
Feasibility Study Report

Draft

Findley Lake and Peek'n Peak Sanitary Sewer Feasibility Assessment

Prepared for

Chautauqua County

3 North Erie Street
Mayville, New York

Village of Sherman

111 Mill Street, P.O. Box 629
Sherman, New York

December 2019

Barton & Loguidice

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Executive Summary

In January 2019, B&L finalized the *Regional Wastewater Treatment Plant Alternative Preliminary Engineering Report* that evaluated the feasibility and costs for constructing a “regional” sanitary sewer system that would benefit the Village of Sherman and parcels in the Town of Mina surrounding Findley Lake. During this study, County representatives had discussions with the nearby Peek'n Peak Ski resort, located in the Town of French Creek, and believe Peek'n Peak may be interested in becoming a part of a municipal sewer system. Currently Peek'n Peak owns and operates a private sanitary sewer system and wastewater treatment plant that may be approaching the end of its useful service life and may not have additional capacity for future development in the area. However, since the regional report was completed, the Village of Sherman out of necessity, has elected to proceed with the improvements summarized in the August 2018 *Comprehensive Sewer Assessment Study Preliminary Engineering Report* and not wait for the regional planning effort to come to fruition.

Chautauqua County, through the Village of Sherman, has now retained B&L to perform a feasibility study of the following improvement alternatives which involve the Town of Mina and the nearby Peek'n Peak private sanitary sewer system located in the Town of French Creek.

- Alternative 1: A Town of Mina (Findley Lake) Sewer District with Treatment provided at a Mina WWTP located just north of I-86
- Alternative 2: A Town of French Creek (Peek'n Peak) Sewer District with Treatment provided by upgrading the existing Peek'n Peak WWTP
- Alternative 3a: A regional Town of Mina (Findley Lake) and Town of French Creek (Peek'n Peak) Sewer District with Treatment provided at a Mina WWTP
- Alternative 3b: A regional Town of Mina (Findley Lake) and Town of French Creek (Peek'n Peak) Sewer District with Treatment provided at a French Creek WWTP

The purpose of this Feasibility Study is to further review potential regional WWTP projects provide a high level evaluation which could serve as the basis on which a decision could be made to complete a more detailed engineering evaluation.

Abbreviations

BOD ₅	Biochemical Oxygen Demand (5-day)
C	Celsius
cfs	Cubic feet per second
CWSRF	Clean Water State Revolving Fund
DEC	New York State Department of Environmental Conservation
DMR	Discharge Monitoring Report
DO	Dissolved oxygen
EDU	Equivalent Dwelling Unit
EFC	New York State Environmental Facilities Corporation
EPA	United States Environmental Protection Agency
F	Fahrenheit
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
gpd	Gallons per day
gpm	Gallons per minute
MHI	Median Household Income
MGD	Million gallons per day
MLSS	Mixed liquor suspended solids
P	Phosphorus
PER	Preliminary Engineering Report
ppm	parts per million
psig	Pounds per square inch (gauge)

Abbreviations (Continued)

SBR	Sequencing Batch Reactor
scfm	Standard cubic feet per minute (68 degrees F and 1 atmosphere)
SEQR	State Environmental Quality Review
SPDES	State Pollutant Discharge Elimination System
SRT	Solids retention time
SVI	Sludge volume index
SWPPP	Storm Water Pollution Prevention Plan
TDH	Total dynamic head
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
TSS	Total suspended solids
USFWS	United States Fish and Wildlife Service
WLA	Waste Load Allocation
WWTP	Wastewater treatment plant

1.0 Introduction

1.1 Authorization

The Village of Sherman retained the services of Barton & Loguidice, D.P.C. (B&L) on June 20, 2019 to prepare a *Feasibility Study Report* for providing a “high level” evaluation of a “regional” sanitary sewer project that would serve the Findley Lake and Peek’n Peak service areas within the Towns of Mina and French Creek, respectively. Once completed, the report would serve as the basis on which a decision could be made to complete a more detailed engineering evaluation in the form of an agency approvable Preliminary Engineering Report (PER). The Village of Sherman is being reimbursed by Chautauqua County for the engineering services associated with preparing this Feasibility Study.

1.2 Background

Findley Lake, located in the Town of Mina, is a manmade lake created in the early 1800s through the construction of a dam. Today, the lake has a densely developed lakeshore and is a popular recreational activity destination. According to a USEPA/NYSDEC Report on the Total Maximum Daily Load (TMDL) for Phosphorus in Findley Lake, the lake is considered an “impaired” waterbody and water quality has significantly degraded in Findley Lake largely as a result of inadequate onsite wastewater treatment systems that year-round and seasonal lakeside properties utilize for treatment of sanitary waste.

In 2017, the Town of Mina attempted to form a sewer district around Findley Lake and retained Greenman-Pedersen, Inc. to prepare the January 2017 *Findley Lake Sewerage Project Sewer District Formation Map, Plan and Report (2017 MPR)*. The 2017 MPR evaluated various sewage collection systems around Findley Lake and within the hamlet area north of the lake. The 2017 MPR recommended that a low-pressure grinder pump collection system be installed to service lakefront areas, as well as roadway corridors more remote to the lake. The report provided a concept level evaluation of wastewater treatment needs and goals, and recommended that a new treatment plant be constructed adjacent to French Creek just north of Interstate I-86. The estimated total project cost for the proposed project was \$15,000,000, in addition to an annual operation, maintenance, and reserve expense of \$245,000 per year for the proposed Town sewer district. The Mina Town Board brought the proposed project plan to a mandatory referendum vote of the proposed sewer district, which failed by a slim margin in 2017.

Recognizing that the Town sewer district vote failed by a slim margin, and the long-term water quality improvements that could be achieved by implementing a public sewer system around Findley Lake, Chautauqua County officials began to meet with the Town of Mina to brainstorm potential solutions for planning and implementing a public sewer system around Findley Lake. In recent months, Town of Mina and Chautauqua County officials discussed the concept of implementing a "Regional" WWTP involving the Findley Lake region of Mina and the Peek'n Peak area of French Creek, located roughly -miles south of Findley Lake. This Feasibility Study provides a high level evaluation of "regional" public collection, conveyance, and treatment infrastructure, estimated capital, operation and maintenance costs, a preliminary plan of finance, and suggested steps to proceed.

2.0 Project Background & History

2.1 Site Information

2.1.1 *Location*

The Town of Mina and Town of French Creek are located in the southwestern Chautauqua County, New York. A project location map is include as Figure 1.

2.2 Service Area

2.2.1 *Projected Population of Regional Sewer District*

The population within the planned Findley Lake service area of the Town of Mina and the Peek'n Peak resort and ski area is highly seasonal and can vary substantially dependent on time of year and weather. Table 2-1 below estimates the population during the "peak season" of each respective sewer district and inflates it by 5% for a projected 20-year design population equivalent.

Table 2-1: Regional Sewer District Population Estimate

Municipality/Service Area	Current Est. Population	Est 2039 Population
(T) Mina Sewer District Population	1,920	2,016
(T) French Creek Sewer District Population	950	998
Total	2,870	3,014

2.2.2 *Sanitary Sewer System – Equivalent Dwelling Units (EDUs)*

An equivalent dwelling unit, or EDU, is the unit of measure by which a user is typically charged for sewer service. Based on the potential service area of a regional sanitary sewer system, the EDU estimate for each potential participating municipality is summarized in Table 2-2. As the regional sewer district boundary is refined and an agreed upon EDU schedule is adopted, the estimated EDUs should be reviewed and updated as necessary. Per the request of the Town of Mina, the EDU schedule from the 2017 MPR was used for the Findley Lake area of the Town of Mina.

Table 2-2: Regional Sewer District EDU Estimate

Municipality/Service Area	No. of EDU's
(T) Mina (Findley Lake)	610
(T) French Creek (Peek'n Peak)	262
Estimated Total EDUs	872

2.2.3 Financial Status of Municipalities

Table 2-3 below displays the 2010 Census Median Household Income, the 2015 American Community Survey Median Household, and the Low- to-Moderate income percentage (used for CDBG funding) for the municipalities that may be involved in a regional sewer district. As shown, both municipalities would require a favorable income survey to qualify for the 51% LMI CDBG grant funding threshold.

Table 2-3: Regional Sewer District Municipal Demographics

Place	No. of EDU's	2010 Census MHI	2017 ACS MHI	NYSEFC Hardship Eligible	CDBG LMI %
(T) Mina (Findley Lake)	610	\$46,417	\$46,321	Yes	32.76%
(T) French Creek (Peek'n Peak)	262	\$42,656	\$51,563	Yes	39.17%
Total/Weighted Average	872	\$45,287	\$47,896	--	--

2.2.4 Anticipated Development

Based on discussions with Peek'n Peak, French Creek, Mina, and Chautauqua County regional project representatives, the infrastructure detailed in the report does not account for any significant development within the service area boundaries generally depicted in Figures 2 and 3.

3.0 Existing Facilities

3.1 Description & History

3.1.1 *Findley Lake (Town of Mina)*

The Findley Lake area of the Town of Mina does not have public water or sewer. Properties along Findley Lake utilize privately owned, on-site wastewater treatment systems (OWTS). The small lakeside lot sizes and soil conditions are not conducive to use of OWTSs, and have been identified as a major cause of the degradation of water quality in Findley Lake and the basis for the lake's "impaired" status on the NYSDEC PWL. The need for a municipal sewer project is further discussed in Section 3.2.

3.1.2 *Peek'n Peak (Town of French Creek)*

Peek'n Peak owns and operates a private sanitary sewer system and WWTP under SPDES Permit No. NY0037028. The sanitary sewer infrastructure services the Peek'n Peak ski resort and several townhomes/homes in the Peek'n Peak area (see Figure 2). The Town of French Creek does not have any involvement in managing, owning, or operating the sewer infrastructure.

As part of this study, B&L performed a brief facility assessment of the existing Peek'n Peak WWTP. The following condition assessment and any associated recommendations are solely based on B&L's brief WWTP plant site visit, discussions with the plant operators, and similar past experiences.

3.1.2.1 Collection System and Pumping Stations

B&L did not perform an existing condition assessment of the existing sanitary sewer collection system or associated conveyance pump stations. According to operators, the collection system and pump stations have been appropriately maintained and are in acceptable condition. Operators do not anticipate the need for any near-term collection system or conveyance pumping station rehabilitation work. Operators did mention that flows from the collection system are influenced by the inflow and infiltration (I/I) of storm/groundwater; however, in recent years I/I impacts have been greatly reduced due to correcting issues discovered through extensive smoke testing.

3.1.2.2 Headworks

The headworks infrastructure consists of a coarse bar screen (approx. 1" openings) set on an angle with several make-shift perforated plates (approx. 1/2" openings) laid on top as shown in the picture. Operators remove headworks screenings manually with a rake and shovel on a daily basis. The headworks screen was reported by operators to collect larger debris, but smaller items and grit generally pass through the screens. Also located in the headworks building was the remnants of a where a comminutor once sat, a parshall flume formally used to measure flow, and several electrical panels which showed signs of corrosion.



Headwork Screening Infrastructure

The plant utilizes an activated sludge process without any primary settling. Therefore, the provided screening provisions are non-compliant with section 92.2 of 10 States Standards that require a screening device of 1/4" or less. Additionally, the disposal of the screenings is very inconvenient and requires the operator to scale a concrete wall which is non-compliant with section 61.129 of 10 States Standards. Lastly the WWTP does not have a grit channel, a gravel trap, or any grit removal provisions which would typically be recommended.

3.1.2.3 WWTP Pump Stations (Influent and Process Return)

The WWTP contains two (2) pump stations of nearly identical construction. The influent pump station is located directly after the headworks facility. The second pump station is a process return pump station that is only used occasionally if the influent pump station experiences an extremely high level, for digester supernatant drawdown, and to drain the aeration tanks. The process return pump station appeared to be in slightly better condition than the influent

pump station; however, both stations were showing signs of age-related deterioration. The majority of the pump station piping and rail system is experiencing corrosion and the valve vaults were completely flooded with



Influent Pump Station



Process Return Pump Station

water. The influent pump station floats are supported from a bar that is set on top of the pump station hatch and prevents the hatch from properly closing.



Influent Flow Meter

3.1.2.4 Influent Flow Meter

Influent flow is measured by a 6-inch magnetic flowmeter located in a CMU meter vault after the influent pump station. The flow meter is not original and was installed to replace the parshall flume meter in the headworks building. The meter vault appeared to be in acceptable condition; however, the influent meter itself was installed on a significant angle which is not typical. The accuracy of the meter in this configuration is may also be reduced if the meter is subject to partial pipe flow. Based on our observations, we anticipate that the 6-inch flow meter is oversized

for the flow range being measured and is not properly configured for maximum accuracy.

3.1.2.5 Secondary Treatment - Aeration Tank

The WWTP utilizes an activated sludge secondary treatment process which consists of two (2) biological aeration tanks, two (2) clarifier settling tanks, and two (2) additional settling tanks all contained in one large concrete basin. After the influent flow meter, sewage is sent through a splitter box and then into one of two 49' (L) x 16.5' (W) x 10.5 (D) aeration tanks. The aeration tanks utilizes coarse bubble diffusers which operators believe are original to the plant.

Overall, the concrete tankage appeared to be in acceptable condition without any major visible surface defects. The surface grating, where installed properly, was in acceptable condition; however, various open sections did not have grating or a protective railing which is a safety hazard. It is suspected the aeration tanks' coarse bubble diffusers have reached the end of their useful lives and are likely not compliant with minimum oxygen delivery requirements per Ten States Standards. Additionally, coarse bubble diffusers are extremely inefficient and the WWTP does not have any dissolved oxygen control.



Concrete Aeration, Clarifier, and Settling Tankage

3.1.2.6 Secondary Treatment - Clarifier and Settling Tanks

From the aeration tank sewage travels through an 8-inch transfer pipe into one of two 24.5' (L) x 8.5' (W) x 10.5 (D) clarifier settling tanks. Foam is skimmed off the top of the clarifier settling tank through a vertical pipe located at the top of water level, while solids settle to the bottom of the unmixed tank. Effluent water is sent over a baffle in the clarifier settling tank and then over a weir and out to disinfection. Sludge is airlifted from the bottom of the tank to the start of the aeration basin as return activated sludge (RAS), or to one of two 6.5' (L) x 16.5' (W) x 10.5 (D) additional settling tanks where solids further settle out and are transferred to the aerobic digesters. Pipe decanters in the additional settling tanks allow operators to decant and thicken the sludge prior to transferring to aerobic digestion.



Surface Foam Drains through Pipe to Aeration

A fair amount of foam was noted floating on the water surface of every tank; however, operators report that this does not cause any effluent issues as long as the pipe skimmers are properly (manually) adjusted. The root cause of the foam is currently unknown, but it may be caused by grease or insufficient sludge wasting among many other things. The foam is concerning because if it does make it over the effluent weir, the plant would likely not be in compliance with their SPDES permit. The secondary clarifiers are not sized in compliance section 72.1 of 10 States Standards which stipulates a minimum side-water depth of 12 feet.

3.1.2.7 Chlorination Building and Effluent Pump Station

Effluent from the clarifier is piped down to the chlorination building and into the wet well of the effluent pump station. The effluent pump station pumps the treated water approximately 4,000 linear feet to its discharge point in French Creek. Seasonal effluent disinfection is provided per the SPDES permit; all chlorination and de-chlorination equipment had been removed for the winter at the time of inspection, but operators report it being in acceptable condition. The effluent pump station also appears and was reported to be in acceptable condition. One of the effluent pumps has been replaced and the second effluent pump is expected to be replaced in the near future. The chlorination and effluent pump station building was observed to be in "poor" condition and is in need of structural/architectural, heating and ventilation repairs.



Effluent Pump Station



Chlorination and Effluent Pump Station Building

3.1.2.8 Aerobic Digestion

Solids are sent from the additional settling tank to the aerobic digester for further treatment and thickening prior to being hauled offsite. Operators decant the digesters manually with a pump and a fire hose back to the process return pump station. The structural condition of the steel digester tanks is unknown but, based on the age of the tanks, rehabilitation may be required. Several sections of grating that cover the digestion tanks were missing or displaced which is a safety hazard. The condition of the existing blower and the diffusers is unknown, but likely to require an upgrade in the near-term. Lastly, the railroad tie retaining wall structure adjacent to the digester tanks would likely require improvement or replacement.



Aerobic Digester



Aerobic Digester

3.1.2.9 Control and Blower Building

The Control and Blower Building houses the WWTP lab/office, restroom, and blowers. Overall, the building appeared to be in acceptable condition and is not anticipated to require any major improvements. The three (3) blowers are believed to be original to the 1987 upgrade and should be replaced in the near future.



Equalization Tank

3.1.2.10 Equalization Tank

Steel tankage from the original WWTP was converted into an equalization structure during the last plant upgrade. Operators currently have valves adjusted after the influent pump station to regulate how much flow goes to secondary treatment versus how much flow is sent to equalization. Overall, the steel equalization structure appeared to be in acceptable condition.

3.1.2.11 Greenhouse (Formally Sludge Drying Beds)

The WWTP contains a greenhouse building that was formally the site of the plant's sludge drying beds. The sludge drying beds were too small and labor



intensive for the size of the plant and are no longer in use. The Greenhouse building does contain several electrical panels, many of which are showing significant signs of corrosion and in need up upgrade.

3.2 Definition of the Problem

3.2.1 *Findley Lake (Town of Mina)*

Implementing a public sewer system around Findley Lake is a high priority for the USEPA, NYSDEC, Chautauqua County, and the Findley Lake Watershed Foundation. Harmful algal blooms (HABs) regularly occur in Findley Lake, attributed in large part to elevated nutrient levels resulting from failing on-site septic systems within the lake's watershed. Refer to Appendix A for the NYSDEC PWL listing for Findley Lake. When septic systems fail, they release bacteria and oxygen consuming nutrients which can degrade the quality of water, cause excessive algae growth, and render the water unsafe to drink or for recreational (contact) use. A municipal sewer system would reduce the nutrient loading to Findley Lake and is absolutely critical to begin improving the water quality of the lake.

According to the 2008 USEPA/NYSDEC Report on the Total Maximum Daily Load for Phosphorus in Findley Lake, "*Residential on-site septic systems contribute an estimated 425 lbs/yr of phosphorus to Findley Lake, which is about 45% of the total loading to the lake. Residential septic systems contribute dissolved phosphorus to nearby waterbodies due to system malfunctions. Due to the fact that septic systems are a major source of loading in the Findley Lake Watershed, restoration depends on elimination of that source. A systematic approach, such as the formation of a sanitary sewer district and discharge of treated wastewater outside of the watershed, is essential to achieving the load reductions.*"

The three (3) graphics below (taken from the 2008 USEPA/NYSDES Report) clearly summarize the phosphorus loading problem and demonstrate how critical it is to eliminate failing septic systems around Findley Lake.

Figure 7. Estimated Sources of Annual Total Phosphorus Loading to Findley Lake

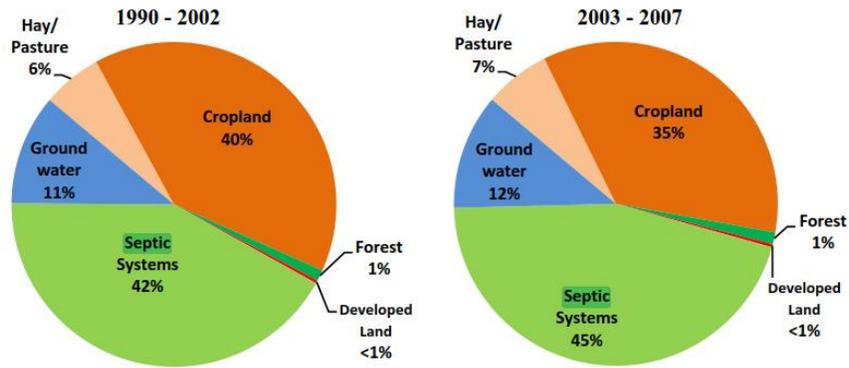
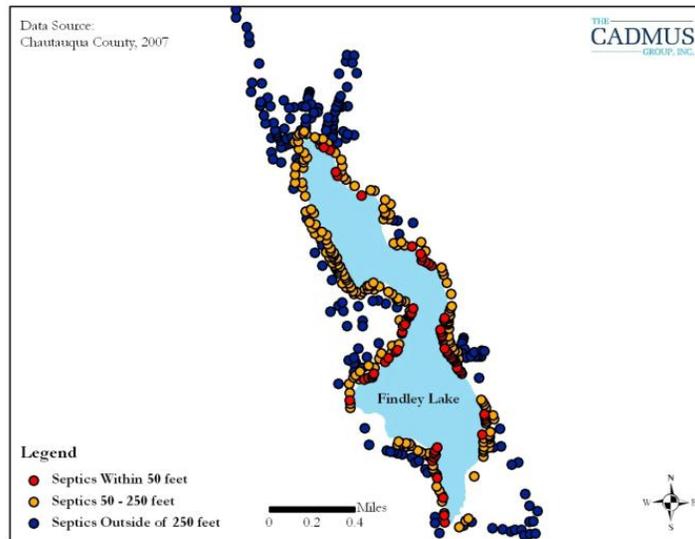


Figure 8. Findley Lake Septic Parcel Distribution



APPENDIX C. TOTAL EQUIVALENT DAILY PHOSPHORUS LOAD ALLOCATIONS

Source	Total Phosphorus Load (lbs/day)			% Reduction
	Current	Allocated	Reduction	
Agriculture*	1.073	0.312	0.761	71%
Developed Land*	0.127	0.077	0.05	39%
Septic Systems	1.162	0.0	1.162	100%
Forest, Wetland, Stream Bank, and Natural Background	0.209	0.209	0.0	0%
LOAD ALLOCATION	2.571	0.598	1.973	77%
Point Sources	0.0	0.0	0.0	0%
WASTELOAD ALLOCATION	0.0	0.0	0.0	0%
LA + WLA	2.571	0.598	1.973	77%
Margin of Safety	---	0.1	---	---
TOTAL	2.571	0.698	---	---

* Includes phosphorus transported through surface runoff and subsurface (groundwater)

3.2.2 Peek'n Peak (Town of French Creek)

The majority of the Peek'n Peak WWTP has been in continuous service for over 30 years with no major unit process or equipment upgrades - many of the plant's assets are approaching or have exceeded their useful design and service lives. Various age related deficiencies have been documented and it is not reasonable to expect the equipment to last another 10 years without significant and continued investment in maintenance and asset replacement or rehabilitation. The current unit process equipment systems and associated piping/valve systems are manually operated and labor intensive, with several components no longer in compliance with today's design and safety standards. Blower motors and coarse bubble aeration systems are energy inefficient and lack automated controls for reducing power demands in proportion to seasonal waste loads. The Peek'n Peak WWTP will require several improvements in order to ensure consistent compliance with current effluent SPDES permit limitations.

3.3 Permit Conditions & Effluent Discharge Limits

3.3.1 Findley Lake (Town of Mina)

The Town of Mina does not currently own or operate a municipal sanitary sewer system, and therefore has no SPDES permit in place.

3.3.2 Peek'n Peak (Town of French Creek)

The Peek'n Peak WWTP operates under SPDES permit number NY0037028 with a single Outfall 001 to French Creek located south of the WWTP. Under this study, two (2) potential treatment plant locations were considered for the "regional" WWTP

alternative; one located in the vicinity of the existing Peek'n Peak WWTP, and the second in the Town of Mina just north of I-86 discharging to the West Branch of French Creek. The NYSDEC was contacted to identify future discharge permit limits for both potential WWTP locations; the DEC's response is attached as Appendix B.

3.4 Proposed Design Flows and Loads

The existing WWTP influent data, population trends, and potential growth over the next 20 years were used to develop the design flows and loads summarized in Table 3-1 and detailed in Appendix C.

Table 3-1: Projected 2038 Design Flows and Loads

	Findley Lake	Peek'n Peak	Regional Combined
Population of District/Service Area	2,016	998	3,013
Avg. Day Flow (GPD)	151,176	99,750	250,926
Max Day Flow (GPD)	302,353	283,500	585,853
Peak Hrly. Flow Rate (GPM)	378	264	642
BOD5 (lb/day)	443	170	613
TSS (lb/day)	504	200	703
Nitrogen as Ammonia (lb/day)	32	21	52
Phosphorus (lb/day)	10	7	17

4.0 Alternative Analysis

Four alternative sanitary collection/treatment system configurations were evaluated under this report to determine the feasibility and affordability of both individual Town systems and a Regional WWTP that would accept sanitary waste from the Findley Lake area in Mina and the Peek'n Peak area in French Creek. Specifically, this section evaluates the following systems:

- Alternative No. 1: Town of Mina (Findley Lake) Sewer District with Treatment provided at a Mina WWTP located just north of I-86
- Alternative No. 2: Town of French Creek (Peek'n Peak) with Treatment provided by an upgraded Peek'n Peak WWTP
- Alternative No. 3A: Town of French Creek (Peek'n Peak) and Findley Lake Sewer District with Regional Treatment provided at a Mina WWTP located just north of I-86
- Alternative No. 3B: Town of French Creek (Peek'n Peak) and Findley Lake Sewer District with Regional Treatment provided at a French Creek WWTP located near Peek'n Peak

4.1 Alternative No. 1 – Findley Lake Sewer District

This alternative is substantially similar to the project described in the January 2017 *Findley Lake Sewerage Project District Formation Map, Plan and Report* prepared by Greenman-Pedersen, Inc. This alternative describes what improvements and infrastructure would be required to provide municipal sewer service to the Findley Lake area of the Town of Mina.

