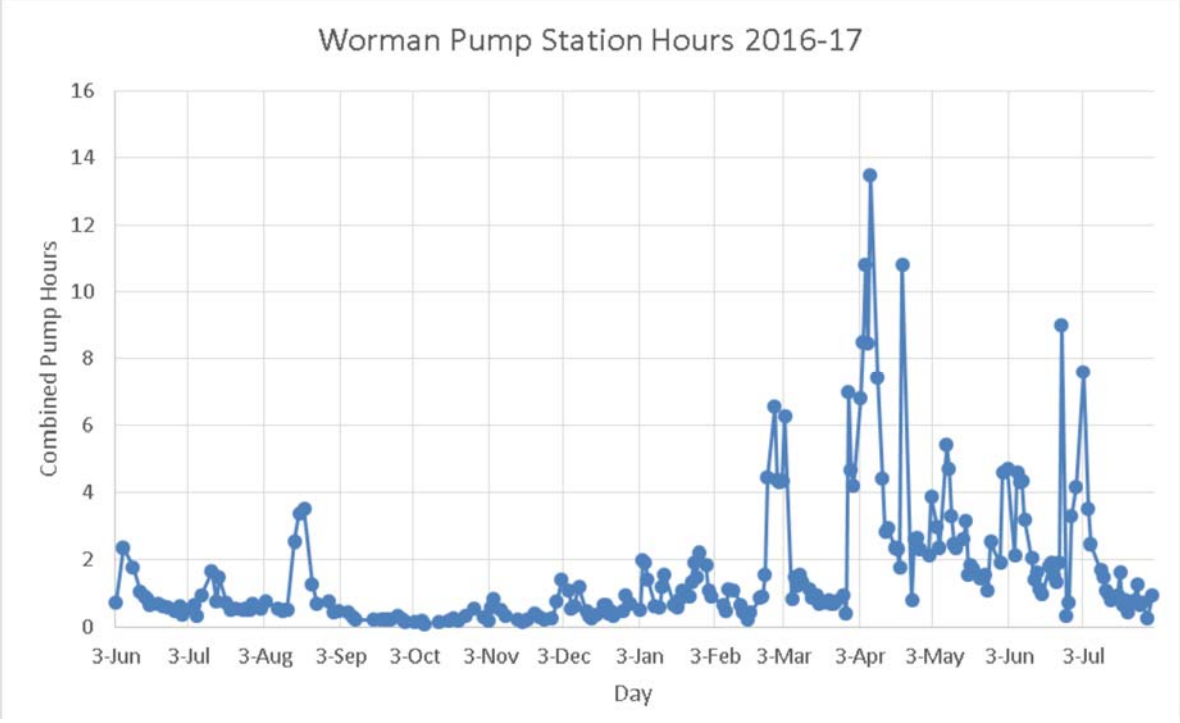


P:\45\4524 Westport (T) - I&I Study\B Design\B1 Reports\Westport I&I\2018-xx-xxxx Report\03 Appendicies\Appendix XXX Pump Station(s)\Worman Pump Station\Worman Rd Pump Cals_JW.xls

Pump Station Inspections

Next the flow to the pump station was examined. In the first chart below, the rainfall amounts for the hamlet has been graphed for an entire year. The second chart below shows the pump run times totaled daily during the same examination period.





Pump Station Inspections

From the information graphed on the previous page, there are 2 points that should be highlighted for the report. The first is the run time of the pump station. When both the run time of both pumps were averaged over the examination period, the pumps ran for 1.7 hours each day. Using the calculated pump rate for the station, that's an average of 10,710 gal/day (or 15,300 gal/day using the nameplate pump rate).

The second point of note regarding the data above is the nature of the increased inflow to the pump station. The flow data in both charts shows a sharp correlation between the rainfall in the winter/spring with increased flow to the pump station. This precipitation, in addition to snow melt appears to directly add additional flow to the system. As seen in the pump hours during rain events, pump time at the station can climb to almost 8 times the average day run time, indicated a large I&I issue.

Conclusion:

No changes to pumps, controls, etc, are recommended. At the point that the pumps reach the end of their useful life, a more efficient pump should be selected.

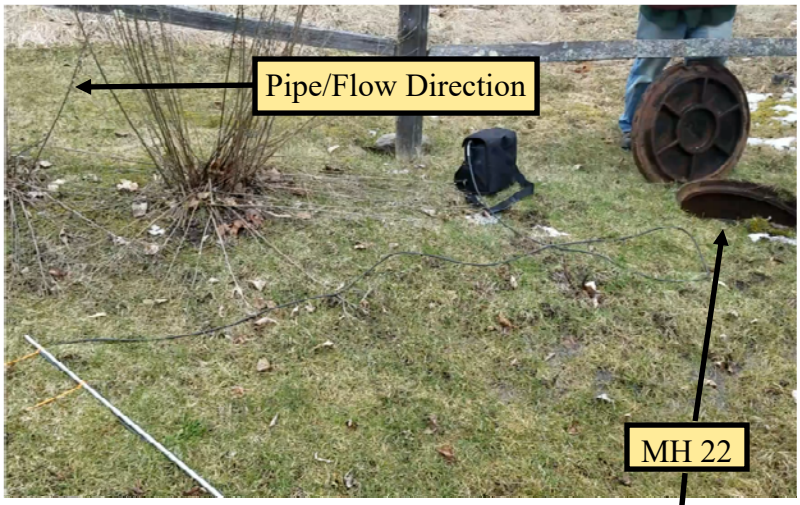
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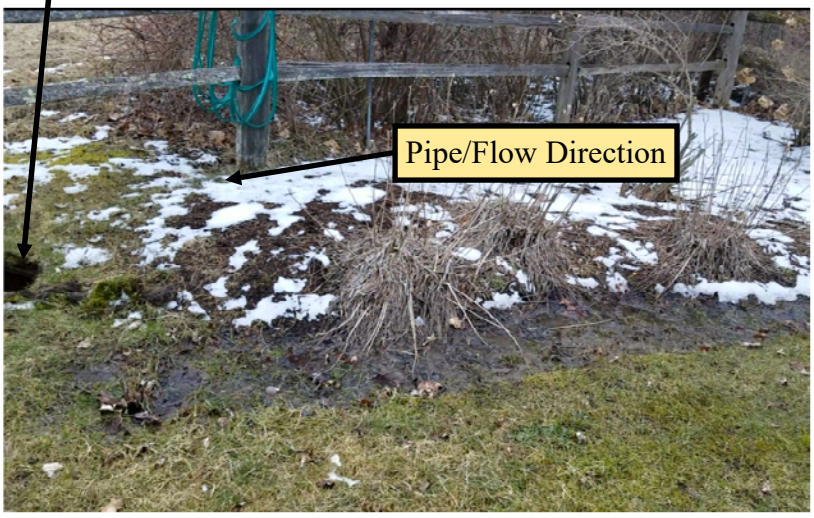
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Pump Station #2 & Worman Road Service Area Investigations

Manhole Inspections

A representative number of manholes were inspected in this service area. The majority of the manholes generally exhibited relatively good structural conditions but all showed signs of leakage. There were at least two manholes without proper troughs. At least two manholes showed signs of moderate to severe root intrusion. The manholes were very wet at the time of inspection. The manholes are clearly a large source of I&I. All of the manholes require repair or replacement.

Near Manhole 22, it was observed that a significant flow of water that was running across the ground and disappeared just after the manhole. The water appeared to be permeating through the soil and infiltrating into the pipe just past Manhole 22. First picture is taken from below Manhole 22 and the second is taken from above. From the way the images below are rotated, both the surface water and pipes are running from the right to the left.





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MH 2



This manhole receives flow from east of Worman Road and along NYS Route 22. The flow continues into Pump Station # 2. The manhole is located close to the lake which could potentially cause problems if there is flooding. Manhole 2 is also surrounded by large trees, signifying that the large roots could be problematic. The manhole is at grade and does not need to be raised.

A large amount of the infiltration enters through cracks around the rim and from the seams of the precast concrete. There are some bricks around the rim that are missing large chunks. It appears that the rim was resealed with concrete at some point.





Due to the leaky manhole rim, this is why the manhole has a vast amount of mud along the walls. As the water infiltrates into the manhole, it carries the sediments in with it; thus causing the mud to build up onto the walls. There is also evidence of infiltration on the floor of the manhole. This could either be from the rim or possibly the deteriorating pipe.

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Sewer Main Inspections

A complete internal video inspection of the sewer mains is outside of the scope of this report. However, limited, representative videos were taken of the 1968 era VCT pipe. In general the pipes are expected to be structurally sound with good slope. All pipes are minimum of 8" and meet minimum sizing requirements.
It is expected that the pipes do leak, either through cracks or more likely leaking joints. In general slopes appear to be adequate and meet minimum design requirements.

Specific Defects Noted:
Near manhole 22 it was observed that a significant flow of water that was running across the ground disappeared near the manhole. Some of the water is leaking into the system through the sewer main.

Additional Items of Note:
- It is difficult to determine from the existing drawings, but it is assumed that there are at least a few existing pre-1968 sewer mains that were tied into the system.
- It is assumed that the majority of sewer service connections are pre-1968.

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Recommendations

Pump Station:
No work is proposed for Pump Station #2 other than scheduled maintenance and servicing as needed.

Manholes:
The majority of manholes in this service area should be repaired or replaced. Those manholes that only exhibit leakage can be repaired and lined with high strength grout or replaced. Manholes that exhibit structural deterioration due to sulfide attack should be replaced. A final inspection during design can provide final recommendations. It is possible that some manholes may not need any work.

Sewer Mains:
The sewer mains in this service area should be repaired or replaced (if they are to remain in service). It is expected that the majority of the lines leak in a least some manner. A full inspection is proposed to be performed during the preliminary design phase. This inspection would involve cleaning and CCTV inspection of the pipes. During this inspection, any structural deficiencies will be flagged for repair or replacement. Any sections that are found to be structurally sound can be repaired with cured-in-place-pipe (CIPP) or replaced. For the purposes of estimating, an assumed liner footage of pre-1968 pipe has been included for replacement, as it is assumed that this pipe will be beyond repair. The exact location and amount of such pipe is not completely known from the drawings.

Laterals:
It is assumed that the majority of laterals in the section are pre-1968 and require replacement or repair. Additional investigation during preliminary design should identify which laterals require replacement or rehabilitation.

Other:
Manholes, main lines, and lateral pipes that are no longer in service should be properly abandoned and disconnected form the collection system.

APPENDIX E

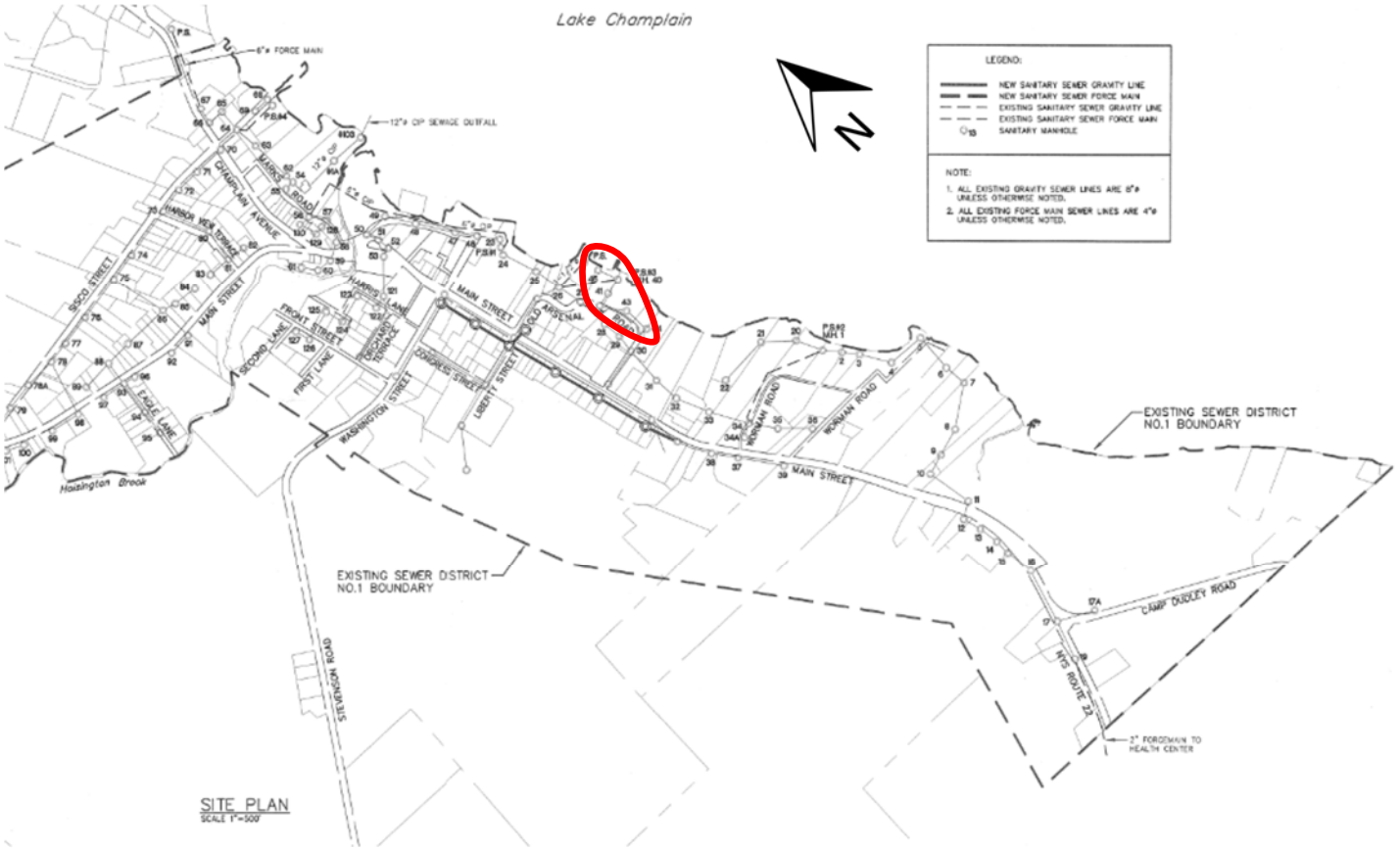
PUMP STATION #3
&
OLD ARSENAL ROAD SERVICE AREA INVESTIGATION

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Sewer District #1
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Appendix E
Pump Station #3 & Old Arsenal Road Service Area Investigations

Location Map

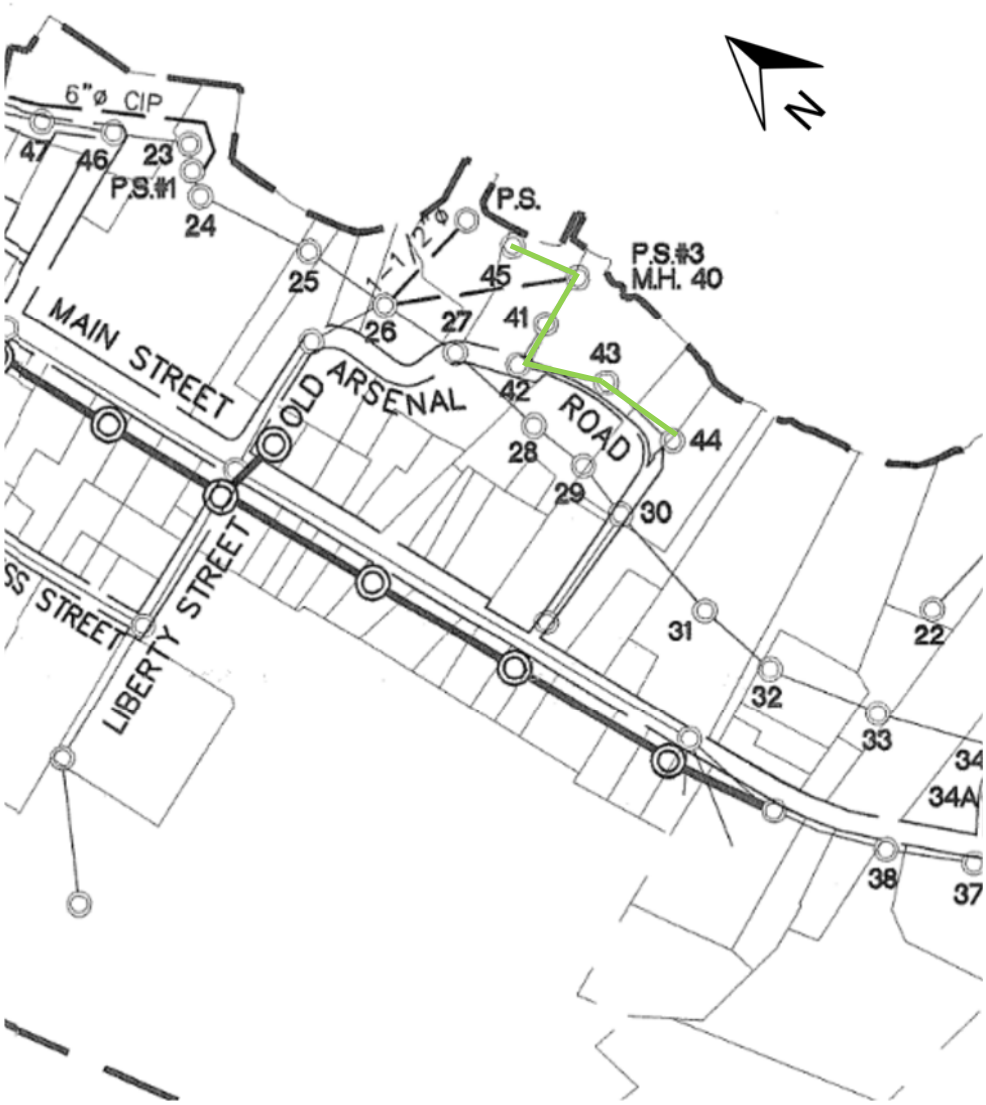
This service area only covers a few parcels, 5 homes and the Yacht Club. The 8" VCT runs along Old Arsenal Road under the NYSDOT drainage and then flows into a cast iron main that flows under the NYSDOT drainage and into the pump station that is located just off of the shore of Lake Champlain. The pump station pumps up to the middle interceptor line. There is a sewer main and manholes that are located in the shore line of Lake Champlain. This line is purported to be abandoned.



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Collection System Map



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Pump Station Inspections

Location:
The Old Arsenal pump station is located off Old Arsenal Road, approximately 400 feet east of the intersection between Old Arsenal Road and Main St. (St. Rt. 22 and 9N). The pump station is located along the shore of Lake Champlain, approximately 100 feet from the nearest bank.

The Issue:
In the spring of 2018, AES inspected to the pump station and noted deficiencies. The main issue observed at the pump station had sanitary flow running into the station non-stop. There are 6 structures on the gravity line flowing to the pump station, and only 2 of those are occupied year-round. Because of this flow, the amount of wastewater from the pump station is much higher than would be expected from the residential loading.

Evaluation:
The pump station consists of 2 short runs of gravity sewer (approx. 500 LF each) tied to retrofitted S&L duplex dry pit pump station. The pump station is currently equipped with the converted 6' painted steel dry well with 2 submersible wastewater pumps, and the original wet well to collect the flow from the 2 sewer mains. The backup generator is located approximately 75' to east and an electrical backboard mounted between the pump station wet well and the generator.

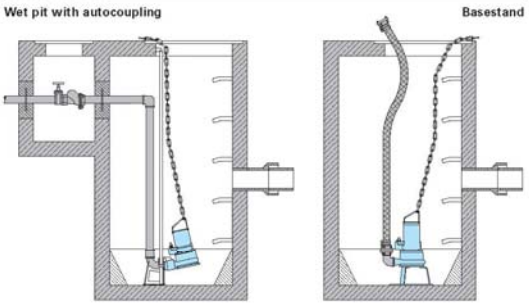
Motor Construction

Motor Type:
enclosed submersible
NEMA insulation code: class F
Service Factor: 1.15
NEMA Design Type: B
Standard Cable Length: 33 ft
Available Motor Voltages:
1 Phase: 115 V, 200 V, 230 V,
3 Phase: 200 V, 230 V, 380 V, 460 V, 575 V
Optional Expolsion Proof construction:
Factory Mutual approved for Class I, Div. 1, Group C & D.

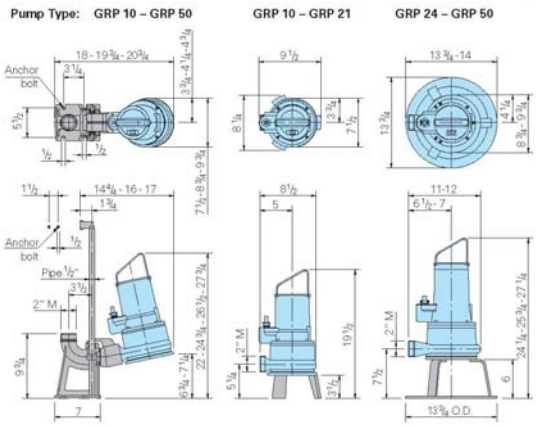
Materials

Motor housing, Volute and Impeller:
Cast Iron ASTM A 48, class 40B
Cutter:
55 HRC hardened stainless steel
Mechanical seal – Impeller side:
Silicon Carbide vs Silicon Carbide
Shaft seal – Motor side:
Models from GRP 26: mechanical seal Silicon Carbide vs Silicon Carbide GRP 10/GRP 16: lip seal
O-Rings: Nitrile rubber
Upper bearing:
Deep groove Ball Bearing
Lower bearing:
Double row angular Ball Bearing
Power cable sheathing:
Nitrile rubber
Shaft: AISI 430 F
Fasteners: AISI 304 SS

Installations



Dimensions (inches) (Tolerance +/- 1/4")



Technical Data

Curve No.	Pump Type	Rated B.H.P.	Phase	Voltage (V)	Full Load Amps	Speed (rpm)	Weight (LBS)	NEMA code
1	GRP10/1	1.1	1	230	5.0	3450	55	F
2	GRP16/1	1.6	1	230	8.0	3450	57	F
3	GRP21/1	1.3	1	230	8.0	3450	57	F
4	GRP26/1	2.4	1	230	12.0	3450	73	E
5	GRP28/1	3.4	1	230	13.7	3450	97	F
6	GRP34/1	4.0	1	230	20.0	3450	97	F
7	GRP36/1	4.0	1	230	20.0	3450	97	F
8	GRP41/1	4.4	1	230	20.0	3450	97	F
9	GRP10/3	0.8	3	230/380/460	3.2/1.9/1.6	3450	55	G
10	GRP16/3	1.5	3	230/380/460	6.2/3.7/3.1	3450	57	G
11	GRP21/3	1.3	3	230/380/460	6.2/3.7/3.1	3450	57	G
12	GRP24/3	3.1	3	230/380/460	8.0/4.8/4.0	3450	73	F
13	GRP28/3	3.4	3	230/380/460	8.4/5.1/4.2	3450	97	F
14	GRP34/3	4.1	3	230/380/460	10.4/6.2/5.2	3450	97	F
15	GRP37/3	4.6	3	230/380/460	10.4/6.4/5.2	3450	97	F
16	GRP41/3	4.1	3	230/380/460	10.4/6.2/5.2	3450	97	F
17	GRP44/3	5.5	3	230/380/460	14.2/7.5/7.1	3450	123.5	F
18	GRP50/3	6.8	3	230/380/460	17.0/10.3/8.5	3450	123.5	F

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Pump Station Inspections



The pump station is equipped with two HOMA Barracuda Series Model GRP26/1 2.5 HP 3450 RPM solids-handling submersible pumps. The station is powered by 230V, single phase power coming in through an overhead service. The station serves approximately 6 homes, and is fed by two gravity lines installed in the late 60's.

