July 1, 2024

Re: State Environmental Quality Review Act Update for the
Western New York Science & Technology Advanced Manufacturing Park

Dear Interested or Involved Agency:

The Genesee County Industrial Development Agency d/b/a the Genesee County Economic Development Center ("**GCEDC**"), in conjunction with the Genesee Gateway Local Development Corporation ("**GGLDC**"), the non-profit real estate affiliate of the GCEDC, STAMP Sewer Works, Inc. ("**SSW**"), and STAMP Water Works, Inc. ("**SWW**") is developing the Western New York Science & Technology Advanced Manufacturing Park ("**STAMP**" or the "**Project**"), an advanced manufacturing technology campus on approximately 1,262 acres located on the west side of New York State Route 63/77, approximately five miles north of the I-90/New York State Thruway ("**Site**") in the Town of Alabama, New York ("**Town**"). STAMP is intended to be an economic development engine, providing opportunities for economic growth unlike any other in the greater Buffalo/Niagara and Rochester regions. At full build out, STAMP will feature 6.1 million square feet of development in a natural, sustainable, campus setting. The development on the Site will accommodate various uses such as technology and manufacturing facilities, tech space, agribusinesses, support facilities, office space and ancillary retail. STAMP was specifically designed to accommodate world-class, high-tech companies and as such, it focuses on attracting large, technology advanced manufacturing tenants, with an emphasis on tenants operating in renewable energy industries.

The GCEDC first analyzed the environmental impacts of the development of the Site, as lead agency, Pursuant to the State Environmental Quality Review Act ("**SEQRA**"),in a process culminating with a Final Generic Environmental Impact Statement ("**GEIS**") issued on January 19, 2012. A written Findings Statement ("**GCEDC Findings**") was issued on March 12, 2012. In June 2016, and August 2019, SEQRA updates were conducted to analyze various changes to the Project following issuance of the GCEDC Findings ("**2016 Modifications**" and "**2019 Modifications**"). The GCEDC, as lead agency, issued written amended findings statements on July 14, 2016 ("**2016 GCEDC Findings**") and a SEQRA update on August 6, 2020 ("**2020 SEQRA Update**"). In February 2021, a SEQRA update was conducted to evaluate the addition of a tenant to the STAMP Site ("**2021 SEQRA Update**"). Following the 2021 SEQRA Update, GCEDC conducted additional SEQRA analysis in 2022 to evaluate new environmental information relating to the construction of the STAMP wastewater treatment facility, force main, substation, and powerline reroute and issued a negative declaration for the same in July of 2022 ("**2022 Negative Declaration**"). GCEDC amended the negative declaration in August of 2022 ("**2022 First Amended Negative Declaration**") to address concerns raised by the Tonawanda Seneca Nation ("**Nation**") and again in October of 2022 to address changes in

construction timing for the powerline reroute ("**2022 Second Amended Negative Declaration**"). Following the updated review, GCEDC issued another negative declaration and positive findings on February 1, 2023 (the "**February 2023 Negative Declaration**") (collectively, the GEIS as amended and updated, together with the negative declarations, are referred to as the "**STAMP GEIS**").

Pursuant to SEQRA, GCEDC is now evaluating some modifications to STAMP infrastructure (the "**2024 Modifications**") consisting of the following:

1. 0.50 Million gallon concrete onsite water storage tank, approximately 48 FT diameter, 40' sidewall height and 50' at the center of the dome ("**Water Tank**").
2. Main Pump Station located at the STAMP Site, an Intermediate Pump Station in the Town of Alabama and 47,000 LF, 12" diameter force main to the Village of Oakfield (the "**Oakfield Force Main**").
3. A new traffic circle located at the intersection of Crosby Road and Lewiston Road ("**Roundabout**").

GGEDC, which has served as the SEQRA lead agency for the Project, is distributing copies of relevant information to assist interested and involved agencies in providing comments to the lead agency about potential adverse environmental impacts associated with the 2024 Modifications. This information includes the following:[1]

Exhibit	**Description**
Exhibit A:	Notice of Intent to Re-Establish Lead Agency
Exhibit B:	List of Interested and Involved Agencies
Exhibit C:	Full Environmental Assessment Form ("**EAF**") (Part I) for Water Tank, Oakfield Force Main, and Roundabout (with attachments thereto)
Exhibit D:	Acknowledgment of GCEDC Re-establishment as Lead Agency to Conduct a Coordinated Review Pursuant to SEQRA for 2024 Modifications
Exhibit E:	Oakfield BODR
Exhibit F:	CPL Traffic Model Report for Roundabout
Exhibit G:	Archeological Report for Oakfield Force Main
Exhibit H:	Visual Analysis
Exhibit I:	Hydrological Study for Oakfield Force Main
Exhibit J:	Water Tank BODR
Exhibit K:	Oakfield PCN

OVERVIEW OF 2024 MODIFICATIONS

A. Water Tank

[1] All exhibits are available for download at the following link: https://ftp2.phillipslytle.com/?ShareToken=6AE3134D6835A6A865258ED646A28A07C8E39670.

In order to ensure adequate water pressure for STAMP tenants, including for emergency fire suppression systems, GCEDC is proposing the construction of a 500,000 gallon Water Tank and additional related infrastructure, including an access driveway, control vault, and water main installation. The Water Tank will be located adjacent to the Edwards Vacuum development on the Northeast portion of the STAMP Site. The Water Tank will be serviced by the Genesee County water main entering the STAMP Site from the south.

B. New Force Main to Oakfield WWTF

The development of necessary waste water treatment infrastructure for STAMP has experienced a number of significant challenges. First, in or around 2012, GCEDC considered building a wastewater-treatment facility on the STAMP campus. The treated water would then be discharged near the STAMP campus into Whitney Creek, which flows into territory of the Nation. However, the Nation asked GCEDC to choose a different wastewater plan, and GCEDC agreed to evaluate alternatives.

In 2013, after an exhaustive study, GCEDC chose an alternative plan (the "**Medina Plan**") which involved sending untreated STAMP wastewater to the wastewater-treatment facility in the Village of Medina, New York ("**Medina**") in Orleans County. The untreated wastewater would travel from the STAMP campus to Medina through a proposed underground pipe. GCEDC and Medina executed a memorandum of understanding ("**MOU**") regarding the Medina Plan. However, the MOU expired in 2017 before the project was completed, and Medina declined to renew it.

Thereafter, GCEDC developed another waste water treatment option for STAMP. In 2019, after significant consideration, GCEDC chose to treat wastewater on the STAMP campus; after which the treated water would travel through the Oak Orchard Creek ("**OOC**") Force Main to be discharged in the OOC Force Main in the Town of Shelby ("**Shelby**") in Orleans County (the, "**Shelby Plan**"). Because only certain types of entities can operate this type of waste water treatment system in New York, SSW, a sewage-works corporation incorporated under Article 10 of the Transportation Corporations Law, was formed in 2020 to carry out and operate this system.

In furtherance of the Shelby Plan, SSW obtained the following approvals:

- State Pollution Discharge Elimination System ("**SPDES**") Permit from New York State Department of Environmental Conservation ("**NYSDEC**");
- Federal wetland permit from U.S. Army Corps of Engineers ("**USACE**");
- work permit from the New York State Department of Transportation ("**NYSDOT**"),
- Right of Way Permit ("**ROW Permit**") from the United States Fish and Wildlife Service ("**USFWS**") to construct the OOC Force Main through the Iroquois National Wildlife Refuge ("**INWR**");
- Consent from the Town of Alabama, the Town of Shelby, and the Genesee County Department of Health, and the Orleans County Department of Health to form SSW.

During 2023, as construction got underway, the Shelby Plan encountered a number of challenges. First, the project utilizes horizontal directional drilling ("**HDD**") which is generally

considered a less intrusive construction method. However, under certain ground conditions, HDD may result in the inadvertent return of drilling fluid above ground, referred to as "Frac-Out." While the Shelby Plan has substantial mitigation procedures in place for occurrences of Frac-Out, unexpected subterranean conditions along the project route have increased the likelihood of such occurrences to the point of where GCEDC and SSW have notified USFWS and NYSDEC of an intent to switch to open cut methodology. USFWS has indicated that a new ROW permit be necessary to authorize open trench cut along the Route 63 Right of Way that crosses INWR. In addition, Orleans County filed a lawsuit on September 11, 2023 ("**Orleans Suit**"), challenging the eminent domain proceeding connected with the acquisition of easements necessary to construct the OOC Force Main, as well as the SEQR review of the same. Thereafter, on November 29, 2023, the Nation filed suit against the USFWS alleging its approval of the OOC Force Main was a violation of federal law (the "**Nation Suit**"). The Orleans Suit has been dismissed but the Nation Suit remains pending at this time.

These complications to the implementation of the Shelby Plan could have a significant adverse effect on STAMP's current and proposed tenants. One STAMP Tenant, Plug Power is planning on meeting its waste water treatment needs by storing and hauling its wastewater to be treated off-site, which is not good long-term solution for its needs. Additionally, Edwards Vacuum, with its proposed approximately 600 person operation will be unable to operate without the completion of a viable sanitary waste water treatment system at STAMP.

Therefore, in order to ensure that such a system will be available for Plug Power and Edwards Vacuum, SSW began examining other options in the event the Shelby Plan is not completed in 2025. Accordingly, the Oakfield Force Main has now been proposed as an alternative to meet the needs of Plug Power and Edwards Vacuum. The Oakfield Force Main will transport wastewater from STAMP to the Village of Oakfield Waste Water Treatment Plant ("**Oakfield WWTP**"), which has excess capacity well in excess of STAMP's current needs (the "**Oakfield Plan**"). Preliminary discussions with Oakfield have been productive, and a non-binding Letter of Intent which contemplates initial average daily sanitary sewage flows from STAMP of 20,000 gallons per day ("**GPD**") has been executed in furtherance of the Oakfield Plan.

Accordingly, the GCEDC and SSW are now proposing the construction of the Oakfield Force Main for treatment of wastewater from Edwards Vacuum and Plug Power while working to resolve issues currently preventing the implementation of the Shelby Plan. GCEDC and SSW believe this is the most prudent path forward as it will address wastewater needs at STAMP in the short term while also potentially resulting in new investments in the Oakfield WWTF.

C. Roundabout

GCEDC is proposing to construct a modification to the Crosby Road / Lewiston Road intersection by installing a traffic circle (Figure 1). The traffic circle will also connect to the Future Bypass Road (not currently constructed) in order to improve traffic geometry and safety at this intersection. This modification comes at the request of the Town of Alabama, to improve existing traffic geometry at this intersection..

Reestablishment of GCEDC as Lead Agency

Therefore, the GCEDC now desires to formally re-establish itself as lead agency for this Type I Action pursuant to and in accordance with SEQRA. Accordingly, the GCEDC is providing your agency, board or department with its Notice of Intent to Act as Lead Agency for the 2024 Modifications, attached as **Exhibit A**. All potentially involved agencies are listed on the attached **Exhibit B**. Also, a copy of the EAF is attached as **Exhibit C**, and supporting documents are attached as **Exhibits E** through **L**.

Under SEQRA, potentially involved agencies have thirty (30) days from the date the lead agency package was transmitted to contest the GCEDC's notice of intent to re-establish itself as lead agency. We request that your agency accept and approve the re-establishment of the GCEDC as lead agency for the 2024 Modifications by signing the "Acknowledgment of GCEDC to Re-establish Itself as Lead Agency and Conduct a Coordinated Review Pursuant to SEQRA" form included with this package as **Exhibit D**. The form may be directed to the GCEDC via fax ((585) 343-0848), via mail (99 MedTech Drive, Suite 106, Batavia, NY 14020), or via e-mail (mmasse@gcedc.com). Any agency that does not respond within 30 days of the date that the lead agency package was transmitted will be deemed to have consented to the re-establishment of the GCEDC as lead agency for the coordinated environmental review, pursuant to and in accordance with SEQRA, for the 2024 Modifications.

Very truly yours,

Genesee County Economic Development Center

By: 

Mark A. Masse, CPA
Senior Vice President of Operations

cc: Adam Walters, Esq.

NEW YORK STATE ENVIRONMENTAL QUALITY REVIEW ACT
NOTICE OF COORDINATED REVIEW AND DECLARATION OF INTENT TO ACT AS LEAD AGENCY
July 1, 2024

This notice is issued by the Genesee County Industrial Development Agency d/b/a the Genesee County Economic Development Center ("**GCEDC**" or the "**Agency**"), pursuant to and in accordance with Article 8 of the Environmental Conservation Law, Chapter 43-B of the Consolidated Laws of New York, as amended, of the State Environmental Quality Review Act and the regulations adopted pursuant thereto by the New York State Department of Environmental Conservation, being 6 N.Y.C.R.R. Part 617, as amended (collectively "**SEQRA**").

Project Name: STAMP 2024 Modifications

Location: Town of Alabama, Genesee County, New York

Classification: Type I: __X___ Unlisted: ____

Project Description:
The Genesee County Industrial Development Agency d/b/a the Genesee County Economic Development Corporation ("**GCEDC**"), in conjunction with the Genesee Gateway Local Development Corporation ("**GGLDC**"), the non-profit real estate affiliate of the GCEDC, have been working for more than a decade on the development of the Western New York Science & Technology Advanced Manufacturing Park ("**STAMP**" or the "**Project**"), an advanced manufacturing technology campus on approximately 1,262 acres located on the west side of New York State Route 63/77, approximately five miles north of the I-90/New York State Thruway ("**Site**") in the Town of Alabama, New York ("**Town**").

Pursuant to the State Environmental Quality Review Act ("**SEQR**"), GCEDC is now evaluating some modifications to STAMP infrastructure (the "**2024 Modifications**") consisting of the following:

1. 0.50 Million gallon concrete onsite water storage tank, approximately 48 FT diameter, 40' sidewall height and 50' at the center of the dome ("**Water Tank**").
2. Main Pump Station located at the STAMP Site, an Intermediate Pump Station in the Town of Alabama and 47,000 LF, 12" diameter force main to the Village of Oakfield (the "**Oakfield Force Main**").
3. A new traffic circle located at the intersection of Crosby Road and Lewiston Road ("**Roundabout**").

Notice Details:

The GCEDC first analyzed the environmental impacts of the development of the Site, as lead agency, Pursuant to the State Environmental Quality Review Act ("**SEQRA**"),in a process culminating with a Final Generic Environmental Impact Statement ("**GEIS**") issued on January 19, 2012. A written Findings Statement ("**GCEDC Findings**") was issued on March 12, 2012. In June 2016, and August 2019, SEQRA updates were conducted to analyze various changes to the Project following issuance of the GCEDC Findings ("**2016 Modifications**" and "**2019 Modifications**"). The GCEDC, as lead agency, issued written amended findings statements on July 14, 2016 ("**2016 GCEDC Findings**") and a SEQRA update on August 6, 2020 ("**2020 SEQRA Update**"). In February 2021, a SEQRA update was conducted to evaluate the addition of a tenant to the STAMP Site ("**2021 SEQRA Update**"). Following the 2021 SEQRA Update, GCEDC conducted additional SEQRA analysis in 2022 to evaluate new environmental information relating to the construction of the STAMP wastewater treatment facility, force main, substation, and powerline reroute and issued a negative declaration for the same in July of 2022 ("**2022 Negative Declaration**"). GCEDC amended the negative declaration in August of 2022 ("**2022 First Amended Negative Declaration**") to address concerns raised by the Tonawanda Seneca Nation ("**Nation**") and again in October of 2022 to address changes in construction timing for the powerline reroute ("**2022 Second Amended Negative Declaration**"). Following the updated review, GCEDC issued another negative declaration and positive findings on February 1, 2023 (the "**February 2023 Negative Declaration**") (collectively, the GEIS as amended and updated, together with the negative declarations, are referred to as the "**STAMP GEIS**").

The Project may require review and/or discretionary approvals from: Town of Alabama Town Board; Town of Alabama Planning Board; Town of Alabama Superintendent of Highways; Town of Alabama Fire Department; Town of Shelby Superintendent of Highways; Town of Shelby Town Board; Town of Shelby Planning Board; Village of Oakfield Board of Trustees; Village of Oakfield Planning Board; Village of Oakfield Department of Public Works; Town of Oakfield Town Board; Genesee County Department of Planning; Genesee County Health Department; Genesee County Legislature; Genesee County Highway Department; Genesee County Water Resources Board; Genesee County Emergency Management; County of Orleans; Orleans County Department of Health; Orleans County Department of Planning and Development; Orleans County Highway Superintendent; Orleans County Soil and Water; Orleans County Emergency Management Office; Niagara County Water District; New York State Department of Transportation; New York State Department of Environmental Conservation; New York State Department of Health; New York State Office of Parks, Recreation and Historic Preservation; New York State Department of Agriculture and Markets; New York State Power Authority; New York State Thruway Authority; Empire State Development Corporation; Tonawanda Seneca Nation; Genesee Gateway Local Development Corporation; STAMP Sewer Works, Inc.; U.S. Army Corps of Engineers.

Action Requested:

Under SEQRA, potentially involved agencies have thirty (30) days from the date the lead agency package was transmitted to contest the GCEDC's notice of intent to re-establish itself as lead agency. We request that your agency accept and approve the re-establishment of the GCEDC as lead agency for the Project by signing the "Acknowledgment of GCEDC to Re-establish Itself as Lead Agency and Conduct a Coordinated Review Pursuant to SEQRA" form included with this package. The form may be directed to the GCEDC via fax ((585) 343-0848), via mail (99 MedTech Drive, Suite 106, Batavia, NY 14020), or via e-mail (mmasse@gcedc.com). Any agency that does not respond within 30 days of the date that the lead agency package was transmitted will be deemed to have consented to the re-establishment of the GCEDC as lead agency for the coordinated environmental review, pursuant to and in accordance with SEQRA, for the Project.

For Further Information Contact:

Genesee County Economic Development Center
99 MedTech Drive
Suite 106
Batavia, NY 14020
ATTN: Mark A. Masse, CPA, Senior Vice President of Operations
Phone: (585) 343-4866, ext. 17
Toll free: (877) 343-4866
Fax: (585) 343-0848

STAMP 2024 Modifications
List of Potentially Interested and Involved Agencies

The following is a list of potentially interested and involved agencies:

Town of Alabama Town Board
2218 Judge Road
Oakfield, NY 14125
Attn: Robert Crossen, Town Supervisor

Town of Alabama Planning Board
2218 Judge Road
Oakfield, NY 14125
Attn: Carl Kumpf, Planning Board Chairman

Town of Alabama Superintendent of Highways
2218 Judge Road
Oakfield, NY 14125
Attn: Jeffrey Covel

Town of Alabama Fire Department
2230 Judge Road
Basom, NY 14013
Attn: Gary Patnode, Chief

Town of Shelby Superintendent of Highways
4062 Salt Works Road
Medina, NY 14103
Attn: Dale Root

Town of Shelby Town Board
4062 Salt Works Road
Medina, NY 14103
Attn: Scott Wengewicz, Supervisor

Town of Shelby Planning Board
4062 Salt Works Road
Medina, NY 14103
Attn: Kirk Myhill, Chairman

Village of Oakfield Board of Trustees
37 Main St.
Oakfield, NY 14125

Attn: David Boyle, Mayor

Village of Oakfield Planning Board
37 Main St.
Oakfield, NY 14125
Attn: Deborah Deer

Village of Oakfield Department of Public Works
37 Main St.
Oakfield, NY 14125
Attn: Tom Mikolajczyk, supervisor

Town of Oakfield Town Board
3219 Drake Street
Oakfield, NY 14125
Attn: Matt Martin, Town Supervisor

Genesee County Department of Planning
County Building 2
3837 West Main Street Road
Batavia, NY 14020
Attn: Felipe Oltramari, Director

Genesee County Health Department
County Building 2
3837 West Main Street Road
Batavia, NY 14020
Attn: Paul Pettit, Public Health Director

Genesee County Legislature
Old Courthouse
7 Main Street
Batavia, NY 14020
Attn: Rochelle Stein, Chair

Genesee County Highway Department
153 Cedar Street #2
Batavia, NY 14020
Attn: Tim Hens, Highway Superintendent

Genesee County Water Resources Board
153 Cedar Street #2
Batavia, NY 14020

Attn: Bruno DeFazio, Chair

Genesee County Emergency Management
7690 State Street Road
Batavia, NY 14020
Attn: Timothy Yaeger, Coordinator

County of Orleans
3 South Main Street
Albion, NY 1441-1495
Attn: John C. Welch, Jr., Chief Administrative Officer

Orleans County Department of Health
14016 State Route 31, Suite 101
Albion, NY 14411
Attn: Paul A. Pettit, Director

Orleans County Department of Planning and Development
14016 Route 31 West
Albion, NY 14411
Attn: James R. Bensley AICP, Director

Orleans County Highway Superintendent
225 West Academy Street
Albion, NY 14411
John Papponetti, Commissioner of Public Works

Orleans County Soil and Water
446 West Avenue
Albion, NY 14411
Attn: Katie Sommerfeldt, Manager

Orleans County Emergency Management Office
14064 W County House Road
Albion, NY 14411
Attn: Justin Niederhofer, Director

Niagara County Water District
5450 Ernest Road., P.O. Box 315
Lockport, NY 14095-0315
Attn: Jennifer Bieber, Administrative Director

New York State Department of Transportation

5441 East Main Street Road
Batavia, NY 14020
Attn: Dan Stahley, Asst. Resident Engineer

New York State Department of Environmental Conservation
Region 8 Office
6274 E. Avon-Lima Road
Avon, NY 14414-9519
Attn: Thomas Haley, Regional Permit Administrator

New York State Department of Health
Corning Tower
Empire State Plaza
Albany, NY 12237

New York State Office of Parks, Recreation and Historic Preservation
625 Broadway
Albany, NY 12207
Attn: Nancy Herter, Archeology Unit Program Coordinator

New York State Department of Agriculture and Markets
10B Airline Drive
Albany, NY 12235
Attn: Bob Somers, Manager Farmland Protection Unit

New York State Power Authority
123 Main Street
Corporate Communications
White Plains, NY 10601-3170
Attn: Justin E. Driscoll, President and CEO

New York State Thruway Authority
Administrative Headquarters
200 Southern Blvd.
Albany, NY 12209
Attn: Elizabeth Novak, Director of Transportation Planning and Environmental Services

Empire State Development Corporation
633 Third Avenue
New York, NY 10017
Attn: Soo Kang, Planning and Environmental Review

New York State Public Service Commission

Empire State Plaza
Agency Building 3
Albany, NY 12223-1350
Attn: Hon. Michelle L. Phillips, Secretary to the Commission

Tonawanda Seneca Nation[1]
7027 Meadville Road, P.O. Box 795
Basom, NY 14013
Attn: Christine Abrams, TSN Office Administrator

Genesee Gateway Local Development Corporation
99 MedTech Drive, Suite 106
Batavia, NY 14020

STAMP Sewer Works, Inc.
99 MedTech Drive, Suite 106
Batavia, NY 14020

U.S. Army Corps of Engineers
Buffalo District
478 Main Street
Buffalo, NY 14203
Attn: Lieutenant Colonel Colby K Krug

[1] Note: The Tonawanda Seneca Nation is identified as an Interested Agency for informational purposes only pursuant to the terms of the Stipulation of Settlement and Order entered into between GCEDC and the Tonawanda Seneca Nation in *Tonawanda Seneca Nation v. Hyde*.

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: WNY STAMP 2024 Infrastructure		
Project Location (describe, and attach a general location map): Crosby Road, Town of Alabama, Genesee County (See attached location maps)		
Brief Description of Proposed Action (include purpose or need): This project involves the development of supporting infrastructure on the STAMP Site. Onsite Infrastructure improvements includes the following supporting infrastructure. - 0.50 Million gallon concrete onsite water storage tank, approximately 48 FT diameter, 40' sidewall height and 50' at the center of the dome, and 12-inch diameter connection to the onsite water system. - Main Pump Station located at the STAMP Site, an Intermediate Pump Station in the Town of Alabama and 47,000 LF, 12-inch diameter force main to the Village of Oakfield. - Construction of a Roundabout at the intersection of Crosby Road, Lewiston Road and the future bypass road. The above noted infrastructure will be constructed to support the development at the WNY Science, Technology and Advance Manufacturing Park in the Town of Alabama, Genesee County, New York.		
Name of Applicant/Sponsor: Genesee County Economic Development Center	Telephone: 585-343-4866 E-Mail: mmasse@gcedc.com	
Address: 99 Med Tech Drive, Suite 106		
City/PO: Batavia	State: NY	Zip Code: 14020
Project Contact (if not same as sponsor; give name and title/role): Mark Masse, Sr. V.P. of Operations	Telephone: (585)434-4866, ext. 17 E-Mail:	
Address:		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor): Genesee Gateway Local Development Corporation	Telephone: 585-343-4866 E-Mail:	
Address: 99 Med Tech Drive, Suite 106		
City/PO: Batavia	State: NY	Zip Code: 14020

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustees ☑Yes ☐No		
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	Town of Alabama Board, Genesee County Board, Town of Oakfield	April 2024
c. City, Town or Village Zoning Board of Appeals ☑Yes ☐No	Town of Alabama Board, Genesee County Board	April 2024
d. Other local agencies ☑Yes ☐No	Town of Alabama Highway, Town of Oakfield Highway	April 2024
e. County agencies ☑Yes ☐No	Genesee Co. Planning Board, Gen Co. Highway work Permit	April 2024
f. Regional agencies ☐Yes ☑No		
g. State agencies ☑Yes ☐No	NYS DEC freshwater wetlands permit, NYSDEC SWPPP, NYS DOT Utility Permit	April 2024
h. Federal agencies ☑Yes ☐No	U.S. Army Corps of Engineers	April 2024

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes ☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes ☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes ☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes ☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☑Yes ☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☐Yes ☑No

If Yes, identify the plan(s):

_____

_____

_____

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☑Yes ☐No

If Yes, identify the plan(s):

Genesee County Smart Growth

_____

_____

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
Technology District 1 (TD-1), Technology District 2 (TD-2), Technology District 3 (TD-3)

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? Oakfield-Alabama Central School District

b. What police or other public protection forces serve the project site?
Genseee County Sheriff

c. Which fire protection and emergency medical services serve the project site?
Town of Alabama Fire Department, Genesee County Emergency Management Services, Mercy Flight Service

d. What parks serve the project site?
N/A

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Commercial, Industrial, municipal

b. a. Total acreage of the site of the proposed action? 156 acres
b. Total acreage to be physically disturbed? 75 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 1250 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☑ Yes ☐ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
municipal services
ii. Is a cluster/conservation layout proposed? ☐ Yes ☑ No
iii. Number of lots proposed? 3
iv. Minimum and maximum proposed lot sizes? Minimum .1 Maximum 5

e. Will the proposed action be constructed in multiple phases? ☑ Yes ☐ No
i. If No, anticipated period of construction: _____ months
ii. If Yes:
- Total number of phases anticipated 6
- Anticipated commencement date of phase 1 (including demolition) 6 month 2024 year
- Anticipated completion date of final phase 12 month 2025 year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases:

All phases are independent of one another. All phase could proceed simultaneously.

f. Does the project include new residential uses? ☐ Yes ☑ No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				
At completion of all phases				

g. Does the proposed action include new non-residential construction (including expansions)? ☑ Yes ☐ No

If Yes,

i. Total number of structures 9

ii. Dimensions (in feet) of largest proposed structure: 50 height; 48 width; and 48 length

iii. Approximate extent of building space to be heated or cooled: 750 square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☑ Yes ☐ No

If Yes,

i. Purpose of the impoundment: Potable water storage, stormwater storage facilities

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☑ Other specify: Municipal water supply, stormwater managment

iii. If other than water, identify the type of impounded/contained liquids and their source.
potable water

iv. Approximate size of the proposed impoundment. Volume: 0.5 million gallons; surface area: 2 acres

v. Dimensions of the proposed dam or impounding structure: 50 height; 48 length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):
Concrete ground mounted water storage tank, earthen pond

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) ☑ Yes ☐ No

If Yes:

i .What is the purpose of the excavation or dredging? excavation

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): 160,000 cy
- Over what duration of time? 18 months

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.
in-situ top soil, sub grade soils and rock

iv. Will there be onsite dewatering or processing of excavated materials? ☑ Yes ☐ No

If yes, describe. Dewatering will be required within the work area. Water will be pumped onto the adjacent ground and allowed to disburse naturally.

v. What is the total area to be dredged or excavated? 75 acres

vi. What is the maximum area to be worked at any one time? <5 acres acres

vii. What would be the maximum depth of excavation or dredging? 20 feet

viii. Will the excavation require blasting? ☐ Yes ☑ No

ix. Summarize site reclamation goals and plan:
Construction operations taking place in the road ROW will be restored to existing conditions, including topsoil and establish turf. Open areas will be restored and turf established.

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☑ Yes ☐ No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): Unnamed ditches and drainage ways, Brinningstool Creek, OK-9, Unnamed tributary to Tonawanda Creek and Oak Orchard Creek

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:
Excavation will take place within wetlands, buffer zones and streams. Native soils will be used for backfills, subgrade soils will be separated from the topsoil layer to place topsoil back to grade. Wetland seed mix will be applied to the area for restoration. An existing culvert crossing will be replaced along Crosby Road. Stream crossings will take place for the installation of the force main.

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☑ Yes ☐ No
If Yes, describe: utility trenching to cross creeks and streams

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? ☐ Yes ☑ No
If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____
- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

c. Will the proposed action use, or create a new demand for water? ☑ Yes ☐ No
If Yes:

i. Total anticipated water usage/demand per day: 500,000 gallons/day *One time filling operations

ii. Will the proposed action obtain water from an existing public water supply? ☑ Yes ☐ No
If Yes:

- Name of district or service area: Town of Alabama
- Does the existing public water supply have capacity to serve the proposal? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No
- Do existing lines serve the project site? ☑ Yes ☐ No

iii. Will line extension within an existing district be necessary to supply the project? ☑ Yes ☐ No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project:
  A 12-inch water main will connect the STAMP Onsite water system to the proposed fire water tank
- Source(s) of supply for the district: Town of Oakfield

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☑ No
If, Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project:
N/A

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: N/A gallons/minute.

d. Will the proposed action generate liquid wastes? ☐ Yes ☑ No
If Yes:

i. Total anticipated liquid waste generation per day: _____ gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____

iii. Will the proposed action use any existing public wastewater treatment facilities? ☐ Yes ☐ No
If Yes:

- Name of wastewater treatment plant to be used: _____
- Name of district: _____
- Does the existing wastewater treatment plant have capacity to serve the project? ☐ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No

- Do existing sewer lines serve the project site? ☐Yes ☐No
- Will a line extension within an existing district be necessary to serve the project? ☐Yes ☐No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes ☐No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans):

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑Yes ☐No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or 0.75 acres (impervious surface)

_____ Square feet or 156 acres (parcel size)

ii. Describe types of new point sources. ditches, swales, gutters, roof tops, water storage tanks, roads and driveways

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

Onsite stormwater management facility

- If to surface waters, identify receiving water bodies or wetlands: Unnamed drainageways, ditches and streams
- Will stormwater runoff flow to adjacent properties? ☐Yes ☑No

iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☑Yes ☐No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☑Yes ☐No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

construction equipment, truck delivery and shipment traffic

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

None

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

None

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes ☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes ☐No

ii. In addition to emissions as calculated in the application, the project will generate:

- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

_____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

_____

_____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐Weekend

☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____

_____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

_____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☑Yes ☐No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

25,000 kW generated by (2) sewage pump stations and tank equipment

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

local utility provider

iii. Will the proposed action require a new, or an upgrade, to an existing substation? ☐Yes ☑No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 7 am - 7 pm
- Saturday: 7 am - 7 pm
- Sunday: 7 am - 7 pm
- Holidays: 7 am - 7 pm

ii. During Operations:

- Monday - Friday: 24 hours
- Saturday: 24 hours
- Sunday: 24 hours
- Holidays: 24 hours

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

The existing landscape includes agricultural and residential properties. The proposed projects will create roads and industrial support infrastructure. During construction equipment, 7 am to 7 pm M-F, 12 hours per day.

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☑ No

Describe: _____

n. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

Exterior security lighting on water storage tanks or pump station control buildings. Maximum height will be 8-16 feet above existing grade. All lighting will be downward facing and in excess of 500 ft to 3,000 ft to the nearest structure.

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☑ No

Describe: _____

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑ No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☑ Yes ☐ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: 1 tons per week (unit of time)
- Operation : 2 tons per week (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: Landfill
- Operation: Landfill

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: Landfill
- Operation: Landfill

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☑ Industrial ☐ Commercial ☑ Residential (suburban) ☑ Rural (non-farm)
☐ Forest ☑ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	20.5	22.2	+1.7
• Forested	9.2	8.1	-1.1
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	124.3	124.3	0.0
• Agricultural (includes active orchards, field, greenhouse etc.)	1.8	1.2	-0.6
• Surface water features (lakes, ponds, streams, rivers, etc.)	0.2	0.2	0.0
• Wetlands (freshwater or tidal)	0.0	0.0	0.0
• Non-vegetated (bare rock, earth or fill)	0.0	0.0	0.0
• Other Describe: _____			

c. Is the project site presently used by members of the community for public recreation? ☐ Yes ☑ No

i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐ Yes ☑ No

If Yes,

i. Identify Facilities:

_____

_____

e. Does the project site contain an existing dam? ☐ Yes ☑ No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

_____

_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Has the facility been formally closed? ☐ Yes ☐ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

_____

_____

iii. Describe any development constraints due to the prior solid waste activities: _____

_____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____

_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☑ Yes ☐ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☑ Yes ☐ No

☑ Yes – Spills Incidents database — Provide DEC ID number(s): 9607396

☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): _____

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____

_____

_____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐ Yes ☑ No

If yes, provide DEC ID number(s): _____

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

_____

_____

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☑ No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 30+ feet

b. Are there bedrock outcroppings on the project site? ☐ Yes ☑ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____ %

c. Predominant soil type(s) present on project site:

Ontario Loam	23.9 %
Hilton Loam	13.1 %
Cazenovia Silt Loam	9.1 %

d. What is the average depth to the water table on the project site? Average: >6 feet

e. Drainage status of project site soils:

☐	Well Drained:	0.7 % of site
☑	Moderately Well Drained:	55.3 % of site
☐	Poorly Drained	44.0 % of site

f. Approximate proportion of proposed action site with slopes:

☑	0-10%:	98.1 % of site
☑	10-15%:	1.8 % of site
☑	15% or greater:	0.1 % of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑ Yes ☐ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☑ Yes ☐ No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑ Yes ☐ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name 847-690, 837-78, 847-687, 847-693 Classification C
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name Federal Waters, Federal Waters, Federal Waters,... Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☑ No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100-year Floodplain? ☐ Yes ☑ No

k. Is the project site in the 500-year Floodplain? ☐ Yes ☑ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐ Yes ☑ No
If Yes:

i. Name of aquifer: _____

m. Identify the predominant wildlife species that occupy or use the project site:
Common songbirds
White-tailed Deer
Squirrels other small animals

n. Does the project site contain a designated significant natural community? ☐ Yes ☑ No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation):
ii. Source(s) of description or evaluation:
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☑ Yes ☐ No

If Yes:
i. Species and listing (endangered or threatened):
Northern Harrier, Short-eared Owl, Sedge Wren

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐ Yes ☑ No

If Yes:
i. Species and listing:
Heart-leaved Plantain

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☑ Yes ☐ No
If yes, give a brief description of how the proposed action may affect that use:
Increase noise, traffic and human presence; Tonawanda-Seneca Nation

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☑ Yes ☐ No
If Yes, provide county plus district name/number: GENE002

b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☑ No
i. If Yes: acreage(s) on project site?
ii. Source(s) of soil rating(s):

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent:

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☑ No
If Yes:
i. CEA name:
ii. Basis for designation:
iii. Designating agency and date:

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☐ Yes ☑ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based:

_____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☑ Yes ☐ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☑ Yes ☐ No

If Yes:

i. Describe possible resource(s): Native American Communities; the STAMP site has been cleared for Phase 1, 2, and 3 archeological studies.

ii. Basis for identification: Shovel investigation

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☑ Yes ☐ No

If Yes:

i. Identify resource: John White Wildlife Management Area

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): State Wildlife Management Area

iii. Distance between project and resource: 25 miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

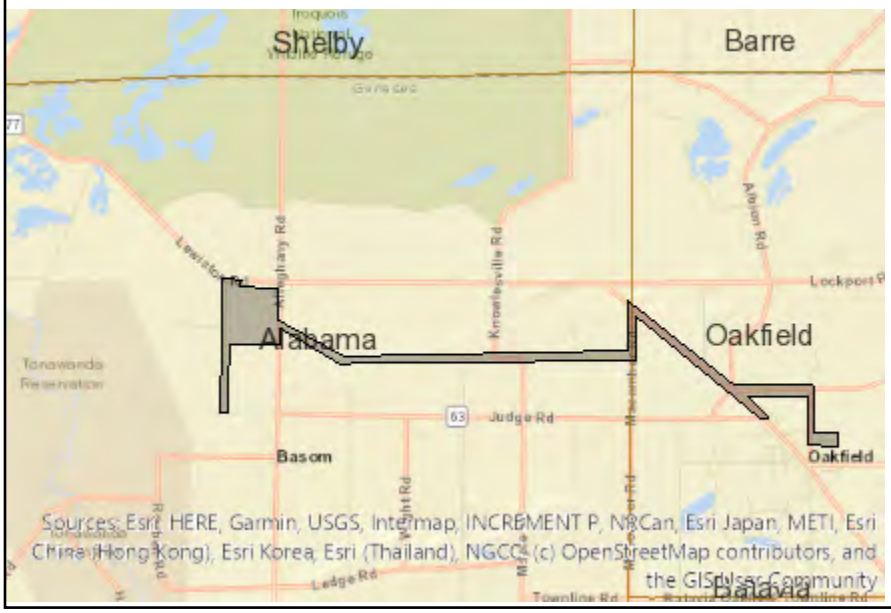
Applicant/Sponsor Name Mark Masse, CPA Date 7/1/24

Signature _____ Title Senior VP of Operations, GCEDC

PRINT FORM

EAF Mapper Summary Report

Tuesday, February 27, 2024 11:32 AM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Stream Name]	847-690, 837-78, 847-687, 847-693
E.2.h.iv [Surface Water Features - Stream Classification]	C
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.j. [100 Year Floodplain]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.

E.2.k. [500 Year Floodplain]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes
E.2.o. [Endangered or Threatened Species - Name]	Northern Harrier, Short-eared Owl, Sedge Wren
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	Yes
E.3.a. [Agricultural District]	GENE002
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

To: All Involved Agencies July 1, 2024

Acknowledgment of the Genesee County Industrial Development Agency d/b/a the Genesee County Economic Development Center ("GCEDC") Re-establishment as Lead Agency to Conduct a Coordinated Review Pursuant to the New York State Environmental Quality Review Act for the STAMP 2024 Modifications

Project: STAMP 2024 Modifications

Location: Town of Alabama, Genesee County, New York

The _____consents to the designation of the GCEDC as the lead agency for the above referenced project.

_____ _____ _____

Completed by (Agency Representative) Agency Date

This notice has been provided to the following Potentially Interested and Involved Agencies:

1. Town of Alabama Town Board
2. Town of Alabama Planning Board
3. Town of Alabama Superintendent of Highways
4. Town of Alabama Fire Department
5. Town of Shelby Superintendent of Highways
6. Town of Shelby Town Board
7. Town of Shelby Planning Board
8. Village of Oakfield Board of Trustees
9. Village of Oakfield Planning Board
10. Village of Oakfield Department of Public Works
11. Town of Oakfield Town Board
12. Genesee County Department of Planning
13. Genesee County Health Department
14. Genesee County Legislature
15. Genesee County Highway Department
16. Genesee County Water Resources Board
17. Genesee County Emergency Management
18. County of Orleans

19. Orleans County Department of Health
20. Orleans County Department of Planning and Development
21. Orleans County Highway Superintendent
22. Orleans County Soil and Water
23. Orleans County Emergency Management Office
24. Niagara County Water District
25. New York State Department of Transportation
26. New York State Department of Environmental Conservation
27. New York State Department of Health
28. New York State Office of Parks, Recreation and Historic Preservation
29. New York State Department of Agriculture and Markets
30. New York State Power Authority
31. New York State Thruway Authority
32. Empire State Development Corporation
33. Tonawanda Seneca Nation
34. Genesee Gateway Local Development Corporation
35. STAMP Sewer Works, Inc.
36. U.S. Army Corps of Engineers

For Further Information Contact:

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Village of Oakfield
Wastewater Treatment Facility
Proposed Connection of STAMP Force Main

Basis of Design Report

For The

Genesee County Economic Development Center

June 2024

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Acronyms

10SS	Ten States Standards
BOD_5	5-day biochemical oxygen demand
FM	Force main
GCEDC	Genesee County Economic Development Center
GEIS -	Generic Environmental Impact Statement
GPD -	Gallons per day
HDD -	Horizontal directional drilling
HDPE -	High-density polyethylene pipe
ICEAS -	Intermittent Cycle Extended Aeration
MGD -	Million gallons per day
MOU -	Memorandum of Understanding
MPS -	Main pump station
NYSDEC -	New York State Department of Environmental Conservation
PLC -	Programmable Logic Controller
SBR -	Sequential Batch Reactor
SEQR -	State Environmental Quality Review Act
SGIS -	Smart Growth Impact Statement
SHT -	Sludge Holding Tanks
SPDES -	State Pollutant Discharge Elimination System
STAMP -	Western New York Science & Technology Advanced Manufacturing Park
TDH -	Total dynamic head
TKN -	Kjeldahl nitrogen
TP -	Total phosphorus
TSS -	Total suspended solids
USFWS -	U.S. Fish and Wildlife Service
VFD -	Variable frequency drive
WWTF -	Wastewater Treatment Facility

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I. General

A. Background

The Genesee County Industrial Development Agency d/b/a/ the Genesee County Economic Development Center (GCEDC) and its affiliate, the Genesee Gateway Local Development Corporation (GGLDC), have been working for the last twenty plus years on the development of the Western New York Science & Technology Advanced Manufacturing Park (STAMP). The Site is planned as an advanced manufacturing campus on approximately 1,262 acres of land in the Town of Alabama, New York located along the west side of New York State Highway 77/63 (north of Judge Road) approximately five miles north of the I-90/New York State Thruway (STAMP Site).

At full build out, STAMP will be a high technology campus with the potential to accommodate over 6 million square feet of advanced technology manufacturing and related uses and to create up to 9,330 jobs. The GCEDC, as lead agency pursuant to the State Environmental Quality Review Act (SEQR), prepared a Generic Environmental Impact Statement (GEIS) and a Smart Growth Impact Statement ("SGIS") that analyzed the potential impacts of STAMP pursuant to the requirements of the SEQR and the State Smart Growth Public Information Policy Act.

In January 2012, the Final GEIS for STAMP was accepted as complete. The FGEIS identified alternatives for wastewater treatment for STAMP and assumed a maximum of 3 million gallons per day (MGD) of sanitary discharge would be needed. The preferred treatment alternative at that time included an onsite Wastewater Treatment Facility (WWTF) with a discharge to either Oak Orchard Creek, Whitney Creek or Tonawanda Creek. Based on feedback received during the GEIS process, several meetings with the neighboring Tonawanda Seneca Nation (Nation), and changes in the development of the STAMP Site to focus on the semiconductor industry, new alternatives for treatment were developed.

In August of 2013, a Conceptual Water and Wastewater Alternatives Analysis and Recommendations Report identified potential sanitary sewage conveyance and treatment options for the STAMP project, including 1.0 million gallons per day (MGD) of sanitary sewer effluent and 11.0 MGD of industrial process wastewater. Based on this report, the Village of Medina (Medina) Wastewater Treatment Facility (Medina WWTF) was selected as the preferred sanitary sewer effluent treatment alternative.

The Nation voiced concerns with discharging effluent to Whitney Creek which flows into the Tonawanda Creek. The Tonawanda Creek flows through the Nation and it is an essential part of their cultural heritage. Another concern expressed by the New York State Department of Environmental Conservation (NYSDEC) was discharges to Whitney Creek and how that could affect the hydrology of the Tonawanda Wildlife Management Area. By utilizing the Medina WWTF and connecting to an established collection system, potential effects associated with discharging to Whitney Creek or directly to Tonawanda Creek could be avoided.

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A Memorandum of Understanding (MOU) was developed between Medina and the GCEDC which outlined the process of analyzing potential discharge routes through the Village, analyzing potential capacity upgrades at the Medina WWTF, and overall project implementation and ownership. However, in May 2017, the MOU expired, and Medina declined to renew it. Therefore, other means of wastewater disposal were deemed necessary. Additionally, by utilizing onsite recycling for the industrial process water, the overall potential total volume of wastewater has decreased significantly from 12 MGD to 6 MGD, causing a change in the proposed treatment methods and discharge location. More importantly, as noted in the 2013 Conceptual Water and Wastewater Alternatives Analysis and Recommendations Report, the need for a potential future large diameter force main "big sewer" for the disposal of process water is no longer needed.

With a reduced wastewater discharge maximum requirement of 6 MGD, onsite wastewater treatment alternatives were once again considered feasible. Offsite effluent discharge locations were reviewed and analyzed as part of an ongoing effort to minimize environmental impacts and overall project costs for the wastewater solution. The review included input from the NYSDEC. In 2019, Oak Orchard Creek near NYS Route 63 in the Town of Shelby, just north of the Iroquois Wildlife Refuge (INWR), was determined to be the preferred discharge location. In 2020, STAMP Sewer Works, Inc. (SSW), a sewage-works corporation incorporated under Article 10 of the Transportation Corporations Law, was formed to construct and operate the proposed wastewater system.

Several layout options were considered for an onsite WWTF, onsite pump station, and offsite discharge location. On September 2, 2022, SSW received the State Pollution Discharge Elimination System (SPDES) permit for the STAMP Onsite Wastewater Facility and the construction of the force main discharge to Oak Orchard Creek in the Town of Shelby, Orleans County, New York (OOC Force Main). Construction of the force main to Oak Orchard Creek through INWR also required a right of way permit from U.S. Fish and Wildlife Service, which was granted in 2020, as well as the use of the state Eminent Domain Procedure Law to obtain easements necessary for construction.

In July of 2023 the SSW began construction of the force main through the INWR. During the design and permitting process of the WWTF and the construction of the force main, a second tenant, Edwards Vacuum, decided to settle at STAMP. Coupled with construction challenges with installing the force main through the INWR and low flow design points at the WWTF, as well as uncertainty resulting from legal challenges of the force main brought by Orleans County and the Nation, SSW decided to investigate the Village of Oakfield (Oakfield) WWTF as a sanitary sewer discharge option.

Initial average daily sanitary sewage flows from STAMP are anticipated to be 20,000 gallons per day (Plug Power, Edwards and a future project). A new onsite pump station at the STAMP site will be constructed to pump the sanitary wastewater generated by the manufacturing tenants through a force main (FM) to the Oakfield system.

The Oakfield WWTF currently has available capacity. The Oakfield WWTF's last major upgrade was in 2018-19, based on recommendations in the "*Village of Oakfield Wastewater Collection and Treatment Study and Engineering Report*", Revised May 31, 2017, prepared by Mountain

Engineering, PLLC. That capital improvement project was successful in improving the treatment process and the effectiveness of the plant operations, while meeting permit requirements. Mountain Engineering subsequently prepared a *"Village of Oakfield Wastewater Collection and Treatment Facility Needs Study Phase 2"*, Revised February 18, 2022; the focus of the Oakfield WWTF review in that study was to improve the remaining aging components of the facility, not the treatment effectiveness or capacity. The problems related to the Oakfield WWTF indicated in that study included moderate structural mechanical and electrical deficiencies. The moderate structural, mechanical, and electrical deficiencies are mainly the result of exceeding the expected useful life of the respective wastewater treatment components. Not all identified WWTF improvements were completed in the last capital project. Much of the background information contained in this current report has been taken directly from the two Mountain Engineering reports and 2018-19 project As-Built Drawings.

Pumping the sanitary sewage for existing and currently-proposed STAMP tenants (Plug Power, Edwards and a future project) to the Oakfield WWTF will allow for initial development at the STAMP site with no capacity upgrades needed to the Oakfield WWTF. Upgrading the Oakfield WWTF to improve phosphorus removal (discussed below) will provide benefits to both STAMP and Oakfield. It should also be noted that NYSDEC previously approved hold-and-haul of sanitary sewage from Plug Power, one of the initial STAMP tenants, to the Oakfield WWTF.

Oakfield, GCEDC, and SSW have executed a letter of intent (LOI) to summarize key terms upon which they would be willing to work together on the possible design, construction, and operation of the new force main sewer from the STAMP site to the Oakfield WWTF to provide wastewater treatment service to STAMP. The LOI is included in Appendix M.

B. Purpose

This report will outline the general improvements required at the Oakfield WWTF, with the basis of design for the equipment and treatment processes to be further developed as the project progresses. All work will be designed within the accepted criteria of the Recommended Standards for Wastewater Facilities, 2014 Edition (commonly referred to as the "10 States Standards") and TR-16 Guides for the Design of Wastewater Treatment Works, 2016 Revision (referred to as "TR-16"). All work will be subject to review and approval by the Village of Oakfield.

This report will also outline the design of the force main (FM), the main pump station (MPS) and the intermediate pump station (IPS) which will convey and discharge raw sanitary sewage to the Village of Oakfield WWTF. All work was designed within the accepted criteria of the Recommended Standards for Wastewater Facilities, 2014 Edition (commonly referred to as the "10 States Standards") and TR-16 Guides for the Design of Wastewater Treatment Works, 2016 Revision (referred to as "TR-16").

Oakfield Wastewater Treatment Plant

II. Project Information

A. Site Location

A USGS location map of the STAMP site is shown in Figure 1, and a regional map for the force main routing from STAMP to Oakfield is shown in Figure 2. A map depicting the Oakfield Sanitary Sewer Collection System is shown in Appendix A. The manholes are labeled by number and the gravity sewer mains are shown by pipe size.

A layout plan of the Oakfield WWTF site with approximate property boundaries is shown in Figure 3, and a general site plan from the 2018 As-Built Drawings is shown in Figure 4. The Oakfield WWTF is located in the Northeast quadrant of the Village at the end of Irving Parkway.

B. Site Information

1. Soils

   The Oakfield WWTF is situated on relatively flat elevations. The WWTF site soils are classified as moderately well drained and consisting mainly of silty loam. The average depth to the water table in Oakfield is two to five feet with bedrock averaging over seven feet.

2. Floodplain

   The Oakfield WWTF is outside the 500-year floodplain and there is no evidence of flooding at the WWTF. The only 100-year floodplain lies over the existing small tributaries running through Oakfield and adjacent to the Oakfield WWTF. Downstream of the Oakfield WWTF lies an abundance of state and federal wetlands, including those contained within the Iroquois National Wildlife Refuge and the Oak Orchard Wildlife Management Area.

3. Environmental Resources Present

   The environmental resources present in the project location are as follows:
   a. Streams Class C 847-694, 847-693
   b. New York State Wetlands. 18.9 Acres “OK-14”

4. Environmental Justice Area

   There are no environmental justice areas in the Village or Town of Oakfield.

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C. Population Trends

Growth in Oakfield has remained flat over the past two decades with current population from 2020 Census figures at 1,812, essentially the same as the 2010 Census figure at 1,813. Projected population for the year 2030 would be anticipated to remain at 1,812 based on current residential growth patterns within the Village, subject to the below qualifications.

There is growth potential in Oakfield and surrounding communities as a result of the STAMP project, as well as potential for connecting existing housing in the Town of Oakfield to the Oakfield sanitary sewer system. However, there are currently no firm plans for this. Accordingly, no additional flows (beyond existing permitted flows) have been included at this time for the purposes of evaluating the Oakfield WWTF's ability to accept flows from the STAMP initial development.

D. Existing Users

The existing Wastewater Collection and Treatment Facility is located in Oakfield and provides treatment for the Village including several users in the Town of Oakfield, namely the Oakfield Alabama Central School District, several residents and a few businesses. The collection facility also receives domestic waste from the Bonduelle USA, Inc. vegetable processing facility located within Oakfield but does not receive any of its process waste.

E. SPDES Permit Conditions and Limitations

A copy of the existing State Pollution Discharge Elimination System (SPDES) permit is included in Appendix B. The discharge limits under the SPDES permit based on average permitted flow of 0.5 mgd are listed in Table 1. A review of the facility's historical treatment results shows that the facility is consistently meeting these permit limits; effluent charts for February 2019-January 2024 are included in Appendix C. The facility generally operates at an efficiency of 95-99% based on removal of suspended solids and carbonaceous oxygen demand.

As indicated in the 2017 Mountain Engineering report, NYSDEC has indicated that in the future, additional or modified discharge limits for ammonia and phosphorus could be required. NYSDEC also had made note that the Village's I/I may need to be investigated.

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Table 1 SPDES Permit Limits		
Parameter	**All Year**	**Per Event for Flows >0.5MGD and micro screen used**
Flow (30-day arithmetic mean)	0.50 mgd	N/A
Dissolved Oxygen (Daily Minimum)	7.0 mg/L	7.0 mg/L
Carbonaceous Biological Oxygen Demand (CBOD5) (Daily Maximum)	5.0 mg/L and 21.0 lbs/day	15.0 mg/L
Suspended Solids (SS) (Daily Maximum)	10.0 mg/L and 42.0 lbs/day	15.0 mg/L
Ammonia (as NH3-N) (Daily Maximum)*	15 mg/L*	2.0 mg/L*
pH (range)	6.0 to 9.0	6.0 to 9.0
Settleable Solids (Daily Maximum)	0.1 mL/L	0.3 ml/L
Effluent Disinfection Required	Seasonal from May 1 to Oct. 31	All Year
*Note: It is understood that the Ammonia limits included in the SPDES permit for the "All Year" and "Per Event for Flows >0.5 MGD and micro screen used" conditions, as indicated above, were incorrectly reversed and should be 2.0 mg/L "All Year" and 15.0 mg/L "Per Event for Flows >0.5 MGD and micro screen used".		

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III. Flows and Organic Loads

A. Hydraulic Capacity

1. Design Average Flow

Design Average Flows are discussed below and presented for various flow scenarios in a table in Appendix D.

a. Existing WWTF Flows

The Oakfield WWTF is currently operating under a NYSDEC permitted 30-day average flow capacity of 0.50 mgd.

The 2017 Mountain Engineering report indicated for the period January 2010 through December 2014:

Since January 2010, the average daily flow to the facility during summer months (June through October) is 0.143 mgd. During winter months (November through May), the average daily flow is 0.166 mgd. The highest monthly average daily flow during this period has been 0.275 mgd. The overall annual average daily flow is 0.160 mgd. A summary of these flow averages is shown after Table 2. Based on the above flows, the current daily flow is considered to be 0.160 mgd for this report.

Some reductions in I/Is are likely over a 20-year period. Results from the 2015 Sewer System I/I Evaluations, see Appendix E, concluded that I/I accounted for nearly 50,000 gpd of additional flows to the Village treatment facility. It is anticipated that over a 20-year period that can be reduced by 50% or 25,000 gpd, by completing improvements to the existing collection system and continued investigations as well as enforcement of the Village's sewer ordinance.

Data for the 5-year period from January 2019-December 2023 was obtained from the USEPA ECHO website and WWTF monthly operating reports. During this period, the average daily flow to the facility during summer months (June through October) was 0.104 MGD. During winter months (November through May), the average daily flow was 0.144 MGD. The highest monthly average daily flow during this period was 0.215 MGD. The overall annual average daily flow was 0.127 MGD. A flow chart is included in Appendix C. Based on the above flows, the current average daily flow is considered to be 0.127 MGD, which we have rounded to 0.130 MGD. It is noteworthy that while the Oakfield population has remained static, the summer, winter, and overall average daily flows, as well as the maximum month average daily flow, have decreased since the 2010-2014 data.

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b. Additional Flows from STAMP

Initial Build design average flow for the STAMP site was estimated at 20,000 gpd, including approximately 9,000 gpd from currently committed businesses Plug Power and Edwards Vacuum, and an additional approximately 11,000 gpd from a future project. These flows are based on the projected number of employees and assumptions indicated in the Design Average Flows table in Appendix D.

2. Design Maximum Day Flow

a. Existing WWTF Flows

Data from the WWTF's monthly operating reports was analyzed for the 5-year period from January 2019-December 2023. The maximum daily flow for this period was 0.876 MGD, which corresponded to a severe rain event of 3.2". All but the highest six flow days were less than 0.5 MGD.

b. Additional Flows from STAMP

A peaking factor of 2.0 has been applied to the Design Average Flow, yielding a maximum day flow of 0.040 MGD.

3. Design Peak Hourly Flow

a. Existing WWTF Flows

Peak hourly flows could not be determined from the Oakfield WWTF's circular flow charts, as those charts have a maximum value of 1.0 MGD. However, it is known that the facility has experienced peak instantaneous flows in excess of 1.547 MGD, which is the maximum flow that the Oakfield WWTF flowmeter will measure; this value was reached on 5 days in the 5-year period from January 2019-December 2023, and it is assumed that the peak instantaneous flow on these days exceeded 1.547 MGD. Since the average daily flows have declined since the 2010-2014 data used for the 2017 Mountain Engineering report, to be conservative the peak hourly flows indicated in the 2017 Mountain Engineering report have been utilized. That report indicated the following:

In sanitary sewer collection systems with very little inflow/infiltration, peak hourly flows occur in conjunction with maximum water usage within the service area. Peak hourly flows are estimated by applying a peaking factor to the average daily flow. Based on "Recommended Standards for Wastewater Facilities, 2014 Edition", a community the size of Oakfield is expected to have a peaking factor of approximately 3.6. The facility's operators have indicated that between 6:00 a.m. and 10:00 a.m., flow to the facility, at times, can increase by a factor of

approximately 2.0. The peak (instantaneous) *flow due to wet weather events is as high as 1.547 mgd. This report will conservatively use a peaking factor of 4.0.*

The Mountain Engineering report applied this peaking factor of 4.0 to the packaged treatment plant's original design flow of 0.340 MGD to arrive at a design peak hourly flow of 1.360 MGD when the facility is operating at a design average flow of 0.340 MGD. To be conservative, we have assumed this peak hourly flowrate of 1.360 MGD also for the existing flows (average daily flow 0.127 MGD).

c. Additional Flows from STAMP

A peaking factor of 4.0 has been applied to the Design Average Flow, yielding a peak hourly flow of 0.080 MGD.

4. Design Peak Instantaneous Flow

a. Existing WWTF Flows

The facility has experienced and is currently able to handle peak flows in excess of 1.547 MGD, which is the maximum flow that the Oakfield WWTF flowmeter will measure; this value was reached on 5 days in the 5-year period from January 2019-December 2023, and it is assumed that the peak instantaneous flow on these days exceeded 1.547 MGD. These extreme peak instantaneous flows with a peaking factor of over 12x the average daily flow are due to extreme rainfall events (ranging from 1.9" to 3.2" of rainfall). The 2010-2014 data used for the 2017 Mountain Engineering report also indicated peak instantaneous flows as high as 1.547 MGD during wet weather events, and used a design instantaneous flow of 1.60 MGD when the facility is operating at a design average flow of 0.340 MGD. To be conservative, we have assumed this peak hourly flowrate of 1.60 MGD also for the existing flows (average daily flow 0.127 MGD).

b. Additional Flows from STAMP

Peak instantaneous flows from STAMP to the Oakfield WWTF have been assumed to match the peak hourly flow of 0.080 MGD. While the instantaneous flows at the point of connection of the STAMP force main to the Oakfield sanitary sewer system will be higher and equivalent to the pumping rate in the STAMP force main, these flows will be of intermittent and short duration, and will have flattened by the time they reach the Oakfield WWTF.

5. Design Flow Summary

The design flows to be used for this report are summarized below. Note that these flows do not account for any additional I/I reduction from the Village's collection system.

Table 2 Design Flows		
	Flow Scenario 1 Existing Flows (MGD)	**Flow Scenario 2 Existing Flows + STAMP Initial Build (MGD)**
Design Average Flow	0.130	0.150
Maximum Day Flow	0.876	0.916
Peak Hourly Flow	1.360	1.440
Peak Instantaneous Flow	1.600	1.680

B. Design Loadings

Influent strength sewage testing data from January 2019 through December 2023 has been used to determine the current influent organic loadings for Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), and Suspended Solids. The Oakfield WWTF does not sample for influent TKN or phosphorus. However, sampling data from 2010-2014 included in the 2017 Mountain Engineering report indicated ammonia values in the 40 mg/L range, which we have utilized for the existing TKN condition. The average loadings are summarized as follows:

Table 3 Existing Loadings (Jan. 2019-Dec. 2023) Average Daily Flow = 0.130 MGD		
Parameter	**Concentration (mg/L)**	**Loading (lbs/day)**
$CBOD_5$	190	206
Suspended Solids	192	208

The sanitary wastewater produced at the STAMP Site is anticipated to have typical sanitary wastewater characteristics. For flows above the existing average daily flow, the additional flow component was assumed to have concentrations of 250 mg/L for BOD5, 250 mg/L for TSS, 50 mg/L for TKN, and 7 mg/L for total phosphorus. The below table summarizes the design conditions:

Table 4 Design Loadings		
Parameter	**Flow Scenario 1 Existing Flows (0.130 MGD)** **mg/L(lbs/day)**	**Flow Scenario 2 Existing Flows + STAMP Initial Build (0.150 MGD)** **mg/L(lbs/day)**
BOD_5	190 (206)	198 (248)
TSS	192 (208)	200 (250)
TKN	40 (43)	41(52)
TP	7 (8)	7 (9)

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IV. Impact On Existing Wastewater Facilities

The Oakfield WWTF includes a screening and grit removal building, flow splitting structure, packaged wastewater treatment units, ultraviolet (UV) disinfection, sludge drying beds, reed bed sludge treatment system, control building, a wet weather treatment system (micro-screen), and a storage barn.

The existing wastewater treatment facility layout, general site plan, process flow diagram, and hydraulic profile are shown in Figures 3, 4, 5, and 6, respectively.

The existing collection and treatment facility was originally constructed in 1927. Four separate reconstruction/improvement projects were completed at the Oakfield WWTF in 1938, 1979, 1989, and 2019.

Most of the facility is from the 1979 Upgrade. The 1989 improvements included the addition of a wet weather bypass treatment screening system and replacement of the aeration system for the package treatment plant units.

The 2019 improvements included a new headworks building (screening and grit removal), a pole barn roof over a portion of the package treatment plant units, ultraviolet disinfection structure, and enclosed sludge drying beds. The aeration blowers for the packaged treatment plant units were replaced in 2022.

The Oakfield WWTF is operated by a contract operator (Camden Group).

The 2022 Mountain Engineering report reviewed each component of the Oakfield WWTF regarding deficiencies and potential improvements to the remaining aging components not addressed in the 2019 capital project. The 2022 report recommendations were reviewed with Camden Group and Mountain Engineering staff in the preparation of this report, and all of the recommendations still apply and are included below, with the exception of a couple of items which have been addressed.

Conversations with Camden Group have indicated that everything at the Oakfield WWTF is working well currently, with the biggest operational issues being Inflow/Infiltration and sludge disposal.

A. Site

The 2022 Mountain Engineering report indicated the following:

a) *Several improvements are needed at the wastewater treatment facility to address deteriorating structures that are contributing to structural and safety issues including:*
   1. *Painting;*
   2. *Miscellaneous repairs.*

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B. Screening and Grit Removal

The existing headworks facility was constructed in the 2018/19 construction project, and includes a mechanical bar screen, Pista Grit vortex grit removal system, and grit dewatering and screw conveyor unit. The headworks facility was designed for a peak hourly flow of 1.6 MGD and peak instantaneous flow of 3.0 MGD.

No improvements are required to the headworks facility.

C. Secondary Influent Structure

The 2022 Mountain Engineering report indicated the following:

a) *This influent structure was constructed in 1979 and requires maintenance and process upgrades:*
   1. *Concrete repairs and protective coatings;*
   2. *Grating replacement;*
   3. *Install better bypass flow control;*

D. Process Flow Splitter

The 2022 Mountain Engineering report indicated the following:

a) *This structure was replaced in 1979 and needs minor repairs including:*
   1. *Minor concrete repairs and protective coatings;*
   2. *Install concrete nosing at center column.*

Modifications to improve flow distribution are recommended, as flow distribution is imbalanced more heavily toward the east packaged treatment plant. Installation of the concrete nosing at the center column should improve this condition.

E. Packaged Wastewater Treatment Units

The two packaged wastewater treatment units were constructed in 1979. The 1979 Design Criteria (included in Appendix E) indicates the facility was designed for an average dry weather flow of 0.34 MGD and that flows of 1.10 MGD can be handled without the flooding of any control weirs or taxing the hydraulic capacity of flumes, piping, etc.

The aeration system was replaced in 1989, converting the system from coarse bubble diffusers to fine bubble diffusers. The 1989 engineering report with design criteria for the aeration system replacement is also included in Appendix E.

A review of the existing design indicated that the packaged wastewater treatment units appear to be sized correctly based on the current Ten States Standards and TR-16 for the original design of

0.34 MGD average daily flow and 1.10 MGD peak hourly flow, with the following possible exceptions noted:

- Return sludge pumps: The 1979 design indicates a sludge return rate of 100%, whereas Ten States Standards indicates a maximum return sludge rate of 150% of design average flow for single-stage nitrification processes.
- Clarifiers: The existing clarifiers were designed with a surface overflow rate of 960 gpd/SF at the peak hourly flow of 1.1 MGD, which is less than the maximum of 1,000 gpd/SF specified by Ten States Standards. However, when chemical addition is utilized for phosphorus removal to a required concentration of less than 1.0 mg/L, the maximum surface overflow rate specified by Ten States Standards is 900 gpd/SF, which would equate to a peak hourly flow of 1.03 MGD. The presence of tertiary filters following the clarifiers may mitigate this requirement, however.

A pole barn roof was constructed in the 2018/19 capital project over half of each of the packaged wastewater treatment units, the half that includes the bulk of the equipment exposed to weathering.

The 2022 Mountain Engineering report indicated the following (additional comments based on our review have been added without italics):

a) *Several components of the aeration tank, clarifier, filters, and post aeration tank require maintenance or replacements from its construction in 1979.*
   1. *Structural repair to steel or concrete;*
   2. *Replace process equipment at aeration tank (new air diffusers);* Camden Group noted that if the blowers shut down for any period of time, the air headers in the tanks fill with wastewater.
   3. *Replace process equipment at center clarifiers (repair rake arms, replace gear drives and wells);*
   4. *Replace process equipment at sand filters (media, controls systems and repairs to steel and coatings);* Camden Group staff indicated that the existing media is 5' of anthracite and 1' of sand, and also noted that Filter A has a broken pipe.
   5. *Replace aeration system and effluent box at Post Aeration tank;*
   6. *Provide phosphorus removal if required by NYSDEC in the future*
   7. *Replace weirs and repair clarifier;* (Weir fastening hardware has been recently replaced with stainless steel hardware)
   8. *Complete minor repairs to steel for treatment tanks;*
   9. *Repair deteriorated concrete at treatment tanks.*

Camden Group indicated that it would be beneficial to extend the pole barn roof over the remainder of the two packaged wastewater treatment units, noting in particular that the west unit experiences problems with algae growth.

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F. Control Building

This building was built in 1979. The process blowers for the packaged wastewater treatment units were replaced in 2022, and the emergency generator for the Oakfield WWTF was also recently replaced.

The 2022 Mountain Engineering report indicated the following (additional comments based on our review have been added without italics):

a) *This building was built in 1979 and requires updates and modifications. These improvements will provide opportunities for energy savings:*
   1. *Update lab/office equipment and monitoring and alarming systems;*
   2. *Replacement of blowers and electrical will provide energy savings;* (Blowers have been replaced as noted above)
   3. *Replacement of lighting, windows and doors will provide energy savings.*

G. Ultraviolet Disinfection

The UV facility was constructed in the 2018/19 capital project and utilizes horizontal UV lamp modules in an open channel configuration. The UV system is designed for a minimum flow of 0.10 MGD, average flow of 0.35 MGD, and peak flow 1.60 MGD with full disinfection. The system, channel, and weir are designed to hydraulically pass an instantaneous peak flow of 3.00 MGD without overtopping the channel.

No improvements are needed to this facility.

H. Wet Weather Treatment System – Micro Screen

This facility was constructed in 1989. The 1989 Engineering Report for the Aeration System Improvements indicated that the Oakfield WWTF "has an average daily flow of approximately 0.25 million gallons per day (MGD), with wet weather flows up to 2.0 MGD during peak conditions. Currently a Wet Weather Treatment System is being constructed which will treat raw sewage in excess of 0.500 MGD." This implies a peak flow capacity for the Wet Weather Treatment System of at least 1.5 MGD.

The 2022 Mountain Engineering report indicated the following:

a) *This installation occurred in 1989 but needs upgrading the original equipment and budgeting for future improvements including:*
   1. *Replace and provide enclosure for micro screen panel boxes and controls;*
   2. *Repair infiltration;*

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I. Reed Bed Sludge Treatment System

The two (2) reed beds were constructed in 2010, with the intention that sludge would periodically be dredged and land applied on neighboring fields. Subsequent NYSDEC regulations dictated that the Village would no longer be able to land apply the sludge planted with Reed plants, requiring costly landfill disposal. Consequently, supplemental alternatives were evaluated in the 2017 Mountain Engineering report, resulting in the construction of new sludge drying beds as outlined below. Since the construction of the sludge drying beds, the reed beds have seen significantly less use. Both beds need to be dredged and the processed sludge/soil removed and disposed of. The west reed bed has been out of service for some time and could be cleaned immediately.

J. Sludge Drying Beds

The two (2) sludge drying beds were constructed in the 2018/19 capital project, in two separate enclosed and vented buildings. Information provided by Mountain Engineering (included in Appendix F) indicates that the total bed capacity was sized based on sludge production quantities from 2015-2016, which should be approximately the same or slightly less in 2024 due to the reduction in influent flowrates.

K. Storage Barn

The storage barn was constructed in the 1980s. The barn holds DPW equipment, and approximately 1/3 of the barn is used for dried sludge storage.

The 2022 Mountain Engineering report indicated the following:

a) *This building was constructed in the 1980's and requires repairs to address structural issues and can benefit from energy savings.*
   1. *Grout undermining foundation;*

L. General

The 2022 Mountain Engineering report indicated the following:

a) *Miscellaneous improvements to be considered at the treatment plant.*
   1. *Groundwater pumping/monitoring system;*
   2. *Provide spare equipment, pump valves, motors, etc.*

M. WWTF Outfall Line

The existing Oakfield WWTF outfall line was constructed circa 1989 and consists of approximately 3900 LF of 18" gravity sewer with manholes, running northward from the WWTF to an outfall structure at Oak Orchard Creek. Mountain Engineering provided a hydraulic analysis of this line at a peak flow of 3.0 MGD which indicated the line has capacity for this flow.

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V. Engineering Criteria

Design flows and loadings are outlined previously in this report.

The 2017 Mountain Engineering report included information provided by NYSDEC regarding potential changes to effluent limit requirements that may be required the next time a full technical review occurs. Currently relevant portions of that information are included below for awareness of the potential improvements that could be required. This report does not make definitive recommendations for those potential changes.

Reduced Ammonia Limits

The 2017 Mountain Engineering report indicated the following:

> *The effluent limits for Ammonia in the current SPDES permit are a daily maximum of 2.0 mg/L as NH_3 from June 1 to October 31 "Summer Months" and a daily maximum of 15.0 mg/L as NH_3 from November 1 to May 31 "Winter Months." The NYSDEC anticipates that Ammonia limits during the winter months are expected to decrease significantly for the renewal of the 2020 SPDES permit. Preliminary discussions with the NYSDEC anticipate that new limits in 2020 could possibly be 1.2 mg/L as N and 1.5 mg/L as NH_3 during the summer months and 1.8 mg/L as N and 2.2 mg/L as NH_3 during the winter months.*
>
> *The current limits shown in Appendix D for the winter months have been less than 1 mg/L since 2012. Based on anticipated limits for 2020, it is likely they should meet the limits as long as the current flows remain the same.*
>
> *To increase nitrification, additional air could be added to the activated sludge system. Additional horsepower upgrades to the blower motors are estimated to cost $5,000. A more expensive method of achieving nitrification if required, is the integrated fixed film activated sludge (IFAS) process, see the manufacturer's brochure in Appendix J. IFAS has been successful in achieving year-around nitrification in cold weather climates. Fixed media would be installed in the activated sludge aeration tank. The IFAS process is available if the loadings and limits are such that just additional air is not sufficient.*

Relative to the above Mountain Engineering report reference to the process blowers, as indicated above the blowers were replaced in 2022, with higher capacity blowers.

Phosphorus Removal

The 2017 Mountain Engineering report indicated the following:

> *There are currently no phosphorus limits in the Village of Oakfield SPDES permit. However, it is likely that this will change with the technical review of the SPDES permit renewal. It has been determined that the existing plant is capable of removing phosphorus.*

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Phosphorus levels could be reduced further by increasing the volume of air to the activated sludge process. This would require increasing the horsepower of the blower motors. Additional phosphorus removal could also include chemical treatment. Consideration was given for the method of treatment and it was determined that alum addition may be the best method of treatment in an activated sludge process. Costs for the chemicals, feed system and storage facilities have been included in this report. Additional consideration included the additional sludge type and volume that would be generated in the phosphorus removal process. An evaluation of the type and additional capacity of the sludge handling facilities was also considered. It was determined that clarifiers and digesters were capable of treating phosphorus removal.

Relative to the above Mountain Engineering report reference to the process blowers, as indicated above the blowers were replaced in 2022, with higher capacity blowers.

PH Limits

The 2017 Mountain Engineering report indicated the following:

The NYSDEC has indicated that the receiving waterbody will have the pH limits adjusted in the 2020 SPDES permit to reflect its current Water Quality Classification. Originally, Oak Orchard Creek was listed as a Class "D" stream, but is currently designated a Class "C" stream. Consequently, the limits will be increased to reflect its stricter clarification. The pH limits will change from 6.0 – 9.0 SU to 6.5 – 8.5 SU. Based on activity for years 2010-2014, monthly minimum and maximum effluent pH values were 7.2 and 7.9, respectively. A summary of the Wastewater Facility Operations Reports, shown in Appendix D, has been modified to include the monthly minimum and maximum effluent pH values. It is likely pH levels will remain consistent with the historical levels at the current flows and would likely operate within the new range of 6.5 – 8.5 SU for a Class "C" stream.

Flow Equalization

The 2017 Mountain Engineering report indicated the following:

Correspondence with NYSDEC has indicated that the wet weather micro screen treatment system currently permitted, may or may not be allowed after the next technical review. As such, the following options are discussed.

- *Existing Micro Screen System*

  A Micro Screen System was approved by the NYSDEC and installed in 1989. NYSDEC has indicated that the existing wet weather treatment system may or may not continue to be permitted to be utilized during these events. This wet weather treatment system provides primary clarification to excess flows before being entering the discharge stream. These excess flows are comprised mainly of storm water resulting from various

points of I/I throughout the wastewater collection system. It is likely that typical flows do not include additional organic waste during these events.

The 2017 Mountain Engineering report also discussed the options of a Flow Equalization Tank (preliminarily estimated at 0.24 MGD in size) and Inflow and Infiltration Reduction in the collection system. The conclusion of the report was that the equalization tank option was financially not feasible for Oakfield, and that it would be difficult to predict if the impact of I/I improvements would be significant. Consequently, since Oakfield had received prior approval from the NYSDEC for the Micro Screen System, it was suggested that the system remain in place and be utilized during wet weather events.

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VI. Proposed Design

Potential improvements were evaluated based on existing conditions of the Oakfield WWTF and wastewater collection system, increased flows/loadings and phosphorus removal requirements.

A. Existing Conditions

Wet weather inflow into Oakfield's wastewater collection system is significant, with rapid substantial flow spikes during rain events and rapid return to normal flow rates afterward observed at the Oakfield WWTF. This issue should be pursued, particularly if there are flow increases (from STAMP or other users) beyond the STAMP Initial Build flows. Addressing this issue would include Inflow and Infiltration improvements in the Oakfield collection system as identified in the 2022 Mountain Engineering report, or possibly a flow equalization tank at the Oakfield WWTF.

The existing WWTF deficiencies and potential improvements to the remaining aging components identified in the 2022 Mountain Engineering report and above should also be addressed, regardless of any additional flows from STAMP or other sources, as funding allows.

B. Increased Flows and Loadings

As influent flows increase, the following improvements are anticipated:

1. Flow Scenario 1: Existing Flows
(WWTF Design Average Flow = 0.130 MGD)

- No improvements required.

2. Flow Scenario 2: Existing Flows + STAMP Initial Build Flows
(WWTF Design Average Flow = 0.150 MGD)

- Cleanout of existing reed beds to provide additional sludge handling capacity.
- Provide phosphorus removal facilities as described below.

C. Phosphorus Removal and Offset

The Oakfield WWTF's SPDES permit does not include a phosphorus limit, nor is the WWTF designed for phosphorus removal. However, due to the potential for a future limit, and to benefit the Oak Orchard Creek receiving stream, it is proposed to provide facilities for phosphorus removal to offset the added phosphorus load from the added influent. The Oakfield WWTF does not test for phosphorus, but the average effluent phosphorus concentration was estimated by NYSDEC as 2.2 mg/L (See Appendix G for an excerpt of a document provided by NYSDEC containing estimated effluent phosphorus levels). Based on this concentration, it is estimated that the existing phosphorus loading to the receiving stream at the current WWTF average flow of 0.130 MGD is approximately 2.4 lbs/day or 870 lbs/yr. Based on a preliminary evaluation, it is anticipated that phosphorus removal from the current estimated 2.2 mg/L down to approximately

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0.5 mg/L could be achieved with chemical addition using a metal salt such as aluminum sulfate (alum) or PAC, applied 1) before the aeration basins and 2) before the effluent sand filters. This would result in an estimated phosphorus loading to the receiving stream of 200 lbs/yr under current conditions, for a net reduction of 670 lbs/year which would then be available as a phosphorus offset for the added flows to the Oakfield WWTF (including STAMP Initial Build flows), and potentially any phosphorus-containing process water discharges from STAMP businesses via the OOC Force Main (up to 0.44 MGD additional discharge from the Oakfield WWTF, which is more than the remaining WWTF capacity, or up to 1.1 MGD of STAMP process water discharges through the OOC Force Main, or a combination thereof). The following table summarizes this information.

Table 5
Phosphorus Loadings & Offset

Parameter	Flow Scenario 1 Existing Flows (0.130 MGD)	Flow Scenario 1 Existing Flows (0.130 MGD) With Phosphorus Removal	Flow Scenario 2 Existing Flows + STAMP Initial Build (0.150 MGD) With Phosphorus Removal
Average Flow (MGD)	0.130	0.130	0.150
Effluent TP (mg/L)	2.2	0.50	0.50
(lbs/day)	2.4	0.54	0.63
(lbs/yr)	870	200	230
Remaining Phosphorus Offset Available (lbs/yr)	**-**	**670**	**640**
Equivalent Additional Oakfield WWTF Discharge at 0.5 mg/L TP (MGD)[1]	-	0.44	0.42
Equivalent STAMP OOC Force Main Process Water Discharge at 0.2 mg/L TP (MGD)[1]	-	1.1	1.05

[1]Note: Equivalent Additional Oakfield WWTF Discharge and Equivalent STAMP OOC Force Main Process Water Discharge flows are not additive.

Additional facilities needed to provide this phosphorus removal at the Oakfield WWTF are anticipated to include two chemical feed pump skids, feed piping, and chemical storage (either via a permanent tank or possibly portable chemical totes), and a chemical feed building if there is

insufficient space for the chemical feed pump skids and chemical storage tanks/totes within existing buildings. In addition to capital costs for this option, there will be ongoing O&M costs, primarily related to chemical costs and added sludge disposal costs due to the increased volume of sludge that would be generated.

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Oakfield Force Main, Main Pump Station & Intermediate Pump Station

VII. Project Information

A. Site Location

The existing STAMP Site consists of agricultural land located within the Town of Alabama (Town), in Genesee County. The location of the proposed STAMP Site including the location of the onsite MPS is shown in Figure 1, and the route of the new FM and the location of the IPS is shown in Figure 2.

B. Design Flows

The proposed force main, main pump station and intermediate pump station have been sized to accommodate sanitary wastewater produced at the STAMP Site generated at full buildout and STAMP's commitment to providing the Town of Alabama with a sanitary sewer system. The Town includes the Hamlet of Alabama, Hamlet of Basom, Hamlet of South Alabama and Hamlet of Wheatville. Initial sanitary sewer flow rates to the Village of Oakfield are anticipated to be approximately 20,000 gallons per day (gpd) from the STAMP site only. Treatment capacity upgrades at the Village of Oakfield WWTF, should they be necessary, will be addressed in a basis of design report evaluating the Village of Oakfield WWTF flow rates. Flow rate calculations can be found in Appendix D.

Flows to the main pump station, intermediate pump station, and force main will consist solely of raw sanitary sewer flows generated by the STAMP Site and the Town. At this time there are no operations that anticipate generating process water at the STAMP Site. Should operations require process water requiring disposal, the respective businesses generating those process waters will be required to obtain their own SPDES permit from NYSDEC and treat the process water to the requirements of that permit prior to disposal. Disposal will be accomplished via a separate pump station and the force main discharging to Oak Orchard Creek in the Town of Shelby, for a maximum process flow rate of 5 MGD.

As stated above, the current anticipated flows through the force main will be approximately 20,000 gpd. However, the force main and pump stations will be sized to accommodate full build out of the STAMP site and the Town of Alabama. Flows in excess of 20,000 gpd will require additional coordination with the Village of Oakfield prior to discharging to the collection system.

C. Discharge Location

Based on estimated construction costs, minimal environmental impacts, existing water quality, and available treatment capacity, the Village of Oakfield WWTF was determined to be the preferred facility to treat the sanitary wastewater generated by the STAMP Site. A map showing the selected route and discharge location is shown in Figure 2.

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VIII. Proposed Project

The 2014 edition of the Recommended Standards for Wastewater Facilities, or Ten States Standards (10SS) and the 2016 Revision of the Guides for the Design of Wastewater Treatment Works, or TR-16, were used as references and guidance for the design of the proposed pump stations and force main.

A. Main Pump Station (MPS)

The Main Pump Station has been designed to accommodate the initial sanitary sewer buildout flow rate of 20,000 GPD from the STAMP Site.

The proposed MPS will be constructed south of Stamp Drive, on the east side of Crosby Road, directly across from the designated utility parcel. Placing the MPS here will provide proper grades to serve the entire northern position of the STAMP site by gravity.

The permanent MPS will utilize submersible pumps and a 10' diameter concrete structure sized in accordance with Ten States Standards. The wet well will have an operating storage volume of approximately 2,719 gallons. The operating range of the wet well will be approximately 7.63 feet vertically. The pump station has been designed with a valve vault outside of the wet well to isolate pumps and to provide a bypass connection for future maintenance.

The wet well will include ventilation for both intake and exhaust of air using explosion proof equipment. In addition, a vault will be constructed to house a magnetic flow meter to measure flow pumped from the pump station. The ventilation of the full build-out wet well is designed to meet the requirements as outlined in Ten States Standards. Wet well sizing calculations can be found in Appendix H.

The controls for the submersible pumps will be housed in a metal sided enclosure. This enclosure will also house the utilities to the pump station including potable water and electric services.

For operation during a power failure, a standby diesel-fueled generator with a sound-attenuating enclosure will be provided in accordance with the requirements of TR-16.

Odor control provisions, likely in the form of chemical addition, will be provided for initial low flow conditions due to the potential for septic conditions with extended detention times in the force main.

B. Intermediate Pump Station (IPS)

The Intermediate Pump Station (IPS) has been designed to accommodate 20,000 GPD of sanitary sewer, accepting flow from STAMP Main Pump Station plus, the Hamlet of South Alabama and the Hamlet of Wheatville.

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The proposed IPS will be constructed at the intersection of Ham Road and Knowlesville Road. This will give the Hamlet of South Alabama and Hamlet of Wheatville the ability to discharge to a wet well before pumping to the Village of Oakfield WWTF. The IPS will allow for smaller pumps at the STAMP site, the Hamlet of South Alabama, and the Hamlet of Wheatville.

The permanent IPS will utilize submersible pumps and a 10' diameter concrete structure sized in accordance with Ten States Standards. The wet well will have an operating storage volume of approximately 3,229 gallons. The operating range of the wet well will be approximately 8.50 feet vertically. The pump station has been designed with a valve vault outside of the wet well to isolate pumps and to provide a bypass connection for future maintenance.

The wet well will include ventilation for both intake and exhaust of air using explosion proof equipment. In addition, a vault will be constructed to house a magnetic flow meter to measure flow pumped from the pump station. The ventilation of the full build-out wet well is designed to meet the requirements as outlined in Ten States Standards. Wet well sizing calculations can be found in Appendix H.

The controls for the submersible pumps will be housed in a metal sided enclosure. This enclosure will also house the utilities to the pump station including potable water and electric services.

For operation during a power failure, a standby diesel-fueled generator with a sound-attenuating enclosure will be provided in accordance with the requirements of TR-16.

Odor control provisions, likely in the form of chemical addition, will be provided for initial low flow conditions due to the potential for septic conditions with extended detention times in the force main.

C. Force Main

1. Location

There will be two segments of the force main. The first segment will convey sanitary flows from the Main Pump Station on the STAMP site to the Intermediate Pump Station along Ham Road in the Town. The first segment of the force main route will begin on Crosby Road and head north to STAMP Drive, where it will continue east and cross Allegany Road (NYS Route 63), continuing east through backlots to Ham Road, and continue along Ham Road to Knowslville Road (C.R. 23) in the Town where it will discharge into the wet well of the Intermediate Pump Station. The force main in this section will be approximately 18,000 linear feet long.

The Intermediate Pump Station will then convey sanitary flows from the Hamlet of South Alabama and the Hamlet of Wheatville along Ham Road to Macomber Road in the Town. The force main will then continue north along Macomber Road in the Town of Oakfield to Lewiston Road, where it will head southeast to Maltby Road. At Maltby Road the force main will continue east to North Pearl Street, where it will head south into the Village of Oakfield. The force main will then connect to the 12" diameter Village of Oakfield collection system. The force main has been sized to

accommodate the full buildout design flow of 0.287 MGD of sanitary sewer from the STAMP Site and the Town of Alabama. The force main in this section will be approximately 27,000 linear feet long.

An alternate force main route is being considered in the event that the Town of Oakfield or Village of Oakfield prefer a different route. This route will begin at the Intermediate pump station at the intersection of Ham Road and Knowlesville Road and extend east to Macomber Road, where it will continue north along the east side of Macomber Road to the intersection of Macomber Road and Lewiston Road. The force main will then follow Lewiston Road to the southeast and connect to an existing manhole at the intersection of Lewiston Road and Judge Road (NYS Route 63) in front of the Oakfield-Alabama Central Schools. The Village of Oakfield collection system will need to be evaluated to determine the location where the force main connects to the Village collection system.

The system curve was developed based on the installation of approximately 45,000 linear feet of 12-inch PVC DR-18 sanitary force main, metering vaults, and maintenance manholes. The force main route is shown in Figure 2.

2. Design

The force main design considered raw wastewater velocity, total dynamic head (TDH), and maximum rated working pressures for multiple diameters of PVC sanitary force main pipe. The system curve for the FM can be found in Appendix I at the end of this report. Pressures in the force main are not expected to exceed 100 PSI. Therefore, 12" DR-18 PVC pipe was selected.

To prevent settling of solids, the minimum flow required to maintain 2 ft/s in the 12" DR-18 PVC main (11.650" ID) is 659 gallons per minute (GPM). For the initial phases of the STAMP site, the pump station will be operated to provide a flushing velocity through the main for an extended period of time to properly flush the force main.

3. Profile

Overall, the force main route from the MPS to the IPS and the IPS to discharge location in the Village of Oakfield is generally uphill with multiple high points and low points along the route. The pump off elevation of the MPS is approximately 652.00' and the force main discharge elevation at the IPS is approximately 715.00' Therefore the discharge elevation of the MPS force main is approximately 63 vertical feet higher than the pump off elevation in the MPS.

The pump off elevation of the IPS is 707.50'. The discharge manhole along North Pearl Street in the Village of Oakfield is approximately 725.00'. Therefore, the discharge elevation of the force main is approximately 17.5 vertical feet higher than the pump off elevation of the pumps in the IPS.

The PVC force main will be installed at a constant minimum slope of 0.5%, within the open cut areas. The force main pipe is purposely installed sloping up and down along the route to provide

designated high points for releasing air within the pipe. Air release valves will be installed within maintenance manholes at these high points.

4. Maintenance Manholes

Maintenance manholes will be installed at each high point along the route of the force main between the STAMP Site and the discharge location. Each manhole is a 5'-0" diameter precast concrete structure that contains an internal access ladder, a removable section of pipe, air release/vacuum breaker valve, and vent piping. Air-release/vacuum breaker valves are required to prevent air from becoming captured inside the force main pipe, which causes flow constrictions and results in poor pumping efficiencies. The removable fitting provides a means to access the force main for flushing, testing and bypass pumping purposes. The fitting consists of a 24" long straight section of ductile iron pipe that can easily be removed for the attachment of other fittings, testing equipment or bypass pumps. Each manhole will also have a 24" diameter cast iron manhole cover placed on top for access to the internal components. The cover will be installed so it is level with the finish grade will be placed over top of the pipe for access.

Since some of these maintenance manholes may be in areas where the high ground water level would be above the elevation of the air release/vacuum valve, the air release/vacuum breaker piping must extend above grade to ensure the air release valve vents the air properly. For these locations, a 2" diameter galvanized steel vent in the shape of a candy cane that extends approximately 2' above the high ground water level will be required. The vent will contain a screen over the end of the pipe to prevent animals from entering the vent piping. The piping will be painted to blend in with the surroundings.

Main line valves will be installed approximately every 1,000 feet along the force main to provide a means to isolate sections of the force main for testing and maintenance purposes.

5. Flow Metering

Magnetic flow meters, located on the discharge piping within the new Main Pump Station and Intermediate Pump Station valve vaults, will monitor and record the instantaneous and total flows at each pump station. The meter at the Intermediate Pump Station will be used for billing by the Village of Oakfield.

6. Main Line Valves

The force main will require numerous main line valves along the route from the STAMP Site to the discharge location. Valves are located at each of the maintenance manholes to provide a means to isolate sections of the force main for testing and maintenance purposes. Each valve requires a cast iron valve box, installed to finish grade, for access to the valve's operating nut. The top of the valve box is approximately 8" in diameter and installed level with the finish grade.

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7. Force Main Markers

Fiberglass pipeline markers will be placed at periodic intervals along the entire force main route. Each marker is approximately 4" wide and extends 5' above grade. The markers are used to help identify the location of the underground pipe, especially during the winter months and within heavily vegetated areas.

8. Environmental Resources

A wetland delineation was completed for the proposed force main route from the STAMP Site to the discharge location along North Pearl Street in the Village of Oakfield. The wetland delineation identified seven (7) total stream crossings and one (1) non-jurisdictional wetland that will be crossed by the force main installation. There are three (3) Class C stream crossings identified in the delineation report. The wetland delineation report completed by CC Environment & Planning can be found in Appendix J.

The first creek crossing is located within the STAMP site boundary, along STAMP Drive at the intersection of the bypass road hammerhead. The force main will cross tributary 3 in this area. The crossing of Tributary 3 will be completed with horizontal directional drilling (HDD) methods. A directional drilling launching pad will be constructed on one side of the creek crossing, outside of the banks of the creek. The pad consists of a temporary gravel pad to support the HDD machine while it is working. The pad will be removed at the completion of the crossing. The HDD machine will install the pipe a minimum of 10 feet below the bottom of the creek bed. All disturbance and all work will take place outside of the banks of the creek. This will eliminate any impacts to the natural stream bed.

The second creek crossing will take place at Brinningstool Creek along Ham Road, just west of Knowlesville Road, a DEC Class C stream. This crossing will take place within permanent easements outside of the existing road right-of-way and will be completed utilizing HDD installation methods, similar to the method stated above. All disturbance and all work will take place outside of the banks of the creek and the stream bed. The force main will be installed a minimum of 10 feet below the stream bed elevation. Eliminating any impacts to the natural stream bed.

The above noted portion of Brinningstool Creek was crossed with the installation of the 8-inch water main for the Town of Alabama water district project by HDD installation methods at approximately 6 feet below the creek bottom. There were no issues with HDD inadvertent returns with this crossing. The force main will be installed with a similar alignment and depth as the water main. It is anticipated that the 12-inch force main will be installed in this area without issues.

The third-stream crossing is located along North Pearl Street and is an unnamed tributary to Oak Orchard Creek, also a DEC Class C stream. The force main will be installed utilizing HDD installation techniques. All disturbance and all work will take place outside of the banks of the creek and the stream bed. The force main will be installed a minimum of 10 feet below the stream bed elevation. Eliminating any impacts to the natural stream bed.

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A preliminary geotechnical assessment prepared by Foundation Design is included in Appendix K. Additional geotechnical investigations will need to be performed to confirm the soil conditions in these areas are conducive to HDD methods without impacting the environment.

Should HDD prove to not be a viable installation option, the crossings will be made by open cut installation methods. To complete the work associated with open cut crossings, a temporary coffer dam with a temporary culvert pipe will be constructed to provide a continuous flow of water. The temporary culvert pipe will be bulkheaded into the existing culvert pipe to prevent backflow from downstream. Turbidity curtains will be installed upstream and downstream of the crossing to prevent the transportation of sediment outside of the work area. Construction will take place during the summer months when flows are typically reduced, further reducing the potential for sediment transfer. However, dewatering will be required during crossing operations. Water from the work area will be pumped into a filter bag to contain any sediment and allow the water to disperse on the ground naturally. These crossings should only take approximately 2-3 working days per each crossing.

There are (4) additional unnamed streams and drainageways identified in the wetland delineation summary prepared by CC Environment & Planning. The proposed force main alignment will cross these unnamed streams and drainageways by open cut methods. If the stream or drainageway is flowing water at the time of construction, an earthen coffer dam will be used to divert water while the pipe is being installed. The coffer dam will be removed immediately following the completion of the crossing and the are will be immediately seeded with a wetland seed mix and mulched. All erosion and sediment control measures will be installed prior to beginning the crossing. Disturbance to the unnamed stream or drainageway will be minimized to every extent practicable. Some of these crossings may take place under the existing road drainage culvert. This would result in no impact to the unnamed stream or drainageway. Each of the smaller crossings should take less than a day to complete.

The force main will also be installed adjacent to a non-jurisdictional wetland on the STAMP site, wetland W47, along Allegany Road. The FM will be installed using open-cut techniques in this area. Proper erosion and sediment control measures will be installed along the area of disturbance. Native soils will be used as backfill material and all disturbed areas will be seeded and mulched with an approved wetland seed mix. Restoration of surfaces will take place immediately after the work in this area is completed. This crossing should only take 1 to 2 working days.

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The table below shows each crossing time and force main installation method.

ID	Wetland/ Stream Name	Classification	Crossing Method	Disturbance Type
S1	Unnamed	Unclassified	Open Cut	Temporary
S2	Unnamed	Unclassified	Open Cut	Temporary
S3	Brinningstool Creek	NYS DEC Class C Stream	HDD	None
S4	Unnamed	Unclassified	Open Cut	Temporary
S5	Unnamed	Unnamed	Open Cut	Temporary
S6	Unnamed Tributary to Oak Orchard Creek	NYS DEC Class C Stream	HDD	None
T3	Tributary 3	NYS DEC Class C Stream	HDD	None
W47	Unnamed	Non-jurisdictional wetland	Open Cut	Temporary

9. Threatened and Endangered Species

An agency database review via online consultation tools was conducted on March 1, 2024 to determine whether state- or federally-listed threatened or endangered species may be present within the Site.

New York State
Reviews of NYSDEC's Environmental Resource Mapper and Environmental Assessment Form (EAF) Mapper identified three listed species in the vicinity of the site (see Appendix L):

1. Northern harrier (Circus *hudsonius*), a New York State threatened species
2. Short-eared owl (*Asio flammeus*), a New York State endangered species
3. Sedge wren (*Cistothorus platensis*), a New York State threatened species.

All three species require large tracts of grassland habitat, which is present adjacent to the project area. However, the work will be occurring in the immediate roadside, which is not typically used by these species due to the regular disturbance, thus any potential impacts will be minor. These impacts will be temporary, occurring primarily during construction. Any disturbed vegetation will be reseeded immediately following construction, allowing for restoration of potential habitat.

Federal
Review of U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) identified two species as potentially occurring within the Project site (see Appendix L):

1. Northern long-eared bat (NLEB; *Myotis septentrionalis*), a federally listed endangered species
2. Monarch butterfly (*Danaus plexippus*), a candidate species for federal listing

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NLEB are primarily a forest-dependent species that utilize a variety of forest habitats for roosting, foraging, and rearing young. The decline of the NLEB is due to white-nose syndrome, a fungal disease, and not habitat loss. The NYSDEC encourages the voluntary implementation of all forest management activities during the hibernation period, November 1 through March 31. USFWS has indicated that there are no known NLEB maternity roost trees within 1.5 miles or winter hibernacula within 5 miles of the Site (i.e., no on-site occupied habitat or designated critical habitat present, https://www.fws.gov/office/new-york-ecological-services-field/species). It does not appear on the NYSDEC Environmental Resource Mapper, thus NYSDEC indicates that no known occurrences of the species are within the vicinity of the Site. The NLEB range-wide key within IPaC was consulted to determine the likelihood of potential "take" of the species. Based on the submission, a determination of "No Effect" was reached (Appendix F). No further consultation is necessary.

The second species listed on the USFWS IPaC Official Species List is the monarch butterfly. This is a candidate species for federal listing and currently is not listed, thus impacts to the species do not need to be formally evaluated. That being said, this work will be conducted within the regularly maintained right-of-way, which does not provide habitat for the monarch butterfly due to the regular mowing that occurs in this area.

10. Cultural Resources

A majority of the proposed force main route was reviewed by the NYS State Historic Preservation Office (SHPO) for impacts to cultural resources through the design phases of the Town of Alabama water projects. There were no significant cultural impacts identified and the route was cleared by SHPO in connection with the previously constructed water project referenced above. A majority of the force main project will be constructed in the existing road rights-of-way where previous ground disturbance has occurred. However, the proposed route will be submitted to the SHPO office for review and necessary investigations will be completed to clear the project of any cultural resources.

A known burial ground has been identified along Maltby Road, east of North Pearl Street. However, the force main alignment is more than 1,500 feet away from the location of the burial ground. As mentioned above, A majority of the force main project will be constructed in the existing road rights-of-way where previous ground disturbance has occurred.

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IX. Conclusion

The offsite sanitary sewer project is an integral and critical part of the necessary infrastructure for the STAMP Site. Planned development of the STAMP site is proceeding rapidly pursuant to local, state and national needs and plans. While the sanitary sewer needs were initially to be met by on-site treatment and the under-construction force main to Oak Orchard Creek, that plan has faced significant complications and uncertainty due to a combination of environmental conditions and legal action brought by Orleans County and the Nation. To meet the development needs of the STAMP tenants in a practicable timeline, the management of initial flows of sanitary waste by the Oakfield WWTF is the ideal alternative. A feasible and practicable force main is proposed to facilitate the system and is in development. Additionally, the project is contained fully within Genesee County and in furtherance of the developing cooperative agreements between STAMP and Oakfield. The Oakfield WWTF has present capacity to accept sanitary waste from the initial development of STAMP and its tenants. The GCEDC and SSW are committed to providing safe and reliable wastewater treatment that will meet the current and future needs of water quality and treatment capacity for the STAMP Site, without negatively impacting the Oakfield WWTF. These specific projects will be imperative in achieving these goals.

DRAFT

Figure 1

STAMP Site
General Location Map

DRAFT

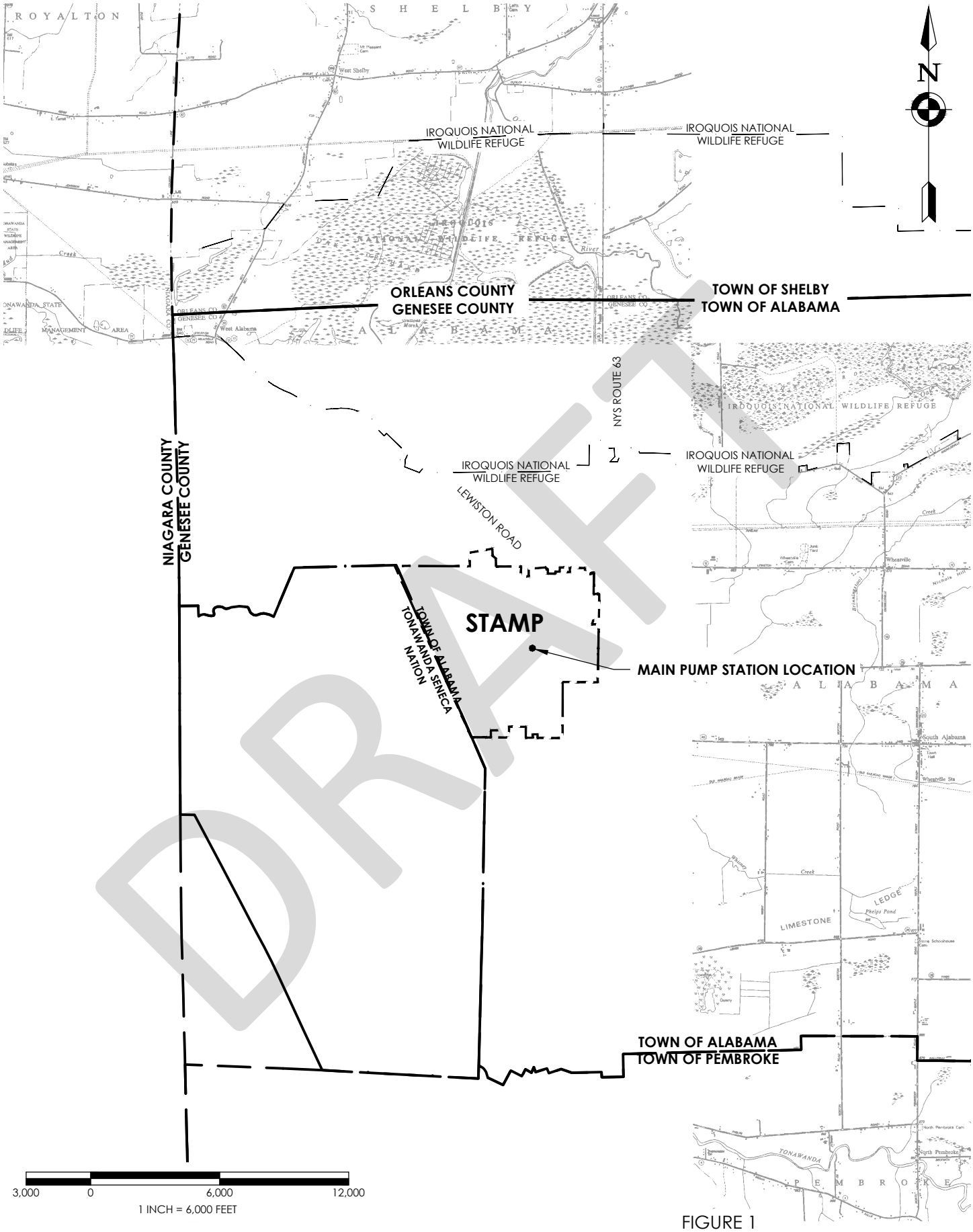


FIGURE 1

DRAFT

205 ST. PAUL STREET, SUITE 500
ROCHESTER, NEW YORK 14604
TEL (800) 274-9000
FAX (585) 232-5836
CPLteam.com
ARCHITECTURE ▪ ENGINEERING ▪ PLANNING

DATE:	3/23/22
DRAWN:	ZLA
CHECKED:	ARK
SCALE:	AS NOTED
PROJ. #:	15981.00

STAMP SITE GENERAL LOCATION MAP

WNY STAMP OFFSITE SEWER

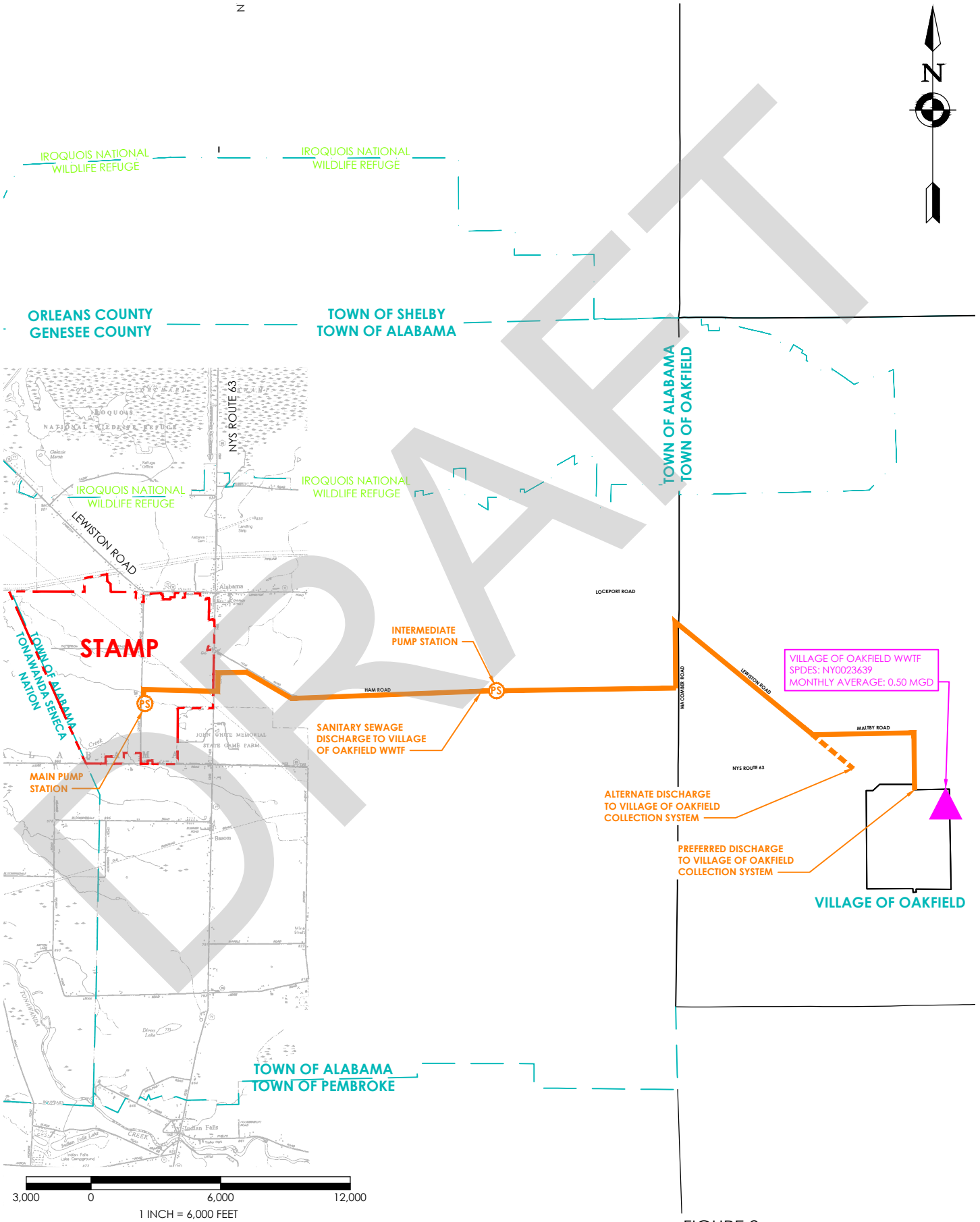
TOWN OF ALABAMA AND TOWN OF SHELBY, NEW YORK STATE

Plotted By: Dan Hards
Date last plotted: 2/21/2024 1:03 PM
Date last accessed: 2/21/2024 1:03 PM
Referenced Drawings: None
Drawing Name: J:\PROJECTS\GCEDC\STAMP Offsite Sewer\D Design\ACAD\Civil\Figures\Location Map Feb 2024.dwg

Figure 2

STAMP Force Main
General Location Map

DRAFT



DRAFT

FIGURE 2

205 ST. PAUL STREET, SUITE 500
ROCHESTER, NEW YORK 14604
TEL (800) 274-9000
FAX (585) 232-5836
CPLteam.com
ARCHITECTURE ▪ ENGINEERING ▪ PLANNING

DATE:	3/23/22
DRAWN:	ZLA
CHECKED:	ARK
SCALE:	AS NOTED
PROJ. #:	15981.00

FORCE MAIN GENERAL LOCATION MAP

WNY STAMP OFFSITE SEWER

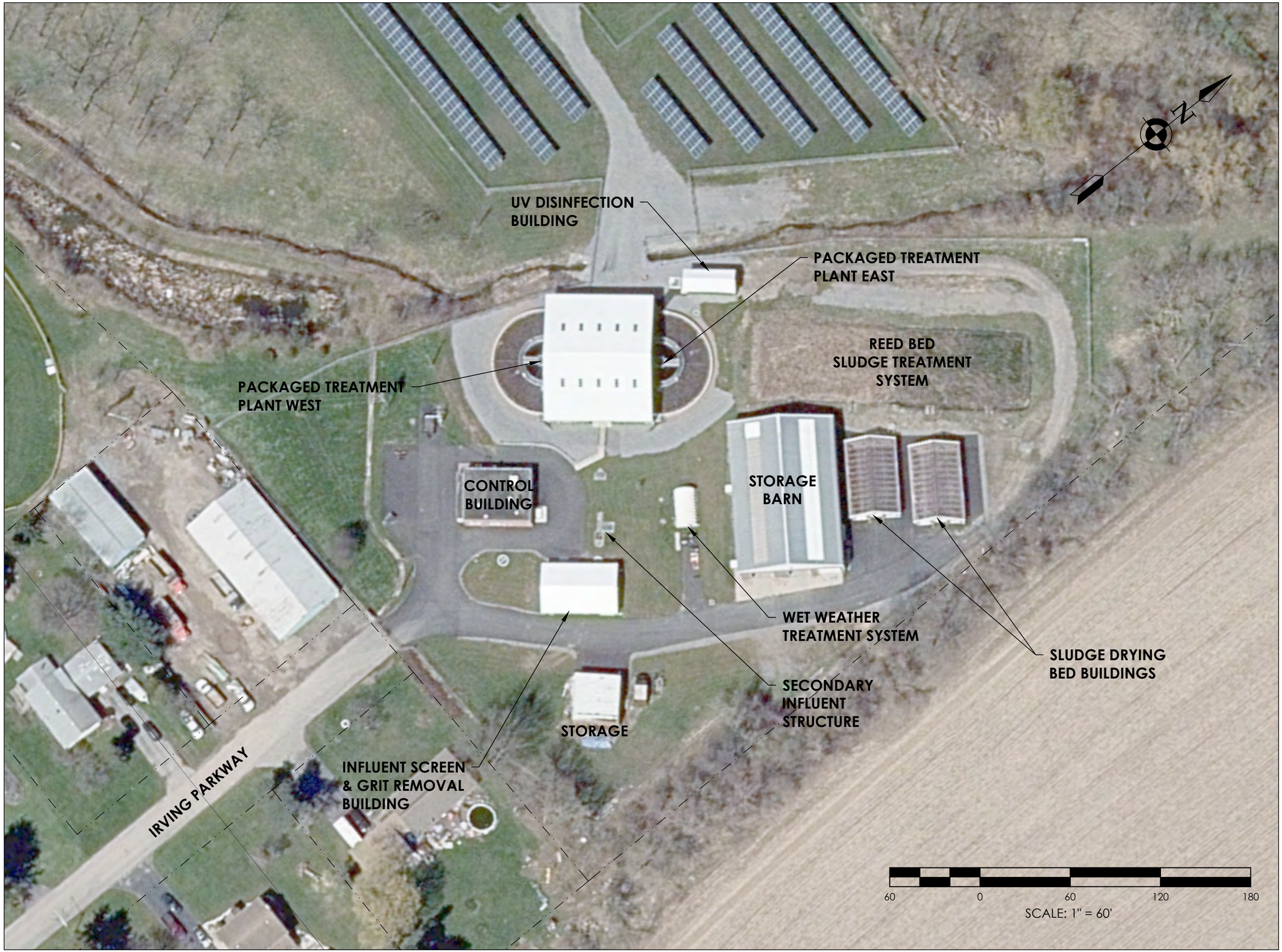
TOWN OF ALABAMA AND TOWN OF SHELBY, NEW YORK STATE

Plotted By: Zach Anderson
Date last plotted: 4/23/2024 1:46 PM
Date last accessed: 4/23/2024 1:45 PM
Referenced Drawings: None
Drawing Name: J:\PROJECTS\GCEDC\STAMP Offsite Sewer\D Design\ACAD\Civil\Figures\Location Map Feb 2024.dwg

Figure 3

Village of Oakfield WWTF
Site Layout

DRAFT



CPL | Architecture Engineering Planning

255 Woodcliff Drive, Suite 200
Fairport, NY 14450

CPLteam.com

NY ENGINEERING FIRM CERTIFICATE #018330

PROJECT INFORMATION

Client Name

GENESEE COUNTY ECONOMIC DEVELOPMENT CENTER

Project Name

OAKFIELD WWTF BASIS OF DESIGN REPORT

Project Address

19 IRVING PARKWAY
OAKFIELD, NY 14125

SHEET INFORMATION

Issued	Scale
3/1/24	1" = 60'
Drawn By	**Checked By**
NMO	DAC

Drawing Title

WWTF SITE LAYOUT

Drawing Number

FIGURE 3

Plotted By: Nathan Oliva
Date last plotted: 3/5/2024 10:25 AM
Date last accessed: 3/5/2024 10:23 AM
Sheet size: 11x17
Drawing Name: J:\PROJECTS\GCEDC_General\Oakfield WWTF\Village of Oakfield WWTF Site Layout.dwg

Figure 4

Village of Oakfield WWTF
General Site Plan

DRAFT

SEE DRAWING D-04 FOR DETAILS

REFER TO ASBUILT UV LAYOUT ON D-04

FENCE EXTENDED OVER NEW CROSSING & TIED INTO EXISTING ON NW SIDE

NEW DITCH CROSSING & 57" x 38" CULVERT ADDED

NEW 12' x 30' UV DISINFECTION STRUCTURE. SEE STRUCTURAL/MECHANICAL (SM) AND ELECTRICAL (E) DRAWINGS FOR DETAILS.