4.1.1 *Potential Sewer Service Area*

The main objective of a new sewer district in the vicinity of Findley Lake is to improve Findley Lake water quality by removing nutrient loading (i.e., nitrogen and phosphorus) from failing septic systems. For purposes of this study, the 2017 Findley Lake Sewer District Map, Plan, and Report (2017 MPR) sewer district boundary was used as the service area. It should be noted that larger parcels more remote to the Lake or its tributaries, and therefore less likely of impacting the lake's water quality, could be removed from the service area to reduce capital costs for extending low-pressure collection mains to these areas. The EDU list from the original 2017 MPR is included as Appendix D.

4.1.2 *Low-Pressure Sewer System Preliminary Design*

The 2017 MPR recommended that “target” service area parcels utilize a low-pressure grinder pump sewage collection system to collect and convey sanitary sewage around Findley Lake. Based on the Findley Lake area layout, topography, and previous engineering evaluations, a low-pressure sewer collection system is recommended as the most cost effective sewer collection system versus a conventional gravity system with intermediate pumping stations. An updated preliminary layout of a low-pressure sewer system around the entire perimeter of Findley Lake was completed for this report. Figure 3 depicts the low-pressure sewer system layout and required low-pressure sewer piping sizes. One intermediate pump station is projected to be required to reduce head pressure on grinder pumps near the far end of the system. Pipe sizes are based on use of Environment One Corporation (E-One) grinder pumps and a Preliminary Design Analysis prepared in coordination with E-One engineers.

4.1.3 *Odor Control*

Long residence times and anaerobic conditions in low-pressure sewer collection/conveyance systems will lead to generation of hydrogen sulfide gas. In addition to omitting a foul odor, hydrogen sulfide gas is toxic and highly corrosive to concrete and ferrous metal equipment and infrastructure. The low-pressure sewer collection system will cause the production of hydrogen sulfide gas. It should be noted that no odor control provisions were recommended in the 2017 Map, Plan, and Report for the low-pressure collection system around Findley Lake and north to the proposed WWTP site.

Based on the preliminary low-pressure layout, it recommended that two (2) liquid Bioxide® odor control stations be installed in the low-pressure sewer system, one at the intermediate pump station on Ball Diamond Road and the second on Sunny Side Road. A Bioxide® odor control station typically consists of a chemical storage tank and dosing pumps that dose sewage with Bioxide®, a chemical that reacts with and eliminates hydrogen sulfide.

4.1.4 *Wastewater Treatment Plant (WWTP)*

The following infrastructure would likely be required for a treatment plant to service the project area:

4.1.4.1 Headworks

It is assumed that the low-pressure system can be designed to pump directly to the headworks of the plant and that no influent pump station will be required. Headworks and grit removal facilities have been extremely critical to WWTPs in the last 10 years. Disposable hygienic wipes, often marketed as "flushable wipes", have caused WWTPs across the country considerable issues.

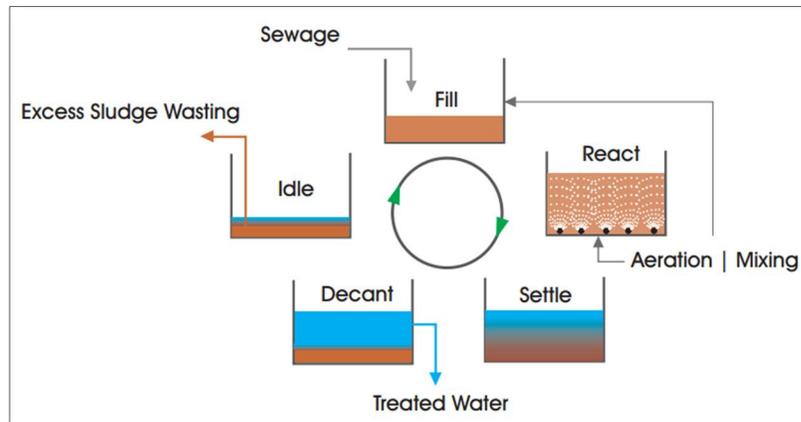
Recommendations for headworks infrastructure would likely include a new Headworks Building (est. 35'x 16' in size) with an automatic, 1/4-inch screen and an accompanying grit removal system. The building would include all necessary control systems for monitoring and control of the new unit process equipment. The building will not be heated and will be a Class 1, Division 1 classified space; therefore, all electrical, HVAC, and control equipment will be designed to operate under these conditions. Prior to entering the Headworks Building, the influent wastewater will be measured with a magnetic flow meter located in a manhole, equipped with a local transmitter and circular chart recorder and/or PLC-based controls in the WWTP's Control Building.

4.1.4.2 WWTP - Sequencing Batch Reactors

There are several biological processes that could be utilized in this WWTP. However, based on the highly seasonal flows and loads and anticipated effluent limits, it is proposed and recommended that a Sequencing Batch Reactor (SBR) biological process be utilized. SBR's are a batch-type, or continuous flow activated sludge treatment process where anoxic mixing, aeration, and final settling are all accomplished in a single aerated treatment basin. The phases of the SBR process include react, settle, draw, and idle, illustrated below.

Within a continuous flow SBR, wastewater is continuously received during all treatment cycle phases. During the react phase, which is alternating aerobic and anoxic, carbon and nitrogen removal occurs. The next phase is settling, followed by decanting of clarified effluent in the draw phase. Sludge is collected

and removed during the idle phase. This treatment technique is useful due to the reduced amount of tankage, pumping and piping of activated solids needed to carry out the treatment processes as compared to conventional activated sludge biological treatment processes. The following is a summary of major components, or assets associated with the SBR treatment process. A single rectangular concrete tank would contain the following:



- One (1) splitter box to distribute preliminary (headworks) effluent flow equally between the two (2) SBR tanks.
- Two (2) parallel SBR tanks equipped with fine bubble diffusion grids, submersible or floating mixer, dissolved oxygen probe(s), and waste sludge pump.
- One (1) effluent equalization tank to minimize the impacts of decanted peak flow rates on downstream infrastructure.
- Two (2) aerobic digester tanks to stabilize the waste.

The proposed SBR tankage would be a common-walled unit containing two (2) SBR tanks. The SBRs would be an intermittent cycle extended aeration system, which would allow continuous inflow of wastewater to the SBR basins and is a variant of the traditional fill and draw, or "batch" SBR system. Influent is received continuously during all phases of the cycle, including settle and decant, which allows the process to be controlled on a time, rather than flow basis, and ensures equal loading and flow to the two (2) SBR basins.

Each SBR basin would be divided into two (2) zones, the pre-react zone and the main react zone, using an intermediate baffle wall with openings. The influent would flow continuously into the pre-react zone and be directed down through orifice openings at the bottom of the baffle wall into the main react zone. The baffle wall functions to "condition" the incoming flow and prevent short circuiting. The proposed SBR diffuser system would utilize full floor membrane disc diffusers utilizing EPDM rubber membranes, or retrievable fine bubble diffuser banks. An aeration blower would be provided and dedicated to each SBR basin with a common standby blower, each equipped with a premium efficiency, VFD-controlled motor modulated by a PLC in response to dissolved oxygen levels within the SBR basin.

Following the treatment cycles in the SBR tanks, secondary effluent would be decanted and sent to an equalization tank prior to effluent disinfection. Each SBR basin would have a plunging weir style decanter that utilizes a VFD to maintain a constant decant rate over the entire decant cycle. The decanter would include a scum exclusion float to prevent carryover of floating material with the treated effluent. At the end of a decant cycle, the decanter would park just above the top water level to serve as an emergency overflow device during peak wet weather conditions or power failure.

4.1.4.3 Tertiary Treatment

Based on the NYSDEC preliminary effluent limits, it is not anticipated that any form of tertiary treatment or filtration will be required.

4.1.4.4 Disinfection

Based on the NYSDEC preliminary effluent limits for fecal coliform, the proposed WWTP will be required to disinfect the secondary effluent wastewater. As described in previous studies, the two (2) most common methods for complying with these requirements would be a liquid chlorination/dechlorination process, or use of ultraviolet (UV) disinfection equipment.

The chlorination/dechlorination process would consist of dosing sodium hypochlorite solution via a flow-paced chemical dosing pump into the plant's effluent to achieve the desired level of disinfection. Per TR-16 standards, which is more stringent than 10 States Standards, the effluent wastewater must be subject to a minimum of a 30 minute chlorine contact period at the peak effluent flow rate. After this is achieved, the effluent would then be dosed with sodium bisulfite via a flow-paced chemical dosing pump to dechlorinate the effluent. Per TR-16 standards, which is again more stringent than 10 States Standards, the effluent wastewater must be subject to a minimum of a two (2) minute dechlorination contact period at the peak flow rate.

UV disinfection typically takes place within a concrete channel that houses banks of UV bulbs and associated equipment. UV systems do not require any bulk chemical storage or chemical feed equipment; however, these systems are more energy intensive than liquid chlorination/de-chlorination and require regular cleaning and periodic replacement of the bulbs.

A chlorination/dechlorination process for smaller systems is generally more cost effective to implement when compared to UV disinfection process using a net present value analysis. However, a net present value analysis does not take into account non-monetary considerations such as:

- UV disinfection eliminates the need to receive, store, handle and dose hazardous chemicals;
- UV disinfection would be a more reliable process in meeting effluent limits, effectively removing the chlorine residual limit from the SPDES permit (the operators would not have to worry about total chlorine residual limits);
- Currently, the DEC does not enforce a limit on sodium bisulfite in the WWTP effluent, but UV disinfection would eliminate this chemical from the effluent wastewater; and
- UV disinfection is more environmentally friendly and a proven technology that is routinely funded by the DEC, EFC, etc.

In addition to the benefits listed above, most municipalities generally prefer UV disinfection and, for that reason and purposes of this report, it will be assumed that UV disinfection would be installed.

4.1.4.5 Post Aeration

Although unknown at this time, it is likely that a new SPDES permit would stipulate a minimum effluent dissolved oxygen (DO) concentration of 7 mg/l or so, which would require post-aeration of treated effluent to increase the DO level. This would typically be completed by constructing a concrete post aeration basin with fine bubble disc diffusers and a dedicated aeration blower such that it can be turned off when post-aeration is not required.

4.1.4.6 Sludge Digestion

It is anticipated that waste sludge will be pumped from the bottom of each SBR tank at the end of each treatment cycle using submersible sludge pumps. Sludge pump sequencing and run times would be automated and operator adjustable via the SBR PLC. Waste sludge would be pumped to one (1) of two (2) rectangular aerobic digester tanks located adjacent to the SBRs. The proposed digester would include an additional 25% of volume to account for supernatant decant within the single digester tank (as opposed to a separate decant tank) per 10 States Standards.

Each aerobic digester would be equipped with a pipe decanter mechanism that would be manually operated by a davit crane and would convey supernatant back to the head of the treatment. Aerobically digested sludge, thickened to roughly 1.5 to 2.5% solids after a period of zero aeration, would be drawn off the bottom of the digester for dewatering and landfill disposal. Each aerobic digester would have an individual blower located in a blower room of the Control Building, and would share a standby blower with SBR tanks.

4.1.4.7 Solids Dewatering and Disposal

It is anticipated that the WWTP would include use of mechanical sludge dewatering as opposed to liquid hauling waste sludge offsite to another nearby plant. For this plant, it could be expected that sludge dewatering equipment

include a belt filter press, screw press, or similar dewatering equipment that can produce cake solids ranging from 15% to 25% solids. The sludge dewatering equipment would be housed inside a heated timber framed, pre-engineered metal building, or similar, and would convey the dewatered sludge outside through the use of a conveyor onto to an adjacent covered sludge drying bed for further dewatering. A drain under the sludge drying bed would convey the sludge filtrate to a filtrate pump station and then back to the head of the WWTP. Sludge from the drying bed would be transported to a landfill for disposal.

4.1.4.8 Plant Outfall

For purposes of this study, it will be assumed that the effluent wastewater will flow by gravity through an outfall pipe and not require an effluent pump station to move the treated effluent to its discharge location in the West Branch of French Creek. If a favorable hydraulic profile cannot be completed, an effluent pump station would then be required to replace the assumed gravity, or head driven outfall.

4.1.4.9 Control Building, Electrical, SCADA and Site/Civil

A control building would be constructed to house electrical distribution equipment, SCADA system, an office/lab space, equipment control panels, and aeration/digestion blowers. An emergency generator capable of running the entire WWTP would be located outside the control building. The entire WWTP would be fenced in and the site would be lit with LED lighting. The site would include driveways and parking areas for vehicular access to the plant.

4.1.5 *Estimated Probable Project Capital Cost*

The estimated probable project capital cost for the Alternative No. 1 collection, conveyance and treatment plant improvements is summarized in Table 4-1. A full itemized cost estimate is included in Appendix E at the conclusion of this report.

Table 4-1: Alt. No. 1 Estimate of Probable Project Cost

Description	Estimated Project Cost
Alternative No. 1 – L-P Collection, Conveyance and New Mina WWTP	\$15,709,000
Construction Contingency (20%)	\$3,143,000
Estimated Engineering/Legal/Administrative Costs (20%)	\$3,143,000
Total Estimated Probable Project Cost	\$21,995,000

4.1.6 Anticipated O&M Cost(s) and Short-Lived Assets

Projected O&M and short-lived asset costs for this alternative are summarized in Table 4-2, and further detailed in Appendix F.

Table 4-2: Alt. No. 1 Annual Operation and Maintenance Cost Estimate

Description	Total
Estimated Annual Operation and Maintenance Cost	\$281,000
Estimated Annual Savings for Short-Lived Assets (SLA)	\$ 50,000
Total Estimated Annual O&M and SLA Cost	\$331,000

4.2 Alternative No. 2 – French Creek (Peek'n Peak) Sewer District

This alternative would only include a Town of French Creek or Peek'n Peak sewer service area. Should the existing sewer service area be expanded to include additional Peek'n Peak development or sewer service to the R&R Campground/French Creek Tavern area of French Creek, upgrading the existing WWTP in its current location is likely the most cost effective alternative. It is envisioned that the existing Peek'n Peak Treatment plant will require the following upgrades in the next 3 -to 5-years based on the condition assessment observations and 10 States Standards design compliance needs. These improvements should be considered as minimum "asset renewal" improvements to extend the useful service life of the existing plant and equipment assets, and to improve operator safety. Further, these suggested improvements will not extend the service life of this plant for another 20-years, and therefore should not be considered as an equal to the new WWTP outlined under Alternative No. 1.

4.2.1 Collection System and Pumping Stations

Based on discussions with the current system and plant operators, no major upgrades would be anticipated in the Peek'n Peak gravity collection and conveyance system other than continued identification/mitigation of excessive I/I sources.

4.2.2 *Headworks*

The following improvements are recommended at the Peek'n Peak headworks facility:

- Demolish the existing parshall flume and comminutor infrastructure
- Demolish abandoned electrical panels and existing corroded panels
- Add surface grating to remove safety hazard of cleaning the screens
- Add a grit/gravel trap prior to screen
- Replace existing screens with a 1/4-inch screen, or smaller
- Power-wash and paint interior surfaces

4.2.3 *WWTP Pump Stations (Influent and Process Return)*

The following improvements are recommended at the Peek'n Peak WWTP influent and process return pump stations:

- Replace existing pumps, check valves, and discharge piping
- Replace wet well floats with ultrasonic level sensors
- Install drain pipe from influent pump station valve vault into wet well. Install a duckbill check valve on drain pipe.

4.2.4 *Influent Flow Meter*

The following improvements are recommended for influent metering at the Peek'n Peak WWTP:

- Remove/replace flow meter and piping and reinstall within a wetted leg at the proper slope (not on angle)

4.2.5 *Secondary Treatment - Aeration Tank*

The following improvements are recommended for the Peek'n Peak aeration tanks:

- Repair or replace surface grating to ensure all basin openings are completely covered
- Replace aeration piping and existing coarse bubble diffusers with retrievable or full floor (fixed) fine bubble diffusers
- Add control valves to drop legs of aeration piping

- Add dissolved oxygen meters to each basin. These meters would be utilized to control blower output.

4.2.6 Secondary Treatment - Clarifier and Settling Tanks

The following improvements are recommended for the Peek'n Peak clarifier and settling tanks:

- Replace both existing rectangular clarifiers with deeper 10 States Standards compliant clarifiers. Install a more effective skimmer system such as a lever-operated scum pipe on top of new clarifiers.

4.2.7 Chlorination Building and Effluent Pump Station

The following improvements are recommended for the Peek'n Peak WWTP chlorination building and effluent pump station:

- Replace existing effluent pumps in-kind
- Add automatic PLC-based control for flow-pacing or residual-based dosing of chlorine
- Add a sampling station downstream of chlorine dosing
- Rehabilitate Building with structural/architectural, HVAC and electrical improvements.

4.2.8 Aerobic Digestion

The following improvements are recommended for the Peek'n Peak WWTP aerobic digesters:

- Replace/Install a grating or a railing over/around uncovered sections of the digester
- Install a permanent sludge transfer pump and piping, or airlift with dedicated blower, to replace drop-in pump unit and fire hose
- Replace blowers and coarse bubble diffusers with full-floor fine-bubble diffusers
- Blast clean and paint/rehabilitate existing digester steel tankage, as necessary
- Upgrade railroad tie retaining wall structure with new pre-engineered concrete wall system

4.2.9 Control and Blower Building

The following improvements are recommended at the Peek'n Peak WWTP control and blower building:

- Replace existing blowers with new positive displacement blower units and integral VFDs
- Add a master control panel that controls blowers and aeration piping control valves based upon dissolved oxygen levels in the aeration tank

4.2.10 Equalization Tank

The following improvements are recommended for the Peek'n Peak WWTP equalization tank:

- Blast clean and paint/rehabilitate existing steel tankage, as necessary
- Add ultrasonic level sensor for level indication

4.2.11 Greenhouse (Formally Sludge Drying Beds)

The following improvements are recommended in the Peek'n Peak WWTP Greenhouse building:

- Replace existing corroded electrical panels and emergency power transfer switch

4.2.12 Estimated Probable Project Capital Cost

The estimated probable project capital cost for the anticipated Alternative No. 2 improvements outlined above is summarized in Table 4-3 below. A full itemized cost estimate is included in Appendix E at the conclusion of this report.

Table 4-3: Alt. No. 2 Estimate of Probable Project Cost

Description	Estimated Project Cost
Alternative 2 – Peek'n Peak WWTP Improvements	\$1,685,000
Construction Contingency (20%)	\$337,000
Estimated Engineering/Legal/Administrative Costs (20%)	\$337,000
Total Estimated Probable Project Cost	\$2,359,000

4.2.13 Anticipated O&M Cost(s) and Short-Lived Assets

Projected O&M and short-lived asset costs for Alternative No. 2 are summarized in Table 4-4 and further detailed in Appendix F.

Table 4-4: Alt. No. 2 Annual Operation and Maintenance Cost Estimate

Description	Total
Estimated Annual Operation and Maintenance Costs	\$175,000
Estimated Annual Savings for Short-Lived Assets (SLA)	\$ 25,000
Total Estimated Annual O&M and SLA Cost	\$200,000

4.3 Alternative No. 3 – French Creek - Mina Sewer District

Alternative No. 3 outlines the infrastructure necessary for implementing a regional sewer project that would include the Findley Lake area of the Town of Mina and the Peek'n Peak area of the Town of French Creek, previously described. The service area of the potential Town of Mina Findley Lake area sewer district would be identical to the service area of Alternative No. 1, but would be expanded to include the existing Peek'n Peak sewer service area. Properties that border conveyance infrastructure between Findley Lake and Peek'n Peak were not considered in the cost estimate or EDU structure, but could easily be added to the regional district as the project progresses.

Alternative No. 3 is being evaluated with two (2) different WWTP locations, including:

Alternative No. 3a: New WWTP located in the Town of Mina near I-86 (similar to Alternative No. 1).

Alternative No. 3b: New WWTP located in the Town of French Creek near Peek'n Peak.

Based on the NYSDEC Preliminary Effluent Limits (contained as Appendix B), each WWTP would be designed to the same effluent standards and nearly identical in size, configuration and treatment technologies/equipment. However, the collection and conveyance infrastructure required under each alternative would be very different since collection systems would convey sanitary waste in opposite directions to the two alternative WWTP sites, further described below.

4.3.1 *Alternative 3a – Sewage Collection and Conveyance to a Mina Regional WWTP*

The Findley Lake sewer service area parcels would still utilize a low-pressure grinder pump sewage collection system to collect and convey sanitary sewage as this would be the most cost effective collection system alternative. However, four (4) larger intermediate pump stations and associated force mains would also be required due to longer conveyance distances to the WWTP.

The first pump station, or Pump Station 1, would be located at the existing Peek'n Peak WWTP. This pump station would effectively replace the existing WWTP and convey sanitary waste from the existing collection system to Pump Station 2 located on NYS Route 426 (Sunny Side Road) just south of the French Creek/Mina town line. Pump Station 2 would convey waste north along the Route 426 corridor on the east side of Findley Lake to Pump Station 3 located at the corner of Station Road and Mann Road in Mina. This third pump station would, in turn, convey sewage directly to the new WWTP proposed to be located just north of I-86. Pump Station 4 would be located at the hotel north of I-86, effectively replacing the hotel's existing pump station and WWTP. It would be designed to accept flows from future development north of I-86 along the Route 426 corridor.

Figure 4 displays a preliminary layout of the low-pressure collection system and intermediate pump station/force main systems required to convey sanitary waste north to the Mina WWTP site. Pipe sizes were based on a Preliminary Design Analysis from Environment One Corporation (E-One) grinder pump system in coordination with intermediate pump station/force main sizing.

4.3.1.1 Odor Control

Once again, due to long residence times and anaerobic conditions in the sewer collection/conveyance systems, odor control provisions are recommended.

Bioxide® or other odor control provisions would be introduced at Pump Stations 2 and 3 located on Route 426 (Sunny Side Road) just south of the French Creek/Mina town line and at the corner of Station Road and Mann Road in Mina, respectively.

4.3.2 *Alternative 3b – Sewage Collection and Conveyance to French Creek Regional WWTP*

Once again, the Findley Lake sewer service area parcels would utilize a low-pressure grinder pump sewage collection system to collect and convey sanitary sewage as this would be the most cost effective collection system alternative. Four (4) larger intermediate pump stations and associated force main systems would also be required under this alternative to convey sanitary waste south from Mina/Findley Lake to Peek'n Peak, essentially reversing the direction of flow described under Alternative No. 3a.

Pump Station 1 would be located at the hotel north of I-86, sized to accommodate sanitary flows/loads from future development north of I-86. This pump station would convey flows to Pump Station 2 located on Route 426 (Sunny Side Road) near the northeast corner of Findley Lake. This pump station would convey sanitary flows to Pump Station 3 that would be located just south of Findley Lake at the corner of Shadyside Road and Sunnyside Road. Pump Station 3 would also accept sanitary waste from the low-pressure collection system serving the west side of Findley Lake, and convey all of the Findley Lake area flows directly to the regional WWTP proposed to be located approximately 3,500 feet south of the existing Peek'n Peak WWTP. Pump Station 4 would be located at the existing Peek'n Peak WWTP and convey sanitary waste from the existing collection system to the PS 3 force main to the new WWTP.

Figure 5 displays a preliminary layout of the low-pressure collection system and intermediate pump station/force main systems required to convey sanitary waste south to the French Creek WWTP site. Pipe sizes were based on a Preliminary Design Analysis from Environment One Corporation (E-One) grinder pump system in coordination with intermediate pump station/force main sizing.

4.3.2.1 Odor Control

Similar to the Alternative No. 3a. conveyance system, Bioxide® or other odor control provisions would be introduced at Pump Stations 2 and 3 located on Route 426 (Sunny Side Road) at the northeast corner of Findley Lake and at the corner of Shadyside Road and Sunnyside Road in Mina, respectively.