Design information for the existing pump station was not readily available. Based on NYS DEC Design Standards, and assuming a standard 3 bedroom home and 150 GPD/ bedroom (assuming older fixtures), design average daily flow for the current system is 2,700 GPD. Using a conservative peaking factor of 5 (due to extremely small size of this pumped system), design peak flow for the current system is 9.5 GPM.

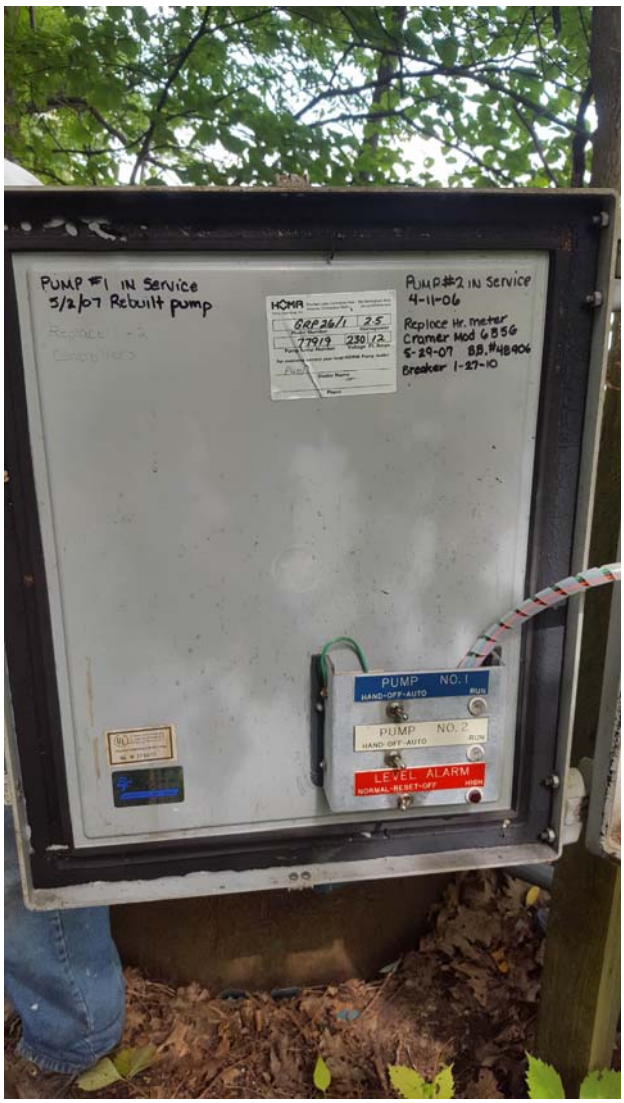
Based on the details from the site visit and information available from the town, the station and force main parameters, elevations and distances are estimated below:

- Pump station wet well (former dry well) diameter: X'
- Pump station bottom elevation: ~ -16'
- Low level pump off elevation: -14.12
- High level pump on elevation: -13.94
- Force main discharge elevation: 30
- Force main Length: 950

The pump manufacture's pump curve below suggests that the pump is pumping at approximately 80 gal/min. Based on the station's run time of 1 min 22 sec, the design pump down volume is 110 gallons. At average day flow, pump cycles would occur at approximately 24 times a day.

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Pump Station Inspections



Based on the conditions observed during the pump station inspection, the pump station is being subjected to a much higher wastewater flow than expected. Both of the pumps were closely examined during the inspection. Pump #2 appeared to pump well and draw 9.1 amps during the test. Pump #1 had additional bubbling/ foaming during the test and drew 9.6 amps during the test.

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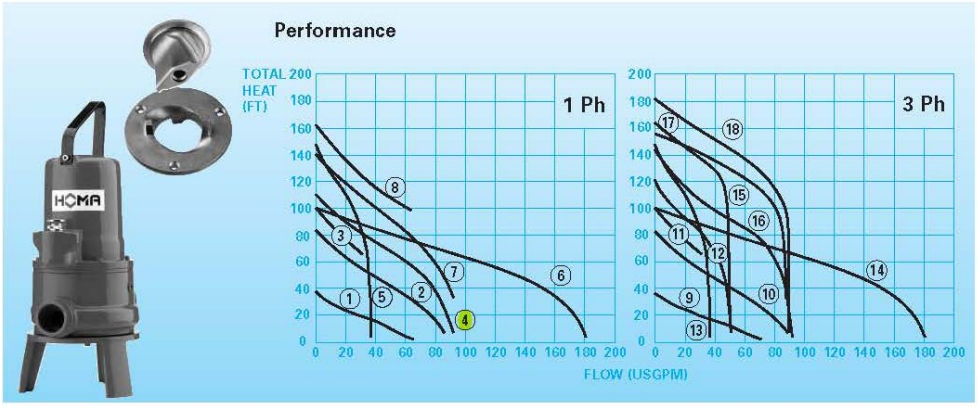
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Pump Station Inspections

HOMA PUMP TECHNOLOGY

Electric Submersible Wastewater Pumps with Cutter System 2" Discharge

Barracuda GRP 10-50



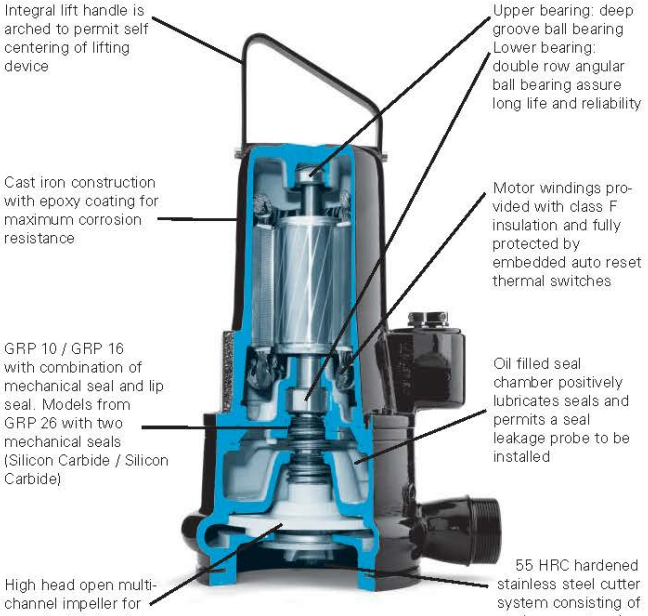
Application

HOMA Barracuda GRP Grinder Pumps are designed for high-head pumping applications of waste water and sewage. Their hard stainless steel cutter system grinds all soft solids to small pieces, enabling the pumps to provide high pressure pumping at low motor rating. It also allows the use of cost saving small diameter pipework.

The Barracuda GRP series pumps are typically used in:

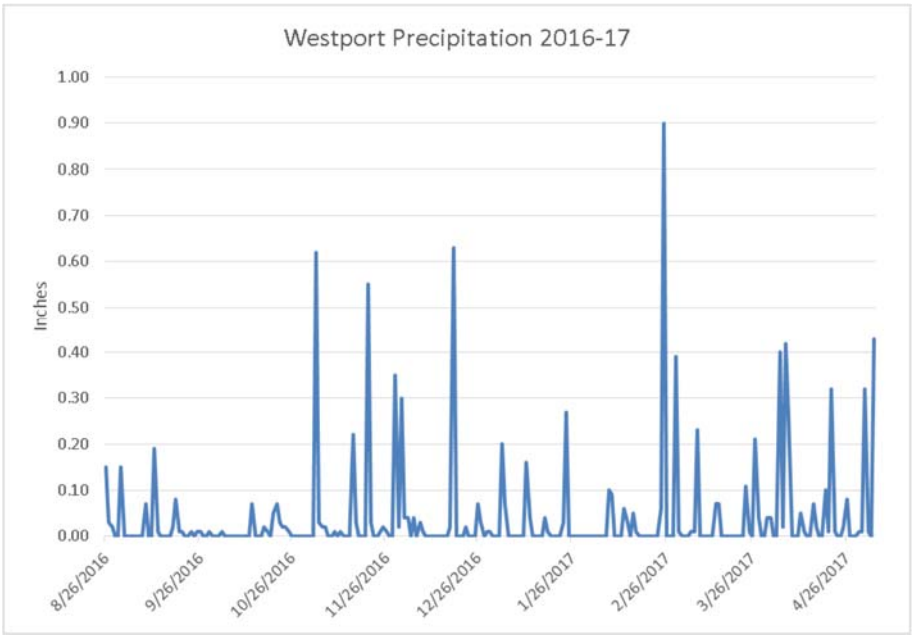
- Commercial and domestic wastewater and sewage containing soft solids
- Small municipal collection systems
- Optional Factory Mutual (FM) label for Class I, Div 1 EX construction.

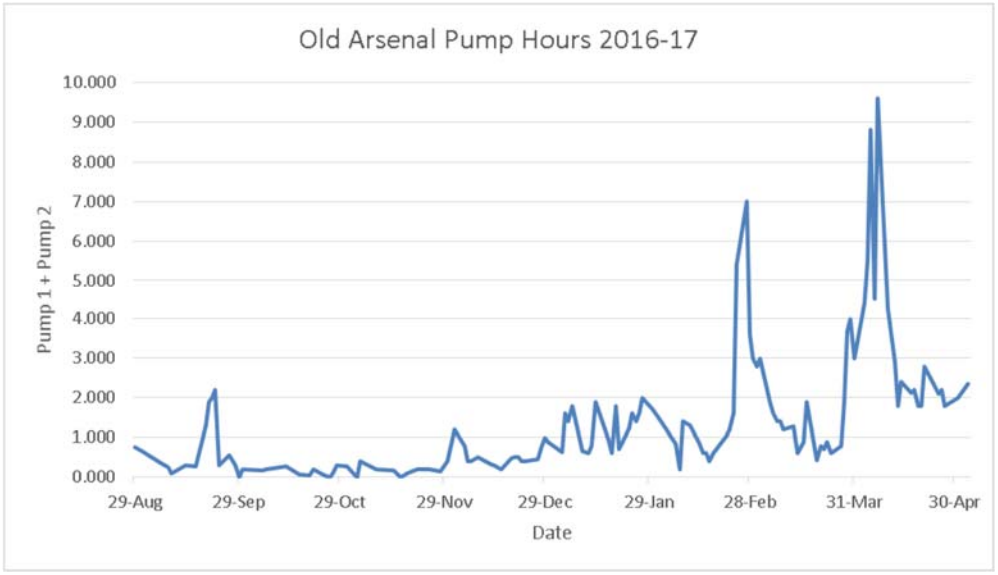
Features



Pump Station Inspections

In the first chart below, the rainfall amounts has been graphed for the 9 months that the town's sewer system was examined. The second chart below totals the pump run times totaled daily during the same examination period.





Pump Station Inspections

From the information graphed in the previous page, there are 2 points that should be highlighted for the report. The first is the run time of the pump station. When both the run time of both pumps were averaged over the examination period, the pumps ran for 1.37 hours each day. Using the assumed pump rate for the station, that's an average of 6,600 gal/day. The maximum daily flow calculated for the properties (if they were occupied year round) is 2,700 gal/day.

The second point of note regarding the data above is the nature of the increased inflow to the pump station. The flow data in both charts shows a sharp correlation between the rainfall in the winter/ spring with increased flow to the pump station. This precipitation, in addition to snow melt, appears to directly add additional flow to the system.

Conclusion:

Based on the large amount of I&I entering the pump station and there very limited number (6) of homes serviced by this station, the pump station should be completely replaced. It should be relocated to a more accessible spot and preferably away from the lake.

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Manhole Inspections

A representative number of manholes were inspected in this service area. The manholes on Old Arsenal Street generally exhibited relatively good structural conditions but showed signs of leakage. The manholes near the lake and the Pump Station, specifically MH 40, are in poor condition. The manholes were very wet at the time of inspection. The manholes are clearly a large source of I&I. All of the manholes require repair or replacement. Any manholes removed from service should be properly abandoned and replaced.

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MH 41



Corbel and Walls:
Precast Concrete Manhole. Concrete is pot-marked and has significant I&I issues. Manhole is covered in scaling from I&I. Streaked corrosion is evident on the walls of the manholes.

Bench Walls and Invert / Trough:
Formed from concrete. Debris in invert of Inv. Out

General Condition:
An inspection reveals that this manhole has a deteriorating brick riser section as well as pot-marked concrete walls. There seems to be a significant amount of I&I impacting this manhole. Manhole walls were coved in a scale that appears to be from I&I. Manhole walls are stained from water. The flow into the manhole is very black. This indicates a surcharged section of pipe that has gone anaerobic and is causing a hydrogen sulfide release. This hydrogen sulfide is combining with water infiltrating the manhole to create sulfuric acid. This sulfuric acid is attacking and degrading the concrete walls and the mortar around the brick riser section. Streaked corrosion is evident on the walls of the manholes.



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MH 42



Corbel and Walls:
Precast concrete manhole. Concrete is pot-marked. Walls are stained from water. Connection between base section and barrels sections shows a high level of infiltration including severe rust staining around the invert pipes (which are clay tile).

Bench Walls and Invert / Trough:
Formed from concrete. Debris on bench walls.

General Condition:
An inspection reveals that this manhole is very wet from infiltration. Debris is present on the bench walls. The walls are stained by water and rust stains are evident around the invert pipes and between the connection point of the base and barrel sections.



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MH 43



Corbel and Walls:
Precast Concrete Manhole. Concrete is pot-marked. Brick riser section appears to be deteriorating. Walls are wet.

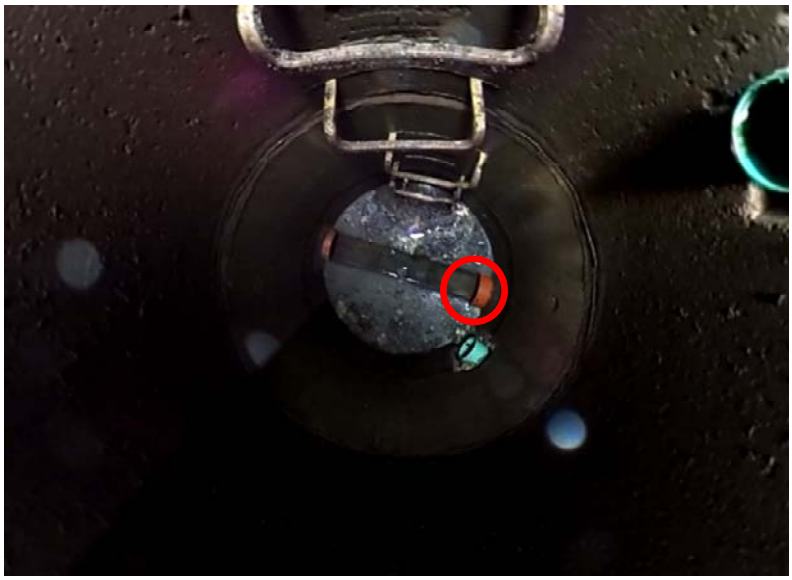
Bench Walls and Invert / Trough:
Formed from concrete. Debris in invert (very low flow may be contributing to this). There are two holes around the Invert in and one hole around the invert out that may be able to allow water into the manhole. Debris on bench walls.

General Condition:
An inspection reveals that this manhole has very wet walls as well as a deteriorating brick riser section. There appears to be very little flow in this manhole (at the time of inspection) which may be leading to the deposition of debris in the invert. There are two holes around the Invert in and one hole around the invert out that may be able to allow water into the manhole. These holes coupled with the low flow may be a receipt for water to seep into the manholes. If water is not seeping into the manholes, it may exfiltrate. The holes are not large enough to determine if infiltration or exfiltration is actually occurring.



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MH 44



According to the plans, Manhole 44 is supposed to be the beginning of the collection system that flows into Pump Station #3. As shown in the picture to the left, there is an unknown invert located at the floor of the manhole. It appears to be installed at the same time as the sewer main due to the manhole's trough being conformed to it. Both of the green pipes are known PVC house laterals.

Manhole 44 has been previously repaired in an attempt to stop infiltration through. However, dark lines near the spray foam are recent water stains. At the time of the inspection there were water drops that were dripping from the foam.



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Sewer Main Inspections

A complete internal video inspection of the sewer mains is outside of the scope of this report. However, a review of previous inspections reveals that the sewer mains in this service area are generally in poor condition. The only exception is the cast iron main that runs from MH 42 to the PS.

Specific Defects Noted:

- Based on visual observations by both AES staff and Town staff, it is highly expected that there is a significant amount of I&I leaking into the main between MH 43 and MH 42 as the main passes under a purported NYSDOT drainage ditch.

Additional Items of Note:

- It is difficult to determine from the existing drawings, but it is assumed that there are at least a few existing pre-1968 sewer mains that were tied into the system.
- The existing collection system in this area consists of 8" VCT pipe from MH 40 to MH 44-1. The section of pipe from MH 45 to Pump Station #3 is purported to be abandoned.
- The exact location of existing service connections and how they are plumbed to the system is not fully known. If the pump statin is relocated or removed, the location of these laterals should be investigated during preliminary design so as to determine the exact amount of relocating of the pipes is necessary.
- About 600' of pipe feeds the pump station, 375' of VTC, and 225' of Cast Iron Pipe (CIP) under a stream crossing. The force main feeds into the middle interceptor, which is a continuation of the Worman Road Area flow. This main runs through the same stream, and it expected to have the same or worse effects of infiltration at that location.
- The Town WWTP Operator has noted that the lateral from 40 Old Arsenal Rd is full of roots and leaks severely. Past attempts to repair this lateral appear to have been unsuccessful.

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Sewer Main - MH 43 - MH 42

Location: Old Arsenal Road

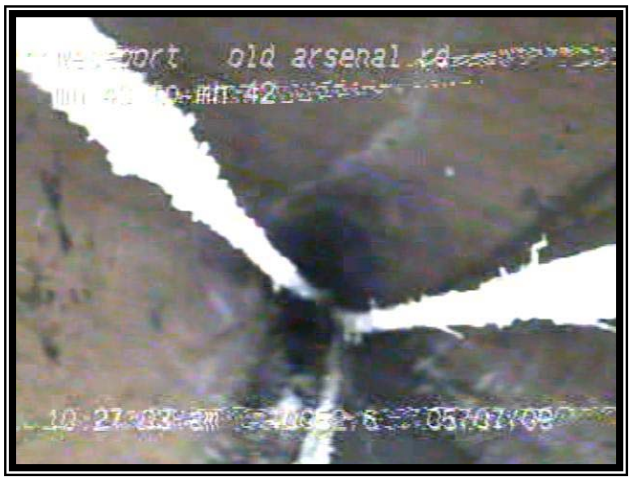


Photo (Left)

Debris is Pipe:
Evidence of low/poor slope.

Photo (Right)

Slight Misalignment of Pipe Joints:
Evidence of poor installation of pipes or shifting of pipes over time.





Photo (Left)

Greasy Build-up:
Evidence of surcharge.

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Sewer Main - MH 43 - MH 42

Location: Old Arsenal Road



Photo (Left)

Pipe Surcharged:
Evidence of low/poor slope.

Photo (Right)

Pipe Surcharged:
Evidence of low/poor slope.





Photo (Left)

Debris:
Evidence of poor slope.

Spider Webs:
Evidence of low flows

Slight Misalignment of Pipe Joints:
Evidence of poor installation of pipes or shifting of pipes over time.

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Sewer Main - MH 42 - MH 41

Location: Old Arsenal Road



Photo (Left)

Although it is difficult to tell in this picture, this section of pipe appears to be iron pipe. There was some debris built up in the invert of the pipe. The quality of the video of this section of pipe is not good; therefore, a through evaluation of this section of pipe has not been performed.

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Sewer Main - MH 44 - MH 43

Location: Old Arsenal Road

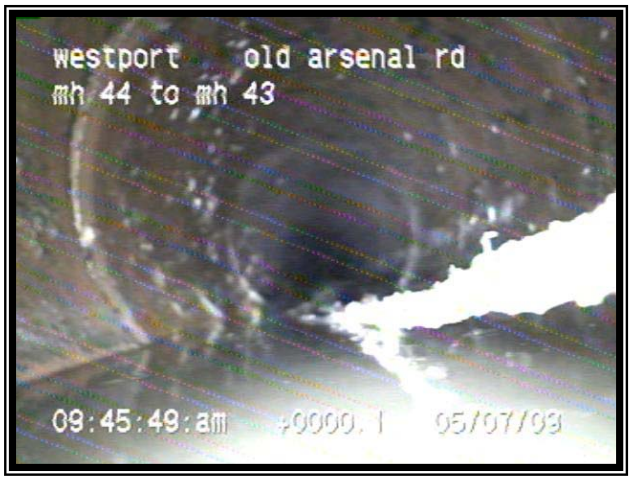


Photo (Left)

Pipe Surcharged:
Evidence of low/poor slope.

Greasy Build-up:
Evidence of surcharge
(more than what is currently shown).

Photo (Right)

Debris:
Evidence of poor slope.





Photo (Left)

Slight Misalignment of Pipe Joints:
Evidence of poor installation of pipes or shifting
of pipes over time.

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Sewer Main - MH 44 - MH 43

Location: Old Arsenal Road



Photo (Left)
Improper Pipe Connection:

6" "lateral" connection. This pipe connection is either an individual lateral or a lateral sewer that has been improperly connected to the sewer system. Any time a 6' pipe is connected to an 8" sewer main, a manhole is required at the connection point. In addition, the 6' pipe is installed at a very minimal slope that does not allow for proper flow of the wastewater into the main pipe. This low slope can lead to debris backup and possible plugging.

Photo (Right)

Another Improperly connected 6" "lateral" pipe.

Roots
Roots are present near this lateral. The root mass is currently small, but could swell to completely block the pipe, which could cause the pipe to plug.





Photo (Left)

Pipe Surcharged:
Evidence of low/poor slope.