NEW 5' DIAMETER FRP DIVERSION MANHOLE. SEE DRAWING D-04 FOR DETAILS.

REMOVE AND REINSTALL FENCE AS NECESSARY.

DRAINAGE DITCH

DAYLIGHT AT CREEK

EXISTING 7' TALL CHAIN LINK FENCE

7' TALL CHAIN LINK FENCE WITH 3 STRAND BARBED WIRE

NEW 18" DR-21 PVC GRAVITY SEWER

EX. MH
RIM= ~~714.85'~~ 711.78'
INV= ~~704.38'~~ 704.28'

EX. MH
RIM= ~~720.50'~~ 714.50'
S INV.=702.57'
N INV.=702.45'

EX. MH
RIM= 717.37'
S INV.=702.00'
N INV.=701.89'

12' WIDE CHAIN LINK FENCE DOUBLE GATE.

18" OUTFALL TO CREEK

PAVEMENT

TP-1

2'x2' CB

NEW 18" SDR-21 PVC WYE AND GRAVITY SEWER.

ABANDON EXISTING GRAVITY SEWER IN PLACE AFTER SATISFACTORY TRAIL PERIOD OF NEW SYSTEM PER NYSDEC AND PLANT OPERATOR. CUT, CAP AND GROUT AND FILL WITH CLSM.

CONNECTION TO EXSTING 6" SDR-21 FORCE MAIN WITH 6" x 4" WYE, 6" PLUG VALVE AND 4" PLUG VALVE. SEE SM-01 FOR DETAILS.

6" UNDERDRAIN ADDESD AROUND TREATMENT UNITS AND RAN TO DAYLIGHT AT CREEK

E--PP

PACKAGE TREATMENT UNIT

PACKAGE TREATMENT UNIT

NEW 5' DIAMETER FRP DIVERSION MANHOLE. SEE DRAWING C-02 FOR DETAILS.

NEW 6" SDR-35 PVC @ 1% CONNECTED TO EXISTING GRINDER PUMP STATION. SEE SM-01 FOR INVERTS.

NEW 6" SDR-35 PVC @ 1% CONNECTED TO EXISTING GRINDER PUMP STATION. SEE SM-01 FOR INVERTS.

SEE DRAWINGS SM-10, SM-11 ALONG WITH SPECIFICATIONS FOR PACKAGE TREATEMENT UNIT COVER ALTERNATIVES

6" BACKWASH AIR

6" PVC SDR21 FORCEMAIN

VALVE

SLUDGE LINE

CONC. WALK

6" PLUG VALVE

6" PVC SDR26 SLUDGE LINE

STAIRS

SLUDGE LOADING AREA

1" CHLORINE

1" SAMPLE LINES

10" PROCESS AIR

1" PVC DRAIN

3" PVC SCH. 80 FM

1 1/2" PVC

DISTRIBUTION BOX
4" INV.=715.6

INV.=708.00±

EX. MH
RIM= 718.43
INV.= xxx.xx'

(EXISTING ASPHALT MILLED AND 1 1/2" OVERLAY)

ASPHALT DRIVEWAY

65 LF NEW 18" SDR-21 PVC GRAVITY SEWER @ 0.42%

E- 15" SAN

EXISTING 3" WS

SAN SEWER

REMOVE EXISTING INFLUENT STRUCTURE.

NEW 7' 20" SDR-21 PVC GRAVITY SEWER.

EX. MH
RIM= 720.29'
N INV.=715.61'

NEW 1" WATER SERVICE

NEW 5' 18" SDR-21 PVC STUB WITH ENDCAP FOR FUTURE USE.

GUIDE RAS

EX. MH
RIM= 720.04'
N INV.=715.25'

PRECAST

NEW 5' DIAMETER ~~FRP~~ DIVERSION MANHOLE
RIM: ~~720.30'~~ 721.66'
S INV: ~~715.52'~~ 715.60'
NE INV: ~~715.52'~~ 715.61'

PRECAST

NEW 5' DIAMETER ~~FRP~~ DIVERSION MANHOLE FRP-3. SEE DRAWING D-01 FOR DETAILS.
RIM: ~~720.30'~~ 721.42'
S INV: ~~715.25'~~ 715.29'
W INV: ~~715.20'~~ 715.05'
E INV: ~~715.25'~~ 715.22'

ASPHALT WAY

15 LF NEW 18" SDR-21 PVC GRAVITY SEWER @ 0.15%

E-10" SAN

TP-2

NEW PROCESS SCREEN AND GRIT REMOVAL STRUCTURE. SEE STRUCTURAL/MECHANICAL (SM) AND ELECTRICAL (E) DRAWINGS DETAILS.

REMOVE TREE.

NEW 1,200 SF MEDIUM DUTY PAVEMENT WITH SAWCUT JOINTS TO EXISTING ASPHALT.

NEW 5' DIAMETER PRE-CAST MANHOLE
RIM: 720.30'
N INV: 715.48'
SW INV: 715.50'

10 LF NEW 18" SDR-21 PVC GRAVITY SEWER @ 0.15%

ASPHALT DRIVEWAY

SEE DRAWING D-04 FOR DETAILS

STORAGE BUILDING

6" SDR35 STORM DRAIN

2'X2' CATCH BASIN
RIM = 718.49'

CONNECTION TO EXSTING 6" SDR-21 FORCE MAIN WITH 6" x 4" WYE, 6" PLUG VALVE AND 4" PLUG VALVE. SEE SM DRAWINGS FOR DETAILS.

NEW 4' MH. SEE STRUCTURAL/MECHANICAL (SM) DRAWINGS FOR INVERTS. (TYP. OF 2)

CONNECT NEW 12" SDR-21 PVC GRAVITY MAIN WITH WYE CLEAN-OUT. CONNECTION SHALL NOT BE MADE DURING I/I EVENTS AND SHALL BE COORDINATED WITH PLANT OPERATOR AT LEAST 48 HOURS IN ADVANCE. SEE C-02 FOR DETAILS.

BUILDING SHIFTED 6FT

NEW DRYING BED #1

NEW DRYING BED #2

NEW 2' x 2' CATCH BASIN. SEE STRUCTURAL/MECHANICAL (SM) DRAWINGS FOR INVERTS. (TYP 1 OF 3)

NEW 6" SOLID SICPP STORM.

6" SDR-35 PVC. MAINTAIN MIN. 1% SLOPE (TYP. 1 OF 6). PIPE TO BE SLOTTED UNDER BUILDING AND SOLID UNDER PAVEMENT.

NEW 6,200 SF MEDIUM DUTY PAVEMENT.

NEW 4" HEADER PIPE(S). SEE SM-01 FOR DETAILS AND LOCATION OF TRANSITION FROM PVC TO DIP.

ASPHALT DRIVEWAY
(EXISTING ASPHALT MILLED AND 1 1/2" OVERLAY)

END REMOVE 145 LF SECTION OF FENCING

MATCH DRAINAGE DITCH INVERT. INSTALL RODENT GUARD.

CLEAR AND GRUB AS REQUIRED.

NEW 165 LF NEW 6' HIGH CHAIN LINK FENCE WITH THREE (3) STRANDS OF BARB-WIRE ON TOP.

BEGIN REMOVE 145 LF SECTION OF FENCING

CLEANOUT WITH CAST IRON COVER. INSTALL FLUSH WITH PAVEMENT (TYP. 1 OF 6)

LEGEND

- EXISITNG GRAVITY SEWER (FLOW, E-MH, 12" SAN.)
- PROPOSED GRAVITY SEWER (FLOW, P-MH, P-VALVE, P-CO, 12" SAN.)
- EXISTING FORCE MAIN SEWER (FLOW, E-VALVE, 6" FM)
- PROPOSED FORCE MAIN SEWER (FLOW, P-VALVE, 6" FM)
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING OH ELECTRIC LINES (OH ELEC)
- TREE LINE
- PROPOSED STORM SEWER (P-6" ST, CB, FLOW)
- TEST PIT

20 10 0 20 40 60
DISTANCE IN FEET

FIGURE 4

REVISIONS

NO.	DATE	BY	CHKED	DESCRIPTION
				ASBUILT

Mountain Engineering, PLLC
Infrastructure - Water - Wastewater - Environment
23 Jackson Street, Suite 201 Batavia NY 14020
Office: 585-219-4030 Cell: 585-755-6408
www.mountainengineers.com

STATE OF NEW YORK * STEVEN JOHN RUSH * LICENSED PROFESSIONAL ENGINEER * 075796

VILLAGE OF OAKFIELD
WASTEWATER COLLECTION AND TREATMENT PLANT PHASE 1 IMPROVEMENTS

37 MAIN STREET
OAKFIELD, NEW YORK 14125
GENESEE COUNTY

DATE: 5/7/2018
DRAWN BY: BGR
DESIGNED BY: SCL
CHECKED BY: SJM
SCALE: 1" = 20' (22 x 34)

GENERAL SITE PLAN

DRAWING NAME
C
DRAWING NUMBER
01

ANY ALTERATION OF ANY KNOWN OR UNKNOWN OR LAND SURVEYOR'S SEAL OR SIGNATURE AND NOTATION, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER NAME AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

Figure 5

Village of Oakfield WWTF
Process Flow Diagram

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IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145, SECTION 7209, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LEGEND

RAW SEWAGE	RS
MICRO SCREEN EFFLUENT	MSE
RETURN ACTIVATED SLUDGE	RAS
WASTE SLUDGE	WAS
MIXED LIQUOR	ML
SETTLING TANK EFFLUENT	STE
FILTERED EFFLUENT	FE
REAERATED EFFLUENT	
CHLORINATED EFFLUENT	CE
PROCESS AIR	PA
BACKWASH AIR	BWA
GATE VALVE	
PLUG VALVE	
BUTTERFLY VALVE	
INSTRUMENTATION OR CONTROL	
STRAINER	
PRESSURE GUAGE	
FLOW ARROW	
MANHOLE	MH
CHECK VALVE	
SOLENOID VALVE	

MICROSCREEN
SCREENINGS MANUALLY REMOVED TO LANDFILL
BY-PASS BAR SCREEN
HIGH FLOW TO MICROSCREEN
FIR
EXISTING GRIT CHAMBER
TO BE REMOVED
NEW MH
18" MANUAL OVERFLOW BY-PASS
18" PVC
COMMINUTOR
PARSHALL FLUME
FLOW DIVISION BOX
NEW TRAVELING BAR SCREEN
NEW VORTEX GRIT REMOVAL
10" CIP PA
SLUDGE HOLDING TANK
SUPERNATANT OVERFLOW OR DECANT DEVICE
AERATION TANK
TO DIFFUSERS
SOLENOID VALVE
RETURN AND WASTE SLUDGE AIRLIFT
SCUM RETURN AIRLIFT
SCUM BOX
FROTH SPRAY PUMP
SETTLING TANK
BACKWASH STORAGE TANK
BACKWASH RETURN PUMPS 2 @ 20 GPM
DEEP BED FILTERS
SAND
GRAVEL
OVERFLOW
GATE VALVE (TYP.)
BACKWASH PUMPS VERTICAL CENTRIFUGAL 2 @ 1200 GPM EACH
EFFLUENT REAERATION AND BACKWASH RESERVOIR
PROPOSED MIRCOSCREEN EFFLUENT
EXISTING MICROSCREEN EFFLUENT TO BE ABANDONED
JUNCTION MANHOLE
NEW UV DISTRIBUTION BOX
UV BYPASS
NEW ULTRA-VIOLET DISINFECTION
MANHOLE 2
TO EXISTING OUTFALL SEWER TO OAK ORCHARD CREEK
AIR FILTER (TYP.)
CENTRIFUGAL COMPRESSOR
POSITIVE DISPLACEMENT COMPRESSOR
BACK PRESSURE MONOMETER
SLUDGE DRYING BEDS

FIGURE 5

REVISIONS				
NO.	DATE	BY	CHKED	DESCRIPTION
				ASBUILT

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Infrastructure - Water - Wastewater - Environment
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VILLAGE OF OAKFIELD
WASTEWATER COLLECTION AND TREATMENT PLANT
PHASE 1 IMPROVEMENTS

37 MAIN STREET
OAKFIELD, NEW YORK 14125
GENESEE COUNTY

DATE:	5/7/2018
DRAWN BY:	BGR
DESIGNED BY:	SCL
CHECKED BY:	SJM
SCALE:	N.T.S.

WASTEWATER PROCESS FLOW

DRAWING NAME: **PF**
DRAWING NUMBER: **01**

Figure 6

Village of Oakfield WWTF
Hydraulic Profile

DRAFT

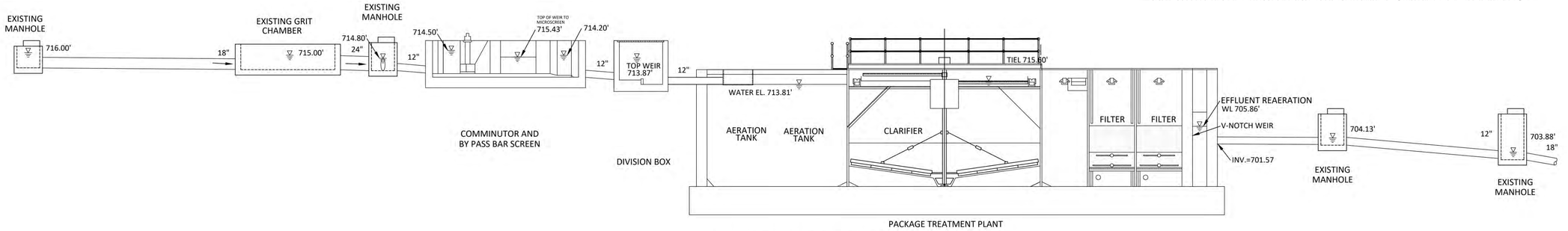
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EXISTING FLOWS:

INSTANTANEOUS PEAK FLOW: 3.0 MGD

EXISTING FLOWS FOR PACKAGE TREATMENT PLANT:

INSTANTANEOUS PEAK FLOW: 1.6 MGD (3.0 MGD - 1.4 MGD)



EXISTING HYDRAULIC PROFILE

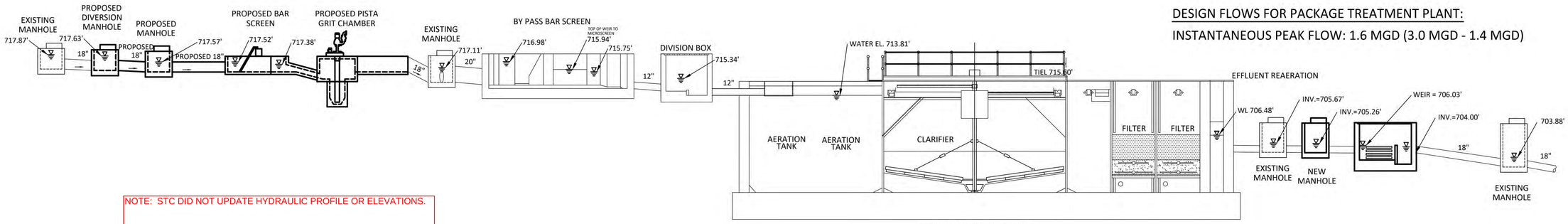
N.T.S.

DESIGN FLOWS FOR HEADWORKS:

INSTANTANEOUS PEAK FLOW: 3.0 MGD

DESIGN FLOWS FOR PACKAGE TREATMENT PLANT:

INSTANTANEOUS PEAK FLOW: 1.6 MGD (3.0 MGD - 1.4 MGD)



PROPOSED HYDRAULIC PROFILE

N.T.S.

NOTE: STC DID NOT UPDATE HYDRAULIC PROFILE OR ELEVATIONS.

FIGURE 6 (p.1)

REVISIONS				
NO.	DATE	BY	CHKED	DESCRIPTION
				ASBUILT

Mountain Engineering, PLLC
Infrastructure - Water - Wastewater - Environment
23 Jackson Street, Suite 201 Batavia, NY 14020
Office: 585-219-4030 Cell: 585-755-6408
www.mountainengineers.com

STATE OF NEW YORK LICENSED STEVEN JOHN MILLER 075796 PROFESSIONAL ENGINEER

VILLAGE OF OAKFIELD
WASTEWATER COLLECTION AND TREATMENT PLANT
PHASE 1 IMPROVEMENTS

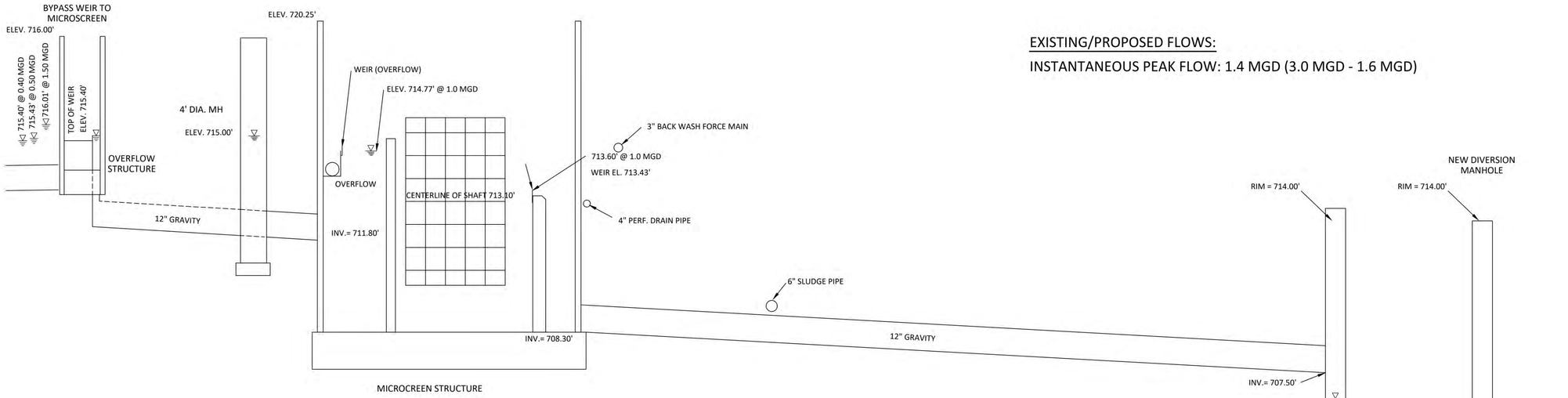
37 MAIN STREET
OAKFIELD, NEW YORK 14125
GENESEE COUNTY

DATE:	5/7/2018
DRAWN BY:	BGR
DESIGNED BY:	SCL
CHECKED BY:	SJM
SCALE:	N.T.S.

HYDRAULIC PROFILE
1 OF 2

DRAWING NAME
H

DRAWING NUMBER
01



EXISTING/PROPOSED FLOWS:

INSTANTANEOUS PEAK FLOW: 1.4 MGD (3.0 MGD - 1.6 MGD)

EXISTING/PROPOSED MICROSCREEN PROFILE

N.T.S.

NOTE: STC DID NOT UPDATE HYDRAULIC PROFILE OR ELEVATIONS.

FIGURE 6 (p.2)

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145, SECTION 7209, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

REVISIONS				
NO.	DATE	BY	CHKED	DESCRIPTION
				ASBUILT

Mountain Engineering, PLLC
Infrastructure - Water - Wastewater - Environment
23 Jackson Street, Suite 201 Batavia, NY 14020
Office: 585-219-4030 Cell: 585-755-6408
www.mountainengineers.com

STATE OF NEW YORK · STEVEN JOHN LOUCKS · 075796 · LICENSED PROFESSIONAL ENGINEER

VILLAGE OF OAKFIELD
WASTEWATER COLLECTION AND TREATMENT PLANT
PHASE 1 IMPROVEMENTS

37 MAIN STREET
OAKFIELD, NEW YORK 14125
GENESEE COUNTY

DATE:	5/7/2018
DRAWN BY:	BGR
DESIGNED BY:	SCL
CHECKED BY:	SJM
SCALE:	AS NOTED

HYDRAULIC PROFILE
2 OF 2

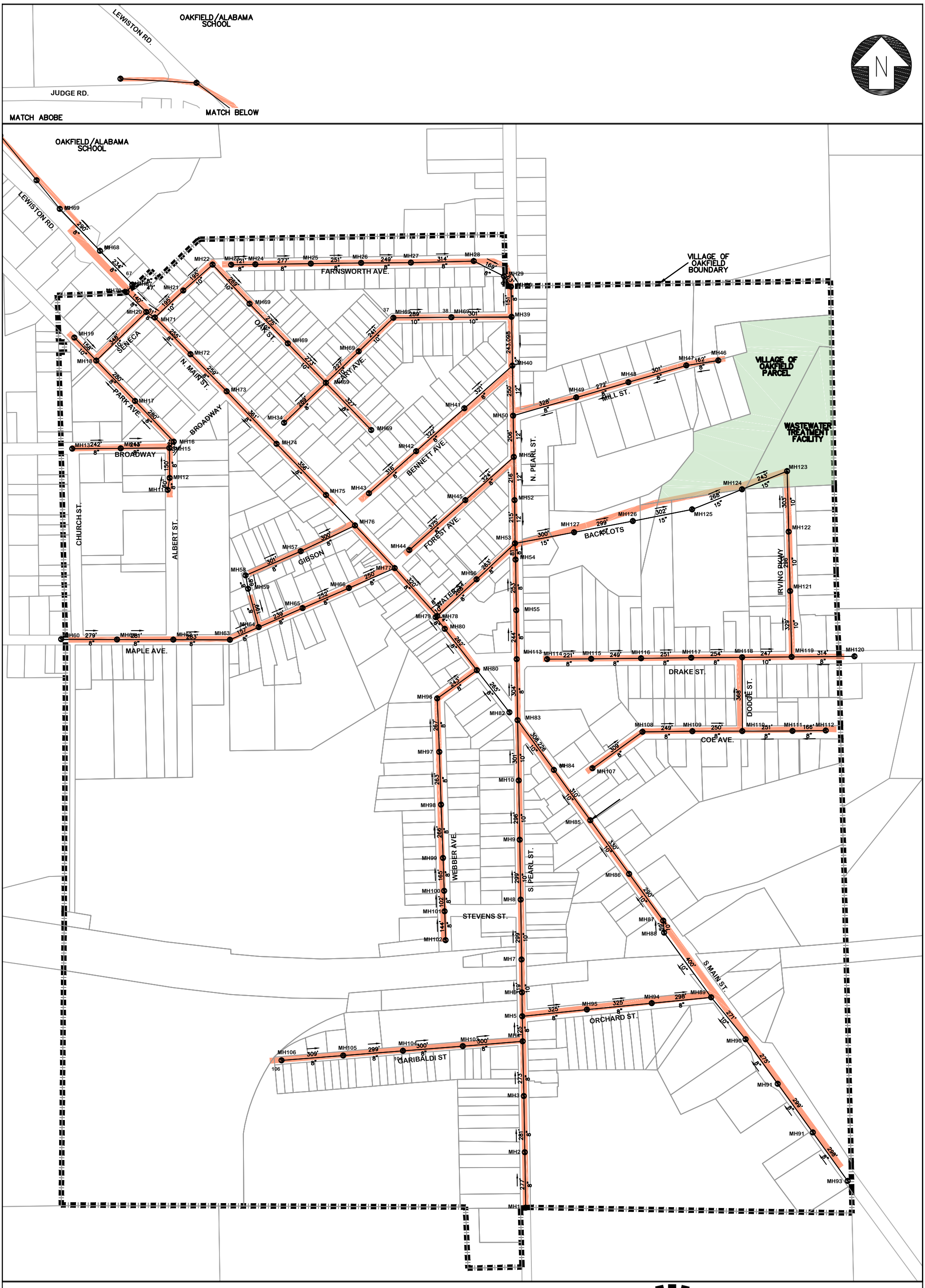
DRAWING NAME
H

DRAWING NUMBER
02

Appendix A

Village of Oakfield
Sanitary Sewer Collection System Map

DRAFT



Village of Oakfield Sanitary Sewer System
FIGURE 2

200 100 0 200 400 600

1=200

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Appendix B

Village of Oakfield WWTF
SPDES Permit

DRAFT

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

State Pollutant Discharge Elimination System (SPDES) DISCHARGE PERMIT

Industrial Code:	4952	SPDES Number:	NY0023639
Discharge Class (CL):	07	DEC Number:	8-1838-00002/00001
Toxic Class (TX):	N	Effective Date (EDP):	12/01/2015
Major Drainage Basin:	03	Expiration Date (ExDP):	11/30/2020
Sub Drainage Basin:	01	Modification Dates: (EDPM)	01/01/2018
Water Index Number:	ONT 138-28		
Compact Area:	N/A		

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

PERMITTEE NAME AND ADDRESS					
Name:	Village of Oakfield	Attention:	Louis Moretti		
Street:	37 Main Street				
City:	Oakfield	State:	NY	Zip Code:	14125

is authorized to discharge from the facility described below:

FACILITY NAME AND ADDRESS													
Name:	Village of Oakfield Sewage Treatment Plant												
Location (C,T,V):	Oakfield (V)								County:	Genesee			
Facility Address:	19 Irving Parkway												
City:	Oakfield			State:			NY		Zip Code:	14125			
From Outfall No.:	001	at Latitude:	43	°	04	'	10	''	& Longitude:	78	°	15	'	56	''
into receiving waters known as:	Dry Brook (Trib Oak Orchard)								Class:	D			

in accordance with: effluent limitations; monitoring and reporting requirements; other provisions and conditions set forth in this permit; and 6 NYCRR Part 750-1and 750-2.

DISCHARGE MONITORING REPORT (DMR) MAILING ADDRESS					
Mailing Name:	Village of Oakfield				
Street:	37 Main Street				
City:	Oakfield	State:	NY	Zip Code:	14125
Responsible Official or Agent:	Louis Moretti		Phone:	(585) 356-8175	

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

DISTRIBUTION:

CO BWP - Permit Coordinator
RWE
RPA
EPA Region II
NYSEFC
NYSDOH District Office

Deputy Chief Permit Administrator: Kent P. Sanders

Address: Division of Environmental Permits
625 Broadway,4th Floor
Albany, NY 12233-1750

Signature: Kent P. Sanders

Date: 12/05/2017

PERMIT LIMITS, LEVELS AND MONITORING DEFINITIONS

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

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

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL	COMPLIANCE LEVEL / MINIMUM LEVEL (ML)	ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE
	Limit types are defined below in Note 1. The effluent limit is developed based on the more stringent of technology-based limits, required under the Clean Water Act, or New York State water quality standards. The limit has been derived based on existing assumptions and rules. These assumptions include receiving water hardness, pH and temperature; rates of this and other discharges to the receiving stream; etc. If assumptions or rules change the limit may, after due process and modification of this permit, change.	For the purposes of compliance assessment, the permittee shall use the approved EPA analytical method with the lowest possible detection limit as promulgated under 40CFR Part 136 for the determination of the concentrations of parameters present in the sample unless otherwise specified. If a sample result is below the detection limit of the most sensitive method, compliance with the permit limit for that parameter was achieved. Monitoring results that are lower than this level must be reported, but shall not be used to determine compliance with the calculated limit. This Minimum Level (ML) can be neither lowered nor raised without a modification of this permit.	Action Levels are monitoring requirements, as defined below in Note 2, which trigger additional monitoring and permit review when exceeded.	This can include units of flow, pH, mass, temperature, or concentration. Examples include µg/l, lbs/d, etc.	Examples include Daily, 3/week, weekly, 2/month, monthly, quarterly, 2/yr and yearly. All monitoring periods (quarterly, semiannual, annual, etc.) are based upon the calendar year unless otherwise specified in this Permit.	Examples include grab, 24 hour composite and 3 grab samples collected over a 6 hour period.

Notes:

1. EFFLUENT LIMIT TYPES:
   a. DAILY DISCHARGE: The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants expressed in units of mass, the 'daily discharge' is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the 'daily discharge' is calculated as the average measurement of the pollutant over the day.
   b. DAILY MAX: The highest allowable daily discharge.
   c. DAILY MIN: The lowest allowable daily discharge.
   d. MONTHLY AVG: The highest allowable average of daily discharges over a calendar month, calculated as the sum of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
   e. 7 DAY ARITHMETIC MEAN (7 day average): The highest allowable average of daily discharges over a calendar week.
   f. 30 DAY GEOMETRIC MEAN: The highest allowable geometric mean of daily discharges over a calendar month, calculated as the antilog of: the sum of the log of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
   g. 7 DAY GEOMETRIC MEAN: The highest allowable geometric mean of daily discharges over a calendar week.
   h. 12 MONTH ROLLING AVERAGE: The current monthly value of a parameter, plus the sum of the monthly values over the previous 11 months for that parameter, divided by 12.
   i. RANGE: The minimum and maximum instantaneous measurements for the reporting period must remain between the two values shown.

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

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	LIMITATIONS APPLY:	RECEIVING WATER	EFFECTIVE	EXPIRING
001	All Year	Dry Brook (Trib Oak Orchard)	01/01/2018	11/30/2020

PARAMETER	EFFLUENT LIMIT					MONITORING REQUIREMENTS				FN
								Location		
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	
Flow	Monthly Average	0.5	MGD			Continuous	N/A	X		
$CBOD_5$	Daily Maximum	5	mg/l	21.0	lb/d	2/Month	6-hr. Comp.	X	X	(1)
Ammonia (as NH_3)	Daily Maximum	15	mg/l			2/Month	6-hr. Comp.		X	
Solids, Suspended	Daily Maximum	10	mg/l	42.0	lb/d	2/Month	6-hr. Comp.	X	X	(1)
Dissolved Oxygen	Minimum	7.0	mg/l			2/Month	Grab		X	
Solids, Settleable	Daily Maximum	0.1	ml/l			1/Day	Grab	X	X	
pH	Range	6.0 – 9.0	SU			1/Day	Grab	X	X	
Temperature	Daily Maximum	Monitor	Deg C			1/Day	Grab	X	X	
Effluent Disinfection required		[ ] All Year		[X] Seasonal from May 1 to Oct 31						
Coliform, Fecal	30-Day Geometric Mean	200	No./ 100 ml			2/Month	Grab		X	(2)
Coliform, Fecal	7 Day Geometric Mean	400	No./ 100 ml			2/Month	Grab		X	(2)
Chlorine, Total Residual	Monthly Average	Monitor	mg/l	Monitor	lbs/day	1/Day	Grab		X	(2,3)
	Daily Maximum	0.020		Monitor						

FOOTNOTES:

(1) Effluent shall not exceed 15 % and 15 % of influent concentration values for CBOD5 & TSS respectively.

(2) Limits and monitoring requirements are not in effect until May 1, 2020. See the schedule of compliance on page 8.

(3) Total residual chlorine monitoring is only required if using chlorine for disinfection or other means.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	LIMITATIONS APPLY:	RECEIVING WATER	EFFECTIVE	EXPIRING
001	Apply during extended periods of wet weather when the influent flows exceed 0.5 MGD and the effluent of the treatment plant is combined with the effluent of the microstreams.	Dry Brook (Trib Oak Orchard)	01/01/2018	11/30/2022

PARAMETER	EFFLUENT LIMIT					MONITORING REQUIREMENTS				FN
								Location		
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	
Flow		Monitor	MGD			Continuous	N/A	X		
$CBOD_5$	Daily Maximum	15	mg/l			One per event	Grab		X	(1)
Ammonia (as NH_3)	Daily Maximum	2.0	mg/l			One per event	Grab		X	
Solids, Suspended	Daily Maximum	15	mg/l			One per event	Grab		X	(1)
Dissolved Oxygen	Minimum	7.0	mg/l			One per event	Grab		X	
Solids, Settleable	Daily Maximum	0.3	ml/l			One per event	Grab		X	
pH	Range	6.0 – 9.0	SU			One per event	Grab		X	
Temperature		Monitor	Deg C			One per event	Grab		X	
Effluent Disinfection required		[X] All Year		[ ] Seasonal from **May 1** to **Oct 31**						
Coliform, Fecal	30-Day Geometric Mean	200	No./ 100 ml			Once per event	Grab		X	(2)
Coliform, Fecal	7 Day Geometric Mean	400	No./ 100 ml			Once per event	Grab		X	(2)
Chlorine, Total Residual	Daily Maximum	0.020	mg/l			Once per event	Grab		X	(2,3)

FOOTNOTES:

(1) Effluent shall not exceed 15 % and 15 % of influent concentration values for CBOD5 & TSS respectively.

(2) Limits and monitoring requirements are not in effect until May 1, 2020. See the schedule of compliance on page 8.

(3) If ultraviolet light disinfection (UV) is practiced instead of chemical disinfection, then total residual chlorine monitoring is not required.

Mercury Minimization Program for Low Priority POTWs

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

DISCHARGE NOTIFICATION REQUIREMENTS

(a) Except as provided in (c) and (g) of these Discharge Notification Act requirements, the permittee shall install and maintain identification signs at all outfalls to surface waters listed in this permit. Such signs shall be installed before initiation of any discharge.

(b) Subsequent modifications to or renewal of this permit does not reset or revise the deadline set forth in (a) above, unless a new deadline is set explicitly by such permit modification or renewal.

(c) The Discharge Notification Requirements described herein do not apply to outfalls from which the discharge is composed exclusively of storm water, or discharges to ground water.

(d) The sign(s) shall be conspicuous, legible and in as close proximity to the point of discharge as is reasonably possible while ensuring the maximum visibility from the surface water and shore. The signs shall be installed in such a manner to pose minimal hazard to navigation, bathing or other water related activities. If the public has access to the water from the land in the vicinity of the outfall, an identical sign shall be posted to be visible from the direction approaching the surface water.

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

N.Y.S. PERMITTED DISCHARGE POINT

SPDES PERMIT No.: NY_____

OUTFALL No. :____

For information about this permitted discharge contact:

Permittee Name: _____

Permittee Contact: _____

Permittee Phone: ( ) - ### - ####

OR:

NYSDEC Division of Water Regional Office Address:

NYSDEC Division of Water Regional Phone: ( ) - ### -####

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

(f) The permittee shall periodically inspect the outfall identification sign(s) in order to ensure they are maintained, are still visible, and contain information that is current and factually correct. Signs that are damaged or incorrect shall be replaced within 3 months of inspection.

DISCHARGE NOTIFICATION REQUIREMENTS (continued)

(g) All requirements of the Discharge Notification Act, including public repository requirements, are waived for any outfall meeting any of the following circumstances, provided Department notification is made in accordance with (h) below:

(i) such sign would be inconsistent with any other state or federal statute;

(ii) the Discharge Notification Requirements contained herein would require that such sign could only be located in an area that is damaged by ice or flooding due to a one-year storm or storms of less severity;

(iii) instances in which the outfall to the receiving water is located on private or government property which is restricted to the public through fencing, patrolling, or other control mechanisms. Property which is posted only, without additional control mechanisms, does not qualify for this provision;

(iv) instances where the outfall pipe or channel discharges to another outfall pipe or channel, before discharge to a receiving water; or

(v) instances in which the discharge from the outfall is located in the receiving water, two-hundred or more feet from the shoreline of the receiving water.

(h) If the permittee believes that any outfall which discharges wastewater from the permitted facility meets any of the waiver criteria listed in (g) above, notification (form enclosed) must be made to the Department's Bureau of Water Permits, 625 Broadway, Albany, N.Y. 12233-3505, of such fact, and, provided there is no objection by the Department, a sign and DMR repository for the involved outfall(s) are not required. This notification must include the facility's name, address, telephone number, contact, permit number, outfall number(s), and reason why such outfall(s) is waived from the requirements of discharge notification. The Department may evaluate the applicability of a waiver at any time, and take appropriate measures to assure that the ECL and associated regulations are complied with.

SCHEDULE OF COMPLIANCE

a) The permittee shall submit the following information to the Regional Water Engineer at the address listed on the Recording, Reporting and Monitoring page of this Permit, and to the Bureau of Water Permits, 625 Broadway, Albany NY 12233-3505:

Outfall(s)	Parameter(s) Affected	Interim Effluent Limit(s)	Required Action	Due Date
001	Fecal Coliform Total Residual Chlorine	N/A	The permittee shall submit an approvable engineering report, prepared by a Professional Engineer licensed to practice engineering in New York State, detailing the disinfection designs that will be used to comply with the final effluent limitations for Fecal Coliform and Total Residual Chlorine.	May 1, 2019
			The permittee shall submit approvable Engineering Plans, Specifications, and Construction Schedule for the Implementation of effluent disinfection.	May 1, 2020
			The permittee shall begin construction of the treatment facilities in accordance with the Department approved schedule.	May 1, 2021
			The permittee shall complete construction and commence operation of the system, and comply with the final effluent limitations for Fecal Coliform and Total Residual Chlorine.	May 1, 2022
The above compliance actions are one time requirements. The permittee shall comply with the above compliance actions to the Department's satisfaction once. When this permit is administratively renewed by NYSDEC letter entitled "SPDES NOTICE/RENEWAL APPLICATION/PERMIT," the permittee is not required to repeat the submission(s) noted above. The above due dates are independent from the effective date of the permit stated in the "SPDES NOTICE/RENEWAL APPLICATION/PERMIT" letter.				

b) For any action where the compliance date is greater than 9 months past the previous compliance due date, the permittee shall submit interim progress reports to the Department every nine (9) months until the due date for these compliance items are met.

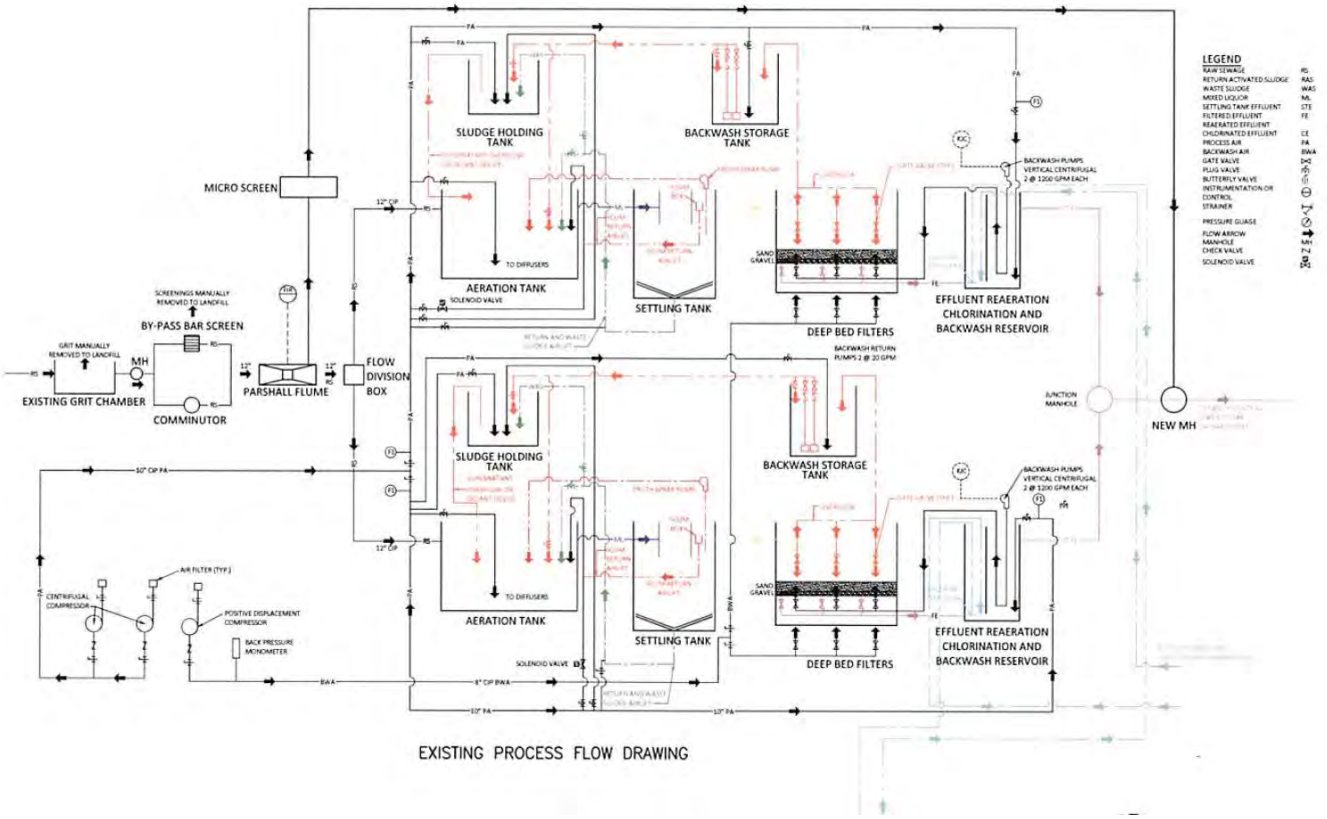
c) The permittee shall submit a written notice of compliance or non-compliance with each of the above schedule dates no later than 14 days following each elapsed date, unless conditions require more immediate notice as prescribed in 6 NYCRR Part 750-1.2(a) and 750-2. All such compliance or non-compliance notification shall be sent to the locations listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS. Each notice of non-compliance shall include the following information:

1. A short description of the non-compliance;
2. A description of any actions taken or proposed by the permittee to comply with the elapsed schedule requirements without further delay and to limit environmental impact associated with the non-compliance;
3. A description or any factors which tend to explain or mitigate the non-compliance; and
4. An estimate of the date the permittee will comply with the elapsed schedule requirement and an assessment of the probability that the permittee will meet the next scheduled requirement on time.

d) The permittee shall submit copies of any document required by the above schedule of compliance to the NYSDEC Regional Water Engineer at the location listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS and to the Bureau of Water Permits, 625 Broadway, Albany, N.Y. 12233-3505, unless otherwise specified in this permit or in writing by the Department.

MONITORING LOCATIONS

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



GENERAL REQUIREMENTS

A. The regulations in 6 NYCRR Part 750 are hereby incorporated by reference and the conditions are enforceable requirements under this permit. The permittee shall comply with all requirements set forth in this permit and with all the applicable requirements of 6 NYCRR Part 750 incorporated into this permit by reference, including but not limited to the regulations in paragraphs B through I as follows:

B. General Conditions

1.	Duty to comply	6 NYCRR 750-2.1(e) & 2.4
2.	Duty to reapply	6 NYCRR 750-1.16(a)
3.	Need to halt or reduce activity not a defense	6 NYCRR 750-2.1(g)
4.	Duty to mitigate	6 NYCRR 750-2.7(f)
5.	Permit actions	6 NYCRR 750-1.1(c), 1.18, 1.20 & 2.1(h)
6.	Property rights	6 NYCRR 750-2.2(b)
7.	Duty to provide information	6 NYCRR 750-2.1(i)
8.	Inspection and entry	6 NYCRR 750-2.1(a) & 2.3

C. Operation and Maintenance

1.	Proper Operation & Maintenance	6 NYCRR 750-2.8
2.	Bypass	6 NYCRR 750-1.2(a)(17), 2.8(b) & 2.7
3.	Upset	6 NYCRR 750-1.2(a)(94) & 2.8(c)

D. Monitoring and Records

1.	Monitoring and records	6 NYCRR 750-2.5(a)(2), 2.5(a)(6), 2.5(c)(1), 2.5(c)(2), & 2.5(d)
2.	Signatory requirements	6 NYCRR 750-1.8 & 2.5(b)

E. Reporting Requirements

1.	Reporting requirements for POTWs	6 NYCRR 750-2.5, 2.7 & 1.17
2.	Anticipated noncompliance	6 NYCRR 750-2.7(a)
3.	Transfers	6 NYCRR 750-1.17
4.	Monitoring reports	6 NYCRR 750-2.5(e)
5.	Compliance schedules	6 NYCRR 750-1.14(d)
6.	24-hour reporting	6 NYCRR 750-2.7(c) & (d)
7.	Other noncompliance	6 NYCRR 750-2.7(e)
8.	Other information	6 NYCRR 750-2.1(f)
9.	Additional conditions applicable to a POTW	6 NYCRR 750-2.9

F. Planned Changes

1. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

   a. The alteration or addition to the permitted facility may meet of the criteria for determining whether facility is a new source in 40 CFR §122.29(b); or
   b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, or to notification requirements under 40 CFR §122.42(a)(1); or
   c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

In addition to the Department, the permittee shall submit a copy of this notice to the United States Environmental Protection Agency at the following address: U.S. EPA Region 2, Clean Water Regulatory Branch, 290 Broadway, 24th Floor, New York, NY 10007-1866.

GENERAL REQUIREMENTS continued

G. Notification Requirement for POTWs

1. All POTWs shall provide adequate notice to the Department and the USEPA of the following:
   a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging those pollutants; or
   b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
   c. For the purposes of this paragraph, adequate notice shall include information on:
      i. the quality and quantity of effluent introduced into the POTW, and
      ii. any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

POTWs shall submit a copy of this notice to the United States Environmental Protection Agency, at the following address:
U.S. EPA Region 2, Clean Water Regulatory Branch, 290 Broadway, 24th Floor, New York, NY 10007-1866

H. Sludge Management

The permittee shall comply with all applicable requirements of 6 NYCRR Part 360.

I. SPDES Permit Program Fee

The permittee shall pay to the Department an annual SPDES permit program fee within 30 days of the date of the first invoice, unless otherwise directed by the Department, and shall comply with all applicable requirements of ECL 72-0602 and 6 NYCRR Parts 480, 481 and 485. Note that if there is inconsistency between the fees specified in ECL 72-0602 and 6 NYCRR Part 485, the ECL 72-0602 fees govern.

J. Water Treatment Chemicals (WTCs)

New or increased use and discharge of a WTC requires prior Department review and authorization. At a minimum, the permittee must notify the Department in writing of its intent to change WTC use by submitting a completed *WTC Notification Form* for each proposed WTC. The Department will review that submittal and determine if a SPDES permit modification is necessary or whether WTC review and authorization may proceed outside of the formal permit administrative process. The majority of WTC authorizations do not require SPDES permit modification. In any event, use and discharge of a WTC shall not proceed without prior authorization from the Department. Examples of WTCs include biocides, coagulants, conditioners, corrosion inhibitors, defoamers, deposit control agents, flocculants, scale inhibitors, sequestrants, and settling aids.

1. WTC use shall not exceed the rate explicitly authorized by this permit or otherwise authorized in writing by the Department.
2. The permittee shall maintain a logbook of all WTC use, noting for each WTC the date, time, exact location, and amount of each dosage, and, the name of the individual applying or measuring the chemical. The logbook must also document that adequate process controls are in place to ensure that excessive levels of WTCs are not used.
3. The permittee shall submit a completed WTC Annual Report Form each year that they use and discharge WTCs. This form shall be attached to either the December DMR or the annual monitoring report required below.

The *WTC Notification Form and WTC Annual Report Form* are available from the Department's website at:
http://www.dec.ny.gov/permits/93245.html

RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

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

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

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

[X] (if box is checked) a monthly "Wastewater Facility Operation Report..." (form 92-15-7) to the:
[X] Regional Water Engineer and/or [X] County Health Department or Environmental Control Agency specified below

Send the **original** (top sheet) of each DMR page to:

Department of Environmental Conservation
Division of Water, Bureau of Water Compliance
625 Broadway
Albany, New York 12233-3506
Phone: (518) 402-8177

Send the **first copy** (second sheet) of each DMR page to:

Department of Environmental Conservation
Regional Water Engineer, Region 8
6274 E Avon-Lima Rd
Avon, New York 14414 -9519
Phone: (585) 226-5468

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

Genesee Co. Health Department
3837 West Main Street Road
Batavia, New York 14020
Phone: (585) 344-2580

B. Monitoring and analysis shall be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

C. More frequent monitoring of the discharge(s), monitoring point(s), or waters of the State than required by the permit, where analysis is performed by a certified laboratory or where such analysis is not required to be performed by a certified laboratory, shall be included in the calculations and recording of the data on the corresponding DMRs.

D. Calculations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

E. Unless otherwise specified, all information recorded on the DMRs shall be based upon measurements and sampling carried out during the most recently completed reporting period.

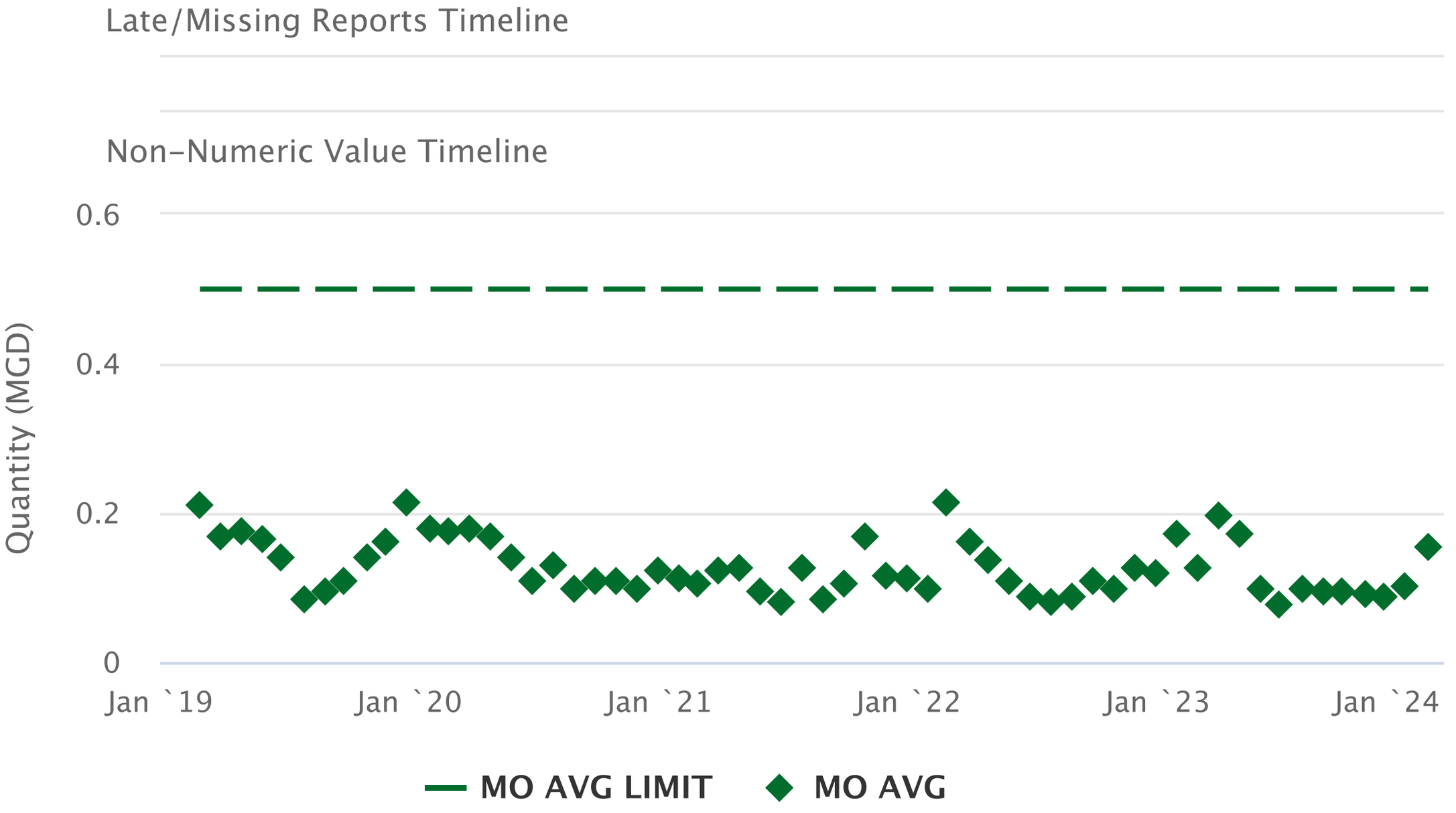
F. Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section 502 of the Public Health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquiries regarding laboratory certification should be directed to the New York State Department of Health, Environmental Laboratory Accreditation Program.

Appendix C

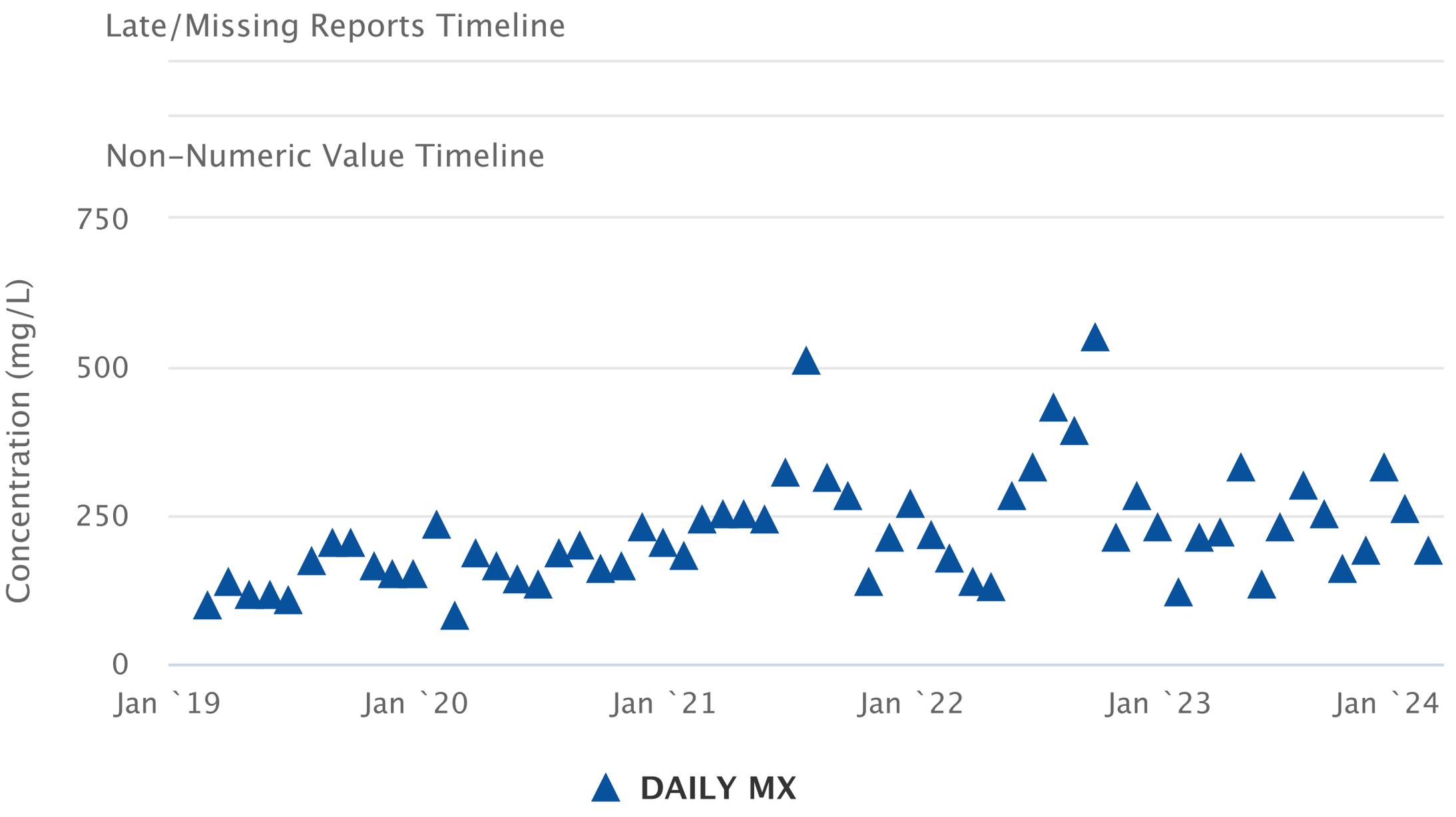
Village of Oakfield WWTF
Influent and Effluent Charts

DRAFT

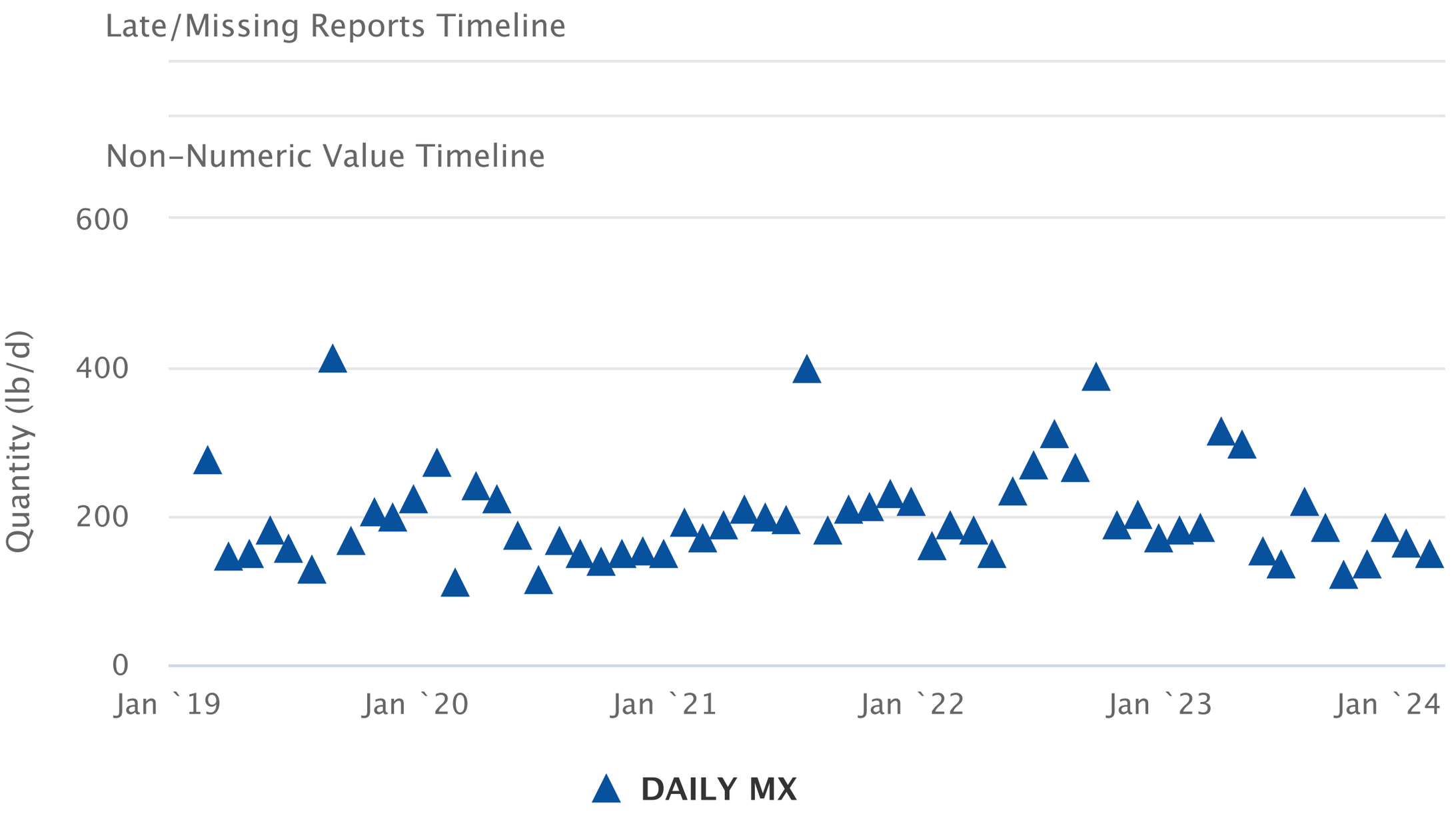
OAKFIELD (V) STP (NY0023639) 001 - Flow, in conduit or thru treatment plant - Raw Sewage Influent - Quantity



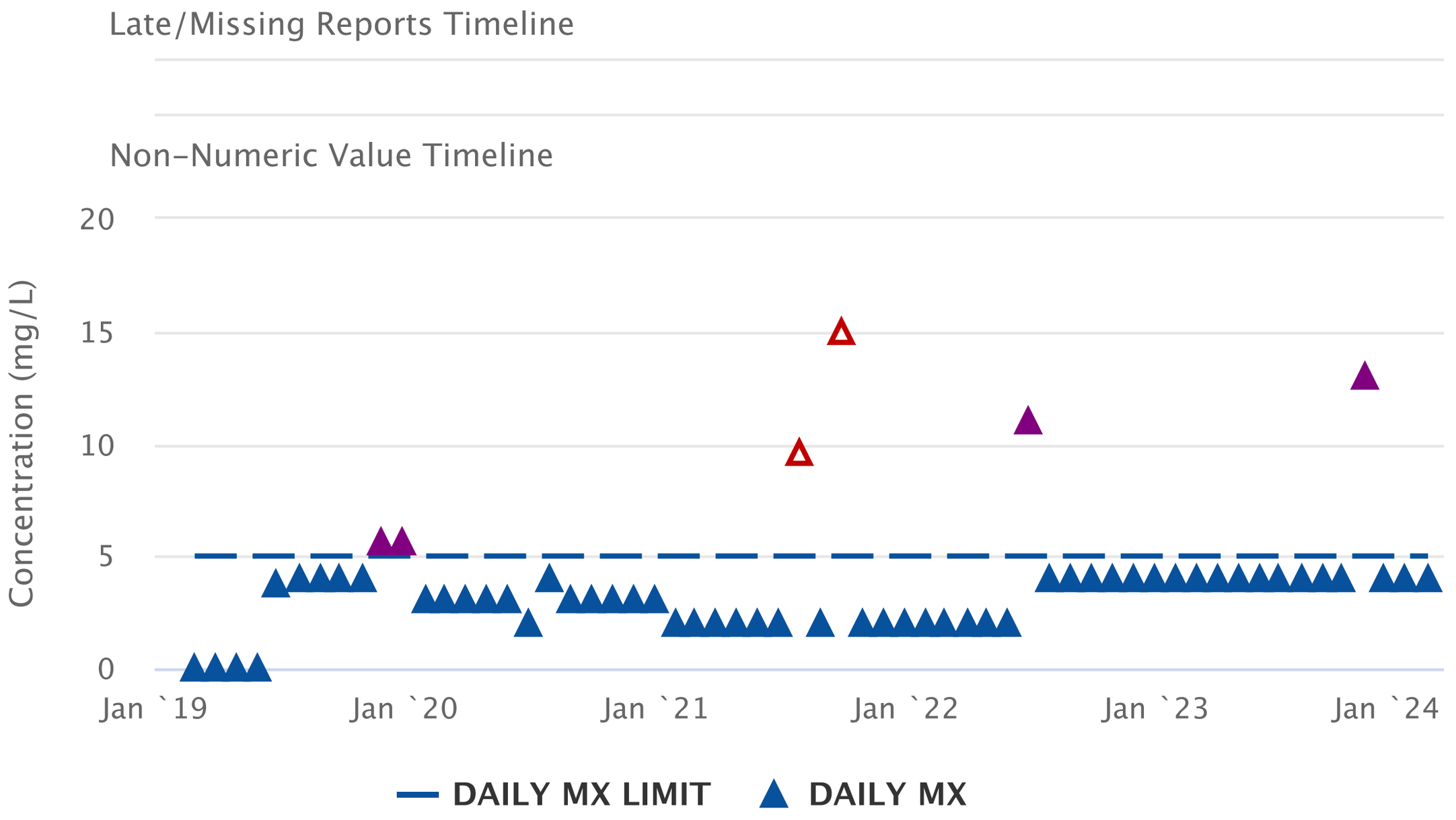
OAKFIELD (V) STP (NY0023639) 001 - BOD, carbonaceous [5 day, 20 C] - Raw Sewage Influent - Concentration



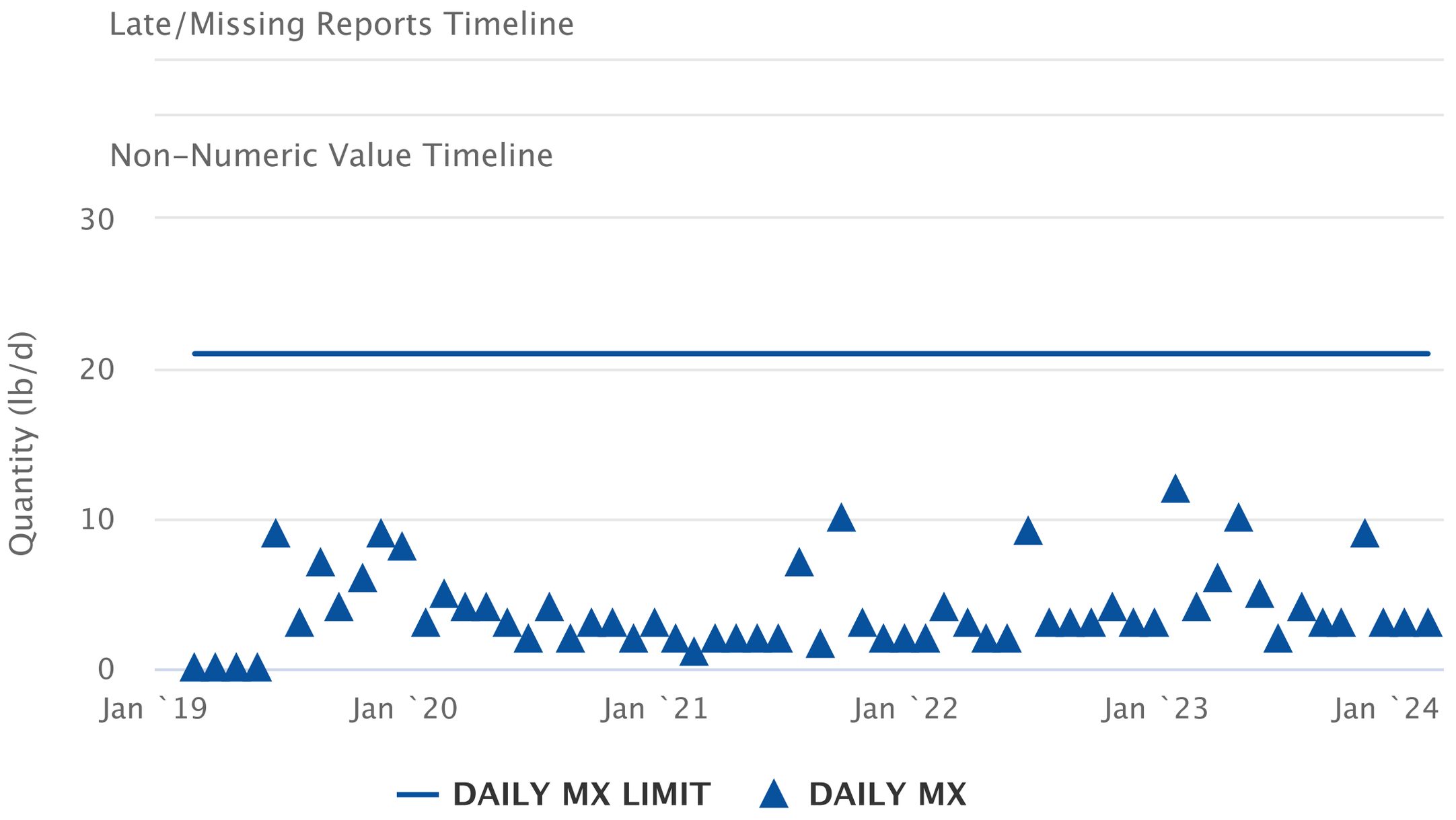
OAKFIELD (V) STP (NY0023639) 001 - BOD, carbonaceous [5 day, 20 C] - Raw Sewage Influent - Quantity



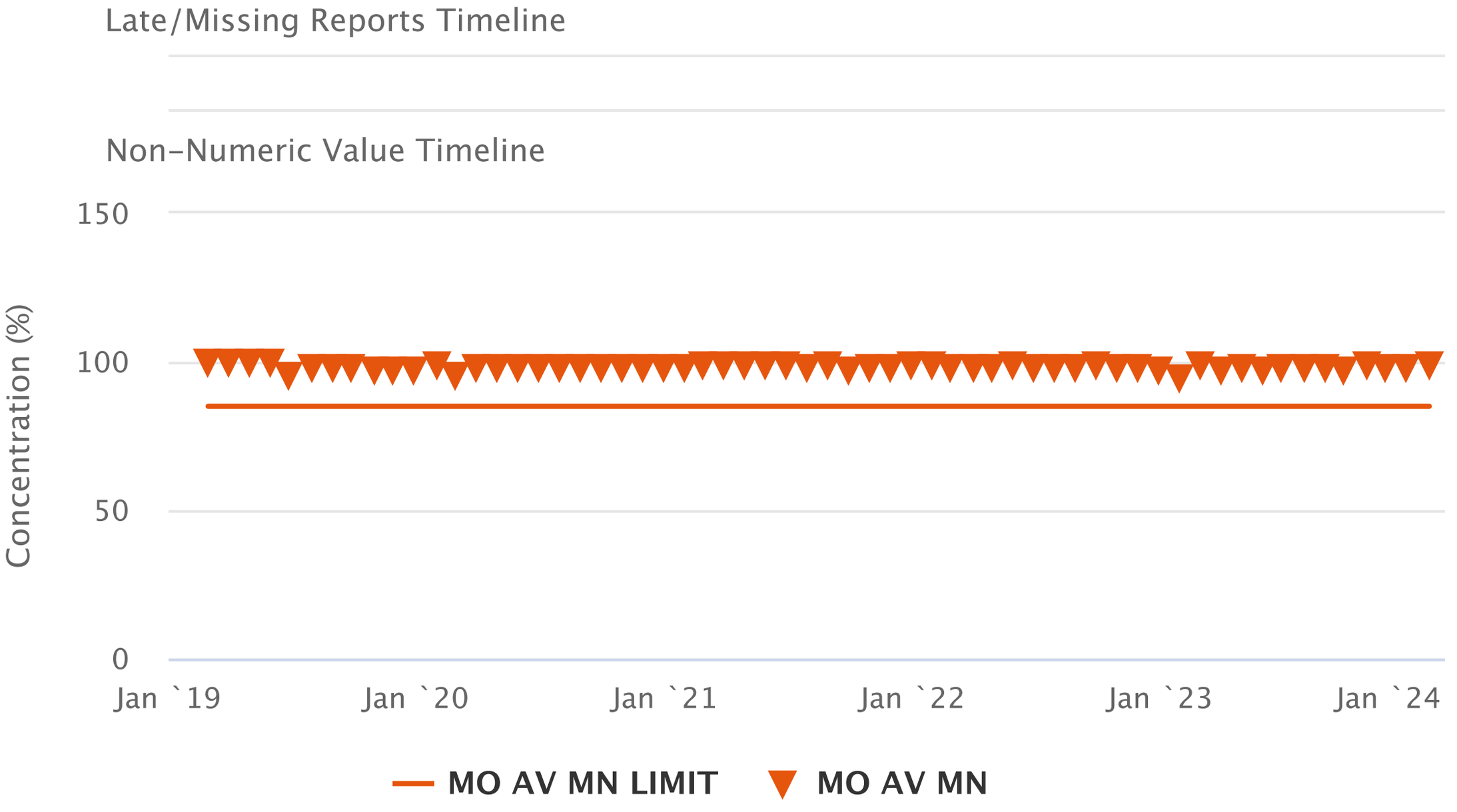
OAKFIELD (V) STP (NY0023639) 001 - BOD, carbonaceous [5 day, 20 C] - Effluent Gross - Concentration



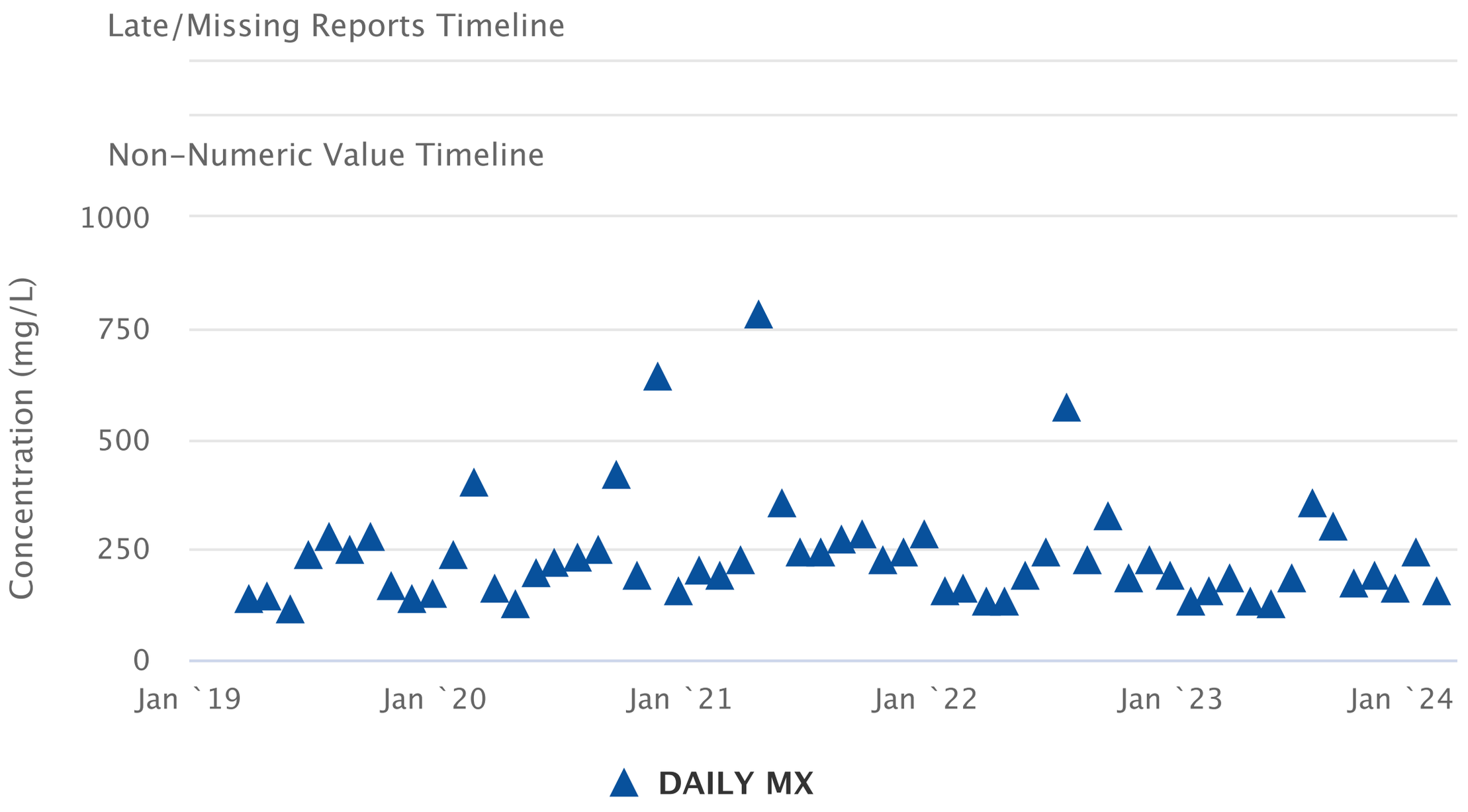
OAKFIELD (V) STP (NY0023639) 001 - BOD, carbonaceous [5 day, 20 C] - Effluent Gross - Quantity



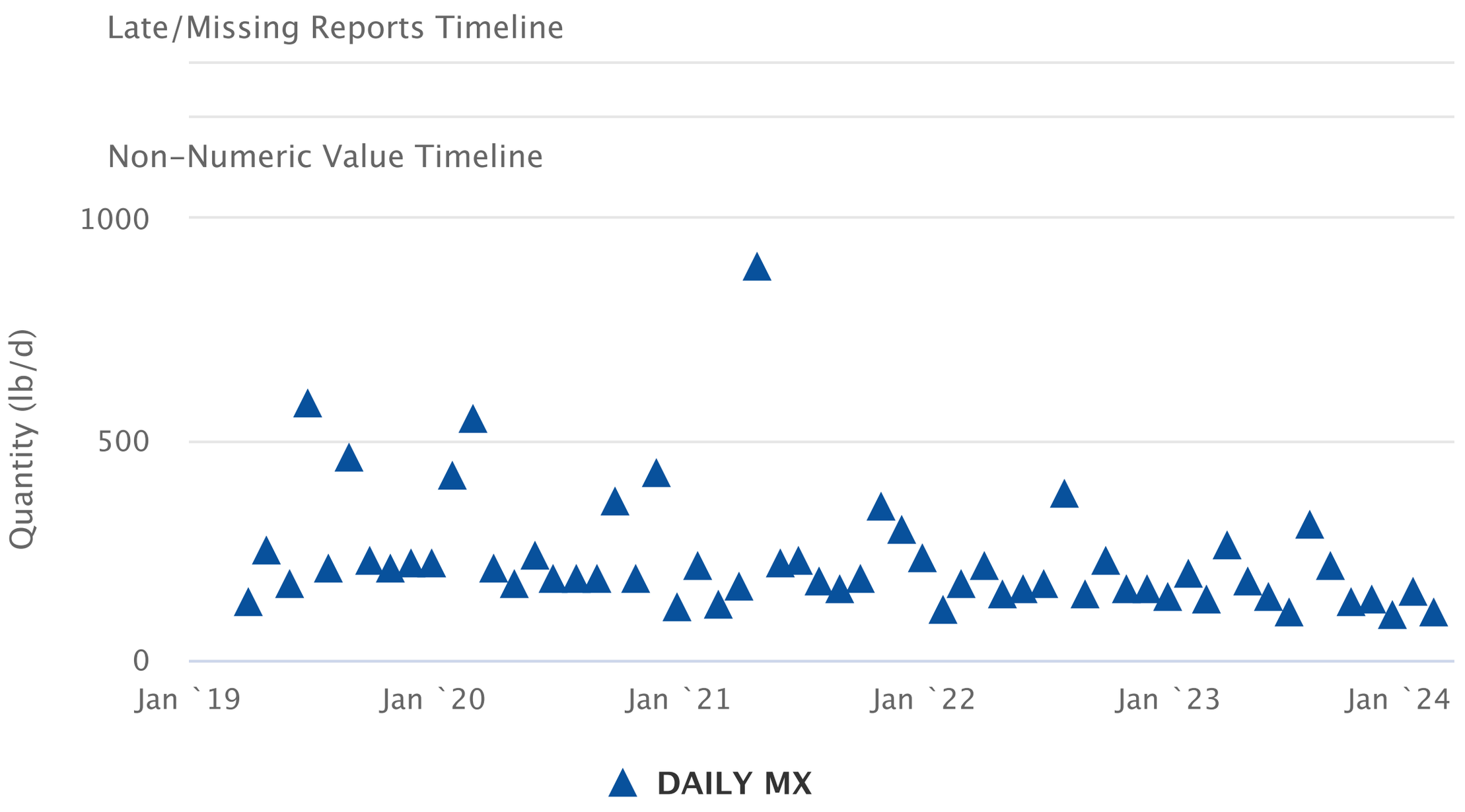
OAKFIELD (V) STP (NY0023639) 001 – Carbonaceous oxygen demand, % removal – Percent Removal – Concentration



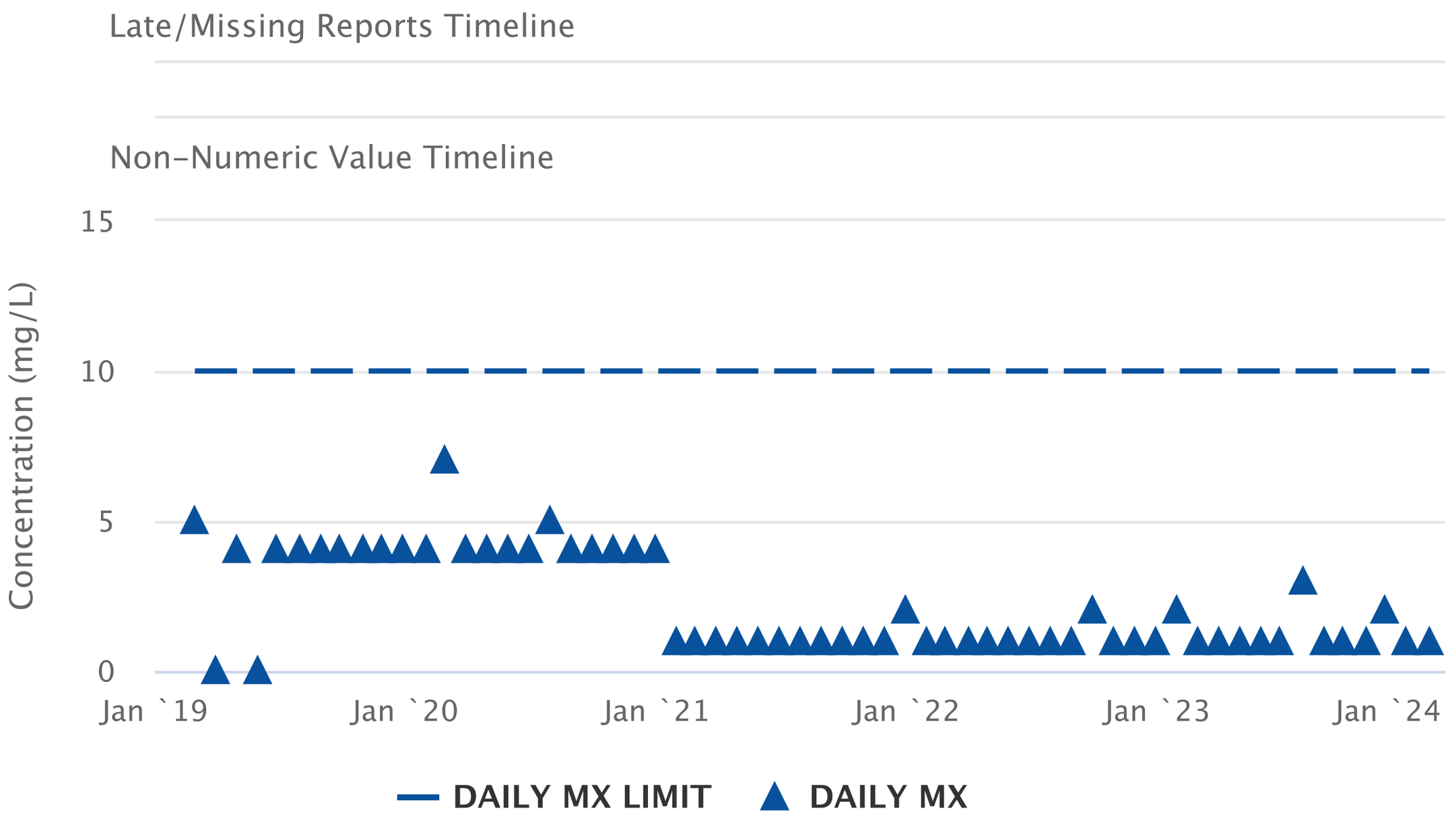
OAKFIELD (V) STP (NY0023639) 001 - Solids, total suspended - Raw Sewage Influent - Concentration



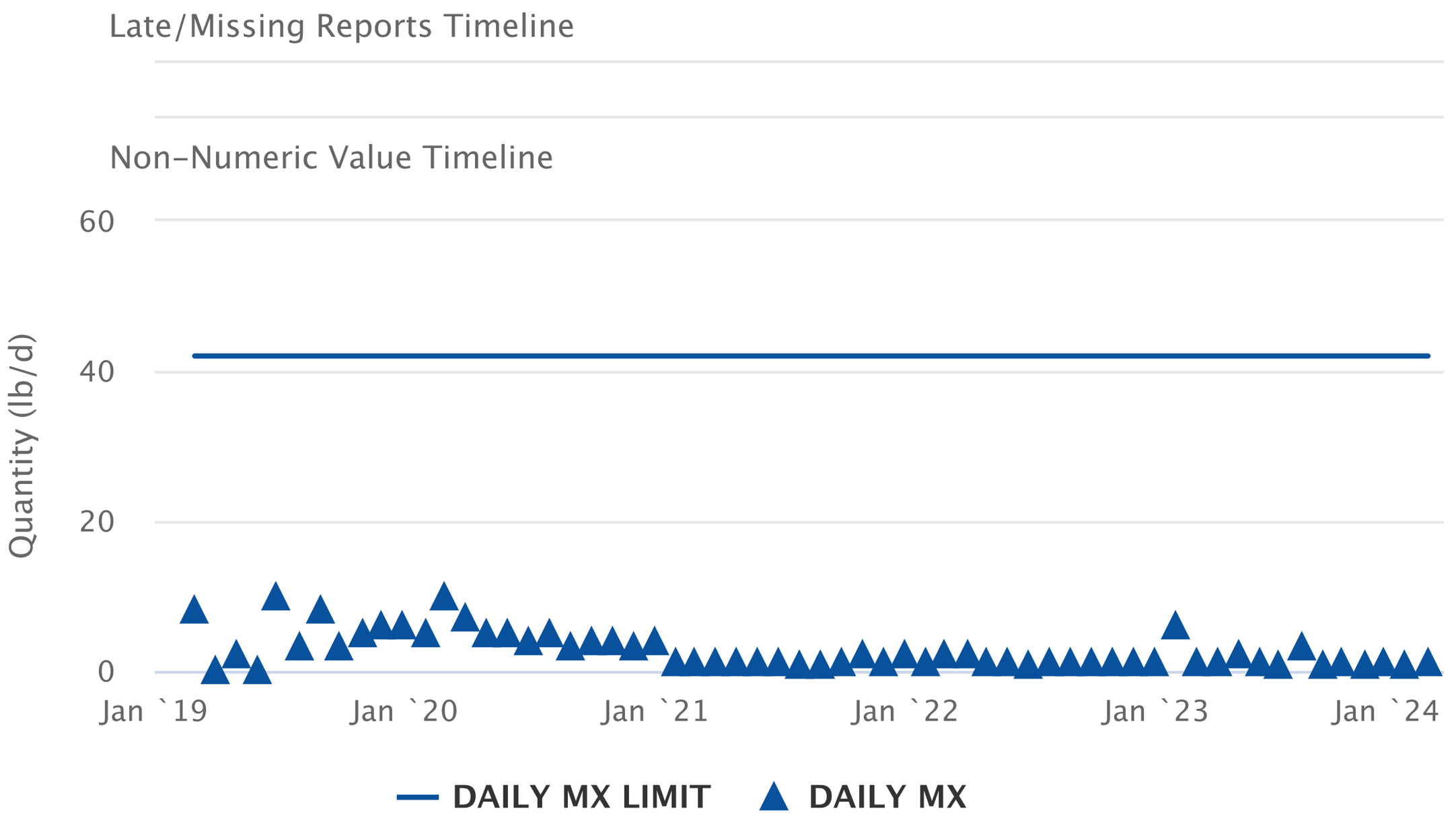
OAKFIELD (V) STP (NY0023639) 001 - Solids, total suspended - Raw Sewage Influent - Quantity



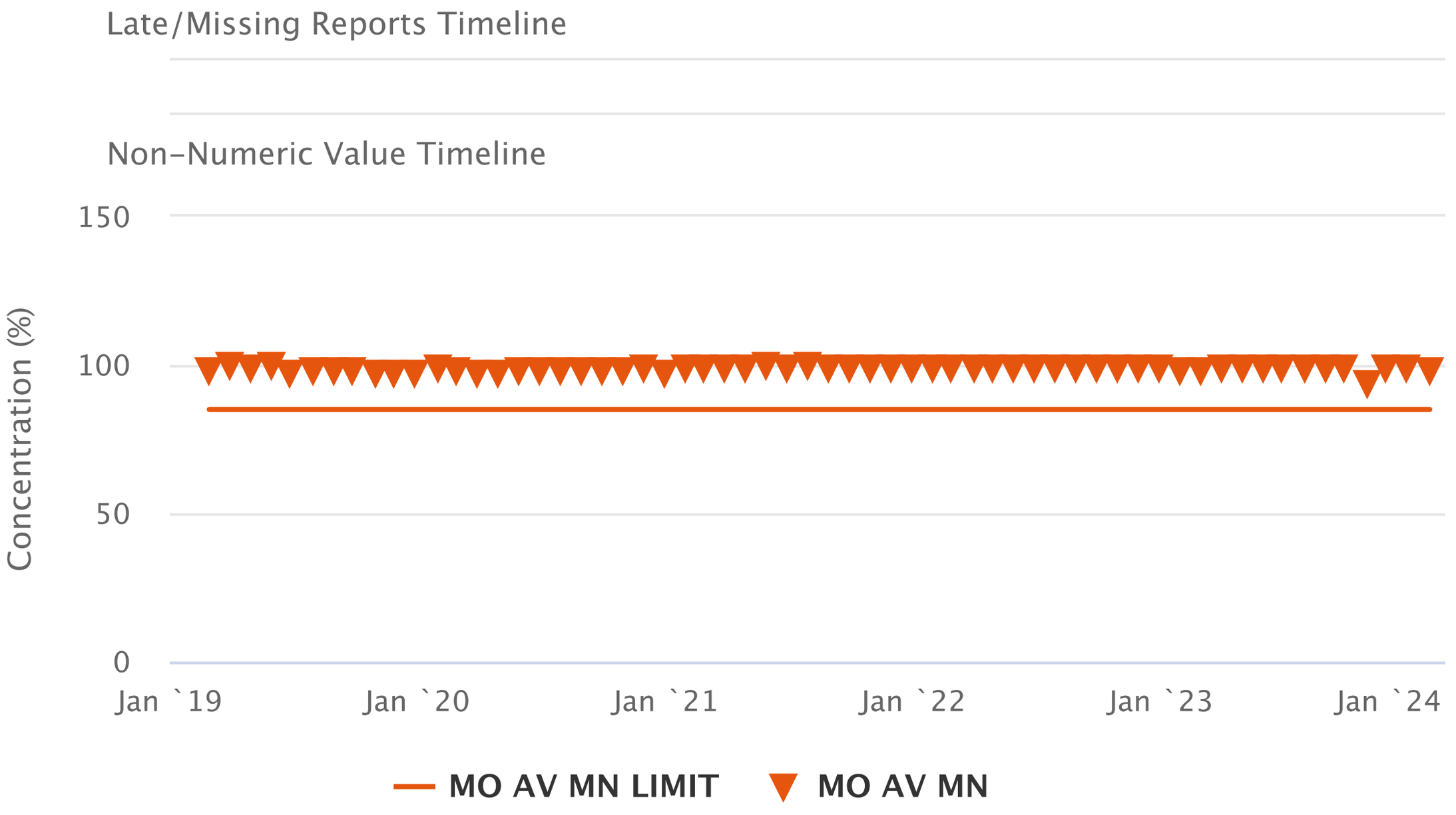
OAKFIELD (V) STP (NY0023639) 001 - Solids, total suspended - Effluent Gross - Concentration



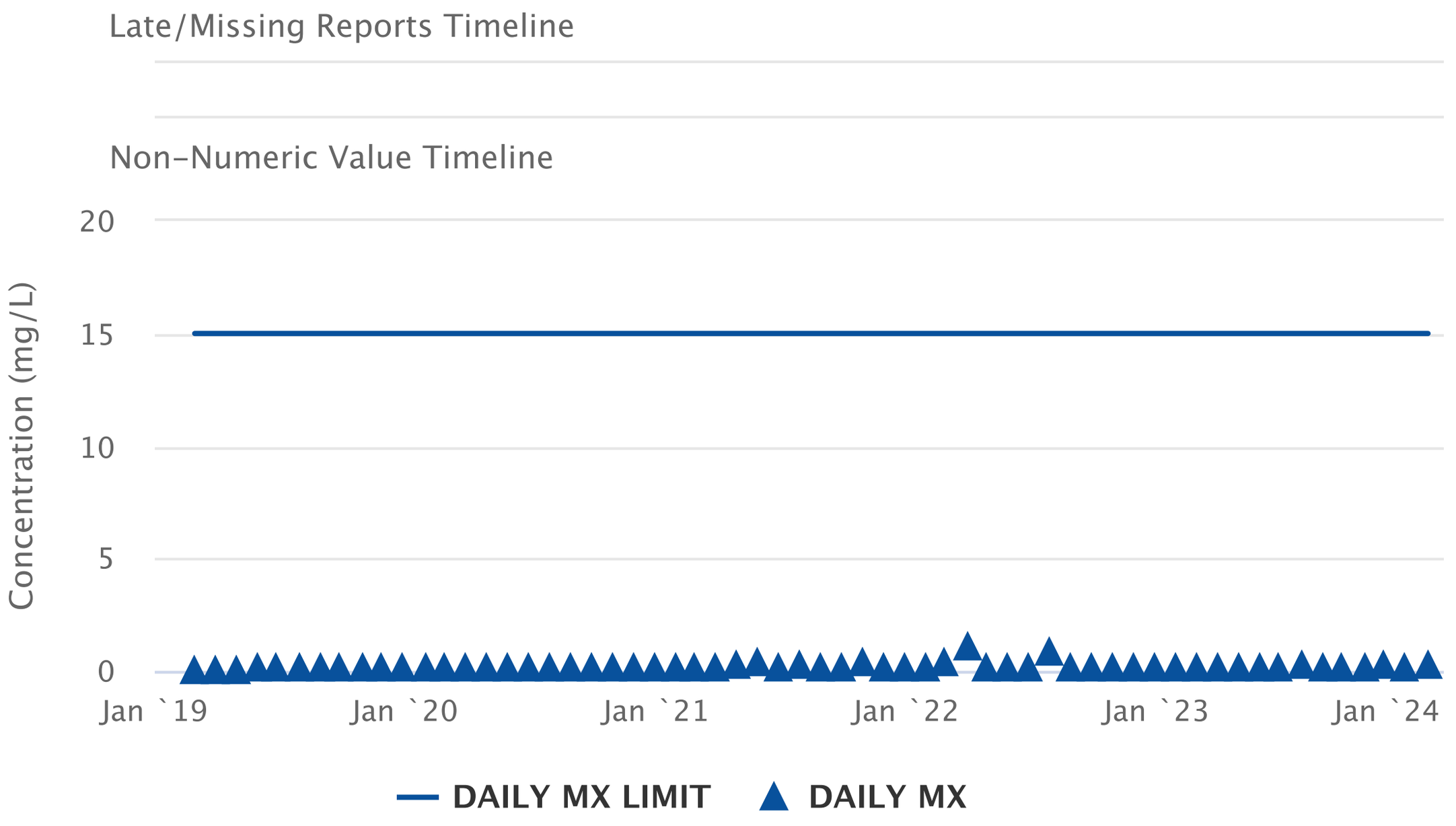
OAKFIELD (V) STP (NY0023639) 001 - Solids, total suspended - Effluent Gross - Quantity



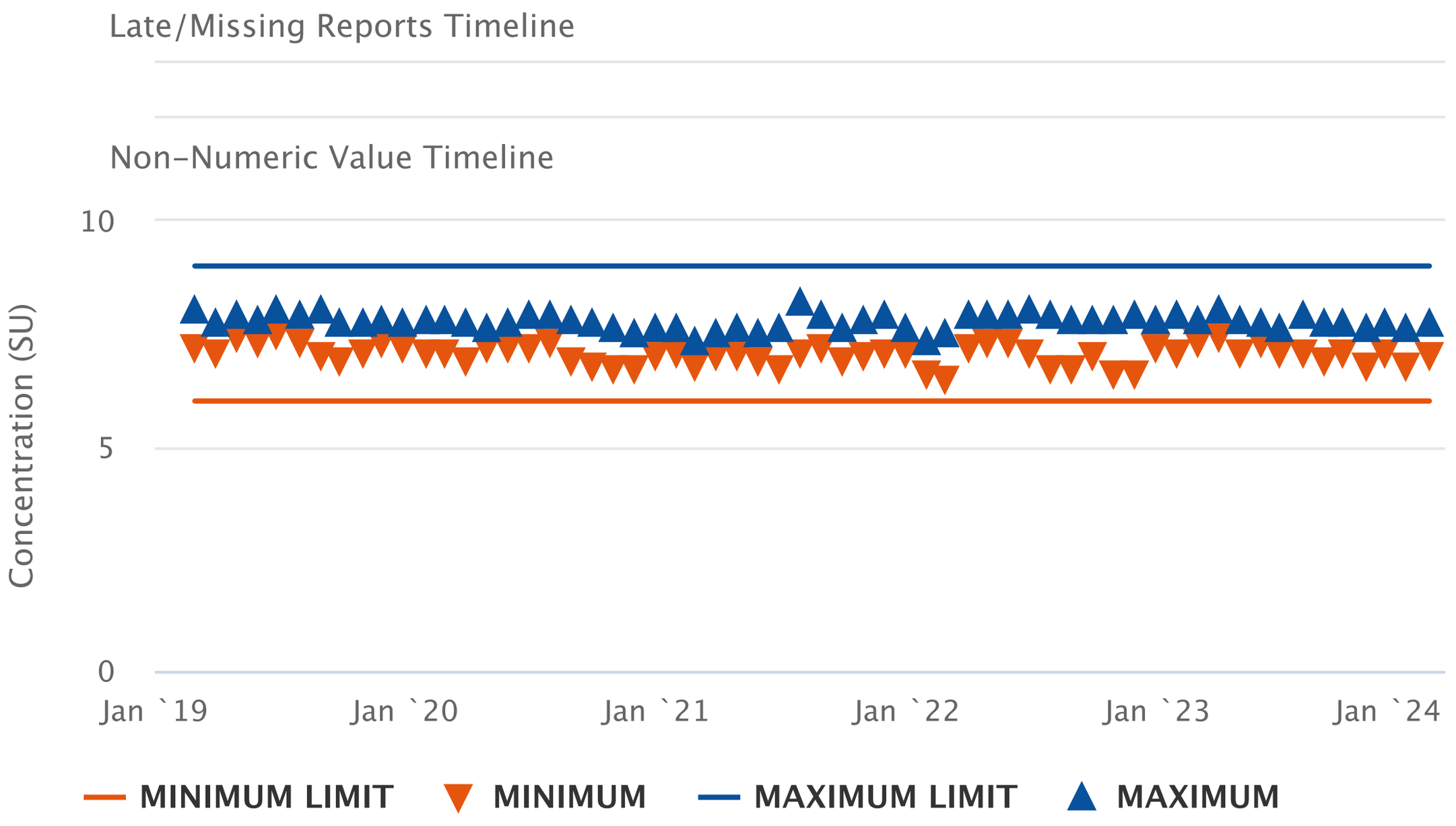
OAKFIELD (V) STP (NY0023639) 001 - Solids, suspended percent removal - Percent Removal - Concentration



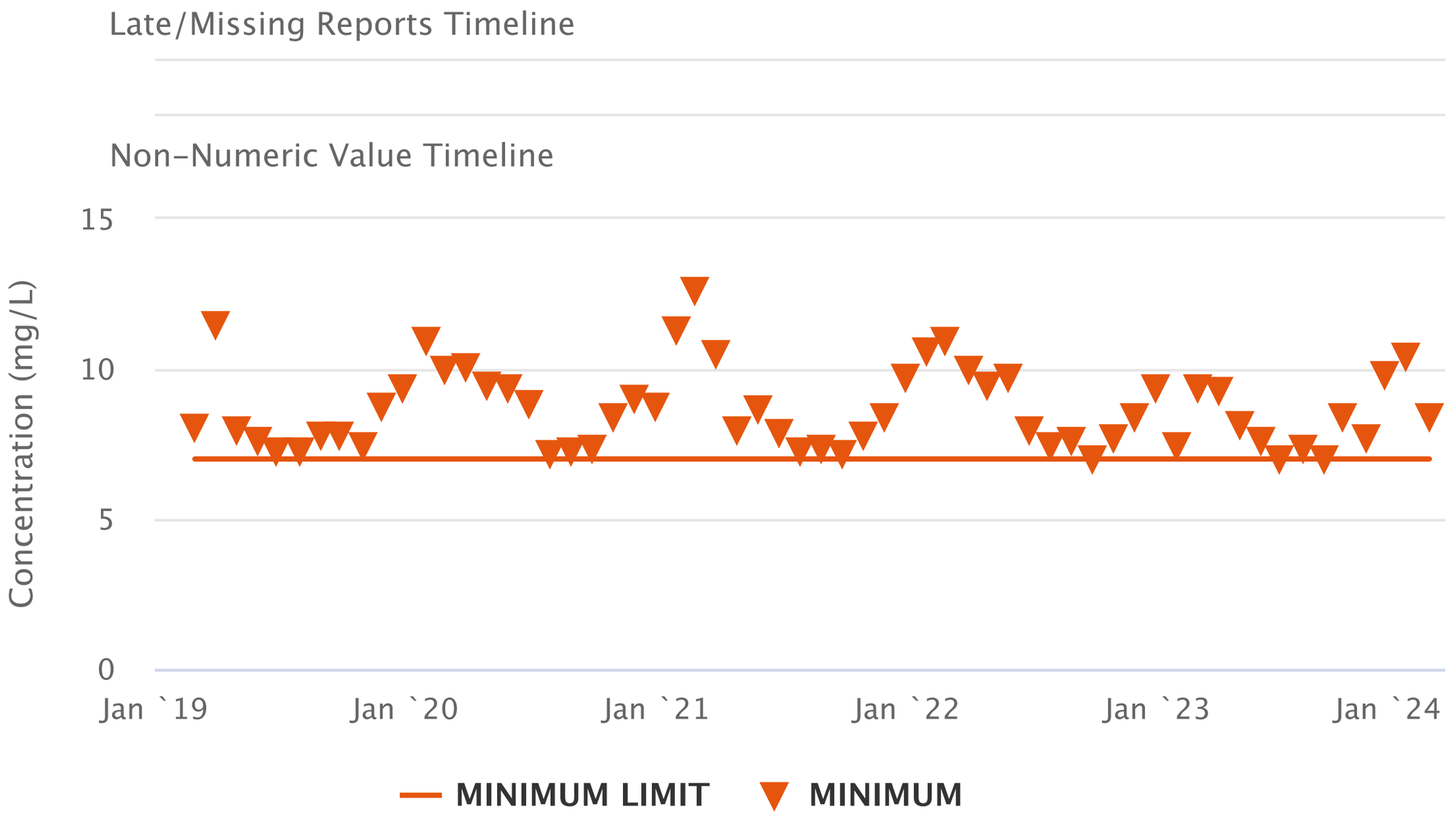
OAKFIELD (V) STP (NY0023639) 001 – Nitrogen, ammonia, total [as NH3] – Effluent Gross – Concentration

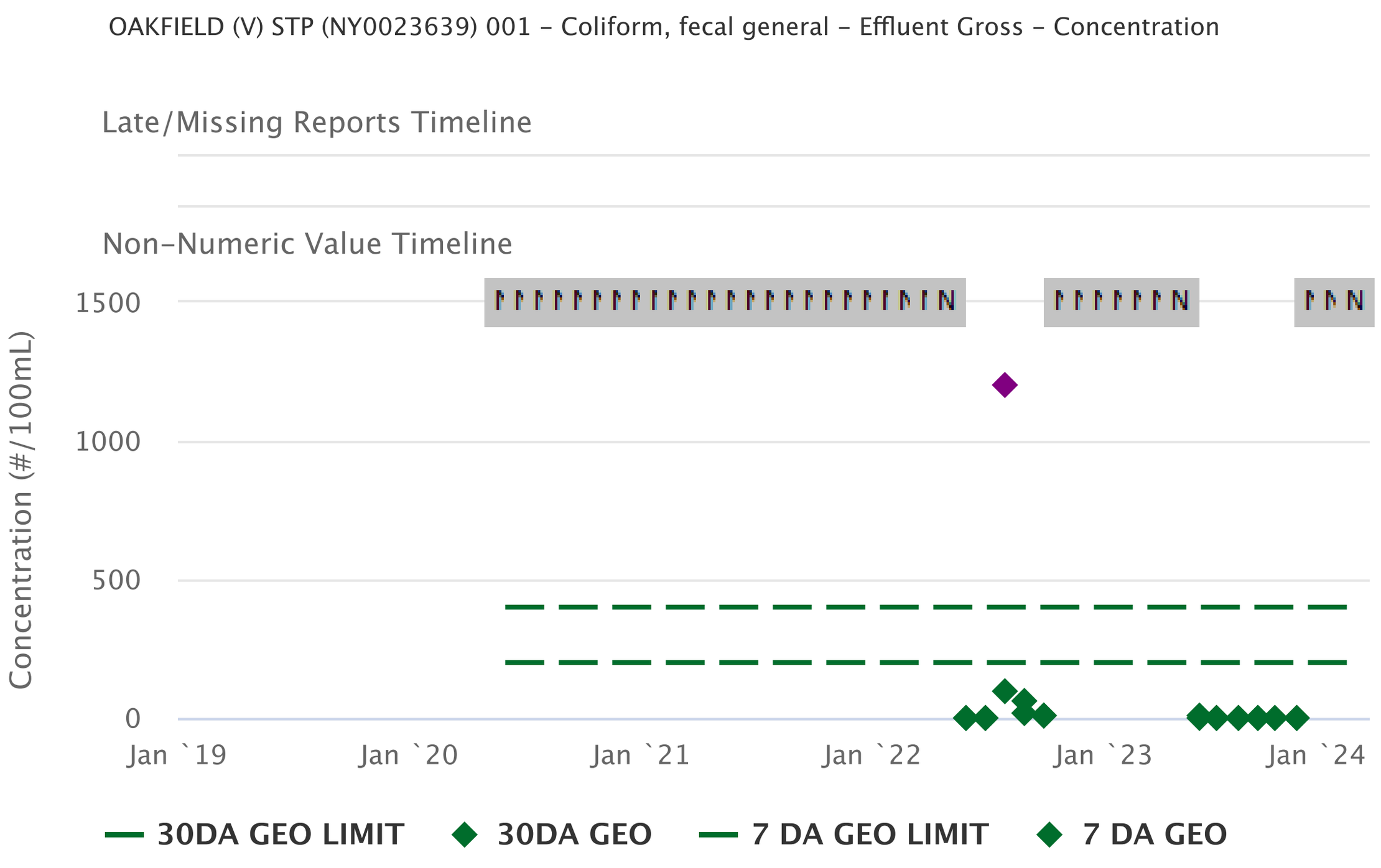


OAKFIELD (V) STP (NY0023639) 001 - pH - Effluent Gross - Concentration



OAKFIELD (V) STP (NY0023639) 001 - Oxygen, dissolved [DO] - Effluent Gross - Concentration




OAKFIELD (V) STP (NY0023639) 001 - Coliform, fecal general - Effluent Gross - Concentration
Late/Missing Reports Timeline
Non-Numeric Value Timeline
1500
1000
500
0
Concentration (#/100mL)
Jan `19
Jan `20
Jan `21
Jan `22
Jan `23
Jan `24
30DA GEO LIMIT
30DA GEO
7 DA GEO LIMIT
7 DA GEO

Appendix D

Village of Oakfield WWTF
Design Average Flows

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ENGINEERING
PLANNING
CPLteam.com

Oakfield WWTF

Design Average Flows

By: D.Chase

Date: 6/20/2024

Source	Type of Use	Unit	Unit Flow (gpd)	# Units	Design Average Flow (gpd)	Flow Scenario 1 Existing Flows Design Average Flow (gpd)	Flow Scenario 2 Exist Flows + STAMP Initial Build Design Average Flow (gpd)
Existing Oakfield WWTF Flows	Existing Flows based on 5 year average[1]				130,000	130,000	130,000
STAMP							
Initial Build							
Plug Power							
Factory Workers	Factory, no showers, no cafeteria	Per employee/shift	15	62	930		
Truck drivers	Truck Drivers	Per employee/shift	5	38	190		
Edwards Vacuum							
Phase 1	Factory, no showers, cafeteria provided	Per employee/shift	20	380	7,600		
Future Project[2]	Assumed Factory, with showers	Per employee/shift	25	450	11,250		
Subtotal				930	19,970		
Subtotal (Rounded)					**20,000**		20,000
TOTAL WWTF FLOW						**130,000**	**150,000**

Notes

[1]Average flow obtained from USEPA ECHO online system for 5-year period from February 2019 to January 2024 was 0.127 MGD, which was rounded to 0.130 MGD.