4.3.3 Regional Wastewater Treatment Plant (WWTP)

The Regional WWTP serving Alternative Nos. 3a. and 3b. collection/conveyance systems would be designed to the same effluent standards and nearly identical in size, configuration and treatment technologies/equipment. The following infrastructure is envisioned for the Regional WWTP located at either site:

4.3.3.1 Headworks

Pump Stations 3 and 4 would be designed to pump directly to the headworks of the plant; no influent pump station would be required. The headworks and grit removal facilities would be nearly identical to the improvements described in Alternative No.1 (Section 4.1.4.1), but designed for a larger peak hourly flow rate for the Regional service area.

4.3.3.2 Sequencing Batch Reactors

An SBR WWTP, as described in Alternative No.1 (Section 4.1.4.2) but sized for the higher flows and loads, would be recommended for this alternative.

4.3.3.3 Tertiary Treatment

Based on the NYSDEC preliminary effluent limits, it is not anticipated that any form of tertiary treatment or filtration will be required.

4.3.3.4 Disinfection

UV disinfection, as described in Alternative No.1 (Section 4.1.4.4), sized for a similar flow rate following the effluent equalization tank, would also be recommended for this alternative.

4.3.3.5 Post Aeration

It is assumed that a new SPDES permit would stipulate a minimum effluent dissolved oxygen (DO) concentration of 7 mg/l or so, which would require construction of a post-aeration basin with fine bubble disc diffusers and a dedicated aeration blower.

4.3.3.6 Sludge Digestion

Aerobic Digesters, as described in Alternative No.1 (Section 4.1.4.6) but sized for the higher regional flows/loads, would also be recommended for this alternative.

4.3.3.7 Solids Dewatering

Mechanical dewatering, as described in Alternative No.1 (Section 4.1.4.6) but sized for the higher regional flows/loads, would also be recommended for this alternative.

4.3.3.8 Plant Outfall

For purposes of this study, it is assumed that effluent wastewater will flow by gravity, or under head-driven conditions through an outfall pipe to the receiving waterbody, negating the need for an effluent pump station to move the treated effluent to its discharge location under either Alternative 3a or 3b. If a favorable hydraulic profile cannot be designed for gravity effluent flow, then an effluent pump station would be required.

4.3.3.9 Control Building, Electrical, SCADA and Site/Civil

A control building would be constructed to house electrical distribution equipment, SCADA system, an office/lab space, equipment control panels, and aeration/digestion blowers. An emergency generator capable of running the entire WWTP would be located outside the control building. The entire WWTP would be fenced in and the site would be lit with LED lighting. The site would include driveways and parking areas for vehicular access to the plant.

4.3.4 *Estimated Probable Project Capital Cost*

The estimated probable project capital cost for Alternative Nos. 3a and 3b improvements is summarized in Table 4-5 and Table 4-6, respectively. A full itemized cost estimate is included in Appendix E at the conclusion of this report.

Table 4-5: Alt. No. 3a Estimate of Probable Project Cost

Description	Estimated Project Cost
Alternative 3a – Collection, Conveyance PS/FM, and Mina Regional WWTP	\$21,444,000
Construction Contingency (20%)	\$ 4,290,000
Estimated Engineering/Legal/Administrative Costs (20%)	\$ 4,290,000
Total Estimated Probable Project Cost	\$30,024,000

Table 4-6: Alt. No. 3b Estimate of Probable Project Cost

Description	Estimated Project Cost
Alternative 3b – Collection, Conveyance PS/FM, and French Creek Regional WWTP	\$21,325,000
Construction Contingency (20%)	\$ 4,266,000
Estimated Engineering/Legal/Administrative Costs (20%)	\$ 4,266,000
Total Estimated Probable Project Cost	\$29,857,000

4.3.5 Anticipated O&M Cost(s) and Short-Lived Assets

Projected O&M and short-lived asset costs for Alternative Nos. 3a. and 3b. are summarized in Table 4-7 and further detailed in Appendix F.

Table 4-7: Alt. No. 3a/3b Annual Operation and Maintenance Cost Estimate

Description	Total
Estimated Annual Operation and Maintenance Costs	\$375,000
Estimated Annual Savings for Short-Lived Assets (SLA)	\$ 55,000
Total Estimated Annual O&M and SLA Cost	\$430,000

5.0 Summary of Alternatives

5.1 Alternative Summary

5.1.1 *Alternative No. 1: Town of Mina (Findley Lake) Sewer District with New Mina WWTP located just north of I-86*

Similar to the 2017 MPR, this alternative evaluated the new collection and treatment infrastructure required for a Findley Lake Sewer District in the Town of Mina. The following table summarizes the information detailed in Section 4.

Table 5-1: Recommended Improvements – Alternative No. 1

Asset System	Recommended Infrastructure
Conveyance and Collection	Low-Pressure Grinder Pump Collection System
	One (1) Pump Station Located at Holiday Inn Express Hotel WWTP
	One (1) Intermediate Collection System Pump Station
	Two (2) Odor Control Stations
Wastewater Treatment	WWTP Located north of I-86
	Headworks - Influent Screen and Grit Removal
	SBR (Secondary Biological Treatment Process w/ Effluent EQ. Tank)
	UV Disinfection and Post Aeration
	Gravity Sewer Outfall
	Aerobic Digester
	Mechanical Dewatering
Control Building with Emergency Power and SCADA	

5.1.2 *Alternative No. 2: Town of French Creek (Peek'n Peak) Sewer District with Treatment provided at upgraded existing Peek'n Peak WWTP*

This alternative evaluated anticipated near-term asset renewal improvements to be completed at Peek'n Peak's existing WWTP to address process and age-related deficiencies and safety issues to prolong the useful service life of 30-year old assets. The following table summarizes the information detailed in Section 4.

Table 5-2: Recommended Improvements – Alternative No. 2

Asset System	Recommended Improvements
Conveyance and Collection	No Improvements or rehabilitation recommended
Wastewater Treatment	New Headworks Infrastructure
	Influent and Process Return Pump Station Upgrades
	Reinstall Influent Flow Meter
	Aeration Tanks – Grating, Diffusers, and Aeration Piping Upgrades
	New Clarifiers to meet current State design standards
	One new effluent pump, building rehabilitation, and chlorination system upgrades
	Aerobic Digestion – Grating, Diffusers, Aeration Piping, Tankage, and Retaining Wall Structure Upgrades
	New Blowers with VFD's controlled on a MCP
	EQ Tank – Minor rehabilitation, add level sensing equipment
	Replace various Corroded Electrical Equipment

5.1.3 *Alternative No. 3a: Regional Town of Mina (Findley Lake) and Town of French Creek (Peek'n Peak) Sewer District – Mina WWTP*

This alternative evaluated the new collection, conveyance and treatment infrastructure necessary for implementing a joint Town of Mina (Findley Lake) and Town of French Creek (Peek'n Peak) Sewer District with a Regional WWTP located near I-86 in the Town of Mina. The following table summarizes the information detailed in Section 4.

Table 5-3: Recommended Improvements – Alternative No. 3a

Asset System	Recommended Infrastructure
Conveyance and Collection	Low-Pressure Grinder Pump Collection System
	Four sewage pump stations/force main systems
	Odor Control Provisions at two Pump Stations
Regional Wastewater Treatment	Regional WWTP Located north of I-86
	Headworks - Influent Screen and Grit Removal
	SBR (Secondary Biological Treatment Process w/ Effl. EQ)
	UV Disinfection and Post Aeration
	Gravity Outfall
	Aerobic Digester
	Mechanical Dewatering
	Control Building with Emergency Power and SCADA

5.1.4 *Alternative No. 3b: Regional Town of Mina (Findley Lake) and Town of French Creek (Peek'n Peak) Sewer District – French Creek WWTP*

This alternative evaluated the new collection, conveyance and treatment infrastructure necessary for a joint Town of Mina (Findley Lake) and Town of French Creek (Peek'n Peak) Sewer District with a Regional WWTP located near Peek'n Peak in Town of French Creek. The following table summarizes the information detailed in Section 4.

Table 5-4: Recommended Improvements – Alternative No. 3b

Asset System	Recommended Infrastructure
Conveyance and Collection	Low-Pressure Grinder Pump Collection System
	Four sewage pump stations/force main systems
	Odor Control Provisions at two Pump Stations
Wastewater Treatment	WWTP Located near Peek'n Peak
	Headworks - Influent Screen and Grit Removal
	SBR (Secondary Biological Treatment Process w/ Effl. EQ.)
	UV Disinfection and Post Aeration
	Gravity Outfall
	Aerobic Digester
	Mechanical Dewatering
Control Building with Emergency Power and SCADA	

6.0 Alternative Financing Options

6.1 Preliminary Plan to Finance

There are various funding options for municipal WWTP upgrades. Typically, core funding is provided by State and Federal government programs such as the NYS Environmental Facilities Program (EFC) Clean Water State Revolving Fund (CWSRF) or USDA Rural Development (RD), respectively. Both funding programs provide interest subsidies and grant funding to make municipal sewer improvement projects more affordable for the average user. To further reduce the cost of a capital project, additional grants can be applied for through agencies such as:

- Office of Housing and Community Renewal's (HCR) Community Development Block Grant Program;
- NYSDEC Water Quality Improvement Project (WQIP) grant program;
- EFC's Water Infrastructure Improvement Act (WIIA) Grant Program;
- New York State Energy Research & Development Authority (NYSERDA);
- Department of State Local Government Efficiency Grants (DOS LGE);
- EFC's Green Innovation Grant Program (GIGP).

NYSEFC Clean Water State Revolving Fund (CWSRF) Program

Both the Town of Mina and the Town of French Creek currently qualify for hardship financing (0% interest over 30 years) and grant funding (in the form of Principle forgiveness, if offered) through the NYSEFC CWSRF program. Based on the scope and providing sewer service around Findley Lake, both Alternative No. 1 and Alternative No. 3a/3b would likely receive a 30 year 0% interest loan and possibly grant funding under this program. Alternative No. 2 would only be eligible for the CWSRF program if it were to become publically owned and would likely only qualify for a 30 year market rate loan.

Community Development Block Grant (CDBG) Public Infrastructure

The Community Development Block Grant (CDBG) Program is a federally funded program administrated through the NYS Office of Community Renewal and applied to under the CFA process. This program provides grant funding up to \$750,000 or \$1,000,000 (with co-funding) to public utility projects if at least 51% of the project beneficiaries are low- and moderate-income individuals. Based on data obtained from the NYSOCR website, the Town of Mina and the Town

of French Creek's low to moderate income percentage is below 51%; therefore, an income survey would be required to determine if any of the service area would qualify for CDBG grant funding.

NYSEFC Water Infrastructure Improvement Act (WIIA Grant Program)

The NYSEFC administers the WIIA Grant Program which can provide up to 25% grants for Clean Water projects with a maximum grant award of \$5,000,000. The Town of Mina and the Town of French Creek are each eligible to apply for this grant program. Based on the scope and providing sewer service around Findley Lake, both Alternative No. 1 and Alternative No. 3a/3b would qualify for a 25% WIIA grant. Alternative No. 2 would only be eligible to apply for a WIIA grant if it were to become publically owned and even then it would be unlikely to be awarded a grant based on the limited scope and service area.

DOS Local Government Efficiency Program (LGE Grant Program)

The DOS administers the LGE Grant Program which can provide up to 90% grants for implementation projects with a maximum grant of \$400,000. A joint sewer project (as described in Alternative No. 3a/3b) would be a solid candidate to jointly apply for this grant program.

NYSDEC Water Quality Improvement Project (WQIP Grant Program)

The NYSDEC WQIP program provides grant funding for wastewater treatment plant improvement projects that directly implement improvements to address documented water quality impairments. A single project can receive up to \$10,000,000 of funding. This program requires a grant match of 25% or 60% depending on the priority of the project. Based on the scope and providing sewer service around Findley Lake (an "Impaired" waterbody), both Alternative No. 1 and Alternative No. 3a/3b would likely receive a WQIP grant and be considered a "high priority" project. Alternative No. 2 would only be eligible to apply for a WQIP grant if it were to become publically owned and even then it would be unlikely to be awarded a grant since it would not directly benefit an impaired waterbody.

6.2 Preliminary Plan of Finance

Sizeable grant funding packages with reduced interest rates are absolutely critical for planning and implementing a major public sewer system project similar to the joint project contemplated herein. The table below summarizes likely funding sources for each alternative project outlined in Section 5.

Project Alternative	Potential Funding Sources/Plan of Finance
Alternative No. 1 – Findley Lake Sewer District	CWSRF Hardship Loan (0%, 30 year) NYSEFC WIIA Grant NYSDEC WQIP Grant
Alternative No. 2 – Peek'n Peak WWTP Improvements	Private Financing (Est. 4.5% for 20 year loan) *Assumption: The WWTP will remain under private ownership
Alternative No. 3a/3b – Mina/French Creek Joint District with Regional WWTP	CWSRF Hardship Loan (0%, 30 year) NYSEFC WIIA Grant NYSDEC WQIP Grant Possible NYDOS LGE Grant or Other Shared Services Grant Sources

6.3 Alternative No. 3 Cost Sharing

The annual debt service cost per user for Alternative No. 3a and No. 3b would be dependent on how the involved parties (Town of Mina, Town of French Creek, Peek'n Peak, and Chautauqua County) decided to share the project costs. Based on meetings with the involved parties and for purposes of this report, we have assumed the following potential cost sharing method could be used.

Project Area	Cost Type	Responsibility
Findley Lake Low Pressure Collection System and new Conveyance Piping	Capital Debt and O&M	(T) Mina
Existing Peek'n Peak Sewage Collection System	Capital Debt and O&M	(T) French Creek (Peek'n Peak)
Wastewater Treatment Plant Improvements and Shared Sewage Pump Stations/Force Mains	Capital Debt and O&M	(T) Mina and (T) French Creek (Peek'n Peak) proportionately share based on EDU's

It should be noted that the cost sharing method displayed has not been agreed upon and is shown for informational purposes only. It would be anticipated the existing Peek'n Peak infrastructure would become publically owned and operated.

6.4 Annual User Cost Estimate

The tables below summarize estimated annual capital debt and O&M costs for each project alternative under an assumed funding scenario. It is recommended that the County and project stakeholders hold a Project Development meeting involving potential funding agencies, including NYSDEC and NYSEFC, to validate the reality of all funding scenarios. These tables should be refined and finalized in the future engineering evaluations after an EDU schedule is finalized, a cost sharing method is finalized, and potential funding scenarios are vetted with the involved funding agencies. Preliminary financing calculations in support of this table are included in Appendix G.

Table 6-1: Estimated Annual Costs for Alternative No. 1 - Findley Lake Sewer District

Scenario No.	Interest Rate and Loan Term	\$ Grant	Annualized Project Cost	Annualized O&M and SLA Costs	Estimated Annual Cost Per EDU
1	0% Interest, 30 year Loan	\$9,248,750	\$424,875	\$331,000	\$1,285
2	0% Interest, 30 year Loan	\$12,998,750	\$299,875	\$331,000	\$1,081
3	0% Interest, 30 year Loan	\$7,373,750	\$487,375	\$331,000	\$1,388

Table 6-2: Estimated Annual Costs for Alternative No. 2 - Findley Lake Sewer District

Scenario No.	Interest Rate and Loan Term	% Grant	Annualized Project Cost	Annualized O&M and SLA Costs	Estimated Annual Cost Per EDU
1	4.5% Interest, 20 year Loan	\$0	\$181,351	\$200,000	\$1,456

Table 6-3: Estimated Annual Costs for Alternative No. 3 – Joint Mina and French Creek Sewer District

Scenario No.	Interest Rate and Loan Term	\$ Grant	Annualized Project Cost	Annualized O&M and SLA Costs	Estimated Annual Cost Per EDU
1	0% Interest, 30 year Loan	\$10,000,000	\$666,667	\$430,000	Mina - \$1,529 French Creek - \$733
2	0% Interest, 30 year Loan	\$15,000,000	\$500,000	\$430,000	Mina - \$1,292 French Creek - \$648
3	0% Interest, 30 year Loan	\$7,500,000	\$750,000	\$430,000	Mina - \$1,647 French Creek - \$776

NOTE:

1. Estimated Annual Cost per EDU is subject to change dependent on the agreed upon cost sharing method.
2. Alternative 3a and 3b will be very similar in costs.

7.0 Suggested Next Steps

The suggested next steps would be to discuss each alternative with the municipal stakeholders and funding agencies to determine the willingness/feasibility of moving forward. Once an alternative is selected, typical next steps would include the following:

- Revise the Feasibility Study to comply with NYSEFC Preliminary Engineering Report and NYS Town Law Map, Plan, and Report requirements
- Obtain Report Approval from NYSDEC, NYSEFC, and other applicable funding agencies
- State Environmental Quality Review Act (SEQRA)
- District Formation (per NYS Town Law Article 12 or Article 12 A)
- Develop/Execute Joint Project IMA
- Bond Resolution
- Finalize Project Funding Package
- Secure Short-Term Financing
- Design
- Construction
- Start-Up
- Close on Long-Term Financing

8.0 Conclusion

Results from this feasibility can be summarized as follows:

- *Alternative 1: A Town of Mina (Findley Lake) Sewer District with Treatment provided at a Mina WWTP located just north of I-86*
 - Project Capital Cost: \$21,995,000
 - Yearly Projected O&M Cost: \$331,000
 - Estimated Total Cost Per EDU (O&M and Debt)
 - § \$9,248,750 Grant, 30 Year Loan @ 0%: \$1,285
 - § \$12,998,750 Grant, 30 Year Loan @ 0%: \$1,081
 - § \$7,373,750 Grant, 30 Year Loan @ 0%: \$1,388

- *Alternative 2: A Town of French Creek (Peek'n Peak) Sewer District with Treatment provided by upgrading the existing Peek'n Peak WWTP*
 - Project Capital Cost: \$2,359,000
 - Yearly Projected O&M Cost: \$200,000
 - Estimated Total Cost Per EDU (O&M and Debt):
 - § 20 Year Loan @ 4.5%: \$1,456

- *Alternative 3: A regional Town of Mina (Findley Lake) and Town of French Creek (Peek'n Peak) Sewer District*
 - Project Capital Cost: \$30,000,000
 - Yearly Projected O&M Cost: \$430,000
 - Estimated Total Cost Per EDU (O&M and Debt)
 - § Depends on Cost Sharing

Figures

Figure 1 – Project Location Map

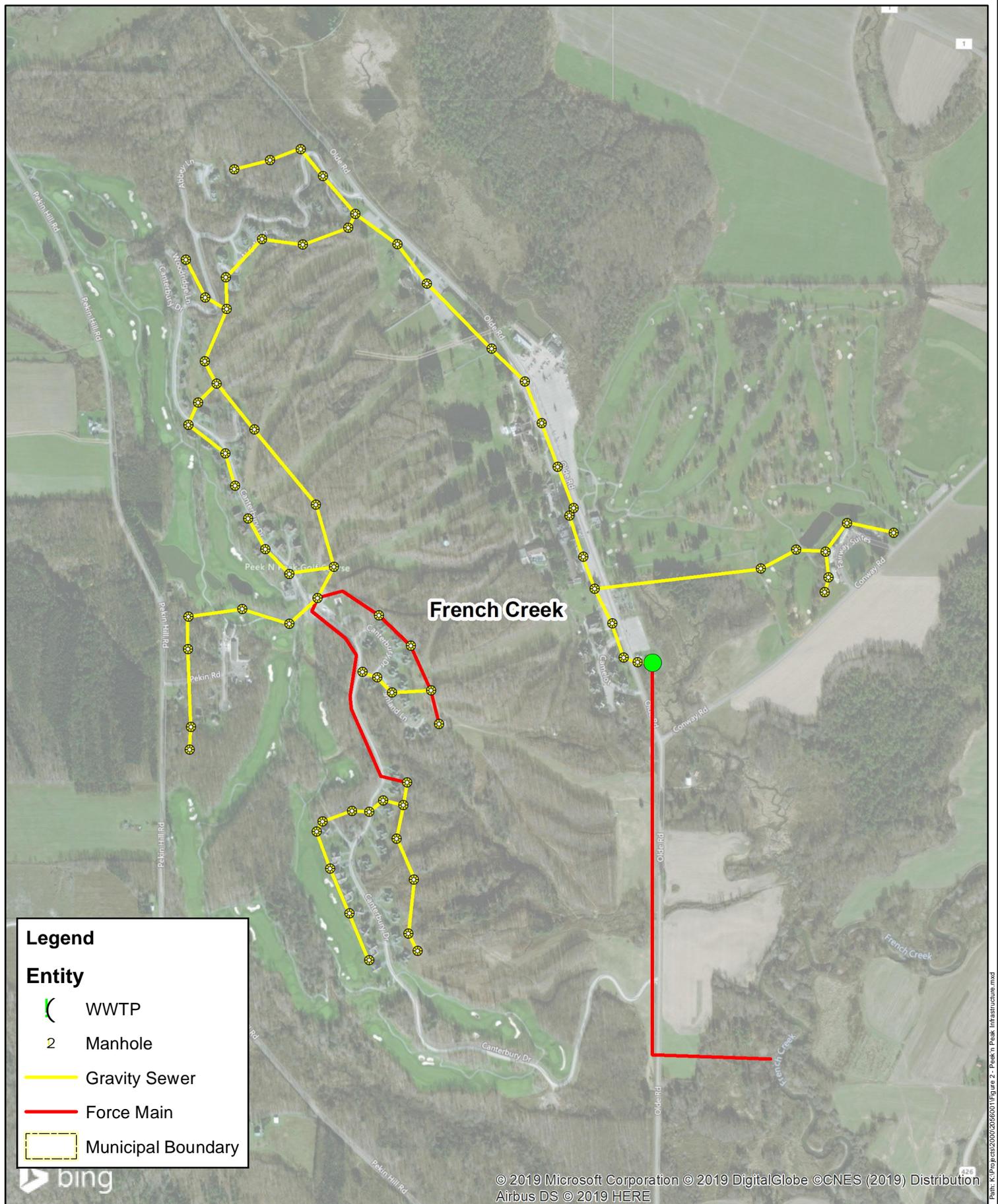


Legend

 Municipal Boundary



Figure 2 – Peek'n Peak Existing Sewer Infrastructure



Legend

Entity

-  WWTP
-  2 Manhole
-  Gravity Sewer
-  Force Main
-  Municipal Boundary



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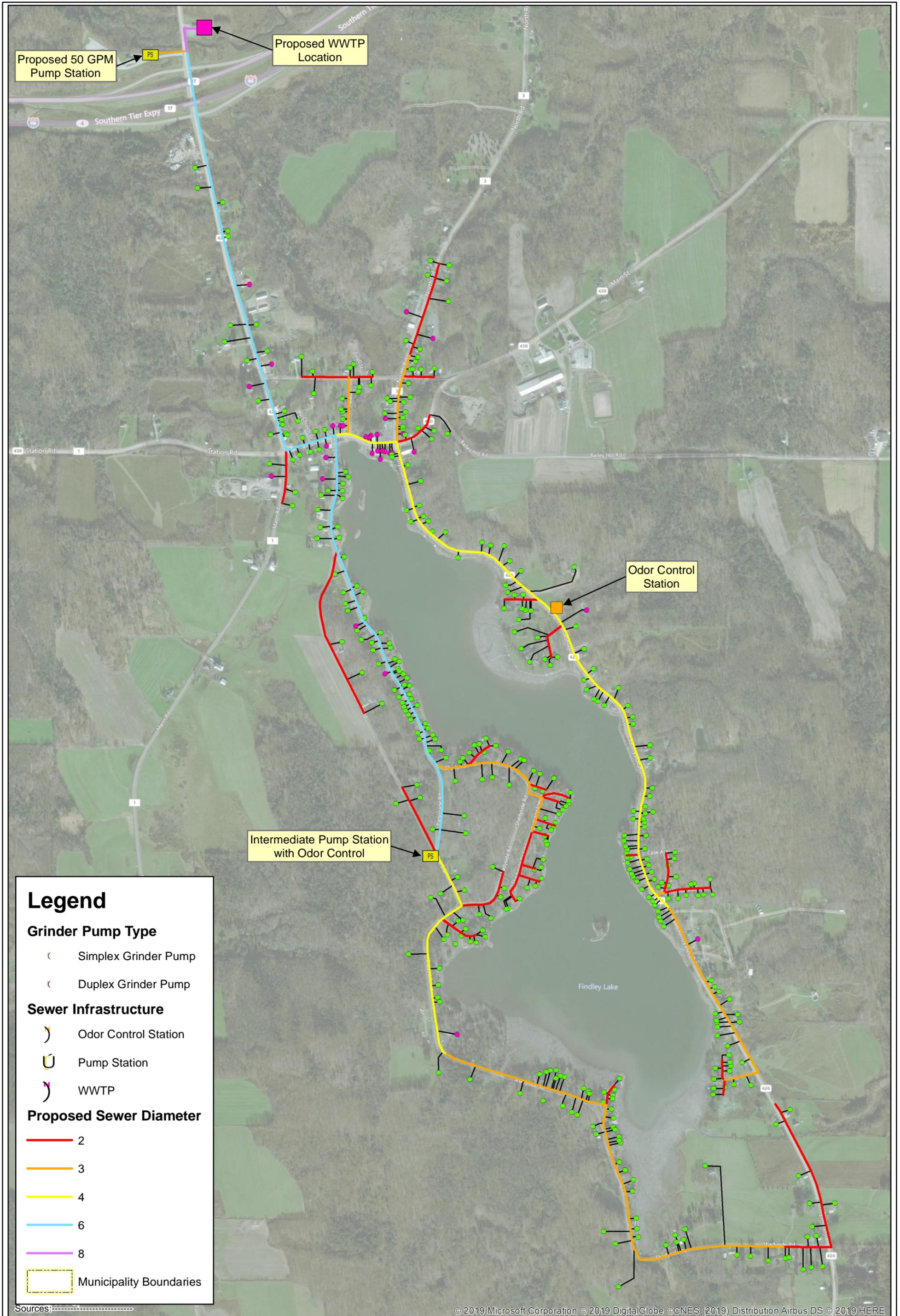
μ
1 inch = 1,000 feet