Debris:
Evidence of poor slope

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Sewer Main - MH 41 - MH 40

Location: Old Arsenal Road

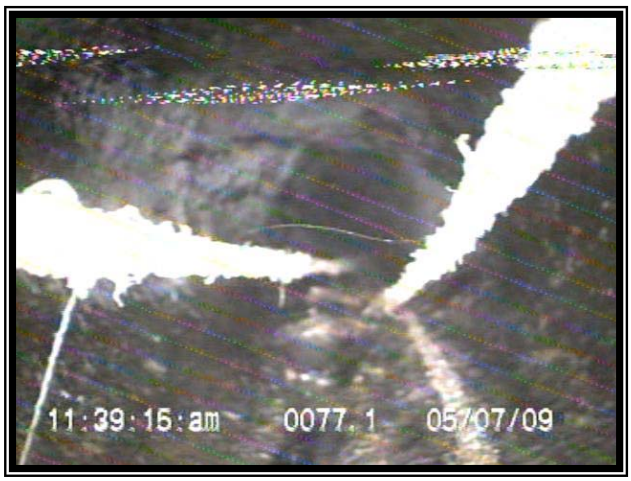


Photo (Left)

Debris:
Evidence of poor slope.

Photo (Right)

Misaligned of Pipe Joints:
Evidence of poor installation of pipes or shifting of pipes over time.



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Sewer Main - MH 70 to the South

Location: Old Arsenal Road

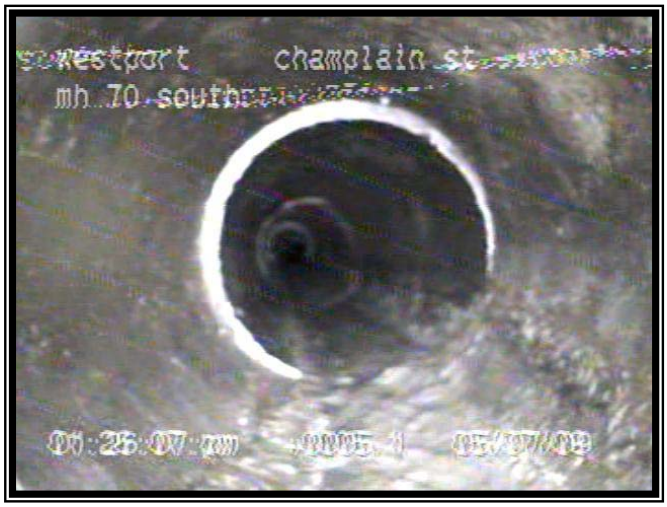


Photo (Left)

Debris:
Evidence of poor slope.

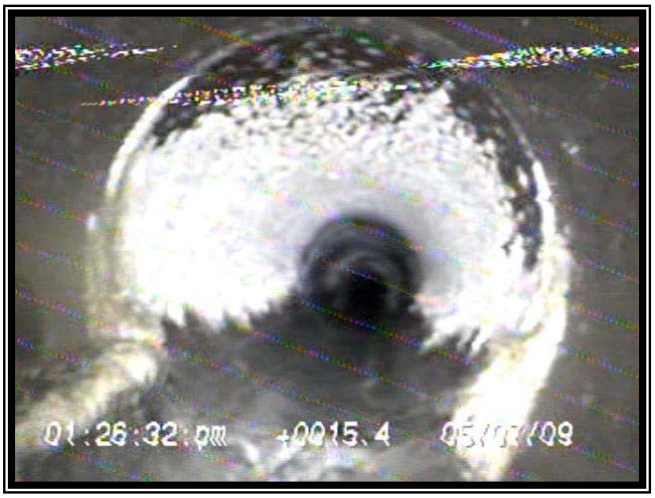


Photo (Right)

Greasy Build-up:
Evidence of surcharge
(more than what is currently shown).



Photo (Left)

Improper Pipe Connection:
6" "lateral" connection. This pipe connection is either an individual lateral or a lateral sewer that has been improperly connected to the sewer system. Any time a 6' pipe is connected to an 8" sewer main a manhole is required at the connection point. In addition the 6' pipe is installed at a very minimal slope that does not allow for proper flow of the wastewater into the main pipe. This low slope can lead to debris backup and possible plugging. Debris is stuck in the invert of this 6" line.

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Recommendations

Pump Station:
It is recommended that Pump Station #3 is completely replaced and relocated.

Manholes:
The majority of manholes in this service area should be repaired or replaced (if they are to remain in service). Those manholes that only exhibit leakage can be repaired and lined with high strength grout or replaced. Manholes that exhibit structural deterioration due to sulfide attack should be replaced. A final inspection during design can provide final recommendations. It is possible that some manholes may not need any work.

Sewer Mains:
The sewer mains in this service area should be repaired or replaced (if they are to remain in service). It is expected that the majority of the lines leak in a least some manner. A full inspection is proposed to be performed during the preliminary design phase. This inspection would involve cleaning and CCTV inspection of the pipes. During this inspection, any structural deficiencies will be flagged for repair or replacement. Any sections that are found to be structurally sound can be repaired with cured-in-place-pipe (CIPP) or replaced. The cast iron main is expected to be in good condition.

Laterals:
Lateral connections in this area may need to be reconfigured based on the final location of the new pump station(s).

Other:
Manholes, main lines, and lateral pipes that are no longer in service should be properly abandoned and disconnected form the collection system.

APPENDIX F

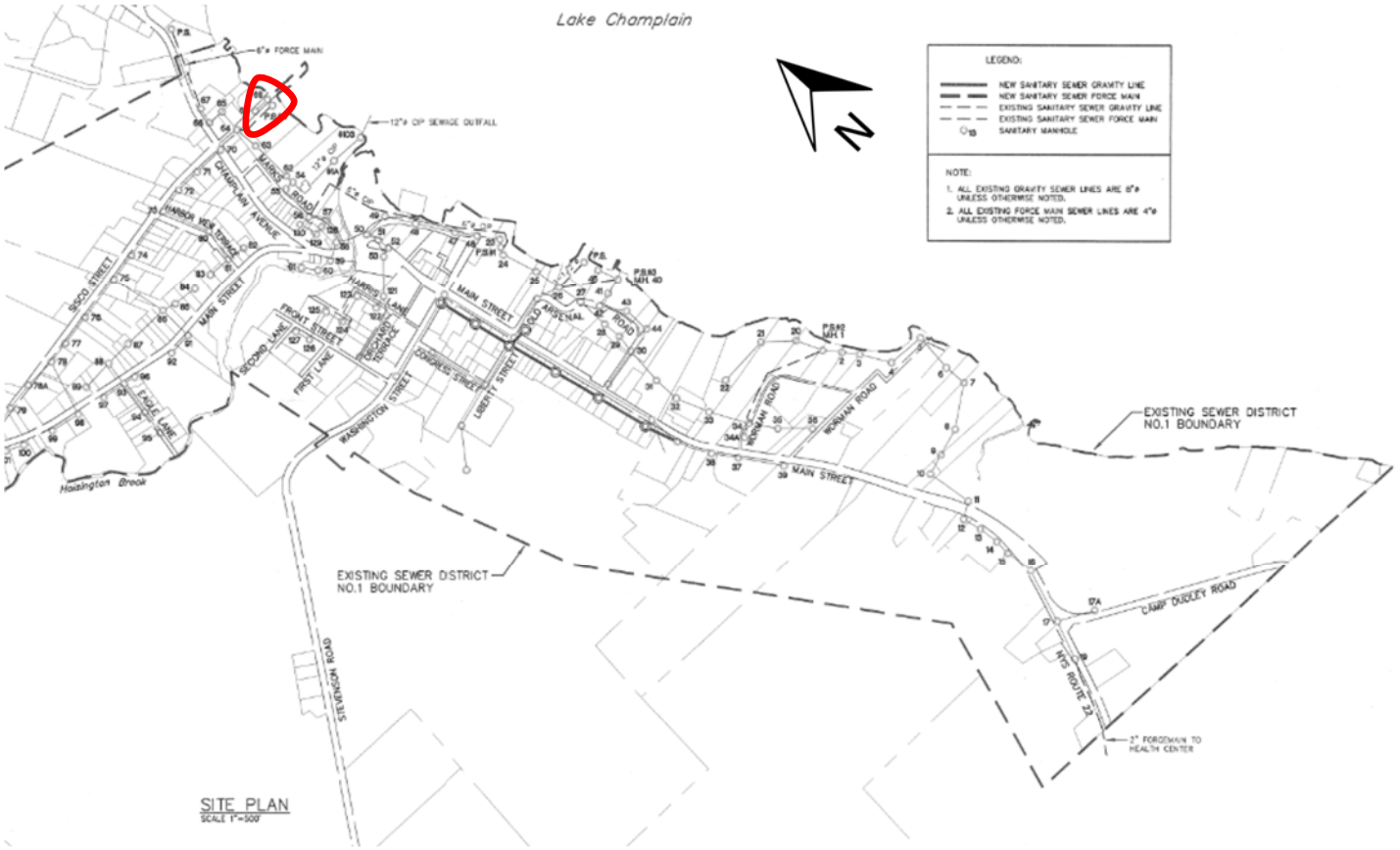
PUMP STATION #4
&
FIRE FLY LANE SERVICE AREA
INVESTIGATION

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Town of Westport
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Pump Station #4 & Fire Fly Lane Service Area Investigations

Location Map

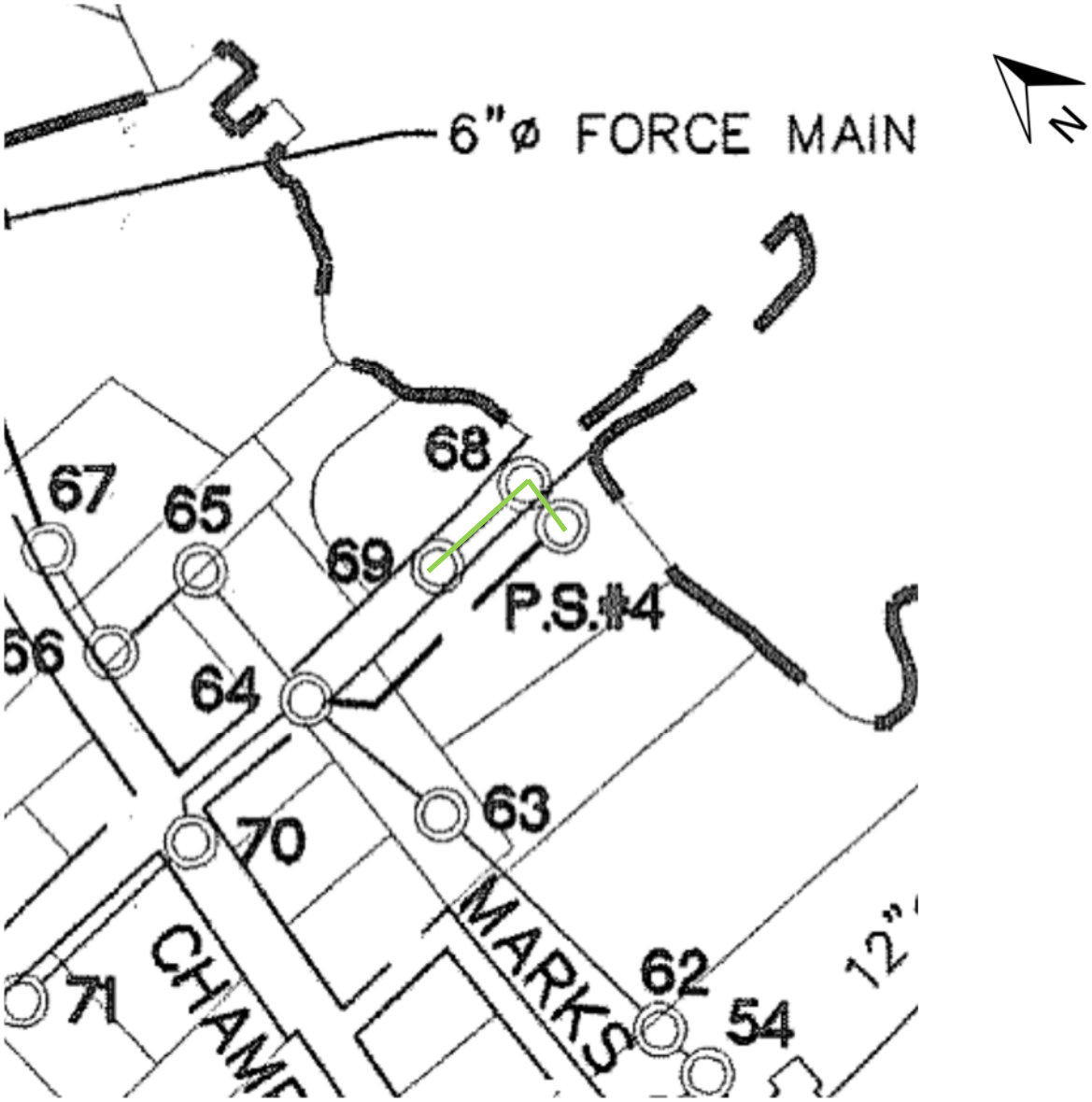
This service area is very small, serving 2-3 homes. These two homes connect to Pump Station #4. The elevation of this service area focuses on the pump station.



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Pump Station #4 & Fire Fly Lane Service Area Investigations

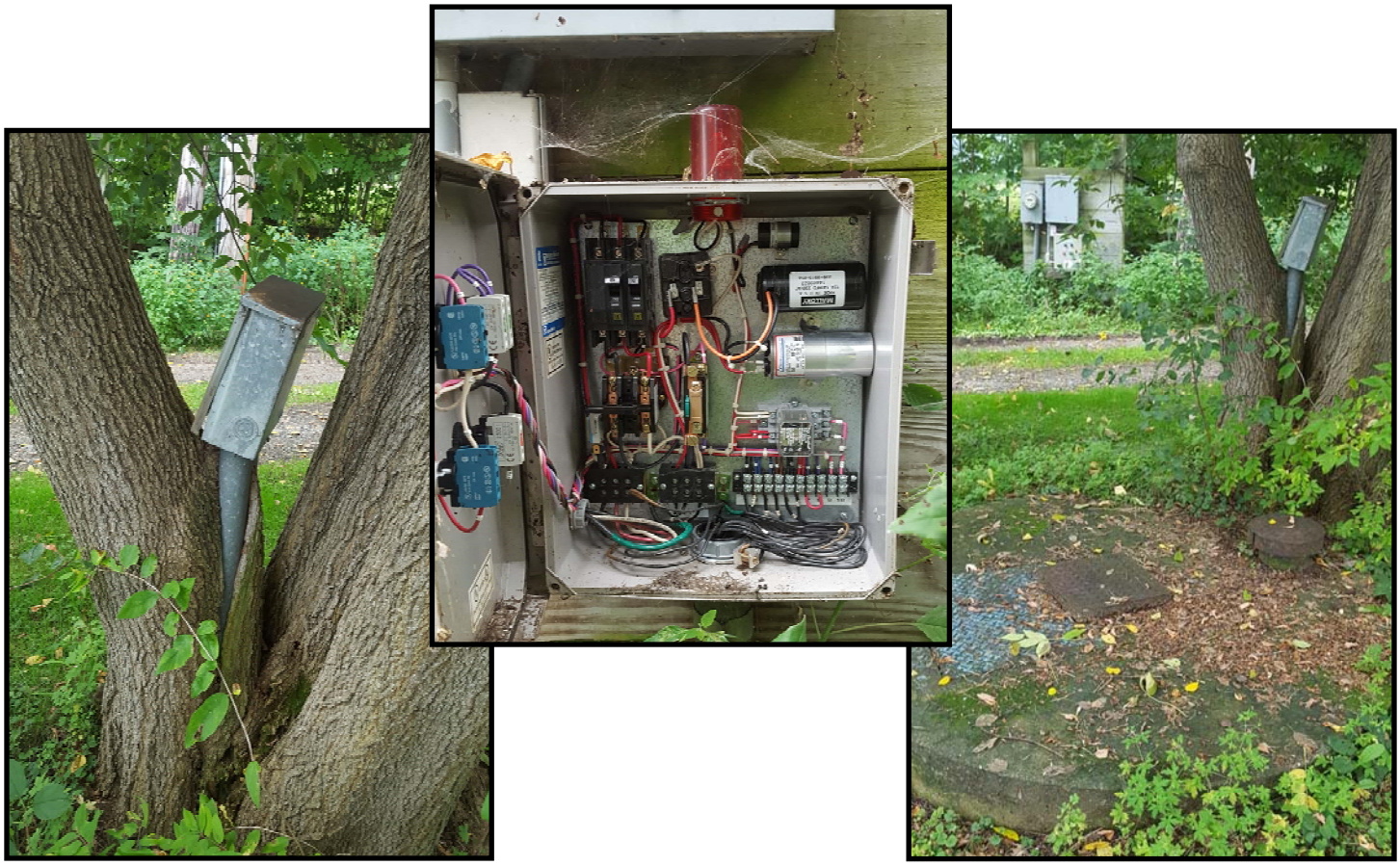
Location Map



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Pump Station #4 & Fire Fly Lane Service Area Investigations

Pump Station Inspection



This pump station is a simplex single phase pump station. During several site visits the pumps station was locked so the pump and interior wet well conditions were unable to be observed. It is unlikely that the pump station wet well has full 24 hour storage. A panel adjacent to the pump station was grown into the adjacent box elder tree. It is unknown if that panel is currently in use. The operator did not indicate any major or recurring issues with the pump station.

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Manhole Inspection

There are only two manholes that are included in this section: 68 and 69. Neither of these manholes were located at the time of the manhole inspections. Based on the condition of manholes of a similar construction, it is expected that the manholes leak.

Sewer Main Inspection

Although it is possible that the short sections of sewer mains leak, it is not expected to contribute significantly to the I&I issue as no major issues were reported by the operator.

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Recommendations

Pump Station:
If the electrical box that is grown into the tree is still in service it is recommended that it be relocated. A generator receptacle with a manual transfer switch should be added to the pump station backboard.

Manholes:
It is assumed that the manholes in this section leak and they should be repaired or replaced. Those manholes that only exhibit leakage can be repaired and lined with high strength grout or replaced. Manholes that exhibit structural deterioration due to sulfide attack should be replaced. A final inspection during design can provide final recommendations. It is possible that some manholes may not need any work.

Sewer Mains:
It is not expected that they sewer mains in this area contribute significantly to I&I issues. If funds allow, the sewer mains could be inspected and repaired if needed, however this is not a high priority.

Laterals:
It is not expected that laterals in this area contribute significantly to I&I issues. If funds allow, the laterals could be inspected and repaired if needed, however this is not a high priority.

APPENDIX G

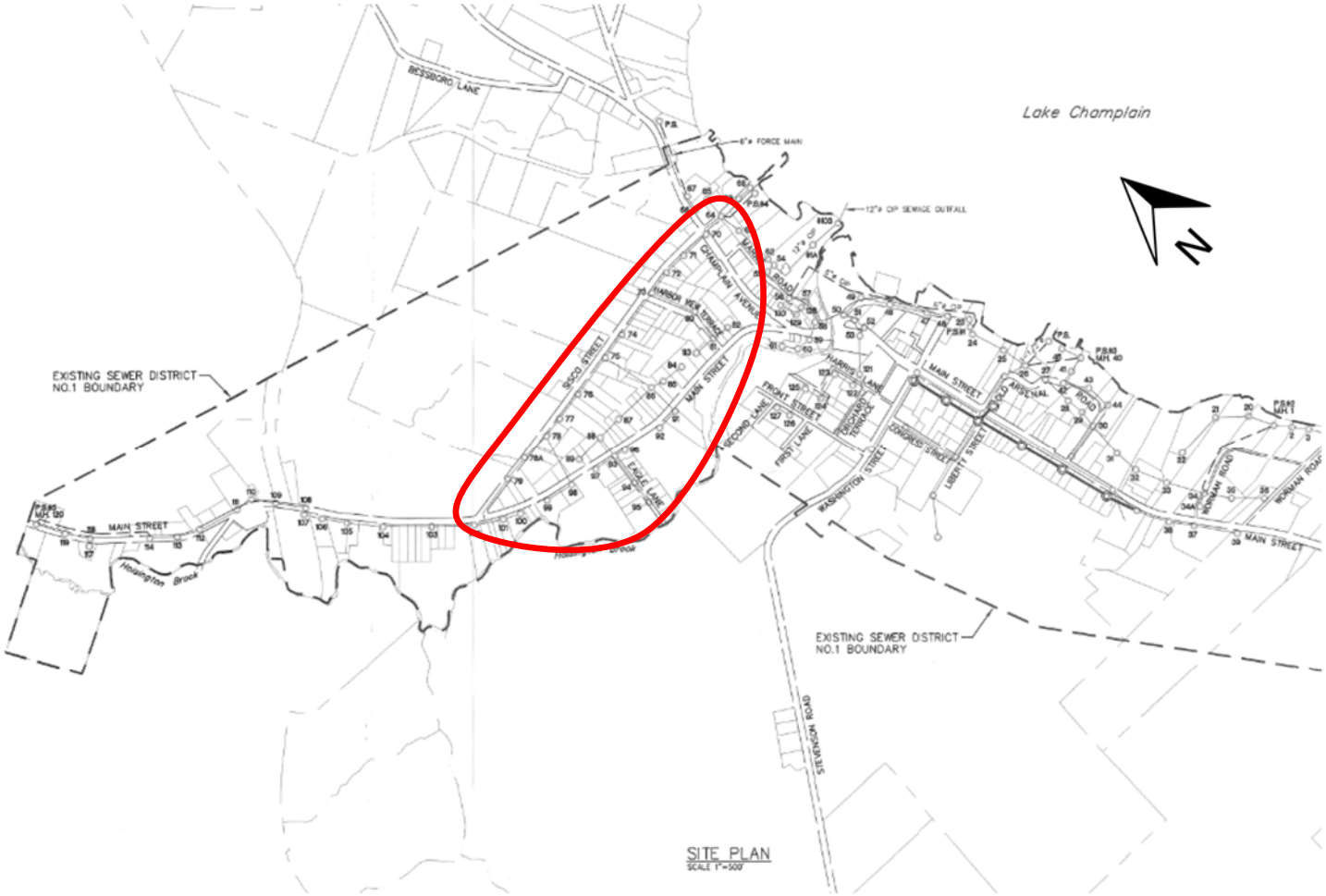
PUMP STATION #3
&
SISCO AND MAIN STREET SERVICE AREA INVESTIGATION

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Appendix G
Sisco and Main Street Service Area Investigations

Location Map

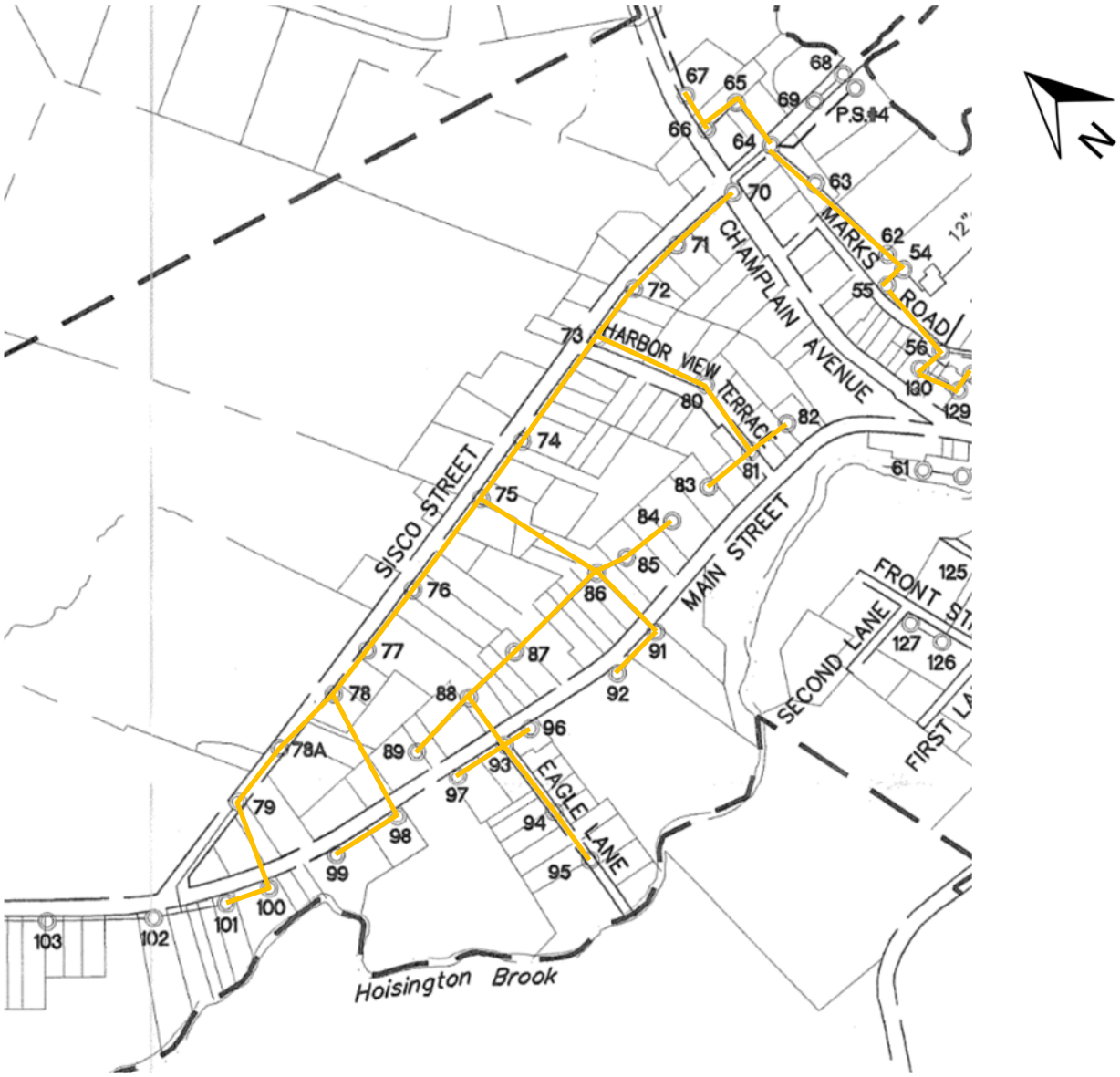
While getting there in various ways, all sewer in this area flows to Sisco Street. This main line represents roughly a third of the collection system, and is the only gravity fed line into the treatment plant. All pipe in this area is VCT, some dating pre-1968, although it is unclear exactly how much. Sisco Street and Harbor View Terrace consists mainly of pre-1968 sewers, while Eagle Street, Champlain Avenue, Main Street, and its connectors were installed in 1968. Of note in this area is that the interceptors to Sisco all run through back yards, and a normal spring brings complaints from customers about wet backyards with sewer water.