[2]For Future Project, assumed Factory with showers, and a similar number of employees to Edwards Vacuum plus a safety factor, to be conservative.

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Appendix E

Village of Oakfield WWTF
Packaged Wastewater Treatment Units
Original (1979) Design Criteria

DRAFT

1979 Design Criteria from O&M Manual

and explosive mixtures. Observe the safety requirements of OSHA, NYSDEC and other organizations concerned with sewer maintenance and safety. A manhole is a confined space and all regulations pertaining to such areas should be observed before entering, (Chapter X, Safety).

TREATMENT FACILITIES DESIGN CRITERIA

General

Criteria utilized for the design of the facilities appears as Exhibit "D" of this manual.

The design criteria is based on a projected population of 2,800 people in the design year of 1995. Provision is included in the recommended design population figure for growth within the Village plus an allowance for cluster development in the Town of Oakfield. The average design dry weather flow is 0.34 mgd (million gallons per day).

Hydraulic Capacity and Removal Efficiency

The facilities are capable of removing 98 percent of the BOD contained in an average dry weather flow of 0.34 mgd originating from an equivalent population of 2,800 persons located in the Village of Oakfield and the serviced portions of the Town of Oakfield.

Flows of 1.10 mgd can be handled without the flooding of any control weirs or taxing the hydraulic capacity of flumes, piping, etc.

Organic Loadings

The design of the facilities was based on average daily organic loadings of 476 pounds of BOD and 560 pounds of suspended solids.

HEADWORKS

General

The headworks receive the flows from the gravity sewers, remove the coarse debris which would interfere with the treatment processes, and meter the flow. The

1979 Design Criteria from O&M Manual

VILLAGE OF OAKFIELD
WASTEWATER TREATMENT FACILITIES

DESIGN CRITERIA

1.	Design Population	2,800
	Hydraulic	
2.	Average Raw Sewage Flow, MGD	0.34
3.	Maximum Total Flow, MGD	1.10
	Organic	
4.	Total BOD, lb./day	480
5.	Total Suspended Solids, lb./day	560
	Secondary Treatment Facilities	
	Aeration Tanks	
6.	BOD to Aeration Tanks, lb./day	480
7.	BOD to Suspended Solids Ratio, lb./day/100 lb./solids	8
8.	Suspended Solids Required, lb.	6,000
9.	Solids Concentration in Mixed Liquor, mg/l	2,116
10.	Number of Aeration Tanks	2
11.	Surface Area of Tank, sq. ft.	1,635
12.	Depth of Tank, Feet	13.90
13.	Total Volume of Tanks, Gal. x 10^6	0.34
14.	Sludge Return Rate, Percent	100
15.	Mixed Liquor Flow, Average MGD	0.68
16.	Mixed Liquor Detention Time, Average Hours	12
17.	BOD Removed, Percent	92
18.	BOD Removed, lb./day	442
19.	Oxygen Transfer Efficiency, Percent	6
20.	Air Required, CFM	1,050
	Final Tanks	
21.	Number of Tanks	2
22.	Diameter, Feet	27
23.	Total Surface Area, sq. ft.	1,146
24.	Surface Settling Rate, Average Flow, gpd/sq. ft.	297

VILLAGE OF OAKFIELD
WASTEWATER TREATMENT FACILITIES

DESIGN CRITERIA
(Continued)

Final Tanks *(Continued)*		
25.	Surface Settling Rate, Maximum Flow, gpd/sq. ft.	960
26.	Depth of Tanks (SWD), Feet	13.90
27.	Total Volume of Tanks, cu. ft.	15,930
28.	Detention Time at Average Flow, Hours	8.4
29.	Detention Time at Maximum Flow, Hours	2.6
Effluent Filters		
30.	Number of Units	6
31.	Surface Area Per Unit, sq. ft.	100
32.	Total Surface Area, sq. ft.	600
33.	Peak Flow Filtration Rate, gpm/sq. ft. (with 4 units operating)	1.9
34.	Filtration Rate, gpm/sq. ft. (with 4 units operating)	0.6
35.	Backwash Rate, gpm/sq. ft.	12
36.	Total 10-Minute Wash, Gal.	12,000
Disinfection Facilities		
37.	Number of Tanks	2
38.	Total Surface Area, sq. ft.	533
39.	Depth of Tanks, Feet	8
40.	Total Volume of Tanks, cu. ft.	4,264
41.	Detention Time at Maximum Flow, Minutes	42
42.	Number of Chlorinators	2
43.	Capacity of Chlorinators, lb./day	0-100
Post-Aeration Facilities		
44.	Number of Tanks	2
45.	Total Surface Area, sq. ft.	533
46.	Depth of Tanks	8
47.	Total Volume of Tanks, cu. ft.	4,264
48.	Detention Time at Maximum Flow, Minutes	42
49.	Air Required, CFM	15

ENGINEERING REPORT

FOR THE

VILLAGE OF OAKFIELD

WASTEWATER TREATMENT PLANT

AERATION SYSTEM IMPROVEMENTS

OCTOBER 2, 1989

TABLE OF CONTENTS
OAKFIELD WWTP ENGINEERING REPORT

Introduction

- Purpose and Scope
- Background

Discussion of Proposed Modifications

- Proposed Modifications
- Cost Estimate and Analysis

Recommendations

1. Introduction

Purpose and Scope

The purpose of this Engineering Report is to outline the proposed aeration improvements to the Village of Oakfield Wastewater Treatment Plant.

The proposed aeration improvements consist of replacing the existing course bubble diffusers in the aeration tanks, sludge storage tanks, post aeration and backwash holding tanks to fine bubble aeration. Also, proposed is to replace one existing 100 hp blower with a new 50 hp centrifugal blower.

The impact of these improvements will be increased aeration efficiency and power cost savings. The operation and maintenance budget at the Wastewater Treatment Plant will be decreased approximately $22,233 per year. This will result in a net savings of approximately 15% per year per home owner.

Background

The Village of Oakfield Wastewater Treatment Facility is a Packaged Activated Sludge Treatment Plant located in the Village of Oakfield, off State Route 262 in Genesee County. Refer to Figure #1. The Plant has an average daily flow of approximately 0.25 million gallons per day (MGD), with wet weather flows up to 2.0 mgd during peak conditions. Currently a Wet Weather Treatment System is being constructed which will treat raw sewage in excess of 0.500 mgd. The Wet Weather Treatment System is being funded by a Housing and Urban Development (HUD) Small Cities Grant.

The Village proposes to utilize leftover funds from the $389,000 HUD Grant to finance the aeration system improvements.

2. Discussion of Proposed Modifications

Proposed modifications

Currently the Wastewater Treatment Plant utilizes course bubble aeration and two (2) 100 hp. blowers to meet the aeration requirements in the aeration tanks, sludge storage tanks, post aeration and backwash holding tanks. The technology in aeration equipment has improved substantially over the last several years since the plant was constructed in 1978.

The latest developments in the aeration industry include utilization of fine bubble diffusion equipment which tremendously increases the aeration efficiency, provides better dispersion of air and mixing, and decreases the energy required from the blowers. The decreased demand for air, warrants replacing the existing 100 hp blower with a new efficient 40 hp centrifugal blower.

The aeration requirements for the plant are provided as follows:

Description	Volume (Ft^3)	Air reqt. (SCFM)
Aeration tanks (total both plants)	45,454	430
Post Aeration tanks (Total both plants)	4,264	30
Sludge Storage Tanks (1 plant - intermittent)	6,800	170
Backwash Holding Tanks (2 plants - intermittent)	8,400	210
TOTALS with sludge storage or backwash holding	64,918	670 SCFM

Detailed calculations of air requirements are provided as follows:

Aeration Tanks

The following data and assumptions were used to calculate the aeration tank requirements:

Number of tanks:	Two (2)
Volume per tank:	22,727 ft^3
#BOD/day total:	300
$\#NH_3$-N/day total:	70
$\#O_2/\#BOD$:	1.5
$\#O_2/\#NH_3$-N:	4.6
Alpha:	0.50
Beta:	0.95
Theta:	1.024
Ambient Pressure (PSIA):	14.46
Water Temp. (°c):	20

$\#O_2/day=(300\ \#BOD/Day)(1.5\ \#O_2/\#BOD)+(70\ \#NH_3N/day)(4.6\#O_2/\#NH_3\text{-}N)$

$\#O_2/day=450\#O_2/day + 322\#O_2/day$

$\#O_2/day=772\#O_2/day$

$$ADR/SOR = \frac{(THETA)^{T-20}(ALPHA)[(BETA)(C^*SAT_{20})(CSURF_T/9.07)(P_{SITE}/P_{SC})-(D.O.)]}{(C^*SAT_{20})}$$

D.O = 3.0 MG/L

ADR/SOR = 0.295

02 required = 772/0.295 = 2616 #/day
= 2650 #/day

@ 24.56% transfer efficiency

Cu. ft. air required/day = 2650/0.075 x 0.232 x 0.2456

= 620109 ft^3/day

= 430.63 SCFM

Sludge Storage Tanks

$\frac{25 \text{ SCFM}}{1000 \text{ ft}^3}$ X $\frac{6800}{}$ ft^3 = $\frac{170}{}$ SCFM

Note: Sludge storage tanks operate approximately 1 hr/week per tank and assumption was made of an average of 0.4 hr/day based upon a 5 day week.

Post Aeration Tanks

$\frac{4 \text{ SCFM}}{1000 ft^3}$ X 4264 ft^3 = 17 SCFM

Backwash Holding Tanks

$\frac{25 \text{ SCFM}}{1000 ft^3}$ X 8400 ft^2 = 210 SCFM

Blower Sizing

Hoffman Air and Filtration Model #4208A
8 Stage 59 hp Blower. Draws 33 BHP running
460 SCFM @ 7.5 psig. Draws 41 BHP running
670 SCFM @ 7.5 psig. BHP draw based on site conditions at the Oakfield WWTP

We have reviewed a proposal from sanitaire water pollution control concerning the fine bubble diffusion equipment and have attached a brochure explaining fine bubble diffusion in greater detail.

Over a period of time, the ceramic diffusers tend to loose their efficiency due to partial plugging. Due to the original design of the plant, the tanks would have to be drained and diffussers would have to be cleaned manually. A automatic gas cleaning system can be installed to automatically clean the diffusers periodically, without disrupting the operation of the plant. The automatic gas cleaning system will save valuable operator time and keep the plant in operation at all times and maintain high aeration equipment efficiency

The proposed layout of fine bubble aeration equipment is shown on Figure #2.

Cost Estimate and Analysis

The estimated costs for the improvements described above are:

Equipment cost for new diffusers, blower, etc.	$40,000
Gas cleaning equipment	19,600
Installation cost of equipment	35,000
	94,600

The estimated cost savings projections are provided below:

	BHP	KW/HP		HR/DAY		DAY/YR	$/KWH	$/YR
Aeration and Post Aeration	33	X 0.746	X	24	X	365	X 0.07	=$15,096
Sludge Storage	8	X 0.746	X	0.4	X	365	X 0.07	= $61
Backwash Holding	8	X 0.746	X	8	X	365	X 0.07	= $ 1,220

Estimated yearly power cost for aeration after upgrade $16,377

Assume 75% of present power cost is for aeration

$51,480 x 0.75 = $38,610

Estimated power savings/year with aeration upgrade

$38,610 - $16,377 = $22,233

Estimated payback of new aeration system

$94,600/$22,233 = 4.2 years

Recommendations

Based upon the site conditions at the Oakfield WWTP and the high operating expenses incurred with the aeration blowers, we recommend that the Village replace the two existing 100 hp blowers with two new 50 hp blowers and replace the existing course bubble diffusion equipment with a new Fine Bubble Aeration System.

The Village Residents will realize lower user charges due to the decrease of operation and maintenance costs from making these improvements. The improvements proposed will increase the efficiency of the plant and the plant will continue to meet the discharge limitations set forth in the SPDES Permit.

Appendix F

Village of Oakfield WWTF
Sludge Drying Bed Storage Calculations

DRAFT

Village of Oakfield
Wastewater Treatment Facility
Sludge Drying Bed Storage
September 11, 2017

Based on 2015-2016 Reed Bed Sludge Application:
Approximately 360,000 gallons annually at 1%-2% Solids

Estimate 2-week drying time
52 weeks /1 pour every 2-weeks = 26 pours annually

360,000 gallons / 26 pours = 13,850 gallons per pour

13,850 gallons x (1 CF/7.48 gallons) = 1,851 CF

Drying Bed size at 16" depth (Based on Village of Corfu practices with use of polymers. Application of 16" of sludge immediately reduces to 4")

1,851 CF / (16"/12") x 2 = 2,777 SF
say **3,000 SF Drying Bed**

Appendix G

NYSDEC Oak Orchard TMDL Analysis 081715
DRAFT Excerpts

DRAFT

Source: OakOrchard_TMDLAnalysis_ 081715_DRAFT_Excerpts.pdf, provided by NYSDEC to CPL 10/5/2023

2 Assessment of Phosphorus Sources

2.1 Point Sources

Point sources of pollution, as defined by the federal Clean Water Act, include any discrete conveyance that discharges pollutants to a waterbody, such as pipes or ditches discharging wastewater from a sewage treatment plant or industrial facility. Point sources of pollution are regulated by the NYSDEC State Pollutant Discharge Elimination System (SPDES) permit program.

There are seven point sources of discharge in the Oak Orchard Creek watershed. Five are wastewater point sources and are permitted under the SPDES permit program: Elba Wastewater Treatment Plant (WWTP), US Gypsum Company, Oakfield WWTP, Bonduelle USA, and Medina WWTP. In addition, the Erie Canal, a cross-state navigation canal, runs east-west across the Oak Orchard watershed and spills water to the Oak Orchard Creek watershed at two locations to support hydroelectric operations at the Village of Medina into Oak Orchard Creek and near the Village of Albion into Otter Creek.

Facility monitoring records for the five SPDES permitted point sources were acquired from NYSDEC for estimating point source phosphorus loads. Average annual effluent flows volumes from permitted facilities are listed in Table 2. Discharge monitoring records do not contain phosphorus samples for Elba WWTP, Oakfield WWTP, Bonduelle USA, and US Gypsum (outfalls 2, 3, and 5). Average phosphorus concentrations were estimated by NYSDEC as:

- Elba WWTP = 4.2 mg/L
- US Gypsum Outfalls 2, 3, and 5 = 0.01 mg/L
- Oakfield WWTP = 2.2 mg/L
- Bonduelle USA = 4.0 mg/L

For the two Erie Canal discharges, annual discharge volumes were estimated using flow rates of 225 cubic feet per second for the Oak Orchard Creek discharge (based on communication with Brookfield Renewable, the operator of the downstream hydroelectric plant) and 20 cubic feet per second for the Otter Creek discharge (Zollweg, et al., 2005). Both discharges were assumed to occur during the Erie Canal open season, May 1 through November 15, with zero discharge from November 16 through April 30. The average phosphorus concentration for water spilled from the Erie Canal to Oak Orchard Creek and Otter Creek was estimated as 55.9 µg/L (Dressel, 2014).

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Table 2. Summary of point source phosphorus loads in the Oak Orchard Creek watershed.

Facility Name	SPDES Permit No.	Effluent Flow (million gallons/year)	Effluent TP Conc. (µg/L)	Effluent TP Load (kg/year)
Elba WWTP	NY0020907	29	4,200	464
US Gypsum Co.	NY0001562	3,113	Varies by Outfall	851
Outfall 1		1,955	109	807
Outfall 2		34	10	1.3
Outfall 3		9	10	0.4
Outfall 5		1,115	10	42
Oakfield WWTP	NY0023639	54	2,200	450
Bonduelle USA	NY0063681	69	4,000	1,050
Medina WWTP	NY0021873	663	888	2,228
Erie Canal to Oak Orchard Ck.	-	28,793	55.9	6,093
Erie Canal to Otter Ck.	-	2,559	55.9	542
TOTAL				11,678

DRAFT

Appendix H

Wet Well Calculations

DRAFT

Genesee County Economic Development Center
WNY Science and Technology Park (STAMP)
Main Pump Station Wet Well Sizing
March 2024

Wet Well Information		
Diameter	10.00	feet
Top Elevation	669.62	feet
Invert Elevation	658.63	feet
Bottom Elevation	651.00	feet
Total Operating Volume	3,306	gallons

Future Conditions		
Pump "Off"	652.00	feet
Lead Pump "On"	656.63	feet
Lag Pump "On"	657.63	feet
Operating Volume	2,719	gallons

Discharge Manhole Information		
Invert Elevation	715.00	feet
Rim Elevation	720.00	feet

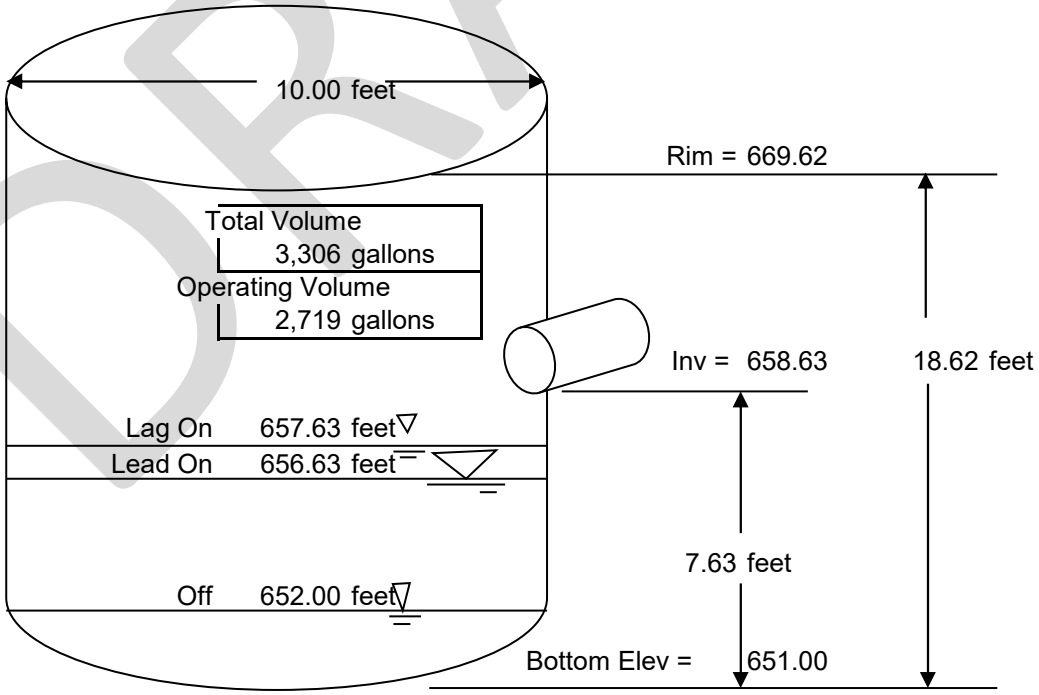
Elevation of Forcemain		
High Elevation	715.00	feet
Low Elevation	664.00	feet

Flow Information		
Daily Flow	244,000	gpd
Average Flow	169.4	gpm
Peak Flow	677.8	gpm
Required Wet Well	2,542	gallons

Present Conditions		
Pump "Off"	652.00	feet
Lead Pump "On"	656.63	feet
Lag Pump "On"	657.63	feet
Operating Volume	2,719	gallons

Force Main Information		
Force Main Length	18,000	feet
PVC Pipe DIPS		
12-inch has ID of	11.650	inches
10-inch has ID of	9.790	inches
Capacity 12-inch	99,617	gallons
Capacity 10-inch	70,347	gallons
12" Minimum Pumping Rate	659	gpm
10" Minimum Pumping Rate	465	gpm

Time to fill wet well 16.04 min
Time to empty wet well 6.17 min



Proposed Wet Well Conditions

DRAFT

Genesee County Economic Development Center
WNY Science and Technology Park (STAMP)
Intermediate Pump Station Wet Well Sizing
March 2024

Wet Well Information		
Diameter	10.00	feet
Top Elevation	720.00	feet
Invert Elevation	715.00	feet
Bottom Elevation	706.50	feet
Total Operating Volume	3,817	gallons

Future Conditions		
Pump "Off"	707.50	feet
Lead Pump "On"	713.00	feet
Lag Pump "On"	714.00	feet
Operating Volume	3,229	gallons

Discharge Manhole Information		
Invert Elevation	725.00	feet
Rim Elevation	730.00	feet

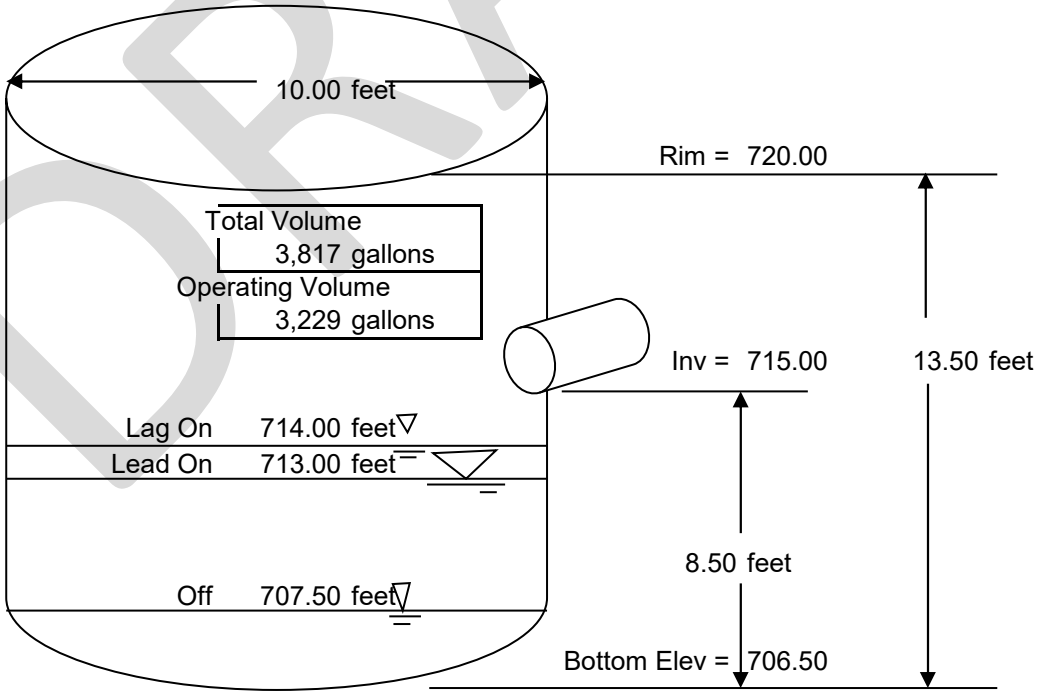
Elevation of Forcemain		
High Elevation	725.00	feet
Low Elevation	715.00	feet

Flow Information		
Daily Flow	287,000	gpd
Average Flow	199.3	gpm
Peak Flow	797.2	gpm
Required Wet Well	2,990	gallons

Present Conditions		
Pump "Off"	707.50	feet
Lead Pump "On"	713.00	feet
Lag Pump "On"	714.00	feet
Operating Volume	3,229	gallons

Force Main Information		
Force Main Length	27,000	feet
PVC Pipe DIPS		
12-inch has ID of	11.650	inches
10-inch has ID of	9.790	inches
Capacity 12-inch	149,425	gallons
Capacity 10-inch	105,521	gallons
12" Minimum Pumping Rate	659	gpm
10" Minimum Pumping Rate	465	gpm

Time to fill wet well 16.20 min
Time to empty wet well 6.45 min



Proposed Wet Well Conditions

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Appendix I

Force Main System Curves

DRAFT

Genesee County Economic Development Center
WNY Science and Technology Park (STAMP)
Force Main Sizing to the Village of Oakfield
March 2024

PVC DR-18 Pipe Properties

Estimated Hazen Williams "C" Value: 120

Nominal Diameter (inch)	I.D. (inches)	Cros-sectional Area (SF)	Volumetric Capacity (Gal/LF)	Pumping Rate @ 2 fps Velocity (gpm)	Pumping Rate @ 6 fps Velocity (gpm)	Pumping Rate @ 6 fps Velocity (MGD)
6	6.090	0.20	1.51	181	544	0.78
8	7.980	0.35	2.60	312	936	1.34
10	9.790	0.52	3.91	469	1,408	2.01
12	11.650	0.74	5.54	665	1,994	2.85
16	15.350	1.29	9.61	1,153	3,460	4.94
18	17.200	1.61	12.07	1,448	4,345	6.21
20	19.060	1.98	14.82	1,778	5,335	7.62
24	22.76	2.83	21.13	2,536	7,607	10.87

STAMP Main Pump Station to the Intermediate Pump Station

PS "Off" Elevation =	652.00	FT
FM Discharge Elevation =	715.00	FT
Static Head =	63.00	FT

Force Main Length: 18,000

Nominal Diameter (in)	Capacity (gal)	Total Dynamic Head (ft) at Select Pumping Rate (gpm)												
		0	50	150	250	350	500	700	750	1,000	1,250	1,500	1,750	2,000
6	27,180	63	69	106	173	269	461	805	906	1,500	2,235	3,108	4,114	5,251
8	46,800	63	65	74	93	118	170	262	289	448	645	879	1,149	1,454
10	70,380	63	64	67	74	83	102	137	147	205	278	365	464	577
12	99,720	63	63	65	68	72	80	95	99	124	155	192	235	283
16	172,980	63	63	63	64	65	67	71	72	79	87	97	108	120
18	217,260	63	63	63	64	64	66	68	68	72	77	82	89	96
20	266,760	63	63	63	63	64	65	66	66	69	71	75	79	83
24	380,340	63	63	63	63	63	64	64	64	65	67	68	70	71

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STAMP Intermediate Pump Station to Village of Oakfield WWTF

PS "Off" Elevation =	707.50	FT
FM Discharge Elevation =	725.00	FT
Static Head =	17.50	FT

Force Main Length: 27,000

Nominal Diameter (in)	Capacity (gal)	Total Dynamic Head (ft) at Select Pumping Rate (gpm)												
		0	50	150	250	350	500	700	750	1,000	1,250	1,500	1,750	2,000
6	40,770	18	26	82	183	326	615	1,131	1,283	2,173	3,276	4,585	6,094	7,799
8	70,200	18	20	35	62	100	178	316	357	595	891	1,242	1,646	2,103
10	105,570	18	18	24	34	48	77	128	143	231	340	470	619	788
12	149,580	18	18	20	25	31	43	65	71	109	156	211	275	348
16	259,470	18	18	18	19	21	24	30	32	41	54	68	85	104
18	325,890	18	18	18	19	19	21	25	26	31	38	47	56	67
20	400,140	18	18	18	18	19	20	22	22	26	30	35	41	48
24	570,510	18	18	18	18	18	18	19	20	21	23	25	27	30

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CPL
ARCHITECTURE
ENGINEERING
PLANNING
CPLteam.com

STAMP Pump Stations & Force Main to Oakfield WWTF

Design Flows at Maximum Build Condition

By: D.Chase

Date: 3/4/2024

Source	Type of Use	Unit	Unit Flow (gpd)	# Units	Design Average Flow (gpd)	Main Pump Station / First Portion of FM Design Average Flow (gpd)	Intermediate Pump Station / Second Portion of FM (incl. flow from First Portion) Design Average Flow (gpd)
STAMP/Town of Alabama							
Maximum Build							
STAMP	Factory, 1/3 w/ caf, 1/3 w/ shower[1]	Per employee/shift	20	9,330	186,600	186,600	186,600
Town of Alabama	Reserved flow per Agreement	See Table Below			100,000	57,800	100,000
		Design Average Flow (gpd)			**286,600**	**244,400**	**286,600**
		Peaking Factor per TSS[2]				3.6	3.5
		Peaking Factor Used for Design				4.0	4.0
		Design Peak Hourly Flow (gpd)				977,600	1,146,400
		Design Peak Hourly Flow (gpm)				**680**	**800**

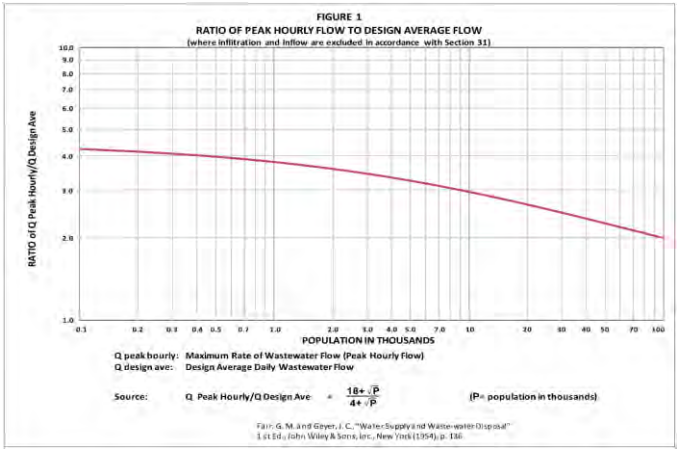
Notes

[1]Assumed even mix (1/3, 1/3, 1/3) of no shower or caf (15 gpd), no shower but with caf (20 gpd), and with shower but no caf (25 gpd), for an average of 20 gpd/employee/shift.

[2]Peaking Factor per Ten State Standards, Figure 1 (below), assuming 100 gpd/capita.

Town of Alabama Flows

Area	Total Homes + Lots	Tied into STAMP PS / First Portion of FM	Additional Tied into Second Portion of FM
Alabama (88 homes + 20 lots)	108	108	
Basom (30 homes + 10 lots)	40	40	
South Alabama (78 homes + 10 lots)	88		88
Wheatville (20 homes and lots)	20		20
Subtotal Homes + Lots	**256**	**148**	**108**
Flow per Home/Lot (based on avg. 2.5BR * 150 gpd/BR for pre-1980 homes)	375	375	375
Design Average Flow	96,000	55,500	40,500
Design Average Flow (Scaled to 100,000 gpd per GCEDC-Town Agreement)	**100,000**	**57,800**	**42,200**



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Appendix J

STAMP Oakfield Force Main – Wetland Delineation Summary prepared by CC Environment & Planning

DRAFT

CC Environment & Planning

Katlyn Hojnacki
Senior Ecologist/Operations

March 7, 2024

Mark A. Masse
Genesee County Economic Development Center
99 MedTech Drive, Suite 106
Batavia, NY 14020
Email: mmasse@gcedc.com

Re: STAMP Oakfield Force Main – Wetland Delineation Summary

Dear Mark:

We have completed a field review of all drainages, streams, and wetlands within the Oakfield Force Main Area of Investigation (AOI) located along approximately 7.94 miles of roads within the Town of Oakfield, Genesee County, New York. The AOI extended to the edge of the right-of-way. Our review extended to all waters that are potentially regulated by state and federal agencies. The delineation was conducted in accordance with the U.S. Army Corps of Engineers Wetlands Delineation Manual Technical Report Y-87-1, and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (v. 2.0), dated January 2012. Delineation tasks included a review of onsite conditions, field delineation, and sub-meter GPS survey of delineation. Deliverables include this delineation summary letter, delineation maps (Attachment A), photographs (Attachment B), wetland determination datasheets (Attachment C), and shapefiles of mapped resources (provided via email on 3-1-24).

Desktop Review Notes

There is one federally mapped wetland within the AOI (PEM1A), which is a freshwater emergent wetland. No state-mapped wetlands were within the AOI. There are three federally mapped stream crossings within the AOI, including Brinningstool Creek, an unnamed tributary to Oak Orchard Creek, and an unnamed tributary to Tonawanda Creek. These are state-mapped as Class C streams. Mapped resources are included on the delineation maps provided in Attachment A.

Field Mapped Wetlands and Streams

The AOI was visually inspected during a field visit conducted on February 26, 2024, by Katlyn Hojnacki, Senior Ecologist, and Ann Swanson, Environmental Technician, CC Environment & Planning. Areas to be mapped included any wetland and stream features including any permanent, seasonal, or intermittent streams and their bed and bank within the high-water mark (HWM) and wetland features showing appropriate vegetation, hydrology, and soils. Field investigation included inspection of floodplain and riparian areas associated with a stream or wetland.

One wetland and seven stream sections were present within the AOI. Throughout the AOI, deep roadside ditches were present. These ditches, which are non-jurisdictional features, were not mapped unless a stream was rerouted through it. Mapping was conducted using a Juniper Geode sub-meter GPS. The wetlands and streams were mapped to ensure that any aquatic feature potentially regulated by state and/or federal agencies was included within a polygon (see Figures 2-10 in Attachment A and photographic documentation in Attachment B). Table 1 below provides a description of the mapped wetlands and streams.

Wetland 47 was previously mapped as part of the overall STAMP wetland and stream delineation. This wetland is considered non-jurisdictional by USACE as detailed in the March 16, 2023 Approved Jurisdictional Determination. Tributary 3 was included within the Preliminary Jurisdictional Determination issued on March 16, 2023 as a jurisdictional water. Streams 2 and 4 begin on the opposite side of the road from the proposed force main route. Stormwater from the proposed side does flow through culverts under the road to act as the headwaters for these streams, but these stormwater features are non-jurisdictional.

All mapped wetlands and streams require a jurisdictional determination to confirm their regulatory status. The mapped wetlands and streams were provided to CPL and GCEDC digitally as georeferenced shapefiles for inclusion within the project survey database and to facilitate updated design, plan sheets, and impact calculations.

Table 1. STAMP Wetland and Stream Delineation

ID	GPS Points	Map/ Photo ID	Flow Reg*/ Dir	Description/Classification/ Connectivity	Est Bank Width	Notes
S1	1-10	Figure 4/ Photo1-4	I/N	Vegetated bottom, roadside ditch and ag drains combine to create stream.	8.3'-17.3'	
S2	11	Figure 5/ Photo 5-6	E/N	Vegetated bottom, stormwater flows under road to create stream on opposite side of the road.	-	Only roadside ditch within AOI.
S3	12-18	Figure 6/ Photo 7-8	P/N	Vegetated/gravel/mud bottom flows north to Oak Orchard Creek.	35.5'	Brinningstool Creek
S4	19	Figure 7/ Photo 9-10	E/N	Vegetated bottom, stormwater runoff from ag field flows into culvert to join stream on opposite side of road.	-	Only stormwater swale within AOI.
S5	20-28	Figure 8/ Photo 11-14	I/N	Vegetated bottom, water likely primarily stormwater runoff from school, flows north into large forested wetland.	9.1'-41.8'	

Table 1. STAMP Wetland and Stream Delineation						
ID	**GPS Points**	**Map/ Photo ID**	**Flow Reg*/ Dir**	**Description/Classification/ Connectivity**	**Est Bank Width**	**Notes**
S6	29-38	Figure 9/ Photo 15-16	P/NE	Vegetated/gravel/ mud. Unnamed tributary to Oak Orchard Creek.	23.8'-38.6'	Wetland adjacent to stream outside of AOI.
T3	39-48	Figure 10	I/NW	Vegetated. Unnamed tributary to Tonawanda Creek.	17.2'-26.9'	Jurisdictional. PJD March 16, 2023.
W47	-	Figure 3	NA	Palustrine emergent marsh along the roadside. Isolated.	0.06 acres	Non-jurisdictional. AJD issued March 16, 2023.

*P = Perennial, I = Intermittent, E = Ephemeral

Please contact me if you have any questions about the delineation and summary. If you require additional information, jurisdictional determination, or assistance with impact avoidance, minimization, and permitting please let me know.

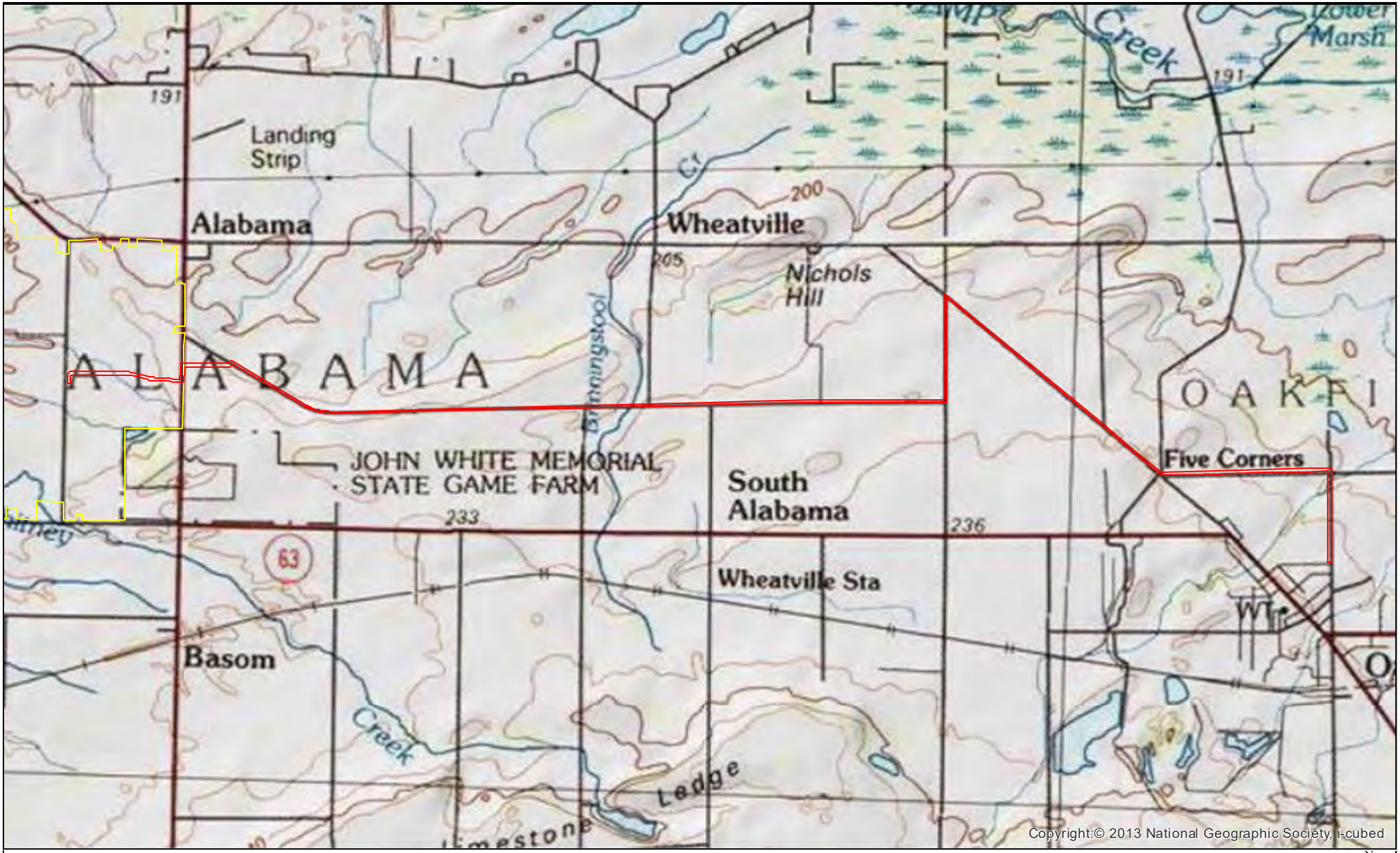
Sincerely,

Katlyn Hojnacki

Katlyn Hojnacki, Senior Ecologist
CC Environment & Planning

Attachment A – Figures
Attachment B – Photographs

Attachment A - Figures



Topographic Map

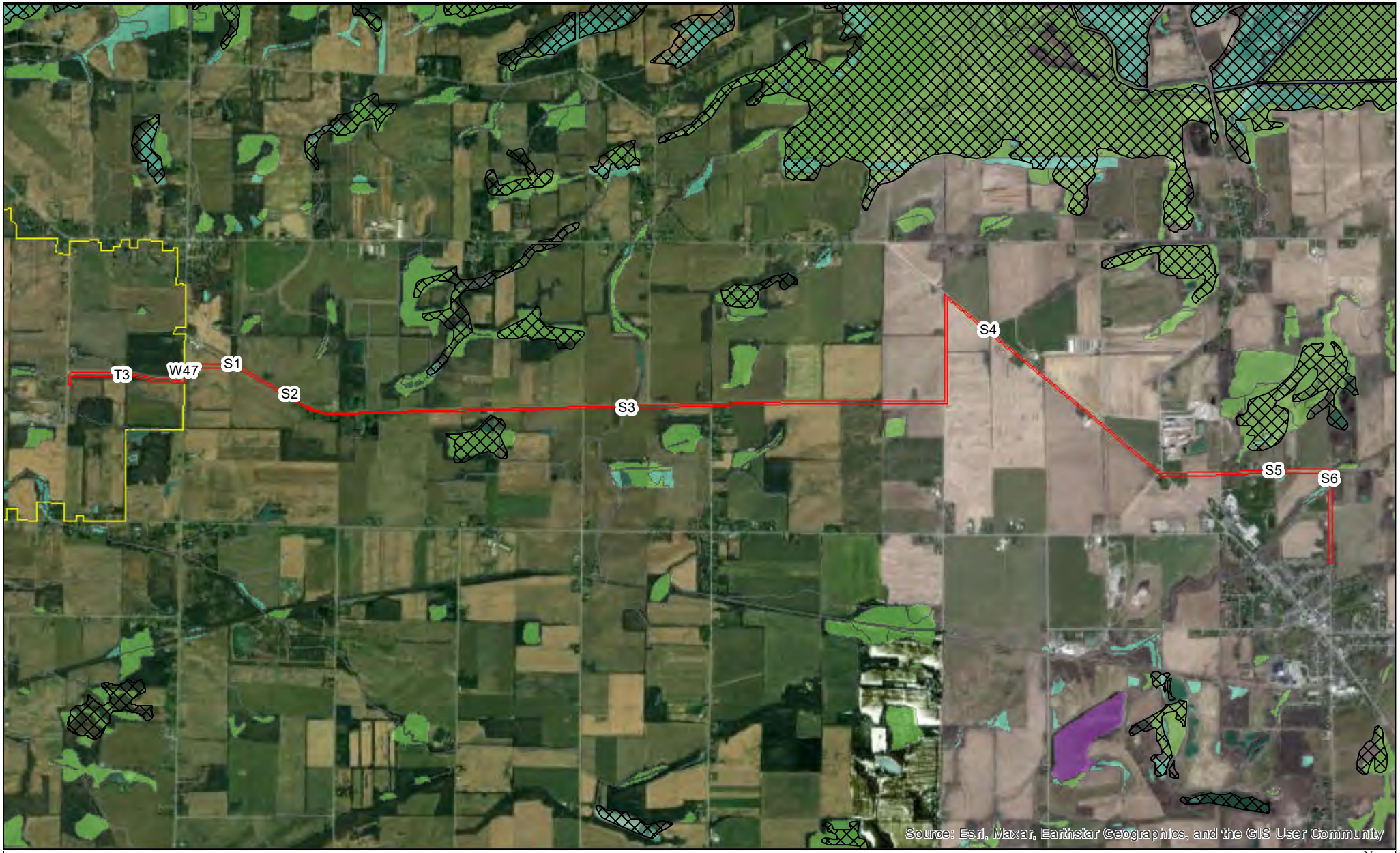
STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

K. Hojnacki, Date: 3/5/2024

Area of Investigation

STAMP Boundary

Figure 1



0 0.75 1.5 3 Miles

N

Wetland and Stream Delineation Overview

STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

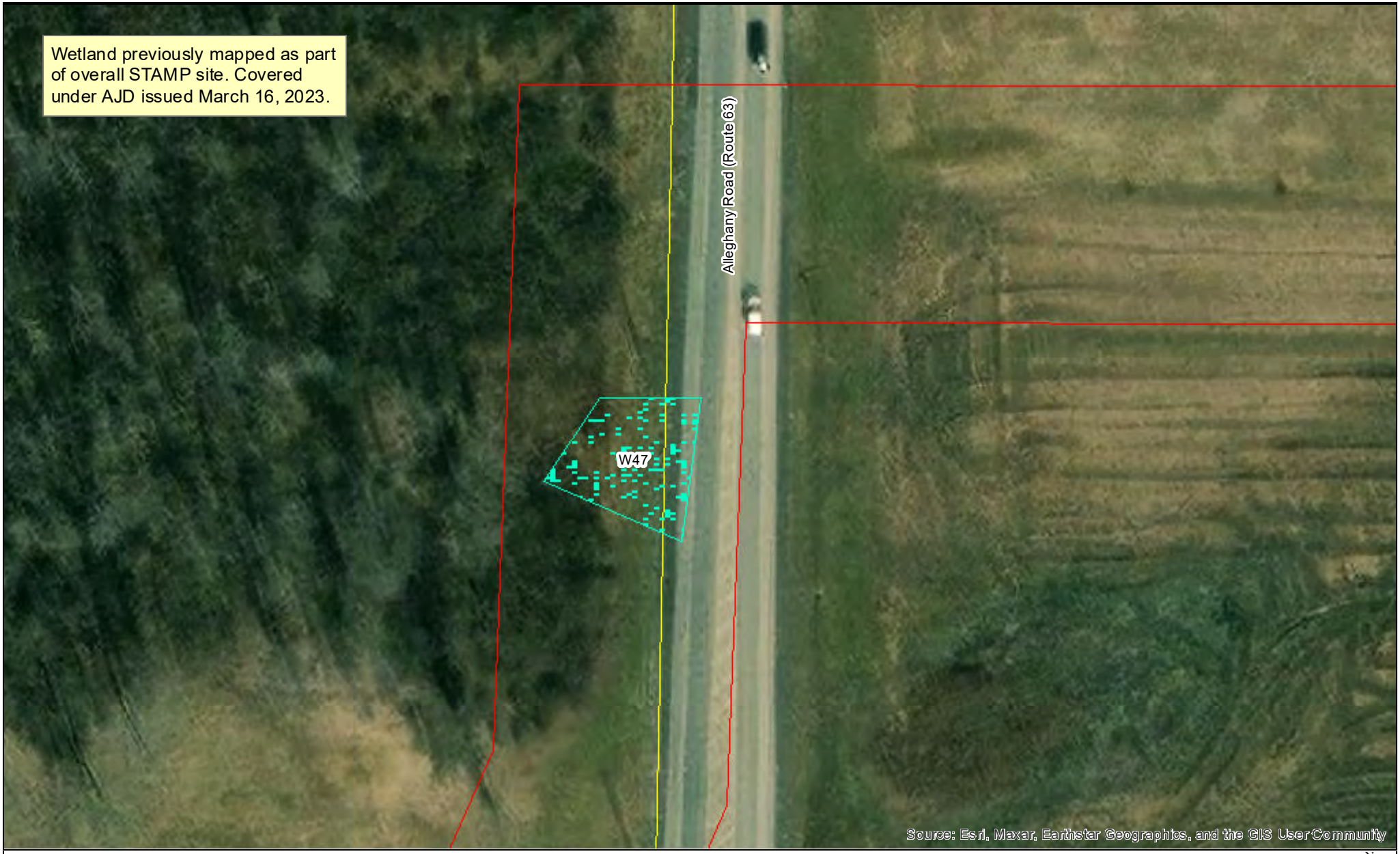
K. Hojnacki, Date: 3/5/2024

- Wetlands and Streams
- Area of Investigation
- STAMP Boundary
- NYSDEC Wetlands

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Figure 2



0 0.01 0.02 0.04 Miles

N

Field Mapped Wetland/Stream

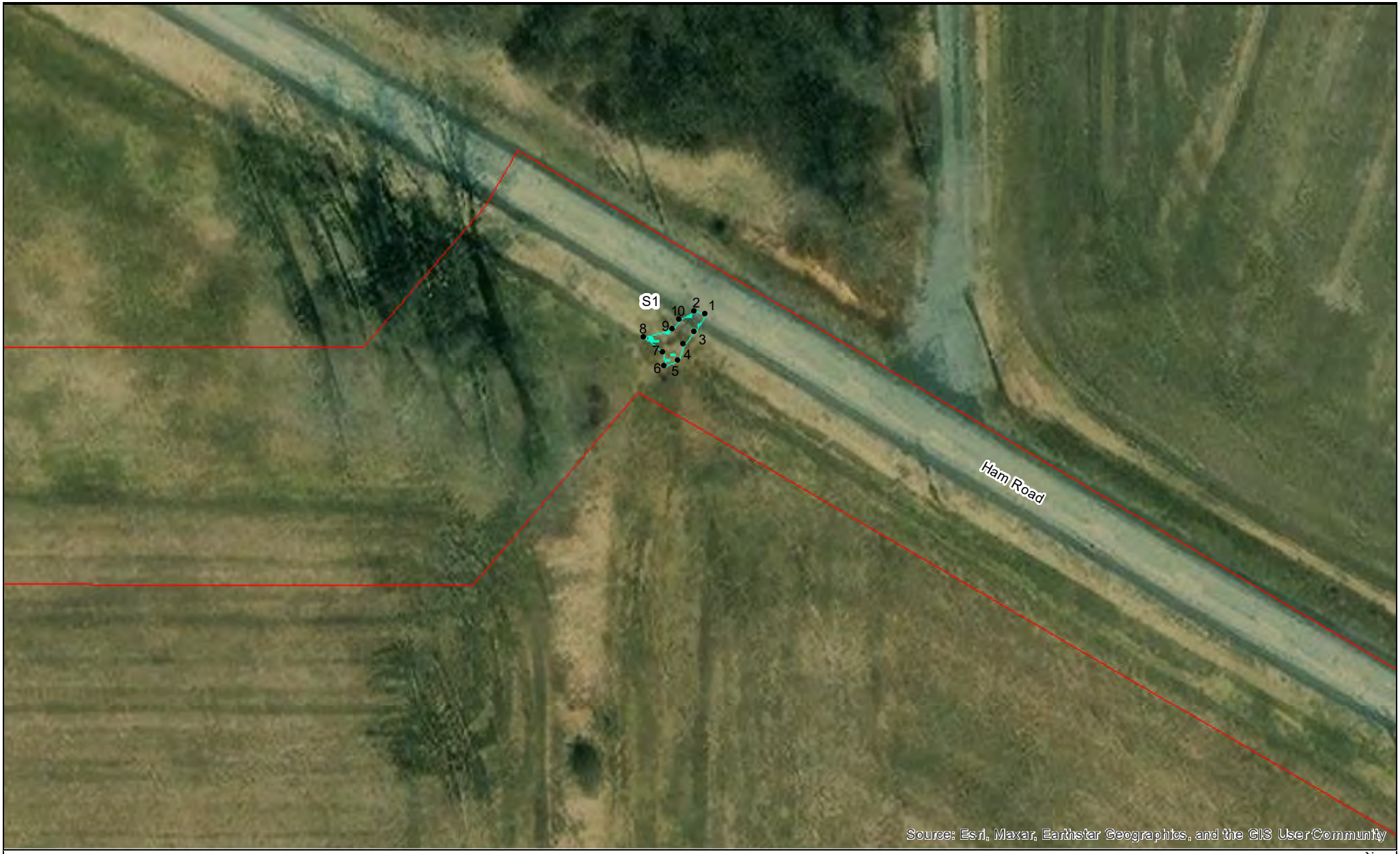
STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

K. Hojnacki, Date: 3/1/2024

Wetlands and Streams
Area of Investigation
STAMP Boundary
NYSDEC Wetlands

NWI Wetlands
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Riverine

Figure 3



0 0.01 0.02 0.04 Miles

N

Field Mapped Wetland/Stream

STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

K. Hojnacki, Date: 3/1/2024

- Waypoints
- Wetlands and Streams
- Area of Investigation
- NYSDEC Wetlands

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Figure 4



0 0.01 0.02 0.04 Miles

N

Field Mapped Wetland/Stream

STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

K. Hojnacki, Date: 3/1/2024

- Waypoints
- Wetlands and Streams
- Area of Investigation
- NYSDEC Wetlands

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Figure 5



0 0.01 0.02 0.04 Miles

N

Field Mapped Wetland/Stream

STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

K. Hojnacki, Date: 3/1/2024

- Waypoints
- Wetlands and Streams
- Area of Investigation
- NYSDEC Wetlands

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Figure 6



0 0.01 0.02 0.04 Miles

N

Field Mapped Wetland/Stream

STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

K. Hojnacki, Date: 3/1/2024

- Waypoints
- Wetlands and Streams
- Area of Investigation
- NYSDEC Wetlands

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Figure 7



0 0.01 0.02 0.04 Miles

N

Field Mapped Wetland/Stream

STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

K. Hojnacki, Date: 3/1/2024

- Waypoints
- Wetlands and Streams
- Area of Investigation
- NYSDEC Wetlands

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Figure 8



0 0.01 0.02 0.04 Miles

N

Field Mapped Wetland/Stream

STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

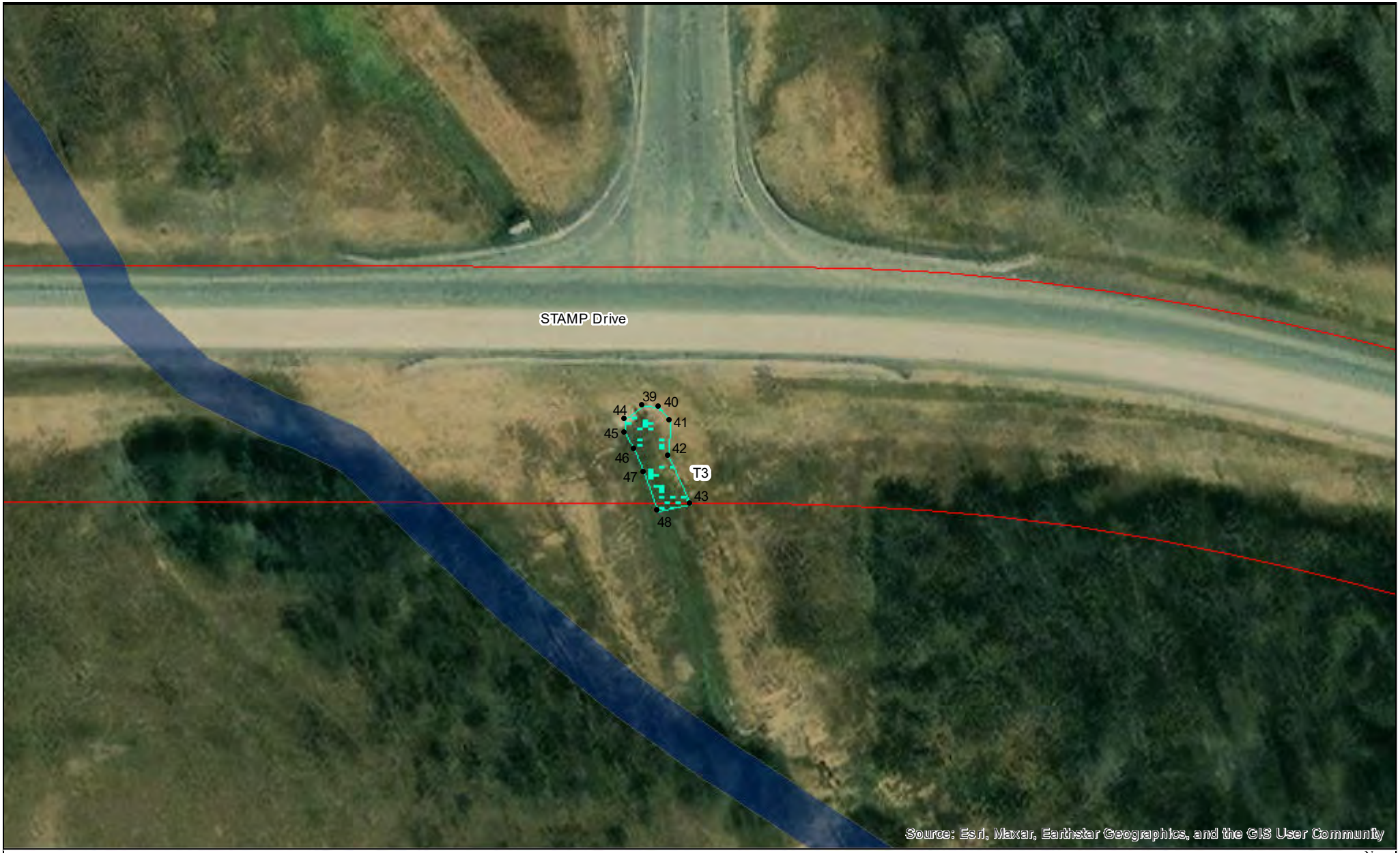
K. Hojnacki, Date: 3/1/2024

- Waypoints
- Wetlands and Streams
- Area of Investigation
- NYSDEC Wetlands

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Figure 9



0 0.01 0.02 0.04 Miles

N

Field Mapped Wetland/Stream

STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

K. Hojnacki, Date: 3/7/2024

- Waypoints
- Wetlands and Streams
- Area of Investigation
- NYSDEC Wetlands

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Figure 10

Attachment B - Photographs

STAMP Oakfield Force Main

Wetland and Stream Delineation - February 26, 2024



Photo 1

Waypoint 1, Stream 1, facing south, uphill between farm field and the field at the town barns.



Photo 2

Waypoint 4, Stream 1, facing north to roadside.



Photo 3

Waypoint 5, Stream 1, outlet of drainage pipe to join with roadside ditch.



Photo 4

Waypoint 7, Stream 1, another drainage pipe that outlets into roadside ditch.

STAMP Oakfield Force Main

Wetland and Stream Delineation - February 26, 2024



Photo 5

Waypoint 11A, Stream 2, facing south. Outlet of drainage pipe is under the snow, flows directly into culvert.



Photo 6

Waypoint 11B, Stream 2, facing north. Stream is prominent on north side of the road, flowing through farm field.



Photo 7

Waypoint 12, Stream 3, facing north towards Ham Road. Brinningstool Creek.



Photo 8

Waypoint 14, Stream 3, facing south (upstream).

STAMP Oakfield Force Main

Wetland and Stream Delineation - February 26, 2024



Photo 9

Waypoint 19A, Stream 4, facing south. Stormwater swale from farm field into road culvert.



Photo 10

Waypoint 19B, Stream 4, facing north across Lewiston Road. Stream begins on north side of road, flowing through farm field.



Photo 11

Waypoint 20, Stream 5, facing southeast. Stormwater from adjacent school grounds likely contributing most of the water to this drainage in the hedgerow.



Photo 12

Waypoint , Stream 5, southside of road, facing southwest.

STAMP Oakfield Force Main

Wetland and Stream Delineation - February 26, 2024



Photo 13

Waypoint 24, Stream 5, northside of the road, facing north, downstream.



Photo 14

Waypoint 28, Stream 5, northside of the road, facing south. A second, smallrer pipe is present next to culvert pipe.



Photo 15

Waypoint 29, Stream 6, westside of road, facing west (upstream). Wetland surrounds the stream, but begins outside of AOI.



Photo 16

Waypoint 33, Stream 6, westside of road, facing northeast.



Photo 17

Waypoint 39, Tributary 3, facing south. Intermittent stream flows under STAMP Drive.



Photo 18

Waypoint 43, Tributary 3, facing north toward STAMP Drive.

Appendix K

Foundation Design Preliminary Geotechnical Assessment

DRAFT

Foundation Design, P.C.

SOIL • BEDROCK • GROUNDWATER

March 15, 2024

The CPL Team
255 Woodcliff Drive, Suite 200
Fairport, New York 14450

Attention: Mr. Zach Anderson

Reference: STAMP – 20-inch Force Main Line
Village of Oakfield Alignment– HDD Creek Crossings
Preliminary Geotechnical Assessment, 4933.30-1

Dear Mr. Anderson:

This letter summarizes our preliminary geotechnical consultation on the referenced project. We understand that you are designing a 20-inch diameter Force Main that will run from the WNY-STAMP complex to the Village of Oakfield. The force main will consist of 20-inch diameter, DR-9 HDPE pipe. The pipe installation includes three HDD creek crossings. The exact length and depth of the pipe at the creek crossings has not been determined. The intent of this letter is to review the available nearby soil boring data, NRCS soils mapping, and NYSDEC water well data to assess the viability of installing the proposed force main via HDD methods.

We understand that three creek crossings will be required: Tributary 3 (located within the WNY-STAMP development), Brinningstool Creek, and an unnamed tributary to Oak Orchard Creek (located on North Pearl Street). Plans showing these crossing locations are enclosed. SJB Services performed soil borings B-6 and B-210 (20 feet deep) in 2016 as part of the overall WNY-STAMP site assessment; these soil borings were located close to Tributary 3. SJB Services also performed soil borings WB-53 and WB-54 (8 feet deep) in 2016; these soil borings were located close to the Brinningstool Creek crossing. No existing soil boring data is available close to the North Pearl Street creek crossing; we reviewed the NRCS mapping in assessing that location. A copy of the data reviewed is attached.

In general, the soil profile is expected to consist of glacial lake laid silt, sand, and clay over clayey glacial till. At Tributary 3, the upper loose to firm lake deposits appear to extend four to five feet below grade, transitioning into a firm to hard clayey silt to silty clay with sand and gravel. At Brinningstool Creek, the soil boring data indicates the roadway has been filled four to six feet. The NRCS mapping indicates that a four to five foot thick layer of loose to firm alluvial silt loam may lie immediately around the creek channel. Similarly, the NRCS mapping indicates that up to seven feet of loose to firm uniform sand/silt is present along North Pearl Street at the creek crossing.

To assess the bedrock depth and the overburden thickness, we reviewed the other soils data within the WNY-STAMP development and NYSDEC water well database. Deep soil borings within the WNY-STAMP development indicate that bedrock lies around 30 feet below grade at Tributary 3. Residential well logs east and west of Brinningstool Creek indicate that bedrock lies within 17 to 26 feet of the surface along Ham Road. Residential well logs east and west of the North Pearl Street creek crossing indicate that bedrock lies around 16 feet of the surface

Based on this background, off the following preliminiary thoughts as you progress the conceptual design:

- We believe that these soils are typical of soil conditions in western New York where HDD installations have been successfully completed.
- For conceptual planning, assume that the pipe should extend at least 10 feet below the existing creek channel. The near-surface loose/firm creek deposits may prove challenging for HDD installations, as drilling mud may migrate horizontally within this zone. We recommend extending the pipe alignment into the firm to stiff clayey till formation below the upper flood deposits. This would provide a zone where higher confining pressures could be used for the installation work to progress. To achieve this, the pipe depth may need to extend 10 to 15 feet below the creek channel at the Brinningstool Creek and North Pearl Street crossing, depending on the actual thickness of the loose overburden in these areas. There appears to be adequate soil cover over the bedrock at the proposed locations for this type of installation depth to be feasible.
- Once your design progresses to the point where the alignment is fixed in plan and profile, additional exploration should be undertaken to define the soil conditions at the crossings. The soil borings should extend at least four feet deeper than the proposed alignment installation depth.

- With the subsurface data collected, an ACOE analysis should be performed to assess the maximum mud pressure that should exist behind the drill head.

We hope this letter meets your current needs. Feel free to call if you have questions regarding the conclusions outlined above.

Sincerely,

FOUNDATION DESIGN, P.C.

Jeffrey D. Netzband, P.E., P.G.
Vice President
Enc.

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

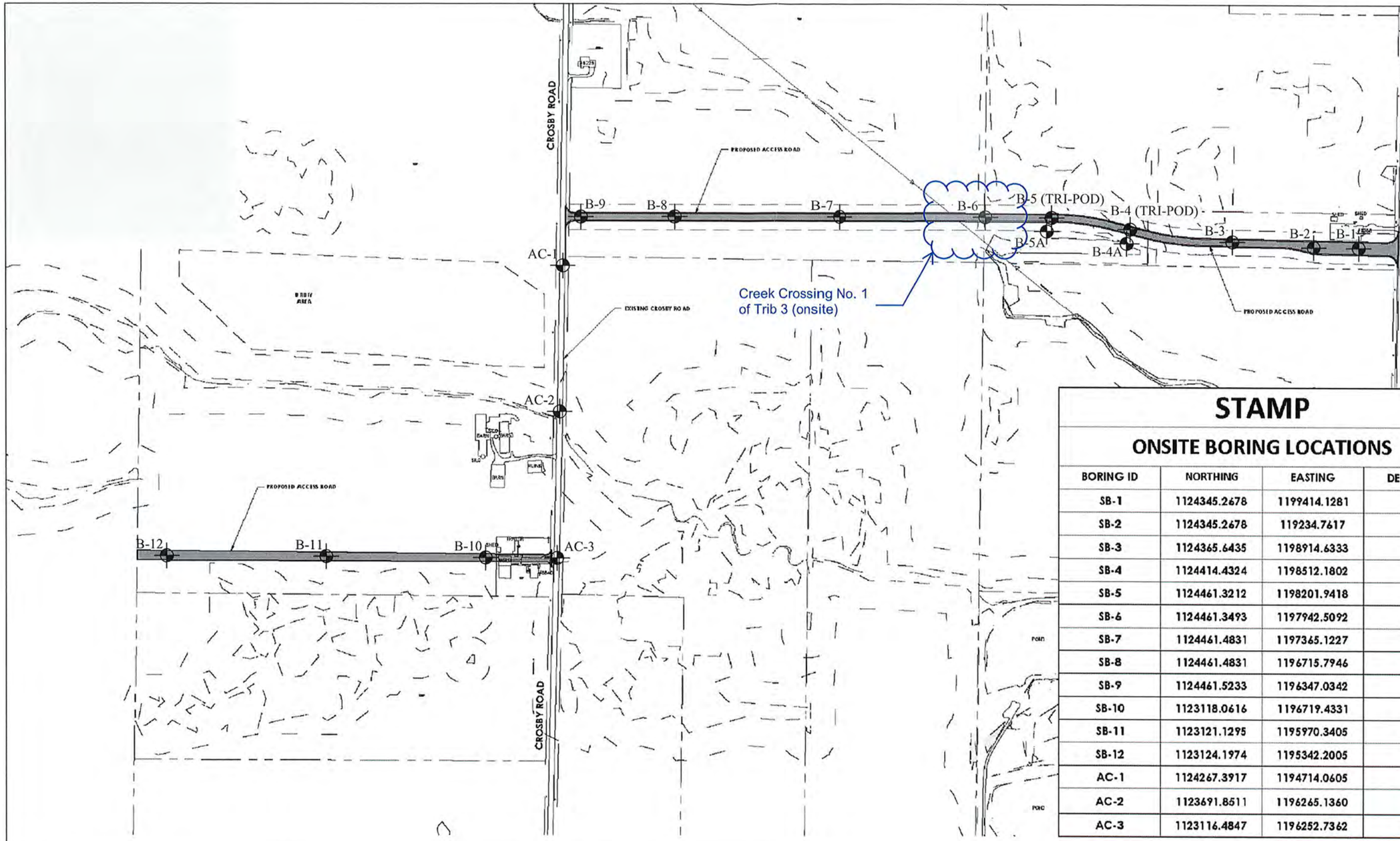
Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

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e-mail: info@geoprofessional.org www.geoprofessional.org

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STAMP

ONSITE BORING LOCATIONS

BORING ID	NORTHING	EASTING	DEPTH (FT)
SB-1	1124345.2678	1199414.1281	20
SB-2	1124345.2678	119234.7617	20
SB-3	1124365.6435	1198914.6333	20
SB-4	1124414.4324	1198512.1802	20
SB-5	1124461.3212	1198201.9418	20
SB-6	1124461.3493	1197942.5092	20
SB-7	1124461.4831	1197365.1227	20
SB-8	1124461.4831	1196715.7946	20
SB-9	1124461.5233	1196347.0342	20
SB-10	1123118.0616	1196719.4331	20
SB-11	1123121.1295	1195970.3405	20
SB-12	1123124.1974	1195342.2005	20
AC-1	1124267.3917	1194714.0605	4
AC-2	1123691.8511	1196265.1360	4
AC-3	1123116.4847	1196252.7362	4

LEGEND:

B-1 — APPROXIMATE LOCATION AND DESIGNATION OF TEST BORING.

AC-1 — APPROXIMATE LOCATION AND DESIGNATION OF PAVEMENT CORE AND SUBGRADE SAMPLING TEST BORING

NOTES:

1.) BORINGS DESIGNATED WITH (TRI-POD) WERE ADVANCED USING A PORTABLE TRI-POD DRILL APPARATUS DUE TO WETLANDS PRESENT. ALL OTHER TEST BORINGS WERE COMPLETED WITH A CONVENTIONAL DRILL RIG.

2.) FIGURE DEVELOPED FROM SITE PLAN PREPARED BY CLARK PATTERSON LEE DESIGN PROFESSIONALS

N

EMPIRE GEO SERVICES INC
a subsidiary of SJB Services, Inc.

GENESEE COUNTY ECONOMIC DEVELOPMENT CORPORATION
WNY STAMP - MAIN ACCESS ROADWAY PROJECT
TOWN OF ALABAMA, GENESEE COUNTY, NEW YORK

SUBSURFACE EXPLORATION PLAN	DR BY: WMA	SCALE: NTS	PROJECT NO.: BE-16-073
	CHKD BY: JJD	DATE: 06/01/16	FIGURE NO: 2

DATE
START 5/10/2016
FINISH 5/10/2016
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. SB-6
SURF. ELEV N.D.
G.W. DEPTH See Notes

PROJECT: WNY STAMP MAIN ACCESS ROADWAY LOCATION: TOWN OF ALABAMA
PROJ. NO.: BE-16-073 GENESEE COUNTY, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	2	3			TOPSOIL Brown and Dark Brown Silty CLAY, tr.sand, tr.organics (moist, FILL)	Driller notes Topsoil at the surface
		3	4		6		
	2	6	9			Brown Silty CLAY, tr.sand (moist, v.stiff, CL)	
		13	11		22		
5	3	7	9			Contains little f-c Sand	
		11	14		20		
	4	6	12				
		15	19		27		
	5	7	9			Contains tr.gravel	
10		11	14		20		
	6	8	9				
		8	12		17		
15							
	7	14	16			(hard)	
		17	18		33		
							No Free Standing Water encountered at Boring Completion
	8	10	20				
20		19	24		39	Boring Complete at 20.0'	

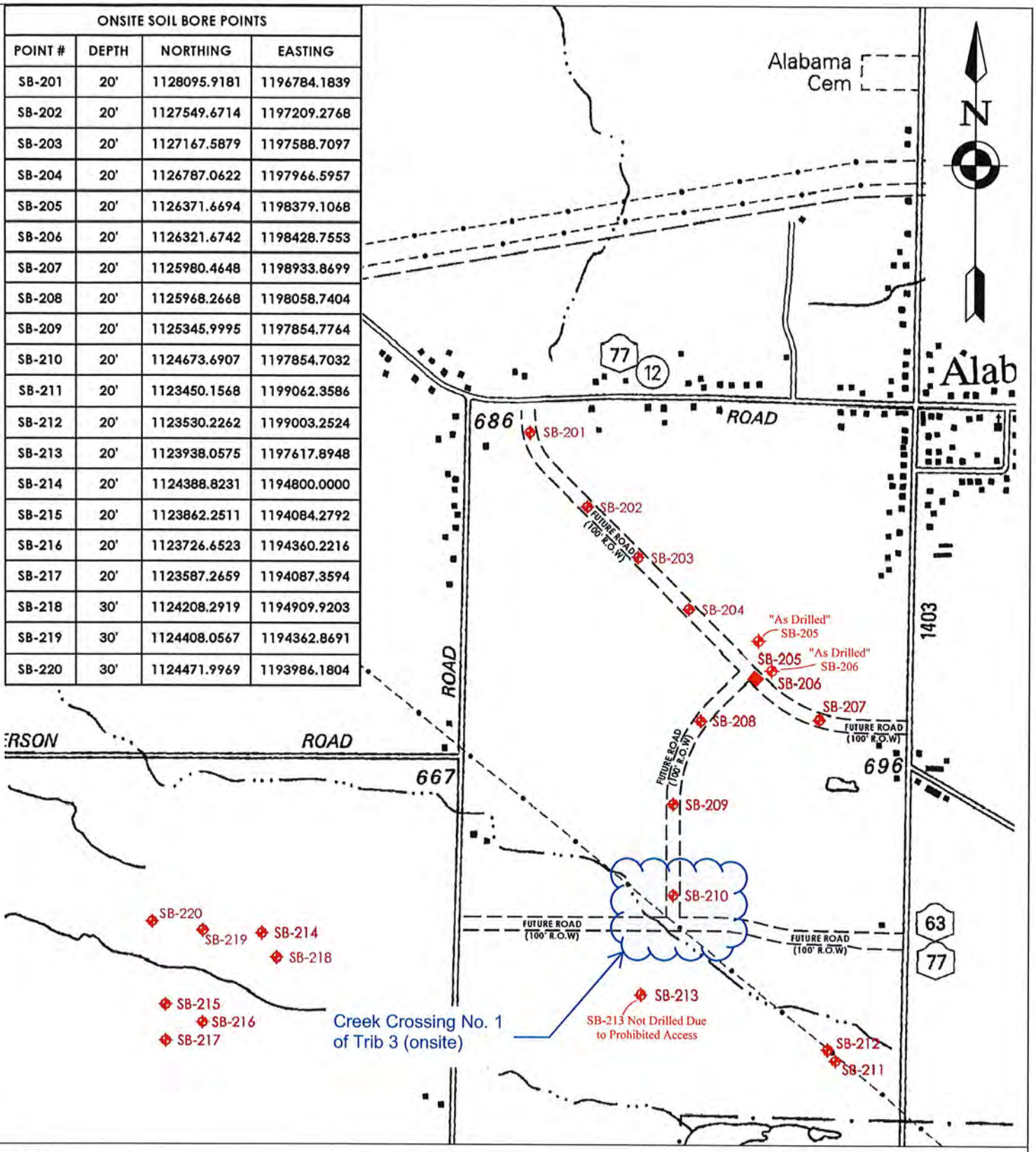
N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: B. DELUDE DRILL RIG TYPE : DIEDRICH D-50

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

ONSITE SOIL BORE POINTS			
POINT #	DEPTH	NORTHING	EASTING
SB-201	20'	1128095.9181	1196784.1839
SB-202	20'	1127549.6714	1197209.2768
SB-203	20'	1127167.5879	1197588.7097
SB-204	20'	1126787.0622	1197966.5957
SB-205	20'	1126371.6694	1198379.1068
SB-206	20'	1126321.6742	1198428.7553
SB-207	20'	1125980.4648	1198933.8699
SB-208	20'	1125968.2668	1198058.7404
SB-209	20'	1125345.9995	1197854.7764
SB-210	20'	1124673.6907	1197854.7032
SB-211	20'	1123450.1568	1199062.3586
SB-212	20'	1123530.2262	1199003.2524
SB-213	20'	1123938.0575	1197617.8948
SB-214	20'	1124388.8231	1194800.0000
SB-215	20'	1123862.2511	1194084.2792
SB-216	20'	1123726.6523	1194360.2216
SB-217	20'	1123587.2659	1194087.3594
SB-218	30'	1124208.2919	1194909.9203
SB-219	30'	1124408.0567	1194362.8691
SB-220	30'	1124471.9969	1193986.1804



LEGEND:

SB-201
INDICATES APPROXIMATE LOCATION AND DESIGNATION OF TEST BORING.

NOTE:

FIGURE DEVELOPED FROM SITE PLAN PREPARED BY CLARK PATTERSON LEE.

EMPIRE GEO SERVICES INC
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GENESEE COUNTY ECONOMIC DEVELOPMENT CORPORATION
WNY STAMP - MAIN ACCESS ROADWAY PROJECT
TOWN OF ALABAMA, GENESEE COUNTY, NEW YORK

ADDITIONAL ROADWAY AND INFRASTRUCTURE TEST BORING LOCATIONS

DR BY: WMA	SCALE: NTS	PROJECT NO.: RE-16-073 A
CHKD BY: JJD	DATE: 09/21/16	FIGURE NO: 2

DATE
START 6/24/2016
FINISH 6/24/2016
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. SB-210
SURF. ELEV N.D.
G.W. DEPTH See Notes

PROJECT: ADDITIONAL SOIL BORINGS
PROJ. NO.: BE-16-073-A
LOCATION: WNY STAMP MAIN ACCESS ROADWAY
TOWN OF ALABAMA

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	3	3			TOPSOIL Brown f-c SAND, some Clayey Silt, tr.organics	Driller notes approx. 9" of Topsoil at the surface
		5	6		8	(moist, FILL)	
	2	4	4			Brown Clayey SILT, tr.sand (moist, stiff, ML)	
		5	6		9		
5	3	4	5			Red-Brown Silty CLAY, tr.sand (moist, stiff, CL)	
		7	9		12		
	4	7	10			Contains little f-c Gravel (v.stiff)	
		13	13		23		
	5	5	7			Contains little f-c Sand	
10		11	14		18		
	6	14	14			Becomes Brown (hard)	
		17	19		31		
15							
	7	3	4			(moist-wet, stiff)	
		5	6		9		
							Free Standing Water recorded at 15.1' at Boring Completion
	8	6	6				
20		9	9		15	Boring Complete at 20.0'	

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: D. DELUDE

DRILL RIG TYPE : CME-550X

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS



N

Map Legend

Profile Location

Boring Location

Scale (feet)

0 400 800 1200 1600

Notes:

Basemap from GoogleEarth Image.

Seismic data from Geometrics SmartSeis, 4.5 Hz geophones at 10- and 20-foot spacing.

Prepared by:	Title:	Project Location:	Figure
ENVIROSCAN, INC. **Enviroscan, Inc.** 1051 Columbia Ave. Lancaster PA 17603 717-396-8922 www.enviroscan.com	**Seismic Profile Locations**	**WNY** **Stamp Property** **Alabama, New York**	**1**

Project Number	Revision/Issue		
101747	11/21/2017		
Original Scale	Survey Ending Date	Drawn by:	Approved by:
1"= 800 ft	11/14/2017	RJK	FKB

DATE:
START 11/16/2017
FINISH 11/17/2017
SHEET 1 OF 2

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. SB-14
SURF. ELEV 688.0' Est.
G.W. DEPTH See Notes

PROJECT: WNY STAMP - PROJECT EAGLE
PROJ. NO.: BE-17-224
LOCATION: CROSBY ROAD
ALABAMA, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	REC (ft)	SOIL OR ROCK CLASSIFICATION	NOTES
	1	WOH	1				TOPSOIL	Driller noted approx. 11" of
		3	5		4	0.8	Dark Brown Clayey SILT, some f-c Sand, tr.gravel	Topsoil at the surface.
	2	8	18				(moist, reworked)	
		21	26		39	1.4	Brown f-c SAND, some Silt, little f-c Gravel,	WOH = Weight of
5	3	15	30				occasional Silty seams (moist, compact, SM)	Hammer and Rods
		40	43		70	1.4	Contains some f-c Gravel(v.compact)	
	4	50/0.4			REF	0.1		Sample #2 possible
								cobble fragments
	5	50/0.1			REF	0.1		
10								REF = Sample Spoon
	6	18	21				Brown Silty CLAY, little f-c Sand, tr.gravel	Refusal
		30	43		51	1.5	(moist, hard, CL)	
	7	46	50/0.4		REF	0.5	Contains some f-c Sand, little f-c Gravel	Samples #4 - #5 possible
								cobble fragments
15	8	12	23				Contains little f-c Sand	
		24	21		47	1.3		
								Sample #7 possible
								cobble fragments
20								
	9	13	29				Contains some f-c Sand	Driller notes hard
		40	42		69	1.1		augering conditions
								from 10' - 35'
25								
	10	29	50/0.4		REF	0.2	(wet)	Sample #10 possible
								cobble fragments
30								
	11	25	41				Brown Clayey SILT, some f-c Sand,little f-c Gravel	
		27	24		68	1.0	(moist-wet, hard, ML)	
35								
	12	6	10				Brown Silty CLAY, some f-c Sand, tr.gravel	
		11	15		21	2.0	(moist, v.stiff, CL)	
40								

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT: FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: K. FULLER

DRILL RIG TYPE : CME-550

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE:
START 11/16/2017
FINISH 11/17/2017
SHEET 2 OF 2

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. SB-14
SURF. ELEV 688.0' +/-
G.W. DEPTH See Notes

PROJECT: WNY STAMP - PROJECT EAGLE
PROJ. NO.: BE-17-224
LOCATION: CROSBY ROAD
ALABAMA, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	REC (ft)	SOIL OR ROCK CLASSIFICATION	NOTES
	13	8	36				Contains occasional f-c Sand seams (hard)	
		50/0.4			REF	0.8		
45								
	14	2	2				Contains tr.sand	
		11	9		13	2.0		
50								
	15	4	6				Gray Brown Clayey SILT, little f-c Sand, tr.gravel	
		7	15		13	2.0	(moist-wet, stiff, ML)	
55								Free Standing Water recorded at 47.8' at auger refusal & prior to coring.
	16	7	11				Gray Silty CLAY, some f-c Sand, little f-c Gravel	
		11	12		22	2.0	(moist-wet, v.stiff, CL)	
60							Gray f-c SAND, little f-c Gravel, little Silty Clay	
	17	49	50/0.3		REF	0.6	(moist-wet, hard, SC)	NQ '2' Size Rock Core
							Gray to Dark Gray DOLOSTONE, medium hard, weathered, laminated to bedded, occasional horizontal fractures, occasional horizontal mechanical breaks, occasional soil horizontal seams, occasional gypsum partings, occasional vugs	RUN #1: 61.0' - 66.0' REC = 54% RQD = 24%
65								
								RUN #2: 66.0' - 71.0' REC = 58% RQD = 30%
70							Becomes Light Gray, weathered to sound	Driller notes voids at approx. 63-64' and 67-68'
							Boring Complete at 71.0'	Free Standing Water recorded at 48.7' following coring.
75								2" PVC Groundwater Observation Well installed. See "Monitoring Well Completion Record" for Details.
80								

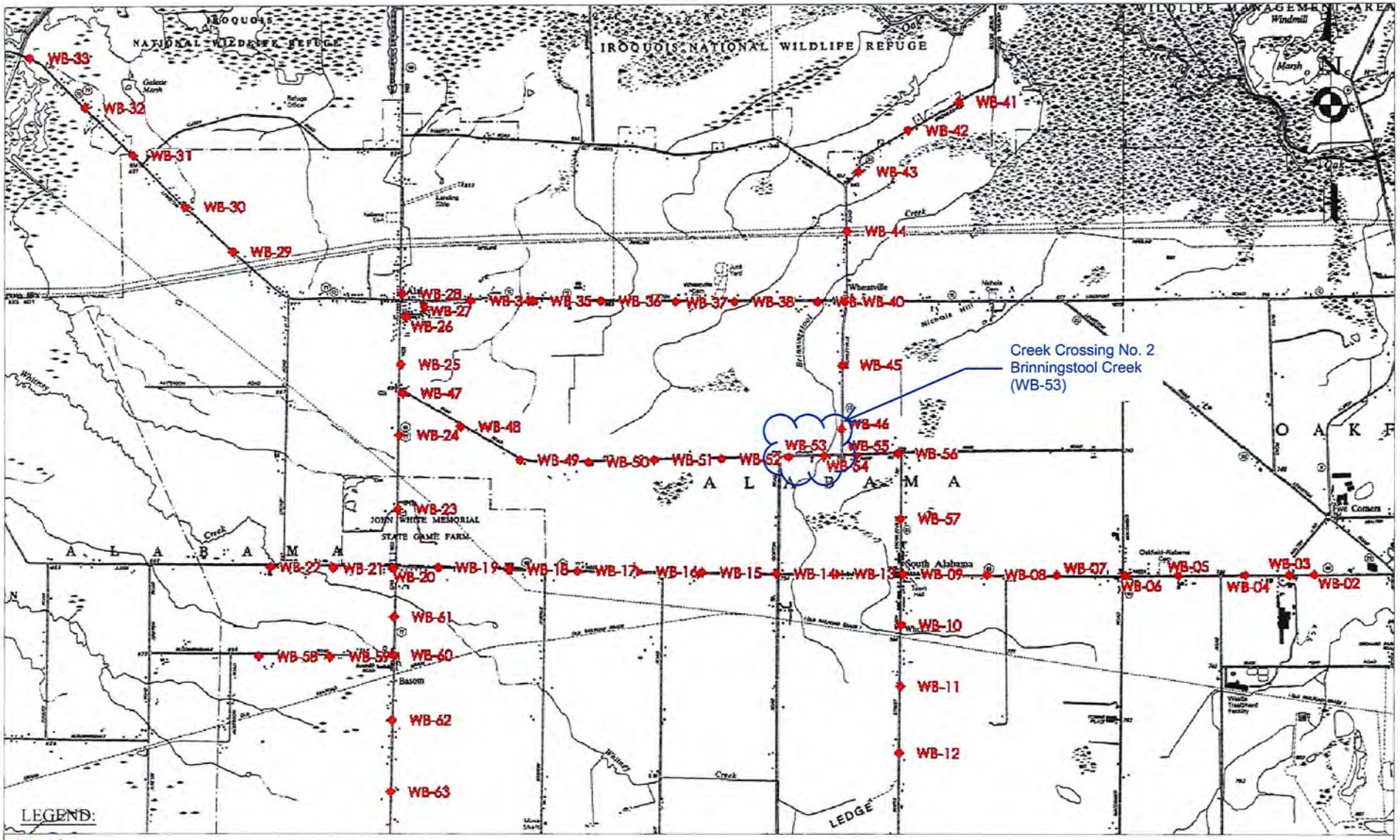
N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: K. FULLER

DRILL RIG TYPE : CME-550

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS



LEGEND:

WB-1◆ INDICATES APPROXIMATE LOCATION AND DESIGNATION OF TEST BORING.

NOTE: FIGURE DEVELOPED FROM AS DRILLED LOCATIONS

SB SERVICES, INC.

MEDINA SANITARY SEWER FORCE MAIN
GENESEE COUNTY
MEDINA, NEW YORK

SUBSURFACE EXPLORATION PLAN	DR BY: GG		PROJECT #: BD-16-041-B
	CHKD BY: GG	DATE: 6/02/16	FIGURE NO: 1

DATE
START 5/6/2016
FINISH 5/6/2016
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. WB-53
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: OAKFIELD-ALABAMA TRANSMISSION MAIN LOCATION: ALABAMA, NY
PROJ. NO.: BD-16-041-B GENESEE COUNTY

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	3	3			Dark Brown f-m SAND, some Silt, tr.organics (moist, FILL)	
		3	3		6		
	2	3	3			Brown Silty CLAY, little f-c Sand, tr.gravel, tr.organics (moist-wet, FILL)	
		3	3		6		
5	3	5	7			Brown f-c SAND and Silty CLAY, little fine Gravel (moist, firm, SC-SM)	
		12	13		19		
	4	13	15			Brown Silty CLAY, some f-c Sand, little f-c Gravel (moist, v.stiff, CL)	
		15	12		30		
						Boring Complete at 8.0'	No Free Standing Water encountered at Boring Completion
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: K. FULLER DRILL RIG TYPE : CME-550X

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE
START 5/6/2016
FINISH 5/6/2016
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. WB-54
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: OAKFIELD-ALABAMA TRANSMISSION MAIN LOCATION: ALABAMA, NY
PROJ. NO.: BD-16-041-B GENESEE COUNTY

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	3	6			Gray f-c SAND, some f-c Gravel (moist, FILL)	
		6	4		12		
	2	4	4			Contains tr.organics	
		4	4		8		
5	3	4	4			Brown f-c SAND, some Silty Clay, tr.gravel, tr.asphalt (moist, FILL)	
		5	5		9		
	4	3	6			Brown Silty CLAY, little f-c Sand, tr.organics (moist, stiff, CL)	Possible Fill Sample #4
		6	8		12		
						Boring Complete at 8.0'	No Free Standing Water encountered at Boring Completion
10							
15							
20							

N = NO BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY Geologist

DRILLER K. FULLER DRILL RIG TYPE : CME-550X

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS



Map Scale: 1:1,330 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

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

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

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

Soil Survey Area: Genesee County, New York
Survey Area Data: Version 24, Sep 5, 2023

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

Date(s) aerial images were photographed: Dec 31, 2009—Oct 18, 2016

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CeC	Cazenovia silt loam, 8 to 15 percent slopes	0.7	7.3%
HlB	Hilton loam, 3 to 8 percent slopes	0.0	0.4%
LmB	Lima silt loam, 3 to 8 percent slopes	3.1	33.0%
OnC	Ontario loam, 8 to 15 percent slopes	0.8	8.6%
OvB	Ovid silt loam, 3 to 8 percent slopes	1.8	18.4%
Wy	Wayland soils complex, 0 to 3 percent slopes, frequently flooded	3.1	32.3%
Totals for Area of Interest		**9.5**	**100.0%**

Genesee County, New York

Wy—Wayland soils complex, 0 to 3 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 2srgv
Elevation: 160 to 1,970 feet
Mean annual precipitation: 31 to 68 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Wayland and similar soils: 60 percent
Wayland, very poorly drained, and similar soils: 30 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wayland

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty and clayey alluvium derived from interbedded sedimentary rock

Typical profile

A - 0 to 6 inches: silt loam
Bg1 - 6 to 12 inches: silt loam
Bg2 - 12 to 18 inches: silt loam
C1 - 18 to 46 inches: silt loam
C2 - 46 to 72 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very high (about 12.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: F139XY009OH - Wet Floodplain
Hydric soil rating: Yes

Description of Wayland, Very Poorly Drained

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Silty and clayey alluvium derived from interbedded sedimentary rock

Typical profile

A - 0 to 6 inches: mucky silt loam
Bg1 - 6 to 12 inches: silt loam
Bg2 - 12 to 18 inches: silt loam
C1 - 18 to 46 inches: silt loam
C2 - 46 to 72 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very high (about 12.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: F139XY009OH - Wet Floodplain
Hydric soil rating: Yes

Minor Components

Wakeville

Percent of map unit: 10 percent
Landform: Flood plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave

Across-slope shape: Linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Genesee County, New York
Survey Area Data: Version 24, Sep 5, 2023

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DECinfo Locator

Base Map: Topographical Help

Search
Tools
DEC Information Layers
ımer
Permits and Registratio
Environmei Cleanup
Environmei Monitoring
Public Involvemer
Environmei Sensitive Areas
Legal Informatior
Reference Layers



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) County Genesee

(2) Town Alabama

DEC 14 2004

(3) DEC Well Number GS576

WELL COMPLETION REPORT

(4) OWNER Terry Downs

(5) ADDRESS 6815 Knowlesville Rd. Oakfeild, NY 14125

(6) LOCATION OF WELL (See Instructions On Reverse) Show Lat/Long if available and method used: N43° 05.015' W078° 20.077'

☒ GPS ☐ DEC Website ☐ Map Interpolation

(7) DEPTH OF WELL BELOW LAND SURFACE (Feet) 45

(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (Feet) 32 DATE MEASURED 10-30-04

CASINGS

(9) DIAMETER	(10) LENGTH
6 in. | in. | in. | in.	29 ft. | ft. | ft. | in.

(11) GROUT TYPE / SEALING

(12) GROUT / SEALING INTERVAL (Feet) FROM _____ TO _____

SCREENS

(13) MAKE & MATERIAL

(14) OPENINGS

(15) DIAMETER in. | in. | in. | in.

(16) LENGTH ft. | ft. | ft. | in.

(17) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet)

YIELD TEST

(18) DATE 10-29-04

(19) DURATION OF TEST 30 min.

(20) LIFT METHOD ☒ Pump ☐ Air Lift ☐ Bail

(21) STABILIZED DISCHARGE (GPM) 17

(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing) 34'

(23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing) 39'

(24) RECOVERY (Time in hours/minutes) 10 min.

(25) Was the water produced during test discharged away from immediate area? Yes ☒ No ☐

PUMP INSTALLATION

(26) PUMP INSTALLED?	(27) DATE	(28) PUMP INSTALLER
YES ☒ NO ☐	11/1/04	Zachary Atwell

(29) TYPE	(30) MAKE	(31) MODEL
Submersible	Goulds	

(32) MAXIMUM CAPACITY (GPM) 10

(33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet) 45

(34) METHOD OF DRILLING ☐ Rotary ☒ Cable Tool ☐ Other _____

(35) USE OF WATER (see instructions for choices) Domestic

(36) DATE DRILLING WORK STARTED 10-28-04

(37) DATE DRILLING WORK COMPLETED 10-30-04

(38) DATE REPORT FILED	(39) DRILLER & COMPANY	(40) DEC REGISTRATION NO.
11/1/04	Zachary Atwell Atwell Water Well Service	10139

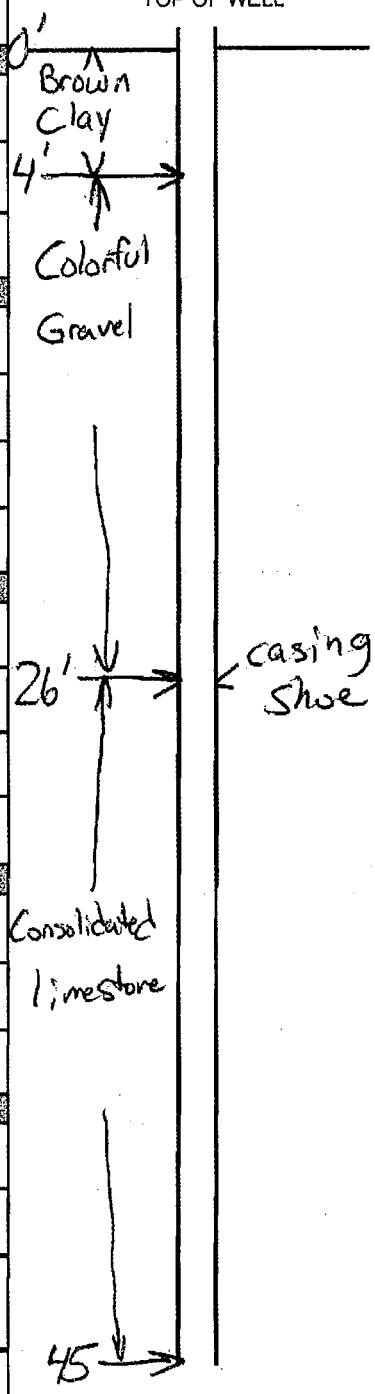
* Show log of geologic materials encountered with depth below ground surface, water bearing beds and water levels in each; casings; screens; pump; additional pumping tests and other matters of interest, e.g., water quality (sulphur, salt, methane). Describe repair work. Attach separate sheet if necessary.

See further instructions titled "Instructions for New York State Well Completion Report".

LOG *

Ground Surface EL. _____ ft. above sea level

Top Of Casing is located 2'6" + ft. above (+) or below (-) ground surface



NYSDEC COPY

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) COUNTY Genesee

(2) TOWN Alabama

WATER WELL COMPLETION REPORT

(7) DEC Well Number: GS1163

(4) OWNER: Olin Mills

(5) ADDRESS: 1801 Ham Road Basom, NY 14013

(6) LOCATION OF WELL (See Instructions On Reverse) (Check here ☐ if same as address above, also provide Lot / Long below)
Street, Lot, Long if available and checked what: 1801 Ham Rd
● GPS ☐ Map Interpolation N43°5.018' W78°21.548'

(7) DEPTH OF WELL BELOW LAND SURFACE (feet): 50

(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet): 32 DATE MEASURED: 9/18/13

CASINGS

(9) DIAMETER	(10) LENGTH	(11) GROUT TYPE / SEALING MATERIAL	(12) GROUT / SEALING INTERVAL (feet)
6 in.	38 ft.	Casing Seal	FROM 0 TO 19

SCREENS

(13) NAME & MATERIAL	(14) OPENINGS	(15) DIAMETER	(16) LENGTH	(17) DEPTH TO TOP OF SCREEN FROM TOP OF CASING (Feet)
N/A		in.	ft.	

YIELD TEST

(18) DATE	(19) DURATION OF TEST	(20) LIFT METHOD	(21) STABILIZED DISCHARGE (GPM)	(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)	(23) MAXIMUM DRAWDOWN (Feet/Inches) (feet/inches below top of casing)	(24) RECOVERY (Time in hours/minutes)	(25) Was the water produced during the test discharged away from immediate area?
9/18/13	4 Hours	☐ Pump ● Air Lift ☐ Bail	12	32			Yes XX No

PUMP INSTALLATION

(26) PUMP INSTALLED?	(27) DATE	(28) PUMP INSTALLER
YES NO X		

(29) TYPE	(30) MAKE	(31) MODEL	(32) MAXIMUM CAPACITY (GPM)	(33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)
				45

(34) METHOD OF DRILLING	(35) USE OF WATER
● Rotary ☐ Cable Tool ☐ Other	(See Instructions for choices) Residential

(36) DATE DRILLING WORK STARTED	(37) DATE DRILLING WORK COMPLETED
9/18/13	9/18/13

(38) DATE REPORT FILED	(39) REGISTERED COMPANY	(40) DEC REGISTRATION NO
9/25/13	Willey Well Drilling, Inc	NYRO 10408

(41) CERTIFIED DRILLER (Print Name)	(42) CERTIFIED DRILLER SIGNATURE *
Chad Ellis	Chad Ellis

* By signing this document I hereby affirm that: (1) I am certified to supervise water well drilling activities as defined by Environmental Conservation Law §15-1502; (2) this water well was constructed in accordance with water well standards promulgated by the New York State Department of Health; (3) under the penalty of perjury the information provided in this Well Completion Report is true, accurate and complete, and I understand that any false statement made herein is punishable as a class A Misdemeanor under Penal Law §210.45.

8/2007

(43) LOG

Depth to Bedrock 38 (ft. below ground surface)

Ground Elev. 717 (ft. above S.L.)

Top of Casing 2 ft + (ft., above (+) or below (-) ground surface)

TOP OF WELL

Brown Sand & Angular Gravel

10

Gray Clay

17

Limestone

18

Soft Gray Shale

38

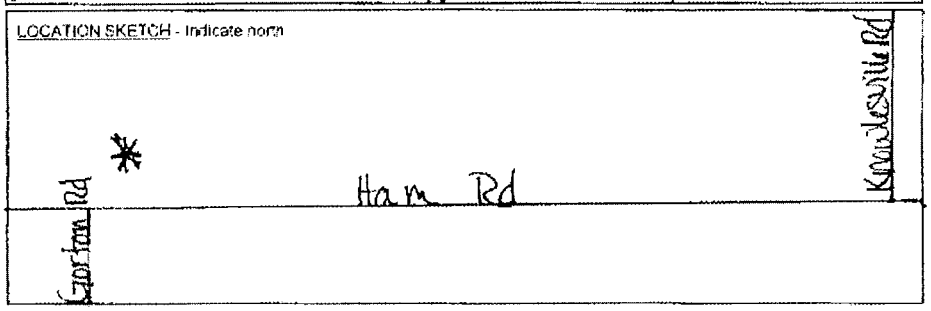
Hard Gray Shale

50 — 50

BOTTOM OF HOLE

NYSDEC COPY

LOCATION SKETCH - Indicate north

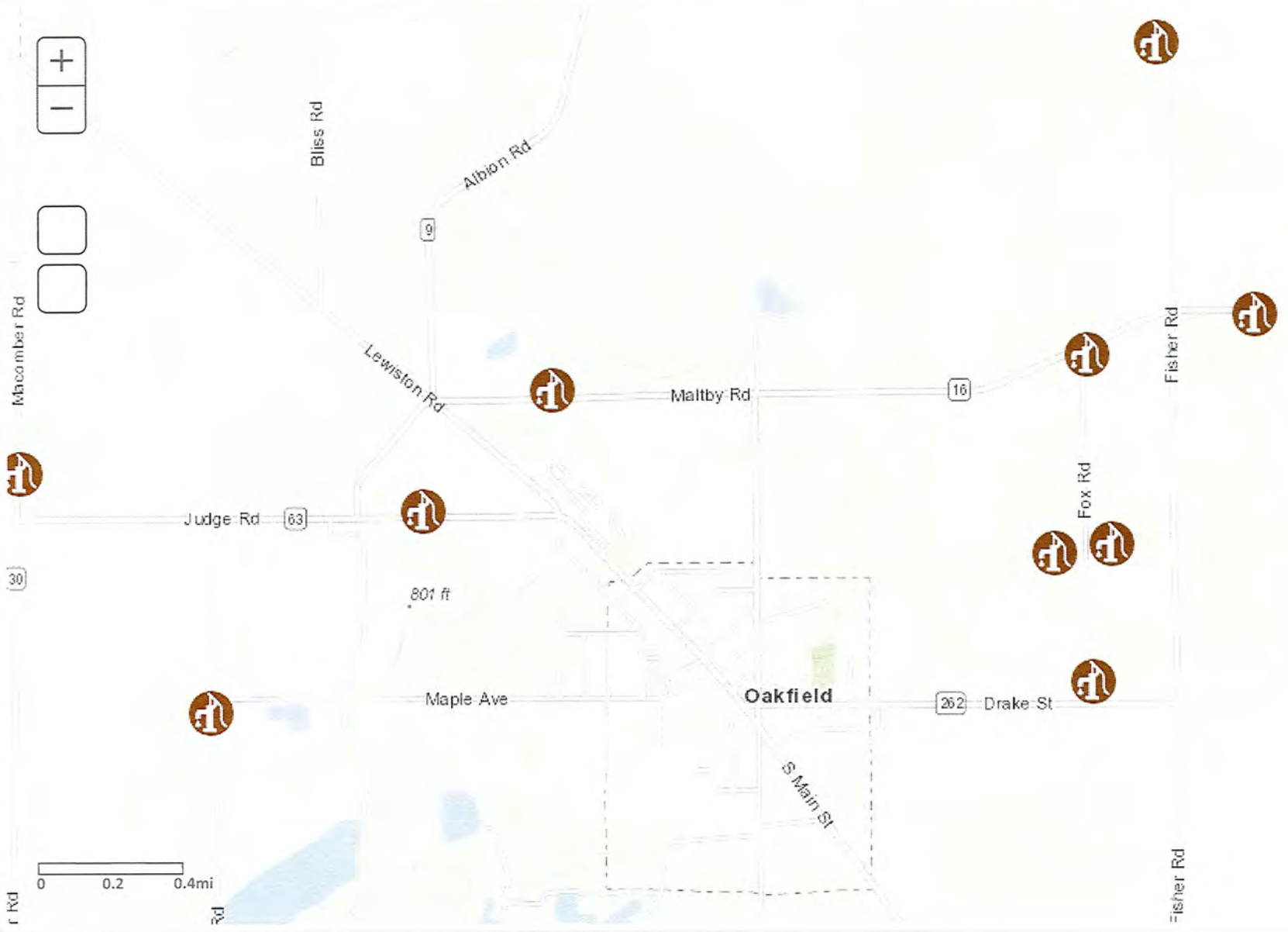


NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DECinfo Locator

Base Map: Topographical Help

Search
Tools
DEC Information Layers
ɔnment
Permits and Registrations
Environmenta Cleanup
Environmenta Monitoring
Public Involvement
Environmenta Sensitive Areas
Legal Information
Reference Layers



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) County Genesee

(2) Township Oakfield

(3) DEC Well Number GS-357

WELL COMPLETION REPORT

(4) OWNER Gary Wadums

(5) ADDRESS cor- Fry & Maltby Oakfield

(6) LOCATION OF WELL (See Instructions On Reverse) Show Lat/Long if available and method used: ☑ GPS ☐ DEC Website ☐ Map Interpolation — N 43° 04.811' W 078° 15.095'

(7) DEPTH OF WELL BELOW LAND SURFACE (Feet) 65'

(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (Feet) 41' DATE MEASURED 9-01

CASINGS

(9) DIAMETER	(10) LENGTH	(11) GROUT TYPE / SEALING	(12) GROUT / SEALING INTERVAL (Feet)
6 in.	47½' ft.		FROM _____ TO _____

SCREENS

(13) MAKE & MATERIAL	(14) OPENINGS	(15) DIAMETER	(16) LENGTH	(17) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet)
		in.	ft.	

YIELD TEST

(18) DATE	(19) DURATION OF TEST	(20) LIFT METHOD	(21) STABILIZED DISCHARGE (GPM)	(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)	(23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)	(24) RECOVERY (Time in hours/minutes)	(25) Was the water produced during test discharged away from immediate area?
9-01	60 min	☐ Pump ☑ Air Lift ☐ Bail	20gpm	43'			Yes ___ No ✓

PUMP INSTALLATION

(26) PUMP INSTALLED?	(27) DATE	(28) PUMP INSTALLER	(29) TYPE	(30) MAKE	(31) MODEL	(32) MAXIMUM CAPACITY (GPM)	(33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)
YES ___ NO X							

(34) METHOD OF DRILLING ☒ Rotary ☐ Cable Tool ☐ Other _____

(35) USE OF WATER (see Instructions for choices) Domestic

(36) DATE DRILLING WORK STARTED 9-01

(37) DATE DRILLING WORK COMPLETED

(38) DATE REPORT FILED	(39) DRILLER & COMPANY	(40) DEC REGISTRATION NO.
3-23-02	ATWELL W.W.S.	10139

* Show log of geologic materials encountered with depth below ground surface, water bearing beds and water levels in each; casings; screens; pump; additional pumping tests and other matters of interest, e.g., water quality (sulphur, salt, methane). Describe repair work. Attach separate sheet if necessary.

See further instructions titled "Instructions for New York State Well Completion Report".

LOG *

Ground Surface EL. _____ ft. above sea level

Top Of Casing is located +2' ft. above (+) or below (-) ground surface

TOP OF WELL

2' S.U.

16' OB GRAY ROCK

35' ~~BK~~ BLACK ROCK

47½' CASING

67' BOTTOM OF HOLE

NYSDEC COPY

LOCATION SKETCH - Indicate north

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) COUNTY Genesee

(2) TOWN Oakfield

(3) DEC Well Number GS 741

WATER WELL COMPLETION REPORT

(4) OWNER Lamb Farms Inc

(5) ADDRESS 6880 Albion Rd Oakfield, NY 14125

(6) LOCATION OF WELL (See Instructions On Reverse)
Show Lat/Long if available and method used: 3015 Maltby Rd
☒ GPS ☐ Map Interpolation
43.04872 - N
78.16727 - W

(7) DEPTH OF WELL BELOW LAND SURFACE (feet) 45

(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 18' DATE MEASURED 8-31-07

CASINGS

(9) DIAMETER	6 in.	in.	in.	in.
(10) LENGTH	28 ft. 6"	ft.	ft.	in.

(11) GROUT TYPE / SEALING Cement

(12) GROUT / SEALING INTERVAL (feet) FROM 0 TO 10

SCREENS

(13) MAKE & MATERIAL		(14) OPENINGS		
(15) DIAMETER	in.	in.	in.	in.
(16) LENGTH	ft.	ft.	ft.	in.

(17) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet)

YIELD TEST

(18) DATE 8-31-07

(19) DURATION OF TEST 1 hr

(20) LIFT METHOD ☐ Pump ☐ Air Lift ☒ Ball

(21) STABILIZED DISCHARGE (GPM) 5

(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing) 196'

(23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing) 32'

(24) RECOVERY (Time in hours/minutes) 1 hr 10 min

(25) Was the water produced during the test discharged away from immediate area? Yes ☒ No ☐

PUMP INSTALLATION

(26) PUMP INSTALLED? YES ☐ NO ☒	(27) DATE	(28) PUMP INSTALLER
(29) TYPE	(30) MAKE	(31) MODEL
(32) MAXIMUM CAPACITY (GPM)	(33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)	

(34) METHOD OF DRILLING ☐ Rotary ☒ Cable Tool ☐ Other	(35) USE OF WATER (See instructions for choices) Domestic
(36) DATE DRILLING WORK STARTED 8-25-07	(37) DATE DRILLING WORK COMPLETED 8-31-07

(38) DATE REPORT FILED 2-5-08	(39) REGISTERED COMPANY Browns Well Drilling	(40) DEC REGISTRATION NO. NYRD 10274
(41) CERTIFIED DRILLER (Print name) Doug	(42) CERTIFIED DRILLER SIGNATURE *	

* By signing this document I hereby affirm that: (1) I am certified to supervise water well drilling activities as defined by Environmental Conservation Law §15-1502; (2) this water well was constructed in accordance with water well standards promulgated by the New York State Department of Health; (3) under the penalty of perjury the information provided in this Well Completion Report is true, accurate and complete, and I understand that any false statement made herein is punishable as a class A Misdemeanor under Penal Law §210.45.