Chautauqua County
Peek'n Peak
Existing Sewer Infrastructure
Chautauqua County December 2019 New York

Figure
2
Project No.
2056.001

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Figure 3 – Alternative 1 – Findley Lake Sewer District



Proposed 50 GPM Pump Station

Proposed WWTP Location

Odor Control Station

Intermediate Pump Station with Odor Control

Legend

Grinder Pump Type

- () Simplex Grinder Pump
- () Duplex Grinder Pump

Sewer Infrastructure

-) Odor Control Station
- U Pump Station
-) WWTP

Proposed Sewer Diameter

- 2
- 3
- 4
- 6
- 8

▭ Municipality Boundaries

Sources:

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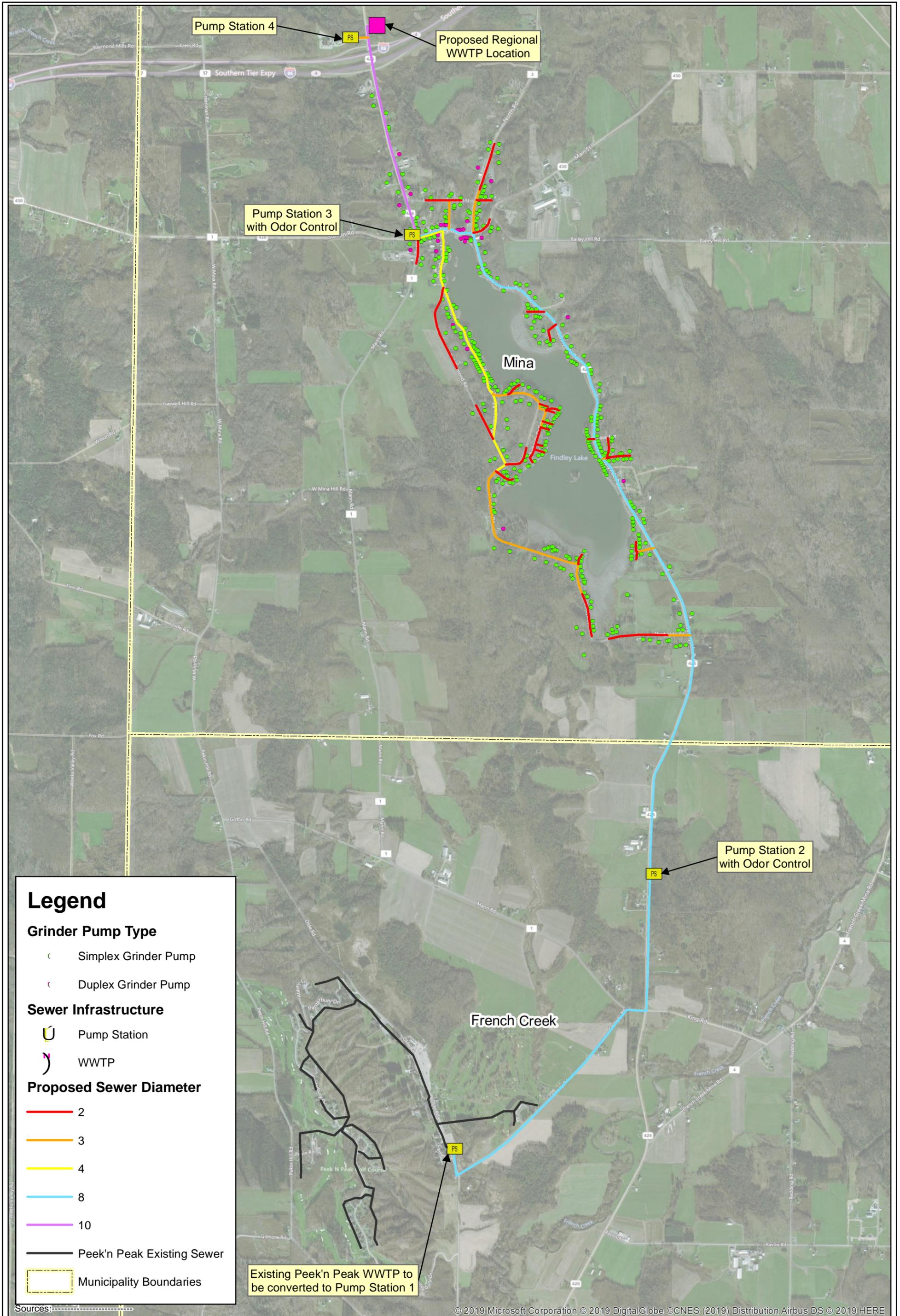
1 inch = 1,000 feet

Chautauqua County
 Alternative 1 - Findley Lake
 Sewer District Preliminary Layout
 Chautauqua County
 12/19/2019
 New York

Figure
 3
 Project No.
 2056.001

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Figure 4 – Alternative 3a – Joint District with Mina Treatment



Legend

Grinder Pump Type

- Simplex Grinder Pump
- Duplex Grinder Pump

Sewer Infrastructure

- Pump Station
- WWTP

Proposed Sewer Diameter

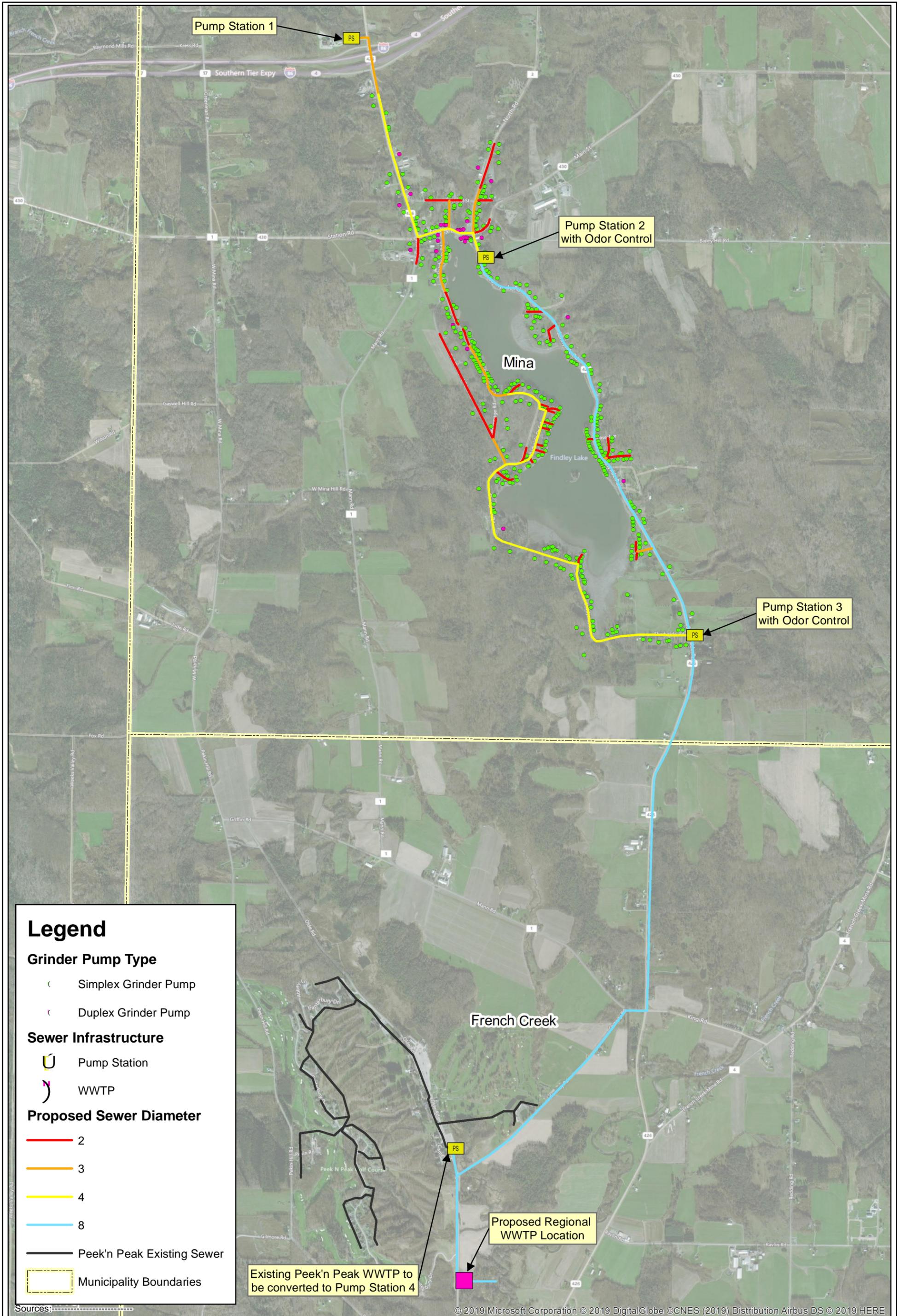
- 2
- 3
- 4
- 8
- 10

Peek'n Peak Existing Sewer

Municipality Boundaries

Existing Peek'n Peak WWTP to be converted to Pump Station 1

Figure 5 – Alternative 3b – Joint District with French Creek Treatment



Existing Peek'n Peak WWTP to be converted to Pump Station 4

Proposed Regional WWTP Location

Legend

Grinder Pump Type

- (C) Simplex Grinder Pump
- (C) Duplex Grinder Pump

Sewer Infrastructure

- (U) Pump Station
- (C) WWTP

Proposed Sewer Diameter

- 2
- 3
- 4
- 8

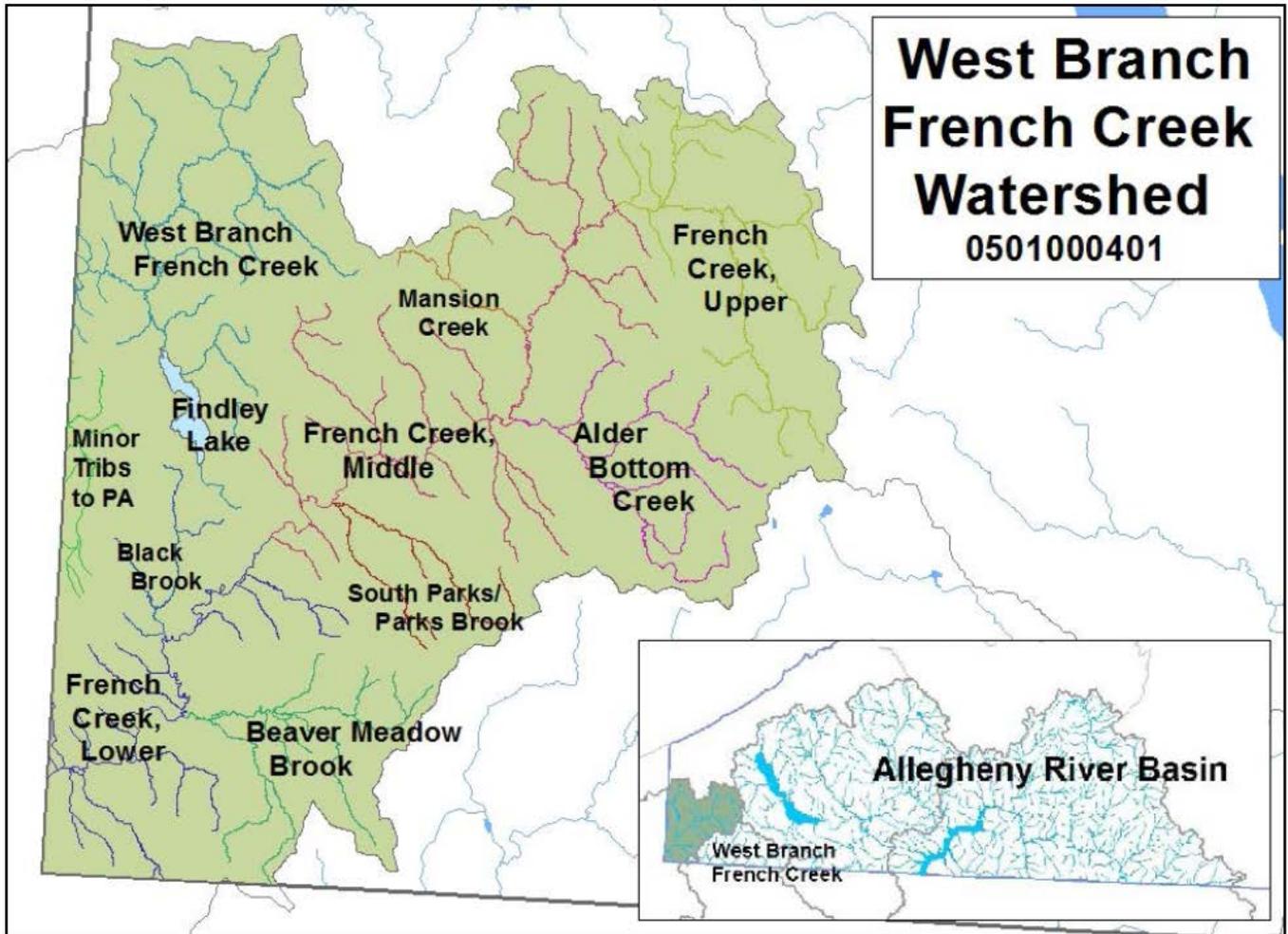
— Peek'n Peak Existing Sewer

▭ Municipality Boundaries

Appendices

Appendix A

NYSDEC Priority Waterbody Listing of Findley Lake



West Branch French Creek Watershed (0501000401)

Water Index Number	Waterbody Segment	Category
Pa-81	French Creek, Lower, and minor tribs (0202-0015)	Minor Impacts
Pa-81	French Creek, Middle, and minor tribs (0202-0063)	Minor Impacts
Pa-81	French Creek, Upper, and tribs (0202-0064)	UnAssessed
Pa-81- 7	Beaver Meadow Brook and tribs (0202-0065)	UnAssessed
Pa-81-10	Black Brook and tribs (0202-0066)	Need Verification
Pa-81-16,17	South Parks/Parks Brook, and tribs (0202-0067)	UnAssessed
Pa-81-25	Alder Bottom Creek and tribs (0202-0068)	UnAssessed
Pa-81-26	Mansion Creek and tribs (0202-0069)	UnAssessed
Pa-82,83	Minor Tribs to Pennsylvania (0202-0070)	UnAssessed
Pa-84	West Branch French Creek and tribs (0202-0071)	UnAssessed
Pa-84- 2-P153	Findley Lake (0202-0004)	Impaired

Findley Lake (0202-0004)

Impaired

Waterbody Location Information

Revised: 02/26/2014

Water Index No: Pa-84- 2-P153
Unit Code: 0501000401 **Class:** B
Water Type/Size: Lake 307.1 Acres
Description: entire lake

Drain Basin: Allegheny River
French Creek
Reg/County: 9/Chautauqua Co. (7)

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Public Bathing	Stressed	Suspected
Recreation	Impaired	Known
Aquatic Life	Fully Supported	Suspected
Fish Consumption	Unassessed	-

Conditions Evaluated

Habitat/Hydrology	Fair
Aesthetics	Poor

Type of Pollutant(s)

Known: ALGAL/PLANT GROWTH (native), HARMFUL ALGAL BLOOMS, NUTRIENTS (Phosphorus), D.O./OXYGEN DEMAND,
Suspected: Aquatic Invasive Species
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: AGRICULTURE, **ONSITE/SEPTIC SYSTEMS**
Suspected: Habitat Alteration
Unconfirmed: - - -

Management Information

Management Status: Strategy Implementation Scheduled/Underway **Lead**
Agency/Office: DOW/Reg9
IR/305(b) Code: Impaired Water,TMDL Completed (IR Category 4a)

Further Details

Overview

Findley Lake is assessed as an impaired waterbody due to recreation uses that are known to be impaired by nutrients (phosphorus), excessive algae, poor water clarity, and shoreline harmful algal blooms from onsite/septic systems and agricultural sources. Public bathing use is also impacted by these conditions, although additional monitoring is necessary to determine if the use is impaired. The aesthetic condition of the lake and associated recreational activities are also affected by excessive aquatic vegetation and the presence of invasive plants. It is frequently reported by the public that the lake “looks bad.”

Use Assessment

This lake waterbody is designated class B, suitable for use as a public bathing beach, general recreation and aquatic life support, but not as a water supply.

Recreation use is considered to be impaired by elevated nutrients (phosphorus), excessive algae, poor water clarity, and shoreline harmful algal blooms. Additional bacteriological sampling is needed to evaluate pathogen levels and the impact on public bathing (swimming) use. Conditions suggest at least stresses to public bathing. Non-contact recreation (boating, fishing) is also affected by excessive aquatic vegetation and the presence of invasive plant growth (Eurasian watermilfoil, curly leafed pondweed). Aesthetic conditions of the lake are considered to be poor due to excessive algae, shoreline algal blooms and excessive aquatic vegetation. It is frequent reported by citizen volunteers that the lake "looks bad." (DEC/DOW, BWAM/CSLAP, July 2013)

There are no known restrictions to aquatic life. Concerns have been noted regarding hypolimnetic oxygen depletion impacts on aquatic life support, however tiger muskie and walleye have been stocked by NYSDEC, and the lake provides a good smallmouth bass and largemouth bass fishery. (DEC/DFWMR, Region 9, January 2007)

Fish Consumption use is considered to be unassessed. There are no health advisories limiting the consumption of fish from this waterbody (beyond the general advice for all waters). However due to the presence of impacts/contaminants in the stream and the uncertainty as to whether the lack of a waterbody-specific health advisory is based on actual sampling, fish consumption use is noted as unassessed, rather than fully supported but unconfirmed. (NYS DOH Health Advisories and DEC/DOW, BWAM, December 2014)

Water quality monitoring by NYSDEC lakes programs focuses primarily on the support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake, or to evaluate contamination from organic compounds, metals or other inorganic pollutants are not usually collected as part of these monitoring programs. Monitoring to assess public bathing use and assessments of restrictions on fish consumption are generally the responsibility of state and/or local health departments.

Water Quality Information

Findley Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1986 and continuing through 2012. CSLAP reports are issued annually and are available on the DEC and NYSFOLA websites. These data indicate that the lake continues to be best characterized as eutrophic, or highly productive. Phosphorus levels in the lake typically exceed both the state guidance values of 20 ug/l, as well as the assessment criteria for chlorophyll a, indicative of high algae levels. Lake clarity is often restricted, with water transparency less than what is minimally recommended for swimming beaches. Nutrient (phosphorus and ammonia) levels at the lake bottom are usually elevated suggesting the bottom waters are poorly oxygenated and contribute to increases in surface water nutrient levels throughout the summer. This deepwater oxygen deficit was recorded in the lake at least back to the 1930s. Readings of pH typically fall within the state water quality standards for protection of aquatic life. (DEC/DOW, BWAM/CSLAP, July 2013)

The Lake experiences summer algal blooms and shows a high susceptibility for harmful algal blooms (HABs). High levels of blue green algae have been found in the open water and extremely high blue green algae concentrations in shoreline blooms have been noted. Analysis of shoreline algal blooms indicates algal toxin levels exceeding the criteria for public bathing, although open water levels were below this threshold. Cyanobacteria also suggest some threat to pets that come into contact with the water. (DEC/DOW, BWAM/CSLAP, July 2013)

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates the recreational suitability of the lake to be somewhat unfavorable. The lake is described most frequently as "slightly" impacted for most recreational uses, and occasionally described as "substantially"

impacted. These impacts were often associated with excessive algae or poor water clarity, and somewhat less frequently with excessive weeds. Aquatic plants are dominated by a mix of native and non-native species (though invasives may be on the decline) and have been cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, July 2013)

Source Assessment

Evaluation of sources of nutrient (phosphorus) loading to the Lake and estimates of the corresponding loads of each were conducted as part of the 2008 TMDL for Phosphorus in Findley Lake. The TMDL identified contributions from residential onsite wastewater treatment (septic) systems and nonpoint source runoff from agricultural activities (primarily cropland production) as the primary sources. Loading from groundwater transport of nutrients was also noted. Internal loading (nutrient recycling) was not considered in the development of the TMDL due to lack of data to confirm internal loading contribution. However, the TMDL acknowledged the need for additional monitoring to determine if phosphorus migrates from the hypolimnion to the epilimnion, and if phosphorus release from sediment plays a significant role in phosphorus loading in Findley Lake. (DEC/DOW, BWM, TMDL for Phosphorus for Findley Lake, September 2008)

Management Action

A TMDL for addressing phosphorus loadings to the Lake was completed in 2008 and is currently being implemented. The TMDL includes specific management strategies to address residential septic systems, agricultural runoff, and urban stormwater management. (DEC/DOW, BWRM, TMDL for Phosphorus for Findley Lake, September 2008)

Findley Lake is served by the Findley Lake Watershed Foundation. The lake association is involved in a variety of lake management activities focused on water level control, shoreline stabilization, aquatic vegetation control (weed harvesting) and maintenance of navigation buoys. The Findley Lake Watershed Foundation maintains a website at <http://www.flwf.org/>.

303(d) Listing Information

Findley Lake is not included on Section 303(d) List. The Lake was added to the List in 2004 due to impairments from phosphorus and low dissolved oxygen. The Lake was subsequently delisted in 2008 due to the completion of a TMDL to address phosphorus and resulting low dissolved oxygen. Note that delisting the waterbody due to the completion of a TMDL does not necessarily mean impaired uses have been restored. (DEC/DOW, BWAM, July 2013)

Segment Description

This segment includes the entire area of the lake.

Appendix B

NYSDEC Preliminary Effluent Limit Request

SPDES Permit Statement of Basis – Surface Water Discharges

Permittee(s): Town of Mina/Town of French Creek
 Facility: New Regional WWTP

Date: 11/7/2019
 Permit Writer: Melanie Stein

Discussion:

Chautauqua County is developing a feasibility study to evaluate a potential new regional wastewater treatment facility. A water quality analysis was requested for three alternatives:

- (1) a new facility located in the Town of Mina and treating flows from that area only;
- (2) a new facility located in the Town of Mina and treating flows from that area, plus areas in the Town of French Creek currently served by Peek’N Peak WWTP (NY0037028); and
- (3) an upgraded facility located in the Town of French Creek at the location of the existing Peek’N Peak WWTP, serving the same area described in Alternative 2.

The proposed design flows (average daily flow, design year 2038) and discharge locations for each alternative are listed in Table 1 below. Note that the proposed discharge location for Alternatives 1 and 2 is in close proximity to the SPDES-permitted Comfort Inn & Suites, Findley Lake (NY0258903). These flows were not included in this analysis, but consolidation should be considered if either Alternative 1 or Alternative 2 is pursued.

Table 1: Preliminary Design Flows and Discharge Locations

	Alternative 1	Alternative 2	Alternative 3
Design Flow (MGD)	0.151	0.251	0.251
Design Flow (cfs)	0.234	0.388	0.388
Discharge Location (Lat, Long)	42° 07' 57", -79° 44' 20"	42° 07' 57", -79° 44' 20"	42° 02' 59", -79° 43' 43"

Table 2 below presents the results of a preliminary water quality analysis for the three alternatives.