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Location Map



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Manhole Inspections

A representative number of manholes were inspected in this service area. The majority of the manholes generally exhibited relatively good structural conditions but all showed signs of leakage. There were at least two manholes without proper troughs. At least two manholes showed signs of moderate to severe root intrusion. The manholes were very wet at the time of inspection. The manholes are clearly a large source of I&I. All of the manholes require repair or replacement.

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MH 70



Corbel and Walls:
This manhole is constructed of laid up concrete blocks. The mortar has severely deteriorated, and in some places is missing altogether. While this manhole did not appear to be wet during the time of inspection, the missing grout may be a location for I&I to enter the manhole. The manhole has a brick riser.

Bench Walls and Invert / Trough:
Bench walls are built-up for what is presumably a drop invert.



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MH 86



This manhole receives flow from the south section from Eagle Lane, Route 9, and the properties on the north side of Route 9.

Most of the infiltration enters through cracks around the rim and from between the bricks seams and the seam at the base of the brickwork.

As shown in the exterior pictures, this manhole is found behind houses.



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MH 98



This manhole receives flow from the manhole to its east, manhole number 99, along with the lateral attached after 99. This does not explain why the flows from this manhole were so high despite having little attached to it in terms of service.

Most of the infiltration enters through cracks around the rim and from the sections where the pipes tie into the trough of the manhole. Also there is evidence of it coming in from the cover due to storm water.

As shown in the exterior pictures, this manhole is found in a flat section very close to the storm drains along Route 9, and has evidence of storm water in from the cover.



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MH 99



This manhole receives flow from one or two laterals and then sends the flow down to manhole 98. This manhole had little flow compared to the next manhole down.

Most of the infiltration seems enters through cracks around the rim and from the brick work holding up the rim and ring. However flow amounts could indicate issues with the pipe.

Similar to a lot of the other manholes in this system, there is a lack of sealing with the seams of the precast concrete.

As shown in the exterior pictures, this manhole is found in a flat section very close to the storm ditch along Route 9, and has evidence of getting storm water in from the cover due to the sediment buildup over the cover.



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MH 100



This manhole receives flow from all of the service lines north of the intersection of Route 9 and Sisco Street and is where it sends sewer into the Sisco Street line.

Most of the infiltration enters through cracks around the rim and from the seam just under the ring. The staining indicated it is a frequent issue that comes in intervals.

As shown in the exterior pictures, this manhole is found in a flat section very close to the storm ditch along Route 9, and has evidence of storm water leaking in from the cover.

Similar to a lot of the other manholes in this system, there is a lack of sealing with the seams of the precast concrete.



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Sewer Main Inspections

A complete internal video inspection of the sewer mains is outside of the scope of this report. However, limited, representative videos were taken of the 1968 era VCT pipe. In general the pipes are expected to be structurally sound with good slope. All pipes are minimum of 8" and meet minimum sizing requirements. It is expected that the pipes do leak, either through cracks or more likely leaking joints. In general slopes appear to be adequate and meet minimum design requirements.

Additional Items of Note:

- It is assumed that the majority of sewer service connections are pre-1968.

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Flow Monitoring

- Review of previous flow monitoring shows there is an influence of I&I in this service area. It appears that some of the I&I enters the system from the sewers that come into the Sisco line from Main Street, likely picking up flow in the wetland/wooded areas between the two streets. It also shows that the flow coming in from the West Main Street area does not have a large influence during dry weather flow, but during times when ground water flows are high, West Main Street contributes largely to the flow in this service area.
- Flow monitoring performed in 2018 at MH 86 shows that there is some flow increase along the sewer main from MH 89 to MH 86.
- It is not fully apparent from the flow monitoring, but it is suspected that at least some of the I&I is coming from the Essex County Fairgrounds. Exploration of the fairgrounds was outside of the scope of this report.

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Flow Monitoring

- This map shows the properties and pipes connected to MH 86.

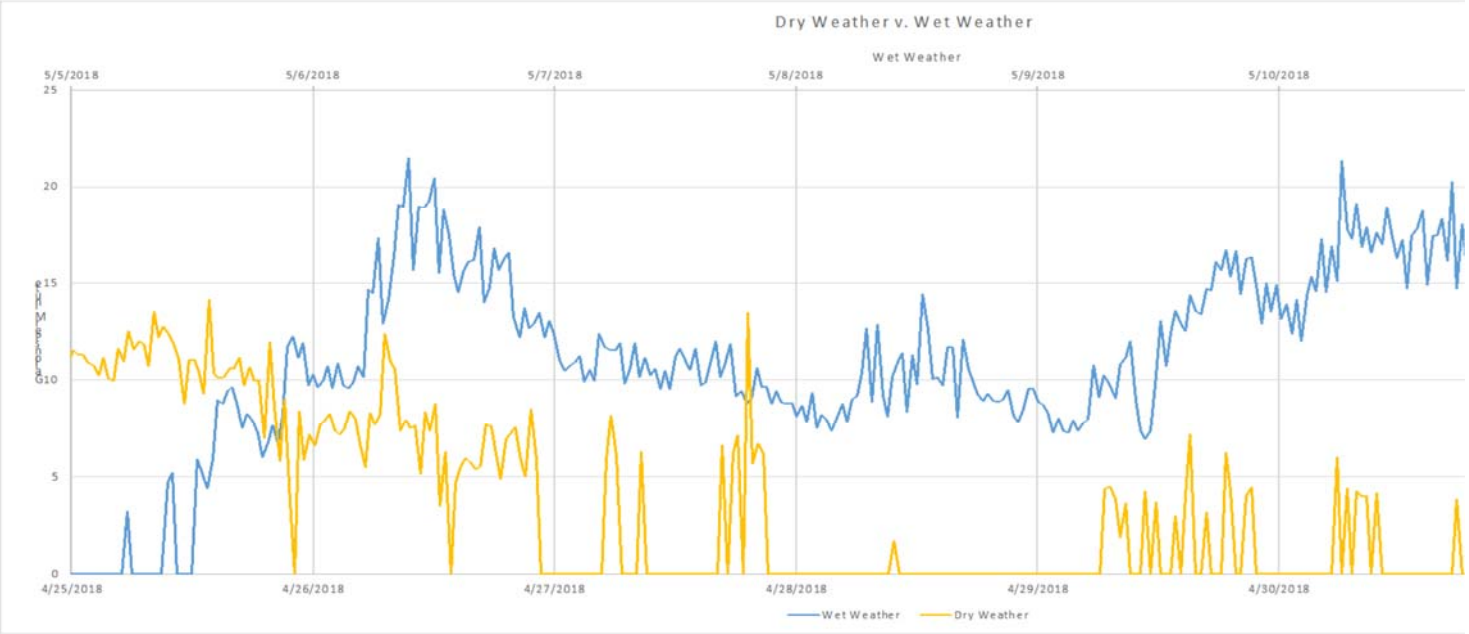


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Flow Monitoring

The graph below shows that difference between wet weather and dry weather flows at MH 86. There is some influence from I&I in this system.



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Flow Monitoring

This hand measurement taken in 2010 (on a day with 2.5" of rain), shows that the lines coming down from main street have a significant influence relatively to their size. The line from MH 73 to MH 80 and MH 78 to dead-end, should be essentially zero flow and they are contributing 22 gpm total. Interestingly, the line that comes from MH 86 (through MH 90 to MH 75) shows little influence, which varies form the 2018 monitoring. It is likely that the influence in that area takes place during higher water table events, not rain events.

Instantaneous Flow Survey, October 1, 2010

Manhole	From	Flow Reading	Time	Comments
34	37	15	4:03	Isolated section of sewer from along the State Route, South End of Town
73	80	14	5:36	Could not measure mainline flow (overwhelmed V-notch)
79	101	54	5:56	
	dead end	0		based on visual observation
78	78A	60	6:24	Estimated (could not seem to maintain air pressure (likely due to tilt of the air tube)
	dead end	8	6:04	Stabilized measurement
75	76	NA	6:45	
	90	2		Estimated based on Visual observation

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Recommendations

Investigations show that the majority of the I&I in this area is coming from the lines that feed into Sisco Street, but not necessary on Sisco Street and Marks Lake . The following apply to the areas feed into Sisco Street.

Manholes:
The majority of manholes in this service area should be repaired or replaced. Those manholes that only exhibit leakage can be repaired and lined with high strength grout or replaced. Manholes that exhibit structural deterioration due to sulfide attack should be replaced. A final inspection during design can provide final recommendations. It is possible that some manholes may not need any work.

Sewer Mains:
This area clearly contributes some I&I to the system, however much less than other areas. It is suspected that at least a portion of this service area has sewer mains that leak. For the purposes of this report, it is assumed that 25% of this service area requires repair or replacement. Specifically the following sewer mains are recommend for repair/replacement (MH 78-MH 99, MH 75-MH 86, MH 86-MH 89, MH 86-MH 84, 73-MH 82, and MH 81-MH 83. If funds allow, additional sections of pipe can be inspected and repaired/replaced as required. A full inspection is proposed to be performed during the preliminary design phase. This inspection would involve cleaning and CCTV inspection of the pipes. During this inspection, any structural deficiencies will be flagged for repair or replacement. Any sections that are found to be structurally sound can be repaired with cured-in-place-pipe (CIPP) or replaced. For the purposes of estimating, an assumed liner footage of pre-1968 pipe has been included for replacement, as it is assumed that this pipe will be beyond repair. The exact location and amount of such pipe is not completely known from the drawings.

Laterals:
It is assumed that the majority of laterals in the section are pre-1968 and require replacement or repair. Additional investigation during preliminary design should identify which laterals require replacement or rehabilitation. For the purposes of this report, is assumed that 25% of the service connections require repair or replacement. If funds allow, additional sections of pipe can be inspected and repaired/replaced as required.

Fairgrounds:
The fairgrounds connect to the sewer system in this general area. Investigation of the fairgrounds was outside of the scope of this report. It is recommended that the Town of Westport require Essex County to inspect and repair any deficiencies in the sewer system that could contribute I&I to the system.

APPENDIX H

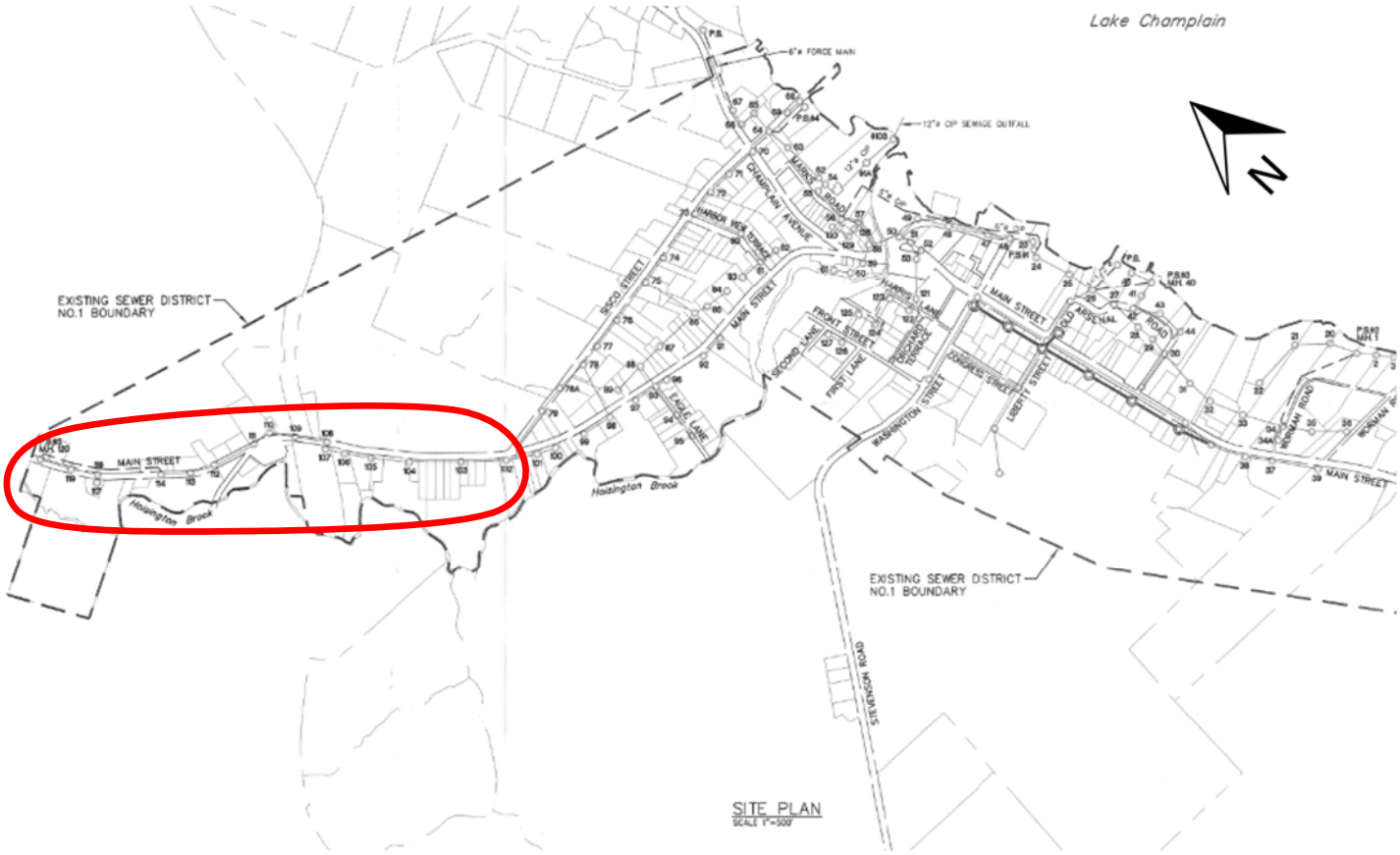
WEST MAIN STREET SERVICE AREA INVESTIGATION

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West Main Street Service Area Investigations

Location Map

The West Main Street service area extends from the Sisco/Main Street service area following RT 9N/22 West. This main was installed in 1968 and consists of 8" VCT pipe.



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Location Map



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Manhole Inspections

A limited, but representative number of manholes were inspected in this service area. As is typical in this collection system, the manholes appear to be a source of I&I, although the amount of influence appears to be varied. MH 100 appears to leak heavily, MH 103 and 104, less so. Leaks occur through cracks, around the frames and just generally through the walls of the manholes.

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MH 103



This manhole receives nearly all of the flow from the West Main Street service area. The cover of the manhole is at grade and does not need to be raised. There a numerous leaks between the frame and corbel section. Below the rim and risers there are large chunks of concrete that are completely missing. This could potentially be problematic in the case of a large precipitation event.

The walls appear to be in overall good condition. The pre-cast joints are deteriorating When the groundwater table rises, this could be a contributing factor to the I & I. Both the trough and the floor of the manhole are in good condition. The concrete around the pipes are also in good condition and are not deteriorating. The stairs are functioning, however the last step is partially buried in the floor of the manhole.



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MH 104



This manhole receives flow from most of the manhole north of the intersection of Route 9 and Sisco Street and is across from the fairgrounds.

Most of the infiltration enters through cracks around the rim and from the seams. The stains along the rim flowing into the side of the manhole is evidence of it being a regular infiltration and it would be susceptible to fluctuations of the ground water table.





As shown in the exterior pictures, this manhole is found in a patch of grass off of the sidewalk. So it should not have the issue of storm water draining into it through the rim.

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Sewer Main Inspections

A complete internal video inspection of the sewer mains is outside of the scope of this report. However, limited, representative videos were taken of the 1968 era VCT pipe. In general the pipes are expected to be structurally sound with good slope. All pipes are minimum of 8" and meet minimum sizing requirements. It is expected that the pipes leak, either through cracks or more likely leaking joints. In general, slopes appear to be adequate and meet minimum design requirements.

Additional Items of Note:

- It is assumed that the majority of sewer service connections are pre-1968.

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West Main Street Service Area Investigations

Flow Monitoring

This flow monitoring performed in 2010 shows that a significant amount of water comes from West Main Street (shown below as the flow from MH 79 to MH 101). With all service connections running at the same time the maximum flow from this area should only be 10 gpm, not 54 gpm. This flow monitoring occurred during a 2.5" rainfall event. It is suspected from this and from a review of previous flow data that the I&I entering the system in this area enters from pipes installed in or near NYSDOT ditch lines for NYSDOT RT 9N/22. The pipes upstream from MH 112 are located in such areas. Visual observations in 2018 lined up with this assumption.

Instantaneous Flow Survey, October 1, 2010

Manhole	From	Flow Reading	Time	Comments
34	37	15	4:03	Isolated section of sewer from along the State Route, South End of Town
73	80	14	5:36	Could not measure mainline flow (overwhelmed V-notch)
79	101	54	5:56	
	dead end	0		based on visual observation
78	78A	60	6:24	Estimated (could not seem to maintain air pressure (likely due to tilt of the air tube)
	dead end	8	6:04	Stabilized measurement
75	76	NA	6:45	
	90	2		Estimated based on Visual observation

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Recommendations

Manholes:
The majority of manholes in this service area should be repaired or replaced. Those manholes that only exhibit leakage can be repaired and lined with high strength grout or replaced. Manholes that exhibit structural deterioration due to sulfide attack should be replaced. A final inspection during design can provide final recommendations. It is possible that some manholes may not need any work.

Sewer Mains:
Based on field observations, it appears that the majority of I&I is entering the system upstream from MH 112. For the purposes of this report, it is assumed that 50% of this service area requires repair or replacement (MH 112-MH 120 and MH 117-MH 120). If funds allow, additional sections of pipe can be inspected and repaired/ replaced as required. It is expected that the majority of the lines leak in a least some manner. A full inspection is proposed to be performed during the preliminary design phase. This inspection would involve cleaning and CCTV inspection of the pipes. During this inspection, any structural deficiencies will be flagged for repair or replacement. Any sections that are found to be structurally sound can be repaired with cured-in-place-pipe (CIPP) or replaced. For the purposes of estimating, an assumed liner footage of pre-1968 pipe has been included for replacement, as it is assumed that this pipe will be beyond repair. The exact location and amount of such pipe is not completely known from the drawings.

Laterals:
It is assumed that the majority of laterals in the section are pre-1968 and require replacement or repair. Additional investigation during preliminary design should identify which laterals require replacement or rehabilitation. For the purposes of this report, is assumed that 50% of the service connections require repair or replacement. If funds allow, additional sections of pipe can be inspected and repaired/replaced as required.