(43) LOG

Ground Surface EL. _____ ft. above sea level

Top Of Casing is located 1 1/2' ft. above (+) or below (-) ground surface

TOP OF WELL

0 Brown clay some Sand & Pebbles

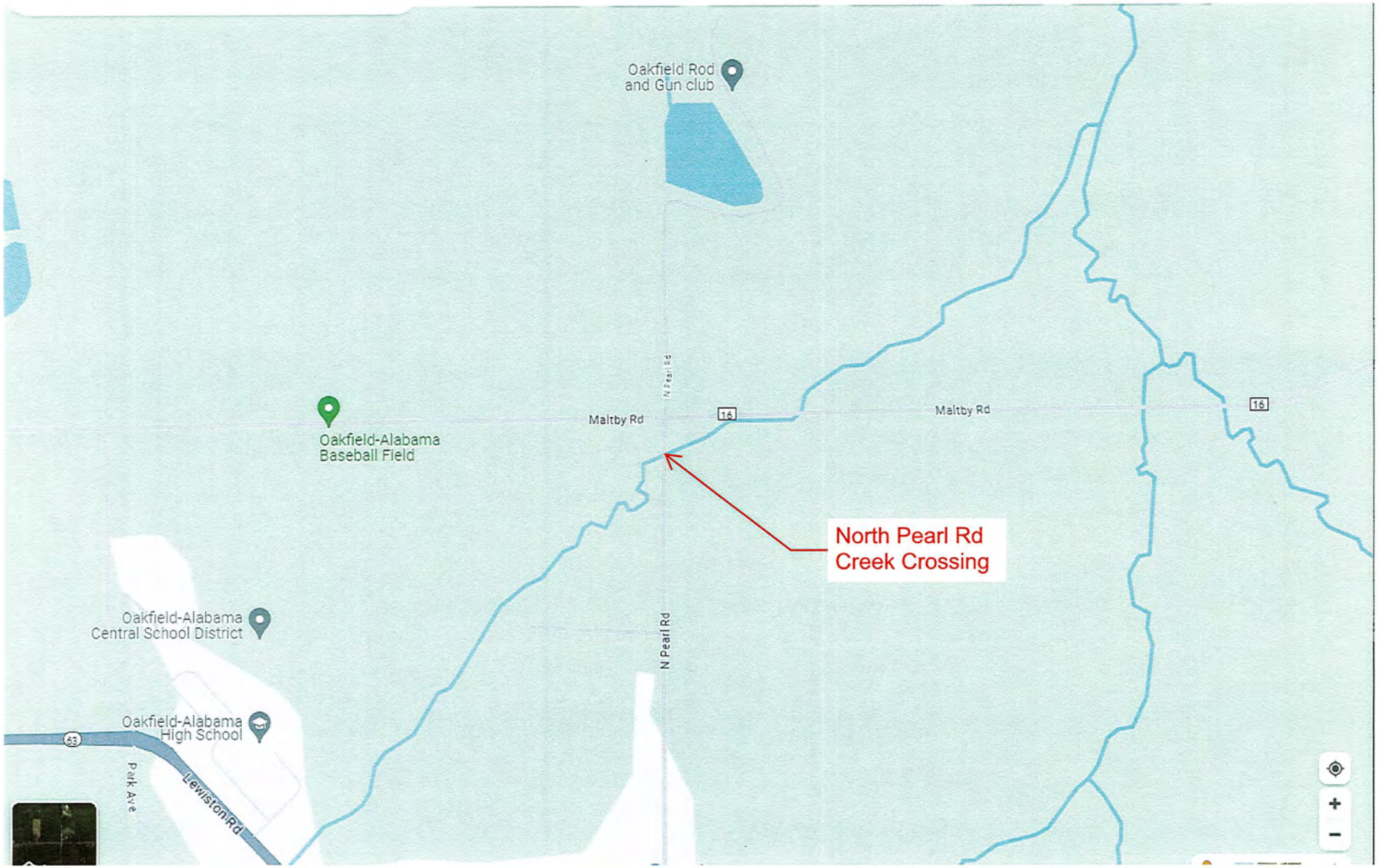
16 Gray clay

18 Gray Shale Med — H_2O Good

45

BOTTOM OF HOLE

NYSDEC COPY


Oakfield Rod
and Gun club
Oakfield-Alabama
Baseball Field
Maltby Rd
16
Maltby Rd
16
N Pearl Rd
North Pearl Rd
Creek Crossing
Oakfield-Alabama
Central School District
N Pearl Rd
Oakfield-Alabama
High School
63
Park Ave
Lewiston Rd


Oakfield-Alabama Baseball Field
15
16
North Pearl Rd
Creek Crossing
Oakfield-Alabama Central School District
Oakfield-Alabama High School
63
Lewiston Rd
Straight out the Boot
Dollar General
N Main St
Layers
Google



Map Scale: 1:1,880 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 25 50 100 150

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

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

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

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

Soil Survey Area: Genesee County, New York
Survey Area Data: Version 24, Sep 5, 2023

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

Date(s) aerial images were photographed: Dec 31, 2009—Oct 18, 2016

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ArB	Arkport very fine sandy loam, 1 to 6 percent slopes	1.2	9.0%
CeA	Cazenovia silt loam, 0 to 3 percent slopes	0.0	0.2%
CeB	Cazenovia silt loam, 3 to 8 percent slopes	1.5	11.6%
CgD3	Cazenovia silty clay loam, 15 to 25 percent slopes, eroded	0.3	2.5%
OnB	Ontario loam, 3 to 8 percent slopes	0.6	4.3%
OvA	Ovid silt loam, 0 to 3 percent slopes	1.2	9.1%
OvB	Ovid silt loam, 3 to 8 percent slopes	0.8	6.0%
Ud	Udifluvents and Fluvaquents, frequently flooded	4.4	33.2%
Wk	Wakeville silt loam	3.1	23.9%
Totals for Area of Interest		**13.2**	**100.0%**

Genesee County, New York

Ud—Udifluvents and Fluvaquents, frequently flooded

Map Unit Setting

National map unit symbol: p5vc
Elevation: 100 to 3,000 feet
Mean annual precipitation: 31 to 38 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 140 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Udifluvents and similar soils: 40 percent
Fluvaquents and similar soils: 35 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udifluvents

Setting

Landform: Flood plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Alluvium with a wide range of texture

Typical profile

H1 - 0 to 9 inches: gravelly silt loam
H2 - 9 to 72 inches: very gravelly loamy sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)
Depth to water table: About 18 to 48 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C
Ecological site: F101XY002NY - Low Floodplain
Hydric soil rating: No

Description of Fluvaquents

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium with highly variable texture

Typical profile

H1 - 0 to 12 inches: silt loam
H2 - 12 to 72 inches: very gravelly silt loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: F101XY003NY - Low Floodplain Depression
Hydric soil rating: Yes

Minor Components

Middlebury

Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed soils

Percent of map unit: 5 percent
Hydric soil rating: No

Wayland

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Wyalusing

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Canandaigua
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Genesee County, New York
Survey Area Data: Version 24, Sep 5, 2023

Genesee County, New York

Wk—Wakeville silt loam

Map Unit Setting

National map unit symbol: p8yc
Elevation: 750 to 1,740 feet
Mean annual precipitation: 31 to 38 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 140 to 175 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Wakeville and similar soils: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wakeville

Setting

Landform: Flood plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Silty alluvium washed from areas of glacial drift derived mainly from shale, siltstone, and sandstone, with some limestone

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 41 inches: silt loam
H3 - 41 to 72 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Ecological site: F101XY002NY - Low Floodplain

Hydric soil rating: No

Minor Components

Unnamed soils
Percent of map unit: 10 percent
Hydric soil rating: No

Wayland
Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Teel
Percent of map unit: 5 percent
Hydric soil rating: No

Udifluvents
Percent of map unit: 5 percent
Hydric soil rating: No

Fluvaquents
Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Genesee County, New York
Survey Area Data: Version 24, Sep 5, 2023

Appendix L

Threatened and Endangered Species

DRAFT

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
Email Address: fw5es_nyfo@fws.gov

In Reply Refer To: March 01, 2024
Project Code: 2024-0056750
Project Name: STAMP Oakfield Force Main

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

PROJECT SUMMARY

Project Code: 2024-0056750
Project Name: STAMP Oakfield Force Main
Project Type: Distribution Line - New Construction - Below Ground
Project Description: Installation of a sanitary sewer force main from the Science, Technology, and Advanced Manufacturing Park (STAMP) in the Town of Alabama to the Village of Oakfield Wastewater Treatment Facility. Work would occur within the existing road right-of-way.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.081882199999995,-78.29374023874291,14z



Counties: Genesee County, New York

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: CC Environment & Planning
Name: Katlyn Hojnacki
Address: 23 Jackson Street
City: Batavia
State: NY
Zip: 14020
Email khojnacki@ccenvironment.com
Phone: 5852194030

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
Email Address: fw5es_nyfo@fws.gov

In Reply Refer To:
Project code: 2024-0056750
Project Name: STAMP Oakfield Force Main

March 01, 2024

Federal Action Agency (if applicable): Army Corps of Engineers

Subject: Record of project representative's no effect determination for 'STAMP Oakfield Force Main'

Dear Katlyn Hojnacki:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on March 01, 2024, for 'STAMP Oakfield Force Main' (here forward, Project). This project has been assigned Project Code 2024-0056750 and all future correspondence should clearly reference this number. **Please carefully review this letter.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat Rangewide Determination Key (Dkey), invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.***

Determination for the Northern Long-Eared Bat

Based upon your IPaC submission and a standing analysis, your project has reached the determination of "No Effect" on the northern long-eared bat. To make a no effect determination, the full scope of the proposed project implementation (action) should not have any effects (either positive or negative), to a federally listed species or designated critical habitat. Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed

action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (See § 402.17).

Under Section 7 of the ESA, if a federal action agency makes a no effect determination, no consultation with the Service is required (ESA §7). If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required except when the Service concurs, in writing, that a proposed action "is not likely to adversely affect" listed species or designated critical habitat [50 CFR §402.02, 50 CFR§402.13].

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination for the northern long-eared bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Candidate

You may coordinate with our Office to determine whether the Action may affect the animal species listed above and, if so, how they may be affected.

Next Steps

Based upon your IPaC submission, your project has reached the determination of “No Effect” on the northern long-eared bat. If there are no updates on listed species, no further consultation/ coordination for this project is required with respect to the northern long-eared bat. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional coordination with the Service should take place to ensure compliance with the Act.

If you have any questions regarding this letter or need further assistance, please contact the New York Ecological Services Field Office and reference Project Code 2024-0056750 associated with this Project.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

STAMP Oakfield Force Main

2. Description

The following description was provided for the project 'STAMP Oakfield Force Main':

> Installation of a sanitary sewer force main from the Science, Technology, and Advanced Manufacturing Park (STAMP) in the Town of Alabama to the Village of Oakfield Wastewater Treatment Facility. Work would occur within the existing road right-of-way.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.081882199999995,-78.29374023874291,14z



DETERMINATION KEY RESULT

Based on the information you provided, you have determined that the Proposed Action will have no effect on the Endangered northern long-eared bat (Myotis septentrionalis). Therefore, no consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required for those species.

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of the northern long-eared bat or any other listed species?

   Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

   No

2. The proposed action does not intersect an area where the northern long-eared bat is likely to occur, based on the information available to U.S. Fish and Wildlife Service as of the most recent update of this key. If you have data that indicates that northern long-eared bats <u>are</u> likely to be present in the action area, answer "NO" and continue through the key.

   Do you want to make a no effect determination?

   Yes

PROJECT QUESTIONNAIRE

IPAC USER CONTACT INFORMATION

Agency: CC Environment & Planning
Name: Katlyn Hojnacki
Address: 23 Jackson Street
City: Batavia
State: NY
Zip: 14020
Email khojnacki@ccenvironment.com
Phone: 5852194030

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers

EAF Mapper Summary Report

Friday, March 1, 2024 12:50 PM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Stream Name]	847-690, 847-687
E.2.h.iv [Surface Water Features - Stream Classification]	C
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.j. [100 Year Floodplain]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.

E.2.k. [500 Year Floodplain]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes
E.2.o. [Endangered or Threatened Species - Name]	Northern Harrier, Short-eared Owl, Sedge Wren
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	Yes
E.3.a. [Agricultural District]	GENE002
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

Appendix M

Letter of Intent
between Village of Oakfield, GCEDC,
& STAMP Sewer Works, Inc.

DRAFT

April 16, 2024

VIA EMAIL

The Honorable David Boyle
Mayor, Village of Oakfield
39 Main Street
Oakfield New York 14125

Re: Development of Western New York Science & Technology Advanced Manufacturing Park ("STAMP") Wastewater Services, located on approximately 1,250 Acres Located in the Town of Alabama, New York located along the west side of New York State Highway 77/63 (north of Judge Road) approximately five miles north of the I-90/New York State Thruway (the "STAMP Site")

Dear Mayor Boyle:

Please allow this letter of intent ("LOI") to summarize some of the key terms upon which the Village of Oakfield, with offices at 37 Main Street Oakfield, New York 14125 ("Village") on behalf of the Village Trustees, the Genesee County Economic Development Center ("GCEDC"), an industrial development agency formed under Section 18-A of the New York State General Municipal Law, and STAMP Sewer Works, Inc. ("SSW"), a domestic transportation corporation, SSW together with GCEDC with offices located at 99 MedTech Drive, Suite 106, Batavia, New York 14020, (collectively as the "Parties" and individually as a "Party") would be willing to work together on the possible design, construction and operation of a new force main sewer line from the STAMP Site to the Village of Oakfield Waste Water Treatment Facility ("Oakfield WWTF") to provide wastewater treatment services to STAMP.

Please note, this LOI constitutes a non-binding expression of intent by the Parties and any final and binding agreements shall be subject to the preparation, negotiation and execution of definitive binding legal documents (hereinafter called the "Definitive Agreement"). Subject to the foregoing limitations, it is the Parties' intention that the Definitive Agreement will contain the following terms and conditions:

1. Plan. SSW currently intends to build an wastewater treatment plant at the STAMP Site and associated force main to discharge post-treated sanitary effluent and post-treated process water to Oak Orchard Creek in the Town of Shelby. For various reasons, GCEDC and SSW are exploring other solutions to provide permanent wastewater treatment services to the first two tenants at STAMP, one of whom is currently under construction and the other of whom is expected to start construction in the next few weeks. The Parties will explore and work together on the possible design, construction and operation of a new force main sewer line (the "Sewer Line") to facilitate the transport of wastewater from the STAMP Site for treatment at the Oakfield WWTF prior to discharge (the "Project").

2. Sewer Route. The GCEDC and SSW will work together with the Village to evaluate and present routing options for the Sewer Line. After consultation, the GCEDC and SSW will present a preferred route of the Sewer Line to the Village, upon which GCEDC and SWW and the Village will work to finalize the route of the Sewer Line.

3. Oakfield WWTF Initial Allocation of Treatment Capacity to STAMP. The Village will reserve an initial treatment capacity of twenty thousand (20,000) gallons per day within the Oakfield WWTF for current and future tenants at the STAMP Site. The Parties will work together to confirm that the Oakfield WWTF has sufficient existing capacity to handle the initial treatment capacity without substantial upgrades and undue additional stress to the Oakfield WWTF. To the extent upgrades or improvements are required, GCEDC and SSW shall be responsible for all costs associated with same and will pay the Village of Oakfield for invoices submitted within 30 days for reasonable engineering costs that the Village might incur relative to evaluating and/or making improvements to meet the initial treatment capacity.

4. Oakfield WWTF Future Allocation of Treatment Capacity to STAMP. The Parties will monitor and evaluate the overall capacity at the Oakfield WWTF and will work together to determine whether the Oakfield WWTF can provide additional treatment capacity to STAMP including any necessary additional improvements relative to same. To the extent upgrades or improvements are required, GCEDC and SSW shall be responsible for all costs associated with same and will pay the Village of Oakfield for invoices submitted within 30 days for reasonable engineering costs that the Village might incur relative to evaluating and/or making improvements to meet the initial treatment capacity.

5. Phosphorous Treatment. In connection with the proposed initial allocation of treatment capacity, GCEDC and SSW will propose to design and install, improvements to the WWTF to provide for facilities to reduce phosphorus levels in post-treated effluent. GCEDC and SSW shall be responsible for all costs associated with same and will pay the Village of Oakfield for invoices submitted within 30 days for reasonable engineering costs that the Village might incur relative to evaluating and/or making improvements to accommodate the phosphorus reduction.

6. Project Implementation; Ownership and Maintenance of the Sewer Line. The GCEDC and SSW will be responsible for implementing the Project. The Village will not have the ability to connect into the Sewer Line or otherwise utilize the Sewer Line to transport sewage to the Oakfield WWTF. The SSW will be responsible for maintaining the Sewer Line up to the point that the Sewer Line connects into the Oakfield WWTF system.

7. STAMP Service Agreement. In conjunction with the development of Definitive Agreements, SSW and the Village will enter into a service agreement to provide the STAMP Site with the wastewater treatment services contemplated under this LOI.

8. Consultation and Cooperation. The Parties will attend periodic meetings at mutually agreeable times to confer about the progress of the Parties' activities in connection to the Plan identified in Section 1 of this LOI. The Parties will cooperate with one another, in

good faith, to effectuate the Plan, and each Party will take such, and to execute and deliver to one another such documents, as one Party may reasonably request of the other, so as to carry out more effectively and completely the purposes of the Definitive Agreement. Each Party will bear its own costs in consulting and cooperating with the other.

9. Definitive Agreements Required. This LOI reflects the preliminary non-binding concepts with respect to certain terms. No Party will have any legal obligation arising out of this LOI or otherwise, to any other Party or any other person or entity by reason of this LOI or any other matter contemplated hereby or giving rise hereto, unless and until the parties execute Definitive Agreements and then only to the extent set forth in the Definitive Agreements. If so executed, the Definitive Agreements shall supersede the terms and conditions of this LOI to the extent therein provided, and will contain such terms, conditions, covenants, representations and warranties related to the matters contemplated under this LOI as the Parties may mutually agree upon. The Parties hereby acknowledge that the Definitive Agreements must make provision for a number of matters which are material to the matters contemplated under this LOI and to which the Parties have not yet agreed.

10. Not a Contract or an Option. This LOI shall not be deemed a contract or an option and shall not be binding on the Parties. The purpose of this LOI is to identify preliminary areas of agreement to enable the Parties to work together on the possible design, construction and operation of a new force main sewer line from the STAMP Site to the Oakfield WWTF to provide wastewater treatment services to STAMP and the preparation of a more complete document between the parties containing all of the terms of binding Definitive Agreements.

11. This LOI shall terminate at the earlier of April 15, 2025 or within Sixty (60) days after written notice by either party to terminate this LOI is received.

If the foregoing meets with your approval, kindly so signify by signing and returning the enclosed duplicate copy of this LOI, whereupon this LOI shall constitute a letter of intent between the Parties in accordance with the terms and provisions set forth above.

ACCEPTED AND AGREED TO:

Genesee County Economic Development Center

By: _____
Name: Mark A. Mesh
Title: SR VP of Ops
Date: 5/3, 2024

STAMP Sewer Works, Inc.

By: Paul J. Battaglia
Name: PAUL J. BATTAGLIA
Title: Vice Chair
Date: May 9, 2024

The Village of Oakfield, New York

By: David T. Boyle
Name: David T. Boyle
Title: Mayor, Village of Oakfield
Date: 4/16/24, 2024

CPL
ARCHITECTURE
ENGINEERING
PLANNING
CPLteam.com

MEMORANDUM

TO:	File
FROM:	David Hastings, P.E., PTOE
DATE:	June 28, 2024
RE:	Evaluation of Traffic Data for 2024 Update to STAMP Development

Background

The Western New York Science & Technology Advanced Manufacturing Park (STAMP), located in the Town of Alabama, Genesee County, New York, has been in planning and development since the early 2010s. The Park will support mixed use development that includes technology manufacturing uses and ancillary development. A Generic Environmental Impact Statement (GEIS) was initially prepared in 2010 and included a traffic study based on development estimates and assumptions from that time. As time passed and revised plans for STAMP developed, an updated traffic study was prepared in 2016 and again in 2023 to evaluate new roadway configurations and traffic impacts from potential tenants of the site. Since 2016, the construction of Stamp Dr has been completed, however, no tenants have fully developed business on the site yet.

The Genesee County Economic Development Center (GCEDC) had previously identified the first tenants scheduled to build out over 2 phases at STAMP, which was analyzed as part of the 2023 traffic study update. The first tenants were Plug Power and Edwards (Kingfisher) in Phase 1 and Scannell in Phase 2. Since this 2023 update, both tenants in Phase 1 have already begun construction of their respective developments.

It is now anticipated that Scannell will not have any pending development at the STAMP site. This memo is intended to analyze the traffic impacts at this location.

Previous Analysis

In the previous Traffic Analysis (2023), it was determined that the Phase 2 volumes estimated to be generated by Scannell were slightly less than the volumes calculated for the assumed developments in the 2016 analysis. The conclusion of the 2023 analysis was that the recommendations reached in the 2016 Evaluation would still apply and no additional mitigation measures were necessary.

Phase 2: Addition of Scannell (Previously Planned Development)

- Phase 1 developments to continue with same operations
- Scannell expected to operate 24/7 with 826 employees

2024 Update

The Scannell development evaluated in the 2023 update for a possible phase 2 is no longer planned. For this 2024 update, traffic volumes are assumed to be even smaller than projected in the 2023 traffic update with the removal of Scannell Properties.

The Phase 1 volumes would be the same as assumed in the 2023 Update. The conclusions and recommendations reached in the 2023 Update still apply. Similar to the 2023 traffic analysis, no new mitigation measures are necessary.

Future Bypass Road with Roundabout

The STAMP Master Plan includes a bypass road connecting from Stamp Dr to Crosby Rd near Route 77. The project team is considering plans to reconstruct the intersection of Crosby Rd with Route 77 into a roundabout so that the future bypass road can be connected directly into that intersection. This intersection hasn't been identified as having any traffic concerns, however, the roundabout would alleviate geometric challenges with the existing three-leg intersection. The roundabout would shift the intersection to the southeast and provide four approaches. Roundabouts efficiently distribute traffic through the intersection and this location would be expected to function at a high level of service.

As previous analysis has indicated, most STAMP related traffic is expected to originate and depart towards I-90 which is south of STAMP. The intersection of Crosby Rd with Route 77 is on the north side of STAMP and therefore it is expected that only a small percentage of site generated traffic would affect the proposed roundabout. However, if the roundabout is implemented it will generally improve functionality at this intersection.

Deuel Archaeology
& Cultural Resource Management
DA CRM
P.O. Box 51, Attica, NY 14011 | TEL/FAX (585) 591-0630 | jddeuel@gmail.com

May 15, 2024

ATTN: Nancy Herter, PhD
State Historic Preservation Office
P.O. Box 189
Waterford, NY 12188-0189

RE: STAMP Sanitary Force Main, Towns of Alabama and Oakfield, Genesee County, NY.

Dear Ms. Herter,

On February 8, 2024, Andrew Kosa, PE and Associate Principal with CPL of Fairport, New York, contacted Deuel Archaeology & CRM (DACRM) regarding development of the STAMP sanitary force main (Oakfield Force Main) to be located within the right-of-ways (ROWs) and permanent easements from the STAMP site east along sections of Ham Road, Macomber Road, and Lewiston Road in the Towns of Alabama and Oakfield, Genesee County, New York. The Oakfield Force Main is being developed in conjunction with the Genesee County Economic Development Center's (GCEDC) evaluation of a new plan to transport wastewater for treatment from the STAMP site to the Village of Oakfield Waste Water Treatment Facility for the first three initial STAMP tenants, two of whom are currently under construction. This new plan is necessitated by ongoing delays in the installation of the previously approved force main routed through the Iroquois National Wildlife Refuge to the Town of Shelby. The proposed Oakfield Force Main would discharge to the Village of Oakfield Collection System along Lewiston Road. Geographic limits of the project area are shown on the enclosed USGS *Akron, NY* and *Oakfield, NY* 7.5-Minute Series Quadrangles (see Figure 1). The lead agency for the project is the GCEDC. Anticipated state and federal agencies include the NYSDEC (Freshwater Wetland Permit and SWPPP) and Empire State Development (Funding).

Background Information

The project area consists primarily of road shoulders, landscaped lawns, agricultural fields, and wetlands, which will be impacted as necessary for the installation of 40,000 linear feet (12,190 linear meters) of sanitary force main and associated infrastructure. Review of the environmental information indicates that the project area is situated in the glacial lake area of the Erie-Ontario Lowlands physiographic province. The route of the proposed Oakfield Force Main will cross two intermittent drainages near Crosby Road and Allegheny Road (NYS Route 77) and Brinningstool Creek along Ham Road. Wayland soils complex (Wy) associated with Brinningstool Creek along Ham Road is the only unit of alluvial soil mapped within the project area (USDA-NRCS 2024). It is anticipated that the proposed Oakfield Force Main will be installed via directional drill across Brinningstool Creek.

Based on preliminary map analysis, several map-documented structures (MDSs) are located along the route of the proposed Oakfield Force Main. However, none appear to be within the project's anticipated area of potential effect as, the Oakfield Force Main will be entirely underground, and the majority will be constructed in existing road ROWs where previous ground disturbance has occurred. MDSs adjacent to the project area include houses, farmsteads, a steam plaster mill, and a schoolhouse. The project will have no impact to adjacent MDSs.

Archaeological Sensitivity

According to the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) Cultural Resource Information System (CRIS), the western and eastern ends of the project area are located in archaeologically sensitive zones. However, the vast majority of the project area is located outside archaeologically sensitive zones, including the entirety of Ham Road. The only environmentally sensitive landform outside known archaeologically sensitive zones is the crossing of Brinningstool Creek along Ham Road.

Previous Investigations

The University at Buffalo has previously surveyed the western end of the route of the proposed Oakfield Force Main from west of Crosby Road to NYS Route 63/77 during Phase I, II, and III Cultural Resource Investigations for the STAMP site (NYSOPRHP No. 10PR01963). Twenty-seven archaeological sites were identified as a result. Along most of Ham Road, DACRM conducted Phase IA and Phase IB Cultural Resource Investigations for Phase II Development of the Proposed STAMP Off-Site Water Project (NYSOPRHP No. 16PR00823). Two stray finds were identified along Lewiston Road, but none along the route of the proposed Oakfield Force Main. DACRM also performed Phase IA and Phase IB Cultural Resource Investigations for the Town of Alabama Water District No. 2 along the east end of Ham Road and Macomber Road (NYSOPRHP No. 18PR02372). No archaeological sites were identified as a result of the investigation. Along Lewiston Road, DACRM conducted the Phase IA/IB Cultural Resource Investigation for the Town of Oakfield Water District No. 11 (NYSOPRHP No. 19PR05989). A stray chert flake was identified near the intersection with Macomber Road. Finally, along Maltby Road and North Pearl Street, DACRM performed the Phase IA/IB Cultural Resource Investigation for Oakfield Water District No. 2 (NYSOPRHP No. 09PR00449). No archaeological sites were identified as a result of the investigation. The proposed Oakfield Force Main will be installed on the opposite side of the road from the existing water mains.

Prior Ground Disturbances

The principal investigator conducted field reconnaissance on February 13, 2024. At that time the temperature was in the 30s with mostly cloudy skies and a few snow flurries. Field conditions were damp. Photographs were taken to show general field conditions, prior ground disturbances, and the route of the proposed Oakfield Force Main (photos enclosed). Much of the project area exhibited evidence of anthropogenic influence in the form of excavated ditches, road cuts, road berms, utilities, and culverts.

Conclusion

DACRM is submitting this project information on behalf of CPL and the GCEDC to solicit a recommendation from the NYSOPRHP regarding the STAMP Oakfield Force Main. Based on prior review of the force main route and the consistent finding herein that no cultural resources will be impacted by the project, we do not believe that any further action is required. Please review the enclosed information and advise me of your findings. If any other information is required, please contact me anytime.

Sincerely,

Jeremy Deuel
Principal Investigator
Deuel Archaeology & CRM

ROUTE OF PROPOSED FORCE MAIN

ALTERNATIVE ROUTE OF FORCE MAIN

PHOTOGRAPH LOCATION AND ANGLE

600 meters
2,000 feet

Figure 1. Route of proposed force main on *Akron, NY* (USGS 1981/1993) and *Oakfield, NY* (USGS 1978/1993).



Photo 1. Facing west along Crosby Road showing field conditions, prior ground disturbance, and terminus of proposed force main. This area has been previously investigated for the STAMP project.



Photo 2. Facing east along Crosby Road showing field conditions, prior ground disturbance, and route of proposed force main. This area has been previously investigated for the STAMP project.



Photo 3. Facing west-northwest along Ham Road showing field conditions, prior ground disturbance (ditch), and route of proposed force main on south side of the road.



Photo 4. Facing east along Ham Road showing field conditions and route of proposed force main on south side of road.



Photo 5. Facing west along Ham Road showing field conditions, prior ground disturbance (ditch in background of photo), and route of proposed force main on south side of the road.



Photo 6. Facing east along Ham Road showing field conditions and route of proposed force main on south side of the road. A mapped unit of alluvial soil associated with Brinningstool Creek is located at the guardrails in background of photo.



Photo 7. Facing west at the intersection of Ham Road and Macomber Road showing field conditions and route of proposed force main on south side of the road.



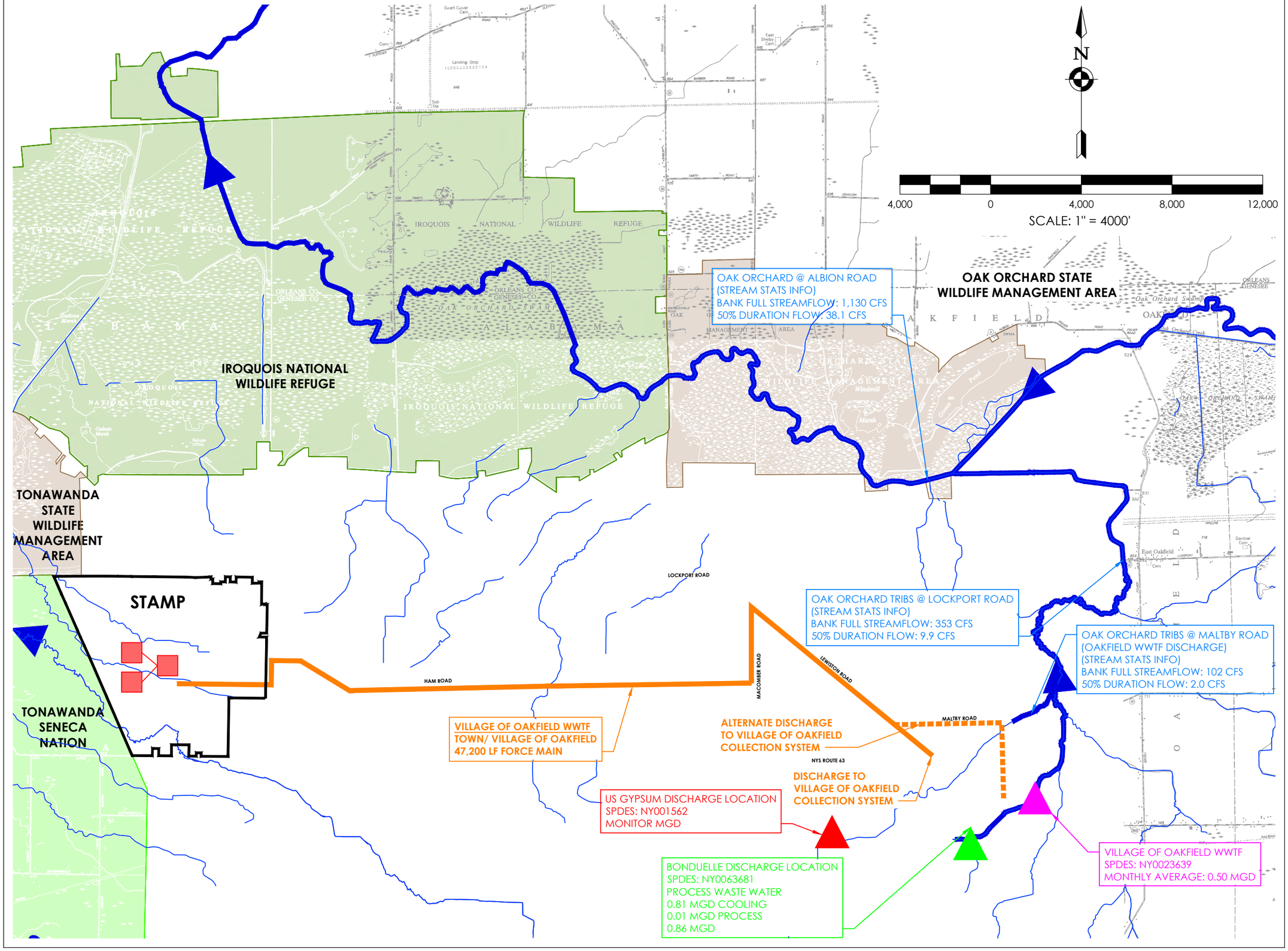
Photo 8. Facing north at the intersection of Ham Road and Macomber Road showing field conditions and route of proposed force main on west side of the road.



Photo 9. Facing northwest along Lewiston Road near the intersection with Maltby Road showing field conditions and route of proposed force main on southwest side of the road.



Photo 10. Facing east along Maltby Road near the intersection with Lewiston Road showing field conditions and alternate route of proposed force main on north side of road.



CPL | Architecture Engineering Planning

255 Woodcliff Drive, Suite 200
Fairport, NY 14450

CPLteam.com

NY ENGINEERING FIRM CERTIFICATE #018330

PROJECT INFORMATION

Project Number
R15.15981.00

Client Name
GENESEE COUNTY ECONOMIC DEVELOPMENT CENTER

Project Name
STAMP FORCE MAIN ALTERNATE ROUTE

Project Address
GENESEE COUNTY, NY

SHEET INFORMATION

Issued	Scale
02/21/2024	AS NOTED
Drawn By	**Checked By**
ZLA	ARK

Drawing Title
OAKFIELD DISCHARGE LOCATION

Drawing Number
FIG.-01

Plotted By: Zach Anderson
Date last plotted: 2/28/2024 11:49 AM
Date last accessed: 2/21/2024 12:54 PM
Sheet size: 11x17
Drawing Name: J:\PROJECTS\GCEDC\STAMP Offsite Sewer\D Design\ACAD\Civil Figures\Force Main Discharge Locations-Oakfield Locations 2024 02 21.dwg



VISUALIZATION 1
SIMULATED EXISTING CONDITION - No Setback from STAMP/Nation's Territory Property Line

SARATOGA ASSOCIATES

Figure 1
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY



VISUALIZATION 1
SIMULATED CONDITION - No Setback from STAMP/Nation's Territory Property Line

SARATOGA ASSOCIATES

Figure 2
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY



VISUALIZATION 1
SIMULATED CONDITION - No Setback from STAMP/Nation's Territory Property Line

SARATOGA ASSOCIATES

Figure 3
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY



VISUALIZATION 1
SIMULATED CONDITION - 100FT setback from STAMP/Nation's Territory Property Line

SARATOGA ASSOCIATES

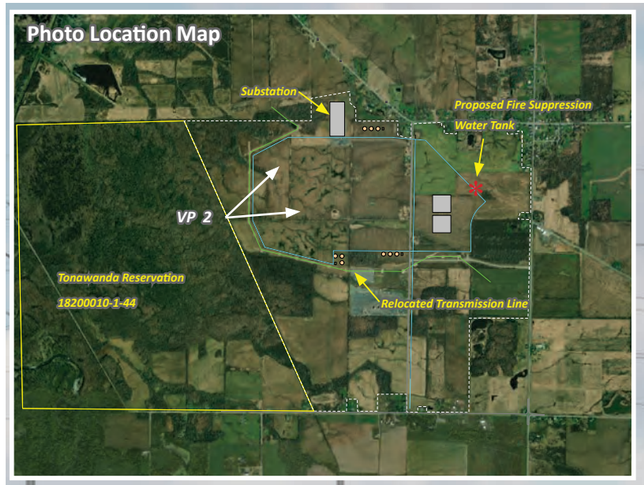
Figure 4
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY



VISUALIZATION 1
SIMULATED CONDITION - 200FT setback from STAMP/Nation's Territory Property Line

SARATOGA ASSOCIATES

Figure 5
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY



VISUALIZATION 2
SIMULATED EXISTING CONDITION - No setback from STAMP/Nation's Territory Property Line

SARATOGA ASSOCIATES

Figure 6
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY



VISUALIZATION 2
SIMULATED CONDITION - No setback from STAMP/Nation's Territory Property Line

SARATOGA ASSOCIATES

Figure 7
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY



VISUALIZATION 2
SIMULATED CONDITION - No setback from STAMP/Nation's Territory Property Line

SARATOGA ASSOCIATES

Figure 8
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY



VISUALIZATION 2
SIMULATED CONDITION - 100FT setback from STAMP/Nation's Territory Property Line

SARATOGA ASSOCIATES

Figure 9
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY



VISUALIZATION 2
SIMULATED CONDITION - 200FT setback from STAMP/Nation's Territory Property Line

SARATOGA ASSOCIATES

Figure 10
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY



VISUALIZATION 3
SIMULATED EXISTING CONDITION - No setback from STAMP/Nation's Territory Property Line

Figure 11
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY

SARATOGA ASSOCIATES



VISUALIZATION 3
SIMULATED CONDITION - No setback from STAMP/Nation's Territory Property Line

SARATOGA ASSOCIATES

Figure 12
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY



VISUALIZATION 3
SIMULATED CONDITION - No setback from STAMP/Nation's Territory Property Line

SARATOGA ASSOCIATES

Figure 13
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY



VISUALIZATION 3
SIMULATED CONDITION - 100FT setback from STAMP/Nation's Territory Property Line

Figure 14
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY

SARATOGA ASSOCIATES



VISUALIZATION 3
SIMULATED CONDITION - 200FT setback from STAMP/Nation's Territory Property Line

SARATOGA ASSOCIATES

Figure 15
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY



VISUALIZATION 4
SIMULATED EXISTING CONDITION - No setback from STAMP/Nation's Territory Property Line

SARATOGA ASSOCIATES

Figure 16
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY



VISUALIZATION 4
SIMULATED CONDITION - No setback from STAMP/Nation's Territory Property Line

SARATOGA ASSOCIATES

Figure 17
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY



VISUALIZATION 4
SIMULATED CONDITION - No setback from STAMP/Nation's Territory Property Line

SARATOGA ASSOCIATES

Figure 18
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY



VISUALIZATION 4
SIMULATED CONDITION - 100FT setback from STAMP/Nation's Territory Property Line

SARATOGA ASSOCIATES

Figure 19
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY



VISUALIZATION 4
SIMULATED CONDITION - 200FT setback from STAMP/Nation's Territory Property Line

SARATOGA ASSOCIATES

Figure 20
VISIBILITY ASSESSMENT
FIRE SUPPRESSION WATER TANK
WNY Science and Technology Advanced Manufacturing Park STAMP)
Town of Alabama, Genesee County, NY

Genesee County Economic Development Center

Power People Incentives

Genesee County Economic Development Center

STAMP Wastewater Treatment Discharge Analysis – Revised Locations

April 19, 2024

JM Davidson Engineering, D.P.C.
935 Sheridan Drive
Suite 120
Tonawanda, NY 14150



JM Davidson Engineering, D.P.C.

Table of Contents

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2 **Hydraulic Model** **1**
2.1 Channel Conditions 2
2.1.1 Maltby Road 3
2.1.2 VOSTP Outfall 3
2.1.3 Lockport Road 5
2.2 Hydrology 6
3 **Results** **8**
4 **Summary** **8**

Appendices

Appendix A: Figures
Appendix B: FEMA Documentation
Appendix C: Stream Stats Reports
Appendix D: Hydraulic Model Documentation

1 Introduction

JM Davidson Engineering, D.P.C. (JMD) was subcontracted by CPL to conduct a hydraulic analysis regarding the modification of potential wastewater treatment discharge locations for the Genesee County Economic Development Center (GCEDC) Science, Technology & Advanced Manufacturing Park (STAMP) campus.

STAMP is an approximately 1,250-acre mega-site located in Genesee County with the intended use of housing advanced technology manufacturing facilities for semiconductor manufacturing, renewables manufacturing, biopharma manufacturing, and other high-capacity industries. CPL has collaborated with GCEDC for site plan creation, permitting, water, sewer, and road infrastructure design.

As part of the design for the STAMP site, it is also necessary to make provisions for treatment of the wastewater that will be generated by the various businesses at the site. Over the course of the site design process, GCEDC has explored many options for the treatment and discharge of wastewater from the STAMP site. The most recent proposal in 2019 included an on-site wastewater treatment facility with a projected design peak discharge of 6 MGD (9.3 cfs) that would be conveyed via a force main (OOC Force Main) to Oak Orchard Creek in the Town of Shelby, Orleans County (Shelby Plan). A previous hydraulic analysis was conducted by JMD (*STAMP Discharge Analysis to Oak Orchard Creek*, May 22, 2020) to document the impacts to potential flooding from discharge connected to the Shelby Plan. Since that time, however, GCEDC has explored alternatives to the Shelby Plan, due in part to delays stemming from challenges during the installation of the OOC Force Main.

Because the facilities for two of the first three STAMP tenants are currently under construction, GCEDC is now considering an alternative plan to provide permanent wastewater treatment services for the three initial STAMP tenants (Oakfield Plan). The Oakfield Plan will involve sending sanitary flows directly to the Village of Oakfield Sewage Treatment Plant (VOSTP) through a new force main sewer line from the STAMP site. The VOSTP has an existing State Pollutant Discharge Elimination System (SPDES) Permit (NY0023639) to discharge a monthly average flow of 0.5 MGD (0.77 cfs) at its primary outfall, which discharges to Dry Brook, a tributary to Oak Orchard Creek. CPL and GCEDC have had preliminary discussions with the VOSTP indicating that the plant's monthly average is generally lower than 0.5 MGD (0.77 cfs); therefore, the plant may have additional capacity to provide treatment of sanitary discharge from the STAMP tenants covered by the Oakfield Plan.

CPL is responsible for investigating the feasibility of directing the STAMP sanitary flow to the VOSTP including verifying the existing VOSTP hydraulic capacity and treatment process conditions as they relate to accepting additional flow.

While already permitted, the purpose of this hydraulic analysis is to verify the effect on the downstream channel and flooding that the VOSTP effluent discharge of 0.5 MGD (0.77 cfs) may have. This study does not take into account water quality conditions and assumes that all required SPDES discharge and treatment requirements would be met prior to discharging into Dry Creek and ultimately Oak Orchard Creek.

2 Hydraulic Model

A 1-D steady state model of the study reach was built using HEC-RAS version 6.5. The model extends from just downstream of Maltby Road to roughly 0.6-mi. downstream of Albion Road as shown in Figure 1. The full extents of the model were developed for analysis outside of the current project area; therefor, this report will focus on the upper portion of the model between Maltby Road and Lockport Road. The model was built utilizing publicly available 1m resolution DEMs from the New York State GIS Clearinghouse and supplemented with measurements taken by JMD staff during site visits to the accessible portions of the reach.

The stream channels in this area are part of the upper reaches and tributaries to Oak Orchard Creek. The names of the channels are not consistent or fully identified throughout various sources. For the purpose of this analysis, the entire channel is referred to as Oak Orchard Creek.

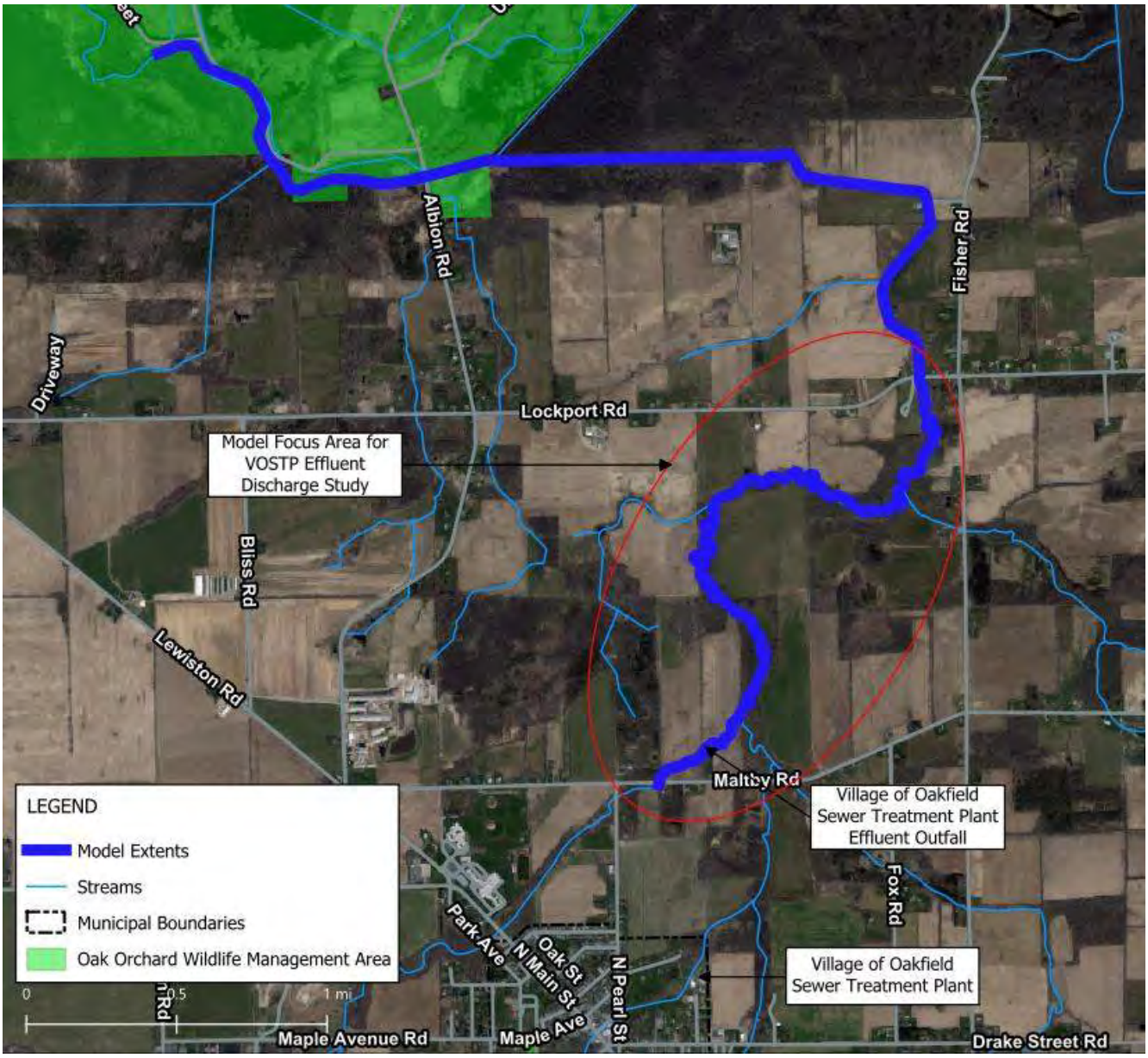


Figure 1: Study Area

2.1 Channel Conditions

A field investigation was conducted to document the condition of the study channel under existing conditions. The study area was visited on two separate occasions: February 9, 2024, and March 15, 2024. The majority of the channel is located on private lands, which were inaccessible during this study. The channel was accessed at multiple locations including: at Maltby Road, at the VOSTP outfall, at Lockport Road, and at Albion Road. Additional figures depicting these areas are included in **Appendix A**. Inferences regarding the channel condition were also made throughout the

remaining portions of the channel based on information obtained from aerial imagery and LiDAR. For the purpose of this report, the site description downstream of Lockport Road is not included.

2.1.1 Maltby Road

At Maltby Road, the drainage area to the channel is roughly 3.65 sq. mi. Upstream of the crossing, the channel is straightened and relatively uniform in shape as it parallels Maltby Road. The channel takes a 90° bend to flow under the culvert crossing at Maltby Road. The structure (BIN 3315110) is a twin three-sided box structure with a rise of roughly 3.8-ft and a span of 10-ft at each bay. The left[1] is filled in with cobbles and debris such that the effective rise is roughly 2.5-ft; this bay is only accessed during higher flow events for flood relief. The right bay, however, has a significant scour hole at the upstream end, that exposes the footings of the right span.



Photo 1: Looking upstream at Maltby Road crossing (2/9/2024).

2.1.2 VOSTP Outfall

Downstream of Maltby Road, the channel winds through a forested/scrub/shrub buffer area, traversing agricultural lands for over 2 miles. Roughly 0.2 miles downstream of the Maltby Road crossing, the VOSTP outfall discharges into the creek. The outfall pipe enters from the south along an easement directly west of 3283 Maltby Road and east of a drainage ditch that parallels the outfall pipe from Maltby Road. The outfall pipe is an 18" PVC pipe with an invert roughly 2-ft above the channel bottom. The pipe has a grate across the outlet and several feet of articulated matting downstream of the invert for outlet protection. The outfall enters the stream at a roughly 90° meander bend in the stream.

[1] All references to left and right follow the hydraulic standard of from the perspective of a person looking downstream.



Photo 2: Looking northwest at VOSTP outfall to Oak Orchard Creek (2/9/2024). Flow is from left to right.



Photo 3: VOSTP outfall (3/15/2024).

The channel in this area is highly sinuous. In the area immediately upstream and downstream of the outfall, the channel takes several 90 to 180° bends. The channel has a bankfull width of roughly 12 to 15-ft. The channel substrate is predominantly gravel and small cobbles. The channel has regular formation of riffles and pools and is only moderately entrenched. The top of bank is generally 4 to 5-ft above the channel bed. There are small sections of floodplain bench throughout that are heavily vegetated with shrubs, most frequently noted, multiflora rose. Multiple downed trees and debris jams were also noted. The riparian buffer is an unmaintained area of growth with scrub trees, debris, shrubs, and undergrowth. At many locations along the channel, slight berming was noted that created a channel bank or buffer between the channel area, buffer area, and the agricultural fields. The LiDAR supports this; however, it indicates that the berms are not consistently located along the entire length of channel.

Once outside of these berms, the agricultural fields that are floodplain to the channel are wide, expansive, and generally low gradient.

During the February field visit, the channel flow was relatively low; however, there had been some snowmelt the prior week, so baseflow may have been slightly above normal. Based on measurements, flow in the channel was estimated at 10 to 20 cfs (7 to 13 MGD) and the discharge from the outfall pipe was estimated at 0.13 MGD (0.2 cfs). During the March field visit, the flow was slightly elevated following a small storm event the prior day which resulted in roughly 0.5-in of rain over a 6-hour period. The baseflow was slightly elevated with a discharge estimated at roughly 40 to 50 cfs (26 to 32 MGD) and the discharge from the outfall pipe was estimated at 0.7 MGD (1.1 cfs).

2.1.3 Lockport Road

As the channel approaches Lockport Road, the channel becomes much straighter. Several additional tributaries have joined the channel upstream of this point such that the drainage area at the bridge is roughly 18.6-acres and the bankfull width is increased to 30 to 35-ft. Just upstream of the bridge, the channel passes through a rural residential area. The channel is moderately confined with banks that are generally 4 to 8-ft high. The valley in this area is much narrower, so the floodplain is significantly less expansive.



Photo 4: Looking upstream from Lockport Road. (3/15/2024)

The Lockport Road bridge (BIN 3314940) is a high arch concrete bridge. The arch is approximately 11-ft at its apex and spans 43.5-ft. The channel substrate is cobbles and gravel. The larger riprap material at the bridge is situated such that it holds grade for the upstream channel. This causes the channel upstream to form a pool that is slower moving and slightly deeper. The grade drops through the bridge as a riffle and then into another pool downstream of the bridge.



Photo 5: Looking downstream at the Lockport Road bridge.

Downstream of the bridge, the channel remains confined, although with a slightly narrower bankfull width ranging between 25 and 30-ft. The near banks are generally 4 to 6-ft high with berms pressed against the channel creating a confined floodplain. The channel is very straight and the buffer is vegetated with trees and shrubs. The channel near the bridge has a few repeating riffles and pools; however, moving downstream of the bridge, the channel generally reverts to predominantly pool and slow moving, sluggish flow.

Based on measurements, flow in the channel during the February visit was estimated at 30 to 45 cfs (19 to 29 MGD). During the March field visit, the flow was slightly higher with an estimated discharge of 150 to 175 cfs (97 to 113 MGD).



Photo 6: Looking downstream along the channel downstream of Lockport Road.

2.2 Hydrology

The focused study area includes roughly 2.3-miles of stream channel where the drainage area ranges from 3.65-sq. mi. at Maltby Road to 18.6-sq. mi. at Lockport Road. Numerous tributaries, drainage ditches, and overland runoff enter the stream channel throughout the length. There are no stream gages within the watershed. For this analysis, utilizing USGS Stream Stats to provide peak discharges at various return intervals was deemed acceptable (see **Appendix C**).

the purpose of this hydraulic analysis is to verify the effect on the downstream channel and flooding that the VOSTP effluent discharge of 0.5 MGD (0.77 cfs) may have. As such, the alternatives evaluated for this analysis include:

A. Existing Conditions – Stream Stats Peak Discharges
B. 0.5 MGD (0.77 cfs) additional flow added to stream discharge at XS 30560 and all locations downstream.

Table 1 shows the various flow change locations within the model focus area. The highlighted row is the discharge location for the VOSTP effluent as shown in Figure 1. While ordinarily in a flood analysis, wastewater treatment discharges are not included, as they generally equate to a minor portion of flows compared to overland runoff, Alternative B purposely includes the additional outfall discharge to attribute potential impacts as a result of the increased discharge proposed. It is also assumed the peak discharge from the VOSTP will be directly added to the peak discharge within the stream, and at all locations downstream, to provide the most conservative result from a flood perspective.

Table 1: Model Flows

Model Flow Comparison					
	Location	Maltby Road	VOSTP Outfall	Confluence D/S Outfall	Confluence U/S Lockport Road
	XS	31601	30560	28809	18868
	DA	3.65	3.74	13.6	18.6
	Return Interval (yr)	**Peak Discharges (cfs)**			
A	1.25	73.8	76.7	262	334
B		73.8	77.47	262.77	334.77
% Diff		0.00%	0.99%	0.29%	0.23%
A	1.33	88.1	91.7	313	399
B		88.1	92.47	313.77	399.77
% Diff		0.00%	0.83%	0.25%	0.19%
A	2	106	110	375	479
B		106	110.77	375.77	479.77
% Diff		0.00%	0.70%	0.20%	0.16%
A	5	151	158	532	680
B		151	158.77	532.77	680.77
% Diff		0.00%	0.48%	0.14%	0.11%
A	10	180	189	636	814
B		180	189.77	636.77	814.77
% Diff		0.00%	0.41%	0.12%	0.09%
A	50	244	256	863	1110
B		244	256.77	863.77	1110.77
% Diff		0.00%	0.30%	0.09%	0.07%
A	100	270	284	956	1230
B		270	284.77	956.77	1230.77
% Diff.		0.00%	0.27%	0.08%	0.06%

3 Results

The 1-D steady state hydraulic model analyzes the impacts from the proposed increased discharge using a very conservative methodology. The analysis is a peak-on-peak method that does not take into account flow attenuation or storage within the floodplain and/or wetland areas. This methodology was selected to show the maximum impact to water surface elevations as a result of the proposed outfall discharges.

Alternative B addresses the potential peak discharges from the VOSTP outfall assuming 0.5 MGD (0.77 cfs). As noted previously, the spring baseflow in the channel near the outfall was observed to be 10 to 20 cfs (7 to 13 MGD) and up to 40 to 50 cfs (26 to 32 MGD) following a minor storm event. Per the Stream Stats analysis, the peak discharges from storm events at this location range from 77 cfs (50 MGD) for a 1.25-yr return interval event to 284 cfs (183 MGD) for a 100-yr return interval event. The increased 0.5 MGD (0.77 cfs) from the VOSTP discharge increases the baseflow within the channel by less than 10%. The increase at the 100-yr event is further diminished to less than 0.5% at the outfall.

The HEC-RAS model indicates that the channel downstream of the outfall has various levels of berming. In some locations the channel can contain the 100-yr event within the berm, and in some locations only much smaller events are contained. Generally, the areas that are left as wooded buffers are shown to flood regularly, and the adjacent agricultural fields flood less frequently. The model shows that Alternative B has the potential to raise water surface elevations of various flow events between 0.00 and 0.02-ft (see Table 2), an unappreciable amount, particularly as there are no structures within the floodplain area.

The bridge crossings at Lockport Road and Albion Road are the only public crossings within the study area. The model indicates that the bridge crossing at Lockport Road has more than sufficient capacity for carrying the existing discharges as well as the potential increase from the VOSTP.

4 Summary

The HEC-RAS model analysis of Oak Orchard Creek within the study area shows that the existing channel is generally moderately entrenched and can easily contain low level storm events within its banks. The historical dredging, berming, and manipulation of the channel, throughout its entire length, has increased the channel capacity in some areas to contain up to the 100-yr event; however, the level of containment is not consistent throughout the entire length.

The baseflow within the channel also varies significantly throughout the study reach as the drainage area increased from 3.65-sq. mi. at the upstream end near Maltby Road to over 18.6 sq. mi. at Lockport Road. For the proposed sanitary discharges from the existing VOSTP outfall, Alternative B (0.5 MGD/0.77cfs) has a minor increase on anticipated springtime baseflows. Additionally, under peak storm event conditions, the increase in water surface elevations ranges between 0.00-ft and 0.02-ft, an unappreciable increase within the channel and more likely due to model calculations than an actual increase.

Table 2: Results

River Sta	Profile	A - Existing Q Total (cfs)	A - Existing W.S. Elev (ft)		B - 0.5 MGD Sanitary Q Total (cfs)	B - 0.5 MGD Sanitary W.S. Elev (ft)	Difference (ft)
31601	1.25	73.8	674.09		73.80	674.09	0.00
31601	1.33	88.1	674.24		88.10	674.24	0.00
31601	2	106	674.40		106.00	674.40	0.00
31601	5	151	674.70		151.00	674.70	0.00
31601	10	180	674.87		180.00	674.87	0.00
31601	50	244	675.19		244.00	675.19	0.00
31601	100	270	675.32		270.00	675.32	0.00
31518	1.25	73.8	672.98		73.80	672.98	0.00
31518	1.33	88.1	673.09		88.10	673.09	0.00
31518	2	106	673.21		106.00	673.21	0.00
31518	5	151	673.52		151.00	673.52	0.00
31518	10	180	673.69		180.00	673.69	0.00
31518	50	244	674.02		244.00	674.02	0.00
31518	100	270	674.12		270.00	674.12	0.00
30974	1.25	73.8	666.45		73.80	666.45	0.00
30974	1.33	88.1	666.56		88.10	666.56	0.00
30974	2	106	666.68		106.00	666.68	0.00
30974	5	151	666.97		151.00	666.97	0.00
30974	10	180	667.14		180.00	667.14	0.00
30974	50	244	667.45		244.00	667.46	0.01
30974	100	270	667.44		270.00	667.44	0.00
VOSTP Outfall							
30560	1.25	76.7	663.88		77.47	663.89	0.01
30560	1.33	91.7	663.97		92.47	663.97	0.00
30560	2	110	664.07		110.77	664.08	0.01
30560	5	158	664.29		158.77	664.30	0.01
30560	10	189	664.42		189.77	664.43	0.01
30560	50	256	664.70		256.77	664.70	0.00
30560	100	284	665.09		284.77	665.09	0.00
29967	1.25	76.7	658.10		77.47	658.11	0.01
29967	1.33	91.7	658.31		92.47	658.32	0.01
29967	2	110	658.95		110.77	658.95	0.00
29967	5	158	659.43		158.77	659.43	0.00
29967	10	189	659.83		189.77	659.85	0.02
29967	50	256	660.07		256.77	660.08	0.01
29967	100	284	658.06		284.77	658.07	0.01
28811	1.25	262	656.38		262.77	656.38	0.00
28811	1.33	313	656.88		313.77	656.88	0.00
28811	2	375	655.17		375.77	655.17	0.00

Table 2: Results

River Sta	Profile	A - Existing Q Total (cfs)	A - Existing W.S. Elev (ft)		B - 0.5 MGD Sanitary Q Total (cfs)	B - 0.5 MGD Sanitary W.S. Elev (ft)	Difference (ft)
28811	5	532	655.71		532.77	655.72	0.01
28811	10	636	656.04		636.77	656.04	0.00
28811	50	863	656.64		863.77	656.64	0.00
28811	100	956	656.92		956.77	656.92	0.00
27570	1.25	262	652.70		262.77	652.70	0.00
27570	1.33	313	652.48		313.77	652.49	0.01
27570	2	375	652.70		375.77	652.71	0.01
27570	5	532	653.38		532.77	653.39	0.01
27570	10	636	653.63		636.77	653.62	-0.01
27570	50	863	653.88		863.77	653.88	0.00
27570	100	956	653.88		956.77	653.88	0.00
24718	1.25	262	648.33		262.77	648.34	0.01
24718	1.33	313	646.37		313.77	646.37	0.00
24718	2	375	648.49		375.77	648.51	0.02
24718	5	532	648.22		532.77	648.22	0.00
24718	10	636	647.69		636.77	647.69	0.00
24718	50	863	648.56		863.77	648.57	0.01
24718	100	956	648.65		956.77	648.65	0.00
23481	1.25	262	645.25		262.77	645.25	0.00
23481	1.33	313	645.44		313.77	645.46	0.02
23481	2	375	645.68		375.77	645.68	0.00
23481	5	532	646.44		532.77	646.44	0.00
23481	10	636	647.00		636.77	647.00	0.00
23481	50	863	646.73		863.77	646.73	0.00
23481	100	956	646.83		956.77	646.83	0.00
20731	1.25	262	643.68		262.77	643.68	0.00
20731	1.33	313	643.86		313.77	643.87	0.01
20731	2	375	644.08		375.77	644.08	0.00
20731	5	532	644.58		532.77	644.58	0.00
20731	10	636	642.47		636.77	642.48	0.01
20731	50	863	645.11		863.77	645.11	0.00
20731	100	956	645.36		956.77	645.36	0.00
18876	1.25	334	637.86		334.77	637.86	0.00
18876	1.33	399	638.13		399.77	638.13	0.00
18876	2	479	638.43		479.77	638.43	0.00
18876	5	680	639.11		680.77	639.11	0.00
18876	10	814	639.60		814.77	639.61	0.01
18876	50	1110	640.41		1110.77	640.41	0.00
18876	100	1230	640.41		1230.77	640.41	0.00

Table 2: Results

River Sta	Profile	A - Existing Q Total (cfs)	A - Existing W.S. Elev (ft)		B - 0.5 MGD Sanitary Q Total (cfs)	B - 0.5 MGD Sanitary W.S. Elev (ft)	B - 0.5 MGD Sanitary Difference (ft)
16780	1.25	334	634.28		334.77	634.28	0.00
16780	1.33	399	634.71		399.77	634.72	0.01
16780	2	479	635.21		479.77	635.22	0.01
16780	5	680	636.30		680.77	636.31	0.01
16780	10	814	636.93		814.77	636.94	0.01
16780	50	1110	637.98		1110.77	637.98	0.00
16780	100	1230	638.30		1230.77	638.30	0.00
16571	1.25	334	634.15		334.77	634.15	0.00
16571	1.33	399	634.58		399.77	634.59	0.01
16571	2	479	635.08		479.77	635.09	0.01
16571	5	680	636.17		680.77	636.18	0.01
16571	10	814	636.80		814.77	636.81	0.01
16571	50	1110	637.82		1110.77	637.82	0.00
16571	100	1230	638.12		1230.77	638.12	0.00
16481	1.25	334	634.08		334.77	634.08	0.00
16481	1.33	399	634.52		399.77	634.52	0.00
16481	2	479	635.02		479.77	635.02	0.00
16481	5	680	636.11		680.77	636.12	0.01
16481	10	814	636.74		814.77	636.74	0.00
16481	50	1110	637.74		1110.77	637.74	0.00
16481	100	1230	638.03		1230.77	638.04	0.01
16452 Lockport Road							
16425	1.25	334	634.04		334.77	634.04	0.00
16425	1.33	399	634.47		399.77	634.48	0.01
16425	2	479	634.97		479.77	634.97	0.00
16425	5	680	636.04		680.77	636.05	0.01
16425	10	814	636.65		814.77	636.65	0.00
16425	50	1110	637.60		1110.77	637.60	0.00
16425	100	1230	637.87		1230.77	637.87	0.00

Appendix A: Figures



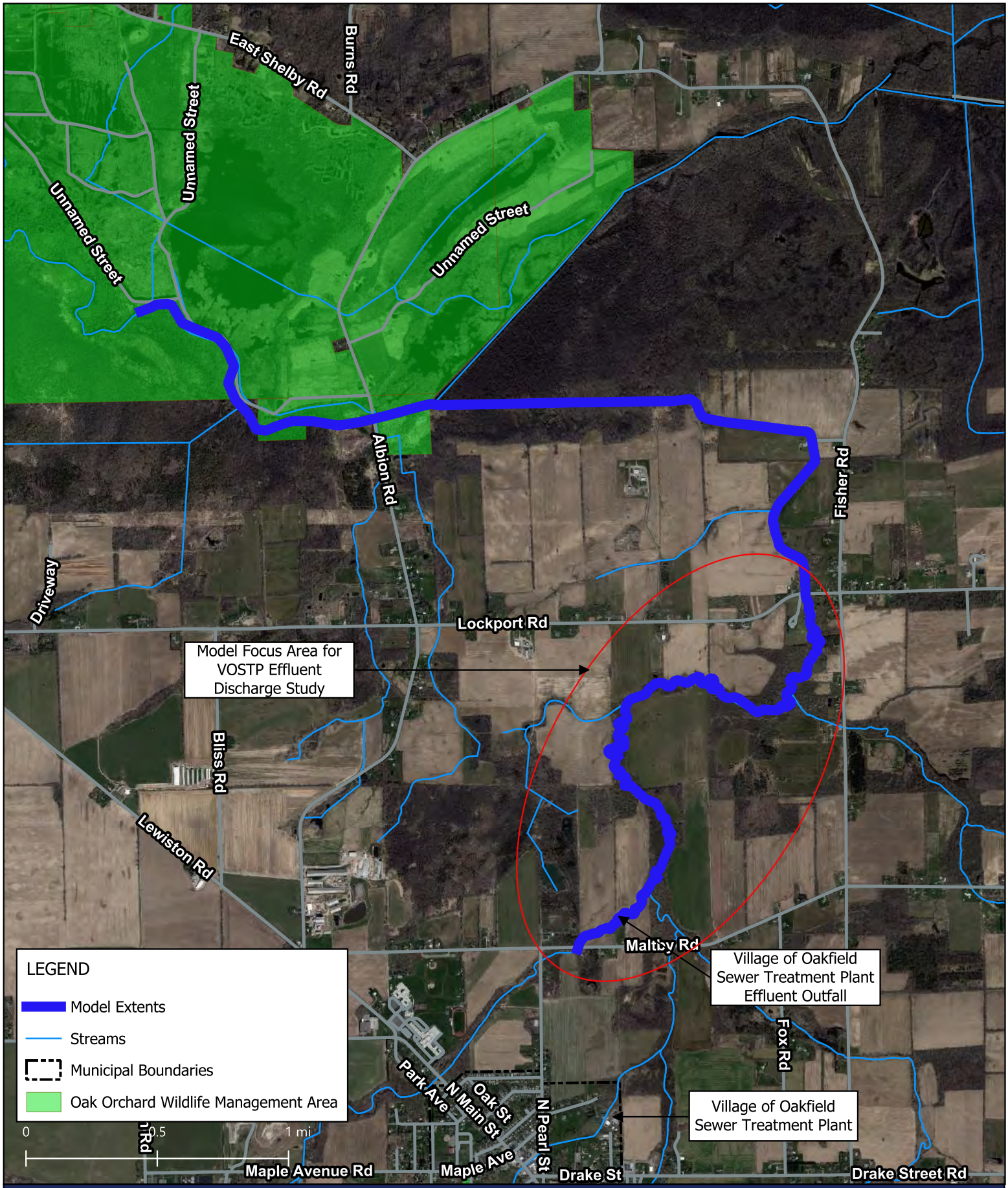


FIGURE 1

GCEDC | STAMP
WASTEWATER DISCHARGE ANALYSIS

STUDY AREA

JMDavidson Engineering, D.P.C.

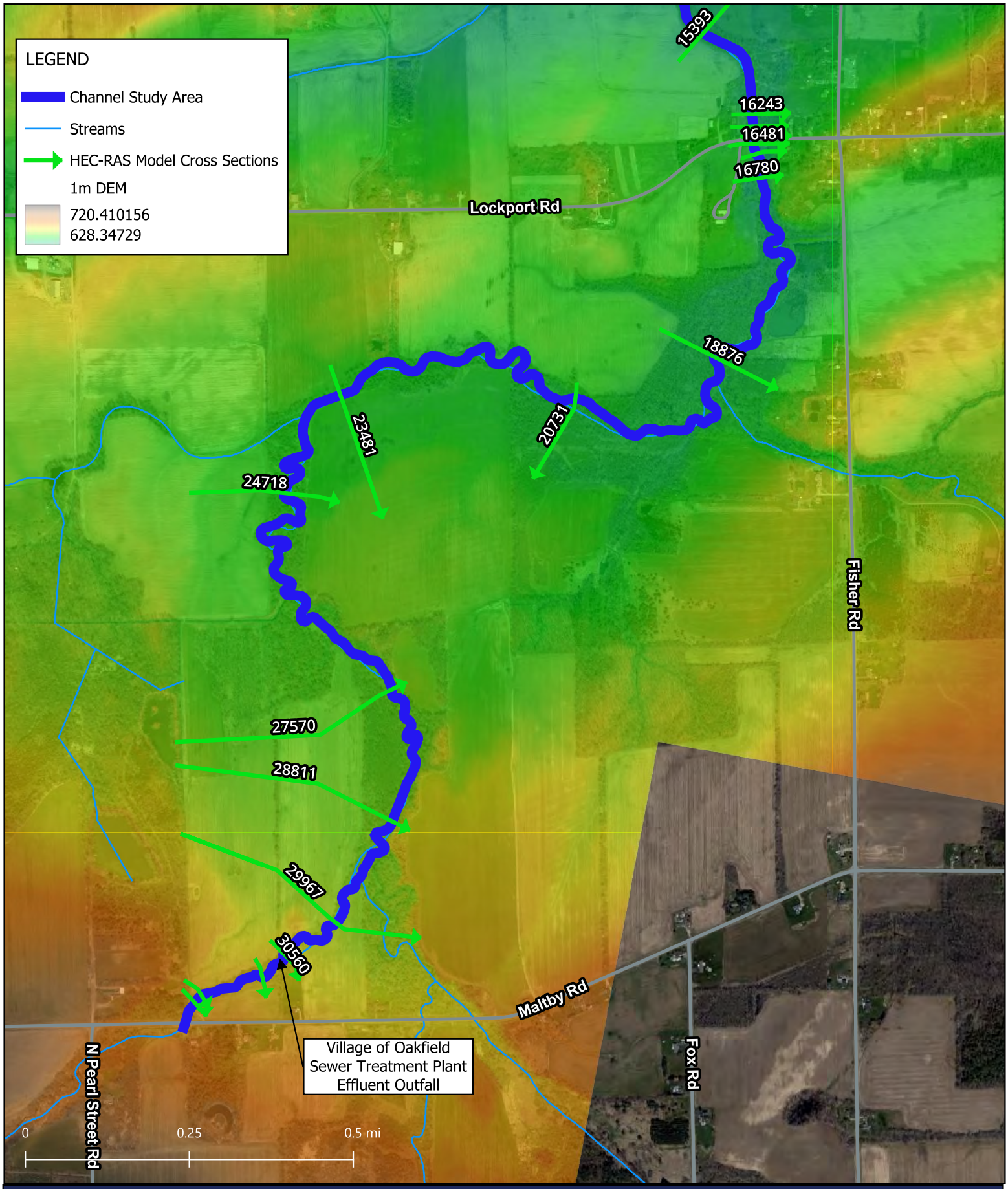


FIGURE 2

GCEDC | STAMP
WASTEWATER DISCHARGE ANALYSIS

MODEL FOCUS AREA

JMDavidson Engineering, D.P.C.

LEGEND

HEC-RAS Cross-Sections

100-YR Flow Depth

7.952148

0.000977

14227

15393

16243

16425

16571

16780

Lockport Rd

18876

23481

20731

24718

Fisher Rd

27570

28811

29967

30560

30974

31518

Maltby Rd

N Pearl Street Rd

Fox Rd

0

1

GCEDC | STAMP

WASTEWATER DISCHARGE ANALYSIS

100-YR FLOOD DEPTHS

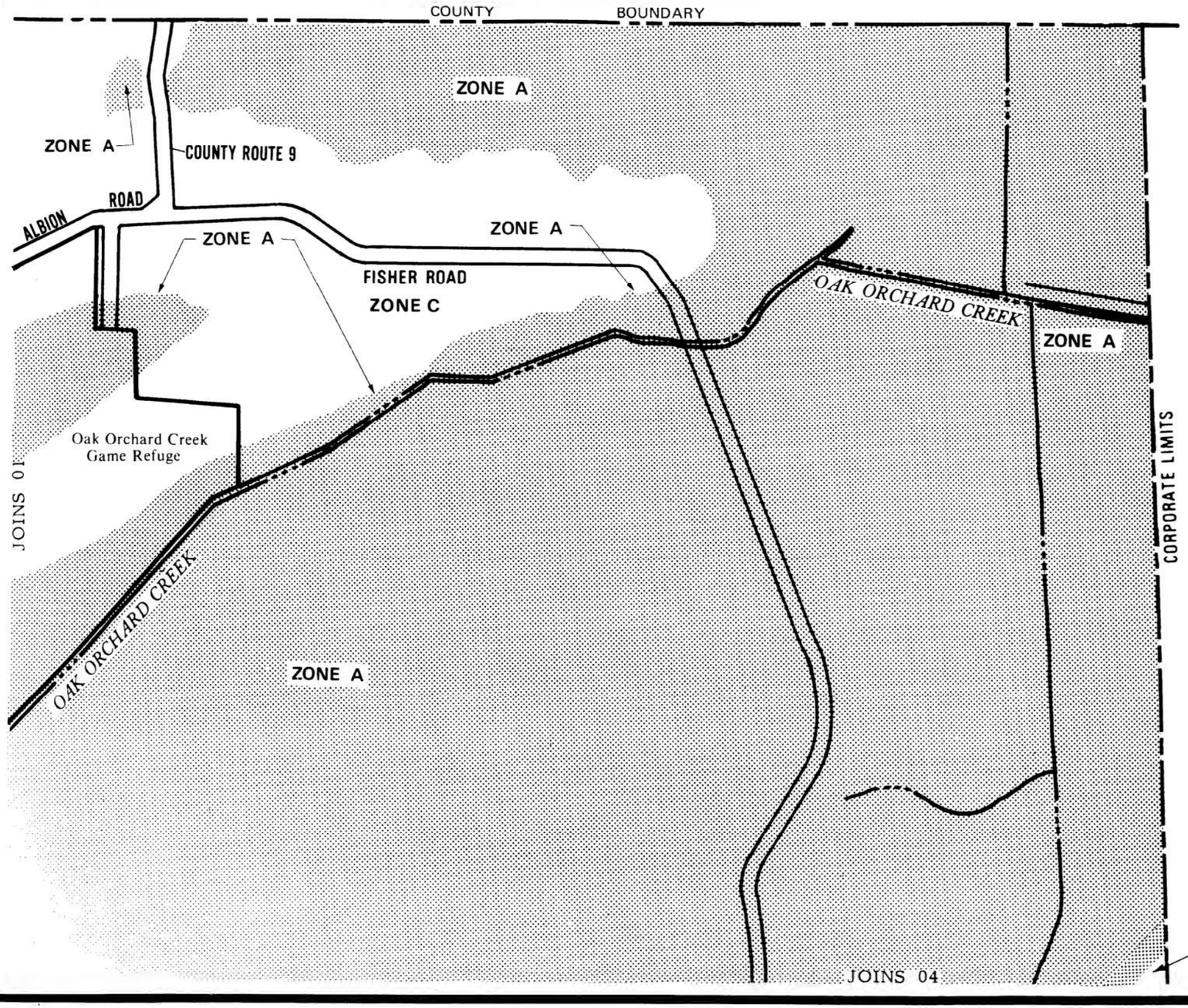
FIGURE 3

JMDavidson Engineering, D.P.C.

Appendix B:

FEMA Documentation





APPROXIMATE SCALE
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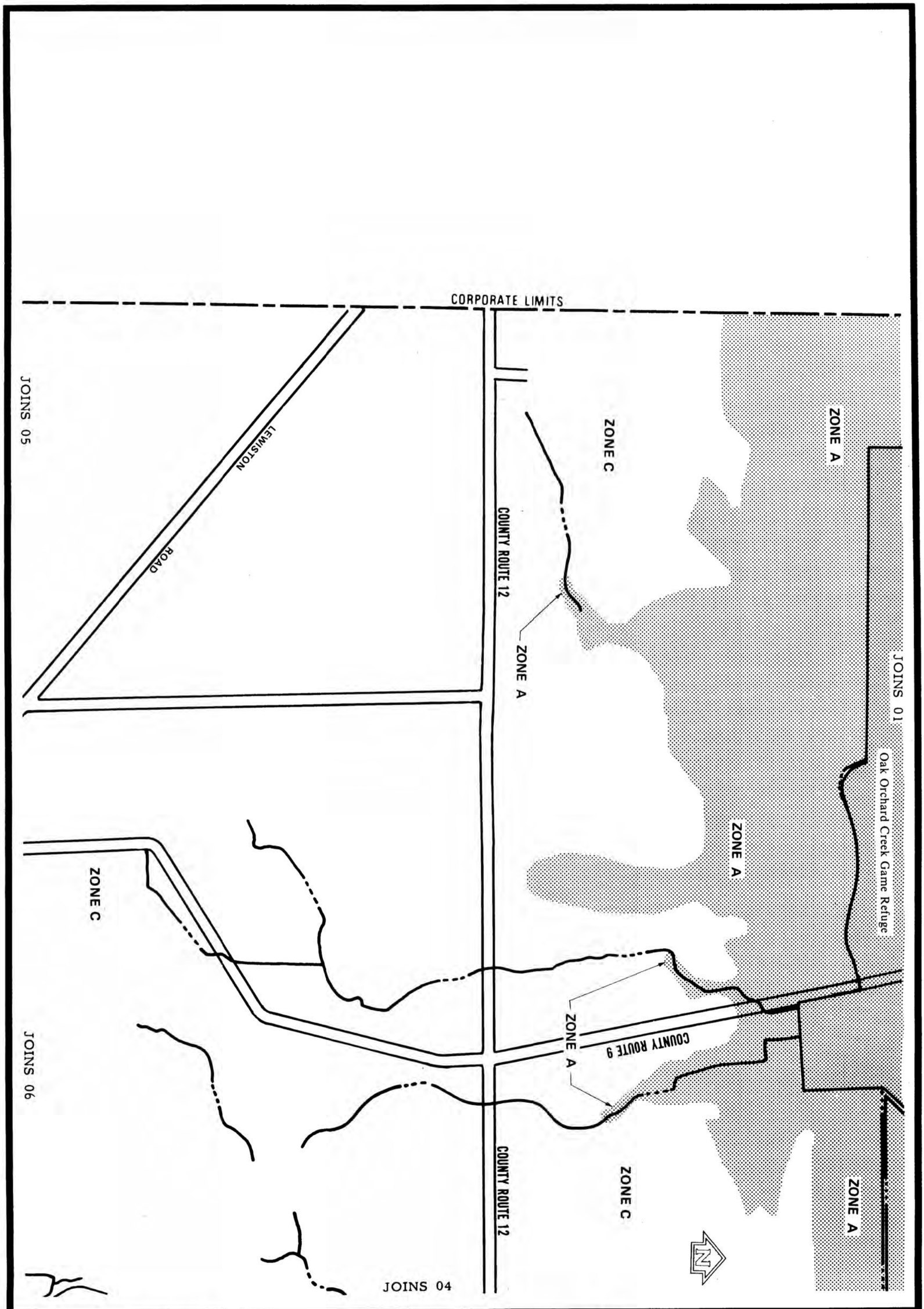
EFFECTIVE DATE
MAY 25, 1984

FLOOD INSURANCE RATE MAP
COMMUNITY NUMBER 361119 B

federal emergency management agency

TOWN OF OAKFIELD, NY
(GENESEE CO.)

MAP 02



MAP 03

federal emergency management agency

TOWN OF OAKFIELD, NY

(GENESEE CO.)

APPROXIMATE SCALE

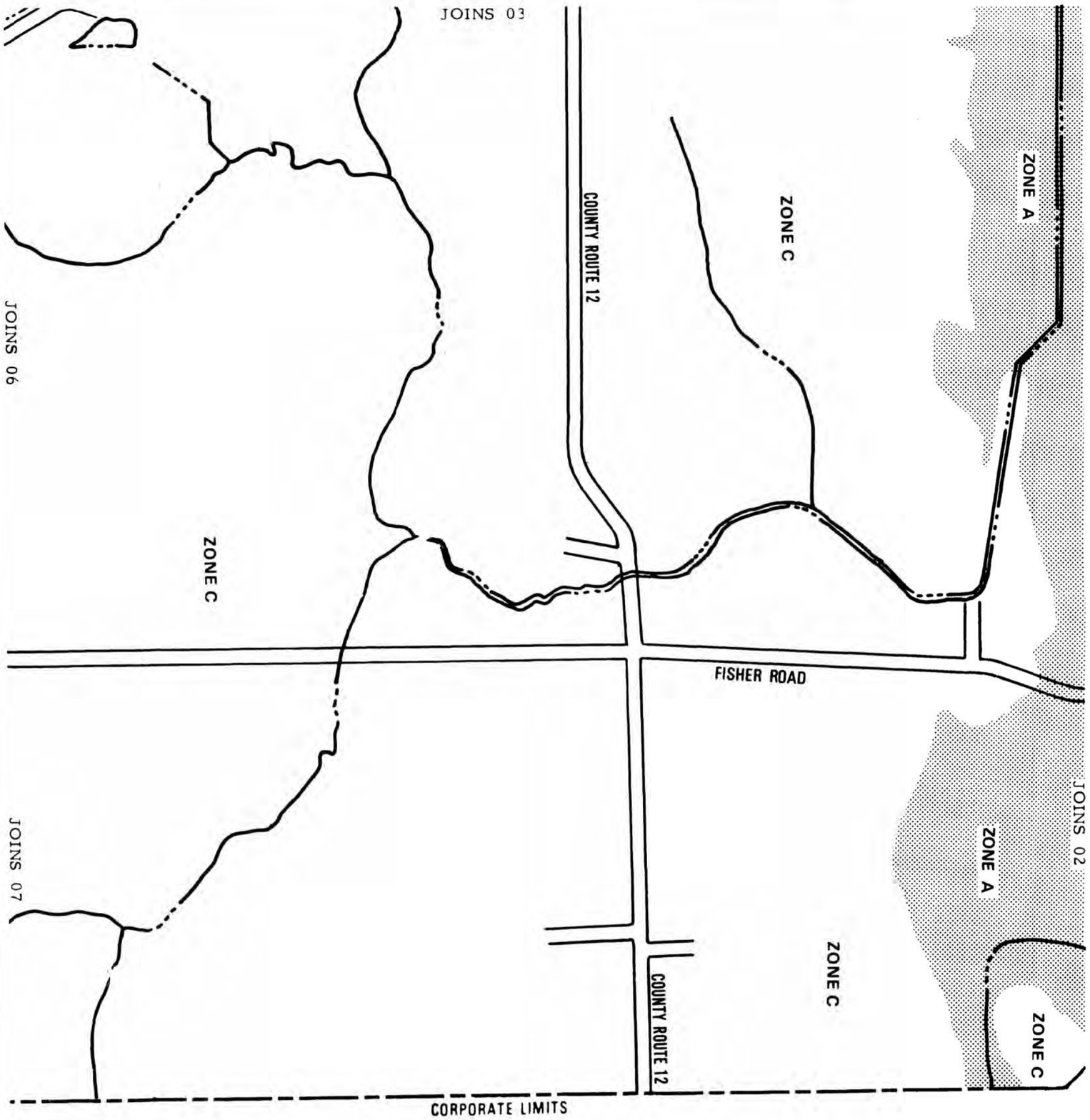
1000 0 1000 2000 3000 FEET

FLOOD INSURANCE RATE MAP

COMMUNITY NUMBER 361119 B

EFFECTIVE DATE

MAY 25, 1984



MAP 04

federal emergency management agency

TOWN OF OAKFIELD, NY

(GENESEE CO.)

APPROXIMATE SCALE

1000 0 1000 2000 3000 FEET

FLOOD INSURANCE RATE MAP

COMMUNITY NUMBER 361119 B

EFFECTIVE DATE

MAY 25, 1984

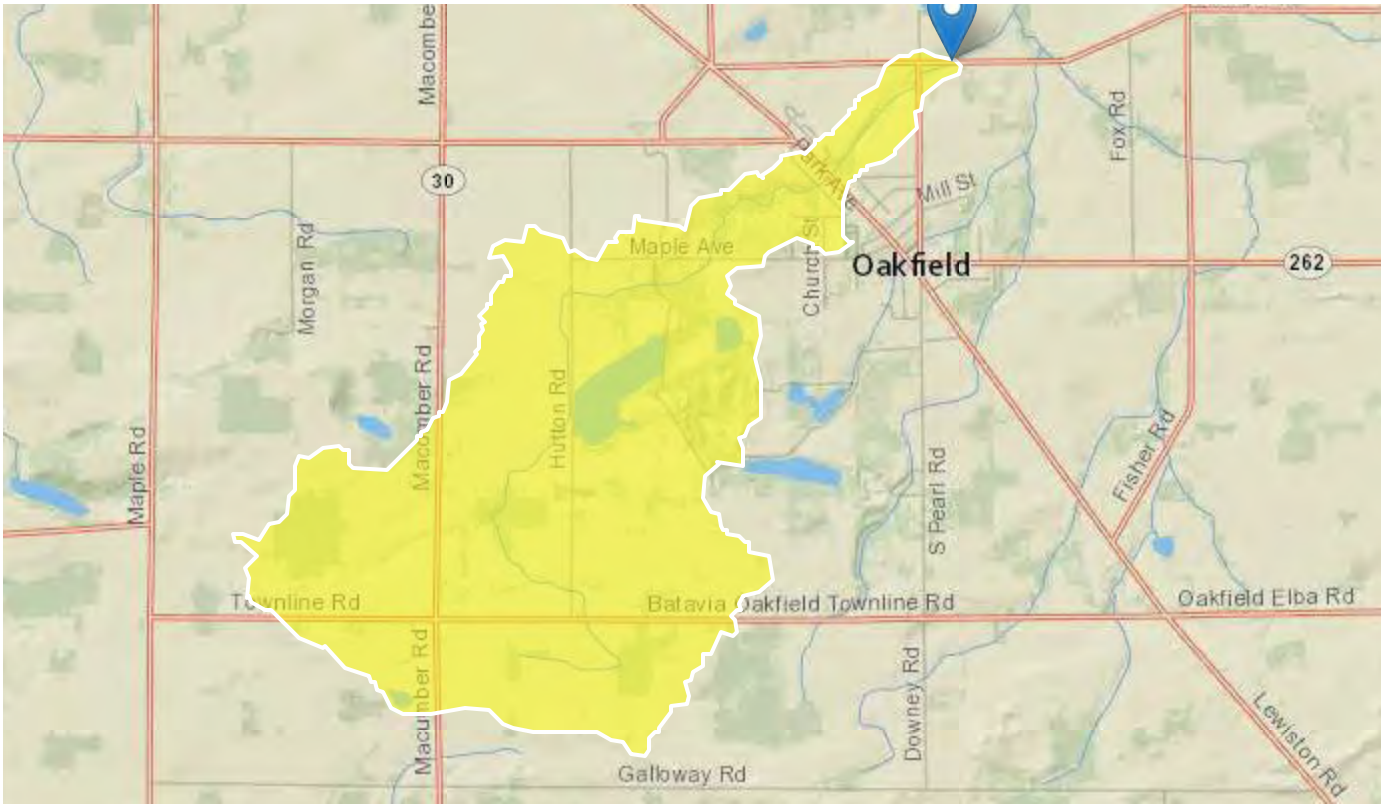
Appendix C:

Stream Stats Reports



StreamStats Report - Maltby Road

Region ID: NY
Workspace ID: NY20240310010257282000
Clicked Point (Latitude, Longitude): 43.07867, -78.26722
Time: 2024-03-09 20:03:17 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPCM	Mean basin slope determined by summing lengths of all contours in basin mulitplying by contour interval and dividing product by drainage area	171	feet per mi
CENTROIDX	Basin centroid horizontal (x) location in state plane coordinates	231270.2	meters
CENTROIDY	Basin centroid vertical (y) location in state plane units	4772006.7	meters

Parameter Code	Parameter Description	Value	Unit
CONTOUR	Total length of all elevation contours in drainage area in miles	6.23	miles
CSL1085LO	10-85 slope of lower half of main channel in feet per mile.	43.8	feet per mi
CSL1085UP	10-85 slope of upper half of main channel in feet per mile.	41.4	feet per mi
CSL10_85	Change in elevation divided by length between points 10 and 85 percent of distance along main channel to basin divide - main channel method not known	38	feet per mi
DRNAREA	Area that drains to a point on a stream	3.65	square miles
EL1200	Percentage of basin at or above 1200 ft elevation	0	percent
FOREST	Percentage of area covered by forest	13.3	percent
JULAVPRE	Mean July Precipitation	3.24	inches
JUNAVPRE	Mean June Precipitation	3.9	inches
JUNMAXTMP	Maximum June Temperature, in degrees F	77.7	degrees F
LAGFACTOR	Lag Factor as defined in SIR 2006-5112	0.12	dimensionless
LC11DEV	Percentage of developed (urban) land from NLCD 2011 classes 21-24	7.15	percent
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	1.61	percent
LENGTH	Length along the main channel from the measuring location extended to the basin divide	5.43	miles
MAR	Mean annual runoff for the period of record in inches	16.2	inches
MAYAVPRE	Mean May Precipitation	3.22	inches
MXSNO	50th percentile of seasonal maximum snow depth from Northeast Regional Climate Center atlas by Cember and Wilks, 1993	15.5	inches
OUTLETX	Basin outlet horizontal (x) location in state plane coordinates	234025	feet
OUTLETY	Basin outlet vertical (y) location in state plane coordinates	4774735	feet

Parameter Code	Parameter Description	Value	Unit
PRECIP	Mean Annual Precipitation	35.9	inches
PRJUNAUG00	Basin average mean precip for June to August from PRISM 1971-2000	10.6	inches
SLOPERATIO	Ratio of main channel slope to basin slope as defined in SIR 2006-5112	0.22	dimensionless
SSURGOA	Percentage of area of Hydrologic Soil Type A from SSURGO	3.63	percent
SSURGOB	Percentage of area of Hydrologic Soil Type B from SSURGO	47	percent
STORAGE	Percentage of area of storage (lakes ponds reservoirs wetlands)	3	percent

Peak-Flow Statistics

Peak-Flow Statistics Parameters [2006 Full Region 6]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3.65	square miles	0.58	2467
SLOPERATIO	Slope Ratio NY	0.22	dimensionless	0.019	0.698
EL1200	Percentage of Basin Above 1200 ft	0	percent	0	100
STORAGE	Percent Storage	3	percent	0	5.98
MAR	Mean Annual Runoff in inches	16.2	inches	9.49	22.77

Peak-Flow Statistics Flow Report [2006 Full Region 6]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp	Equiv. Yrs.
80-percent AEP flood	73.8	ft^3/s	34.7	34.7	2.3
66.7-percent AEP flood	88.1	ft^3/s	33.3	33.3	2
50-percent AEP flood	106	ft^3/s	32.3	32.3	1.9

Statistic	Value	Unit	SE	ASEp	Equiv. Yrs.
20-percent AEP flood	151	ft^3/s	32.2	32.2	2.4
10-percent AEP flood	180	ft^3/s	32.9	32.9	3.1
4-percent AEP flood	217	ft^3/s	34.4	34.4	3.9
2-percent AEP flood	244	ft^3/s	35.8	35.8	4.5
1-percent AEP flood	270	ft^3/s	37.2	37.2	4.9
0.5-percent AEP flood	297	ft^3/s	39	39	5.2
0.2-percent AEP flood	330	ft^3/s	41.4	41.4	5.5

Peak-Flow Statistics Citations

Lumia, Richard, Freehafer, D.A., and Smith, M.J.,2006, Magnitude and Frequency of Floods in New York: U.S. Geological Survey Scientific Investigations Report 2006–5112, 152 p. (http://pubs.usgs.gov/sir/2006/5112/)

Bankfull Statistics

Bankfull Statistics Parameters [Bankfull Region 7 SIR2009 5144]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3.65	square miles	1.07	349

Bankfull Statistics Parameters [Interior Plains D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3.65	square miles	0.19305	59927.7393

Bankfull Statistics Parameters [Central Lowland P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3.65	square miles	0.200772	59927.66594

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3.65	square miles	0.07722	59927.7393

Bankfull Statistics Flow Report [Bankfull Region 7 SIR2009 5144]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PIL	PIU
Bankfull Area	37.2	ft^2	11.7	118
Bankfull Depth	1.9	ft	0.558	6.47
Bankfull Streamflow	99.9	ft^3/s	11.2	889
Bankfull Width	19.5	ft	5.97	63.7

Bankfull Statistics Flow Report [Interior Plains D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	18.5	ft
Bieger_D_channel_depth	1.91	ft
Bieger_D_channel_cross_sectional_area	39.8	ft^2

Bankfull Statistics Flow Report [Central Lowland P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	21	ft
Bieger_P_channel_depth	2.31	ft
Bieger_P_channel_cross_sectional_area	37.8	ft^2

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	19.5	ft
Bieger_USA_channel_depth	1.59	ft
Bieger_USA_channel_cross_sectional_area	34.4	ft^2

Bankfull Statistics Flow Report [Area-Averaged]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PIL	PIU
Bankfull Area	37.2	ft^2	11.7	118

Statistic	Value	Unit	PIL	PIU
Bankfull Depth	1.9	ft	0.558	6.47
Bankfull Streamflow	99.9	ft^3/s	11.2	889
Bankfull Width	19.5	ft	5.97	63.7
Bieger_D_channel_width	18.5	ft		
Bieger_D_channel_depth	1.91	ft		
Bieger_D_channel_cross_sectional_area	39.8	ft^2		
Bieger_P_channel_width	21	ft		
Bieger_P_channel_depth	2.31	ft		
Bieger_P_channel_cross_sectional_area	37.8	ft^2		
Bieger_USA_channel_width	19.5	ft		
Bieger_USA_channel_depth	1.59	ft		
Bieger_USA_channel_cross_sectional_area	34.4	ft^2		

Bankfull Statistics Citations

Mulvihill, C.I., Baldigo, B.P., Miller, S.J. , and DeKoskie, Douglas,2009, Bankfull Discharge and Channel Characteristics of Streams in New York State: U.S. Geological Survey Scientific Investigations Report 2009-5144, 51 p. (http://pubs.usgs.gov/sir/2009/5144/)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_

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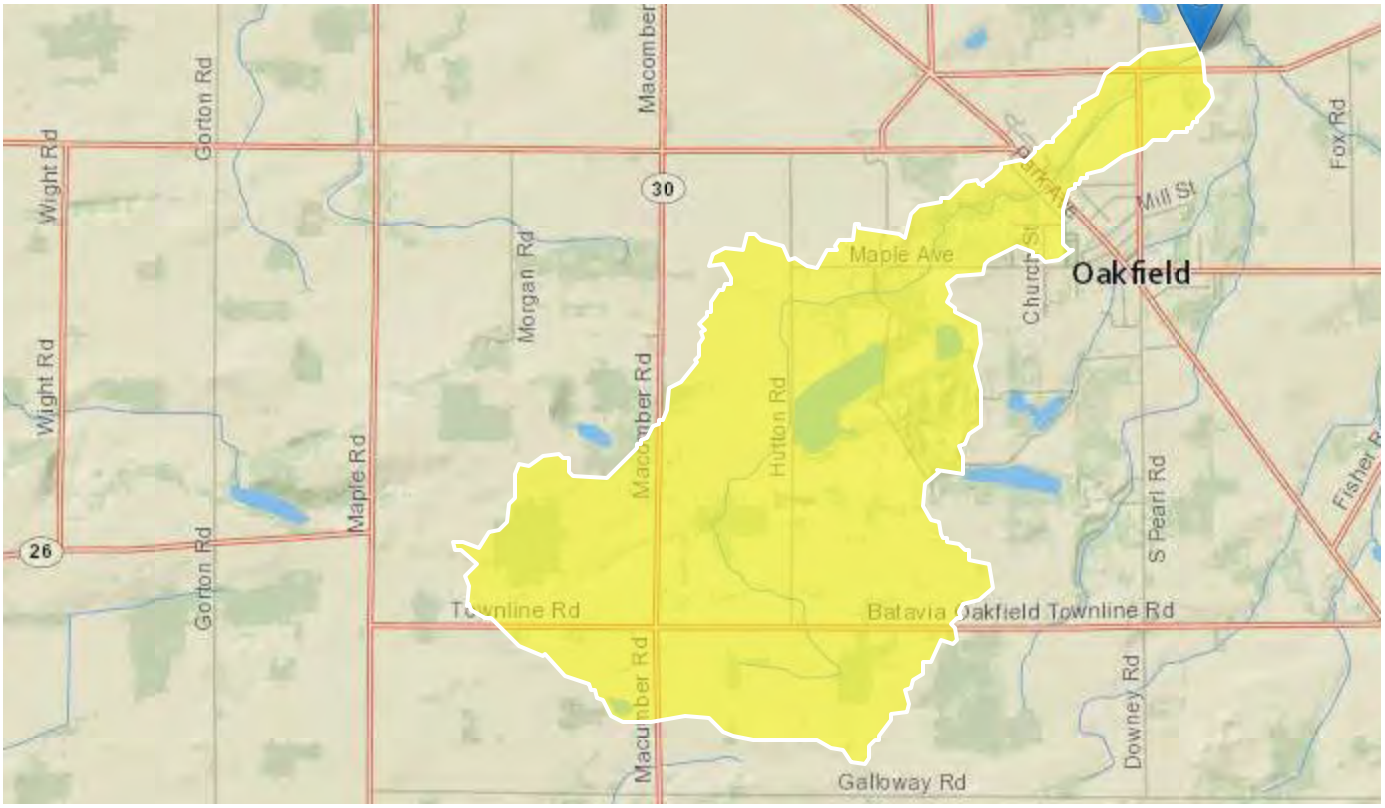
Application Version: 4.19.4

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

StreamStats Report - DS SPDES Outfall

Region ID: NY
Workspace ID: NY20240310012126149000
Clicked Point (Latitude, Longitude): 43.07975, -78.26482
Time: 2024-03-09 20:21:45 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPCM	Mean basin slope determined by summing lengths of all contours in basin mulitplying by contour interval and dividing product by drainage area	173	feet per mi
CENTROIDX	Basin centroid horizontal (x) location in state plane coordinates	231336.8	meters
CENTROIDY	Basin centroid vertical (y) location in state plane units	4772068	meters

Parameter Code	Parameter Description	Value	Unit
CONTOUR	Total length of all elevation contours in drainage area in miles	6.48	miles
CSL1085LO	10-85 slope of lower half of main channel in feet per mile.	44.2	feet per mi
CSL1085UP	10-85 slope of upper half of main channel in feet per mile.	41.1	feet per mi
CSL10_85	Change in elevation divided by length between points 10 and 85 percent of distance along main channel to basin divide - main channel method not known	41	feet per mi
DRNAREA	Area that drains to a point on a stream	3.74	square miles
EL1200	Percentage of basin at or above 1200 ft elevation	0	percent
FOREST	Percentage of area covered by forest	13.3	percent
JULAVPRE	Mean July Precipitation	3.24	inches
JUNAVPRE	Mean June Precipitation	3.9	inches
JUNMAXTMP	Maximum June Temperature, in degrees F	77.7	degrees F
LAGFACTOR	Lag Factor as defined in SIR 2006-5112	0.13	dimensionless
LC11DEV	Percentage of developed (urban) land from NLCD 2011 classes 21-24	7.1	percent
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	1.59	percent
LENGTH	Length along the main channel from the measuring location extended to the basin divide	5.58	miles
MAR	Mean annual runoff for the period of record in inches	16.2	inches
MAYAVPRE	Mean May Precipitation	3.22	inches
MXSNO	50th percentile of seasonal maximum snow depth from Northeast Regional Climate Center atlas by Cember and Wilks, 1993	15.5	inches
OUTLETX	Basin outlet horizontal (x) location in state plane coordinates	234225	feet
OUTLETY	Basin outlet vertical (y) location in state plane coordinates	4774845	feet

Parameter Code	Parameter Description	Value	Unit
PRECIP	Mean Annual Precipitation	35.9	inches
PRJUNAUG00	Basin average mean precip for June to August from PRISM 1971-2000	10.6	inches
SLOPERATIO	Ratio of main channel slope to basin slope as defined in SIR 2006-5112	0.24	dimensionless
SSURGOA	Percentage of area of Hydrologic Soil Type A from SSURGO	3.54	percent
SSURGOB	Percentage of area of Hydrologic Soil Type B from SSURGO	47.1	percent
STORAGE	Percentage of area of storage (lakes ponds reservoirs wetlands)	2.94	percent

Peak-Flow Statistics

Peak-Flow Statistics Parameters [2006 Full Region 6]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3.74	square miles	0.58	2467
SLOPERATIO	Slope Ratio NY	0.24	dimensionless	0.019	0.698
EL1200	Percentage of Basin Above 1200 ft	0	percent	0	100
STORAGE	Percent Storage	2.94	percent	0	5.98
MAR	Mean Annual Runoff in inches	16.2	inches	9.49	22.77

Peak-Flow Statistics Flow Report [2006 Full Region 6]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp	Equiv. Yrs.
80-percent AEP flood	76.7	ft^3/s	34.7	34.7	2.3
66.7-percent AEP flood	91.7	ft^3/s	33.3	33.3	2
50-percent AEP flood	110	ft^3/s	32.3	32.3	1.9

Statistic	Value	Unit	SE	ASEp	Equiv. Yrs.
20-percent AEP flood	158	ft^3/s	32.2	32.2	2.4
10-percent AEP flood	189	ft^3/s	32.9	32.9	3.1
4-percent AEP flood	228	ft^3/s	34.4	34.4	3.9
2-percent AEP flood	256	ft^3/s	35.8	35.8	4.5
1-percent AEP flood	284	ft^3/s	37.2	37.2	4.9
0.5-percent AEP flood	313	ft^3/s	39	39	5.2
0.2-percent AEP flood	348	ft^3/s	41.4	41.4	5.5

Peak-Flow Statistics Citations

Lumia, Richard, Freehafer, D.A., and Smith, M.J.,2006, Magnitude and Frequency of Floods in New York: U.S. Geological Survey Scientific Investigations Report 2006–5112, 152 p. (http://pubs.usgs.gov/sir/2006/5112/)

Bankfull Statistics

Bankfull Statistics Parameters [Bankfull Region 7 SIR2009 5144]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3.74	square miles	1.07	349

Bankfull Statistics Parameters [Interior Plains D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3.74	square miles	0.19305	59927.7393

Bankfull Statistics Parameters [Central Lowland P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3.74	square miles	0.200772	59927.66594

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3.74	square miles	0.07722	59927.7393

Bankfull Statistics Flow Report [Bankfull Region 7 SIR2009 5144]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PIL	PIU
Bankfull Area	37.8	ft^2	12	119
Bankfull Depth	1.91	ft	0.565	6.46
Bankfull Streamflow	102	ft^3/s	11.6	896
Bankfull Width	19.8	ft	6.1	64.2

Bankfull Statistics Flow Report [Interior Plains D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	18.6	ft
Bieger_D_channel_depth	1.92	ft
Bieger_D_channel_cross_sectional_area	40.2	ft^2

Bankfull Statistics Flow Report [Central Lowland P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	21.2	ft
Bieger_P_channel_depth	2.32	ft
Bieger_P_channel_cross_sectional_area	38.2	ft^2

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	19.7	ft
Bieger_USA_channel_depth	1.6	ft
Bieger_USA_channel_cross_sectional_area	34.8	ft^2

Bankfull Statistics Flow Report [Area-Averaged]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PIL	PIU
Bankfull Area	37.8	ft^2	12	119

Statistic	Value	Unit	PIL	PIU
Bankfull Depth	1.91	ft	0.565	6.46
Bankfull Streamflow	102	ft^3/s	11.6	896
Bankfull Width	19.8	ft	6.1	64.2
Bieger_D_channel_width	18.6	ft		
Bieger_D_channel_depth	1.92	ft		
Bieger_D_channel_cross_sectional_area	40.2	ft^2		
Bieger_P_channel_width	21.2	ft		
Bieger_P_channel_depth	2.32	ft		
Bieger_P_channel_cross_sectional_area	38.2	ft^2		
Bieger_USA_channel_width	19.7	ft		
Bieger_USA_channel_depth	1.6	ft		
Bieger_USA_channel_cross_sectional_area	34.8	ft^2		

Bankfull Statistics Citations

Mulvihill, C.I., Baldigo, B.P., Miller, S.J. , and DeKoskie, Douglas,2009, Bankfull Discharge and Channel Characteristics of Streams in New York State: U.S. Geological Survey Scientific Investigations Report 2009-5144, 51 p. (http://pubs.usgs.gov/sir/2009/5144/)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_

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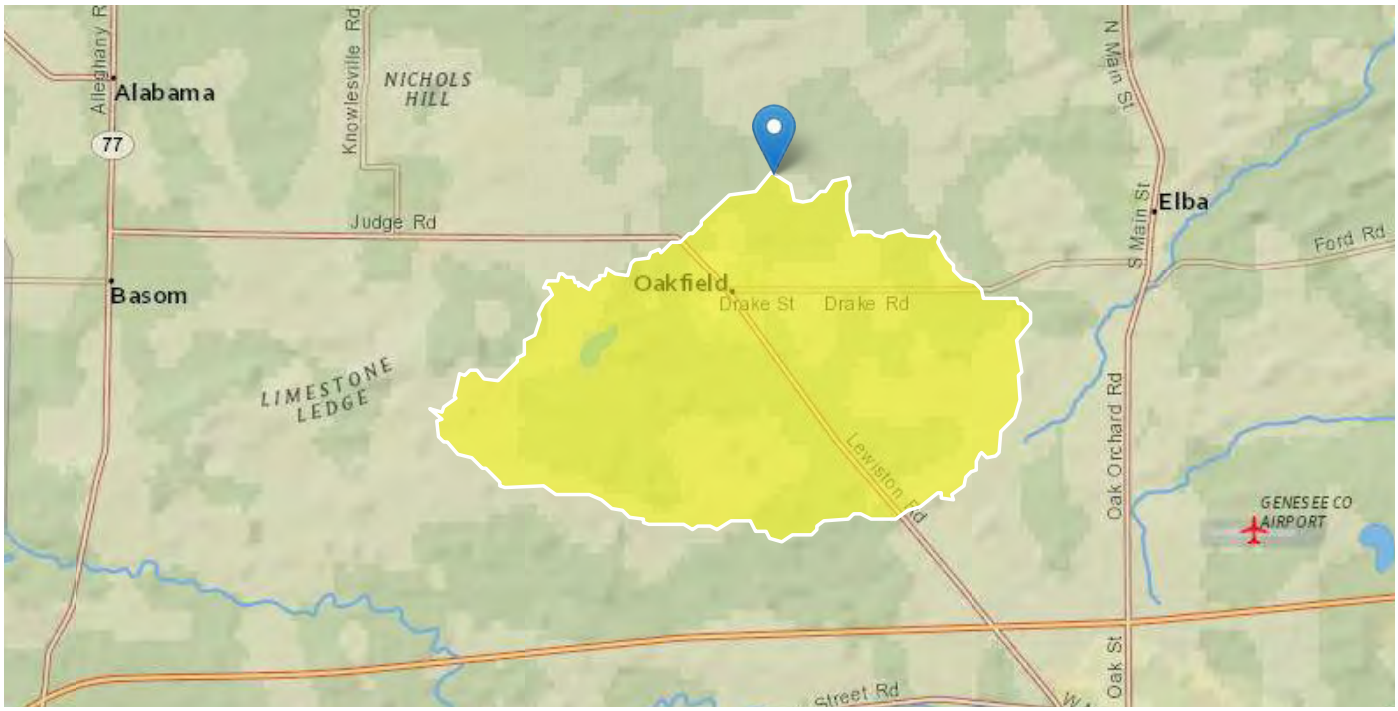
Application Version: 4.19.4

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

StreamStats Report - Confluence D/S of SPDES Outfall

Region ID: NY
Workspace ID: NY20240310011008887000
Clicked Point (Latitude, Longitude): 43.08246, -78.26164
Time: 2024-03-09 20:10:28 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPCM	Mean basin slope determined by summing lengths of all contours in basin mulitplying by contour interval and dividing product by drainage area	167	feet per mi
CENTROIDX	Basin centroid horizontal (x) location in state plane coordinates	234081	meters
CENTROIDY	Basin centroid vertical (y) location in state plane units	4771960.1	meters
CONTOUR	Total length of all elevation contours in drainage area in miles	22.72	miles
CSL1085LO	10-85 slope of lower half of main channel in feet per mile.	33.5	feet per mi
CSL1085UP	10-85 slope of upper half of main channel in feet per mile.	55	feet per mi