Table 2: Receiving Water Statistical Low Flows & Dilution Factors

	Alternative 1	Alternative 2	Alternative 3
Receiving Water	West Branch French Creek	West Branch French Creek	French Creek
Receiving Water Classification	C	C	C
Trout/Non-trout Standard	Non-trout	Non-trout	Non-trout
Critical Low Flow (7Q10) (cfs)	0.75	0.75	3.29
Critical Low Flow (30Q10) (cfs)	1.2	1.2	5.56
Dilution Ratio (Chronic)	4.2:1	2.9:1	9.5:1
Dilution Ratio (Human, Aesthetic, Wildlife)	6.1:1	4.1:1	15:1

SPDES Permit Statement of Basis – Surface Water Discharges

For Alternatives 1 and 2, the critical low flows were calculated using a drainage basin comparison. The reference gaging station is #03021410, West Branch French Creek near Lowville, PA (7Q10 = 2.8 cfs, 30Q10 = 4.6 cfs). The drainage basin at the proposed discharge location was delineated using USGS StreamStats.

For Alternative 3, the critical low flows are the same flows that were cited in the 2018 fact sheet for Peek’N Peak WWTP. These low flows were calculated using the same reference gaging station and general procedure as described for Alternatives 1 and 2.

The effluent limits that are proposed to be included in a SPDES permit under each alternative are listed in Table 3 below.

Table 3: Proposed Effluent Limitations

Parameter	Alternative 1	Alternative 2	Alternative 3	Type	Basis
Flow (gpd)	151,200	251,000	251,000	MA	Design Flow
pH Range (S.U.)	6.0 – 9.0	6.0 – 9.0	6.0 – 9.0	Range	TOGS 1.3.3
BOD ₅ (mg/L)	30/45	30/45	30/45	MA/WA	TOGS 1.3.3/40 CFR Part 133.102
BOD ₅ (lbs/d)	38/57	63/94	63/94	MA/WA	Calculated
Total Suspended Solids (mg/L)	30/45	30/45	30/45	MA/WA	TOGS 1.3.3/40 CFR Part 133.102
Total Suspended Solids (lbs/d)	38/57	63/94	63/94	MA/WA	Calculated
Settleable Solids (mL/L)	0.3/0.1 ²	0.3/0.1 ²	0.3/0.1 ²	DM	TOGS 1.3.3
Ammonia (as N) (mg/L) June 1 – October 31	7.5 ³	5.0 ³	Monitor Only	MA	TOGS 1.1.1, TOGS 1.3.1E; pH=7.5, T=25°C; 30Q10
Ammonia (as N) (mg/L) November 1 – May 31	11 ³	7.6 ³	Monitor Only	MA	TOGS 1.1.1, TOGS 1.3.1E; pH=7.5, T=10°C; 30Q10
Total Residual Chlorine (mg/L) May 1 – October 31 ⁴	0.03 ⁵	0.03 ⁵	0.05	DM	TOGS 1.1.1, TOGS 1.3.1E, TOGS 1.3.3; 7Q10
Fecal Coliform (cfu/100 mL) May 1 – October 31 ⁴	200/400	200/400	200/400	30-day/7-day GM	TOGS 1.3.3

Notes:

1. DM – Daily Maximum; WA – Weekly Average; MA – Monthly Average; GM – Geometric Mean
2. The settleable solids effluent limit shall be 0.3 mL/L if sand filtration is not used, or 0.1 mL/L if sand filtration is used.
3. Short-term, high-intensity monitoring may be required upon permit issuance to determine if these water quality-based effluent ammonia limits are necessary.
4. Disinfection requirements during the winter season shall be at the discretion of the Chautauqua County Health Department.
5. The calculated water quality-based effluent limit is less than the practical quantitation limit (PQL) of 0.03 mg/L. The effluent limit would be set equal to the PQL.

Appendix C

Preliminary Flow and Loads



JOB (T) Mina - (T) French Creek Sewer Study
 SHEET NO. 1 OF 2
 CALCULATED BY MJZ DATE 10/1/2019
 CHECKED BY DATE
 DESCIP Prelim. BOD - WWTP Design Flows and Loads

Findley Lake - Flows and Loads

Number of EDU's	711
People/ EDU	2.7
GPD/ Person	75
Est. Avg Flow	143,978 gpd
Est. Peak Day Flow	287,955 gpd
Peaking Factor	3.60
Est. Peak Hour Flow	360 gpm
2039 Avg Flow	151,176 gpd
2039 Peak Day Flow	302,353 gpd
2039 Peak Hour	378 gpm

Based on Data from 2017 MPR prepared by GPI

People 1,920

Based on experience with Similar LPS Systems (10 States estimates 100 gpd/person)

100	gpm
200	gpm

Based on experience, generally 2x's Average

Peaking Factor = (18+√Population in thousands) / (4+√Population in thousands)

105	gpm
210	gpm

5% Growth
5% Growth
5% Growth

BOD₅

0.22 lb BOD₅/capita/day per 10 States Standards (11.253b)*, the BOD load is:

Average influent concentration of BOD is:

2019		2039	
1,920	People	2,016	People
422	lb/day	443	lb/day
352	mg/l	352	mg/l

TSS

0.25 lb TSS/capita/day per 10 States Standards (11.253b)*, the future TSS load is:

Average influent concentration of BOD is:

480	lb/day	504	lb/day
400	mg/l	400	mg/l

Design Loads - Based on 10 State Standards (*BOD5 and TSS loading are based on the conservative assumption that garbage grinders are in use)

Frech Creek (Peek'n Peak) - Flows

Avg Flow	95,000 gpd
Peak Day Flow	270,000 gpd
Est. GPD/ Person	100 gpd
Est. People	950
Peaking Factor	3.81
Est. Peak Hour Flow	252 gpm
2039 Avg Flow	99,750 gpd
2039 Peak Day Flow	283,500 gpd
2039 Peak Hour	264 gpm

66	gpm
188	gpm

Based on Data Provided by Peek'N Peak

Based on Data Provided by Peek'N Peak

10 States estimates 100 gpd/person

Peaking Factor = (18+√Population in thousands) / (4+√Population in thousands)

69	gpm	5% Growth
197	gpm	5% Growth
		5% Growth

BOD₅

0.17 lb BOD₅/capita/day per 10 States Standards (11.253b)*, the BOD load is:

Average influent concentration of BOD is:

2019		2039	
950	People	998	People
162	lb/day	170	lb/day
204	mg/l	204	mg/l

TSS

0.2 lb TSS/capita/day per 10 States Standards (11.253b)*, the future TSS load is:

Average influent concentration of BOD is:

190	lb/day	200	lb/day
240	mg/l	240	mg/l

Findley Lake Only

Peek'n Peek

	2019	2039	2019	2039
BOD lb/day	422	443	162	170
TSS lb/day	480	504	190	200



JOB (T) Mina - (T) French Creek Sewer Study
 SHEET NO. 2 OF 2
 CALCULATED BY MJZ DATE 10/1/2019
 CHECKED BY DATE
 DESCP Prelim. BOD - WWTP Design Flows and Loads

Design Loads - Based on Wastewater Engineering Treatment, Disposal, and Reuse (Metcalf and Eddy, Inc.)

Findley Lake Only **Peek & Findley Lake**

2019 **2039** **2019** **2039**

Avg. Flow 143,978 151,176 99,000 99,750 gpd

Contaminants	Unit	Weak	Medium	Strong	Selected
Solids (TS)	mg/L	350	720	1200	720
Dissolved Total (TDS)	mg/L	250	500	850	500
Fixed	mg/L	145	300	525	300
Volatile	mg/L	105	200	325	200
Suspended Solids (TSS)	mg/L	100	220	350	220
Fixed	mg/L	20	55	75	55
Volatile	mg/L	80	165	275	165
Settleable Solids	mL/L	5	10	20	10
BOD5	mg/L	110	220	400	220
Total Organic Carbon (TOC)	mg/L	80	160	290	160
Chemical Oxygen Demand (COD)	mg/L	250	500	1000	500
Nitrogen (total as N)	mg/L	20	40	85	40
Organic	mg/L	8	15	35	15
Free Ammonia	mg/L	12	25	50	25
Nitrates	mg/L	0	0	0	0
Nitrites	mg/L	0	0	0	0
Phosphorus (Total as P)	mg/L	4	8	15	8
Organic	mg/L	1	3	5	3
Inorganic	mg/L	3	5	10	5
Chlorides	mg/L	30	50	100	50
Sulfides	mg/L	20	30	50	30
Alkalinity (as CaCO3)	mg/L	50	100	200	100
Grease	mg/L	50	100	150	100
Total Coliform	no/100 ML	10 ⁶ to 10 ⁷	10 ⁷ to 10 ⁸	10 ⁸ to 10 ⁹	10000000
Volatile Organic Compounds (VOC's)	ug/L	<100	100-400	>400	250

264 277 174 183 #pd

264 277 174 183 #pd

30 32 20 21 #pd

10 10 6 7 #pd

Selected Design Loads

2038			
	Findley Lake	Peek'N Peak	Combined
Population of District	2,016	998	3,013
Avg. Day Flow (GPD)	151,176	99,750	250,926
Max Day Flow (GPD)	302,353	283,500	585,853
Peak Hr Flow Rate (GPM)	378	264	642
BOD5 (lb/day)	443	170	613
TSS (lb/day)	504	200	703
Nitrogen as Ammonia (lb/day)	32	21	52
Phosphorus (lb/day)	10	7	17

Appendix D

Map, Plan, and Report EDU List

Findley Lake Sewerage Project

District Formation

List of Properties and Benefit Unit Assessments - January 2017

PARCEL	OWNER	ADDRESS	LAND ID	LAND USE DESCRIPTION	OBJECT AREA	FLOW (gpd)	EDU's								
							1 FAM	2 FAM	SEASONAL	COMM	INSTITUT	INDUST	Total		
342.00-1-10	PNC Bank	6750 Miller Rd Breckville OH,44141	680	CULTURAL AND RECREATION	COMMERCIAL	162693.463					1				1
342.00-1-66	Dutch Road Land LLC	10241 Rt 430 Findley Lake NY,14736	120	FIELD CROPS	AGRICULTURAL	2366613.324									0
342.00-1-67	Peter S Howard	2560 Shadyside Rd Findley Lake NY,147360496	330	VACANT LAND COMMERCIAL	VACANT	728884.4399					+0.5				0
342.00-1-68	Brian K Eller	2934 Rt 426 Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	278507.6514		1							1
342.00-1-69	Steve Creaturo	2476 Exeter Cres Burlington Ontario ,L7P-1X4	270	MOBILE HOME	RESIDENTIAL	52877.05682		1							1
342.00-1-70	Charles Noble	10365 Main St Findley Lake NY,14736	322	VACANT RESIDENTIAL OVER 10 AC	VACANT	323420.8156					+0.5				0
342.00-1-77	Sally Ann Brown	,		RESIDENTIAL	RESIDENTIAL	1469394.064			1						1
342.00-1-78	The John R Doherty Trust Agreement	2229 Walnut Blvd Ashtabula OH,44004	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/BARN	2916734.716					+0.5				0
342.00-1-79	Magoon Leland G	,	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	18553.74069		1							1
342.00-1-80	Stephen C Burmaster	PO Box 262 Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	131456.7914		1							1
342.00-1-81	Edward M Mulkearn	Findley Lake NY,14736	330	VACANT LAND COMMERCIAL	VACANT	956055.5101					+0.5				0
342.00-1-82	Travaglanni Enterprises, Inc.	231 Chestnut St Suite 609 Meadville Pa,16335	414	HOLIDAY INN EX	HOLIDAY INN EX	1538091.041	10,000					38			38
342.00-1-83	Michael J Munsee	295 Picidilli Hill Rd Corry Pa,16407	442	SELF STORAGE	COMMERCIAL SELF STORAGE	88604.81888						1			1
342.00-1-9	Jab Enterprises Inc	1821 Nagle Rd Erie Pa,16510	330	VACANT LAND COMMERCIAL	VACANT	528320.8419					+0.5				0
342.18-1-1	Luce Dennis M	,	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	80742.64		1							1
342.18-1-18	Niagara Mohawk Power Corp	300 Erie Blvd West Syracuse NY,132024250	872	ELECTRIC SUB STATION	ELECTRIC SUB STATION	8525.043756								1	1
342.18-1-19	Amanda Meeder	10328 School St Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	35159.68203		1							1
342.18-1-2	Joseph D Kohler	2924 Route 426 Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	150061.0324		1							1
342.18-1-20	Mary Jane Martin	430 Galen Hall Rd Reinholds PA,17569	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	18785.08106		1							1
342.18-1-21	Alex T Drollinger	10342 School St Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	7880.769813		1							1
342.18-1-22	James E Chambers III	4156 Sinden Rd Ripley NY,147759775	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	9435.66535		1							1
342.18-1-23	Martha Jo Gratto	2850 North Rd Findley Lake NY,14736	270	MOBILE HOME	RESIDENTIAL	23923.12734		1							1
342.18-1-24	Mark P Nezballa	Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	21306.58884		1							1
342.18-1-25	Eugene Johnson	Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	32402.50913		1							1
342.18-1-27	Schlaudecker Robert T	,	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/BARN	71340.50282					+0.5				0
342.18-1-28	Findley Lake & Mina Hist Socie	Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	13164.80377					+0.5				0
342.18-1-29	Findley Lake & Mina Hist Socie	Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	53356.91889					+0.5				0
342.18-1-3	Dutch Road Land LLC	10241 Rt 430 Findley Lake NY,14736	120	FIELD CROPS	AGRICULTURAL	495518.1742									0
342.18-1-30	Of Mina Town	,	311	VACANT LAND RESIDENTIAL	LAND	35264.09189					+0.5				0
342.18-1-31	Gordon Edwards	Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	57010.81038		1							1
342.18-1-32	John H Small	Findley Lake NY,14736	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/SHED	4482.90914									0
342.18-1-33	John H Small	Findley Lake NY,14736	416	MOBILE HOME PARK	RESIDENTIAL-TRAILER PARK	127358.7431	1080	4							4
342.18-1-34	Leonard Eliason	10404 School St Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	22157.01695		1							1
342.18-1-35	Leonard Eliason	10404 School St Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	2192.092899									0
342.18-1-36	Douglas A Toman	6636 River Styx Rd Medina OH,44256	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	13607.30343		1							1
342.18-1-37	Douglas A Toman	6636 River Styx Rd Medina OH,44256	311	VACANT LAND RESIDENTIAL	LAND	2864.849792									0
342.18-1-38	John A Chluda	7717 Woodspring Ln Hudson Ohio ,44236	311	VACANT LAND RESIDENTIAL	LAND	217026.3068					+0.5				0
342.18-1-4	Town Of Mina	Findley Lk NY,14736	612	SCHOOL	SCHOOL	621610.6375							1		1
342.18-1-40	William R Nicholson	10430 School St Findley Lake NY,147360163	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	86078.23826		1							1
342.18-1-41	Michael Maring	220 Lowry Rd Erie PA,16511	311	VACANT LAND RESIDENTIAL	LAND	28400.96067					+0.5				0
342.18-1-42	Michael Maring	220 Lowry Rd Erie PA,16511	484	ONE STORY COMMERCIAL	FINDLEY LAKE HARDWARE	36705.66084	400					2			2
342.18-1-43	Peggy S Walker	878 Marvin Rd Clymer NY,14724	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	57837.04031		1							1
342.18-1-44	Jeffrey D Richards	2870 Rt 426 Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	162066.9032					+0.5				0
342.18-1-45	Jeffrey D Richards	2870 Rt 426 Findley Lake NY,14736	283	RESIDENTIAL WITH COMMERCIAL USE	RESIDENTIAL/COMMERCIAL	406412.2143						1			1
342.18-1-46	Colin B Johnson	Findley Lake NY,14736	433	AUTO BODY, TIRE, RELATED AUTO SALES	FINDLEY LAKE AUTO	302475.917						1			1
342.18-1-47	Merle E Hazen	10424 School St Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	53010.19398		1							1
359.00-1-10	Joseph Caparosa	612 N Mckean St Butler PA,16001	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	18951.49065		1							1
359.00-1-11	Roger Crowder	713 Coranado Circle Avon Lake OH,44012	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	14322.83052		1							1
359.00-1-12	David T Wilcox	2701 Shadyside Rd Findley Lake NY,14736	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/GAZEBO	2417.036035									0
359.00-1-13	David T Wilcox	2701 Shadyside Rd Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	35732.41484		1							1
359.00-1-14	Joseph Jay Zimmerman	,	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	33015.68196		1							1
359.00-1-15	Howard R Freund	275 Mcintyre Rd Pittsburgh PA,15237	311	VACANT LAND RESIDENTIAL	LAND	55313.6043					+0.5				0
359.00-1-16	Craig W Kinney	Mann Rd Findley Lake NY,14736	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	58085.49457					+0.5				0
359.00-1-17	Dean M Norcross	2552 Mann Rd Clymer NY,14724	112	DAIRY PRODUCTS: MILK, BUTTER, CHEESE	AGRICULTURAL	4083587.343									0
359.00-1-5	Town Of Mina	Findley Lake NY,14736	651	HIGHWAY GARAGE	COMMERCIAL/GARAGE	226080.7493						1			1
359.00-1-6	Howard Freund	275 Mcintyre Rd Pittsburgh PA,15237	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	120807.9633		1							1
359.00-1-7	Mary L Ford	2723 Shadyside Rd Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	28649.15936		1							1
359.00-1-8	Mark S Freund	806 Hodil Rd Glenshaw PA,15116	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	467.9906785									0
359.00-2-14	Jason W Beckwith	2288 Sunnyside Rd - Rt 426 Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	683760.3436		1							1
359.00-2-15	The Upper NY Annual Conference of The United Method	324 University Ave Syracuse NY,13210	330	VACANT LAND COMMERCIAL	COMMERCIAL	4032024.879					+0.5				0
359.00-2-16	The Upper New York Annual Conference of The United M	324 University Ave Syracuse NY,13210	581	CAMPS	CAMP FINDLEY	468723.291	4250	3				16			19
359.00-2-21	Edward Mulkearn	Findley Lake NY,14736		RESIDENTIAL	RESIDENTIAL	786400.4721		1							1
359.06-1-1	Findley Lake Volunteer	Findley Lake NY,14736	682	RECREATIONAL FACILITIES	COMMUNIT CENTER	80861.29988	400							2	2
359.06-1-10	Bruce W Ahlquist	2188 Shadyside Findley Lake NY,14736	418	INN, LODGE, BOARDING HOUSE, FRATERNITY, SORORITY	BLUE HERON INN	21631.82166	2820					11			11
359.06-1-11	Bruce W Ahlquist	2188 Shadyside Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	42657.66309					+0.5				0
359.06-1-12	Halcyon S Mueller	10420 Main St Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	17703.06387		1							1
359.06-1-13	Kelly J Dermont	10428 Main St Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	22766.00648		1							1
359.06-1-14	Paul R Scarem	Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	35508.17755					+0.5				0
359.06-1-15	Paul R Scarem	Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	42409.89733		1							1
359.06-1-16	Paul R Scarem	Box 126 Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	24648.15467					+0.5				0

PARCEL	OWNER	ADDRESS	LAND ID	LAND USE DESCRIPTION	OBJECT AREA	FLOW (gpd)	EDU's						Total	
							1 FAM	2 FAM	SEASONAL	COMM	INSTITUT	INDUST		
359.10-2-40	Gerard J Mcenery	Findley Lake NY,14736	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	1337.760774								0
359.10-2-46	Gerald A Strom	5225 Harper Rd Solon OH,441391571	311	VACANT LAND RESIDENTIAL	LAND	4141.437356								0
359.10-2-47	James J Luddy	524 Kahkwa Blvd Erie Pa,16505	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	16009.68461	+0.5							0
359.10-2-48			311	VACANT LAND RESIDENTIAL	LAND	2101.839176								0
359.10-2-5	James J Luddy	524 Kahkwa Blvd Erie PA,16505	311	VACANT LAND RESIDENTIAL	LAND	2069.500009								0
359.10-2-50	Roy Schlachter	5220 Dickens Dr Richmond Heights OH,44143	311	VACANT LAND RESIDENTIAL	LAND	1327.267861								0
359.10-2-6	Alice Ayers	407 E 266 Euclid OH,44132	311	VACANT LAND RESIDENTIAL	LAND	1987.83209								0
359.10-2-7	Arnold & Ayers		260	SEASONAL RESIDENCES	RESIDENTIAL	5278.30372				1				1
359.10-2-8	Thomas Ayers	5377 E Mill Rd Broadview Heights OH,44147	260	SEASONAL RESIDENCES	RESIDENTIAL	2042.535146				1				1
359.10-2-9	Robert T Warden	1108 Lancaster Ave Pittsburgh Pa,15218	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	7018.714264	1							1
359.11-1-1	James D Lictus	597 Maple Ave Clymer NY,14724	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	21007.54566	1							1
359.11-1-10	Jacquelyn Holmberg	PO Box 413 Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	20626.64563	1							1
359.11-1-11	Pamela J Kadish	204 Harrogate Sq. Williamsville NY,14221	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	91639.11133	1							1
359.11-1-12	Pamela J Kadish	204 Harrogate Sq Williamsville NY,14221	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/--	361.2501194								0
359.11-1-13	Jacquelyn Holmberg	PO Box 413 Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	301.4016318								0
359.11-1-14	Robert D Crum	452 Creekside Dr Mayfield Heights OH,44143	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	9453.488795	1							1
359.11-1-15	James Hume	5468 Jordan Rd Erie PA,16510	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	3027.299806	1							1
359.11-1-16	James Hume	5468 Jordan Rd Erie PA,16510	311	VACANT LAND RESIDENTIAL	LAND	4500.463962								0
359.11-1-17	Hbh Properties LlC	11345 Saybrook Ln Chagrin Falls OH,44023	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	9385.433503	1							1
359.11-1-18	Wilma P Taylor	339 Iroquois Ave Lancaster NY,14086	260	SEASONAL RESIDENCES	RESIDENTIAL	5905.559477				1				1
359.11-1-2	Mark Freund	806 Hodil Rd Glenshaw Pa,15116	240	RESIDENCE WITH 10 OR MORE ACRES	RESIDENTIAL	413870.6141	1							1
359.11-1-20	Eugene Q Blakeslee	9374 Brownell Rd Clymer NY,14724	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	8712.884271	1							1
359.11-1-21	Robert E Kuehner	115 Chigora Rd Butler PA,16001	260	SEASONAL RESIDENCES	RESIDENTIAL	2702.668366				1				1
359.11-1-22.1	Cheryl E Hunink		311	VACANT LAND RESIDENTIAL	LAND	1310.279273								0
359.11-1-22.2	Roger C Tang	110 Timberview Trl Evans City PA,16033	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	951.2432872								0
359.11-1-22.3	Roger C Tang	110 Timberview trail Evans City PA,16033	311	VACANT LAND RESIDENTIAL	LAND	444.9133444								0
359.11-1-22.4	Richard L Vonk	20027 Westhaven Ln Rocky River OH,44116	311	VACANT LAND RESIDENTIAL	LAND	349.6461699								0
359.11-1-22.5	Christopher M Bailey	8741 Findley Lake-North East Rd North East PA,16428	311	VACANT LAND RESIDENTIAL	LAND	3940.31853								0
359.11-1-23	Phillip J Stroka	285 Erie St Lancaster NY,14086	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	21076.64977	1							1
359.11-1-24	Kendra D Hancock	8740 Cole Rd Colden NY,14033	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	73838.82049	1							1
359.11-1-25	Peter K Cross	6720 Richardson Rd Fairview PA,16415	260	SEASONAL RESIDENCES	RESIDENTIAL	8280.0718				1				1
359.11-1-26	Marcia K Schwab Restatement of Trust	1136 Sheerbrook Dr South Russell Oh,44022	260	SEASONAL RESIDENCES	RESIDENTIAL	21217.53984				1				1
359.11-1-27	Albert Gonda	3255 Brooke Hollow Rd Fallbrook CA,92028	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	72269.79432	1							1
359.11-1-28	Family Gillard	9110 Volunteer Dr Alexandria VA,22309	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	MERCYHURST GARAGE	53531.62094	+0.5							0
359.11-1-29	Family Gillard	9110 Volunteer Dr Alexandria VA,22309	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	6000.093237	1							1
359.11-1-3	Sean D McDonald	2588 Rt 426 Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	1302591.655	1							1
359.11-1-30	Gary W Schneider	174 Bryson Rd Butler PA,16001	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	55770.75323	1							1
359.11-1-31	Partnership Sanford	5948 Pinecrest Erie PA,16509	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	55014.53226	+0.5							0
359.11-1-32	Ronald Reed	Sherman NY,147810416	311	VACANT LAND RESIDENTIAL	LAND	22472.79456								0
359.11-1-33	William C Witkowski	10940 East Lake Rd North East PA,16428	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	69995.99904	1							1
359.11-1-34	Nick Stefanovski	6712 Manchester Farm Rd Fairview PA,16415	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	12553.26989	1							1
359.11-1-35	Nick Stefanovski	6712 Manchester Farm Rd Fairview PA,16415	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/GARAGE	2400.02165								0
359.11-1-36	Nick Stefanovski	6712 Manchester Farm RD Fairview PA,16415	311	VACANT LAND RESIDENTIAL	LAND	4800.073897								0
359.11-1-38	Kevin Zaba	Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	14491.03337	1							1
359.11-1-4.1	Cheryl E Hunink	Findley Lake NY, 14736	311	VACANT LAND RESIDENTIAL	LAND	1362964.331	+0.5							0
359.11-1-4.2	Roger C Tang	110 Timberview Trl Evans City PA,16033	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	28412.93802	1							1
359.11-1-4.3	Roger C Tang	110 Timberview Trail Evans City PA,16033	311	VACANT LAND RESIDENTIAL	LAND	28773.84444								0
359.11-1-4.4	Richard L Vonk	20027 Westhaven Ln Rocky River OH,44116	311	VACANT LAND RESIDENTIAL	LAND	43504.43599	+0.5							0
359.11-1-4.5	Christopher M Bailey	8741 Findley Lake-North East Rd North East PA,16428	311	VACANT LAND RESIDENTIAL	LAND	47701.55325	+0.5							0
359.11-1-40	William C Witkowski	10940 East Lake Rd North East PA,16428	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	4912.788867								0
359.11-1-41	William C Witkowski	10940 East Lake Rd North East PA,16428	311	VACANT LAND RESIDENTIAL	LAND	4937.676935								0
359.11-1-42	Ronald Reed	Sherman NY,14781	311	VACANT LAND RESIDENTIAL	LAND	5028.507797								0
359.11-1-43	Ronald Reed	Sherman NY,147810416	311	VACANT LAND RESIDENTIAL	LAND	4631.03366								0
359.11-1-44	Ronald Reed	Sherman NY,147810416	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	5461.547832	1							1
359.11-1-45	Eugene Q Blakeslee	9374 Brownell Rd Clymer NY,14724				4128.572617								0
359.11-1-46	Eugene Q Blakeslee	9374 Brownell Rd Clymer NY,14724	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	2503.42835	1							1
359.11-1-47	Eugene Q Blakeslee	9374 Brownell Rd Clymer NY,14724				2038.372215								0
359.11-1-48	Richard C Andersen	2019 Templehurst Rd South Euclid OH,44121	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	7024.792116	1							1
359.11-1-49	R Benson-Trustee Fergus		210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	18164.16272	1							1
359.11-1-5	Andrew W Silbert	1378 Rt 426 Clymer NY,14724	422	DINER, LUNCHEONETTE sunnyside restaurant	COMMERCIAL	64667.18656				4				4
359.11-1-55	Victoria E Altman	2526 Sunnyside Rd Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	14005.76244	1							1
359.11-1-57			311	VACANT LAND RESIDENTIAL	LAND	3858.822656								0
359.11-1-6	Scott Henry	11345 Saybrook Ln Auburn OH,44023	330	VACANT LAND COMMERCIAL	LAND/COMMERCIAL	33581.45504	+0.5							0
359.11-1-7	Robert S Shearn	521 Waterman Rd Jefferson Hills PA,15025	311	VACANT LAND RESIDENTIAL	LAND	46679.87842	+0.5							0
359.11-1-8	Robert S Shearn	521 Waterman Rd Jefferson Hills PA,15025	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	20874.17237	1							1
359.11-1-9	Alexander T Suto	2156 Forest Hollow Way Jacksonville FL,32259	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	15900.91216	1							1
359.14-1-1	Jerry K Yoakam	5926 Chianti Cir Girard PA,16417	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	39225.45851	1							1
359.14-1-10	James Harvey	Corry PA,16407	311	VACANT LAND RESIDENTIAL	LAND	367.7482803								0
359.14-1-11	Douglas M Grossman	4355 Valley Forge Dr Fairview Park OH,44126	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	8075.687737	1							1
359.14-1-12	Darcy Patton Matson		311	VACANT LAND RESIDENTIAL	LAND	1173.399857								0
359.14-1-13	Darcy P Matson	888 Pepperwood Dr Brunswick OH,44212	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	5721.787892	1							1
359.14-1-14	Richard Vojticek	1031 Wolcott Ave Chicago IL,606223760	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	5998.195126								0
359.14-1-15	Richard Vojticek	1031 Wolcott Ave Chicago IL,606223760	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	2658.657204	1							1
359.14-1-16	David P Matson	888 Pepperwood Dr Brunswick OH,44212	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	3096.137569	1							1