APPENDIX I

LIBERTY & CONGRESS STREET SERVICE AREA

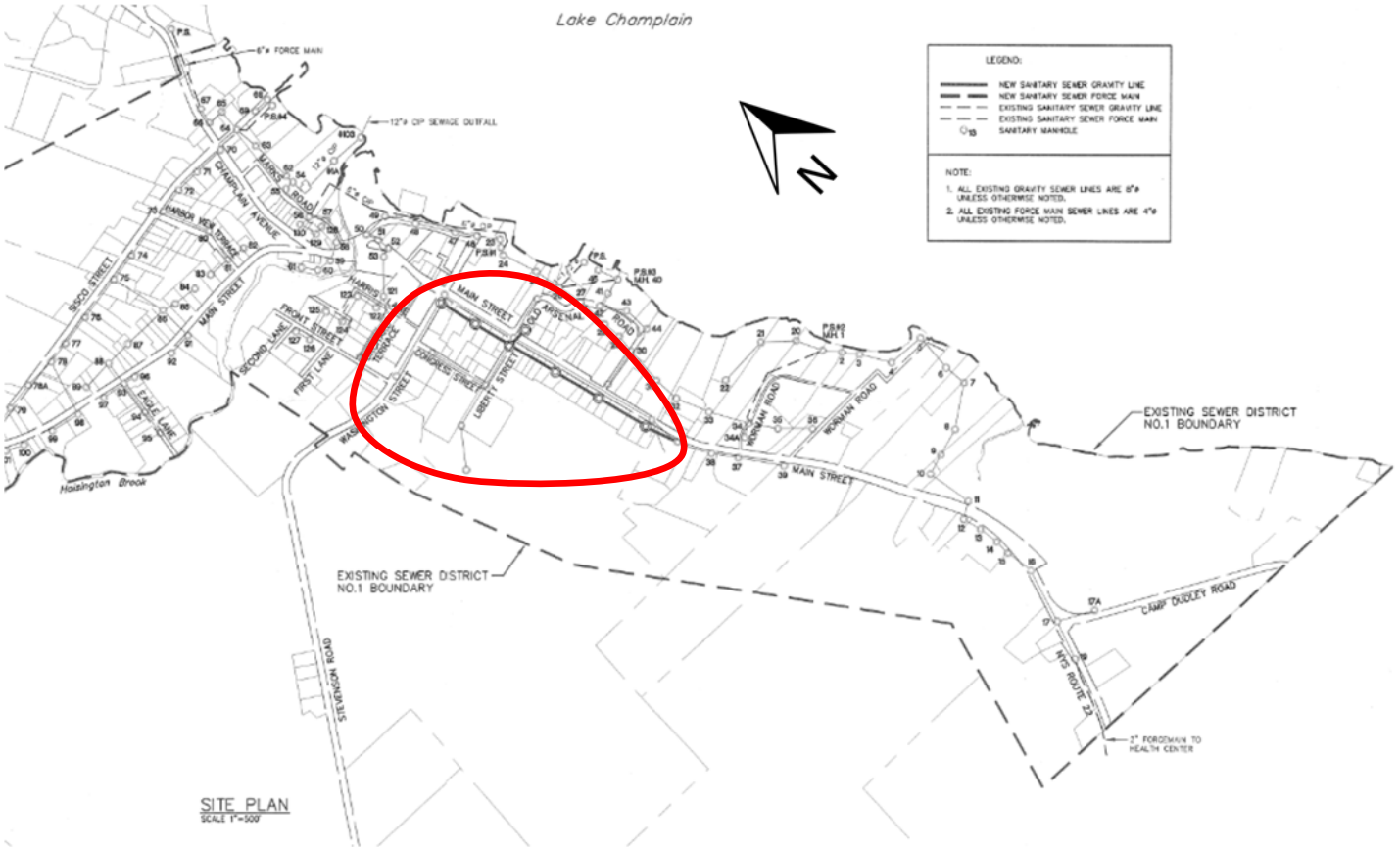
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Congress & Liberty Street Service Area Investigations

Location Map

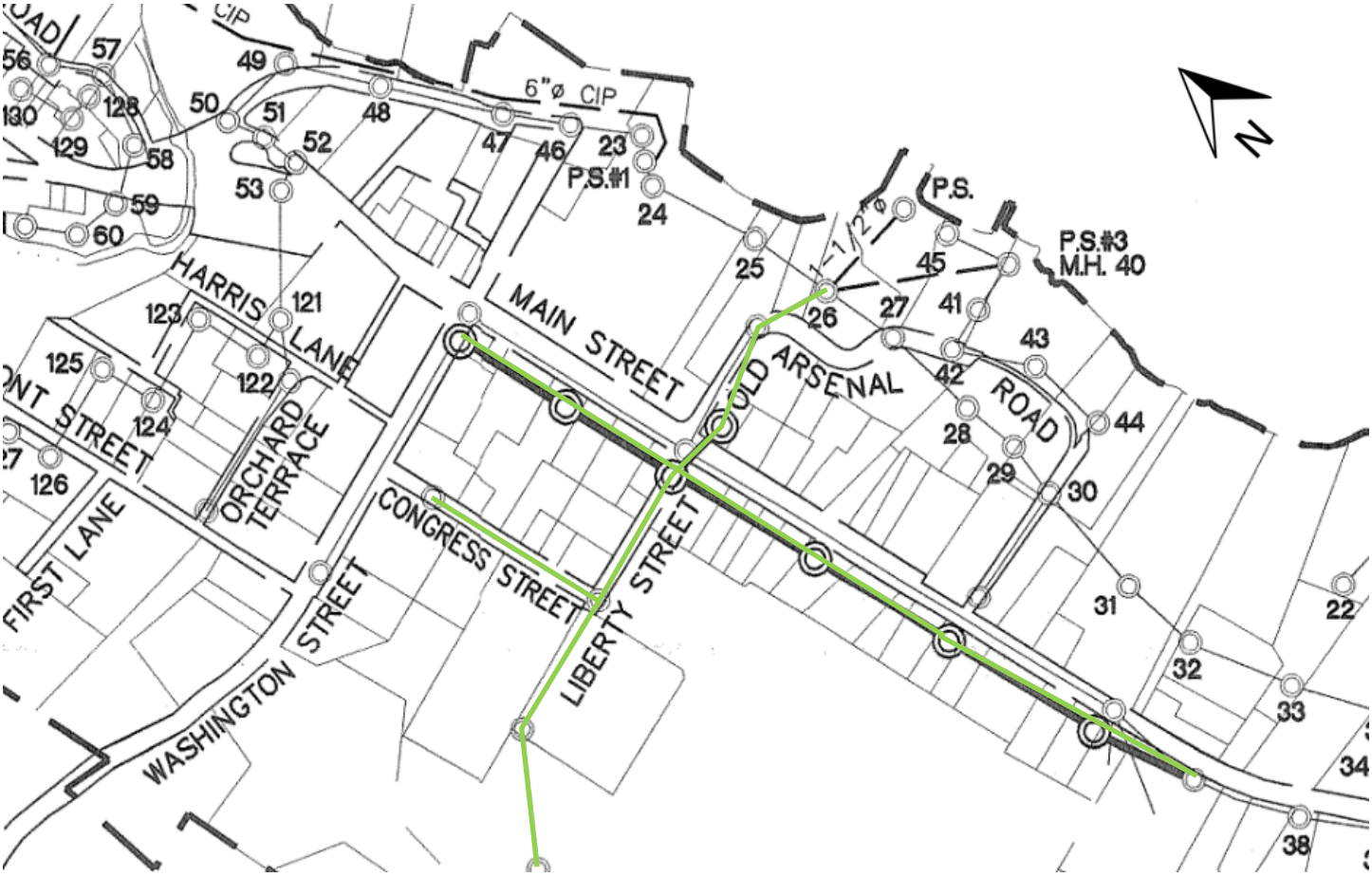
The Congress and Liberty Street Service Area includes these streets as well as seer mains on RT 9N/22. the mains on RT 9N/22 were replaced in 2007. The mains on Congress and Liberty Street appear to be PVC.



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Location Map



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Manhole Inspections

A representative number of manholes were inspected in this service area. The manholes installed in 2007 are in good condition structurally, but leak. There is significant staining on most of the manholes. Attempts to fill the joints, either during construction or after appears to have limited success in stopping leaks.

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New MH 9



This is a new manhole, replaced in 2007. This manhole leaks, as evidenced by the staining on the walls and bench walls.

It appears that the manholes leak both from under the frame and cover and through the poorly sealed joints.



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New MH 12



This manhole receives flow from Stevenson road and from Liberty street, as well as flow from south Main Street up to manhole 38.

From this manhole, all flow goes into manhole 27 which collects from all of the system south of it to send to the plant.

Most of the infiltration enters through cracks around the rim and from the seams of the precast concrete.

As shown in the exterior pictures, this manhole is found in the sidewalk and is at grade.

Similar to a lot of the other manholes in this system, there is a lack of sealing with the seams of the precast concrete. It is recommended to have the seams sealed and then inspected annually to check they are holding.



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Sewer Main Inspections

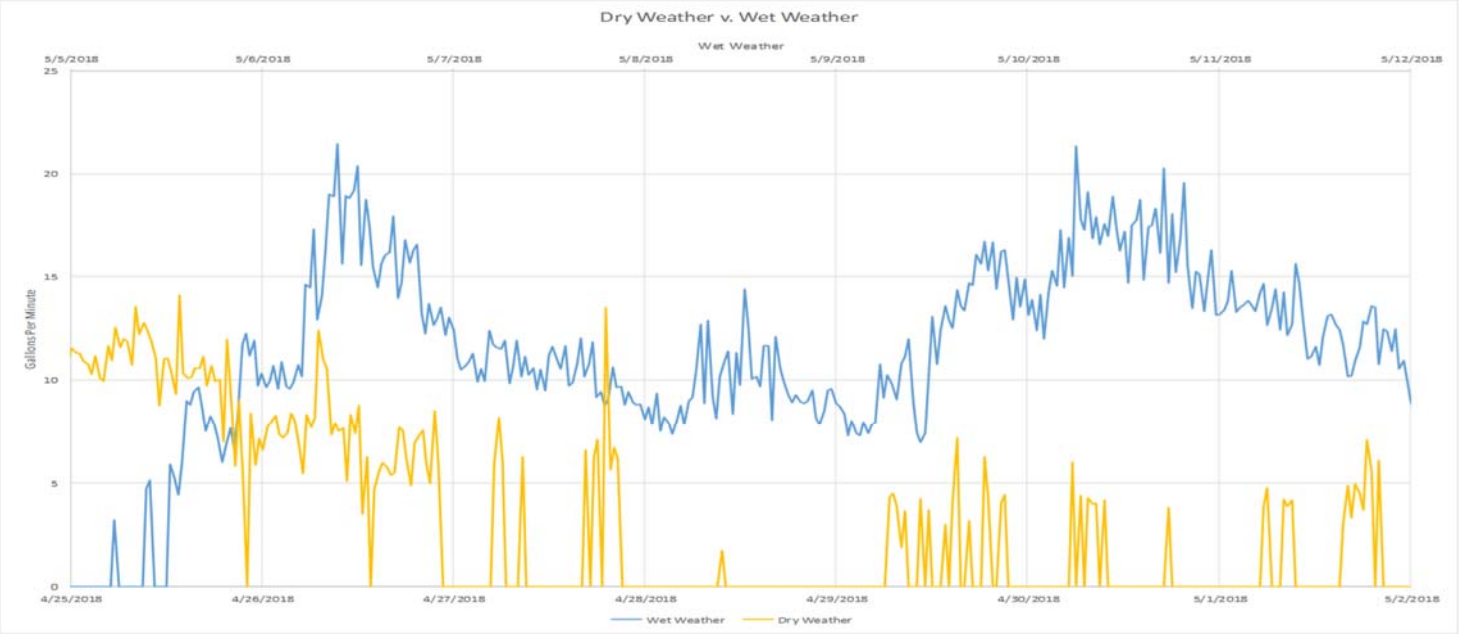
Many of the sewer mains in this section were replaced in 2007. those that remain are of unknown condition and type, however due to the limited I&I influence from this area are expected to be in relatively good condition.

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Flow Monitoring

Flow monitoring was performed in new MH 12. The majority of this service area is either new or appears to be PVC and is not expected to leak heavily. The manholes inspected do appear to contribute at least some I&I. It is noted that there is a separate storm sewer main in this area. It is suspected that the slight increase in flow in this area occurs from laterals, and specifically the golf course lateral. This assumption is made based on the location and length of this lateral. This graph shows the difference between dry weather and wet weather flows.



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Recommendations

Manholes:
The majority of manholes in this service area should be repaired or replaced. Those manholes that only exhibit leakage can be repaired and lined with high strength grout or replaced. Manholes that exhibit structural deterioration due to sulfide attack should be replaced. A final inspection during design can provide final recommendations. It is possible that some manholes may not need any work.

Sewer Mains:
No work is expected for the sewer mains.

Laterals:
There is some I&I in the system. Manholes leaking do not account for all of the water volume. It is suspected that leaking laterals are the main culprit. One possible lateral is that for the golf course. As this lateral pipe may need to be upgraded to a main for the proposed hotel project, it is recommended that this lateral be inspected and repaired/replaced as necessary.

APPENDIX J

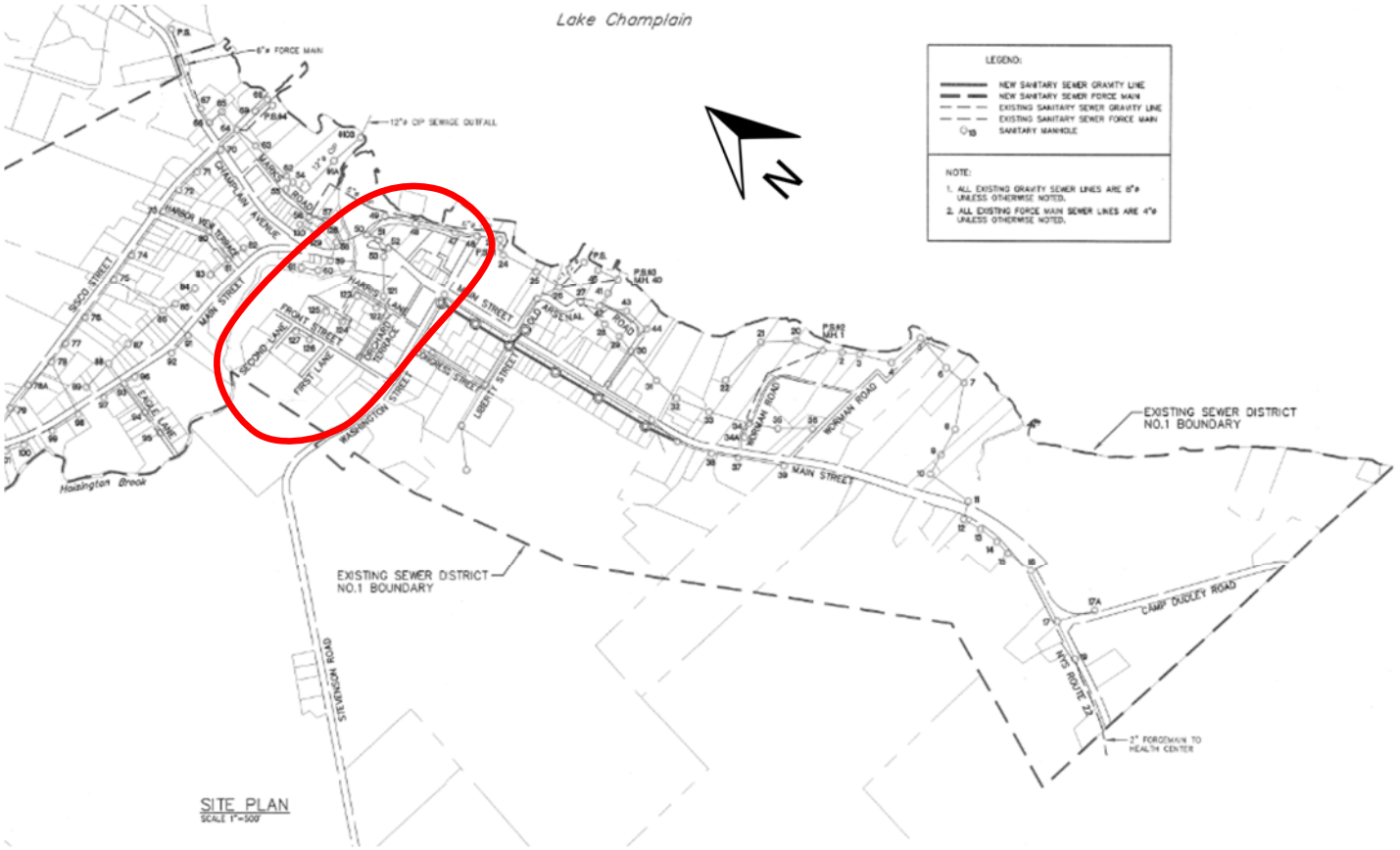
HARRIS LANE
SERVICE AREA

AES NORTHEAST
Architecture, Engineering, and Land Surveying Northeast, PLLC
10 -12 City Hall Place, Plattsburgh, NY 12901

Town of Westport
Sewer District #1
Collection System J
Harris Lane Service Area Investigations

Location Map

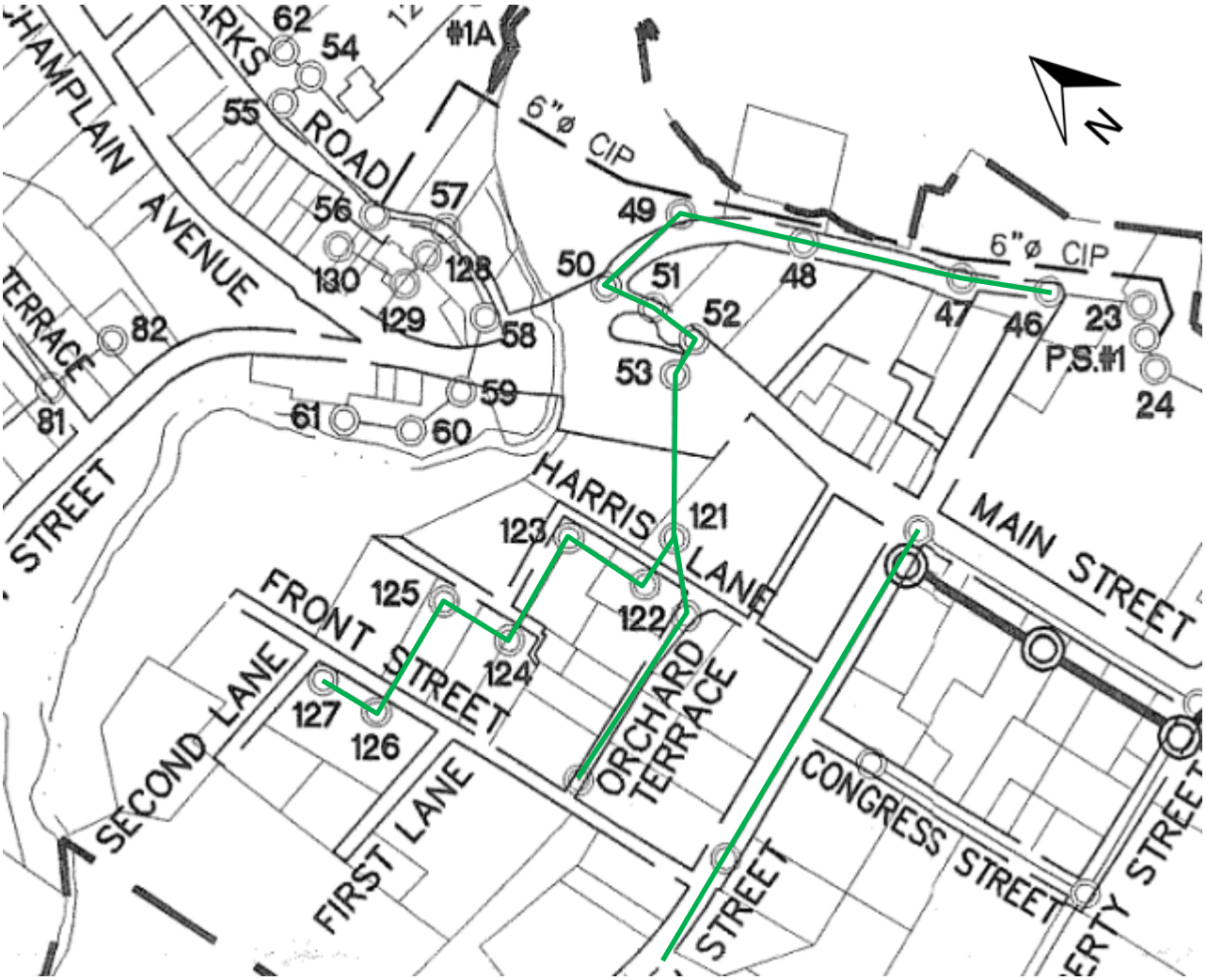
The Harris Lane Service Area includes sewer mains on Harris Lane, Fist Lane, Second Lane, Front Street, Orchard Terrace, and Washington Street. The mains on Second Lane and Front Street were installed in 1968. The remaining pipes are pre 1968.



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Harris Lane Service Area Investigations

Location Map



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Architecture, Engineering, and Land Surveying Northeast, PLLC
10 -12 City Hall Place, Plattsburgh, NY 12901

Town of Westport
Sewer District #1
Collection System J
Harris Lane Service Area Investigations

Manhole Inspections

A limited, but representative number of manholes were inspected in this service area. It is expected that manholes installed in 1968 are a source of I&I based on observations in other areas, although manholes in this section appear to be in better condition than in other areas. What is more problematic, is that on several streets, particularly Washington Street there are few to no manholes. This makes inspection of the sewer mains nearly impossible.

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MH 122



This manhole receives most of its flow from the western half of the Harris Land Service Area. The streets included in the flow are First Lane, Second Lane, Front Street and Harris Lane. The flow then is combined with the remaining flow from the Harris Lane Service Area.

There is evidence along the walls of the manhole that there is infiltration. There are numerous paths on the walls that are from water entering the manhole. Further below there is evidence of water staining the bottom half of the manhole walls.

The trough and bench walls are both in overall good condition. The bench walls do have evidence of infiltration as they appear to be wet. Due to the staining on the manhole wall, this is infiltration and not the pipes surcharging. The concrete seals around the pipe openings are in good condition as well and do not appear to be deteriorating.



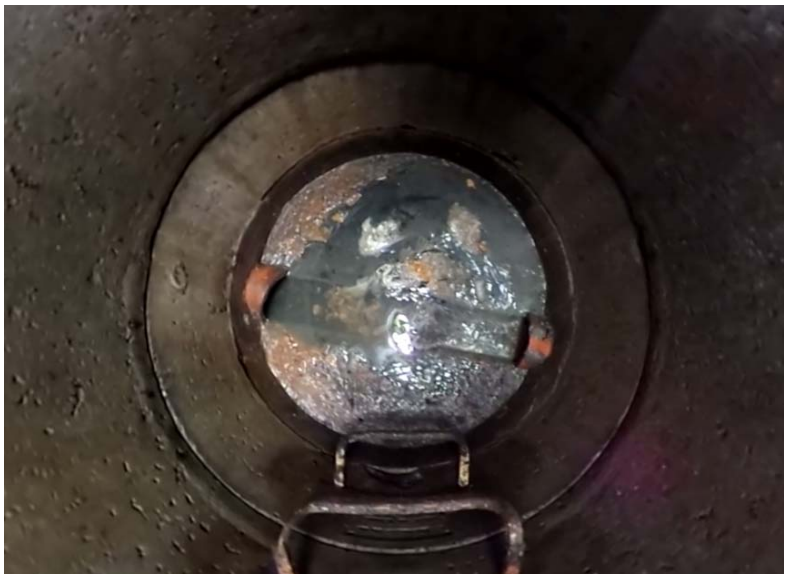
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Sewer District #1
Collection System J
Harris Lane Service Area Investigations

MH 126

This manhole receives flow from all of the manholes and services near Orchard terrace and Front Street. From this manhole, all flow goes towards manhole 47 near the Marina and then to the plant.

Most of the infiltration enters through cracks around the rim and from the seams in the precast concrete.





Similar to a lot of the other manholes in this system, there is a lack of sealing with the seams of the precast concrete.