Parameter Code	Parameter Description	Value	Unit
CSL10_85	Change in elevation divided by length between points 10 and 85 percent of distance along main channel to basin divide - main channel method not known	46.3	feet per mi
DRNAREA	Area that drains to a point on a stream	13.6	square miles
EL1200	Percentage of basin at or above 1200 ft elevation	0	percent
FOREST	Percentage of area covered by forest	10.7	percent
JULAVPRE	Mean July Precipitation	3.25	inches
JUNAVPRE	Mean June Precipitation	3.91	inches
JUNMAXTMP	Maximum June Temperature, in degrees F	77.8	degrees F
LAGFACTOR	Lag Factor as defined in SIR 2006-5112	0.13	dimensionless
LC11DEV	Percentage of developed (urban) land from NLCD 2011 classes 21-24	7.84	percent
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	1.92	percent
LENGTH	Length along the main channel from the measuring location extended to the basin divide	5.83	miles
MAR	Mean annual runoff for the period of record in inches	15.6	inches
MAYAVPRE	Mean May Precipitation	3.25	inches
MXSNO	50th percentile of seasonal maximum snow depth from Northeast Regional Climate Center atlas by Cember and Wilks, 1993	15.4	inches
OUTLETX	Basin outlet horizontal (x) location in state plane coordinates	234495	feet
OUTLETY	Basin outlet vertical (y) location in state plane coordinates	4775135	feet
PRECIP	Mean Annual Precipitation	35.3	inches
PRJUNAUG00	Basin average mean precip for June to August from PRISM 1971-2000	10.7	inches
SLOPERATIO	Ratio of main channel slope to basin slope as defined in SIR 2006-5112	0.28	dimensionless
SSURGOA	Percentage of area of Hydrologic Soil Type A from SSURGO	1.13	percent
SSURGOB	Percentage of area of Hydrologic Soil Type B from SSURGO	50.4	percent
STORAGE	Percentage of area of storage (lakes ponds reservoirs wetlands)	1.23	percent

Peak-Flow Statistics

Peak-Flow Statistics Parameters [2006 Full Region 6]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	13.6	square miles	0.58	2467
SLOPERATIO	Slope Ratio NY	0.28	dimensionless	0.019	0.698
EL1200	Percentage of Basin Above 1200 ft	0	percent	0	100
STORAGE	Percent Storage	1.23	percent	0	5.98
MAR	Mean Annual Runoff in inches	15.6	inches	9.49	22.77

Peak-Flow Statistics Flow Report [2006 Full Region 6]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp	Equiv. Yrs.
80-percent AEP flood	262	ft^3/s	34.7	34.7	2.3
66.7-percent AEP flood	313	ft^3/s	33.3	33.3	2
50-percent AEP flood	375	ft^3/s	32.3	32.3	1.9
20-percent AEP flood	532	ft^3/s	32.2	32.2	2.4
10-percent AEP flood	636	ft^3/s	32.9	32.9	3.1
4-percent AEP flood	767	ft^3/s	34.4	34.4	3.9
2-percent AEP flood	863	ft^3/s	35.8	35.8	4.5
1-percent AEP flood	956	ft^3/s	37.2	37.2	4.9
0.5-percent AEP flood	1060	ft^3/s	39	39	5.2
0.2-percent AEP flood	1180	ft^3/s	41.4	41.4	5.5

Peak-Flow Statistics Citations

Lumia, Richard, Freehafer, D.A., and Smith, M.J.,2006, Magnitude and Frequency of Floods in New York: U.S. Geological Survey Scientific Investigations Report 2006–5112, 152 p. (http://pubs.usgs.gov/sir/2006/5112/)

Bankfull Statistics

Bankfull Statistics Parameters [Bankfull Region 7 SIR2009 5144]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	13.6	square miles	1.07	349

Bankfull Statistics Parameters [Interior Plains D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	13.6	square miles	0.19305	59927.7393

Bankfull Statistics Parameters [Central Lowland P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	13.6	square miles	0.200772	59927.66594

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	13.6	square miles	0.07722	59927.7393

Bankfull Statistics Flow Report [Bankfull Region 7 SIR2009 5144]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PIL	PIU
Bankfull Area	88.1	ft^2	37.3	208
Bankfull Depth	2.47	ft	0.955	6.39
Bankfull Streamflow	273	ft^3/s	53.5	1390
Bankfull Width	35.7	ft	14.6	87.6

Bankfull Statistics Flow Report [Interior Plains D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	29.3	ft
Bieger_D_channel_depth	2.46	ft
Bieger_D_channel_cross_sectional_area	74	ft^2

Bankfull Statistics Flow Report [Central Lowland P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	32.8	ft
Bieger_P_channel_depth	2.89	ft
Bieger_P_channel_cross_sectional_area	69.2	ft^2

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	31	ft

Statistic	Value	Unit
Bieger_USA_channel_depth	2.1	ft
Bieger_USA_channel_cross_sectional_area	70	ft^2

Bankfull Statistics Flow Report [Area-Averaged]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PIL	PIU
Bankfull Area	88.1	ft^2	37.3	208
Bankfull Depth	2.47	ft	0.955	6.39
Bankfull Streamflow	273	ft^3/s	53.5	1390
Bankfull Width	35.7	ft	14.6	87.6
Bieger_D_channel_width	29.3	ft		
Bieger_D_channel_depth	2.46	ft		
Bieger_D_channel_cross_sectional_area	74	ft^2		
Bieger_P_channel_width	32.8	ft		
Bieger_P_channel_depth	2.89	ft		
Bieger_P_channel_cross_sectional_area	69.2	ft^2		
Bieger_USA_channel_width	31	ft		
Bieger_USA_channel_depth	2.1	ft		
Bieger_USA_channel_cross_sectional_area	70	ft^2		

Bankfull Statistics Citations

Mulvihill, C.I., Baldigo, B.P., Miller, S.J. , and DeKoskie, Douglas,2009, Bankfull Discharge and Channel Characteristics of Streams in New York State: U.S. Geological Survey Scientific Investigations Report 2009-5144, 51 p. (http://pubs.usgs.gov/sir/2009/5144/)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_campaign=PDF

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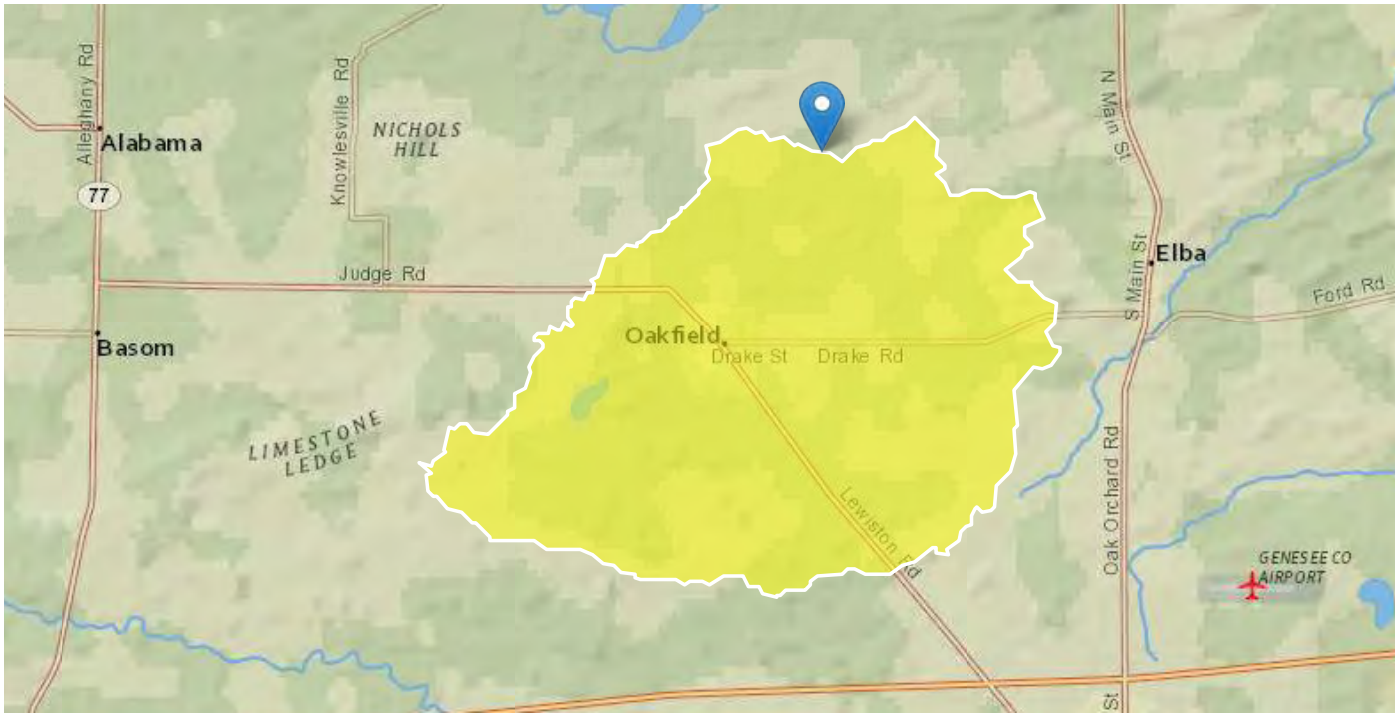
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Application Version: 4.19.4
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

StreamStats Report - Confluence US of Lockport Road

Region ID: NY
Workspace ID: NY20240310011409921000
Clicked Point (Latitude, Longitude): 43.09296, -78.25117
Time: 2024-03-09 20:14:30 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPCM	Mean basin slope determined by summing lengths of all contours in basin mulitplying by contour interval and dividing product by drainage area	141	feet per mi
CENTROIDX	Basin centroid horizontal (x) location in state plane coordinates	234535.2	meters
CENTROIDY	Basin centroid vertical (y) location in state plane units	4772767.2	meters
CONTOUR	Total length of all elevation contours in drainage area in miles	26.2	miles
CSL1085LO	10-85 slope of lower half of main channel in feet per mile.	24.5	feet per mi
CSL1085UP	10-85 slope of upper half of main channel in feet per mile.	53.3	feet per mi

Parameter Code	Parameter Description	Value	Unit
CSL10_85	Change in elevation divided by length between points 10 and 85 percent of distance along main channel to basin divide - main channel method not known	40.1	feet per mi
DRNAREA	Area that drains to a point on a stream	18.6	square miles
EL1200	Percentage of basin at or above 1200 ft elevation	0	percent
FOREST	Percentage of area covered by forest	12	percent
JULAVPRE	Mean July Precipitation	3.24	inches
JUNAVPRE	Mean June Precipitation	3.9	inches
JUNMAXTMP	Maximum June Temperature, in degrees F	77.9	degrees F
LAGFACTOR	Lag Factor as defined in SIR 2006-5112	0.2	dimensionless
LC11DEV	Percentage of developed (urban) land from NLCD 2011 classes 21-24	7.56	percent
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	1.93	percent
LENGTH	Length along the main channel from the measuring location extended to the basin divide	7.48	miles
MAR	Mean annual runoff for the period of record in inches	15.4	inches
MAYAVPRE	Mean May Precipitation	3.24	inches
MXSNO	50th percentile of seasonal maximum snow depth from Northeast Regional Climate Center atlas by Cember and Wilks, 1993	15.4	inches
OUTLETX	Basin outlet horizontal (x) location in state plane coordinates	235395	feet
OUTLETY	Basin outlet vertical (y) location in state plane coordinates	4776265	feet
PRECIP	Mean Annual Precipitation	35.2	inches
PRJUNAUG00	Basin average mean precip for June to August from PRISM 1971-2000	10.6	inches
SLOPERATIO	Ratio of main channel slope to basin slope as defined in SIR 2006-5112	0.28	dimensionless
SSURGOA	Percentage of area of Hydrologic Soil Type A from SSURGO	1.16	percent
SSURGOB	Percentage of area of Hydrologic Soil Type B from SSURGO	49.6	percent
STORAGE	Percentage of area of storage (lakes ponds reservoirs wetlands)	1.22	percent

Peak-Flow Statistics

Peak-Flow Statistics Parameters [2006 Full Region 6]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	18.6	square miles	0.58	2467
SLOPERATIO	Slope Ratio NY	0.28	dimensionless	0.019	0.698
EL1200	Percentage of Basin Above 1200 ft	0	percent	0	100
STORAGE	Percent Storage	1.22	percent	0	5.98
MAR	Mean Annual Runoff in inches	15.4	inches	9.49	22.77

Peak-Flow Statistics Flow Report [2006 Full Region 6]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp	Equiv. Yrs.
80-percent AEP flood	334	ft^3/s	34.7	34.7	2.3
66.7-percent AEP flood	399	ft^3/s	33.3	33.3	2
50-percent AEP flood	479	ft^3/s	32.3	32.3	1.9
20-percent AEP flood	680	ft^3/s	32.2	32.2	2.4
10-percent AEP flood	814	ft^3/s	32.9	32.9	3.1
4-percent AEP flood	984	ft^3/s	34.4	34.4	3.9
2-percent AEP flood	1110	ft^3/s	35.8	35.8	4.5
1-percent AEP flood	1230	ft^3/s	37.2	37.2	4.9
0.5-percent AEP flood	1360	ft^3/s	39	39	5.2
0.2-percent AEP flood	1520	ft^3/s	41.4	41.4	5.5

Peak-Flow Statistics Citations

Lumia, Richard, Freehafer, D.A., and Smith, M.J.,2006, Magnitude and Frequency of Floods in New York: U.S. Geological Survey Scientific Investigations Report 2006–5112, 152 p. (http://pubs.usgs.gov/sir/2006/5112/)

Bankfull Statistics

Bankfull Statistics Parameters [Bankfull Region 7 SIR2009 5144]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	18.6	square miles	1.07	349

Bankfull Statistics Parameters [Interior Plains D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	18.6	square miles	0.19305	59927.7393

Bankfull Statistics Parameters [Central Lowland P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	18.6	square miles	0.200772	59927.66594

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	18.6	square miles	0.07722	59927.7393

Bankfull Statistics Flow Report [Bankfull Region 7 SIR2009 5144]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PIL	PIU
Bankfull Area	108	ft^2	47.6	245
Bankfull Depth	2.63	ft	1.05	6.58
Bankfull Streamflow	347	ft^3/s	72.7	1660
Bankfull Width	41.2	ft	17.4	97.5

Bankfull Statistics Flow Report [Interior Plains D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	32.7	ft
Bieger_D_channel_depth	2.61	ft
Bieger_D_channel_cross_sectional_area	85.8	ft^2

Bankfull Statistics Flow Report [Central Lowland P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	36.5	ft
Bieger_P_channel_depth	3.04	ft
Bieger_P_channel_cross_sectional_area	79.9	ft^2

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	34.7	ft

Statistic	Value	Unit
Bieger_USA_channel_depth	2.25	ft
Bieger_USA_channel_cross_sectional_area	82.8	ft^2

Bankfull Statistics Flow Report [Area-Averaged]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PIL	PIU
Bankfull Area	108	ft^2	47.6	245
Bankfull Depth	2.63	ft	1.05	6.58
Bankfull Streamflow	347	ft^3/s	72.7	1660
Bankfull Width	41.2	ft	17.4	97.5
Bieger_D_channel_width	32.7	ft		
Bieger_D_channel_depth	2.61	ft		
Bieger_D_channel_cross_sectional_area	85.8	ft^2		
Bieger_P_channel_width	36.5	ft		
Bieger_P_channel_depth	3.04	ft		
Bieger_P_channel_cross_sectional_area	79.9	ft^2		
Bieger_USA_channel_width	34.7	ft		
Bieger_USA_channel_depth	2.25	ft		
Bieger_USA_channel_cross_sectional_area	82.8	ft^2		

Bankfull Statistics Citations

Mulvihill, C.I., Baldigo, B.P., Miller, S.J. , and DeKoskie, Douglas,2009, Bankfull Discharge and Channel Characteristics of Streams in New York State: U.S. Geological Survey Scientific Investigations Report 2009-5144, 51 p. (http://pubs.usgs.gov/sir/2009/5144/)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_campaign=PD

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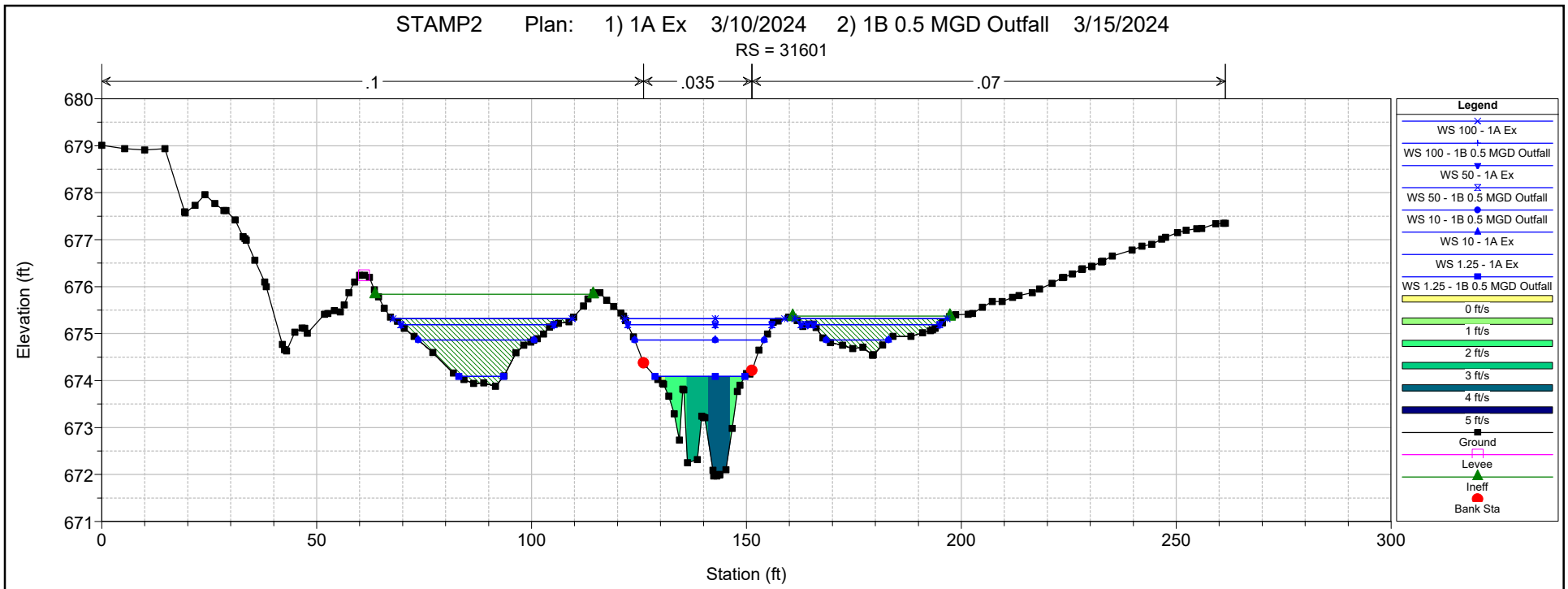
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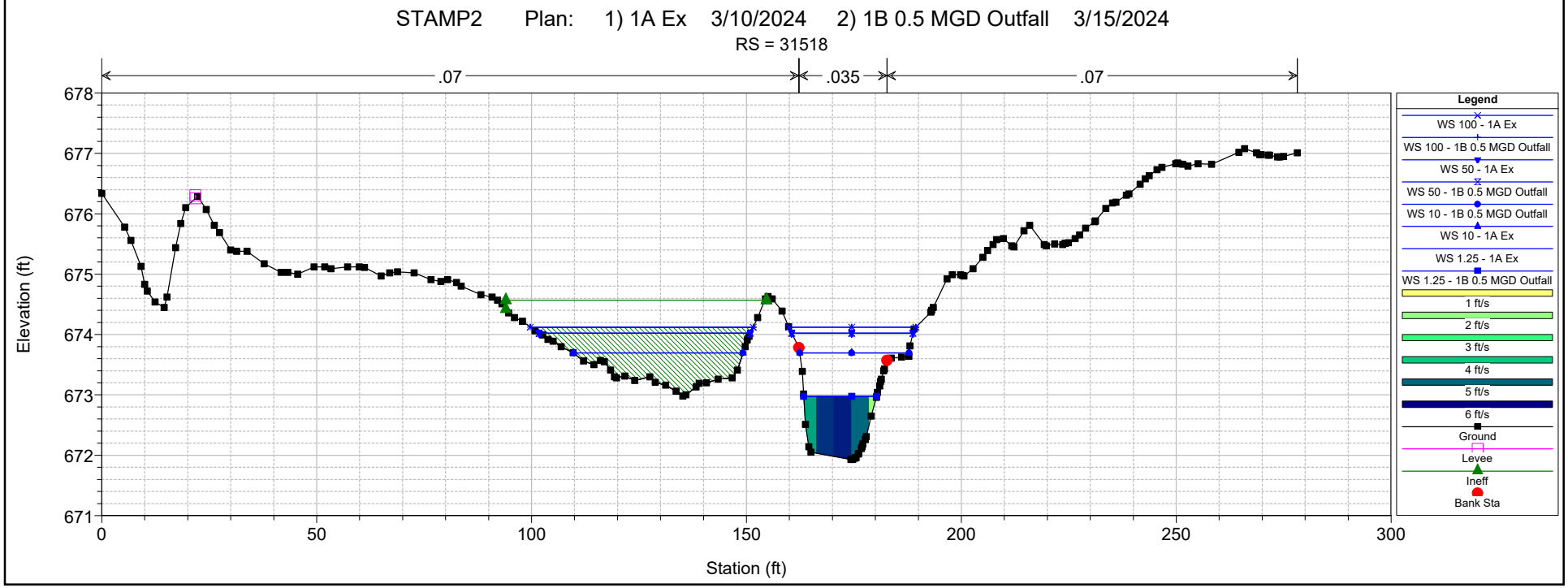
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NSS Services Version: 2.2.1

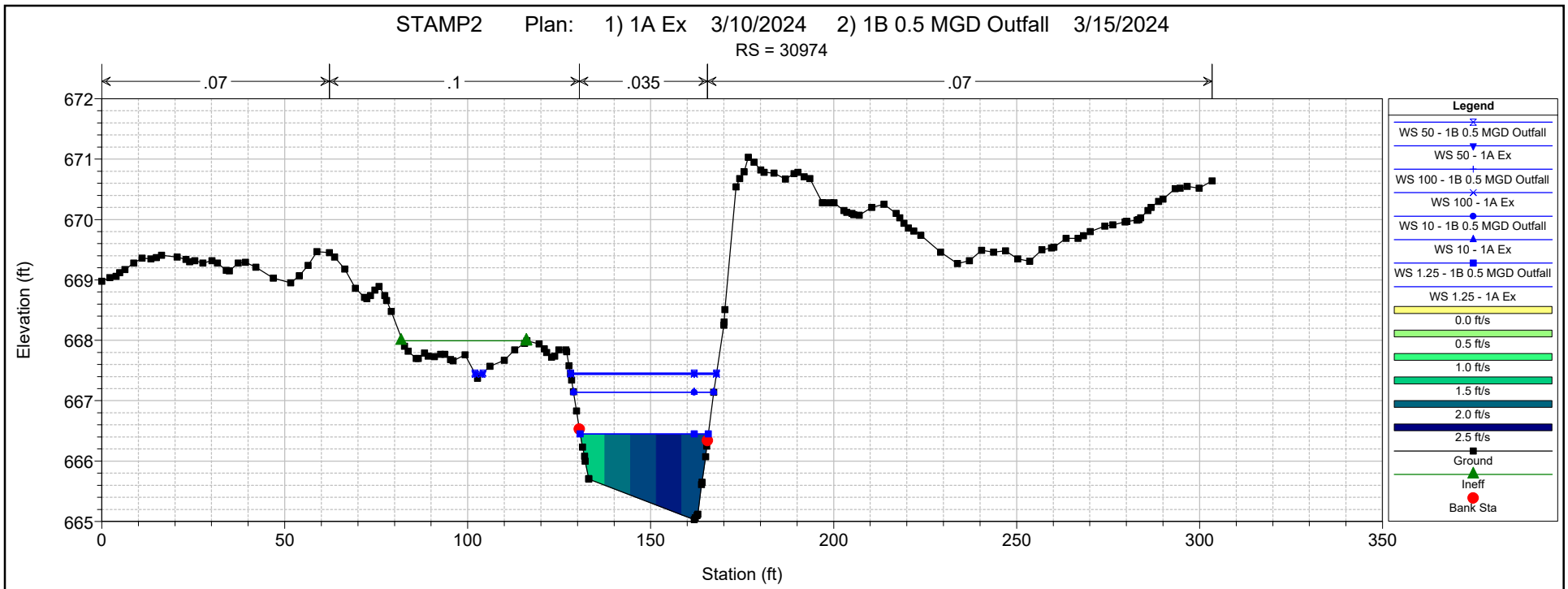
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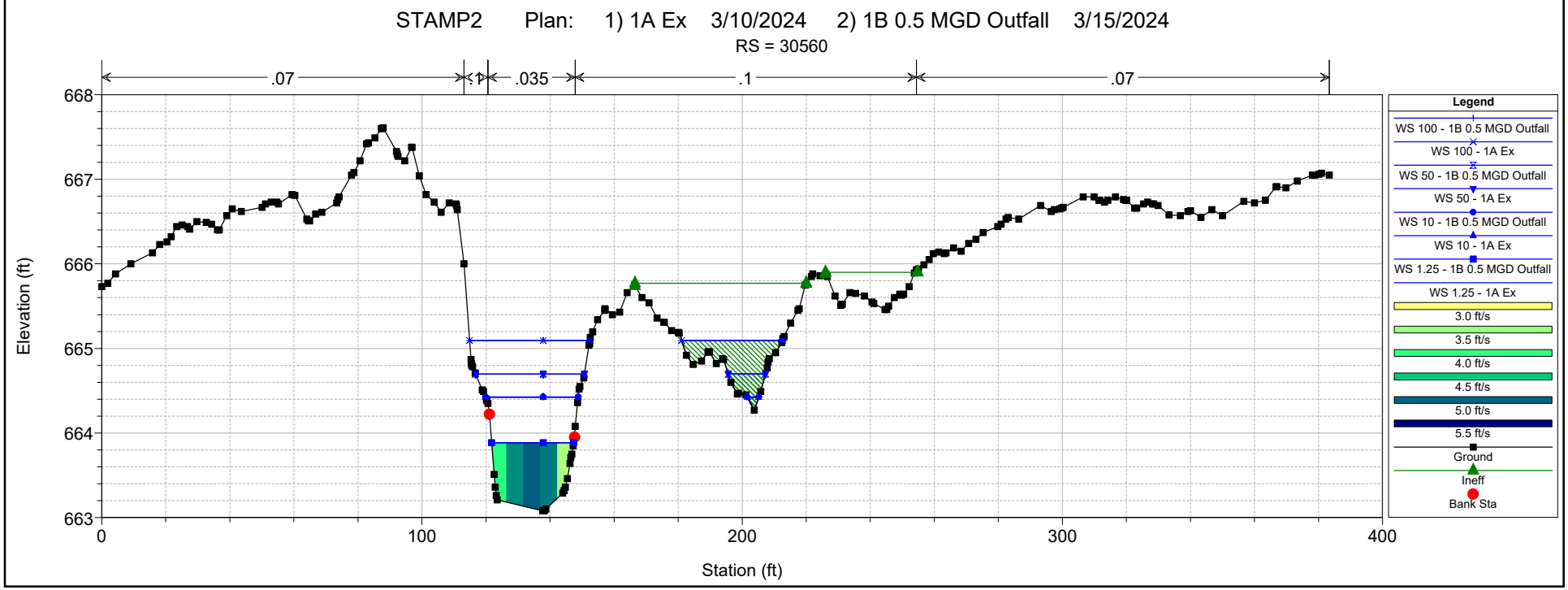
HEC-RAS Documentation

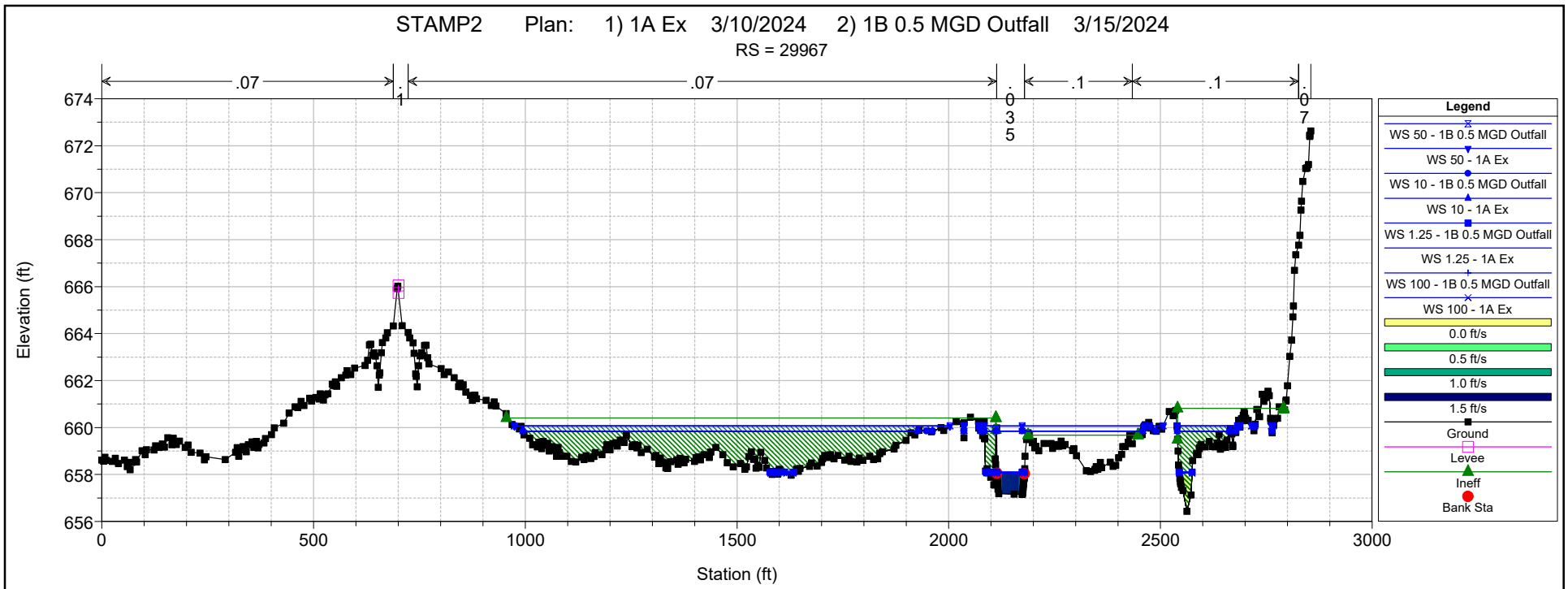


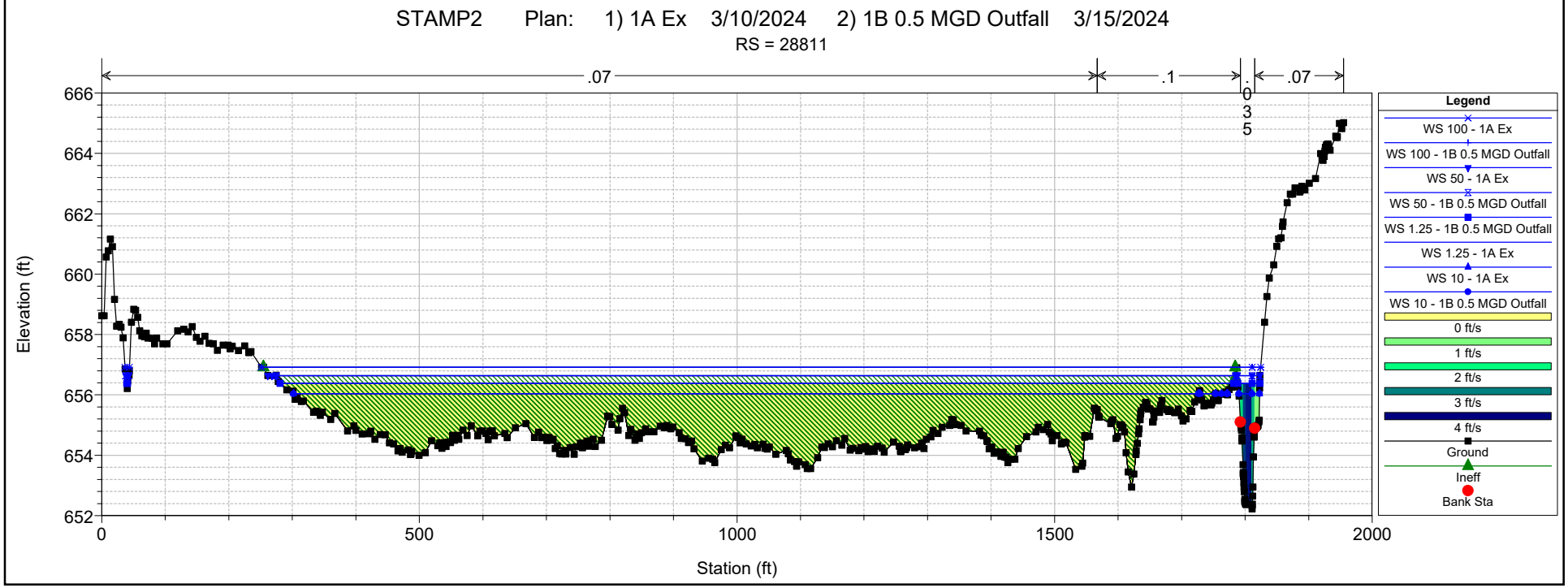

STAMP2 Plan: 1) 1A Ex 3/10/2024 2) 1B 0.5 MGD Outfall 3/15/2024
RS = 31601
.1
.035
.07
Elevation (ft)
Station (ft)
Legend
WS 100 - 1A Ex
WS 100 - 1B 0.5 MGD Outfall
WS 50 - 1A Ex
WS 50 - 1B 0.5 MGD Outfall
WS 10 - 1B 0.5 MGD Outfall
WS 10 - 1A Ex
WS 1.25 - 1A Ex
WS 1.25 - 1B 0.5 MGD Outfall
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
Ground
Levee
Ineff
Bank Sta

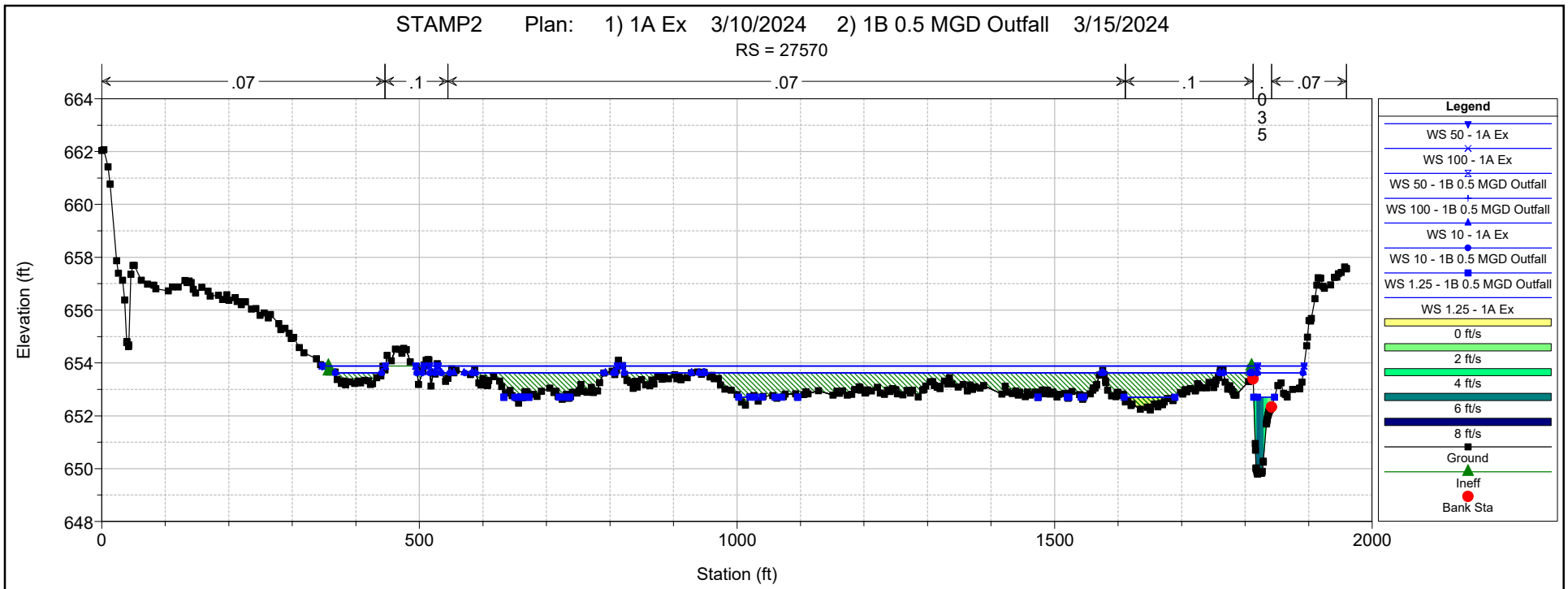

STAMP2 Plan: 1) 1A Ex 3/10/2024 2) 1B 0.5 MGD Outfall 3/15/2024
RS = 31518
.07
.035
.07
Elevation (ft)
Station (ft)
Legend
WS 100 - 1A Ex
WS 100 - 1B 0.5 MGD Outfall
WS 50 - 1A Ex
WS 50 - 1B 0.5 MGD Outfall
WS 10 - 1B 0.5 MGD Outfall
WS 10 - 1A Ex
WS 1.25 - 1A Ex
WS 1.25 - 1B 0.5 MGD Outfall
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
Ground
Levee
Ineff
Bank Sta

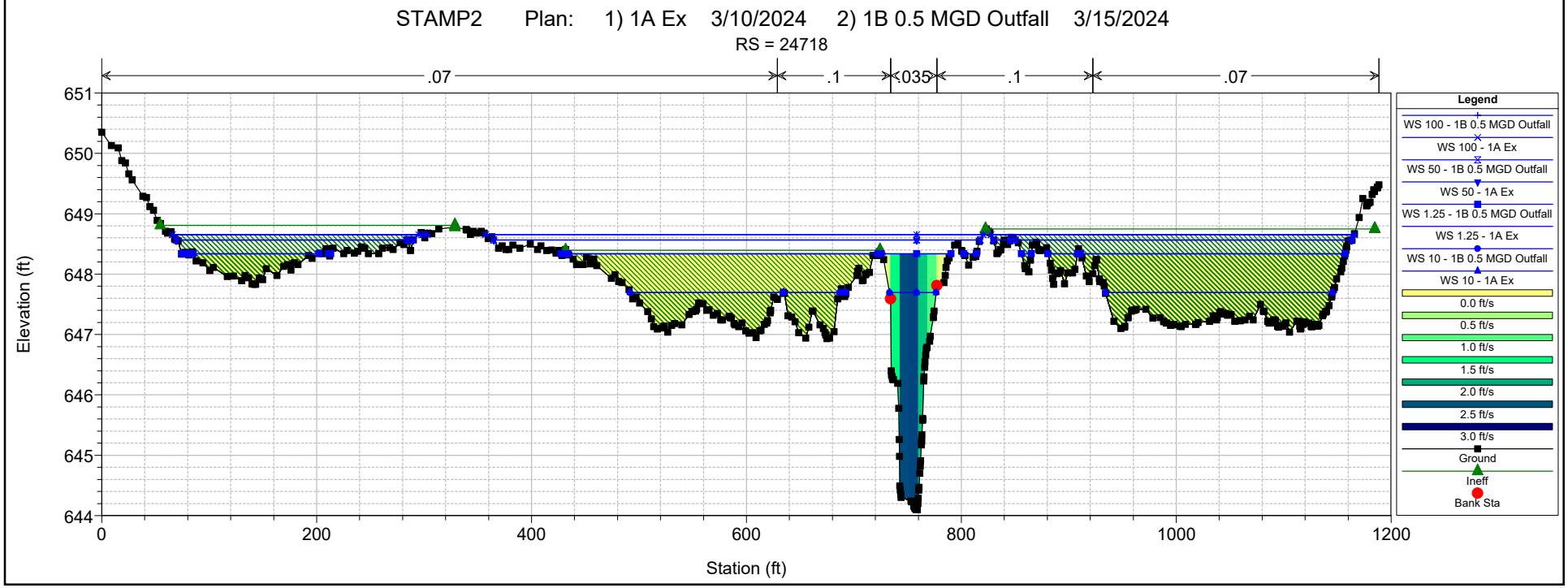

STAMP2 Plan: 1) 1A Ex 3/10/2024 2) 1B 0.5 MGD Outfall 3/15/2024
RS = 30974
.07
.1
.035
.07
Elevation (ft)
Station (ft)
Legend
WS 50 - 1B 0.5 MGD Outfall
WS 50 - 1A Ex
WS 100 - 1B 0.5 MGD Outfall
WS 100 - 1A Ex
WS 10 - 1B 0.5 MGD Outfall
WS 10 - 1A Ex
WS 1.25 - 1B 0.5 MGD Outfall
WS 1.25 - 1A Ex
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
Ground
Ineff
Bank Sta

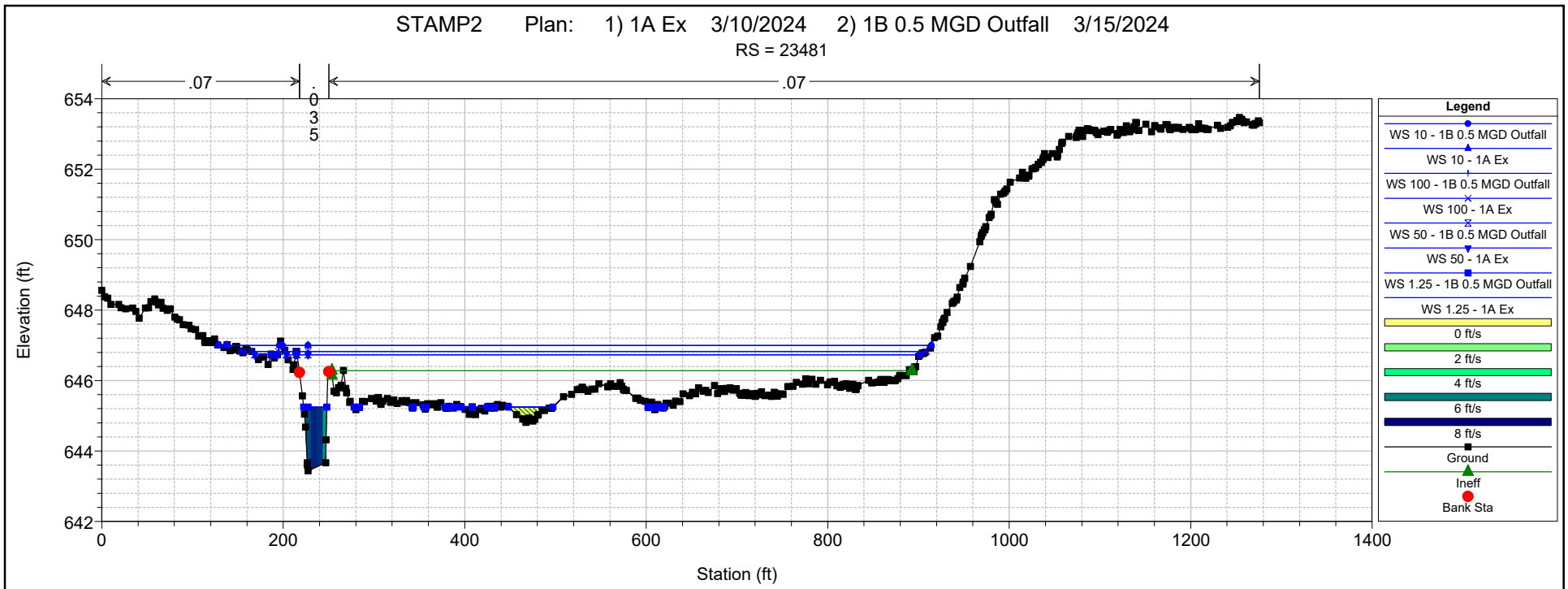

STAMP2 Plan: 1) 1A Ex 3/10/2024 2) 1B 0.5 MGD Outfall 3/15/2024
RS = 30560
.07
.1
.035
.1
.07
Elevation (ft)
Station (ft)
Legend
WS 100 - 1B 0.5 MGD Outfall
WS 100 - 1A Ex
WS 50 - 1B 0.5 MGD Outfall
WS 50 - 1A Ex
WS 10 - 1B 0.5 MGD Outfall
WS 10 - 1A Ex
WS 1.25 - 1B 0.5 MGD Outfall
WS 1.25 - 1A Ex
3.0 ft/s
3.5 ft/s
4.0 ft/s
4.5 ft/s
5.0 ft/s
5.5 ft/s
Ground
Ineff
Bank Sta

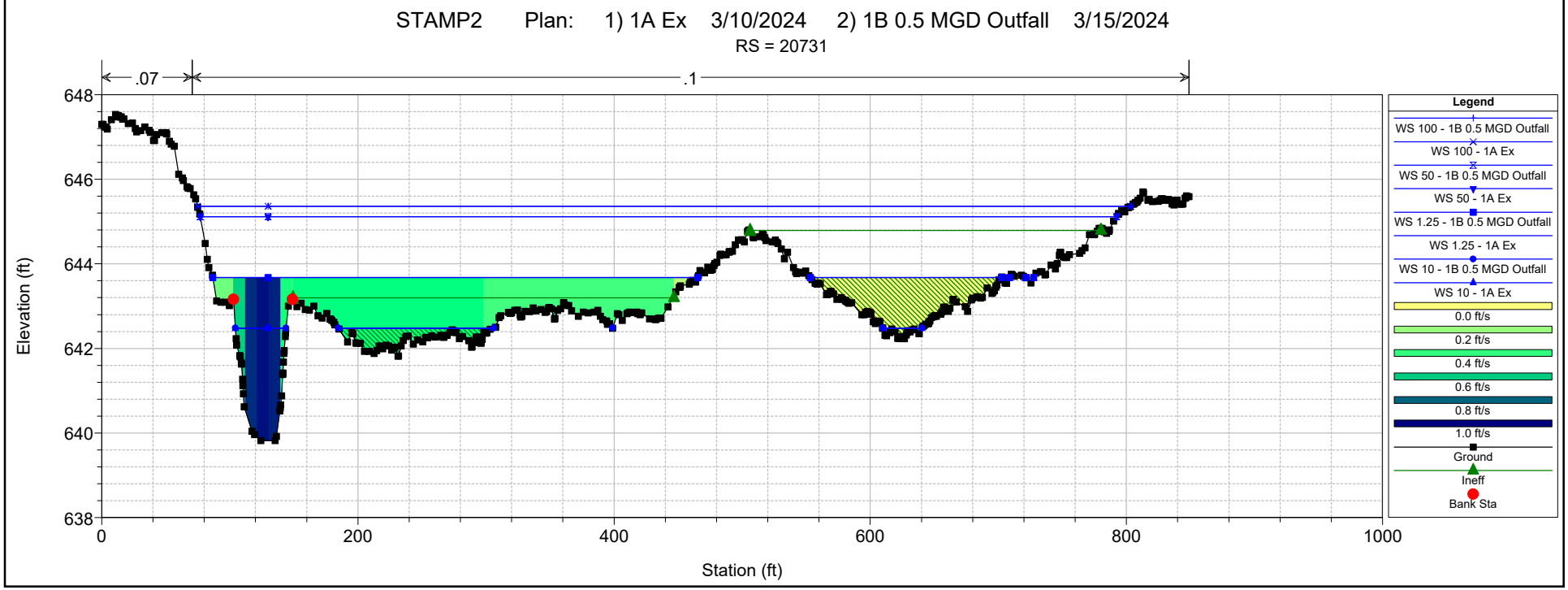

STAMP2 Plan: 1) 1A Ex 3/10/2024 2) 1B 0.5 MGD Outfall 3/15/2024
RS = 29967
.07
.1
.07
.035
.1
.1
.07
Elevation (ft)
Station (ft)
Legend
WS 50 - 1B 0.5 MGD Outfall
WS 50 - 1A Ex
WS 10 - 1B 0.5 MGD Outfall
WS 10 - 1A Ex
WS 1.25 - 1B 0.5 MGD Outfall
WS 1.25 - 1A Ex
WS 100 - 1B 0.5 MGD Outfall
WS 100 - 1A Ex
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
Ground
Levee
Ineff
Bank Sta

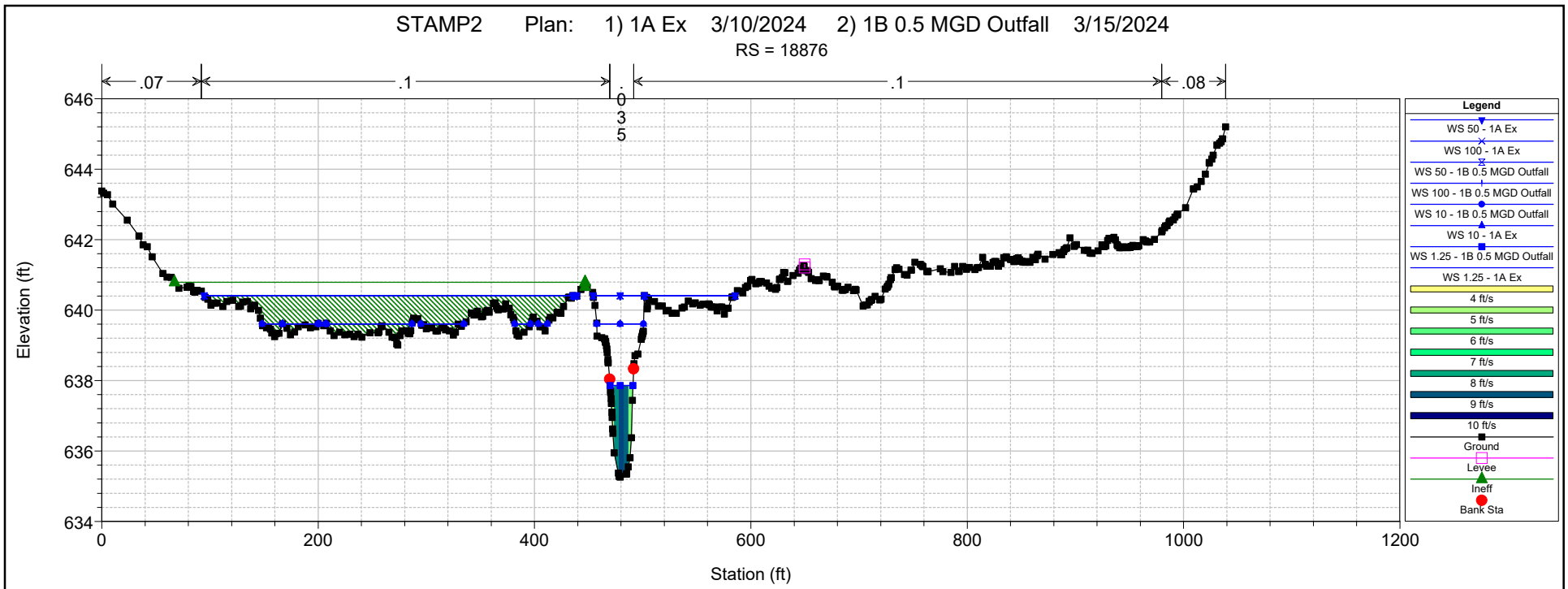

STAMP2 Plan: 1) 1A Ex 3/10/2024 2) 1B 0.5 MGD Outfall 3/15/2024
RS = 28811
.07
.1
.07
.035
Elevation (ft)
Station (ft)
Legend
WS 100 - 1A Ex
WS 100 - 1B 0.5 MGD Outfall
WS 50 - 1A Ex
WS 50 - 1B 0.5 MGD Outfall
WS 1.25 - 1B 0.5 MGD Outfall
WS 1.25 - 1A Ex
WS 10 - 1A Ex
WS 10 - 1B 0.5 MGD Outfall
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
Ground
Ineff
Bank Sta

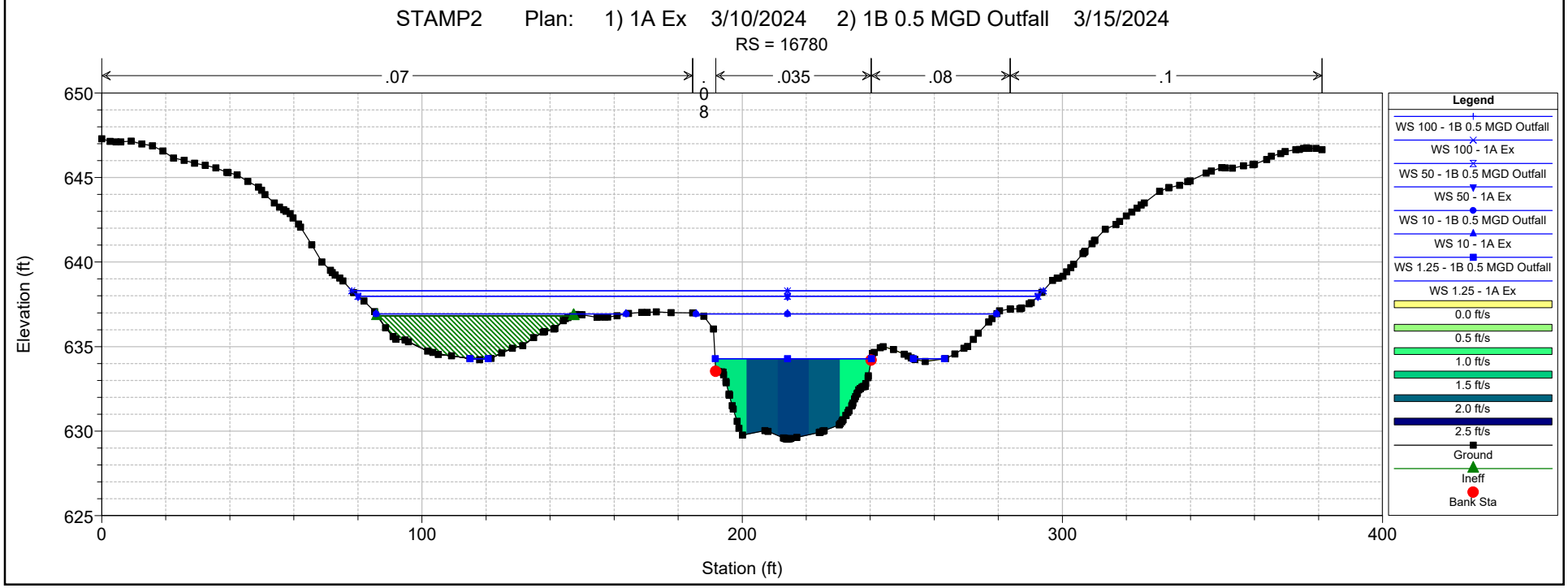

STAMP2 Plan: 1) 1A Ex 3/10/2024 2) 1B 0.5 MGD Outfall 3/15/2024
RS = 27570
.07
.1
.07
.1
.035
.07
Elevation (ft)
Station (ft)
Legend
WS 50 - 1A Ex
WS 100 - 1A Ex
WS 50 - 1B 0.5 MGD Outfall
WS 100 - 1B 0.5 MGD Outfall
WS 10 - 1A Ex
WS 10 - 1B 0.5 MGD Outfall
WS 1.25 - 1B 0.5 MGD Outfall
WS 1.25 - 1A Ex
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
Ground
Ineff
Bank Sta

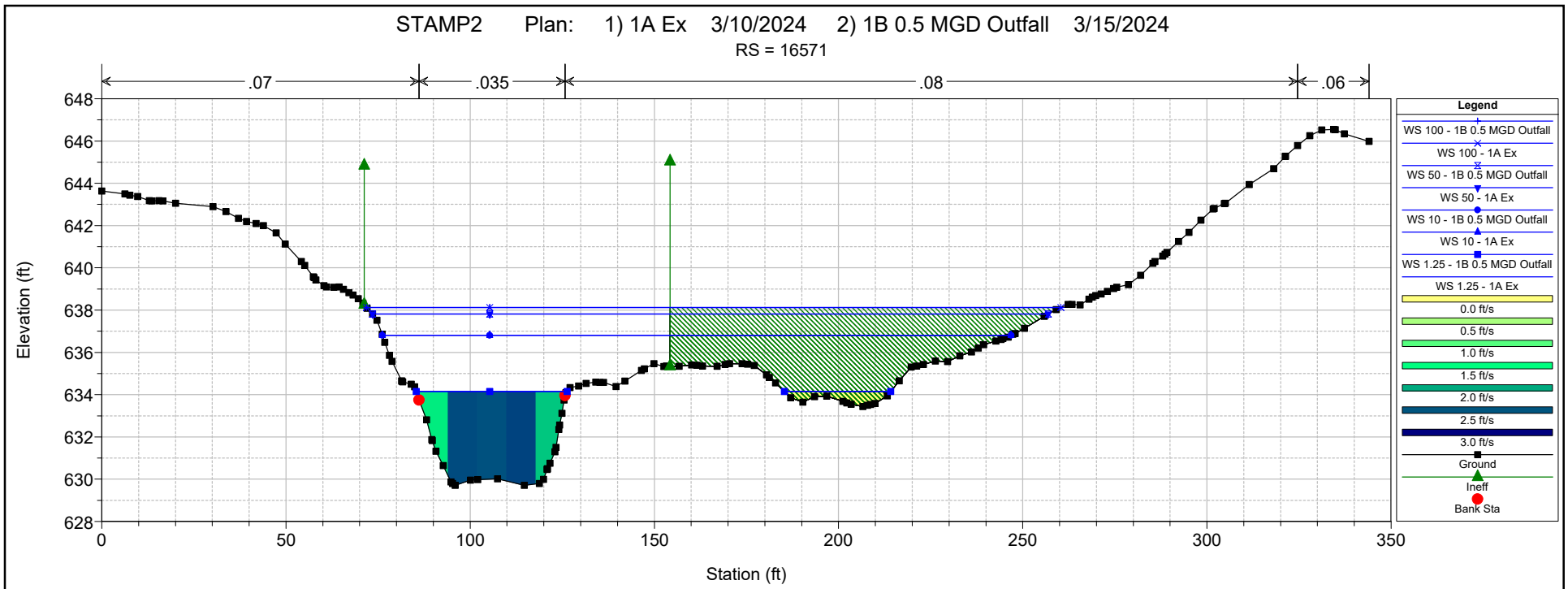

STAMP2 Plan: 1) 1A Ex 3/10/2024 2) 1B 0.5 MGD Outfall 3/15/2024
RS = 24718
.07
.1
.035
.1
.07
Elevation (ft)
Station (ft)
Legend
WS 100 - 1B 0.5 MGD Outfall
WS 100 - 1A Ex
WS 50 - 1B 0.5 MGD Outfall
WS 50 - 1A Ex
WS 1.25 - 1B 0.5 MGD Outfall
WS 1.25 - 1A Ex
WS 10 - 1B 0.5 MGD Outfall
WS 10 - 1A Ex
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
3.0 ft/s
Ground
Ineff
Bank Sta

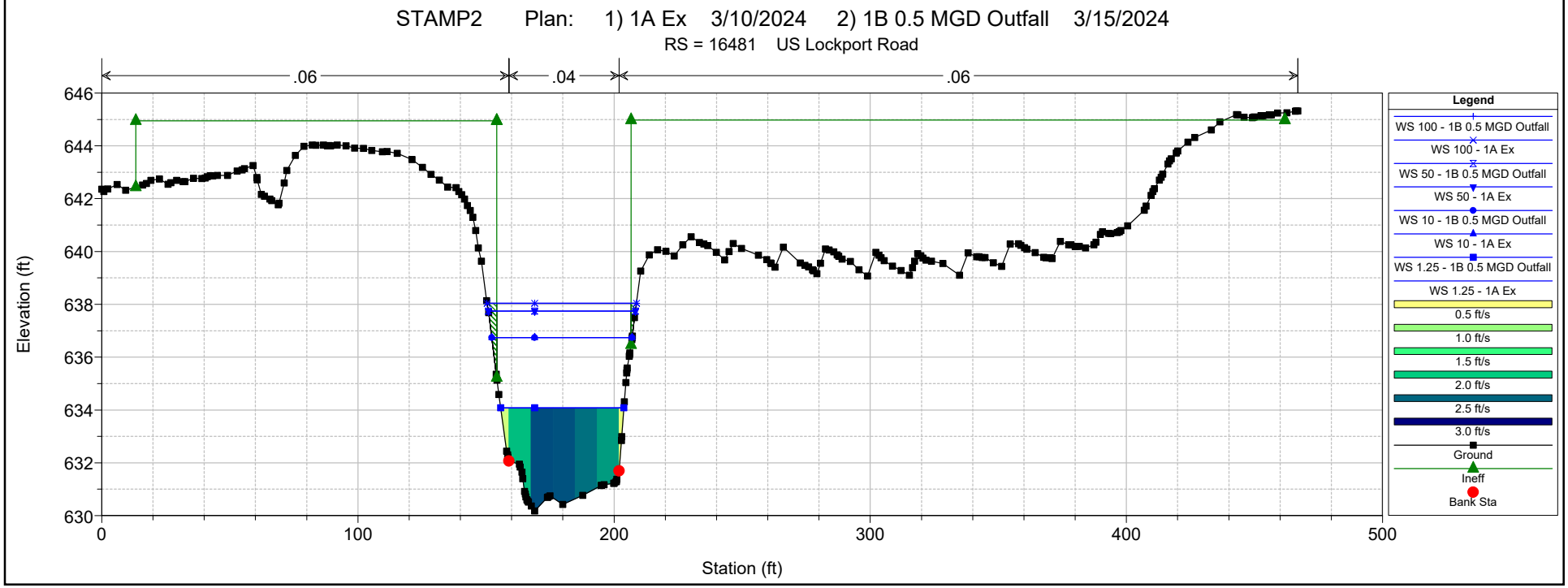

STAMP2 Plan: 1) 1A Ex 3/10/2024 2) 1B 0.5 MGD Outfall 3/15/2024
RS = 23481
.07
.035
.07
Elevation (ft)
654
652
650
648
646
644
642
0
200
400
600
800
1000
1200
1400
Station (ft)
Legend
WS 10 - 1B 0.5 MGD Outfall
WS 10 - 1A Ex
WS 100 - 1B 0.5 MGD Outfall
WS 100 - 1A Ex
WS 50 - 1B 0.5 MGD Outfall
WS 50 - 1A Ex
WS 1.25 - 1B 0.5 MGD Outfall
WS 1.25 - 1A Ex
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
Ground
Ineff
Bank Sta

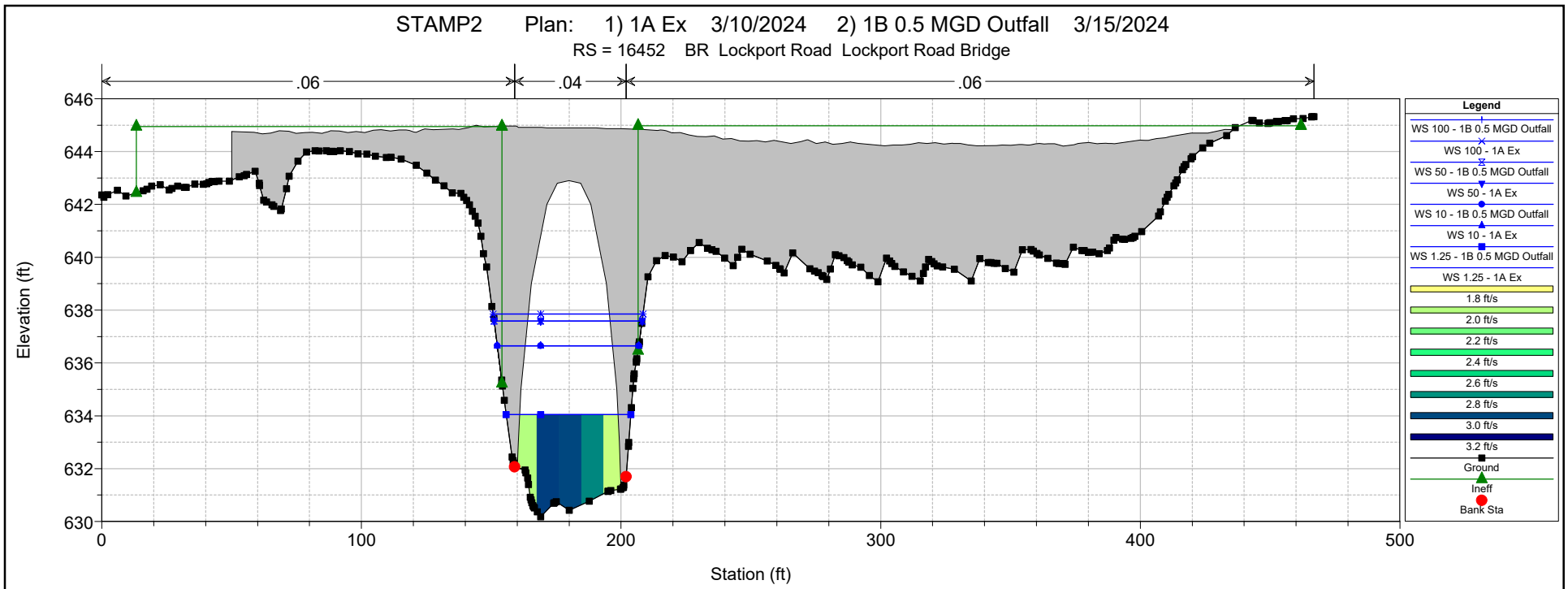

STAMP2 Plan: 1) 1A Ex 3/10/2024 2) 1B 0.5 MGD Outfall 3/15/2024
RS = 20731
.07
.1
Elevation (ft)
648
646
644
642
640
638
0
200
400
600
800
1000
Station (ft)
Legend
WS 100 - 1B 0.5 MGD Outfall
WS 100 - 1A Ex
WS 50 - 1B 0.5 MGD Outfall
WS 50 - 1A Ex
WS 1.25 - 1B 0.5 MGD Outfall
WS 1.25 - 1A Ex
WS 10 - 1B 0.5 MGD Outfall
WS 10 - 1A Ex
0.0 ft/s
0.2 ft/s
0.4 ft/s
0.6 ft/s
0.8 ft/s
1.0 ft/s
Ground
Ineff
Bank Sta

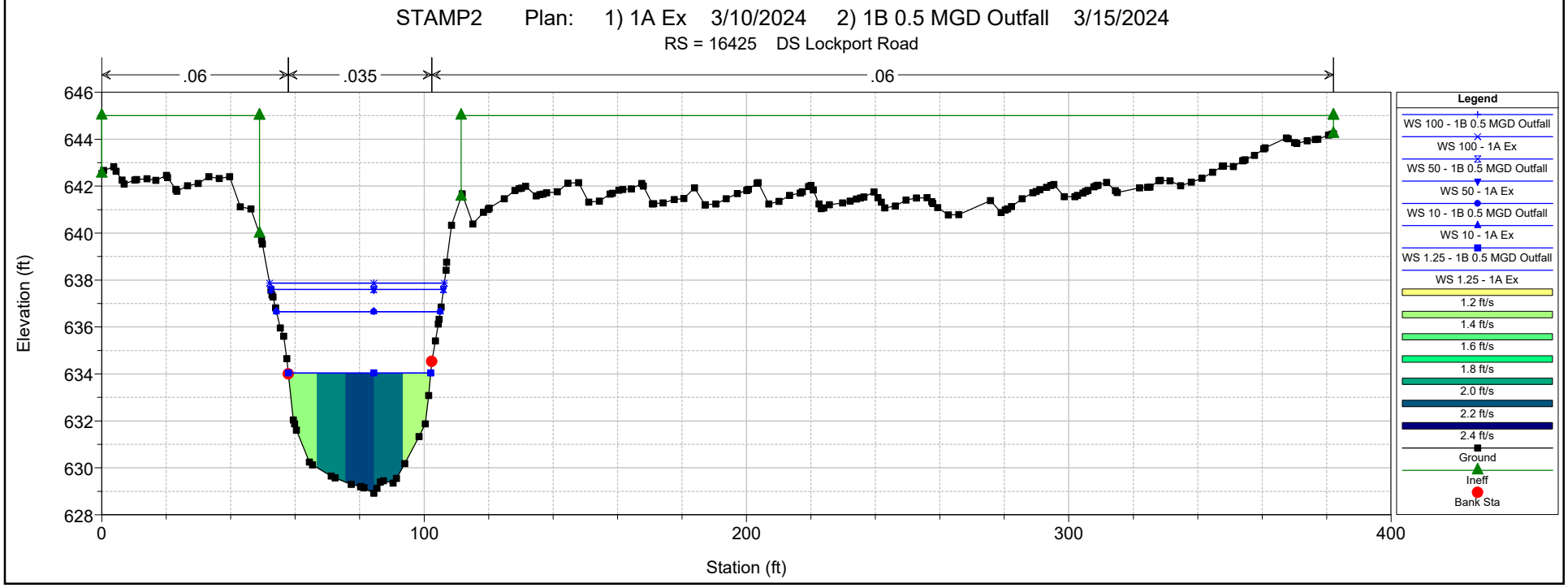

STAMP2 Plan: 1) 1A Ex 3/10/2024 2) 1B 0.5 MGD Outfall 3/15/2024
RS = 18876
.07
.1
.035
.1
.08
Elevation (ft)
Station (ft)
Legend
WS 50 - 1A Ex
WS 100 - 1A Ex
WS 50 - 1B 0.5 MGD Outfall
WS 100 - 1B 0.5 MGD Outfall
WS 10 - 1B 0.5 MGD Outfall
WS 10 - 1A Ex
WS 1.25 - 1B 0.5 MGD Outfall
WS 1.25 - 1A Ex
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
9 ft/s
10 ft/s
Ground
Levee
Ineff
Bank Sta

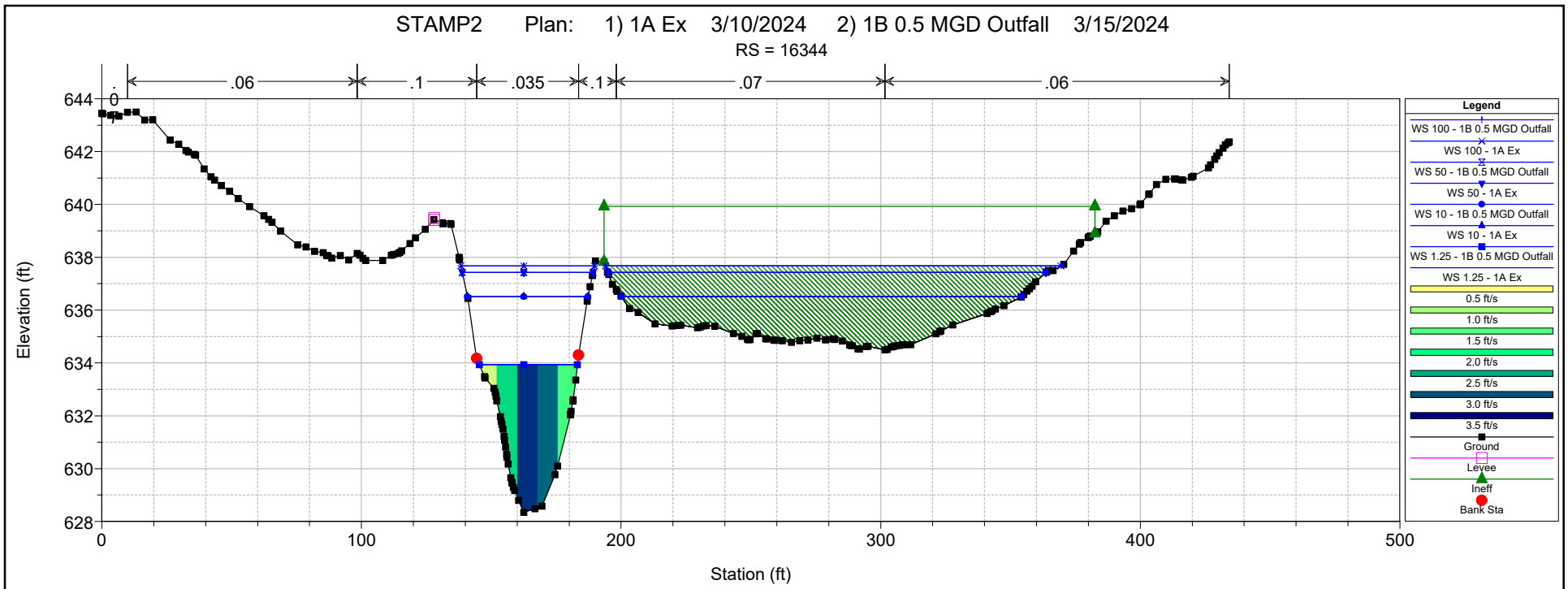

STAMP2 Plan: 1) 1A Ex 3/10/2024 2) 1B 0.5 MGD Outfall 3/15/2024
RS = 16780
.07
.08
.035
.08
.1
Elevation (ft)
Station (ft)
Legend
WS 100 - 1B 0.5 MGD Outfall
WS 100 - 1A Ex
WS 50 - 1B 0.5 MGD Outfall
WS 50 - 1A Ex
WS 10 - 1B 0.5 MGD Outfall
WS 10 - 1A Ex
WS 1.25 - 1B 0.5 MGD Outfall
WS 1.25 - 1A Ex
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
Ground
Ineff
Bank Sta


STAMP2 Plan: 1) 1A Ex 3/10/2024 2) 1B 0.5 MGD Outfall 3/15/2024
RS = 16571
.07
.035
.08
.06
Elevation (ft)
Station (ft)
Legend
WS 100 - 1B 0.5 MGD Outfall
WS 100 - 1A Ex
WS 50 - 1B 0.5 MGD Outfall
WS 50 - 1A Ex
WS 10 - 1B 0.5 MGD Outfall
WS 10 - 1A Ex
WS 1.25 - 1B 0.5 MGD Outfall
WS 1.25 - 1A Ex
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
3.0 ft/s
Ground
Ineff
Bank Sta


STAMP2 Plan: 1) 1A Ex 3/10/2024 2) 1B 0.5 MGD Outfall 3/15/2024
RS = 16481 US Lockport Road
.06
.04
.06
Elevation (ft)
Station (ft)
Legend
WS 100 - 1B 0.5 MGD Outfall
WS 100 - 1A Ex
WS 50 - 1B 0.5 MGD Outfall
WS 50 - 1A Ex
WS 10 - 1B 0.5 MGD Outfall
WS 10 - 1A Ex
WS 1.25 - 1B 0.5 MGD Outfall
WS 1.25 - 1A Ex
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
3.0 ft/s
Ground
Ineff
Bank Sta


STAMP2 Plan: 1) 1A Ex 3/10/2024 2) 1B 0.5 MGD Outfall 3/15/2024
RS = 16452 BR Lockport Road Lockport Road Bridge
.06
.04
.06
Elevation (ft)
Station (ft)
Legend
WS 100 - 1B 0.5 MGD Outfall
WS 100 - 1A Ex
WS 50 - 1B 0.5 MGD Outfall
WS 50 - 1A Ex
WS 10 - 1B 0.5 MGD Outfall
WS 10 - 1A Ex
WS 1.25 - 1B 0.5 MGD Outfall
WS 1.25 - 1A Ex
1.8 ft/s
2.0 ft/s
2.2 ft/s
2.4 ft/s
2.6 ft/s
2.8 ft/s
3.0 ft/s
3.2 ft/s
Ground
Ineff
Bank Sta


STAMP2 Plan: 1) 1A Ex 3/10/2024 2) 1B 0.5 MGD Outfall 3/15/2024
RS = 16425 DS Lockport Road
.06
.035
.06
Elevation (ft)
Station (ft)
Legend
WS 100 - 1B 0.5 MGD Outfall
WS 100 - 1A Ex
WS 50 - 1B 0.5 MGD Outfall
WS 50 - 1A Ex
WS 10 - 1B 0.5 MGD Outfall
WS 10 - 1A Ex
WS 1.25 - 1B 0.5 MGD Outfall
WS 1.25 - 1A Ex
1.2 ft/s
1.4 ft/s
1.6 ft/s
1.8 ft/s
2.0 ft/s
2.2 ft/s
2.4 ft/s
Ground
Ineff
Bank Sta


STAMP2 Plan: 1) 1A Ex 3/10/2024 2) 1B 0.5 MGD Outfall 3/15/2024
RS = 16344
.06
.1
.035
.1
.07
.06
0
Elevation (ft)
644
642
640
638
636
634
632
630
628
0
100
200
300
400
500
Station (ft)
Legend
WS 100 - 1B 0.5 MGD Outfall
WS 100 - 1A Ex
WS 50 - 1B 0.5 MGD Outfall
WS 50 - 1A Ex
WS 10 - 1B 0.5 MGD Outfall
WS 10 - 1A Ex
WS 1.25 - 1B 0.5 MGD Outfall
WS 1.25 - 1A Ex
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
3.0 ft/s
3.5 ft/s
Ground
Levee
Ineff
Bank Sta

Preliminary Engineering Report

For the

Genesee County Economic Development Center
STAMP Fire Tank



Expires: 12/31/2025

April 2024

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FIGURE 2 TANK ELEVATION VIEW

FIGURE 3 CONTROL BUILDING DETAIL

I. Introduction

The Genesee County Economic Development Center (GCEDC) is proposing to provide a non-potable water system (System) to provide adequate water supply and pressure for fire suppression systems for future tenants and their facilities at the Western New York Science & Technology Advanced Manufacturing Park (STAMP). The System consists of (1) a control building, (2) alarms, (3) a 0.5-million-gallon concrete water tank approximately 50 feet tall and 48 feet in diameter, and (4) discharge piping, which upon completion of construction will be owned, maintained and operated by STAMP Water Works. To ensure this System will maintain adequate water volume and pressure for connected fire suppression systems, this system is only intended to be used during fire events to supply sprinkler systems and therefore will not be designed to meet the standards of a potable water system. While this System will provide direct service to the Edwards Vacuum development located directly adjacent, it will be available for use by other STAMP tenants as well, as practicable.

II. Recommended Improvements

A. Water Supply Piping

A new 12-inch water main will be installed off the new 12-inch potable water main installed along the western right-of-way of Crosby Road. From there the piping will head east until it connects to a new 12-inch tee for the service to Edwards. From this tee, the supply piping continues east to a new bend. From the bend, the main travels northeast, to a new blow off hydrant and valve before entering a new precast concrete control building. From the control building the main will continue northeast until it enters the tank.

B. Control Building

To the west of the proposed tank, a precast concrete building will be installed. The building will house the appurtenances as explained in the paragraph below in addition to the electric distribution panel and a programmable logic circuit (PLC) to record the system variables and for alarms. The PLC will use a cellular auto dialer to contact the Water System Operator in the event of an alarm. The building will be provided with an electric HVAC system to keep the building above 50°F during the winter and below 80°F during the summer.

In the control building, the supply pipe will enter the building through the floor where it is reduced to an 8-inch main. Along the 8-inch main, a strainer will be installed, followed by a mag meter and an altitude valve. The altitude valve will be set to stop filling the tank at the high water level, while maintaining a preset back pressure in the potable water main to ensure adequate residual pressure will be provided. After the altitude valve, a pressure transducer will be installed and then a

Reduced Pressure Zone Backflow Preventor (RPZ). The RPZ will prevent the water in the tank from back feeding into the potable water system. After the RPZ the main will expand back to a 12-inch main as it is exiting the building through the floor.

a. Alarms

There are four types of alarms that may be sent to the PLC.

1. **High-Water Level:** When the water level is determined to be 6-inches or more above 738 feet. This places the alarm level halfway between the high water level and the overflow level.

2. **Low-Water Level:** When the water level is determined to be 6-inches or more below the high water level of 738 feet in accordance with the recommendations of the National Fire Protection Association Standard (NFPA 22).

3. **Flow Alarm:** When the pressure drops significantly in a short amount of time.

4. **Low Temperature Alarm:** When the temperature drops to or below 40°F in accordance with the recommendations of NFPA 22.

C. Wire-Wound, Prestressed Concrete Tank

The proposed tank will be a 48-foot diameter wire-wound, prestressed concrete tank with separate 12-inch supply and 24-inch discharge piping.

The tank will be round with a domed roof. The concrete walls will be premanufactured and prestressed onsite before being assembled on top of a poured in place concrete foundation and sealed. A ladder with a safety cage will be attached to the tank on the side nearest the control building. At the top of the ladder there will be one of two roof hatches sized to meet 10 State Standards and New York State Department of Health Standards with the other hatch being located on the opposite side of the roof. Each hatch will have a ladder associated with it on the inside of the tank. Safety rails will be provided around the hatches to protect workers. A vent sized to dissipate air based off the maximum water inflow and discharge rate with a bug screen and a vent cap to prevent the inflow of various precipitation will be located at the center of the roof. A majority of the tank will be above ground with a minimum of 4 feet below the ground to provide adequate frost protection for the spread footing foundation.

a. Tank Levels

The high-water level of the tank will be set at 738 feet which would be 40 feet above the bottom of the tank with the tank floor at 698 feet, which is the elevation of the existing ground. At the high-water level, a total volume of approximately 540,000 gallons will be stored in the tank. Not all properties on the STAMP site can take full advantage of this full volume for their fire suppression systems as fire pumps require varied pressures from the fire tank to meet their sprinkler flow requirements. The actual volume of water that can be used by an individual property is dependent on the site elevation, flow requirements of the facility on the site and fire pump and sprinkler equipment used. For the proposed Edwards Vacuum facility, assuming a flow of approximately 2,000 gallons per minute (gpm) and a need for 10 psi as a minimum static pressure at the fire pumps from the tank, approximately 450,000 gallons from this tank is useable before there is not enough static pressure for their pumps. At the assumed flow rate, this provides 3.75 hours of water to this facility. The levels in the tank will be determined by the pressure transducer installed after the altitude valve.

b. Overflow

The overflow for this tank will include a weir box and vertical ductile iron pipe located within the structure of the tank. The top of the weir will be 41 ft above the floor of the tank. The box will be drained by a 14-inch flanged ductile iron pipe that flows out from the bottom of the box traveling vertically to a 90° bend. From there the pipe will travel horizontally through the wall to another 90° bend over a catch basin. A Tideflex or equivalent duckbill check valve will be located at the end of the pipe to prevent drafts from the overflow to the vent minimizing heat loss while allowing for overflow to drain into the catch basin. The 14-inch pipe is one size larger than the supply pipe to comply with the sizing recommendation of NFPA 22.

c. Temperature Control

Due to the location of this tank and low turnover of the water, heating will be provided to ensure that the tank does not freeze. An immersion heater will be installed at the base of the tank to heat the water. As the water warms at the bottom of the tank, it will rise to the top pushing the cold water down to be heated. The heater will be sized to achieve a minimum temperature of 42°F during the coldest day of the year per NFPA 22 requirements. Insulation will be provided on the tank walls to keep heat in and to lower energy usage to maintain the water at an adequate temperature. A thermometer will be installed

in the tank according to the recommendations of NFPA 22 to ensure the tank maintains the minimum temperature.

D. Discharge Piping

From the new tank, a new 24-inch discharge pipe will head southwest and connect to a 24-inch by 12-inch drain tee with valve and then a bend. From the bend the main will travel west to a 24-inch by 12-inch fire pump service tee for Edwards. After the service tee, the main will continue west to a valve and cap where the main will end until additional facilities requiring fire services are constructed.

E. General Site Work

a. Site Security

Site security for the tank will be provided by an 8 ft tall chain link fence with barbed wire at the top that goes around the perimeter of the proposed tank site. Access to the tank and control building will be provided by a double leaf gate that goes across the new gravel driveway.

b. Site Grading

Around the tank, the ground will be graded to drain runoff away from the tank. This slope will be 2% for the first 20 feet to keep enough soil depth to maintain frost protection of the tank foundation, and to minimize cross slope of the driveway circling the tank. The slope will then increase to a 6:1 for the next 10 feet before increasing to a 3:1 slope to reach the existing ground.

c. Site Drainage

Grading will be used to drain ground water away from the tank, control building and driveway. The catch basin under the tank overflow will drain through a new 12-inch drain line heading south. The catch basin drain line will run at a 0.4% slope to daylight. The 12-inch tank drain line referred to in the discharge piping section of this report will run from the tee and valve to the catch basin drain line where it will connect to the catch basin drain line with a 12-inch wye. A 24-mesh screen will be installed where the drain daylights to keep animals out of the drain line.

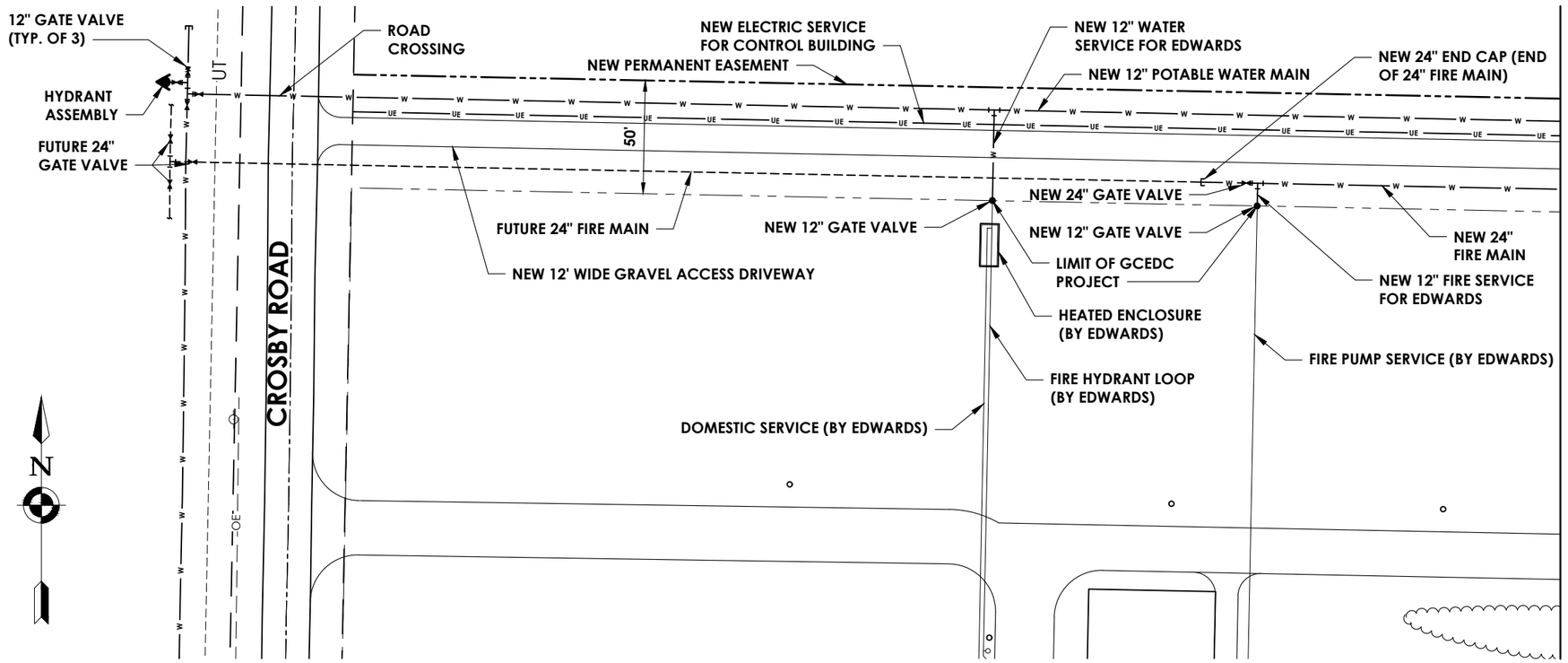
III. Conclusions

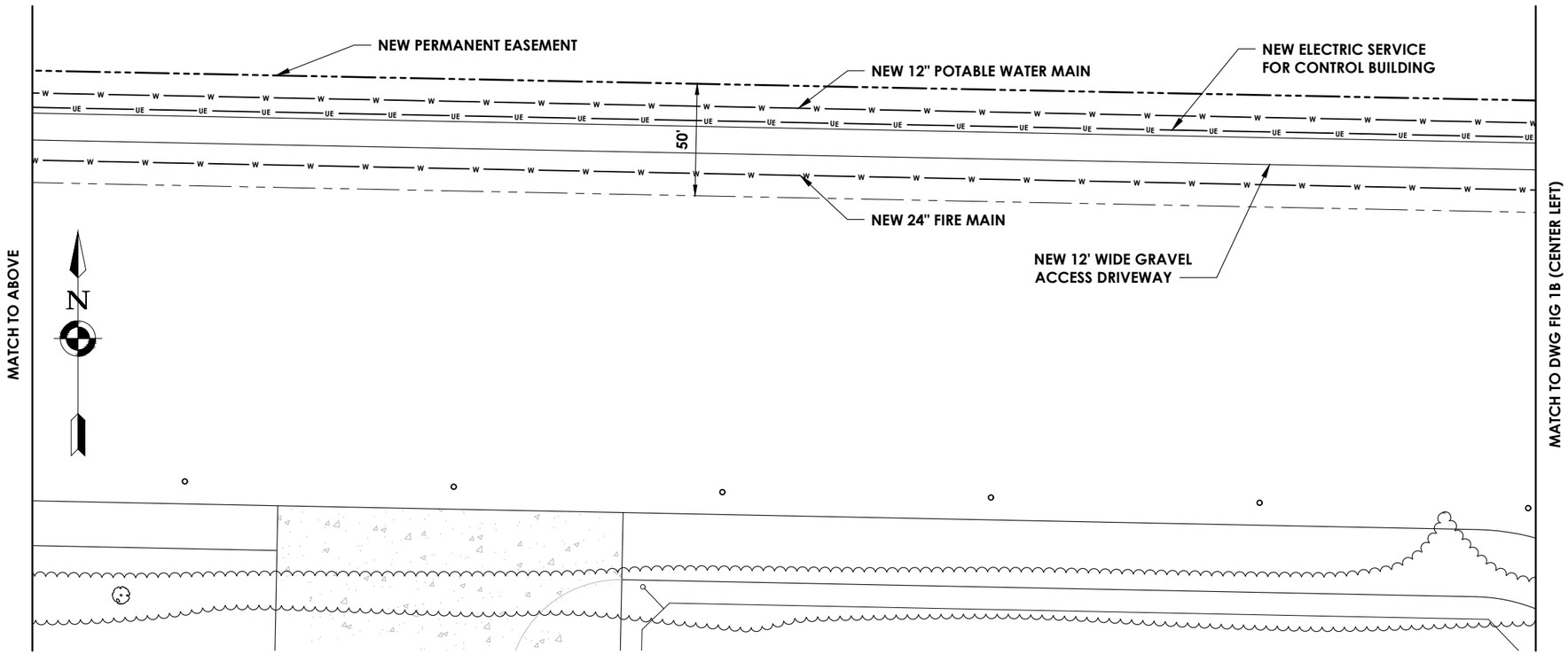
GCEDC is committed to providing infrastructure to support the emergency needs of facilities located at STAMP. The proposed fire tank works towards these goals by providing the water at

the pressure and flow volume necessary to supply the fire suppression systems of current and future developments at STAMP.

Figure 1

Proposed Site Plan





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PROJECT INFORMATION

Project Number

Client Name

GENESEE COUNTY ECONOMIC DEVELOPMENT CENTER

Project Name

STAMP FIRE TANK

Project Address

SHEET INFORMATION

Issued	Scale
3/25/2024	AS NOTED
Drawn By	Checked By
BRM	JED

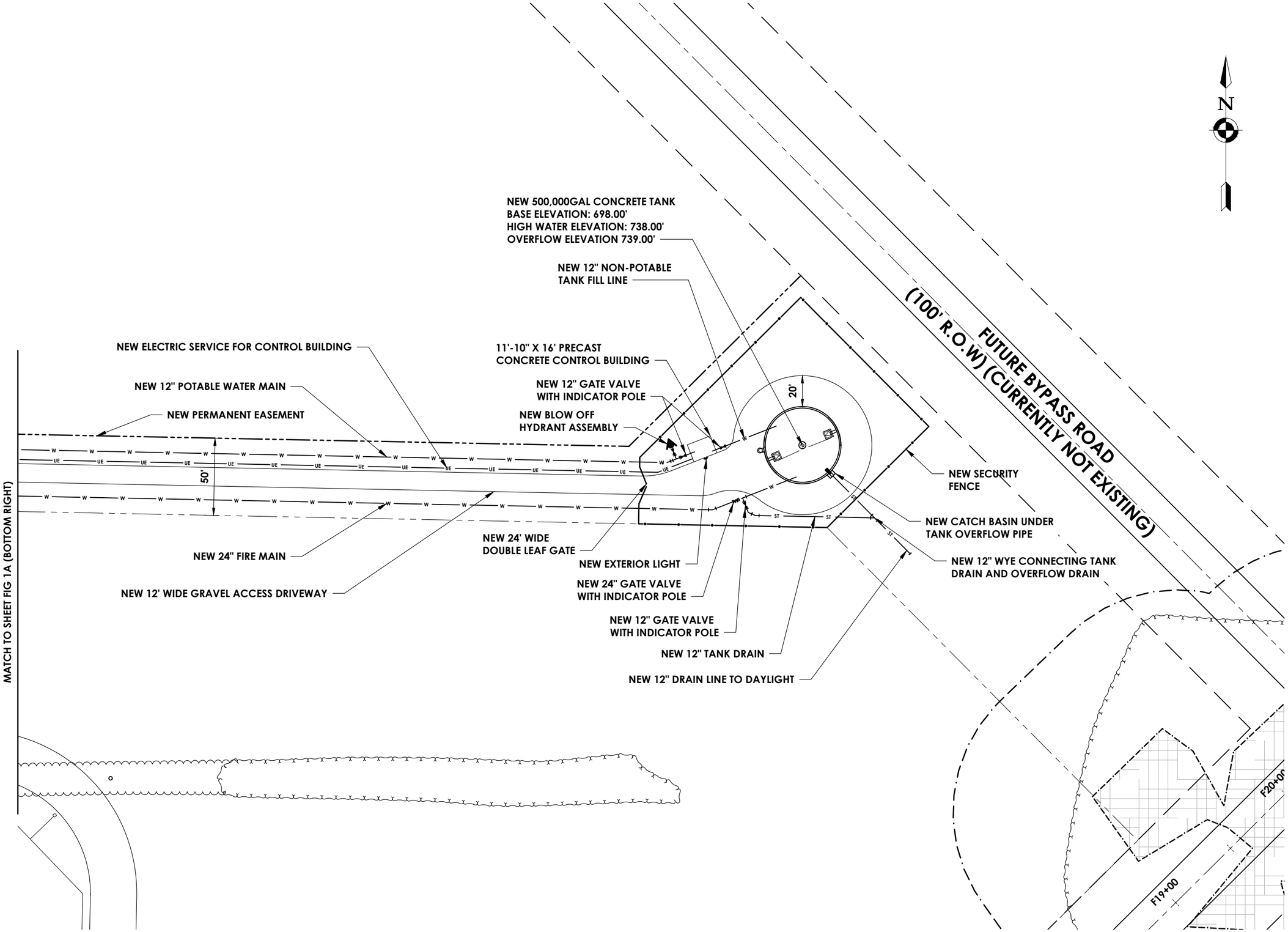
Drawing Title

FIRE MAIN SITE PLAN

Drawing Number

FIG
1A

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Date last accessed: 3/26/2024 3:44 PM
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Date last plotted: 3/26/2024 4:14 PM
Date last accessed: 3/26/2024 3:44 PM
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Drawing Name: J:\PROJECTS\GCEDC\STAMP Onsite General\D Design\Job Info\Edwards\Fire Tanks\2023-3-21 Tank Design.dwg

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BRM	JED

Drawing Title

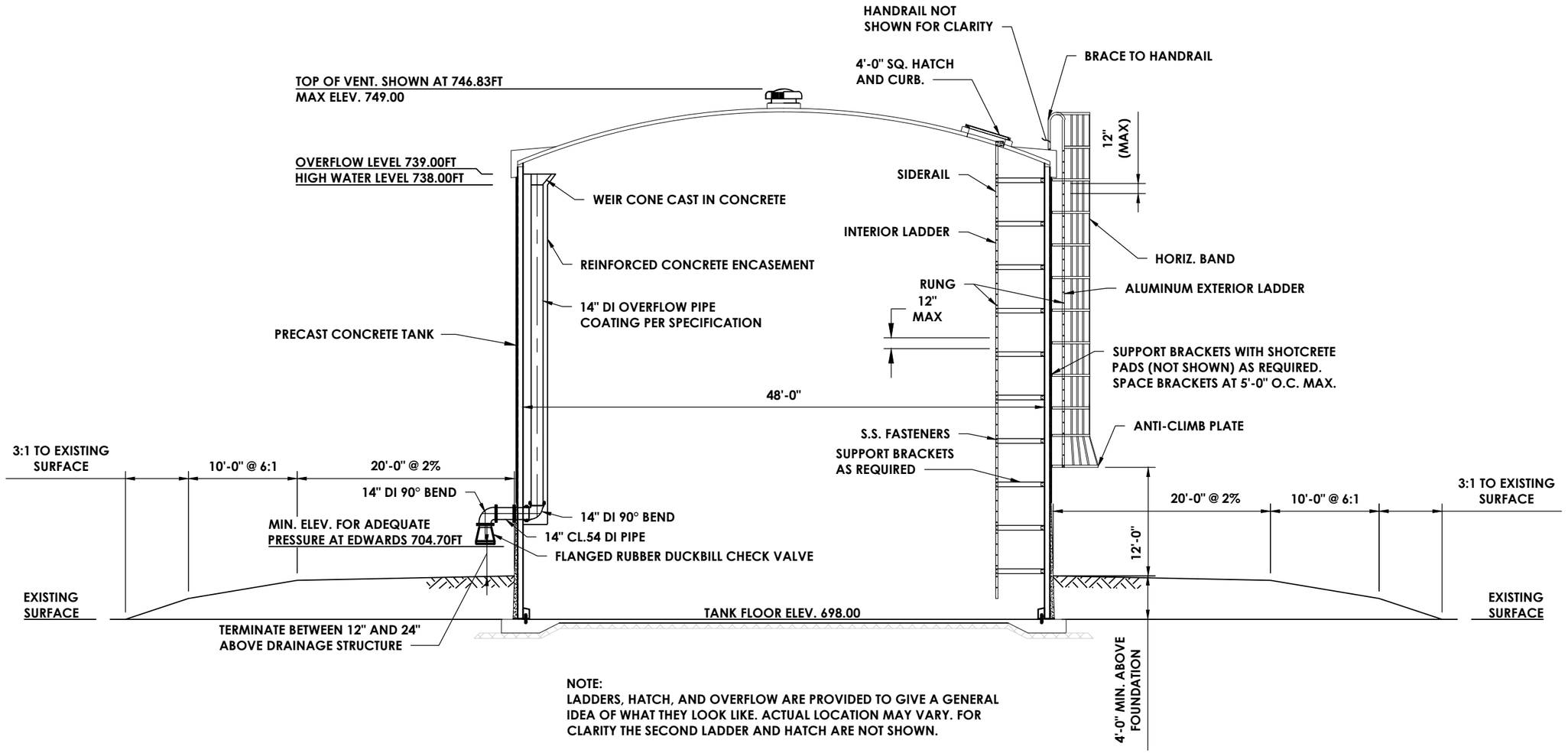
TANK SITE PLAN

Drawing Number

FIG 1B

Figure 2

Tank Elevation View



NOTE:
LADDERS, HATCH, AND OVERFLOW ARE PROVIDED TO GIVE A GENERAL IDEA OF WHAT THEY LOOK LIKE. ACTUAL LOCATION MAY VARY. FOR CLARITY THE SECOND LADDER AND HATCH ARE NOT SHOWN.

1 / FIG 2 **TANK ELEVATION VIEW**

SCALE: 3/32" = 1'-0"

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SHEET INFORMATION

Issued	Scale
3/25/2024	AS NOTED
Drawn By	Checked By
BRM	JED

Drawing Title

TANK ELEVATION VIEW

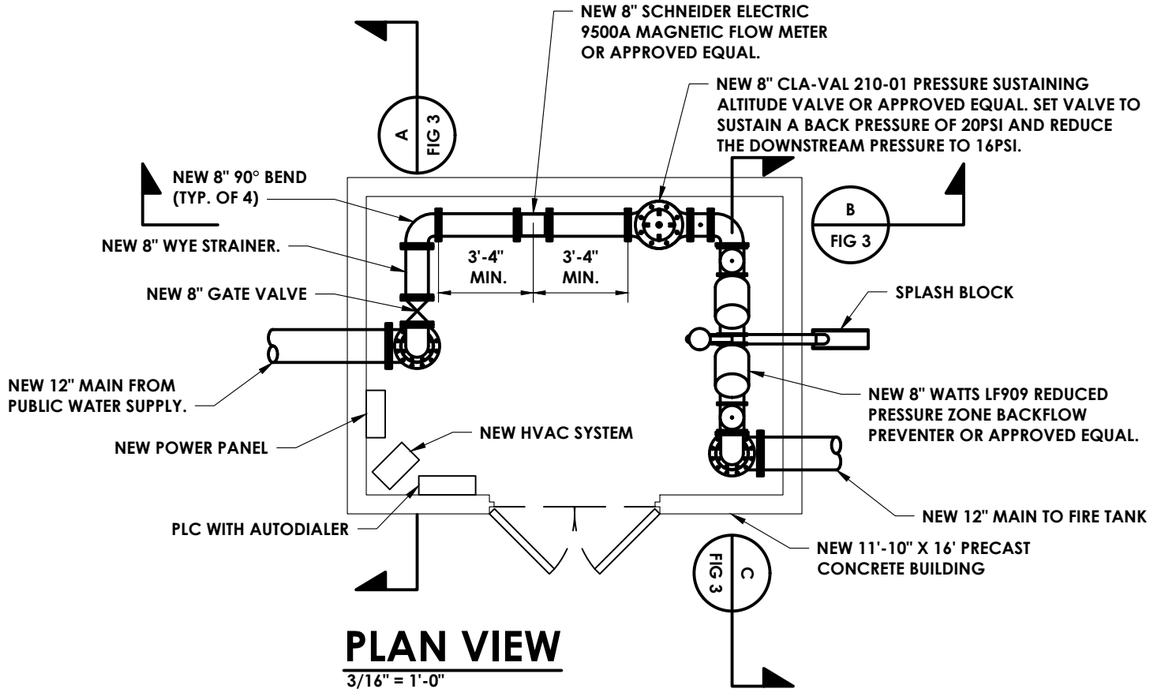
Drawing Number

FIG 2

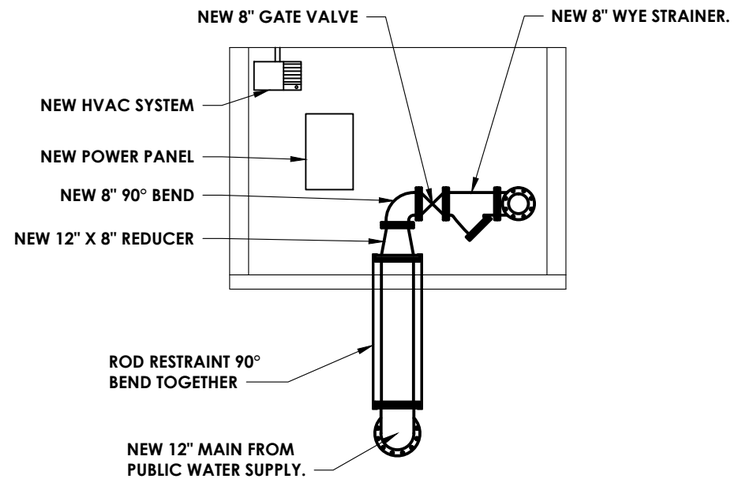
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Figure 3

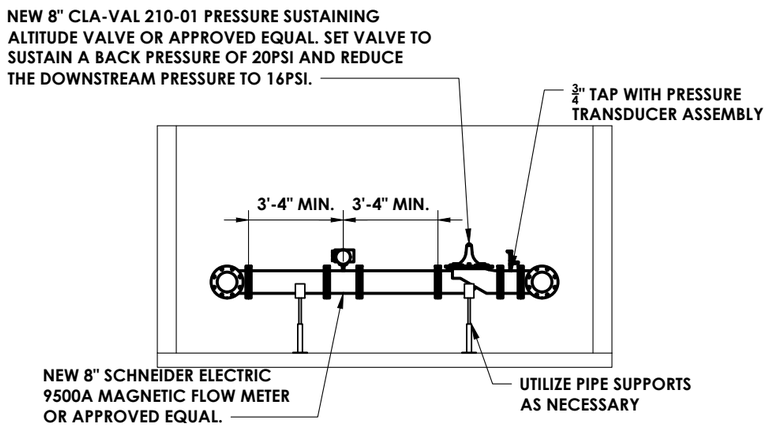
Control Building Detail



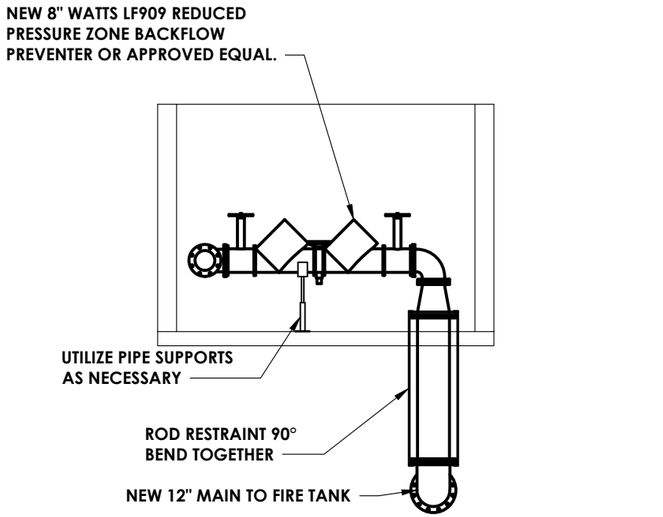
PLAN VIEW
3/16" = 1'-0"



SECTION A
3/16" = 1'-0"



SECTION B
3/16" = 1'-0"



SECTION C
3/16" = 1'-0"

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NY ENGINEERING FIRM CERTIFICATE #018330

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Project Name

STAMP FIRE TANK

Project Address

SHEET INFORMATION

Issued	Scale
3/25/2024	AS NOTED
Drawn By	Checked By
BRM	JED

Drawing Title

CONTROL BUILDING DETAIL

Drawing Number

FIG 3

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Date last plotted: 3/26/2024 4:14 PM
Date last accessed: 3/26/2024 11:51 AM
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Science & Advanced Manufacturing Park (STAMP)

Force Main to the Village of Oakfield Wastewater Treatment Facility

Joint Permit Application

Pre-construction Notification

SUBMITTED BY:

Genesee County Economic Development Center
STAMP Sewer Works, Inc.
99 MedTech Drive, Suite 106
Batavia, NY 14020

PREPARED BY:

CC Environment & Planning
23 Jackson Street
Batavia, NY 14020
and
Clark Patterson Lee
255 Woodcliff Dr Suite 200
Fairport, NY 14450

June 2024

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Appendix B – Wetland and Stream Delineation Summary
Appendix C – Threatened & Endangered Species Review Documentation

1.0 Introduction

1.1 Applicant Information

This Joint Application Pre-Construction Notification (PCN) is being submitted on behalf of Genesee County Industrial Development Agency d/b/a Genesee County Economic Development Center and its affiliate, STAMP Sewer Works, Inc. (collectively "the Applicant"), 99 Medtech Drive, Suite 106, Batavia, NY 14420, (585) 343-4866. The Applicant's contact is Mr. Mark Masse, Senior, VPO. The Applicant's agent on this project is Katlyn Hojnacki of CC Environment & Planning at 23 Jackson Street, Batavia, NY 14020, (585) 219-4030. Engineering, planning, and counsel provided by CPL and Phillips Lytle LLP.

1.2 Project Location

The Science & Technology Advanced Manufacturing Park (STAMP) Force Main to Oakfield Project (Project) will have two segments to transfer sanitary flows from STAMP to the Village of Oakfield Waterwater Treatment Facility (WWTF; Figure 1). The first segment will convey sanitary flows from the Main Pump Station on the STAMP site to the Intermediate Pump Station along Ham Road in the Town of Alabama. The Main Pump Station will be located within the central portion of the STAMP Site, along Crosby Road. The force main will travel north along Crosby Road to STAMP Drive, where it will continue east and cross Alleghany Road (NYS Route 63. It will cross through property owned by the Town of Alabama then continue along Ham Road to Knowslville Road (C.R. 23) where it will discharge into the wet well of the Intermediate Pump Station. The force main in this section will be approximately 18,000 linear feet long.

From the Intermediate Pump Station the force main will continue east along Ham Road to Macomber Road (which is the dividing line between the Towns of Alabama and Oakfield). The force main will then continue north along Macomber Road in the Town of Oakfield to Lewiston Road, where it will head southeast to Maltby Road. At Maltby Road the force main will continue east to North Pearl Street, where it will head south into the Village of Oakfield. The force main will then connect to the 12" diameter Village of Oakfield collection system. The force main in this section will be approximately 27,000 linear feet long.

An alternate force main route is being considered in the event that the Town or Village of Oakfield prefer a different route. Instead of following Malby Road, the force main will continue to follow Lewiston Road to the southeast and connect to an existing manhole at the intersection of Lewiston Road and Judge Road (NYS Route 63) in front of the Oakfield-Alabama Central Schools. The Village of Oakfield collection system will need to be evaluated to determine the location where the force main connects to the Village collection system.

A detailed Project Map is located in the Basis of Design Report in Appendix A. The approximate midpoint location of the Force Main to Oakfield Project is 43.083747, -78.338355.

1.3 Project Description

Over the past several years, the Applicant has been developing STAMP as a planned advanced manufacturing campus on approximately 1,262 acres in the Town of Alabama. At full build out, STAMP will be a high technology campus with the potential to accommodate over 6 million square feet of advanced technology manufacturing and related uses and to create up to 9,000 jobs.

The purpose of the proposed Project is to allow for the transport of up to 0.287 million gallons per day (MGD) of sanitary sewer discharge (including 0.187 MGD from STAMP and 0.100 MGD from the Town of Alabama) to the Village of Oakfield WWTF. See the Basis of Design Report in Appendix A for background information and design details.

The Project involves the installation of approximately 45,000 linear feet of new 12-inch diameter PVC DR-18 sanitary force main, metering vaults, and maintenance manholes. The Force Main to Oakfield Project development requires a maximum total area of disturbance of 12.9 acres to construct and will result in no impacts to aquatic resources.

2.0 Existing Conditions

The project area traverses primarily open space and rural land cover including farmland, forests, wetlands, and single-family residences. The majority of the project area is upland consisting of previously disturbed areas including road shoulders, mowed lawn, cropland, and excavated ditches. While some forest is present along the Project route, the road shoulder is wide enough that tree cutting will not be necessary for installation of the force main.