PARCEL	OWNER	ADDRESS	LAND ID	LAND USE DESCRIPTION	OBJECT AREA	FLOW (gpd)	EDU's								
							1 FAM	2 FAM	SEASONAL	COMM	INSTITUT	INDUST	Total		
359.14-3-12	Michael J Vincent	6092 Emerson Dr Orchard Park NY,14127	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/GARAGE	1791.297946									0
359.14-3-13	Michael J Vincent	6092 Emerson Dr Orchard Park NY,14127	311	VACANT LAND RESIDENTIAL	LAND	1786.052901									0
359.14-3-14	Michael J Vincent	6092 Emerson Dr Orchard Park NY,14127	311	VACANT LAND RESIDENTIAL	LAND	1783.891767									0
359.14-3-15	Michael J Vincent	6092 Emerson Dr Orchard Park NY,14127	311	VACANT LAND RESIDENTIAL	LAND	1780.259674									0
359.14-3-16	Michael J Vincent	6092 Emerson Rd Orchard Park NY,14127	311	VACANT LAND RESIDENTIAL	LAND	1776.700532									0
359.14-3-17	Geraldine Louise Vaughan		210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	5264.244138		1							1
359.14-3-18	George M Kinley	13000 Barwick RD Boynton Beach Fl,33436	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	4308.302762		1							1
359.14-3-19	Marilyn T Thomas	913 Golfview Dr Mckeesport PA,15135	260	SEASONAL RESIDENCES	RESIDENTIAL	11164.35942				1					1
359.14-3-2.1	O William Bracken	,				11392.86333									0
359.14-3-20	Marilyn T Thomas	913 Golfview Dr Mckeesport PA,15135	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/SHED	1646.564479									0
359.14-3-21	Brown Family Retreat, LLC	1 Propeller Pl Piqua Oh,45356	311	VACANT LAND RESIDENTIAL	LAND	2249.290139									0
359.14-3-22	Brown Family Retreat, LLC	1 Propeller Pl Piqua Oh,45356	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	10811.89356		1							1
359.14-3-23	Brown Family Retreat, LLC	1 Propeller PL Piqua Oh,45356	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	1218.037318									0
359.14-3-24	Brown Family Retreat, LLC	1 Propeller Pl Piqua Oh,45356	311	VACANT LAND RESIDENTIAL	LAND	1383.431157									0
359.14-3-25	Brown Family Retreat, LLC	1 Propeller PL Piqua Oh,45356	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	3008.367674									0
359.14-3-26	Brown Family Retreat, LLC	1 Propeller Pl Piqua Oh,45356	311	VACANT LAND RESIDENTIAL	LAND	3047.188636									0
359.14-3-27	Brown Family Retreat, LLC	1 Propeller Pl Piqua Oh,45356	311	VACANT LAND RESIDENTIAL	LAND	2433.67561									0
359.14-3-28	Brown Family Retreat, LLC	1 Propeller Pl Piqua Oh,45356	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	6821.172418		1							1
359.14-3-29	Marianne L Anderson	Columbus OH,43206	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	2945.766833									0
359.14-3-3	O William Bracken	42 East Frederick St Corry PA,16407	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	7549.958785		1							1
359.14-3-30	Daniel A Waina	8072 Dartmoor Rd Mentor OH,44060	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	12926.59136		1							1
359.14-3-31	Thomas P Calpin	32 Knob Hill Rd Orchard Park NY,14127	311	VACANT LAND RESIDENTIAL	LAND	4965.327524									0
359.14-3-32	Thomas P Calpin	32 Knob Hill Rd Orchard Park NY,14127	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	32382.5232		1							1
359.14-3-33	Jon P Larson	2684 Little Dry Run Rd Cincinnati OH,45244	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	20028.62471		1							1
359.14-3-34	Jon P Larson	2684 Little Dry Run Rd Cincinnati OH,45244	311	VACANT LAND RESIDENTIAL	LAND	1398.169827									0
359.14-3-35	Jon P Larson	2684 Little Dry Run Rd Cincinnati OH,45244	311	VACANT LAND RESIDENTIAL	LAND	298.8887881									0
359.14-3-36	Lee N Ligo	262 Grove City Rd Slippery Rock PA,16057	311	VACANT LAND RESIDENTIAL	LAND	2587.992661									0
359.14-3-37	Henry Brian P	1040 River Forest Dr Freeport PA, 16229	311	VACANT LAND RESIDENTIAL	LAND	3022.990283									0
359.14-3-38	Henry Brian P	1040 River Forest Dr Freeport PA, 16229	311	VACANT LAND RESIDENTIAL	LAND	3683.090444									0
359.14-3-39	Henry Brian P	1040 River Forest Dr Freeport PA, 16229	311	VACANT LAND RESIDENTIAL	LAND	5755.896737									0
359.14-3-4	O William Bracken	42 East Frederick St Corry PA,16407	311	VACANT LAND RESIDENTIAL	LAND	4995.887171									0
359.14-3-40	Lee N Ligo	Po Box 698 Slippery Rock PA,16057	311	VACANT LAND RESIDENTIAL	LAND	408.5287216									0
359.14-3-41	Lee N Ligo	PO Box 698 Slippery Rock PA,16057	311	VACANT LAND RESIDENTIAL	LAND	2395.876799									0
359.14-3-42	Lee N Ligo	262 Grove City Rd Slippery Rock PA,16057	311	VACANT LAND RESIDENTIAL	LAND	5205.473639									0
359.14-3-43	Lee N Ligo	PO Box 698 Slippery Rock Pa,16057	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	5096.000836		1							1
359.14-3-44	Lee N Ligo	262 Grove City Rd Slippery Rock PA,16057	311	VACANT LAND RESIDENTIAL	LAND	2576.920689									0
359.14-3-45	Lee N Ligo	262 Grove City Rd Slippery Rock PA,16057	311	VACANT LAND RESIDENTIAL	LAND	2438.490918									0
359.14-3-46	Lee N Ligo	262 Grove City Rd Slippery Rock PA,16057	311	VACANT LAND RESIDENTIAL	LAND	2887.456393									0
359.14-3-47	Thomas P Calpin	32 Knob Hill Rd Orchard Park NY,14127	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/GARAGE	6371.847086									0
359.14-3-48	Thomas P Calpin	32 Knob Hill Rd Orchard Park NY,14127	311	VACANT LAND RESIDENTIAL	LAND	1366.285816									0
359.14-3-49	Thomas P Calpin	32 Knob Hill Rd Orchard Park NY,14127	311	VACANT LAND RESIDENTIAL	LAND	1567.509329									0
359.14-3-5	Steve & Woyat	,	311	VACANT LAND RESIDENTIAL	LAND	3804.355277									0
359.14-3-50	Thomas P Calpin	32 Knob Hill Rd Orchard Park NY,14127	311	VACANT LAND RESIDENTIAL	LAND	1181.501112									0
359.14-3-51	Marianne L Anderson	Columbus OH,43206	311	VACANT LAND RESIDENTIAL	LAND	1167.572943									0
359.14-3-52	Marianne L Anderson	Columbus OH,43206	260	SEASONAL RESIDENCES	RESIDENTIAL	2644.982306				1					1
359.14-3-53	Marianne L Anderson	Columbus OH,43206	311	VACANT LAND RESIDENTIAL	LAND	1440.983565									0
359.14-3-54	Marianne L Anderson	Columbus OH,43206	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	1499.986458		1							1
359.14-3-55	Marianne L Anderson	Columbus OH,43206	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/SHED	18742.40886		+0.5							0
359.14-3-56	George M Kinley	13000 Barwick Rd Boynton Beach FL,33456	311	VACANT LAND RESIDENTIAL	LAND	2800.360579									0
359.14-3-57	David A Waples	1871 Eaton Rd Fairview PA,16415	311	VACANT LAND RESIDENTIAL	LAND	2390.944288									0
359.14-3-58	David A Waples	1871 Eaton Rd Fairview PA,16415	311	VACANT LAND RESIDENTIAL	LAND	1820.697521									0
359.14-3-59	David A Waples	1871 Eaton Rd Fairview PA,16415	311	VACANT LAND RESIDENTIAL	LAND	2100.891917									0
359.14-3-6	Steven A Woyat	32013 Liberty Rose Dr Avon Lake OH,44012	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	1808.308168									0
359.14-3-60	David A Waples	1871 Eaton Rd Fairview PA,16415	311	VACANT LAND RESIDENTIAL	LAND	2100.016231									0
359.14-3-61	David A Waples	1871 Eaton Rd Fairview PA,16415	311	VACANT LAND RESIDENTIAL	LAND	1800.141783									0
359.14-3-62	David A Waples	1871 Eaton Rd Fairview PA,16415	311	VACANT LAND RESIDENTIAL	LAND	1800.152647									0
359.14-3-63	David A Waples	1871 Eaton Rd Fairview PA,16415	311	VACANT LAND RESIDENTIAL	LAND	2100.01124									0
359.14-3-64	David A Waples	1871 Eaton Rd Fairview PA,16415	311	VACANT LAND RESIDENTIAL	LAND	2100.022327									0
359.14-3-65	David A Waples	1871 Eaton Rd Fairview PA,16415	311	VACANT LAND RESIDENTIAL	LAND	1800.122042									0
359.14-3-66	Matthew R Wise	6165 Brandy Run Fairview PA,16415	311	VACANT LAND RESIDENTIAL	LAND	15600.34964									0
359.14-3-67	Matthew R Wise	6165 Brandy Run Fairview Pa,16415	311	VACANT LAND RESIDENTIAL	LAND	15600.17354		+0.5							0
359.14-3-7	Steven A Woyat	32013 Liberty Rose Dr Avon Lake OH,44012	260	SEASONAL RESIDENCES	RESIDENTIAL	5546.670445				1					1
359.14-3-8	Steve & Woyat	,	311	VACANT LAND RESIDENTIAL	LAND	1829.357749									0
359.14-3-9	Steve & Woyat	,	311	VACANT LAND RESIDENTIAL	LAND	1820.36838									0
359.14-4-1.1	Jack Fiske Trustee	1953 Norcross Rd Erie PA,16510	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	392227.4864		1							1
359.14-4-1.2	Fiske Jack	2545 Parsonage Rd Findley Lake NY, 14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	54734.67481		1							1
359.14-4-10	Diane L Houpt	2650 Union Hills Dr Phoenix AZ,85027	311	VACANT LAND RESIDENTIAL	LAND	2119.655572									0
359.14-4-11	David A Eliason	2485 Shadyside Rd Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	11568.95952									0
359.14-4-12	Brooke L Hartman	2130 Fidler Ave Long Beach Calif ,90815	311	VACANT LAND RESIDENTIAL	LAND	2123.234201									0
359.14-4-13	Jack Fiske Trustee	1953 Norcross Rd Erie PA,16510	311	VACANT LAND RESIDENTIAL	LAND	2124.509605									0
359.14-4-14	Jack Fiske Trustee	1953 Norcross Rd Erie PA,16510	311	VACANT LAND RESIDENTIAL	LAND	1835.833339									0
359.14-4-15	Jack Fiske Trustee	1953 Norcross Rd Erie PA,16510	311	VACANT LAND RESIDENTIAL	LAND	1837.886783									0
359.14-4-16	Christina K Eliason	2485 Shadyside Rd Findley Lake NY,147369714	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	37839.46458		1							1
359.14-4-17	Christina K Eliason	2485 Shadyside Rd Findley Lake NY,147369714	311	VACANT LAND RESIDENTIAL	LAND	15655.67096		+0.5							0

PARCEL	OWNER	ADDRESS	LAND ID	LAND USE DESCRIPTION	OBJECT AREA	FLOW (gpd)	EDU's									
							1 FAM	2 FAM	SEASONAL	COMM	INSTITUT	INDUST	Total			
359.15-1-23	Findley Lake Improvement Assoc	Springdale AR,72766	311	VACANT LAND RESIDENTIAL	LAND	2746.779063										0
359.15-1-24	Findley Lake Improvement Assoc	Springdale AR,72766	311	VACANT LAND RESIDENTIAL	LAND	2852.305783										0
359.15-1-25	Findley Lake Improvement Assoc	Springdale AR,72766	311	VACANT LAND RESIDENTIAL	LAND	3269.245782										0
359.15-1-26	Findley Lake Improvement Assoc	Springdale AR,72766	311	VACANT LAND RESIDENTIAL	LAND	2317.366266										0
359.15-1-27	Jorn G Hansen	622 Hilltop Rd Erie PA,16509	311	VACANT LAND RESIDENTIAL	LAND	4655.18009										0
359.15-1-28	John Hansen	622 Hilltop Rd Erie PA,16508	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	2305.228691		1								1
359.15-1-29	Jorn G Hansen	622 Hilltop Rd Erie PA,16509	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	2036.940352		1								1
359.15-1-3	Stephen C Burmaster	PO Box 262 Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	4105.114171										0
359.15-1-30	Jeffrey J Ireland	PO Box 66 Panama NY,14767	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	7699.754321		1								1
359.15-1-31	Findley Lake Improvement Assoc	Springdale AR,72766	311	VACANT LAND RESIDENTIAL	LAND	4640.610871										1
359.15-1-32	Findley Lake Improvement Assoc	Springdale AR,72766	311	VACANT LAND RESIDENTIAL	LAND	4644.19515		+0.5								0
359.15-1-33	Findley Lake Improvement Assoc	Springdale AR,72766	311	VACANT LAND RESIDENTIAL	LAND	4761.270259										0
359.15-1-34	Findley Lake Improvement Assoc	Springdale AR,72766	311	VACANT LAND RESIDENTIAL	LAND	5202.034602										0
359.15-1-35	Suzanne Gromofsky	11420 Hosford Ave Chardon OH,44024	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	51430.60653		1								1
359.15-1-36	Amy S Ruggiero	54 Elizabeth St Basking Ridge NJ,7920	311	VACANT LAND RESIDENTIAL	LAND	8295.330961										0
359.15-1-37	Stephen R Burick	4285 Loop Rd Waterford PA,16441	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	11575.43048		1								1
359.15-1-38	Leigh C Chaffee	6900 West Grand Ranch Blvd Littleton Co,80123	260	SEASONAL RESIDENCES	RESIDENTIAL	4906.544221				1						1
359.15-1-39	Jodi L Jusiak	1517 Benton St Alameda CA,94501	260	SEASONAL RESIDENCES	RESIDENTIAL	4944.671138				1						1
359.15-1-4	Stephen C Burmaster	PO Box 262 Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	29373.3438		1								1
359.15-1-40	Peter C Zaccari	3915 Northview Dr Stow OH,44224	260	SEASONAL RESIDENCES	RESIDENTIAL	3834.311103				1						1
359.15-1-41	Findley Lake Improvement Assoc	Springdale AR,72766	311	VACANT LAND RESIDENTIAL	LAND	2063.41471										0
359.15-1-45	Therese A Lanese-Turkish	5031 Farnhurst Rd Lyndhurst OH,44124	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	7148.034474		1								1
359.15-1-46	Amy S Ruggiero	54 Elizabeth St Basking Ridge NJ,7920	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	8792.518014		1								1
359.15-1-47.1	Amy S Ruggiero	54 Elizabeth St Basking Ridge NJ,7920	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	11540.83385										0
359.15-1-47.2	Charles R Schneider	7 Dawn Ln Ringwood NJ,7456	311	VACANT LAND RESIDENTIAL	LAND	1203.778679										0
359.15-1-48	Suzanne Gromofsky	11420 Hosford Ave Chardon OH,44024	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	1269.89699										0
359.15-1-49	Jorn G Hansen	622 Hilltop Rd Erie PA,16509	311	VACANT LAND RESIDENTIAL	LAND	866.0932053										0
359.15-1-5	Andrew B Travis	3931 Mt. Royal Blvd Allison Park PA,15101	260	SEASONAL RESIDENCES	RESIDENTIAL	3784.254966				1						1
359.15-1-50	Jorn G Hansen	622 Hilltop Rd Erie PA,16509	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	637.1753145										0
359.15-1-51	Findley Lake Improvement Assoc	Springdale AR,72766	311	VACANT LAND RESIDENTIAL	LAND	367.5667498										0
359.15-1-52	Jeffrey J Ireland	Po Box 66 Panama NY,14767	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	586.6541412										0
359.15-1-53	Robert A Herington	66 Canada St Holland NY,14080	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	685.5805568										0
359.15-1-54	Roger Sheehan	18369 Sciota St Corry PA,16407	311	VACANT LAND RESIDENTIAL	LAND	449.7214433										0
359.15-1-55	Roger Sheehan	18369 Sciota St Corry PA,16407	260	SEASONAL RESIDENCES	RESIDENTIAL	2041.49489				1						1
359.15-1-56	John W Graham	2437 Sunnyside Rd Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	11175.30012		1								1
359.15-1-59	Andrew B Travis	3931 Mt. Royal Blvd Allison Park PA,15101	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	348.4715656										0
359.15-1-6	Jeffrey L Kline	215 Harbor RD Erie PA,16511	260	SEASONAL RESIDENCES	RESIDENTIAL	4455.88171				1						1
359.15-1-60	Stephen C Burmaster	PO Box 262 Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	404.4343991										0
359.15-1-61	Stephen C Burmaster	PO Box 262 Findley Lake NY,14736	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	1475.02439										0
359.15-1-7	Dale L Fennell	223 West Jefferson Rd Butler Pa,16002	270	MOBILE HOME	RESIDENTIAL	2872.976565		1								1
359.15-1-8	Dale L Fennell	233 West Jefferson Rd Butler PA,16002	311	VACANT LAND RESIDENTIAL	LAND	1612.827394										0
359.15-1-9	Findley Lake Improvement Assoc	Springdale AR,72766	311	VACANT LAND RESIDENTIAL	LAND	4913.660835										0
359.15-2-10	Mark Matrozza	5261 Karrington Dr Gibsonia PA,15044	311	VACANT LAND RESIDENTIAL	LAND	2026.186515										0
359.15-2-11	Mark Matrozza	5261 Karrington Dr Gibsonia PA,15044	311	VACANT LAND RESIDENTIAL	LAND	1989.348475										0
359.15-2-12	Findley Lake Improvement Assoc	Springdale AR,72766	311	VACANT LAND RESIDENTIAL	LAND	1956.547355										0
359.15-2-13	Findley Lake Improvement Assoc	Springdale AR,72766	311	VACANT LAND RESIDENTIAL	LAND	1983.054204										0
359.15-2-14	Findley Lake Improvement Assoc	Springdale AR,72766	311	VACANT LAND RESIDENTIAL	LAND	2016.008607										0
359.15-2-15	Mark Matrozza	5261 Karrington Dr Gibsonia PA,15044	311	VACANT LAND RESIDENTIAL	LAND	2050.273761										0
359.15-2-16	Mark Matrozza	5261 Karrington Dr Gibsonia PA,15044	311	VACANT LAND RESIDENTIAL	LAND	2079.02004										0
359.15-2-17	Mark Matrozza	5261 Karrington Dr Gibsonia PA,15044	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	4208.319846		1								1
359.15-2-18	S Jeffrey Pollick	4087 Greenwood Rd New Kensington Pa,15068	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	12168.42727		1								1
359.15-2-19	Findley Lake Improvement Assoc	Springdale AR,72766	311	VACANT LAND RESIDENTIAL	LAND	4700.783354										0
359.15-2-2	Findley Lake Improvement Assoc	Springdale AR,72766	311	VACANT LAND RESIDENTIAL	LAND	4327.589525										0
359.15-2-20	Donald Jr Blakeslee	10161 Lakeview Ave Clymer NY,14724	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/SHED	14335.23825										0
359.15-2-21	Michael P Preston	5726 Glenwood Park Ave Erie Pa,16509	260	SEASONAL RESIDENCES	RESIDENTIAL	5142.144868				1						1
359.15-2-22	Michael P Preston	5726 Glenwood Park Ave Erie Pa,16509	311	VACANT LAND RESIDENTIAL	LAND	2726.492384										0
359.15-2-23	Clyde A Wilson	Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	2255.115884										0
359.15-2-24	Clyde A Wilson	Findley Lake NY,14736	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/SHED	5421.982063										0
359.15-2-25	Findley Lake Improvement Assoc	Springdale AR,72766	311	VACANT LAND RESIDENTIAL	LAND	3951.057114										0
359.15-2-26	Clyde A Wilson	Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	5036.949426		1								1
359.15-2-27	Larry D John	Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	5168.281211										0
359.15-2-28	Jeffrey R Mroz	206 Warren Rd Warrrendale PA,15086	311	VACANT LAND RESIDENTIAL	LAND	3018.325189										0
359.15-2-29	Jeffrey R Mroz	206 Warren Rd Warrrendale PA,15086	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	3034.576021		1								1
359.15-2-3	Findley Lake Improvement Assoc	Springdale AR,72766	311	VACANT LAND RESIDENTIAL	LAND	832.2983546										0
359.15-2-30	Anita Bickel	180 Thornbury Ln Powell OH,43065	260	SEASONAL RESIDENCES	RESIDENTIAL	6024.576709				1						1
359.15-2-31	Anita Jean Bickel	180 Thornbury Ln Powell OH,43065	311	VACANT LAND RESIDENTIAL	LAND	1567.851327										0
359.15-2-32	Anita Jean Bickel	180 Thornbury Ln Powell OH,43065	311	VACANT LAND RESIDENTIAL	LAND	877.1147546										0
359.15-2-33	Geneva A Skuse	Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	2694.616247										0
359.15-2-34	Geneva A Skuse	Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	1687.133722										0
359.15-2-35	Geneva A Skuse	10153 Lakeview Ave Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	9798.427403		1								1
359.15-2-36	Donald Blakeslee	10161 Lakeview Ave Clymer NY,14724	311	VACANT LAND RESIDENTIAL	LAND	5555.414027										0
359.15-2-37	Donald Blakeslee	10161 Lakeview Ave Clymer NY,14724	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	4444.218183		1								1
359.15-2-38	Tyler J Brumagin	2374 Rt 426 Clymer NY,14724	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	9331.044446		1								1
359.15-2-39	Roberta L Burkhart	454 Worth St Corry PA,16407	260	SEASONAL RESIDENCES	RESIDENTIAL	3950.131094				1						1

PARCEL	OWNER	ADDRESS	LAND ID	LAND USE DESCRIPTION	OBJECT AREA	FLOW (gpd)	EDU's									
							1 FAM	2 FAM	SEASONAL	COMM	INSTITUT	INDUST	Total			
359.18-1-43	Timothy S Stanton	405 Poplar St Warren PA,16365	311	VACANT LAND RESIDENTIAL	LAND	1008.112315										0
359.18-1-44	Timothy S Stanton	405 Poplar St Warren PA,16365	260	SEASONAL RESIDENCES	RESIDENTIAL	32957.43178				1						1
359.18-1-45	Patrick Waina	7655 Fairview Ave Mentor OH,44060	311	VACANT LAND RESIDENTIAL	LAND	4453.962174										0
359.18-1-46	Patrick Waina	7655 Fairview Ave Mentor OH,44060	311	VACANT LAND RESIDENTIAL	LAND	5028.949158										0
359.18-1-47	W/LU Daniel Waina	,	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	4953.79719		1								1
359.18-1-48	Robert Green	7125 Valley Falls Ct Hamilton OH, 45011	260	SEASONAL RESIDENCES	RESIDENTIAL	6376.768026				1						1
359.18-1-49	Kurt Lund	800 Shady Ave Corry PA,16407	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	4331.296183		1								1
359.18-1-5	Henry Brian P	809 Pike Rd Sarver PA,16055	311	VACANT LAND RESIDENTIAL	LAND	2093.110451										0
359.18-1-50	Kurt Lund	800 Shady Ave Corry PA,16407	311	VACANT LAND RESIDENTIAL	LAND	5903.230273										0
359.18-1-51	Robert E Trevelline	Findley Lake NY,14736	582	CAMPING FACILITY	PARADISE BAY PARK	497411.4131	10000					38				38
359.18-1-52	Kelly N Metzger	RD#1 Box 1733B Russell PA,16345	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/SHED/DOCK	16692.64096										0
359.18-1-53	Robert E Trevelline	Findley Lake NY,14736	331	VACANT LAND COMMERCIAL WITH IMPROVEMENTS	LAND/PAVILLION	423469.6129						+0.5				0
359.18-1-54	John R Mckinley	412 Means Rd New Wilmington PA,16142	311	VACANT LAND RESIDENTIAL	LAND	2079247.417						+0.5				0
359.18-1-55	Terry M Winfield	19994 Carolyn Ave Rocky River OH,44116	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	85509.705		1								1
359.18-1-56	Curtis Frigon	2055 Henry Rd Sewickley PA,15143	311	VACANT LAND RESIDENTIAL	LAND	85476.35534						+0.5				0
359.18-1-57	Joseph Leonetti	4900 Killarney Ct Westerville OH,43082	311	VACANT LAND RESIDENTIAL	LAND	85648.36691						+0.5				0
359.18-1-58	John R Shifler	Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	1724.113362										0
359.18-1-59	Gary D Matson	931 Park Plz Wexford PA,15090	311	VACANT LAND RESIDENTIAL	LAND	912.5760952										0
359.18-1-6	Brian P Henry	809 Pike Rd Sarver PA,16055	311	VACANT LAND RESIDENTIAL	LAND	2193.180161										0
359.18-1-7	Brian P Henry	809 Pike Rd Sarver PA,16055	311	VACANT LAND RESIDENTIAL	LAND	3090.627662										0
359.18-1-8	Ralph D Mclouth	2422 Shadyside Rd Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	2312.820841										0
359.18-1-9	Ralph D Mclouth	2422 Shadyside Rd Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	2342.727037				1						1
359.19-1-1	Peter R Krajeck	5344 Blackthorne St Nw Canton OH,44718	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	5882.545695				1						1
359.19-1-10	Daniel/bonnie Christman	2294 Sunnyside Rd Clymer NY,14724	311	VACANT LAND RESIDENTIAL	LAND	80406.16118						+0.5				0
359.19-1-11	Daniel Christman	2294 Sunnyside Rd Clymer NY,14724	311	VACANT LAND RESIDENTIAL	LAND	2656.122545										0
359.19-1-12	Jason W Beckwith	2288 Sunnyside Rd - Rt 426 Findley Lake NY,14736	314	VACANT LAND RURAL 10 ACRE OR LESS	LAND	1392.064428										0
359.19-1-13	Scott R Johnson	Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	48760.6553				1						1
359.19-1-14	Martin Proctor	2276 Sunnyside Rd Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	11683.78663						1				1
359.19-1-15	Martin Proctor	2276 Sunnyside Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	10787.71725										0
359.19-1-16	Steven Quast	4295 Purdy Rd Lockport NY,14094	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	52541.1205				1						1
359.19-1-18	Kristine M Gleason	Findley Lake NY,147360603	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	8562.474991				1						1
359.19-1-19	Barbara J Harris	4348 Sunset DR Lockport NY,14094	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	6495.31123				1						1
359.19-1-2	Janet M Smith	2304 Sunnyside Rd Clymer NY,14724	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	8905.402791				1						1
359.19-1-20	David Woodring	174 Pin Oak St Pleasant Gap PA,16823	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	5432.816565				1						1
359.19-1-21	Martin Proctor	2276 Sunnyside Findley Lake NY,14736	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	4713.642802										0
359.19-1-22	Scott R Johnson	Findley Lake NY,14736	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	496.9880943										0
359.19-1-23	Daniel Christman	2294 Sunnyside Rd Clymer NY,14724	311	VACANT LAND RESIDENTIAL	LAND	1121.276982										0
359.19-1-24	Jack A Hamilton	Findley Lake NY,14736	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/SHED/DOCK	346.820215										0
359.19-1-25	Robert J Nix	191 Sunrise Dr Pittsburgh PA,15236	311	VACANT LAND RESIDENTIAL	LAND	1193.885312										0
359.19-1-26	Janet M Smith	2304 Sunnyside Rd Clymer NY,14724	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	2486.536642										0
359.19-1-27	Peter R Krajeck	5344 Blackthorne St Nw Canton OH,447182306	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	1206.632398										0
359.19-1-28	The Upper New York Annual Conference of The United M	324 University Ave Syracuse NY,13210	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	33574.43403				1						1
359.19-1-29	Scott's Peek'N Peak LLC	2225 Downs Dr 6th Floor Erie Pa,16509	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	9451.889931				1						1
359.19-1-3	Robert J Nix	191 Sunrise Dr Pittsburgh PA,15236	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	6771.668705				1						1
359.19-1-30	Formarg LLC	45050 Woodland Rd Chagrin Falls OH,44022	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	11620.554				1						1
359.19-1-32	Jamie M Stanley	5614 Peach St Erie PA,16509	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	5861.577091				1						1
359.19-1-33	Patrick R Rodman	3609 Langton Rd Cleveland Heights Ohio ,44121	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	4067.806557										0
359.19-1-34	Patrick R Rodman	3609 Langton Rd Cleveland Heights Ohio ,44121	311	VACANT LAND RESIDENTIAL	LAND	790.4637247										0
359.19-1-35	Stephen R Burick	4285 Loop Rd Waterford Pa,16441	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	6763.855688				1						1
359.19-1-36	Lane W Wiggers	12 Wistar Rd Paoli Pa,19301	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	24900.36014				1						1
359.19-1-4	Daniel Christman	2294 Sunnyside Rd Clymer NY,14724	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	9126.71662				1						1
359.19-1-5	Daniel M Christman	2294 Sunnyside Rd Clymer NY,14724	311	VACANT LAND RESIDENTIAL	LAND	886.3314894										0
359.19-1-6.1	Janet Smith	2304 Sunnyside Rd Clymer NY,14724	311	VACANT LAND RESIDENTIAL	LAND	6112.514331										0
359.19-1-6.2	Robert J Nix	191 Sunrise Dr Pittsburgh PA,15236	311	VACANT LAND RESIDENTIAL	LAND	4543.922248										0
359.19-1-7	Daniel M Christman	2294 Rte 426 Clymer NY,14724	311	VACANT LAND RESIDENTIAL	LAND	6551.161027										0
359.19-1-8	Daniel M Christman	2294 Sunnyside Rdad Clymer NY,14724	314	VACANT LAND RURAL 10 ACRE OR LESS	LAND	15339.481										0
359.19-1-9	Daniel M Christman	2294 Sunnyside Rd Clymer NY,14724	311	VACANT LAND RESIDENTIAL	LAND	31830.27492										0
376.00-2-11	Scanfield, LLC	1600 Peterson Rd Russell PA,16345	323	VACANT LAND RURAL	LAND	2056977.863						+0.5				0
376.00-2-12	Scanfield, LLC	1600 Peterson Rd Russell PA,16345	314	VACANT LAND RURAL 10 ACRE OR LESS	LAND	5579.425858										0
376.00-2-13	Scanfield, LLC	1600 Peterson RD Russell PA,16345	323	VACANT LAND RURAL	LAND	249559.4362						+0.5				0
376.00-2-14	Mark Gaertner	7970 Garfield Rd Mentor OH,44060	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	39200.36919				1						1
376.00-2-16	Scanfield, LLC	1600 Peterson Rd Russell PA,16345	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/GARAGE	722185.1986						+0.5				0
376.00-2-16	Scanfield, LLC	1600 Peterson Rd Russell PA,16345	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	79095.46811						+0.5				0
376.00-2-17	Scanfield, LLC	1600 Peterson Rd Russell PA,16345	311	VACANT LAND RESIDENTIAL	LAND	56515.6159						+0.5				0
376.00-2-20	David Himelein	2153 Shadyside Rd Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	86342.38832				1						1
376.00-2-21	Jeffrey R Mills	Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	82679.94059				1						1
376.00-2-22	Judith R Hunt	Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	42096.02468				1						1
376.00-2-23	Judith R Mulkearn	Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	39131.20694				1						1
376.00-2-24	W/LU Charles&Gertrud Miller	,	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	40475.22167				1						1
376.00-2-25	Robert J Damsel	332 N. Pleasant Cheektowaga NY,14206	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	39805.81864				1						1
376.00-2-26	Louis J Passmore	Findley Lake NY,14736	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/BARN	52877.63052						+0.5				0
376.00-2-27	Louis J Passmore	Findley Lake NY,14736	220	TWO FAMILY RESIDENCE YEAR ROUND	RESIDENTIAL	20314.15383					1					1
376.00-2-31	Christopher B James	2120 Rt 426 Clymer NY,14724	311	VACANT LAND RESIDENTIAL	LAND	21761.97247						+0.5				0
376.00-2-32	Gary Brodmerkel	600 Porteur Pt Cedar Grove NC,27231	311	VACANT LAND RESIDENTIAL	LAND	33518.58469						+0.5				0

PARCEL	OWNER	ADDRESS	LAND ID	LAND USE DESCRIPTION	OBJECT AREA	FLOW (gpd)	EDU's									
							1 FAM	2 FAM	SEASONAL	COMM	INSTITUT	INDUST	Total			
376.00-2-34	Walter Troyer	1708 Pork Rd Clymer NY,14724	322	VACANT RESIDENTIAL OVER 10 AC	LAND	3411239.916										0
376.00-2-7.1	James R Rothenberger	Findley Lake NY,14736	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	1325913.028									+0.5	0
376.00-2-7.2	Julie A Leonetti	4900 Killarney Ct Westerville OH,43082	311	VACANT LAND RESIDENTIAL	LAND	58059.76271									+0.5	0
376.00-2-8	James Rothenberger	Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	126099.1688		1								1
376.00-2-9	Kelly Metzger	RD1 Box 1733B Russell PA,16345	260	SEASONAL RESIDENCES	RESIDENTIAL	30524.11366				1						1
376.07-1-10	Gordon R Bailey	,	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	2044.972487										0
376.07-1-11	The Kress Family 2011 Irrevocable Trust	155 Joliette Ave Erie Pa,16511	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	1889.262494										0
376.07-1-12	The Kress Family 2011 Irrevocable Trust	155 Joliette Ave Erie Pa,16511	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	6287.059068		1								1
376.07-1-13	The Kress Family 2011 Irrevocable Trust	155 Joliette Ave Erie Pa,16511	311	VACANT LAND RESIDENTIAL	LAND	4960.955013										0
376.07-1-14	Sam Piazza	43 Exeter Rd Williamsville NY,14221	210	SINGLE FAMILY YEAR ROUND McHenry Apartments	RESIDENTIAL	12226.41347	540	2								2
376.07-1-15	Town Of Mina Park	Findley Lake NY,14736	963	VILLAGE PUBLIC PARK AND RECREATION AREA	MUNICIPAL PARK	20166.01439							1			1
376.07-1-16	Nicholas Meyers	8176 Clifton Ave Littleton CO,80127	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	23324.14867		1								1
376.07-1-17	Jeffrey B Stohr	945 Morewood Pkwy Rocky River OH,44146	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	12149.72312		1								1
376.07-1-18	Harold N Heximer	42 McIntosh Dr Lockport NY,14094	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	13026.10391		1								1
376.07-1-19	Richard Watrous	2130 Sunnyside Rd Clymer NY,14724	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	6776.92179										0
376.07-1-20	John F Gentner	923 Moorewood Pkwy Rocky River OH,44116	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	5280.059752		1								1
376.07-1-21	The Stohr Limited Partnership	2276 Shadyside Rd Mina NY,14724	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	8277.763676		1								1
376.07-1-22	John M Swartz Declaration of Qual. Per. Res. Trust	7630 Silver Lake Ct Westerville OH,43082	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	13307.23936		1								1
376.07-1-23	Findley Lake Cottage Trust	7955 Soft Rush Dr Westerville OH,43085	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	8467.022204		1								1
376.07-1-24	Paul C Roche	435 Spencer Rd Corry PA,16407	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	4989.006486		1								1
376.07-1-25	Thomas J Roche	Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	4740.766557										0
376.07-1-26	Thomas J Roche	Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	11738.76387		1								1
376.07-1-27.1	Matthew Hornyak	,				12063.74428		1								1
376.07-1-27.2	Max A Fedor	1619 English Oak Ct Wexford PA,15090				1451.923615										0
376.07-1-28	Fedor Max A	2627 Glenchester Rd Wexford PA, 15090	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	6487.91674		1								1
376.07-1-29	John D Samples	6531 W Lake Rd Fairview PA,16415	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	11757.94913		1								1
376.07-1-3	Marlene Garone	2310 Shadyside Rd Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	69122.36252		1								1
376.07-1-30	W/LU Irene Reed	2258 Shadyside Rd Findley Lake, NY 14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	7686.411447		1								1
376.07-1-31	John C Jageman	4108 Zuck Rd Erie PA,16506	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	9202.061662		1								1
376.07-1-32	Doherty Enterprises LTD	Chardon OH,44024	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	7813.68273		1								1
376.07-1-33	Adam J Mazur	703 Oak View Dr Cabot AR,72023	260	SEASONAL RESIDENCES	RESIDENTIAL	7998.254303				1						1
376.07-1-34	Christopher R Marsh	725 Stockbridge Dr Erie PA,16505	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	19968.86049		1								1
376.07-1-35	Paul & Boger	405 Liberty St Warren PA,16365	311	VACANT LAND RESIDENTIAL	LAND	10950.72559										0
376.07-1-36	Paul L Boger	405 Liberty St Warren PA,16365	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	8662.352932		1								1
376.07-1-37	Paul L Boger	405 Liberty St Warren PA,16365	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	2740.510439										0
376.07-1-38	John R Grazier	220 Shawnee Dr Erie PA,16505	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	14105.64612		1								1
376.07-1-39	John R Grazier	220 Shawnee Dr Erie PA,16505	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	2896.386659										0
376.07-1-4	Joseph Siperstein	17475 Lookout Dr Chagrin Falls OH,44023	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	17754.71163		1								1
376.07-1-40	John R Grazier	220 Shawnee Dr Erie PA,16505	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	7251.53817										0
376.07-1-41	Terry Cascioli	1212 Joseph Ct Gibsonia PA,15044	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	7773.693025										0
376.07-1-42	Terry Cascioli	1212 Joseph Ct Gibsonia PA,150448057	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	4832.762385		1								1
376.07-1-43	Todd W Maddock	508 Dover Center Rd Bay Village OH,44140	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	5099.479649		1								1
376.07-1-44	Donald Lewis	304 East St Warren PA,16365	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	18711.65087		1								1
376.07-1-45	Durward J Spillane	870 East Smith Rd Medina OH,44256	260	SEASONAL RESIDENCES	RESIDENTIAL	4322.963276				1						1
376.07-1-46	Brian S Rosenzweig	634 Water View Dr Cranberry Twp. Pa,16066	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	16132.22282		1								1
376.07-1-47	Alexey J Brumagin	2209 Shadyside Findley Lake NY,14736	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/PAVILLION	4061.289088										0
376.07-1-48	Scott R Olds	Kent OH,44240	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	14596.95967		1								1
376.07-1-49	Lawrence Utegg	2269 Shadyside Rd Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	15499.77663		1								1
376.07-1-5	John R Mckinley	1553 Perry Hwy Mercer PA,16137	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	11256.43726		1								1
376.07-1-50	Lawrence Utegg	2269 Shadyside Rd Findley Lake NY,14736	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/PAVILLION	12160.38804										0
376.07-1-51	Richard Watrous	2130 Sunnyside Rd Clymer NY,14724	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	14983.67521										0
376.07-1-52	Richard Watrous	2130 Sunnyside Rd Clymer NY,14724	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/SHED	15501.9918									+0.5	0
376.07-1-53	Robert M Stutz	2450 Lane Rd Columbus OH,432202832	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	14409.39022		1								1
376.07-1-54	Patrick Mcdermott	7355 Keller Rd Cincinnati OH,45243	260	SEASONAL RESIDENCES	RESIDENTIAL	21219.11948				1						1
376.07-1-56	Jeffrey S Broome	560 Battles Rd Gates Mills OH,44040	311	VACANT LAND RESIDENTIAL	LAND	7541.309852										0
376.07-1-57	Jeffrey S Broome	560 Battles Rd Gates Mills OH,44040	270	MOBILE HOME	RESIDENTIAL	15132.62229		1								1
376.07-1-58	Sam Piazza	43 Exeter Rd Williamsville NY,14221	311	VACANT LAND RESIDENTIAL	LAND	15088.88019										0
376.07-1-59	Gary J Kress	4250 Clark Rd Erie Pa,16510	311	VACANT LAND RESIDENTIAL	LAND	15031.65829										0
376.07-1-6	John R Mckinley	1553 Perry Hwy Mercer PA,16137	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	795.9237485										0
376.07-1-60	Gary J Kress	4250 Clark Rd Erie Pa,16510	270	MOBILE HOME	RESIDENTIAL	14960.23626		1								1
376.07-1-61	John R Mckinley	412 Means Rd New Wilmington PA,16142	311	VACANT LAND RESIDENTIAL	LAND	29845.38973									+0.5	0
376.07-1-62	Roxanne Rouse	10692 Harpers Farm Way Gloucester VA,23061	311	VACANT LAND RESIDENTIAL	LAND	14992.67383										0
376.07-1-63	Michael Fitzgibbon	21565 Aberdeen Rd Rocky River OH,44116	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	14894.86444		1								1
376.07-1-64	Thomas J Roche	Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	12769.47143										0
376.07-1-7	Lynne W Spraker	1515 St. Andrews Dr Palm City Fl,34990	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	1578.826935										0
376.07-1-8	Lynne W Spraker	1515 St. Andrews Dr Palm City Fl,34990	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	11254.42105		1								1
376.07-1-9	Bradley J Russell	14510 Country Club Rd Corry PA,16407	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	11249.91108		1								1
376.07-2-1	Bruce & Ahlquist	2188 Shadyside Rd Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	10040.80408		1								1
376.07-2-10	James Ellsworth	2176 Shadyside Rd Clymer NY,14724	311	VACANT LAND RESIDENTIAL	LAND	7085.369593										0
376.07-2-11	Christopher M Sharron	1060 Lake Dr Gibsonia PA,15044	311	VACANT LAND RESIDENTIAL	LAND	53694.84191									+0.5	0
376.07-2-12.1	Greig E Sillaman	Union City PA,16438	311	VACANT LAND RESIDENTIAL	LAND	396658.1412									+0.5	0
376.07-2-12.2	Greig E Sillaman	Union City PA,16438	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	150405.2774		1								1
376.07-2-16	Craig Breter	10133b Meadows Rd Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	123069.0787		1								1
376.07-2-17	Roxanne Baker	648 Clymer-Sherman Rd Clymer NY,14724	260	SEASONAL RESIDENCES	RESIDENTIAL	7058.837553				1						1

PARCEL	OWNER	ADDRESS	LAND ID	LAND USE DESCRIPTION	OBJECT AREA	FLOW (gpd)	EDU's						Total		
							1 FAM	2 FAM	SEASONAL	COMM	INSTITUT	INDUST			
376.07-2-18	Lewis M Evans	10133 Meadows Dr Findley Lake NY, 14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	13863.08065		1							1
376.07-2-2	Bruce Ahlquist	2188 Shadyside Rd Findley Lake NY, 14736	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	13350.28002	+0.5								0
376.07-2-20	The Hebrank Fam Rev Liv Trst	26148 Kennedy Ridge Rd North Olmsted OH,44070	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	7020.252361									0
376.07-2-21	Patrick J Cuneo	10143 Meadows Rd. PO Box 201 Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	19660.22091		1							1
376.07-2-22	James L Dinsmore	Findley Lake NY,14736	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/COTTAGE	5582.970802	with ^								0
376.07-2-23	James L Dinsmore	Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	1108.15424									0
376.07-2-24	James-Beverly Dinsmore	Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	2299.48397									0
376.07-2-28	James-Beverly Dinsmore	Findley Lake NY,14736	311	VACANT LAND RESIDENTIAL	LAND	877.2089886									0
376.07-2-29	James L Dinsmore	Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	3746.17106		1							1
376.07-2-3	Bruce Ahlquist	2188 Shadyside Rd Findley Lake NY,147360588	311	VACANT LAND RESIDENTIAL	LAND	2115.572042									0
376.07-2-30	James Dinsmore	Findley Lake NY,147360434	311	VACANT LAND RESIDENTIAL	LAND	2839.762839									0
376.07-2-31	James Dinsmore	Findley Lake NY,147360434	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	1017.571656									0
376.07-2-32	Raymond Kent	5187 Pricilla Dr Bethel Park PA,15102	311	VACANT LAND RESIDENTIAL	LAND	3938.643484									0
376.07-2-33.1	Kathleen M Lynch	10127 Meadows Rd Clymer NY,14724				11148.10454									0
376.07-2-33.1	Kathleen M Lynch	10127 Meadows Rd Clymer NY,14724				2499.937649									0
376.07-2-33.4	Martin H Hebrank	3698 West 132nd St Cleveland OH,44111				12497.04831									0
376.07-2-33.5	James L Dinsmore	Po Box 434 Findley Lake NY,14736				7473.924763									0
376.07-2-34	Raymond E Kent	5187 Pricilla Dr Bethel Park PA,15102	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	434.7228882		1							1
376.07-2-35	Mark Riley	,	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	18952.48744		1							1
376.07-2-38	Donald Eyman	Findley Lake NY,14736	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	6326.737501		1							1
376.07-2-39	Kathleen M Lynch	10127 Meadows Rd Clymer NY,14724	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	7095.922687		1							1
376.07-2-4	Violet Ahlquist	5 Breda Ln Russell PA,16345	311	VACANT LAND RESIDENTIAL	LAND	4561.986228									0
376.07-2-40	Roxanne Baker	648 Clymer-Sherman Rd Clymer NY,14724	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	3776.291951									0
376.07-2-41	Martin H Hebrank	3698 132nd St Cleveland OH,44111	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	10517.06215		1							1
376.07-2-42	Martin H Hebrank	3698 132nd St Cleveland OH,44111	311	VACANT LAND RESIDENTIAL	LAND	5049.593533									0
376.07-2-43	Adolph J DeGennaro	11855 Briarwyck Woods Ave Concord OH,44077		VACANT LAND	LAND	4999.82095									0
376.07-2-44	Adolph J DeGennaro	11855 Briarwyck Woods Ave Concord OH,44077		VACANT LAND	LAND	7033.525701									0
376.07-2-45	Adolph J DeGennaro	11855 Briarwyck Woods Ave Concord OH,44077		RESIDENTIAL	RESIDENTIAL	6164.994196		1							1
376.07-2-46	Adolph J DeGennaro	11855 Briarwyck Woods Ave Concord Oh,44077		VACANT LAND	LAND	7338.089211									0
376.07-2-48	Greig E Sillaman	Union City PA,16438	311	VACANT LAND RESIDENTIAL	LAND	342869.1571	+0.5								0
376.07-2-49.1	Kirstin M Walker	PO Box 363 Findley Lakw NY,14736		RESIDENTIAL	RESIDENTIAL	193775.1799		2							2
376.07-2-49.2	Mark W Williams	Conneaut Lake PA,16316	311	VACANT LAND RESIDENTIAL	LAND	99886.67489	+0.5								0
376.07-2-49.3	Mark W Williams	Conneaut Lake PA,16316	311	VACANT LAND RESIDENTIAL	LAND	95065.24444	+0.5								0
376.07-2-5	Violet L Ahlquist	5 Brenda Ln Russell PA,16345	311	VACANT LAND RESIDENTIAL	LAND	22238.02115									0
376.07-2-50	Mark Williams	Conneaut Lake PA,16316	311	VACANT LAND RESIDENTIAL	LAND	72698.74328	+0.5								0
376.07-2-51	Robert B Newton	2169 Rt 426 Clymer NY,14724	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	40899.11956		2							2
376.07-2-52	Martin Smith	2137 Sunnyside Rd Clymer NY,14724	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	105822.8769		1							1
376.07-2-53	Larry A Neckers	2116 Shadyside Rd Clymer NY,14724	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	9451.132418									0
376.07-2-54	Larry A Neckers	2116 Shadyside Rd Clymer NY,14724	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	11356.74815		1							1
376.07-2-55	Stephen L Card	2118 Shadyside Clymer NY,14724	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	38222.86823		1							1
376.07-2-56.1	Greig E Sillaman	Union City PA,16438	311	VACANT LAND RESIDENTIAL	LAND	256154.1687	+0.5								0
376.07-2-56.2	Cornelissen Martin N	2294 Constitution Blvd McKeesport PA 15135	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/COTTAGE	324984.2636		1							1
376.07-2-57	Greig E Sillaman	Union City PA,16438	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/---	40761.39338		1							1
376.07-2-59.1	James H Ellsworth	2176 Shadyside Rd Clymer NY,14724	311	VACANT LAND RESIDENTIAL	LAND	27432.59124	+0.5								0
376.07-2-6	Cooper James A	,	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	10544.40604		1							1
376.07-2-60	James Ellsworth	2176 Shadyside Rd Clymer NY,14724	311	VACANT LAND RESIDENTIAL	LAND	33057.03978	+0.5								0
376.07-2-61	Cooper James A	,	312	RESIDENTIAL WITH OUTBUILDING NO RESIDENCE	LAND/SHED	10101.73697									0
376.07-2-62	Violet Ahlquist	5 Brenda Ln Russell PA,16345	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	11252.59064		1							1
376.07-2-7	Cooper James A	,	311	VACANT LAND RESIDENTIAL	LAND	1912.575551									0
376.07-2-8	James H Ellsworth	2176 Shadyside Rd Clymer NY,14724	311	VACANT LAND RESIDENTIAL	LAND	757.2778244									0
376.07-2-9	James Ellsworth	2176 Shadyside Rd Clymer NY,14724	210	SINGLE FAMILY YEAR ROUND	RESIDENTIAL	6937.345932		1							1
					EXISTING TOTALS	37080	334	8	57	151	6		6		562
					Column adjust for Potential Buildable Lots		34	0	0	14	0		0		48
					POTENTIAL TOTALS		368	8	57	165	6		6		610

Appendix E

Estimate of Probably Project Cost

ITEM NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL
SEWER COLLECTION SYSTEM					
1	Furnish and Install 8-Inch DR 11 HDPE Pressure Sewers	500	LF	\$50	\$25,000
2	Furnish and Install 6-Inch DR 11 HDPE Pressure Sewers	11,000	LF	\$40	\$440,000
3	Furnish and Install 4-Inch DR 11 HDPE Pressure Sewers	10,500	LF	\$35	\$367,500
4	Furnish and Install 3-Inch DR 11 HDPE Pressure Sewers	13,000	LF	\$32	\$416,000
5	Furnish and Install 2-Inch DR 11 HDPE Pressure Sewers	16,000	LF	\$30	\$480,000
6	Furnish and Install 1.25-Inch DR 11 HDPE Pressure Sewers	54,000	LF	\$28	\$1,512,000
7	Furnish and Install Residential Simplex Grinder Pump Stations	391	EA	\$5,000	\$1,955,000
8	Furnish and Install Commercial Grinder Pump Stations	31	EA	\$10,000	\$310,000
9	Furnish and Install Lateral Kits	422	EA	\$1,000	\$422,000
10	Furnish and Install Grinder Pump Sewer Service Connection	422	EA	\$2,500	\$1,055,000
11	Furnish and Install Grinder Pump Electrical Connection	422	EA	\$2,500	\$1,055,000
12	Furnish and Install 8-Inch Gate Valve and Valve Box	1	EA	\$1,600	\$1,600
13	Furnish and Install 6-Inch Gate Valve and Valve Box	8	EA	\$1,500	\$12,000
14	Furnish and Install 4-Inch Gate Valve and Valve Box	15	EA	\$1,400	\$21,000
15	Furnish and Install 3-Inch Gate Valve and Valve Box	20	EA	\$1,250	\$25,000
16	Furnish and Install 2-Inch Gate Valve and Valve Box	28	EA	\$1,000	\$28,000
17	Furnish and Install Force Main Cleanout	90	EA	\$2,250	\$202,500
18	Furnish and Install Air/Vacuum Release Manhole	25	EA	\$7,500	\$187,500
19	Furnish and Install Major Drilled Crossings	5	EA	\$25,000	\$125,000
20	Furnish and Install Interstate Crossing	1	EA	\$100,000	\$100,000
21	Furnish and Install Intermediate Sewer Pump Station	1	EA	\$275,000	\$275,000
22	Furnish and Install Small Sewer Pump Station	1	EA	\$75,000	\$75,000
23	Furnish and Install Odor Control Stations	2	LS	\$125,000	\$250,000
24	Restoration (Based LF of Low Pressure Main)	51,000	LF	\$10	\$510,000
Subtotal:					\$9,851,000
Mobilization/Demobilization/General Conditions:				5%	\$493,000
Inflation to 2023 Dollars @				2%	\$592,000
Subtotal Construction Costs:					\$10,936,000
Engineering/Legal/Administrative Costs:				20%	\$2,188,000
Construction Contingency:				20%	\$2,188,000
TOTAL COLLECTION SYSTEM COST					\$15,312,000
WASTEWATER TREATMENT PLANT					
20	Headworks	1	LS	\$200,000	\$200,000
21	SBR, Digester, and EQ Tanks	1	LS	\$1,800,000	\$1,800,000
22	Disinfection / Post Aeration / Outfall Sewer	1	LS	\$250,000	\$250,000
23	Solids Dewatering	1	LS	\$600,000	\$600,000
24	Control Building	1	LS	\$400,000	\$400,000
25	SCADA and Electrical	1	LS	\$350,000	\$350,000
26	Site Improvements	1	LS	\$500,000	\$500,000
27	Miscellaneous Improvements	1	LS	\$200,000	\$200,000
Subtotal:					\$4,300,000
Mobilization/Demobilization/General Conditions:				5%	\$215,000
Inflation to 2023 Dollars @				2%	\$258,000
Subtotal Construction Costs:					\$4,773,000
Engineering/Legal/Administrative Costs:				20%	\$955,000
Construction Contingency:				20%	\$955,000
TOTAL WWTP COST					\$6,683,000
TOTAL CONSTRUCTION COST					\$15,709,000
TOTAL ELA COST					\$3,143,000
TOTAL CONSTRUCTION CONTINGENCY					\$3,143,000
TOTAL PROJECT COST					\$21,995,000

ITEM NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL
WASTEWATER TREATMENT PLANT IMPROVMENTS					
1	Headworks	1	LF	\$275,000	\$275,000
2	WWTP Pump Stations	2	EA	\$60,000	\$120,000
3	Influent Flow Meter	1	LS	\$2,000	\$2,000
4	Secondary Treatment - Aeration Tanks	1	LS	\$200,000	\$200,000
5	Secondary Treatment - Clarifier and Settling Tanks	2	EA	\$200,000	\$400,000
6	Chlorination Building and Effluent Pump Station	1	LS	\$65,000	\$65,000
7	Aerobic Digestion	1	LS	\$100,000	\$100,000
8	Control and Blower Building	1	LS	\$250,000	\$250,000
9	Equalization Tank	1	LS	\$5,000	\$5,000
10	Greenhouse Electrical Improvements	1	LS	\$50,000	\$50,000
11	Miscellaneous Improvements	1	LS	\$50,000	\$50,000
Subtotal:					\$1,517,000
				Mobilization/Demobilization/General Conditions: 5%	\$76,000
				Inflation to 2023 Dollars @ 2%	\$92,000
Subtotal Construction Costs:					\$1,685,000
				Engineering/Legal/Administrative Costs: 20%	\$337,000
				Construction Contingency: 20%	\$337,000
TOTAL WWTP COST					\$2,359,000

ITEM NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	
SEWER COLLECTION SYSTEM						
1	Furnish and Install 10-Inch DR 11 HDPE Pressure Sewers	5,500	LF	\$60	\$330,000	
2	Furnish and Install 8-Inch DR 11 HDPE Pressure Sewers	29,000	LF	\$50	\$1,450,000	
4	Furnish and Install 4-Inch DR 11 HDPE Pressure Sewers	10,000	LF	\$35	\$350,000	
5	Furnish and Install 3-Inch DR 11 HDPE Pressure Sewers	10,000	LF	\$32	\$320,000	
6	Furnish and Install 2-Inch DR 11 HDPE Pressure Sewers	16,000	LF	\$30	\$480,000	
7	Furnish and Install 1.25-Inch DR 11 HDPE Pressure Sewers	54,000	LF	\$28	\$1,512,000	
8	Furnish and Install Residential Simplex Grinder Pump Stations	391	EA	\$5,000	\$1,955,000	
9	Furnish and Install Commercial Grinder Pump Stations	31	EA	\$10,000	\$310,000	
10	Furnish and Install Lateral Kits	422	EA	\$1,000	\$422,000	
11	Furnish and Install Grinder Pump Sewer Service Connection	422	EA	\$2,500	\$1,055,000	
12	Furnish and Install Grinder Pump Electrical Connection	422	EA	\$2,500	\$1,055,000	
13	Furnish and Install 10-Inch Gate Valve and Valve Box	3	EA	\$1,800	\$5,400	
14	Furnish and Install 8-Inch Gate Valve and Valve Box	16	EA	\$1,600	\$25,600	
16	Furnish and Install 4-Inch Gate Valve and Valve Box	6	EA	\$1,400	\$8,400	
17	Furnish and Install 3-Inch Gate Valve and Valve Box	20	EA	\$1,250	\$25,000	
18	Furnish and Install 2-Inch Gate Valve and Valve Box	28	EA	\$1,000	\$28,000	
19	Furnish and Install Force Main Cleanout	70	EA	\$2,250	\$157,500	
20	Furnish and Install Air/Vacuum Release Manhole	25	EA	\$7,500	\$187,500	
21	Furnish and Install Major Drilled Crossings	5	EA	\$25,000	\$125,000	
22	Furnish and Install Interstate Crossing	1	EA	\$100,000	\$100,000	
23	Furnish and Install Small Sewer Pump Station	1	EA	\$75,000	\$75,000	
24	Restoration (Based LF of Low Pressure Main)	70,500	LF	\$10	\$705,000	
Subtotal:					\$10,682,000	
				Mobilization/Demobilization/General Conditions:	5%	\$535,000
				Inflation to 2023 Dollars @	2%	\$641,000
Subtotal Construction Costs:					\$11,858,000	
				Engineering/Legal/Administrative Costs:	20%	\$2,372,000
				Construction Contingency:	20%	\$2,372,000
TOTAL COLLECTION SYSTEM COST					\$16,602,000	
WASTEWATER TREATMENT PLANT and PUMP STATIONS						
25	Furnish and Install Intermediate Sewer Pump Station with Odor Control	2	EA	\$450,000	\$900,000	
26	Furnish and Install Intermediate Sewer Pump Station	1	EA	\$350,000	\$350,000	
27	Headworks	1	LS	\$260,000	\$260,000	
28	SBR, Digester, and EQ Tanks	1	LS	\$2,400,000	\$2,400,000	
29	Disinfection / Post Aeration / Outfall Sewer	1	LS	\$325,000	\$325,000	
30	Solids Dewatering	1	LS	\$600,000	\$600,000	
31	Control Building	1	LS	\$400,000	\$400,000	
32	SCADA and Electrical	1	LS	\$400,000	\$400,000	
33	Site Improvements	1	LS	\$500,000	\$500,000	
34	Miscellaneous Improvements	1	LS	\$2,500,000	\$2,500,000	
Subtotal:					\$8,635,000	
				Mobilization/Demobilization/General Conditions:	5%	\$432,000
				Inflation to 2023 Dollars @	2%	\$519,000
Subtotal Construction Costs:					\$9,586,000	
				Engineering/Legal/Administrative Costs:	20%	\$1,918,000
				Construction Contingency:	20%	\$1,918,000
TOTAL WWTP COST					\$13,422,000	
TOTAL CONSTRUCTION COST					\$21,444,000	
TOTAL ELA COST					\$4,290,000	
TOTAL CONSTRUCTION CONTINGENCY					\$4,290,000	
TOTAL PROJECT COST					\$30,024,000	

ITEM NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL
SEWER COLLECTION SYSTEM					
1	Furnish and Install 8-Inch DR 11 HDPE Pressure Sewers	31,000	LF	\$50	\$1,550,000
2	Furnish and Install 4-Inch DR 11 HDPE Pressure Sewers	17,000	LF	\$35	\$595,000
3	Furnish and Install 3-Inch DR 11 HDPE Pressure Sewers	8,000	LF	\$32	\$256,000
4	Furnish and Install 2-Inch DR 11 HDPE Pressure Sewers	14,000	LF	\$30	\$420,000
5	Furnish and Install 1.25-Inch DR 11 HDPE Pressure Sewers	54,000	LF	\$28	\$1,512,000
6	Furnish and Install Residential Simplex Grinder Pump Stations	391	EA	\$5,000	\$1,955,000
7	Furnish and Install Commercial Grinder Pump Stations	31	EA	\$10,000	\$310,000
8	Furnish and Install Lateral Kits	422	EA	\$1,000	\$422,000
9	Furnish and Install Grinder Pump Sewer Service Connection	422	EA	\$2,500	\$1,055,000
10	Furnish and Install Grinder Pump Electrical Connection	422	EA	\$2,500	\$1,055,000
11	Furnish and Install 8-Inch Gate Valve and Valve Box	17	EA	\$1,600	\$27,200
12	Furnish and Install 4-Inch Gate Valve and Valve Box	18	EA	\$1,400	\$25,200
13	Furnish and Install 3-Inch Gate Valve and Valve Box	15	EA	\$1,250	\$18,750
14	Furnish and Install 2-Inch Gate Valve and Valve Box	28	EA	\$1,000	\$28,000
15	Furnish and Install Force Main Cleanout	70	EA	\$2,250	\$157,500
16	Furnish and Install Air/Vacuum Release Manhole	25	EA	\$7,500	\$187,500
17	Furnish and Install Major Drilled Crossings	5	EA	\$25,000	\$125,000
18	Furnish and Install Interstate Crossing	1	EA	\$100,000	\$100,000
19	Furnish and Install Small Sewer Pump Station	1	EA	\$75,000	\$75,000
20	Restoration (Based LF of Low Pressure Main)	70,000	LF	\$10	\$700,000
Subtotal:					\$10,575,000
				Mobilization/Demobilization/General Conditions: 5%	\$529,000
				Inflation to 2023 Dollars @ 2%	\$635,000
Subtotal Construction Costs:					\$11,739,000
				Engineering/Legal/Administrative Costs: 20%	\$2,348,000
				Construction Contingency: 20%	\$2,348,000
TOTAL COLLECTION SYSTEM COST					\$16,435,000
WASTEWATER TREATMENT PLANT and MAIN PUMP STATIONS					
21	Furnish and Install Main Sewer Pump Station with Odor Control	2	EA	\$450,000	\$900,000
22	Furnish and Install Main Sewer Pump Station	1	EA	\$350,000	\$350,000
23	Headworks	1	LS	\$260,000	\$260,000
24	SBR, Digester, and EQ Tanks	1	LS	\$2,400,000	\$2,400,000
25	Disinfection / Post Aeration / Outfall Sewer	1	LS	\$325,000	\$325,000
26	Solids Dewatering	1	LS	\$600,000	\$600,000
27	Control Building	1	LS	\$400,000	\$400,000
28	SCADA and Electrical	1	LS	\$400,000	\$400,000
29	Site Improvements	1	LS	\$500,000	\$500,000
30	Miscellaneous Improvements	1	LS	\$2,500,000	\$2,500,000
Subtotal:					\$8,635,000
				Mobilization/Demobilization/General Conditions: 5%	\$432,000
				Inflation to 2023 Dollars @ 2%	\$519,000
Subtotal Construction Costs:					\$9,586,000
				Engineering/Legal/Administrative Costs: 20%	\$1,918,000
				Construction Contingency: 20%	\$1,918,000
TOTAL WWTP COST					\$13,422,000
TOTAL CONSTRUCTION COST					\$21,325,000
TOTAL ELA COST					\$4,266,000
TOTAL CONSTRUCTION CONTINGENCY					\$4,266,000
TOTAL PROJECT COST					\$29,857,000

Appendix F

Estimated First Year Operation and Maintenance Costs

Annual O&M Costs	Collection and Conveyance	WWTP
Administrative Expenses	\$5,000.00	\$2,000.00
Operator, Hours/Week	25	40
Operator Hourly Wage and Benefits	\$50.00	\$50.00
Operator Annual Wages	\$65,000.00	\$104,000.00
General Expenses	\$10,000.00	\$10,000.00
Other O&M (Chemicals, Utilities, Disposal, Lab, Repairs)	\$10,000.00	\$75,000.00
Annual O&M Costs	\$90,000	\$191,000
Total Annual O&M Costs	\$281,000	
Short Lived Assets (SLA)	Collection and Conveyance	WWTP
Yearly Reserve for Short Lived Assets	\$20,000.00	\$30,000.00
Total Annual SLA Costs	\$50,000	
Total Annual O&M and SLA Costs	\$331,000	

Annual O&M Costs	Collection and Conveyance	WWTP
Administrative Expenses	\$2,000.00	\$2,000.00
Operator, Hours/Week	10	25
Operator Hourly Wage and Benefits	\$50.00	\$50.00
Operator Annual Wages	\$26,000.00	\$65,000.00
General Expenses	\$2,500.00	\$2,500.00
Other O&M (Chemicals, Utilities, Disposal, Lab, Repairs)	\$15,000.00	\$60,000.00
Annual O&M Costs	\$45,500	\$129,500
Total Annual O&M Costs	\$175,000	
Short Lived Assets (SLA)	Collection and Conveyance	WWTP
Yearly Reserve for Short Lived Assets	\$5,000.00	\$20,000.00
Total Annual SLA Costs	\$25,000	
Total Annual O&M and SLA Costs	\$200,000	

Annual O&M Costs	Collection and Conveyance	WWTP and Main Pump Stations
Administrative Expenses	\$7,000.00	\$2,000.00
Operator, Hours/Week	25	60
Operator Hourly Wage and Benefits	\$50.00	\$50.00
Operator Annual Wages	\$65,000.00	\$156,000.00
General Expenses	\$10,000.00	\$10,000.00
Other O&M (Chemicals, Utilities, Disposal, Lab, Repairs)	\$5,000.00	\$120,000.00
Annual O&M Costs	\$87,000	\$288,000
Total Annual O&M Costs	\$375,000	
Short Lived Assets (SLA)	Collection and Conveyance	WWTP and Main Pump Stations
Yearly Reserve for Short Lived Assets	\$20,000.00	\$35,000.00
Total Annual SLA Costs	\$55,000	
Total Annual O&M and SLA Costs	\$430,000	

Appendix G

Preliminary Project Financing Estimate

Alternative 1 : Findley Lake Only Sewer District - Total Cost	\$21,995,000
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		EFC 0% Loan, WIIA Grant, \$5 million WQIP	EFC 0% Loan, WIIA Grant, \$10 million WQIP	EFC 0% Loan, WIIA Grant, \$2.5 million WQIP
Rate		0.0%	0.0%	0.0%
Term Length		30	30	30
WQIP Grant		\$5,000,000	\$10,000,000	\$2,500,000
WIIA		\$4,248,750	\$2,998,750	\$4,873,750
Total Grant		\$9,248,750	\$12,998,750	\$7,373,750
Annualized Capital Debt Cost		\$424,875	\$299,875	\$487,375
Annualized O&M and SLA		\$331,000	\$331,000	\$331,000
Number of Debt EDU's	610			
Number of O&M EDU's	562			
Yearly Debt Cost Per User		\$697	\$492	\$799
Yearly O&M Cost Per User		\$589	\$589	\$589
Est. Total Monthly Cost Per User		\$107	\$90	\$116
Est. Total Quarterly Cost Per User		\$321	\$270	\$347
Est. Total Annual Sewer Use Charge		\$1,285	\$1,081	\$1,388

Alternative 2: Peek N' Peak Plant Improvements - Total Cost		\$2,359,000
		20 Year Bond at 4.5% Interest
	Rate	4.5%
	Term Length	20
	Annualized Capital Debt Cost	\$181,351
	Annualized O&M and SLA	\$200,000
Est. Number of Debt EDU's	262	
Est. Number of O&M EDU's	262	
	Yearly Debt Cost Per User	\$692
	Yearly O&M Cost Per User	\$763
	Est. Total Monthly Cost Per User	\$121
	Est. Total Quarterly Cost Per User	\$364
	Est. Total Annual Sewer Use Charge	\$1,456

Alternative 3A and 3B will be very similar in costs.

Collection System	\$16,600,000
WWTP and Pump Stations	\$13,400,000
Approximate Total for Alternative 3A or Alternative 3B	\$30,000,000

		EFC 0% Loan, WIIA Grant, \$5 million WQIP	EFC 0% Loan, WIIA Grant, \$10 million WQIP	EFC 0% Loan, WIIA Grant, \$2.5 million WQIP
Rate		0.0%	0.0%	0.0%
Term Length		30	30	30
WQIP Grant		\$5,000,000	\$10,000,000	\$2,500,000
WIIA		\$5,000,000	\$5,000,000	\$5,000,000
Total Grant		\$10,000,000	\$15,000,000	\$7,500,000
WWTP and Pump Stations Annualized Capital Debt Cost		\$297,778	\$223,333	\$335,000
WWTP and Pump Stations Annualized O&M and SLA		\$323,000	\$323,000	\$323,000
Collection System Annualized Capital Debt Cost		\$368,889	\$276,667	\$415,000
Collection System Annualized O&M and SLA		\$107,000	\$107,000	\$107,000
WWTP and MPS Number of Debt EDU's	872			
WWTP and MPS Number of O&M EDU's	824			
Collection System Number of Debt EDU's	610			
Collection System Number of O&M EDU's	562			
WWTP and MPS Yearly Debt Cost Per User		\$341	\$256	\$384
WWTP and MPS Yearly O&M Cost Per User		\$392	\$392	\$392
Collection System Yearly Debt Cost Per User		\$605	\$454	\$680
Collection System Yearly O&M Cost Per User		\$190	\$190	\$190
Peek N' Peak Est. Total Annual Sewer Use Charge		\$733	\$648	\$776
Findley Lake Est. Total Annual Sewer Use Charge		\$1,529	\$1,292	\$1,647

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