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MH 126-1



This manhole receives its flow from a lateral and larger pipe. It exits from the bottom of the manhole at what appears to be channelized flow, but no pipe present. It flows into Manhole 126-2. Neither of these manholes are listed on the original plans. Manhole 126-1 is at grade and is located on Front Street.

There is a trough on this manhole, however it is in extremely poor condition. The large pipe could potentially be part of the system making this a drop manhole. This is unlikely though because there does not appear to be any slope issues.

This manhole is made entirely out of brick. There mortar between the bricks is deteriorating. There does not seem to be any evidence of water infiltration from the side, however the area where the pipe was installed could be extremely problematic. Large portions of missing bricks surround the pipe. There is also deteriorating mortar around the pipe as well.



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Sewer District #1
Collection System J
Harris Lane Service Area Investigations

MH 126-2



This manhole is not shown on the original plans. It is located on Front Street after another manhole also not shown on the plans. It is unknown where the sewer main continues out of this manhole. Flow comes in from the pipe on the left, and exits through the pipe on the right. The manhole is at grade.

As shown in the picture to the right, there is visual evidence of leakage from the joint between the rim and the wall of the manhole. The dark streaks are water stains that indicate that this is not a recent problem, it has been occurring for awhile. The streaks begin right after the rim and over a spot where the sealant appears to have worn away.





There also is evidence of infiltration from the joint located in the middle of the manhole walls as well. The trough and the bench walls appear to be starting to crumble. The left pipe is improperly sealed as well. The concrete around the pipe is very deteriorated and needs to be resealed.

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Sewer District #1
Collection System J
Harris Lane Service Area Investigations

Sewer Main Inspections

A complete internal video inspection of the sewer mains is outside of the scope of this report. However, limited, representative videos were taken of the 1968 era VCT pipe. In general the pipes are expected to be structurally sound with good slope. All pipes are minimum of 8" and meet minimum sizing requirements. It is expected that the pipes leak to some degree, either through cracks or more likely leaking joints. In general, slopes appear to be adequate and meet minimum design requirements. The majority of the pipe in this section are pre 1968. These pipes are not expected to be in good condition. The many of the pipes are inaccessible. The main from MH 121 to MH 53 is in a poor location, crossing through private property before crossing RT 9N/22. Although the property is generally open field, the main is difficult to access due to the slope.

Additional Items of Note:

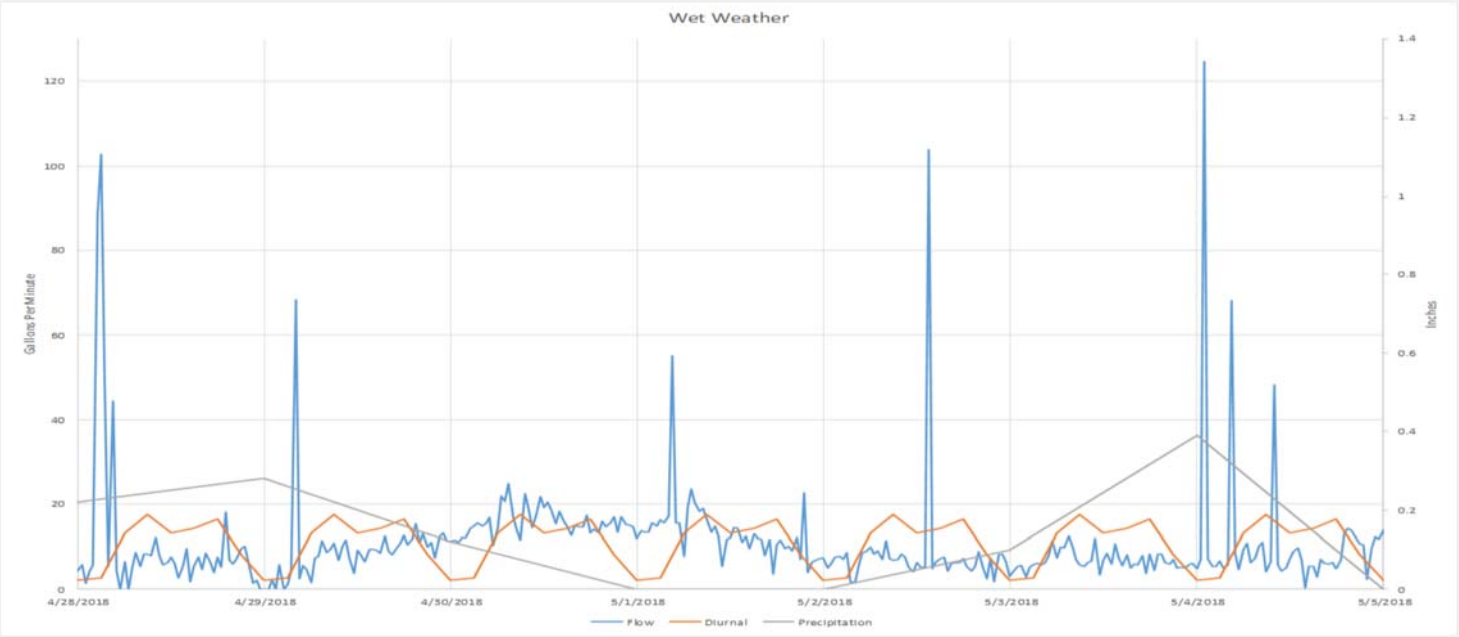
- A number of pipes and suspected leaking laterals were noted in this section. These may require repair, or replacement.

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Sewer District #1
Collection System J
Harris Lane Service Area Investigations

Flow Monitoring

Flow monitoring was performed in 2018 at MH 46. MH 46 takes flow from the Harris Lane Service Area and portions of Mill Street. The flow monitoring showed some influence from I&I, but very small relative to the rest of the system. This map shows the properties connected to MH 46. the orange line is the diurnal flow pattern for the expected average day flows. The wet weather flows are not much high than this flow, although slightly elevated from the actual base flow. The spikes are expected to be backups from the Marina Pump Station not keeping up with flows.



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Sewer District #1
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Harris Lane Service Area Investigations

Recommendations

Manholes:
The manholes in this service area from 1968 should be repaired or replaced. Those manholes that only exhibit leakage can be repaired and lined with high strength grout or replaced. Manholes that exhibit structural deterioration due to sulfide attack should be replaced. A final inspection during design can provide final recommendations. It is possible that some manholes may not need any work. Manholes (where they exist) on pre-1968 pipes should be replaced in conjunction with sewer main replacements.

Sewer Mains:
Although it is possible that the pre 1968 pipe leaks, the results of the I&I study show minimal influence from I&I in this service area. Therefore it is likely most of the I&I is coming from manholes or the pre 1968 pipe. The pre 1968 sewer mains should be replaced. The sewer mains in private yards, particularly from MH 121 to MH 53, should be relocated out to road right of ways.

Laterals:
It is assumed that the majority of laterals in the section are pre-1968 and require replacement or repair. Additional investigation during preliminary design should identify which laterals require replacement or rehabilitation.

Other:
Manholes, main lines, and lateral pipes that are no longer in service should be properly abandoned and disconnected form the collection system.

APPENDIX K

APA CORRESPONDENCE

NEW YORK
STATE OF
OPPORTUNITY.

Adirondack Park Agency

KAREN FELDMAN
Acting Chair

TERRY MARTINO
Executive Director

RECEIVED
AUG 27 2018
By

August 23, 2018

Dear Interested Party:

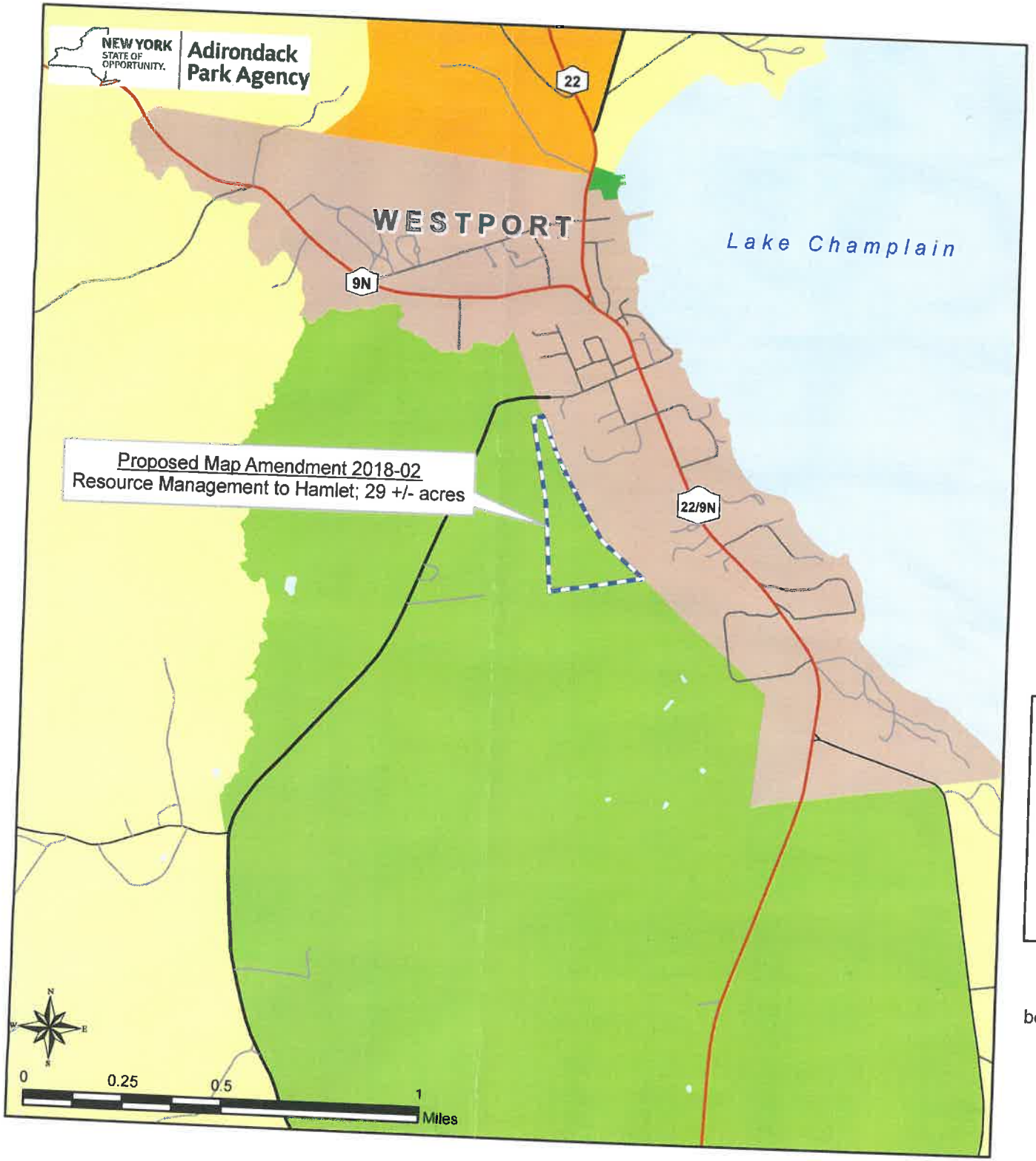
RE: Map Amendment 2018-02

The Adirondack Park Agency has received an application for an amendment to the Official Adirondack Park Land Use and Development Plan Map from the Town of Westport and a private landowner. The requested amendment would reclassify approximately 29 acres from Resource Management to Hamlet.

Enclosed are a map of the requested map amendment area and a description of the land classifications and map amendment process. Adirondack Park Agency staff is conducting a thorough assessment of the land under consideration for this map amendment. There will be additional opportunities to comment on this proposed map amendment in the future, but if you have any preliminary comments on this request, I would appreciate receiving them by September 7, 2018. Please contact me if you have any questions regarding this matter.

Sincerely,

Matthew S. Kendall
Environmental Program Specialist
(Natural Resources)



Map Amendment 2018-02
Town of Westport, Essex County

This proposed map amendment would reclassify approximately 29 acres from Resource Management to Hamlet

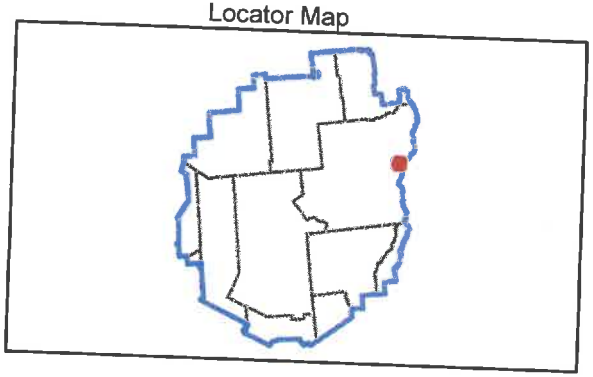
Legend

Proposed Map Amendment Area

Land Use Area Classifications

- Hamlet
- Moderate Intensity
- Low Intensity
- Rural Use
- Resource Management
- (State Land) Intensive Use

Locator Map



Land use area boundaries are defined by their legal description. Land use area boundaries shown on this map are approximate and should not be used for determining jurisdiction. Call (518) 891-4050

msk
8/23/2018

NEW YORK STATE OF OPPORTUNITY. | Adirondack Park Agency

KAREN FELDMAN
Acting Chair

TERRY MARTINO
Executive Director

Description of the Map Amendment Process

Private lands within the Adirondack Park have been assigned land use area classifications which guide future new land use and development. These classifications (including Hamlet, Moderate Intensity Use, Low Intensity Use, Rural Use, Resource Management and Industrial Use) are shown on the Official Adirondack Park Land Use and Development Plan Map.

From time to time, changes are proposed in the existing map classification; that is, a map amendment is proposed. The Adirondack Park Agency Act sets forth criteria by which the changes are evaluated and put into effect. Basically, proposed changes must satisfy the character description, purposes, policies and objectives established for the land use area type to which the change is proposed. These character descriptions and purposes, policies and objectives are, in part, given on the reverse side of this sheet.

Generally, the determinants used by the Agency involve:

(1) Existing land uses and public infrastructure and facilities;
(2) Physical characteristics of the land in terms of development capabilities and limitations;
(3) Biological characteristics of the land in terms of development impacts;
(4) The statutory requirement for preserving the open space character of the Park;
(5) Public considerations such as proximity to State Wilderness, Primitive or Canoe areas, to rivers now designated or under study in connection with the New York State Wild, Scenic, and Recreational Rivers System, to scenic vistas or to sparsely developed public travel corridors.

As map amendments are being considered by the Agency, public input is encouraged in a number of ways. At the time an application is received, notification is sent to representatives of affected local governments requesting their comments. Public hearings, held prior to the change taking effect, are usually required; when a date is set for the hearing, notification is sent to adjoining and affected landowners, local and regional government officials and other persons identified to receive notice. Comments or statements, which need to be related to the statutory determinants for map amendment, received from these people, either prior to or at the public hearing, constitute part of the information the Agency will use to determine whether or not to make the map amendment.

Technical amendments correcting mapping errors in the regional Adirondack Park Land Use and Development Plan Map may be made by the Agency without public hearing. In these cases, it is Agency practice to contact local government officials and affected landowners to notify them of the proposed changes and solicit comments.

Land Use Area Descriptions

HAMLET

Character description: Hamlet areas, delineated in brown on the plan map, range from large, varied communities that contain a sizeable permanent, seasonal and transient population with a great diversity of residential, commercial, tourist and industrial development and a high level of public services and facilities, to smaller, less varied communities with a lesser degree and diversity of development and a generally lower level of public services and facilities.

Purposes, policies and objectives: Hamlet areas will serve as the service and growth centers in the park. They are intended to accommodate a large portion of the necessary and natural expansion of the park's housing, commercial and industrial activities. In these areas, a wide variety of housing, commercial, recreational, social and professional needs of the park's permanent, seasonal and transient populations will be met. The building intensities that may occur in such areas will allow a high and desirable level of public and institutional services to be economically feasible. Because a hamlet is concentrated in character and located in areas where existing development patterns indicate the demand for and viability of service, and growth centers, these areas will discourage the haphazard location and dispersion of intense building development in the park's open space areas. These areas will continue to provide services to park residents and visitors and, in conjunction with other land use areas and activities on both private and public land, will provide a diversity of land uses that will satisfy the needs of a wide variety of people.

The delineation of hamlet areas on the plan map is designed to provide reasonable expansion areas for the existing hamlets, where the surrounding resources permit such expansion. Local government should take the initiative in suggesting appropriate expansions of the presently delineated hamlet boundaries, both prior to and at the time of enactment of local land use programs.

MODERATE INTENSITY USE

Character description: Moderate Intensity Use areas, delineated in red on the plan map are those areas where the capability of the natural resources and the anticipated need for future development indicate that relatively intense development, primarily residential in character, is possible, desirable and suitable.

These areas are primarily located near or adjacent to hamlets to provide for residential expansion. They are also located along highways or accessible shorelines where existing development has established the character of the area.

Those areas identified as moderate intensity use where relatively intense development does not already exist are generally characterized by deep soils on moderate slopes and are readily accessible to existing hamlets.

Purposes, policies and objectives: Moderate intensity use areas will ›vide for development opportunities in areas where development ·ignificantly harm the relatively tolerant physical and ·rces. These areas are designed to provide for sion and growth and accommodate uses related to residential uses in the vicinity of hamlets where community services can most readily and economically be provided. Such growth and the services related to it will generally be at less intense levels than in hamlet areas.

LOW INTENSITY USE

Character description: Low intensity use areas, delineated in orange on the plan map , are those readily accessible areas, normally within reasonable proximity to a hamlet, where the physical and biological resources are fairly tolerant and can withstand development at an intensity somewhat lower than found in hamlets and moderate intensity use areas. While these areas often exhibit wide variability in the land's capability to support development, they are generally areas with fairly deep soils, moderate slopes and no large acreage of critical biological importance. Where these areas are adjacent to or near hamlets, clustering homes on the most developable portions of these areas makes possible a relatively high level of residential units and local services.

Purposes, policies and objectives: The purpose of low intensity use areas is to provide for development opportunities at levels that will protect the physical and biological resources, while still providing for orderly growth and development in the park. It is anticipated that these areas will primarily be used to provide housing development opportunities not only for park residents but also for the growing seasonal home market. In addition, services and uses related to residential uses may be located at a lower intensity than in hamlets or moderate intensity use areas.

RURAL USE

Character description: Rural use areas, delineated in yellow on the plan map, are those areas where natural resource limitations and public considerations necessitate fairly stringent development constraints. These areas are characterized by substantial acreages of one or more of the following: fairly shallow soils, relatively severe slopes, significant ecotones, critical wildlife habitats, proximity to scenic vistas or key public lands. In addition, these areas are frequently remote from existing hamlet areas or are not readily accessible.

Consequently, these areas are characterized by a low level of development and a variety of rural uses that are generally compatible with the protection of the relatively intolerant natural resources and the preservation of open space. These areas and the resource management areas provide the essential open space atmosphere that characterizes the park.

Purposes, policies and objectives: The basic purpose and objective of rural use areas is to provide for and encourage those rural land uses that are consistent and compatible with the relatively low tolerance of the areas' natural resources and the preservation of the open spaces that are essential and basic to the unique character of the park. Another objective of rural use areas is to prevent strip development along major travel corridors in order to enhance the aesthetic and economic benefit derived from a park atmosphere along these corridors.

Residential development and related development and uses should occur on large lots or in relatively small clusters on carefully selected and well designed sites. This will provide for further diversity in residential and related development opportunities in the park.

RESOURCE MANAGEMENT

Character description: Resource management areas, delineated in green on the plan map, are those lands where the need to protect, manage and enhance forest, agricultural, recreational and open space resources is of paramount importance because of overriding natural resource and public considerations. Open space uses, including forest management, agriculture and recreational activities, are found throughout these areas.

Many resource management areas are characterized by substantial acreages of one or more of the following: shallow soils, severe slopes, elevations of over twenty-five hundred feet, flood plains, proximity to designated or proposed wild or scenic rivers, wetlands, critical wildlife habitats or habitats of rare and endangered plant and animal species.

Other resource management areas include extensive tracts under active forest management that are vital to the wood using industry and necessary to insure its raw material needs.

Important and viable agricultural areas are included in resource management areas, with many farms exhibiting a high level of capital investment for agricultural buildings and equipment. These agricultural areas are of considerable economic importance to segments of the park and provide for a type of open space which is compatible with the park's character.

Purposes, policies and objectives: The basic purpose and objective of resource management areas are to protect the delicate physical and biological resources, encourage proper and economic management of forest, agricultural and recreational resources and preserve the open spaces that are essential and basic to the unique character of the park. Another objective of the area is to prevent strip development along major travel corridors in order to enhance the aesthetics and economic benefits derived from a park atmosphere along these corridors.

Finally, resource management areas will allow for residential development on substantial acreages or in small clusters on carefully selected and well designed sites.

INDUSTRIAL USE

Character description: Industrial use areas, delineated in purple on the plan map include those areas that are substantial in size and located outside of hamlet areas and are areas (1) where existing land uses are predominantly of an industrial or mineral extraction nature or (2) identified by local and state officials as having potential for new industrial development.

Purposes, policies and objectives: Industrial use areas will encourage the continued operation or major existing industrial and mineral extraction uses important to the economy of the Adirondack region and will provide suitable location for new industrial and mineral extraction activities that may contribute to the economic growth of the park without detracting from its character. Land uses that might conflict with existing or potential industrial or mineral extraction uses are discouraged in industrial use areas.

APPENDIX L

Sewer District Financial Information

Sewer District One

Sewer Budgets		See Attached
User Charges		*270.00 per unit
Debt payment	***	See Attached
# of Users		459.5 units 400 Accounts
Reserve Funds		$99,858.00

*Sewer One bond payment
Is partially funded by Advelorum
Property tax rate of 0.391320/
$1000 of assessed value.