The project area is located in both the Iroquois NWR – Oak Orchard Watershed (HUC: 041300010403) and the Brinningstool Creek-Oak Orchard Creek Watershed (HUC: 041300010402). These watersheds are dominated by agriculture (approximately 50% of land use cover) interspersed with forest and forested wetlands and non-forested wetlands. Less than 5% of the watersheds are developed.

2.1 State and Federally Mapped Streams and Wetlands

Based on available online data, there is one U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI)-mapped wetland and four mapped streams within the Project Area (Figure 2). According to the New York State Department of Environmental Conservation's (NYSDEC) Environmental Resource Mapper, there are no state-mapped wetlands within the Project Area but there are two state-regulated Class C streams (Figure 2).

2.2 Field Mapped Stream and Wetland Crossings

Stream and wetland crossings were visually inspected and mapped during a Project Area visit on February 26, 2024, by Katlyn Hojnacki, Senior Ecologist, and Ann Swanson, Environmental Technician, CC Environment & Planning. All aquatic features within the project area that could meet NYSDEC and USACE jurisdictional requirements were mapped using a Juniper Geode sub-meter accuracy GPS. Edges of wetlands and streams were mapped to ensure that any aquatic feature that is potentially regulated was

included within the polygons. This includes permanent, seasonal, or intermittent streams, including their bed, bank, and high-water mark (HWM); wetland features showing appropriate vegetation, hydrology, and soils; and any floodplain and riparian areas associated with a stream or wetland. Given the conservative nature of the mapping, some upland area is included within the mapped stream and wetland polygons, such as upland inclusions along irregularly shaped aquatic features. This conservative mapping was performed to inform contractors of all areas to avoid and to ensure that no aquatic features are impacted and, to the extent impacts are unavoidable, to ensure that impacts are accounted for.

One wetland and seven streams were mapped within the Area of Investigation (AOI; Figure 3). The wetland and stream delineation summary in Appendix B provides additional details. Features include wetlands and streams identified during the desktop review phase (see Section 2.1), and all other potentially regulated aquatic habitats encountered during the field visits. Photographs (Appendix B) were taken at the edge of each mapped feature to show a view of each aquatic resource and help guide avoidance and minimization.

3.0 Details of Proposed Project

The proposed force main will be installed by open cut method for lawn, field, and intermittent stream areas areas and by horizontal directional drilling (HDD) methods under roadways and perennial streams. The force main will be installed with a 5’ minimum depth of cover for all areas except under stream channels where it will be installed 10’ below the channel bottom. The Basis of Design (BOD) Report in Appendix A provides additional details with respect to the design.

The maximum area of disturbance for the Project totals approximately 12.9 acres. Construction is planned to begin in Spring 2025. The Project will be constructed in accordance with state and local regulatory requirements. An individual Storm Water Pollution Prevention Plan (SWPPP) in accordance with the requirements of the New York State Environmental Conservation Law has been developed to obtain coverage under the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharge from Construction Activities (GP-0-10-001). The SWPPP will be prepared following the *New York State Standards and Specifications for Erosion and Sediment Control* and the *NYSDEC Stormwater Design Manual*.

3.1 Aquatic Resource Impacts, Minimization, and Avoidance

Impacts to streams and wetlands have been minimized by routing pipes along areas with the fewest streams and wetlands and by using HDD methods for all stream crossings (Table 1). Contractors will be required to stage HDD starting and exit pits at least 15 ft from the borders of mapped features. HDD techniques will prevent all disturbance to stream beds and banks and adjacent vegetation. Streams 2 and 4 begin on the opposite side of the road from the proposed force main location, thus will not be impacted. The force main will be installed adjacent to Wetland 47, a non-jurisdictional wetland on the STAMP site, but will not directly impact this wetland. Locations are shown on Figure 4.

Table 1. STAMP Force Main Wetland and Stream Impact Table			
Identifier	**Classification**	**Crossing Method**	**Disturbance Type**
S1	Intermittent Stream	HDD	None
S2	Ephemeral Stream	NA	None
S3	Perennial Stream (Brinningstool Creek)/ NYSDEC Class C	HDD	None
S4	Ephemeral Stream	NA	None
S5	Intermittent Stream	HDD	None
S6	Perennial Stream/ NYSDEC Class C	HDD	None
T3	Intermittent Stream	HDD	None
W47	Palustrine Emergent. Non-jurisdictional.	NA	None

3.1.1 Erosion and Sediment Control Measures

Before beginning any construction work within or adjacent to aquatic resources, the contractor will be required to install erosion and sediment control measures to adequately protect adjacent aquatic resources from pollution. The following erosion and sediment control measures will be used and installed in accordance with the *New York State Erosion and Sediment Control Manual* (Blue Book).

Silt fence and silt sock may be used interchangeably, provided each measure is installed correctly. Silt fence must be keyed into the ground to prevent sediment from making it under the fence. The fence should be staked with the proper size stakes spaced appropriately and overlapped properly as defined by the Blue Book. Silt fence shall be maintained until the vegetation has achieved 80% coverage.

Silt sock may be used in-lieu of silt fence. The minimum size silt sock that may be used will be 12-inch diameter, the proper diameter should be determined in accordance with the Blue Book by the contractor. Silt sock may be required to be stacked to achieve necessary protection against sediment transport. If this is the case, silt socks shall be installed in a triangular shape orientation. The silt sock should be staked and overlapped in accordance with the Blue Book guidelines. The silt sock shall be maintained until the vegetation has achieved 80% coverage.

A project specific Stormwater Pollution Prevention Plan (SWPPP) will be developed for the entire project. The SWPPP will include all of the above noted erosion and sediment control measures, along with site specific erosion and sediment control measures.

3.1.2 Site Restoration

Backfilling of the excavation will maintain the original strata of the in-situ soil and the top 6 to 12 inches will consist of original topsoil from the disturbed areas. All areas will be fine graded to maintain original contours and slopes. Exposed slopes will be stabilized immediately upon completion of utility installation.

Depending on conditions, the contractor may install anywhere from 250 linear feet to 1,000 linear feet of force main per day. At the end of each day all open excavations will be backfilled with native soil in non-paved areas. At the end of each work week, the contractor will seed and mulch all disturbed areas. Disturbed areas will not remain exposed for more than 7 days. Upland areas will be seeded with a typical roadside seed mix.

The site will be revisited at the completion of the force main installation to identify any areas that need additional seeding and mulching. Approximately one year after substantial completion, the site will be revisited to inspect the growth of the vegetation in the disturbed areas. If there are any areas where the growth of vegetation is covering less than 90 percent of the disturbed area, reseeding will occur.

3.2 Threatened and Endangered Species

An agency database review via online consultation tools was conducted on April 23, 2024, to determine whether state- or federally-listed threatened or endangered species may be present within the Site.

New York State

Reviews of NYSDEC's Environmental Resource Mapper and Environmental Assessment Form (EAF) Mapper identified three listed species in the vicinity of the site (see Appendix C):

1. Northern harrier (*Circus hudsonius*), a New York State threatened species.
2. Short-eared owl (*Asio flammeus*), a New York State endangered species.
3. Sedge wren (*Cistothorus platensis*), a New York State threatened species.

All three species require large tracts of grassland habitat, which is present adjacent to the project area. The work will be occurring in the immediate roadside, which is not typically used by these species due to the regular disturbance, thus any potential impacts will be minor. These impacts will be temporary, occurring primarily during construction. Any disturbed vegetation with be reseeded immediately following construction, allowing for restoration of potential habitat.

Federal

Review of U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) identified three species as potentially occurring within the Project site (see Appendix C):

1. Northern long-eared bat (NLEB; Myotis septentrionalis), a federally listed endangered species.
2. Tricolored bat (*Perimyotis subflavus*), a proposed endangered species.
3. Monarch butterfly (Danaus plexippus), a candidate species for federal listing.

NLEB and tricolored bats are primarily a forest-dependent species that utilize a variety of forest habitats for roosting, foraging, and rearing young. The decline of both species is due to white-nose syndrome, a

fungal disease, and not habitat loss. The NYSDEC encourages the voluntary implementation of all forest management activities during the hibernation period, November 1 through March 31. USFWS has indicated that there are no known NLEB maternity roost trees within 1.5 miles or winter hibernacula within 5 miles of the Site (i.e., no on-site occupied habitat or designated critical habitat present, https://www.fws.gov/office/new-york-ecological-services-field/species). NLEB does not appear on the NYSDEC Environmental Resource Mapper, thus NYSDEC indicates that no known occurrences of the species are within the vicinity of the Site. The NLEB range-wide key within IPaC was consulted to determine the likelihood of potential "take" of the species. Based on the submission, a determination of "No Effect" was reached (Appendix C). No further consultation is necessary.

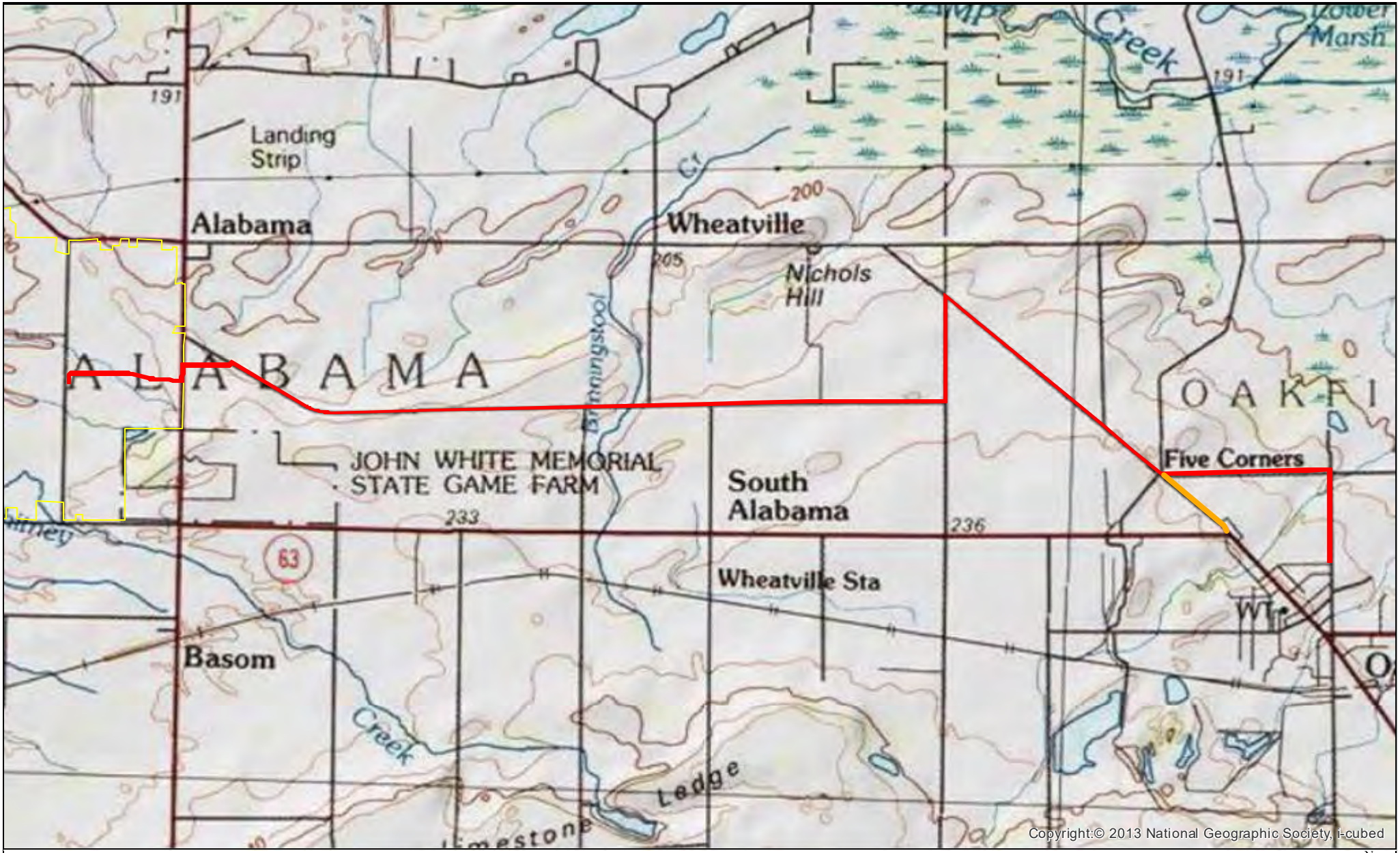
Tricolored bats have not been formally listed as of May 2024, although a listing decision is likely to occur in Summer 2024. No tree cutting is proposed as part of this project and impacts to culverts is limited to the installation of temporary extensions to facilitate installation of the water main under the existing culvert. These will only be in place for less than one day per culvert and will extend only part way into the culvert opening. Impacts to this species will be formally evaluated once a listing decision has been announced and the determination key is available for use.

The final species listed on the USFWS IPaC Official Species List is the monarch butterfly. This is a candidate species for federal listing and currently is not listed, thus impacts to the species do not need to be formally evaluated. That being said, this work will be conducted within the regularly maintained right-of-way, which does not provide habitat for the monarch butterfly due to the regular mowing that occurs in this area.

3.3 Cultural Resources

A majority of the proposed force main route was reviewed by the NYS State Historic Preservation Office (SHPO) for impacts to cultural resources through the design phases of the Town of Alabama water projects. There were no significant cultural impacts identified and the route was cleared by SHPO in connection with the previously constructed water project referenced above. A majority of the force main project will be constructed in the existing road rights-of-way where previous ground disturbance has occurred. However, the proposed route will be submitted to the SHPO office for review and necessary investigations will be completed to clear the project of any cultural resources.

Figures



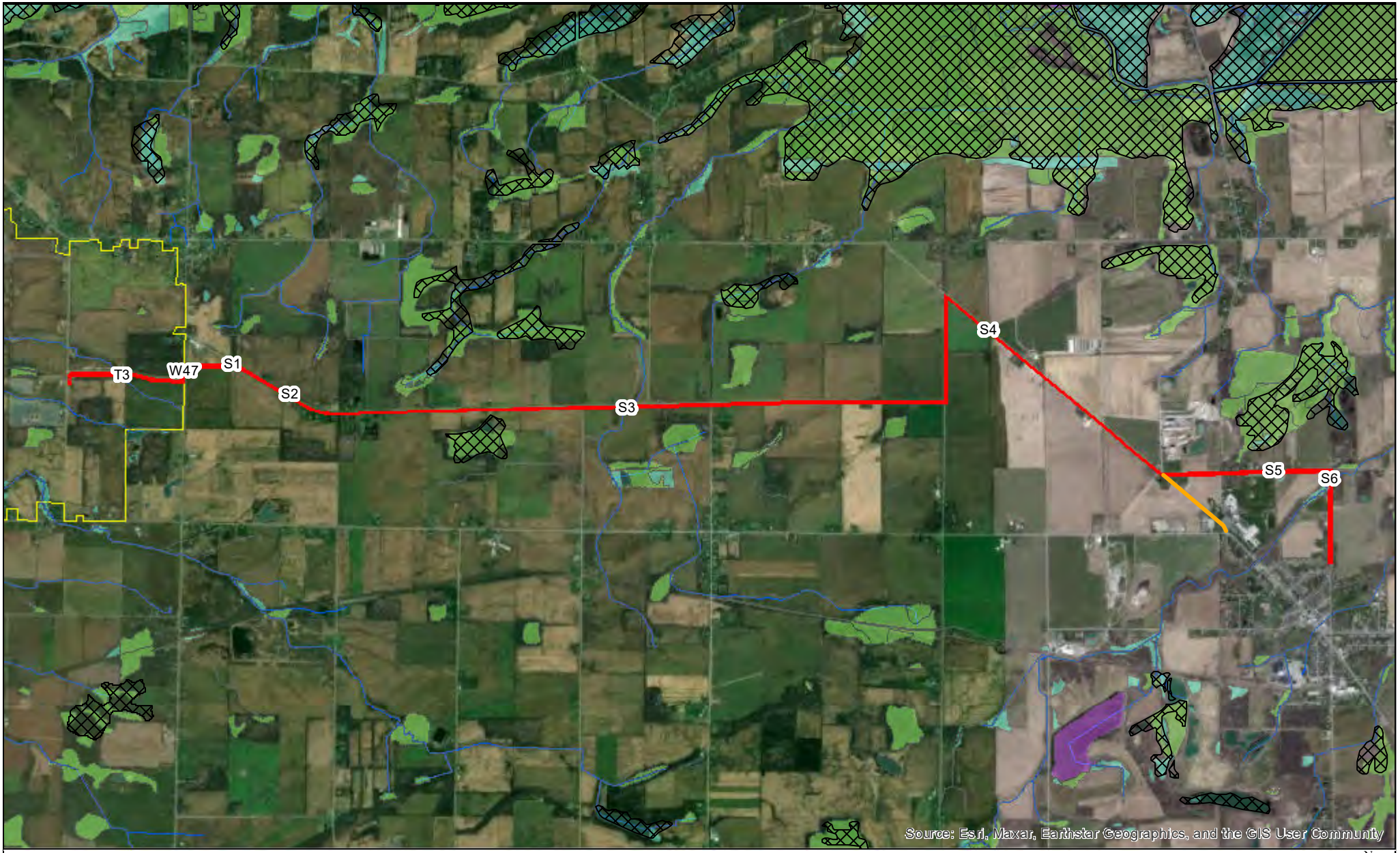
Project Location

STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

K. Hojnacki, Date: 5/23/2024

Force Main Route
Alternate Route
STAMP Boundary

Figure 1



0 0.75 1.5 3 Miles

N

Mapped Aquatic Resources

STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

K. Hojnacki, Date: 5/23/2024

- Force Main Route
- Alternate Route
- STAMP Boundary
- Wetlands and Streams
- NYSDEC Wetlands
- Streams

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Figure 2

Appendix A
Basis of Design Report

Village of Oakfield
Wastewater Treatment Facility
Proposed Connection of STAMP Force Main

Basis of Design Report

For The

Genesee County Economic Development Center

June 2024

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Acronyms

10SS	Ten States Standards
BOD_5	5-day biochemical oxygen demand
FM	Force main
GCEDC	Genesee County Economic Development Center
GEIS -	Generic Environmental Impact Statement
GPD -	Gallons per day
HDD -	Horizontal directional drilling
HDPE -	High-density polyethylene pipe
ICEAS -	Intermittent Cycle Extended Aeration
MGD -	Million gallons per day
MOU -	Memorandum of Understanding
MPS -	Main pump station
NYSDEC -	New York State Department of Environmental Conservation
PLC -	Programmable Logic Controller
SBR -	Sequential Batch Reactor
SEQR -	State Environmental Quality Review Act
SGIS -	Smart Growth Impact Statement
SHT -	Sludge Holding Tanks
SPDES -	State Pollutant Discharge Elimination System
STAMP -	Western New York Science & Technology Advanced Manufacturing Park
TDH -	Total dynamic head
TKN -	Kjeldahl nitrogen
TP -	Total phosphorus
TSS -	Total suspended solids
USFWS -	U.S. Fish and Wildlife Service
VFD -	Variable frequency drive
WWTF -	Wastewater Treatment Facility

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I. General

A. Background

The Genesee County Industrial Development Agency d/b/a/ the Genesee County Economic Development Center (GCEDC) and its affiliate, the Genesee Gateway Local Development Corporation (GGLDC), have been working for the last twenty plus years on the development of the Western New York Science & Technology Advanced Manufacturing Park (STAMP). The Site is planned as an advanced manufacturing campus on approximately 1,262 acres of land in the Town of Alabama, New York located along the west side of New York State Highway 77/63 (north of Judge Road) approximately five miles north of the I-90/New York State Thruway (STAMP Site).

At full build out, STAMP will be a high technology campus with the potential to accommodate over 6 million square feet of advanced technology manufacturing and related uses and to create up to 9,330 jobs. The GCEDC, as lead agency pursuant to the State Environmental Quality Review Act (SEQR), prepared a Generic Environmental Impact Statement (GEIS) and a Smart Growth Impact Statement ("SGIS") that analyzed the potential impacts of STAMP pursuant to the requirements of the SEQR and the State Smart Growth Public Information Policy Act.

In January 2012, the Final GEIS for STAMP was accepted as complete. The FGEIS identified alternatives for wastewater treatment for STAMP and assumed a maximum of 3 million gallons per day (MGD) of sanitary discharge would be needed. The preferred treatment alternative at that time included an onsite Wastewater Treatment Facility (WWTF) with a discharge to either Oak Orchard Creek, Whitney Creek or Tonawanda Creek. Based on feedback received during the GEIS process, several meetings with the neighboring Tonawanda Seneca Nation (Nation), and changes in the development of the STAMP Site to focus on the semiconductor industry, new alternatives for treatment were developed.

In August of 2013, a Conceptual Water and Wastewater Alternatives Analysis and Recommendations Report identified potential sanitary sewage conveyance and treatment options for the STAMP project, including 1.0 million gallons per day (MGD) of sanitary sewer effluent and 11.0 MGD of industrial process wastewater. Based on this report, the Village of Medina (Medina) Wastewater Treatment Facility (Medina WWTF) was selected as the preferred sanitary sewer effluent treatment alternative.

The Nation voiced concerns with discharging effluent to Whitney Creek which flows into the Tonawanda Creek. The Tonawanda Creek flows through the Nation and it is an essential part of their cultural heritage. Another concern expressed by the New York State Department of Environmental Conservation (NYSDEC) was discharges to Whitney Creek and how that could affect the hydrology of the Tonawanda Wildlife Management Area. By utilizing the Medina WWTF and connecting to an established collection system, potential effects associated with discharging to Whitney Creek or directly to Tonawanda Creek could be avoided.

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A Memorandum of Understanding (MOU) was developed between Medina and the GCEDC which outlined the process of analyzing potential discharge routes through the Village, analyzing potential capacity upgrades at the Medina WWTF, and overall project implementation and ownership. However, in May 2017, the MOU expired, and Medina declined to renew it. Therefore, other means of wastewater disposal were deemed necessary. Additionally, by utilizing onsite recycling for the industrial process water, the overall potential total volume of wastewater has decreased significantly from 12 MGD to 6 MGD, causing a change in the proposed treatment methods and discharge location. More importantly, as noted in the 2013 Conceptual Water and Wastewater Alternatives Analysis and Recommendations Report, the need for a potential future large diameter force main "big sewer" for the disposal of process water is no longer needed.

With a reduced wastewater discharge maximum requirement of 6 MGD, onsite wastewater treatment alternatives were once again considered feasible. Offsite effluent discharge locations were reviewed and analyzed as part of an ongoing effort to minimize environmental impacts and overall project costs for the wastewater solution. The review included input from the NYSDEC. In 2019, Oak Orchard Creek near NYS Route 63 in the Town of Shelby, just north of the Iroquois Wildlife Refuge (INWR), was determined to be the preferred discharge location. In 2020, STAMP Sewer Works, Inc. (SSW), a sewage-works corporation incorporated under Article 10 of the Transportation Corporations Law, was formed to construct and operate the proposed wastewater system.

Several layout options were considered for an onsite WWTF, onsite pump station, and offsite discharge location. On September 2, 2022, SSW received the State Pollution Discharge Elimination System (SPDES) permit for the STAMP Onsite Wastewater Facility and the construction of the force main discharge to Oak Orchard Creek in the Town of Shelby, Orleans County, New York (OOC Force Main). Construction of the force main to Oak Orchard Creek through INWR also required a right of way permit from U.S. Fish and Wildlife Service, which was granted in 2020, as well as the use of the state Eminent Domain Procedure Law to obtain easements necessary for construction.

In July of 2023 the SSW began construction of the force main through the INWR. During the design and permitting process of the WWTF and the construction of the force main, a second tenant, Edwards Vacuum, decided to settle at STAMP. Coupled with construction challenges with installing the force main through the INWR and low flow design points at the WWTF, as well as uncertainty resulting from legal challenges of the force main brought by Orleans County and the Nation, SSW decided to investigate the Village of Oakfield (Oakfield) WWTF as a sanitary sewer discharge option.

Initial average daily sanitary sewage flows from STAMP are anticipated to be 20,000 gallons per day (Plug Power, Edwards and a future project). A new onsite pump station at the STAMP site will be constructed to pump the sanitary wastewater generated by the manufacturing tenants through a force main (FM) to the Oakfield system.

The Oakfield WWTF currently has available capacity. The Oakfield WWTF's last major upgrade was in 2018-19, based on recommendations in the "*Village of Oakfield Wastewater Collection and Treatment Study and Engineering Report*", Revised May 31, 2017, prepared by Mountain

Engineering, PLLC. That capital improvement project was successful in improving the treatment process and the effectiveness of the plant operations, while meeting permit requirements. Mountain Engineering subsequently prepared a *"Village of Oakfield Wastewater Collection and Treatment Facility Needs Study Phase 2"*, Revised February 18, 2022; the focus of the Oakfield WWTF review in that study was to improve the remaining aging components of the facility, not the treatment effectiveness or capacity. The problems related to the Oakfield WWTF indicated in that study included moderate structural mechanical and electrical deficiencies. The moderate structural, mechanical, and electrical deficiencies are mainly the result of exceeding the expected useful life of the respective wastewater treatment components. Not all identified WWTF improvements were completed in the last capital project. Much of the background information contained in this current report has been taken directly from the two Mountain Engineering reports and 2018-19 project As-Built Drawings.

Pumping the sanitary sewage for existing and currently-proposed STAMP tenants (Plug Power, Edwards and a future project) to the Oakfield WWTF will allow for initial development at the STAMP site with no capacity upgrades needed to the Oakfield WWTF. Upgrading the Oakfield WWTF to improve phosphorus removal (discussed below) will provide benefits to both STAMP and Oakfield. It should also be noted that NYSDEC previously approved hold-and-haul of sanitary sewage from Plug Power, one of the initial STAMP tenants, to the Oakfield WWTF.

Oakfield, GCEDC, and SSW have executed a letter of intent (LOI) to summarize key terms upon which they would be willing to work together on the possible design, construction, and operation of the new force main sewer from the STAMP site to the Oakfield WWTF to provide wastewater treatment service to STAMP. The LOI is included in Appendix M.

B. Purpose

This report will outline the general improvements required at the Oakfield WWTF, with the basis of design for the equipment and treatment processes to be further developed as the project progresses. All work will be designed within the accepted criteria of the Recommended Standards for Wastewater Facilities, 2014 Edition (commonly referred to as the "10 States Standards") and TR-16 Guides for the Design of Wastewater Treatment Works, 2016 Revision (referred to as "TR-16"). All work will be subject to review and approval by the Village of Oakfield.

This report will also outline the design of the force main (FM), the main pump station (MPS) and the intermediate pump station (IPS) which will convey and discharge raw sanitary sewage to the Village of Oakfield WWTF. All work was designed within the accepted criteria of the Recommended Standards for Wastewater Facilities, 2014 Edition (commonly referred to as the "10 States Standards") and TR-16 Guides for the Design of Wastewater Treatment Works, 2016 Revision (referred to as "TR-16").

II. Project Information

A. Site Location

A USGS location map of the STAMP site is shown in Figure 1, and a regional map for the force main routing from STAMP to Oakfield is shown in Figure 2. A map depicting the Oakfield Sanitary Sewer Collection System is shown in Appendix A. The manholes are labeled by number and the gravity sewer mains are shown by pipe size.

A layout plan of the Oakfield WWTF site with approximate property boundaries is shown in Figure 3, and a general site plan from the 2018 As-Built Drawings is shown in Figure 4. The Oakfield WWTF is located in the Northeast quadrant of the Village at the end of Irving Parkway.

B. Site Information

1. Soils

   The Oakfield WWTF is situated on relatively flat elevations. The WWTF site soils are classified as moderately well drained and consisting mainly of silty loam. The average depth to the water table in Oakfield is two to five feet with bedrock averaging over seven feet.

2. Floodplain

   The Oakfield WWTF is outside the 500-year floodplain and there is no evidence of flooding at the WWTF. The only 100-year floodplain lies over the existing small tributaries running through Oakfield and adjacent to the Oakfield WWTF. Downstream of the Oakfield WWTF lies an abundance of state and federal wetlands, including those contained within the Iroquois National Wildlife Refuge and the Oak Orchard Wildlife Management Area.

3. Environmental Resources Present

   The environmental resources present in the project location are as follows:
   a. Streams Class C 847-694, 847-693
   b. New York State Wetlands. 18.9 Acres “OK-14”

4. Environmental Justice Area

   There are no environmental justice areas in the Village or Town of Oakfield.

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C. Population Trends

Growth in Oakfield has remained flat over the past two decades with current population from 2020 Census figures at 1,812, essentially the same as the 2010 Census figure at 1,813. Projected population for the year 2030 would be anticipated to remain at 1,812 based on current residential growth patterns within the Village, subject to the below qualifications.

There is growth potential in Oakfield and surrounding communities as a result of the STAMP project, as well as potential for connecting existing housing in the Town of Oakfield to the Oakfield sanitary sewer system. However, there are currently no firm plans for this. Accordingly, no additional flows (beyond existing permitted flows) have been included at this time for the purposes of evaluating the Oakfield WWTF's ability to accept flows from the STAMP initial development.

D. Existing Users

The existing Wastewater Collection and Treatment Facility is located in Oakfield and provides treatment for the Village including several users in the Town of Oakfield, namely the Oakfield Alabama Central School District, several residents and a few businesses. The collection facility also receives domestic waste from the Bonduelle USA, Inc. vegetable processing facility located within Oakfield but does not receive any of its process waste.

E. SPDES Permit Conditions and Limitations

A copy of the existing State Pollution Discharge Elimination System (SPDES) permit is included in Appendix B. The discharge limits under the SPDES permit based on average permitted flow of 0.5 mgd are listed in Table 1. A review of the facility's historical treatment results shows that the facility is consistently meeting these permit limits; effluent charts for February 2019-January 2024 are included in Appendix C. The facility generally operates at an efficiency of 95-99% based on removal of suspended solids and carbonaceous oxygen demand.

As indicated in the 2017 Mountain Engineering report, NYSDEC has indicated that in the future, additional or modified discharge limits for ammonia and phosphorus could be required. NYSDEC also had made note that the Village's I/I may need to be investigated.

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Table 1 SPDES Permit Limits		
Parameter	**All Year**	**Per Event for Flows >0.5MGD and micro screen used**
Flow (30-day arithmetic mean)	0.50 mgd	N/A
Dissolved Oxygen (Daily Minimum)	7.0 mg/L	7.0 mg/L
Carbonaceous Biological Oxygen Demand (CBOD5) (Daily Maximum)	5.0 mg/L and 21.0 lbs/day	15.0 mg/L
Suspended Solids (SS) (Daily Maximum)	10.0 mg/L and 42.0 lbs/day	15.0 mg/L
Ammonia (as NH3-N) (Daily Maximum)*	15 mg/L*	2.0 mg/L*
pH (range)	6.0 to 9.0	6.0 to 9.0
Settleable Solids (Daily Maximum)	0.1 mL/L	0.3 ml/L
Effluent Disinfection Required	Seasonal from May 1 to Oct. 31	All Year
*Note: It is understood that the Ammonia limits included in the SPDES permit for the "All Year" and "Per Event for Flows >0.5 MGD and micro screen used" conditions, as indicated above, were incorrectly reversed and should be 2.0 mg/L "All Year" and 15.0 mg/L "Per Event for Flows >0.5 MGD and micro screen used".		

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III. Flows and Organic Loads

A. Hydraulic Capacity

1. Design Average Flow

Design Average Flows are discussed below and presented for various flow scenarios in a table in Appendix D.

a. Existing WWTF Flows

The Oakfield WWTF is currently operating under a NYSDEC permitted 30-day average flow capacity of 0.50 mgd.

The 2017 Mountain Engineering report indicated for the period January 2010 through December 2014:

Since January 2010, the average daily flow to the facility during summer months (June through October) is 0.143 mgd. During winter months (November through May), the average daily flow is 0.166 mgd. The highest monthly average daily flow during this period has been 0.275 mgd. The overall annual average daily flow is 0.160 mgd. A summary of these flow averages is shown after Table 2. Based on the above flows, the current daily flow is considered to be 0.160 mgd for this report.

Some reductions in I/Is are likely over a 20-year period. Results from the 2015 Sewer System I/I Evaluations, see Appendix E, concluded that I/I accounted for nearly 50,000 gpd of additional flows to the Village treatment facility. It is anticipated that over a 20-year period that can be reduced by 50% or 25,000 gpd, by completing improvements to the existing collection system and continued investigations as well as enforcement of the Village's sewer ordinance.

Data for the 5-year period from January 2019-December 2023 was obtained from the USEPA ECHO website and WWTF monthly operating reports. During this period, the average daily flow to the facility during summer months (June through October) was 0.104 MGD. During winter months (November through May), the average daily flow was 0.144 MGD. The highest monthly average daily flow during this period was 0.215 MGD. The overall annual average daily flow was 0.127 MGD. A flow chart is included in Appendix C. Based on the above flows, the current average daily flow is considered to be 0.127 MGD, which we have rounded to 0.130 MGD. It is noteworthy that while the Oakfield population has remained static, the summer, winter, and overall average daily flows, as well as the maximum month average daily flow, have decreased since the 2010-2014 data.

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b. Additional Flows from STAMP

Initial Build design average flow for the STAMP site was estimated at 20,000 gpd, including approximately 9,000 gpd from currently committed businesses Plug Power and Edwards Vacuum, and an additional approximately 11,000 gpd from a future project. These flows are based on the projected number of employees and assumptions indicated in the Design Average Flows table in Appendix D.

2. Design Maximum Day Flow

a. Existing WWTF Flows

Data from the WWTF's monthly operating reports was analyzed for the 5-year period from January 2019-December 2023. The maximum daily flow for this period was 0.876 MGD, which corresponded to a severe rain event of 3.2". All but the highest six flow days were less than 0.5 MGD.

b. Additional Flows from STAMP

A peaking factor of 2.0 has been applied to the Design Average Flow, yielding a maximum day flow of 0.040 MGD.

3. Design Peak Hourly Flow

a. Existing WWTF Flows

Peak hourly flows could not be determined from the Oakfield WWTF's circular flow charts, as those charts have a maximum value of 1.0 MGD. However, it is known that the facility has experienced peak instantaneous flows in excess of 1.547 MGD, which is the maximum flow that the Oakfield WWTF flowmeter will measure; this value was reached on 5 days in the 5-year period from January 2019-December 2023, and it is assumed that the peak instantaneous flow on these days exceeded 1.547 MGD. Since the average daily flows have declined since the 2010-2014 data used for the 2017 Mountain Engineering report, to be conservative the peak hourly flows indicated in the 2017 Mountain Engineering report have been utilized. That report indicated the following:

In sanitary sewer collection systems with very little inflow/infiltration, peak hourly flows occur in conjunction with maximum water usage within the service area. Peak hourly flows are estimated by applying a peaking factor to the average daily flow. Based on "Recommended Standards for Wastewater Facilities, 2014 Edition", a community the size of Oakfield is expected to have a peaking factor of approximately 3.6. The facility's operators have indicated that between 6:00 a.m. and 10:00 a.m., flow to the facility, at times, can increase by a factor of

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approximately 2.0. The peak (instantaneous) *flow due to wet weather events is as high as 1.547 mgd. This report will conservatively use a peaking factor of 4.0.*

The Mountain Engineering report applied this peaking factor of 4.0 to the packaged treatment plant's original design flow of 0.340 MGD to arrive at a design peak hourly flow of 1.360 MGD when the facility is operating at a design average flow of 0.340 MGD. To be conservative, we have assumed this peak hourly flowrate of 1.360 MGD also for the existing flows (average daily flow 0.127 MGD).

c. Additional Flows from STAMP

A peaking factor of 4.0 has been applied to the Design Average Flow, yielding a peak hourly flow of 0.080 MGD.

4. Design Peak Instantaneous Flow

a. Existing WWTF Flows

The facility has experienced and is currently able to handle peak flows in excess of 1.547 MGD, which is the maximum flow that the Oakfield WWTF flowmeter will measure; this value was reached on 5 days in the 5-year period from January 2019-December 2023, and it is assumed that the peak instantaneous flow on these days exceeded 1.547 MGD. These extreme peak instantaneous flows with a peaking factor of over 12x the average daily flow are due to extreme rainfall events (ranging from 1.9" to 3.2" of rainfall). The 2010-2014 data used for the 2017 Mountain Engineering report also indicated peak instantaneous flows as high as 1.547 MGD during wet weather events, and used a design instantaneous flow of 1.60 MGD when the facility is operating at a design average flow of 0.340 MGD. To be conservative, we have assumed this peak hourly flowrate of 1.60 MGD also for the existing flows (average daily flow 0.127 MGD).

b. Additional Flows from STAMP

Peak instantaneous flows from STAMP to the Oakfield WWTF have been assumed to match the peak hourly flow of 0.080 MGD. While the instantaneous flows at the point of connection of the STAMP force main to the Oakfield sanitary sewer system will be higher and equivalent to the pumping rate in the STAMP force main, these flows will be of intermittent and short duration, and will have flattened by the time they reach the Oakfield WWTF.

5. Design Flow Summary

The design flows to be used for this report are summarized below. Note that these flows do not account for any additional I/I reduction from the Village's collection system.

Table 2 Design Flows		
	Flow Scenario 1 Existing Flows (MGD)	**Flow Scenario 2 Existing Flows + STAMP Initial Build (MGD)**
Design Average Flow	0.130	0.150
Maximum Day Flow	0.876	0.916
Peak Hourly Flow	1.360	1.440
Peak Instantaneous Flow	1.600	1.680

B. Design Loadings

Influent strength sewage testing data from January 2019 through December 2023 has been used to determine the current influent organic loadings for Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), and Suspended Solids. The Oakfield WWTF does not sample for influent TKN or phosphorus. However, sampling data from 2010-2014 included in the 2017 Mountain Engineering report indicated ammonia values in the 40 mg/L range, which we have utilized for the existing TKN condition. The average loadings are summarized as follows:

Table 3 Existing Loadings (Jan. 2019-Dec. 2023) Average Daily Flow = 0.130 MGD		
Parameter	**Concentration (mg/L)**	**Loading (lbs/day)**
$CBOD_5$	190	206
Suspended Solids	192	208

The sanitary wastewater produced at the STAMP Site is anticipated to have typical sanitary wastewater characteristics. For flows above the existing average daily flow, the additional flow component was assumed to have concentrations of 250 mg/L for BOD5, 250 mg/L for TSS, 50 mg/L for TKN, and 7 mg/L for total phosphorus. The below table summarizes the design conditions:

Table 4 Design Loadings		
Parameter	**Flow Scenario 1 Existing Flows (0.130 MGD)** **mg/L(lbs/day)**	**Flow Scenario 2 Existing Flows + STAMP Initial Build (0.150 MGD)** **mg/L(lbs/day)**
BOD_5	190 (206)	198 (248)
TSS	192 (208)	200 (250)
TKN	40 (43)	41(52)
TP	7 (8)	7 (9)

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IV. Impact On Existing Wastewater Facilities

The Oakfield WWTF includes a screening and grit removal building, flow splitting structure, packaged wastewater treatment units, ultraviolet (UV) disinfection, sludge drying beds, reed bed sludge treatment system, control building, a wet weather treatment system (micro-screen), and a storage barn.

The existing wastewater treatment facility layout, general site plan, process flow diagram, and hydraulic profile are shown in Figures 3, 4, 5, and 6, respectively.

The existing collection and treatment facility was originally constructed in 1927. Four separate reconstruction/improvement projects were completed at the Oakfield WWTF in 1938, 1979, 1989, and 2019.

Most of the facility is from the 1979 Upgrade. The 1989 improvements included the addition of a wet weather bypass treatment screening system and replacement of the aeration system for the package treatment plant units.

The 2019 improvements included a new headworks building (screening and grit removal), a pole barn roof over a portion of the package treatment plant units, ultraviolet disinfection structure, and enclosed sludge drying beds. The aeration blowers for the packaged treatment plant units were replaced in 2022.

The Oakfield WWTF is operated by a contract operator (Camden Group).

The 2022 Mountain Engineering report reviewed each component of the Oakfield WWTF regarding deficiencies and potential improvements to the remaining aging components not addressed in the 2019 capital project. The 2022 report recommendations were reviewed with Camden Group and Mountain Engineering staff in the preparation of this report, and all of the recommendations still apply and are included below, with the exception of a couple of items which have been addressed.

Conversations with Camden Group have indicated that everything at the Oakfield WWTF is working well currently, with the biggest operational issues being Inflow/Infiltration and sludge disposal.

A. Site

The 2022 Mountain Engineering report indicated the following:

a) *Several improvements are needed at the wastewater treatment facility to address deteriorating structures that are contributing to structural and safety issues including:*
   1. *Painting;*
   2. *Miscellaneous repairs.*

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B. Screening and Grit Removal

The existing headworks facility was constructed in the 2018/19 construction project, and includes a mechanical bar screen, Pista Grit vortex grit removal system, and grit dewatering and screw conveyor unit. The headworks facility was designed for a peak hourly flow of 1.6 MGD and peak instantaneous flow of 3.0 MGD.

No improvements are required to the headworks facility.

C. Secondary Influent Structure

The 2022 Mountain Engineering report indicated the following:

a) *This influent structure was constructed in 1979 and requires maintenance and process upgrades:*
   1. *Concrete repairs and protective coatings;*
   2. *Grating replacement;*
   3. *Install better bypass flow control;*

D. Process Flow Splitter

The 2022 Mountain Engineering report indicated the following:

a) *This structure was replaced in 1979 and needs minor repairs including:*
   1. *Minor concrete repairs and protective coatings;*
   2. *Install concrete nosing at center column.*

Modifications to improve flow distribution are recommended, as flow distribution is imbalanced more heavily toward the east packaged treatment plant. Installation of the concrete nosing at the center column should improve this condition.

E. Packaged Wastewater Treatment Units

The two packaged wastewater treatment units were constructed in 1979. The 1979 Design Criteria (included in Appendix E) indicates the facility was designed for an average dry weather flow of 0.34 MGD and that flows of 1.10 MGD can be handled without the flooding of any control weirs or taxing the hydraulic capacity of flumes, piping, etc.

The aeration system was replaced in 1989, converting the system from coarse bubble diffusers to fine bubble diffusers. The 1989 engineering report with design criteria for the aeration system replacement is also included in Appendix E.

A review of the existing design indicated that the packaged wastewater treatment units appear to be sized correctly based on the current Ten States Standards and TR-16 for the original design of

0.34 MGD average daily flow and 1.10 MGD peak hourly flow, with the following possible exceptions noted:

- Return sludge pumps: The 1979 design indicates a sludge return rate of 100%, whereas Ten States Standards indicates a maximum return sludge rate of 150% of design average flow for single-stage nitrification processes.
- Clarifiers: The existing clarifiers were designed with a surface overflow rate of 960 gpd/SF at the peak hourly flow of 1.1 MGD, which is less than the maximum of 1,000 gpd/SF specified by Ten States Standards. However, when chemical addition is utilized for phosphorus removal to a required concentration of less than 1.0 mg/L, the maximum surface overflow rate specified by Ten States Standards is 900 gpd/SF, which would equate to a peak hourly flow of 1.03 MGD. The presence of tertiary filters following the clarifiers may mitigate this requirement, however.

A pole barn roof was constructed in the 2018/19 capital project over half of each of the packaged wastewater treatment units, the half that includes the bulk of the equipment exposed to weathering.

The 2022 Mountain Engineering report indicated the following (additional comments based on our review have been added without italics):

a) *Several components of the aeration tank, clarifier, filters, and post aeration tank require maintenance or replacements from its construction in 1979.*
   1. *Structural repair to steel or concrete;*
   2. *Replace process equipment at aeration tank (new air diffusers);* Camden Group noted that if the blowers shut down for any period of time, the air headers in the tanks fill with wastewater.
   3. *Replace process equipment at center clarifiers (repair rake arms, replace gear drives and wells);*
   4. *Replace process equipment at sand filters (media, controls systems and repairs to steel and coatings);* Camden Group staff indicated that the existing media is 5' of anthracite and 1' of sand, and also noted that Filter A has a broken pipe.
   5. *Replace aeration system and effluent box at Post Aeration tank;*
   6. *Provide phosphorus removal if required by NYSDEC in the future*
   7. *Replace weirs and repair clarifier;* (Weir fastening hardware has been recently replaced with stainless steel hardware)
   8. *Complete minor repairs to steel for treatment tanks;*
   9. *Repair deteriorated concrete at treatment tanks.*

Camden Group indicated that it would be beneficial to extend the pole barn roof over the remainder of the two packaged wastewater treatment units, noting in particular that the west unit experiences problems with algae growth.

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F. Control Building

This building was built in 1979. The process blowers for the packaged wastewater treatment units were replaced in 2022, and the emergency generator for the Oakfield WWTF was also recently replaced.

The 2022 Mountain Engineering report indicated the following (additional comments based on our review have been added without italics):

a) *This building was built in 1979 and requires updates and modifications. These improvements will provide opportunities for energy savings:*
   1. *Update lab/office equipment and monitoring and alarming systems;*
   2. *Replacement of blowers and electrical will provide energy savings;* (Blowers have been replaced as noted above)
   3. *Replacement of lighting, windows and doors will provide energy savings.*

G. Ultraviolet Disinfection

The UV facility was constructed in the 2018/19 capital project and utilizes horizontal UV lamp modules in an open channel configuration. The UV system is designed for a minimum flow of 0.10 MGD, average flow of 0.35 MGD, and peak flow 1.60 MGD with full disinfection. The system, channel, and weir are designed to hydraulically pass an instantaneous peak flow of 3.00 MGD without overtopping the channel.

No improvements are needed to this facility.

H. Wet Weather Treatment System – Micro Screen

This facility was constructed in 1989. The 1989 Engineering Report for the Aeration System Improvements indicated that the Oakfield WWTF "has an average daily flow of approximately 0.25 million gallons per day (MGD), with wet weather flows up to 2.0 MGD during peak conditions. Currently a Wet Weather Treatment System is being constructed which will treat raw sewage in excess of 0.500 MGD." This implies a peak flow capacity for the Wet Weather Treatment System of at least 1.5 MGD.

The 2022 Mountain Engineering report indicated the following:

a) *This installation occurred in 1989 but needs upgrading the original equipment and budgeting for future improvements including:*
   1. *Replace and provide enclosure for micro screen panel boxes and controls;*
   2. *Repair infiltration;*

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I. Reed Bed Sludge Treatment System

The two (2) reed beds were constructed in 2010, with the intention that sludge would periodically be dredged and land applied on neighboring fields. Subsequent NYSDEC regulations dictated that the Village would no longer be able to land apply the sludge planted with Reed plants, requiring costly landfill disposal. Consequently, supplemental alternatives were evaluated in the 2017 Mountain Engineering report, resulting in the construction of new sludge drying beds as outlined below. Since the construction of the sludge drying beds, the reed beds have seen significantly less use. Both beds need to be dredged and the processed sludge/soil removed and disposed of. The west reed bed has been out of service for some time and could be cleaned immediately.

J. Sludge Drying Beds

The two (2) sludge drying beds were constructed in the 2018/19 capital project, in two separate enclosed and vented buildings. Information provided by Mountain Engineering (included in Appendix F) indicates that the total bed capacity was sized based on sludge production quantities from 2015-2016, which should be approximately the same or slightly less in 2024 due to the reduction in influent flowrates.

K. Storage Barn

The storage barn was constructed in the 1980s. The barn holds DPW equipment, and approximately 1/3 of the barn is used for dried sludge storage.

The 2022 Mountain Engineering report indicated the following:

a) *This building was constructed in the 1980's and requires repairs to address structural issues and can benefit from energy savings.*
   1. *Grout undermining foundation;*

L. General

The 2022 Mountain Engineering report indicated the following:

a) *Miscellaneous improvements to be considered at the treatment plant.*
   1. *Groundwater pumping/monitoring system;*
   2. *Provide spare equipment, pump valves, motors, etc.*

M. WWTF Outfall Line

The existing Oakfield WWTF outfall line was constructed circa 1989 and consists of approximately 3900 LF of 18" gravity sewer with manholes, running northward from the WWTF to an outfall structure at Oak Orchard Creek. Mountain Engineering provided a hydraulic analysis of this line at a peak flow of 3.0 MGD which indicated the line has capacity for this flow.

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V. Engineering Criteria

Design flows and loadings are outlined previously in this report.

The 2017 Mountain Engineering report included information provided by NYSDEC regarding potential changes to effluent limit requirements that may be required the next time a full technical review occurs. Currently relevant portions of that information are included below for awareness of the potential improvements that could be required. This report does not make definitive recommendations for those potential changes.

Reduced Ammonia Limits

The 2017 Mountain Engineering report indicated the following:

> *The effluent limits for Ammonia in the current SPDES permit are a daily maximum of 2.0 mg/L as NH_3 from June 1 to October 31 "Summer Months" and a daily maximum of 15.0 mg/L as NH_3 from November 1 to May 31 "Winter Months." The NYSDEC anticipates that Ammonia limits during the winter months are expected to decrease significantly for the renewal of the 2020 SPDES permit. Preliminary discussions with the NYSDEC anticipate that new limits in 2020 could possibly be 1.2 mg/L as N and 1.5 mg/L as NH_3 during the summer months and 1.8 mg/L as N and 2.2 mg/L as NH_3 during the winter months.*
>
> *The current limits shown in Appendix D for the winter months have been less than 1 mg/L since 2012. Based on anticipated limits for 2020, it is likely they should meet the limits as long as the current flows remain the same.*
>
> *To increase nitrification, additional air could be added to the activated sludge system. Additional horsepower upgrades to the blower motors are estimated to cost $5,000. A more expensive method of achieving nitrification if required, is the integrated fixed film activated sludge (IFAS) process, see the manufacturer's brochure in Appendix J. IFAS has been successful in achieving year-around nitrification in cold weather climates. Fixed media would be installed in the activated sludge aeration tank. The IFAS process is available if the loadings and limits are such that just additional air is not sufficient.*

Relative to the above Mountain Engineering report reference to the process blowers, as indicated above the blowers were replaced in 2022, with higher capacity blowers.

Phosphorus Removal

The 2017 Mountain Engineering report indicated the following:

> *There are currently no phosphorus limits in the Village of Oakfield SPDES permit. However, it is likely that this will change with the technical review of the SPDES permit renewal. It has been determined that the existing plant is capable of removing phosphorus.*

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Phosphorus levels could be reduced further by increasing the volume of air to the activated sludge process. This would require increasing the horsepower of the blower motors. Additional phosphorus removal could also include chemical treatment. Consideration was given for the method of treatment and it was determined that alum addition may be the best method of treatment in an activated sludge process. Costs for the chemicals, feed system and storage facilities have been included in this report. Additional consideration included the additional sludge type and volume that would be generated in the phosphorus removal process. An evaluation of the type and additional capacity of the sludge handling facilities was also considered. It was determined that clarifiers and digesters were capable of treating phosphorus removal.

Relative to the above Mountain Engineering report reference to the process blowers, as indicated above the blowers were replaced in 2022, with higher capacity blowers.

PH Limits

The 2017 Mountain Engineering report indicated the following:

The NYSDEC has indicated that the receiving waterbody will have the pH limits adjusted in the 2020 SPDES permit to reflect its current Water Quality Classification. Originally, Oak Orchard Creek was listed as a Class "D" stream, but is currently designated a Class "C" stream. Consequently, the limits will be increased to reflect its stricter clarification. The pH limits will change from 6.0 – 9.0 SU to 6.5 – 8.5 SU. Based on activity for years 2010-2014, monthly minimum and maximum effluent pH values were 7.2 and 7.9, respectively. A summary of the Wastewater Facility Operations Reports, shown in Appendix D, has been modified to include the monthly minimum and maximum effluent pH values. It is likely pH levels will remain consistent with the historical levels at the current flows and would likely operate within the new range of 6.5 – 8.5 SU for a Class "C" stream.

Flow Equalization

The 2017 Mountain Engineering report indicated the following:

Correspondence with NYSDEC has indicated that the wet weather micro screen treatment system currently permitted, may or may not be allowed after the next technical review. As such, the following options are discussed.

- *Existing Micro Screen System*

  A Micro Screen System was approved by the NYSDEC and installed in 1989. NYSDEC has indicated that the existing wet weather treatment system may or may not continue to be permitted to be utilized during these events. This wet weather treatment system provides primary clarification to excess flows before being entering the discharge stream. These excess flows are comprised mainly of storm water resulting from various

points of I/I throughout the wastewater collection system. It is likely that typical flows do not include additional organic waste during these events.

The 2017 Mountain Engineering report also discussed the options of a Flow Equalization Tank (preliminarily estimated at 0.24 MGD in size) and Inflow and Infiltration Reduction in the collection system. The conclusion of the report was that the equalization tank option was financially not feasible for Oakfield, and that it would be difficult to predict if the impact of I/I improvements would be significant. Consequently, since Oakfield had received prior approval from the NYSDEC for the Micro Screen System, it was suggested that the system remain in place and be utilized during wet weather events.

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VI. Proposed Design

Potential improvements were evaluated based on existing conditions of the Oakfield WWTF and wastewater collection system, increased flows/loadings and phosphorus removal requirements.

A. Existing Conditions

Wet weather inflow into Oakfield's wastewater collection system is significant, with rapid substantial flow spikes during rain events and rapid return to normal flow rates afterward observed at the Oakfield WWTF. This issue should be pursued, particularly if there are flow increases (from STAMP or other users) beyond the STAMP Initial Build flows. Addressing this issue would include Inflow and Infiltration improvements in the Oakfield collection system as identified in the 2022 Mountain Engineering report, or possibly a flow equalization tank at the Oakfield WWTF.

The existing WWTF deficiencies and potential improvements to the remaining aging components identified in the 2022 Mountain Engineering report and above should also be addressed, regardless of any additional flows from STAMP or other sources, as funding allows.

B. Increased Flows and Loadings

As influent flows increase, the following improvements are anticipated:

1. Flow Scenario 1: Existing Flows
(WWTF Design Average Flow = 0.130 MGD)

- No improvements required.

2. Flow Scenario 2: Existing Flows + STAMP Initial Build Flows
(WWTF Design Average Flow = 0.150 MGD)

- Cleanout of existing reed beds to provide additional sludge handling capacity.
- Provide phosphorus removal facilities as described below.

C. Phosphorus Removal and Offset

The Oakfield WWTF's SPDES permit does not include a phosphorus limit, nor is the WWTF designed for phosphorus removal. However, due to the potential for a future limit, and to benefit the Oak Orchard Creek receiving stream, it is proposed to provide facilities for phosphorus removal to offset the added phosphorus load from the added influent. The Oakfield WWTF does not test for phosphorus, but the average effluent phosphorus concentration was estimated by NYSDEC as 2.2 mg/L (See Appendix G for an excerpt of a document provided by NYSDEC containing estimated effluent phosphorus levels). Based on this concentration, it is estimated that the existing phosphorus loading to the receiving stream at the current WWTF average flow of 0.130 MGD is approximately 2.4 lbs/day or 870 lbs/yr. Based on a preliminary evaluation, it is anticipated that phosphorus removal from the current estimated 2.2 mg/L down to approximately

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0.5 mg/L could be achieved with chemical addition using a metal salt such as aluminum sulfate (alum) or PAC, applied 1) before the aeration basins and 2) before the effluent sand filters. This would result in an estimated phosphorus loading to the receiving stream of 200 lbs/yr under current conditions, for a net reduction of 670 lbs/year which would then be available as a phosphorus offset for the added flows to the Oakfield WWTF (including STAMP Initial Build flows), and potentially any phosphorus-containing process water discharges from STAMP businesses via the OOC Force Main (up to 0.44 MGD additional discharge from the Oakfield WWTF, which is more than the remaining WWTF capacity, or up to 1.1 MGD of STAMP process water discharges through the OOC Force Main, or a combination thereof). The following table summarizes this information.

Table 5
Phosphorus Loadings & Offset

Parameter	Flow Scenario 1 Existing Flows (0.130 MGD)	Flow Scenario 1 Existing Flows (0.130 MGD) With Phosphorus Removal	Flow Scenario 2 Existing Flows + STAMP Initial Build (0.150 MGD) With Phosphorus Removal
Average Flow (MGD)	0.130	0.130	0.150
Effluent TP (mg/L)	2.2	0.50	0.50
(lbs/day)	2.4	0.54	0.63
(lbs/yr)	870	200	230
Remaining Phosphorus Offset Available (lbs/yr)	**-**	**670**	**640**
Equivalent Additional Oakfield WWTF Discharge at 0.5 mg/L TP (MGD)[1]	-	0.44	0.42
Equivalent STAMP OOC Force Main Process Water Discharge at 0.2 mg/L TP (MGD)[1]	-	1.1	1.05

[1]Note: Equivalent Additional Oakfield WWTF Discharge and Equivalent STAMP OOC Force Main Process Water Discharge flows are not additive.

Additional facilities needed to provide this phosphorus removal at the Oakfield WWTF are anticipated to include two chemical feed pump skids, feed piping, and chemical storage (either via a permanent tank or possibly portable chemical totes), and a chemical feed building if there is

insufficient space for the chemical feed pump skids and chemical storage tanks/totes within existing buildings. In addition to capital costs for this option, there will be ongoing O&M costs, primarily related to chemical costs and added sludge disposal costs due to the increased volume of sludge that would be generated.

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Oakfield Force Main, Main Pump Station & Intermediate Pump Station

VII. Project Information

A. Site Location

The existing STAMP Site consists of agricultural land located within the Town of Alabama (Town), in Genesee County. The location of the proposed STAMP Site including the location of the onsite MPS is shown in Figure 1, and the route of the new FM and the location of the IPS is shown in Figure 2.

B. Design Flows

The proposed force main, main pump station and intermediate pump station have been sized to accommodate sanitary wastewater produced at the STAMP Site generated at full buildout and STAMP's commitment to providing the Town of Alabama with a sanitary sewer system. The Town includes the Hamlet of Alabama, Hamlet of Basom, Hamlet of South Alabama and Hamlet of Wheatville. Initial sanitary sewer flow rates to the Village of Oakfield are anticipated to be approximately 20,000 gallons per day (gpd) from the STAMP site only. Treatment capacity upgrades at the Village of Oakfield WWTF, should they be necessary, will be addressed in a basis of design report evaluating the Village of Oakfield WWTF flow rates. Flow rate calculations can be found in Appendix D.

Flows to the main pump station, intermediate pump station, and force main will consist solely of raw sanitary sewer flows generated by the STAMP Site and the Town. At this time there are no operations that anticipate generating process water at the STAMP Site. Should operations require process water requiring disposal, the respective businesses generating those process waters will be required to obtain their own SPDES permit from NYSDEC and treat the process water to the requirements of that permit prior to disposal. Disposal will be accomplished via a separate pump station and the force main discharging to Oak Orchard Creek in the Town of Shelby, for a maximum process flow rate of 5 MGD.

As stated above, the current anticipated flows through the force main will be approximately 20,000 gpd. However, the force main and pump stations will be sized to accommodate full build out of the STAMP site and the Town of Alabama. Flows in excess of 20,000 gpd will require additional coordination with the Village of Oakfield prior to discharging to the collection system.

C. Discharge Location

Based on estimated construction costs, minimal environmental impacts, existing water quality, and available treatment capacity, the Village of Oakfield WWTF was determined to be the preferred facility to treat the sanitary wastewater generated by the STAMP Site. A map showing the selected route and discharge location is shown in Figure 2.

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VIII. Proposed Project

The 2014 edition of the Recommended Standards for Wastewater Facilities, or Ten States Standards (10SS) and the 2016 Revision of the Guides for the Design of Wastewater Treatment Works, or TR-16, were used as references and guidance for the design of the proposed pump stations and force main.

A. Main Pump Station (MPS)

The Main Pump Station has been designed to accommodate the initial sanitary sewer buildout flow rate of 20,000 GPD from the STAMP Site.

The proposed MPS will be constructed south of Stamp Drive, on the east side of Crosby Road, directly across from the designated utility parcel. Placing the MPS here will provide proper grades to serve the entire northern position of the STAMP site by gravity.

The permanent MPS will utilize submersible pumps and a 10' diameter concrete structure sized in accordance with Ten States Standards. The wet well will have an operating storage volume of approximately 2,719 gallons. The operating range of the wet well will be approximately 7.63 feet vertically. The pump station has been designed with a valve vault outside of the wet well to isolate pumps and to provide a bypass connection for future maintenance.

The wet well will include ventilation for both intake and exhaust of air using explosion proof equipment. In addition, a vault will be constructed to house a magnetic flow meter to measure flow pumped from the pump station. The ventilation of the full build-out wet well is designed to meet the requirements as outlined in Ten States Standards. Wet well sizing calculations can be found in Appendix H.

The controls for the submersible pumps will be housed in a metal sided enclosure. This enclosure will also house the utilities to the pump station including potable water and electric services.

For operation during a power failure, a standby diesel-fueled generator with a sound-attenuating enclosure will be provided in accordance with the requirements of TR-16.

Odor control provisions, likely in the form of chemical addition, will be provided for initial low flow conditions due to the potential for septic conditions with extended detention times in the force main.

B. Intermediate Pump Station (IPS)

The Intermediate Pump Station (IPS) has been designed to accommodate 20,000 GPD of sanitary sewer, accepting flow from STAMP Main Pump Station plus, the Hamlet of South Alabama and the Hamlet of Wheatville.

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The proposed IPS will be constructed at the intersection of Ham Road and Knowlesville Road. This will give the Hamlet of South Alabama and Hamlet of Wheatville the ability to discharge to a wet well before pumping to the Village of Oakfield WWTF. The IPS will allow for smaller pumps at the STAMP site, the Hamlet of South Alabama, and the Hamlet of Wheatville.

The permanent IPS will utilize submersible pumps and a 10' diameter concrete structure sized in accordance with Ten States Standards. The wet well will have an operating storage volume of approximately 3,229 gallons. The operating range of the wet well will be approximately 8.50 feet vertically. The pump station has been designed with a valve vault outside of the wet well to isolate pumps and to provide a bypass connection for future maintenance.

The wet well will include ventilation for both intake and exhaust of air using explosion proof equipment. In addition, a vault will be constructed to house a magnetic flow meter to measure flow pumped from the pump station. The ventilation of the full build-out wet well is designed to meet the requirements as outlined in Ten States Standards. Wet well sizing calculations can be found in Appendix H.

The controls for the submersible pumps will be housed in a metal sided enclosure. This enclosure will also house the utilities to the pump station including potable water and electric services.

For operation during a power failure, a standby diesel-fueled generator with a sound-attenuating enclosure will be provided in accordance with the requirements of TR-16.

Odor control provisions, likely in the form of chemical addition, will be provided for initial low flow conditions due to the potential for septic conditions with extended detention times in the force main.

C. Force Main

1. Location

There will be two segments of the force main. The first segment will convey sanitary flows from the Main Pump Station on the STAMP site to the Intermediate Pump Station along Ham Road in the Town. The first segment of the force main route will begin on Crosby Road and head north to STAMP Drive, where it will continue east and cross Allegany Road (NYS Route 63), continuing east through backlots to Ham Road, and continue along Ham Road to Knowslville Road (C.R. 23) in the Town where it will discharge into the wet well of the Intermediate Pump Station. The force main in this section will be approximately 18,000 linear feet long.

The Intermediate Pump Station will then convey sanitary flows from the Hamlet of South Alabama and the Hamlet of Wheatville along Ham Road to Macomber Road in the Town. The force main will then continue north along Macomber Road in the Town of Oakfield to Lewiston Road, where it will head southeast to Maltby Road. At Maltby Road the force main will continue east to North Pearl Street, where it will head south into the Village of Oakfield. The force main will then connect to the 12" diameter Village of Oakfield collection system. The force main has been sized to

accommodate the full buildout design flow of 0.287 MGD of sanitary sewer from the STAMP Site and the Town of Alabama. The force main in this section will be approximately 27,000 linear feet long.

An alternate force main route is being considered in the event that the Town of Oakfield or Village of Oakfield prefer a different route. This route will begin at the Intermediate pump station at the intersection of Ham Road and Knowlesville Road and extend east to Macomber Road, where it will continue north along the east side of Macomber Road to the intersection of Macomber Road and Lewiston Road. The force main will then follow Lewiston Road to the southeast and connect to an existing manhole at the intersection of Lewiston Road and Judge Road (NYS Route 63) in front of the Oakfield-Alabama Central Schools. The Village of Oakfield collection system will need to be evaluated to determine the location where the force main connects to the Village collection system.

The system curve was developed based on the installation of approximately 45,000 linear feet of 12-inch PVC DR-18 sanitary force main, metering vaults, and maintenance manholes. The force main route is shown in Figure 2.

2. Design

The force main design considered raw wastewater velocity, total dynamic head (TDH), and maximum rated working pressures for multiple diameters of PVC sanitary force main pipe. The system curve for the FM can be found in Appendix I at the end of this report. Pressures in the force main are not expected to exceed 100 PSI. Therefore, 12" DR-18 PVC pipe was selected.

To prevent settling of solids, the minimum flow required to maintain 2 ft/s in the 12" DR-18 PVC main (11.650" ID) is 659 gallons per minute (GPM). For the initial phases of the STAMP site, the pump station will be operated to provide a flushing velocity through the main for an extended period of time to properly flush the force main.

3. Profile

Overall, the force main route from the MPS to the IPS and the IPS to discharge location in the Village of Oakfield is generally uphill with multiple high points and low points along the route. The pump off elevation of the MPS is approximately 652.00' and the force main discharge elevation at the IPS is approximately 715.00' Therefore the discharge elevation of the MPS force main is approximately 63 vertical feet higher than the pump off elevation in the MPS.

The pump off elevation of the IPS is 707.50'. The discharge manhole along North Pearl Street in the Village of Oakfield is approximately 725.00'. Therefore, the discharge elevation of the force main is approximately 17.5 vertical feet higher than the pump off elevation of the pumps in the IPS.

The PVC force main will be installed at a constant minimum slope of 0.5%, within the open cut areas. The force main pipe is purposely installed sloping up and down along the route to provide

designated high points for releasing air within the pipe. Air release valves will be installed within maintenance manholes at these high points.

4. Maintenance Manholes

Maintenance manholes will be installed at each high point along the route of the force main between the STAMP Site and the discharge location. Each manhole is a 5'-0" diameter precast concrete structure that contains an internal access ladder, a removable section of pipe, air release/vacuum breaker valve, and vent piping. Air-release/vacuum breaker valves are required to prevent air from becoming captured inside the force main pipe, which causes flow constrictions and results in poor pumping efficiencies. The removable fitting provides a means to access the force main for flushing, testing and bypass pumping purposes. The fitting consists of a 24" long straight section of ductile iron pipe that can easily be removed for the attachment of other fittings, testing equipment or bypass pumps. Each manhole will also have a 24" diameter cast iron manhole cover placed on top for access to the internal components. The cover will be installed so it is level with the finish grade will be placed over top of the pipe for access.

Since some of these maintenance manholes may be in areas where the high ground water level would be above the elevation of the air release/vacuum valve, the air release/vacuum breaker piping must extend above grade to ensure the air release valve vents the air properly. For these locations, a 2" diameter galvanized steel vent in the shape of a candy cane that extends approximately 2' above the high ground water level will be required. The vent will contain a screen over the end of the pipe to prevent animals from entering the vent piping. The piping will be painted to blend in with the surroundings.

Main line valves will be installed approximately every 1,000 feet along the force main to provide a means to isolate sections of the force main for testing and maintenance purposes.

5. Flow Metering

Magnetic flow meters, located on the discharge piping within the new Main Pump Station and Intermediate Pump Station valve vaults, will monitor and record the instantaneous and total flows at each pump station. The meter at the Intermediate Pump Station will be used for billing by the Village of Oakfield.

6. Main Line Valves

The force main will require numerous main line valves along the route from the STAMP Site to the discharge location. Valves are located at each of the maintenance manholes to provide a means to isolate sections of the force main for testing and maintenance purposes. Each valve requires a cast iron valve box, installed to finish grade, for access to the valve's operating nut. The top of the valve box is approximately 8" in diameter and installed level with the finish grade.

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7. Force Main Markers

Fiberglass pipeline markers will be placed at periodic intervals along the entire force main route. Each marker is approximately 4" wide and extends 5' above grade. The markers are used to help identify the location of the underground pipe, especially during the winter months and within heavily vegetated areas.

8. Environmental Resources

A wetland delineation was completed for the proposed force main route from the STAMP Site to the discharge location along North Pearl Street in the Village of Oakfield. The wetland delineation identified seven (7) total stream crossings and one (1) non-jurisdictional wetland that will be crossed by the force main installation. There are three (3) Class C stream crossings identified in the delineation report. The wetland delineation report completed by CC Environment & Planning can be found in Appendix J.

The first creek crossing is located within the STAMP site boundary, along STAMP Drive at the intersection of the bypass road hammerhead. The force main will cross tributary 3 in this area. The crossing of Tributary 3 will be completed with horizontal directional drilling (HDD) methods. A directional drilling launching pad will be constructed on one side of the creek crossing, outside of the banks of the creek. The pad consists of a temporary gravel pad to support the HDD machine while it is working. The pad will be removed at the completion of the crossing. The HDD machine will install the pipe a minimum of 10 feet below the bottom of the creek bed. All disturbance and all work will take place outside of the banks of the creek. This will eliminate any impacts to the natural stream bed.

The second creek crossing will take place at Brinningstool Creek along Ham Road, just west of Knowlesville Road, a DEC Class C stream. This crossing will take place within permanent easements outside of the existing road right-of-way and will be completed utilizing HDD installation methods, similar to the method stated above. All disturbance and all work will take place outside of the banks of the creek and the stream bed. The force main will be installed a minimum of 10 feet below the stream bed elevation. Eliminating any impacts to the natural stream bed.

The above noted portion of Brinningstool Creek was crossed with the installation of the 8-inch water main for the Town of Alabama water district project by HDD installation methods at approximately 6 feet below the creek bottom. There were no issues with HDD inadvertent returns with this crossing. The force main will be installed with a similar alignment and depth as the water main. It is anticipated that the 12-inch force main will be installed in this area without issues.

The third-stream crossing is located along North Pearl Street and is an unnamed tributary to Oak Orchard Creek, also a DEC Class C stream. The force main will be installed utilizing HDD installation techniques. All disturbance and all work will take place outside of the banks of the creek and the stream bed. The force main will be installed a minimum of 10 feet below the stream bed elevation. Eliminating any impacts to the natural stream bed.

A preliminary geotechnical assessment prepared by Foundation Design is included in Appendix K. Additional geotechnical investigations will need to be performed to confirm the soil conditions in these areas are conducive to HDD methods without impacting the environment.

Should HDD prove to not be a viable installation option, the crossings will be made by open cut installation methods. To complete the work associated with open cut crossings, a temporary coffer dam with a temporary culvert pipe will be constructed to provide a continuous flow of water. The temporary culvert pipe will be bulkheaded into the existing culvert pipe to prevent backflow from downstream. Turbidity curtains will be installed upstream and downstream of the crossing to prevent the transportation of sediment outside of the work area. Construction will take place during the summer months when flows are typically reduced, further reducing the potential for sediment transfer. However, dewatering will be required during crossing operations. Water from the work area will be pumped into a filter bag to contain any sediment and allow the water to disperse on the ground naturally. These crossings should only take approximately 2-3 working days per each crossing.

There are (4) additional unnamed streams and drainageways identified in the wetland delineation summary prepared by CC Environment & Planning. The proposed force main alignment will cross these unnamed streams and drainageways by open cut methods. If the stream or drainageway is flowing water at the time of construction, an earthen coffer dam will be used to divert water while the pipe is being installed. The coffer dam will be removed immediately following the completion of the crossing and the are will be immediately seeded with a wetland seed mix and mulched. All erosion and sediment control measures will be installed prior to beginning the crossing. Disturbance to the unnamed stream or drainageway will be minimized to every extent practicable. Some of these crossings may take place under the existing road drainage culvert. This would result in no impact to the unnamed stream or drainageway. Each of the smaller crossings should take less than a day to complete.

The force main will also be installed adjacent to a non-jurisdictional wetland on the STAMP site, wetland W47, along Allegany Road. The FM will be installed using open-cut techniques in this area. Proper erosion and sediment control measures will be installed along the area of disturbance. Native soils will be used as backfill material and all disturbed areas will be seeded and mulched with an approved wetland seed mix. Restoration of surfaces will take place immediately after the work in this area is completed. This crossing should only take 1 to 2 working days.

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The table below shows each crossing time and force main installation method.

ID	Wetland/ Stream Name	Classification	Crossing Method	Disturbance Type
S1	Unnamed	Unclassified	Open Cut	Temporary
S2	Unnamed	Unclassified	Open Cut	Temporary
S3	Brinningstool Creek	NYS DEC Class C Stream	HDD	None
S4	Unnamed	Unclassified	Open Cut	Temporary
S5	Unnamed	Unnamed	Open Cut	Temporary
S6	Unnamed Tributary to Oak Orchard Creek	NYS DEC Class C Stream	HDD	None
T3	Tributary 3	NYS DEC Class C Stream	HDD	None
W47	Unnamed	Non-jurisdictional wetland	Open Cut	Temporary

9. Threatened and Endangered Species

An agency database review via online consultation tools was conducted on March 1, 2024 to determine whether state- or federally-listed threatened or endangered species may be present within the Site.

New York State
Reviews of NYSDEC's Environmental Resource Mapper and Environmental Assessment Form (EAF) Mapper identified three listed species in the vicinity of the site (see Appendix L):

1. Northern harrier (Circus *hudsonius*), a New York State threatened species
2. Short-eared owl (*Asio flammeus*), a New York State endangered species
3. Sedge wren (*Cistothorus platensis*), a New York State threatened species.

All three species require large tracts of grassland habitat, which is present adjacent to the project area. However, the work will be occurring in the immediate roadside, which is not typically used by these species due to the regular disturbance, thus any potential impacts will be minor. These impacts will be temporary, occurring primarily during construction. Any disturbed vegetation will be reseeded immediately following construction, allowing for restoration of potential habitat.

Federal
Review of U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) identified two species as potentially occurring within the Project site (see Appendix L):

1. Northern long-eared bat (NLEB; *Myotis septentrionalis*), a federally listed endangered species
2. Monarch butterfly (*Danaus plexippus*), a candidate species for federal listing

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NLEB are primarily a forest-dependent species that utilize a variety of forest habitats for roosting, foraging, and rearing young. The decline of the NLEB is due to white-nose syndrome, a fungal disease, and not habitat loss. The NYSDEC encourages the voluntary implementation of all forest management activities during the hibernation period, November 1 through March 31. USFWS has indicated that there are no known NLEB maternity roost trees within 1.5 miles or winter hibernacula within 5 miles of the Site (i.e., no on-site occupied habitat or designated critical habitat present, https://www.fws.gov/office/new-york-ecological-services-field/species). It does not appear on the NYSDEC Environmental Resource Mapper, thus NYSDEC indicates that no known occurrences of the species are within the vicinity of the Site. The NLEB range-wide key within IPaC was consulted to determine the likelihood of potential "take" of the species. Based on the submission, a determination of "No Effect" was reached (Appendix F). No further consultation is necessary.

The second species listed on the USFWS IPaC Official Species List is the monarch butterfly. This is a candidate species for federal listing and currently is not listed, thus impacts to the species do not need to be formally evaluated. That being said, this work will be conducted within the regularly maintained right-of-way, which does not provide habitat for the monarch butterfly due to the regular mowing that occurs in this area.

10. Cultural Resources

A majority of the proposed force main route was reviewed by the NYS State Historic Preservation Office (SHPO) for impacts to cultural resources through the design phases of the Town of Alabama water projects. There were no significant cultural impacts identified and the route was cleared by SHPO in connection with the previously constructed water project referenced above. A majority of the force main project will be constructed in the existing road rights-of-way where previous ground disturbance has occurred. However, the proposed route will be submitted to the SHPO office for review and necessary investigations will be completed to clear the project of any cultural resources.

A known burial ground has been identified along Maltby Road, east of North Pearl Street. However, the force main alignment is more than 1,500 feet away from the location of the burial ground. As mentioned above, A majority of the force main project will be constructed in the existing road rights-of-way where previous ground disturbance has occurred.

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IX. Conclusion

The offsite sanitary sewer project is an integral and critical part of the necessary infrastructure for the STAMP Site. Planned development of the STAMP site is proceeding rapidly pursuant to local, state and national needs and plans. While the sanitary sewer needs were initially to be met by on-site treatment and the under-construction force main to Oak Orchard Creek, that plan has faced significant complications and uncertainty due to a combination of environmental conditions and legal action brought by Orleans County and the Nation. To meet the development needs of the STAMP tenants in a practicable timeline, the management of initial flows of sanitary waste by the Oakfield WWTF is the ideal alternative. A feasible and practicable force main is proposed to facilitate the system and is in development. Additionally, the project is contained fully within Genesee County and in furtherance of the developing cooperative agreements between STAMP and Oakfield. The Oakfield WWTF has present capacity to accept sanitary waste from the initial development of STAMP and its tenants. The GCEDC and SSW are committed to providing safe and reliable wastewater treatment that will meet the current and future needs of water quality and treatment capacity for the STAMP Site, without negatively impacting the Oakfield WWTF. These specific projects will be imperative in achieving these goals.

DRAFT

Figure 1

STAMP Site
General Location Map

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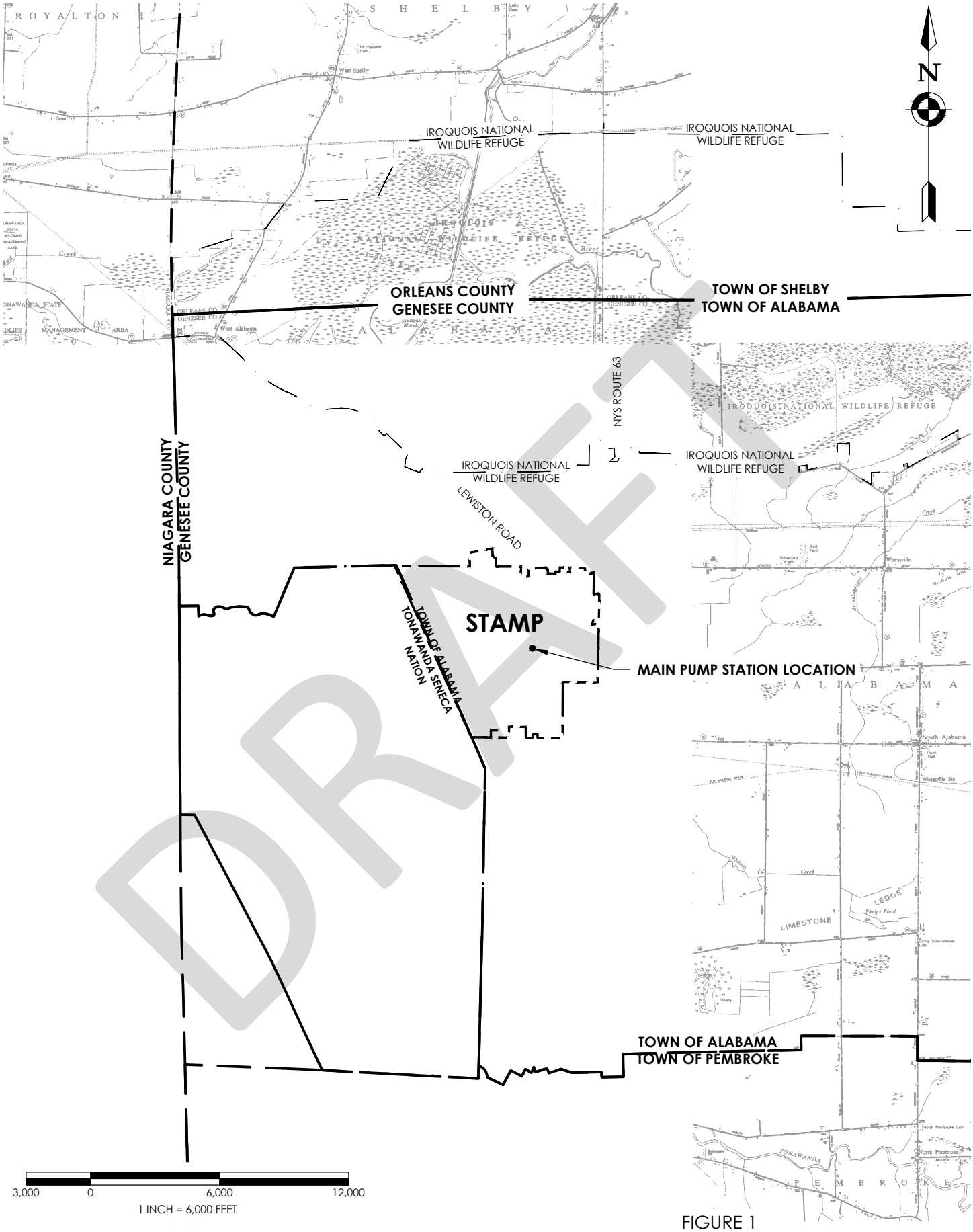


FIGURE 1

DRAFT

205 ST. PAUL STREET, SUITE 500
ROCHESTER, NEW YORK 14604
TEL (800) 274-9000
FAX (585) 232-5836
CPLteam.com
ARCHITECTURE ▪ ENGINEERING ▪ PLANNING

DATE:	3/23/22
DRAWN:	ZLA
CHECKED:	ARK
SCALE:	AS NOTED
PROJ. #:	15981.00

STAMP SITE GENERAL LOCATION MAP

WNY STAMP OFFSITE SEWER

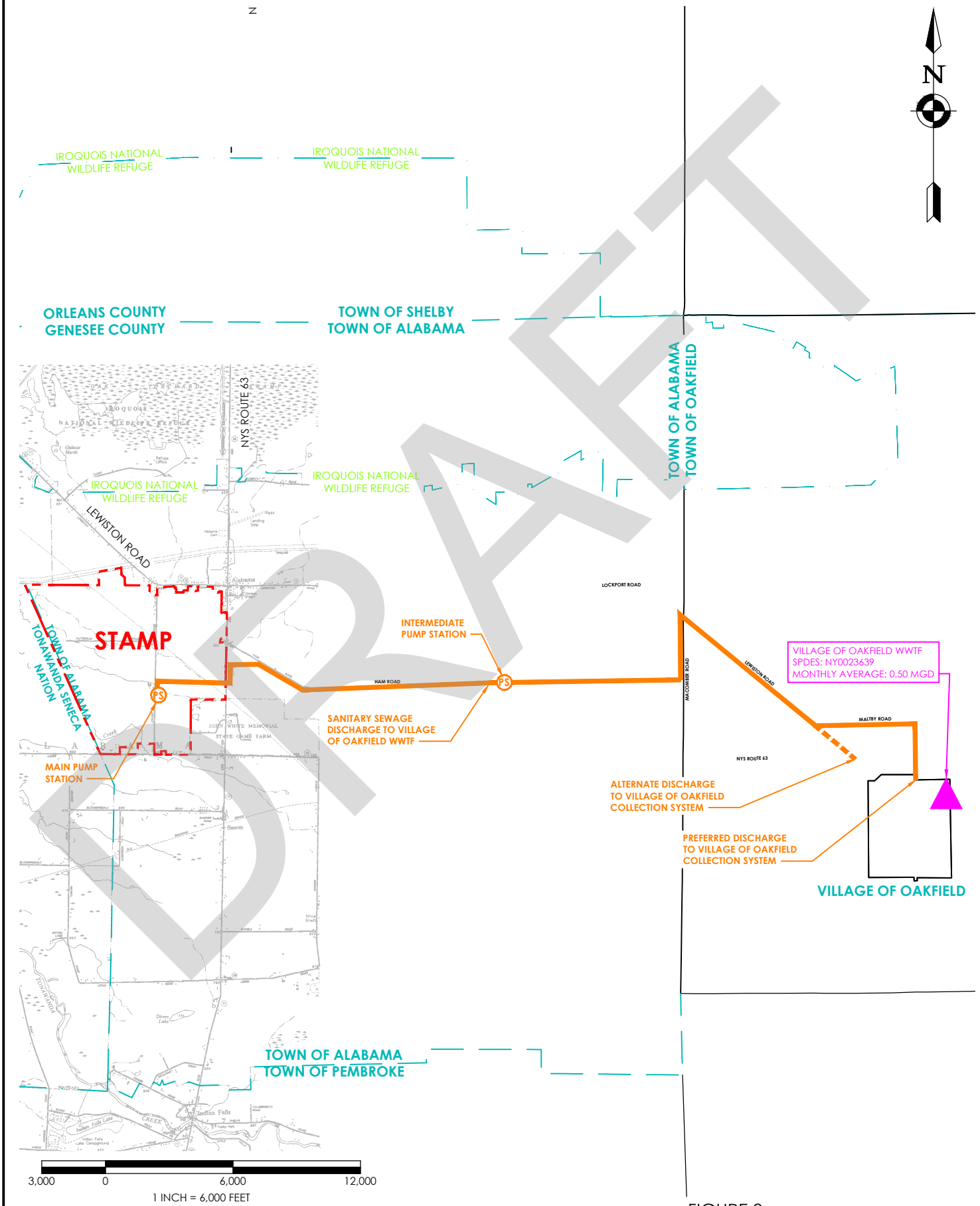
TOWN OF ALABAMA AND TOWN OF SHELBY, NEW YORK STATE

Plotted By: Dan Hards
Date last plotted: 2/21/2024 1:03 PM
Date last accessed: 2/21/2024 1:03 PM
Referenced Drawings: None
Drawing Name: J:\PROJECTS\GCEDC\STAMP Offsite Sewer\D Design\ACAD\Civil\Figures\Location Map Feb 2024.dwg

Figure 2

STAMP Force Main
General Location Map

DRAFT



DRAFT

FIGURE 2

205 ST. PAUL STREET, SUITE 500
ROCHESTER, NEW YORK 14604
TEL (800) 274-9000
FAX (585) 232-5836
CPLteam.com
ARCHITECTURE ▪ ENGINEERING ▪ PLANNING

DATE:	3/23/22
DRAWN:	ZLA
CHECKED:	ARK
SCALE:	AS NOTED
PROJ. #:	15981.00

FORCE MAIN GENERAL LOCATION MAP

WNY STAMP OFFSITE SEWER

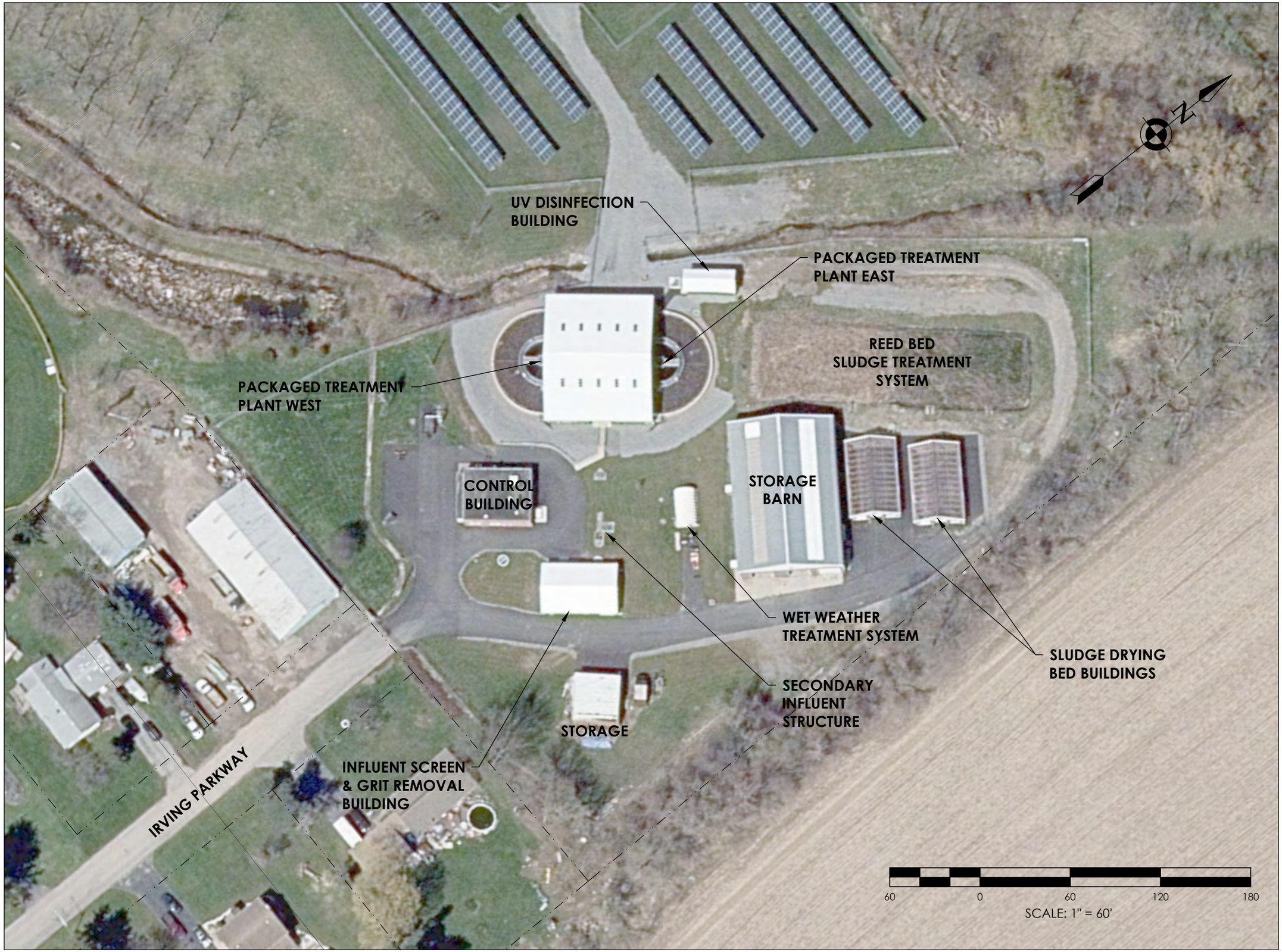
TOWN OF ALABAMA AND TOWN OF SHELBY, NEW YORK STATE

Plotted By: Zach Anderson
Date last plotted: 4/23/2024 1:46 PM
Date last accessed: 4/23/2024 1:45 PM
Referenced Drawings: None
Drawing Name: J:\PROJECTS\GCEDC\STAMP Offsite Sewer\D Design\ACAD\Civil\Figures\Location Map Feb 2024.dwg

Figure 3

Village of Oakfield WWTF
Site Layout

DRAFT



CPL | Architecture Engineering Planning

255 Woodcliff Drive, Suite 200
Fairport, NY 14450

CPLteam.com

NY ENGINEERING FIRM CERTIFICATE #018330

PROJECT INFORMATION

Client Name

GENESEE COUNTY ECONOMIC DEVELOPMENT CENTER

Project Name

OAKFIELD WWTF BASIS OF DESIGN REPORT

Project Address

19 IRVING PARKWAY
OAKFIELD, NY 14125

SHEET INFORMATION

Issued	Scale
3/1/24	1" = 60'
Drawn By	**Checked By**
NMO	DAC

Drawing Title

WWTF SITE LAYOUT

Drawing Number

FIGURE 3

Plotted By: Nathan Oliva
Date last plotted: 3/5/2024 10:25 AM
Date last accessed: 3/5/2024 10:23 AM
Sheet size: 11x17
Drawing Name: J:\PROJECTS\GCEDC_General\Oakfield WWTF\Village of Oakfield WWTF Site Layout.dwg

Figure 4

Village of Oakfield WWTF
General Site Plan

DRAFT

SEE DRAWING D-04 FOR DETAILS

REFER TO ASBUILT UV LAYOUT ON D-04

FENCE EXTENDED OVER NEW CROSSING & TIED INTO EXISTING ON NW SIDE

NEW 12' x 30' UV DISINFECTION STRUCTURE. SEE STRUCTURAL/MECHANICAL (SM) AND ELECTRICAL (E) DRAWINGS FOR DETAILS.

REMOVE AND REINSTALL FENCE AS NECESSARY.

NEW DITCH CROSSING & 57" x 38" CULVERT ADDED

NEW 5' DIAMETER FRP DIVERSION MANHOLE. SEE DRAWING D-04 FOR DETAILS.

DAYLIGHT AT CREEK

EXISTING 7' TALL CHAIN LINK FENCE

7' TALL CHAIN LINK FENCE WITH 3 STRAND BARBED WIRE

DRAINAGE DITCH

NEW 18" DR-21 PVC GRAVITY SEWER

EX. MH
RIM= ~~711.19~~ 711.19
INV= ~~704.38~~ 704.28'

EX. MH
RIM= 720.50'
S INV.=702.59'
N INV.=702.45'

EX. MH
RIM= 717.37'
S INV.=702.00'
N INV.=701.89'

12' WIDE CHAIN LINK FENCE DOUBLE GATE.

18" OUTFALL TO CREEK

PAVEMENT

TP-1

2'x2' CB

NEW 18" SDR-21 PVC WYE AND GRAVITY SEWER.

ABANDON EXISTING GRAVITY SEWER IN PLACE AFTER SATISFACTORY TRAIL PERIOD OF NEW SYSTEM PER NYSDEC AND PLANT OPERATOR, CUT, CAP AND GROUT AND FILL WITH CLSM.

CONNECTION TO EXSTING 6" SDR-21 FORCE MAIN WITH 6" x 4" WYE, 6" PLUG VALVE AND 4" PLUG VALVE. SEE SM-01 FOR DETAILS.

6" UNDERDRAIN ADDESD AROUND TREATMENT UNITS AND RAN TO DAYLIGHT AT CREEK

E--PP

PACKAGE TREATMENT UNIT

PACKAGE TREATMENT UNIT

NEW 5' DIAMETER FRP DIVERSION MANHOLE. SEE DRAWING C-02 FOR DETAILS.

NEW 6" SDR-35 PVC @ 1% CONNECTED TO EXISTING GRINDER PUMP STATION. SEE SM-01 FOR INVERTS.

NEW 6" SDR-35 PVC @ 1% CONNECTED TO EXISTING GRINDER PUMP STATION. SEE SM-01 FOR INVERTS.

SEE DRAWINGS SM-10, SM-11 ALONG WITH SPECIFICATIONS FOR PACKAGE TREATEMENT UNIT COVER ALTERNATIVES

6" BACKWASH AIR

6" PVC SDR21 FORCEMAIN

VALVE

CONC. WALK

6" PLUG VALVE

6" PVC SDR26 SLUDGE LINE

SLUDGE LINE

STAIRS

SLUDGE LOADING AREA

1" CHLORINE

1"SAMPLE LINES

10" PROCESS AIR

1" PVC DRAIN

3" PVC SCH. 80 FM

2" PVC

INV.=708.00±

DISTRIBUTION BOX
4" INV.=715.6

EX. MH
RIM= 718.43
INV.= xxx.xx'

(EXISTING ASPHALT MILLED AND 1 1/2" OVERLAY)

ASPHALT DRIVEWAY

65 LF NEW 18" SDR-21 PVC GRAVITY SEWER @ 0.42%

E- 15" SAN

EXISTING 3" WS

SAN SEWER

REMOVE EXISTING INFLUENT STRUCTURE.

NEW 7' 20" SDR-21 PVC GRAVITY SEWER.

EX. MH
RIM= 720.29'
N INV.=715.61'

NEW 1" WATER SERVICE

NEW 5' 18" SDR-21 PVC STUB WITH ENDCAP FOR FUTURE USE.

GUIDE RAIL

EX. MH
RIM= 720.04'
N INV.=715.25'

PRECAST

NEW 5' DIAMETER ~~FRP~~ DIVERSION MANHOLE
RIM: ~~720.30'~~ 721.66'
S INV: ~~715.52'~~ 715.60'
NE INV: ~~715.52'~~ 715.61'

PRECAST

NEW 5' DIAMETER ~~FRP~~ DIVERSION MANHOLE FRP-3. SEE DRAWING D-01 FOR DETAILS.
RIM: ~~720.30'~~ 721.42'
S INV: ~~715.25'~~ 715.29'
W INV: ~~715.20'~~ 715.05'
E INV: ~~715.25'~~ 715.22'

ASPHALT WAY

15 LF NEW 18" SDR-21 PVC GRAVITY SEWER @ 0.15%

TP-2

E-10" SAN

NEW PROCESS SCREEN AND GRIT REMOVAL STRUCTURE. SEE STRUCTURAL/MECHANICAL (SM) AND ELECTRICAL (E) DRAWINGS DETAILS.

ASPHALT DRIVEWAY

NEW 5' DIAMETER PRE-CAST MANHOLE
RIM: 720.30'
N INV: 715.48'
SW INV: 715.50'

REMOVE TREE.

NEW 1,200 SF MEDIUM DUTY PAVEMENT WITH SAWCUT JOINTS TO EXISTING ASPHALT.

10 LF NEW 18" SDR-21 PVC GRAVITY SEWER @ 0.15%

SEE DRAWING D-04 FOR DETAILS

STORAGE BUILDING

6" SDR35 STORM DRAIN

2'X2' CATCH BASIN
RIM = 718.49'

ASPHALT DRIVEWAY
(EXISTING ASPHALT MILLED AND 1 1/2" OVERLAY)

CONNECTION TO EXSTING 6" SDR-21 FORCE MAIN WITH 6" x 4" WYE, 6" PLUG VALVE AND 4" PLUG VALVE. SEE SM DRAWINGS FOR DETAILS.

NEW 4' MH. SEE STRUCTURAL/MECHANICAL (SM) DRAWINGS FOR INVERTS. (TYP. OF 2)

CONNECT NEW 12" SDR-21 PVC GRAVITY MAIN WITH WYE CLEAN-OUT. CONNECTION SHALL NOT BE MADE DURING I/I EVENTS AND SHALL BE COORDINATED WITH PLANT OPERATOR AT LEAST 48 HOURS IN ADVANCE. SEE C-02 FOR DETAILS.

BUILDING SHIFTED 6FT

NEW DRYING BED #1

NEW DRYING BED #2

NEW 2' x 2' CATCH BASIN. SEE STRUCTURAL/MECHANICAL (SM) DRAWINGS FOR INVERTS. (TYP 1 OF 3)

NEW 6" SOLID SICPP STORM.

6" SDR-35 PVC. MAINTAIN MIN. 1% SLOPE (TYP. 1 OF 6). PIPE TO BE SLOTTED UNDER BUILDING AND SOLID UNDER PAVEMENT.

NEW 6,200 SF MEDIUM DUTY PAVEMENT.

NEW 4" HEADER PIPE(S). SEE SM-01 FOR DETAILS AND LOCATION OF TRANSITION FROM PVC TO DIP.

END REMOVE 145 LF SECTION OF FENCING

MATCH DRAINAGE DITCH INVERT. INSTALL RODENT GUARD.

CLEAR AND GRUB AS REQUIRED.

NEW 165 LF NEW 6' HIGH CHAIN LINK FENCE WITH THREE (3) STRANDS OF BARB-WIRE ON TOP.

BEGIN REMOVE 145 LF SECTION OF FENCING

CLEANOUT WITH CAST IRON COVER. INSTALL FLUSH WITH PAVEMENT (TYP. 1 OF 6)

LEGEND

- EXISITNG GRAVITY SEWER (FLOW, E-MH, 12" SAN.)
- PROPOSED GRAVITY SEWER (FLOW, P-MH, P-VALVE, P-CO, 12" SAN.)
- EXISTING FORCE MAIN SEWER (FLOW, E-VALVE, 6" FM)
- PROPOSED FORCE MAIN SEWER (FLOW, P-VALVE, 6" FM)
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING OH ELECTRIC LINES (OH ELEC)
- TREE LINE
- PROPOSED STORM SEWER (P-6" ST, CB, FLOW)
- TEST PIT

20 10 0 20 40 60
DISTANCE IN FEET

FIGURE 4

REVISIONS				
NO.	DATE	BY	CHKED	DESCRIPTION
				ASBUILT

Mountain Engineering, PLLC
Infrastructure - Water - Wastewater - Environment
23 Jackson Street, Suite 201 Batavia NY 14020
Office: 585-219-4030 Cell: 585-755-6408
www.mountainengineers.com

STATE OF NEW YORK * STEVEN JOHN MUSIAL * LICENSED PROFESSIONAL ENGINEER * 075796

VILLAGE OF OAKFIELD
WASTEWATER COLLECTION AND TREATMENT PLANT
PHASE 1 IMPROVEMENTS

37 MAIN STREET
OAKFIELD, NEW YORK 14125
GENESEE COUNTY

DATE: 5/7/2018
DRAWN BY: BGR
DESIGNED BY: SCL
CHECKED BY: SJM
SCALE: 1" = 20' (22 x 34)

GENERAL SITE PLAN

DRAWING NAME
C
DRAWING NUMBER
01

ANY ALTERATION OF ANY KNOWLEDGE OR LAND SURVEYOR IS GUILTY OF A VIOLATION OF SECTION 7209, SUB-DIVISION 2 OF THE EDUCATION LAW OF THE STATE OF NEW YORK. ANY ALTERATION OF A LICENSED ENGINEER'S DRAWING IN ANY WAY, BY ANY PERSON, UNLESS IT IS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2 OF THE EDUCATION LAW OF THE STATE OF NEW YORK. ANY ALTERATION OF A LICENSED ENGINEER'S DRAWING IN ANY WAY, BY ANY PERSON, UNLESS IT IS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2 OF THE EDUCATION LAW OF THE STATE OF NEW YORK. ANY ALTERATION OF A LICENSED ENGINEER'S DRAWING IN ANY WAY, BY ANY PERSON, UNLESS IT IS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2 OF THE EDUCATION LAW OF THE STATE OF NEW YORK. ANY ALTERATION OF A LICENSED ENGINEER'S DRAWING IN ANY WAY, BY ANY PERSON, UNLESS IT IS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2 OF THE EDUCATION LAW OF THE STATE OF NEW YORK. ANY ALTERATION OF A LICENSED ENGINEER'S DRAWING IN ANY WAY, BY ANY PERSON, UNLESS IT IS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2 OF THE EDUCATION LAW OF THE STATE OF NEW YORK. ANY ALTERATION OF A LICENSED ENGINEER'S DRAWING IN ANY WAY, BY ANY PERSON, UNLESS IT IS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2 OF THE EDUCATION LAW OF THE STATE OF NEW YORK.

Figure 5

Village of Oakfield WWTF
Process Flow Diagram

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IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145, SECTION 7209, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LEGEND

RAW SEWAGE	RS
MICRO SCREEN EFFLUENT	MSE
RETURN ACTIVATED SLUDGE	RAS
WASTE SLUDGE	WAS
MIXED LIQUOR	ML
SETTLING TANK EFFLUENT	STE
FILTERED EFFLUENT	FE
REAERATED EFFLUENT	
CHLORINATED EFFLUENT	CE
PROCESS AIR	PA
BACKWASH AIR	BWA
GATE VALVE	
PLUG VALVE	
BUTTERFLY VALVE	
INSTRUMENTATION OR CONTROL	
STRAINER	
PRESSURE GUAGE	
FLOW ARROW	
MANHOLE	MH
CHECK VALVE	
SOLENOID VALVE	

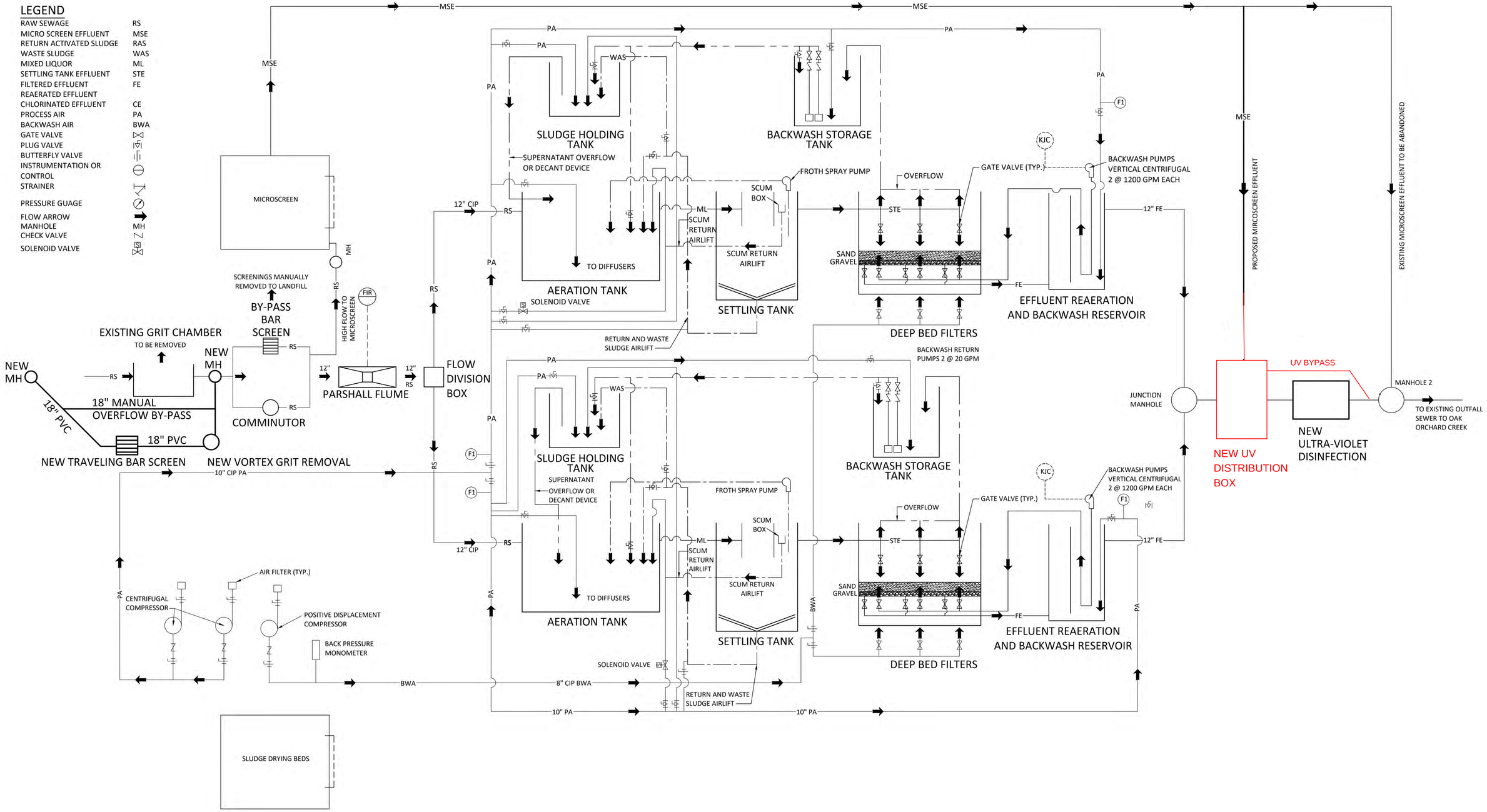


FIGURE 5

REVISIONS				
NO.	DATE	BY	CHKED	DESCRIPTION
				ASBUILT

Mountain Engineering, PLLC
Infrastructure - Water - Wastewater - Environment
23 Jackson Street, Suite 201 Batavia NY 14020
Office: 585-219-4030 Cell: 585-755-6408
www.mountainengineers.com

STATE OF NEW YORK · STEVEN JOHN MAIN · LICENSED · 075796 · PROFESSIONAL ENGINEER

VILLAGE OF OAKFIELD
WASTEWATER COLLECTION AND TREATMENT PLANT
PHASE 1 IMPROVEMENTS

37 MAIN STREET
OAKFIELD, NEW YORK 14125
GENESEE COUNTY

DATE:	5/7/2018
DRAWN BY:	BGR
DESIGNED BY:	SCL
CHECKED BY:	SJM
SCALE:	N.T.S.

WASTEWATER PROCESS FLOW

DRAWING NAME: **PF**

DRAWING NUMBER: **01**

Figure 6

Village of Oakfield WWTF
Hydraulic Profile

DRAFT

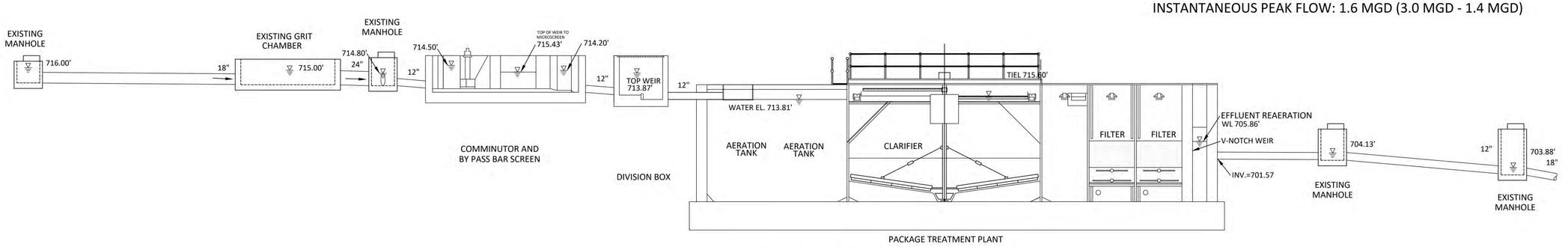
IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145, SECTION 7209, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

EXISTING FLOWS:

INSTANTANEOUS PEAK FLOW: 3.0 MGD

EXISTING FLOWS FOR PACKAGE TREATMENT PLANT:

INSTANTANEOUS PEAK FLOW: 1.6 MGD (3.0 MGD - 1.4 MGD)



EXISTING HYDRAULIC PROFILE

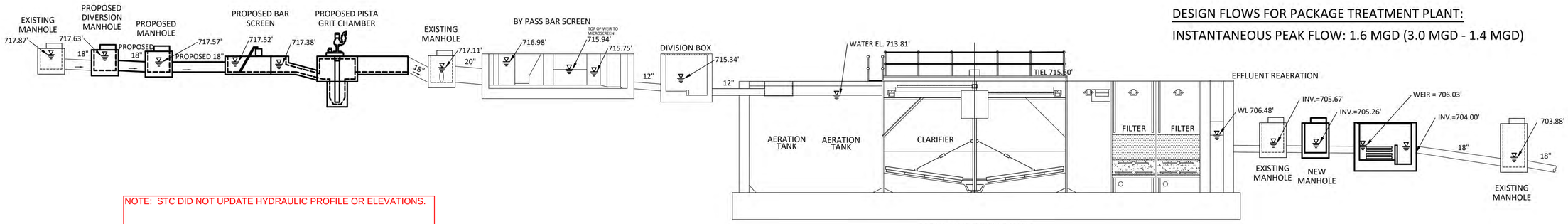
N.T.S.