*** Sewer One Bond issued 9-25-2008 Matures 5-11-2038

Original Issue-- $3,008,758.00
Balance 2017 $2,157,302.00 paid during year $88,054.00

- See attached amortization schedule

Sewer One Bond $3,008,758 Original Issue no interest

04-30-2015	85,386
04-30-2016	86,720
04-30-2017	88,054
04-30-2018	89,388
04-30-2019	90,722
04-30-2020	92,056
04-30-2021	93,390
04-30-2022	94,725
04-30-2023	96,058
04-30-2024	97,392
04-30-2025	93,726
04-30-2026	100,060
04-30-2027	101,394
04-30-2028	102,728
04-30-2029	104,063
04-30-2030	105,397
04-30-2031	106,731
04-30-2032	108,065
04-30-2033	109,399
04-30-2034	110,733
04-30-2035	112,067
04-30-2036	113,402
04-30-2037	114,736
04-30-2038	116,070

Sewer One LedgerNumber		BudgetYTD	2017 Spent/ EarnedYTD	Balance		Final 2018
SEWER ONE SS1	APPROPRIATION ACCOUNT					
1990.4 - Contingency Account		3,000.00	0.00	3,000.00	100.00%	3000
8110.1 - Administration PS		800.00	395.12	404.88	50.61%	800
8110.4 - Administration CE		500.00	506.22	(6.22)	-1.24%	500
8120.2 - Equipment and Capital Outlay		25,000.00	1,160.50	23,839.50	95.36%	25000
8120.4 - Sanitary Sewers CE		40,000.00	19,773.61	20,226.39	50.57%	40000
8120.4 - Sanitary Sewers CE	Training	500.00	0.00	500.00	100.00%	500
8130.1 - Treatment/Disposal PS		25,750.00	20,330.39	5,419.61	21.05%	25750
8130.2 - Building and Truck Expenses		1,000.00	147.65	852.35	85.24%	1000
8130.4 - Treatment/Disposal CE	Engineering	1,750.00	0.00	1,750.00	100.00%	1750
8130.4 - Treatment/Disposal CE		5,000.00	1,614.73	3,385.27	67.71%	5000
9030.8 - Social Security (Town Share)		3,000.00	1,690.63	1,309.37	43.65%	3000
9060.8 - Medical Insuance (Town Share)		7,500.00	5,496.56	2,003.44	26.71%	8400
9710.6 - Debt Service on Bond	EC Bond Principal	88,054.00	88,054.00	0.00	0.00%	89388
	Total	*201,854.00*	*139,169.41*	*62,684.59*		204088

Sewer One LedgerNumber		*BudgetYTD*	*2017 Spent/ EarnedYTD*	*Balance*		Final 2018
SEWER ONE SS1	REVENUE ACCOUNT					
1001 - Real Property Tax		30,000.00	30,000.00	0.00	0.00%	30000
2120 - Sewer Rents		130,000.00	107,107.90	22,892.10	17.61%	130000
2128 - Penalties on late sewer rents		1,000.00	1,263.41	(263.41)	-26.34%	1000
2401 - Interest & Earnings		500.00	543.07	(43.07)	-8.61%	500
2770 - Unclassified Revenues		500.00	722.20	(222.20)	-44.44%	500
9100 - Unreserved Funds Appropriated		39,854.00	0.00	39,854.00	100.00%	42088
	Total	*201,854.00*	*139,636.58*	*62,217.42*		204088

APPENDIX M

Engineering Report Certification

Appendix C: Engineering Report Certification
(required for EFC financial assistance)

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: Town of Westport Sewer District # Collection System Evaluation

Date of Report: December 31, 2018

Professional Engineer's Name: Gregory Swart, PE

Signature: Gregory Swart

Date: December 15, 2018

APPENDIX N

Smart Growth Assessment Form

NEW YORK STATE OF OPPORTUNITY. | Department of Health | Environmental Facilities Corporation

Smart Growth Assessment Form

This form should be completed by the applicant's project engineer or other design professional.[1]

Applicant Information

Applicant: Town of Westport

Project No.: 4524

Project Name: SD #1 Collection System I&I Reduction

Is project construction complete? ☐ Yes, date: ☒ No

Project Summary: (provide a short project summary in plain language including the location of the area the project serves)

Replacement and Rehab of exisitng systems to reduce I&I.
Project serves sewer district #1 in the Hamlet of Westport

Section 1 – Screening Questions

1. Prior Approvals

1A. Has the project been previously approved for EFC financial assistance? ☐ Yes ☒ No

1B. If so, what was the project number(s) for the prior approval(s)? Project No.:

Is the scope of the project substantially the same as that which was approved? ☐ Yes ☐ No

IF THE PROJECT WAS PREVIOUSLY APPROVED BY EFC'S BOARD AND THE SCOPE OF THE PROJECT HAS NOT MATERIALLY CHANGED, THE PROJECT IS **NOT** SUBJECT TO SMART GROWTH REVIEW. SKIP TO SIGNATURE BLOCK.

2. New or Expanded Infrastructure

2A. Does the project add new wastewater collection/new water mains or a new wastewater treatment system/water treatment plant? ☐ Yes ☒ No

Note: A new infrastructure project adds wastewater collection/water mains or a wastewater treatment/water treatment plant where none existed previously

2B. Will the project result in either: ☐ Yes ☒ No

An increase of the State Pollutant Discharge Elimination System (SPDES) permitted flow capacity for an existing treatment system;

OR

An increase such that a NYSDEC water withdrawal permit will need to be obtained or modified, or result in the NYSDOH approving an increase in the capacity of the water treatment plant?

Note: An expanded infrastructure project results in an increase of the SPDES permitted flow capacity for the wastewater treatment system, or an increase of the permitted water withdrawal or the permitted flow capacity for the water treatment system.

[1] If project construction is complete and the project was not previously financed through EFC, an authorized municipal representative may complete and sign this assessment.

IF THE ANSWER IS "NO" TO BOTH "2A" and "2B" ON THE PREVIOUS PAGE, THE PROJECT IS NOT SUBJECT TO FURTHER SMART GROWTH REVIEW. SKIP TO SIGNATURE BLOCK.

3. Court or Administrative Consent Orders

3A. Is the project expressly required by a court or administrative consent order? ☐ Yes ☐ No

3B. If so, have you previously submitted the order to NYS EFC or DOH? If not, please attach. ☐ Yes ☐ No

Section 2 – Additional Information Needed for Relevant Smart Growth Criteria

EFC has determined that the following smart growth criteria are relevant for EFC-funded projects and that projects must meet each of these criteria to the extent practicable:

1. Uses or Improves Existing Infrastructure

1A. Does the project use or improve existing infrastructure? ☐ Yes ☐ No

Please describe:

2. Serves a Municipal Center

Projects must serve an area in either 2A, 2B or 2C to the extent practicable.

2A. Does the project serve an area **limited** to one or more of the following municipal centers?

i. A City or incorporated Village ☐Yes ☐No

ii. A central business district ☐Yes ☐No

iii. A main street ☐Yes ☐No

iv. A downtown area ☐Yes ☐No

v. A Brownfield Opportunity Area ☐Yes ☐No
(for more information, go to www.dos.ny.gov & search "Brownfield")

vi. A downtown area of a Local Waterfront Revitalization Program Area ☐Yes ☐No
(for more information, go to www.dos.ny.gov and search "Waterfront Revitalization")

vii. An area of transit-oriented development ☐Yes ☐No

viii. An Environmental Justice Area ☐Yes ☐No
(for more information, go to www.dec.ny.gov/public/899.html)

ix. A Hardship/Poverty Area ☐Yes ☐No
Note: Projects that primarily serve census tracts and block numbering areas with a poverty rate of at least twenty percent according to the latest census data

Please describe all selections:

2B. If the project serves an area located outside of a municipal center, does it serve an area located adjacent to a municipal center which has clearly defined borders, designated for concentrated development in a municipal or regional comprehensive plan and exhibit strong land use, transportation, infrastructure and economic connections to an existing municipal center? ☐Yes ☐No

Please describe:

2C. If the project is not located in a municipal center as defined above, is the area designated by a comprehensive plan and identified in zoning ordinance as a future municipal center? ☐Yes ☐No

Please describe and reference applicable plans:

3. Resiliency Criteria

3A. Was there consideration of future physical climate risk due to sea-level rise, storm surge, and/or flooding during the planning of this project? ☐Yes ☐No

Please describe:

Signature Block: By entering your name in the box below, you agree that you are authorized to act on behalf of the applicant and that the information contained in this Smart Growth Assessment is true, correct and complete to the best of your knowledge and belief.

Applicant: Town of Westport	Phone Number: 518-962-4419
(Name & Title of Project Engineer or Design Professional or Authorized Municipal Representative)	
Gregory Swart Digitally signed by Gregory Swart Date: 2019.01.03 10:52:03 -05'00'	12/31/18
(Signature)	(Date)

APPENDIX C

LAND USE AREA DESCRIPTIONS, SETBACK AND COMPATIBLE USE LIST

LAND USE AREA DESCRIPTIONS -- PURPOSES, POLICIES AND OBJECTIVES -- SHORELINE LOT WIDTHS AND SETBACKS – COMPATIBLE USE LIST

HAMLET

Character description: Hamlet areas, delineated in brown on the plan map, range from large, varied communities that contain a sizeable permanent, seasonal and transient population with a great diversity of residential, commercial, tourist and industrial development and a high level of public services and facilities, to smaller, less varied communities with a lesser degree and diversity of development and a generally lower level of public services and facilities.

Purposes, policies and objectives: Hamlet areas will serve as the service and growth centers in the park. They are intended to accommodate a large portion of the necessary and natural expansion of the park's housing, commercial and industrial activities. In these areas, a wide variety of housing, commercial, recreational, social and professional needs of the park's permanent, seasonal and transient populations will be met. The building intensities that may occur in such areas will allow a high and desirable level of public and institutional services to be economically feasible. Because a hamlet is concentrated in character and located in areas where existing development patterns indicate the demand for and viability of service, and growth centers, these areas will discourage the haphazard location and dispersion of intense building development in the park's open space areas. These areas will continue to provide services to park residents and visitors and, in conjunction with other land use areas and activities on both private and public land, will provide a diversity of land uses that will satisfy the needs of a wide variety of people.

The delineation of hamlet areas on the plan map is designed to provide reasonable expansion areas for the existing hamlets, where the surrounding resources permit such expansion. Local, government should take the initiative in suggesting appropriate expansions of the presently delineated hamlet boundaries, both prior to and at the time of enactment of local land use programs.

Guidelines for overall intensity of development: No overall intensity guideline is applicable to hamlet areas.

Minimum shoreline lot widths and building setbacks are 50 feet, and, in general, any subdivision involving 100 or more lots is subject to agency review.

MODERATE INTENSITY USE

Character description: Moderate Intensity Use areas, delineated in red on the plan map, are those areas where the capability of the natural resources and the anticipated need for future development indicate that relatively intense development, primarily residential in character, is possible, desirable and suitable.

These areas are primarily located near or adjacent to hamlets to provide for residential expansion. They are also located along highways or accessible shorelines where existing development has established the character of the area. Those areas identified as moderate intensity use where relatively intense development does not already exist are generally characterized by deep soils on moderate slopes and are readily accessible to existing hamlets

Purposes, policies and objectives: Moderate intensity use areas will provide for development opportunities in areas where development will not significantly harm the relatively tolerant physical and biological resources. These areas are designed to provide for residential expansion and growth and to accommodate uses related to residential uses in the vicinity of hamlets where community services can most readily and economically be provided. Such growth and the services related to it will generally be at less intense levels than in hamlet areas.

Guidelines for overall intensity of development: The overall intensity of development for land located in any Moderate Intensity Use area should not exceed approximately 500 principal buildings per square mile.

Minimum shoreline lot widths and building setbacks are 100 and 50 feet respectively, and, in general, any subdivision involving 15 or more lots is subject to agency review.

LOW INTENSITY USE

Character description: Low intensity use areas, delineated in orange on the plan map, are those readily accessible areas, normally within reasonable proximity to a hamlet, where the physical and biological resources are fairly tolerant and can withstand development at intensity somewhat lower than found in hamlets and moderate intensity use areas. While these areas often exhibit wide variability in the land's capability to support development, they are generally areas with fairly deep soils, moderate slopes and no large acreages of critical biological importance. Where these areas are adjacent to or near hamlet, clustering homes on the most developable portions of these areas makes possible a relatively high level of residential units and local services.

Purposes, policies and objectives: The purpose of low intensity use areas is to provide for development opportunities at levels that will protect the physical and biological resources, while still providing for orderly growth and development of the park. It is anticipated that these areas will primarily be used to provide housing development opportunities not only for park residents but also for the growing seasonal home market. In addition, services and uses related to residential uses may be located at a lower intensity than in hamlets or moderate intensity use areas.

Guidelines for overall intensity of development: The overall intensity of development for land located in any low intensity use area should not exceed approximately two hundred principal buildings per square mile

Minimum shoreline lot widths and building setbacks are 125 and 75 feet respectively, and, in general, any subdivision involving 10 or more lots is subject to agency permit requirements.

RURAL USE

Character description: Rural use areas, delineated in yellow on the plan map, are those areas where natural resource limitations and public considerations necessitate fairly stringent development constraints. These areas are characterized by substantial acreages of one or more of the following: fairly shallow soils, relatively severe slopes, significant ecotones, critical wildlife habitats, proximity to scenic vistas or key public lands. In addition, these areas are frequently remote from existing hamlet areas or are not readily accessible.

Consequently, these areas are characterized by a low level of development and variety of rural uses that are generally compatible with the protection of the relatively intolerant natural

resources and the preservation of open space. These areas and the resource management areas provide the essential open space atmosphere that characterizes the park.

Purposes, policies and objectives: The basic purpose and objective of rural use areas is to provide for and encourage those rural land uses that are consistent and compatible with the relatively low tolerance of the areas' natural resources and the preservation of the open spaces that are essential and basic to the unique character of the park. Another objective of rural use areas is to prevent strip development along major travel corridors in order to enhance the aesthetic and economic benefit derived from a park atmosphere along these corridors.

Residential development and related development and uses should occur on large lots or in relatively small clusters on carefully selected and well designed sites. This will provide for further diversity in residential and related development opportunities in the park.

Guideline for overall intensity of development: The overall intensity of development for land located in any rural use area should not exceed approximately seventy-five principal buildings per square mile.

Minimum shoreline lot widths and building setbacks are 150 and 75 feet respectively, and, in general, any subdivision involving 5 or more lots is subject to agency review.

RESOURCE MANAGEMENT AREAS

Character description: Resource management areas, delineated in green on the plan map, are those lands where the need to protect, manage and enhance forest, agricultural, recreational and open space resources is of paramount importance because of overriding natural resource and public considerations. Open space uses, including forest management, agriculture and recreational activities, are found throughout these areas.

Many resource management areas are characterized by substantial acreages of one or more of the following: shallow soils, severe slopes, elevations of over twenty-five hundred feet, flood plains, proximity to designated or proposed wild or scenic rivers, wetlands, critical wildlife habitats or habitats of rare and endangered plant and animal species.

Other resource management areas include extensive tracts under active forest management that are vital to the wood using industry and necessary to insure its raw material needs.

Important and viable agricultural areas are included in resource management areas, with many farms exhibiting a high level of capital investment for agricultural buildings and equipment. These agricultural areas are of considerable economic importance to segments of the park and provide for a type of open space which is compatible with the park's character.

Purposes, policies and objectives: The basic purposes and objectives of resource management areas are to protect the delicate physical and biological resources, encourage proper and economic management of forest, agricultural and recreational resources and preserve the open spaces that are essential and basic to the unique character of the park. Another objective of these areas is to prevent strip development along major travel corridors in order to enhance the aesthetic and economic benefits derived from a park atmosphere along these corridors.

Finally, resource management areas will allow for residential development on substantial acreages or in small clusters on carefully selected and well designed sites.

Guidelines for overall intensity of development: The overall intensity of development for land located in any resource management area should not exceed approximately

Minimum shoreline lot widths and building setbacks are 200 and 100 feet respectively, and, in general, any subdivision is subject to agency review.

COMPATIBLE USE LIST FROM SECTION 805 OF THE ADIRONDACK PARK AGENCY ACT

HAMLET

All land uses and development are considered compatible with the character, purposed and objectives of Hamlet areas.

MODERATE INTENSITY USE

Primary uses in moderate intensity use areas:

1. Single family dwellings
2. Individual mobile homes
3. Open space recreation uses
4. Agricultural uses
5. Agricultural use structures
6. Forestry uses
7. Forestry use structures
8. Hunting and fishing cabins and hunting and fishing and other private club structures
9. Game preserves and private parks
10. Cemeteries
11. Private roads
12. Private sand and gravel extractions
13. Public utility uses
14. Accessory uses and structures to any use classified as a compatible use

Secondary uses in moderate intensity use areas:

1. Multiple family dwellings
2. Mobile home court
3. Public and semi-public buildings
4. Municipal roads
5. Agricultural service uses
6. Commercial uses
7. Tourist accommodations
8. Tourist attractions
9. Marinas, boat yards and boat launching sites
10. Campgrounds
11. Group camps
12. Golf courses
13. Ski centers
14. Commercial seaplane bases
15. Commercial or private airports
16. Sawmills, chipping mills, pallet mills and similar wood using facilities
17. Commercial sand and gravel extractions
18. Mineral extractions
19. Mineral extraction structures
20. Watershed management and flood control projects

21. Sewage treatment plants
22. Major public utility uses
23. Industrial uses

LOW INTENSITY USE

Primary uses in low intensity use areas:

1. Single family dwellings
2. Individual mobile homes
3. Open space recreation uses
4. Agricultural uses
5. Agricultural use structures
6. Forestry uses
7. Forestry use structures
8. Hunting and fishing cabins and hunting and fishing and other private club structures
9. Game preserves and private parks
10. Cemeteries
11. Private roads
12. Private sand and gravel extractions
13. Public utility uses
14. Accessory uses and structures to any use classified as a compatible use

Secondary uses in low intensity use areas:

1. Multiple family dwellings
2. Mobile home court
3. Public and semi-public buildings
4. Municipal roads
5. Agricultural service uses
6. Commercial uses
7. Tourist accommodations
8. Tourist attractions
9. Marinas, boat yards and boat launching sites
10. Golf courses
11. Campgrounds
12. Group camps
13. Ski centers
14. Commercial seaplane bases
15. Commercial or private airports
16. Sawmills, chipping mills, pallet mills and similar wood using facilities
17. Commercial sand and gravel extractions
18. Mineral extractions
19. Mineral extraction structures
20. Watershed management and flood control projects
21. Sewage treatment plants
22. Major public utility uses
23. Junkyards
24. Major public utility sues
25. Industrial uses

RURAL USE

Primary uses in rural use areas:

1. Single family dwellings
2. Individual mobile homes

3. Open space recreation uses
4. Agricultural uses
5. Agricultural use structures
6. Forestry uses
7. Forestry use structures
8. Hunting and fishing cabins and hunting and fishing and other private club structures
9. Game preserves and private parks
10. Cemeteries
11. Private roads
12. Private sand and gravel extractions
13. Public utility uses
14. Accessory uses and structures to any use classified as a compatible use

Secondary uses in rural use areas:

1. Multiple family dwellings
2. Mobile home court
3. Public and semi-public buildings
4. Municipal roads
5. Agricultural service uses
6. Commercial uses
7. Tourist accommodations
8. Marinas, boat yards and boat launching sites
9. Golf courses
10. Campgrounds
11. Group camps
12. Ski centers
13. Commercial seaplane bases
14. Commercial or private airports
15. Sawmills, chipping mills, pallet mills and similar wood using facilities
16. Commercial sand and gravel extractions
17. Mineral extractions
18. Mineral extraction structures
19. Watershed management and flood control projects
20. Sewage treatment plants
21. Major public utility uses
22. Junkyards
23. Major public utility sues
24. Industrial uses

RESOURCE MANAGEMENT

Primary uses in resource management areas:

1. Agricultural uses.
2. Agricultural use structures.
3. Open space recreation uses.
4. Forestry uses.
5. Forestry use structures.
6. Game preserves and private parks.
7. Private roads.
8. Private sand and gravel extractions.
9. Public utility uses.

APPENDIX C

LAND USE AREA CLASSIFICATION DETERMINANTS

LAND USE AREA CLASSIFICATION DETERMINANTS
(From Appendix Q-8 of APA Rules & Regulations)

Many criteria and determinants are used in land use planning. Some are common to any planning process. Others vary with the area for which the plan is to be prepared. The needs of inhabitants, the region, and of society define those determinants that receive primary emphasis.

The determinants used in preparing this Land Use and Development Plan were chosen to identify those areas in the park best suited for development. The determinants fall into the following basic categories: (1) natural resources, (2) existing land use patterns, and (3) public considerations. The determinants found within these three categories help identify areas where similar standards are necessary if development is to provide positive values to both the park and the community in which it is located. Furthermore, they identify areas where the potential costs of development to the developer, the community, the prospective purchaser and the environment are so great that serious consideration should be given to alternative uses.

The natural resource determinants identify those areas that are physically most capable of sustaining development without significant adverse impact. Such determinants as soils, topography, water, vegetation and wildlife have been inventoried and analyzed to assure the protection of the basic elements of the park. Existing land uses must also be carefully considered in the planning process, particularly because they are important determinants of the park•s present and future character. These determinants identify the historic patterns of the park•s growth and indicate the types of growth that have been and are presently viable. Future development contemplated under the plan must also be considered in light of its relation to existing development.

The Legislature has found that there is a State interest in the preservation of the Adirondack Park, and therefore a variety of public consideration determinants have been analyzed in the preparation of this plan. In general, public consideration determinants help identify areas that must be protected in order to preserve the essential open space character of the park. These areas may be considered important from a public standpoint for such reasons as their location near important State lands or their present use in an open space condition. Additionally, there may be a substantial State interest in preserving certain critical public considerations.

The following determinants were used in the land area classification process. The land use implications paragraph is a general indication of the manner in which these determinants were utilized in preparing the plan:

A. DETERMINANT: SOIL

1. Characteristic: Poorly drained or seasonally wet soils.

Description: Soil with a high-water content or seasonal high-water table less than 1 ½ feet from the surface.

Land use implications: On-site sewage disposal systems will not function adequately and may pollute groundwater supplies. There may also be a problem of flooded basements, backed-up toilets, broken pavements, cracked walls and similar situations. These problems may lead to community health hazards, environmental problems, inconvenience and economic hardship. Severe development limitations exist in those areas that contain a high proportion of poorly drained or seasonally wet soils. Such areas are capable of sustaining development at only a very low level of intensity.

2. Characteristic: Moderately drained soils.

Description: Soils with a seasonal high-water table 1 ½ to 4 feet below the surface.

Land use implications: A potential for septic system failure or groundwater pollution exists. The New York State Department of Health recommends that the bottom of a septic system tile field be 18 to 30 inches below the soil surface at final grade, with a minimum depth of two feet between the bottom of the tile field and the water table. Special precautions must also be taken to avoid washouts where deep road cuts are necessary. An occasional problem for roads, streets and parking lots on this soil is the ■washboard• effect caused by frost heaving. Although these soils can tolerate a higher level of development than can poorly drained soils, moderate development limitations still exist.

3. Characteristic: Well-drained soils.

Description: Soils with a depth to the seasonal high-water table of more than four feet.

Land use implications: Areas containing well-drained soils present only slight development limitations. Generally, this type of soil can adequately filter the effluent from septic tank systems and poses few other construction problems.

4. Characteristic: Low permeability soils.

Description: Soils with a permeability rate of less than one inch per hour.

Land use implications: Soils with low permeability characteristics present severe development problems. On-site sewage disposal systems may overflow, causing pollution of surface water. Street, road and parking lot surfaces heave, and building walls and foundations tend to crack. Sanitary landfills may cause acute problems when located on soils with these characteristics.

5. Characteristic: Moderately permeable soils.

Description: Soils with a permeability rate of one inch per 30 to 60 minutes.

Land use implications: Problems experienced in soils with this characteristic are similar to, but slightly less severe than, problems experienced with soils of low permeability. In general, adequately designed and engineered septic systems, roads and structures help solve the problems that these soils can cause, but these alternatives tend to be expensive. Areas containing a high percentage of these soils should not be developed at a high level of intensity.

6. Characteristic: Permeable soils.

Description: Soils with a permeability rate of more than one inch per 30 minutes.

Land use implications: Generally, these soils present only slight development limitations, and they can handle a relatively intense level of development. However, excessive permeability may create a potential for the pollution and contamination of groundwater and nearby uncased wells if on-site sewage disposal systems are employed.

7. Characteristic: Shallow depth to bedrock.

Description: Soils with a depth to bedrock of less than one and 1 . feet.

Land use implications: These soils present severe development constraints. Massive excavation costs are necessary to do even minimal development. On-site sewage disposal systems are not possible under these conditions, as soil depths are not sufficient to provide adequate filtration of effluent. Community sewage systems can only be installed at a prohibitive cost. Shallow soils also present substantial road and building construction problems. These soils should not be developed.

8. Characteristic: Moderate depth to bedrock.

Description: Soils with a depth to bedrock of 1 . to 4 feet.

Land use implications: These soils present moderate development limitations. On-site sewage disposal problems can arise with effluent flowing directly over the bedrock into nearby drainages or groundwater supplies. The more shallow portions of these soils result in increased excavation costs. Intense development should not occur in these areas.

9. Characteristic: Deep soils.

Description: Soils with a depth to bedrock of more than four feet.

Land use implications: Relatively intense development can occur on these soils.

10. Characteristic: Extremely stony soils.

Description: Soils with over 35 percent coarse fragments less than three inches in diameter.

Land use implications: These soils present development problems. Excavation for such purposes as on-site sewage disposal systems, homesites with basements, and streets and roads is costly and difficult. Soils with this description affect the rate at which water moves into and through the soil. The difficulty of establishing a good vegetative ground cover can cause erosion problems. Generally, intense development should be avoided on soils of this nature.

11. Characteristic: Viable agricultural soils.

Description: Soils classified by the New York State Cooperative Extension as Class I and Class II agricultural soils.

Land use implications: Class I and Class II soils constitute a valuable natural resource. While the physical characteristics of these soils will often permit development, their agricultural values should be retained. Consequently, class I and class II soil types found within the Adirondack Park should be used primarily for agricultural purposes.

B. DETERMINANT: TOPOGRAPHY

1. Characteristic: Severe slopes.

Description: Areas with slopes of over 25 percent.

Land use implications: These slopes should not be developed. Development on these slopes presents serious environmental problems. Erosion rates are greatly accelerated. Accelerated erosion increases siltation. Septic systems will not function properly on these slopes. Development costs are likely to be massive because of the special engineering techniques that must be employed to ward off problems such as slipping and sliding. Proper grades for streets are difficult to attain and often can only be accomplished by large road cuts.

2. Characteristic: Steep slopes.

Description: Areas with slopes of 16 to 25 percent.

Land use implications: These slopes present substantially the same environmental hazards relating to erosion, sewage disposal, siltation and construction problems as are found on severe slopes. However, if rigid standards are followed, some low intensity development can take place.

3. Characteristic: Low and moderate slopes.

Description: Areas with slopes of not greater than 15 percent.

Land use implications: Such slopes can be developed at a relatively intense level, so long as careful attention is given to the wide slope variability in this range. Construction or engineering practices that minimize erosion and siltation problems must be utilized on the steeper slopes in this range.

4. Characteristic: Unique physical features.

Description: Gorges, waterfalls, formations and outcroppings of geological interest.

Land use implications: These features represent scarce educational, aesthetic and scientific resources. Construction can seriously alter their value as such, particularly where it mars the landscape or the formations themselves. Consequently, these areas should be developed only at extremely low intensities and in such a manner that the unique features are not altered.

5. Characteristic: High elevations.

Description: Areas above 2,500 feet.

Land use implications: These areas should ordinarily not be developed. They are extremely fragile and critical watershed storage and retention areas that can be significantly harmed by even a very low level of development intensity.

C. DETERMINANT: WATER

1. Characteristic: Floodplains.

Description: Periodically flooded land adjacent to a water body.

Land use implications: These areas should not be developed. Periodic flooding threatens the safety of residents and the destruction of structures. Development that would destroy the shoreline vegetation would result in serious erosion during flood stages. Onsite sewage disposal systems will not function properly and will pollute both surface and ground waters.

2. Characteristic: Wild and scenic rivers.

Description: Lands within one-half mile of designated wild and scenic rivers or of designated study rivers that presently meet the criteria for eventual wild or scenic designation.

Land use implications: The New York State Legislature has found that these lands constitute a unique and valuable public resource. Consequently, these lands should not be developed in order to protect the rare resources of free flowing waters with essentially primitive shorelines.

3. Characteristic: Marshes.

Description: Wetlands where there is found a grass-like vegetative cover and a free interchange of waters with adjacent bodies of water.

Land use implications: These areas present severe development limitations. Continual flooding makes on-site sewage disposal impossible and construction expensive. The filling of these areas will destroy the most productive ecosystem in the park and will lower their water retention capacity. Therefore, these areas should not be developed.

D. DETERMINANT: FRAGILE ECOSYSTEM

1. Characteristic: Bogs.

Description: Sphagnum, heath or muskeg vegetation underlaid with water and containing rare plant and animal communities that are often of important scientific value.

Land use implications: These areas should not be developed. They are sensitive areas whose delicate ecological balance is easily upset by any change in water level or the addition of any pollutants.

2. Characteristic: Alpine and subalpine life zones.

Description: Areas generally above 4,300 feet exhibiting tundra-like communities.

Land use implications: These areas should not be developed. The vegetative matter in these areas cannot withstand any form of compaction or development. These communities are extremely scarce in the park.

3. Characteristic: Ecotones.

Description: Areas of abrupt change from one ecosystem to another, giving rise to extraordinary plant and animal diversity and productivity.

Land use implications: These areas should be developed only at a low level of intensity. Development at higher intensities would modify the vegetative cover and would drastically reduce the diversity of wildlife vital to the Adirondack character. These limited areas serve as the production hub for surrounding areas.

E. DETERMINANT: VEGETATION

1. Characteristic: Virgin forests.

Description: Old-growth natural forests on highly productive sites, including those natural areas identified by the Society of American Foresters.

Land use implications: These areas deserve protection and should, therefore, be developed only at a low level of intensity. Intense development of these areas would destroy illustrative site types, including vestiges of primitive Adirondack conditions deemed important from both scientific and aesthetic standpoints.

2. Characteristic: Rare plants.

Description: Areas containing rare plant communities, including those identified by the State Museum and Science Services.

Land use implications: These areas should not be developed. Development, even at a very low level of intensity, would modify the habitat of these plants and thereby cause their possible extinction in New York State.

F. DETERMINANT: WILDLIFE

1. Characteristic: Rare and endangered species habitats.

Description: Habitats of species of wildlife threatened with extinction either in New York State or nationwide.

Land use implications: These areas should not be developed. Development at even a low level of intensity would modify the habitats of these species and thereby cause their possible extinction in New York State or nationwide. These small areas are often the survival link for entire species.

2. Characteristic: Key wildlife habitats.

Description: Important deer wintering yards, waterfowl production areas and bodies of water containing native strains of trout.

Land use implications: These areas can sustain only a very limited level of development intensity without having a significant adverse affect on the wildlife. Development at greater intensities would alter the habitats, thus making them unsuitable for continued use by wildlife. Development also increases the vulnerability of these critical areas.

G. DETERMINANT: PARK CHARACTER

1. Characteristic: Vistas.

Description: Area viewed from the 40 Adirondack Park vistas identified in the State Land Master Plan.

Land use implications: The intensity of development should vary with the distance from the vista with the purpose of protecting the open-space character of the scene. Development within one-quarter mile of the vista will have a substantial visual impact on this character and should be avoided. Between one-quarter mile and five miles, a low intensity of development will not damage the open-space appearance, whereas intense development would. Relatively intense development beyond five miles will not damage the scene so long as it does not consist of large clusters of buildings or industrial uses.

2. Characteristic: Travel corridors.

Description: Presently undeveloped areas adjacent to and within sight of public highways.

Land use implications: Travel corridors play an important role in establishing the park image to the majority of park users. Unscreened development within these areas would be detrimental to the open-space character of the park. The allowable intensity of development should not be allowed to substantially alter the present character of these travel corridors.

3. Characteristic: Proximity to State land.

(a) (1) Description: Areas within sight and sound of, but not more than one-half mile from, intensively used portions of wilderness, primitive and canoe areas.

(2) Land use implications: Intense development of these areas would threaten the public interest in and the integrity and basic purposes of wilderness, primitive and canoe area designation. Consequently, these lands should be developed at only a very low level of intensity.

(b) (1) Description: Inholding surrounded by wilderness, primitive or canoe areas.

(2) Land use implications: Development at more than a very minimal level of intensity should not be allowed. The development of such parcels would compromise the integrity of the most fragile classifications of land under the Adirondack Park State Land Master Plan.

(c) (1) Description: Inholdings of less than 1,000 acres surrounded by wild forest lands and inaccessible by two-wheel-drive vehicles.

(2) Land use implications: These areas should not be developed at more than a very low level of intensity. Intense development of these areas would constitute a hazard to the quality of the surrounding wild forest lands.

4. Characteristic: Proximity to services.

(a) (1) Description: Areas that are remote from existing communities and services.

(2) Land use implications: Intense development of these areas would be detrimental to open-space character of the park. Development of such remote areas is also generally costly in terms of services provided by local government. Consequently, a low level of development should be permitted.

(b) (1) Description: Areas that are readily accessible to existing communities.

(2) Land use implications: These areas can sustain a high level of development intensity. Local government services can be efficiently and economically provided in such areas. Development here will generally be of positive economic value to a community.

5. Characteristic: Historic sites.

Description: Sites of historic significance from a local, park or national standpoint.

Land use implications: Any development of the site itself or its immediate environs, except restoration, would destroy the site•s historical and educational values.

H. DETERMINANT: PUBLIC FACILITY

1. Characteristic: Public sewer systems.

Description: Areas served by a public sewer system.

Land use implications: Development may occur in these areas in spite of certain resource limitations that have been overcome by public sewer systems. Consequently, these areas can often be used for highly intensive development.

2. Characteristic: Proposed public sewer systems.

Description: Areas identified in a county comprehensive sewerage study where public sewer systems are considered feasible.

Land use implications: Encouraging relatively intense development in these areas will often provide the necessary impetus to establish the proposed systems. These systems will overcome certain health hazards and associated environmental problems that would otherwise be considered limiting.

I. DETERMINANT: EXISTING LAND USE

1. Characteristic: Urbanized.

(a) (1) Description: A large, varied and concentrated community with a diversity of housing and services.

(2) Land use implications: Generally, these areas have the facilities and potential to develop as major growth and service centers.

(b) (1) Description: A small, concentrated community.

(2) Land use implications: Generally, these areas have the potential to develop as growth centers.

2. Characteristic: Residential.

Description: Areas of primarily residential development.

Land use implications: The primary use of these areas should continue to be residential in nature.

3. Characteristic: Forest management.

Description: Large tracts, primarily of northern hardwood or spruce-fir forests, under active forest management.

Land use implications: These areas should be developed at only a minimal level of intensity. They constitute a unique natural resource. The supply of these species of trees, which are uncommon in such quantities elsewhere in the State, is important to insure a continuing supply of saw-logs and fiber for the economically vital wood-using industry of the region.

4. Characteristic: Agricultural lands.

(a) (1) Description: Areas under intensive agricultural management in which there is evidence of continuing capital investment for buildings and new equipment.

(2) Land use implications: These areas are an important resource within the Adirondack Park. These areas are of economic importance in some areas of the park. Consequently, these areas should only be developed at a very minimal level of intensity.

(b) (1) Description: Areas containing less viable agricultural activities frequently interspersed with other types of land uses.

(2) Land use implications: These areas are important to the open-space character of the park and also contain pockets of important agricultural soils. Consequently, they should be utilized for a low level of development intensity.

5. Characteristic: Industrial uses.

(a) (1) Description: Areas containing large-scale economically important industrial activities, located outside of centralized communities.

(2) Land use implications: These areas have been intensively used and are important to the economy of the Adirondack Park. They should remain in active industrial use.

(b) (1) Description: Proposed industrial sites identified by the State Development of Commerce or regional or local planning agencies.

(2) Land use implications: Because they are potentially important to the economy of the Adirondack Park, industrial uses should be encouraged in these areas.

APPENDIX E

PUBLIC HEARING NOTICE

NEW YORK STATE OF OPPORTUNITY. | Adirondack Park Agency

KAREN FELDMAN
Acting Chair

TERRY MARTINO
Executive Director

NOTICE OF PUBLIC HEARING ON PROPOSED AMENDMENT TO THE OFFICIAL ADIRONDACK PARK LAND USE AND DEVELOPMENT PLAN

Map Amendment 2018-02

PLEASE TAKE NOTICE that a public hearing will be held by the Adirondack Park Agency pursuant to Section 805 of the Adirondack Park Agency Act, 6 NYCCR Part 617 and 9 NYCRR Part 586 to the Official Adirondack Park Land Use and Development Plan Map located in the Town of Westport, Essex County (MA2018-02). The proposed amendment was requested by the Town of Westport and Consolidated Mortgages, LLC, owners of the land under consideration. The public hearing will be held on December 20, 2018 at 1:00 PM at the Westport Town Hall, located at 22 Champlain Ave, Westport, NY 12993.

The proposed amendment involves a request to reclassify approximately 29 acres from Resource Management to Hamlet pursuant to the Adirondack Park Agency Act, Section 805(2)(c)(1) and 805(2)(c)(2). The area under consideration for the requested amendment is a portion of the Westport Country Club Golf Course, located south and east of Stevenson Road, bordering the existing Hamlet of Westport.

A Draft Supplemental Environmental Impact Statement, together with a Notice of Completion, has been prepared for this proposed action pursuant to the State Environmental Quality Review Act and is on file at the Adirondack Park Agency headquarters in Ray Brook, NY and is available on the Adirondack Park Agency website (www.apa.ny.gov). Written comments on the proposed map amendment will be accepted until January 7, 2019 and can be submitted to the address below.

Further details may be obtained by contacting: Matthew Kendall, Environmental Program Specialist, Adirondack Park Agency, PO Box 99, Ray Brook, NY 12977; (518)891-4050.

APPENDIX F

PUBLIC HEARING SUMMARY

On December 20, 2018, a public hearing was held at the Westport Town Hall. Adirondack Park Agency staff member Matthew Kendall explained the propose map amendment and the Agency review process. Prior to accepting formal comments for the record, Mr. Kendall invited audience questions on the proposed map amendment and the Agency's review process.

Several questions asked if the Agency would have authority to review projects that may occur in the map amendment area if the proposed map amendment were approved.

Mr. Kendall explained the Agency is reviewing a map change only and is not reviewing a specific project, so we cannot determine if the APA would have jurisdiction to review a future project. Mr. Kendall then summarized the Agency's jurisdiction in Hamlet areas.

Someone asked whether the agency would review architectural design of a project.

Mr. Kendall explained that map amendment approvals do not contain any specific conditions.

Someone asked about the character of a stream, referring to a proposed boundary.

Mr. Kendall explained that the stream appears to be intermittent and is not classified by the NYS DEC.

Someone asked why the proposed boundary includes wetlands in a potential Hamlet area.

Mr. Kendall explained that land use area boundaries attempt to delineate larger areas of similar character and that wetlands do occur in Hamlet areas.

Someone asked about who would review a specific project in the map amendment area.

Mr. Kendall explained that depending on what is proposed, the Town would likely review a project and the Agency, DEC, or other may have review authority.

A question was asked if there was anything that stood out that would preclude the approval of the proposed changes.

Mr. Kendall said that the Agency board will ultimately make that decision.

A comment was made that this area was part of a larger hamlet expansion plan developed years ago, and the problem of extending sewer and Hamlet was contemplated. A question was then asked if the Agency would guarantee approval of a Hamlet expansion of water and sewer service was expanded.

Mr. Kendall explained that the concept of a Hamlet expansion contingent on sewer expansion is one solution developed to deal with this problem. This process allows for a review prior to sewer expansion and defers a final decision until the Agency can consider the area to be served by sewer.

Observing that there were no further questions, Mr. Kendall invited members of the public to make a comment for the record.

Someone asked about the Agency involvement in projects if the amendment was approved.

Mr. Kendall explained the Agency's jurisdiction in Hamlet areas. Westport Supervisor Michael Taylor explained the proposed projects would be subject to the Town's land use controls and planning board review, and that the Towns land use code is stricter than the Agency. Mr. Kendall explained that the Town has an Approval Local Land Use Program which gives the Town jurisdiction over certain projects that would otherwise be jurisdictional to the Agency. Agency staff member Robyn Burgess explained that the Town has a zoning map that would need to be amended and approved by the Agency if the map amendment was approved.

With no further comments, the hearing was closed.

APPENDIX G

COMMENT LETTERS

RECEIVED
ADIRONDACK PARK AGENCY
DEC 20 2018

Economic Development Committee
Westport Chamber of Commerce
PO Box 394
Westport, NY 12993

December 14, 2018

Adirondack Park Agency
PO Box 99
Ray Brook, NY 12977

We are writing in support of the of the Town of Westport's application to add a portion of the Westport Golf Club's property to the Hamlet of Westport. The application is, in effect, requesting a reclassification of the subject property from Resource Management. Reclassification and its addition to the Hamlet will facilitate the Golf Club's plans to develop this property into a Hotel and Cottages.

In 2014, the Regional Office of Sustainable Tourism (ROOST) identified the region surrounding Westport as lacking medium-priced contemporary lodging. Since then, with the closure of Normandy, lodging in the region has actually been reduced. Thus, we believe there is a real need for this project in Westport. The approval of the application will foster economic development both thru the initial construction activities and then in the long term by supporting tourism in Westport and the adjoining communities. Therefore, it is our opinion approval of the application will provide significant social and economic benefits to the residents and businesses of the region.

Thank you for your thoughtful consideration of our request to approve this application.

Economic Development Committee

Keith Giles, Chair	Deirdre Forcier
Lyn Barrett	Bruce Weir
James Carlisle	Sue Sherman
Tom Smith	Ike Tyler
Chris Maron	Jim Forcier

CC: Town of Westport
22 Champlain Ave
PO Box 465
Westport, NY 12993

Westport Golf Club
47 Country Club Way
Westport NY 12993

Ike Tyler

From: "Anthony Wheeler" <innmail@hotmail.com>
Date: Monday, December 17, 2018 9:42 PM
To: <supervisor@westportny.net>
Subject: Town of Westport Contact Form Submission - for Michael Tyler, Supervisor

Send this message to:

Michael Tyler, Supervisor

Subject

APA meeting 12/20 concerning the country club expansion

Please Enter Your Name

Anthony Wheeler

Address (optional)

The Inn in Westport
1234 Stevenson Rd
New York Westport
United States
Map It

Email

innmail@hotmail.com

Message Text

Ike,

I just read an article on the proposed country club expansion, to include cottages and a hotel. Alexandra and myself won't be in Westport for the scheduled meeting, but I want you to know that we fully support the proposal and hope you get the APA's approval to expand the hamlet.

Feel free to use this endorsement with the APA, if you find it of any value.

Sincerely,

Anthony Wheeler
The Inn in Westport
518 335-1966
innmail@hotmail.com

ADIRONDACK COUNCIL
PRESERVING WATER, AIR AND WILDLANDS

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Ethan Winter

Executive Director
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★★★★ CHARITY NAVIGATOR Four Star Charity

January 7, 2019

Matthew S. Kendall
Adirondack Park Agency
P.O. Box 99
Ray Brook, NY 12977
(Via Electronic Submission)

RE: Draft Supplemental Impact Statement on the Proposed Map Amendment 2018-02 to Reclassify 29 acres in the Town of Westport

Dear Mr. Kendall,

On behalf of the Adirondack Council, I would like to thank you for the opportunity to provide comments on the *Draft Supplemental Impact Statement on the Proposed Map Amendment 2018-02 to Reclassify 29 acres in the Town of Westport*. The Adirondack Council does not oppose the Town's proposal to reclassify 29 acres of Resource Management lands to Hamlet so long as any development in the new Hamlet area is serviced by municipal waste water, and the required process of map amendment approval relative to such infrastructure approval is respected.

As the Council has stated on past map amendment proposals, we support these types of amendments when they uphold the overall intent and integrity of the original Land Use and Development Plan Map classifications, harmonize natural resource protection with meaningful economic and cultural expansion for the surrounding community, and provide measurable net gains for all stakeholders.

In reviewing the Draft Supplemental Impact Statement (DSEIS), as well as attending the December 20, 2018 public hearing, and in a subsequent discussion with the Town Supervisor, it is clear that this proposed map amendment will fulfill a long proposed community growth objective for the Town of Westport. However, the DSEIS captures some legitimate natural resource concerns regarding regional boundaries and the potential impact significantly higher levels of development could have on the area's poorly drained soils if the

the properties included in the land use classification are changed to hamlet without being connected to the municipal sewer system. These important issues need be addressed within the current analysis and amendment process.

In this context, we note on page 29 of the DSEIS that, “the proposed map amendment area would also be inconsistent with the Appendix Q-8, given the potential for impacts to groundwater resources due to the lack of an existing public sewer system to serve the requested map amendment area if it became Hamlet.” Given the unsuitability of the area’s soils for on-site septic and the lack of existing sewer infrastructure within the area, these concerns need to be addressed and resolved, either by the Town or the co-applicant, as a component of this amendment process.

Respecting the intent and design of the original Land Use and Development Plan Map is important to maintaining the balance between public and private lands and the unique interface that exists between these lands in the Adirondacks. While technological changes have shifted our ability to analyze and interpret critical elements of the original map, the Council does not believe that map amendments should become routine or be seen as an avenue to seek wholesale changes, particularly with respect to sensitive Resource Management lands. However, we do respect the community planning process and believe that when integrated into a comprehensive planning strategy, smart and well-designed map amendments can serve a vital role in developing and sustaining the economic health and civil fabric of our Adirondack communities.

In closing, the Adirondack Council does not oppose this proposed map amendment. However, given that the proposed Hamlet expansion could allow for greater building densities in an area with sensitive soil characteristics, it is important the Agency adhere to the map amendment criteria and review process. In reviewing this amendment, the Agency needs to account for the poor soils and how to best connect this expanded Hamlet zone to the Town’s municipal sewer system to ensure natural resource protection and compliance with the map amendment review process. Thank you for reviewing our comments and we look forward to your response.

Sincerely,



Jackie Bowen
Conservation Associate

APPENDIX H

FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FILE LIST

Michael Tyler
Town of Westport Supervisor
PO Box 465
Westport, NY 12993

George Hainer
Building Codes/Zoning Officer
22 Champlain Ave.
PO Box 465
Westport, NY 12993

Robert Hall
Managing Member
49 Country Club Way
Westport, NY 12993

Gerald Delaney Sr.
LGRB Executive Director
326 Downs Road
Cadyville, NY 12918

Adirondack Park Agency
1133 NYS Route 89
Ray Brook, NY 12977