DESIGN FLOWS FOR HEADWORKS:

INSTANTANEOUS PEAK FLOW: 3.0 MGD

DESIGN FLOWS FOR PACKAGE TREATMENT PLANT:

INSTANTANEOUS PEAK FLOW: 1.6 MGD (3.0 MGD - 1.4 MGD)



PROPOSED HYDRAULIC PROFILE

N.T.S.

NOTE: STC DID NOT UPDATE HYDRAULIC PROFILE OR ELEVATIONS.

FIGURE 6 (p.1)

REVISIONS				
NO.	DATE	BY	CHKED	DESCRIPTION
				ASBUILT

Mountain Engineering, PLLC
Infrastructure - Water - Wastewater - Environment
23 Jackson Street, Suite 201 Batavia, NY 14020
Office: 585-219-4030 Cell: 585-755-6408
www.mountainengineers.com

STATE OF NEW YORK STEVEN JOHN MILLER 075796 LICENSED PROFESSIONAL ENGINEER

VILLAGE OF OAKFIELD
WASTEWATER COLLECTION AND TREATMENT PLANT
PHASE 1 IMPROVEMENTS

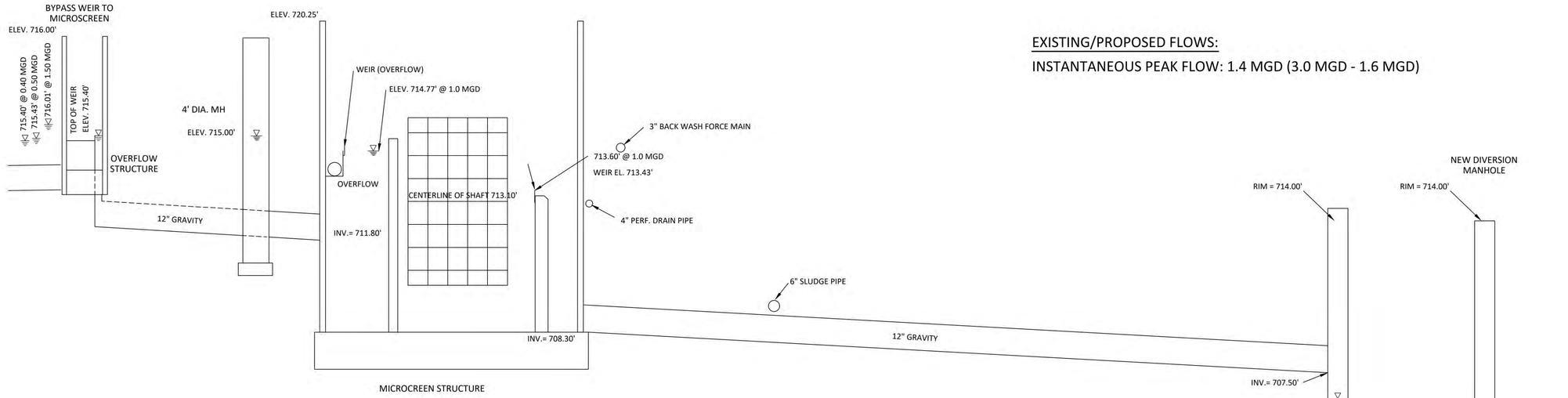
37 MAIN STREET
OAKFIELD, NEW YORK 14125
GENESEE COUNTY

DATE:	5/7/2018
DRAWN BY:	BGR
DESIGNED BY:	SCL
CHECKED BY:	SJM
SCALE:	N.T.S.

HYDRAULIC PROFILE
1 OF 2

DRAWING NAME
H

DRAWING NUMBER
01



EXISTING/PROPOSED MICROSCREEN PROFILE

N.T.S.

EXISTING/PROPOSED FLOWS:

INSTANTANEOUS PEAK FLOW: 1.4 MGD (3.0 MGD - 1.6 MGD)

NOTE: STC DID NOT UPDATE HYDRAULIC PROFILE OR ELEVATIONS.

FIGURE 6 (p.2)

REVISIONS				
NO.	DATE	BY	CHKED	DESCRIPTION
				ASBUILT

Mountain Engineering, PLLC
Infrastructure - Water - Wastewater - Environment
23 Jackson Street, Suite 201 Batavia, NY 14020
Office: 585-219-4030 Cell: 585-755-6408
www.mountainengineers.com

STATE OF NEW YORK STEVEN JOHN MOLNAR 075796 LICENSED PROFESSIONAL ENGINEER

VILLAGE OF OAKFIELD
WASTEWATER COLLECTION AND TREATMENT PLANT
PHASE 1 IMPROVEMENTS

37 MAIN STREET
OAKFIELD, NEW YORK 14125
GENESEE COUNTY

DATE: 5/7/2018
DRAWN BY: BGR
DESIGNED BY: SCL
CHECKED BY: SJM
SCALE: AS NOTED

HYDRAULIC PROFILE
2 OF 2

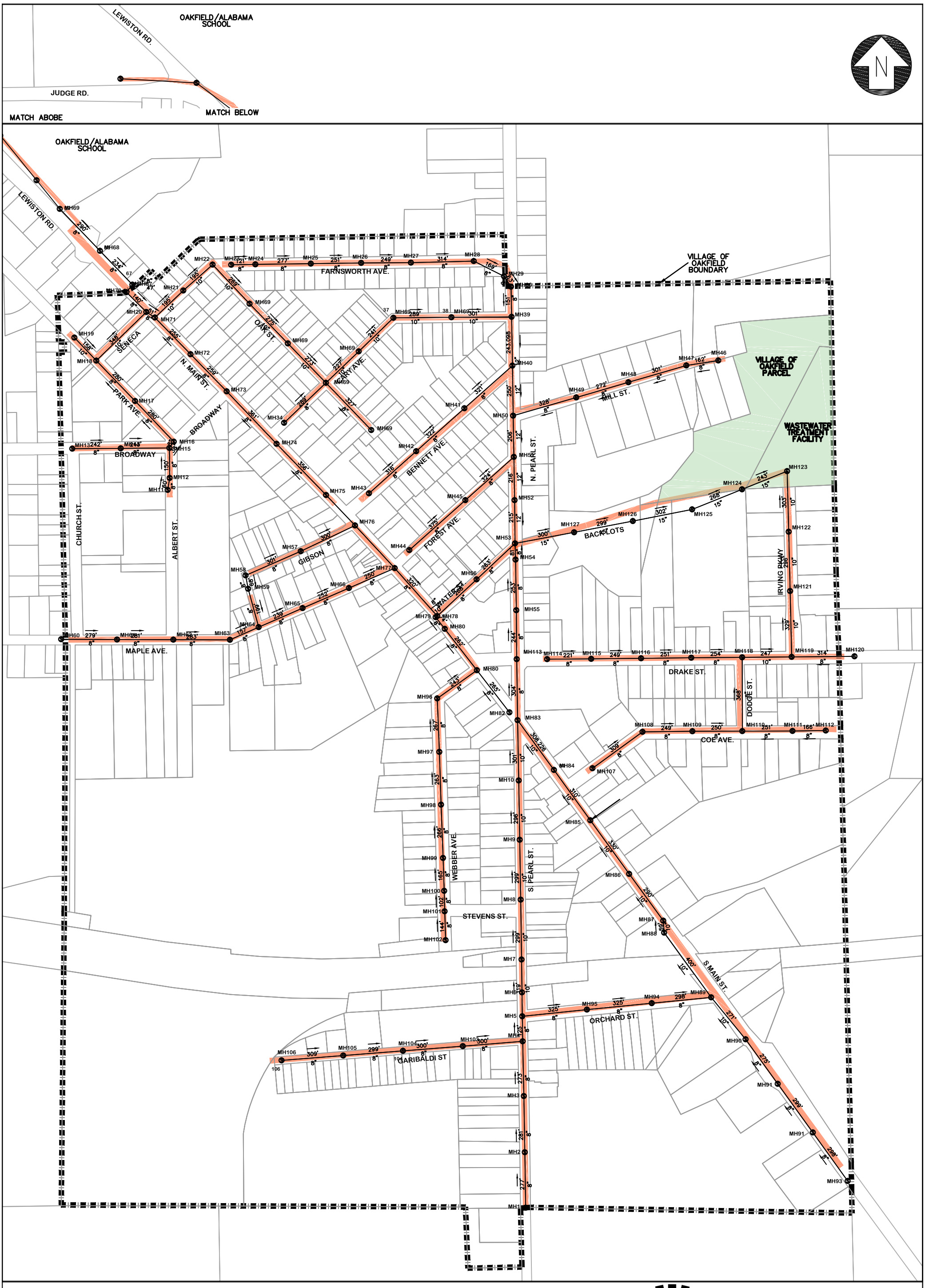
DRAWING NAME
H
DRAWING NUMBER
02

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145, SECTION 7209, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

Appendix A

Village of Oakfield
Sanitary Sewer Collection System Map

DRAFT



Village of Oakfield Sanitary Sewer System
FIGURE 2

200 100 0 200 400 600

1=200

Mountain Engineering, PLLC
Infrastructure - Water - Wastewater - Environment
23 Jackson Street, Suite 201 Batavia NY 14020
Office: 585-219-4030 Cell: 585-755-6408
smountain@mountainengineers.com
www.mountainengineers.com

Appendix B

Village of Oakfield WWTF
SPDES Permit

DRAFT

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

State Pollutant Discharge Elimination System (SPDES) DISCHARGE PERMIT

Industrial Code:	4952	SPDES Number:	NY0023639
Discharge Class (CL):	07	DEC Number:	8-1838-00002/00001
Toxic Class (TX):	N	Effective Date (EDP):	12/01/2015
Major Drainage Basin:	03	Expiration Date (ExDP):	11/30/2020
Sub Drainage Basin:	01	Modification Dates: (EDPM)	01/01/2018
Water Index Number:	ONT 138-28		
Compact Area:	N/A		

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

PERMITTEE NAME AND ADDRESS					
Name:	Village of Oakfield	Attention:	Louis Moretti		
Street:	37 Main Street				
City:	Oakfield	State:	NY	Zip Code:	14125

is authorized to discharge from the facility described below:

FACILITY NAME AND ADDRESS													
Name:	Village of Oakfield Sewage Treatment Plant												
Location (C,T,V):	Oakfield (V)								County:	Genesee			
Facility Address:	19 Irving Parkway												
City:	Oakfield			State:			NY		Zip Code:	14125			
From Outfall No.:	001	at Latitude:	43	°	04	'	10	''	& Longitude:	78	°	15	'	56	''
into receiving waters known as:	Dry Brook (Trib Oak Orchard)								Class:	D			

in accordance with: effluent limitations; monitoring and reporting requirements; other provisions and conditions set forth in this permit; and 6 NYCRR Part 750-1and 750-2.

DISCHARGE MONITORING REPORT (DMR) MAILING ADDRESS					
Mailing Name:	Village of Oakfield				
Street:	37 Main Street				
City:	Oakfield	State:	NY	Zip Code:	14125
Responsible Official or Agent:	Louis Moretti		Phone:	(585) 356-8175	

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

DISTRIBUTION:

CO BWP - Permit Coordinator
RWE
RPA
EPA Region II
NYSEFC
NYSDOH District Office

Deputy Chief Permit Administrator: Kent P. Sanders

Address: Division of Environmental Permits
625 Broadway,4th Floor
Albany, NY 12233-1750

Signature: Kent P. Sanders

Date: 12/05/2017

PERMIT LIMITS, LEVELS AND MONITORING DEFINITIONS

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

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

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL	COMPLIANCE LEVEL / MINIMUM LEVEL (ML)	ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE
	Limit types are defined below in Note 1. The effluent limit is developed based on the more stringent of technology-based limits, required under the Clean Water Act, or New York State water quality standards. The limit has been derived based on existing assumptions and rules. These assumptions include receiving water hardness, pH and temperature; rates of this and other discharges to the receiving stream; etc. If assumptions or rules change the limit may, after due process and modification of this permit, change.	For the purposes of compliance assessment, the permittee shall use the approved EPA analytical method with the lowest possible detection limit as promulgated under 40CFR Part 136 for the determination of the concentrations of parameters present in the sample unless otherwise specified. If a sample result is below the detection limit of the most sensitive method, compliance with the permit limit for that parameter was achieved. Monitoring results that are lower than this level must be reported, but shall not be used to determine compliance with the calculated limit. This Minimum Level (ML) can be neither lowered nor raised without a modification of this permit.	Action Levels are monitoring requirements, as defined below in Note 2, which trigger additional monitoring and permit review when exceeded.	This can include units of flow, pH, mass, temperature, or concentration. Examples include µg/l, lbs/d, etc.	Examples include Daily, 3/week, weekly, 2/month, monthly, quarterly, 2/yr and yearly. All monitoring periods (quarterly, semiannual, annual, etc.) are based upon the calendar year unless otherwise specified in this Permit.	Examples include grab, 24 hour composite and 3 grab samples collected over a 6 hour period.

Notes:

1. EFFLUENT LIMIT TYPES:
   a. DAILY DISCHARGE: The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants expressed in units of mass, the 'daily discharge' is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the 'daily discharge' is calculated as the average measurement of the pollutant over the day.
   b. DAILY MAX: The highest allowable daily discharge.
   c. DAILY MIN: The lowest allowable daily discharge.
   d. MONTHLY AVG: The highest allowable average of daily discharges over a calendar month, calculated as the sum of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
   e. 7 DAY ARITHMETIC MEAN (7 day average): The highest allowable average of daily discharges over a calendar week.
   f. 30 DAY GEOMETRIC MEAN: The highest allowable geometric mean of daily discharges over a calendar month, calculated as the antilog of: the sum of the log of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
   g. 7 DAY GEOMETRIC MEAN: The highest allowable geometric mean of daily discharges over a calendar week.
   h. 12 MONTH ROLLING AVERAGE: The current monthly value of a parameter, plus the sum of the monthly values over the previous 11 months for that parameter, divided by 12.
   i. RANGE: The minimum and maximum instantaneous measurements for the reporting period must remain between the two values shown.

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

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	LIMITATIONS APPLY:	RECEIVING WATER	EFFECTIVE	EXPIRING
001	All Year	Dry Brook (Trib Oak Orchard)	01/01/2018	11/30/2020

PARAMETER	EFFLUENT LIMIT					MONITORING REQUIREMENTS				FN
								Location		
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	
Flow	Monthly Average	0.5	MGD			Continuous	N/A	X		
$CBOD_5$	Daily Maximum	5	mg/l	21.0	lb/d	2/Month	6-hr. Comp.	X	X	(1)
Ammonia (as NH_3)	Daily Maximum	15	mg/l			2/Month	6-hr. Comp.		X	
Solids, Suspended	Daily Maximum	10	mg/l	42.0	lb/d	2/Month	6-hr. Comp.	X	X	(1)
Dissolved Oxygen	Minimum	7.0	mg/l			2/Month	Grab		X	
Solids, Settleable	Daily Maximum	0.1	ml/l			1/Day	Grab	X	X	
pH	Range	6.0 – 9.0	SU			1/Day	Grab	X	X	
Temperature	Daily Maximum	Monitor	Deg C			1/Day	Grab	X	X	
Effluent Disinfection required		[ ] All Year		[X] Seasonal from May 1 to Oct 31						
Coliform, Fecal	30-Day Geometric Mean	200	No./ 100 ml			2/Month	Grab		X	(2)
Coliform, Fecal	7 Day Geometric Mean	400	No./ 100 ml			2/Month	Grab		X	(2)
Chlorine, Total Residual	Monthly Average	Monitor	mg/l	Monitor	lbs/day	1/Day	Grab		X	(2,3)
	Daily Maximum	0.020		Monitor						

FOOTNOTES:

(1) Effluent shall not exceed 15 % and 15 % of influent concentration values for CBOD5 & TSS respectively.

(2) Limits and monitoring requirements are not in effect until May 1, 2020. See the schedule of compliance on page 8.

(3) Total residual chlorine monitoring is only required if using chlorine for disinfection or other means.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	LIMITATIONS APPLY:	RECEIVING WATER	EFFECTIVE	EXPIRING
001	Apply during extended periods of wet weather when the influent flows exceed 0.5 MGD and the effluent of the treatment plant is combined with the effluent of the microstreams.	Dry Brook (Trib Oak Orchard)	01/01/2018	11/30/2022

PARAMETER	EFFLUENT LIMIT					MONITORING REQUIREMENTS				FN
								Location		
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	
Flow		Monitor	MGD			Continuous	N/A	X		
$CBOD_5$	Daily Maximum	15	mg/l			One per event	Grab		X	(1)
Ammonia (as NH_3)	Daily Maximum	2.0	mg/l			One per event	Grab		X	
Solids, Suspended	Daily Maximum	15	mg/l			One per event	Grab		X	(1)
Dissolved Oxygen	Minimum	7.0	mg/l			One per event	Grab		X	
Solids, Settleable	Daily Maximum	0.3	ml/l			One per event	Grab		X	
pH	Range	6.0 – 9.0	SU			One per event	Grab		X	
Temperature		Monitor	Deg C			One per event	Grab		X	
Effluent Disinfection required		[X] All Year		[ ] Seasonal from **May 1** to **Oct 31**						
Coliform, Fecal	30-Day Geometric Mean	200	No./ 100 ml			Once per event	Grab		X	(2)
Coliform, Fecal	7 Day Geometric Mean	400	No./ 100 ml			Once per event	Grab		X	(2)
Chlorine, Total Residual	Daily Maximum	0.020	mg/l			Once per event	Grab		X	(2,3)

FOOTNOTES:

(1) Effluent shall not exceed 15 % and 15 % of influent concentration values for CBOD5 & TSS respectively.

(2) Limits and monitoring requirements are not in effect until May 1, 2020. See the schedule of compliance on page 8.

(3) If ultraviolet light disinfection (UV) is practiced instead of chemical disinfection, then total residual chlorine monitoring is not required.

Mercury Minimization Program for Low Priority POTWs

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

DISCHARGE NOTIFICATION REQUIREMENTS

(a) Except as provided in (c) and (g) of these Discharge Notification Act requirements, the permittee shall install and maintain identification signs at all outfalls to surface waters listed in this permit. Such signs shall be installed before initiation of any discharge.

(b) Subsequent modifications to or renewal of this permit does not reset or revise the deadline set forth in (a) above, unless a new deadline is set explicitly by such permit modification or renewal.

(c) The Discharge Notification Requirements described herein do not apply to outfalls from which the discharge is composed exclusively of storm water, or discharges to ground water.

(d) The sign(s) shall be conspicuous, legible and in as close proximity to the point of discharge as is reasonably possible while ensuring the maximum visibility from the surface water and shore. The signs shall be installed in such a manner to pose minimal hazard to navigation, bathing or other water related activities. If the public has access to the water from the land in the vicinity of the outfall, an identical sign shall be posted to be visible from the direction approaching the surface water.

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

N.Y.S. PERMITTED DISCHARGE POINT

SPDES PERMIT No.: NY_____

OUTFALL No. :____

For information about this permitted discharge contact:

Permittee Name: _____

Permittee Contact: _____

Permittee Phone: ( ) - ### - ####

OR:

NYSDEC Division of Water Regional Office Address:

NYSDEC Division of Water Regional Phone: ( ) - ### -####

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

(f) The permittee shall periodically inspect the outfall identification sign(s) in order to ensure they are maintained, are still visible, and contain information that is current and factually correct. Signs that are damaged or incorrect shall be replaced within 3 months of inspection.

DISCHARGE NOTIFICATION REQUIREMENTS (continued)

(g) All requirements of the Discharge Notification Act, including public repository requirements, are waived for any outfall meeting any of the following circumstances, provided Department notification is made in accordance with (h) below:

(i) such sign would be inconsistent with any other state or federal statute;

(ii) the Discharge Notification Requirements contained herein would require that such sign could only be located in an area that is damaged by ice or flooding due to a one-year storm or storms of less severity;

(iii) instances in which the outfall to the receiving water is located on private or government property which is restricted to the public through fencing, patrolling, or other control mechanisms. Property which is posted only, without additional control mechanisms, does not qualify for this provision;

(iv) instances where the outfall pipe or channel discharges to another outfall pipe or channel, before discharge to a receiving water; or

(v) instances in which the discharge from the outfall is located in the receiving water, two-hundred or more feet from the shoreline of the receiving water.

(h) If the permittee believes that any outfall which discharges wastewater from the permitted facility meets any of the waiver criteria listed in (g) above, notification (form enclosed) must be made to the Department's Bureau of Water Permits, 625 Broadway, Albany, N.Y. 12233-3505, of such fact, and, provided there is no objection by the Department, a sign and DMR repository for the involved outfall(s) are not required. This notification must include the facility's name, address, telephone number, contact, permit number, outfall number(s), and reason why such outfall(s) is waived from the requirements of discharge notification. The Department may evaluate the applicability of a waiver at any time, and take appropriate measures to assure that the ECL and associated regulations are complied with.

SCHEDULE OF COMPLIANCE

a) The permittee shall submit the following information to the Regional Water Engineer at the address listed on the Recording, Reporting and Monitoring page of this Permit, and to the Bureau of Water Permits, 625 Broadway, Albany NY 12233-3505:

Outfall(s)	Parameter(s) Affected	Interim Effluent Limit(s)	Required Action	Due Date
001	Fecal Coliform Total Residual Chlorine	N/A	The permittee shall submit an approvable engineering report, prepared by a Professional Engineer licensed to practice engineering in New York State, detailing the disinfection designs that will be used to comply with the final effluent limitations for Fecal Coliform and Total Residual Chlorine.	May 1, 2019
			The permittee shall submit approvable Engineering Plans, Specifications, and Construction Schedule for the Implementation of effluent disinfection.	May 1, 2020
			The permittee shall begin construction of the treatment facilities in accordance with the Department approved schedule.	May 1, 2021
			The permittee shall complete construction and commence operation of the system, and comply with the final effluent limitations for Fecal Coliform and Total Residual Chlorine.	May 1, 2022
The above compliance actions are one time requirements. The permittee shall comply with the above compliance actions to the Department's satisfaction once. When this permit is administratively renewed by NYSDEC letter entitled "SPDES NOTICE/RENEWAL APPLICATION/PERMIT," the permittee is not required to repeat the submission(s) noted above. The above due dates are independent from the effective date of the permit stated in the "SPDES NOTICE/RENEWAL APPLICATION/PERMIT" letter.				

b) For any action where the compliance date is greater than 9 months past the previous compliance due date, the permittee shall submit interim progress reports to the Department every nine (9) months until the due date for these compliance items are met.

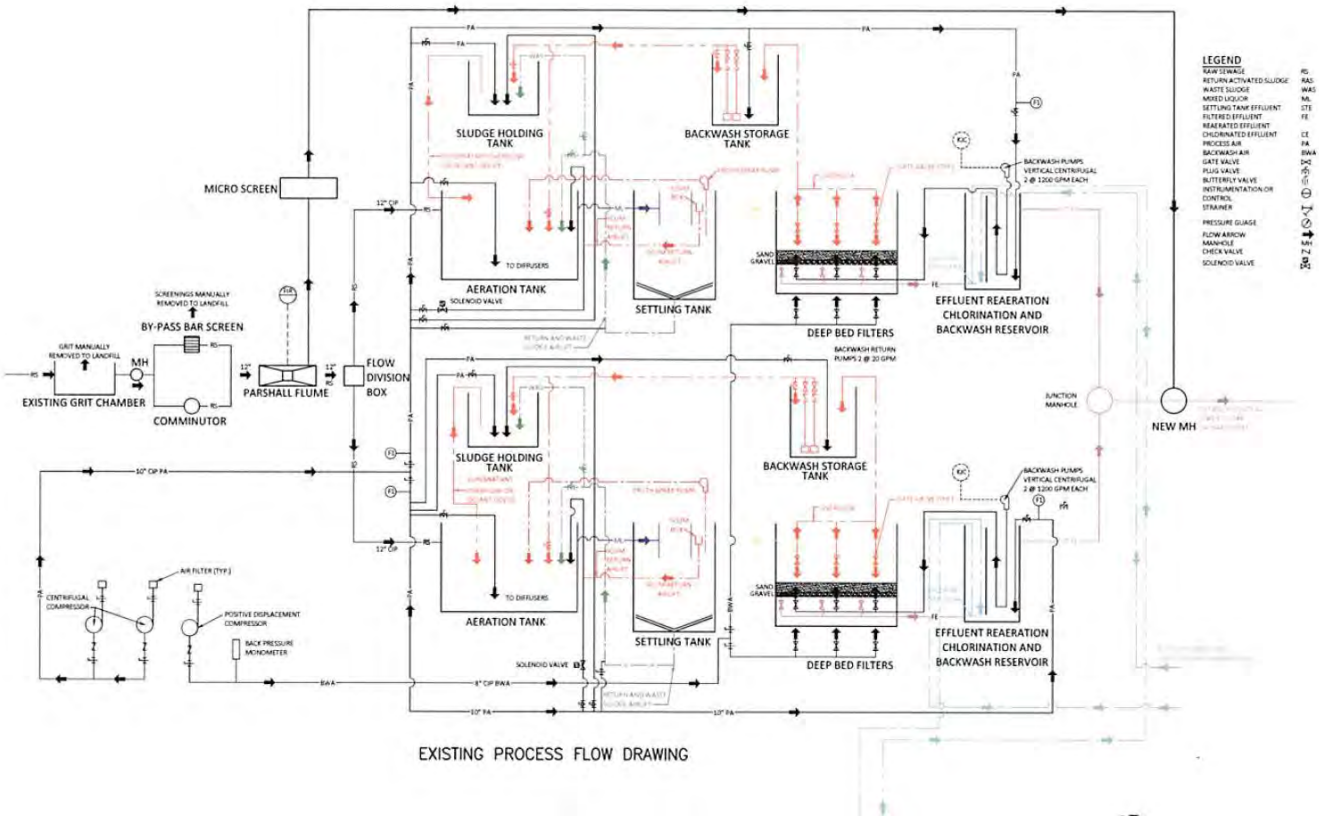
c) The permittee shall submit a written notice of compliance or non-compliance with each of the above schedule dates no later than 14 days following each elapsed date, unless conditions require more immediate notice as prescribed in 6 NYCRR Part 750-1.2(a) and 750-2. All such compliance or non-compliance notification shall be sent to the locations listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS. Each notice of non-compliance shall include the following information:

1. A short description of the non-compliance;
2. A description of any actions taken or proposed by the permittee to comply with the elapsed schedule requirements without further delay and to limit environmental impact associated with the non-compliance;
3. A description or any factors which tend to explain or mitigate the non-compliance; and
4. An estimate of the date the permittee will comply with the elapsed schedule requirement and an assessment of the probability that the permittee will meet the next scheduled requirement on time.

d) The permittee shall submit copies of any document required by the above schedule of compliance to the NYSDEC Regional Water Engineer at the location listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS and to the Bureau of Water Permits, 625 Broadway, Albany, N.Y. 12233-3505, unless otherwise specified in this permit or in writing by the Department.

MONITORING LOCATIONS

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



GENERAL REQUIREMENTS

A. The regulations in 6 NYCRR Part 750 are hereby incorporated by reference and the conditions are enforceable requirements under this permit. The permittee shall comply with all requirements set forth in this permit and with all the applicable requirements of 6 NYCRR Part 750 incorporated into this permit by reference, including but not limited to the regulations in paragraphs B through I as follows:

B. General Conditions

1.	Duty to comply	6 NYCRR 750-2.1(e) & 2.4
2.	Duty to reapply	6 NYCRR 750-1.16(a)
3.	Need to halt or reduce activity not a defense	6 NYCRR 750-2.1(g)
4.	Duty to mitigate	6 NYCRR 750-2.7(f)
5.	Permit actions	6 NYCRR 750-1.1(c), 1.18, 1.20 & 2.1(h)
6.	Property rights	6 NYCRR 750-2.2(b)
7.	Duty to provide information	6 NYCRR 750-2.1(i)
8.	Inspection and entry	6 NYCRR 750-2.1(a) & 2.3

C. Operation and Maintenance

1.	Proper Operation & Maintenance	6 NYCRR 750-2.8
2.	Bypass	6 NYCRR 750-1.2(a)(17), 2.8(b) & 2.7
3.	Upset	6 NYCRR 750-1.2(a)(94) & 2.8(c)

D. Monitoring and Records

1.	Monitoring and records	6 NYCRR 750-2.5(a)(2), 2.5(a)(6), 2.5(c)(1), 2.5(c)(2), & 2.5(d)
2.	Signatory requirements	6 NYCRR 750-1.8 & 2.5(b)

E. Reporting Requirements

1.	Reporting requirements for POTWs	6 NYCRR 750-2.5, 2.7 & 1.17
2.	Anticipated noncompliance	6 NYCRR 750-2.7(a)
3.	Transfers	6 NYCRR 750-1.17
4.	Monitoring reports	6 NYCRR 750-2.5(e)
5.	Compliance schedules	6 NYCRR 750-1.14(d)
6.	24-hour reporting	6 NYCRR 750-2.7(c) & (d)
7.	Other noncompliance	6 NYCRR 750-2.7(e)
8.	Other information	6 NYCRR 750-2.1(f)
9.	Additional conditions applicable to a POTW	6 NYCRR 750-2.9

F. Planned Changes

1. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

   a. The alteration or addition to the permitted facility may meet of the criteria for determining whether facility is a new source in 40 CFR §122.29(b); or
   b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, or to notification requirements under 40 CFR §122.42(a)(1); or
   c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

In addition to the Department, the permittee shall submit a copy of this notice to the United States Environmental Protection Agency at the following address: U.S. EPA Region 2, Clean Water Regulatory Branch, 290 Broadway, 24th Floor, New York, NY 10007-1866.

GENERAL REQUIREMENTS continued

G. Notification Requirement for POTWs

1. All POTWs shall provide adequate notice to the Department and the USEPA of the following:
   a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging those pollutants; or
   b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
   c. For the purposes of this paragraph, adequate notice shall include information on:
      i. the quality and quantity of effluent introduced into the POTW, and
      ii. any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

POTWs shall submit a copy of this notice to the United States Environmental Protection Agency, at the following address:
U.S. EPA Region 2, Clean Water Regulatory Branch, 290 Broadway, 24th Floor, New York, NY 10007-1866

H. Sludge Management

The permittee shall comply with all applicable requirements of 6 NYCRR Part 360.

I. SPDES Permit Program Fee

The permittee shall pay to the Department an annual SPDES permit program fee within 30 days of the date of the first invoice, unless otherwise directed by the Department, and shall comply with all applicable requirements of ECL 72-0602 and 6 NYCRR Parts 480, 481 and 485. Note that if there is inconsistency between the fees specified in ECL 72-0602 and 6 NYCRR Part 485, the ECL 72-0602 fees govern.

J. Water Treatment Chemicals (WTCs)

New or increased use and discharge of a WTC requires prior Department review and authorization. At a minimum, the permittee must notify the Department in writing of its intent to change WTC use by submitting a completed *WTC Notification Form* for each proposed WTC. The Department will review that submittal and determine if a SPDES permit modification is necessary or whether WTC review and authorization may proceed outside of the formal permit administrative process. The majority of WTC authorizations do not require SPDES permit modification. In any event, use and discharge of a WTC shall not proceed without prior authorization from the Department. Examples of WTCs include biocides, coagulants, conditioners, corrosion inhibitors, defoamers, deposit control agents, flocculants, scale inhibitors, sequestrants, and settling aids.

1. WTC use shall not exceed the rate explicitly authorized by this permit or otherwise authorized in writing by the Department.
2. The permittee shall maintain a logbook of all WTC use, noting for each WTC the date, time, exact location, and amount of each dosage, and, the name of the individual applying or measuring the chemical. The logbook must also document that adequate process controls are in place to ensure that excessive levels of WTCs are not used.
3. The permittee shall submit a completed WTC Annual Report Form each year that they use and discharge WTCs. This form shall be attached to either the December DMR or the annual monitoring report required below.

The *WTC Notification Form and WTC Annual Report Form* are available from the Department's website at:
http://www.dec.ny.gov/permits/93245.html

RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

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

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

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

[X] (if box is checked) a monthly "Wastewater Facility Operation Report..." (form 92-15-7) to the:
[X] Regional Water Engineer and/or [X] County Health Department or Environmental Control Agency specified below

Send the **original** (top sheet) of each DMR page to:

Department of Environmental Conservation
Division of Water, Bureau of Water Compliance
625 Broadway
Albany, New York 12233-3506
Phone: (518) 402-8177

Send the **first copy** (second sheet) of each DMR page to:

Department of Environmental Conservation
Regional Water Engineer, Region 8
6274 E Avon-Lima Rd
Avon, New York 14414 -9519
Phone: (585) 226-5468

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

Genesee Co. Health Department
3837 West Main Street Road
Batavia, New York 14020
Phone: (585) 344-2580

B. Monitoring and analysis shall be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

C. More frequent monitoring of the discharge(s), monitoring point(s), or waters of the State than required by the permit, where analysis is performed by a certified laboratory or where such analysis is not required to be performed by a certified laboratory, shall be included in the calculations and recording of the data on the corresponding DMRs.

D. Calculations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

E. Unless otherwise specified, all information recorded on the DMRs shall be based upon measurements and sampling carried out during the most recently completed reporting period.

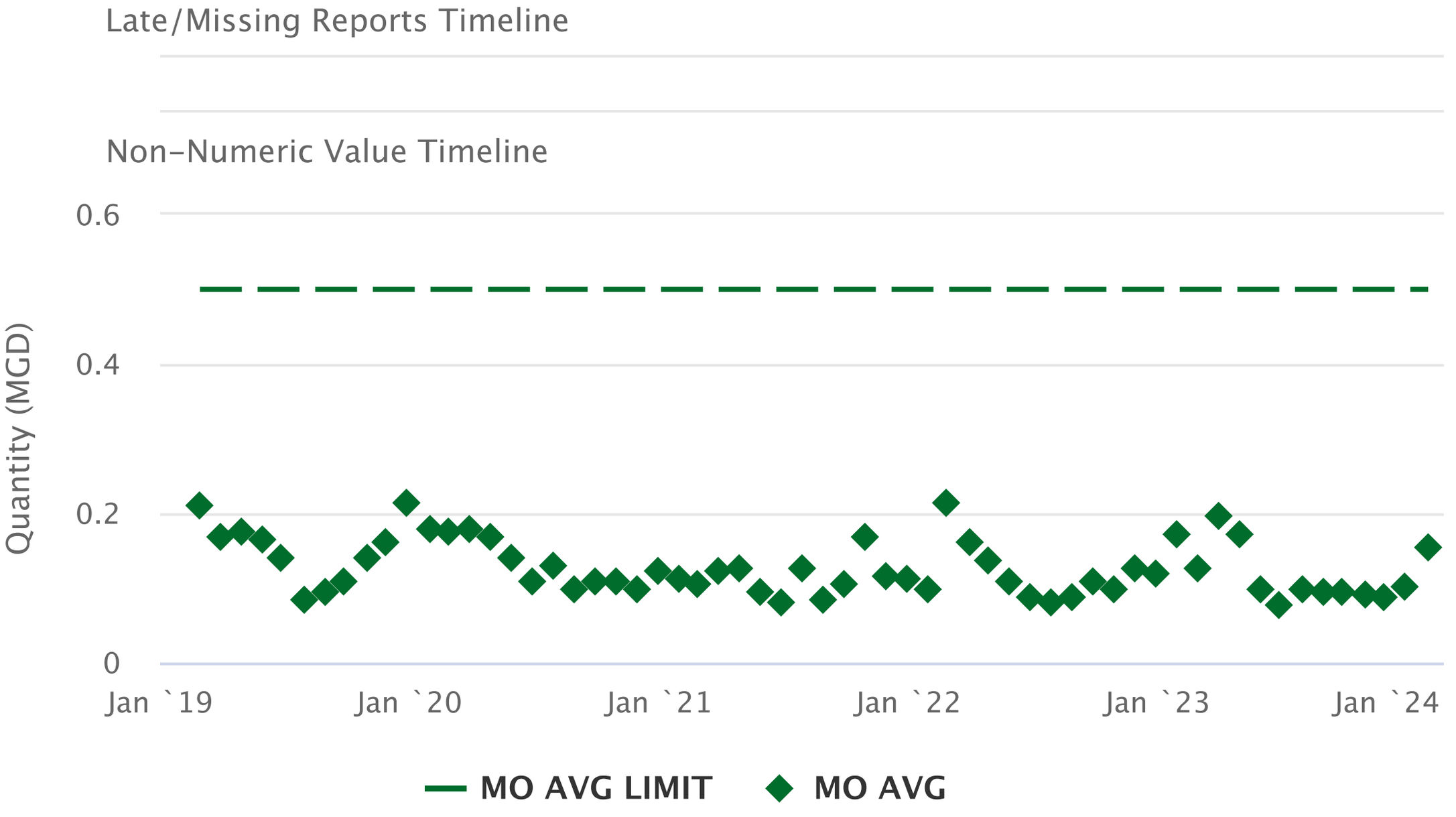
F. Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section 502 of the Public Health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquiries regarding laboratory certification should be directed to the New York State Department of Health, Environmental Laboratory Accreditation Program.

Appendix C

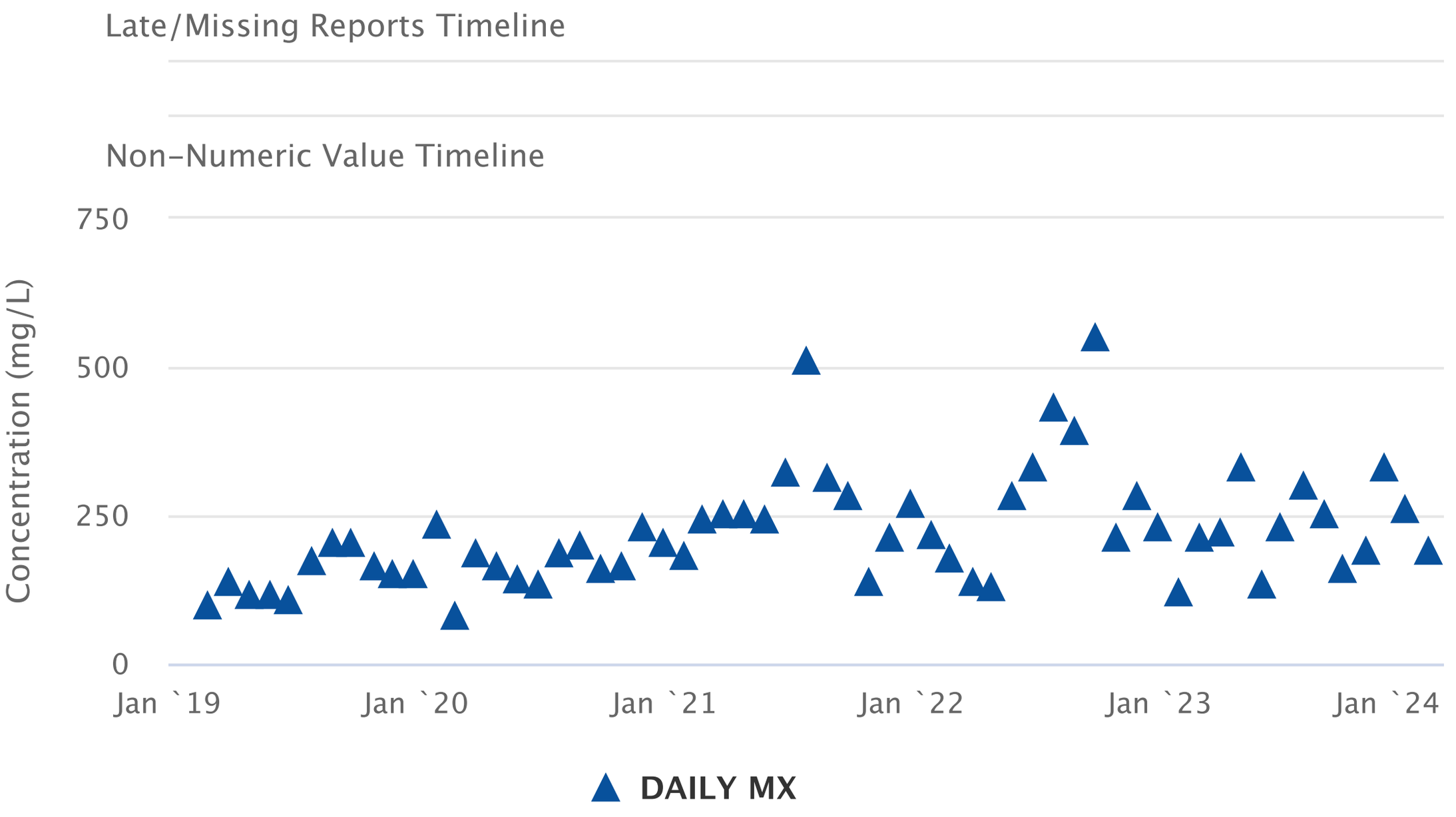
Village of Oakfield WWTF
Influent and Effluent Charts

DRAFT

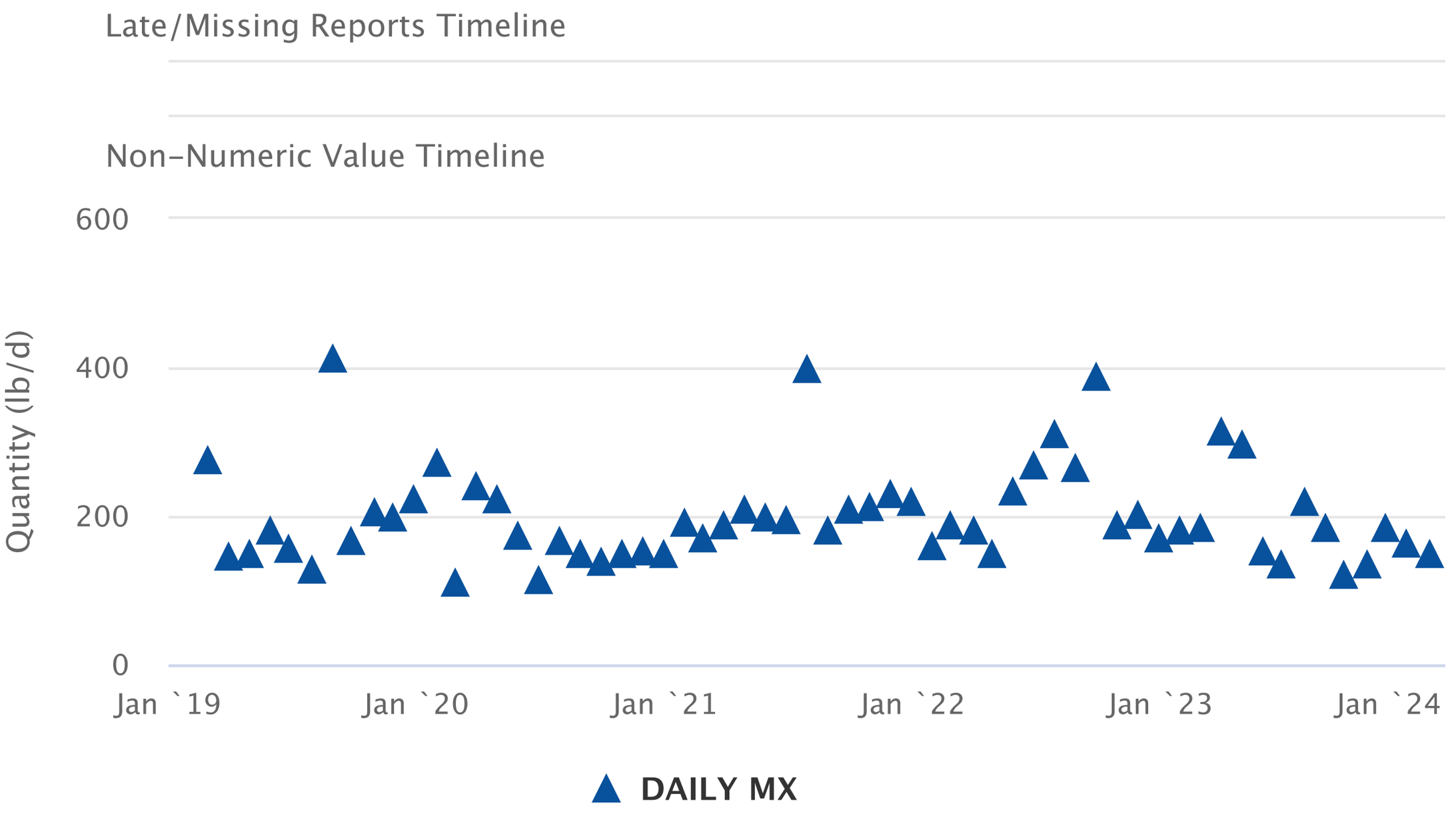
OAKFIELD (V) STP (NY0023639) 001 - Flow, in conduit or thru treatment plant - Raw Sewage Influent - Quantity



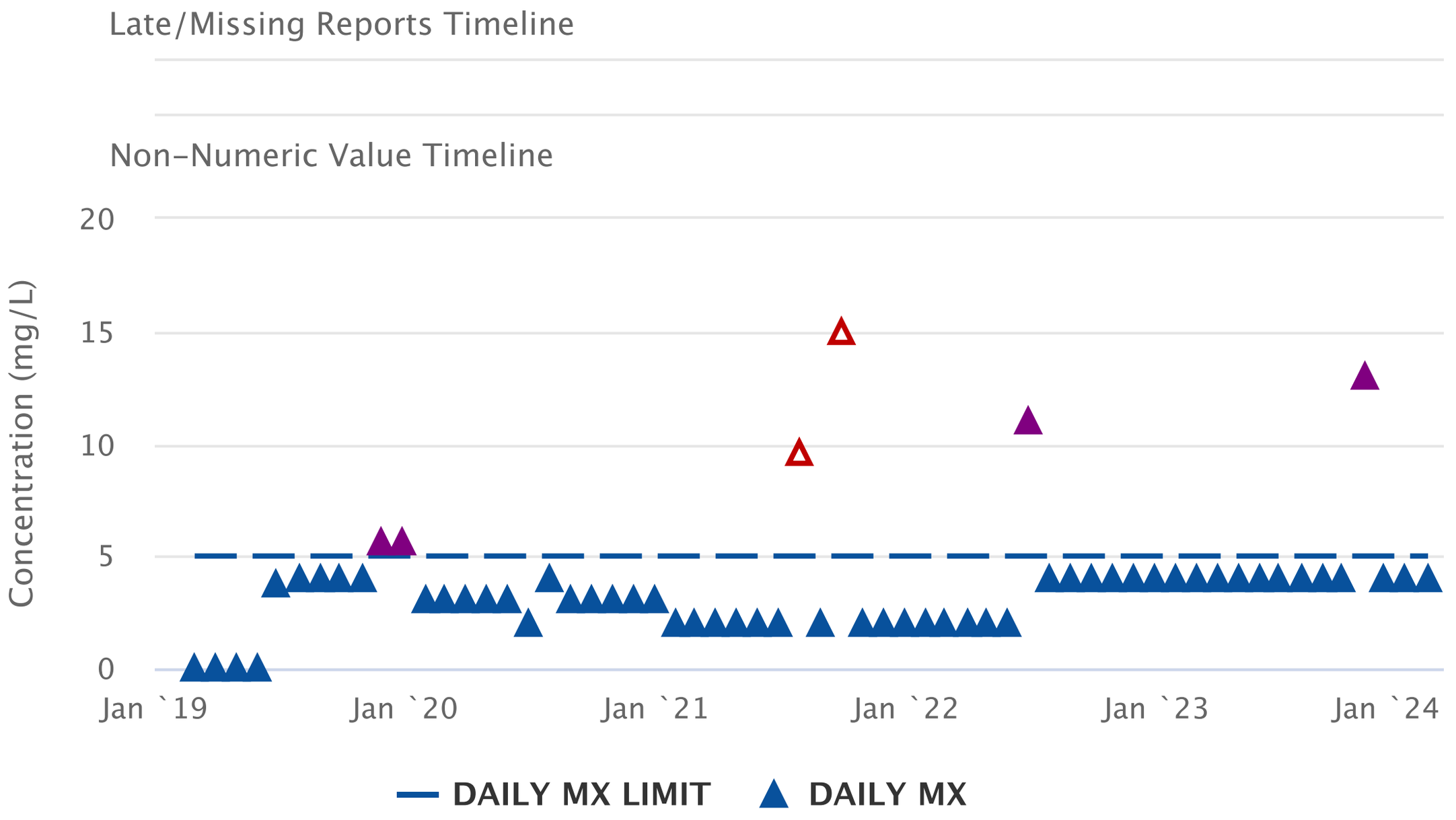
OAKFIELD (V) STP (NY0023639) 001 - BOD, carbonaceous [5 day, 20 C] - Raw Sewage Influent - Concentration



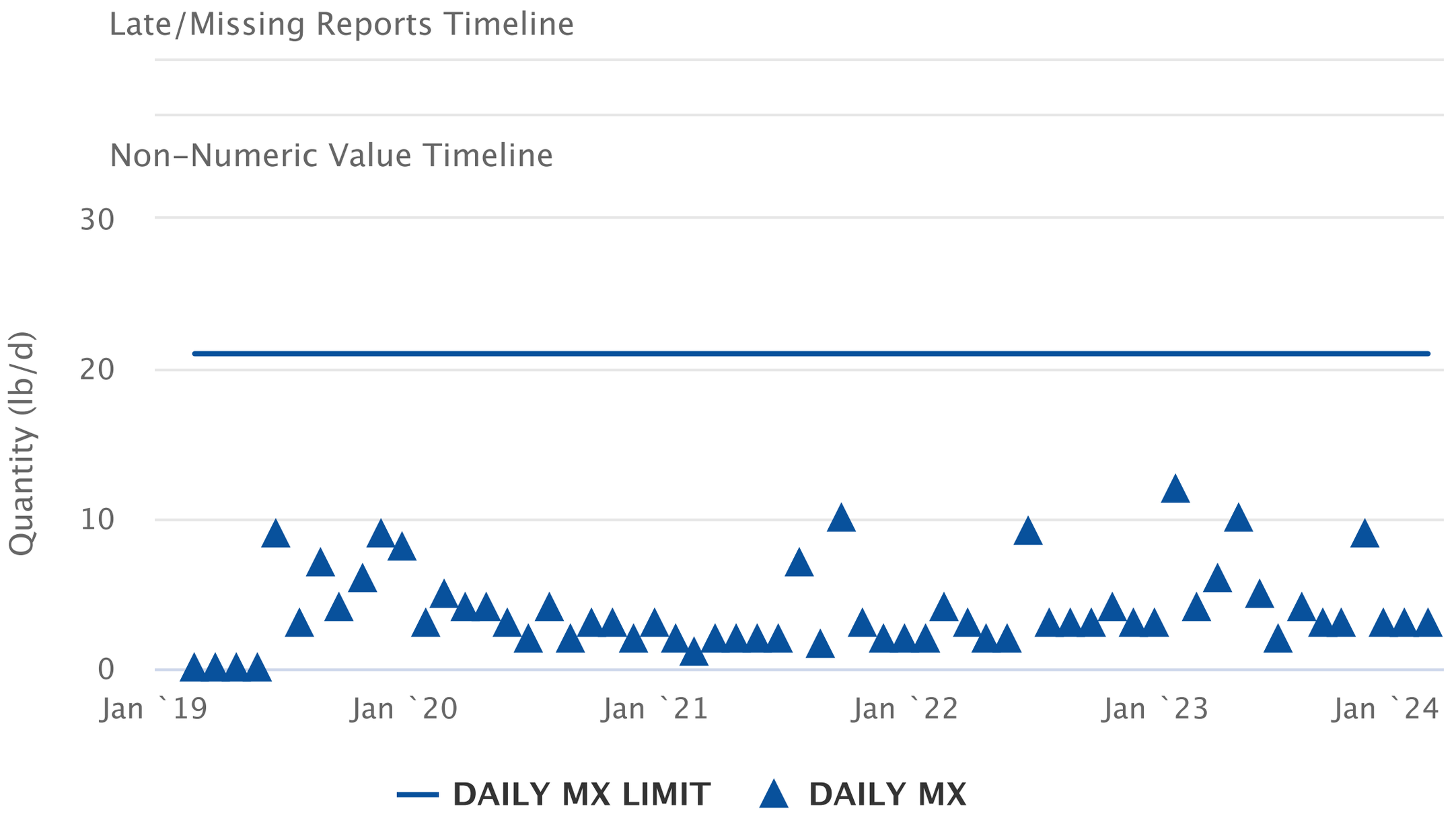
OAKFIELD (V) STP (NY0023639) 001 - BOD, carbonaceous [5 day, 20 C] - Raw Sewage Influent - Quantity



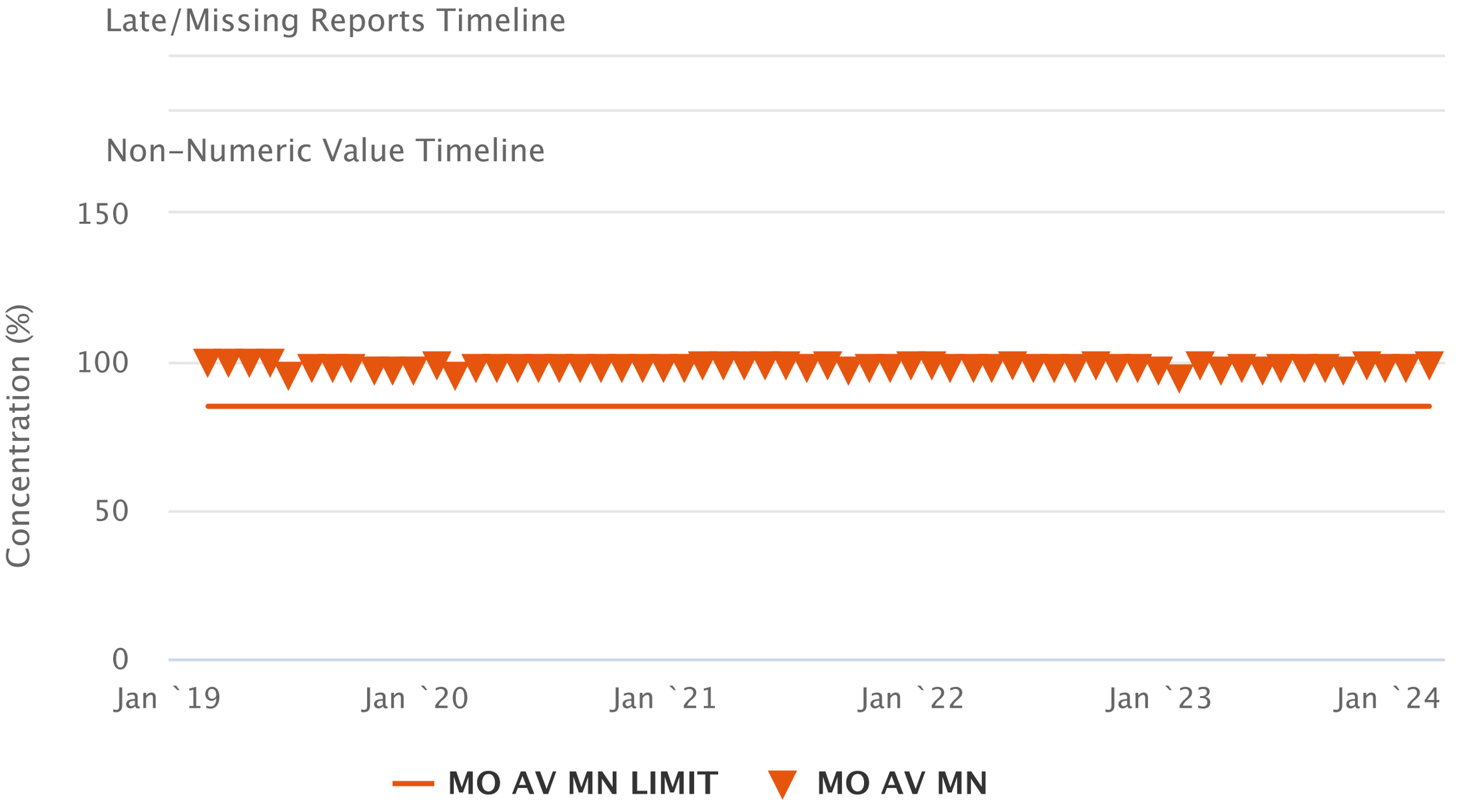
OAKFIELD (V) STP (NY0023639) 001 - BOD, carbonaceous [5 day, 20 C] - Effluent Gross - Concentration



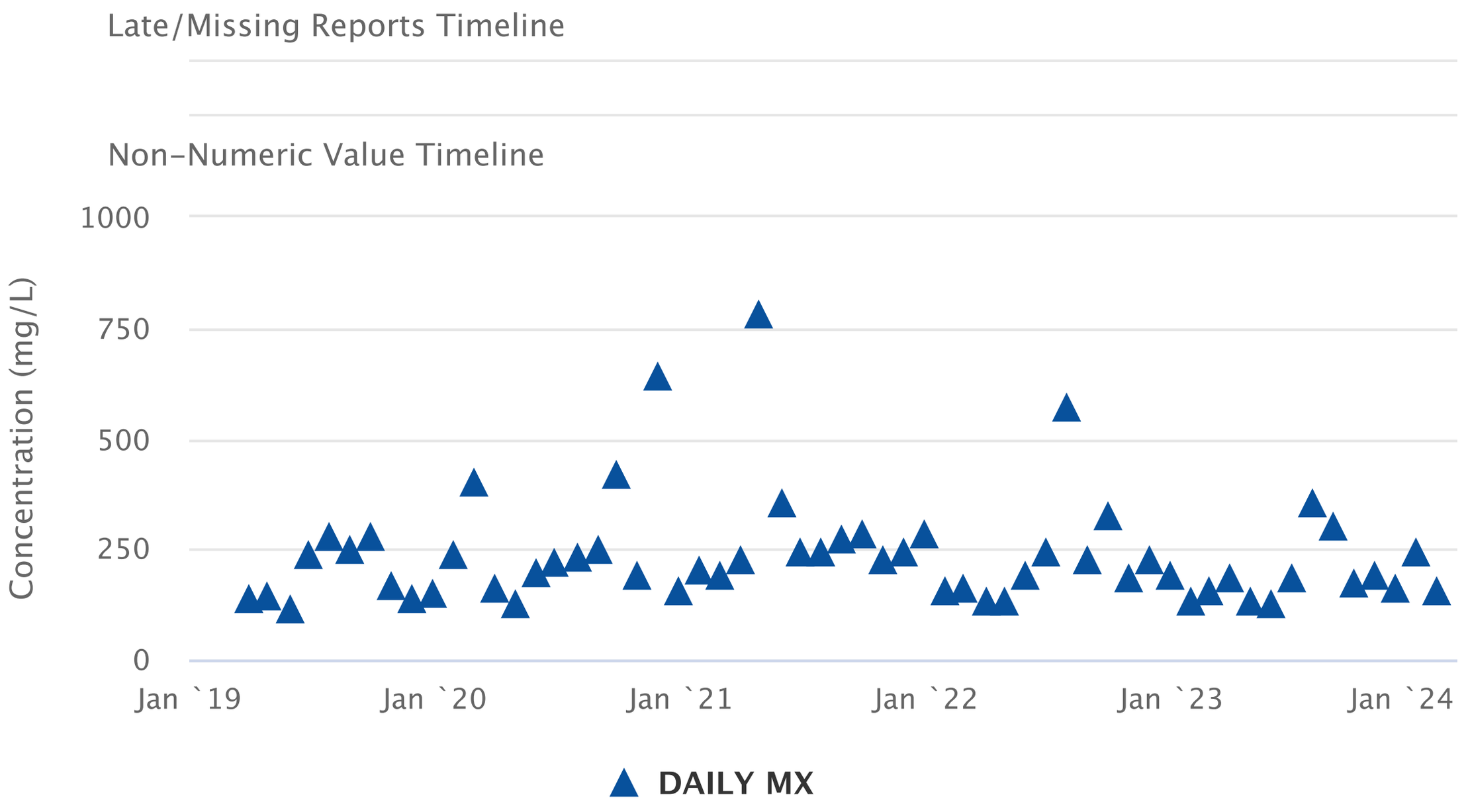
OAKFIELD (V) STP (NY0023639) 001 - BOD, carbonaceous [5 day, 20 C] - Effluent Gross - Quantity



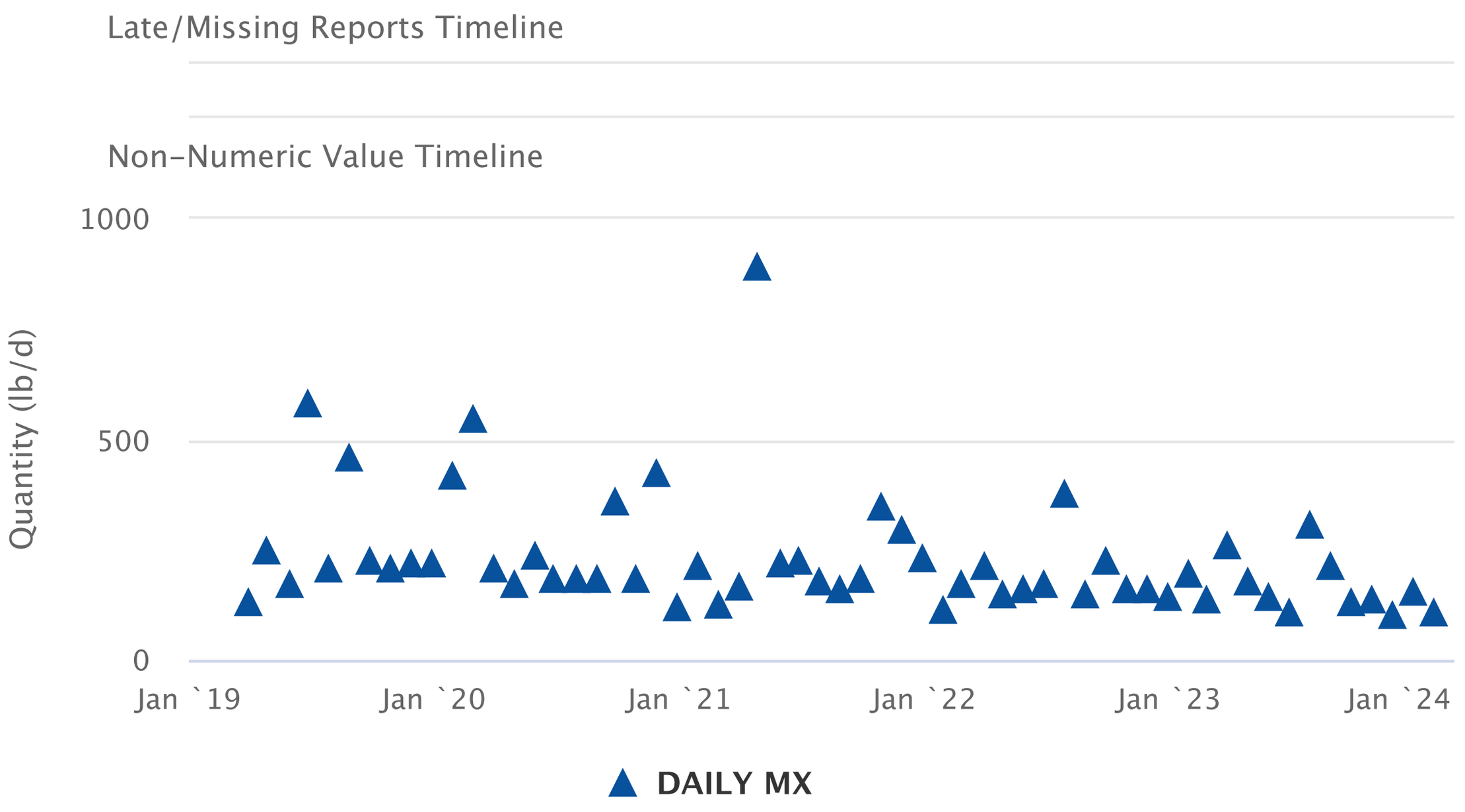
OAKFIELD (V) STP (NY0023639) 001 – Carbonaceous oxygen demand, % removal – Percent Removal – Concentration



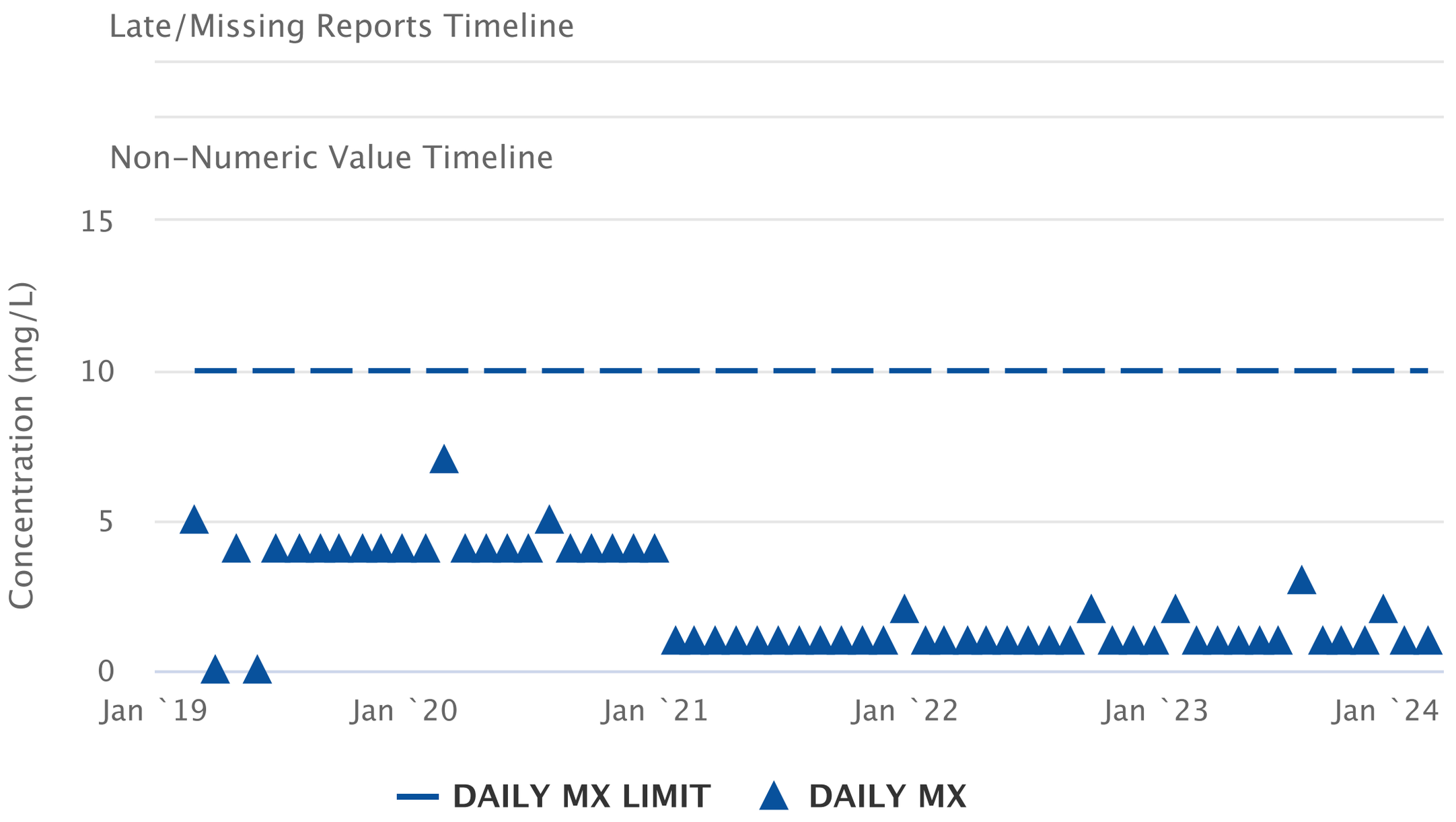
OAKFIELD (V) STP (NY0023639) 001 – Solids, total suspended – Raw Sewage Influent – Concentration



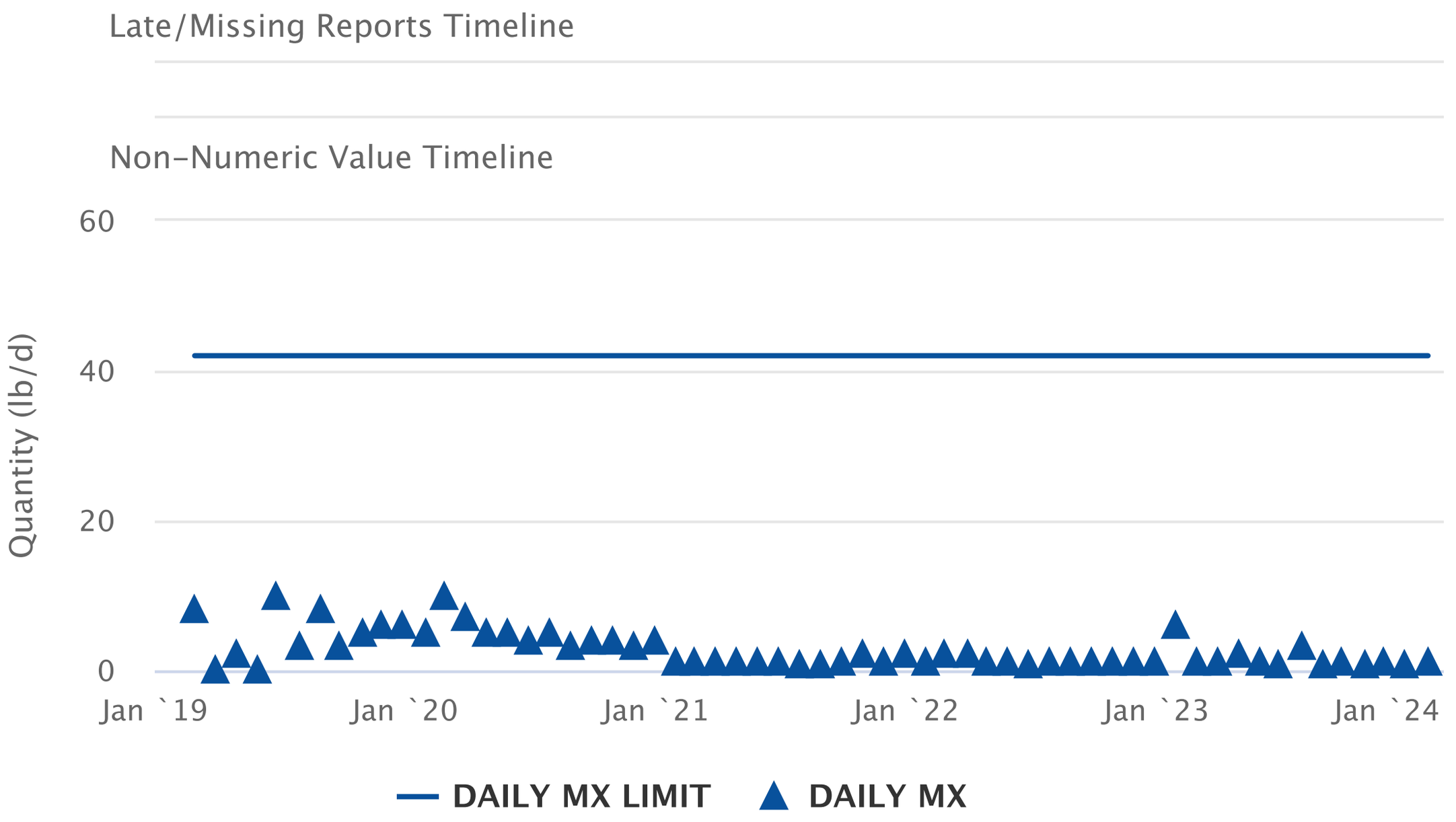
OAKFIELD (V) STP (NY0023639) 001 - Solids, total suspended - Raw Sewage Influent - Quantity



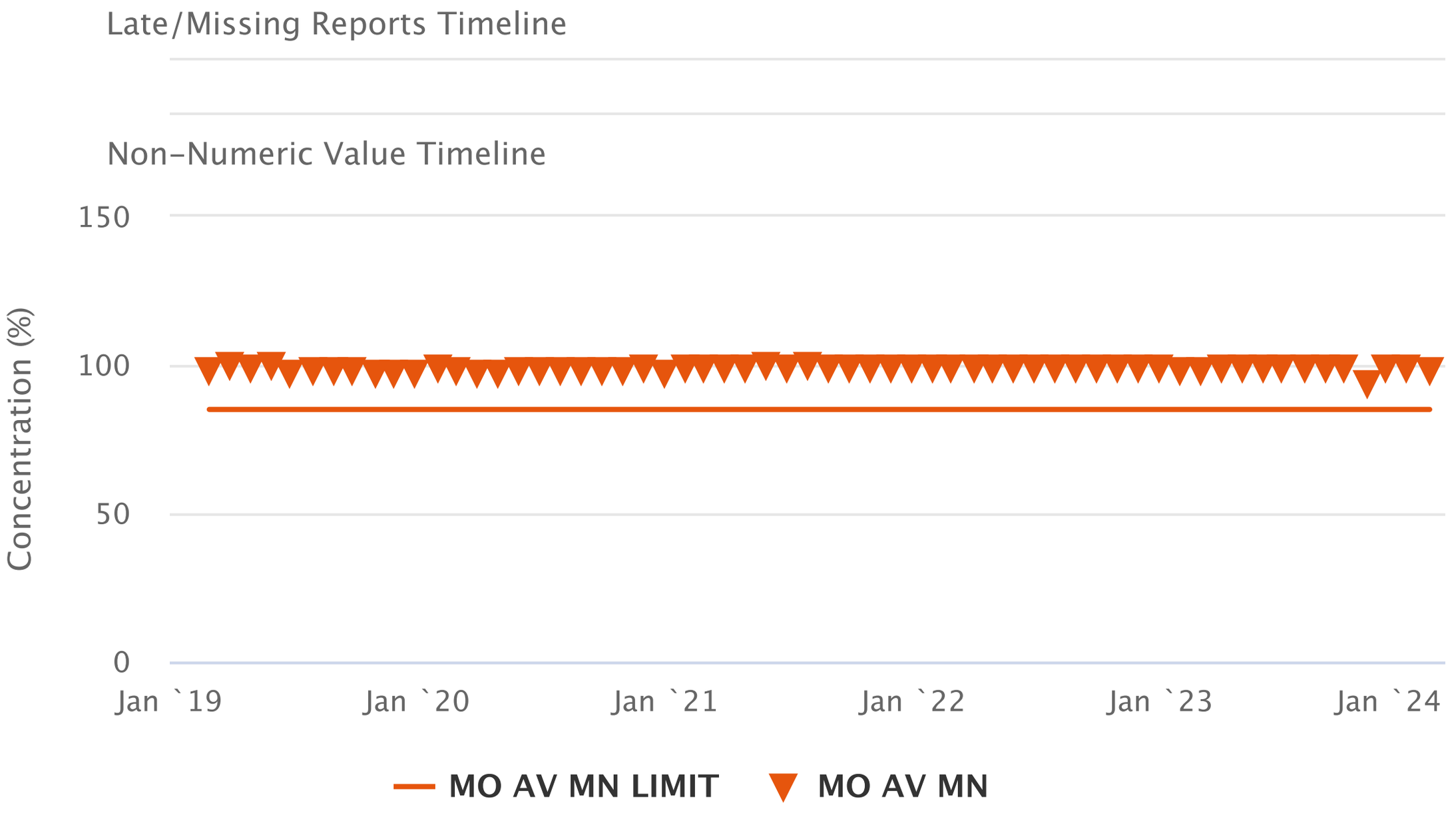
OAKFIELD (V) STP (NY0023639) 001 - Solids, total suspended - Effluent Gross - Concentration



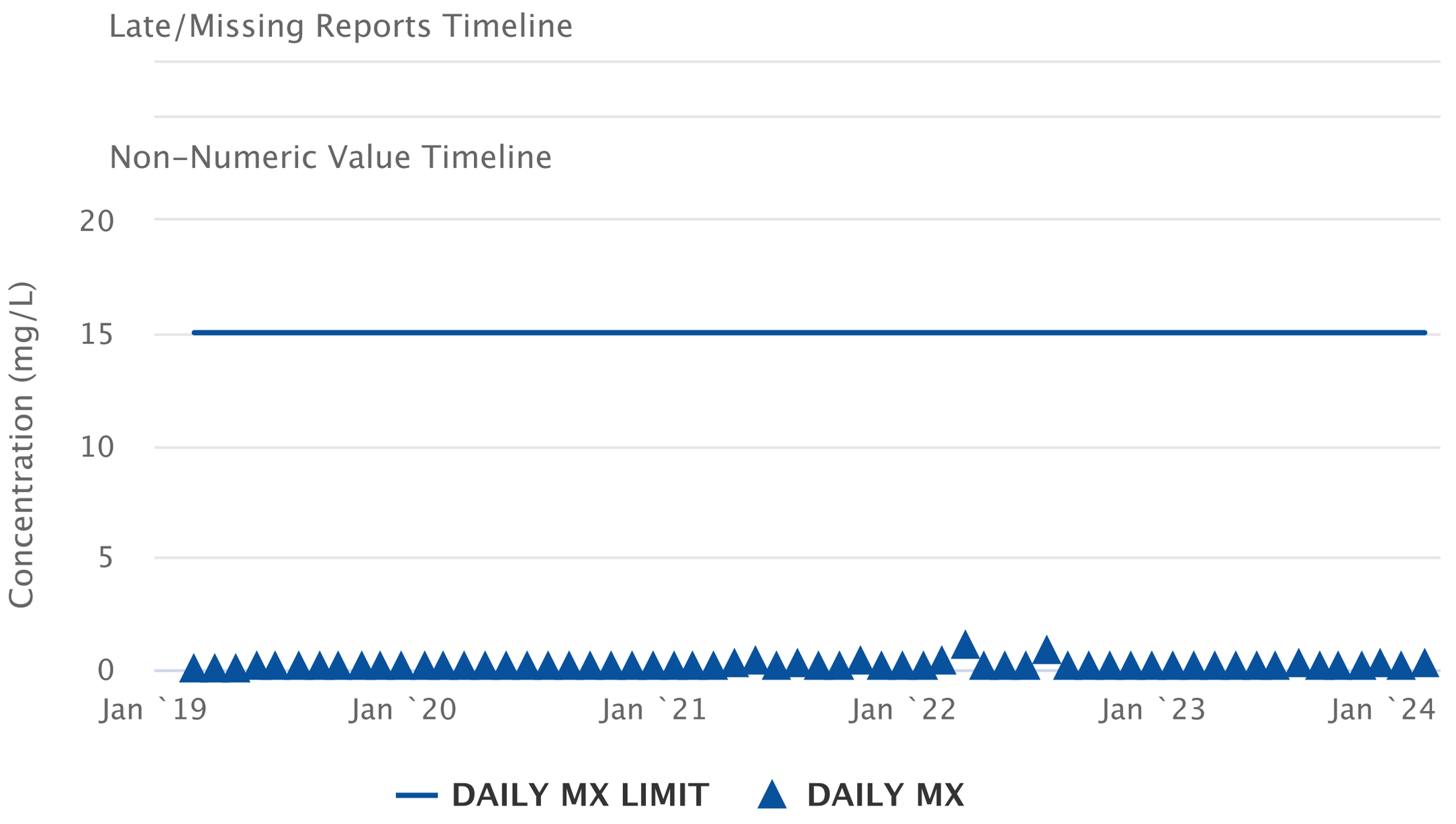
OAKFIELD (V) STP (NY0023639) 001 - Solids, total suspended - Effluent Gross - Quantity



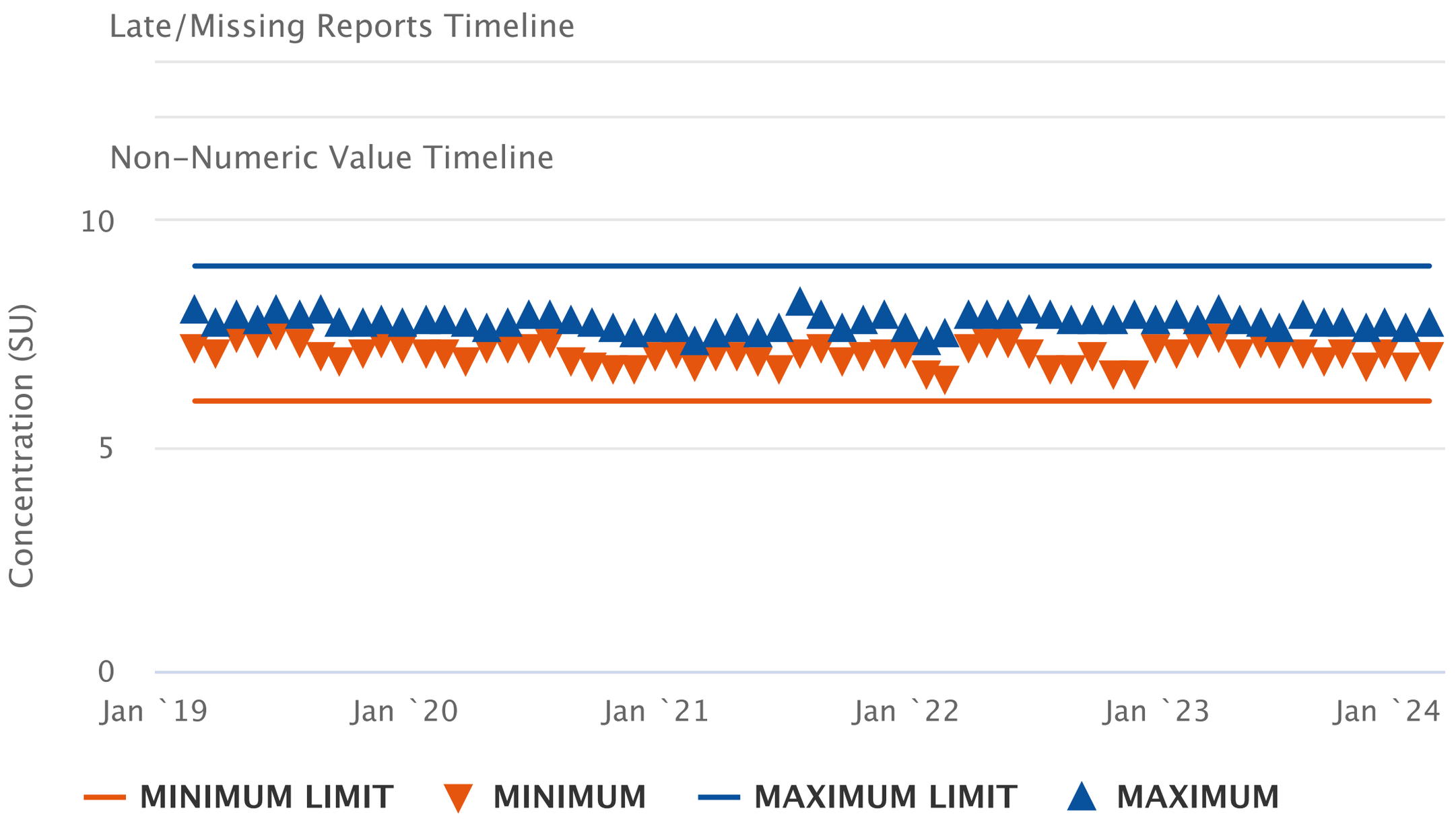
OAKFIELD (V) STP (NY0023639) 001 - Solids, suspended percent removal - Percent Removal - Concentration



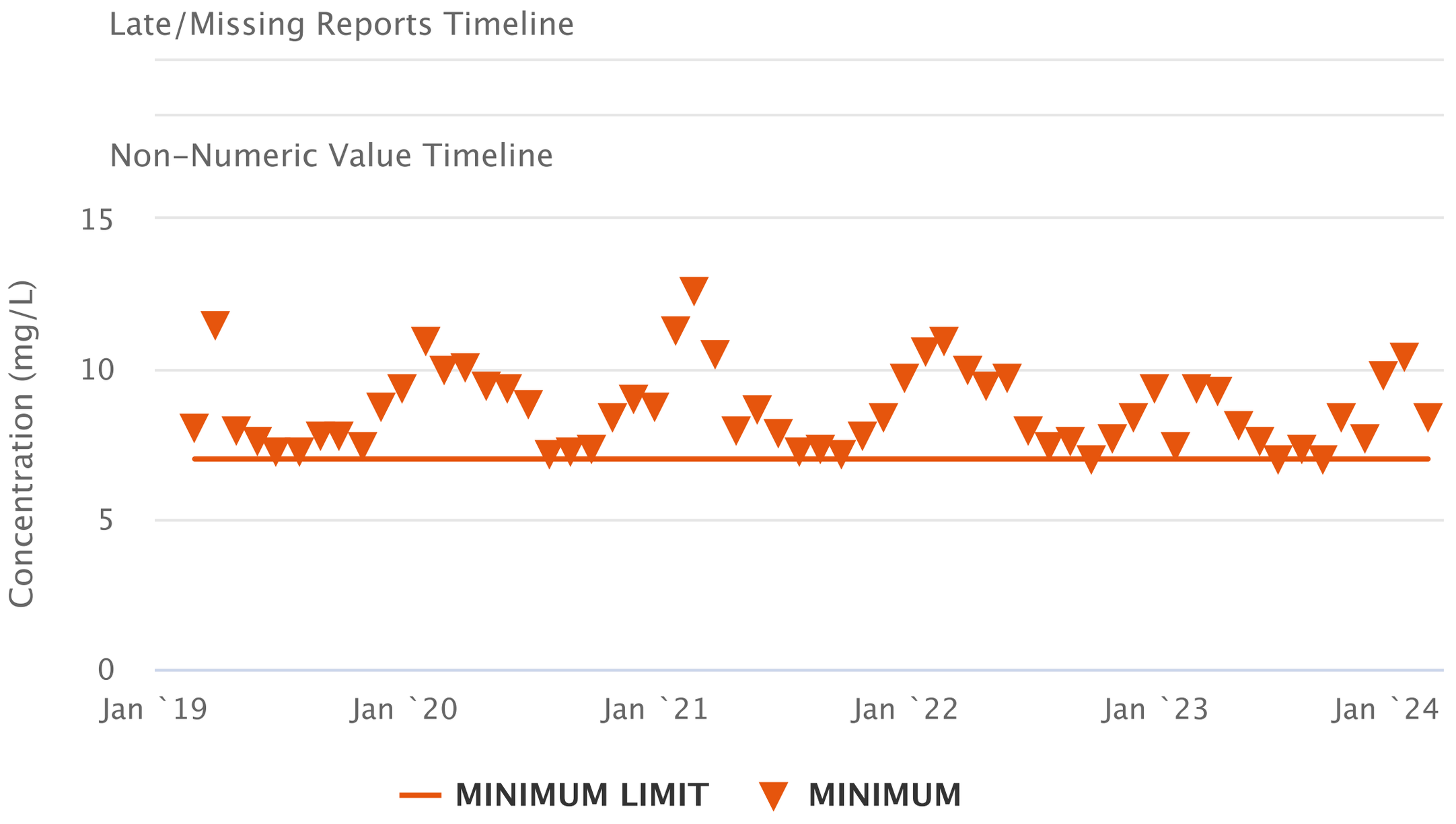
OAKFIELD (V) STP (NY0023639) 001 – Nitrogen, ammonia, total [as NH3] – Effluent Gross – Concentration

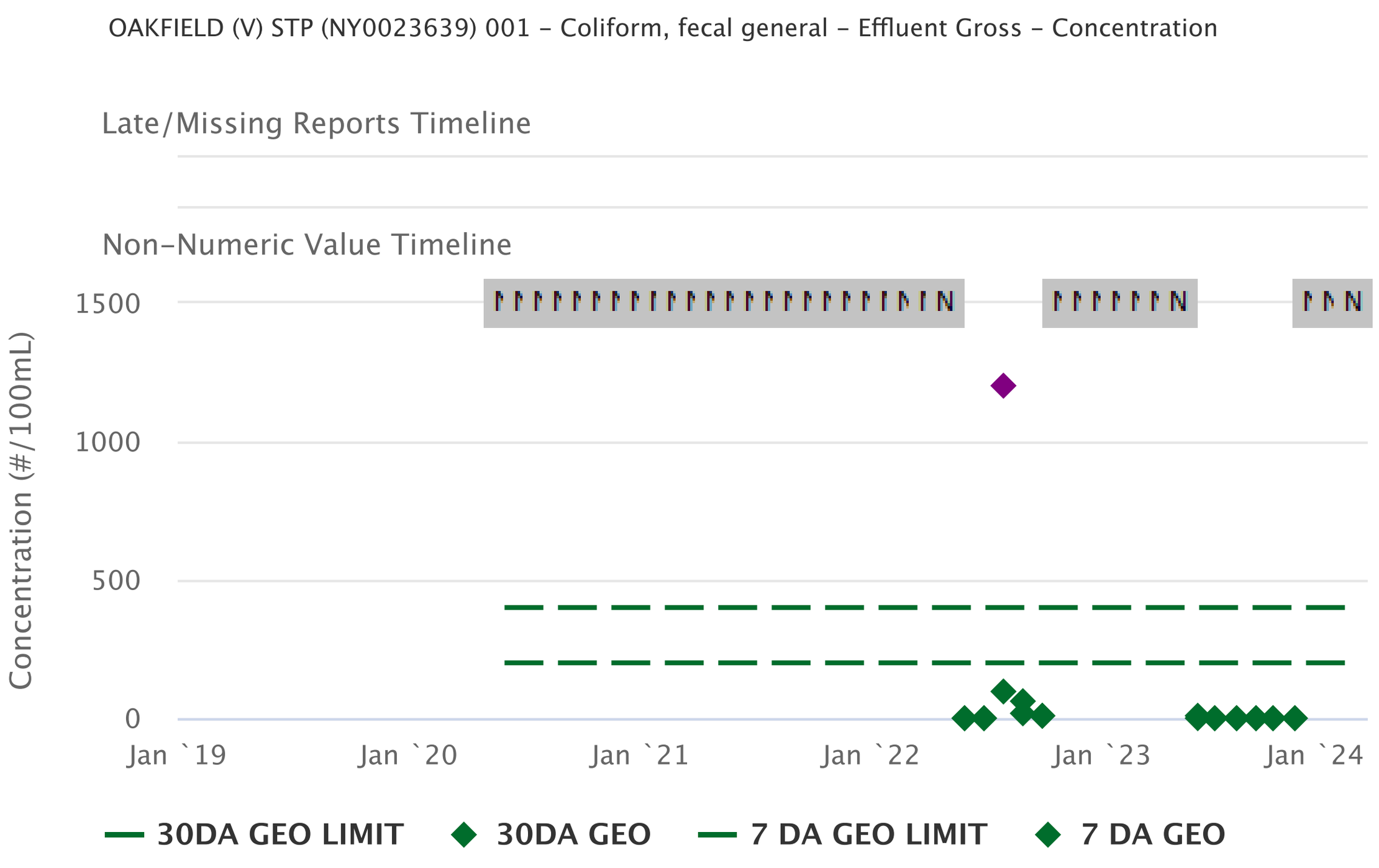


OAKFIELD (V) STP (NY0023639) 001 - pH - Effluent Gross - Concentration



OAKFIELD (V) STP (NY0023639) 001 - Oxygen, dissolved [DO] - Effluent Gross - Concentration




OAKFIELD (V) STP (NY0023639) 001 - Coliform, fecal general - Effluent Gross - Concentration
Late/Missing Reports Timeline
Non-Numeric Value Timeline
1500
1000
500
0
Concentration (#/100mL)
Jan `19
Jan `20
Jan `21
Jan `22
Jan `23
Jan `24
30DA GEO LIMIT
30DA GEO
7 DA GEO LIMIT
7 DA GEO

Appendix D

Village of Oakfield WWTF
Design Average Flows

DRAFT

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ENGINEERING
PLANNING
CPLteam.com

Oakfield WWTF

Design Average Flows

By: D.Chase

Date: 6/20/2024

Source	Type of Use	Unit	Unit Flow (gpd)	# Units	Design Average Flow (gpd)	Flow Scenario 1 Existing Flows Design Average Flow (gpd)	Flow Scenario 2 Exist Flows + STAMP Initial Build Design Average Flow (gpd)
Existing Oakfield WWTF Flows	Existing Flows based on 5 year average[1]				130,000	130,000	130,000
STAMP							
Initial Build							
Plug Power							
Factory Workers	Factory, no showers, no cafeteria	Per employee/shift	15	62	930		
Truck drivers	Truck Drivers	Per employee/shift	5	38	190		
Edwards Vacuum							
Phase 1	Factory, no showers, cafeteria provided	Per employee/shift	20	380	7,600		
Future Project[2]	Assumed Factory, with showers	Per employee/shift	25	450	11,250		
Subtotal				930	19,970		
Subtotal (Rounded)					**20,000**		20,000
TOTAL WWTF FLOW						**130,000**	**150,000**

Notes

[1]Average flow obtained from USEPA ECHO online system for 5-year period from February 2019 to January 2024 was 0.127 MGD, which was rounded to 0.130 MGD.

[2]For Future Project, assumed Factory with showers, and a similar number of employees to Edwards Vacuum plus a safety factor, to be conservative.

Appendix E

Village of Oakfield WWTF
Packaged Wastewater Treatment Units
Original (1979) Design Criteria

DRAFT

1979 Design Criteria from O&M Manual

and explosive mixtures. Observe the safety requirements of OSHA, NYSDEC and other organizations concerned with sewer maintenance and safety. A manhole is a confined space and all regulations pertaining to such areas should be observed before entering, (Chapter X, Safety).

TREATMENT FACILITIES DESIGN CRITERIA

General

Criteria utilized for the design of the facilities appears as Exhibit "D" of this manual.

The design criteria is based on a projected population of 2,800 people in the design year of 1995. Provision is included in the recommended design population figure for growth within the Village plus an allowance for cluster development in the Town of Oakfield. The average design dry weather flow is 0.34 mgd (million gallons per day).

Hydraulic Capacity and Removal Efficiency

The facilities are capable of removing 98 percent of the BOD contained in an average dry weather flow of 0.34 mgd originating from an equivalent population of 2,800 persons located in the Village of Oakfield and the serviced portions of the Town of Oakfield.

Flows of 1.10 mgd can be handled without the flooding of any control weirs or taxing the hydraulic capacity of flumes, piping, etc.

Organic Loadings

The design of the facilities was based on average daily organic loadings of 476 pounds of BOD and 560 pounds of suspended solids.

HEADWORKS

General

The headworks receive the flows from the gravity sewers, remove the coarse debris which would interfere with the treatment processes, and meter the flow. The

1979 Design Criteria from O&M Manual

VILLAGE OF OAKFIELD
WASTEWATER TREATMENT FACILITIES

DESIGN CRITERIA

1.	Design Population	2,800
	Hydraulic	
2.	Average Raw Sewage Flow, MGD	0.34
3.	Maximum Total Flow, MGD	1.10
	Organic	
4.	Total BOD, lb./day	480
5.	Total Suspended Solids, lb./day	560
	Secondary Treatment Facilities	
	Aeration Tanks	
6.	BOD to Aeration Tanks, lb./day	480
7.	BOD to Suspended Solids Ratio, lb./day/100 lb./solids	8
8.	Suspended Solids Required, lb.	6,000
9.	Solids Concentration in Mixed Liquor, mg/l	2,116
10.	Number of Aeration Tanks	2
11.	Surface Area of Tank, sq. ft.	1,635
12.	Depth of Tank, Feet	13.90
13.	Total Volume of Tanks, Gal. x 10^6	0.34
14.	Sludge Return Rate, Percent	100
15.	Mixed Liquor Flow, Average MGD	0.68
16.	Mixed Liquor Detention Time, Average Hours	12
17.	BOD Removed, Percent	92
18.	BOD Removed, lb./day	442
19.	Oxygen Transfer Efficiency, Percent	6
20.	Air Required, CFM	1,050
	Final Tanks	
21.	Number of Tanks	2
22.	Diameter, Feet	27
23.	Total Surface Area, sq. ft.	1,146
24.	Surface Settling Rate, Average Flow, gpd/sq. ft.	297

VILLAGE OF OAKFIELD
WASTEWATER TREATMENT FACILITIES

DESIGN CRITERIA
(Continued)

Final Tanks *(Continued)*		
25.	Surface Settling Rate, Maximum Flow, gpd/sq. ft.	960
26.	Depth of Tanks (SWD), Feet	13.90
27.	Total Volume of Tanks, cu. ft.	15,930
28.	Detention Time at Average Flow, Hours	8.4
29.	Detention Time at Maximum Flow, Hours	2.6
Effluent Filters		
30.	Number of Units	6
31.	Surface Area Per Unit, sq. ft.	100
32.	Total Surface Area, sq. ft.	600
33.	Peak Flow Filtration Rate, gpm/sq. ft. (with 4 units operating)	1.9
34.	Filtration Rate, gpm/sq. ft. (with 4 units operating)	0.6
35.	Backwash Rate, gpm/sq. ft.	12
36.	Total 10-Minute Wash, Gal.	12,000
Disinfection Facilities		
37.	Number of Tanks	2
38.	Total Surface Area, sq. ft.	533
39.	Depth of Tanks, Feet	8
40.	Total Volume of Tanks, cu. ft.	4,264
41.	Detention Time at Maximum Flow, Minutes	42
42.	Number of Chlorinators	2
43.	Capacity of Chlorinators, lb./day	0-100
Post-Aeration Facilities		
44.	Number of Tanks	2
45.	Total Surface Area, sq. ft.	533
46.	Depth of Tanks	8
47.	Total Volume of Tanks, cu. ft.	4,264
48.	Detention Time at Maximum Flow, Minutes	42
49.	Air Required, CFM	15

ENGINEERING REPORT

FOR THE

VILLAGE OF OAKFIELD

WASTEWATER TREATMENT PLANT

AERATION SYSTEM IMPROVEMENTS

OCTOBER 2, 1989

TABLE OF CONTENTS
OAKFIELD WWTP ENGINEERING REPORT

Introduction

- Purpose and Scope
- Background

Discussion of Proposed Modifications

- Proposed Modifications
- Cost Estimate and Analysis

Recommendations

1. Introduction

Purpose and Scope

The purpose of this Engineering Report is to outline the proposed aeration improvements to the Village of Oakfield Wastewater Treatment Plant.

The proposed aeration improvements consist of replacing the existing course bubble diffusers in the aeration tanks, sludge storage tanks, post aeration and backwash holding tanks to fine bubble aeration. Also, proposed is to replace one existing 100 hp blower with a new 50 hp centrifugal blower.

The impact of these improvements will be increased aeration efficiency and power cost savings. The operation and maintenance budget at the Wastewater Treatment Plant will be decreased approximately $22,233 per year. This will result in a net savings of approximately 15% per year per home owner.

Background

The Village of Oakfield Wastewater Treatment Facility is a Packaged Activated Sludge Treatment Plant located in the Village of Oakfield, off State Route 262 in Genesee County. Refer to Figure #1. The Plant has an average daily flow of approximately 0.25 million gallons per day (MGD), with wet weather flows up to 2.0 mgd during peak conditions. Currently a Wet Weather Treatment System is being constructed which will treat raw sewage in excess of 0.500 mgd. The Wet Weather Treatment System is being funded by a Housing and Urban Development (HUD) Small Cities Grant.

The Village proposes to utilize leftover funds from the $389,000 HUD Grant to finance the aeration system improvements.

2. Discussion of Proposed Modifications

Proposed modifications

Currently the Wastewater Treatment Plant utilizes course bubble aeration and two (2) 100 hp. blowers to meet the aeration requirements in the aeration tanks, sludge storage tanks, post aeration and backwash holding tanks. The technology in aeration equipment has improved substantially over the last several years since the plant was constructed in 1978.

The latest developments in the aeration industry include utilization of fine bubble diffusion equipment which tremendously increases the aeration efficiency, provides better dispersion of air and mixing, and decreases the energy required from the blowers. The decreased demand for air, warrants replacing the existing 100 hp blower with a new efficient 40 hp centrifugal blower.

The aeration requirements for the plant are provided as follows:

Description	Volume (Ft^3)	Air reqt. (SCFM)
Aeration tanks (total both plants)	45,454	430
Post Aeration tanks (Total both plants)	4,264	30
Sludge Storage Tanks (1 plant - intermittent)	6,800	170
Backwash Holding Tanks (2 plants - intermittent)	8,400	210
TOTALS with sludge storage or backwash holding	64,918	670 SCFM

Detailed calculations of air requirements are provided as follows:

Aeration Tanks

The following data and assumptions were used to calculate the aeration tank requirements:

Number of tanks:	Two (2)
Volume per tank:	22,727 ft^3
#BOD/day total:	300
$\#NH_3$-N/day total:	70
$\#O_2/\#BOD$:	1.5
$\#O_2/\#NH_3$-N:	4.6
Alpha:	0.50
Beta:	0.95
Theta:	1.024
Ambient Pressure (PSIA):	14.46
Water Temp. (°c):	20

$\#O_2/day=(300\ \#BOD/Day)(1.5\ \#O_2/\#BOD)+(70\ \#NH_3N/day)(4.6\#O_2/\#NH_3\text{-}N)$

$\#O_2/day=450\#O_2/day + 322\#O_2/day$

$\#O_2/day=772\#O_2/day$

$$ADR/SOR = \frac{(THETA)^{T-20}(ALPHA)[(BETA)(C^*SAT_{20})(CSURF_T/9.07)(P_{SITE}/P_{SC})-(D.O.)]}{(C^*SAT_{20})}$$

D.O = 3.0 MG/L

ADR/SOR = 0.295

02 required = 772/0.295 = 2616 #/day
= 2650 #/day

@ 24.56% transfer efficiency

Cu. ft. air required/day = 2650/0.075 x 0.232 x 0.2456

= 620109 ft^3/day

= 430.63 SCFM

Sludge Storage Tanks

$\frac{25 \text{ SCFM}}{1000 \text{ ft}^3}$ X $\frac{6800}{}$ ft^3 = $\frac{170}{}$ SCFM

Note: Sludge storage tanks operate approximately 1 hr/week per tank and assumption was made of an average of 0.4 hr/day based upon a 5 day week.

Post Aeration Tanks

$\frac{4 \text{ SCFM}}{1000 ft^3}$ X 4264 ft^3 = 17 SCFM

Backwash Holding Tanks

$\frac{25 \text{ SCFM}}{1000 ft^3}$ X 8400 ft^2 = 210 SCFM

Blower Sizing

Hoffman Air and Filtration Model #4208A
8 Stage 59 hp Blower. Draws 33 BHP running
460 SCFM @ 7.5 psig. Draws 41 BHP running
670 SCFM @ 7.5 psig. BHP draw based on site conditions at the Oakfield WWTP

We have reviewed a proposal from sanitaire water pollution control concerning the fine bubble diffusion equipment and have attached a brochure explaining fine bubble diffusion in greater detail.

Over a period of time, the ceramic diffusers tend to loose their efficiency due to partial plugging. Due to the original design of the plant, the tanks would have to be drained and diffussers would have to be cleaned manually. A automatic gas cleaning system can be installed to automatically clean the diffusers periodically, without disrupting the operation of the plant. The automatic gas cleaning system will save valuable operator time and keep the plant in operation at all times and maintain high aeration equipment efficiency

The proposed layout of fine bubble aeration equipment is shown on Figure #2.

Cost Estimate and Analysis

The estimated costs for the improvements described above are:

Equipment cost for new diffusers, blower, etc.	$40,000
Gas cleaning equipment	19,600
Installation cost of equipment	35,000
	94,600

The estimated cost savings projections are provided below:

	BHP	KW/HP		HR/DAY		DAY/YR	$/KWH	$/YR
Aeration and Post Aeration	33	X 0.746	X	24	X	365	X 0.07	=$15,096
Sludge Storage	8	X 0.746	X	0.4	X	365	X 0.07	= $61
Backwash Holding	8	X 0.746	X	8	X	365	X 0.07	= $ 1,220

Estimated yearly power cost for aeration after upgrade $16,377

Assume 75% of present power cost is for aeration

$51,480 x 0.75 = $38,610

Estimated power savings/year with aeration upgrade

$38,610 - $16,377 = $22,233

Estimated payback of new aeration system

$94,600/$22,233 = 4.2 years

Recommendations

Based upon the site conditions at the Oakfield WWTP and the high operating expenses incurred with the aeration blowers, we recommend that the Village replace the two existing 100 hp blowers with two new 50 hp blowers and replace the existing course bubble diffusion equipment with a new Fine Bubble Aeration System.

The Village Residents will realize lower user charges due to the decrease of operation and maintenance costs from making these improvements. The improvements proposed will increase the efficiency of the plant and the plant will continue to meet the discharge limitations set forth in the SPDES Permit.

Appendix F

Village of Oakfield WWTF
Sludge Drying Bed Storage Calculations

DRAFT

Village of Oakfield
Wastewater Treatment Facility
Sludge Drying Bed Storage
September 11, 2017

Based on 2015-2016 Reed Bed Sludge Application:
Approximately 360,000 gallons annually at 1%-2% Solids

Estimate 2-week drying time
52 weeks /1 pour every 2-weeks = 26 pours annually

360,000 gallons / 26 pours = 13,850 gallons per pour

13,850 gallons x (1 CF/7.48 gallons) = 1,851 CF

Drying Bed size at 16" depth (Based on Village of Corfu practices with use of polymers. Application of 16" of sludge immediately reduces to 4")

1,851 CF / (16"/12") x 2 = 2,777 SF
say **3,000 SF Drying Bed**

Appendix G

NYSDEC Oak Orchard TMDL Analysis 081715
DRAFT Excerpts

DRAFT

Source: OakOrchard_TMDLAnalysis_ 081715_DRAFT_Excerpts.pdf, provided by NYSDEC to CPL 10/5/2023

2 Assessment of Phosphorus Sources

2.1 Point Sources

Point sources of pollution, as defined by the federal Clean Water Act, include any discrete conveyance that discharges pollutants to a waterbody, such as pipes or ditches discharging wastewater from a sewage treatment plant or industrial facility. Point sources of pollution are regulated by the NYSDEC State Pollutant Discharge Elimination System (SPDES) permit program.

There are seven point sources of discharge in the Oak Orchard Creek watershed. Five are wastewater point sources and are permitted under the SPDES permit program: Elba Wastewater Treatment Plant (WWTP), US Gypsum Company, Oakfield WWTP, Bonduelle USA, and Medina WWTP. In addition, the Erie Canal, a cross-state navigation canal, runs east-west across the Oak Orchard watershed and spills water to the Oak Orchard Creek watershed at two locations to support hydroelectric operations at the Village of Medina into Oak Orchard Creek and near the Village of Albion into Otter Creek.

Facility monitoring records for the five SPDES permitted point sources were acquired from NYSDEC for estimating point source phosphorus loads. Average annual effluent flows volumes from permitted facilities are listed in Table 2. Discharge monitoring records do not contain phosphorus samples for Elba WWTP, Oakfield WWTP, Bonduelle USA, and US Gypsum (outfalls 2, 3, and 5). Average phosphorus concentrations were estimated by NYSDEC as:

- Elba WWTP = 4.2 mg/L
- US Gypsum Outfalls 2, 3, and 5 = 0.01 mg/L
- Oakfield WWTP = 2.2 mg/L
- Bonduelle USA = 4.0 mg/L

For the two Erie Canal discharges, annual discharge volumes were estimated using flow rates of 225 cubic feet per second for the Oak Orchard Creek discharge (based on communication with Brookfield Renewable, the operator of the downstream hydroelectric plant) and 20 cubic feet per second for the Otter Creek discharge (Zollweg, et al., 2005). Both discharges were assumed to occur during the Erie Canal open season, May 1 through November 15, with zero discharge from November 16 through April 30. The average phosphorus concentration for water spilled from the Erie Canal to Oak Orchard Creek and Otter Creek was estimated as 55.9 µg/L (Dressel, 2014).

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Table 2. Summary of point source phosphorus loads in the Oak Orchard Creek watershed.

Facility Name	SPDES Permit No.	Effluent Flow (million gallons/year)	Effluent TP Conc. (µg/L)	Effluent TP Load (kg/year)
Elba WWTP	NY0020907	29	4,200	464
US Gypsum Co.	NY0001562	3,113	Varies by Outfall	851
Outfall 1		1,955	109	807
Outfall 2		34	10	1.3
Outfall 3		9	10	0.4
Outfall 5		1,115	10	42
Oakfield WWTP	NY0023639	54	2,200	450
Bonduelle USA	NY0063681	69	4,000	1,050
Medina WWTP	NY0021873	663	888	2,228
Erie Canal to Oak Orchard Ck.	-	28,793	55.9	6,093
Erie Canal to Otter Ck.	-	2,559	55.9	542
TOTAL				11,678

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Appendix H

Wet Well Calculations

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Genesee County Economic Development Center
WNY Science and Technology Park (STAMP)
Main Pump Station Wet Well Sizing
March 2024

Wet Well Information		
Diameter	10.00	feet
Top Elevation	669.62	feet
Invert Elevation	658.63	feet
Bottom Elevation	651.00	feet
Total Operating Volume	3,306	gallons

Future Conditions		
Pump "Off"	652.00	feet
Lead Pump "On"	656.63	feet
Lag Pump "On"	657.63	feet
Operating Volume	2,719	gallons

Discharge Manhole Information		
Invert Elevation	715.00	feet
Rim Elevation	720.00	feet

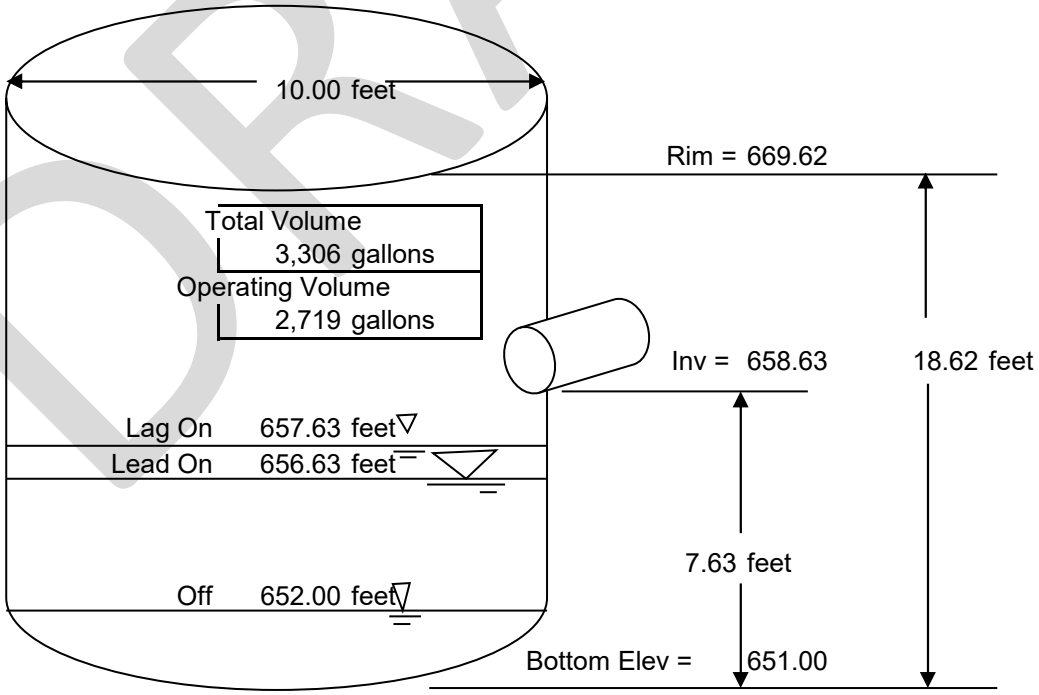
Elevation of Forcemain		
High Elevation	715.00	feet
Low Elevation	664.00	feet

Flow Information		
Daily Flow	244,000	gpd
Average Flow	169.4	gpm
Peak Flow	677.8	gpm
Required Wet Well	2,542	gallons

Present Conditions		
Pump "Off"	652.00	feet
Lead Pump "On"	656.63	feet
Lag Pump "On"	657.63	feet
Operating Volume	2,719	gallons

Force Main Information		
Force Main Length	18,000	feet
PVC Pipe DIPS		
12-inch has ID of	11.650	inches
10-inch has ID of	9.790	inches
Capacity 12-inch	99,617	gallons
Capacity 10-inch	70,347	gallons
12" Minimum Pumping Rate	659	gpm
10" Minimum Pumping Rate	465	gpm

Time to fill wet well 16.04 min
Time to empty wet well 6.17 min



Proposed Wet Well Conditions

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Genesee County Economic Development Center
WNY Science and Technology Park (STAMP)
Intermediate Pump Station Wet Well Sizing
March 2024

Wet Well Information		
Diameter	10.00	feet
Top Elevation	720.00	feet
Invert Elevation	715.00	feet
Bottom Elevation	706.50	feet
Total Operating Volume	3,817	gallons

Future Conditions		
Pump "Off"	707.50	feet
Lead Pump "On"	713.00	feet
Lag Pump "On"	714.00	feet
Operating Volume	3,229	gallons

Discharge Manhole Information		
Invert Elevation	725.00	feet
Rim Elevation	730.00	feet

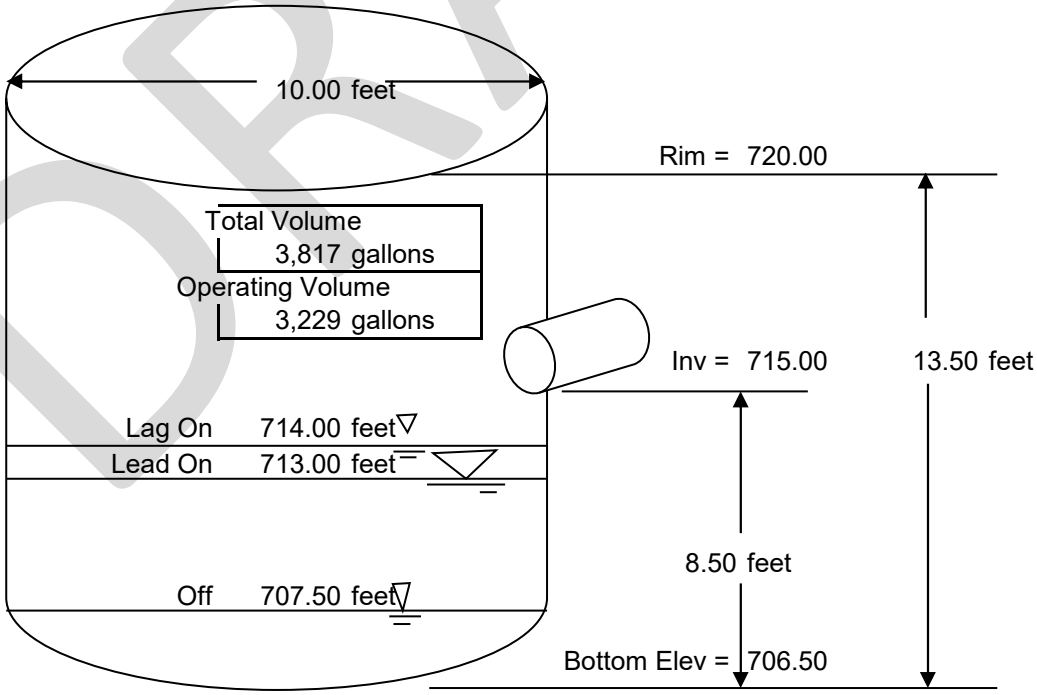
Elevation of Forcemain		
High Elevation	725.00	feet
Low Elevation	715.00	feet

Flow Information		
Daily Flow	287,000	gpd
Average Flow	199.3	gpm
Peak Flow	797.2	gpm
Required Wet Well	2,990	gallons

Present Conditions		
Pump "Off"	707.50	feet
Lead Pump "On"	713.00	feet
Lag Pump "On"	714.00	feet
Operating Volume	3,229	gallons

Force Main Information		
Force Main Length	27,000	feet
PVC Pipe DIPS		
12-inch has ID of	11.650	inches
10-inch has ID of	9.790	inches
Capacity 12-inch	149,425	gallons
Capacity 10-inch	105,521	gallons
12" Minimum Pumping Rate	659	gpm
10" Minimum Pumping Rate	465	gpm

Time to fill wet well 16.20 min
Time to empty wet well 6.45 min



Proposed Wet Well Conditions

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Appendix I

Force Main System Curves

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Genesee County Economic Development Center
WNY Science and Technology Park (STAMP)
Force Main Sizing to the Village of Oakfield
March 2024

PVC DR-18 Pipe Properties

Estimated Hazen Williams "C" Value: 120

Nominal Diameter (inch)	I.D. (inches)	Cros-sectional Area (SF)	Volumetric Capacity (Gal/LF)	Pumping Rate @ 2 fps Velocity (gpm)	Pumping Rate @ 6 fps Velocity (gpm)	Pumping Rate @ 6 fps Velocity (MGD)
6	6.090	0.20	1.51	181	544	0.78
8	7.980	0.35	2.60	312	936	1.34
10	9.790	0.52	3.91	469	1,408	2.01
12	11.650	0.74	5.54	665	1,994	2.85
16	15.350	1.29	9.61	1,153	3,460	4.94
18	17.200	1.61	12.07	1,448	4,345	6.21
20	19.060	1.98	14.82	1,778	5,335	7.62
24	22.76	2.83	21.13	2,536	7,607	10.87

STAMP Main Pump Station to the Intermediate Pump Station

PS "Off" Elevation =	652.00	FT
FM Discharge Elevation =	715.00	FT
Static Head =	63.00	FT

Force Main Length: 18,000

Nominal Diameter (in)	Capacity (gal)	Total Dynamic Head (ft) at Select Pumping Rate (gpm)												
		0	50	150	250	350	500	700	750	1,000	1,250	1,500	1,750	2,000
6	27,180	63	69	106	173	269	461	805	906	1,500	2,235	3,108	4,114	5,251
8	46,800	63	65	74	93	118	170	262	289	448	645	879	1,149	1,454
10	70,380	63	64	67	74	83	102	137	147	205	278	365	464	577
12	99,720	63	63	65	68	72	80	95	99	124	155	192	235	283
16	172,980	63	63	63	64	65	67	71	72	79	87	97	108	120
18	217,260	63	63	63	64	64	66	68	68	72	77	82	89	96
20	266,760	63	63	63	63	64	65	66	66	69	71	75	79	83
24	380,340	63	63	63	63	63	64	64	64	65	67	68	70	71

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STAMP Intermediate Pump Station to Village of Oakfield WWTF

PS "Off" Elevation =	707.50	FT
FM Discharge Elevation =	725.00	FT
Static Head =	17.50	FT

Force Main Length: 27,000

Nominal Diameter (in)	Capacity (gal)	Total Dynamic Head (ft) at Select Pumping Rate (gpm)												
		0	50	150	250	350	500	700	750	1,000	1,250	1,500	1,750	2,000
6	40,770	18	26	82	183	326	615	1,131	1,283	2,173	3,276	4,585	6,094	7,799
8	70,200	18	20	35	62	100	178	316	357	595	891	1,242	1,646	2,103
10	105,570	18	18	24	34	48	77	128	143	231	340	470	619	788
12	149,580	18	18	20	25	31	43	65	71	109	156	211	275	348
16	259,470	18	18	18	19	21	24	30	32	41	54	68	85	104
18	325,890	18	18	18	19	19	21	25	26	31	38	47	56	67
20	400,140	18	18	18	18	19	20	22	22	26	30	35	41	48
24	570,510	18	18	18	18	18	18	19	20	21	23	25	27	30

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CPL
ARCHITECTURE
ENGINEERING
PLANNING
CPLteam.com

STAMP Pump Stations & Force Main to Oakfield WWTF

Design Flows at Maximum Build Condition

By: D.Chase

Date: 3/4/2024

Source	Type of Use	Unit	Unit Flow (gpd)	# Units	Design Average Flow (gpd)	Main Pump Station / First Portion of FM Design Average Flow (gpd)	Intermediate Pump Station / Second Portion of FM (incl. flow from First Portion) Design Average Flow (gpd)
STAMP/Town of Alabama							
Maximum Build							
STAMP	Factory, 1/3 w/ caf, 1/3 w/ shower[1]	Per employee/shift	20	9,330	186,600	186,600	186,600
Town of Alabama	Reserved flow per Agreement	See Table Below			100,000	57,800	100,000
		Design Average Flow (gpd)			**286,600**	**244,400**	**286,600**
		Peaking Factor per TSS[2]				3.6	3.5
		Peaking Factor Used for Design				4.0	4.0
		Design Peak Hourly Flow (gpd)				977,600	1,146,400
		Design Peak Hourly Flow (gpm)				**680**	**800**

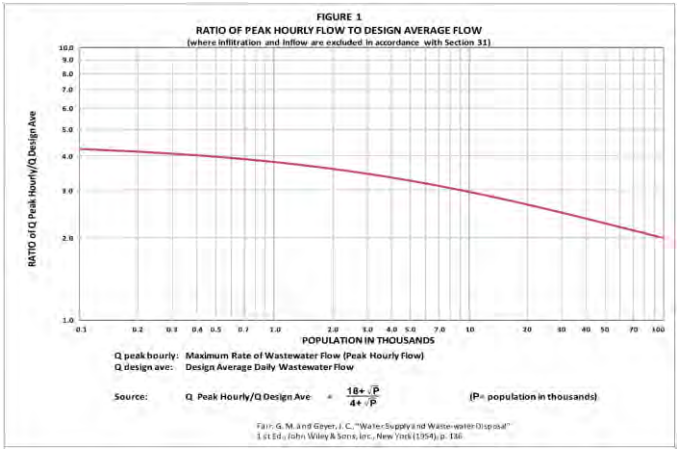
Notes

[1]Assumed even mix (1/3, 1/3, 1/3) of no shower or caf (15 gpd), no shower but with caf (20 gpd), and with shower but no caf (25 gpd), for an average of 20 gpd/employee/shift.

[2]Peaking Factor per Ten State Standards, Figure 1 (below), assuming 100 gpd/capita.

Town of Alabama Flows

Area	Total Homes + Lots	Tied into STAMP PS / First Portion of FM	Additional Tied into Second Portion of FM
Alabama (88 homes + 20 lots)	108	108	
Basom (30 homes + 10 lots)	40	40	
South Alabama (78 homes + 10 lots)	88		88
Wheatville (20 homes and lots)	20		20
Subtotal Homes + Lots	**256**	**148**	**108**
Flow per Home/Lot (based on avg. 2.5BR * 150 gpd/BR for pre-1980 homes)	375	375	375
Design Average Flow	96,000	55,500	40,500
Design Average Flow (Scaled to 100,000 gpd per GCEDC-Town Agreement)	**100,000**	**57,800**	**42,200**



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Appendix J

STAMP Oakfield Force Main – Wetland Delineation Summary prepared by CC Environment & Planning

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Appendix K

Foundation Design Preliminary Geotechnical Assessment

DRAFT

Foundation Design, P.C.

SOIL • BEDROCK • GROUNDWATER

March 15, 2024

The CPL Team
255 Woodcliff Drive, Suite 200
Fairport, New York 14450

Attention: Mr. Zach Anderson

Reference: STAMP – 20-inch Force Main Line
Village of Oakfield Alignment– HDD Creek Crossings
Preliminary Geotechnical Assessment, 4933.30-1

Dear Mr. Anderson:

This letter summarizes our preliminary geotechnical consultation on the referenced project. We understand that you are designing a 20-inch diameter Force Main that will run from the WNY-STAMP complex to the Village of Oakfield. The force main will consist of 20-inch diameter, DR-9 HDPE pipe. The pipe installation includes three HDD creek crossings. The exact length and depth of the pipe at the creek crossings has not been determined. The intent of this letter is to review the available nearby soil boring data, NRCS soils mapping, and NYSDEC water well data to assess the viability of installing the proposed force main via HDD methods.

We understand that three creek crossings will be required: Tributary 3 (located within the WNY-STAMP development), Brinningstool Creek, and an unnamed tributary to Oak Orchard Creek (located on North Pearl Street). Plans showing these crossing locations are enclosed. SJB Services performed soil borings B-6 and B-210 (20 feet deep) in 2016 as part of the overall WNY-STAMP site assessment; these soil borings were located close to Tributary 3. SJB Services also performed soil borings WB-53 and WB-54 (8 feet deep) in 2016; these soil borings were located close to the Brinningstool Creek crossing. No existing soil boring data is available close to the North Pearl Street creek crossing; we reviewed the NRCS mapping in assessing that location. A copy of the data reviewed is attached.

In general, the soil profile is expected to consist of glacial lake laid silt, sand, and clay over clayey glacial till. At Tributary 3, the upper loose to firm lake deposits appear to extend four to five feet below grade, transitioning into a firm to hard clayey silt to silty clay with sand and gravel. At Brinningstool Creek, the soil boring data indicates the roadway has been filled four to six feet. The NRCS mapping indicates that a four to five foot thick layer of loose to firm alluvial silt loam may lie immediately around the creek channel. Similarly, the NRCS mapping indicates that up to seven feet of loose to firm uniform sand/silt is present along North Pearl Street at the creek crossing.

To assess the bedrock depth and the overburden thickness, we reviewed the other soils data within the WNY-STAMP development and NYSDEC water well database. Deep soil borings within the WNY-STAMP development indicate that bedrock lies around 30 feet below grade at Tributary 3. Residential well logs east and west of Brinningstool Creek indicate that bedrock lies within 17 to 26 feet of the surface along Ham Road. Residential well logs east and west of the North Pearl Street creek crossing indicate that bedrock lies around 16 feet of the surface

Based on this background, off the following preliminiary thoughts as you progress the conceptual design:

- We believe that these soils are typical of soil conditions in western New York where HDD installations have been successfully completed.
- For conceptual planning, assume that the pipe should extend at least 10 feet below the existing creek channel. The near-surface loose/firm creek deposits may prove challenging for HDD installations, as drilling mud may migrate horizontally within this zone. We recommend extending the pipe alignment into the firm to stiff clayey till formation below the upper flood deposits. This would provide a zone where higher confining pressures could be used for the installation work to progress. To achieve this, the pipe depth may need to extend 10 to 15 feet below the creek channel at the Brinningstool Creek and North Pearl Street crossing, depending on the actual thickness of the loose overburden in these areas. There appears to be adequate soil cover over the bedrock at the proposed locations for this type of installation depth to be feasible.
- Once your design progresses to the point where the alignment is fixed in plan and profile, additional exploration should be undertaken to define the soil conditions at the crossings. The soil borings should extend at least four feet deeper than the proposed alignment installation depth.

- With the subsurface data collected, an ACOE analysis should be performed to assess the maximum mud pressure that should exist behind the drill head.

We hope this letter meets your current needs. Feel free to call if you have questions regarding the conclusions outlined above.

Sincerely,

FOUNDATION DESIGN, P.C.

Jeffrey D. Netzband, P.E., P.G.
Vice President
Enc.

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

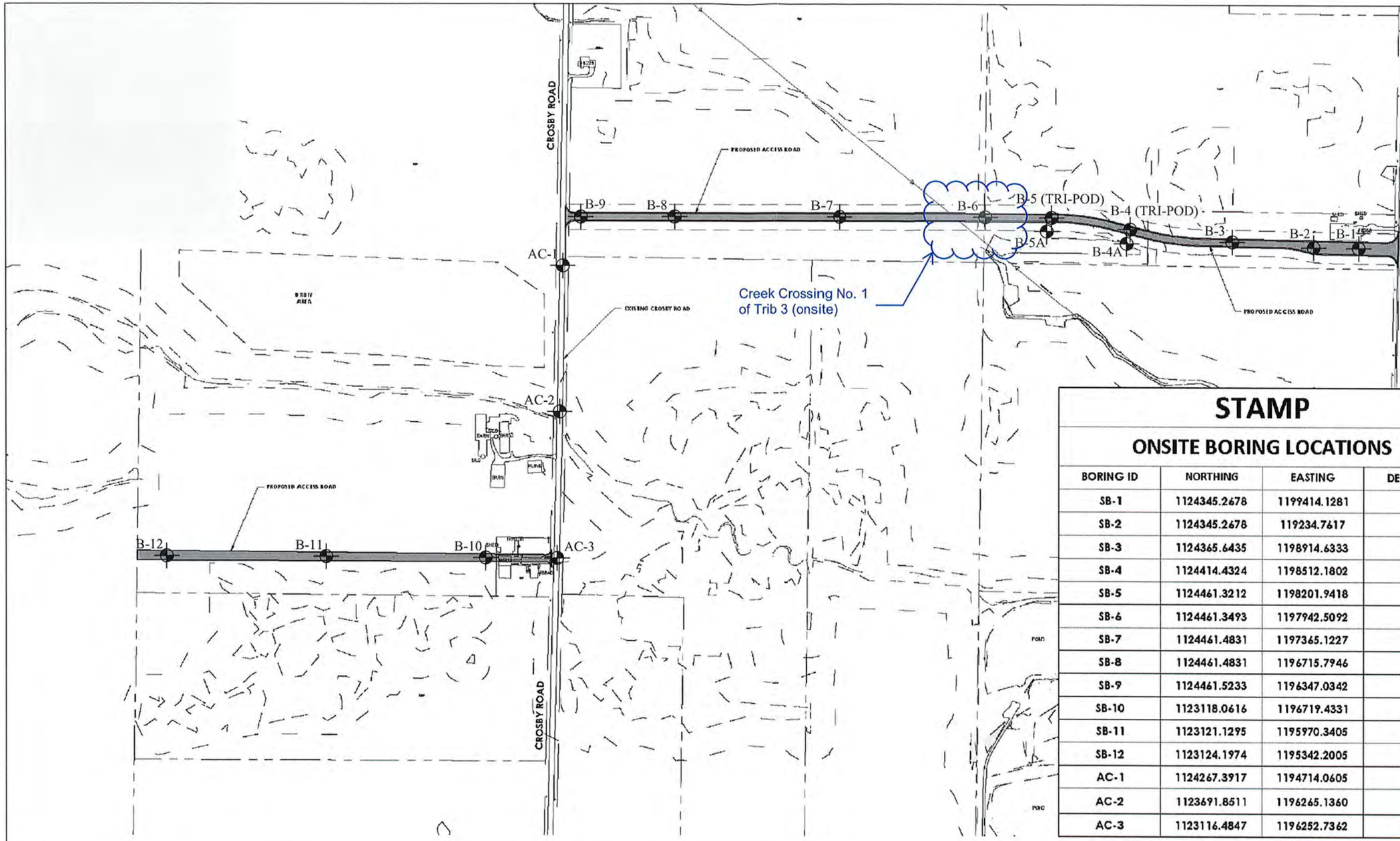
Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

Telephone: 301/565-2733
e-mail: info@geoprofessional.org www.geoprofessional.org

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STAMP

ONSITE BORING LOCATIONS

BORING ID	NORTHING	EASTING	DEPTH (FT)
SB-1	1124345.2678	1199414.1281	20
SB-2	1124345.2678	119234.7617	20
SB-3	1124365.6435	1198914.6333	20
SB-4	1124414.4324	1198512.1802	20
SB-5	1124461.3212	1198201.9418	20
SB-6	1124461.3493	1197942.5092	20
SB-7	1124461.4831	1197365.1227	20
SB-8	1124461.4831	1196715.7946	20
SB-9	1124461.5233	1196347.0342	20
SB-10	1123118.0616	1196719.4331	20
SB-11	1123121.1295	1195970.3405	20
SB-12	1123124.1974	1195342.2005	20
AC-1	1124267.3917	1194714.0605	4
AC-2	1123691.8511	1196265.1360	4
AC-3	1123116.4847	1196252.7362	4

LEGEND:

B-1 — APPROXIMATE LOCATION AND DESIGNATION OF TEST BORING.

AC-1 — APPROXIMATE LOCATION AND DESIGNATION OF PAVEMENT CORE AND SUBGRADE SAMPLING TEST BORING

NOTES:

1.) BORINGS DESIGNATED WITH (TRI-POD) WERE ADVANCED USING A PORTABLE TRI-POD DRILL APPARATUS DUE TO WETLANDS PRESENT. ALL OTHER TEST BORINGS WERE COMPLETED WITH A CONVENTIONAL DRILL RIG.

2.) FIGURE DEVELOPED FROM SITE PLAN PREPARED BY CLARK PATTERSON LEE DESIGN PROFESSIONALS

N

EMPIRE GEO SERVICES INC
a subsidiary of SJB Services, Inc.

GENESEE COUNTY ECONOMIC DEVELOPMENT CORPORATION
WNY STAMP - MAIN ACCESS ROADWAY PROJECT
TOWN OF ALABAMA, GENESEE COUNTY, NEW YORK

SUBSURFACE EXPLORATION PLAN	DR BY: WMA	SCALE: NTS	PROJECT NO.: BE-16-073
	CHKD BY: JJD	DATE: 06/01/16	FIGURE NO: 2

DATE
START 5/10/2016
FINISH 5/10/2016
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. SB-6
SURF. ELEV N.D.
G.W. DEPTH See Notes

PROJECT: WNY STAMP MAIN ACCESS ROADWAY LOCATION: TOWN OF ALABAMA
PROJ. NO.: BE-16-073 GENESEE COUNTY, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	2	3			TOPSOIL Brown and Dark Brown Silty CLAY, tr.sand, tr.organics (moist, FILL)	Driller notes Topsoil at the surface
		3	4		6		
	2	6	9			Brown Silty CLAY, tr.sand (moist, v.stiff, CL)	
		13	11		22		
5	3	7	9			Contains little f-c Sand	
		11	14		20		
	4	6	12				
		15	19		27		
	5	7	9			Contains tr.gravel	
10		11	14		20		
	6	8	9				
		8	12		17		
15							
	7	14	16			(hard)	
		17	18		33		
							No Free Standing Water encountered at Boring Completion
	8	10	20				
20		19	24		39	Boring Complete at 20.0'	

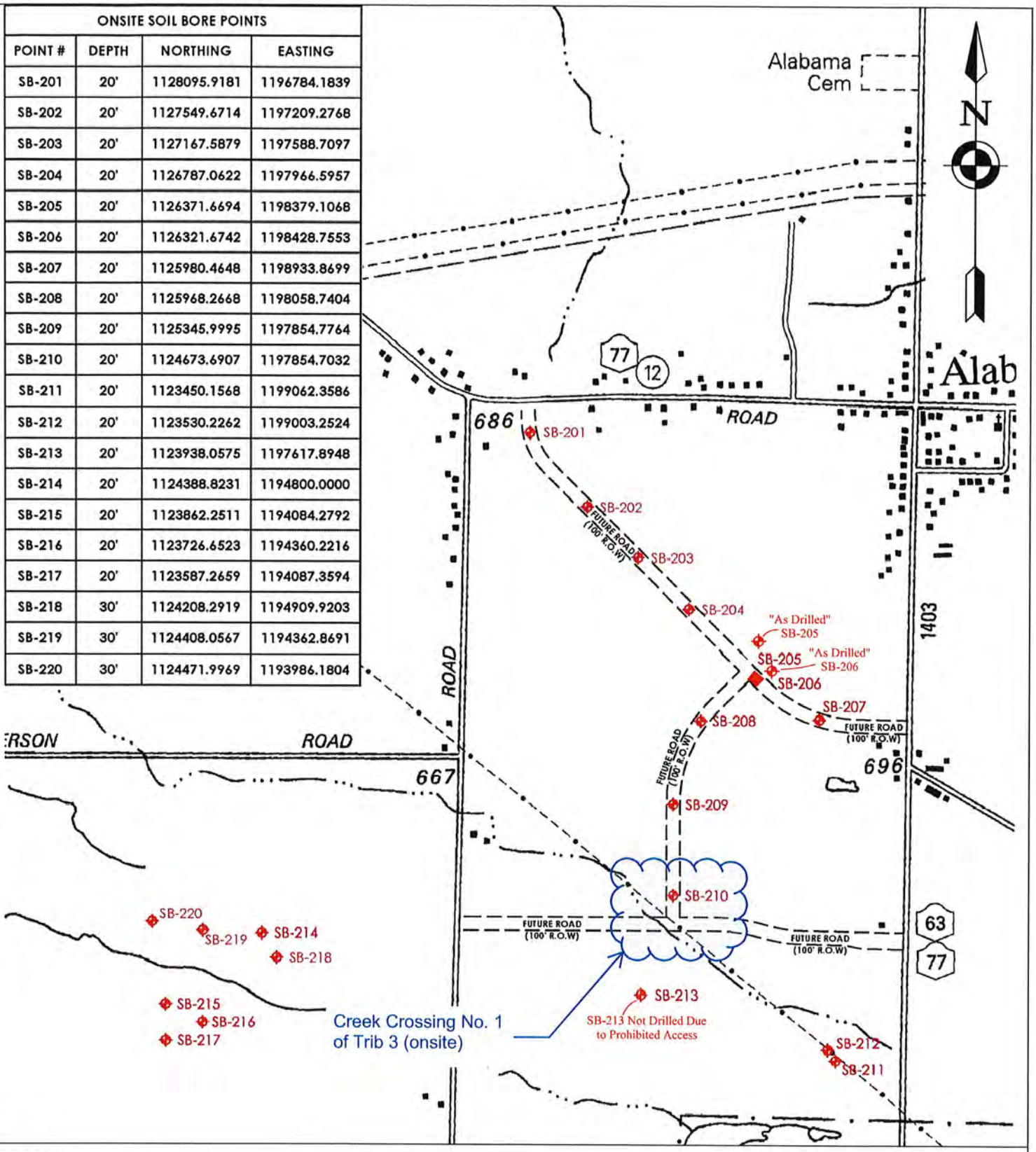
N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: B. DELUDE DRILL RIG TYPE : DIEDRICH D-50

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

ONSITE SOIL BORE POINTS			
POINT #	DEPTH	NORTHING	EASTING
SB-201	20'	1128095.9181	1196784.1839
SB-202	20'	1127549.6714	1197209.2768
SB-203	20'	1127167.5879	1197588.7097
SB-204	20'	1126787.0622	1197966.5957
SB-205	20'	1126371.6694	1198379.1068
SB-206	20'	1126321.6742	1198428.7553
SB-207	20'	1125980.4648	1198933.8699
SB-208	20'	1125968.2668	1198058.7404
SB-209	20'	1125345.9995	1197854.7764
SB-210	20'	1124673.6907	1197854.7032
SB-211	20'	1123450.1568	1199062.3586
SB-212	20'	1123530.2262	1199003.2524
SB-213	20'	1123938.0575	1197617.8948
SB-214	20'	1124388.8231	1194800.0000
SB-215	20'	1123862.2511	1194084.2792
SB-216	20'	1123726.6523	1194360.2216
SB-217	20'	1123587.2659	1194087.3594
SB-218	30'	1124208.2919	1194909.9203
SB-219	30'	1124408.0567	1194362.8691
SB-220	30'	1124471.9969	1193986.1804



LEGEND:

SB-201
INDICATES APPROXIMATE LOCATION AND DESIGNATION OF TEST BORING.

NOTE:

FIGURE DEVELOPED FROM SITE PLAN PREPARED BY CLARK PATTERSON LEE.

EMPIRE GEO SERVICES INC
a subsidiary of SJB Services, Inc.

GENESEE COUNTY ECONOMIC DEVELOPMENT CORPORATION
WNY STAMP - MAIN ACCESS ROADWAY PROJECT
TOWN OF ALABAMA, GENESEE COUNTY, NEW YORK

ADDITIONAL ROADWAY AND INFRASTRUCTURE TEST BORING LOCATIONS

DR BY: WMA	SCALE: NTS	PROJECT NO.: RE-16-073 A
CHKD BY: JJD	DATE: 09/21/16	FIGURE NO: 2

DATE
START 6/24/2016
FINISH 6/24/2016
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. SB-210
SURF. ELEV N.D.
G.W. DEPTH See Notes

PROJECT: ADDITIONAL SOIL BORINGS
PROJ. NO.: BE-16-073-A
LOCATION: WNY STAMP MAIN ACCESS ROADWAY
TOWN OF ALABAMA

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	3	3			TOPSOIL Brown f-c SAND, some Clayey Silt, tr.organics	Driller notes approx. 9" of Topsoil at the surface
		5	6		8	(moist, FILL)	
	2	4	4			Brown Clayey SILT, tr.sand (moist, stiff, ML)	
		5	6		9		
5	3	4	5			Red-Brown Silty CLAY, tr.sand (moist, stiff, CL)	
		7	9		12		
	4	7	10			Contains little f-c Gravel (v.stiff)	
		13	13		23		
	5	5	7			Contains little f-c Sand	
10		11	14		18		
	6	14	14			Becomes Brown (hard)	
		17	19		31		
15							
	7	3	4			(moist-wet, stiff)	
		5	6		9		
							Free Standing Water recorded at 15.1' at Boring Completion
	8	6	6				
20		9	9		15	Boring Complete at 20.0'	

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: D. DELUDE

DRILL RIG TYPE : CME-550X

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS



N

Map Legend

Profile Location

Boring Location

Scale (feet)

0 400 800 1200 1600

Notes:

Basemap from GoogleEarth Image.

Seismic data from Geometrics SmartSeis, 4.5 Hz geophones at 10- and 20-foot spacing.

Prepared by:	Title:	Project Location:	Figure
ENVIROSCAN, INC. **Enviroscan, Inc.** 1051 Columbia Ave. Lancaster PA 17603 717-396-8922 www.enviroscan.com	**Seismic Profile Locations**	**WNY** **Stamp Property** **Alabama, New York**	**1**

Project Number	Revision/Issue		
101747	11/21/2017		
Original Scale	Survey Ending Date	Drawn by:	Approved by:
1"= 800 ft	11/14/2017	RJK	FKB

DATE:
START 11/16/2017
FINISH 11/17/2017
SHEET 1 OF 2

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. SB-14
SURF. ELEV 688.0' Est.
G.W. DEPTH See Notes

PROJECT: WNY STAMP - PROJECT EAGLE
PROJ. NO.: BE-17-224
LOCATION: CROSBY ROAD
ALABAMA, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	REC (ft)	SOIL OR ROCK CLASSIFICATION	NOTES
	1	WOH	1				TOPSOIL	Driller noted approx. 11" of
		3	5		4	0.8	Dark Brown Clayey SILT, some f-c Sand, tr.gravel	Topsoil at the surface.
	2	8	18				(moist, reworked)	
		21	26		39	1.4	Brown f-c SAND, some Silt, little f-c Gravel,	WOH = Weight of
5	3	15	30				occasional Silty seams (moist, compact, SM)	Hammer and Rods
		40	43		70	1.4	Contains some f-c Gravel(v.compact)	
	4	50/0.4			REF	0.1		Sample #2 possible
								cobble fragments
	5	50/0.1			REF	0.1		
10								REF = Sample Spoon
	6	18	21				Brown Silty CLAY, little f-c Sand, tr.gravel	Refusal
		30	43		51	1.5	(moist, hard, CL)	
	7	46	50/0.4		REF	0.5	Contains some f-c Sand, little f-c Gravel	Samples #4 - #5 possible
								cobble fragments
15	8	12	23				Contains little f-c Sand	
		24	21		47	1.3		
								Sample #7 possible
								cobble fragments
20								
	9	13	29				Contains some f-c Sand	Driller notes hard
		40	42		69	1.1		augering conditions
								from 10' - 35'
25								
	10	29	50/0.4		REF	0.2	(wet)	Sample #10 possible
								cobble fragments
30								
	11	25	41				Brown Clayey SILT, some f-c Sand,little f-c Gravel	
		27	24		68	1.0	(moist-wet, hard, ML)	
35								
	12	6	10				Brown Silty CLAY, some f-c Sand, tr.gravel	
		11	15		21	2.0	(moist, v.stiff, CL)	
40								

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT: FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: K. FULLER

DRILL RIG TYPE : CME-550

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE:
START 11/16/2017
FINISH 11/17/2017
SHEET 2 OF 2

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. SB-14
SURF. ELEV 688.0' +/-
G.W. DEPTH See Notes

PROJECT: WNY STAMP - PROJECT EAGLE
PROJ. NO.: BE-17-224
LOCATION: CROSBY ROAD
ALABAMA, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	REC (ft)	SOIL OR ROCK CLASSIFICATION	NOTES
	13	8	36				Contains occasional f-c Sand seams (hard)	
		50/0.4			REF	0.8		
45								
	14	2	2				Contains tr.sand	
		11	9		13	2.0		
50								
	15	4	6				Gray Brown Clayey SILT, little f-c Sand, tr.gravel	
		7	15		13	2.0	(moist-wet, stiff, ML)	
55								Free Standing Water recorded at 47.8' at auger refusal & prior to coring.
	16	7	11				Gray Silty CLAY, some f-c Sand, little f-c Gravel	
		11	12		22	2.0	(moist-wet, v.stiff, CL)	
60							Gray f-c SAND, little f-c Gravel, little Silty Clay	
	17	49	50/0.3		REF	0.6	(moist-wet, hard, SC)	NQ '2' Size Rock Core
							Gray to Dark Gray DOLOSTONE, medium hard, weathered, laminated to bedded, occasional horizontal fractures, occasional horizontal mechanical breaks, occasional soil horizontal seams, occasional gypsum partings, occasional vugs	RUN #1: 61.0' - 66.0' REC = 54% RQD = 24%
65								
								RUN #2: 66.0' - 71.0' REC = 58% RQD = 30%
70							Becomes Light Gray, weathered to sound	Driller notes voids at approx. 63-64' and 67-68'
							Boring Complete at 71.0'	Free Standing Water recorded at 48.7' following coring.
75								2" PVC Groundwater Observation Well installed. See "Monitoring Well Completion Record" for Details.
80								

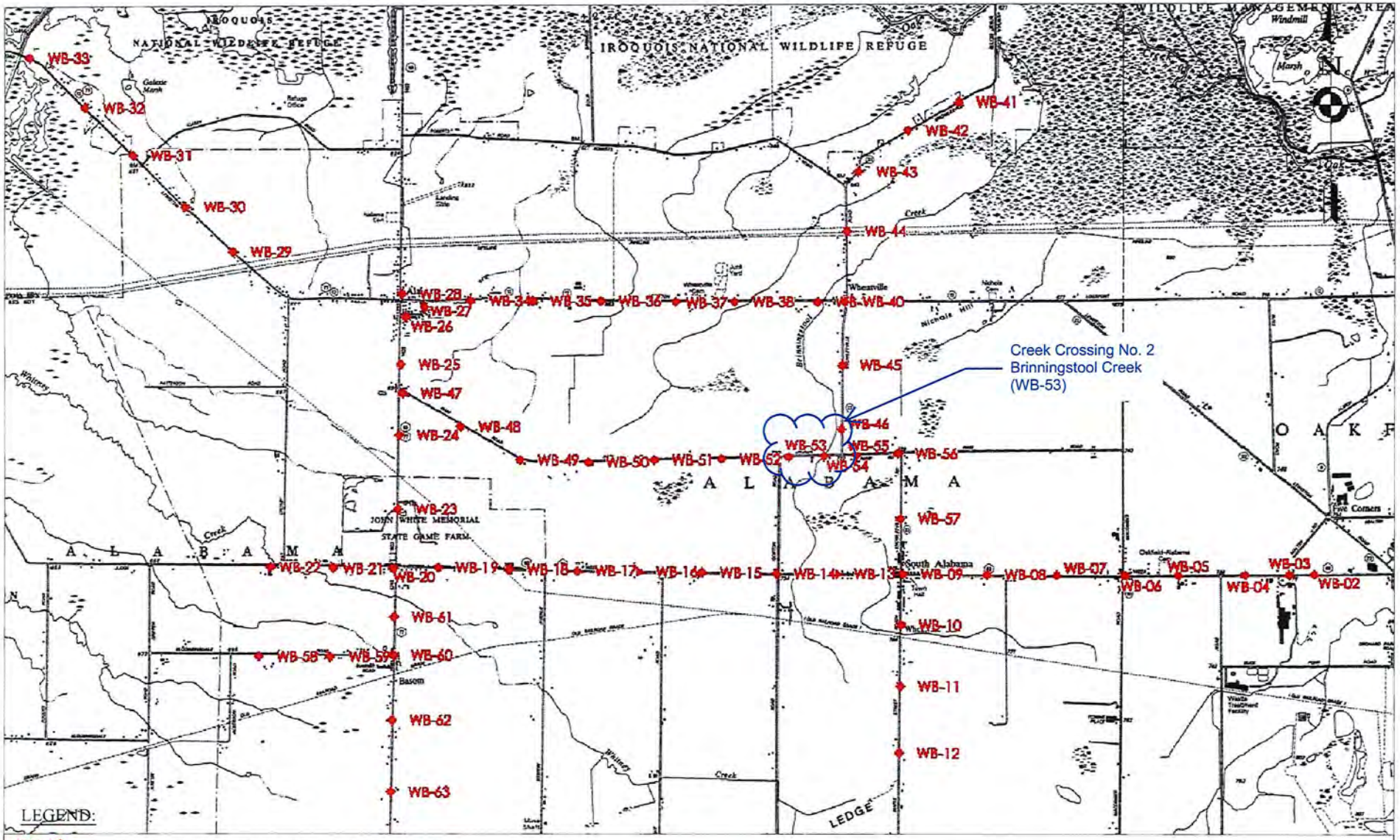
N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: K. FULLER

DRILL RIG TYPE : CME-550

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS



LEGEND:

WB-1◆ INDICATES APPROXIMATE LOCATION AND DESIGNATION OF TEST BORING.

NOTE: FIGURE DEVELOPED FROM AS DRILLED LOCATIONS

SB SERVICES, INC.

MEDINA SANITARY SEWER FORCE MAIN
GENESEE COUNTY
MEDINA, NEW YORK

SUBSURFACE EXPLORATION PLAN	DR BY: GG		PROJECT #: BD-16-041-B
	CHKD BY: GG	DATE: 6/02/16	FIGURE NO: 1

DATE
START 5/6/2016
FINISH 5/6/2016
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. WB-53
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: OAKFIELD-ALABAMA TRANSMISSION MAIN LOCATION: ALABAMA, NY
PROJ. NO.: BD-16-041-B GENESEE COUNTY

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	3	3			Dark Brown f-m SAND, some Silt, tr.organics (moist, FILL)	
		3	3		6		
	2	3	3			Brown Silty CLAY, little f-c Sand, tr.gravel, tr.organics (moist-wet, FILL)	
		3	3		6		
5	3	5	7			Brown f-c SAND and Silty CLAY, little fine Gravel (moist, firm, SC-SM)	
		12	13		19		
	4	13	15			Brown Silty CLAY, some f-c Sand, little f-c Gravel (moist, v.stiff, CL)	
		15	12		30		
						Boring Complete at 8.0'	No Free Standing Water encountered at Boring Completion
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: K. FULLER DRILL RIG TYPE : CME-550X

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE
START 5/6/2016
FINISH 5/6/2016
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. WB-54
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: OAKFIELD-ALABAMA TRANSMISSION MAIN LOCATION: ALABAMA, NY
PROJ. NO.: BD-16-041-B GENESEE COUNTY

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	3	6			Gray f-c SAND, some f-c Gravel (moist, FILL)	
		6	4		12		
	2	4	4			Contains tr.organics	
		4	4		8		
5	3	4	4			Brown f-c SAND, some Silty Clay, tr.gravel, tr.asphalt (moist, FILL)	
		5	5		9		
	4	3	6			Brown Silty CLAY, little f-c Sand, tr.organics (moist, stiff, CL)	Possible Fill Sample #4
		6	8		12		
						Boring Complete at 8.0'	No Free Standing Water encountered at Boring Completion
10							
15							
20							

N = NO BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY Geologist

DRILLER K. FULLER DRILL RIG TYPE : CME-550X

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS



Map Scale: 1:1,330 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

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

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

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

Soil Survey Area: Genesee County, New York
Survey Area Data: Version 24, Sep 5, 2023

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

Date(s) aerial images were photographed: Dec 31, 2009—Oct 18, 2016

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CeC	Cazenovia silt loam, 8 to 15 percent slopes	0.7	7.3%
HlB	Hilton loam, 3 to 8 percent slopes	0.0	0.4%
LmB	Lima silt loam, 3 to 8 percent slopes	3.1	33.0%
OnC	Ontario loam, 8 to 15 percent slopes	0.8	8.6%
OvB	Ovid silt loam, 3 to 8 percent slopes	1.8	18.4%
Wy	Wayland soils complex, 0 to 3 percent slopes, frequently flooded	3.1	32.3%
Totals for Area of Interest		**9.5**	**100.0%**

Genesee County, New York

Wy—Wayland soils complex, 0 to 3 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 2srgv
Elevation: 160 to 1,970 feet
Mean annual precipitation: 31 to 68 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Wayland and similar soils: 60 percent
Wayland, very poorly drained, and similar soils: 30 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wayland

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty and clayey alluvium derived from interbedded sedimentary rock

Typical profile

A - 0 to 6 inches: silt loam
Bg1 - 6 to 12 inches: silt loam
Bg2 - 12 to 18 inches: silt loam
C1 - 18 to 46 inches: silt loam
C2 - 46 to 72 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very high (about 12.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: F139XY009OH - Wet Floodplain
Hydric soil rating: Yes

Description of Wayland, Very Poorly Drained

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Silty and clayey alluvium derived from interbedded sedimentary rock

Typical profile

A - 0 to 6 inches: mucky silt loam
Bg1 - 6 to 12 inches: silt loam
Bg2 - 12 to 18 inches: silt loam
C1 - 18 to 46 inches: silt loam
C2 - 46 to 72 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very high (about 12.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: F139XY009OH - Wet Floodplain
Hydric soil rating: Yes

Minor Components

Wakeville

Percent of map unit: 10 percent
Landform: Flood plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave

Across-slope shape: Linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Genesee County, New York
Survey Area Data: Version 24, Sep 5, 2023

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DECinfo Locator

Base Map: Topographical Help

Search
Tools
DEC Information Layers
ımer
Permits and Registratio
Environmei Cleanup
Environmei Monitoring
Public Involvemer
Environmei Sensitive Areas
Legal Informatior
Reference Layers



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) County Genesee

(2) Town Alabama

DEC 14 2004

(3) DEC Well Number GS576

WELL COMPLETION REPORT

(4) OWNER Terry Downs

(5) ADDRESS 6815 Knowlesville Rd. Oakfeild, NY 14125

(6) LOCATION OF WELL (See Instructions On Reverse) Show Lat/Long if available and method used: N43° 05.015' W078° 20.077'

☒ GPS ☐ DEC Website ☐ Map Interpolation

(7) DEPTH OF WELL BELOW LAND SURFACE (Feet) 45

(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (Feet) 32 DATE MEASURED 10-30-04

CASINGS

(9) DIAMETER	(10) LENGTH
6 in. | in. | in. | in.	29 ft. | ft. | ft. | in.

(11) GROUT TYPE / SEALING

(12) GROUT / SEALING INTERVAL (Feet) FROM _____ TO _____

SCREENS

(13) MAKE & MATERIAL

(14) OPENINGS

(15) DIAMETER in. | in. | in. | in.

(16) LENGTH ft. | ft. | ft. | in.

(17) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet)

YIELD TEST

(18) DATE 10-29-04

(19) DURATION OF TEST 30 min.

(20) LIFT METHOD ☒ Pump ☐ Air Lift ☐ Bail

(21) STABILIZED DISCHARGE (GPM) 17

(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing) 34'

(23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing) 39'

(24) RECOVERY (Time in hours/minutes) 10 min.

(25) Was the water produced during test discharged away from immediate area? Yes ☒ No ☐

PUMP INSTALLATION

(26) PUMP INSTALLED?	(27) DATE	(28) PUMP INSTALLER
YES ☒ NO ☐	11/1/04	Zachary Atwell

(29) TYPE	(30) MAKE	(31) MODEL
Submersible	Goulds	

(32) MAXIMUM CAPACITY (GPM) 10

(33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet) 45

(34) METHOD OF DRILLING ☐ Rotary ☒ Cable Tool ☐ Other _____

(35) USE OF WATER (see instructions for choices) Domestic

(36) DATE DRILLING WORK STARTED 10-28-04

(37) DATE DRILLING WORK COMPLETED 10-30-04

(38) DATE REPORT FILED	(39) DRILLER & COMPANY	(40) DEC REGISTRATION NO.
11/1/04	Zachary Atwell Atwell Water Well Service	10139

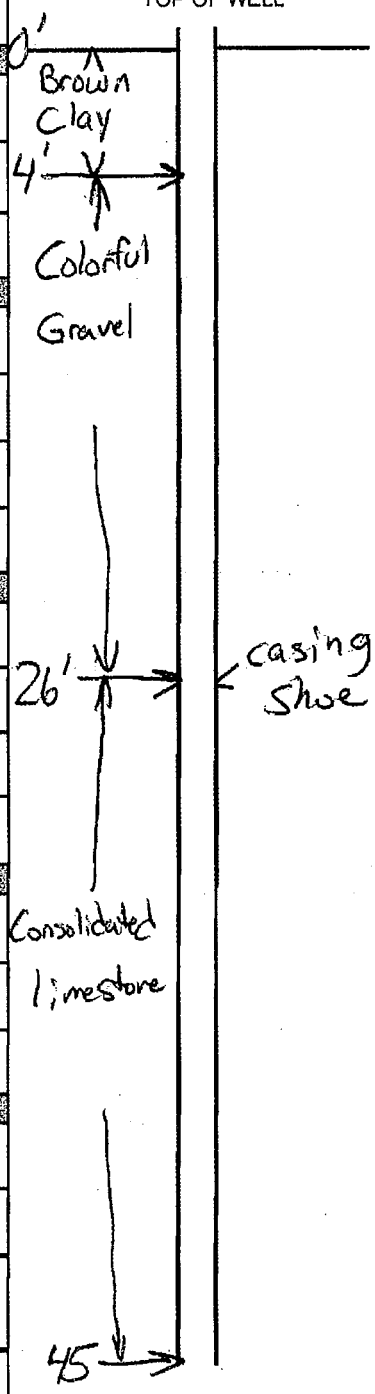
* Show log of geologic materials encountered with depth below ground surface, water bearing beds and water levels in each; casings; screens; pump; additional pumping tests and other matters of interest, e.g., water quality (sulphur, salt, methane). Describe repair work. Attach separate sheet if necessary.

See further instructions titled "Instructions for New York State Well Completion Report".

LOG *

Ground Surface EL. _____ ft. above sea level

Top Of Casing is located 2'6" + ft. above (+) or below (-) ground surface



NYSDEC COPY

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) COUNTY Genesee

(2) TOWN Alabama

WATER WELL COMPLETION REPORT

(7) DEC Well Number: GS1163

(4) OWNER: Olin Mills

(5) ADDRESS: 1801 Ham Road Basom, NY 14013

(6) LOCATION OF WELL (See Instructions On Reverse) (Check here ☐ if same as address above, also provide Lot / Long below)
Street, Lot, Long if available and checked what: 1801 Ham Rd
● GPS ☐ Map Interpolation N43°5.018' W78°21.548'

(7) DEPTH OF WELL BELOW LAND SURFACE (feet): 50

(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet): 32 DATE MEASURED: 9/18/13

CASINGS

(9) DIAMETER	(10) LENGTH	(11) GROUT TYPE / SEALING MATERIAL	(12) GROUT / SEALING INTERVAL (feet)
6 in.	38 ft.	Casing Seal	FROM 0 TO 19

SCREENS

(13) NAME & MATERIAL	(14) OPENINGS	(15) DIAMETER	(16) LENGTH	(17) DEPTH TO TOP OF SCREEN FROM TOP OF CASING (Feet)
N/A		in.	ft.	

YIELD TEST

(18) DATE	(19) DURATION OF TEST	(20) LIFT METHOD	(21) STABILIZED DISCHARGE (GPM)	(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)	(23) MAXIMUM DRAWDOWN (Feet/Inches) (feet/inches below top of casing)	(24) RECOVERY (Time in hours/minutes)	(25) Was the water produced during the test discharged away from immediate area?
9/18/13	4 Hours	☐ Pump ● Air Lift ☐ Bail	12	32			Yes XX No

PUMP INSTALLATION

(26) PUMP INSTALLED?	(27) DATE	(28) PUMP INSTALLER
YES NO X		

(29) TYPE	(30) MAKE	(31) MODEL	(32) MAXIMUM CAPACITY (GPM)	(33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)
				45

(34) METHOD OF DRILLING	(35) USE OF WATER
● Rotary ☐ Cable Tool ☐ Other	(See Instructions for choices) Residential

(36) DATE DRILLING WORK STARTED	(37) DATE DRILLING WORK COMPLETED
9/18/13	9/18/13

(38) DATE REPORT FILED	(39) REGISTERED COMPANY	(40) DEC REGISTRATION NO
9/25/13	Willey Well Drilling, Inc	NYRO 10408

(41) CERTIFIED DRILLER (Print Name)	(42) CERTIFIED DRILLER SIGNATURE *
Chad Ellis	Chad Ellis

* By signing this document I hereby affirm that: (1) I am certified to supervise water well drilling activities as defined by Environmental Conservation Law §15-1502; (2) this water well was constructed in accordance with water well standards promulgated by the New York State Department of Health; (3) under the penalty of perjury the information provided in this Well Completion Report is true, accurate and complete, and I understand that any false statement made herein is punishable as a class A Misdemeanor under Penal Law §210.45.

8/2007

(43) LOG

Depth to Bedrock 38 (ft. below ground surface)

Ground Elev. 717 (ft. above S.L.)

Top of Casing 2 ft + (ft., above (+) or below (-) ground surface)

TOP OF WELL

Brown Sand & Angular Gravel

10

Gray Clay

17

Limestone

18

Soft Gray Shale

38

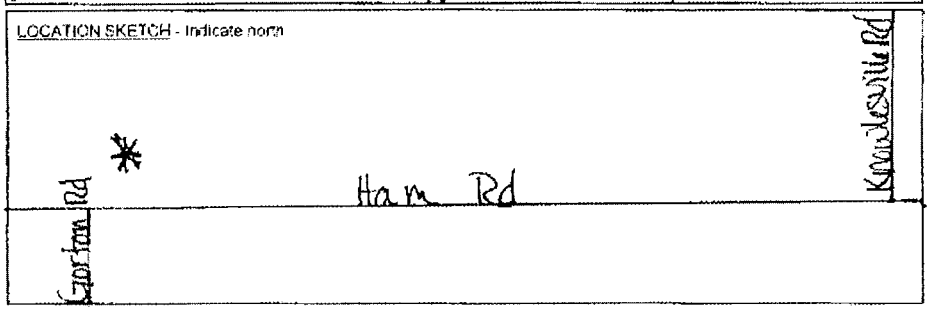
Hard Gray Shale

50 — 50

BOTTOM OF HOLE

NYSDEC COPY

LOCATION SKETCH - Indicate north

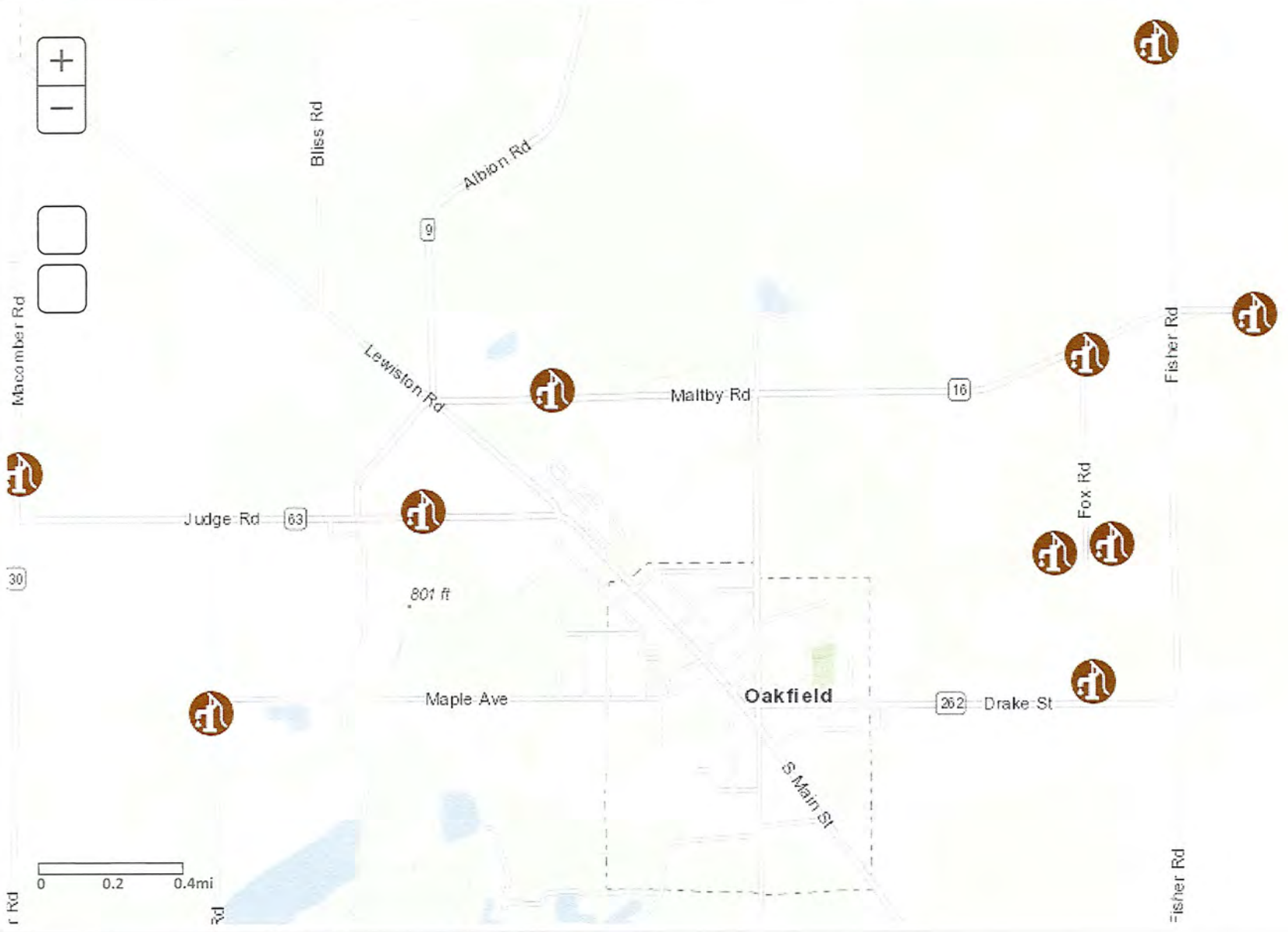


NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DECinfo Locator

Base Map: Topographical Help

Search
Tools
DEC Information Layers
ɔnment
Permits and Registrations
Environmenta Cleanup
Environmenta Monitoring
Public Involvement
Environmenta Sensitive Areas
Legal Information
Reference Layers



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) County Genesee

(2) Township Oakfield

(3) DEC Well Number GS-357

WELL COMPLETION REPORT

(4) OWNER Gary Wadums

(5) ADDRESS cor- Fry & Maltby Oakfield

(6) LOCATION OF WELL (See Instructions On Reverse) Show Lat/Long if available and method used: ☑ GPS ☐ DEC Website ☐ Map Interpolation — N 43° 04.811' W 078° 15.095'

(7) DEPTH OF WELL BELOW LAND SURFACE (Feet) 65'

(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (Feet) 41' DATE MEASURED 9-01

CASINGS

(9) DIAMETER	(10) LENGTH	(11) GROUT TYPE / SEALING	(12) GROUT / SEALING INTERVAL (Feet)
6 in.	47½' ft.		FROM _____ TO _____

SCREENS

(13) MAKE & MATERIAL	(14) OPENINGS	(15) DIAMETER	(16) LENGTH	(17) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet)
		in.	ft.	

YIELD TEST

(18) DATE	(19) DURATION OF TEST	(20) LIFT METHOD	(21) STABILIZED DISCHARGE (GPM)	(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)	(23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)	(24) RECOVERY (Time in hours/minutes)	(25) Was the water produced during test discharged away from immediate area?
9-01	60 min	☐ Pump ☑ Air Lift ☐ Bail	20gpm	43'			Yes ___ No ✓

PUMP INSTALLATION

(26) PUMP INSTALLED?	(27) DATE	(28) PUMP INSTALLER	(29) TYPE	(30) MAKE	(31) MODEL	(32) MAXIMUM CAPACITY (GPM)	(33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)
YES ___ NO X							

(34) METHOD OF DRILLING ☒ Rotary ☐ Cable Tool ☐ Other _____

(35) USE OF WATER (see Instructions for choices) Domestic

(36) DATE DRILLING WORK STARTED 9-01

(37) DATE DRILLING WORK COMPLETED

(38) DATE REPORT FILED	(39) DRILLER & COMPANY	(40) DEC REGISTRATION NO.
3-23-02	ATWELL W.W.S.	10139

* Show log of geologic materials encountered with depth below ground surface, water bearing beds and water levels in each; casings; screens; pump; additional pumping tests and other matters of interest, e.g., water quality (sulphur, salt, methane). Describe repair work. Attach separate sheet if necessary.

See further instructions titled "Instructions for New York State Well Completion Report".

LOG *

Ground Surface EL. _____ ft. above sea level

Top Of Casing is located +2' ft. above (+) or below (-) ground surface

TOP OF WELL

2' S.U.

16' OB GRAY ROCK

35' ~~BK~~ BLACK ROCK

47½' CASING

67' BOTTOM OF HOLE

NYSDEC COPY

LOCATION SKETCH - Indicate north

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) COUNTY Genesee

(2) TOWN Oakfield

(3) DEC Well Number GS 741

WATER WELL COMPLETION REPORT

(4) OWNER Lamb Farms Inc

(5) ADDRESS 6880 Albion Rd Oakfield, NY 14125

(6) LOCATION OF WELL (See Instructions On Reverse)
Show Lat/Long if available and method used: 3015 Maltby Rd
☒ GPS ☐ Map Interpolation
43.04872 - N
78.16727 - W

(7) DEPTH OF WELL BELOW LAND SURFACE (feet) 45

(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 18' DATE MEASURED 8-31-07

CASINGS

(9) DIAMETER	6 in.	in.	in.	in.
(10) LENGTH	28 ft. 6"	ft.	ft.	in.

(11) GROUT TYPE / SEALING Cement

(12) GROUT / SEALING INTERVAL (feet) FROM 0 TO 10

SCREENS

(13) MAKE & MATERIAL		(14) OPENINGS		
(15) DIAMETER	in.	in.	in.	in.
(16) LENGTH	ft.	ft.	ft.	in.

(17) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet)

YIELD TEST

(18) DATE 8-31-07

(19) DURATION OF TEST 1 hr

(20) LIFT METHOD ☐ Pump ☐ Air Lift ☒ Ball

(21) STABILIZED DISCHARGE (GPM) 5

(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing) 196'

(23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing) 32'

(24) RECOVERY (Time in hours/minutes) 1 hr 10 min

(25) Was the water produced during the test discharged away from immediate area? Yes ☒ No ☐

PUMP INSTALLATION

(26) PUMP INSTALLED? YES ☐ NO ☒	(27) DATE	(28) PUMP INSTALLER
(29) TYPE	(30) MAKE	(31) MODEL
(32) MAXIMUM CAPACITY (GPM)	(33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)	

(34) METHOD OF DRILLING ☐ Rotary ☒ Cable Tool ☐ Other	(35) USE OF WATER (See instructions for choices) Domestic
(36) DATE DRILLING WORK STARTED 8-25-07	(37) DATE DRILLING WORK COMPLETED 8-31-07

(38) DATE REPORT FILED 2-5-08	(39) REGISTERED COMPANY Browns Well Drilling	(40) DEC REGISTRATION NO. NYRD 10274
(41) CERTIFIED DRILLER (Print name) Doug	(42) CERTIFIED DRILLER SIGNATURE *	

* By signing this document I hereby affirm that: (1) I am certified to supervise water well drilling activities as defined by Environmental Conservation Law §15-1502; (2) this water well was constructed in accordance with water well standards promulgated by the New York State Department of Health; (3) under the penalty of perjury the information provided in this Well Completion Report is true, accurate and complete, and I understand that any false statement made herein is punishable as a class A Misdemeanor under Penal Law §210.45.

(43) LOG

Ground Surface EL. _____ ft. above sea level

Top Of Casing is located 1 1/2' ft. above (+) or below (-) ground surface

TOP OF WELL

0 Brown clay some Sand & Pebbles

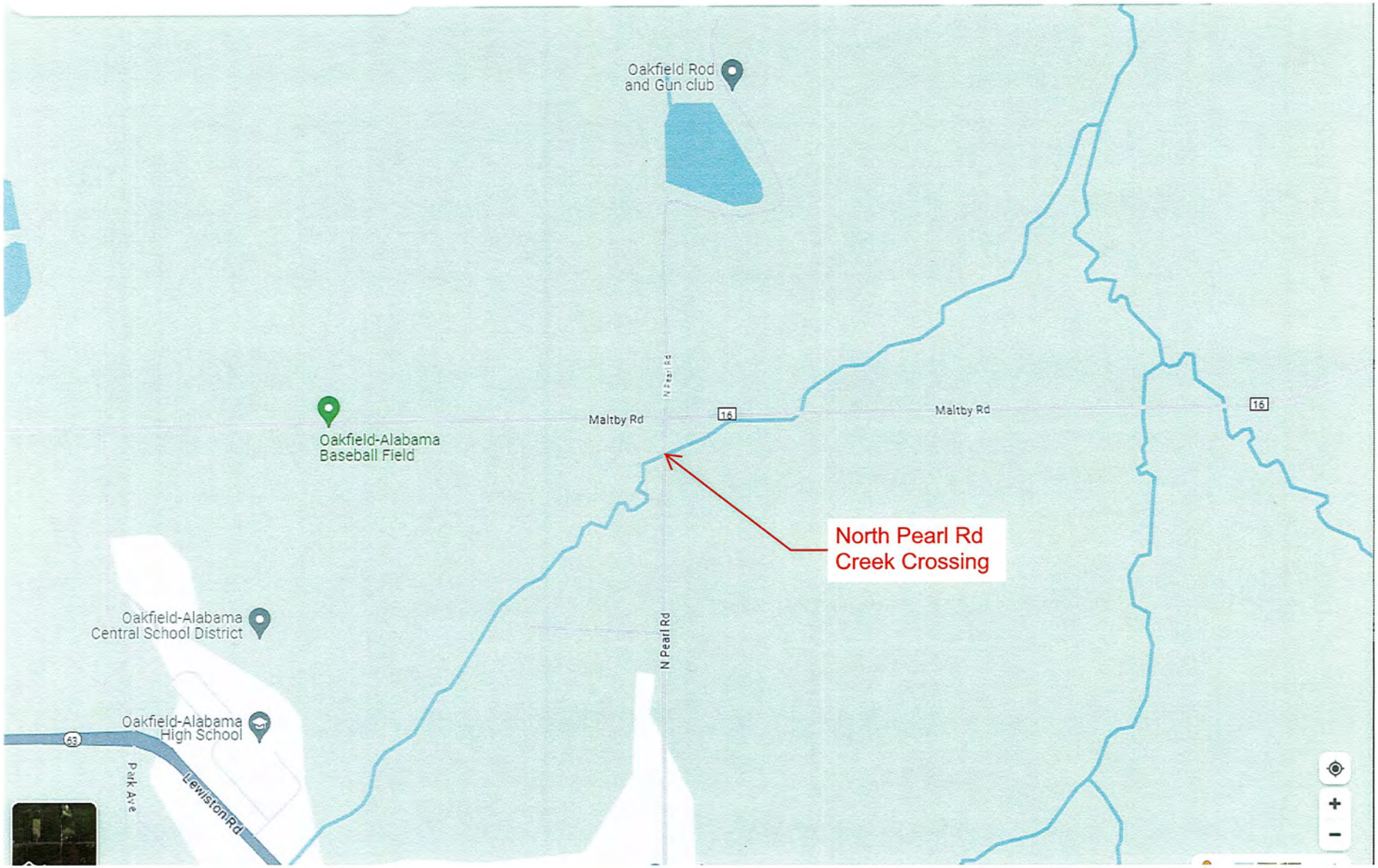
16 Gray clay

18 Gray Shale Med — H_2O Good

45

BOTTOM OF HOLE

NYSDEC COPY


Oakfield Rod
and Gun club
Oakfield-Alabama
Baseball Field
Maltby Rd
16
Maltby Rd
16
N Pearl Rd
North Pearl Rd
Creek Crossing
Oakfield-Alabama
Central School District
N Pearl Rd
Oakfield-Alabama
High School
63
Park Ave
Lewiston Rd


Oakfield-Alabama Baseball Field
15
16
North Pearl Rd
Creek Crossing
Oakfield-Alabama Central School District
Oakfield-Alabama High School
63
Lewiston Rd
Straight out the Boot
Dollar General
N Main St
Layers
Google



Map Scale: 1:1,880 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 25 50 100 150

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

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

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

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

Soil Survey Area: Genesee County, New York
Survey Area Data: Version 24, Sep 5, 2023

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

Date(s) aerial images were photographed: Dec 31, 2009—Oct 18, 2016

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ArB	Arkport very fine sandy loam, 1 to 6 percent slopes	1.2	9.0%
CeA	Cazenovia silt loam, 0 to 3 percent slopes	0.0	0.2%
CeB	Cazenovia silt loam, 3 to 8 percent slopes	1.5	11.6%
CgD3	Cazenovia silty clay loam, 15 to 25 percent slopes, eroded	0.3	2.5%
OnB	Ontario loam, 3 to 8 percent slopes	0.6	4.3%
OvA	Ovid silt loam, 0 to 3 percent slopes	1.2	9.1%
OvB	Ovid silt loam, 3 to 8 percent slopes	0.8	6.0%
Ud	Udifluvents and Fluvaquents, frequently flooded	4.4	33.2%
Wk	Wakeville silt loam	3.1	23.9%
Totals for Area of Interest		**13.2**	**100.0%**

Genesee County, New York

Ud—Udifluvents and Fluvaquents, frequently flooded

Map Unit Setting

National map unit symbol: p5vc
Elevation: 100 to 3,000 feet
Mean annual precipitation: 31 to 38 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 140 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Udifluvents and similar soils: 40 percent
Fluvaquents and similar soils: 35 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udifluvents

Setting

Landform: Flood plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Alluvium with a wide range of texture

Typical profile

H1 - 0 to 9 inches: gravelly silt loam
H2 - 9 to 72 inches: very gravelly loamy sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)
Depth to water table: About 18 to 48 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C
Ecological site: F101XY002NY - Low Floodplain
Hydric soil rating: No

Description of Fluvaquents

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium with highly variable texture

Typical profile

H1 - 0 to 12 inches: silt loam
H2 - 12 to 72 inches: very gravelly silt loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: F101XY003NY - Low Floodplain Depression
Hydric soil rating: Yes

Minor Components

Middlebury

Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed soils

Percent of map unit: 5 percent
Hydric soil rating: No

Wayland

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Wyalusing

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Canandaigua
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Genesee County, New York
Survey Area Data: Version 24, Sep 5, 2023

Genesee County, New York

Wk—Wakeville silt loam

Map Unit Setting

National map unit symbol: p8yc
Elevation: 750 to 1,740 feet
Mean annual precipitation: 31 to 38 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 140 to 175 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Wakeville and similar soils: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wakeville

Setting

Landform: Flood plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Silty alluvium washed from areas of glacial drift derived mainly from shale, siltstone, and sandstone, with some limestone

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 41 inches: silt loam
H3 - 41 to 72 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Ecological site: F101XY002NY - Low Floodplain

Hydric soil rating: No

Minor Components

Unnamed soils
Percent of map unit: 10 percent
Hydric soil rating: No

Wayland
Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Teel
Percent of map unit: 5 percent
Hydric soil rating: No

Udifluvents
Percent of map unit: 5 percent
Hydric soil rating: No

Fluvaquents
Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Genesee County, New York
Survey Area Data: Version 24, Sep 5, 2023

Appendix L

Threatened and Endangered Species

DRAFT

Appendix M

Letter of Intent
between Village of Oakfield, GCEDC,
& STAMP Sewer Works, Inc.

DRAFT

April 16, 2024

VIA EMAIL

The Honorable David Boyle
Mayor, Village of Oakfield
39 Main Street
Oakfield New York 14125

Re: Development of Western New York Science & Technology Advanced Manufacturing Park ("STAMP") Wastewater Services, located on approximately 1,250 Acres Located in the Town of Alabama, New York located along the west side of New York State Highway 77/63 (north of Judge Road) approximately five miles north of the I-90/New York State Thruway (the "STAMP Site")

Dear Mayor Boyle:

Please allow this letter of intent ("LOI") to summarize some of the key terms upon which the Village of Oakfield, with offices at 37 Main Street Oakfield, New York 14125 ("Village") on behalf of the Village Trustees, the Genesee County Economic Development Center ("GCEDC"), an industrial development agency formed under Section 18-A of the New York State General Municipal Law, and STAMP Sewer Works, Inc. ("SSW"), a domestic transportation corporation, SSW together with GCEDC with offices located at 99 MedTech Drive, Suite 106, Batavia, New York 14020, (collectively as the "Parties" and individually as a "Party") would be willing to work together on the possible design, construction and operation of a new force main sewer line from the STAMP Site to the Village of Oakfield Waste Water Treatment Facility ("Oakfield WWTF") to provide wastewater treatment services to STAMP.

Please note, this LOI constitutes a non-binding expression of intent by the Parties and any final and binding agreements shall be subject to the preparation, negotiation and execution of definitive binding legal documents (hereinafter called the "Definitive Agreement"). Subject to the foregoing limitations, it is the Parties' intention that the Definitive Agreement will contain the following terms and conditions:

1. Plan. SSW currently intends to build an wastewater treatment plant at the STAMP Site and associated force main to discharge post-treated sanitary effluent and post-treated process water to Oak Orchard Creek in the Town of Shelby. For various reasons, GCEDC and SSW are exploring other solutions to provide permanent wastewater treatment services to the first two tenants at STAMP, one of whom is currently under construction and the other of whom is expected to start construction in the next few weeks. The Parties will explore and work together on the possible design, construction and operation of a new force main sewer line (the "Sewer Line") to facilitate the transport of wastewater from the STAMP Site for treatment at the Oakfield WWTF prior to discharge (the "Project").

2. Sewer Route. The GCEDC and SSW will work together with the Village to evaluate and present routing options for the Sewer Line. After consultation, the GCEDC and SSW will present a preferred route of the Sewer Line to the Village, upon which GCEDC and SWW and the Village will work to finalize the route of the Sewer Line.

3. Oakfield WWTF Initial Allocation of Treatment Capacity to STAMP. The Village will reserve an initial treatment capacity of twenty thousand (20,000) gallons per day within the Oakfield WWTF for current and future tenants at the STAMP Site. The Parties will work together to confirm that the Oakfield WWTF has sufficient existing capacity to handle the initial treatment capacity without substantial upgrades and undue additional stress to the Oakfield WWTF. To the extent upgrades or improvements are required, GCEDC and SSW shall be responsible for all costs associated with same and will pay the Village of Oakfield for invoices submitted within 30 days for reasonable engineering costs that the Village might incur relative to evaluating and/or making improvements to meet the initial treatment capacity.

4. Oakfield WWTF Future Allocation of Treatment Capacity to STAMP. The Parties will monitor and evaluate the overall capacity at the Oakfield WWTF and will work together to determine whether the Oakfield WWTF can provide additional treatment capacity to STAMP including any necessary additional improvements relative to same. To the extent upgrades or improvements are required, GCEDC and SSW shall be responsible for all costs associated with same and will pay the Village of Oakfield for invoices submitted within 30 days for reasonable engineering costs that the Village might incur relative to evaluating and/or making improvements to meet the initial treatment capacity.

5. Phosphorous Treatment. In connection with the proposed initial allocation of treatment capacity, GCEDC and SSW will propose to design and install, improvements to the WWTF to provide for facilities to reduce phosphorus levels in post-treated effluent. GCEDC and SSW shall be responsible for all costs associated with same and will pay the Village of Oakfield for invoices submitted within 30 days for reasonable engineering costs that the Village might incur relative to evaluating and/or making improvements to accommodate the phosphorus reduction.

6. Project Implementation; Ownership and Maintenance of the Sewer Line. The GCEDC and SSW will be responsible for implementing the Project. The Village will not have the ability to connect into the Sewer Line or otherwise utilize the Sewer Line to transport sewage to the Oakfield WWTF. The SSW will be responsible for maintaining the Sewer Line up to the point that the Sewer Line connects into the Oakfield WWTF system.

7. STAMP Service Agreement. In conjunction with the development of Definitive Agreements, SSW and the Village will enter into a service agreement to provide the STAMP Site with the wastewater treatment services contemplated under this LOI.

8. Consultation and Cooperation. The Parties will attend periodic meetings at mutually agreeable times to confer about the progress of the Parties' activities in connection to the Plan identified in Section 1 of this LOI. The Parties will cooperate with one another, in

good faith, to effectuate the Plan, and each Party will take such, and to execute and deliver to one another such documents, as one Party may reasonably request of the other, so as to carry out more effectively and completely the purposes of the Definitive Agreement. Each Party will bear its own costs in consulting and cooperating with the other.

9. Definitive Agreements Required. This LOI reflects the preliminary non-binding concepts with respect to certain terms. No Party will have any legal obligation arising out of this LOI or otherwise, to any other Party or any other person or entity by reason of this LOI or any other matter contemplated hereby or giving rise hereto, unless and until the parties execute Definitive Agreements and then only to the extent set forth in the Definitive Agreements. If so executed, the Definitive Agreements shall supersede the terms and conditions of this LOI to the extent therein provided, and will contain such terms, conditions, covenants, representations and warranties related to the matters contemplated under this LOI as the Parties may mutually agree upon. The Parties hereby acknowledge that the Definitive Agreements must make provision for a number of matters which are material to the matters contemplated under this LOI and to which the Parties have not yet agreed.

10. Not a Contract or an Option. This LOI shall not be deemed a contract or an option and shall not be binding on the Parties. The purpose of this LOI is to identify preliminary areas of agreement to enable the Parties to work together on the possible design, construction and operation of a new force main sewer line from the STAMP Site to the Oakfield WWTF to provide wastewater treatment services to STAMP and the preparation of a more complete document between the parties containing all of the terms of binding Definitive Agreements.

11. This LOI shall terminate at the earlier of April 15, 2025 or within Sixty (60) days after written notice by either party to terminate this LOI is received.

If the foregoing meets with your approval, kindly so signify by signing and returning the enclosed duplicate copy of this LOI, whereupon this LOI shall constitute a letter of intent between the Parties in accordance with the terms and provisions set forth above.

ACCEPTED AND AGREED TO:

Genesee County Economic Development Center

By: _____
Name: Mark A. Masse
Title: SR VP of Ops
Date: 5/3, 2024

STAMP Sewer Works, Inc.

By: Paul J. Battaglia
Name: PAUL J. BATTAGLIA
Title: Vice Chair
Date: May 9, 2024

The Village of Oakfield, New York

By: David T. Boyle
Name: David T. Boyle
Title: Mayor, Village of Oakfield
Date: 4/16/24, 2024

Appendix B
Wetland and Stream Delineation Summary

CC Environment & Planning

Katlyn Hojnacki
Senior Ecologist/Operations

March 7, 2024

Mark A. Masse
Genesee County Economic Development Center
99 MedTech Drive, Suite 106
Batavia, NY 14020
Email: mmasse@gcedc.com

Re: STAMP Oakfield Force Main – Wetland Delineation Summary

Dear Mark:

We have completed a field review of all drainages, streams, and wetlands within the Oakfield Force Main Area of Investigation (AOI) located along approximately 7.94 miles of roads within the Town of Oakfield, Genesee County, New York. The AOI extended to the edge of the right-of-way. Our review extended to all waters that are potentially regulated by state and federal agencies. The delineation was conducted in accordance with the U.S. Army Corps of Engineers Wetlands Delineation Manual Technical Report Y-87-1, and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (v. 2.0), dated January 2012. Delineation tasks included a review of onsite conditions, field delineation, and sub-meter GPS survey of delineation. Deliverables include this delineation summary letter, delineation maps (Attachment A), photographs (Attachment B), wetland determination datasheets (Attachment C), and shapefiles of mapped resources (provided via email on 3-1-24).

Desktop Review Notes

There is one federally mapped wetland within the AOI (PEM1A), which is a freshwater emergent wetland. No state-mapped wetlands were within the AOI. There are three federally mapped stream crossings within the AOI, including Brinningstool Creek, an unnamed tributary to Oak Orchard Creek, and an unnamed tributary to Tonawanda Creek. These are state-mapped as Class C streams. Mapped resources are included on the delineation maps provided in Attachment A.

Field Mapped Wetlands and Streams

The AOI was visually inspected during a field visit conducted on February 26, 2024, by Katlyn Hojnacki, Senior Ecologist, and Ann Swanson, Environmental Technician, CC Environment & Planning. Areas to be mapped included any wetland and stream features including any permanent, seasonal, or intermittent streams and their bed and bank within the high-water mark (HWM) and wetland features showing appropriate vegetation, hydrology, and soils. Field investigation included inspection of floodplain and riparian areas associated with a stream or wetland.

One wetland and seven stream sections were present within the AOI. Throughout the AOI, deep roadside ditches were present. These ditches, which are non-jurisdictional features, were not mapped unless a stream was rerouted through it. Mapping was conducted using a Juniper Geode sub-meter GPS. The wetlands and streams were mapped to ensure that any aquatic feature potentially regulated by state and/or federal agencies was included within a polygon (see Figures 2-10 in Attachment A and photographic documentation in Attachment B). Table 1 below provides a description of the mapped wetlands and streams.

Wetland 47 was previously mapped as part of the overall STAMP wetland and stream delineation. This wetland is considered non-jurisdictional by USACE as detailed in the March 16, 2023 Approved Jurisdictional Determination. Tributary 3 was included within the Preliminary Jurisdictional Determination issued on March 16, 2023 as a jurisdictional water. Streams 2 and 4 begin on the opposite side of the road from the proposed force main route. Stormwater from the proposed side does flow through culverts under the road to act as the headwaters for these streams, but these stormwater features are non-jurisdictional.

All mapped wetlands and streams require a jurisdictional determination to confirm their regulatory status. The mapped wetlands and streams were provided to CPL and GCEDC digitally as georeferenced shapefiles for inclusion within the project survey database and to facilitate updated design, plan sheets, and impact calculations.

Table 1. STAMP Wetland and Stream Delineation

ID	GPS Points	Map/ Photo ID	Flow Reg*/ Dir	Description/Classification/ Connectivity	Est Bank Width	Notes
S1	1-10	Figure 4/ Photo1-4	I/N	Vegetated bottom, roadside ditch and ag drains combine to create stream.	8.3'-17.3'	
S2	11	Figure 5/ Photo 5-6	E/N	Vegetated bottom, stormwater flows under road to create stream on opposite side of the road.	-	Only roadside ditch within AOI.
S3	12-18	Figure 6/ Photo 7-8	P/N	Vegetated/gravel/mud bottom flows north to Oak Orchard Creek.	35.5'	Brinningstool Creek
S4	19	Figure 7/ Photo 9-10	E/N	Vegetated bottom, stormwater runoff from ag field flows into culvert to join stream on opposite side of road.	-	Only stormwater swale within AOI.
S5	20-28	Figure 8/ Photo 11-14	I/N	Vegetated bottom, water likely primarily stormwater runoff from school, flows north into large forested wetland.	9.1'-41.8'	

Table 1. STAMP Wetland and Stream Delineation						
ID	**GPS Points**	**Map/ Photo ID**	**Flow Reg*/ Dir**	**Description/Classification/ Connectivity**	**Est Bank Width**	**Notes**
S6	29-38	Figure 9/ Photo 15-16	P/NE	Vegetated/gravel/ mud. Unnamed tributary to Oak Orchard Creek.	23.8'-38.6'	Wetland adjacent to stream outside of AOI.
T3	39-48	Figure 10	I/NW	Vegetated. Unnamed tributary to Tonawanda Creek.	17.2'-26.9'	Jurisdictional. PJD March 16, 2023.
W47	-	Figure 3	NA	Palustrine emergent marsh along the roadside. Isolated.	0.06 acres	Non-jurisdictional. AJD issued March 16, 2023.

*P = Perennial, I = Intermittent, E = Ephemeral

Please contact me if you have any questions about the delineation and summary. If you require additional information, jurisdictional determination, or assistance with impact avoidance, minimization, and permitting please let me know.

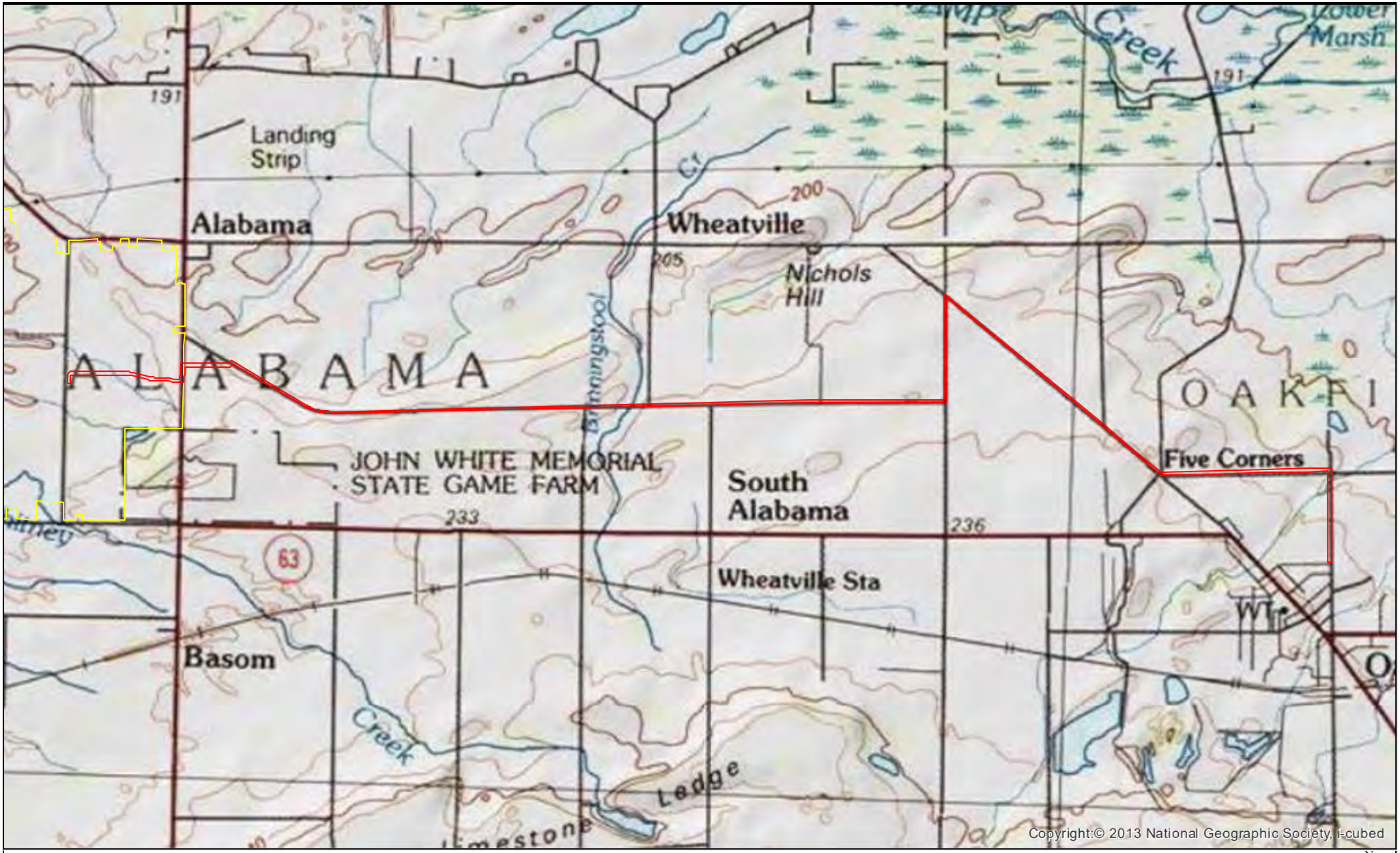
Sincerely,

Katlyn Hojnacki

Katlyn Hojnacki, Senior Ecologist
CC Environment & Planning

Attachment A – Figures
Attachment B – Photographs

Attachment A - Figures



Topographic Map

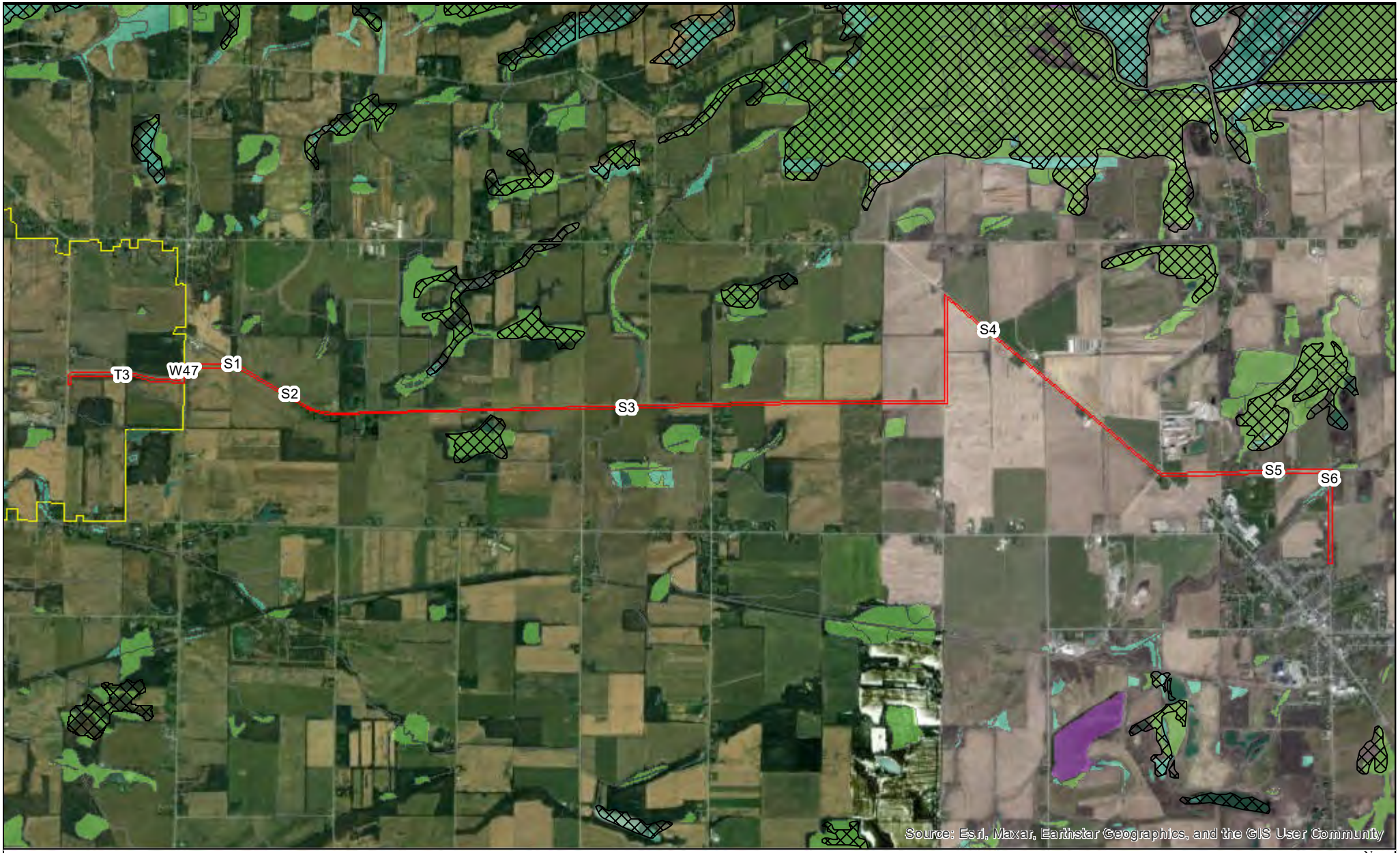
STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

K. Hojnacki, Date: 3/5/2024

Area of Investigation

STAMP Boundary

Figure 1



0 0.75 1.5 3 Miles

N

Wetland and Stream Delineation Overview

STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

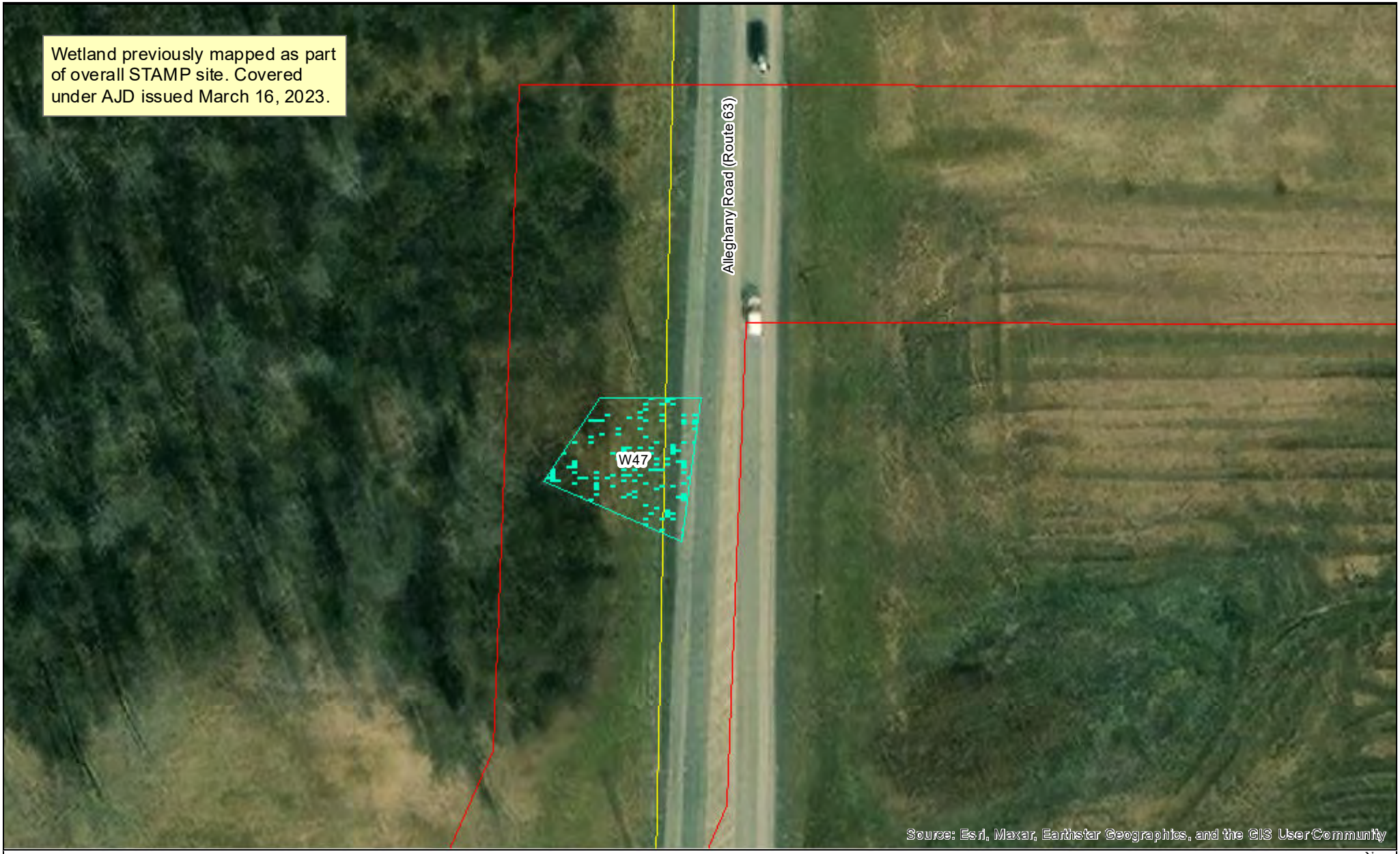
K. Hojnacki, Date: 3/5/2024

- Wetlands and Streams
- Area of Investigation
- STAMP Boundary
- NYSDEC Wetlands

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Figure 2



0 0.01 0.02 0.04 Miles

N

Field Mapped Wetland/Stream

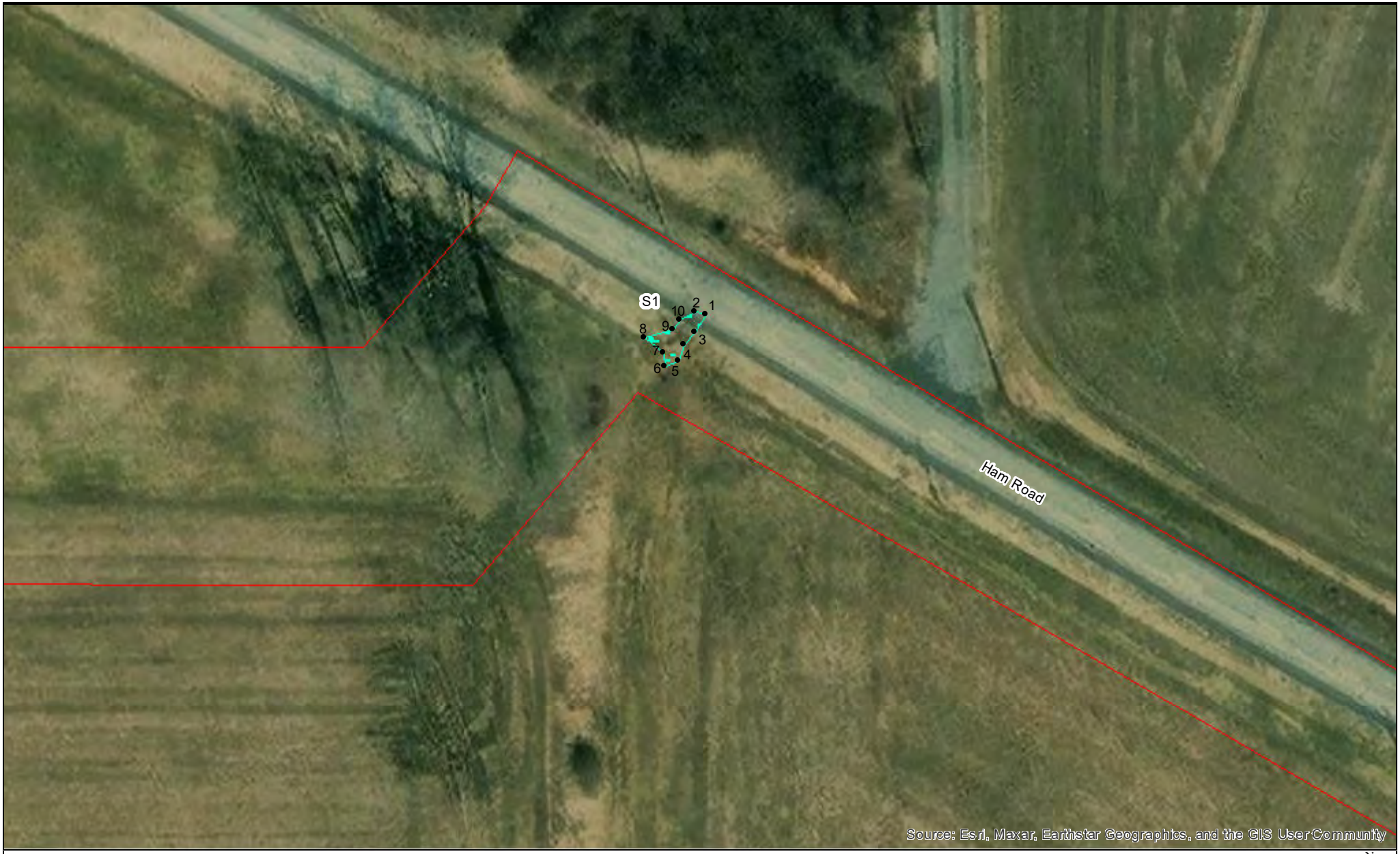
STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

K. Hojnacki, Date: 3/1/2024

Wetlands and Streams
Area of Investigation
STAMP Boundary
NYSDEC Wetlands

NWI Wetlands
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Riverine

Figure 3



0 0.01 0.02 0.04 Miles

N

Field Mapped Wetland/Stream

STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

K. Hojnacki, Date: 3/1/2024

- Waypoints
- Wetlands and Streams
- Area of Investigation
- NYSDEC Wetlands

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Figure 4



0 0.01 0.02 0.04 Miles

N

Field Mapped Wetland/Stream

STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

K. Hojnacki, Date: 3/1/2024

- Waypoints
- Wetlands and Streams
- Area of Investigation
- NYSDEC Wetlands

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Figure 5



0 0.01 0.02 0.04 Miles

N

Field Mapped Wetland/Stream

STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

K. Hojnacki, Date: 3/1/2024

- Waypoints
- Wetlands and Streams
- Area of Investigation
- NYSDEC Wetlands

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Figure 6



0 0.01 0.02 0.04 Miles

N

Field Mapped Wetland/Stream

STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

K. Hojnacki, Date: 3/1/2024

- Waypoints
- Wetlands and Streams
- Area of Investigation
- NYSDEC Wetlands

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Figure 7



0 0.01 0.02 0.04 Miles

N

Field Mapped Wetland/Stream

STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

K. Hojnacki, Date: 3/1/2024

- Waypoints
- Wetlands and Streams
- Area of Investigation
- NYSDEC Wetlands

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Figure 8



0 0.01 0.02 0.04 Miles

N

Field Mapped Wetland/Stream

STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

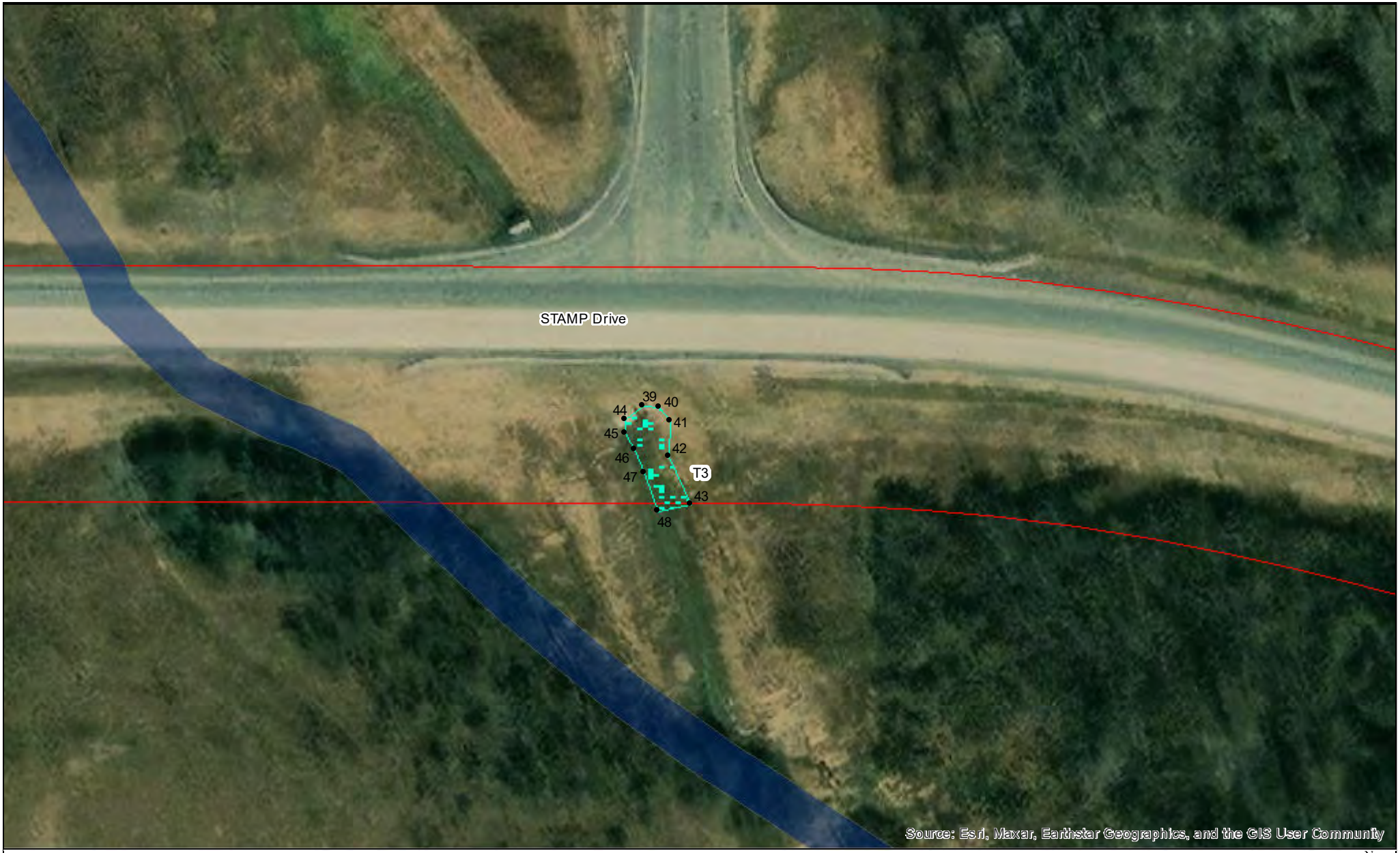
K. Hojnacki, Date: 3/1/2024

- Waypoints
- Wetlands and Streams
- Area of Investigation
- NYSDEC Wetlands

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Figure 9



0 0.01 0.02 0.04 Miles

N

Field Mapped Wetland/Stream

STAMP Oakfield Force Main
Science and Technology Advanced Manufacturing Park
Town of Alabama, Genesee County, New York

K. Hojnacki, Date: 3/7/2024

- Waypoints
- Wetlands and Streams
- Area of Investigation
- NYSDEC Wetlands

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Figure 10

Attachment B - Photographs

STAMP Oakfield Force Main

Wetland and Stream Delineation - February 26, 2024



Photo 1

Waypoint 1, Stream 1, facing south, uphill between farm field and the field at the town barns.



Photo 2

Waypoint 4, Stream 1, facing north to roadside.



Photo 3

Waypoint 5, Stream 1, outlet of drainage pipe to join with roadside ditch.



Photo 4

Waypoint 7, Stream 1, another drainage pipe that outlets into roadside ditch.

STAMP Oakfield Force Main

Wetland and Stream Delineation - February 26, 2024



Photo 5

Waypoint 11A, Stream 2, facing south. Outlet of drainage pipe is under the snow, flows directly into culvert.



Photo 6

Waypoint 11B, Stream 2, facing north. Stream is prominent on north side of the road, flowing through farm field.



Photo 7

Waypoint 12, Stream 3, facing north towards Ham Road. Brinningstool Creek.



Photo 8

Waypoint 14, Stream 3, facing south (upstream).

STAMP Oakfield Force Main

Wetland and Stream Delineation - February 26, 2024



Photo 9

Waypoint 19A, Stream 4, facing south. Stormwater swale from farm field into road culvert.



Photo 10

Waypoint 19B, Stream 4, facing north across Lewiston Road. Stream begins on north side of road, flowing through farm field.



Photo 11

Waypoint 20, Stream 5, facing southeast. Stormwater from adjacent school grounds likely contributing most of the water to this drainage in the hedgerow.



Photo 12

Waypoint , Stream 5, southside of road, facing southwest.

STAMP Oakfield Force Main

Wetland and Stream Delineation - February 26, 2024



Photo 13

Waypoint 24, Stream 5, northside of the road, facing north, downstream.



Photo 14

Waypoint 28, Stream 5, northside of the road, facing south. A second, smallrer pipe is present next to culvert pipe.



Photo 15

Waypoint 29, Stream 6, westside of road, facing west (upstream). Wetland surrounds the stream, but begins outside of AOI.



Photo 16

Waypoint 33, Stream 6, westside of road, facing northeast.



Photo 17

Waypoint 39, Tributary 3, facing south. Intermittent stream flows under STAMP Drive.



Photo 18

Waypoint 43, Tributary 3, facing north toward STAMP Drive.

Appendix C
Threatened & Endangered Species Review Documentation

EAF Mapper Summary Report

Friday, March 1, 2024 12:50 PM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Stream Name]	847-690, 847-687
E.2.h.iv [Surface Water Features - Stream Classification]	C
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.j. [100 Year Floodplain]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.

E.2.k. [500 Year Floodplain]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes
E.2.o. [Endangered or Threatened Species - Name]	Northern Harrier, Short-eared Owl, Sedge Wren
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	Yes
E.3.a. [Agricultural District]	GENE002
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
Email Address: fw5es_nyfo@fws.gov

In Reply Refer To: 04/23/2024 15:11:36 UTC
Project Code: 2024-0056750
Project Name: STAMP Oakfield Force Main

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. **Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.**

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

PROJECT SUMMARY

Project Code: 2024-0056750
Project Name: STAMP Oakfield Force Main
Project Type: Distribution Line - New Construction - Below Ground
Project Description: Installation of a sanitary sewer force main from the Science, Technology, and Advanced Manufacturing Park (STAMP) in the Town of Alabama to the Village of Oakfield Wastewater Treatment Facility. Work would occur within the existing road right-of-way.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.081882199999995,-78.29374023874291,14z



Counties: Genesee County, New York

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: CC Environment & Planning
Name: Katlyn Hojnacki
Address: 23 Jackson Street
City: Batavia
State: NY
Zip: 14020
Email khojnacki@ccenvironment.com
Phone: 5852194030

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
Email Address: fw5es_nyfo@fws.gov

In Reply Refer To:
Project code: 2024-0056750
Project Name: STAMP Oakfield Force Main

March 01, 2024

Federal Action Agency (if applicable): Army Corps of Engineers

Subject: Record of project representative's no effect determination for 'STAMP Oakfield Force Main'

Dear Katlyn Hojnacki:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on March 01, 2024, for 'STAMP Oakfield Force Main' (here forward, Project). This project has been assigned Project Code 2024-0056750 and all future correspondence should clearly reference this number. **Please carefully review this letter.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat Rangewide Determination Key (Dkey), invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.***

Determination for the Northern Long-Eared Bat

Based upon your IPaC submission and a standing analysis, your project has reached the determination of "No Effect" on the northern long-eared bat. To make a no effect determination, the full scope of the proposed project implementation (action) should not have any effects (either positive or negative), to a federally listed species or designated critical habitat. Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed

action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (See § 402.17).

Under Section 7 of the ESA, if a federal action agency makes a no effect determination, no consultation with the Service is required (ESA §7). If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required except when the Service concurs, in writing, that a proposed action "is not likely to adversely affect" listed species or designated critical habitat [50 CFR §402.02, 50 CFR§402.13].

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination for the northern long-eared bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Candidate

You may coordinate with our Office to determine whether the Action may affect the animal species listed above and, if so, how they may be affected.

Next Steps

Based upon your IPaC submission, your project has reached the determination of “No Effect” on the northern long-eared bat. If there are no updates on listed species, no further consultation/ coordination for this project is required with respect to the northern long-eared bat. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional coordination with the Service should take place to ensure compliance with the Act.

If you have any questions regarding this letter or need further assistance, please contact the New York Ecological Services Field Office and reference Project Code 2024-0056750 associated with this Project.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

STAMP Oakfield Force Main

2. Description

The following description was provided for the project 'STAMP Oakfield Force Main':

> Installation of a sanitary sewer force main from the Science, Technology, and Advanced Manufacturing Park (STAMP) in the Town of Alabama to the Village of Oakfield Wastewater Treatment Facility. Work would occur within the existing road right-of-way.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.081882199999995,-78.29374023874291,14z



DETERMINATION KEY RESULT

Based on the information you provided, you have determined that the Proposed Action will have no effect on the Endangered northern long-eared bat (Myotis septentrionalis). Therefore, no consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required for those species.

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of the northern long-eared bat or any other listed species?

   Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

   No

2. The proposed action does not intersect an area where the northern long-eared bat is likely to occur, based on the information available to U.S. Fish and Wildlife Service as of the most recent update of this key. If you have data that indicates that northern long-eared bats <u>are</u> likely to be present in the action area, answer "NO" and continue through the key.

   Do you want to make a no effect determination?

   Yes

PROJECT QUESTIONNAIRE

IPAC USER CONTACT INFORMATION

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LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers