

ROBERT LAGA
Chairman

NICHOLAS FANNIN
Vice Chairman

RICHARD FRANZETTI, P.E.
Wetland Inspector

ROSE TROMBETTA
Secretary

TOWN OF CARMEL
ENVIRONMENTAL CONSERVATION BOARD



60 McAlpin Avenue
Mahopac, New York 10541
Tel. (845) 628-1500 - Ext. 190
www.ci.carmel.ny.us

BOARD MEMBERS

Edward Barnett
Anthony Federice
Nicole Sedran

ENVIRONMENTAL CONSERVATION BOARD AGENDA

FEBRUARY 3, 2022 – 7:30 P.M.

ELIGIBLE FOR A PERMIT

<u>APPLICANT</u>	<u>ADDRESS</u>	<u>TAX MAP #</u>	<u>COMMENTS</u>
1. Loewenberg, Diana	260 West Lake Blvd	64.16-1-30	Construction of Garage, 2 nd fl. Addition to Existing Boathouse & Repair Dock

SUBMISSION OF AN APPLICATION OR LETTER OF PERMISSION

2. Pasato, Luis	24 Wood Street	85.15-1-10	Proposed Addition
3. Suez Water New York Inc – Archer Wells	9 Colton Road	85.12-1-8	Tree Cutting – 15 trees
4. Suez Water New York Inc – London Bridge Wells	39 Brook Street	64.7-1-10	Upgrades to Existing Well Site
5. Suez Water New York Inc – Geymer Wells	70 Geymer Drive	75.13-1-6	Upgrades to Existing Well Site
6. Suez Water New York Inc – Chateau Wells	59 McNair Drive	75.20-1-16	Upgrades to Existing Well Site
7. Suez Water New York Inc – Mahopac Wells	34 Coventry Circle	75.20-2-68	Upgrades to Existing Well Site
8. Suez Water New York Inc – Archer Wells	9 Colton Road	85.12-1-8	Upgrades to Existing Well Site

ROBERT ROSELLI, PE

PO Box 837
Mahwah, NJ 07430

213 Route 100
Katonah, NY 10536

Phone: 201-993-0781
Email: info@upstatedevelopment.com

January 24, 2022

Town of Carmel
Environmental Conservation Board
60 McAlpin Avenue
Mahopac, NY 10541
Attn.: Robert Laga, Chairman

Re: Pasato Residence, 24 Wood Street Mahopac

Mr. Laga:

Please find enclosed four copies of the following information for a wetlands permit for an addition to a single family home:

- Application form
- Copy of deed
- Location Map at 1"=2000'
- Site Plan for the proposed addition
- Project Narrative
- Short EAF
- \$225 application fee and \$500 escrow deposit

If you have any questions regarding the above, please feel free to contact me. Thank you.

Very truly yours,



Robert Roselli, PE

PROJECT NARRATIVE

January 24, 2021

PROPOSED ADDITION 24 WOOD STREET, MAHOPAC

The proposed project entails the construction of an addition to an existing single family home. The addition is approximately 830 square feet and consists of a living room and family room, no new bedroom is proposed. The sequencing of construction will be as follows:

1. Placement of all erosion control measures including silt fence
2. Excavation/construction for the footings and foundation
3. All framing
4. Final inspections and removal of silt fence upon receipt of co from the Town of Carmel

The project is located within the 100 foot buffer area of a locally regulated wetland hence the need for a Wetland Permit Application.

ROBERT LAGA
Chairman

NICHOLAS FANNIN
Vice Chairman

RICHARD FRANZETTI
Wetland Inspector

ROSE TROMBETTA
Secretary

TOWN OF CARMEL
ENVIRONMENTAL CONSERVATION BOARD



60 McAlpin Avenue
Mahopac, New York 10541
Tel. (845) 628-1500 - Ext. 190
www.ci.carmel.ny.us

BOARD MEMBERS

Edward Barnett
Anthony Federice
Nicole Sedran

APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

Name of Applicant: LUIS PASATO
Address of Applicant: 24 WOOD ST Email: lpasat2014@gmail.com
Telephone# 914-844-7727 Name and Address of Owner if different from Applicant:

Property Address: 24 WOOD ST Tax Map # 85.15-1-10
Agency Submitting Application if Applicable:
Location of Wetland: ADJACENT TO STREAM IN THE REAR YARD
Size of Work Section & Specific Location: 830 SF; SOUTH SIDE OF EXISTING HOUSE
Will Project Utilize State Owned Lands? If Yes, Specify: NO

Type and extent of work (feet of new channel, yards of material to be removed, draining, dredging, filling, etc). A brief description of the regulated activity (attach supporting details).

CONSTRUCTION OF AN ADDITION TO AN EXISTING SINGLE
FAMILY HOME. REMOVAL OF APPROXIMATELY 35 CY FOR NEW FOOTINGS.

Proposed Start Date: 3/1/22 Anticipated Completion Date: 6/1/22 Fee Paid \$ 225

CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief, false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. As a condition to the issuance of a permit, the applicant accepts full legal responsibility for all damage, direct or indirect, or whatever nature, and by whomever suffered, arising out of the project described here-in and agrees to indemnify and save harmless the Town of Carmel from suits, actions, damages and costs of every name and description resulting from the said project.

[Signature]
SIGNATURE

01/25/2022
DATE

Short Environmental Assessment Form

Part 1 - Project Information

Instructions for Completing

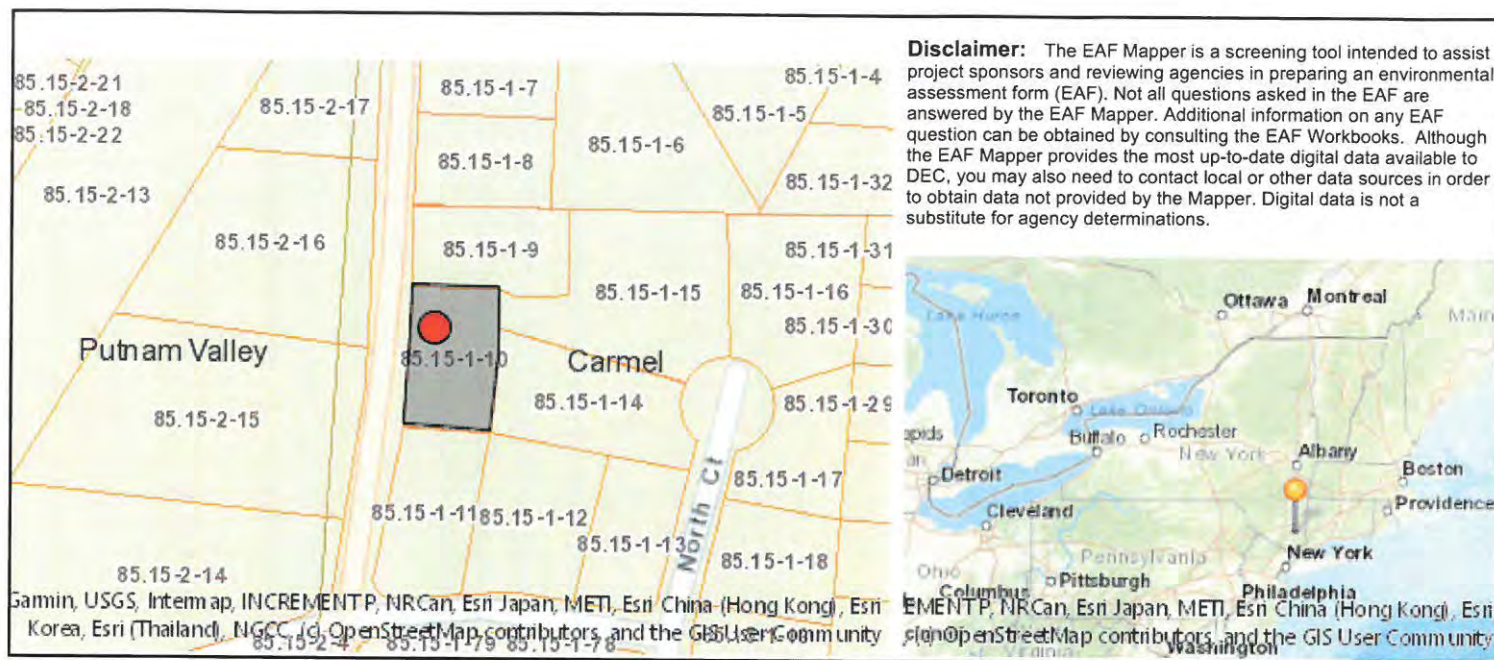
Part 1 – Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available.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

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

Part 1 – Project and Sponsor Information			
Name of Action or Project: Proposed Addition			
Project Location (describe, and attach a location map): 24 Wood Street, Mahopac, NY 10541			
Brief Description of Proposed Action: Construction of an addition to an existing single family house.			
Name of Applicant or Sponsor: Robert Roselli, PE		Telephone: 201-993-0781 E-Mail: Info@upstatedevelopment.com	
Address: P.O. Box 837			
City/PO: Mahwah		State: NJ	Zip Code: 07430
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.		NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/>
2. Does the proposed action require a permit, approval or funding from any other government Agency? If Yes, list agency(s) name and permit or approval: Building Permit		NO <input type="checkbox"/>	YES <input checked="" type="checkbox"/>
3. a. Total acreage of the site of the proposed action?		0.46 acres	
b. Total acreage to be physically disturbed?		0.02 acres	
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor?		0.46 acres	
4. Check all land uses that occur on, are adjoining or near the proposed action:			
5. <input type="checkbox"/> Urban <input type="checkbox"/> Rural (non-agriculture) <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Residential (suburban) <input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Aquatic <input type="checkbox"/> Other(Specify): <input type="checkbox"/> Parkland			

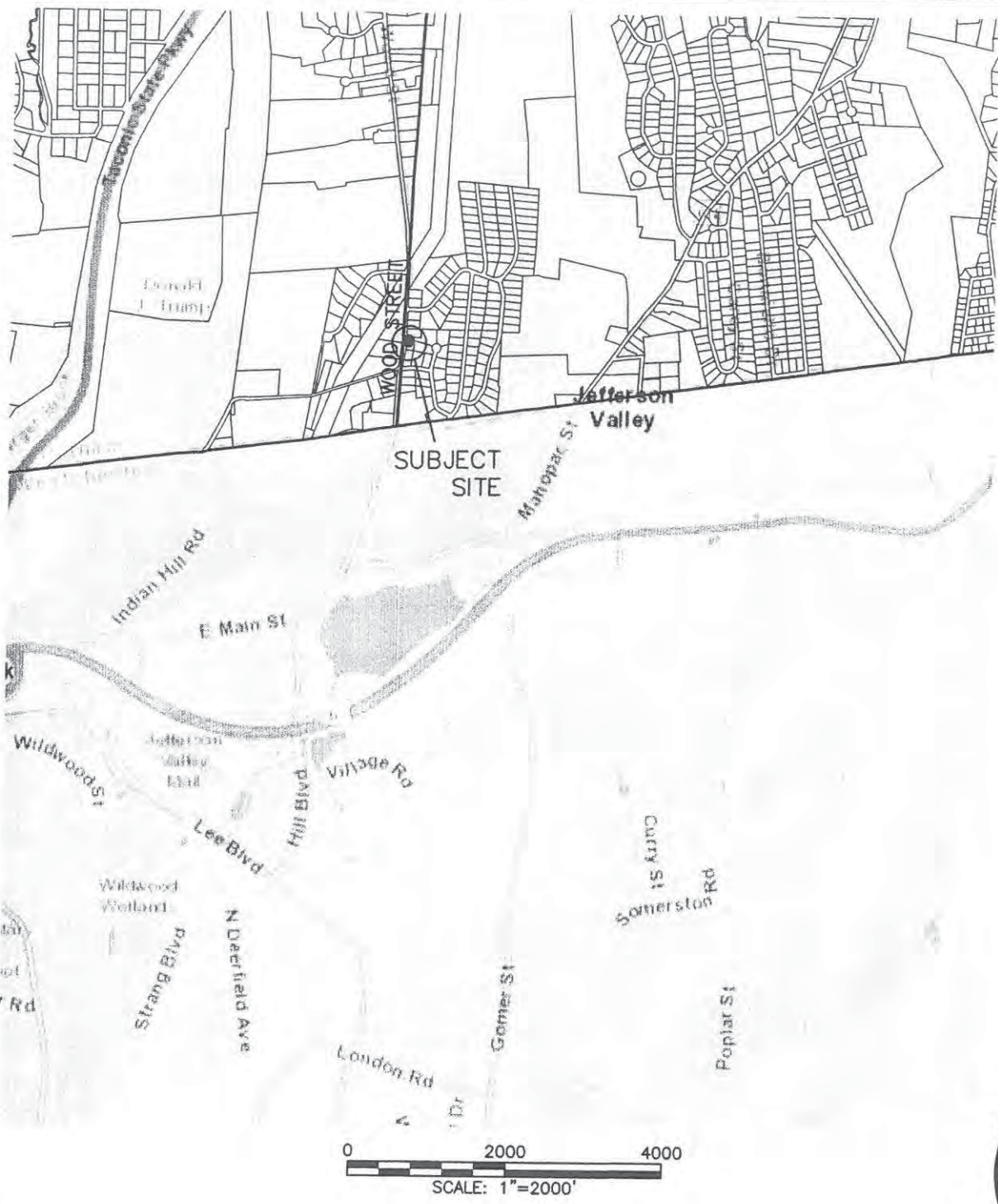
5. Is the proposed action,	NO	YES	N/A
a. A permitted use under the zoning regulations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Consistent with the adopted comprehensive plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	NO	YES	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?	NO	YES	
If Yes, identify: _____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	NO	YES	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. Are public transportation services available at or near the site of the proposed action?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
9. Does the proposed action meet or exceed the state energy code requirements?	NO	YES	
If the proposed action will exceed requirements, describe design features and technologies: _____ _____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
10. Will the proposed action connect to an existing public/private water supply?	NO	YES	
If No, describe method for providing potable water: _____ _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
11. Will the proposed action connect to existing wastewater utilities?	NO	YES	
If No, describe method for providing wastewater treatment: _____ _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?	NO	YES	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	NO	YES	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____ _____ _____			

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply: <input type="checkbox"/> Shoreline <input type="checkbox"/> Forest <input type="checkbox"/> Agricultural/grasslands <input type="checkbox"/> Early mid-successional <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Urban <input checked="" type="checkbox"/> Suburban		
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
16. Is the project site located in the 100-year flood plan?	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes,	NO	YES
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Will storm water discharges flow to adjacent properties?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If Yes, briefly describe: _____ _____		
18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)? If Yes, explain the purpose and size of the impoundment: _____	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe: _____	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe: _____	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE Applicant/sponsor/name: <u>ROBERT ROSELLI</u> Date: <u>1-25-22</u> Signature: <u>RA</u> Title: <u>PE</u>		



Part 1 / Question 7 [Critical Environmental Area]	No
Part 1 / Question 12a [National or State Register of Historic Places or State Eligible Sites]	No
Part 1 / Question 12b [Archeological Sites]	No
Part 1 / Question 13a [Wetlands or Other Regulated Waterbodies]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
Part 1 / Question 15 [Threatened or Endangered Animal]	No
Part 1 / Question 16 [100 Year Flood Plain]	No
Part 1 / Question 20 [Remediation Site]	No

C:\RR Proj\Proj\Mahopac\Pasato 24 Wood Street\Site Plan 1-20-22.dwg, 1/24/2022 1:47:42 PM, Brother MFC-J6545DW Printer



			DESIGNER:	RR	LOCATION MAP for the Pasato Residence
			DRAWN BY:	RR	
			CHECK BY:	RR	
			DATE:	01.24.22	
			SCALE:	as shown	
			PROJECT NO.:	pasato	24 Wood Street Mahopac, Town of Carmel, NY
REVISION			DATE	APPROVED	
<small>THIS DRAWING AND ALL INFORMATION CONTAINED HEREIN IS AUTHORIZED FOR USE ONLY BY THE PARTY FOR WHOM THE WORK WAS CONTRACTED OR TO WHOM IT IS CERTIFIED.</small> <small>THIS DRAWING MAY NOT BE COPIED, REUSED, DISCLOSED, DISTRIBUTED OR RELIED UPON FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN CONSENT ROBERT ROSELLI, PE</small>			ROBERT ROSELLI, PE		DRAWING NO: 1
			PO BOX 837, MAHWAH, NJ 07430 213 ROUTE 100, KATONAH, NY 10536 TEL: (201) 993-0781 email: info@upstatedevelopment.com		
			 ROBERT ROSELLI, P.E. NY LIC. NO. 078664		SHEET 1 OF 1



SILT FENCE PROTECTION
(TYP.)
2' HIGH MIN

Diagram illustrating the trench for fence fabric installation:

- SPACING 8'-0" O.C.
- FENCE POST
- DIAMETER RUNNING THROUGH FABRIC ALONG TOP OF FENCE
- FABRIC SECURED TO POST W/ METAL FASTENERS
- REINFORCEMENT BETWEEN FASTENER AND FABRIC
- SILT ACCUMULATION
- 2'-0" (MIN.)
- 2'-0" (MAX.)
- 6"
- DIG 6" DEEP TRENCH, BURY BOTTOM FLAP, TAMP IN PLACE

REQUIREMENTS FOR SILT FENCE:

- A. FENCE POSTS SHALL BE SPACED 8' FT. CENTER-TO-CENTER OR CLOSER. THE SAILS SHALL EXTEND AT LEAST 2 FEET INTO THE GROUND AND EXTEND AT LEAST 12 FEET ABOVE GROUND. POSTS SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 1 1/2 INCHES.
- B. A METAL FENCE WITH 6 INCH OR SMALLER OPENINGS AND AT LEAST 12 FEET ABOVE GROUND CAN BE UTILIZED INSTEAD OF POST AND RAIL FENCE. PROVIDE REINFORCEMENT AND SUPPORT TO THE GEOTEXTILE FABRIC WHERE SUCH ARE OTHER PRACTICES IS LIGHT AND HEAVY SEGMENT LOADING IS EXPECTED.
- C. A GEOTEXTILE FABRIC, RECOMMENDED FOR SUCH USE BY THE MANUFACTURER, SHALL BE AT LEAST 12 FEET ABOVE THE GROUND. THE FABRIC SHALL EXTEND AT LEAST 7 FEET ABOVE THE GROUND. FENCE MATS BE RECOMMENDED FOR SUCH USE BY THE MANUFACTURER. FASTENERS (NAILS OR STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, CORDS, WADERS ETC.) PLACED BETWEEN THE FASTENER AND THE FABRIC FABRIC SHALL BE USED TO SECURE THE FABRIC TO THE POST. THE FABRIC SHALL INCORPORATE A DRAWSTRING IN THE PORTION OF THE

REQUIREMENTS FOR SILT FENCE:

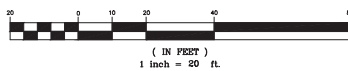
- [illegible]


NOTES

1. EXISTING SURVEY AND WETLAND FLAG LOCATIONS PREPARED BY ROWAN LAND SURVEYING, LLC DATED 01.20.22.
2. WETLANDS DELINEATED BY PAUL J. JAEWS WETLANDS AND SOIL CONSULTING, LLC DATED 11.14.22.
3. OWNER OR CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY UPON THE DISCOVERY OF ANY UNRECORDED EASEMENTS OR RIGHTS OF WAY WHICH MAY AFFECT THE VERTICAL AND/OR HORIZONTAL POSITION OF THE ADDITION.
4. CONTRACTOR IS RESPONSIBLE FOR THE PLACEMENT OF THE ADDITION BOTH VERTICALLY AND HORIZONTALLY.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL, IF ANY TREES OR ROOT STRUCTURES ARE DAMAGED DURING CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE HOMEOWNER/CONTRACTOR TO CONTACT AN ARBORIST TO ASSESS THE REMOVAL OF TREES.
6. DRIVEWAY TO BE UTILIZED FOR CONSTRUCTION ACCESS.
7. CONTRACTOR TO CALL FOR UTILITY MARK OUT AT LEAST 3 BUSINESS DAYS PRIOR TO CONSTRUCTION.
8. ALL EXCESS EXCAVATION MATERIAL, NOT USED FOR BACKFILL SHALL BE REMOVED FROM THE PROPERTY IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE REGULATIONS.
9. THERE IS NO FLOODPLAIN ON THIS PROPERTY PER FEMA FLOOD PANEL 13010C0101C.

PROPOSED ADDITION SITE PLAN

GRAPHIC SCALE



- 87.65
—
—
—
T/W
B/W

WF A1
- EXISTING SPOT ELEVATION
EXISTING CONTOUR
PROPOSED CONTOUR
TOP OF WALL
BOTTOM OF WALL
EXISTING TREE
WETLAND FLAG

THIS DRAWING AND ALL INFORMATION CONTAINED HEREIN IS AUTHORIZED FOR USE ONLY BY THE PARTY FOR WHOM THE WORK WAS CONTRACTED OR TO WHOM IT IS CERTIFIED.

THIS DRAWING MAY NOT BE COPIED, REUSED, DISCLOSED, DISTRIBUTED OR RELIED UPON FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN

ROBERT ROSELLI, PE

REVISION	DATE	APPROVED

DESIGNER:	RR
DRAWN BY:	RR
CHECK BY:	RR
DATE:	01.24.22
SCALE:	1"=20'
PROJECT NO.:	000000

ROBERT ROSELLI, P.E.
N.Y. LIC. NO. 078664

ROBERT ROSELLI, PE

PO BOX 837, MAHWAH, NJ 07430
213 ROUTE 100, KATONAH, NY 10536
TEL: (201) 993-0781 email: info@upstatedevelopment.com

PROPOSED ADDITION SITE PLAN
FOR THE
PASATO RESIDENCE
24 WOOD STREET
TM 85.15-1-10
MAHOPAC, TOWN OF CARMEL, NY

DRAWING NO:
1
SHEET 1 OF 1



January 31st, 2022

Chairman Robert Laga and Members of the Town of Carmel
Environmental Conservation Board
60 McAlpin Avenue
Mathopac, NY 10541

RE: Archer Well Site
9 Colton Dr
Mathopac, NY 10541
Tax Map #85.12-1-8
Tree Cutting Permit

Dear Chairman Laga and Environmental Conservation Board Members,

The tree cutting permit application is being submitted in anticipation of the proposed Archer Well Site Building Permit. Due to bat regulations, we are only able to cut trees from October 1 - March 31. Usually, tree removal is covered under a building permit with the town of Carmel but since this project is a design-build, we are still finalizing the designs and have not applied for the building permit. The goal is to get the tree cutting permit approved before our official building permit so we can cut down trees in the designated months as to not affect bat habitats. The total land area involved with the anticipated tree removal is .59 acres. The applicant is proposing to remove 15 Maple, 1 Ash, 2 Birch, 1 Oak and 2 Unknown trees. A total of 21 trees are proposed to be removed that range in size from 6 inches in diameter to 24 inches in diameter. All trees to be removed have been clearly designated with paint.

In order to do this a chainsaw will be used to cut down all indicated trees for this site. A tree climber will systematically cut down limbs and lower them down with a rope. An F550 truck will be used with a body for woodchips. This truck will be equipped with a spill kit. Due to vehicular access issues the tree cutters will walk their equipment down the current utility easement between homes 5 & 11 on Colton Dr. Tree stumps will not be removed at this time. Refer to the tree removal plan for the work & staging area along with an outline of the 100' buffer. Since none of the soil is being disturbed on site soil & erosion controls are not necessary. All cut down trees will remain on the site until there is adequate vehicular access to the site.

Thank you,

David Rimland
Project Engineer | J. Fletcher Creamer & Son, Inc.
101 East Broadway | Hackensack, NJ 07601
C: 551-206-9945 D: 908-986-5693
WWW.JFCSON.COM



101 East Broadway
Hackensack, NJ 07601-6851
Phone (201) 488-9800 | Fax (201) 488-2901
JFCSON.COM

ROBERT LAGA
Chairman

NICHOLAS FANNIN
Vice Chairman

RICHARD FRANZETTI
Wetland Inspector

ROSE TROMBETTA
Secretary

TOWN OF CARMEL
ENVIRONMENTAL CONSERVATION BOARD



60 McAlpin Avenue
Mahopac, New York 10541
Tel. (845) 628-1500 - Ext. 190
www.ci.carmel.ny.us

BOARD MEMBERS

Edward Barnett
Anthony Federice
Nicole Sedran

APPLICATION FOR A TREE CUTTING PERMIT

Name of Applicant: J. Fletcher Creamer & Sons

Address: 101 East Broadway, Hackensack NJ Tel. No. 551-206-9945

Owner of Property: Suez Water New York - 162 Old Mill Road, West Nyack 10944

Address: Site: 9 Colton Rd, Mathopac NY Tel. No. 201-538-0690

Tax Map Number: 85.12-1-8 Total Land Area Involved: .71 AC total Only .59 AC for Tree Cutting

Number of trees of each species to be cut:

Maple - 15	Range, in inches, of diameter, measured 4 & 1/2 feet
Unknown - 2	
Ash - 1	
Birch - 2	

 above the ground of the trees to be cut:

Oak - 1	6-24"
---------	-------

Total Board Foot Volume for each species to be cut: _____

A Sketch Map drawn to scale must be attached showing:

1. Boundaries of Property.
2. Access Roads into property and proposed roads and skid trails in the property.
3. Area within the property where cutting will occur.
4. Location and size of product loading areas.
5. Any area of the property defined as a wetland by the Town of Carmel Wetland Law.
6. If tree cutting operation is to be conducted in stages, each stage shall be shown on the sketch map.
7. Scale of map.

A written statement must be attached stating that each tree to be removed has been designated with paint or other distinctive means at two points so as to be readily visible. One point shall be low enough on the tree so as to be visible on the stump after the tree is removed.

Permit Fee is: - Up to 5 acres - \$500.00 - 5 to 25 acres - \$1,000.00 - Over 25 acres - \$1,500.00


SIGNATURE OF OWNER

Christopher Graziano - General Manager


SIGNATURE OF APPLICANT

David Rimland - Project Engineer

All property owners within 500 feet of the subject property must be notified by U.S. Mail prior to commencement of the operation.

ROBERT LAGA
Chairman

NICHOLAS FANNIN
Vice Chairman

RICHARD FRANZETTI
Wetland Inspector

ROSE TROMBETTA
Secretary

TOWN OF CARMEL
ENVIRONMENTAL CONSERVATION BOARD



60 McAlpin Avenue
Mahopac, New York 10541
Tel. (845) 628-1500 - Ext. 190
www.ci.carmel.ny.us

BOARD MEMBERS

Edward Barnett
Anthony Federice
Nicole Sedran

APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

Name of Applicant: SUEZ Water New York, Inc

Address of Applicant: 162 Old Mill Road, West Nyack, NY 10994 **Email:** steven.garabed@suez.com

Telephone# 845-620-3319 **Name and Address of Owner if different from Applicant:**

APPLICANT IS THE SAME AS OWNER

Property Address: 39 Brook Street, Mahopac, NY 10541 **Tax Map #** 64.7-1-10

Agency Submitting Application if Applicable: Atzl, Nasher & Zigler, P.C.

Location of Wetland: Shown on Site Plan

Size of Work Section & Specific Location: See attached description.

Will Project Utilize State Owned Lands? If Yes, Specify: No

Type and extent of work (feet of new channel, yards of material to be removed, draining, dredging, filling, etc). A brief description of the regulated activity (attach supporting details).

See attached description.

Proposed Start Date: MARCH 2022 **Anticipated Completion Date:** October 2022 **Fee Paid** \$1,000

CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief, false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. As a condition to the issuance of a permit, the applicant accepts full legal responsibility for all damage, direct or indirect, or whatever nature, and by whomever suffered, arising out of the project described here-in and agrees to indemnify and save harmless the Town of Carmel from suits, actions, damages and costs of every name and description resulting from the said project.

[Signature]
SIGNATURE

1-26-22
DATE

Note: The Long EAF Part 1 was accepted by the Planning Board in September 2021. The project is classified as a Type II Action.

Full Environmental Assessment Form Part 1 - Project and Setting

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 1 is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: SUEZ Water New York, Inc. – London Bridge Well 1 & 2		
Project Location (describe, and attach a general location map): 39 Brook Street in the Town of Carmel, Putnam County		
Brief Description of Proposed Action (include purpose or need): SUEZ Water is proposing the construction of upgrades at their existing London Bridge Well 1 & 2 site. The proposed upgrades will comply with the new state drinking water regulations for polyfluoroalkyl substances (PFAS). The planned upgrade will add treatment for PFAS to remain below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both Perfluorooctanoic acid (PFOA) and Perfluorooctane sulfonate (PFOS), the regulated compounds. See the attached narrative for details.		
Name of Applicant/Sponsor: SUEZ Water New York, Inc.	Telephone: 845-620-3319	
	E-Mail: steven.garabed@suez.com	
Address: 162 Old Mill Road		
City/PO: West Nyack	State: NY	Zip Code: 10994
Project Contact (if not same as sponsor; give name and title/role): John Atzl - Atzl, Nasher & Zigler, PC	Telephone: 845-634-4694	
	E-Mail: jatzl@anzny.com	
Address: 234 North Main Street		
City/PO: New City	State: NY	Zip Code: 10956
Property Owner (if not same as sponsor): PROPERTY OWNER IS THE SAME AS APPLICANT	Telephone:	
	E-Mail:	
Address:		
City/PO:	State:	Zip Code:

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, <input type="checkbox"/> Yes <input type="checkbox"/> No or Village Board of Trustees		
b. City, Town or Village Planning Board or Commission <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Town of Carmel Planning Board - Site Plan and Conditional Use Approval	August 2021
c. City, Town or Village Zoning Board of Appeals <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Town of Carmel Zoning Board - variance	August 2021
d. Other local agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Town of Carmel Building Department - Building Permit, Sewer Connection Permit	August 2021
e. County agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Putnam County Department of Health	August 2021
f. Regional agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
g. State agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
h. Federal agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
i. Coastal Resources. i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No iii. Is the project site within a Coastal Erosion Hazard Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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):

NYC Watershed Boundary

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):

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?

Residential District

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? Mahopac Central School District

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

Town of Carmel Police Department

c. Which fire protection and emergency medical services serve the project site?

Mahopac Volunteer Fire Department

d. What parks serve the project site?

Airport Field, Sycamore Town Park

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)? Industrial Water Treatment and Supply

b. a. Total acreage of the site of the proposed action? 1.61 acres

b. Total acreage to be physically disturbed? 0.26 acres

c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 1.61 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)? % 194 Units: 726 sq. ft.

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)

ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No

iii. Number of lots proposed? _____

iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☒ No

i. If No, anticipated period of construction: 12 months

ii. If Yes:

- Total number of phases anticipated _____

- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year

- Anticipated completion date of final phase _____ month _____ year

- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, show numbers of units proposed.				
	<u>One Family</u>	<u>Two Family</u>	<u>Three Family</u>	<u>Multiple Family (four or more)</u>
Initial Phase	_____	_____	_____	_____
At completion	_____	_____	_____	_____
of all phases	_____	_____	_____	_____

g. Does the proposed action include new non-residential construction (including expansions)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes,	
i. Total number of structures _____ 1 ii. Dimensions (in feet) of largest proposed structure: _____ 22 height; _____ 22 width; and _____ 33 length iii. Approximate extent of building space to be heated or cooled: _____ 726 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes,	
i. Purpose of the impoundment: _____ ii. If a water impoundment, the principal source of the water: <input type="checkbox"/> Ground water <input type="checkbox"/> Surface water streams <input type="checkbox"/> Other specify: _____ iii. If other than water, identify the type of impounded/contained liquids and their source. _____ iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): _____ _____	

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) If Yes:	
i. What is the purpose of the excavation or dredging? _____ ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site? • Volume (specify tons or cubic yards): _____ • Over what duration of time? _____ iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them. _____ _____ iv. Will there be onsite dewatering or processing of excavated materials? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe. _____ _____ v. What is the total area to be dredged or excavated? _____ acres vi. What is the maximum area to be worked at any one time? _____ acres vii. What would be the maximum depth of excavation or dredging? _____ feet viii. Will the excavation require blasting? <input type="checkbox"/> Yes <input type="checkbox"/> No ix. Summarize site reclamation goals and plan: _____ _____ _____	

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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes:	
i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____ _____	

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:

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☐ No
If Yes, describe: _____

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: _____ gallons/day

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

- Name of district or service area: _____
- 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: _____
- Source(s) of supply for the district: _____

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: _____

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ 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

<ul style="list-style-type: none"> • Do existing sewer lines serve the project site? _____ • Will a line extension within an existing district be necessary to serve the project? _____ <p>If Yes:</p> <ul style="list-style-type: none"> • Describe extensions or capacity expansions proposed to serve this project: _____ _____ _____ 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
<p>iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? _____</p> <p>If Yes:</p> <ul style="list-style-type: none"> • Applicant/sponsor for new district: _____ • Date application submitted or anticipated: _____ • What is the receiving water for the wastewater discharge? _____ 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<p>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): _____ _____ _____</p>		
<p>vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____ _____ _____</p>		
<p>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? _____</p> <p>If Yes:</p> <p>i. How much impervious surface will the project create in relation to total size of project parcel?</p> <p style="margin-left: 40px;">_____ Square feet or _____ acres (impervious surface)</p> <p style="margin-left: 40px;">_____ Square feet or _____ acres (parcel size)</p> <p>ii. Describe types of new point sources. _____</p> <p>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)? _____ _____</p> <p style="margin-left: 40px;">• If to surface waters, identify receiving water bodies or wetlands: _____ _____</p> <p style="margin-left: 40px;">• Will stormwater runoff flow to adjacent properties? _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
<p>iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? _____</p>		
<p>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? _____</p> <p>If Yes, identify:</p> <p>i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles) Construction equipment and vehicles _____</p> <p>ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers) Power generation _____</p> <p>iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation) _____</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<p>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? _____</p> <p>If Yes:</p> <p>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) _____</p> <p>ii. In addition to emissions as calculated in the application, the project will generate:</p> <ul style="list-style-type: none"> • _____ Tons/year (short tons) of Carbon Dioxide (CO₂) • _____ Tons/year (short tons) of Nitrous Oxide (N₂O) • _____ Tons/year (short tons) of Perfluorocarbons (PFCs) • _____ Tons/year (short tons) of Sulfur Hexafluoride (SF₆) • _____ Tons/year (short tons) of Carbon Dioxide equivalent of Hydrofluorocarbons (HFCs) • _____ Tons/year (short tons) of Hazardous Air Pollutants (HAPs) 		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No

<p>h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Estimate methane generation in tons/year (metric): _____</p> <p>ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____</p>			
<p>i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust): _____</p>			
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. When is the peak traffic expected (Check all that apply): <input type="checkbox"/> Morning <input type="checkbox"/> Evening <input type="checkbox"/> Weekend <input type="checkbox"/> Randomly between hours of _____ to _____.</p> <p>ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____</p> <p>iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____</p> <p>iv. Does the proposed action include any shared use parking? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe: _____</p> <p>vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>vii. Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>			
<p>k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Estimate annual electricity demand during operation of the proposed action: _____ 16,335 kWh*</p> <p>ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other): <u>New York State Electric & Gas Corporation</u></p> <p>iii. Will the proposed action require a new, or an upgrade, to an existing substation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>			
<p>l. Hours of operation. Answer all items which apply.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 8AM - 6PM • Saturday: _____ 8AM - 6PM • Sunday: _____ 8AM - 6PM • Holidays: _____ CLOSED </td> <td style="width: 50%; vertical-align: top;"> <p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 24 hours/day • Saturday: _____ 24 hours/day • Sunday: _____ 24 hours/day • Holidays: _____ 24 hours/day </td> </tr> </table>		<p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 8AM - 6PM • Saturday: _____ 8AM - 6PM • Sunday: _____ 8AM - 6PM • Holidays: _____ CLOSED 	<p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 24 hours/day • Saturday: _____ 24 hours/day • Sunday: _____ 24 hours/day • Holidays: _____ 24 hours/day
<p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 8AM - 6PM • Saturday: _____ 8AM - 6PM • Sunday: _____ 8AM - 6PM • Holidays: _____ CLOSED 	<p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 24 hours/day • Saturday: _____ 24 hours/day • Sunday: _____ 24 hours/day • Holidays: _____ 24 hours/day 		

***The average number of kilowatt hours per square foot for a commercial building is approximately 22.5. (Source: Iota Communications.com). The proposed building is 726 sq. ft.**

<p>m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes:</p> <p>i. Provide details including sources, time of day and duration:</p> <p>The operation of construction equipment will increase local daytime ambient noise levels. This will only occur during permitted hours of operation and the resulting noise will cease upon completion of the project.</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<p>ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe: _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>n. Will the proposed action have outdoor lighting? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes:</p> <p>i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:</p> <p>See Lighting Plan</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<p>ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe: _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>o. Does the proposed action have the potential to produce odors for more than one hour per day? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Product(s) to be stored _____</p> <p>ii. Volume(s) _____ per unit time _____ (e.g., month, year)</p> <p>iii. Generally, describe the proposed storage facilities: _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Describe proposed treatment(s): _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>ii. Will the proposed action use Integrated Pest Management Practices? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Describe any solid waste(s) to be generated during construction or operation of the facility:</p> <ul style="list-style-type: none"> • Construction: _____ tons per _____ (unit of time) • Operation : _____ tons per _____ (unit of time) <p>ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:</p> <ul style="list-style-type: none"> • Construction: _____ • Operation: _____ <p>iii. Proposed disposal methods/facilities for solid waste generated on-site:</p> <ul style="list-style-type: none"> • Construction: _____ • Operation: _____ 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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): Industrial Water Treatment and Supply

ii. If mix of uses, generally describe: _____

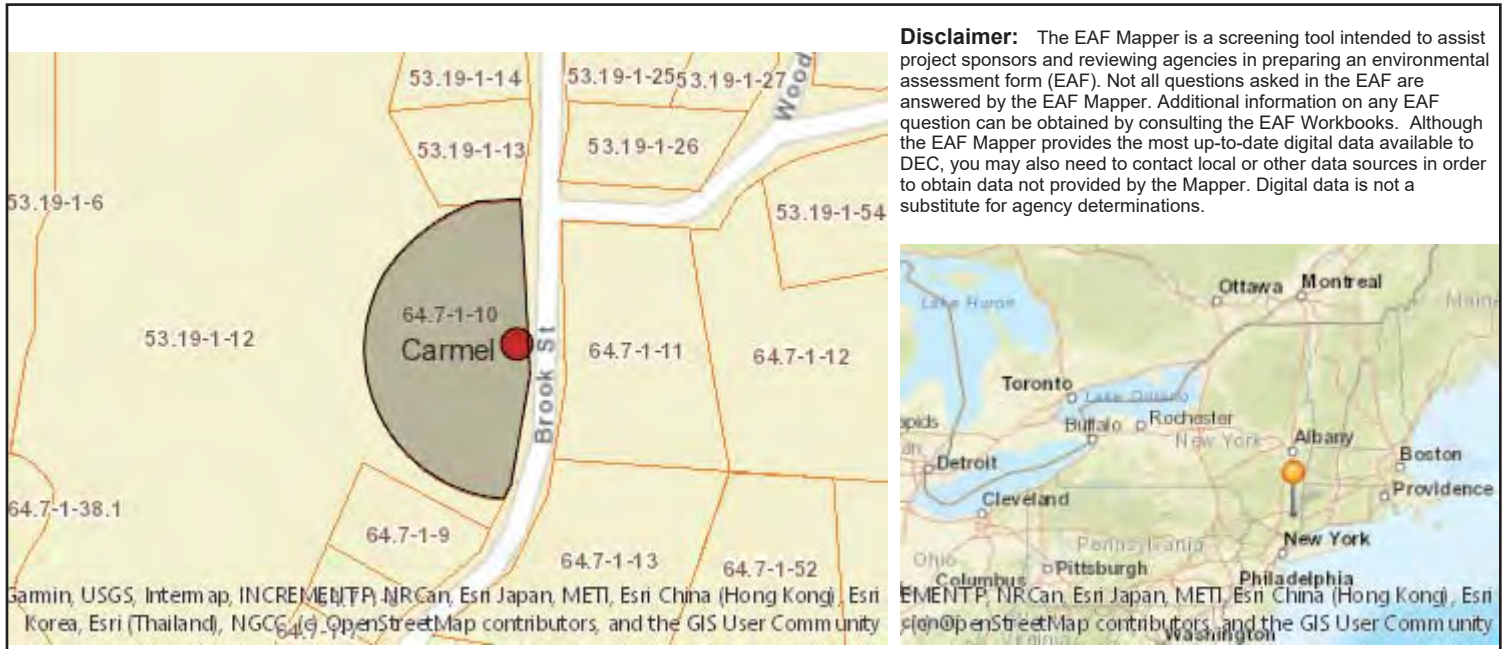
b. Land uses and coverytypes on the project site.

Land use or Coverytype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.07	0.2	+ 0.13
• Forested	1.34	1.21	- 0.13
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0.02	0.02	0
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0.05	0.05	0
• Wetlands (freshwater or tidal)	0.13	0.13	0
• Non-vegetated (bare rock, earth or fill)	0	0	0
• Other Describe: _____			

c. Is the project site presently used by members of the community for public recreation? i. If Yes: explain: _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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? If Yes, i. Identify Facilities: _____ _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
e. Does the project site contain an existing dam? If Yes: i. Dimensions of the dam and impoundment: <ul style="list-style-type: none"> • 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: _____ _____ _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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? If Yes: i. Has the facility been formally closed? _____ • If yes, cite sources/documentation: _____ ii. Describe the location of the project site relative to the boundaries of the solid waste management facility: _____ _____ _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
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? If Yes: i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred: _____ _____ _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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? 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: <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div> <input type="checkbox"/> Yes – Spills Incidents database <input type="checkbox"/> Yes – Environmental Site Remediation database <input type="checkbox"/> Neither database </div> <div> Provide DEC ID number(s): _____ Provide DEC ID number(s): _____ </div> </div> ii. If site has been subject of RCRA corrective activities, describe control measures: _____ _____ _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? If yes, provide DEC ID number(s): _____ iv. If yes to (i), (ii) or (iii) above, describe current status of site(s): _____ _____ _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

v. Is the project site subject to an institutional control limiting property uses? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
<ul style="list-style-type: none"> • 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? <input type="checkbox"/> Yes <input type="checkbox"/> No • Explain: _____ 													
E.2. Natural Resources On or Near Project Site													
a. What is the average depth to bedrock on the project site? _____ > 6.5 feet													
b. Are there bedrock outcroppings on the project site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, what proportion of the site is comprised of bedrock outcroppings? _____ %													
c. Predominant soil type(s) present on project site: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">CrC - Charlton-Chatfield complex</td> <td style="width: 20%; text-align: right;">31 %</td> </tr> <tr> <td>ChC - Charlton fine sandy loam</td> <td style="text-align: right;">35 %</td> </tr> <tr> <td>Ce - Catden muck</td> <td style="text-align: right;">18 %</td> </tr> <tr> <td>CsD - Chatfield-Charlton complex</td> <td style="text-align: right;">16 %</td> </tr> </table>		CrC - Charlton-Chatfield complex	31 %	ChC - Charlton fine sandy loam	35 %	Ce - Catden muck	18 %	CsD - Chatfield-Charlton complex	16 %				
CrC - Charlton-Chatfield complex	31 %												
ChC - Charlton fine sandy loam	35 %												
Ce - Catden muck	18 %												
CsD - Chatfield-Charlton complex	16 %												
d. What is the average depth to the water table on the project site? Average: _____ > 6 feet													
e. Drainage status of project site soils: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;"><input checked="" type="checkbox"/> Well Drained:</td> <td style="width: 60%; text-align: right;">82 % of site</td> </tr> <tr> <td><input type="checkbox"/> Moderately Well Drained:</td> <td style="text-align: right;">_____ % of site</td> </tr> <tr> <td><input checked="" type="checkbox"/> Poorly Drained</td> <td style="text-align: right;">18 % of site</td> </tr> </table>		<input checked="" type="checkbox"/> Well Drained:	82 % of site	<input type="checkbox"/> Moderately Well Drained:	_____ % of site	<input checked="" type="checkbox"/> Poorly Drained	18 % of site						
<input checked="" type="checkbox"/> Well Drained:	82 % of site												
<input type="checkbox"/> Moderately Well Drained:	_____ % of site												
<input checked="" type="checkbox"/> Poorly Drained	18 % of site												
f. Approximate proportion of proposed action site with slopes: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;"><input checked="" type="checkbox"/> 0-10%:</td> <td style="width: 60%; text-align: right;">46 % of site</td> </tr> <tr> <td><input checked="" type="checkbox"/> 10-15%:</td> <td style="text-align: right;">12 % of site</td> </tr> <tr> <td><input checked="" type="checkbox"/> 15% or greater:</td> <td style="text-align: right;">42 % of site</td> </tr> </table>		<input checked="" type="checkbox"/> 0-10%:	46 % of site	<input checked="" type="checkbox"/> 10-15%:	12 % of site	<input checked="" type="checkbox"/> 15% or greater:	42 % of site						
<input checked="" type="checkbox"/> 0-10%:	46 % of site												
<input checked="" type="checkbox"/> 10-15%:	12 % of site												
<input checked="" type="checkbox"/> 15% or greater:	42 % of site												
g. Are there any unique geologic features on the project site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No													
ii. Do any wetlands or other waterbodies adjoin the project site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No													
iv. For each identified regulated wetland and waterbody on the project site, provide the following information: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">• Streams:</td> <td style="width: 50%;">Name _____</td> <td style="width: 40%;">Classification _____</td> </tr> <tr> <td>• Lakes or Ponds:</td> <td>Name _____</td> <td>Classification _____</td> </tr> <tr> <td>• Wetlands:</td> <td>Name Federal Waters, NYS Wetland</td> <td>Approximate Size _____</td> </tr> <tr> <td>• Wetland No. (if regulated by DEC) OL-18</td> <td colspan="2">_____</td> </tr> </table>		• Streams:	Name _____	Classification _____	• Lakes or Ponds:	Name _____	Classification _____	• Wetlands:	Name Federal Waters, NYS Wetland	Approximate Size _____	• Wetland No. (if regulated by DEC) OL-18	_____	
• Streams:	Name _____	Classification _____											
• Lakes or Ponds:	Name _____	Classification _____											
• Wetlands:	Name Federal Waters, NYS Wetland	Approximate Size _____											
• Wetland No. (if regulated by DEC) OL-18	_____												
v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, name of impaired water body/bodies and basis for listing as impaired: _____													
i. Is the project site in a designated Floodway? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
j. Is the project site in the 100-year Floodplain? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
k. Is the project site in the 500-year Floodplain? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes:													
i. Name of aquifer: _____													

<p>m. Identify the predominant wildlife species that occupy or use the project site: _____</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Squirrel _____</td> <td style="width: 33%;">Raccoon _____</td> <td style="width: 33%;">_____</td> </tr> <tr> <td>Deer _____</td> <td>Possum _____</td> <td>_____</td> </tr> <tr> <td>Rabbit _____</td> <td>Fox _____</td> <td>_____</td> </tr> </table>		Squirrel _____	Raccoon _____	_____	Deer _____	Possum _____	_____	Rabbit _____	Fox _____	_____
Squirrel _____	Raccoon _____	_____								
Deer _____	Possum _____	_____								
Rabbit _____	Fox _____	_____								
<p>n. Does the project site contain a designated significant natural community? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Describe the habitat/community (composition, function, and basis for designation): _____</p> <p style="margin-left: 20px;">ii. Source(s) of description or evaluation: _____</p> <p style="margin-left: 20px;">iii. Extent of community/habitat:</p> <ul style="list-style-type: none"> • Currently: _____ acres • Following completion of project as proposed: _____ acres • Gain or loss (indicate + or -): _____ acres 										
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Species and listing (endangered or threatened): _____</p> <p>_____</p> <p>_____</p>										
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Species and listing: _____</p> <p>_____</p> <p>_____</p>										
<p>q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If yes, give a brief description of how the proposed action may affect that use: _____</p> <p>_____</p> <p>_____</p>										
<p>E.3. Designated Public Resources On or Near Project Site</p>										
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes, provide county plus district name/number: _____</p>										
<p>b. Are agricultural lands consisting of highly productive soils present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p style="margin-left: 20px;">i. If Yes: acreage(s) on project site? _____</p> <p style="margin-left: 20px;">ii. Source(s) of soil rating(s): _____</p>										
<p>c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Nature of the natural landmark: <input type="checkbox"/> Biological Community <input type="checkbox"/> Geological Feature</p> <p style="margin-left: 20px;">ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____</p> <p>_____</p> <p>_____</p>										
<p>d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. CEA name: _____</p> <p style="margin-left: 20px;">ii. Basis for designation: _____</p> <p style="margin-left: 20px;">iii. Designating agency and date: _____</p>										



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	NYC Watershed Boundary
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 - Wetlands Name]	Federal Waters, NYS Wetland
E.2.h.iv [Surface Water Features - Wetlands Size]	NYS Wetland (in acres):200.4
E.2.h.iv [Surface Water Features - DEC Wetlands Number]	OL-18
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No

E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
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

Project Description

General Project Information

Applicant: SUEZ Water New York, Inc.

Project: PFAS Compliance Project F – London Bridge Well

Location: Town of Carmel
Putnam County, New York

Consultant: Gannett Fleming, Inc.
207 Senate Avenue
Camp Hill, PA 17011

Introduction

SUEZ is proposing the construction of upgrades at their existing London Bridge well site. The proposed study area (41° 21' 01.238" N, 73° 45' 03.518" W) is located in the Town of Carmel, Putnam County, New York. The project study area for this project encompassed the entire SUEZ property. During delineation efforts an additional 300-foot buffer was reviewed around the project study area and is referred to in the permit application as the action area. Refer to the Topographic Location Map and Aerial Layout Map for the location and project limits located in **Section A**.

Project Purpose and Need

The State of New York has adopted a new drinking water standard that sets a Maximum Contaminant Level (MCL) of 10 parts per trillion (ppt) for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) in drinking water. Some PFAS do not breakdown easily and persist for a long time in the environment, especially in water. The concern of PFAS chemicals having toxic effects on public health has resulted in new regulations for the New York State Drinking Water Standard.

In order to comply with these new MCLs, SUEZ plans to construct a treatment facility at the existing London Bridge Well Site.

Necessary upgrades were identified based on the water quality sampling results. The site upgrades include upsizing of the existing well pumps, installation of a prefiltration system consisting of bag filters, and installation of a GAC treatment system. The planned upgrades will not increase the firm capacity of the wells.

Architectural, civil, electrical, structural, HVAC and plumbing upgrades will also be implemented to accommodate the new treatment system at the existing location.

Project Description Details

Improvements at the London Bridge site shall include the installation of a PFAS building, underground influent and effluent piping, underground electrical conduits, and a 15' gravel driveway. A perimeter fence shall be installed around the outside of the London Bridge location. Disturbance will be kept to a minimum and avoidance measures have been considered during the design phase of the project.

Project Area Description

The proposed PFAS upgrades will be installed within the existing SUEZ property located on the west side of Brook Street in the Town of Carmel, New York. The proposed project study area is approximately 0.7 acres and is located immediately south of the intersection of Brook Street and Woodland Road. The action area surrounding the project study area is approximately 12 acres. The project study area and action area consist of predominantly forested area, gravel parking area, existing well infrastructure, rural residential properties, and local roads.

Water resources within or adjacent to the project area include unnamed tributaries to the Muscoot River as identified by NYSDEC freshwater mapping, National Wetland Inventory mapping, and U.S. Geological Survey topographical mapping. Additional water resources were identified during field investigations.

Project Impacts

One parcel was impacted by the SUEZ PFAS project. Project design will impact one regulated feature and the intent of this package is to obtain approvals from the Town. Refer to the Wetland Delineation Report provided in **Section B** for more information regarding these resources.

The proposed project limit of disturbance overlaps NYSDEC regulated freshwater wetlands, regulated freshwater wetland buffers and USACE regulated wetlands. As per the site visit conducted on June 7, 2021, NYSDEC has accepted the USACE regulated wetland boundary as the NYSDEC freshwater wetland boundary. Therefore, the USACE regulated wetland boundary and NYSDEC freshwater wetland boundary coincide with one another.

There are both permanent and temporary impacts associated with the construction of the PFAS structure, driveway and infrastructure. Reclamation to the portion of the wetlands with temporary

impacts will take place as soon as construction is complete. All impacts that are permanent in nature are outlined and mitigation is proposed.

Please see **Section C** for a typical diagram of construction.

Regulated Activities

Wetland Impacts

The Town of Carmel will regulate impacts at the London Bridge Well site that temporarily impact Wetland 1. The temporary impacts include the areas required for the installation of temporary erosion and sediment control to protect the surrounding portions of Wetland 1. All controls shall be removed once construction is complete and the area shall be restored and allowed to revegetate back to pre-construction conditions. There are no USACE regulated permanent wetland impacts associated with the London Bridge site. Below are the calculated impacts to the wetland and within 100 feet adjacent to the wetlands.

Wetland Impacts

- 1,456.05 ft²; 0.033 ac

Impacts to 100' Buffer

- 19,497.03 ft²; 0.448 ac

There are no stream impacts associated with this project.

Section A: Topographic Location Map and Aerial Layout Map

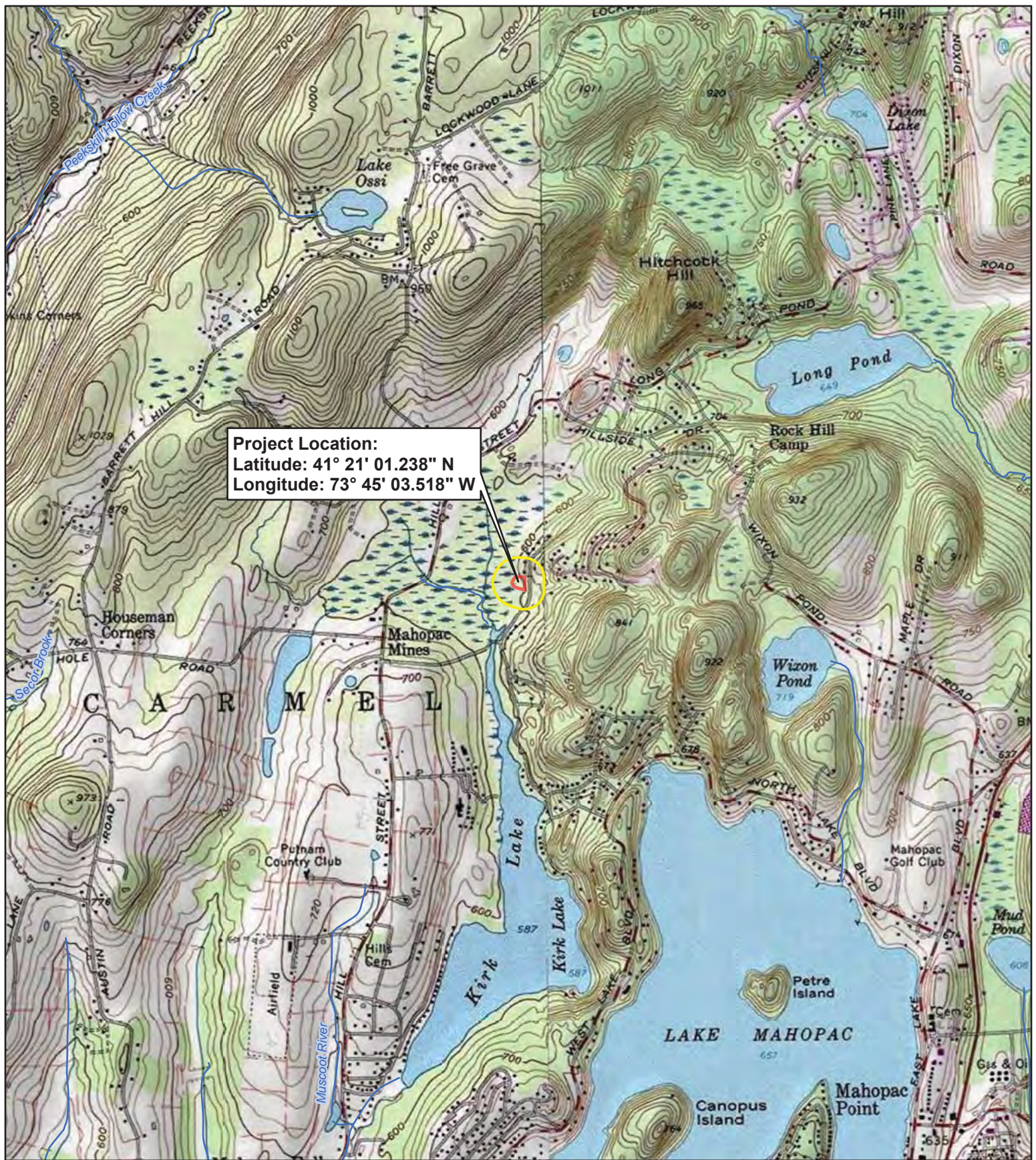


FIGURE 1
USGS TOPOGRAPHIC LOCATION MAP
OSCAWANA LAKE AND LAKE CARMEL, NY
7.5-MINUTE QUADRANGLES

SUEZ Water New York, Inc.
 PFAS Compliance Project F - London Bridge Well
 Town of Carmel,
 Putnam County, NY

Legend

- Streams
- Project Study Area
- Action Area



Gannett Fleming

SCALE: 1 in = 2,000 ft

0 1,000 2,000 4,000
 Feet






FIGURE 2

**PROJECT LOCATION AND
STUDY AREA MAP**

SUEZ Water New York, Inc.
PFAS Compliance Project F - London Bridge Well
Town of Carmel,
Putnam County, NY

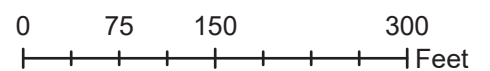
Legend

-  Streams
-  Action Area
-  Project Study Area



Gannett Fleming

SCALE: 1 in = 150 ft



Section C: Typical diagram of construction

Note: Please refer to the attached Site Plan set.

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT



SUEZ Water New York, Inc. PFAS Compliance Project F – London Bridge Well

Town of Carmel, Putnam County, New York

Prepared for:

SUEZ Water New York, Inc.
162 Old Mill Rd
West Nyack, NY 10994

Prepared by:

 **Gannett Fleming**
207 Senate Avenue
Camp Hill, PA 17011

May 2021

GF Project No. 068577

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT

SUEZ Water New York Inc. PFAS Compliance Project F – London Bridge Well Town of Carmel, Putnam County, New York

Prepared for:

SUEZ Water New York, Inc.

Prepared by:



Gannett Fleming

May 2021

TABLE OF CONTENTS

1.0	Executive Summary.....	1
2.0	Project Description	3
3.0	Purpose.....	3
4.0	Study Area Description.....	3
4.1	Topography.....	3
4.2	Soils.....	4
4.3	Geology	4
4.4	Surface Waters	4
4.5	National Wetlands Inventory	4
4.6	NYSDEC Wetlands.....	5
5.0	Methods	11
6.0	Field Observations and Delineated Features.....	12
6.1	Waterbodies & Wetlands.....	13
6.2	Waterways	13
7.0	Wetland & Waterway Resource Summary.....	13
8.0	References.....	14
9.0	List of Contributors	16

FIGURES

Figure 1.	USGS Topographic Location Map.....	6
Figure 2.	Project Location and Study Area Map	7
Figure 3.	Soil Survey Map.....	8
Figure 4.	National Wetlands Inventory Map.....	9
Figure 5.	NYSDEC Wetlands Map.....	10

TABLES

Table 1.	Wetland and Waterway Summary.....	2
Table 2.	Dominant Plant Species List	12
Table 3.	Delineated Wetland Resource Summary	13

APPENDICES

APPENDIX A – WETLANDS AND WATERWAYS MAPPING

APPENDIX B – SITE PHOTOGRAPHS AND PHOTOGRAPH LOCATION MAP

APPENDIX C – WETLAND FIELD DATA FORMS

1.0 Executive Summary

SUEZ Water New York, Inc. (SUEZ) is proposing the construction of upgrades at their existing London Bridge well site. The proposed study area (41°21'01.238"N, 73°45'03.518"W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for per- and polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), the regulated compounds.

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with U.S. Fish and Wildlife Service (USFWS). The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area and action area. This report was prepared to satisfy the regulatory requirements of the U.S. Army Corps of Engineers (USACE) under the purview of Section 404 of the Clean Water Act and New York State Department of Environmental Conservation (NYSDEC) under Article 24, Freshwater Wetlands Act.

On April 22, 2021, Gannett Fleming, Inc. (GF) conducted a field investigation to delineate wetlands and waterways within the 0.7-acre project study area and 12-acre action area for use in project planning and permitting efforts for PFAS Compliance Project F – London Bridge Well. One (1) wetland and one (1) waterway were delineated within the project study area and action area (**Table 1**). Wetland and waterway boundaries were mapped in the field and are presented in **Appendix A**. Photographs were taken of the wetlands and waterways and are provided in **Appendix B**. Wetland data forms were completed to document the hydrology, vegetation, and soil conditions of the delineated wetlands and are provided in **Appendix C**.

Table 1. Wetland and Waterway Summary

PROJECT TOTALS		
WETLANDS		
Feature Type	Number Present	Total Acres (AC)
▪ PFO Wetland	1	4.30+
WATERWAYS		
Feature Type	Number Present	Total Linear Feet (LF)
▪ Perennial Waterway	1	708+

Wetlands

- Wetland 1 – PFO wetland, 4.30+ acre (Open-Ended)

Waterways

- Stream 1 – Perennial, Unnamed Tributary to Muscoot River, 708+ linear feet

**Length in linear feet for Stream 1 was delineated in the field west of Brook Street. East of Brook Street, the length of Stream 1 was digitized and measured using aerial imagery*

A “+” indicates the delineated resource extends beyond the Project Study Area or Action Area.

2.0 Project Description

SUEZ Water New York, Inc. (SUEZ) is proposing the construction of upgrades at their existing London Bridge well site. The proposed study area (41°21'01.238"N, 73°45'03.518"W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for per- and polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both PFOA and PFOS, the regulated compounds

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with USFWS. The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

The proposed PFAS upgrades will be installed within the existing SUEZ property located on the west side of Brook Street in the Town of Carmel, New York. The proposed project study area is approximately 0.7 acres and is located immediately south of the intersection of Brook Street and Woodland Drive. The action area surrounding the project study area is approximately 12 acres. The project study area and action area consist of predominantly forested area, gravel parking area, existing well infrastructure, rural residential properties, and local roads.

3.0 Purpose

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area and action area. This report was prepared to satisfy the regulatory requirements of the USACE under the purview of Section 404 of the Clean Water Act and NYSDEC under Article 24, Freshwater Wetlands Act.

4.0 Study Area Description

A 300-foot buffer was used surrounding the project study area to create the action area. The project study area encompassed approximately 0.7 acres and consisted of a gravel parking area and existing well infrastructure. The action area is approximately 12 acres and is bordered by forested wetlands to the west, and residential properties, mixed forest and local roads to the north, east, and south.

4.1 Topography

According to the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps (Oscawana Lake, New York, and Lake Carmel, New York), the elevation of the project study area is approximately 600 feet above mean sea level (amsl). An excerpt from the USGS Topographic Quadrangle Map is provided as **Figure 1**. A Project Location and Study Area Map is provided as **Figure 2**.

4.2 Soils

According to the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey, four (4) soil series were mapped within the action area: Catden muck, 0 to 2 percent slopes (Ce), Charlton fine sandy loam, 8 to 15 percent slopes (ChC), Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky (CrC), and Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky (CsD). Ce is listed as 100% hydric, CrC is listed as having 5% hydric inclusions, and CsD is listed as having 6% hydric inclusions. ChC listed as non-hydric. An excerpt from the soil survey mapping is provided as **Figure 3**.

4.3 Geology

The project is located in the Hudson Highlands Section of the Physiographic Provinces of New York (NYSM, 1995). The project study area is underlain by the Biotite-quartz-plagioclase paragneiss (bqpc) unit of bedrock; the bqpc unit that underlays the project study area consists of “biotite-quartz-plagioclase gneiss with subordinate biotite granitic gneiss, amphibolite, calcsilicate rock” assumed to be from the Middle Proterozoic period (NYSM, 1995). The project is also underlain by the surficial geologic unit till (t) defined by “variable texture (e.g. clay, silt-clay, boulder clay), usually poorly sorted diamict, deposition beneath glacier ice, relatively impermeable (loamy matrix), variable clast content...potential land instability on steep slopes, thickness variable (1-50 meters)” (NYSM, 1989).

4.4 Surface Waters

The USGS map did not identify any waterways within the project study area or action area. The USGS identified an unnamed tributary (UNT) to the Muscoot River west of the action area (**Figure 1**). The UNT to Muscoot River flows into Kirk Lake south of the project study area. No other streams or waterbodies were identified on USGS mapping within or immediately adjacent to the project study area or action area.

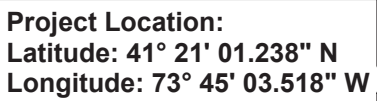
NYSDEC has designated the UNT to the Muscoot River as water quality classification “C”. This classification indicates that the water resource is best used for fishing and non-contact activities. A ‘C’ classification is not considered protected waters of the state.

4.5 National Wetlands Inventory

The National Wetlands Inventory (NWI) online mapping tool identified three (3) features within the project study area and action area. NWI identified a palustrine, forested, broad-leaved deciduous, seasonally flooded/saturated (PFO1E) feature within the western portion of the project study area and action area. A riverine, intermittent, streambed, seasonally flooded (R4SBC) feature was identified east of the project study area within the action area. An additional linear palustrine, forested, broad-leaved deciduous, temporarily flooded (PFO1A) feature was identified east of project study area within the action area. The NWI map for the project study area is provided as **Figure 4**.

4.6 NYSDEC Wetlands

NYSDEC identified one (1) state regulated freshwater wetland within a small portion of the project study area and the western portion of the action area. Wetland OL-18 is a Class 1 wetland totaling 200.4 acres. The western portion of the project study area is within the 100-foot regulated buffer of this wetland. The 500-foot checkzone extended to the eastern extent of the action area. The NYSDEC wetlands map for the project study area is provided as **Figure 5**.



**USGS TOPOGRAPHIC LOCATION MAP
SCAWANA LAKE AND LAKE CARMEL, N
7.5-MINUTE QUADRANGLES**

Putnam County, NY

 Action Area

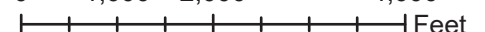







FIGURE 2

**PROJECT LOCATION AND
STUDY AREA MAP**

SUEZ Water New York, Inc.
PFAS Compliance Project F - London Bridge Well
Town of Carmel,
Putnam County, NY

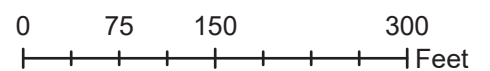
Legend

-  Streams
-  Action Area
-  Project Study Area



Gannett Fleming

SCALE: 1 in = 150 ft



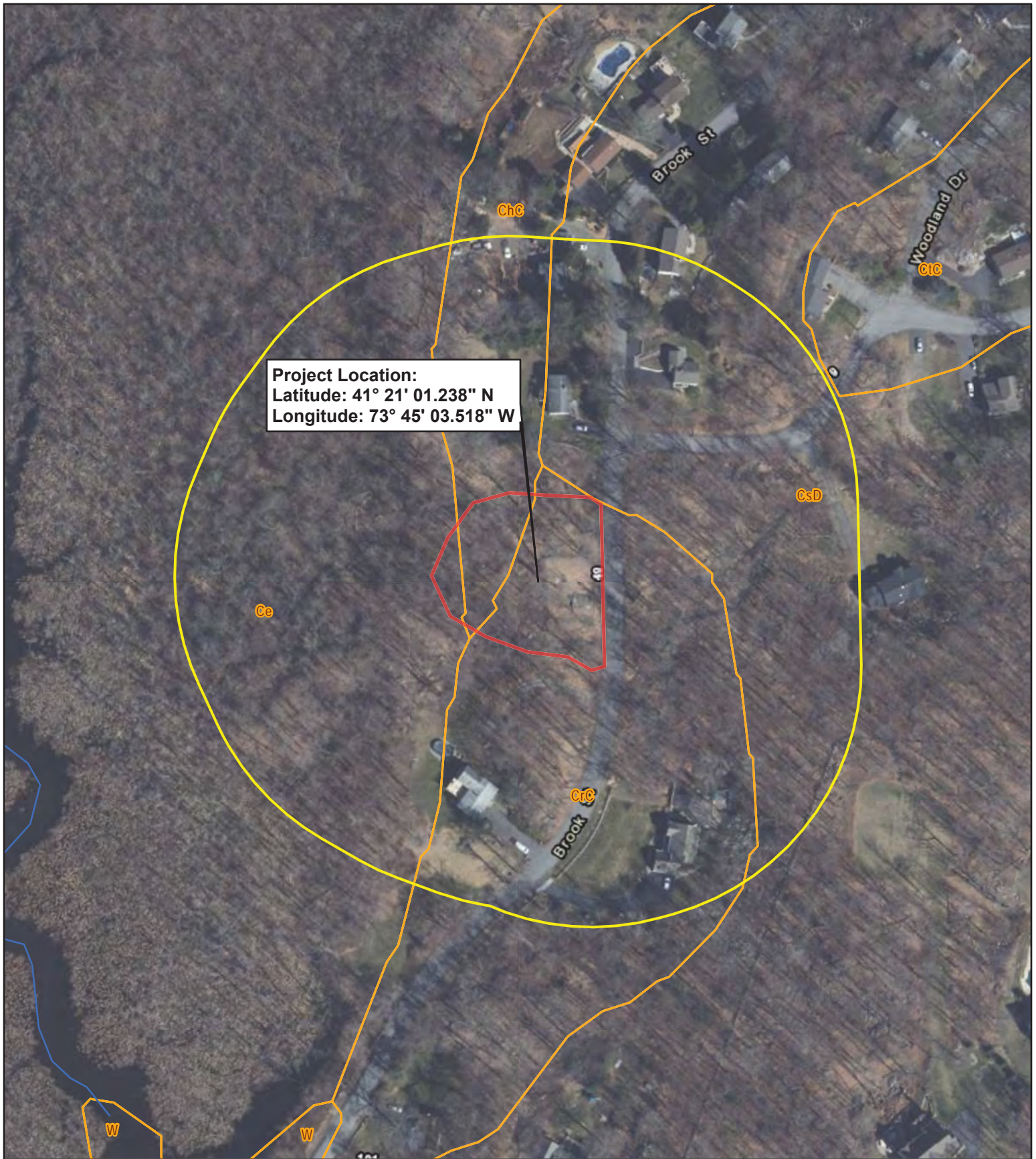


FIGURE 3

SOIL SURVEY MAP

SUEZ Water New York, Inc.
 PFAS Compliance Project F - London Bridge Well
 Town of Carmel,
 Putnam County, NY

Legend

- Streams
- Action Area
- Project Study Area
- Putnam Co. Soils



Gannett Fleming

SCALE: 1 in = 150 ft

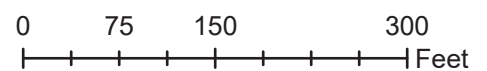




FIGURE 4

NATIONAL WETLANDS INVENTORY MAP

SUEZ Water New York, Inc.
PFAS Compliance Project F - London Bridge Well
Town of Carmel,
Putnam County, NY

Legend

- Streams
- Action Area
- Project Study Area
- NWI Wetlands**
- Freshwater Forested/
Shrub Wetland
- Lake
- Riverine



Gannett Fleming

SCALE: 1 in = 150 ft

0 75 150 300
Feet



FIGURE 5

NYSDEC WETLANDS MAP

SUEZ Water New York, Inc.
PFAS Compliance Project F - London Bridge Well
Town of Carmel,
Putnam County, NY

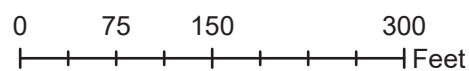
Legend

- Streams
- Action Area
- Project Study Area
- NYSDEC Freshwater Wetland Boundary
- NYSDEC Freshwater Wetland 100' Buffer
- NYSDEC Freshwater Wetland Checkzone



Gannett Fleming

SCALE: 1 in = 150 ft



5.0 Methods

The 0.7-acre project study area and 12-acre action area were investigated for palustrine wetland indicators of vegetative composition, soil development, and hydrology. Portions of the action area east of Brook Street were not investigated due to property access issues but conditions were documented from the road. The investigation was conducted in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (U.S. Army Corps of Engineers, 2012). Wetland field data forms were completed to document wetland or non-wetland data points. If present, wetlands within and directly adjacent to the study area were delineated so that their presence could be shown on project mapping to aid in impact avoidance and/or minimization during engineering design.

Soils were characterized by evaluating the upper horizons of the soil profile. Soil pits were dug using a “sharpshooter” spade with a 16-inch blade. Soil horizons were evaluated using normal field protocols for determining texture and nomenclature. The *Munsell Soil Color Charts* (Kollmorgen Instruments Corporation, 1994) were used to determine the colors of horizons and redoximorphic features. Soil observations of reducing conditions were determined in the field using presence/absence determinations of redoximorphic concretions and oxidized rhizospheres, and identifying low chroma matrices according to *Field Indicators of Hydric Soils in the United States (Version 7.0)* (USDA-NRCS, 2010).

Vegetation was identified using *A Field Guide to Trees and Shrubs* (Petrides, 1986), *Newcomb's Wildflower Guide* (Newcomb, 1977), and *Grasses: An Identification Guide* (Brown, 1979). Plant species were assigned an indicator status [i.e., Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), or Obligate Wetland (OBL)] based on the *2018 National Wetland Plant List (Version 3.4)* (USACE, 2018).

Data point locations were investigated for primary and secondary wetland hydrology indicators. If present, wetland boundaries were marked using pink wetland flagging. Wetland boundary data points were located using a Trimble Geo 7X Global Positioning System (GPS) with Trimble Tornado receiver. The Trimble Geo 7X and the Tornado are capable of attaining sub-meter accuracy. The GPS data were then transferred onto relevant project mapping using the U.S. State Plane NY East coordinate system.

Wetland type classifications were assigned to each wetland following the Cowardin et al methods (1979). Hydrogeomorphic classifications were assigned to each wetland based on the *Hydrogeomorphic Wetland Classification: HGM Classification for Wetlands of the Mid-Atlantic Region, USA* (Brooks, 2017). Palustrine plant community classifications were assigned to each wetland based on *Ecological Communities of New York State* (Edinger et al, 2014). Color photographs were taken of all relevant features to document site conditions during the time of the investigation.

Waterways were identified through a review of available mapping and field investigation. Topographic and engineering maps were reviewed for the presence of streams within the project study area. A field investigation for waterways was performed in conjunction with the wetland field investigation and included the field verification of mapped watercourses and the identification and delineation of streams, springs, and seeps that were not shown on existing engineering plans. Waterways were identified by the presence of bed and banks and/or ordinary

high-water marks. The flow regime of each identified waterway was characterized based upon field indicators of hydrologic, floral, and faunal character at the time of the investigation. All identified waterways were photographed and located using GPS.

6.0 Field Observations and Delineated Features

On April 22, 2021, GF investigated the 0.7-acre project study area and 12-acre action area for wetlands and waterways. The weather conditions were mostly sunny and windy with a high temperature of 46°F. Precipitation data indicated no precipitation occurred on the day of the investigation and 0.17 inch of precipitation fell across the region within the 48 hours prior to the field investigation. Weather data was recorded at Danbury Municipal Airport Station in Danbury, CT, approximately 14 miles east of the project study area.

The dominant land-uses within and surrounding the project study area and action area included residential properties, mixed forests, local roads, and mowed lawns. Dominant vegetation observed within the project study area is summarized in **Table 2**.

Table 2. Dominant Plant Species List

Scientific Name	Common Name	Indicator Status
Tree Species		
<i>Acer rubrum</i>	Red Maple	FAC
<i>Quercus velutina</i>	Black Oak	NL
<i>Betula alleghaniensis</i>	Yellow Birch	FAC
<i>Ostrya virginiana</i>	Eastern Hop-Hornbeam	FACU
Shrub Species		
<i>Lindera benzoin</i>	Northern Spicebush	FACW
<i>Rosa multiflora</i>	Multiflora Rose	FACU
<i>Berberis thunbergii</i>	Japanese Barberry	FACU
<i>Euonymus alatus</i>	Burning Bush	UPL
<i>Vaccinium corymbosum</i>	Highbush Blueberry	FACW
<i>Lonicera tatarica</i>	Tartarian Honeysuckle	FACU
Herb Species		
<i>Alliaria petiolata</i>	Garlic Mustard	FACU
<i>Symplocarpus foetidus</i>	Skunk Cabbage	OBL
<i>Osmundastrum cinnamomeum</i>	Cinnamon Fern	FACW
<i>Veratrum viride</i>	American False Hellebore	FACW
<i>Erythronium americanum</i>	Yellow Trout Lily	NL
Vine Species		
<i>Vitis sp.</i>	Grape Species	-

6.1 Waterbodies & Wetlands

During the field investigation, one (1) palustrine wetland complex was delineated within the project study area and action area. Delineated wetlands are listed in **Table 3** with their respective delineated area, Cowardin Classification, hydrogeomorphic (HGM) wetland classification, and Ecological Community of New York State. Wetland boundaries were mapped and are presented in **Appendix A**. Photographs were taken of the wetlands and are provided in **Appendix B**. The Wetland Determination Data Forms are provided in **Appendix C**.

Table 3. Delineated Wetland Resource Summary

Wetland ID	Area (acre)	Cowardin Classification	HGM Wetland Classification	Ecological Community
Wetland 1	4.30+ (Open-Ended)	PFO	Riverine Lower Perennial (R2)	Red-Maple Hardwood Swamp

6.2 Waterways

During the field investigation, one (1) waterway was identified and delineated within the project study area and action area.

Stream 1, perennial, 708+ linear feet

Stream 1 was identified in the field within the project study area and action area. Stream 1 flows from east to west, through Wetland 1, and out of the action area towards the Muscote River. The stream flows under Brook Street through a culvert into the project study area. The stream was not able to be delineated on the east side of Brook Street due to property access issues.

Channel Width	Bank Height	Water Depth	Substrate
3-5 feet	2 feet	2-4 inches	Boulder, Cobble, Gravel

7.0 Wetland & Waterway Resource Summary

The field investigation conducted by GF on April 22, 2021, identified and delineated one (1) wetland and one (1) waterway in conjunction with the PFAS Compliance Project F – London Bridge Well. The following features were delineated in the field:

Wetlands (Field Delineated)

- Wetland 1 – PFO wetland, 4.30+ acre (Open-Ended)

Waterways (Field Delineated)

- Stream 1 – Perennial, Unnamed Tributary to Muscote River, 708+ linear feet

**Length in linear feet for Stream 1 was delineated in the field west of Brook Street. East of Brook Street, the length of Stream 1 was digitized and measured using aerial imagery.*

A “+” indicates the delineated resource extends beyond the Project Study Area or Action Area.

8.0 References

- Brooks, R.P., M.M. Brinson, K.J. Havens, C.S. Hershner, R.D. Rheinhardt, D.H. Wardrop, D.F. Whigham, A.D. Jacobs, and J.M. Rubbo. 2011. *Proposed hydrogeomorphic classification for wetlands of the Mid-Atlantic Region, USA*. *Wetlands* 31(2):207-219.
- Brown, L. 1979. *Grasses: An Identification Guide*. Houghton Mifflin Company; Boston, New York, London.
- Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, D.C.
- Edinger, et al. 2014. *Ecological Communities of New York State: Second Edition*. New York Natural Heritage Program, Albany, NY.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS. Technical Report Y-87-1.
- Munsell. 2015. *Munsell Soil Color Charts*, 2009 Year Revised. Munsell Color, x-rite. 4300 44th Street, Grand Rapids, MI 49512.
- Newcomb, Lawrence. 1977. *Newcomb's Wildflower Guide*. Little, Brown and Company.
- New York State Museum (NYSM). 1989. *Surficial Geologic Map of New York: Lower Hudson Sheet*. Map prepared by the New York State Geological Survey.
- New York State Museum (NYSM). 1995. *Geologic Map of New York: Lower Hudson Sheet*. Map prepared by the New York State Geological Survey.
- New York State Museum (NYSM). 1995. *Physiographic Provinces of New York*, adapted from 1946 version. Map prepared by the New York State Geological Survey.
- Petrides, George A. 1986. *A Field Guide to Trees and Shrubs*. New York: Houghton Mifflin Co.
- U.S. Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*. ERDC/EL TR-12-9. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center.
- U.S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4. <http://wetland-plants.usace.army.mil/>. U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH.
- United States Department of Agriculture - Natural Resources Conservation Service. 2010. *Field Indicators of Hydric Soils in the United States*, Version 7.0. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

- U.S. Department of Agriculture - Natural Resources Conservation Service. 2019 Web Soil Survey. Accessed April 28, 2021. <http://websoilsurvey.nrcs.usda.gov/app/>
- U.S. Fish and Wildlife Service. National Wetlands Inventory NWI Wetlands Online Mapper. Accessed April 28, 2021. <http://www.fws.gov/wetlands/Data/mapper.html>
- U.S. Geological Survey. 2013. Topographic Map 7.5' Quadrangle, Lake Carmel, New York.
- U.S. Geological Survey. 2013. Topographic Map 7.5' Quadrangle, Oscawana Lake, New York.
- Weather Underground. 2021. “*Danbury, CT Weather History.*” Available online at <https://www.wunderground.com/>. Accessed April 28, 2021.

9.0 List of Contributors

Steven C. Smith, Senior Environmental Scientist

38 Hour U.S. Army Corps of Engineers Wetland Delineator Certification Training Program

PennDOT Phase I Bog Turtle Habitat Evaluation Training

Professional Experience: 21 years

Education: B.S. Geoenvironmental Studies

Jillian Arnold, Senior Environmental Scientist

36-Hour Swamp School Wetland Delineation & Regional Supplement Training

Society of Wetland Scientists, Professional Wetland Scientist (PWS) #2736

PennDOT Phase I Bog Turtle Habitat Evaluation Training

Professional Experience: 17 years

Education: B.S., Geoenvironmental Studies, GIS Certificate

M.S., Biology

Clayton D. Frey, Environmental Scientist

36-Hour Swamp School Wetland Delineation and Regional Supplement Training

24-Hour OSHA Hazardous Waste Operations and Emergency Response Certification

Professional Experience: 3 years

Education: B.S., Wildlife and Fisheries Science

Kayla Briggs, Environmental Scientist

ESRI MOOC Do it Yourself Geo Apps (6-Week Course)

ESRI Web Courses and Online Training Seminars

Professional Experience: 11 years

Education: B.S., Geoenvironmental Studies, GIS Certificate

APPENDIX A

WETLANDS AND WATERWAYS MAPPING



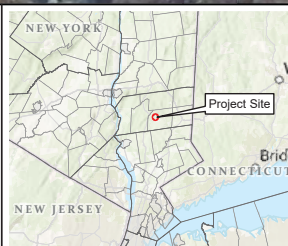
WETLANDS AND WATERWAYS MAPPING

SUEZ Water New York, Inc.
PFAS Compliance Project F - London Bridge

Town of Carmel,
Putnam County, NY

Legend

- Project Study Area
- Action Area
- Delineation Data
- Test Pits
- Flag Locations
- Stream Digitized from Aerial
- Stream Field Delineated
- Wetland Boundary
- Wetland Type
- PFO



SCALE: 1 in = 100 ft

0 50 100 200 Feet

APPENDIX B

SITE PHOTOGRAPHS AND

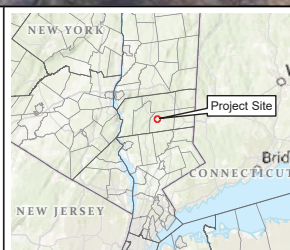
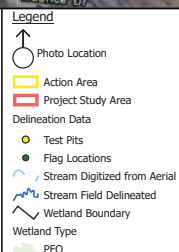
PHOTOGRAPH LOCATION MAP



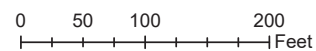
PHOTOGRAPH LOCATION MAP

SUEZ Water New York, Inc.
PFAS Compliance Project F - London Bridge

Town of Carmel,
Putnam County, NY



SCALE: 1 in = 100 ft



Appendix B – Site Photographs



Photograph 1: Overview of SP-W1A, a wetland test pit recorded within Wetland 1 (PFO), looking towards the project site. (facing east; 4/22/2021)



Photograph 2: Overview of SP-W1B, a wetland test pit recorded within Wetland 1 (PFO), looking towards the project site. (facing east; 4/22/2021)

Appendix B – Site Photographs



Photograph 3: Overview of Wetland 1 (PFO), taken south of Stream 1. (facing west; 4/22/2021)



Photograph 4: Overview of Wetland 1 (PFO), taken north of test pit SP-W1A. (facing west; 4/22/2021)

Appendix B – Site Photographs



Photograph 5: Overview of Wetland 1 (PFO), taken near the northwestern extent of the action area. (facing west; 4/22/2021)



Photograph 6: Upstream view of Stream 1, taken from culvert on Brook Street. (facing east; 4/22/2021)

Appendix B – Site Photographs



Photograph 7: Downstream view of Stream 1, flowing from culvert under Brook Street. (facing west; 4/22/2021)



Photograph 8: View of Stream 1, looking upstream towards Brook Street. (facing east; 4/22/2021)

Appendix B – Site Photographs



Photograph 9: View of Stream 1 running through Wetland 1. (facing southwest; 4/22/2021)



Photograph 10: View of SP-U1A, and upland test pit taken to document conditions surrounding Wetland 1, looking towards the existing well site. (facing east; 4/22/2021)

Appendix B – Site Photographs



Photograph 11: View of SP-U1B, an upland test pit taken adjacent to Wetland 1 and Stream 1 to document conditions adjacent to these habitats. (facing east; 4/22/2021)



Photograph 12: Overview of the existing well site, taken from Brook Street. (facing southwest; 4/22/2021)

Appendix B – Site Photographs



Photograph 13: Overview of proposed gravel drive and PFAS building location on north side of the existing well site. (facing west; 4/22/2021)

APPENDIX C

WETLAND FIELD DATA FORMS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: London Bridge City/County: Putnam County Sampling Date: April 22, 2021
 Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-W1A
 Investigator(s): S. Smith, C. Frey Section, Township, Range: Town of Carmel
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR or MLRA): LRR R Lat: 41.400529 Long: 73.751104 Datum: NAD83
 Soil Map Unit Name: Charlton fine sandy loam, 8 to 15 percent slopes (ChC) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		If yes, optional Wetland Site ID: <u>W1A</u>	
Remarks: (Explain alternative procedures here or in a separate report.)					
Small lobe of larger PFO wetland complex.					

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input checked="" type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u>		
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-W1A

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)														
2. <u>Ostrya virginiana</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>70</u>	= Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>0</u> (A)	<u>0</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>N/A</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Symplocarpus foetidus</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Impatiens capensis</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
3. <u>Symplocarpus foetidus</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>37</u>	= Total Cover															
Woody Vine Stratum (Plot size: <u>N/A</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															
Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																		
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: SP-W1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, |
| <input type="checkbox"/> Histic Epipedon (A2) | MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ROOTS

Depth (inches): 10+

Hydric Soil Present? Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: London Bridge City/County: Putnam County Sampling Date: April 22, 2021
Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-W1B
Investigator(s): S. Smith, C. Frey Section, Township, Range: Town of Carmel
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR or MLRA): LRR R Lat: 41.400394 Long: 73.751165 Datum: NAD83
Soil Map Unit Name: Charlton fine sandy loam, 8 to 15 percent slopes (ChC) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	If yes, optional Wetland Site ID: <u>W1B</u>
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (Explain alternative procedures here or in a separate report.)

Small lobe of larger wetland complex.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____		
Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>3</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>3</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks:			

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-W1B

Tree Stratum (Plot size: <u>N/A</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40.00</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u>	= Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>1</u></td> <td>x 1 = <u>1</u></td> </tr> <tr> <td>FACW species <u>1</u></td> <td>x 2 = <u>2</u></td> </tr> <tr> <td>FAC species <u>1</u></td> <td>x 3 = <u>3</u></td> </tr> <tr> <td>FACU species <u>3</u></td> <td>x 4 = <u>12</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>6</u> (A)</td> <td><u>18</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.00</u>	Total % Cover of:	Multiply by:	OBL species <u>1</u>	x 1 = <u>1</u>	FACW species <u>1</u>	x 2 = <u>2</u>	FAC species <u>1</u>	x 3 = <u>3</u>	FACU species <u>3</u>	x 4 = <u>12</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>6</u> (A)	<u>18</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>1</u>	x 1 = <u>1</u>																	
FACW species <u>1</u>	x 2 = <u>2</u>																	
FAC species <u>1</u>	x 3 = <u>3</u>																	
FACU species <u>3</u>	x 4 = <u>12</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>6</u> (A)	<u>18</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Berberis thunbergia</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>10</u>	= Total Cover															
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Alliaria petiolate</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Symplocarpus foetidus</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Ranunculus abortivus</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
4. <u>Impatiens capensis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>45</u>	= Total Cover															
Woody Vine Stratum (Plot size: <u>N/A</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															

Hydrophytic Vegetation Indicators:
☐ Rapid Test for Hydrophytic Vegetation
☐ Dominance Test is >50%
☒ Prevalence Index is ≤3.0¹
☐ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: (Include photo numbers here or on a separate sheet.)

Vegetation was not strongly hydrophytic but plot was on the upslope edge of the larger complex.

SOIL

Sampling Point: SP-W1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ROOTS

Depth (inches): 8+

Hydric Soil Present? Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: London Bridge City/County: Putnam County Sampling Date: April 22, 2021
Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-U1A
Investigator(s): S. Smith, C. Frey Section, Township, Range: Town of Carmel
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Convex Slope (%): 2
Subregion (LRR or MLRA): LRR R Lat: 41.400291 Long: 73.751383 Datum: NAD83
Soil Map Unit Name: Catden muck, 0 to 2 percent slopes (Ce) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Remarks: (Explain alternative procedures here or in a separate report.) <u>Upland area between Wetland 1 and Stream 1.</u>			

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-U1A

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer rubrum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>37.50</u> (A/B)														
2. <u>Quercus velutina</u>	<u>10</u>	<u>Y</u>	<u>UPL</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>50</u>	= Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>0</u> (A)	<u>0</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Lindera benzoin</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Berberis thunbergia</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>30</u>	= Total Cover															
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Erythronium rostratum</u>	<u>2</u>	<u>N</u>	<u>UPL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Alliaria petiolata</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Symplocarpus foetidus</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>															
4. <u>Veratrum viride</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>															
5. <u>Allium ascalonicum</u>	<u>2</u>	<u>N</u>	<u>UPL</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>64</u>	= Total Cover															
Woody Vine Stratum (Plot size: <u>N/A</u>)																		
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-U1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input checked="" type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input checked="" type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 10

Hydric Soil Present? Yes ☐ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: London Bridge City/County: Putnam County Sampling Date: April 22, 2021
 Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-U1B
 Investigator(s): S. Smith, C. Frey Section, Township, Range: Town of Carmel
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 2
 Subregion (LRR or MLRA): LRR R Lat: 41.400446 Long: 73.751307 Datum: NAD83
 Soil Map Unit Name: Catden muck, 0 to 2 percent slopes (Ce) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
If yes, optional Wetland Site ID: _____					
Remarks: (Explain alternative procedures here or in a separate report.)					
Upland area located between two small lobes of Wetland 1.					

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
(includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-U1B

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer rubrum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.33</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>40</u>	= Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>0</u> (A)	<u>0</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Berberis thunbergia</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
2. <u>Vaccinium corymbosum</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>32</u>	= Total Cover															
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Symplocarpus foetidus</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Erythronium rostratum</u>	<u>30</u>	<u>Y</u>	<u>UPL</u>															
3. <u>Polystichum acrostichoides</u>	<u>1</u>	<u>N</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>33</u>	= Total Cover															
Woody Vine Stratum (Plot size: <u>N/A</u>)																		
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-U1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ROCK

Depth (inches): 8+

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Sodium Hypochlorite (12%) – 50 gallon tank

(545138)

ALLIED UNIVERSAL CORPORATION

Headquarters: 3901 NW 115th Avenue, Miami, Florida 33178 Phone: (305) 888 - 2623

MATERIAL SAFETY DATA SHEET

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR § 1910.1200.

TODAY'S DATE: 09/06/07

MSDS NUMBER: 0001

24 HOUR EMERGENCY CHEMICAL SPILL OR RELEASE PHONE NUMBERS:

Allied Universal Corp. at **1-305-483-7732** (Digital Beeper) and/or **CHEMTREC at 1-800-424-9300**

SECTION 1 CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Sodium Hypochlorite

Product Names: Aqua Guard Chlorinating Sanitizer, Aqua Guard Bleach, Liquid Chlorine Solution, Liquid Bleach, Hypochlorite, Hypo and Chlorine Bleach.

Listed Strengths: 10.5%, 12.5% and 15%

CAS Number: 7681-52-9

Date MSDS Revised: August 2007 (previous revision 11/04)

Product Use: Disinfectant and sanitizer, see product label for all approved uses & instructions.

NSF Approval: Yes. Certified to NSF/ANSI Standard 60. Maximum use in Potable Water is 84 mg/L for 12.5% bleach and 100 mg/L for 10.5% bleach.

NSF Non-Food Compounds Approval: Yes

SECTION 2 HAZARD INGREDIENTS/IDENTITY INFORMATION

Hazardous Ingredient(s): % (w/w) as Sodium Hypochlorite : 10.5-16%

Exposure Standards: None established for Sodium Hypochlorite, as Chlorine exposure standards are:

PEL (OSHA): 1 ppm as Cl₂

STEL (OSHA): 3 ppm as Cl₂

TLV (ACGIH): 0.5 ppm as Cl₂

TWA (ACGIH): 0.5 ppm as Cl₂

WEEL (AIHA): 2 mg/m³, 15 minute TWA as Cl₂

STEL (ACGIH): 1 ppm as Cl₂

Emergency Overview: May cause burns to the eyes, skin and mucous membranes.

SECTION 3 PHYSICAL/CHEMICAL CHARACTERISTICS

Alternate Name(s):	Bleach
Chemical Name:	Sodium Hypochlorite
Chemical Family:	Oxidizing Agent
Molecular Formula:	Na-O-Cl
Form:	Liquid
Appearance:	Water clear to a slight greenish-yellow, or light yellow aqueous solution
Odor:	Chlorine odor
pH:	11-14, dependent upon % weight as Sodium Hypochlorite
Vapor Pressure:	Not available
Vapor Density (Air=1):	Not available
Boiling Point:	Approximately 230° F (110° C)
Freezing Point:	14 F (8% w/w Cl ₂ solution), 7 F (10% w/w Cl ₂ solution), -3 F (12% w/w Cl ₂ solution)
Solubility (Water):	Completely Soluble
Solubility (Other):	Reacts with Many Organic Solvents
Density:	Appx. 10 lbs. per gallon
Evaporation Rate:	Not Available
Specific Gravity:	1.126 (8% w/w Cl ₂ solution), 1.163 (10% w/w Cl ₂ solution), 1.202 (12% w/w Cl ₂ solution), 1.25 (15% w/w Cl ₂ solution)
Molecular Weight:	74.5

SECTION 4 STABILITY & REACTIVITY DATA

Chemical Stability	Stable <u> X </u>	Unstable <u> </u>
Incompatibility (Conditions to Avoid): Stability decreases with heat and light exposure.		
Incompatibility (Materials to Avoid): May react violently with strong acids. Other incompatibles include strong caustics, ammonia, urea, reducing agents, organics, ether and oxidizable materials. Reaction with metals (nickel, iron, cobalt and copper) may produce oxygen gas, which supports combustion. May react with organohalogen compounds to		

(545138)

form spontaneously combustible compounds. May react explosively with nitro- and chloro-organic compounds as well as acids and reducing agents. Acidification liberates chlorine gas.		
Hazardous Decomposition or Byproducts: Chlorine gas. Decomposes with heat and reacts with acids. Hazardous gases/vapors produced are hypochlorous acid, chlorine and hydrochloric acid. Composition depends upon temperature and decrease in pH. Additional decomposition products, which depend on pH, temperature and time, are sodium chloride and chlorate, and oxygen.		
No Mechanical Shock or Impact	No Static Discharge	Oxidizer: No if <12% by weight, Yes if > than 12% by weight
Hazardous Polymerization	May Occur	Will Not Occur X

Note: Sodium Hypochlorite reacts violently with amines and ammonium salts. Solutions are reactive with common cleaning products such as toilet bowl cleaners, rust removers, vinegar, acids, organics and ammonia products to produce hazardous gases such as chlorine and other chlorinated species.

SECTION 5 POTENTIAL HEALTH EFFECTS AND FIRST AID INFORMATION

GENERAL: May cause immediate pain. Exposure to the skin may cause sensitization or other allergic responses. If the eye is not irrigated immediately after it has been exposed permanent eye damage may occur. Strict adherence to first aid measures following any exposure is essential. **SPEED IS ESSENTIAL!**

ROUTE(S) OF ENTRY AND POTENTIAL HEALTH EFFECTS	EMERGENCY & FIRST AIDE PROCEDURES
INHALATION: Strong irritating to mucous membranes in the nose, throat and respiratory tract. Prolonged contact can cause chronic irritation, pulmonary edema and central nervous system depression. Repeated inhalation exposure may cause impairment of lung function and permanent lung damage.	If inhaled, move expose person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. If breathing is difficult, have trained person administer oxygen. Call a poison control center or medical physician for further treatment advice. Have the product label or MSDS with you when calling or going for medical treatment.
SKIN CONTACT: Prolonged and repeated exposure to dilute solutions often causes irritation, redness, pain and drying and cracking of the skin. Human evidence has indicated that an ingredient in this product can cause skin sensitization. Depending upon the concentration and how soon after exposure the skin is washed with water, skin contact may cause burns and tissue destruction.	If on skin or clothing, take off all contaminated clothing and rinse skin immediately with plenty of water for 15-20 minutes. If irritation persists, repeat flushing. Do not transport victim unless the recommended irrigation period is completed unless flushing can be continued during transport. Call a poison control center or medical physician for treatment advice. Have the product label or MSDS with you when calling or going for medical treatment.
EYE CONTACT: Strongly irritating to eyes. Exposure to vapor can cause tearing, conjunctivitis and burning of the eyes. Eye contact may cause a corneal injury. The severity of the effects depend on the concentration and how soon after exposure the eyes are washed with water. In severe exposure cases, glaucoma, cataracts and permanent blindness may occur.	If in eyes, hold eye open and rinse slowly and gently with plenty of water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye for 10-15 minutes. Do not transport victim until the recommended flushing period is completed unless irrigation can be continued during transport. Call a poison control center or medical physician for further treatment advice. Have the product label and/or MSDS with you when calling or going to medical treatment.
INGESTION: Corrosive. Can cause severe corrosion of and damage to the gastrointestinal tract (including mouth, throat, and esophagus). Exposure is characterized by nausea, vomiting, abdominal pain, diarrhea, bleeding, and/or tissue ulceration.	If swallowed, call poison control center or medical physician immediately for treatment advice. Have the product label or MSDS with you when calling or going for medical treatment. Have exposed person sip a glass of water if able to swallow, and dilute immediately by giving milk, melted ice cream, starch paste or antacids such as milk of magnesia. Avoid sodium bicarbonate because of carbon dioxide release. DO NOT INDUCE VOMITING, LAVAGE OR ACIDIC ANTIDOTES unless told to do so by poison control center or medical physician. DO NOT give anything by mouth to an unconscious person. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water.

NOTE TO PHYSICIAN(S): Pre-existing medical conditions may be aggravated by exposures affecting target organs. There are no known chronic effects. Probable mucosal damage may contraindicate the use of gastric lavage. In addition to the alkalinity of this product, the continued generation of chlorine gas after ingestion can damage further the stomach mucous, depending on the amount ingested. Consideration may be given to removal of the product from the stomach, taking care to avoid perforation of esophagus or stomach. An ounce of 1% sodium thiosulfate or milk of magnesia is helpful.

SECTION 6 TOXICOLOGICAL DATA

ANIMAL DATA: Inhalation 0.25-hour LC50 - 10.5 mg/L in rats; Acute Dermal LD50 - 10,000 mg/kg in rabbits; Acute Oral LD50 - 8910 mg/kg in rats

(545138)

SUMMARY: The concentrated solution is corrosive to skin, and a 5% solution is a severe eye irritant. Solutions containing more than 5% available chlorine are classified by DOT corrosive (please see section 10 of this MSDS). Toxicity described in animals from single exposures by ingestion include muscular weakness, and hypoactivity. Repeated ingestion exposure in animals caused an increase in the relative weight of adrenal glands in one study, but no pathological changes were observed in two other studies. Long-term administration of compound in drinking water of rats caused depression of the immune system. No adverse changes were observed in an eight week dermal study of a 1% solution in guinea pigs. Tests in animals demonstrate no carcinogenic activity by either the oral or dermal routes. Tests in bacterial and mammalian cell cultures demonstrate mutagenic activity.

CARCINOGENICITY: None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as carcinogen.

MUTAGENICITY: Sodium Hypochlorite has been shown to produce damage to genetic material when tested in vitro. Studies in vivo have shown no evidence of mutagenic potential for this material. It is judged that the risk of genetic damage is insignificant for sodium hypochlorite because of its biological activity, lack of mutagenicity in vivo, and failure to produce carcinogenic response.

SECTION 7 FIRE AND EXPLOSION HAZARD DATA

Flash Point: This product does not flash		Flammable Limits (Lower): Not Applicable
Flammable Limits (Upper): Not Applicable		Auto Ignition Temperature: Not Applicable
Decomposition Temperature: Not Applicable		Rate of Burning: Not Available
Explosive Power: Not Available	Sensitivity to Mechanical Impact: Not expected to be sensitive to mechanical impact	Sensitivity to Static Discharge: Not expected to be sensitive to static discharge
Fire and Explosion Hazards: This material is non-flammable but is decomposed by heat and light, causing a pressure build-up which could result in an explosion. When heated, it may release chlorine gas or hydrochloric acid. Vigorous reaction with oxidizable or organic materials may result in fire.		Extinguishing Media: Use agents appropriate for surrounding fire. Foam, dry chemical, carbon dioxide, water fog or spray. If leak or spill has not ignited, use water spray to disperse the vapors and to protect persons attempting to stop the leak.
Fire Fighting Procedures: Water spray should be used to cool containers and may be used to knock down escaping vapor. Remove storage vessels from the fire zone.		Fire Fighting Protective Equipment: Full protective clothing, including a NIOSH approved self-contained breathing apparatus, must be worn in a fire involving this material. Toxic gas vapors are produced upon decomposition.

SECTION 8 ECOLOGICAL INFORMATION

The toxicity and corrosivity of this product is a function of concentration and the concentration's pH.

ECOTOXICOLOGICAL INFORMATION: Toxic to aquatic life. 96-hour LC50: fathead minnows: 0.090-5.9 mg/L, bluegill sunfish: 0.10-2.48 mg/L, shore crab: 1.418 mg/L, grass shrimp: 52.0 mg/L, scud: 0.145-4.0 mg/L, water flea: 2.1 mg/L.

ENVIRONMENTAL EFFECTS: Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers. May be an aesthetic nuisance due to color. Mammals and birds, exposed wildlife would be subject to skin irritation and burns due to the corrosive nature of this material.

SECTION 9 DISPOSAL CONSIDERATIONS

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State, and Local regulations. Do not burn. Do not flush to surface water or sanitary sewer system. If pH of material is equal to or greater than a 12.5, the material is a RCRA Hazardous Waste D002, corrosive.

SECTION 10 TRANSPORT INFORMATION

U.S. DOT Basic Shipping Description: Hypochlorite Solutions, 8, UN1791, III

U.S. DOT Hazardous Substance: Yes, RQ 100 pounds (Sodium Hypochlorite)

U.S. DOT Marine Pollutant: No

U.S. DOT Required Label: Corrosive (see column 6, 49 CFR §172.101)

U.S. DOT Packaging Exception: Yes, if package meets the criteria of a limited quantity or consumer commodity as defined by 49 CFR §171.8, §173.144 and .154, and §172.312 and .316

N. AMERICAN EMERGENCY GUIDE PAGE NUMBER: 154

Transportation Emergency Phone Numbers: CHEMTREC 1-800-424-9300

SECTION 11 PRECAUTIONS FOR SAFE HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Take all precautions to avoid personal contact. Keep container closed except when transferring material. Locate safety shower and eyewash station close to chemical handling area. Use normal good industrial hygiene and housekeeping practices, wash thoroughly after handling. Store in a cool, dry, well-ventilated area, away from incompatibles (minimum distance of 20-25 feet per NFPA Code 1) and direct sunlight. Keep container properly labeled at all times. Vented containers must be used and must be kept closed when not

(545138)

being used. Long-term storage is impossible without decomposition. Only use containers made from tinted glass, polyethylene & FRP. Keep out of reach of children.

PROCESS HAZARDS: Not Available

STORAGE TEMPERATURE: Store containers below 29°C and above freezing point. Do not expose sealed containers above 40°C. Try to store in the dark at the lowest possible temperature, but keep from freezing, to slow-down decomposition.

SECTION 12 EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Full handling precautions should be taken at all times. Provide good room ventilation plus local exhaust at points of emission and low level floor exhaust in immediate handling area. Where engineering controls are not feasible, use adequate local exhaust ventilation wherever mist, spray or vapor may be generated

PERSONAL PROTECTIVE EQUIPMENT:

Eye: Use chemical safety goggles when there is potential for contact (splashing), faceshield recommended – ANSI Z87.1

Skin: Gloves and protective clothing (apron, boots, and bodysuits) made from rubber, vinyl, neoprene or PVC. Standard work clothing closed at the neck and wrist while wearing impervious equipment.

Respiratory (Specify Type): A NIOSH/MSHA approved air purifying respirator with an acid gas cartridge or canister may be permissible under circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is potential for uncontrolled releases, exposure levels are not known, or other circumstances where air purifying respirators may not provide adequate protection.

Other: Eyewash, shower station (ANSI Z358.1) must be provided within the immediate work area.

SECTION 13 ACCIDENTAL RELEASE MEASURES

Ventilate enclosed area. Collect product for recovery or disposal. For release to land, contain discharge by constructing dikes or applying inert absorbent; for release to water, utilize damming and/or water diversion to reduce the spread of contamination; and, for release to air, vapors may be suppressed by the use of a water fog. All run-off water must be captured for treatment and disposal. Collect contaminated soil and water, and absorbent for disposal. Notify applicable government authority if release is reportable or could adversely affect the environment. Please follow all Local, State and Federal Laws for clean-up and disposal of all contaminated material. **Deactivating Chemicals:** Sodium Sulfite, Sodium Thiosulfate and Sodium Bisulfite.

SECTION 14 REGULATORY INFORMATION

OSHA CLASSIFICATION, 29 CFR §1900-1910:

Physical Hazards: Reactivity

Health Hazards: Acute - Skin Sensitizer, Corrosive

CERCLA AND SARA REGULATIONS, 40 CFR §300-373:

Reportable Quantity = 100 lb.

CERCLA Hazardous Material: Yes

Title III Hazard Classifications: Acute - yes, Chronic - no, Fire - yes, Reactivity - yes & Sudden Release of Pressure - No. This product may be reportable under the requirements of 40 CFR §370.

SARA Extremely Hazardous Substance: No **SARA Toxic Chemical:** No

CA Prop 65: No

FDA 21 CFR 178.1010: Yes, Approved as Sanitizer

NSF Whitebook (former USDA Approval) Listing: Aqua Guard Chlorinating Sanitizer 10.5% - 3D, B1, B2, D1, D2, G4, G7, GX, Q4, Aqua Guard Bleach 12.5% - 3D, B1, B2, D1, D2, G4, GX, Q4

EPA "CLEAN AIR ACT": This product does not contain nor is it manufactured with ozone depleting substances. It is not defined as a Hazardous Air Pollutant per 40 CFR 112.

EPA Pesticide: The 10.5% and 12.5% sodium hypochlorite products are registered with the U.S. EPA as a pesticide, as required under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). It is a violation of Federal law to use this product for pesticidal applications in a manner inconsistent with the FIFRA labeling.

NPCA-HMIS RATING: HEALTH:

3

FLAMMABILITY: 0

REACTIVITY: 2

NFPA RATING: NONE AT THIS TIME

SECTION 15 REFERENCES

Suppliers' Material Safety Data Sheets and EPA Labeling Requirements

Olin and OxyChem Sodium Hypochlorite Handbook

Chlorine Institute Sodium Hypochlorite Pamphlet #96

Chlorine Institute Product Stewardship Bulletins for Sodium Hypochlorite

This information contained herein, while not guaranteed, is offered only as a guide to the handling of this specific material and has been prepared in good faith by product knowledgeable personnel. This information is not intended to be all-inclusive as to the manner and conditions of use, handling and storage. Other factors may involve other or additional safety or performance considerations. Though Allied Universal Corporation is happy to respond to questions regarding safe handling of Allied's products, safe handling and use remains the responsibility of the product's consumers and/or customers. No warranty of merchantability or fitness for purpose, or any other kind, express or implied, is made regarding performance, stability or otherwise. Allied Universal Corp. will not be liable for any damages, losses, injuries or consequential damages that may result from the use of or reliance on any information contained herein. No suggestions for use are intended as, and nothing herein shall be construed as a recommendation to infringe any existing patents or violate any federal, state or local laws, rules, regulations or ordinances.



Kuehne COMPANY

5 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Phone: (973) 589-0700

Fax: (973) 589-4866

Sodium Hypochlorite

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: KCC – HYPO - 001

MSDS DATE: March 06, 2007

PRODUCT NAME: SODIUM HYPOCHLORITE SOLUTION

24 HOUR EMERGENCY PHONE NUMBER: 973-589-0700

I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

HMIS HAZARD RATINGS

HEALTH HAZARD - 3 (Serious)

FIRE HAZARD - 0 (Minimal)

REACTIVITY - 2 (Slight)

WARNING - Corrosive, Oxidizing Agent

NFPA HAZARD RATINGS

HEALTH HAZARD (Blue) - 2

FLAMMABILITY (Red) - 0

INSTABILITY (Yellow) - 1

Based on Nat'l Paint & Coatings Association HMIS system.

Chemical not listed. Ratings based on NFPA guidelines

**MANUFACTURERS
NAME AND
ADDRESS**

**KUEHNE CHEMICAL COMPANY, INC.
86 HACKENSACK AVENUE NORTH
SOUTH KEARNY, NEW JERSEY 07032-4675**

CHEMICAL NAME: SODIUM HYPOCHLORITE SOLUTION

CAS NUMBER: 7681-52-9

SYNONYMS/COMMON NAMES: Chlorine Bleach, Soda Bleach

CHEMICAL FORMULA: NaOCl

DOT PROPER SHIPPING NAME: Hypochlorite Solutions

DOT HAZARD CLASS: 8

DOT ID NUMBER: UN1791

DOT PACKING GROUP: III

DOT HAZARDOUS SUBSTANCE: RQ-100# (Sodium Hypochlorite)

Kuehne COMPANY
Sodium Hypochlorite
Revision A - 06 March 2007




Responsible Care®
Page 1 of 11



Sodium Hypochlorite

I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION (Continued)

DOT MARINE POLLUTANT: NA

ADDITIONAL DESCRIPTION: NA

II. HEALTH HAZARDS INFORMATION

EMERGENCY AND FIRST AID PROCEDURES

EYES:

OBJECT IS TO FLUSH MATERIAL OUT IMMEDIATELY AND THEN SEEK MEDICAL ATTENTION. IMMEDIATELY flush eyes with a directed stream of water for at least 15 minutes while forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. Washing eyes within one (1) minute is essential to achieve maximum effectiveness. **SEEK MEDICAL ATTENTION IMMEDIATELY.**

SKIN:

Flush thoroughly with cool water under shower while removing contaminated clothing and shoes. Discard non-rubber shoes. Wash clothing before reuse. Continue to flush until medical attention arrives.

SEEK MEDICAL ATTENTION IMMEDIATELY.

INHALATION:

Remove to fresh air. If breathing is difficult, have qualified person administer oxygen. If respiration stops, give mouth-to-mouth resuscitation. **GET IMMEDIATE MEDICAL ATTENTION.**

INGESTION:

NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. If swallowed. **DO NOT INDUCE VOMITING.** Give large quantities of milk. If these are not available, give large quantities of water. If vomiting occurs spontaneously keep airway clear and give more milk or water. **GET MEDICAL ATTENTION IMMEDIATELY.** Avoid vomiting, lavage or acidic antidotes.

NOTE TO PHYSICIAN:

Sodium Hypochlorite is an alkaline corrosive. For exposure by ingestion do not use emesis, lavage or acidic antidotes. Dilute immediately by giving milk, melted ice cream, beaten egg white, starch paste or antacids such as milk of magnesia, aluminum hydroxide gel or magnesium trisilicate gel. Avoid sodium bicarbonate because of carbon dioxide release. Sodium thiosulfate solution may prove beneficial by reducing unreacted material.





Sodium Hypochlorite

II. HEALTH HAZARDS INFORMATION

(Continued)

ROUTES OF EXPOSURE

INHALATION:

Inhalation of hypochlorous acid fumes may cause severe respiratory tract irritation and pulmonary edema.

SKIN:

Skin contact may cause severe irritation and burns.

EYE CONTACT:

Eye contact may cause severe irritation, burns, and/or corrosion.

INGESTION:

Ingestion may cause pain and inflammation of the mouth and digestive system, burns and perforation of the esophagus or stomach, vomiting, circulatory collapse, confusion, delirium and coma.

EFFECTS OF OVEREXPOSURE

ACUTE:

Corrosive and strongly irritating to the eyes, skin, and respiratory tract. Inhalation of fumes may cause pulmonary edema. Ingestion may cause burns to the mouth and digestive tract and abdominal distress.

CHRONIC:

No Data.

TOXICOLOGY DATA:

The toxicity and corrosivity of Sodium Hypochlorite is a function of concentration. Industrial grades of higher concentrations than household bleach are more toxic and corrosive.

Pentahydrate: 45% Concentration

Acute Oral LD ₅₀	(rat)	8,910 mg/kg
Acute Dermal LD ₅₀	(rabbit)	10,000 mg/kg
Primary Skin Irritation		Severely irritating
Primary Eye Irritation		Severely irritation





Sodium Hypochlorite

III. IMPORTANT COMPONENTS

<u>CAS Number</u>	<u>Name</u>
7732-18-5	Water

EXPOSURE LIMITS

PEL: Not Established

TLV: Not Established

PERCENTAGE

VOL 85

WT 85 - 87

Common Names:

<u>CAS Number</u>	<u>Name</u>
7681-52-9	Hypochlorous Acid, Sodium Salt

EXPOSURE LIMITS

PEL: 1 ppm (as Cl₂) ceiling

TLV: 1 ppm (as Cl₂) TWA

PERCENTAGE

VOL 15

WT 12 - 14

Common Names: Sodium Hypochlorite

<u>CAS Number</u>	<u>Name</u>
1310-73-2	Sodium Hydroxide (NaOH)

EXPOSURE LIMITS

PEL: 2 ppm ceiling

TLV: 2 ppm ceiling

PERCENTAGE

VOL 1

WT 1

Common Names: Caustic Soda, Lye

This product has not been listed as carcinogenic by the following agencies: IARC, NTP, and OSHA

IV. FIRE & EXPLOSION DATA

FLASH POINT: NA

AUTOIGNITION TEMPERATURE: NA

FLAMMABLE LIMITS IN AIR - % BY VOLUME - UPPER: NA





Sodium Hypochlorite

IV. FIRE & EXPLOSION DATA

(Continued)

EXTINGUISHING MEDIA:

Use water spray, fog, foam, dry chemical, or carbon dioxide or agents suitable for materials in surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES:

Use self-contained breathing apparatus and full protective equipment. Acid contamination will produce very irritating fumes similar to chlorine.

UNUSUAL FIRE AND EXPLOSION HAZARD:

Sodium Hypochlorite or its solutions decompose when heated. Decomposition products may cause containers to rupture or explode. Vigorous reaction is possible with organic materials or oxidizing agents and may result in fire.

V. SPECIAL PROTECTION

VENTILATION REQUIREMENTS

Provide good general room ventilation plus local exhaust at points of emission.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY:

NIOSH/MSHA approved respirator, following manufacturer's recommendations should be used as a precautionary measure where airborne contaminants may occur.

EYE:

Wear chemical safety goggles plus full face shield to protect against splashing when appropriate.

GLOVES:

Wear impervious gloves such as rubber, neoprene or vinyl.

OTHER CLOTHING AND EQUIPMENT:

Wear impervious protective clothing including rubber safety shoes. Eye wash facility and emergency shower should be in close proximity





Sodium Hypochlorite

VI. PHYSICAL DATA

Boiling Point: (@760 mm Hg) Decomposes above 110 °C (230 °F)

Freezing Point:	Weight %	Freezing Point °F
	10	7
	12	- 3
	14	- 14

Vapor Pressure:	Temperature °F	mm Hg	PSIA
	48.2	3.7	0.071
	60.8	8.0	0.15
	68.0	12.1	0.23
	89.6	31.1	0.60
	118.4	100.0	1.93

Specific Gravity: (H₂O = 1) 1.190 - 1.215

Solubility in H₂O (by Weight) 100%

pH 12 @ 100 g/l

Appearance/Odor: Colorless to light yellow-green liquid with chlorine like odor.

VII. REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY:

Strong Oxidizer, stability decreases with concentration, heat, light, decrease in pH and contamination by metals.

INCOMPATIBILITY:

Avoid contamination with heavy metals, reducing agents, organics, ether, ammonia, and acids.

HAZARDOUS DECOMPOSITION PRODUCTS:

Acid fumes.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION:

Material is not known to polymerize.





Sodium Hypochlorite

VIII. HANDLING & STORAGE

HANDLING AND STORAGE PRECAUTIONS:

Do not store adjacent to chemicals that may react if spillage occurs. Comply with DOT regulations when shipped. If closed containers become heated, vent to release decomposition products (mainly oxygen under normal decomposition). Do not mix or contaminate with ammonia, hydrocarbons, acids, alcohols or ethers.

DO NOT REUSE CONTAINERS:

Product residues may remain in containers. All labeled precautions must be observed. Dispose of container in a manner meeting government regulations.

PRODUCT DISPOSAL:

Product should be completely removed from containers. Material that cannot be used or chemically reprocessed should be disposed of in a manner meeting government regulations.

IX. ENVIRONMENTAL PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Do not allow spilled material to enter sewers or streams. Flush with water to dilute as much as possible and pump into polyethylene containers for disposal. Avoid heat and contamination with acid materials. Do not use combustible materials such as sawdust to absorb Sodium Hypochlorite Solution.

WASTE DISPOSAL METHOD:

Reduce with agents such as bisulfites or ferrous salt solutions. Some heat will be produced. Keep on alkaline side and dilute with copious amounts of water. Main end product is salt water. Comply with all applicable governmental regulations.

X. ADDITIONAL INFORMATION

Section 311 of The Clean Water Act lists this product as a hazardous substance, which, if discharged to water, may require immediate response to mitigate danger to public health and welfare. Spills of 100 pounds or more must be reported to the National Response Center at the following number:
1-800-424-8802

Material is contained on a composite list as required under 101 (14) of CERCLA.





Sodium Hypochlorite

X. ADDITIONAL INFORMATION

(Continued)

Sodium Hypochlorite Solution is regulated by the USEPA under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) as a pesticide product.

Sodium Hypochlorite Solution produced by KUEHNE CHEMICAL COMPANY, INC. is registered with the USEPA under Registration Number 35317-20001.

NSF CERTIFICATION: This product has been classified as an approved drinking water treatment chemical under ANSI/NSF Standard 60 by Underwriter's Laboratories (reference number: MH17612)

USDA APPROVALS: B-1, D-2, L-1, Q-4 & Fruit and Vegetable washing compounds.

XI. PREPARATION DATA

Prepared By: Safety, Health and Environment Department : 1-973-589-0700

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and KUEHNE CHEMICAL COMPANY, INC. will not be liable for any damages, losses, injuries or consequential damages that may result from the use of or reliance on any information contained herein.

REFERENCES:

National Institute for Occupational Safety and Health, US Dept. of Health & Human Services, Cincinnati, June, 1994.

Supplier's Material Safety Data Sheets.

Windholz, Martha, Ed, The Merck Index, 11th ed., Merck and Co, Inc., Rahway, New Jersey, 1989.

Chlorine Institute Pamphlet 96 (Sodium Hypochlorite Safety & Handling), Edition I, September, 1992





Kuehne COMPANY

6 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Phone: (973) 589-0700

Fax: (973) 589-4866

Sodium Hypochlorite

WARNING LABEL INFORMATION

Active Ingredient:	Sodium Hypochlorite (NaOCl)	12.5 %	(weight per cent)
Inert Ingredients:	-----	87.5 %	
Total		100.0 %	

KEEP OUT OF REACH OF CHILDREN

DANGER

FIRST AID

IF CONTACT WITH EYES OCCURS: Hold eye open and rinse slowly and gently with water for 15 –20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue to rinse eye. Call a poison control center or doctor for treatment advice.

IF CONTACT WITH SKIN OCCURS: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF INHALED: Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

PRECAUTIONARY STATEMENTS HAZARDOUS TO HUMANS AND DOMESTIC ANIMALS

DANGER:

Corrosive, may cause severe skin and eye irritation or chemical burns to broken skin. Causes eye damage. Wear safety glasses or goggles and rubber gloves when handling this product. Wash after handling. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until strong odors have dissipated.





Sodium Hypochlorite

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

PHYSICAL OR CHEMICAL HAZARDS

STRONG OXIDIZING AGENT:

Mix only with water according to label directions. Mixing this product with chemicals (e.g. ammonia, acids, detergents, etc.) or organic matter (e.g. urine, feces, etc.) will release chlorine gas, which is irritating to eyes, lungs and mucous membranes.

DIRECTION FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING

Reformulators and Repackagers of this product must obtain their own registrations from the United States Environmental Protection Agency (USEPA).

For manufacturing use in the formation of end-use Products:

NOTE: This product degrades with age. Use a Chlorine test kit and increase dosage as necessary, to obtain the required level of available Chlorine.

For specific use directions, see KUEHNE Circular for each particular application.

CIRCULAR NUMBER K586A

sanitizers of surfaces (wooden butcher blocks, stainless steel tops, concrete floors, tile walls)

CIRCULAR NUMBER K586B

sanitizers of commercial laundry

CIRCULAR NUMBER K586C

agents to wash or assist in lye peeling of fruits and vegetables (sodium hypochlorite only), agents to help control microorganisms on mushrooms (pins), potatoes, sweet potatoes (post harvest), agents to help control microorganisms on eggs for human consumption





Kuehne COMPANY

6 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Phone: (973) 589-0700

Fax: (973) 589-4866

Sodium Hypochlorite

CIRCULAR NUMBER K586D

disinfectants of human drinking water (emergency/public & individual), swimming pool water, spas/hot tubs, hydrotherapy pools, human drinking water systems (water mains)

CIRCULAR NUMBER K586E

disinfectants of nonporous hard surfaces (tile, glass, stainless steel, fiberglass)

CIRCULAR NUMBER K586F

agents to help control microorganisms in sewage, waste water, industrial and pulp and paper process water systems

CIRCULAR NUMBER K586G

algicides, slimicides in cooling towers or evaporative condensers

STORAGE AND DISPOSAL

Store this product in a cool dry area away from direct sunlight and heat to prevent deterioration. In case of a spill, flood areas with large quantities of water. Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer. Do not contaminate food or feed by storage, disposal or cleaning of equipment.

Large storage containers should be rinsed thoroughly with water and returned to manufacturer for reconditioning. Large storage containers should be thoroughly rinsed with water before reuse.

IN CASE OF:

FIRE:

Use self-contained breathing apparatus and full protective equipment. Use water spray, foam, dry chemical or CO2. Fire may liberate toxic gases.

SPILL:

Get protective equipment. Contain spill and pump into marked container for reclamation for disposal. Avoid discharges to sewers and streams. Spills of 100 pounds or more must be reported to the National Response Center at the following number:

1-800-424-8802

**IN CASE OF CHEMICAL EMERGENCIES CALL:
24 HOUR EMERGENCY PHONE (973) 589-0700**



SODIUM HYPOCHLORITE SOLUTION, 10.5%

ACTIVE INGREDIENT:

SODIUM HYPOCHLORITE 10.5%*

OTHER INGREDIENT: 89.5%

TOTAL 100.0%

*Available chlorine: 10%

KEEP OUT OF REACH OF CHILDREN DANGER

FIRST AID

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control center or doctor for treatment advice.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Drink large amounts of water. DO NOT induce vomiting. Call a physician or poison control center immediately.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Have product container or label with you when calling a poison control center or doctor for treatment advice.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER: Corrosive. Causes irreversible eye and skin damage. Do not get in eyes, on skin or on clothing. Wear face shield or goggles and rubber gloves when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until odors have dissipated. Remove and wash contaminated clothing before reuse.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your state water board or regional office of the EPA.

PHYSICAL OR CHEMICAL HAZARDS

STRONG OXIDIZING AGENT: Mix only with water according to label directions. Mixing this product with chemicals (e.g., ammonia, acids, detergents, etc.) or organic matter (e.g., urine, feces, etc.) will release chlorine gas which is irritating to eyes, lungs and mucous membranes.

Manufactured by:

**KUEHNE CHEMICAL COMPANY INC.
86 N. HACKENSACK AVENUE
SOUTH KEARNY, NJ 07032-4675
(973) 589-0700**

EPA REG. NO. 35317-4

EPA EST. NO. 35317-DE-1

ANSI / NSF 60

DRINKING WATER TREATMENT ADDITIVE

Net Contents:

DIRECTIONS FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING

NOTE: This product degrades with age. Use a chlorine test kit and increase dosage as necessary, to obtain the required level of available chlorine.

For specific use directions, see KUEHNE Circular for each particular application.

CIRCULAR NUMBER K586A

sanitizers of hard nonporous surfaces (stainless steel tops)

CIRCULAR NUMBER K586B

sanitizers of commercial laundry

CIRCULAR NUMBER K586C

agents to wash or assist in lye peeling of fruits and vegetables (sodium hypochlorite only), agents to help control microorganisms on mushrooms (pins), potatoes, sweet potatoes (post harvest), agents to help control microorganisms on eggs for human consumption

CIRCULAR NUMBER K586D

disinfectants of human drinking water (emergency/public & individual) and human drinking water systems (water mains)

CIRCULAR NUMBER K586E

disinfectants of hard nonporous surfaces (sealed tile and fiberglass, glass, stainless steel)

CIRCULAR NUMBER K586F

agents to help control microorganisms in sewage, waste water, industrial and pulp and paper process water systems

CIRCULAR NUMBER K586G

algicides, slimicides in cooling towers or evaporative condensers

CIRCULAR NUMBER K586H

sanitizers of porous food contact surfaces (wooden butcher blocks)

CIRCULAR NUMBER K586I

sanitizers of porous non-food contact surfaces (tile walls, concrete floors)

CIRCULAR NUMBER K586J

disinfectants of swimming pool water, spas/hot tubs, hydrotherapy pools

STORAGE AND DISPOSAL

Pesticide Storage: Store this product in a cool dry area away from direct sunlight and heat to prevent deterioration. In case of a spill, flood area with large quantities of water.

Pesticide Disposal: Do not contaminate food or feed by storage, disposal or cleaning of equipment. Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer.



















Container Disposal: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling the container is the responsibility of the refiller.

SWNY PFAS Compliance											
ID	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names
1		1	SWNY PFAS Compliance	384 days?	Wed 3/31/21	Mon 10/10/22		8%	Wed 3/31/21	NA	
2		2	D/B Contract Notice to Proceed	1 day	Mon 4/5/21	Mon 4/5/21		100%	Mon 4/5/21	Mon 4/5/21	
3		3	Maintain Secure Project Website	365 days	Tue 4/6/21	Mon 9/19/22	2	0%	Tue 4/6/21	NA	
5		5	Design Phase	251 days?	Wed 3/31/21	Fri 4/1/22		23%	Wed 3/31/21	NA	
54		54	Design Construction Services	345 days	Wed 3/31/21	Mon 8/15/22		0%	NA	NA	
62		62	Construction Phase	384 days	Wed 3/31/21	Mon 10/10/22		3%	Wed 3/31/21	NA	
63		63	Administration	233 days	Wed 3/31/21	Tue 3/8/22		4%	Wed 3/31/21	NA	
133		133	Construction Phase	229 days	Mon 11/8/21	Mon 10/10/22	65,66,67,68,78,83	0%	Mon 11/8/21	NA	
134		134	Survey-Establish Control	1 day	Mon 3/7/22	Mon 3/7/22	50	0%	Mon 3/7/22	NA	
135		135	Test Pit and Verify 6" OD for Tapping Sleeve	1 day	Mon 11/8/21	Mon 11/8/21	50	0%	NA	NA	
136		136	Mobilization	2 days	Mon 3/7/22	Tue 3/8/22	53	0%	Mon 3/7/22	NA	
137		137	Erosion Control	3 days	Wed 3/9/22	Fri 3/11/22	136	0%	NA	NA	
138		138	Site Clearing of Existing Trees/Brush	3 days	Mon 3/14/22	Wed 3/16/22	137	0%	NA	NA	
139		139	Strip Topsoil	3 days	Thu 3/17/22	Mon 3/21/22	138	0%	NA	NA	
140		140	Site Grading	3 days	Tue 3/22/22	Thu 3/24/22	139	0%	NA	NA	
141		141	Install fill	1 day	Fri 3/25/22	Fri 3/25/22	140	0%	NA	NA	
142		142	Install Stone Base for Access Road	3 days	Fri 3/25/22	Tue 3/29/22	140	0%	NA	NA	
143		143	Exterior Piping	116 days	Wed 4/6/22	Mon 9/19/22		0%	NA	NA	
144		144	Install 6" DIP Influent Piping into building including Tapping 6" Main	2 days	Wed 4/6/22	Thu 4/7/22	142,155FF+1 day,119,120	0%	NA	NA	
145		145	Install 6" DIP Effluent Piping into building including Tapping 6" Main	1 day	Fri 4/8/22	Fri 4/8/22	144	0%	NA	NA	
146		146	Install Well Pumps	5 days	Fri 8/5/22	Thu 8/11/22	122,152	0%	NA	NA	
147		147	Chlorinate, Pressure Test and Flush/DOH Approval	10 days	Fri 9/2/22	Fri 9/16/22	175	0%	NA	NA	
148		148	Cut & Cap 6" Main After Tie In	1 day	Mon 9/19/22	Mon 9/19/22	147	0%	NA	NA	
149		149	Install 6" DIA Seepage Pit	1 day	Thu 6/23/22	Thu 6/23/22	153	0%	NA	NA	
150		150	Electric	84 days	Thu 4/7/22	Thu 8/4/22		0%	NA	NA	
151		151	Excavate and Install Underground Electric Feed into building	3 days	Thu 4/7/22	Mon 4/11/22	155	0%	NA	NA	
152		152	Install Electrical Appurtenances	30 days	Thu 6/23/22	Thu 8/4/22	166	0%	NA	NA	
153		153	Building/Superstructure	60 days	Wed 3/30/22	Wed 6/22/22		0%	NA	NA	
154		154	Excavate for Building Footings	1 day	Wed 3/30/22	Wed 3/30/22	142	0%	NA	NA	
155		155	Form, Install Rebar and Pour Footings for Building	5 days	Thu 3/31/22	Wed 4/6/22	154	0%	NA	NA	
156		156	Form, Install Rebar and Pour Foundation Wall for Building	5 days	Tue 4/12/22	Mon 4/18/22	155,151,145	0%	NA	NA	
157		157	Form, Install Rebar and Pour Foundation Wall with Integral Piers for Building	6 days	Tue 4/19/22	Tue 4/26/22	156	0%	NA	NA	
158		158	Backfill Footings	1 day	Wed 4/27/22	Wed 4/27/22	157	0%	NA	NA	
159		159	Install GAC Equipment Pad	4 days	Thu 4/28/22	Tue 5/3/22	158	0%	NA	NA	
160		160	Plumbing-Install Floor Drains	3 days	Wed 5/4/22	Fri 5/6/22	159	0%	NA	NA	
161		161	Install Stone Base for Slab on Grade	1 day	Mon 5/9/22	Mon 5/9/22	160	0%	NA	NA	
162		162	Install Slab on Grade	5 days	Tue 5/10/22	Mon 5/16/22	161	0%	NA	NA	
163		163	Sawcut Control Joints	1 day	Tue 5/17/22	Tue 5/17/22	162	0%	NA	NA	
164		164	Install Equipment Pads- Form, Rebar, Pour, Strip and Rub	3 days	Wed 5/18/22	Fri 5/20/22	163	0%	NA	NA	
165		165	Install Filter Pads- Form, Rebar, Pour, Strip and Rub	3 days	Mon 5/23/22	Wed 5/25/22	164	0%	NA	NA	
166		166	Installation of Pre-Engineered Building	25 days	Wed 5/18/22	Wed 6/22/22	163	0%	NA	NA	
167		167	Chemical Feed System	4 days	Thu 6/23/22	Tue 6/28/22		0%	NA	NA	
168		168	Install Piping for Sodium Hypo and Phosphoric	4 days	Thu 6/23/22	Tue 6/28/22	166	0%	NA	NA	
169		169	Treatment Equipment	20 days	Thu 6/9/22	Thu 7/7/22		0%	NA	NA	
170		170	Install 8" DIA GAC Equipment	2 days	Thu 6/9/22	Fri 6/10/22	166FS-10 days	0%	NA	NA	
171		171	Install Filters	1 day	Thu 6/23/22	Thu 6/23/22	166,170	0%	NA	NA	

Note: ?" stands for approximate estimate

Page 1 of 2

Note: ?" stands for approximate estimate

SWNY PFAS Project F-Chateau											
ID	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names
172		172	Install Influent, Effluent and Wastewater Flanged Piping	7 days	Thu 6/23/22	Fri 7/1/22	166,170	0%	NA	NA	
173		173	Install Pipe Supports	3 days	Tue 7/5/22	Thu 7/7/22	172	0%	NA	NA	
174		174	Instrumentation	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
175		175	Install Instrumentation Appurtenances	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
176		176	Building HVAC Work	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
177		177	Install HVAC	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
178		178	Painting/Coating	5 days	Fri 7/8/22	Thu 7/14/22		0%	NA	NA	
179		179	Paint Interior Piping	5 days	Fri 7/8/22	Thu 7/14/22	169	0%	NA	NA	
180		180	Site Work	15 days	Fri 7/8/22	Thu 7/28/22		0%	NA	NA	
181		181	Install Site Civil-Gravel Turnaround and Landscaping	15 days	Fri 7/8/22	Thu 7/28/22	173	0%	NA	NA	
182		182	Start Up and Testing	10 days	Mon 9/19/22	Fri 9/30/22		0%	NA	NA	
183		183	Start up and Test Equipment and Instrumentation	10 days	Mon 9/19/22	Fri 9/30/22	147,152	0%	NA	NA	
184		184	Substantial Completion	1 day	Mon 10/3/22	Mon 10/3/22	182	0%	NA	NA	
185		185	DOH Review and Approval	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
186		186	In Service	0 days	Mon 10/10/22	Mon 10/10/22	185	0%	NA	NA	
187		187	Demobilization	5 days	Tue 10/4/22	Mon 10/10/22		0%	NA	NA	
188		188	Cleanup/Demobilization	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
189		189	Final Completion	0 days	Mon 10/10/22	Mon 10/10/22	188,186	0%	NA	NA	

Page 2 of 2

4. The hydrology and the hydraulics study for this project have been undertaken to examine the pre and post construction drainage conditions. The study provides the impact of the proposed impervious area to the drainage system. To attenuate the post-development peak flow to pre-development peak flow we are proposing an underground infiltration system (Cultec R-330XLHD). The underground infiltration system is design per NYSDEC's stormwater management design manual. The drainage system consists of pipes, catch basins, trench drain, and an underground infiltration system (Cultec R-330XLHD). The storage depth of the underground infiltration system is 3'-6" and its design to store 2,346 cu.ft.. Please refer to the site plan (dwg. no 1) and the grading plan (dwg. no 3).

5. The erosion and sediment control measures to be used on the site during the proposed work include silt fences and a construction entrance. In addition, disturbed portions of the site where construction activities permanently cease shall be stabilized no later than 14 days after the last construction activity. The Erosion and Sediment Control (E&SC) Plan is prepared per NYS Standards and Specifications for Erosion and Sediment Control. Please refer to the erosion and sediment control plan (dwg. no 4).

6. Stormwater runoff generated by the proposed site improvement will be routed to the proposed underground infiltration system in order to provide zero net increase of peak runoff. The underground infiltration system is design to provide peak flow attenuation up to 100-year storm peak runoff. The underground infiltration system is design per NYSDEC's stormwater management design manual.

Ramya Ramanathan

From: Liskovich, Sophia Z. <sliskovich@GFNET.com>
Sent: Thursday, January 27, 2022 9:29 AM
To: Ramya Ramanathan
Subject: FW: 3-3720-00469/00001 > London Bridge Well

Sophia Liskovich, PE | Project Manager
Gannett Fleming, Inc. | 7133 Rutherford Road
t 410-907-2682 | c 856-296-3636 | sliskovich@gfnet.com

From: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Sent: Friday, November 12, 2021 11:11 AM
To: Arnold, Jillian N. <jarnold@GFNET.com>; Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Cc: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Subject: RE: 3-3720-00469/00001 > London Bridge Well

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Morning,

The technical review is complete and program staff had the following comments.

- Is a 15-foot-wide driveway necessary? Can the gravel drive width be reduced?

In addition, I still don't know what Nationwide Permit this project would fall under. Would it be NWP 39? I have a few of these PFAS projects and I believe that's the one they've been going under. Please let me know. USACE may or may not respond but if I know which NWP you believe it qualifies for, I can make a determination about the DEC Blanket WQC.

Please let me know if you have any questions.

Alysse Devine

Environmental Analyst, Division of Environmental Permits
New York State Department of Environmental Conservation
21 South Putt Corners Rd, New Paltz, NY 12561
P: (845) 240-7806 | alysse.devine@dec.ny.gov
www.dec.ny.gov |  |  | 



From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Friday, October 8, 2021 2:37 PM
To: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Subject: RE: 3-3720-00469/00001 > London Bridge Well

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Hello Alysse,

I have not received any correspondence from USACE yet. And I will forward it on as soon as I receive it. I provided USACE with the DEC ID numbers you provided in your email on Wednesday.

I also am looking into the short form submittal. SEQR was to be completed by a sub on the project and I will need to get you that information.

I am also working with SUEZ on the signature information.

Thank you for your correspondence and we will get you the stuff you need ASAP!

Jillian

From: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Sent: Friday, October 8, 2021 1:35 PM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>; Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Subject: 3-3720-00469/00001 > London Bridge Well

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Afternoon,

Could you let me know which Nationwide Permit # this project will be covered under? Please send me any correspondence you receive from the USACE. Also, could you provide the [Short Environmental Assessment Form Part I](#)?

Alysse Devine

Environmental Analyst, Division of Environmental Permits
New York State Department of Environmental Conservation
21 South Putt Corners Rd, New Paltz, NY 12561
P: (845) 240-7806 | alysse.devine@dec.ny.gov
www.dec.ny.gov |  |  | 



From: Devine, Alysse (DEC)
Sent: Wednesday, October 6, 2021 3:00 PM
To: 'Arnold, Jillian N.' <jarnold@GFNET.com>
Cc: dec.sm.DEP.R3 <DEP.R3@dec.ny.gov>; Petronella, John W (DEC) <john.petronella@dec.ny.gov>; Pawliczak, Sarah A (DEC) <sarah.pawliczak@dec.ny.gov>; 'Smith, Steven C.' <scsmith@GFNET.com>; 'Liskovich, Sophia Z.' <sliskovich@GFNET.com>; Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Subject: RE: SUEZ Joint Permit Applications for Archer, London Bridge and Chateau

Good Afternoon,

I was able to access the files. These applications have been received and assigned the following DEC IDs:

Archer Well – 3-3720-00471/00001

London Bridge Well – 3-3720-00469/00001

Chateau Well – 3-3720-00470/00001

We will review the documents and let you know if we have any questions moving forward.

Alysse Devine

Environmental Analyst, Division of Environmental Permits

New York State Department of Environmental Conservation

21 South Putt Corners Rd, New Paltz, NY 12561

P: (845) 240-7806 | alysse.devine@dec.ny.gov

www.dec.ny.gov |  |  | 



From: Arnold, Jillian N. <jarnold@GFNET.com>

Sent: Wednesday, October 6, 2021 2:36 PM

To: dec.sm.DEP.R3 <DEP.R3@dec.ny.gov>; Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>

Cc: Petronella, John W (DEC) <john.petronella@dec.ny.gov>; Pawliczak, Sarah A (DEC) <Sarah.Pawliczak@dec.ny.gov>; Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>

Subject: SUEZ Joint Permit Applications for Archer, London Bridge and Chateau

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Good afternoon,

I copied everyone from the email sent to Steve Smith requesting the electronic versions of the Archer, Chateau and London Bridge Joint Permit Applications. I sent this link to the regional email address and hope that is not too redundant or causes confusion.

The file sizes on each pdf is large making emailing cumbersome. Here is the link to download the 3 Joint Permit Applications.

Download Link: [SUEZ - Archer, Chateau and London Bridge JPA Packages](#)

Please let me know if there are any restrictions with accessing the link above.
Any additional questions, please do not hesitate to let us know.

Thank you,

Jill

Jillian Arnold, PWS | Senior Environmental Scientist

Gannett Fleming | 207 Senate Avenue, Camp Hill, PA 17011

t **717.886.5402** | c 717.422.6229 | jarnold@gfnet.com

Excellence Delivered As Promised

Gannett Fleming is ISO 9001:2008 Certified.

www.gannettfleming.com | Stay connected: [Twitter](#) | [Facebook](#) | [LinkedIn](#) | [YouTube](#)

PRINTING SUSTAINABILITY STATEMENT: Gannett Fleming is committed to conserving natural resources and minimizing adverse environmental impacts in projects. Accordingly, project documentation will be provided in electronic format only unless clients specifically request hard copies. Visit our [website](#) to read more about our sustainability commitment.

CONFIDENTIALITY NOTICE: This email and any attachments may contain confidential information for the use of the named addressee. If you are not the intended recipient, you are hereby notified that you have received this communication in error and that any review, disclosure, dissemination, distribution or copying of it or its contents is prohibited.

Liskovich, Sophia Z.

From: Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Sent: Monday, January 10, 2022 12:24 PM
To: Arnold, Jillian N.
Cc: Smith, Steven C.; Liskovich, Sophia Z.
Subject: RE: Submission of Suez Water Permit Applications
Attachments: NWP Regulations FR 06JAN17.pdf; PN-LRB NAN Final Regional Conditions WQC CZM for NY (dated 21-MAR-2017).pdf

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Jillian,

We received the pre-construction notification for NWP 3 for the above referenced project on November 16, 2021.

Due to my excessive work load, I was unable to provide a written determination within 45 days of its submission.

In accordance with the current nationwide general permit regulations (Federal Register dated January 6, 2017, pages 1860 to 2008), if the Corps of Engineers district does not respond to a pre-construction notification within 45 days of receipt, then the applicant may proceed with the project as proposed.

That means that the applicant must perform the work as proposed in your pre-construction notification. Any substantive changes to the project would require the applicant to submit a new notification to this office.

If you have any questions, let me know.

Brian

Brian A. Orzel
Project Manager, Civil Engineer
NY District US Army Corps of Engineers
Regulatory Branch
26 Federal Plaza, Room 16-406
New York, New York 10278-0090

Please note in order to ensure our continuity of operations and improve the timeliness of permit application reviews due to the current COVID-19 virus, effective immediately, the New York District, U.S. Army Corps of Engineers is requiring that all new permit applications be submitted to the New York District electronically. Until further notice, the New York District will no longer process any paper permit applications. This electronic processing procedure will increase the efficiency of correspondence, furthering the goal of providing timely decisions. Please see the link below to the Regulatory Branch Operational Modification Special Public Notice describing the instructions for electronic application submittals:

<https://www.nan.usace.army.mil/Portals/37/docs/regulatory/publicnotices/Non%20Project%20Specific/2020/CENAN-OP-R%20PN%20Electronic%20Submission%20of%20Permit%20Applications%2027MAR2020.pdf?ver=2020-03-31-163215-913>.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, December 13, 2021 1:04 PM
To: Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Brian,

I wanted to touch base to you on the Suez projects in Putnam County. Have you been able to determine of the 5 projects (Archer, Chateau, Geymer, London Bridge and Mahopac) what nationwide permit these projects might fall under? NY DEC is currently waiting USACE's determination of the NWP in order to finalize the state permits.

Thank you very much for your time, we appreciate it!

Jillian

From: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Sent: Monday, November 15, 2021 10:24 AM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Ms. Arnold,

I have provided the Suez Water permit applications to Mr. Brian Orzel, copied on the email, who is the area project manager for Putnam County. If he has any questions on the submittal, he'll contact you.

R/ Rosie

ROSITA MIRANDA
Chief, Western Section
Regulatory Branch
USACE, New York District
Mobile: 347-446-0359

<https://www.nan.usace.army.mil/Missions/Regulatory/>

EFFECTIVE IMMEDIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: CENAN-R-Permit-App@usace.army.mil.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, November 8, 2021 12:42 PM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Good afternoon, I am following up with this email (below) from the 29th. I tried to submit the files to the site that was in the email from the 28th. However, It requested a code when I clicked the location. I know that USACE has not started reviewing these permits, and I am concerned about timeline for construction. Please let me know how I can get USACE the permits that need to be reviewed.

Thank you,
Jillian

From: Arnold, Jillian N.
Sent: Friday, October 29, 2021 7:49 AM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>
Subject: RE: Submission of Suez Water Permit Applications

Good morning Rosie,

I am happy to drop off the files for Suez to the site listed in your email, however, it is asking for a request code? Are you able to send me a drop off request? I have never delivered information to USACE this way. Sorry for all of the questions.

Thank you,
Jillian

From: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Sent: Thursday, October 28, 2021 3:12 PM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please provide the town and county so we can direct your inquiry to the right permit section.

Please use - <https://safe.apps.mil/> for file transfer.

R/ Rosie

ROSITA MIRANDA
Chief, Western Section
Regulatory Branch
USACE, New York District
Mobile: 347-446-0359

<https://www.nan.usace.army.mil/Missions/Regulatory/>

EFFECTIVE IMMEDIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: CENAN-R-Permit-App@usace.army.mil.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Thursday, October 28, 2021 12:12 PM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Could you please tell me how to submit packages to the FTP site? I have not received a response if you received the SUEZ packages for review. I do not want to lose too much time as NYSDEC is review these packages at this time.

Thank you very much for your help!
Jillian

From: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Sent: Tuesday, October 12, 2021 4:54 PM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please note that you have to use DOD Safe as the ftp site for large files.

What Town and County is this project in?

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Friday, October 8, 2021 1:02 PM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Subject: [Non-DoD Source] Submission of Suez Water Permit Applications

Good afternoon,

Please find the electronic versions of the Archer, Chateau and London Bridge Joint Permit Applications for SUEZ Water NY. These applications have been sent to NYSDEC for Joint Permit approvals. Below are the list of DEC IDs for these applications:

- Archer Well – 3-3720-00471/00001
- London Bridge Well – 3-3720-00469/00001
- Chateau Well – 3-3720-00470/00001

The file sizes on each pdf is large making emailing cumbersome. Here is the link to download the 3 Joint Permit Applications.

Download Link: [SUEZ - Archer, Chateau and London Bridge JPA Packages](#)

Please let me know if there are any restrictions with accessing the link above.

Any additional questions, please do not hesitate to let us know.

Thank you,
Jill

Jillian Arnold, PWS | Senior Environmental Scientist
Gannett Fleming | 207 Senate Avenue, Camp Hill, PA 17011
t 717.886.5402 | **c** 717.422.6229 | jarnold@gfnet.com

Excellence Delivered As Promised

Gannett Fleming is ISO 9001:2008 Certified.

www.gannettfleming.com | Stay connected: [Twitter](#) | [Facebook](#) | [LinkedIn](#) | [YouTube](#)

PRINTING SUSTAINABILITY STATEMENT: Gannett Fleming is committed to conserving natural resources and minimizing adverse environmental impacts in projects. Accordingly, project documentation will be provided in electronic format only unless clients specifically request hard copies. Visit our [website](#) to read more about our sustainability commitment.

CONFIDENTIALITY NOTICE: This email and any attachments may contain confidential information for the use of the named addressee. If you are not the intended recipient, you are hereby notified that you have received this communication in error and that any review, disclosure, dissemination, distribution or copying of it or its contents is prohibited.



OWNERS WITHIN 500 FEET

73.19-11-02	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-02	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-03	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-03	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-04	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-04	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-05	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-05	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-06	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-06	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-07	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-07	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-08	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-08	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-09	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-09	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-10	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-10	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-11	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-11	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-12	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-12	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-13	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-13	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-14	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-14	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-15	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-15	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-16	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-16	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-17	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-17	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-18	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-18	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-19	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-19	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-20	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-20	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-21	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-21	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-22	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-22	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-23	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-23	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-24	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-24	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-25	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-25	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-26	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-26	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-27	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-27	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-28	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-28	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-29	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-29	TOHRA COUNTY 2000' 0" 2000' 0"
73.19-11-30	TOHRA COUNTY 2000' 0" 2000' 0"	73.19-11-30	TOHRA COUNTY 2000' 0" 2000' 0"

TAX MAP REFERENCE

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

TOHRA COUNTY, NEW YORK

ATZEL, NASHER & ZIGLER P.C.
ENGINEERING SURVEYING PLANNING

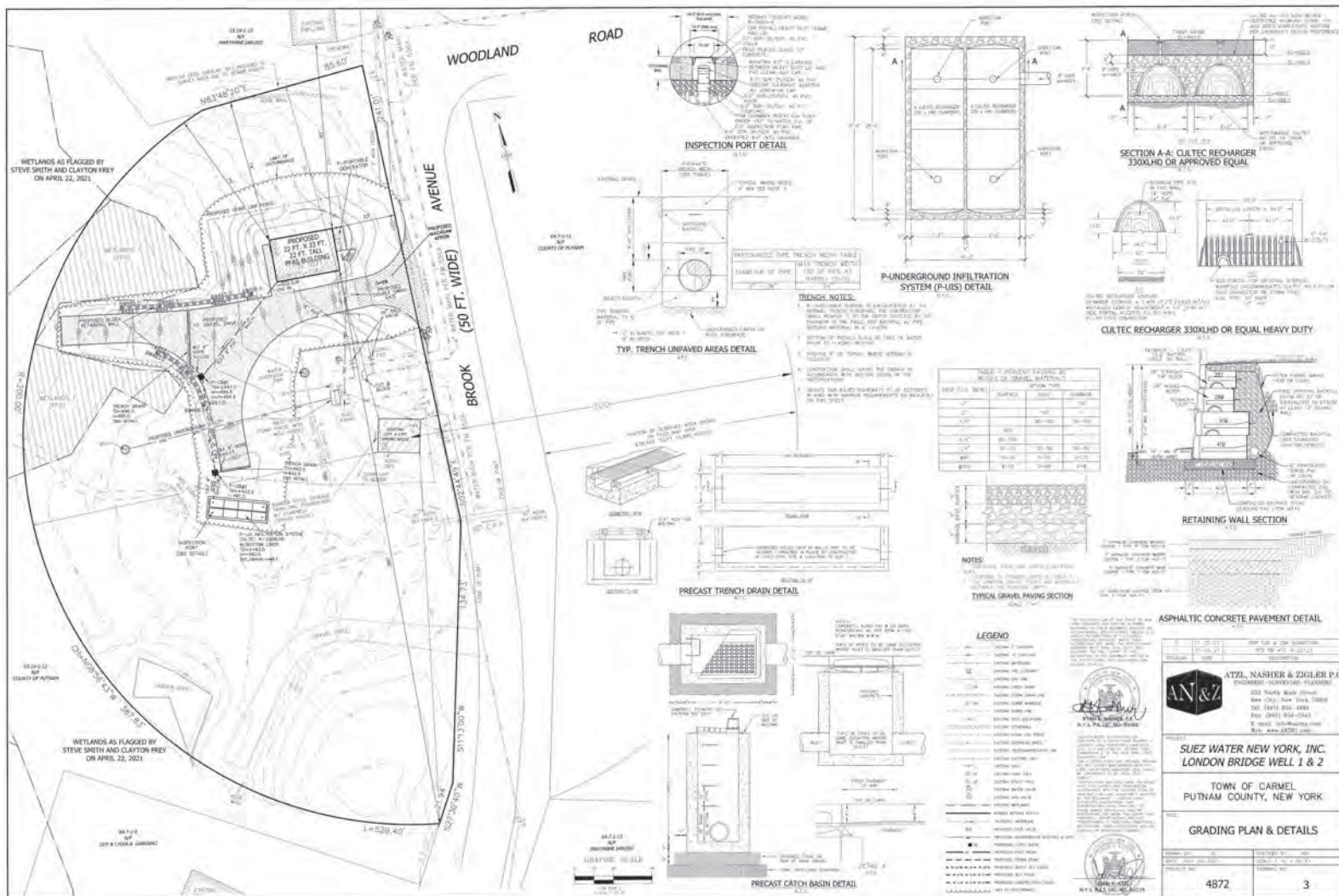
200 North Main Street
New York, New York 10002
Tel: (212) 693-6666
Fax: (212) 693-6666
E-mail: info@anaz.com
Web: www.anaz.com

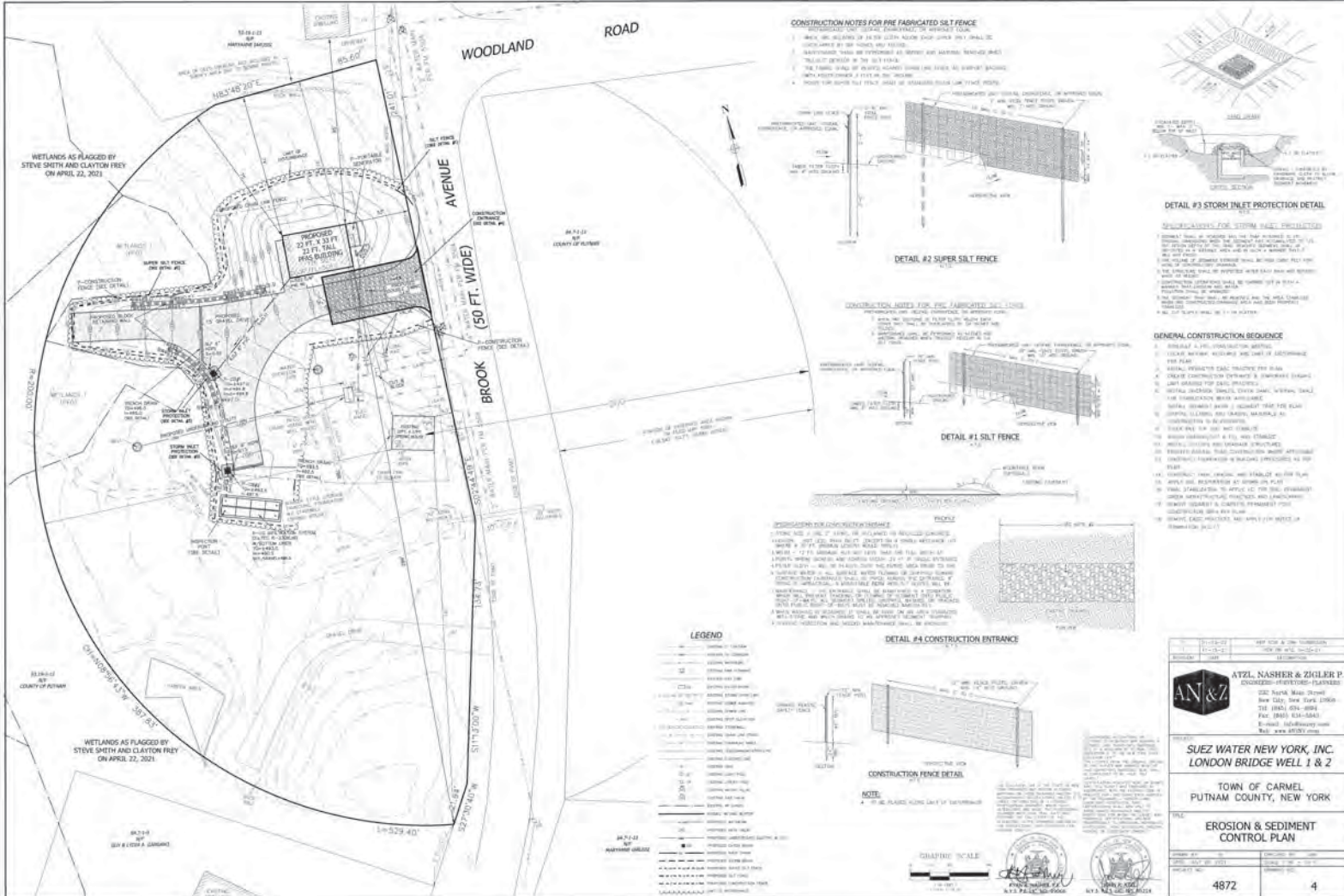
PROJECT:
SUEZ WATER NEW YORK, INC.
LONDON BRIDGE WELL 1 & 2

TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

LOCATION MAP

4872 LM





CONSTRUCTION NOTES FOR PRE-FABRICATED SILT FENCE

- 1. PRE-FABRICATED SILT FENCE SHALL BE INSTALLED TO PREVENT EROSION OF EXPOSED SOILS.
- 2. FENCE SHALL BE INSTALLED UPSTREAM OF ANY EXISTING OR PROPOSED EROSION CONTROL MEASURES.
- 3. FENCE SHALL BE MAINTAINED AT ALL TIMES TO PREVENT BREACHES.
- 4. FENCE SHALL BE REMOVED UPON COMPLETION OF CONSTRUCTION.

DETAIL #2 SUPER SILT FENCE

CONSTRUCTION NOTES FOR PRE-FABRICATED SILT FENCE

- 1. PRE-FABRICATED SILT FENCE SHALL BE INSTALLED TO PREVENT EROSION OF EXPOSED SOILS.
- 2. FENCE SHALL BE INSTALLED UPSTREAM OF ANY EXISTING OR PROPOSED EROSION CONTROL MEASURES.
- 3. FENCE SHALL BE MAINTAINED AT ALL TIMES TO PREVENT BREACHES.
- 4. FENCE SHALL BE REMOVED UPON COMPLETION OF CONSTRUCTION.

DETAIL #1 SILT FENCE

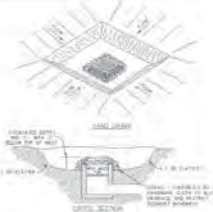
CONSTRUCTION NOTES FOR CONSTRUCTION ENTRANCE

- 1. CONSTRUCTION ENTRANCE SHALL BE INSTALLED TO PREVENT EROSION OF EXPOSED SOILS.
- 2. ENTRANCE SHALL BE INSTALLED UPSTREAM OF ANY EXISTING OR PROPOSED EROSION CONTROL MEASURES.
- 3. ENTRANCE SHALL BE MAINTAINED AT ALL TIMES TO PREVENT BREACHES.
- 4. ENTRANCE SHALL BE REMOVED UPON COMPLETION OF CONSTRUCTION.

DETAIL #4 CONSTRUCTION ENTRANCE

LEGEND

- 1. EXISTING SILT FENCE
- 2. PROPOSED SILT FENCE
- 3. EXISTING SUPER SILT FENCE
- 4. PROPOSED SUPER SILT FENCE
- 5. EXISTING CONSTRUCTION ENTRANCE
- 6. PROPOSED CONSTRUCTION ENTRANCE
- 7. EXISTING STORM INLET PROTECTION
- 8. PROPOSED STORM INLET PROTECTION
- 9. EXISTING WETLANDS
- 10. PROPOSED WETLANDS
- 11. EXISTING ROAD
- 12. PROPOSED ROAD
- 13. EXISTING AVENUE
- 14. PROPOSED AVENUE
- 15. EXISTING BROOK
- 16. PROPOSED BROOK
- 17. EXISTING WETLANDS AS FLAGGED BY STEVE SMITH AND CLAYTON FREY ON APRIL 22, 2021
- 18. PROPOSED WETLANDS AS FLAGGED BY STEVE SMITH AND CLAYTON FREY ON APRIL 22, 2021



DETAIL #3 STORM INLET PROTECTION DETAIL

- 1. STORM INLET PROTECTION SHALL BE INSTALLED TO PREVENT EROSION OF EXPOSED SOILS.
- 2. PROTECTION SHALL BE INSTALLED UPSTREAM OF ANY EXISTING OR PROPOSED EROSION CONTROL MEASURES.
- 3. PROTECTION SHALL BE MAINTAINED AT ALL TIMES TO PREVENT BREACHES.
- 4. PROTECTION SHALL BE REMOVED UPON COMPLETION OF CONSTRUCTION.

GENERAL CONSTRUCTION SEQUENCE

- 1. EXISTING SILT FENCE
- 2. PROPOSED SILT FENCE
- 3. EXISTING SUPER SILT FENCE
- 4. PROPOSED SUPER SILT FENCE
- 5. EXISTING CONSTRUCTION ENTRANCE
- 6. PROPOSED CONSTRUCTION ENTRANCE
- 7. EXISTING STORM INLET PROTECTION
- 8. PROPOSED STORM INLET PROTECTION
- 9. EXISTING WETLANDS
- 10. PROPOSED WETLANDS
- 11. EXISTING ROAD
- 12. PROPOSED ROAD
- 13. EXISTING AVENUE
- 14. PROPOSED AVENUE
- 15. EXISTING BROOK
- 16. PROPOSED BROOK
- 17. EXISTING WETLANDS AS FLAGGED BY STEVE SMITH AND CLAYTON FREY ON APRIL 22, 2021
- 18. PROPOSED WETLANDS AS FLAGGED BY STEVE SMITH AND CLAYTON FREY ON APRIL 22, 2021

ATZL, NASHER & ZHILNER P.C.
1000 Avenue of the Americas
New York, NY 10020
Tel: (212) 693-6000
Fax: (212) 693-6001
E-mail: info@atzl.com
Web: www.atzl.com

SUEZ WATER NEW YORK, INC.
LONDON BRIDGE WELL 1 & 2
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

EROSION & SEDIMENT CONTROL PLAN

PROJECT NO.	4872
DATE	04/22/2021
SCALE	AS SHOWN
BY	ATZL, NASHER & ZHILNER P.C.
CHECKED BY	ATZL, NASHER & ZHILNER P.C.
APPROVED BY	ATZL, NASHER & ZHILNER P.C.

ROBERT LAGA
Chairman

NICHOLAS FANNIN
Vice Chairman

RICHARD FRANZETTI
Wetland Inspector

ROSE TROMBETTA
Secretary

TOWN OF CARMEL
ENVIRONMENTAL CONSERVATION BOARD



60 McAlpin Avenue
Mahopac, New York 10541
Tel. (845) 628-1500 - Ext. 190
www.ci.carmel.ny.us

BOARD MEMBERS

Edward Barnett
Anthony Federice
Nicole Sedran

APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

Name of Applicant: SUEZ Water New York, Inc

Address of Applicant: 162 Old Mill Road, West Nyack, NY 10994 **Email:** steven.garabed@suez.com

Telephone# 845-620-3319 **Name and Address of Owner if different from Applicant:**

APPLICANT IS THE SAME AS OWNER

Property Address: 70 Geymer Drive, Mahopac, NY 10541 **Tax Map #** 75.13-1-6

Agency Submitting Application if Applicable: Atzl, Nasher & Zigler, P.C.

Location of Wetland: Shown on Site Plan

Size of Work Section & Specific Location: See attached description.

Will Project Utilize State Owned Lands? If Yes, Specify: No

Type and extent of work (feet of new channel, yards of material to be removed, draining, dredging, filling, etc). A brief description of the regulated activity (attach supporting details).

See attached description.

Proposed Start Date: MARCH 2022 **Anticipated Completion Date:** October 2022 **Fee Paid \$** 1,000

CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief, false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. As a condition to the issuance of a permit, the applicant accepts full legal responsibility for all damage, direct or indirect, or whatever nature, and by whomever suffered, arising out of the project described here-in and agrees to indemnify and save harmless the Town of Carmel from suits, actions, damages and costs of every name and description resulting from the said project.


SIGNATURE

1-26-22
DATE

Full Environmental Assessment Form
Part 1 - Project and Setting

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 1 is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: SUEZ Water New York, Inc. – London Bridge Well 1 & 2		
Project Location (describe, and attach a general location map): 39 Brook Street in the Town of Carmel, Putnam County		
Brief Description of Proposed Action (include purpose or need): SUEZ Water is proposing the construction of upgrades at their existing London Bridge Well 1 & 2 site. The proposed upgrades will comply with the new state drinking water regulations for polyfluoroalkyl substances (PFAS). The planned upgrade will add treatment for PFAS to remain below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both Perfluorooctanoic acid (PFOA) and Perfluorooctane sulfonate (PFOS), the regulated compounds. See the attached narrative for details.		
Name of Applicant/Sponsor: SUEZ Water New York, Inc.	Telephone: 845-620-3319	
	E-Mail: steven.garabed@suez.com	
Address: 162 Old Mill Road		
City/PO: West Nyack	State: NY	Zip Code: 10994
Project Contact (if not same as sponsor; give name and title/role): John Atzl - Atzl, Nasher & Zigler, PC	Telephone: 845-634-4694	
	E-Mail: jatzl@anzny.com	
Address: 234 North Main Street		
City/PO: New City	State: NY	Zip Code: 10956
Property Owner (if not same as sponsor): PROPERTY OWNER IS THE SAME AS APPLICANT	Telephone:	
	E-Mail:	
Address:		
City/PO:	State:	Zip Code:

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, <input type="checkbox"/> Yes <input type="checkbox"/> No or Village Board of Trustees		
b. City, Town or Village Planning Board or Commission <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Town of Carmel Planning Board - Site Plan and Conditional Use Approval	August 2021
c. City, Town or Village Zoning Board of Appeals <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Town of Carmel Zoning Board - variance	August 2021
d. Other local agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Town of Carmel Building Department - Building Permit, Sewer Connection Permit	August 2021
e. County agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Putnam County Department of Health	August 2021
f. Regional agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
g. State agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
h. Federal agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
i. Coastal Resources. i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No iii. Is the project site within a Coastal Erosion Hazard Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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):

NYC Watershed Boundary

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):

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?

Residential District

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? Mahopac Central School District

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

Town of Carmel Police Department

c. Which fire protection and emergency medical services serve the project site?

Mahopac Volunteer Fire Department

d. What parks serve the project site?

Airport Field, Sycamore Town Park

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)? Industrial Water Treatment and Supply

b. a. Total acreage of the site of the proposed action? 1.61 acres

b. Total acreage to be physically disturbed? 0.26 acres

c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 1.61 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)? % 194 Units: 726 sq. ft.

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)

ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No

iii. Number of lots proposed? _____

iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☒ No

i. If No, anticipated period of construction: 12 months

ii. If Yes:

- Total number of phases anticipated _____

- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year

- Anticipated completion date of final phase _____ month _____ year

- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

* Calculation: [Proposed building expansion (sq ft)/ Existing building (sq ft)] X 100
(600 sq. ft. proposed building /58 sq. ft. existing building) X 100

f. Does the project include new residential uses? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, show numbers of units proposed.				
	<u>One Family</u>	<u>Two Family</u>	<u>Three Family</u>	<u>Multiple Family (four or more)</u>
Initial Phase	_____	_____	_____	_____
At completion	_____	_____	_____	_____
of all phases	_____	_____	_____	_____

g. Does the proposed action include new non-residential construction (including expansions)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes,	
i. Total number of structures _____ 1 ii. Dimensions (in feet) of largest proposed structure: _____ 22 height; _____ 22 width; and _____ 33 length iii. Approximate extent of building space to be heated or cooled: _____ 726 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes,	
i. Purpose of the impoundment: _____ ii. If a water impoundment, the principal source of the water: <input type="checkbox"/> Ground water <input type="checkbox"/> Surface water streams <input type="checkbox"/> Other specify: _____ iii. If other than water, identify the type of impounded/contained liquids and their source. _____ iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): _____ _____	

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) If Yes:	
i. What is the purpose of the excavation or dredging? _____ ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site? • Volume (specify tons or cubic yards): _____ • Over what duration of time? _____ iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them. _____ _____ iv. Will there be onsite dewatering or processing of excavated materials? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe. _____ _____ v. What is the total area to be dredged or excavated? _____ acres vi. What is the maximum area to be worked at any one time? _____ acres vii. What would be the maximum depth of excavation or dredging? _____ feet viii. Will the excavation require blasting? <input type="checkbox"/> Yes <input type="checkbox"/> No ix. Summarize site reclamation goals and plan: _____ _____ _____	

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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes:	
i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____ _____	

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:

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☐ No
If Yes, describe: _____

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: _____ gallons/day

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

- Name of district or service area: _____
- 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: _____
- Source(s) of supply for the district: _____

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: _____

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ 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

<ul style="list-style-type: none"> • Do existing sewer lines serve the project site? _____ • Will a line extension within an existing district be necessary to serve the project? _____ <p>If Yes:</p> <ul style="list-style-type: none"> • Describe extensions or capacity expansions proposed to serve this project: _____ _____ _____ 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
<p>iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? _____</p> <p>If Yes:</p> <ul style="list-style-type: none"> • Applicant/sponsor for new district: _____ • Date application submitted or anticipated: _____ • What is the receiving water for the wastewater discharge? _____ 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<p>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): _____ _____ _____</p>		
<p>vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____ _____ _____</p>		
<p>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? _____</p> <p>If Yes:</p> <p>i. How much impervious surface will the project create in relation to total size of project parcel?</p> <p style="margin-left: 40px;">_____ Square feet or _____ acres (impervious surface)</p> <p style="margin-left: 40px;">_____ Square feet or _____ acres (parcel size)</p> <p>ii. Describe types of new point sources. _____</p> <p>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)? _____ _____</p> <p style="margin-left: 40px;">• If to surface waters, identify receiving water bodies or wetlands: _____ _____</p> <p style="margin-left: 40px;">• Will stormwater runoff flow to adjacent properties? _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
<p>iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? _____</p>		
<p>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? _____</p> <p>If Yes, identify:</p> <p>i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles) Construction equipment and vehicles _____</p> <p>ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers) Power generation _____</p> <p>iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation) _____</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<p>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? _____</p> <p>If Yes:</p> <p>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) _____</p> <p>ii. In addition to emissions as calculated in the application, the project will generate:</p> <ul style="list-style-type: none"> • _____ Tons/year (short tons) of Carbon Dioxide (CO₂) • _____ Tons/year (short tons) of Nitrous Oxide (N₂O) • _____ Tons/year (short tons) of Perfluorocarbons (PFCs) • _____ Tons/year (short tons) of Sulfur Hexafluoride (SF₆) • _____ Tons/year (short tons) of Carbon Dioxide equivalent of Hydrofluorocarbons (HFCs) • _____ Tons/year (short tons) of Hazardous Air Pollutants (HAPs) 		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No

<p>h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Estimate methane generation in tons/year (metric): _____</p> <p>ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____</p>			
<p>i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust): _____</p>			
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. When is the peak traffic expected (Check all that apply): <input type="checkbox"/> Morning <input type="checkbox"/> Evening <input type="checkbox"/> Weekend <input type="checkbox"/> Randomly between hours of _____ to _____.</p> <p>ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____</p> <p>iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____</p> <p>iv. Does the proposed action include any shared use parking? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe: _____</p> <p>vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>vii. Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>			
<p>k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Estimate annual electricity demand during operation of the proposed action: _____ 16,335 kWh *</p> <p>ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other): <u>New York State Electric & Gas Corporation</u></p> <p>iii. Will the proposed action require a new, or an upgrade, to an existing substation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>			
<p>l. Hours of operation. Answer all items which apply.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 8AM - 6PM • Saturday: _____ 8AM - 6PM • Sunday: _____ 8AM - 6PM • Holidays: _____ CLOSED </td> <td style="width: 50%; vertical-align: top;"> <p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 24 hours/day • Saturday: _____ 24 hours/day • Sunday: _____ 24 hours/day • Holidays: _____ 24 hours/day </td> </tr> </table>		<p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 8AM - 6PM • Saturday: _____ 8AM - 6PM • Sunday: _____ 8AM - 6PM • Holidays: _____ CLOSED 	<p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 24 hours/day • Saturday: _____ 24 hours/day • Sunday: _____ 24 hours/day • Holidays: _____ 24 hours/day
<p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 8AM - 6PM • Saturday: _____ 8AM - 6PM • Sunday: _____ 8AM - 6PM • Holidays: _____ CLOSED 	<p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 24 hours/day • Saturday: _____ 24 hours/day • Sunday: _____ 24 hours/day • Holidays: _____ 24 hours/day 		

***The average number of kilowatt hours per square foot for a commercial building is approximately 22.5. (Source: Iota Communications.com). The proposed building is 600 sq. ft.**

<p>m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes:</p> <p>i. Provide details including sources, time of day and duration:</p> <p>The operation of construction equipment will increase local daytime ambient noise levels. This will only occur during permitted hours of operation and the resulting noise will cease upon completion of the project.</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<p>ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe: _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>n. Will the proposed action have outdoor lighting? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes:</p> <p>i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:</p> <p>See Lighting Plan</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<p>ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe: _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>o. Does the proposed action have the potential to produce odors for more than one hour per day? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Product(s) to be stored _____</p> <p>ii. Volume(s) _____ per unit time _____ (e.g., month, year)</p> <p>iii. Generally, describe the proposed storage facilities: _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Describe proposed treatment(s): _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>ii. Will the proposed action use Integrated Pest Management Practices? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Describe any solid waste(s) to be generated during construction or operation of the facility:</p> <ul style="list-style-type: none"> • Construction: _____ tons per _____ (unit of time) • Operation : _____ tons per _____ (unit of time) <p>ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:</p> <ul style="list-style-type: none"> • Construction: _____ • Operation: _____ <p>iii. Proposed disposal methods/facilities for solid waste generated on-site:</p> <ul style="list-style-type: none"> • Construction: _____ • Operation: _____ 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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): Industrial Water Treatment and Supply

ii. If mix of uses, generally describe: _____

b. Land uses and covertypes on the project site.

Land use or Covertypes	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.07	0.2	+ 0.13
• Forested	1.34	1.21	- 0.13
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0.02	0.02	0
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0.05	0.05	0
• Wetlands (freshwater or tidal)	0.13	0.13	0
• Non-vegetated (bare rock, earth or fill)	0	0	0
• Other Describe: _____			

<p>c. Is the project site presently used by members of the community for public recreation? i. If Yes: explain: _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>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? If Yes, i. Identify Facilities: _____ _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>e. Does the project site contain an existing dam? If Yes: i. Dimensions of the dam and impoundment: <ul style="list-style-type: none"> • 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: _____ _____ _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>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? If Yes: i. Has the facility been formally closed? <ul style="list-style-type: none"> • If yes, cite sources/documentation: _____ ii. Describe the location of the project site relative to the boundaries of the solid waste management facility: _____ _____ _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
<p>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? If Yes: i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred: _____ _____ _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>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? 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: <input type="checkbox"/> Yes – Spills Incidents database Provide DEC ID number(s): _____ <input type="checkbox"/> Yes – Environmental Site Remediation database Provide DEC ID number(s): _____ <input type="checkbox"/> Neither database ii. If site has been subject of RCRA corrective activities, describe control measures: _____ _____ _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? If yes, provide DEC ID number(s): _____ iv. If yes to (i), (ii) or (iii) above, describe current status of site(s): _____ _____ _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

v. Is the project site subject to an institutional control limiting property uses? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<ul style="list-style-type: none"> • 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? <input type="checkbox"/> Yes <input type="checkbox"/> No • Explain: _____ 	
E.2. Natural Resources On or Near Project Site	
a. What is the average depth to bedrock on the project site? *SEE BELOW feet	
b. Are there bedrock outcroppings on the project site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____ %	
c. Predominant soil type(s) present on project site:	
Ff - Fluvaquents-Udifuvents complex	80 %
Sm -Ridgebury complex	14 %
RdA - Sun loam	6 %
d. What is the average depth to the water table on the project site? Average: _____ feet *SEE BELOW	
e. Drainage status of project site soils:	
<input type="checkbox"/> Well Drained: _____ % of site	
<input type="checkbox"/> Moderately Well Drained: _____ % of site	
<input checked="" type="checkbox"/> Poorly Drained: _____ 100 % of site	
f. Approximate proportion of proposed action site with slopes:	
<input checked="" type="checkbox"/> 0-10%: _____ 96 % of site	
<input checked="" type="checkbox"/> 10-15%: _____ 2 % of site	
<input checked="" type="checkbox"/> 15% or greater: _____ 2 % of site	
g. Are there any unique geologic features on the project site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ii. Do any wetlands or other waterbodies adjoin the project site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
iv. For each identified regulated wetland and waterbody on the project site, provide the following information:	
• Streams: Name <u>864-139</u> Classification <u>C(T)</u>	
• Lakes or Ponds: Name _____ Classification _____	
• Wetlands: Name <u>Federal Waters, NYS Wetland</u> Approximate Size _____	
• Wetland No. (if regulated by DEC) <u>ML-10</u>	
v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, name of impaired water body/bodies and basis for listing as impaired: _____	
i. Is the project site in a designated Floodway? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
j. Is the project site in the 100-year Floodplain? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
k. Is the project site in the 500-year Floodplain? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
If Yes:	
i. Name of aquifer: <u>Principal Aquifer</u>	

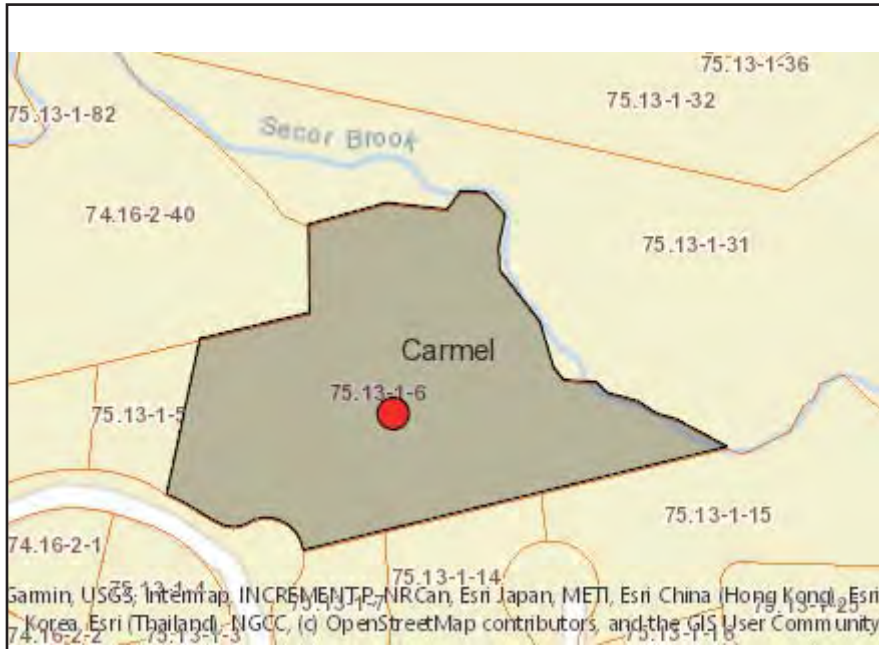
*** Depth to Bedrock**

Depth to Water

6.5 FT >. - 80% of site
1.6 FT. - 6% of site
6.5 FT >.- 14% of site

204 FT.- 80% of site
244 FT. - 6% of site
36 FT. - 14% of site

<p>m. Identify the predominant wildlife species that occupy or use the project site: _____</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Squirrel _____</td> <td style="width: 33%;">Raccoon _____</td> <td style="width: 33%;">_____</td> </tr> <tr> <td>Deer _____</td> <td>Possum _____</td> <td>_____</td> </tr> <tr> <td>Rabbit _____</td> <td>Fox _____</td> <td>_____</td> </tr> </table>		Squirrel _____	Raccoon _____	_____	Deer _____	Possum _____	_____	Rabbit _____	Fox _____	_____
Squirrel _____	Raccoon _____	_____								
Deer _____	Possum _____	_____								
Rabbit _____	Fox _____	_____								
<p>n. Does the project site contain a designated significant natural community? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Describe the habitat/community (composition, function, and basis for designation): _____</p> <p style="margin-left: 20px;">ii. Source(s) of description or evaluation: _____</p> <p style="margin-left: 20px;">iii. Extent of community/habitat:</p> <ul style="list-style-type: none"> • Currently: _____ acres • Following completion of project as proposed: _____ acres • Gain or loss (indicate + or -): _____ acres 										
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Species and listing (endangered or threatened): _____</p> <p>_____</p> <p>_____</p>										
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Species and listing: _____</p> <p>_____</p> <p>_____</p>										
<p>q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If yes, give a brief description of how the proposed action may affect that use: _____</p> <p>_____</p> <p>_____</p>										
<p>E.3. Designated Public Resources On or Near Project Site</p>										
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes, provide county plus district name/number: _____</p>										
<p>b. Are agricultural lands consisting of highly productive soils present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p style="margin-left: 20px;">i. If Yes: acreage(s) on project site? _____</p> <p style="margin-left: 20px;">ii. Source(s) of soil rating(s): _____</p>										
<p>c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Nature of the natural landmark: <input type="checkbox"/> Biological Community <input type="checkbox"/> Geological Feature</p> <p style="margin-left: 20px;">ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____</p> <p>_____</p> <p>_____</p>										
<p>d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. CEA name: _____</p> <p style="margin-left: 20px;">ii. Basis for designation: _____</p> <p style="margin-left: 20px;">iii. Designating agency and date: _____</p>										



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]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	NYC Watershed Boundary
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]	864-139
E.2.h.iv [Surface Water Features - Stream Classification]	C(T)
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters, NYS Wetland
E.2.h.iv [Surface Water Features - Wetlands Size]	NYS Wetland (in acres):482.2
E.2.h.iv [Surface Water Features - DEC Wetlands Number]	ML-10

E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	Yes
E.2.j. [100 Year Floodplain]	Yes
E.2.k. [500 Year Floodplain]	Yes
E.2.l. [Aquifers]	Yes
E.2.l. [Aquifer Names]	Principal Aquifer
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
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]	No
E.3.i. [Designated River Corridor]	No

Project Description

General Project Information

Applicant: SUEZ Water New York, Inc.

Project: PFAS Compliance Project F – Geymer Well

Location: Town of Carmel
Putnam County, New York

Consultant: Gannett Fleming, Inc.
207 Senate Avenue
Camp Hill, PA 17011

Introduction

SUEZ is proposing the construction of upgrades at their existing Geymer well site. The proposed study area (41° 21' 53.181" N, 73° 46' 37.994" W) is located in the Town of Carmel, Putnam County, New York. The project study area for this project encompassed the entire SUEZ property. During delineation efforts an additional 300-foot buffer was reviewed around the project study area and is referred to in the permit application as the action area. Refer to the Topographic Location Map and Aerial Layout Map for the location and project limits located in **Section A**.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for per- and polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both PFOA and PFOS, the regulated compounds.

Project Purpose and Need

For years, states and water providers have followed the Environmental Protection Agency (EPA) health advisory limit of 70 parts per trillion (ppt) for PFOA and PFOS in drinking water; in late August 2020, the State of New York adopted new drinking water standards that set a Maximum Contaminant Level (MCL) of 10 ppt for these substances in drinking water.

In accordance with the new requirements, SUEZ Water New York, Inc. (SUEZ) took additional samples from its well water sources in October 2020. Those sites that tested above the new state standard remain well below the federal level of 70 ppt but will require treatment to meet the new state requirements.

To comply with these new MCLs, SUEZ plans to construct upgrades to the existing Geymer (AKA) Forest Park Homes site. The planned upgrade will not increase the firm capacity of the wells but add Granulated Activated Carbon as treatment to remove the PFAS and PFOA prior to entering the distribution system and ensuring compliance with the new regulations.

Project Description Details

The Geymer wells are located in a residential area 300 feet northeast of 76 Geymer Drive in Mahopac, Putnam County, New York and serve approximately 50 customers. The well water comes from two wells and have a combined production capacity of 100 gpm.

The well pumps will be replaced for this project to compensate for the pressure loss from the new treatment facility yet provide the customers with sufficient water pressure at their homes. From the wells, the water will enter a new treatment facility, which will house bag filters for pre-filtration, and Granular Activated Carbon for the PFOS and PFOA removal. The water will then receive sodium hypochlorite for disinfection. From there the water is sent to the distribution system. Architectural, civil, electrical, structural, HVAC and plumbing upgrades will also be implemented to accommodate the new treatment systems at the existing locations.

Construction will also include upgrades to the access road off of Geymer Drive, the installation of three (3) 6-inch pipelines that connect to the existing wells, and an electrical upgrade taking the facility to three-phase power. Erosion and sediment controls will be installed to protect the regulated features. Disturbance will be kept to a minimum and avoidance measures have been considered during the design phase of the project.

Project Area Description

The proposed PFAS upgrades will be installed within the existing SUEZ property located on the north side of Geymer Drive in the Town of Carmel, New York. The proposed project study area is approximately 4 acres and is located north of Geymer Drive and south of Secor Brook. The action area surrounding the project study area is approximately 23.5 acres. The project study area and action area consist of predominantly forested wetlands, Secor Brook, gravel access roads, existing well infrastructure, residential properties, and local roads.

Water resources within or adjacent to the project area include Secor Brook and its unnamed tributaries as identified by NYSDEC freshwater mapping, National Wetland Inventory mapping, and U.S. Geological Survey topographical mapping. Additional water resources were identified during field investigations.

Project Impacts

One parcel was impacted by the SUEZ PFAS project. Project design will impact one regulated feature and the intent of this package is to obtain approvals from the Town. Refer to the Wetland Delineation Report provided in **Section B** for more information regarding these resources.

The proposed project limit of disturbance overlaps NYSDEC regulated freshwater wetlands, regulated freshwater wetland adjacent areas and USACE regulated wetlands. As per the site visit conducted on June 7, 2021, NYSDEC has accepted the USACE regulated wetland boundary as the NYSDEC freshwater wetland boundary. Therefore, the USACE regulated wetland boundary and NYSDEC freshwater wetland boundary coincide with one another.

There are both permanent and temporary impacts associated with the construction of the PFAS structure, driveway and infrastructure. Reclamation to the portion of the wetlands with temporary impacts will take place as soon as construction is complete. All impacts that are permanent in nature are outlined and mitigation is proposed.

Please see **Section C** for a typical diagram of construction.

Regulated Activities

Wetland Impacts

The Town of Carmel will regulate impacts at the Geymer Well site that involve temporary and permanent impacts to Wetland 1. The temporary impacts include the areas required for the installation of temporary erosion and sediment control to protect the surrounding portions of Wetland 1. All controls shall be removed once construction is complete and the area shall be restored and allowed to revegetate back to pre-construction conditions. There is one USACE regulated permanent wetland impacts associated with the Geymer Well site. Below are the calculated impacts to the wetland and within 100 feet adjacent to the wetlands.

Wetland Impacts

- 2,905.36 ft²; 0.067 ac

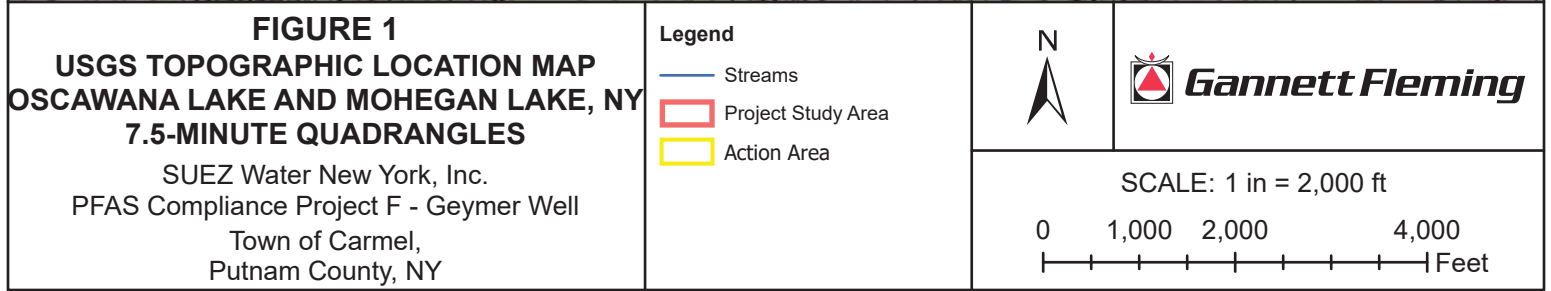
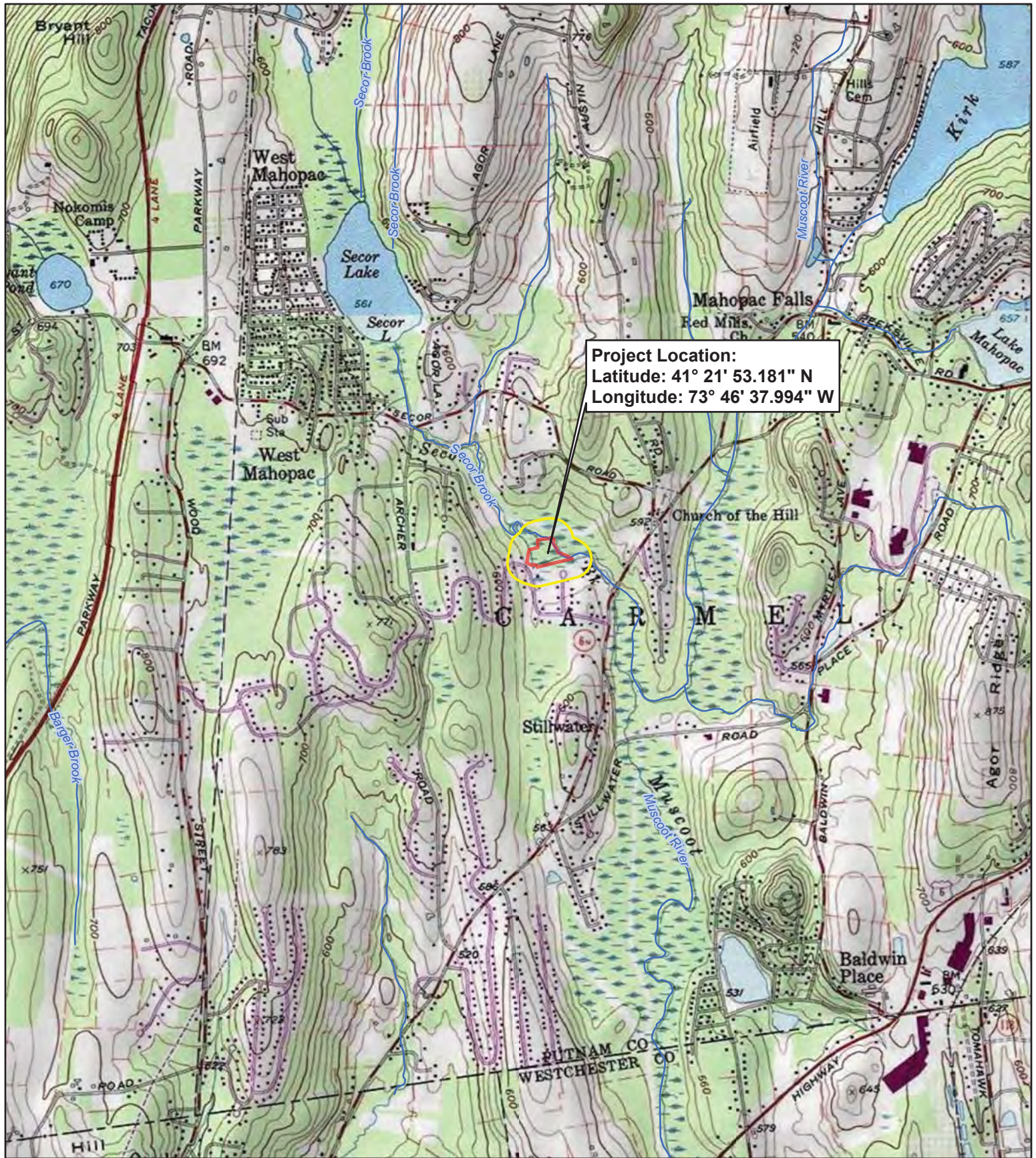
,

Impacts to 100' Buffer

- 24,459.54 ft²; 0.562 ac

There are no stream impacts associated with this project.

Section A: Topographic Location Map and Aerial Layout Map



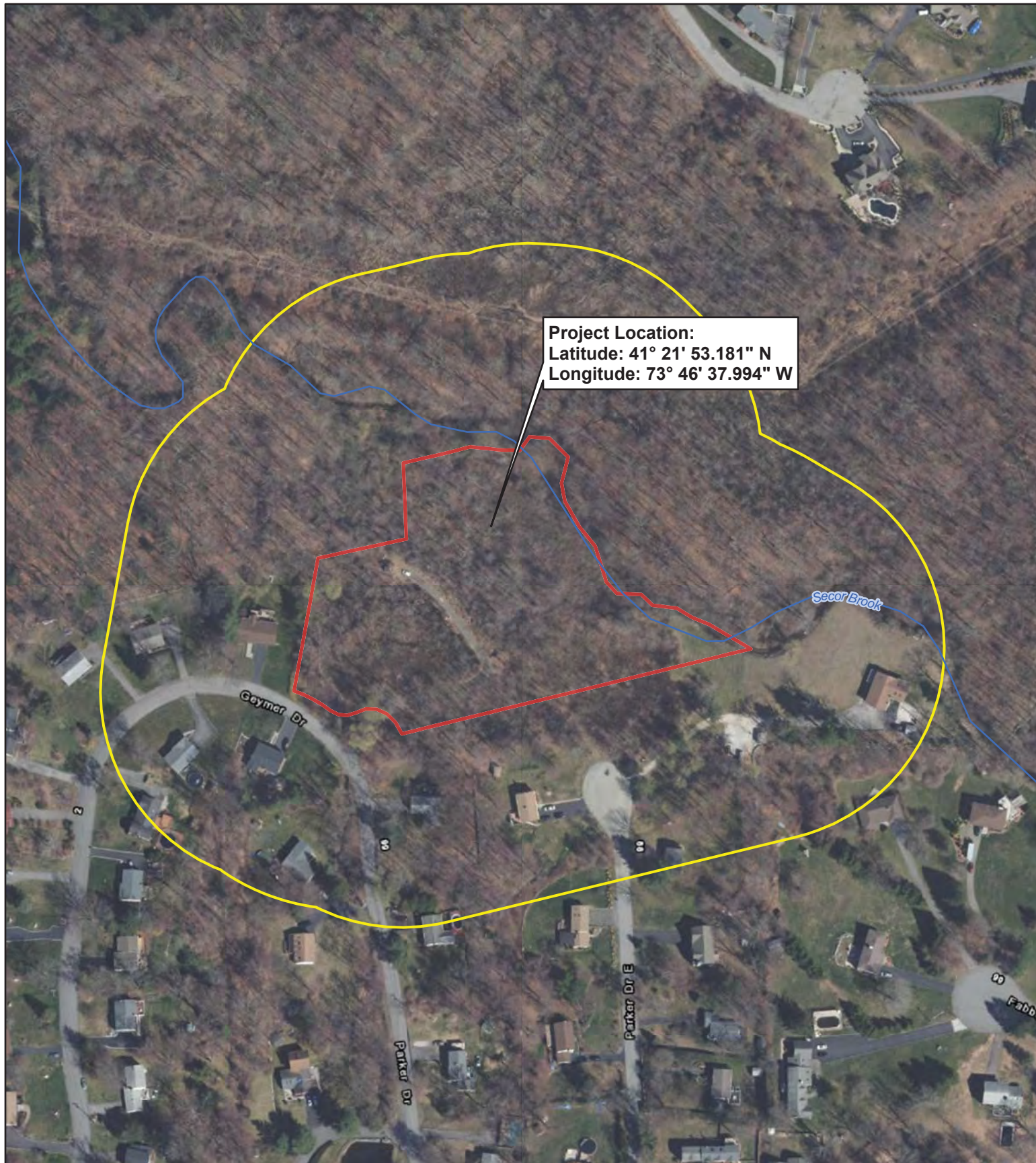


FIGURE 2

**PROJECT LOCATION AND
STUDY AREA MAP**

SUEZ Water New York, Inc.
PFAS Compliance Project F - Geymer Well
Town of Carmel,
Putnam County, NY

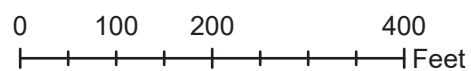
Legend

- Streams
- Action Area
- Project Study Area



Gannett Fleming

SCALE: 1 in = 200 ft



Section C: Typical diagram of construction

Note: Please refer to the attached Site Plan set.

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT



SUEZ Water New York Inc. PFAS Compliance Project F – Geymer Well

Town of Carmel, Putnam County, New York

Prepared for:

SUEZ Water New York, Inc.
162 Old Mill Rd
West Nyack, NY 10994

Prepared by:



Gannett Fleming

207 Senate Avenue
Camp Hill, PA 17011

May 2021

GF Project No. 068577

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT

SUEZ Water New York Inc. PFAS Compliance Project F – Geymer Well Town of Carmel, Putnam County, New York

Prepared for:

SUEZ Water New York Inc.

Prepared by:



May 2021

TABLE OF CONTENTS

1.0	Executive Summary.....	1
2.0	Project Description	3
3.0	Purpose.....	3
4.0	Study Area Description.....	3
4.1	Topography.....	3
4.2	Soils.....	4
4.3	Geology	4
4.4	Surface Waters	4
4.5	National Wetlands Inventory	4
4.6	NYSDEC Wetlands.....	5
5.0	Methods	11
6.0	Field Observations and Delineated Features.....	12
6.1	Waterbodies & Wetlands.....	13
6.2	Waterways	13
7.0	Wetland & Waterway Resource Summary.....	13
8.0	References.....	15
9.0	List of Contributors	17

FIGURES

Figure 1.	USGS Topographic Location Map.....	6
Figure 2.	Project Location and Study Area Map	7
Figure 3.	Soil Survey Map.....	8
Figure 4.	National Wetlands Inventory Map.....	9
Figure 5.	NYSDEC Wetlands Map.....	10

TABLES

Table 1.	Wetland and Waterway Summary.....	2
Table 2.	Dominant Plant Species List	12
Table 3.	Delineated Wetland Resource Summary	13

APPENDICES

APPENDIX A – WETLANDS AND WATERWAYS MAPPING

APPENDIX B – SITE PHOTOGRAPHS AND PHOTOGRAPH LOCATION MAP

APPENDIX C – WETLAND FIELD DATA FORMS

1.0 Executive Summary

SUEZ Water New York, Inc. (SUEZ) is proposing the construction of upgrades at their existing Geymer well site. The proposed study area (41° 21' 53.181" N, 73° 46' 37.994" W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for per- and polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), the regulated compounds.

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with U.S. Fish and Wildlife Service (USFWS). The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area and action area. This report was prepared to satisfy the regulatory requirements of the U.S. Army Corps of Engineers (USACE) under the purview of Section 404 of the Clean Water Act and New York State Department of Environmental Conservation (NYSDEC) under Article 24, Freshwater Wetlands Act.

On April 21 and 22, 2021, Gannett Fleming, Inc. (GF) conducted a field investigation to delineate wetlands and waterways within the 4-acre project study area and 23.5-acre action area for use in project planning and permitting efforts for the PFAS Compliance Project F – Geymer Well. One (1) wetland and two (2) waterways were delineated within the project study area and action area (**Table 1**). Secor Brook was confirmed in the field as a perennial waterway bordering the project study area to the north. Wetland and waterway boundaries were mapped in the field and are presented in **Appendix A**. Photographs were taken of the wetlands and waterways and are provided in **Appendix B**. Wetland data forms were completed to document the hydrology, vegetation, and soil conditions of the delineated wetlands and are provided in **Appendix C**.

Table 1. Wetland and Waterway Summary

PROJECT TOTALS		
WETLANDS		
Feature Type	Number Present	Total Acres (AC)
▪ PFO Wetland	1	5.02+
WATERWAYS		
Feature Type	Number Present	Total Linear Feet (LF)
▪ Perennial Waterway	2	1,991+

Wetlands

- Wetland 1 – PFO wetland, 5.02+ acres (Open-Ended)

Waterways

- Stream 1 – Perennial, 801 linear feet
- Stream 2 (Secor Brook) – Perennial, 1,190+ linear feet

**Length in linear feet for Stream 1 was delineated in the field. Length of Secor Brook was digitized and measured using aerial imagery*

A “+” indicates the delineated resource extends beyond the Project Study Area or Action Area.

2.0 Project Description

SUEZ Water New York, Inc. (SUEZ) is proposing the construction of upgrades at their existing Geymer well site. The proposed study area (41° 21' 53.181" N, 73° 46' 37.994" W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for per- and polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both PFOA and PFOS, the regulated compounds

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with USFWS. The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

The proposed PFAS upgrades will be installed within the existing SUEZ property located on the north side of Geymer Drive in the Town of Carmel, New York. The proposed project study area is approximately 4 acres and is located north of Geymer Drive and south of Secor Brook. The action area surrounding the project study area is approximately 23.5 acres. The project study area and action area consist of predominantly forested wetlands, Secor Brook, gravel access roads, existing well infrastructure, residential properties, and local roads.

3.0 Purpose

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area. This report was prepared to satisfy the regulatory requirements of the USACE under the purview of Section 404 of the Clean Water Act and NYSDEC under Article 24, Freshwater Wetlands Act.

4.0 Study Area Description

The project study area consisted of the area in which SUEZ is proposing to complete their work. A 300-foot buffer or action area was used surrounding the project study area. The action area was investigated as part of the Phase I bog turtle habitat survey. The 4-acre project study area and 23.5-acre action area consisted of forested wetlands, Secor Brook, the existing wells, access roads, adjacent residential properties, and local roads.

4.1 Topography

According to the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (Oscawana Lake and Mohegan Lake, New York), the elevation of the project study area and action area ranged from approximately 520 to 560 feet above mean sea level (amsl). An excerpt from the USGS Topographic Quadrangle Map is provided as **Figure 1**. A Project Location and Study Area Map is provided as **Figure 2**.

4.2 Soils

According to the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey, six (6) soil series were mapped within the project study area and action area: Fluvaquents-Udifluvents complex, frequently flooded (Ff), Paxton fine sandy loam, 8 to 15 percent slopes (PnC), Ridgebury complex, 0 to 3 percent slopes (RdA), Ridgebury complex, 3 to 8 percent slopes (RdB), Woodbridge loam, 3 to 8 percent slopes (WdB). Sm is a nationally listed hydric soil (100%). Ff has a hydric rating of 59%. RdA and RdB have hydric soil ratings of 60% and 58%, respectively. PnC is listed as having 2% hydric inclusions and WdB is listed as having 7% hydric inclusions. An excerpt from the soil survey mapping is provided as **Figure 3**.

4.3 Geology

The project is located in the Hudson Highlands Section of the Physiographic Provinces of New York (NYSM, 1995). The project study area is underlain by the Biotite-quartz-plagioclase paragneiss (bqpc) unit of bedrock; the bqpc unit that underlays the project study area consists of “biotite-quartz-plagioclase gneiss with subordinate biotite granitic gneiss, amphibolite, calcsilicate rock” assumed to be from the Middle Proterozoic period (NYSM, 1995). The project is also underlain by the surficial geologic unit till (t) defined by “variable texture (e.g. clay, silt-clay, boulder clay), usually poorly sorted diamict, deposition beneath glacier ice, relatively impermeable (loamy matrix), variable clast content...potential land instability on steep slopes, thickness variable (1-50 meters)” (NYSM, 1989).

4.4 Surface Waters

The USGS map identified Secor Brook as a perennial waterway bordering the project study area to the north (**Figure 1**). No other streams or waterbodies were identified on USGS mapping within or immediately adjacent to the project study area or action area.

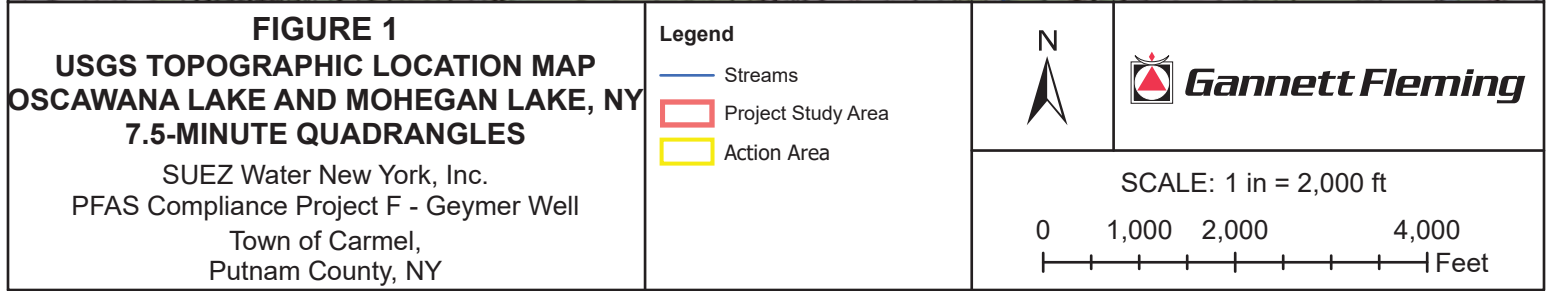
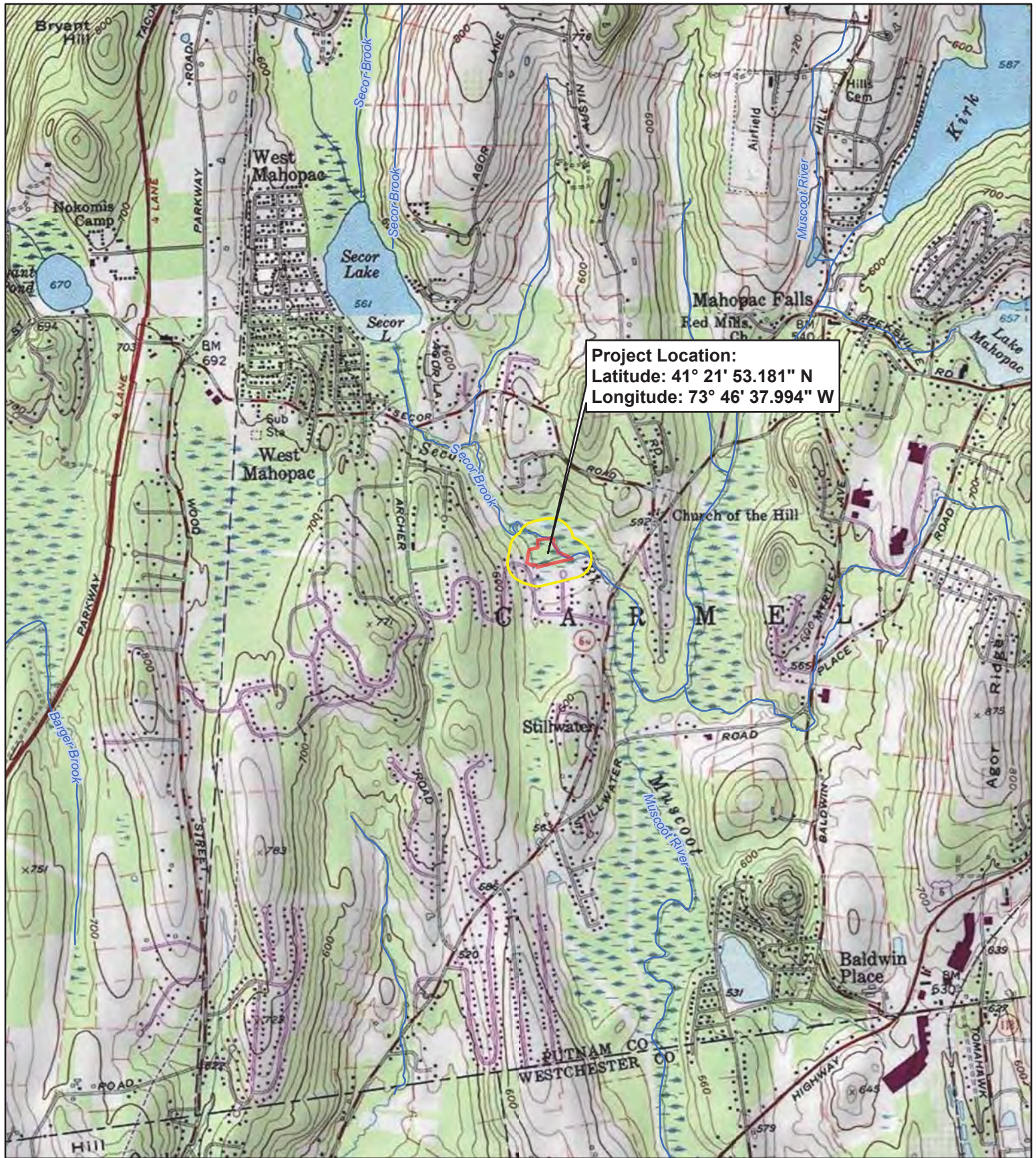
NYSDEC has designated Plum Brook as water quality classification ‘C(T)’. This classification indicates that the water resource supports fisheries and is suitable for non-contact activities, and may support trout populations. A ‘C(T)’ classification is considered a protected water of the state.

4.5 National Wetlands Inventory

The National Wetlands Inventory (NWI) online mapping tool identified multiple features within the project study area and action area. NWI identified Secor Brook as a riverine, upper perennial, unconsolidated bottom, permanently flooded (R3UBH) and riverine, unknown perennial, unconsolidated bottom, permanently flooded (R5UBH) watercourse. Two riverine, intermittent, streambed, seasonally flooded (R4SBC) features were mapped within the action area, and one of these features was mapped within the western extent of the project study area. A palustrine, forested, broad-leaved deciduous, seasonally flooded (PFO1C) feature was mapped within the project study area and action area, on the north and south side of Secor Brook. The NWI map for the project study area is provided as **Figure 4**.

4.6 NYSDEC Wetlands

NYSDEC identified one (1) state regulated wetland within the project study area. Wetland ML-10 is a Class 1 wetland totaling 482.2 acres located within the project study area and action area. The project study area and action area are within the wetland, the 100-foot buffer, and the 500-foot checkzone of this wetland. The NYSDEC wetlands map for the project study area is provided as **Figure 5**.



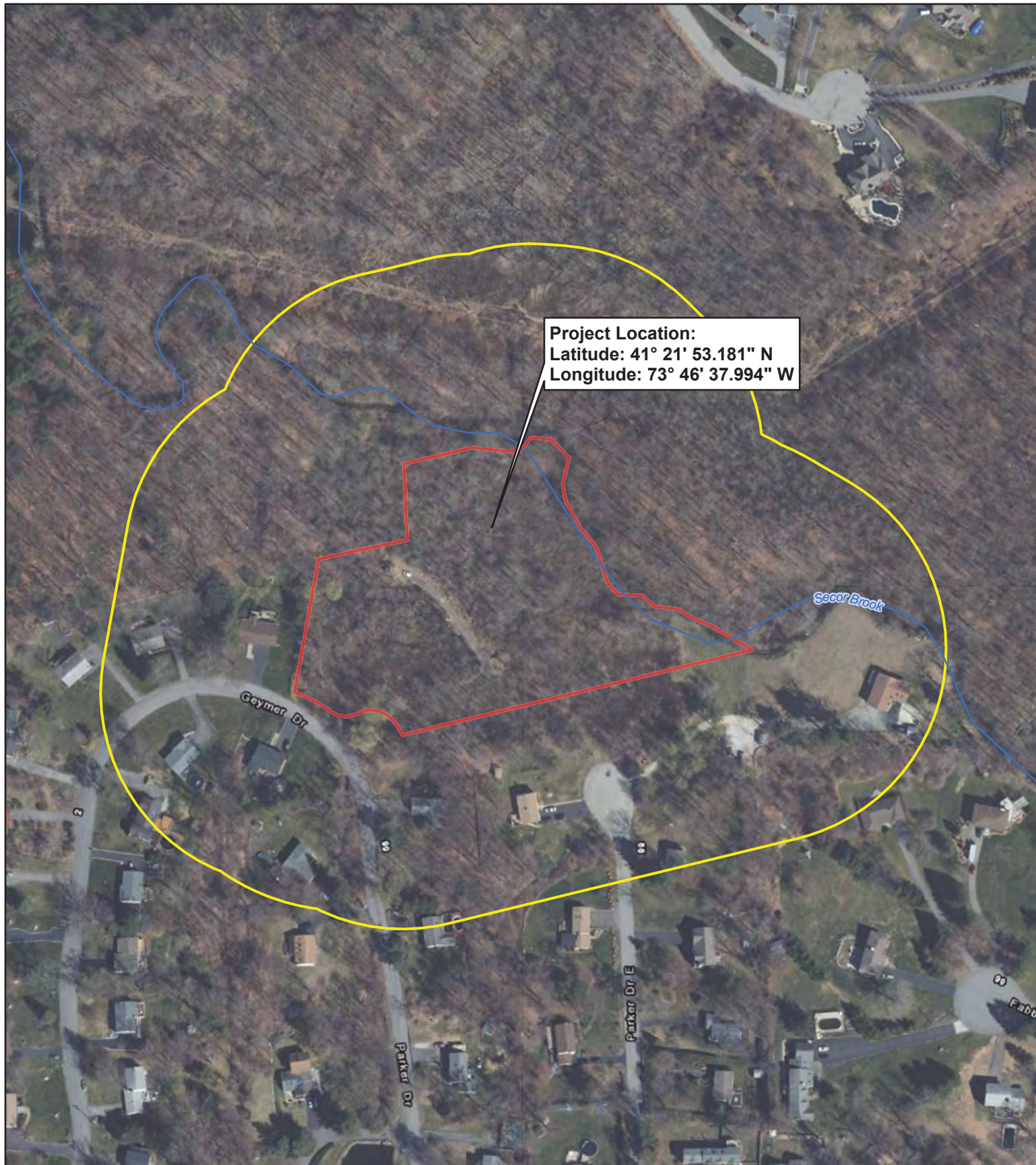


FIGURE 2

**PROJECT LOCATION AND
STUDY AREA MAP**

SUEZ Water New York, Inc.
PFAS Compliance Project F - Geymer Well
Town of Carmel,
Putnam County, NY

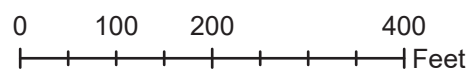
Legend

- Streams
- Action Area
- Project Study Area



Gannett Fleming

SCALE: 1 in = 200 ft



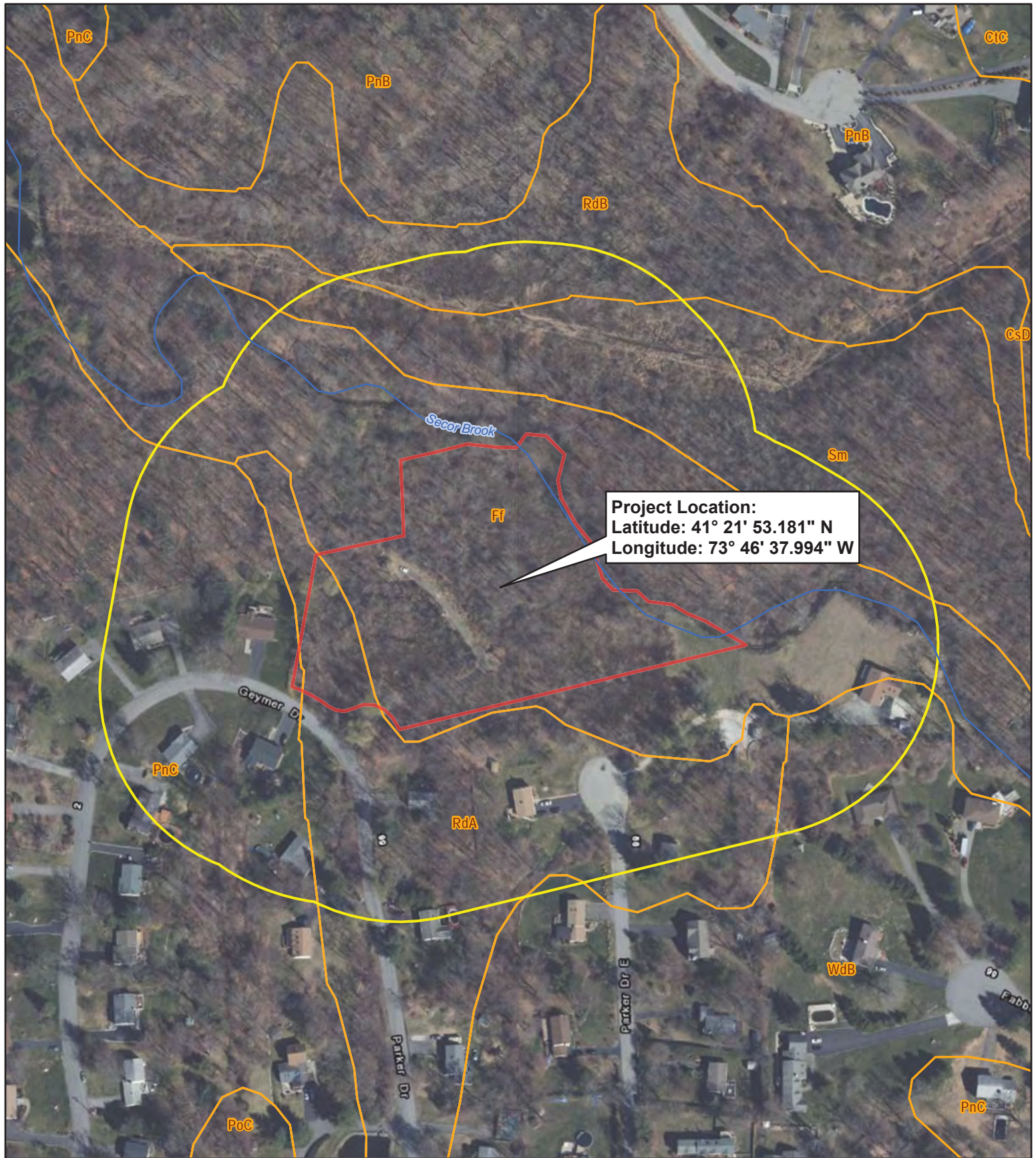


FIGURE 3

SOIL SURVEY MAP

SUEZ Water New York, Inc.
 PFAS Compliance Project F - Geymer Well
 Town of Carmel,
 Putnam County, NY

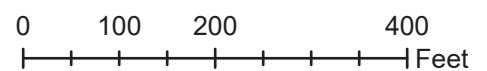
Legend

- Streams
- Action Area
- Project Study Area
- Putnam Co. Soils



Gannett Fleming

SCALE: 1 in = 200 ft



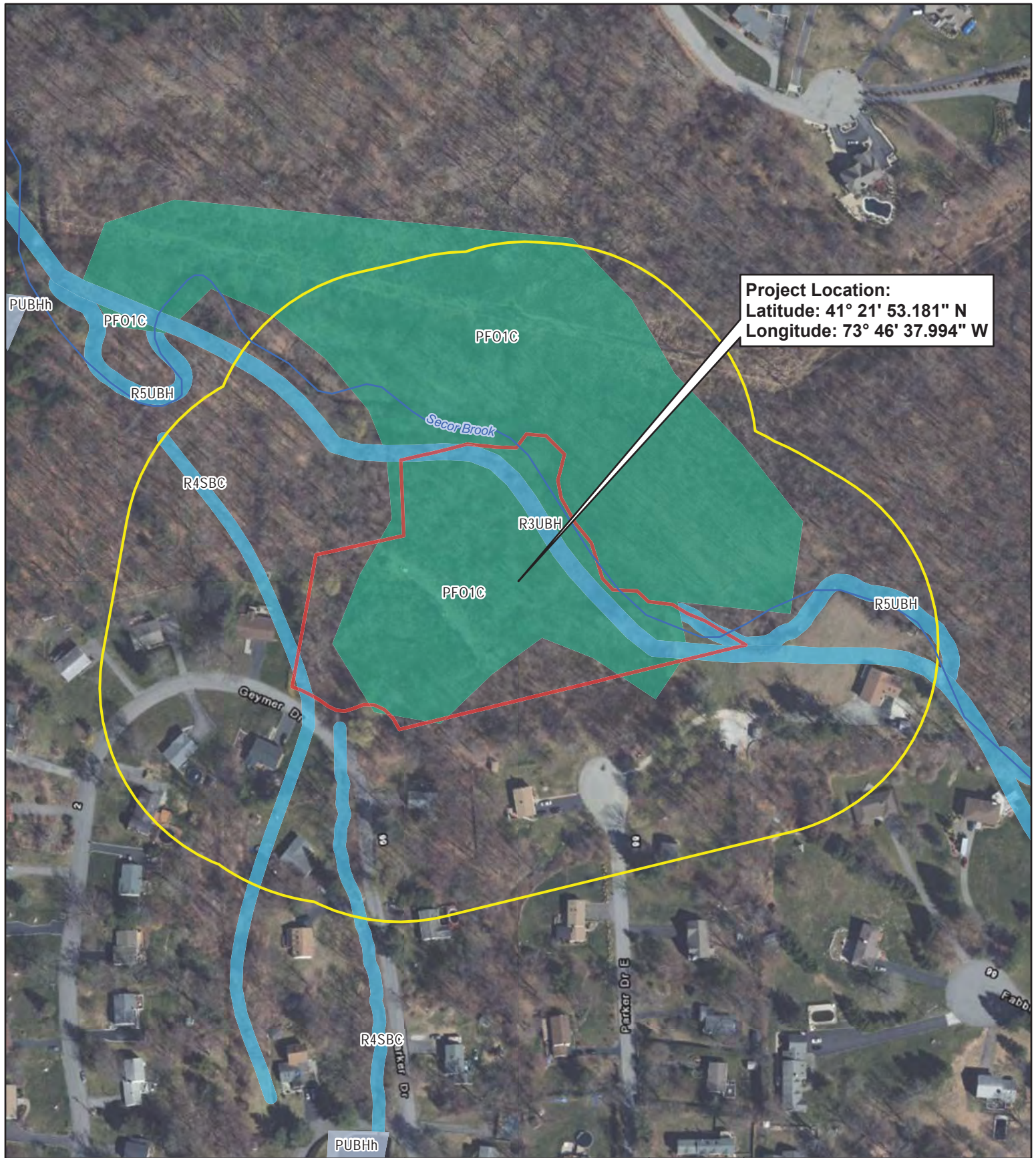


FIGURE 4

NATIONAL WETLANDS INVENTORY MAP

SUEZ Water New York, Inc.
 PFAS Compliance Project F - Geymer Well
 Town of Carmel,
 Putnam County, NY

Legend

- Streams
- Action Area
- Project Study Area

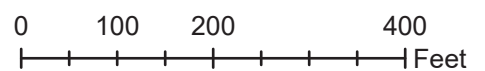
NWI Wetlands

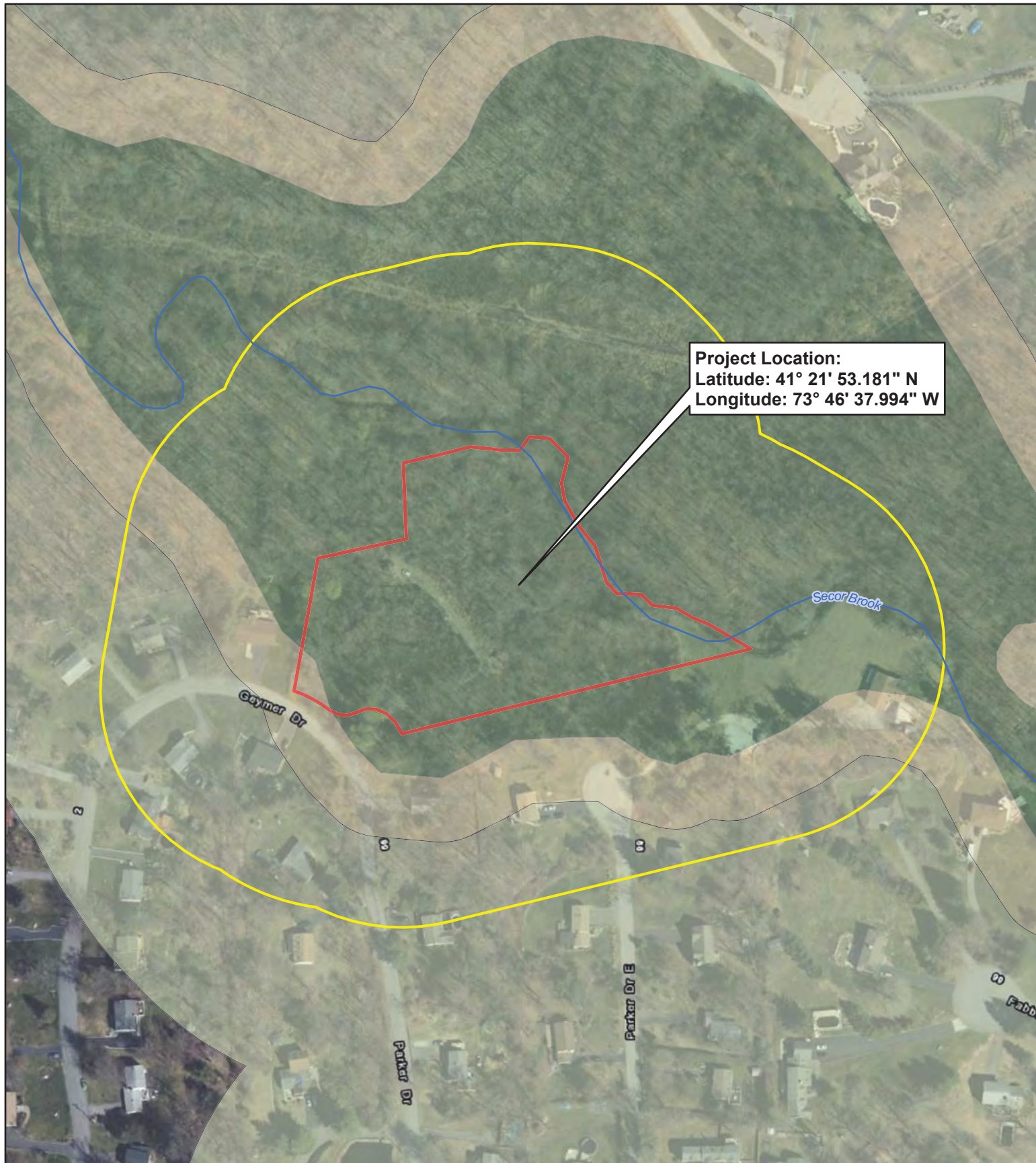
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine



Gannett Fleming

SCALE: 1 in = 200 ft





Project Location:
Latitude: 41° 21' 53.181" N
Longitude: 73° 46' 37.994" W

FIGURE 5

NYSDEC WETLANDS MAP

SUEZ Water New York, Inc.
PFAS Compliance Project F - Geymer Well
Town of Carmel,
Putnam County, NY

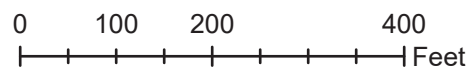
Legend

- Streams
- Action Area
- Project Study Area
- NYSDEC Freshwater Wetland Boundary
- NYSDEC Freshwater Wetland 100' Buffer
- NYSDEC Freshwater Wetland Checkzone



Gannett Fleming

SCALE: 1 in = 200 ft



5.0 Methods

The 4-acre project study area and 23.5-acre action area was investigated for palustrine wetland indicators of vegetative composition, soil development, and hydrology. Portions of the action area located north of Secor Brook and east of Parker Drive were not able to be investigated due to property access issues. The investigation was conducted in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (U.S. Army Corps of Engineers, 2012). Wetland field data forms were completed to document wetland or non-wetland data points. If present, wetlands within and directly adjacent to the study area were delineated so that their presence could be shown on project mapping to aid in impact avoidance and/or minimization during engineering design.

Soils were characterized by evaluating the upper horizons of the soil profile. Soil pits were dug using a “sharpshooter” spade with a 16-inch blade. Soil horizons were evaluated using normal field protocols for determining texture and nomenclature. The *Munsell Soil Color Charts* (Kollmorgen Instruments Corporation, 1994) were used to determine the colors of horizons and redoximorphic features. Soil observations of reducing conditions were determined in the field using presence/absence determinations of redoximorphic concretions and oxidized rhizospheres, and identifying low chroma matrices according to *Field Indicators of Hydric Soils in the United States (Version 7.0)* (USDA-NRCS, 2010).

Vegetation was identified using *A Field Guide to Trees and Shrubs* (Petrides, 1986), *Newcomb's Wildflower Guide* (Newcomb, 1977), and *Grasses: An Identification Guide* (Brown, 1979). Plant species were assigned an indicator status [i.e., Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), or Obligate Wetland (OBL)] based on the *2018 National Wetland Plant List (Version 3.4)* (USACE, 2018).

Data point locations were investigated for primary and secondary wetland hydrology indicators. If present, wetland boundaries were marked using pink wetland flagging. Wetland boundary data points were located using a Trimble Geo7X Global Positioning System (GPS) with Trimble Tornado receiver. The Trimble Geo7X and Tornado are capable of attaining sub-meter accuracy. The GPS data were then transferred onto relevant project mapping using the U.S. State Plane NY East coordinate system.

Wetland type classifications were assigned to each wetland following the Cowardin et al methods (1979). Hydrogeomorphic classifications were assigned to each wetland based on the *Hydrogeomorphic Wetland Classification: HGM Classification for Wetlands of the Mid-Atlantic Region, USA* (Brooks, 2017). Palustrine plant community classifications were assigned to each wetland based on *Ecological Communities of New York State* (Edinger et al, 2014). Color photographs were taken of all relevant features to document site conditions during the time of the investigation.

Waterways were identified through a review of available mapping and field investigation. Topographic and engineering maps were reviewed for the presence of streams within the project study area. A field investigation for waterways was performed in conjunction with the wetland field investigation and included the field verification of mapped watercourses and the identification and delineation of streams, springs, and seeps that were not shown on existing engineering plans. Waterways were identified by the presence of bed and banks and/or ordinary

high-water marks. The flow regime of each identified waterway was characterized based upon field indicators of hydrologic, floral, and faunal character at the time of the investigation. All identified waterways were photographed and located using GPS.

6.0 Field Observations and Delineated Features

On April 21 and 22, 2021, GF investigated the 4-acre project study area and 23.5-acre action area for wetlands and waterways. The weather conditions on April 21, 2021 were partly cloudy with a high temperature of 65°F and a brief thunderstorm in the afternoon. The weather conditions on April 22, 2021 were mostly sunny and windy with a high temperature of 46°F. Precipitation data indicated 0.17 inches of rain fell on April 21, 2021. No precipitation fell across the region within the 48 hours prior to the field investigation. Weather data was recorded at Danbury Municipal Airport Station in Danbury, CT, approximately 16 miles east of the project study area.

The dominant land-uses within and surrounding the project study area included forested wetlands, gravel access roads and parking areas, residential properties, Secor Brook, paved local roads, and existing well infrastructure. Dominant vegetation observed within the project study area is summarized in **Table 2**.

Table 2. Dominant Plant Species List

Scientific Name	Common Name	Indicator Status
Tree Species		
<i>Acer rubrum</i>	Red Maple	FAC
<i>Betula alleghaniensis</i>	Yellow Birch	FAC
<i>Carpinus caroliniana</i>	American Hornbeam	FAC
<i>Quercus velutina</i>	Black Oak	NL
Shrub Species		
<i>Berberis thunbergii</i>	Japanese Barberry	FACU
<i>Ligustrum vulgare</i>	European Privet	FACU
<i>Lindera benzoin</i>	Northern Spicebush	FACW
<i>Lonicera tatarica</i>	Tartarian Honeysuckle	FACU
<i>Rosa multiflora</i>	Multiflora Rose	FACU
<i>Viburnum dentatum</i>	Southern Arrow Wood	FAC
Herb Species		
<i>Alliaria petiolata</i>	Garlic Mustard	FACU
<i>Caltha palustris</i>	Yellow Marsh Marigold	OBL
<i>Carex stricta</i>	Tussock Sedge	OBL
<i>Equisetum arvense</i>	Field Horsetail	FAC
<i>Erythronium rostratum</i>	Yellow Troutlily	NL
<i>Phragmites australis</i>	Common Reed	FACW
<i>Symplocarpus foetidus</i>	Skunk Cabbage	OBL

6.1 Waterbodies & Wetlands

During the field investigation, one (1) palustrine wetland complex was delineated within the project study area and action area. Delineated wetlands are listed in **Table 3** with their respective delineated area, Cowardin Classification, hydrogeomorphic (HGM) wetland classification, and Ecological Community of New York State. Wetland boundaries were mapped and are presented in **Appendix A**. Photographs were taken of the wetlands and are provided in **Appendix B**. The Wetland Determination Data Forms are provided in **Appendix C**.

Table 3. Delineated Wetland Resource Summary

Wetland ID	Area (acre)	Cowardin Classification	HGM Wetland Classification	Ecological Community
Wetland 1	5.02+ (Open-Ended)	PFO	Riverine Floodplain Complex (R2c)	Red Maple-Hardwood Swamp

6.2 Waterways

During the field investigation, two (2) waterways were identified and delineated within the project study area and action area. Stream 2 was confirmed as perennial Secor Brook during the investigation and delineated using aerial imagery.

Stream 1 - perennial, 801 linear feet

Stream 1 was identified and delineated within the project study area and action area. Stream 1 flows under Geymer Drive through a culvert into the project study area. This waterway flows from south to north, loses definition within Wetland 1, re-channelizes and continues north to its confluence with Secor Brook.

Channel Width	Bank Height	Water Depth	Substrate
5-8 feet	1 foot	2-4 inches	Silt, Sand, Small Cobble, Woody Debris

Stream 2 (Secor Brook) - perennial, 1,190+ linear feet

Secor Brook was confirmed bordering the project study area and within the action area. Secor Brook was delineated using aerial imagery due to site access issues. Secor Brook flows from west to east along the northern boundary of the project study area, through Wetland 1.

Channel Width	Bank Height	Water Depth	Substrate
20 feet	3-4 foot	2-18 inches	Small Cobble, Sand, Gravel

7.0 Wetland & Waterway Resource Summary

The field investigation conducted by GF on April 21 and 22, 2021 identified and delineated one (1) wetland and two (2) waterways in conjunction with the PFAS Compliance Project F – Geymer Well. The following features were identified on mapping and delineated in the field:

Wetlands (Field Delineated)

- Wetland 1 – PFO wetland, 5.02+ acres (Open-Ended)

Waterways (Field Delineated)

- Stream 1 – Perennial, 801 linear feet
- Stream 2 (Secor Brook) – Perennial, 1,190+ linear feet

**Length in linear feet for Stream 1 was delineated in the field. Length of Secor Brook was digitized and measured using aerial imagery*

A “+” indicates the delineated resource extends beyond the Project Study Area or Action Area.

8.0 References

- Brooks, R.P., M.M. Brinson, K.J. Havens, C.S. Hershner, R.D. Rheinhardt, D.H. Wardrop, D.F. Whigham, A.D. Jacobs, and J.M. Rubbo. 2011. *Proposed hydrogeomorphic classification for wetlands of the Mid-Atlantic Region, USA*. *Wetlands* 31(2):207-219.
- Brown, L. 1979. *Grasses: An Identification Guide*. Houghton Mifflin Company; Boston, New York, London.
- Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, D.C.
- Edinger, et al. 2014. *Ecological Communities of New York State: Second Edition*. New York Natural Heritage Program, Albany, NY.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS. Technical Report Y-87-1.
- Munsell. 2015. *Munsell Soil Color Charts*, 2009 Year Revised. Munsell Color, x-rite. 4300 44th Street, Grand Rapids, MI 49512.
- Newcomb, Lawrence. 1977. *Newcomb's Wildflower Guide*. Little, Brown and Company.
- New York State Museum (NYSM). 1989. *Surficial Geologic Map of New York: Lower Hudson Sheet*. Map prepared by the New York State Geological Survey.
- New York State Museum (NYSM). 1995. *Geologic Map of New York: Lower Hudson Sheet*. Map prepared by the New York State Geological Survey.
- New York State Museum (NYSM). 1995. *Physiographic Provinces of New York*, adapted from 1946 version. Map prepared by the New York State Geological Survey.
- Petrides, George A. 1986. *A Field Guide to Trees and Shrubs*. New York: Houghton Mifflin Co.
- U.S. Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*. ERDC/EL TR-12-9. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center.
- U.S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4. <http://wetland-plants.usace.army.mil/>. U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH.
- United States Department of Agriculture - Natural Resources Conservation Service. 2010. *Field Indicators of Hydric Soils in the United States*, Version 7.0. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

- U.S. Department of Agriculture - Natural Resources Conservation Service. 2021 Web Soil Survey. Accessed April 19, 2021. <http://websoilsurvey.nrcs.usda.gov/app/>
- U.S. Fish and Wildlife Service. National Wetlands Inventory NWI Wetlands Online Mapper. Accessed April 19, 2021. <http://www.fws.gov/wetlands/Data/mapper.html>
- U.S. Geological Survey. 2013. Topographic Map 7.5' Quadrangle, Oscawana Lake, New York.
- U.S. Geological Survey. 2013. Topographic Map 7.5' Quadrangle, Mohegan Lake, New York.
- Weather Underground. 2021. “*Danbury, CT Weather History.*” Available online at <https://www.wunderground.com/>. Accessed April 28, 2021.

9.0 List of Contributors

Steven C. Smith, Senior Environmental Scientist

38 Hour U.S. Army Corps of Engineers Wetland Delineator Certification Training Program

PennDOT Phase I Bog Turtle Habitat Evaluation Training

Professional Experience: 21 years

Education: B.S. Geoenvironmental Studies

Jillian Arnold, Senior Environmental Scientist

36-Hour Swamp School Wetland Delineation & Regional Supplement Training

Society of Wetland Scientists, Professional Wetland Scientist (PWS) #2736

PennDOT Phase I Bog Turtle Habitat Evaluation Training

Professional Experience: 17 years

Education: B.S., Geoenvironmental Studies, GIS Certificate

M.S., Biology

Clayton D. Frey, Environmental Scientist

36-Hour Swamp School Wetland Delineation and Regional Supplement Training

24-Hour OSHA Hazardous Waste Operations and Emergency Response Certification

Professional Experience: 3 years

Education: B.S., Wildlife and Fisheries Science

Kayla Briggs, Environmental Scientist

ESRI MOOC Do it Yourself Geo Apps (6-Week Course)

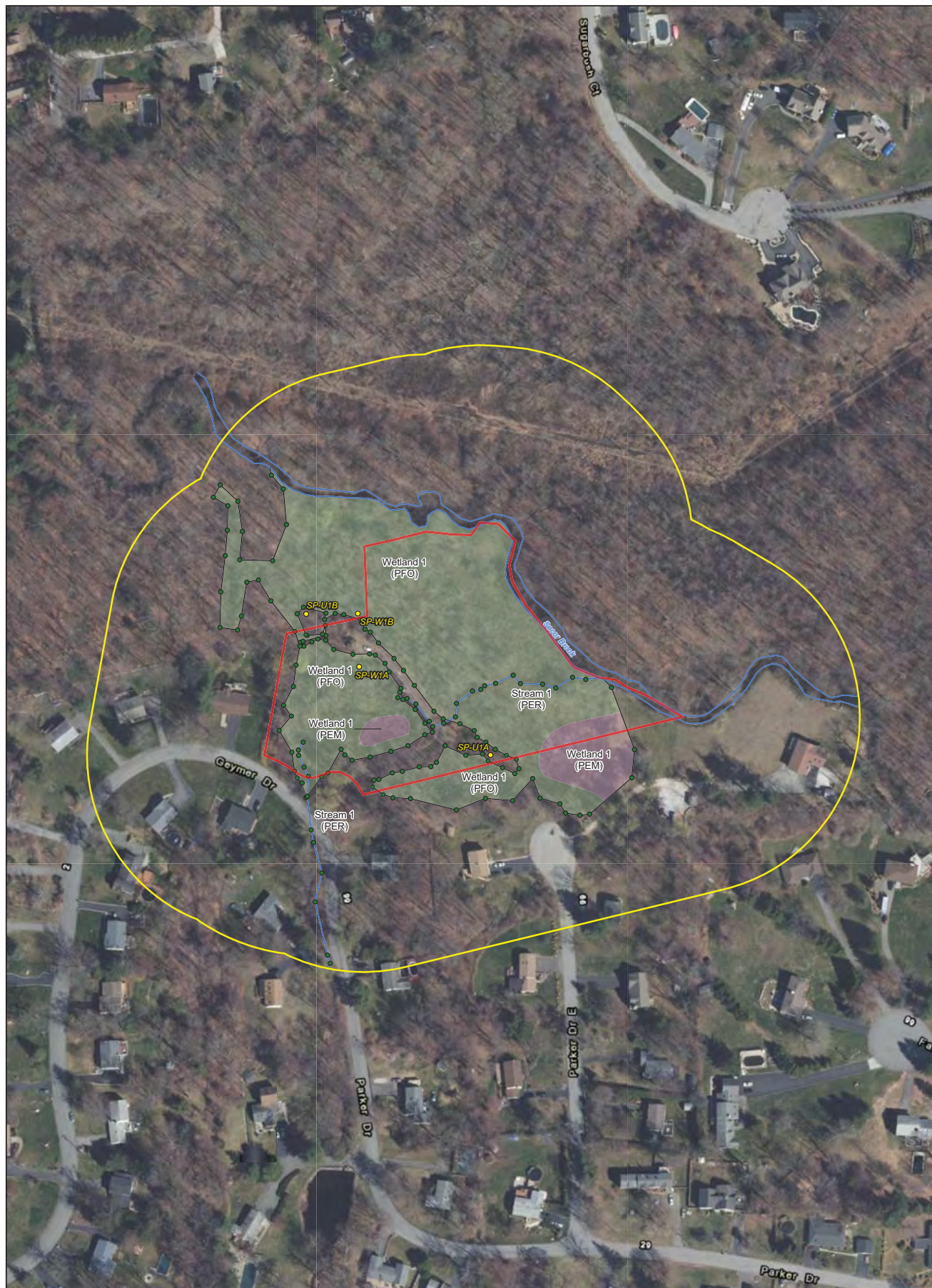
ESRI Web Courses and Online Training Seminars

Professional Experience: 11 years

Education: B.S., Geoenvironmental Studies, GIS Certificate

APPENDIX A

WETLANDS AND WATERWAYS MAPPING



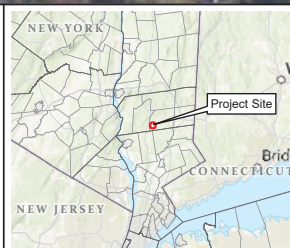
WETLANDS AND WATERWAYS MAPPING

SUEZ Water New York, Inc.
PFAS Compliance Project F - Geymer Well

Town of Carmel,
Putnam County, NY

Legend

- Project Study Area
- Action Area
- Delineation Data
- Test Pits
- Flag Locations
- ~ Stream
- ~ Wetland Boundary
- Wetland Type
- PEM
- PFO



Gannett Fleming

SCALE: 1 in = 150 ft

0 75 150 300 Feet

APPENDIX B

SITE PHOTOGRAPHS AND

PHOTOGRAPH LOCATION MAP

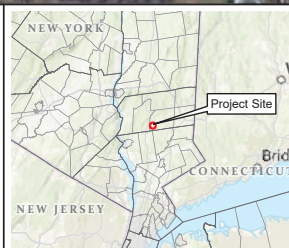


PHOTOGRAPH LOCATION MAP

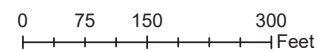
SUEZ Water New York, Inc.
PFAS Compliance Project F - Geymer Well

Town of Carmel,
Putnam County, NY

- Legend**
- Photo Location
 - Action Area
 - Project Study Area
 - Delineation Data**
 - Test Pits
 - Flag Locations
 - Stream
 - Wetland Boundary
 - Wetland Type**
 - PEM
 - PFO



SCALE: 1 in =150 ft



Appendix B – Site Photographs



Photograph 1: Overview of SP-W1A, a wetland test pit recorded within Wetland 1 (PFO), looking towards the existing pumphouse. (facing north; 4/21/2021)



Photograph 2: Overview of SP-W1B, a wetland test pit recorded within Wetland 1 (PFO). (facing northeast; 4/21/2021)

Appendix B – Site Photographs



Photograph 3: Overview of Wetland 1 (PFO), taken near northwestern extent of Wetland 1. (facing south; 4/21/2021)



Photograph 4: Overview of Wetland 1 (PFO), taken north of existing access road. (facing east; 4/21/2021)

Appendix B – Site Photographs



Photograph 5: Overview of Wetland 1 (PFO), looking towards existing pumphouse and access road. (facing northeast; 4/21/2021)



Photograph 6: Upstream view of Stream 1, taken from culvert on southwest side of Geymer Drive. (facing south; 4/21/2021)

Appendix B – Site Photographs



Photograph 7: Downstream view of Stream 1, taken from north side of Geymer Drive adjacent to existing access road. Stream 1 loses definition within Wetland 1 and re-channelizes to the east. (facing north; 4/21/2021)



Photograph 8: Stream 1, looking upstream from culvert under existing access road. Stream 1 re-channelizes along access road and flows east towards Secor Brook (facing northwest; 4/21/2021)

Appendix B – Site Photographs



Photograph 9: Downstream view of Stream 1, flowing from culvert under existing access road. (facing northeast; 4/21/2021)



Photograph 10: View of Stream 2 (Secor Brook), looking upstream from northwestern extent of Wetland 1. (facing northwest; 4/21/2021)

Appendix B – Site Photographs



Photograph 11: Downstream view of Secor Brook, taken downstream of the confluence of Stream 1 and Secor Brook. (facing southeast; 4/21/2021)



Photograph 12: View of SP-U1A, an upland test pit taken to document conditions adjacent to Wetland 1, facing existing access road. (facing west; 4/21/2021)

Appendix B – Site Photographs



Photograph 13: View of SP-U1B, an upland test pit taken to document conditions adjacent to Wetland 1. (facing south; 4/21/2021)



Photograph 14: View of existing access road, taken at entrance to site from Geymer Drive. (facing northeast; 4/21/2021)

Appendix B – Site Photographs



Photograph 15: View of well along existing access road, looking towards pumphouse. (facing northwest; 4/21/2021)



Photograph 16: View of existing pumphouse at western terminus of access road. (facing west; 4/21/2021)

APPENDIX C

WETLAND FIELD DATA FORMS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Geymer Well City/County: Putnam County Sampling Date: 04/22/2021
 Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-W1A
 Investigator(s): S. Smith, C. Frey Section, Township, Range: Town of Carmel
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): _____
 Subregion (LRR or MLRA): LRR R Lat: 41.364808 Long: 73.777700 Datum: NAD83
 Soil Map Unit Name: Fluvaquents-Udfluvents complex, frequently flooded (Ff) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		If yes, optional Wetland Site ID: <u>W1A</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

PFO wetland area adjacent to the existing pump house and well.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 3
 Water Table Present? Yes ☒ No ☐ Depth (inches): 0
 Saturation Present? Yes ☒ No ☐ Depth (inches): 0
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-W1A

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>60</u> = Total Cover				
Prevalence Index worksheet:				
Total % Cover of:		Multiply by:		
OBL species	_____	x 1 =	<u>0</u>	
FACW species	_____	x 2 =	<u>0</u>	
FAC species	_____	x 3 =	<u>0</u>	
FACU species	_____	x 4 =	<u>0</u>	
UPL species	_____	x 5 =	<u>0</u>	
Column Totals:	<u>0</u>	(A)	<u>0</u>	(B)
Prevalence Index = B/A = _____				
Hydrophytic Vegetation Indicators:				
<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation				
<input checked="" type="checkbox"/> Dominance Test is >50%				
<input type="checkbox"/> Prevalence Index is ≤3.0 ¹				
<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Vegetation Strata:				
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.				
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vines – All woody vines greater than 3.28 ft in height.				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: SP-W1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input checked="" type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Geymer City/County: Putnam County Sampling Date: 04/22/2021
 Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-W1B
 Investigator(s): S. Smith, C. Frey Section, Township, Range: Town of Carmel
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR or MLRA): LRR R Lat: 41.365054 Long: 73.77706 Datum: NAD83
 Soil Map Unit Name: Fluvaquents-Udfluvents complex, frequently flooded (Ff) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		If yes, optional Wetland Site ID: <u>W1B</u>	
Remarks: (Explain alternative procedures here or in a separate report.)					
PFO wetland area adjacent to existing pump house and well. Not nearly as wet a SP-W1A.					

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Saturation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<u>11</u>
(includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-W1B

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.66</u> (A/B)														
2. <u>Carpinus caroliniana</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
3. <u>Betula alleghaniensis</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>70</u> = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>0</u> (A)	<u>0</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Lonicera tatarica</u>	<u>2</u>	<u>Y</u>	<u>FACU</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>2</u> = Total Cover																		
Herb Stratum (Plot size: _____)																		
1. <u>Symplocarpus foetidus</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Caltha palustris</u>	<u>10</u>	<u>N</u>	<u>OBL</u>															
3. <u>Onoclea sensibilis</u>	<u>1</u>	<u>N</u>	<u>FACW</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>51</u> = Total Cover																		
Woody Vine Stratum (Plot size: _____)																		
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: SP-W1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Geymer Well City/County: Putnam County Sampling Date: April 21, 2021
 Applicant/Owner: SUEZ Water NY State: PA Sampling Point: SP-U1A
 Investigator(s): S. Smith, C. Frey Section, Township, Range: Town of Carmel
 Landform (hillslope, terrace, etc.): upland peninsula Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR or MLRA): LRR R Lat: 41.364392 Long: 73.776896 Datum: NAD83
 Soil Map Unit Name: Fluvaquents-Udfluvents complex, frequently flooded (Ff) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
If yes, optional Wetland Site ID: _____					
Remarks: (Explain alternative procedures here or in a separate report.)					
SP-U1A was located on an upland peninsula extending into Wetland 1. There was a noticeable change to the vegetation, hydrology and soils.					

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
(includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-U1A

Tree Stratum (Plot size: <u>N/A</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.33</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>0</u> (A)	<u>0</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Lonicera tatarica</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Rosa multiflora</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Cornus amomum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>65</u> = Total Cover																
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Phragmites australis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
2. <u>Dichanthelium clandestinum</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
3. <u>Onoclea sensibilis</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>															
4. <u>Symplocarpus foetidus</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
5. <u>Hesperis matronalis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
6. <u>Carex pensylvanica</u>	<u>10</u>	<u>N</u>	<u>UPL</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>82</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>N/A</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.)																		

Hydrophytic Vegetation Indicators:
☐ Rapid Test for Hydrophytic Vegetation
☐ Dominance Test is >50%
☐ Prevalence Index is ≤3.0¹
☐ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

SOIL

Sampling Point: SP-U1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 8+

Hydric Soil Present? Yes ☐ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Geymer Well City/County: Putnam County Sampling Date: April 21, 2021
 Applicant/Owner: SUEZ Water NY State: PA Sampling Point: SP-U1B
 Investigator(s): S. Smith, C. Frey Section, Township, Range: Town of Carmel
 Landform (hillslope, terrace, etc.): upland peninsula Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR or MLRA): LRR R Lat: 41.365054 Long: 73.778025 Datum: NAD83
 Soil Map Unit Name: Fluvaquents-Udfluvents complex, frequently flooded (Ff) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
If yes, optional Wetland Site ID: _____					
Remarks: (Explain alternative procedures here or in a separate report.)					
Upland area near existing pump house extending out into Wetland 1. Vegetation, soils and hydrology was noticeably different than the surrounding wetland.					

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>13</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			
Saturation was not within the upper 12 inches.			

Sampling Point: SP-U1B

Tree Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Betula alleghaniensis</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
2.	<u>Quercus velutina</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
		<u>40</u>	= Total Cover	

Sapling/Shrub Stratum (Plot size: <u>15'</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Ligustrum vulgare</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
2.	<u>Lonicera tatarica</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
3.	<u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
		<u>15</u>	= Total Cover	

Herb Stratum (Plot size: <u>5'</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Erythronium rostratum</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>
2.	<u>Symplocarpus foetidus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
3.	<u>Rosa multiflora</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
8.	_____	_____	_____	_____
9.	_____	_____	_____	_____
10.	_____	_____	_____	_____
11.	_____	_____	_____	_____
12.	_____	_____	_____	_____
		<u>30</u>	= Total Cover	

Woody Vine Stratum (Plot size: <u>N/A</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
		<u>0</u>	= Total Cover	

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 16.66 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = <u>0</u>
FACW species _____	x 2 = <u>0</u>
FAC species _____	x 3 = <u>0</u>
FACU species _____	x 4 = <u>0</u>
UPL species _____	x 5 = <u>0</u>
Column Totals: <u>0</u> (A)	<u>0</u> (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is >50%

☐ Prevalence Index is $\leq 3.0^1$

☐ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?

Yes ☐ No ☒

SOIL

Sampling Point: SP-U1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Sodium Hypochlorite (12%) – 50 gallon tank

(545138)

ALLIED UNIVERSAL CORPORATION

Headquarters: 3901 NW 115th Avenue, Miami, Florida 33178 Phone: (305) 888 - 2623

MATERIAL SAFETY DATA SHEET

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR § 1910.1200.

TODAY'S DATE: 09/06/07

MSDS NUMBER: 0001

24 HOUR EMERGENCY CHEMICAL SPILL OR RELEASE PHONE NUMBERS:

Allied Universal Corp. at **1-305-483-7732** (Digital Beeper) and/or **CHEMTREC at 1-800-424-9300**

SECTION 1 CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Sodium Hypochlorite

Product Names: Aqua Guard Chlorinating Sanitizer, Aqua Guard Bleach, Liquid Chlorine Solution, Liquid Bleach, Hypochlorite, Hypo and Chlorine Bleach.

Listed Strengths: 10.5%, 12.5% and 15%

CAS Number: 7681-52-9

Date MSDS Revised: August 2007 (previous revision 11/04)

Product Use: Disinfectant and sanitizer, see product label for all approved uses & instructions.

NSF Approval: Yes. Certified to NSF/ANSI Standard 60. Maximum use in Potable Water is 84 mg/L for 12.5% bleach and 100 mg/L for 10.5% bleach.

NSF Non-Food Compounds Approval: Yes

SECTION 2 HAZARD INGREDIENTS/IDENTITY INFORMATION

Hazardous Ingredient(s): % (w/w) as Sodium Hypochlorite : 10.5-16%

Exposure Standards: None established for Sodium Hypochlorite, as Chlorine exposure standards are:

PEL (OSHA): 1 ppm as Cl₂

STEL (OSHA): 3 ppm as Cl₂

TLV (ACGIH): 0.5 ppm as Cl₂

TWA (ACGIH): 0.5 ppm as Cl₂

WEEL (AIHA): 2 mg/m³, 15 minute TWA as Cl₂

STEL (ACGIH): 1 ppm as Cl₂

Emergency Overview: May cause burns to the eyes, skin and mucous membranes.

SECTION 3 PHYSICAL/CHEMICAL CHARACTERISTICS

Alternate Name(s):	Bleach
Chemical Name:	Sodium Hypochlorite
Chemical Family:	Oxidizing Agent
Molecular Formula:	Na-O-Cl
Form:	Liquid
Appearance:	Water clear to a slight greenish-yellow, or light yellow aqueous solution
Odor:	Chlorine odor
pH:	11-14, dependent upon % weight as Sodium Hypochlorite
Vapor Pressure:	Not available
Vapor Density (Air=1):	Not available
Boiling Point:	Approximately 230° F (110° C)
Freezing Point:	14 F (8% w/w Cl ₂ solution), 7 F (10% w/w Cl ₂ solution), -3 F (12% w/w Cl ₂ solution)
Solubility (Water):	Completely Soluble
Solubility (Other):	Reacts with Many Organic Solvents
Density:	Appx. 10 lbs. per gallon
Evaporation Rate:	Not Available
Specific Gravity:	1.126 (8% w/w Cl ₂ solution), 1.163 (10% w/w Cl ₂ solution), 1.202 (12% w/w Cl ₂ solution), 1.25 (15% w/w Cl ₂ solution)
Molecular Weight:	74.5

SECTION 4 STABILITY & REACTIVITY DATA

Chemical Stability	Stable <u> X </u>	Unstable <u> </u>
Incompatibility (Conditions to Avoid): Stability decreases with heat and light exposure.		
Incompatibility (Materials to Avoid): May react violently with strong acids. Other incompatibles include strong caustics, ammonia, urea, reducing agents, organics, ether and oxidizable materials. Reaction with metals (nickel, iron, cobalt and copper) may produce oxygen gas, which supports combustion. May react with organohalogen compounds to		

(545138)

form spontaneously combustible compounds. May react explosively with nitro- and chloro-organic compounds as well as acids and reducing agents. Acidification liberates chlorine gas.		
Hazardous Decomposition or Byproducts: Chlorine gas. Decomposes with heat and reacts with acids. Hazardous gases/vapors produced are hypochlorous acid, chlorine and hydrochloric acid. Composition depends upon temperature and decrease in pH. Additional decomposition products, which depend on pH, temperature and time, are sodium chloride and chlorate, and oxygen.		
No Mechanical Shock or Impact	No Static Discharge	Oxidizer: No if <12% by weight, Yes if > than 12% by weight
Hazardous Polymerization	May Occur	Will Not Occur X

Note: Sodium Hypochlorite reacts violently with amines and ammonium salts. Solutions are reactive with common cleaning products such as toilet bowl cleaners, rust removers, vinegar, acids, organics and ammonia products to produce hazardous gases such as chlorine and other chlorinated species.

SECTION 5 POTENTIAL HEALTH EFFECTS AND FIRST AID INFORMATION

GENERAL: May cause immediate pain. Exposure to the skin may cause sensitization or other allergic responses. If the eye is not irrigated immediately after it has been exposed permanent eye damage may occur. Strict adherence to first aid measures following any exposure is essential. **SPEED IS ESSENTIAL!**

ROUTE(S) OF ENTRY AND POTENTIAL HEALTH EFFECTS	EMERGENCY & FIRST AIDE PROCEDURES
INHALATION: Strong irritating to mucous membranes in the nose, throat and respiratory tract. Prolonged contact can cause chronic irritation, pulmonary edema and central nervous system depression. Repeated inhalation exposure may cause impairment of lung function and permanent lung damage.	If inhaled, move expose person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. If breathing is difficult, have trained person administer oxygen. Call a poison control center or medical physician for further treatment advice. Have the product label or MSDS with you when calling or going for medical treatment.
SKIN CONTACT: Prolonged and repeated exposure to dilute solutions often causes irritation, redness, pain and drying and cracking of the skin. Human evidence has indicated that an ingredient in this product can cause skin sensitization. Depending upon the concentration and how soon after exposure the skin is washed with water, skin contact may cause burns and tissue destruction.	If on skin or clothing, take off all contaminated clothing and rinse skin immediately with plenty of water for 15-20 minutes. If irritation persists, repeat flushing. Do not transport victim unless the recommended irrigation period is completed unless flushing can be continued during transport. Call a poison control center or medical physician for treatment advice. Have the product label or MSDS with you when calling or going for medical treatment.
EYE CONTACT: Strongly irritating to eyes. Exposure to vapor can cause tearing, conjunctivitis and burning of the eyes. Eye contact may cause a corneal injury. The severity of the effects depend on the concentration and how soon after exposure the eyes are washed with water. In severe exposure cases, glaucoma, cataracts and permanent blindness may occur.	If in eyes, hold eye open and rinse slowly and gently with plenty of water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye for 10-15 minutes. Do not transport victim until the recommended flushing period is completed unless irrigation can be continued during transport. Call a poison control center or medical physician for further treatment advice. Have the product label and/or MSDS with you when calling or going to medical treatment.
INGESTION: Corrosive. Can cause severe corrosion of and damage to the gastrointestinal tract (including mouth, throat, and esophagus). Exposure is characterized by nausea, vomiting, abdominal pain, diarrhea, bleeding, and/or tissue ulceration.	If swallowed, call poison control center or medical physician immediately for treatment advice. Have the product label or MSDS with you when calling or going for medical treatment. Have exposed person sip a glass of water if able to swallow, and dilute immediately by giving milk, melted ice cream, starch paste or antacids such as milk of magnesia. Avoid sodium bicarbonate because of carbon dioxide release. DO NOT INDUCE VOMITING, LAVAGE OR ACIDIC ANTIDOTES unless told to do so by poison control center or medical physician. DO NOT give anything by mouth to an unconscious person. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water.

NOTE TO PHYSICIAN(S): Pre-existing medical conditions may be aggravated by exposures affecting target organs. There are no known chronic effects. Probable mucosal damage may contraindicate the use of gastric lavage. In addition to the alkalinity of this product, the continued generation of chlorine gas after ingestion can damage further the stomach mucous, depending on the amount ingested. Consideration may be given to removal of the product from the stomach, taking care to avoid perforation of esophagus or stomach. An ounce of 1% sodium thiosulfate or milk of magnesia is helpful.

SECTION 6 TOXICOLOGICAL DATA

ANIMAL DATA: Inhalation 0.25-hour LC50 - 10.5 mg/L in rats; Acute Dermal LD50 - 10,000 mg/kg in rabbits; Acute Oral LD50 - 8910 mg/kg in rats

(545138)

SUMMARY: The concentrated solution is corrosive to skin, and a 5% solution is a severe eye irritant. Solutions containing more than 5% available chlorine are classified by DOT corrosive (please see section 10 of this MSDS). Toxicity described in animals from single exposures by ingestion include muscular weakness, and hypoactivity. Repeated ingestion exposure in animals caused an increase in the relative weight of adrenal glands in one study, but no pathological changes were observed in two other studies. Long-term administration of compound in drinking water of rats caused depression of the immune system. No adverse changes were observed in an eight week dermal study of a 1% solution in guinea pigs. Tests in animals demonstrate no carcinogenic activity by either the oral or dermal routes. Tests in bacterial and mammalian cell cultures demonstrate mutagenic activity.

CARCINOGENICITY: None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as carcinogen.

MUTAGENICITY: Sodium Hypochlorite has been shown to produce damage to genetic material when tested in vitro. Studies in vivo have shown no evidence of mutagenic potential for this material. It is judged that the risk of genetic damage is insignificant for sodium hypochlorite because of its biological activity, lack of mutagenicity in vivo, and failure to produce carcinogenic response.

SECTION 7 FIRE AND EXPLOSION HAZARD DATA

Flash Point: This product does not flash		Flammable Limits (Lower): Not Applicable	
Flammable Limits (Upper): Not Applicable		Auto Ignition Temperature: Not Applicable	
Decomposition Temperature: Not Applicable		Rate of Burning: Not Available	
Explosive Power: Not Available	Sensitivity to Mechanical Impact: Not expected to be sensitive to mechanical impact	Sensitivity to Static Discharge: Not expected to be sensitive to static discharge	
Fire and Explosion Hazards: This material is non-flammable but is decomposed by heat and light, causing a pressure build-up which could result in an explosion. When heated, it may release chlorine gas or hydrochloric acid. Vigorous reaction with oxidizable or organic materials may result in fire.		Extinguishing Media: Use agents appropriate for surrounding fire. Foam, dry chemical, carbon dioxide, water fog or spray. If leak or spill has not ignited, use water spray to disperse the vapors and to protect persons attempting to stop the leak.	
Fire Fighting Procedures: Water spray should be used to cool containers and may be used to knock down escaping vapor. Remove storage vessels from the fire zone.		Fire Fighting Protective Equipment: Full protective clothing, including a NIOSH approved self-contained breathing apparatus, must be worn in a fire involving this material. Toxic gas vapors are produced upon decomposition.	

SECTION 8 ECOLOGICAL INFORMATION

The toxicity and corrosivity of this product is a function of concentration and the concentration's pH.

ECOTOXICOLOGICAL INFORMATION: Toxic to aquatic life. 96-hour LC50: fathead minnows: 0.090-5.9 mg/L, bluegill sunfish: 0.10-2.48 mg/L, shore crab: 1.418 mg/L, grass shrimp: 52.0 mg/L, scud: 0.145-4.0 mg/L, water flea: 2.1 mg/L.

ENVIRONMENTAL EFFECTS: Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers. May be an aesthetic nuisance due to color. Mammals and birds, exposed wildlife would be subject to skin irritation and burns due to the corrosive nature of this material.

SECTION 9 DISPOSAL CONSIDERATIONS

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State, and Local regulations. Do not burn. Do not flush to surface water or sanitary sewer system. If pH of material is equal to or greater than a 12.5, the material is a RCRA Hazardous Waste D002, corrosive.

SECTION 10 TRANSPORT INFORMATION

U.S. DOT Basic Shipping Description: Hypochlorite Solutions, 8, UN1791, III

U.S. DOT Hazardous Substance: Yes, RQ 100 pounds (Sodium Hypochlorite)

U.S. DOT Marine Pollutant: No

U.S. DOT Required Label: Corrosive (see column 6, 49 CFR §172.101)

U.S. DOT Packaging Exception: Yes, if package meets the criteria of a limited quantity or consumer commodity as defined by 49 CFR §171.8, §173.144 and .154, and §172.312 and .316

N. AMERICAN EMERGENCY GUIDE PAGE NUMBER: 154

Transportation Emergency Phone Numbers: CHEMTREC 1-800-424-9300

SECTION 11 PRECAUTIONS FOR SAFE HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Take all precautions to avoid personal contact. Keep container closed except when transferring material. Locate safety shower and eyewash station close to chemical handling area. Use normal good industrial hygiene and housekeeping practices, wash thoroughly after handling. Store in a cool, dry, well-ventilated area, away from incompatibles (minimum distance of 20-25 feet per NFPA Code 1) and direct sunlight. Keep container properly labeled at all times. Vented containers must be used and must be kept closed when not

(545138)

being used. Long-term storage is impossible without decomposition. Only use containers made from tinted glass, polyethylene & FRP. Keep out of reach of children.

PROCESS HAZARDS: Not Available

STORAGE TEMPERATURE: Store containers below 29°C and above freezing point. Do not expose sealed containers above 40°C. Try to store in the dark at the lowest possible temperature, but keep from freezing, to slow-down decomposition.

SECTION 12 EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Full handling precautions should be taken at all times. Provide good room ventilation plus local exhaust at points of emission and low level floor exhaust in immediate handling area. Where engineering controls are not feasible, use adequate local exhaust ventilation wherever mist, spray or vapor may be generated

PERSONAL PROTECTIVE EQUIPMENT:

Eye: Use chemical safety goggles when there is potential for contact (splashing), faceshield recommended – ANSI Z87.1

Skin: Gloves and protective clothing (apron, boots, and bodysuits) made from rubber, vinyl, neoprene or PVC. Standard work clothing closed at the neck and wrist while wearing impervious equipment.

Respiratory (Specify Type): A NIOSH/MSHA approved air purifying respirator with an acid gas cartridge or canister may be permissible under circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is potential for uncontrolled releases, exposure levels are not known, or other circumstances where air purifying respirators may not provide adequate protection.

Other: Eyewash, shower station (ANSI Z358.1) must be provided within the immediate work area.

SECTION 13 ACCIDENTAL RELEASE MEASURES

Ventilate enclosed area. Collect product for recovery or disposal. For release to land, contain discharge by constructing dikes or applying inert absorbent; for release to water, utilize damming and/or water diversion to reduce the spread of contamination; and, for release to air, vapors may be suppressed by the use of a water fog. All run-off water must be captured for treatment and disposal. Collect contaminated soil and water, and absorbent for disposal. Notify applicable government authority if release is reportable or could adversely affect the environment. Please follow all Local, State and Federal Laws for clean-up and disposal of all contaminated material. **Deactivating Chemicals:** Sodium Sulfite, Sodium Thiosulfate and Sodium Bisulfite.

SECTION 14 REGULATORY INFORMATION

OSHA CLASSIFICATION, 29 CFR §1900-1910:

Physical Hazards: Reactivity **Health Hazards:** Acute - Skin Sensitizer, Corrosive

CERCLA AND SARA REGULATIONS, 40 CFR §300-373:

Reportable Quantity = 100 lb.

CERCLA Hazardous Material: Yes

Title III Hazard Classifications: Acute - yes, Chronic - no, Fire - yes, Reactivity - yes & Sudden Release of Pressure - No. This product may be reportable under the requirements of 40 CFR §370.

SARA Extremely Hazardous Substance: No **SARA Toxic Chemical:** No

CA Prop 65: No

FDA 21 CFR 178.1010: Yes, Approved as Sanitizer

NSF Whitebook (former USDA Approval) Listing: Aqua Guard Chlorinating Sanitizer 10.5% - 3D, B1, B2, D1, D2, G4, G7, GX, Q4, Aqua Guard Bleach 12.5% - 3D, B1, B2, D1, D2, G4, GX, Q4

EPA "CLEAN AIR ACT": This product does not contain nor is it manufactured with ozone depleting substances. It is not defined as a Hazardous Air Pollutant per 40 CFR 112.

EPA Pesticide: The 10.5% and 12.5% sodium hypochlorite products are registered with the U.S. EPA as a pesticide, as required under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). It is a violation of Federal law to use this product for pesticidal applications in a manner inconsistent with the FIFRA labeling.

NPCA-HMIS RATING: HEALTH: 3 FLAMMABILITY: 0 REACTIVITY: 2

NFPA RATING: NONE AT THIS TIME

SECTION 15 REFERENCES

Suppliers' Material Safety Data Sheets and EPA Labeling Requirements

Olin and OxyChem Sodium Hypochlorite Handbook

Chlorine Institute Sodium Hypochlorite Pamphlet #96

Chlorine Institute Product Stewardship Bulletins for Sodium Hypochlorite

This information contained herein, while not guaranteed, is offered only as a guide to the handling of this specific material and has been prepared in good faith by product knowledgeable personnel. This information is not intended to be all-inclusive as to the manner and conditions of use, handling and storage. Other factors may involve other or additional safety or performance considerations. Though Allied Universal Corporation is happy to respond to questions regarding safe handling of Allied's products, safe handling and use remains the responsibility of the product's consumers and/or customers. No warranty of merchantability or fitness for purpose, or any other kind, express or implied, is made regarding performance, stability or otherwise. Allied Universal Corp. will not be liable for any damages, losses, injuries or consequential damages that may result from the use of or reliance on any information contained herein. No suggestions for use are intended as, and nothing herein shall be construed as a recommendation to infringe any existing patents or violate any federal, state or local laws, rules, regulations or ordinances.



Kuehne COMPANY

5 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Phone: (973) 589-0700

Fax: (973) 589-4866

Sodium Hypochlorite

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: KCC - HYPO - 001

MSDS DATE: March 06, 2007

PRODUCT NAME: SODIUM HYPOCHLORITE SOLUTION

24 HOUR EMERGENCY PHONE NUMBER: 973-589-0700

I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

HMIS HAZARD RATINGS

HEALTH HAZARD - 3 (Serious)

FIRE HAZARD - 0 (Minimal)

REACTIVITY - 2 (Slight)

WARNING - Corrosive, Oxidizing Agent

NFPA HAZARD RATINGS

HEALTH HAZARD (Blue) - 2

FLAMMABILITY (Red) - 0

INSTABILITY (Yellow) - 1

Based on Nat'l Paint & Coatings Association HMIS system.

Chemical not listed. Ratings based on NFPA guidelines

MANUFACTURERS
NAME AND
ADDRESS

KUEHNE CHEMICAL COMPANY, INC.
86 HACKENSACK AVENUE NORTH
SOUTH KEARNY, NEW JERSEY 07032-4675

CHEMICAL NAME: SODIUM HYPOCHLORITE SOLUTION

CAS NUMBER: 7681-52-9

SYNONYMS/COMMON NAMES: Chlorine Bleach, Soda Bleach

CHEMICAL FORMULA: NaOCl

DOT PROPER SHIPPING NAME: Hypochlorite Solutions

DOT HAZARD CLASS: 8

DOT ID NUMBER: UN1791

DOT PACKING GROUP: III

DOT HAZARDOUS SUBSTANCE: RQ-100# (Sodium Hypochlorite)

Kuehne COMPANY
Sodium Hypochlorite
Revision A - 06 March 2007




Responsible Care®
Page 1 of 11



Sodium Hypochlorite

I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION (Continued)

DOT MARINE POLLUTANT: NA

ADDITIONAL DESCRIPTION: NA

II. HEALTH HAZARDS INFORMATION

EMERGENCY AND FIRST AID PROCEDURES

EYES:

OBJECT IS TO FLUSH MATERIAL OUT IMMEDIATELY AND THEN SEEK MEDICAL ATTENTION. IMMEDIATELY flush eyes with a directed stream of water for at least 15 minutes while forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. Washing eyes within one (1) minute is essential to achieve maximum effectiveness. **SEEK MEDICAL ATTENTION IMMEDIATELY.**

SKIN:

Flush thoroughly with cool water under shower while removing contaminated clothing and shoes. Discard non-rubber shoes. Wash clothing before reuse. Continue to flush until medical attention arrives.

SEEK MEDICAL ATTENTION IMMEDIATELY.

INHALATION:

Remove to fresh air. If breathing is difficult, have qualified person administer oxygen. If respiration stops, give mouth-to-mouth resuscitation. **GET IMMEDIATE MEDICAL ATTENTION.**

INGESTION:

NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. If swallowed. **DO NOT INDUCE VOMITING.** Give large quantities of milk. If these are not available, give large quantities of water. If vomiting occurs spontaneously keep airway clear and give more milk or water. **GET MEDICAL ATTENTION IMMEDIATELY.** Avoid vomiting, lavage or acidic antidotes.

NOTE TO PHYSICIAN:

Sodium Hypochlorite is an alkaline corrosive. For exposure by ingestion do not use emesis, lavage or acidic antidotes. Dilute immediately by giving milk, melted ice cream, beaten egg white, starch paste or antacids such as milk of magnesia, aluminum hydroxide gel or magnesium trisilicate gel. Avoid sodium bicarbonate because of carbon dioxide release. Sodium thiosulfate solution may prove beneficial by reducing unreacted material.





Sodium Hypochlorite

II. HEALTH HAZARDS INFORMATION

(Continued)

ROUTES OF EXPOSURE

INHALATION:

Inhalation of hypochlorous acid fumes may cause severe respiratory tract irritation and pulmonary edema.

SKIN:

Skin contact may cause severe irritation and burns.

EYE CONTACT:

Eye contact may cause severe irritation, burns, and/or corrosion.

INGESTION:

Ingestion may cause pain and inflammation of the mouth and digestive system, burns and perforation of the esophagus or stomach, vomiting, circulatory collapse, confusion, delirium and coma.

EFFECTS OF OVEREXPOSURE

ACUTE:

Corrosive and strongly irritating to the eyes, skin, and respiratory tract. Inhalation of fumes may cause pulmonary edema. Ingestion may cause burns to the mouth and digestive tract and abdominal distress.

CHRONIC:

No Data.

TOXICOLOGY DATA:

The toxicity and corrosivity of Sodium Hypochlorite is a function of concentration. Industrial grades of higher concentrations than household bleach are more toxic and corrosive.

Pentahydrate: 45% Concentration

Acute Oral LD ₅₀	(rat)	8,910 mg/kg
Acute Dermal LD ₅₀	(rabbit)	10,000 mg/kg
Primary Skin Irritation		Severely irritating
Primary Eye Irritation		Severely irritation





Sodium Hypochlorite

III. IMPORTANT COMPONENTS

<u>CAS Number</u>	<u>Name</u>
7732-18-5	Water

EXPOSURE LIMITS

PEL: Not Established

TLV: Not Established

PERCENTAGE

VOL 85

WT 85 - 87

Common Names:

<u>CAS Number</u>	<u>Name</u>
7681-52-9	Hypochlorous Acid, Sodium Salt

EXPOSURE LIMITS

PEL: 1 ppm (as Cl₂) ceiling

TLV: 1 ppm (as Cl₂) TWA

PERCENTAGE

VOL 15

WT 12 - 14

Common Names: Sodium Hypochlorite

<u>CAS Number</u>	<u>Name</u>
1310-73-2	Sodium Hydroxide (NaOH)

EXPOSURE LIMITS

PEL: 2 ppm ceiling

TLV: 2 ppm ceiling

PERCENTAGE

VOL 1

WT 1

Common Names: Caustic Soda, Lye

This product has not been listed as carcinogenic by the following agencies: IARC, NTP, and OSHA

IV. FIRE & EXPLOSION DATA

FLASH POINT: NA

AUTOIGNITION TEMPERATURE: NA

FLAMMABLE LIMITS IN AIR - % BY VOLUME - UPPER: NA





Sodium Hypochlorite

IV. FIRE & EXPLOSION DATA

(Continued)

EXTINGUISHING MEDIA:

Use water spray, fog, foam, dry chemical, or carbon dioxide or agents suitable for materials in surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES:

Use self-contained breathing apparatus and full protective equipment. Acid contamination will produce very irritating fumes similar to chlorine.

UNUSUAL FIRE AND EXPLOSION HAZARD:

Sodium Hypochlorite or its solutions decompose when heated. Decomposition products may cause containers to rupture or explode. Vigorous reaction is possible with organic materials or oxidizing agents and may result in fire.

V. SPECIAL PROTECTION

VENTILATION REQUIREMENTS

Provide good general room ventilation plus local exhaust at points of emission.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY:

NIOSH/MSHA approved respirator, following manufacturer's recommendations should be used as a precautionary measure where airborne contaminants may occur.

EYE:

Wear chemical safety goggles plus full face shield to protect against splashing when appropriate.

GLOVES:

Wear impervious gloves such as rubber, neoprene or vinyl.

OTHER CLOTHING AND EQUIPMENT:

Wear impervious protective clothing including rubber safety shoes. Eye wash facility and emergency shower should be in close proximity





Sodium Hypochlorite

VI. PHYSICAL DATA

Boiling Point: (@760 mm Hg) Decomposes above 110 °C (230 °F)

Freezing Point:	Weight %	Freezing Point °F
	10	7
	12	- 3
	14	- 14

Vapor Pressure:	Temperature °F	mm Hg	PSIA
	48.2	3.7	0.071
	60.8	8.0	0.15
	68.0	12.1	0.23
	89.6	31.1	0.60
	118.4	100.0	1.93

Specific Gravity: (H₂O = 1) 1.190 - 1.215

Solubility in H₂O (by Weight) 100%

pH 12 @ 100 g/l

Appearance/Odor: Colorless to light yellow-green liquid with chlorine like odor.

VII. REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY:

Strong Oxidizer, stability decreases with concentration, heat, light, decrease in pH and contamination by metals.

INCOMPATIBILITY:

Avoid contamination with heavy metals, reducing agents, organics, ether, ammonia, and acids.

HAZARDOUS DECOMPOSITION PRODUCTS:

Acid fumes.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION:

Material is not known to polymerize.





Sodium Hypochlorite

VIII. HANDLING & STORAGE

HANDLING AND STORAGE PRECAUTIONS:

Do not store adjacent to chemicals that may react if spillage occurs. Comply with DOT regulations when shipped. If closed containers become heated, vent to release decomposition products (mainly oxygen under normal decomposition). Do not mix or contaminate with ammonia, hydrocarbons, acids, alcohols or ethers.

DO NOT REUSE CONTAINERS:

Product residues may remain in containers. All labeled precautions must be observed. Dispose of container in a manner meeting government regulations.

PRODUCT DISPOSAL:

Product should be completely removed from containers. Material that cannot be used or chemically reprocessed should be disposed of in a manner meeting government regulations.

IX. ENVIRONMENTAL PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Do not allow spilled material to enter sewers or streams. Flush with water to dilute as much as possible and pump into polyethylene containers for disposal. Avoid heat and contamination with acid materials. Do not use combustible materials such as sawdust to absorb Sodium Hypochlorite Solution.

WASTE DISPOSAL METHOD:

Reduce with agents such as bisulfites or ferrous salt solutions. Some heat will be produced. Keep on alkaline side and dilute with copious amounts of water. Main end product is salt water. Comply with all applicable governmental regulations.

X. ADDITIONAL INFORMATION

Section 311 of The Clean Water Act lists this product as a hazardous substance, which, If discharged to water, may require immediate response to mitigate danger to public health and welfare. Spills of 100 pounds or more must be reported to the National Response Center at the following number:
1-800-424-8802

Material is contained on a composite list as required under 101 (14) of CERCLA.





Sodium Hypochlorite

X. ADDITIONAL INFORMATION

(Continued)

Sodium Hypochlorite Solution is regulated by the USEPA under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) as a pesticide product.

Sodium Hypochlorite Solution produced by KUEHNE CHEMICAL COMPANY, INC. is registered with the USEPA under Registration Number 35317-20001.

NSF CERTIFICATION: This product has been classified as an approved drinking water treatment chemical under ANSI/NSF Standard 60 by Underwriter's Laboratories (reference number: MH17612)

USDA APPROVALS: B-1, D-2, L-1, Q-4 & Fruit and Vegetable washing compounds.

XI. PREPARATION DATA

Prepared By: Safety, Health and Environment Department : 1-973-589-0700

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and KUEHNE CHEMICAL COMPANY, INC. will not be liable for any damages, losses, injuries or consequential damages that may result from the use of or reliance on any information contained herein.

REFERENCES:

National Institute for Occupational Safety and Health, US Dept. of Health & Human Services, Cincinnati, June, 1994.

Supplier's Material Safety Data Sheets.

Windholz, Martha, Ed, The Merck Index, 11th ed., Merck and Co, Inc., Rahway, New Jersey, 1989.

Chlorine Institute Pamphlet 96 (Sodium Hypochlorite Safety & Handling), Edition I, September, 1992





Kuehne COMPANY

6 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Phone: (973) 589-0700

Fax: (973) 589-4866

Sodium Hypochlorite

WARNING LABEL INFORMATION

Active Ingredient:	Sodium Hypochlorite (NaOCl)	12.5 %	(weight per cent)
Inert Ingredients:	-----	87.5 %	
Total		100.0 %	

KEEP OUT OF REACH OF CHILDREN

DANGER

FIRST AID

IF CONTACT WITH EYES OCCURS: Hold eye open and rinse slowly and gently with water for 15 –20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue to rinse eye. Call a poison control center or doctor for treatment advice.

IF CONTACT WITH SKIN OCCURS: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF INHALED: Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

PRECAUTIONARY STATEMENTS HAZARDOUS TO HUMANS AND DOMESTIC ANIMALS

DANGER:

Corrosive, may cause severe skin and eye irritation or chemical burns to broken skin. Causes eye damage. Wear safety glasses or goggles and rubber gloves when handling this product. Wash after handling. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until strong odors have dissipated.





Sodium Hypochlorite

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

PHYSICAL OR CHEMICAL HAZARDS

STRONG OXIDIZING AGENT:

Mix only with water according to label directions. Mixing this product with chemicals (e.g. ammonia, acids, detergents, etc.) or organic matter (e.g. urine, feces, etc.) will release chlorine gas, which is irritating to eyes, lungs and mucous membranes.

DIRECTION FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING

Reformulators and Repackagers of this product must obtain their own registrations from the United States Environmental Protection Agency (USEPA).

For manufacturing use in the formation of end-use Products:

NOTE: This product degrades with age. Use a Chlorine test kit and increase dosage as necessary, to obtain the required level of available Chlorine.

For specific use directions, see KUEHNE Circular for each particular application.

CIRCULAR NUMBER K586A

sanitizers of surfaces (wooden butcher blocks, stainless steel tops, concrete floors, tile walls)

CIRCULAR NUMBER K586B

sanitizers of commercial laundry

CIRCULAR NUMBER K586C

agents to wash or assist in lye peeling of fruits and vegetables (sodium hypochlorite only), agents to help control microorganisms on mushrooms (pins), potatoes, sweet potatoes (post harvest), agents to help control microorganisms on eggs for human consumption





Kuehne COMPANY

6 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Phone: (973) 589-0700

Fax: (973) 589-4866

Sodium Hypochlorite

CIRCULAR NUMBER K586D

disinfectants of human drinking water (emergency/public & individual), swimming pool water, spas/hot tubs, hydrotherapy pools, human drinking water systems (water mains)

CIRCULAR NUMBER K586E

disinfectants of nonporous hard surfaces (tile, glass, stainless steel, fiberglass)

CIRCULAR NUMBER K586F

agents to help control microorganisms in sewage, waste water, industrial and pulp and paper process water systems

CIRCULAR NUMBER K586G

algicides, slimicides in cooling towers or evaporative condensers

STORAGE AND DISPOSAL

Store this product in a cool dry area away from direct sunlight and heat to prevent deterioration. In case of a spill, flood areas with large quantities of water. Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer. Do not contaminate food or feed by storage, disposal or cleaning of equipment.

Large storage containers should be rinsed thoroughly with water and returned to manufacturer for reconditioning. Large storage containers should be thoroughly rinsed with water before reuse.

IN CASE OF:

FIRE:

Use self-contained breathing apparatus and full protective equipment. Use water spray, foam, dry chemical or CO₂. Fire may liberate toxic gases.

SPILL:

Get protective equipment. Contain spill and pump into marked container for reclamation for disposal. Avoid discharges to sewers and streams. Spills of 100 pounds or more must be reported to the National Response Center at the following number:

1-800-424-8802

**IN CASE OF CHEMICAL EMERGENCIES CALL:
24 HOUR EMERGENCY PHONE (973) 589-0700**



SODIUM HYPOCHLORITE SOLUTION, 10.5%

ACTIVE INGREDIENT:

SODIUM HYPOCHLORITE 10.5%*
OTHER INGREDIENT: 89.5%
TOTAL 100.0%

*Available chlorine: 10%

KEEP OUT OF REACH OF CHILDREN DANGER

FIRST AID

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control center or doctor for treatment advice.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Drink large amounts of water. DO NOT induce vomiting. Call a physician or poison control center immediately.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Have product container or label with you when calling a poison control center or doctor for treatment advice.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER: Corrosive. Causes irreversible eye and skin damage. Do not get in eyes, on skin or on clothing. Wear face shield or goggles and rubber gloves when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until odors have dissipated. Remove and wash contaminated clothing before reuse.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your state water board or regional office of the EPA.

PHYSICAL OR CHEMICAL HAZARDS

STRONG OXIDIZING AGENT: Mix only with water according to label directions. Mixing this product with chemicals (e.g., ammonia, acids, detergents, etc.) or organic matter (e.g., urine, feces, etc.) will release chlorine gas which is irritating to eyes, lungs and mucous membranes.

Manufactured by:

KUEHNE CHEMICAL COMPANY INC.
86 N. HACKENSACK AVENUE
SOUTH KEARNY, NJ 07032-4675
(973) 589-0700

EPA REG. NO. 35317-4

EPA EST. NO. 35317-DE-1

ANSI / NSF 60

DRINKING WATER TREATMENT ADDITIVE

Net Contents:

DIRECTIONS FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING

NOTE: This product degrades with age. Use a chlorine test kit and increase dosage as necessary, to obtain the required level of available chlorine.

For specific use directions, see KUEHNE Circular for each particular application.

CIRCULAR NUMBER K586A

sanitizers of hard nonporous surfaces (stainless steel tops)

CIRCULAR NUMBER K586B

sanitizers of commercial laundry

CIRCULAR NUMBER K586C

agents to wash or assist in lye peeling of fruits and vegetables (sodium hypochlorite only), agents to help control microorganisms on mushrooms (pins), potatoes, sweet potatoes (post harvest), agents to help control microorganisms on eggs for human consumption

CIRCULAR NUMBER K586D

disinfectants of human drinking water (emergency/public & individual) and human drinking

water systems (water mains)

CIRCULAR NUMBER K586E

disinfectants of hard nonporous surfaces (sealed tile and fiberglass, glass, stainless steel)

CIRCULAR NUMBER K586F

agents to help control microorganisms in sewage, waste water, industrial and pulp and

paper process water systems

CIRCULAR NUMBER K586G

algaecides, slimeicides in cooling towers or evaporative condensers

CIRCULAR NUMBER K586H

sanitizers of porous food contact surfaces (wooden butcher blocks)

CIRCULAR NUMBER K586I

sanitizers of porous non-food contact surfaces (tile walls, concrete floors)

CIRCULAR NUMBER K586J

disinfectants of swimming pool water, spas/hot tubs, hydrotherapy pools

STORAGE AND DISPOSAL

Pesticide Storage: Store this product in a cool dry area away from direct sunlight and heat to prevent deterioration. In case of a spill, flood area with large quantities of water.

Pesticide Disposal: Do not contaminate food or feed by storage, disposal or cleaning of equipment. Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer.



















Container Disposal: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling the container is the responsibility of the refiller.

SWNY PFAS Compliance											
ID	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names
1		1	SWNY PFAS Compliance	384 days?	Wed 3/31/21	Mon 10/10/22		8%	Wed 3/31/21	NA	
2		2	D/B Contract Notice to Proceed	1 day	Mon 4/5/21	Mon 4/5/21		100%	Mon 4/5/21	Mon 4/5/21	
3		3	Maintain Secure Project Website	365 days	Tue 4/6/21	Mon 9/19/22	2	0%	Tue 4/6/21	NA	
5		5	Design Phase	251 days?	Wed 3/31/21	Fri 4/1/22		23%	Wed 3/31/21	NA	
54		54	Design Construction Services	345 days	Wed 3/31/21	Mon 8/15/22		0%	NA	NA	
62		62	Construction Phase	384 days	Wed 3/31/21	Mon 10/10/22		3%	Wed 3/31/21	NA	
63		63	Administration	233 days	Wed 3/31/21	Tue 3/8/22		4%	Wed 3/31/21	NA	
133		133	Construction Phase	229 days	Mon 11/8/21	Mon 10/10/22	65,66,67,68,78,83	0%	Mon 11/8/21	NA	
134		134	Survey-Establish Control	1 day	Mon 3/7/22	Mon 3/7/22	50	0%	Mon 3/7/22	NA	
135		135	Test Pit and Verify 6" OD for Tapping Sleeve	1 day	Mon 11/8/21	Mon 11/8/21	50	0%	NA	NA	
136		136	Mobilization	2 days	Mon 3/7/22	Tue 3/8/22	53	0%	Mon 3/7/22	NA	
137		137	Erosion Control	3 days	Wed 3/9/22	Fri 3/11/22	136	0%	NA	NA	
138		138	Site Clearing of Existing Trees/Brush	3 days	Mon 3/14/22	Wed 3/16/22	137	0%	NA	NA	
139		139	Strip Topsoil	3 days	Thu 3/17/22	Mon 3/21/22	138	0%	NA	NA	
140		140	Site Grading	3 days	Tue 3/22/22	Thu 3/24/22	139	0%	NA	NA	
141		141	Install fill	1 day	Fri 3/25/22	Fri 3/25/22	140	0%	NA	NA	
142		142	Install Stone Base for Access Road	3 days	Fri 3/25/22	Tue 3/29/22	140	0%	NA	NA	
143		143	Exterior Piping	116 days	Wed 4/6/22	Mon 9/19/22		0%	NA	NA	
144		144	Install 6" DIP Influent Piping into building including Tapping 6" Main	2 days	Wed 4/6/22	Thu 4/7/22	142,155FF+1 day,119,120	0%	NA	NA	
145		145	Install 6" DIP Effluent Piping into building including Tapping 6" Main	1 day	Fri 4/8/22	Fri 4/8/22	144	0%	NA	NA	
146		146	Install Well Pumps	5 days	Fri 8/5/22	Thu 8/11/22	122,152	0%	NA	NA	
147		147	Chlorinate, Pressure Test and Flush/DOH Approval	10 days	Fri 9/2/22	Fri 9/16/22	175	0%	NA	NA	
148		148	Cut & Cap 6" Main After Tie In	1 day	Mon 9/19/22	Mon 9/19/22	147	0%	NA	NA	
149		149	Install 6" DIA Seepage Pit	1 day	Thu 6/23/22	Thu 6/23/22	153	0%	NA	NA	
150		150	Electric	84 days	Thu 4/7/22	Thu 8/4/22		0%	NA	NA	
151		151	Excavate and Install Underground Electric Feed into building	3 days	Thu 4/7/22	Mon 4/11/22	155	0%	NA	NA	
152		152	Install Electrical Appurtenances	30 days	Thu 6/23/22	Thu 8/4/22	166	0%	NA	NA	
153		153	Building/Superstructure	60 days	Wed 3/30/22	Wed 6/22/22		0%	NA	NA	
154		154	Excavate for Building Footings	1 day	Wed 3/30/22	Wed 3/30/22	142	0%	NA	NA	
155		155	Form, Install Rebar and Pour Footings for Building	5 days	Thu 3/31/22	Wed 4/6/22	154	0%	NA	NA	
156		156	Form, Install Rebar and Pour Foundation Wall for Building	5 days	Tue 4/12/22	Mon 4/18/22	155,151,145	0%	NA	NA	
157		157	Form, Install Rebar and Pour Foundation Wall with Integral Piers for Building	6 days	Tue 4/19/22	Tue 4/26/22	156	0%	NA	NA	
158		158	Backfill Footings	1 day	Wed 4/27/22	Wed 4/27/22	157	0%	NA	NA	
159		159	Install GAC Equipment Pad	4 days	Thu 4/28/22	Tue 5/3/22	158	0%	NA	NA	
160		160	Plumbing-Install Floor Drains	3 days	Wed 5/4/22	Fri 5/6/22	159	0%	NA	NA	
161		161	Install Stone Base for Slab on Grade	1 day	Mon 5/9/22	Mon 5/9/22	160	0%	NA	NA	
162		162	Install Slab on Grade	5 days	Tue 5/10/22	Mon 5/16/22	161	0%	NA	NA	
163		163	Sawcut Control Joints	1 day	Tue 5/17/22	Tue 5/17/22	162	0%	NA	NA	
164		164	Install Equipment Pads- Form, Rebar, Pour, Strip and Rub	3 days	Wed 5/18/22	Fri 5/20/22	163	0%	NA	NA	
165		165	Install Filter Pads- Form, Rebar, Pour, Strip and Rub	3 days	Mon 5/23/22	Wed 5/25/22	164	0%	NA	NA	
166		166	Installation of Pre-Engineered Building	25 days	Wed 5/18/22	Wed 6/22/22	163	0%	NA	NA	
167		167	Chemical Feed System	4 days	Thu 6/23/22	Tue 6/28/22		0%	NA	NA	
168		168	Install Piping for Sodium Hypo and Phosphoric	4 days	Thu 6/23/22	Tue 6/28/22	166	0%	NA	NA	
169		169	Treatment Equipment	20 days	Thu 6/9/22	Thu 7/7/22		0%	NA	NA	
170		170	Install 8" DIA GAC Equipment	2 days	Thu 6/9/22	Fri 6/10/22	166FS-10 days	0%	NA	NA	
171		171	Install Filters	1 day	Thu 6/23/22	Thu 6/23/22	166,170	0%	NA	NA	

Note: ?" stands for approximate estimate

Page 1 of 2

Note: ?" stands for approximate estimate

SWNY PFAS Project F-Chateau											
ID	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names
172		172	Install Influent, Effluent and Wastewater Flanged Piping	7 days	Thu 6/23/22	Fri 7/1/22	166,170	0%	NA	NA	
173		173	Install Pipe Supports	3 days	Tue 7/5/22	Thu 7/7/22	172	0%	NA	NA	
174		174	Instrumentation	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
175		175	Install Instrumentation Appurtenances	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
176		176	Building HVAC Work	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
177		177	Install HVAC	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
178		178	Painting/Coating	5 days	Fri 7/8/22	Thu 7/14/22		0%	NA	NA	
179		179	Paint Interior Piping	5 days	Fri 7/8/22	Thu 7/14/22	169	0%	NA	NA	
180		180	Site Work	15 days	Fri 7/8/22	Thu 7/28/22		0%	NA	NA	
181		181	Install Site Civil-Gravel Turnaround and Landscaping	15 days	Fri 7/8/22	Thu 7/28/22	173	0%	NA	NA	
182		182	Start Up and Testing	10 days	Mon 9/19/22	Fri 9/30/22		0%	NA	NA	
183		183	Start up and Test Equipment and Instrumentation	10 days	Mon 9/19/22	Fri 9/30/22	147,152	0%	NA	NA	
184		184	Substantial Completion	1 day	Mon 10/3/22	Mon 10/3/22	182	0%	NA	NA	
185		185	DOH Review and Approval	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
186		186	In Service	0 days	Mon 10/10/22	Mon 10/10/22	185	0%	NA	NA	
187		187	Demobilization	5 days	Tue 10/4/22	Mon 10/10/22		0%	NA	NA	
188		188	Cleanup/Demobilization	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
189		189	Final Completion	0 days	Mon 10/10/22	Mon 10/10/22	188,186	0%	NA	NA	

Page 2 of 2

4. The hydrology and the hydraulics study for this project have been undertaken to examine the pre and post construction drainage conditions. The study provides the impact of the proposed impervious area to the drainage system. To attenuate the post-development peak flow to pre-development peak flow we are proposing a rain garden system. The rain garden system is design per NYSDEC's stormwater management design manual. The drainage system consists of pipes, stone outlet, stone spillway, and a rain garden system. The system it's an above ground practice and is design to store 380 cu.ft.. The ponding depth of the system is 6 inches and in order to address the overflow a stone spillway has been proposed. In addition, a list of the approved rain garden landscaping has been provided. Please refer to the site plan (dwg. no 1) and the grading plan (dwg. no 4).

5. The erosion and sediment control measures to be used on the site during the proposed work include silt fences and a construction entrance. In addition, disturbed portions of the site where construction activities permanently cease shall be stabilized no later than 14 days after the last construction activity. The Erosion and Sediment Control (E&SC) Plan is prepared per NYS Standards and Specifications for Erosion and Sediment Control. Please refer to the erosion and sediment control plan (dwg. no 5).

6. Stormwater runoff generated by the proposed site improvement will be routed to the rain garden system in order to provide zero net increase of peak runoff. The rain garden system is design to provide peak flow attenuation up to 100-year storm peak runoff. The rain garden system is design per NYSDEC's stormwater management design manual.

Ramya Ramanathan

From: Liskovich, Sophia Z. <sliskovich@GFNET.com>
Sent: Thursday, January 27, 2022 9:28 AM
To: Ramya Ramanathan
Subject: FW: 3-3720-00472 Geymer Well

Geymer

Sophia Liskovich, PE | Project Manager
Gannett Fleming, Inc. | 7133 Rutherford Road
t 410-907-2682 | c 856-296-3636 | sliskovich@gfnet.com

From: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Sent: Friday, November 12, 2021 12:35 PM
To: Arnold, Jillian N. <jarnold@GFNET.com>; Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Cc: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Subject: RE: 3-3720-00472 Geymer Well

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Sorry, one other item. It appears that some of the work will be on property owned by other landowners. On the Joint Application Form, please provide signatures (on page 4) and information (on page 1) for all landowners. Copies of easements may be provided in lieu of signatures.

Alysse Devine

Environmental Analyst, Division of Environmental Permits
New York State Department of Environmental Conservation
21 South Putt Corners Rd, New Paltz, NY 12561
P: (845) 240-7806 | alysse.devine@dec.ny.gov

www.dec.ny.gov |  |  | 



From: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Sent: Friday, November 12, 2021 12:01 PM
To: Arnold, Jillian N. <jarnold@GFNET.com>; Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Cc: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Subject: 3-3720-00472 Geymer Well

Good Morning,

The technical review is complete and program staff had the following comments.

- It looks like the building is right next to the wetland. Is it possible to shift the building further off the wetland?

- It is difficult to ascertain how much temporary disturbance is associated with the construction of the building. Can you provide a clearer plan showing temporary impact?
- It also looks like a retaining wall will go through the wetland. Can this be shifted? Please provide a detail of the retaining wall.
- There does not appear to be an existing conditions or erosion and sediment controls plan.

In addition, this is another one that I need the NWP # to make a determination on the Blanket Water Quality Certification. Please let me know when you can.

Please let me know if you have any questions.

Alysse Devine

Environmental Analyst, Division of Environmental Permits

New York State Department of Environmental Conservation

21 South Putt Corners Rd, New Paltz, NY 12561

P: (845) 240-7806 | alysse.devine@dec.ny.gov

www.dec.ny.gov |  |  | 



Liskovich, Sophia Z.

From: Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Sent: Monday, January 10, 2022 12:24 PM
To: Arnold, Jillian N.
Cc: Smith, Steven C.; Liskovich, Sophia Z.
Subject: RE: Submission of Suez Water Permit Applications
Attachments: NWP Regulations FR 06JAN17.pdf; PN-LRB NAN Final Regional Conditions WQC CZM for NY (dated 21-MAR-2017).pdf

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Jillian,

We received the pre-construction notification for NWP 3 for the above referenced project on November 16, 2021.

Due to my excessive work load, I was unable to provide a written determination within 45 days of its submission.

In accordance with the current nationwide general permit regulations (Federal Register dated January 6, 2017, pages 1860 to 2008), if the Corps of Engineers district does not respond to a pre-construction notification within 45 days of receipt, then the applicant may proceed with the project as proposed.

That means that the applicant must perform the work as proposed in your pre-construction notification. Any substantive changes to the project would require the applicant to submit a new notification to this office.

If you have any questions, let me know.

Brian

Brian A. Orzel
Project Manager, Civil Engineer
NY District US Army Corps of Engineers
Regulatory Branch
26 Federal Plaza, Room 16-406
New York, New York 10278-0090

Please note in order to ensure our continuity of operations and improve the timeliness of permit application reviews due to the current COVID-19 virus, effective immediately, the New York District, U.S. Army Corps of Engineers is requiring that all new permit applications be submitted to the New York District electronically. Until further notice, the New York District will no longer process any paper permit applications. This electronic processing procedure will increase the efficiency of correspondence, furthering the goal of providing timely decisions. Please see the link below to the Regulatory Branch Operational Modification Special Public Notice describing the instructions for electronic application submittals:

<https://www.nan.usace.army.mil/Portals/37/docs/regulatory/publicnotices/Non%20Project%20Specific/2020/CENAN-OP-R%20PN%20Electronic%20Submission%20of%20Permit%20Applications%2027MAR2020.pdf?ver=2020-03-31-163215-913>.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, December 13, 2021 1:04 PM
To: Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Brian,

I wanted to touch base to you on the Suez projects in Putnam County. Have you been able to determine of the 5 projects (Archer, Chateau, Geymer, London Bridge and Mahopac) what nationwide permit these projects might fall under? NY DEC is currently waiting USACE's determination of the NWP in order to finalize the state permits.

Thank you very much for your time, we appreciate it!

Jillian

From: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Sent: Monday, November 15, 2021 10:24 AM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Ms. Arnold,

I have provided the Suez Water permit applications to Mr. Brian Orzel, copied on the email, who is the area project manager for Putnam County. If he has any questions on the submittal, he'll contact you.

R/ Rosie

ROSITA MIRANDA
Chief, Western Section
Regulatory Branch
USACE, New York District
Mobile: 347-446-0359

<https://www.nan.usace.army.mil/Missions/Regulatory/>

EFFECTIVE IMMEDIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: CENAN-R-Permit-App@usace.army.mil.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, November 8, 2021 12:42 PM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Good afternoon, I am following up with this email (below) from the 29th. I tried to submit the files to the site that was in the email from the 28th. However, It requested a code when I clicked the location. I know that USACE has not started reviewing these permits, and I am concerned about timeline for construction. Please let me know how I can get USACE the permits that need to be reviewed.

Thank you,
Jillian

From: Arnold, Jillian N.
Sent: Friday, October 29, 2021 7:49 AM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>
Subject: RE: Submission of Suez Water Permit Applications

Good morning Rosie,

I am happy to drop off the files for Suez to the site listed in your email, however, it is asking for a request code? Are you able to send me a drop off request? I have never delivered information to USACE this way. Sorry for all of the questions.

Thank you,
Jillian

From: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Sent: Thursday, October 28, 2021 3:12 PM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please provide the town and county so we can direct your inquiry to the right permit section.

Please use - <https://safe.apps.mil/> for file transfer.

R/ Rosie

ROSITA MIRANDA
Chief, Western Section
Regulatory Branch
USACE, New York District
Mobile: 347-446-0359

<https://www.nan.usace.army.mil/Missions/Regulatory/>

EFFECTIVE IMMEDIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: CENAN-R-Permit-App@usace.army.mil.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Thursday, October 28, 2021 12:12 PM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Could you please tell me how to submit packages to the FTP site? I have not received a response if you received the SUEZ packages for review. I do not want to lose too much time as NYSDEC is review these packages at this time.

Thank you very much for your help!
Jillian

From: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Sent: Tuesday, October 12, 2021 4:54 PM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please note that you have to use DOD Safe as the ftp site for large files.

What Town and County is this project in?

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Friday, October 8, 2021 1:02 PM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Subject: [Non-DoD Source] Submission of Suez Water Permit Applications

Good afternoon,

Please find the electronic versions of the Archer, Chateau and London Bridge Joint Permit Applications for SUEZ Water NY. These applications have been sent to NYSDEC for Joint Permit approvals. Below are the list of DEC IDs for these applications:

- Archer Well – 3-3720-00471/00001
- London Bridge Well – 3-3720-00469/00001
- Chateau Well – 3-3720-00470/00001

The file sizes on each pdf is large making emailing cumbersome. Here is the link to download the 3 Joint Permit Applications.

Download Link: [SUEZ - Archer, Chateau and London Bridge JPA Packages](#)

Please let me know if there are any restrictions with accessing the link above.

Any additional questions, please do not hesitate to let us know.

Thank you,
Jill

Jillian Arnold, PWS | Senior Environmental Scientist
Gannett Fleming | 207 Senate Avenue, Camp Hill, PA 17011
t 717.886.5402 | **c** 717.422.6229 | jarnold@gfnet.com

Excellence Delivered As Promised

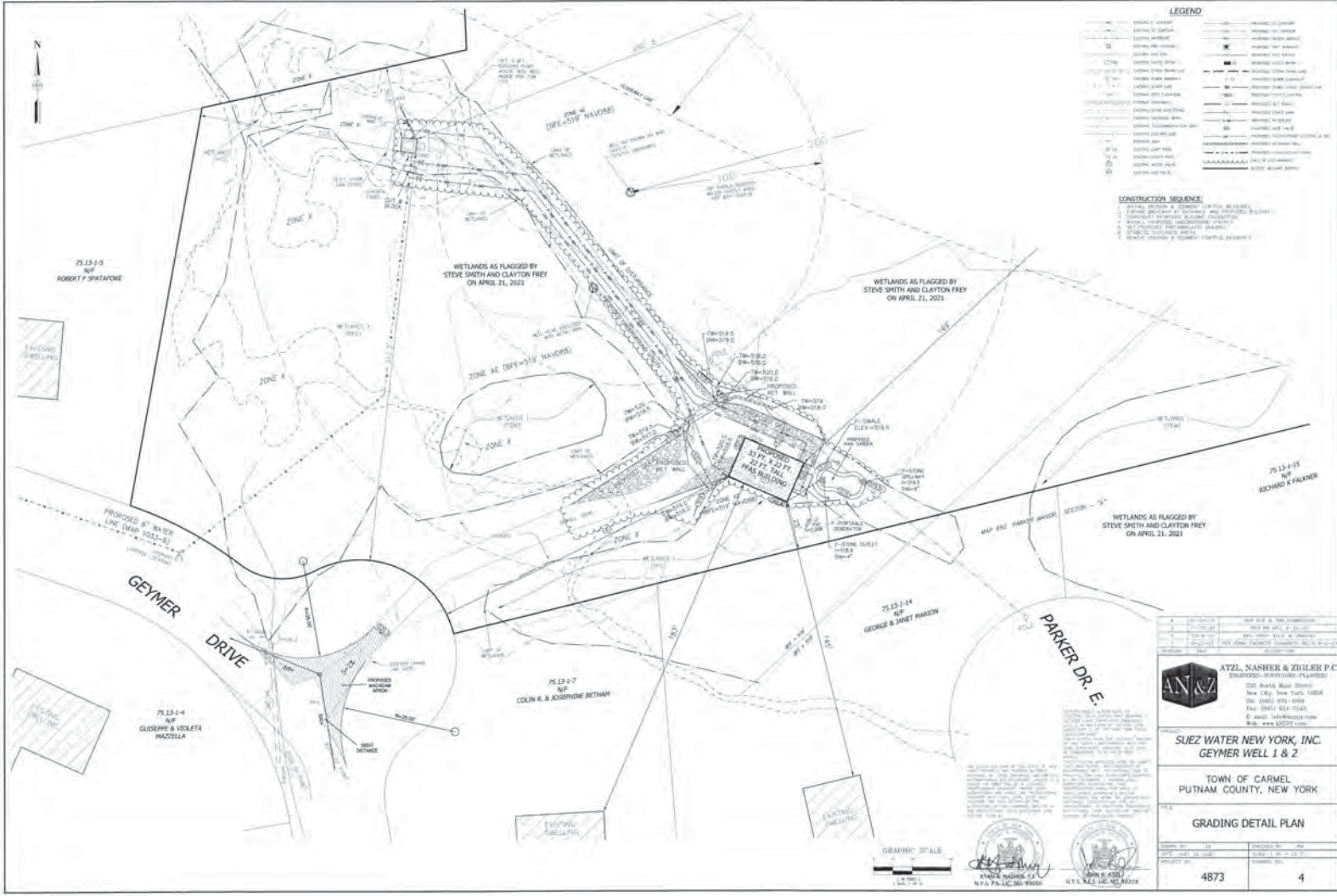
Gannett Fleming is ISO 9001:2008 Certified.

www.gannettfleming.com | Stay connected: [Twitter](#) | [Facebook](#) | [LinkedIn](#) | [YouTube](#)

PRINTING SUSTAINABILITY STATEMENT: Gannett Fleming is committed to conserving natural resources and minimizing adverse environmental impacts in projects. Accordingly, project documentation will be provided in electronic format only unless clients specifically request hard copies. Visit our [website](#) to read more about our sustainability commitment.

CONFIDENTIALITY NOTICE: This email and any attachments may contain confidential information for the use of the named addressee. If you are not the intended recipient, you are hereby notified that you have received this communication in error and that any review, disclosure, dissemination, distribution or copying of it or its contents is prohibited.





LEGEND

1. 1" = 10'	2. 1" = 10'	3. 1" = 10'	4. 1" = 10'	5. 1" = 10'	6. 1" = 10'	7. 1" = 10'	8. 1" = 10'	9. 1" = 10'	10. 1" = 10'
11. 1" = 10'	12. 1" = 10'	13. 1" = 10'	14. 1" = 10'	15. 1" = 10'	16. 1" = 10'	17. 1" = 10'	18. 1" = 10'	19. 1" = 10'	20. 1" = 10'
21. 1" = 10'	22. 1" = 10'	23. 1" = 10'	24. 1" = 10'	25. 1" = 10'	26. 1" = 10'	27. 1" = 10'	28. 1" = 10'	29. 1" = 10'	30. 1" = 10'
31. 1" = 10'	32. 1" = 10'	33. 1" = 10'	34. 1" = 10'	35. 1" = 10'	36. 1" = 10'	37. 1" = 10'	38. 1" = 10'	39. 1" = 10'	40. 1" = 10'
41. 1" = 10'	42. 1" = 10'	43. 1" = 10'	44. 1" = 10'	45. 1" = 10'	46. 1" = 10'	47. 1" = 10'	48. 1" = 10'	49. 1" = 10'	50. 1" = 10'
51. 1" = 10'	52. 1" = 10'	53. 1" = 10'	54. 1" = 10'	55. 1" = 10'	56. 1" = 10'	57. 1" = 10'	58. 1" = 10'	59. 1" = 10'	60. 1" = 10'
61. 1" = 10'	62. 1" = 10'	63. 1" = 10'	64. 1" = 10'	65. 1" = 10'	66. 1" = 10'	67. 1" = 10'	68. 1" = 10'	69. 1" = 10'	70. 1" = 10'
71. 1" = 10'	72. 1" = 10'	73. 1" = 10'	74. 1" = 10'	75. 1" = 10'	76. 1" = 10'	77. 1" = 10'	78. 1" = 10'	79. 1" = 10'	80. 1" = 10'
81. 1" = 10'	82. 1" = 10'	83. 1" = 10'	84. 1" = 10'	85. 1" = 10'	86. 1" = 10'	87. 1" = 10'	88. 1" = 10'	89. 1" = 10'	90. 1" = 10'
91. 1" = 10'	92. 1" = 10'	93. 1" = 10'	94. 1" = 10'	95. 1" = 10'	96. 1" = 10'	97. 1" = 10'	98. 1" = 10'	99. 1" = 10'	100. 1" = 10'

CONSTRUCTION SEQUENCE

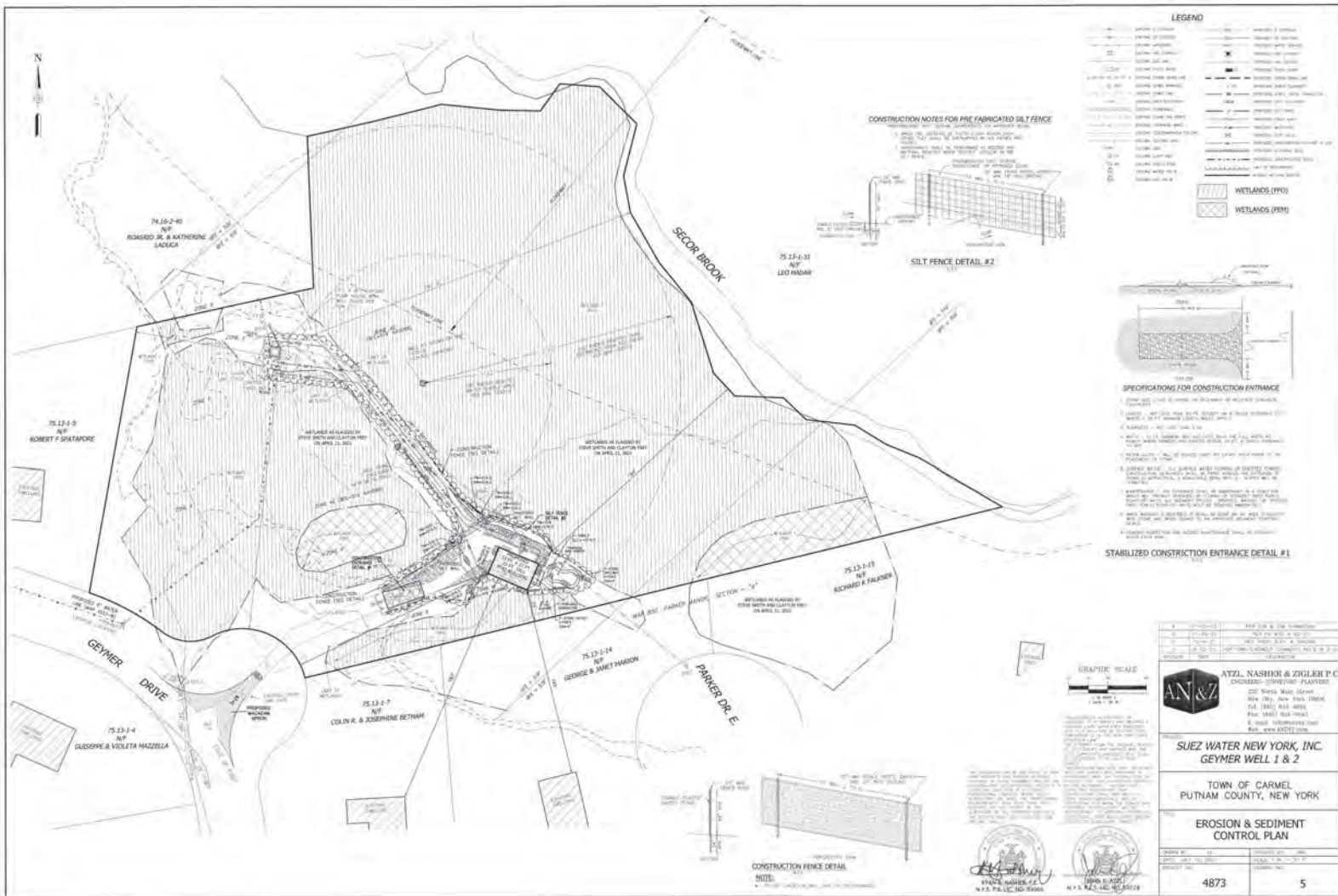
1. EXISTING CONDITIONS
2. EXISTING CONDITIONS
3. EXISTING CONDITIONS
4. EXISTING CONDITIONS
5. EXISTING CONDITIONS
6. EXISTING CONDITIONS
7. EXISTING CONDITIONS
8. EXISTING CONDITIONS
9. EXISTING CONDITIONS
10. EXISTING CONDITIONS
11. EXISTING CONDITIONS
12. EXISTING CONDITIONS
13. EXISTING CONDITIONS
14. EXISTING CONDITIONS
15. EXISTING CONDITIONS
16. EXISTING CONDITIONS
17. EXISTING CONDITIONS
18. EXISTING CONDITIONS
19. EXISTING CONDITIONS
20. EXISTING CONDITIONS
21. EXISTING CONDITIONS
22. EXISTING CONDITIONS
23. EXISTING CONDITIONS
24. EXISTING CONDITIONS
25. EXISTING CONDITIONS
26. EXISTING CONDITIONS
27. EXISTING CONDITIONS
28. EXISTING CONDITIONS
29. EXISTING CONDITIONS
30. EXISTING CONDITIONS
31. EXISTING CONDITIONS
32. EXISTING CONDITIONS
33. EXISTING CONDITIONS
34. EXISTING CONDITIONS
35. EXISTING CONDITIONS
36. EXISTING CONDITIONS
37. EXISTING CONDITIONS
38. EXISTING CONDITIONS
39. EXISTING CONDITIONS
40. EXISTING CONDITIONS
41. EXISTING CONDITIONS
42. EXISTING CONDITIONS
43. EXISTING CONDITIONS
44. EXISTING CONDITIONS
45. EXISTING CONDITIONS
46. EXISTING CONDITIONS
47. EXISTING CONDITIONS
48. EXISTING CONDITIONS
49. EXISTING CONDITIONS
50. EXISTING CONDITIONS
51. EXISTING CONDITIONS
52. EXISTING CONDITIONS
53. EXISTING CONDITIONS
54. EXISTING CONDITIONS
55. EXISTING CONDITIONS
56. EXISTING CONDITIONS
57. EXISTING CONDITIONS
58. EXISTING CONDITIONS
59. EXISTING CONDITIONS
60. EXISTING CONDITIONS
61. EXISTING CONDITIONS
62. EXISTING CONDITIONS
63. EXISTING CONDITIONS
64. EXISTING CONDITIONS
65. EXISTING CONDITIONS
66. EXISTING CONDITIONS
67. EXISTING CONDITIONS
68. EXISTING CONDITIONS
69. EXISTING CONDITIONS
70. EXISTING CONDITIONS
71. EXISTING CONDITIONS
72. EXISTING CONDITIONS
73. EXISTING CONDITIONS
74. EXISTING CONDITIONS
75. EXISTING CONDITIONS
76. EXISTING CONDITIONS
77. EXISTING CONDITIONS
78. EXISTING CONDITIONS
79. EXISTING CONDITIONS
80. EXISTING CONDITIONS
81. EXISTING CONDITIONS
82. EXISTING CONDITIONS
83. EXISTING CONDITIONS
84. EXISTING CONDITIONS
85. EXISTING CONDITIONS
86. EXISTING CONDITIONS
87. EXISTING CONDITIONS
88. EXISTING CONDITIONS
89. EXISTING CONDITIONS
90. EXISTING CONDITIONS
91. EXISTING CONDITIONS
92. EXISTING CONDITIONS
93. EXISTING CONDITIONS
94. EXISTING CONDITIONS
95. EXISTING CONDITIONS
96. EXISTING CONDITIONS
97. EXISTING CONDITIONS
98. EXISTING CONDITIONS
99. EXISTING CONDITIONS
100. EXISTING CONDITIONS

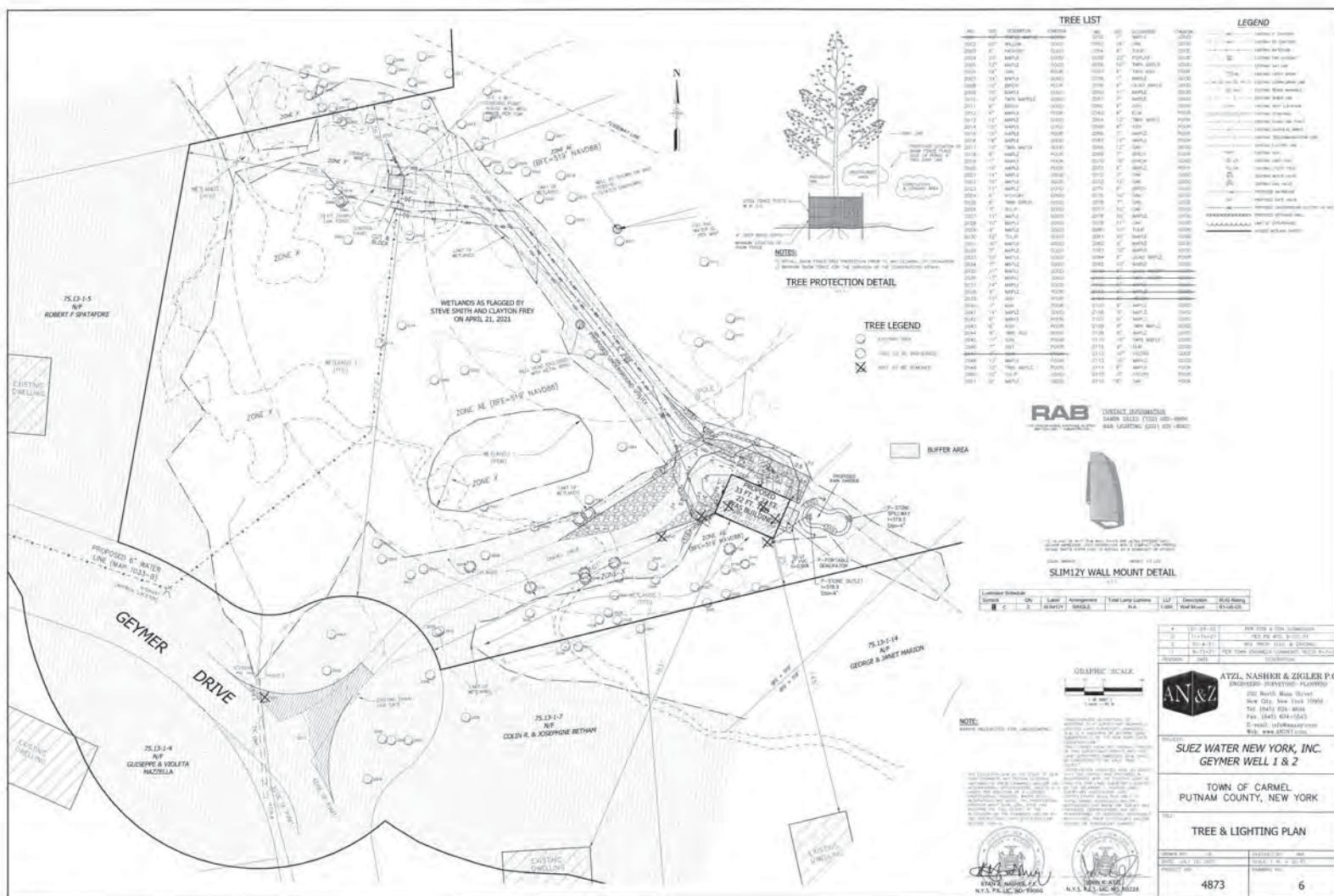
ATZL, NASHER & ZIGLER P.C.
ENGINEERS - SURVEYORS - PLANNERS
220 North Main Street
New York, New York 10038
Tel: (212) 675-1000
Fax: (212) 675-1001
E-mail: info@atzl.com
Web: www.atzl.com

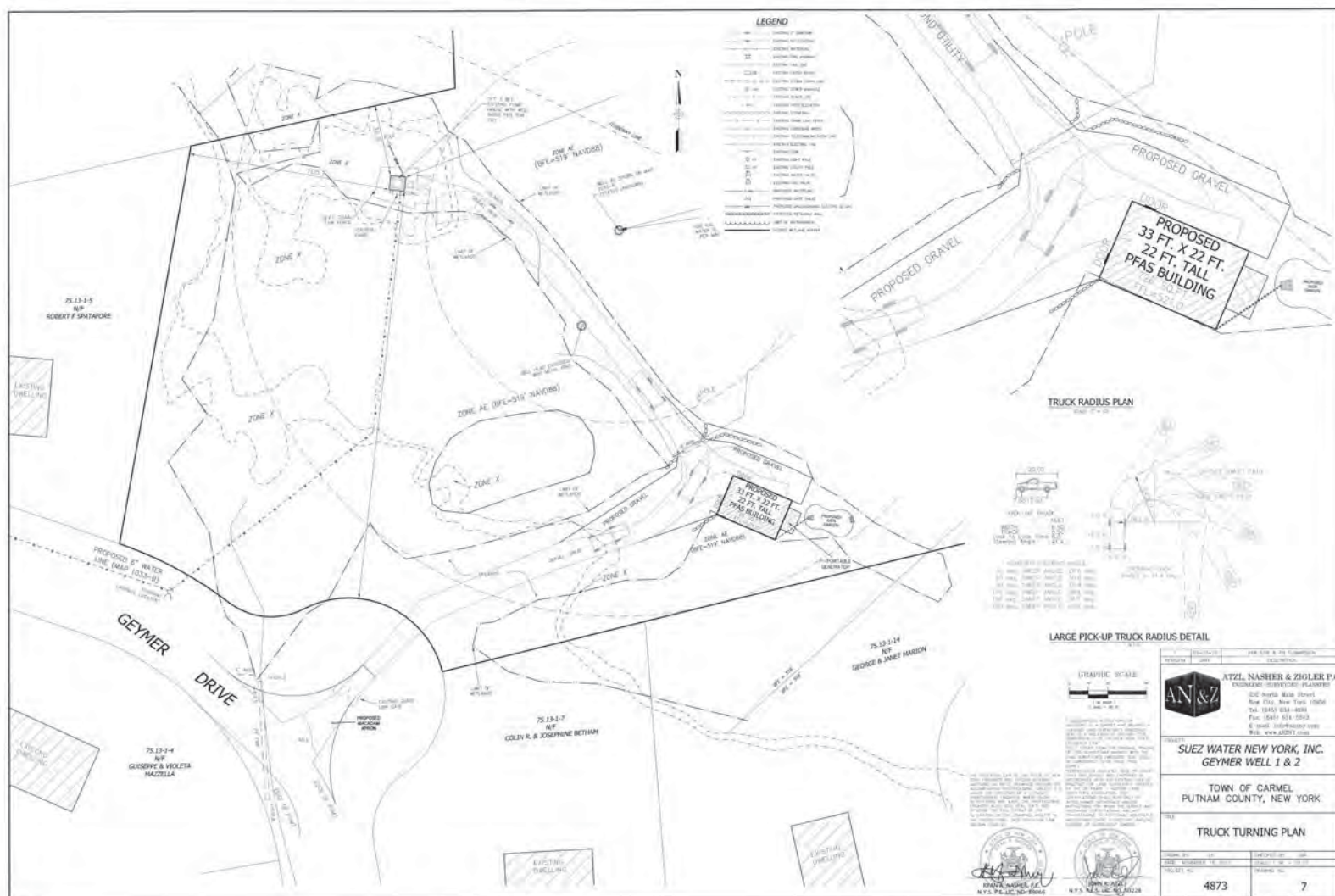
SUEZ WATER NEW YORK, INC.
GEYMER WELL 1 & 2
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

GRADING DETAIL PLAN

4873 4







ROBERT LAGA
Chairman

NICHOLAS FANNIN
Vice Chairman

RICHARD FRANZETTI
Wetland Inspector

ROSE TROMBETTA
Secretary

TOWN OF CARMEL
ENVIRONMENTAL CONSERVATION BOARD



60 McAlpin Avenue
Mahopac, New York 10541
Tel. (845) 628-1500 - Ext. 190
www.ci.carmel.ny.us

BOARD MEMBERS

Edward Barnett
Anthony Federice
Nicole Sedran

APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

Name of Applicant: SUEZ Water New York, Inc

Address of Applicant: 162 Old Mill Road, West Nyack, NY 10994 **Email:** steven.garabed@suez.com

Telephone# 845-620-3319 **Name and Address of Owner if different from Applicant:**

APPLICANT IS THE SAME AS OWNER

Property Address: 59 McNair Drive, Mahopac, NY 10541 **Tax Map #** 75.20-1-16

Agency Submitting Application if Applicable: Atzl, Nasher & Zigler, P.C.

Location of Wetland: Shown on Site Plan

Size of Work Section & Specific Location: See attached description.

Will Project Utilize State Owned Lands? If Yes, Specify: No

Type and extent of work (feet of new channel, yards of material to be removed, draining, dredging, filling, etc). A brief description of the regulated activity (attach supporting details).

See attached description.

Proposed Start Date: March 2022 **Anticipated Completion Date:** October 2022 **Fee Paid \$** 1,000

CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief, false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. As a condition to the issuance of a permit, the applicant accepts full legal responsibility for all damage, direct or indirect, or whatever nature, and by whomever suffered, arising out of the project described here-in and agrees to indemnify and save harmless the Town of Carmel from suits, actions, damages and costs of every name and description resulting from the said project.


SIGNATURE

1-26-22
DATE

Note: The Long EAF Part 1 was accepted
by the Planning Board in September 2021.
The project is classified as a Type II Action.

Full Environmental Assessment Form
Part 1 - Project and Setting

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 1 is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: SUEZ Water New York, Inc. – London Bridge Well 1 & 2		
Project Location (describe, and attach a general location map): 39 Brook Street in the Town of Carmel, Putnam County		
Brief Description of Proposed Action (include purpose or need): SUEZ Water is proposing the construction of upgrades at their existing London Bridge Well 1 & 2 site. The proposed upgrades will comply with the new state drinking water regulations for polyfluoroalkyl substances (PFAS). The planned upgrade will add treatment for PFAS to remain below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both Perfluorooctanoic acid (PFOA) and Perfluorooctane sulfonate (PFOS), the regulated compounds. See the attached narrative for details.		
Name of Applicant/Sponsor: SUEZ Water New York, Inc.	Telephone: 845-620-3319	
	E-Mail: steven.garabed@suez.com	
Address: 162 Old Mill Road		
City/PO: West Nyack	State: NY	Zip Code: 10994
Project Contact (if not same as sponsor; give name and title/role): John Atzl - Atzl, Nasher & Zigler, PC	Telephone: 845-634-4694	
	E-Mail: jatzl@anzny.com	
Address: 234 North Main Street		
City/PO: New City	State: NY	Zip Code: 10956
Property Owner (if not same as sponsor): PROPERTY OWNER IS THE SAME AS APPLICANT	Telephone:	
	E-Mail:	
Address:		
City/PO:	State:	Zip Code:

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, <input type="checkbox"/> Yes <input type="checkbox"/> No or Village Board of Trustees		
b. City, Town or Village Planning Board or Commission <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Town of Carmel Planning Board - Site Plan and Conditional Use Approval	August 2021
c. City, Town or Village Zoning Board of Appeals <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Town of Carmel Zoning Board - variance	August 2021
d. Other local agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Town of Carmel Building Department - Building Permit, Sewer Connection Permit	August 2021
e. County agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Putnam County Department of Health	August 2021
f. Regional agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
g. State agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
h. Federal agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
i. Coastal Resources. i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No iii. Is the project site within a Coastal Erosion Hazard Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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):

NYC Watershed Boundary _____

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):

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?

Residential District

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? Mahopac Central School District

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

Town of Carmel Police Department

c. Which fire protection and emergency medical services serve the project site?

Mahopac Volunteer Fire Department

d. What parks serve the project site?

Airport Field, Sycamore Town Park

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)? Industrial Water Treatment and Supply

b. a. Total acreage of the site of the proposed action? 1.61 acres

b. Total acreage to be physically disturbed? 0.26 acres

c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 1.61 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)? % 194 Units: 726 sq. ft.

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)

ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No

iii. Number of lots proposed? _____

iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☒ No

i. If No, anticipated period of construction: 12 months

ii. If Yes:

- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____ year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, show numbers of units proposed.				
	<u>One Family</u>	<u>Two Family</u>	<u>Three Family</u>	<u>Multiple Family (four or more)</u>
Initial Phase	_____	_____	_____	_____
At completion	_____	_____	_____	_____
of all phases	_____	_____	_____	_____

g. Does the proposed action include new non-residential construction (including expansions)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes,	
i. Total number of structures _____ 1 ii. Dimensions (in feet) of largest proposed structure: _____ 22 height; _____ 22 width; and _____ 33 length iii. Approximate extent of building space to be heated or cooled: _____ 726 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes,	
i. Purpose of the impoundment: _____ ii. If a water impoundment, the principal source of the water: <input type="checkbox"/> Ground water <input type="checkbox"/> Surface water streams <input type="checkbox"/> Other specify: _____ iii. If other than water, identify the type of impounded/contained liquids and their source. _____ iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): _____ _____	

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) If Yes:	
i. What is the purpose of the excavation or dredging? _____ ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site? • Volume (specify tons or cubic yards): _____ • Over what duration of time? _____ iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them. _____ _____ iv. Will there be onsite dewatering or processing of excavated materials? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe. _____ _____ v. What is the total area to be dredged or excavated? _____ acres vi. What is the maximum area to be worked at any one time? _____ acres vii. What would be the maximum depth of excavation or dredging? _____ feet viii. Will the excavation require blasting? <input type="checkbox"/> Yes <input type="checkbox"/> No ix. Summarize site reclamation goals and plan: _____ _____ _____	

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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes:	
i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____ _____	

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:

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☐ No
If Yes, describe: _____

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: _____ gallons/day

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

- Name of district or service area: _____
- 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: _____
- Source(s) of supply for the district: _____

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: _____

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ 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

<ul style="list-style-type: none"> • Do existing sewer lines serve the project site? _____ • Will a line extension within an existing district be necessary to serve the project? _____ <p>If Yes:</p> <ul style="list-style-type: none"> • Describe extensions or capacity expansions proposed to serve this project: _____ _____ _____ 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
<p>iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? _____</p> <p>If Yes:</p> <ul style="list-style-type: none"> • Applicant/sponsor for new district: _____ • Date application submitted or anticipated: _____ • What is the receiving water for the wastewater discharge? _____ 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<p>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): _____ _____ _____</p>		
<p>vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____ _____ _____</p>		
<p>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? _____</p> <p>If Yes:</p> <p>i. How much impervious surface will the project create in relation to total size of project parcel?</p> <p style="margin-left: 40px;">_____ Square feet or _____ acres (impervious surface)</p> <p style="margin-left: 40px;">_____ Square feet or _____ acres (parcel size)</p> <p>ii. Describe types of new point sources. _____</p> <p>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)? _____ _____</p> <p style="margin-left: 40px;">• If to surface waters, identify receiving water bodies or wetlands: _____ _____</p> <p style="margin-left: 40px;">• Will stormwater runoff flow to adjacent properties? _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
<p>iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? _____</p>		
<p>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? _____</p> <p>If Yes, identify:</p> <p>i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles) Construction equipment and vehicles _____</p> <p>ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers) Power generation _____</p> <p>iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation) _____</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<p>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? _____</p> <p>If Yes:</p> <p>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) _____</p> <p>ii. In addition to emissions as calculated in the application, the project will generate:</p> <ul style="list-style-type: none"> • _____ Tons/year (short tons) of Carbon Dioxide (CO₂) • _____ Tons/year (short tons) of Nitrous Oxide (N₂O) • _____ Tons/year (short tons) of Perfluorocarbons (PFCs) • _____ Tons/year (short tons) of Sulfur Hexafluoride (SF₆) • _____ Tons/year (short tons) of Carbon Dioxide equivalent of Hydrofluorocarbons (HFCs) • _____ Tons/year (short tons) of Hazardous Air Pollutants (HAPs) 		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No

<p>h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Estimate methane generation in tons/year (metric): _____</p> <p>ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____</p>			
<p>i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust): _____</p>			
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. When is the peak traffic expected (Check all that apply): <input type="checkbox"/> Morning <input type="checkbox"/> Evening <input type="checkbox"/> Weekend <input type="checkbox"/> Randomly between hours of _____ to _____.</p> <p>ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____</p> <p>iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____</p> <p>iv. Does the proposed action include any shared use parking? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe: _____</p> <p>vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>vii. Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>			
<p>k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Estimate annual electricity demand during operation of the proposed action: _____ 16,335 kWh*</p> <p>ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other): <u>New York State Electric & Gas Corporation</u></p> <p>iii. Will the proposed action require a new, or an upgrade, to an existing substation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>			
<p>l. Hours of operation. Answer all items which apply.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 8AM - 6PM • Saturday: _____ 8AM - 6PM • Sunday: _____ 8AM - 6PM • Holidays: _____ CLOSED </td> <td style="width: 50%; vertical-align: top;"> <p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 24 hours/day • Saturday: _____ 24 hours/day • Sunday: _____ 24 hours/day • Holidays: _____ 24 hours/day </td> </tr> </table>		<p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 8AM - 6PM • Saturday: _____ 8AM - 6PM • Sunday: _____ 8AM - 6PM • Holidays: _____ CLOSED 	<p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 24 hours/day • Saturday: _____ 24 hours/day • Sunday: _____ 24 hours/day • Holidays: _____ 24 hours/day
<p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 8AM - 6PM • Saturday: _____ 8AM - 6PM • Sunday: _____ 8AM - 6PM • Holidays: _____ CLOSED 	<p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 24 hours/day • Saturday: _____ 24 hours/day • Sunday: _____ 24 hours/day • Holidays: _____ 24 hours/day 		

*The average number of kilowatt hours per square foot for a commercial building is approximately 22.5. (Source: Iota Communications.com). The proposed building is 928 sq. ft.

<p>m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes:</p> <p>i. Provide details including sources, time of day and duration:</p> <p>The operation of construction equipment will increase local daytime ambient noise levels. This will only occur during permitted hours of operation and the resulting noise will cease upon completion of the project.</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<p>ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe: _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>n. Will the proposed action have outdoor lighting? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes:</p> <p>i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:</p> <p>See Lighting Plan</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<p>ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe: _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>o. Does the proposed action have the potential to produce odors for more than one hour per day? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Product(s) to be stored _____</p> <p>ii. Volume(s) _____ per unit time _____ (e.g., month, year)</p> <p>iii. Generally, describe the proposed storage facilities: _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Describe proposed treatment(s): _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>ii. Will the proposed action use Integrated Pest Management Practices? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Describe any solid waste(s) to be generated during construction or operation of the facility:</p> <ul style="list-style-type: none"> • Construction: _____ tons per _____ (unit of time) • Operation : _____ tons per _____ (unit of time) <p>ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:</p> <ul style="list-style-type: none"> • Construction: _____ • Operation: _____ <p>iii. Proposed disposal methods/facilities for solid waste generated on-site:</p> <ul style="list-style-type: none"> • Construction: _____ • Operation: _____ 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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): Industrial Water Treatment and Supply

ii. If mix of uses, generally describe: _____

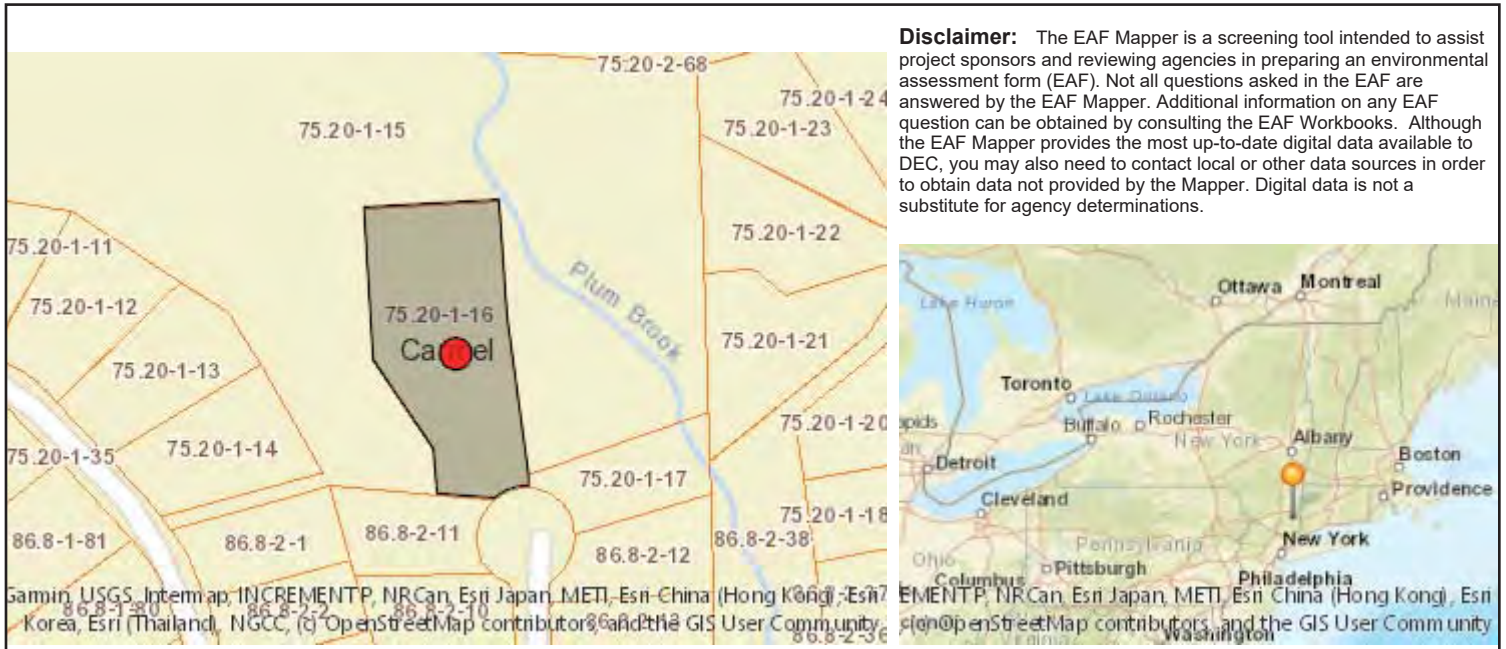
b. Land uses and covertypes on the project site.

Land use or Covertypes	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.07	0.2	+ 0.13
• Forested	1.34	1.21	- 0.13
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0.02	0.02	0
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0.05	0.05	0
• Wetlands (freshwater or tidal)	0.13	0.13	0
• Non-vegetated (bare rock, earth or fill)	0	0	0
• Other Describe: _____			

<p>c. Is the project site presently used by members of the community for public recreation? i. If Yes: explain: _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>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? If Yes, i. Identify Facilities: _____ _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>e. Does the project site contain an existing dam? If Yes: i. Dimensions of the dam and impoundment: <ul style="list-style-type: none"> • 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: _____ _____ _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>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? If Yes: i. Has the facility been formally closed? <ul style="list-style-type: none"> • If yes, cite sources/documentation: _____ ii. Describe the location of the project site relative to the boundaries of the solid waste management facility: _____ _____ _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
<p>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? If Yes: i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred: _____ _____ _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>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? 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: <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 45%;"> <input type="checkbox"/> Yes – Spills Incidents database <input type="checkbox"/> Yes – Environmental Site Remediation database <input type="checkbox"/> Neither database </div> <div style="width: 50%;"> Provide DEC ID number(s): _____ Provide DEC ID number(s): _____ </div> </div> ii. If site has been subject of RCRA corrective activities, describe control measures: _____ _____ _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? If yes, provide DEC ID number(s): _____ iv. If yes to (i), (ii) or (iii) above, describe current status of site(s): _____ _____ _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

v. Is the project site subject to an institutional control limiting property uses? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
<ul style="list-style-type: none"> • 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? <input type="checkbox"/> Yes <input type="checkbox"/> No • Explain: _____ 													
E.2. Natural Resources On or Near Project Site													
a. What is the average depth to bedrock on the project site? _____ >6 feet													
b. Are there bedrock outcroppings on the project site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, what proportion of the site is comprised of bedrock outcroppings? _____ %													
c. Predominant soil type(s) present on project site: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Ce - Calden muck</td> <td style="width: 40%; text-align: right;">86% %</td> </tr> <tr> <td>NdA - Natchaug and Calden mucks</td> <td style="text-align: right;">11% %</td> </tr> <tr> <td>PnC - Paxton fine sandy loam</td> <td style="text-align: right;">3% %</td> </tr> </table>		Ce - Calden muck	86% %	NdA - Natchaug and Calden mucks	11% %	PnC - Paxton fine sandy loam	3% %						
Ce - Calden muck	86% %												
NdA - Natchaug and Calden mucks	11% %												
PnC - Paxton fine sandy loam	3% %												
d. What is the average depth to the water table on the project site? Average: _____ 1.83 feet													
e. Drainage status of project site soils: <table style="width: 100%; border-collapse: collapse;"> <tr> <td><input checked="" type="checkbox"/> Well Drained:</td> <td style="text-align: right;">3% of site</td> </tr> <tr> <td><input type="checkbox"/> Moderately Well Drained:</td> <td style="text-align: right;">_____ % of site</td> </tr> <tr> <td><input checked="" type="checkbox"/> Very Poorly Drained</td> <td style="text-align: right;">97 % of site</td> </tr> </table>		<input checked="" type="checkbox"/> Well Drained:	3% of site	<input type="checkbox"/> Moderately Well Drained:	_____ % of site	<input checked="" type="checkbox"/> Very Poorly Drained	97 % of site						
<input checked="" type="checkbox"/> Well Drained:	3% of site												
<input type="checkbox"/> Moderately Well Drained:	_____ % of site												
<input checked="" type="checkbox"/> Very Poorly Drained	97 % of site												
f. Approximate proportion of proposed action site with slopes: <table style="width: 100%; border-collapse: collapse;"> <tr> <td><input checked="" type="checkbox"/> 0-10%:</td> <td style="text-align: right;">62 % of site</td> </tr> <tr> <td><input checked="" type="checkbox"/> 10-15%:</td> <td style="text-align: right;">10 % of site</td> </tr> <tr> <td><input checked="" type="checkbox"/> 15% or greater:</td> <td style="text-align: right;">28 % of site</td> </tr> </table>		<input checked="" type="checkbox"/> 0-10%:	62 % of site	<input checked="" type="checkbox"/> 10-15%:	10 % of site	<input checked="" type="checkbox"/> 15% or greater:	28 % of site						
<input checked="" type="checkbox"/> 0-10%:	62 % of site												
<input checked="" type="checkbox"/> 10-15%:	10 % of site												
<input checked="" type="checkbox"/> 15% or greater:	28 % of site												
g. Are there any unique geologic features on the project site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No													
ii. Do any wetlands or other waterbodies adjoin the project site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No													
iv. For each identified regulated wetland and waterbody on the project site, provide the following information: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">• Streams:</td> <td style="width: 40%;">Name 864-160</td> <td style="width: 50%;">Classification C</td> </tr> <tr> <td>• Lakes or Ponds:</td> <td>Name _____</td> <td>Classification _____</td> </tr> <tr> <td>• Wetlands:</td> <td>Name Federal Waters, NYS Wetland</td> <td>Approximate Size _____</td> </tr> <tr> <td>• Wetland No. (if regulated by DEC)</td> <td colspan="2">CF-1</td> </tr> </table>		• Streams:	Name 864-160	Classification C	• Lakes or Ponds:	Name _____	Classification _____	• Wetlands:	Name Federal Waters, NYS Wetland	Approximate Size _____	• Wetland No. (if regulated by DEC)	CF-1	
• Streams:	Name 864-160	Classification C											
• Lakes or Ponds:	Name _____	Classification _____											
• Wetlands:	Name Federal Waters, NYS Wetland	Approximate Size _____											
• Wetland No. (if regulated by DEC)	CF-1												
v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, name of impaired water body/bodies and basis for listing as impaired: _____													
i. Is the project site in a designated Floodway? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
j. Is the project site in the 100-year Floodplain? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
k. Is the project site in the 500-year Floodplain? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes:													
i. Name of aquifer: _____													

<p>m. Identify the predominant wildlife species that occupy or use the project site: _____</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Squirrel _____</td> <td style="width: 33%;">Raccoon _____</td> <td style="width: 33%;">_____</td> </tr> <tr> <td>Deer _____</td> <td>Possum _____</td> <td>_____</td> </tr> <tr> <td>Rabbit _____</td> <td>Fox _____</td> <td>_____</td> </tr> </table>		Squirrel _____	Raccoon _____	_____	Deer _____	Possum _____	_____	Rabbit _____	Fox _____	_____
Squirrel _____	Raccoon _____	_____								
Deer _____	Possum _____	_____								
Rabbit _____	Fox _____	_____								
<p>n. Does the project site contain a designated significant natural community? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Describe the habitat/community (composition, function, and basis for designation): _____</p> <p style="margin-left: 20px;">ii. Source(s) of description or evaluation: _____</p> <p style="margin-left: 20px;">iii. Extent of community/habitat:</p> <ul style="list-style-type: none"> • Currently: _____ acres • Following completion of project as proposed: _____ acres • Gain or loss (indicate + or -): _____ acres 										
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Species and listing (endangered or threatened): _____</p> <p>_____</p> <p>_____</p>										
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Species and listing: _____</p> <p>_____</p> <p>_____</p>										
<p>q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If yes, give a brief description of how the proposed action may affect that use: _____</p> <p>_____</p> <p>_____</p>										
<p>E.3. Designated Public Resources On or Near Project Site</p>										
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes, provide county plus district name/number: _____</p>										
<p>b. Are agricultural lands consisting of highly productive soils present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p style="margin-left: 20px;">i. If Yes: acreage(s) on project site? _____</p> <p style="margin-left: 20px;">ii. Source(s) of soil rating(s): _____</p>										
<p>c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Nature of the natural landmark: <input type="checkbox"/> Biological Community <input type="checkbox"/> Geological Feature</p> <p style="margin-left: 20px;">ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____</p> <p>_____</p> <p>_____</p>										
<p>d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. CEA name: _____</p> <p style="margin-left: 20px;">ii. Basis for designation: _____</p> <p style="margin-left: 20px;">iii. Designating agency and date: _____</p>										



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	NYC Watershed Boundary
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]	864-160
E.2.h.iv [Surface Water Features - Stream Classification]	C
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters, NYS Wetland
E.2.h.iv [Surface Water Features - Wetlands Size]	NYS Wetland (in acres):25.5
E.2.h.iv [Surface Water Features - DEC Wetlands Number]	CF-1

E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
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 Long-eared Bat
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
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]	No
E.3.i. [Designated River Corridor]	No

Project Description

General Project Information

Applicant: SUEZ Water New York, Inc.

Project: PFAS Compliance Project F – Chateau Well

Location: Town of Carmel
Putnam County, New York

Consultant: Gannett Fleming, Inc.
207 Senate Avenue
Camp Hill, PA 17011

Introduction

SUEZ is proposing the construction of upgrades at their existing Chateau well site. The proposed study area (41° 21' 24.528" N, 73° 44' 24.195" W) is located in the Town of Carmel, Putnam County, New York. The project study area for this project encompassed the entire SUEZ property. During delineation efforts an additional 300-foot buffer was reviewed around the project study area and is referred to in the permit application as the action area. Refer to the Topographic Location Map and Aerial Layout Map for the location and project limits located in **Section A**.

Project Purpose and Need

The State of New York has adopted a new drinking water standard that set a Maximum Contaminant Level (MCL) of 10 parts per trillion (ppt) for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) in drinking water. Some PFAS do not breakdown easily and persist for a long time in the environment, especially in water. The concern of PFAS chemicals having toxic effects on public health has resulted in new regulations for the New York State Drinking Water Standard.

In order to comply with these new MCLs, SUEZ plans to construct a treatment facility at the existing Chateau Well Site.

Necessary upgrades were identified based on the water quality sampling results. The site upgrades include upsizing of the existing well pumps, installation of a prefiltration system consisting of bag filters, and installation of a GAC treatment system. The planned upgrades will not increase the firm capacity of the wells.

Architectural, civil, electrical, structural, HVAC and plumbing upgrades will also be implemented to accommodate the new treatment system at the existing location.

Project Description Details

Improvements at the Chateau Well site shall include the construction of a new PFAS treatment building, a 6" influent pipe, a 6" effluent pipe, a 4" PVC drain, an underground electrical conduit, and a 12' gravel driveway off of McNair Drive. Erosion and sediment controls will be installed to protect the regulated features. Disturbance will be kept to a minimum and avoidance measures have been considered during the design phase of the project.

Project Area Description

The proposed PFAS upgrades will be installed within the existing SUEZ property located at the northern extent of McNair Drive in the Town of Carmel, New York. The proposed project study area is approximately 0.45 acres. The action area surrounding the project study area is approximately 12 acres. The project study area and action area consist of a gravel parking lot, pump house, residential properties, forested tracts, a sewer and overhead electric right-of-way, Plum Brook and a large marsh/wetland area to the north.

Water resources within or adjacent to the project area include Plum Brook and its unnamed tributaries as identified by NYSDEC freshwater mapping, National Wetland Inventory mapping, and U.S. Geological Survey topographical mapping. Additional water resources were identified during field investigations.

Project Impacts

One parcel was impacted by the SUEZ PFAS project. Project design will impact one regulated feature and the intent of this package is to obtain approval from the Town to encroach upon the resource. No USACE regulated features shall be impacted as a result of the project. Refer to the Wetland Delineation Report provided **Section B** for more information regarding the resource.

The proposed project limit of disturbance overlaps a regulated NYSDEC Freshwater Wetland Adjacent Area. There are both permanent and temporary impacts to the Adjacent Area associated with construction of the PFAS structure, driveway and pipelines. Reclamation to the portion of the Adjacent Area with temporary impacts will take place as soon as construction is complete.

No mitigation is proposed since all permanent impacts occur only within the NYSDEC regulated Freshwater Wetland Adjacent Area.

Please see **Section C** for a typical diagram of construction.

Regulated Activities

Wetland Impacts

Impacts at the Chateau Well site involve temporary and permanent impacts to the Wetland Adjacent Area. No impacts shall occur to wetlands. The temporary Adjacent Area impacts include the areas required for installation of temporary erosion and sediment controls. All controls shall be removed once construction is complete and the area shall be restored and allowed to revegetate back to pre-construction conditions. Permanent impacts shall occur as a result of site clearing, grading/filling, building construction, and underground piping and electrical conduits associated the new PFAS treatment system. Below are the calculated impacts to the area within 100 feet adjacent to the wetlands.

Wetland Impacts

- 0 ft²; 0 ac

Impacts to 100' Buffer

- 14,747.23 ft²; 0.339 ac

Section A: Topographic Location Map and Aerial Layout Map

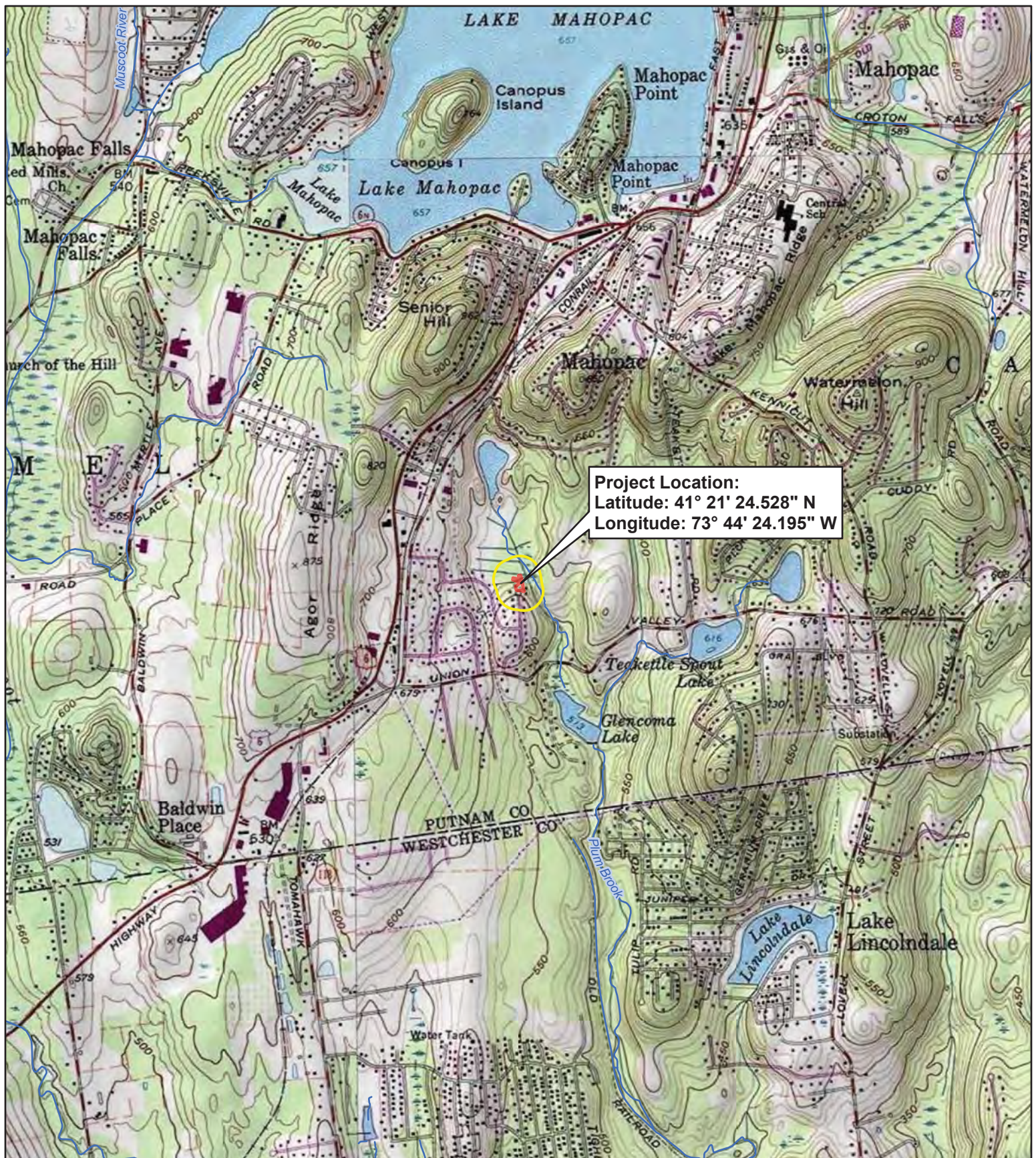


FIGURE 1
USGS TOPOGRAPHIC LOCATION MAP
MOHEGAN LAKE AND CROTON FALLS, NY
7.5-MINUTE QUADRANGLES

SUEZ Water New York, Inc.
 PFAS Compliance Project F - Chateau Well
 Town of Carmel,
 Putnam County, NY

Legend

- Streams
- Project Study Area
- Action Area



Gannett Fleming

SCALE: 1 in = 2,000 ft

0 1,000 2,000 4,000
 Feet



FIGURE 2
PROJECT LOCATION AND
STUDY AREA MAP

SUEZ Water New York, Inc.
 PFAS Compliance Project F - Chateau Well

Town of Carmel,
 Putnam County, NY

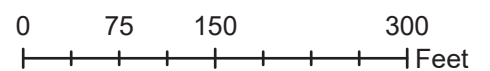
Legend

- Streams
- Action Area
- Project Study Area



Gannett Fleming

SCALE: 1 in = 150 ft



Section C: Typical diagram of construction

Note: Please refer to the attached Site Plan set.

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT



SUEZ Water New York, Inc. PFAS Compliance Project F – Chateau Well

Town of Carmel, Putnam County, New York

Prepared for:

SUEZ Water New York, Inc.
162 Old Mill Rd
West Nyack, NY 10994

Prepared by:



Gannett Fleming

207 Senate Avenue
Camp Hill, PA 17011

May 2021

GF Project No. 068577

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT

SUEZ Water New York Inc.
PFAS Compliance Project F – Chateau Well
Town of Carmel, Putnam County, New York

Prepared for:

SUEZ WATER NEW YORK, INC.

Prepared by:



Gannett Fleming

May 2021

TABLE OF CONTENTS

1.0	Executive Summary.....	1
2.0	Project Description	3
3.0	Purpose.....	3
4.0	Study Area Description.....	3
4.1	Topography.....	3
4.2	Soils.....	3
4.3	Geology	4
4.4	Surface Waters	4
4.5	National Wetlands Inventory	4
4.6	NYSDEC Wetlands.....	4
5.0	Methods	10
6.0	Field Observations and Delineated Features.....	11
6.1	Waterbodies & Wetlands.....	11
6.2	Waterways	12
7.0	Wetland & Waterway Resource Summary.....	13
8.0	References.....	14
9.0	List of Contributors	16

FIGURES

Figure 1.	USGS Topographic Location Map.....	5
Figure 2.	Project Location and Study Area Map	6
Figure 3.	Soil Survey Map.....	7
Figure 4.	National Wetlands Inventory Map.....	8
Figure 5.	NYSDEC Wetlands Map.....	9

TABLES

Table 1.	Wetland and Waterway Summary.....	2
Table 2.	Dominant Plant Species List	11
Table 3.	Delineated Wetland Resource Summary	12

APPENDICES

APPENDIX A – WETLANDS AND WATERWAYS MAPPING

APPENDIX B – SITE PHOTOGRAPHS AND PHOTOGRAPH LOCATION MAP

APPENDIX C – WETLAND FIELD DATA FORMS

1.0 Executive Summary

SUEZ Water New York, Inc. (SUEZ) is proposing the construction of upgrades at their existing Chateau well site. The proposed study area (41° 21' 24.528"N, 73° 44' 24.195"W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for per- and polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), the regulated compounds.

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with U.S. Fish and Wildlife Service (USFWS). The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area and action area. This report was prepared to satisfy the regulatory requirements of the U.S. Army Corps of Engineers (USACE) under the purview of Section 404 of the Clean Water Act and New York State Department of Environmental Conservation (NYSDEC) under Article 24, Freshwater Wetlands Act.

On April 21, 2021, Gannett Fleming, Inc. (GF) conducted a field investigation to delineate wetlands and waterways within the 0.45-acre project study area and 12-acre action area for use in project planning and permitting efforts for PFAS Compliance Project F – Chateau Well. Two (2) wetlands and two (2) waterways were delineated within the project study area and action area (**Table 1**). Wetland and waterway boundaries were mapped in the field and are presented in **Appendix A**. Photographs were taken of the wetlands and waterways and are provided in **Appendix B**. Wetland data forms were completed to document the hydrology, vegetation, and soil conditions of the delineated wetlands and are provided in **Appendix C**.

Table 1. Wetland and Waterway Summary

PROJECT TOTALS		
WETLANDS		
Feature Type	Number Present	Total Acres (AC)
▪ PFO/PSS/PEM Wetland Complex	1	2.54+
▪ PEM Wetland	1	0.005
WATERWAYS		
Feature Type	Number Present	Total Linear Feet (LF)
▪ Perennial Waterway	1	330+
▪ Ephemeral Waterway	1	28

Wetlands

- Wetland 1 – PFO/PSS/PEM wetland complex, 2.54+ acres
- Wetland 2 – PEM wetland, 0.005 acre

Waterways

- Stream 1 (Plum Brook)– Perennial, 330+ linear feet
- Stream 2 (UNT to Plum Brook) – Ephemeral, 28 linear feet

**Area or length in acres or linear feet represents delineated values, “+” indicates that the resource continues off-site*

2.0 Project Description

SUEZ is proposing the construction of upgrades at their existing Chateau well site. The proposed study area (41° 21' 24.528"N, 73° 44' 24.195"W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for per- and polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both PFOA and PFOS, the regulated compounds

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with USFWS. The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

3.0 Purpose

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area. This report was prepared to satisfy the regulatory requirements of the USACE under the purview of Section 404 of the Clean Water Act and NYSDEC under Article 24, Freshwater Wetlands Act.

4.0 Study Area Description

A 300- foot buffer was used surrounding the project study area to create the action area. The project study area encompassed approximately 0.45-acre and the action area is approximately 12-acres consisting of a parking lot, pump house, residential properties, forested tracts, a sewer and overhead electric right-of-way, and Plum Brook. The project study area to the north is a large marsh/wetland area. Residential properties along with Bloomer Road, McNair and Dahlia Drives are located to the west, south and east (respectively). The action area is also shown on the mapping within this report. The action area depicts the 300-foot bog turtle survey area buffer included during field investigations.

4.1 Topography

According to the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (Mohegan Lake and Croton Falls, New York), the elevation of the project study area ranged from approximately 560 to 620 feet above mean sea level (amsl). An excerpt from the USGS Topographic Quadrangle Map is provided as **Figure 1**. A Project Location and Study Area Map is provided as **Figure 2**.

4.2 Soils

According to the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey, six (6) soil series were mapped within the project study area and action area: Catden muck, 0 to 2 percent slopes (Ce); Natchaug and Catden mucks, ponded, 0 to 2

percent slopes (NdA); Paxton fine sandy loam, 3 to 8 percent slopes (PnB); Paxton fine sandy loam, 8 to 15 percent slopes (PnC); Sun loam, extremely stony (Sm); and Woodbridge loam, 3 to 8 percent slopes (WdB). NdA, Ce and Sm are listed as 98% and 100% hydric soils. PnB, PnC, WdB soil units are listed as having hydric inclusions. An excerpt from the soil survey mapping is provided as **Figure 3**.

4.3 Geology

The project is located in the Hudson Highlands Section of the Physiographic Provinces of New York (NYSM, 1995). The project study area is underlain by the Biotite granite gneiss (bg) unit of bedrock; the bg unit that underlays the project study area consists of “biotite granitic gneiss, overprint signifies inequigranular texture” assumed to be from the Middle Proterozoic period (NYSM, 1995). The project study area is underlain by the Biotite quartz plagioclase gneiss (bqpc) unit of bedrock; the bqpc unit that underlays the project study area consists of “biotite granitic gneiss, amphibolite, calcsilicate rock” assumed to be from the Middle Proterozoic period (NYSM, 1995).

4.4 Surface Waters

The USGS map identified the Plum Brook as a perennial waterway within the project area. The USGS also identified the Teakettle Spout Lake east and Glencoma Lake to the south of the project study area (**Figure 1**). No other streams or waterbodies were identified on USGS mapping within or immediately adjacent to the project study area.

NYSDEC has designated this portion of the Stone Hill River as water quality classification “C”. This classification indicates that the water resource is best used for fishing and non-contact activities. A “C” classification is not considered protected waters of the state.

4.5 National Wetlands Inventory

The National Wetlands Inventory (NWI) online mapping tool identified one (1) feature within the project study area. NWI identified a palustrine, emergent, persistent, scrub-shrub, broad-leaved deciduous, seasonally flooded/saturated, nontidal, partially drained/ditched (PEM1/SS1Ed) feature. Within the action area the NWI identified three (3) riverine features. Plum Brook was identified as an upper perennial, unconsolidated bottom (R3UBH). A riverine intermittent streambed (R4SBC) and a riverine unknown perennial unconsolidated bottom (R5UBH) were identified west of the project study area. The NWI map for the project study area is provided as **Figure 4**.

4.6 NYSDEC Wetlands

NYSDEC identified one (1) state regulated wetland within the project study area. Wetland CF-1 is a Class 2 wetland totaling 25.5 acres located within the project study area. The southern half of the project study area is within the 100-foot buffer of this wetland. The action area includes the 500-foot wetland checkzone. The NYSDEC wetlands map for the project study area is provided as **Figure 5**.

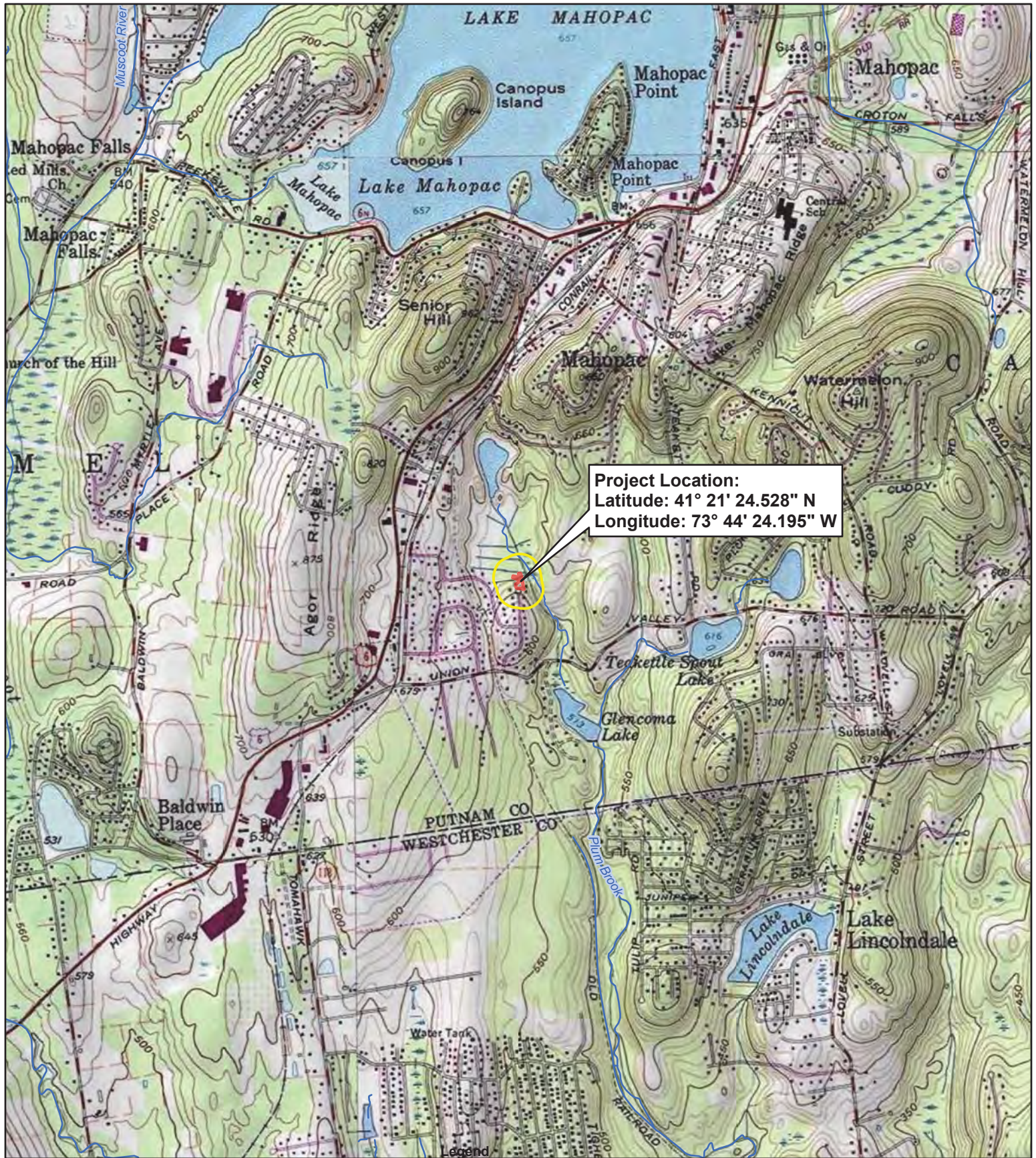


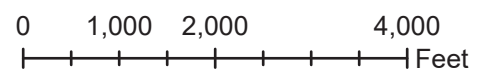
FIGURE 1
USGS TOPOGRAPHIC LOCATION MAP
MOHEGAN LAKE AND CROTON FALLS, NY
7.5-MINUTE QUADRANGLES

SUEZ Water, New York
 Chateau PFAS Replacement Project
 Town of Carmel,
 Putnam County, NY

- Streams
- Project Study Area
- Site Name
- Chateau



SCALE: 1 in = 2,000 ft



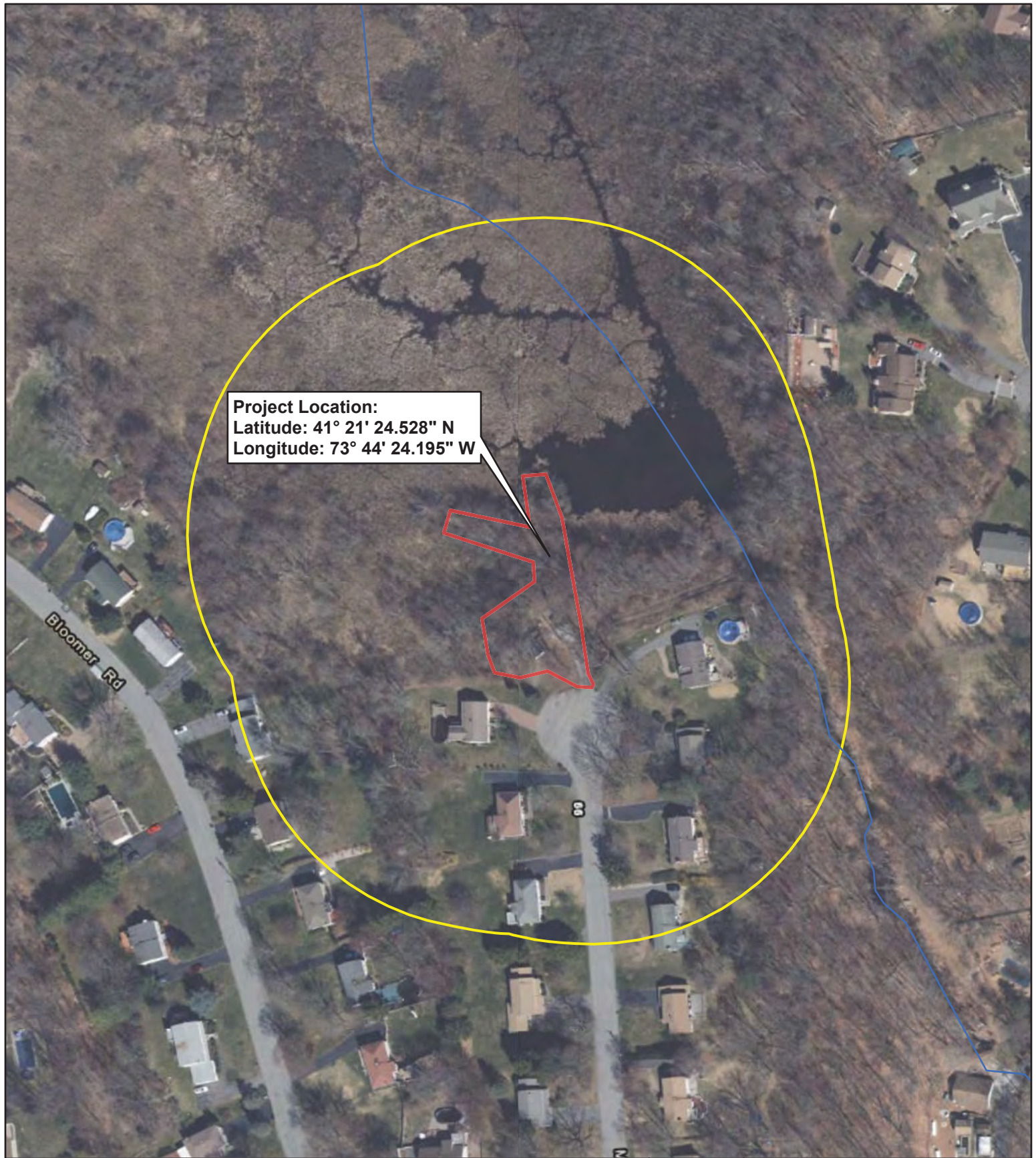


FIGURE 2
PROJECT LOCATION AND
STUDY AREA MAP

SUEZ Water, New York
 Chateau PFAS Replacement Project

Town of Carmel,
 Putnam County, NY

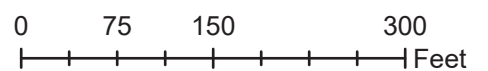
Legend

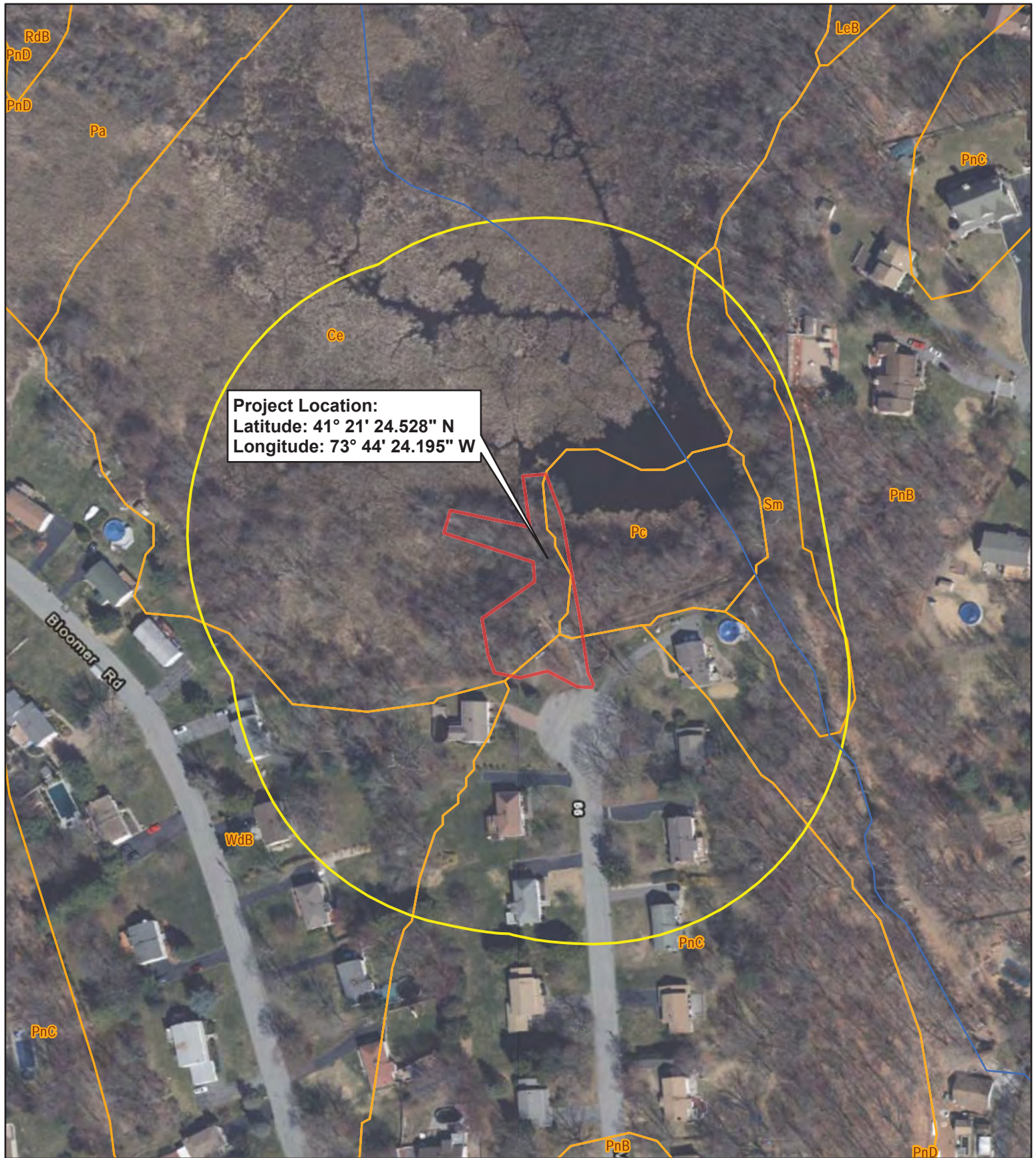
- Streams
- Action Area
- Project Study Area



Gannett Fleming

SCALE: 1 in = 150 ft



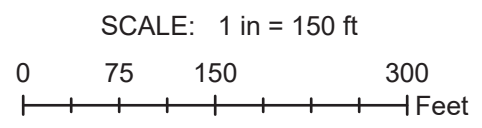


Project Location:
 Latitude: 41° 21' 24.528" N
 Longitude: 73° 44' 24.195" W

FIGURE 3
SOIL SURVEY MAP

SUEZ Water, New York
 Chateau PFAS Replacement Project
 Town of Carmel,
 Putnam County, NY

- Legend**
- Streams
 - Action Area
 - Project Study Area
 - Putnam Co. Soils



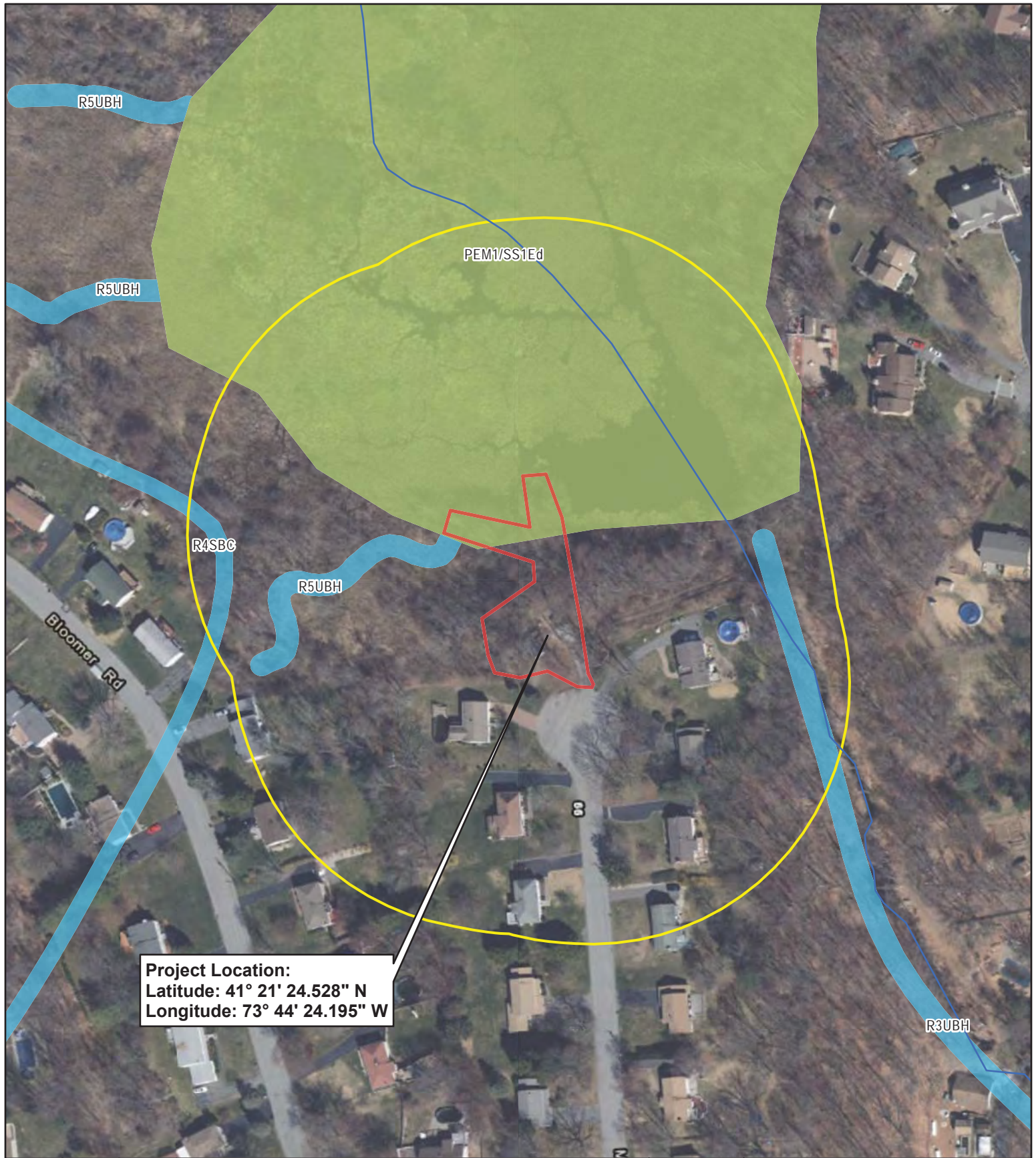


FIGURE 4
NATIONAL WETLANDS INVENTORY MAP

SUEZ Water, New York
 Chateau PFAS Replacement Project
 Town of Carmel,
 Putnam County, NY

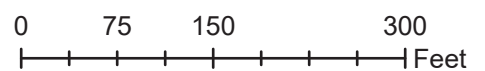
Legend

- Streams
- Action Area
- Project Study Area
- NWI Wetlands**
- Freshwater Emergent Wetland
- Riverine



Gannett Fleming

SCALE: 1 in = 150 ft



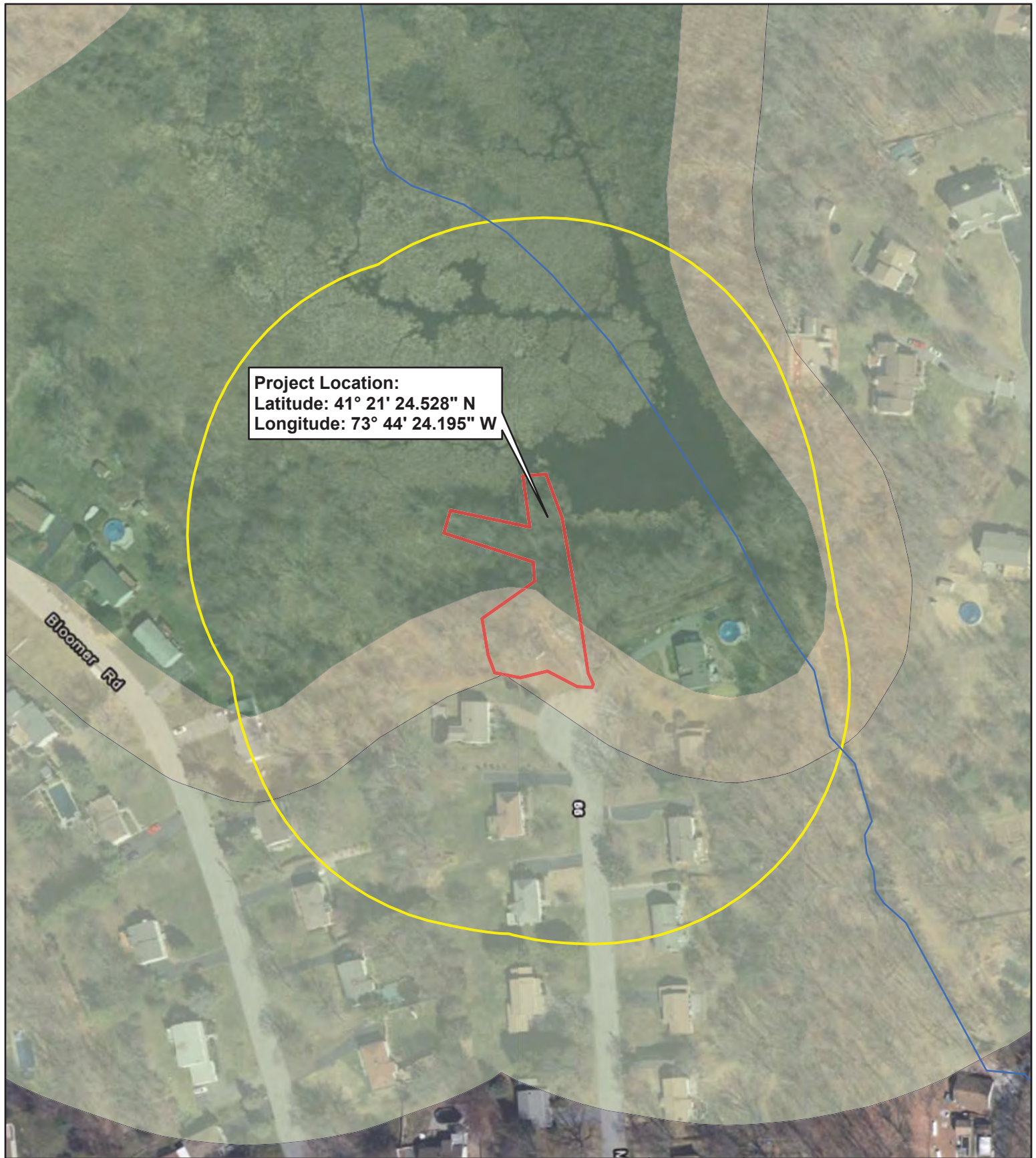


FIGURE 5

NYSDEC WETLANDS MAP

SUEZ Water, New York
 Chateau PFAS Replacement Project
 Town of Carmel,
 Putnam County, NY

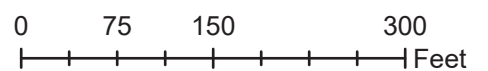
Legend

- Streams
- Action Area
- Project Study Area
- NYSDEC Freshwater Wetland Boundary
- NYSDEC Freshwater Wetland 100' Buffer
- NYSDEC Freshwater Wetland Checkzone



Gannett Fleming

SCALE: 1 in = 150 ft



5.0 Methods

The 0.45-acre project study area was investigated for palustrine wetland indicators of vegetative composition, soil development, and hydrology. The action area was walked for wetland indicators, however, wetlands that were not extended from within the project study area were only identified and not delineated with soil test pits. The investigation was conducted in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (U.S. Army Corps of Engineers, 2012). Wetland field data forms were completed to document wetland or non-wetland data points. If present, wetlands within and directly adjacent to the study area were delineated so that their presence could be shown on project mapping to aid in impact avoidance and/or minimization during engineering design.

Soils were characterized by evaluating the upper horizons of the soil profile. Soil pits were dug using a “sharpshooter” spade with a 16-inch blade. Soil horizons were evaluated using normal field protocols for determining texture and nomenclature. The *Munsell Soil Color Charts* (Kollmorgen Instruments Corporation, 1994) were used to determine the colors of horizons and redoximorphic features. Soil observations of reducing conditions were determined in the field using presence/absence determinations of redoximorphic concretions and oxidized rhizospheres and identifying low chroma matrices according to *Field Indicators of Hydric Soils in the United States (Version 7.0)* (USDA-NRCS, 2010).

Vegetation was identified using *A Field Guide to Trees and Shrubs* (Petrides, 1986), *Newcomb's Wildflower Guide* (Newcomb, 1977), and *Grasses: An Identification Guide* (Brown, 1979). Plant species were assigned an indicator status [i.e., Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), or Obligate Wetland (OBL)] based on the *2018 National Wetland Plant List (Version 3.4)* (USACE, 2018).

Data point locations were investigated for primary and secondary wetland hydrology indicators. If present, wetland boundaries were marked using pink wetland flagging. Wetland boundary data points were located using a Trimble Yuma 2 Global Positioning System (GPS) with Trimble Pro 6T receiver. The Trimble Yuma 2 and the Pro 6T are capable of attaining sub-meter accuracy. The GPS data were then transferred onto relevant project mapping using the U.S. State Plane NY East coordinate system.

Wetland type classifications were assigned to each wetland following the Cowardin et al methods (1979). Hydrogeomorphic classifications were assigned to each wetland based on the *Hydrogeomorphic Wetland Classification: HGM Classification for Wetlands of the Mid-Atlantic Region, USA* (Brooks, 2017). Palustrine plant community classifications were assigned to each wetland based on *Ecological Communities of New York State* (Edinger et al, 2014). Color photographs were taken of all relevant features to document site conditions during the time of the investigation.

Waterways were identified through a review of available mapping and field investigation. Topographic and engineering maps were reviewed for the presence of streams within the project study area. A field investigation for waterways was performed in conjunction with the wetland field investigation and included the field verification of mapped watercourses and the identification and delineation of streams, springs, and seeps that were not shown on existing engineering plans. Waterways were identified by the presence of bed and banks and/or ordinary

high-water marks. The flow regime of each identified waterway was characterized based upon field indicators of hydrologic, floral, and faunal character at the time of the investigation. All identified waterways were photographed and located using GPS.

6.0 Field Observations and Delineated Features

On April 21, 2021, GF investigated the 0.45-acre project study area and the 12-acre action area for wetlands and waterways. The weather conditions were cloudy with a high temperature of 65°F. Precipitation fell (0.17 inches) during the investigation of this project location as a passing storm. The previous 48 hours did not have any precipitation recorded. Weather data were recorded at Danbury Municipal Airport Station in Danbury, CT, approximately 16 miles northeast of the project study area.

The dominant land-uses within and surrounding the project study area included the pump house and parking area, paved roads, wetlands, residential properties, mixed forests, the overhead electric and sewer right-of-way, and Plum Brook. Dominant vegetation observed within the project study area is summarized in **Table 2**.

Table 2. Dominant Plant Species List

Scientific Name	Common Name	Indicator Status
Tree Species		
<i>Acer rubrum</i>	Red Maple	FAC
<i>Quercus rubra</i>	Northern Red Oak	FACU
<i>Salix discolor</i>	Pussy Willow	FACW
Shrub Species		
<i>Rosa multiflora</i>	Multiflora Rose	FACU
<i>Rubus phoenicolasius</i>	Wineberry	FACU
<i>Berberis thunbergii</i>	Japanese Barberry	FACU
<i>Spiraea alba</i>	White Meadowsweet	FACW
Herb Species		
<i>Alliaria petiolata</i>	Garlic Mustard	FACU
<i>Carex stricta</i>	Upright Sedge	OBL
<i>Impatiens capensis</i>	Spotted Touch-Me-Not	FACW
<i>Phragmites australis</i>	Common Reed	FACW
<i>Symplocarpus foetidus</i>	Skunk Cabbage	OBL
Vine Species		
<i>Lonicera japonica</i>	Japanese Honeysuckle	FACU

6.1 Waterbodies & Wetlands

During the field investigation, one (1) palustrine wetland complex was delineated within the project study area and flagged in the field. One (1) additional wetland, Wetland 2, was identified on the eastern extent of the action area but was not delineated with a soil pit as it was within the bog turtle action area and would not be affected by the project. Based upon field observations, the

area was assumed to meet hydric soil, hydrophytic vegetation, and wetland hydrology indicators. Delineated wetlands are listed in **Table 3** with their respective delineated area, Cowardin Classification, hydrogeomorphic (HGM) wetland classification, and Ecological Community of New York State. Wetland boundaries were mapped and are presented in **Appendix A**. Photographs were taken of the wetlands and are provided in **Appendix B**. The Wetland Determination Data Forms are provided in **Appendix C**.

Table 3. Delineated Wetland Resource Summary

Wetland ID	Area (acre)	Cowardin Classification	HGM Wetland Classification	Ecological Community
Wetland 1	2.54+	PFO/PSS/PEM	Riverine lower perennial	Floodplain forest, Shrub swamp
Wetland 2	0.005	PEM	Depression, human impounded	Palustrine emergent

6.2 Waterways

During the field investigation, no waterways were delineated within the project study area, however, two (2) waterways were identified and delineated within the action area. Plum Brook and its unnamed tributary (Stream 2), were confirmed as a perennial and ephemeral (respectively) waterways during the investigation.

Stream 1 - (Plum Brook), perennial, 330+ linear feet*

Stream 1 was identified in the field immediately in the southeast portion of the action area. Stream 1 flows from the wetland complex (Wetland 1) off site to the southeast.

Channel Width	Bank Height	Water Depth	Substrate
12 feet	1-2 feet	24 inches	Silt, Cobble, Boulder, Woody Debris

**Length in linear feet represents delineated length, "+" indicates that the resource continues off-site*

Stream 2 – (UNT to Plum Brook), ephemeral, 28 linear feet

Stream 2 was identified within the western extent of the action area. Hydrology was provided to the stream through a stormwater pipe coming from an adjacent residential property. Water flows from Stream 2 into Wetland 1.

Channel Width	Bank Height	Water Depth	Substrate
3 feet	12 feet	2-3 inches	Sand, Muck, Leaf Litter

7.0 Wetland & Waterway Resource Summary

The field investigation conducted by GF on April 21, 2021, identified and delineated two (2) wetlands and two (2) waterways in conjunction with the PFAS Compliance Project F – Chateau Well . The following features were identified on mapping and/or delineated in the field:

Wetlands (Field Delineated/Identified)

- Wetland 1 – PFO/PSS/PEM wetland, 2.54+ acre
- Wetland 2 – PEM wetland, 0.005 acre

Waterways (Field Delineated)

- Stream 1 (Plum Brook) - Perennial, 330+ linear feet
- Stream 2 (UNT to Plum Brook) – Ephemeral, 28 linear feet

**Area and length in acres and linear feet represents delineated length, “+” indicates that the resource continues off-site*

8.0 References

- Brooks, R.P., M.M. Brinson, K.J. Havens, C.S. Hershner, R.D. Rheinhardt, D.H. Wardrop, D.F. Whigham, A.D. Jacobs, and J.M. Rubbo. 2011. *Proposed hydrogeomorphic classification for wetlands of the Mid-Atlantic Region, USA*. *Wetlands* 31(2):207-219.
- Brown, L. 1979. *Grasses: An Identification Guide*. Houghton Mifflin Company; Boston, New York, London.
- Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, D.C.
- Edinger, et al. 2014. *Ecological Communities of New York State: Second Edition*. New York Natural Heritage Program, Albany, NY.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS. Technical Report Y-87-1.
- Munsell. 2015. *Munsell Soil Color Charts*, 2009 Year Revised. Munsell Color, x-rite. 4300 44th Street, Grand Rapids, MI 49512.
- Newcomb, Lawrence. 1977. *Newcomb's Wildflower Guide*. Little, Brown and Company.
- New York State Museum (NYSM). 1989. *Surficial Geologic Map of New York: Lower Hudson Sheet*. Map prepared by the New York State Geological Survey.
- New York State Museum (NYSM). 1995. *Geologic Map of New York: Lower Hudson Sheet*. Map prepared by the New York State Geological Survey.
- New York State Museum (NYSM). 1995. *Physiographic Provinces of New York*, adapted from 1946 version. Map prepared by the New York State Geological Survey.
- Petrides, George A. 1986. *A Field Guide to Trees and Shrubs*. New York: Houghton Mifflin Co.
- U.S. Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*. ERDC/EL TR-12-9. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center.
- United States Department of Agriculture - Natural Resources Conservation Service. 2010. *Field Indicators of Hydric Soils in the United States*, Version 7.0. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.
- U.S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4. <http://wetland-plants.usace.army.mil/>. U.S. Army Corps of Engineers, Engineer Research

and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH.

U.S. Department of Agriculture - Natural Resources Conservation Service. 2019 Web Soil Survey. Accessed April 3, 2020. <http://websoilsurvey.nrcs.usda.gov/app/>

U.S. Fish and Wildlife Service. National Wetlands Inventory NWI Wetlands Online Mapper. Accessed April 3, 2020. <http://www.fws.gov/wetlands/Data/mapper.html>

U.S. Geological Survey. 2013. Topographic Map 7.5' Quadrangle, Croton Falls, New York.

U.S. Geological Survey. 2013. Topographic Map 7.5' Quadrangle, Mohegan Lake, New York.

Weather Underground. 2021. “*Danbury, CT Weather History.*” Available online at <https://www.wunderground.com/>. Accessed April 28, 2021.

9.0 List of Contributors

Jillian Arnold, Senior Environmental Scientist

36-Hour Swamp School Wetland Delineation & Regional Supplement Training

Society of Wetland Scientists, Professional Wetland Scientist (PWS) #2736

PennDOT Phase I Bog Turtle Habitat Evaluation Training

Professional Experience: 17 years

Education: B.S., Geoenvironmental Studies, GIS Certificate

M.S., Biology



Corey W. Myers, Project Environmental Scientist

36-Hour Rutgers University Wetland Delineator Certification Program

40-Hour OSHA Hazardous Waste Operations and Emergency Response Certification

Wetland Delineation, Wetland Training Institute

Ohio Rapid Assessment Methodology for Wetlands Training, MBI

Primary Headwater Habitat Training, MBI

Professional Experience: 10 years

Education: B.S., Environmental Technology Management

Steven Smith, Senior Environmental Scientist: (Level 2 Review)

38 Hour U.S. Army Corps of Engineers Wetland Delineator Certification Training Program

Society of Wetland Scientists, Wetland Profession In Training

PennDOT Phase I Bog Turtle Habitat Evaluation Training

Professional Experience: 21 years

Education: B.S. Geoenvironmental Studies

Clayton D. Frey, Environmental Scientist (Level 1 Review)

36-Hour Swamp School Wetland Delineation and Regional Supplement Training

24-Hour OSHA Hazardous Waste Operations and Emergency Response Certification

Professional Experience: 3 years

Education: B.S., Wildlife and Fisheries Science

Kayla Briggs, Environmental Scientist

ESRI MOOC Do it Yourself Geo Apps (6-Week Course)

ESRI Web Courses and Online Training Seminars

Professional Experience: 11 years

Education: B.S., Geoenvironmental Studies, GIS Certificate

APPENDIX A

WETLANDS AND WATERWAYS MAPPING



WETLANDS AND WATERWAYS MAPPING

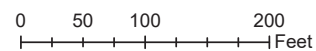
SUEZ Water New York, Inc.
PFAS Compliance Project F - Chateau Well

Town of Carmel,
Putnam County, NY

Legend	
 	Project Study Area
 	Action Area
	Delineation Data
●	Test Pits
●	Flag Locations
~	Stream
~	Wetland Boundary
Wetland Type	
	PEM
	PFO
	PSS



SCALE: 1 in = 100 ft



APPENDIX B

SITE PHOTOGRAPHS AND

PHOTOGRAPH LOCATION MAP



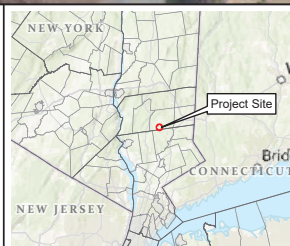
PHOTOGRAPH LOCATION MAP

SUEZ Water New York, Inc.
PFAS Compliance Project F - Chateau Well

Town of Carmel,
Putnam County, NY

Legend

- Photo Location
- Action Area
- Project Study Area
- Delineation Data
- Test Pits
- Flag Locations
- Stream
- Wetland Boundary
- Wetland Type
- PEM
- PFO
- PSS



Gannett Fleming

SCALE: 1 in = 100 ft

0 50 100 200 Feet

Appendix B – Site Photographs



Photograph 1: Overview of test pit SP-W1A, recorded within the PFO portion of Wetland 1. (facing north; 4/21/2021)



Photograph 2: Overview of the PSS portion of the Wetland 1 complex documented by test pit SP-W1B. (facing southwest; 4/21/2021)

Appendix B – Site Photographs



Photograph 3: Overview of SP-W1C, a wetland test pit recorded within a PFO portion of Wetland 1. (facing west; 4/21/2021)



Photograph 4: Overview of SP-W1, the wetland test recorded within the PEM portion of the complex. The PEM habitat comprises a majority of the wetland area. (facing north; 4/21/2021)

Appendix B – Site Photographs



Photograph 5: Overview of Wetland 1 taken near the PFO/PEM wetland boundary east of the project study area. (facing north; 4/21/2021)



Photograph 6: Overview of Wetland 1 from the eastern edge of the complex. (facing west; 4/21/2021)

Appendix B – Site Photographs



Photograph 7: Overview of Wetland 2, a PEM resource located adjacent to Stream 1 (Plum Brook). Wetland 2 was identified within the action area. (facing south; 4/21/2021)



Photograph 8: Stream 1, Plum Brook, looking upstream toward the Wetland 1 complex. Stream 1 drains south out of Wetland 1. (facing north; 4/21/2021)

Appendix B – Site Photographs



Photograph 9: Looking downstream at perennial Stream 1, Plum Brook, as it flows south through the action area. The stream was bordered by forested uplands on both banks. (facing southeast; 4/21/2021)



Photograph 10: Overview of ephemeral Stream 2 as it flows into Wetland 1 at its western extent. The stream flows from a culvert within the action area. View is upstream. (facing west; 4/21/2021)

Appendix B – Site Photographs



Photograph 11: Looking downstream at Stream 2 as it flows into Wetland 1 and dissipates. (facing east; 4/21/2021)



Photograph 12: Overview of the existing structure and parking area at the Chateau site. (facing southwest; 4/21/2021)

Appendix B – Site Photographs



Photograph 13: Driveway entrance to the Chateau site off of McNair Drive. (facing north; 4/21/2021)



Photograph 14: Looking upslope at the portion of the action area along McNair Drive. (facing south; 4/21/2021)

Appendix B – Site Photographs



Photograph 15: Overview of a typical residential property located within the action area of the Chateau site. (facing southwest; 4/21/2021)



Photograph 16: Existing access path to the Chateau wells from the driveway off of McNair Drive. (facing south; 4/21/2021)

APPENDIX C

WETLAND FIELD DATA FORMS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chateau Well City/County: Putnam County Sampling Date: 04/21/2021
 Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-W1
 Investigator(s): J.Arnold PWS 2736, C.Myers Section, Township, Range: Town of Carmel
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1-2
 Subregion (LRR or MLRA): LRR R Lat: 41° 21' 25.264" N Long: 73° 44' 21.825" W Datum: NAD83
 Soil Map Unit Name: Natchaug and Catden mucks, ponded, 0 to 2 percent slopes (NdA) NWI classification: PEM1/SS1Ed

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 1</u>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: (Explain alternative procedures here or in a separate report.)		
<p>Wetland 1 is palustrine emergent (PEM) wetland.</p>		

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>16</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-W1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>10</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Rosa palustris</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>0</u> (A)	<u>0</u> (B)																	
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>10</u> = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Lemna minor</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Phragmites australis</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Typha angustifolia</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
4. <u>Carex stricta</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
5. <u>Filipendula ulmaria</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>75</u> = Total Cover																		
Woody Vine Stratum (Plot size: _____)																		
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: SP-W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | | | |
|-------------------------------------|--|--------------------------|---|
| <input type="checkbox"/> | Histosol (A1) | <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR R, |
| <input type="checkbox"/> | Histic Epipedon (A2) | MLRA 149B) | |
| <input type="checkbox"/> | Black Histic (A3) | <input type="checkbox"/> | Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> | Hydrogen Sulfide (A4) | <input type="checkbox"/> | Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> | Stratified Layers (A5) | <input type="checkbox"/> | Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> | Depleted Below Dark Surface (A11) | <input type="checkbox"/> | Depleted Matrix (F3) |
| <input type="checkbox"/> | Thick Dark Surface (A12) | <input type="checkbox"/> | Redox Dark Surface (F6) |
| <input type="checkbox"/> | Sandy Mucky Mineral (S1) | <input type="checkbox"/> | Depleted Dark Surface (F7) |
| <input type="checkbox"/> | Sandy Gleyed Matrix (S4) | <input type="checkbox"/> | Redox Depressions (F8) |
| <input type="checkbox"/> | Sandy Redox (S5) | | |
| <input type="checkbox"/> | Stripped Matrix (S6) | | |
| <input checked="" type="checkbox"/> | Dark Surface (S7) (LRR R, MLRA 149B) | | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soils were met by dark surface.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chateau Well City/County: Putnam County Sampling Date: 04/21/2021
 Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-W1A
 Investigator(s): J.Arnold PWS 2736, C.Myers Section, Township, Range: Town of Carmel
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0-2
 Subregion (LRR or MLRA): LRR R Lat: 41° 21' 24.415" N Long: 73° 44' 24.579" W Datum: NAD83
 Soil Map Unit Name: Catden muck, 0 to 2 percent slopes (Ce) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		If yes, optional Wetland Site ID: <u>Wetland 1A</u>	
Remarks: (Explain alternative procedures here or in a separate report.)					
This portion of the wetland is a palustrine forested (PFO) habitat.					

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)			
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>			Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-W1A

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Salix discolor</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>30</u>	= Total Cover															
Sapling/Shrub Stratum (Plot size: _____)																		
1. _____	_____	_____	_____	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>0</u> (A)	<u>0</u> (B)																	
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Carex stricta</u>	<u>3</u>	<u>N</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Scirpus cyperinus</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Onoclea sensibilis</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>															
4. <u>Symplocarpus foetidus</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>23</u>	= Total Cover															
Woody Vine Stratum (Plot size: _____)																		
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: SP-W1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input checked="" type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soils were met with dark surface indicator.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chateau Well City/County: Putnam County Sampling Date: 04/21/2021
 Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-W1B
 Investigator(s): J.Arnold PWS 2736, C.Myers Section, Township, Range: Town of Carmel
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0-2
 Subregion (LRR or MLRA): LRR R Lat: 41° 21' 25.394" N Long: 73° 44' 24.760" W Datum: NAD83
 Soil Map Unit Name: Catden muck, 0 to 2 percent slopes (Ce) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		If yes, optional Wetland Site ID: <u>Wetland 1B</u>	
Remarks: (Explain alternative procedures here or in a separate report.)					
This portion of Wetland 1 was a palustrine forested (PFO) section.					

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<u>NA</u>
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<u>10</u>
Saturation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<u>0</u>
(includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-W1B

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status																
1. <u>Salix discolor</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>83.33</u> (A/B)															
2. <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>																
3. <u>Ulmus rubra</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>																
4. _____	_____	_____	_____																
5. _____	_____	_____	_____																
6. _____	_____	_____	_____																
7. _____	_____	_____	_____																
			<u>45</u>	= Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																		
OBL species _____	x 1 = <u>0</u>																		
FACW species _____	x 2 = <u>0</u>																		
FAC species _____	x 3 = <u>0</u>																		
FACU species _____	x 4 = <u>0</u>																		
UPL species _____	x 5 = <u>0</u>																		
Column Totals: <u>0</u> (A)	<u>0</u> (B)																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																			
1. <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>																
2. _____	_____	_____	_____																
3. _____	_____	_____	_____																
4. _____	_____	_____	_____																
5. _____	_____	_____	_____																
6. _____	_____	_____	_____																
7. _____	_____	_____	_____																
			<u>5</u>	= Total Cover															
Herb Stratum (Plot size: <u>5'</u>)																			
1. <u>Carex stricta</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.															
2. <u>Symplocarpus foetidus</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>																
3. <u>Poa pratensis</u>	<u>2</u>	<u>N</u>	<u>FACU</u>																
4. _____	_____	_____	_____																
5. _____	_____	_____	_____																
6. _____	_____	_____	_____																
7. _____	_____	_____	_____																
8. _____	_____	_____	_____																
9. _____	_____	_____	_____																
10. _____	_____	_____	_____																
11. _____	_____	_____	_____																
12. _____	_____	_____	_____																
			<u>12</u>	= Total Cover															
Woody Vine Stratum (Plot size: _____)																			
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>															
2. _____	_____	_____	_____																
3. _____	_____	_____	_____																
4. _____	_____	_____	_____																
			<u>0</u>	= Total Cover															

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-W1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input checked="" type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input checked="" type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil indicator was met with dark surface.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chateau Well City/County: Putnam County Sampling Date: 04/21/2021
 Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-U1
 Investigator(s): J.Arnold PWS 2736, C.Myers Section, Township, Range: Town of Carmel
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 0-2
 Subregion (LRR or MLRA): LRR R Lat: 41° 21' 23.865" N Long: 73° 44' 25.481" W Datum: NAD83
 Soil Map Unit Name: Catden muck, 0 to 2 percent slopes (Ce) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
If yes, optional Wetland Site ID: _____					
Remarks: (Explain alternative procedures here or in a separate report.)					

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<u>0</u>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<u>0</u>
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<u>0</u>
(includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-U1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Gleditsia triacanthos</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20.00</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>20</u>	= Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>2</u></td> <td>x 1 = <u>2</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>87</u></td> <td>x 4 = <u>348</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>124</u> (A)</td> <td><u>485</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.91</u>	Total % Cover of:	Multiply by:	OBL species <u>2</u>	x 1 = <u>2</u>	FACW species _____	x 2 = <u>0</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>87</u>	x 4 = <u>348</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>124</u> (A)	<u>485</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>2</u>	x 1 = <u>2</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species <u>20</u>	x 3 = <u>60</u>																	
FACU species <u>87</u>	x 4 = <u>348</u>																	
UPL species <u>15</u>	x 5 = <u>75</u>																	
Column Totals: <u>124</u> (A)	<u>485</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Rosa multiflora</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Elaeagnus umbellata</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>35</u>	= Total Cover															
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Rosa multiflora</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
2. <u>Plantago major</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
3. <u>Symplocarpus foetidus</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
4. <u>Alliaria petiolata</u>	<u>35</u>	<u>Y</u>	<u>FACU</u>															
5. <u>Petiolata indica</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
6. <u>Solidago altissima</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>69</u>	= Total Cover															
Woody Vine Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															
Remarks: (Include photo numbers here or on a separate sheet.)																		

Hydrophytic Vegetation Indicators:
☐ Rapid Test for Hydrophytic Vegetation
☐ Dominance Test is >50%
☐ Prevalence Index is ≤3.0¹
☐ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

SOIL

Sampling Point: SP-U1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12+

Hydric Soil Present? Yes ☒ No ☐

Remarks:



















Hydric soils were met with depleted matrix. Based on the proximity to the wetland and the high ground water table within the wetland this is typical.

SWNY PFAS Compliance											
ID	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names
1		1	SWNY PFAS Compliance	384 days?	Wed 3/31/21	Mon 10/10/22		8%	Wed 3/31/21	NA	
2		2	D/B Contract Notice to Proceed	1 day	Mon 4/5/21	Mon 4/5/21		100%	Mon 4/5/21	Mon 4/5/21	
3		3	Maintain Secure Project Website	365 days	Tue 4/6/21	Mon 9/19/22	2	0%	Tue 4/6/21	NA	
5		5	Design Phase	251 days?	Wed 3/31/21	Fri 4/1/22		23%	Wed 3/31/21	NA	
54		54	Design Construction Services	345 days	Wed 3/31/21	Mon 8/15/22		0%	NA	NA	
62		62	Construction Phase	384 days	Wed 3/31/21	Mon 10/10/22		3%	Wed 3/31/21	NA	
63		63	Administration	233 days	Wed 3/31/21	Tue 3/8/22		4%	Wed 3/31/21	NA	
133		133	Construction Phase	229 days	Mon 11/8/21	Mon 10/10/22	65,66,67,68,78,83	0%	Mon 11/8/21	NA	
134		134	Survey-Establish Control	1 day	Mon 3/7/22	Mon 3/7/22	50	0%	Mon 3/7/22	NA	
135		135	Test Pit and Verify 6" OD for Tapping Sleeve	1 day	Mon 11/8/21	Mon 11/8/21	50	0%	NA	NA	
136		136	Mobilization	2 days	Mon 3/7/22	Tue 3/8/22	53	0%	Mon 3/7/22	NA	
137		137	Erosion Control	3 days	Wed 3/9/22	Fri 3/11/22	136	0%	NA	NA	
138		138	Site Clearing of Existing Trees/Brush	3 days	Mon 3/14/22	Wed 3/16/22	137	0%	NA	NA	
139		139	Strip Topsoil	3 days	Thu 3/17/22	Mon 3/21/22	138	0%	NA	NA	
140		140	Site Grading	3 days	Tue 3/22/22	Thu 3/24/22	139	0%	NA	NA	
141		141	Install fill	1 day	Fri 3/25/22	Fri 3/25/22	140	0%	NA	NA	
142		142	Install Stone Base for Access Road	3 days	Fri 3/25/22	Tue 3/29/22	140	0%	NA	NA	
143		143	Exterior Piping	116 days	Wed 4/6/22	Mon 9/19/22		0%	NA	NA	
144		144	Install 6" DIP Influent Piping into building including Tapping 6" Main	2 days	Wed 4/6/22	Thu 4/7/22	142,155FF+1 day,119,120	0%	NA	NA	
145		145	Install 6" DIP Effluent Piping into building including Tapping 6" Main	1 day	Fri 4/8/22	Fri 4/8/22	144	0%	NA	NA	
146		146	Install Well Pumps	5 days	Fri 8/5/22	Thu 8/11/22	122,152	0%	NA	NA	
147		147	Chlorinate, Pressure Test and Flush/DOH Approval	10 days	Fri 9/2/22	Fri 9/16/22	175	0%	NA	NA	
148		148	Cut & Cap 6" Main After Tie In	1 day	Mon 9/19/22	Mon 9/19/22	147	0%	NA	NA	
149		149	Install 6" DIA Seepage Pit	1 day	Thu 6/23/22	Thu 6/23/22	153	0%	NA	NA	
150		150	Electric	84 days	Thu 4/7/22	Thu 8/4/22		0%	NA	NA	
151		151	Excavate and Install Underground Electric Feed into building	3 days	Thu 4/7/22	Mon 4/11/22	155	0%	NA	NA	
152		152	Install Electrical Appurtenances	30 days	Thu 6/23/22	Thu 8/4/22	166	0%	NA	NA	
153		153	Building/Superstructure	60 days	Wed 3/30/22	Wed 6/22/22		0%	NA	NA	
154		154	Excavate for Building Footings	1 day	Wed 3/30/22	Wed 3/30/22	142	0%	NA	NA	
155		155	Form, Install Rebar and Pour Footings for Building	5 days	Thu 3/31/22	Wed 4/6/22	154	0%	NA	NA	
156		156	Form, Install Rebar and Pour Foundation Wall for Building	5 days	Tue 4/12/22	Mon 4/18/22	155,151,145	0%	NA	NA	
157		157	Form, Install Rebar and Pour Foundation Wall with Integral Piers for Building	6 days	Tue 4/19/22	Tue 4/26/22	156	0%	NA	NA	
158		158	Backfill Footings	1 day	Wed 4/27/22	Wed 4/27/22	157	0%	NA	NA	
159		159	Install GAC Equipment Pad	4 days	Thu 4/28/22	Tue 5/3/22	158	0%	NA	NA	
160		160	Plumbing-Install Floor Drains	3 days	Wed 5/4/22	Fri 5/6/22	159	0%	NA	NA	
161		161	Install Stone Base for Slab on Grade	1 day	Mon 5/9/22	Mon 5/9/22	160	0%	NA	NA	
162		162	Install Slab on Grade	5 days	Tue 5/10/22	Mon 5/16/22	161	0%	NA	NA	
163		163	Sawcut Control Joints	1 day	Tue 5/17/22	Tue 5/17/22	162	0%	NA	NA	
164		164	Install Equipment Pads- Form, Rebar, Pour, Strip and Rub	3 days	Wed 5/18/22	Fri 5/20/22	163	0%	NA	NA	
165		165	Install Filter Pads- Form, Rebar, Pour, Strip and Rub	3 days	Mon 5/23/22	Wed 5/25/22	164	0%	NA	NA	
166		166	Installation of Pre-Engineered Building	25 days	Wed 5/18/22	Wed 6/22/22	163	0%	NA	NA	
167		167	Chemical Feed System	4 days	Thu 6/23/22	Tue 6/28/22		0%	NA	NA	
168		168	Install Piping for Sodium Hypo and Phosphoric	4 days	Thu 6/23/22	Tue 6/28/22	166	0%	NA	NA	
169		169	Treatment Equipment	20 days	Thu 6/9/22	Thu 7/7/22		0%	NA	NA	
170		170	Install 8" DIA GAC Equipment	2 days	Thu 6/9/22	Fri 6/10/22	166FS-10 days	0%	NA	NA	
171		171	Install Filters	1 day	Thu 6/23/22	Thu 6/23/22	166,170	0%	NA	NA	

Note: ?" stands for approximate estimate

Page 1 of 2

Note: ?" stands for approximate estimate

SWNY PFAS Project F-Chateau											
ID	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names
172		172	Install Influent, Effluent and Wastewater Flanged Piping	7 days	Thu 6/23/22	Fri 7/1/22	166,170	0%	NA	NA	
173		173	Install Pipe Supports	3 days	Tue 7/5/22	Thu 7/7/22	172	0%	NA	NA	
174		174	Instrumentation	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
175		175	Install Instrumentation Appurtenances	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
176		176	Building HVAC Work	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
177		177	Install HVAC	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
178		178	Painting/Coating	5 days	Fri 7/8/22	Thu 7/14/22		0%	NA	NA	
179		179	Paint Interior Piping	5 days	Fri 7/8/22	Thu 7/14/22	169	0%	NA	NA	
180		180	Site Work	15 days	Fri 7/8/22	Thu 7/28/22		0%	NA	NA	
181		181	Install Site Civil-Gravel Turnaround and Landscaping	15 days	Fri 7/8/22	Thu 7/28/22	173	0%	NA	NA	
182		182	Start Up and Testing	10 days	Mon 9/19/22	Fri 9/30/22		0%	NA	NA	
183		183	Start up and Test Equipment and Instrumentation	10 days	Mon 9/19/22	Fri 9/30/22	147,152	0%	NA	NA	
184		184	Substantial Completion	1 day	Mon 10/3/22	Mon 10/3/22	182	0%	NA	NA	
185		185	DOH Review and Approval	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
186		186	In Service	0 days	Mon 10/10/22	Mon 10/10/22	185	0%	NA	NA	
187		187	Demobilization	5 days	Tue 10/4/22	Mon 10/10/22		0%	NA	NA	
188		188	Cleanup/Demobilization	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
189		189	Final Completion	0 days	Mon 10/10/22	Mon 10/10/22	188,186	0%	NA	NA	

Page 2 of 2

4. The hydrology and the hydraulics study for this project have been undertaken to examine the pre and post construction drainage conditions. The study provides the impact of the proposed impervious area to the drainage system. To attenuate the post-development peak flow to pre-development peak flow we are proposing a rain garden system. The rain garden system is design per NYSDEC's stormwater management design manual. The drainage system consists of pipes, stone outlet, stone spillway, and a rain garden system. The system it's an above ground practice and is design to store 646 cu.ft.. The ponding depth of the system is 6 inches and in order to address the overflow a stone spillway has been proposed. In addition, a list of the approved rain garden landscaping has been provided. Please refer to the site plan (dwg. no 1) and the grading plan (dwg. no 3).

5. The erosion and sediment control measures to be used on the site during the proposed work include silt fences and a construction entrance. In addition, disturbed portions of the site where construction activities permanently cease shall be stabilized no later than 14 days after the last construction activity. The Erosion and Sediment Control (E&SC) Plan is prepared per NYS Standards and Specifications for Erosion and Sediment Control. Please refer to the erosion and sediment control plan (dwg. no 4).

6. Stormwater runoff generated by the proposed site improvement will be routed to the rain garden system in order to provide zero net increase of peak runoff. The rain garden system is design to provide peak flow attenuation up to 100-year storm peak runoff. The rain garden system is design per NYSDEC's stormwater management design manual.

Ramya Ramanathan

From: Liskovich, Sophia Z. <sliskovich@GFNET.com>
Sent: Thursday, January 27, 2022 9:27 AM
To: Ramya Ramanathan
Subject: FW: 3-3720-00470/00001 > Chateau Well

DEC's comments on Chateau

Sophia Liskovich, PE | Project Manager
Gannett Fleming, Inc. | 7133 Rutherford Road
t 410-907-2682 | c 856-296-3636 | sliskovich@gfnet.com

From: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Sent: Friday, November 12, 2021 10:52 AM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>; Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Subject: RE: 3-3720-00470/00001 > Chateau Well

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Jillian,

The technical review is complete and program staff had the following comments.

- It is unclear what the width of the gravel driveway is. The driveway should be the minimum width necessary.
- Is it possible to plant some shrubs behind the PFAS building and gravel drive to act as a small buffer to the wetland?

Please let me know if you have any questions.

Alysse Devine

Environmental Analyst, Division of Environmental Permits
New York State Department of Environmental Conservation
21 South Putt Corners Rd, New Paltz, NY 12561
P: (845) 240-7806 | alysse.devine@dec.ny.gov
www.dec.ny.gov |  |  | 



From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Friday, October 8, 2021 3:10 PM
To: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Subject: RE: 3-3720-00470/00001 > Chateau Well

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Alysse,

The long forms were completed. They are attached to this email. Please let me know if these are not sufficient.

Thanks,
Jillian

From: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Sent: Friday, October 8, 2021 2:05 PM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>; Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Subject: 3-3720-00470/00001 > Chateau Well

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Afternoon,

Could you please provide the [Short Environmental Assessment Form Part I](#)?

Alysse Devine

Environmental Analyst, Division of Environmental Permits
New York State Department of Environmental Conservation
21 South Putt Corners Rd, New Paltz, NY 12561
P: (845) 240-7806 | alysse.devine@dec.ny.gov
www.dec.ny.gov |  |  | 



From: Devine, Alysse (DEC)
Sent: Wednesday, October 6, 2021 3:00 PM
To: 'Arnold, Jillian N.' <jarnold@GFNET.com>
Cc: dec.sm.DEP.R3 <DEP.R3@dec.ny.gov>; Petronella, John W (DEC) <john.petronella@dec.ny.gov>; Pawliczak, Sarah A (DEC) <sarah.pawliczak@dec.ny.gov>; 'Smith, Steven C.' <scsmith@GFNET.com>; 'Liskovich, Sophia Z.' <sliskovich@GFNET.com>; Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Subject: RE: SUEZ Joint Permit Applications for Archer, London Bridge and Chateau

Good Afternoon,

I was able to access the files. These applications have been received and assigned the following DEC IDs:

Archer Well – 3-3720-00471/00001
London Bridge Well – 3-3720-00469/00001
Chateau Well – 3-3720-00470/00001

We will review the documents and let you know if we have any questions moving forward.

Alysse Devine

Environmental Analyst, Division of Environmental Permits
New York State Department of Environmental Conservation

21 South Putt Corners Rd, New Paltz, NY 12561

P: (845) 240-7806 | alysse.devine@dec.ny.gov

www.dec.ny.gov |  |  | 



From: Arnold, Jillian N. <jarnold@GFNET.com>

Sent: Wednesday, October 6, 2021 2:36 PM

To: dec.sm.DEP.R3 <DEP.R3@dec.ny.gov>; Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>

Cc: Petronella, John W (DEC) <john.petronella@dec.ny.gov>; Pawliczak, Sarah A (DEC) <Sarah.Pawliczak@dec.ny.gov>; Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>

Subject: SUEZ Joint Permit Applications for Archer, London Bridge and Chateau

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Good afternoon,

I copied everyone from the email sent to Steve Smith requesting the electronic versions of the Archer, Chateau and London Bridge Joint Permit Applications. I sent this link to the regional email address and hope that is not too redundant or causes confusion.

The file sizes on each pdf is large making emailing cumbersome. Here is the link to download the 3 Joint Permit Applications.

Download Link: [SUEZ - Archer, Chateau and London Bridge JPA Packages](#)

Please let me know if there are any restrictions with accessing the link above.
Any additional questions, please do not hesitate to let us know.

Thank you,
Jill

Jillian Arnold, PWS | Senior Environmental Scientist
Gannett Fleming | 207 Senate Avenue, Camp Hill, PA 17011
t **717.886.5402** | c 717.422.6229 | jarnold@gfnet.com

Excellence Delivered As Promised

Gannett Fleming is ISO 9001:2008 Certified.

www.gannettfleming.com | Stay connected: [Twitter](#) | [Facebook](#) | [LinkedIn](#) | [YouTube](#)

PRINTING SUSTAINABILITY STATEMENT: Gannett Fleming is committed to conserving natural resources and minimizing adverse environmental impacts in projects. Accordingly, project documentation will be provided in electronic format only unless clients specifically request hard copies. Visit our [website](#) to read more about our sustainability commitment.

CONFIDENTIALITY NOTICE: This email and any attachments may contain confidential information for the use of the named addressee. If you are not the intended recipient, you are hereby notified that you have received this communication in error and that any review, disclosure, dissemination, distribution or copying of it or its contents is prohibited.

Liskovich, Sophia Z.

From: Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Sent: Monday, January 10, 2022 12:24 PM
To: Arnold, Jillian N.
Cc: Smith, Steven C.; Liskovich, Sophia Z.
Subject: RE: Submission of Suez Water Permit Applications
Attachments: NWP Regulations FR 06JAN17.pdf; PN-LRB NAN Final Regional Conditions WQC CZM for NY (dated 21-MAR-2017).pdf

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Jillian,

We received the pre-construction notification for NWP 3 for the above referenced project on November 16, 2021.

Due to my excessive work load, I was unable to provide a written determination within 45 days of its submission.

In accordance with the current nationwide general permit regulations (Federal Register dated January 6, 2017, pages 1860 to 2008), if the Corps of Engineers district does not respond to a pre-construction notification within 45 days of receipt, then the applicant may proceed with the project as proposed.

That means that the applicant must perform the work as proposed in your pre-construction notification. Any substantive changes to the project would require the applicant to submit a new notification to this office.

If you have any questions, let me know.

Brian

Brian A. Orzel
Project Manager, Civil Engineer
NY District US Army Corps of Engineers
Regulatory Branch
26 Federal Plaza, Room 16-406
New York, New York 10278-0090

Please note in order to ensure our continuity of operations and improve the timeliness of permit application reviews due to the current COVID-19 virus, effective immediately, the New York District, U.S. Army Corps of Engineers is requiring that all new permit applications be submitted to the New York District electronically. Until further notice, the New York District will no longer process any paper permit applications. This electronic processing procedure will increase the efficiency of correspondence, furthering the goal of providing timely decisions. Please see the link below to the Regulatory Branch Operational Modification Special Public Notice describing the instructions for electronic application submittals:

<https://www.nan.usace.army.mil/Portals/37/docs/regulatory/publicnotices/Non%20Project%20Specific/2020/CENAN-OP-R%20PN%20Electronic%20Submission%20of%20Permit%20Applications%2027MAR2020.pdf?ver=2020-03-31-163215-913>.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, December 13, 2021 1:04 PM
To: Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Brian,

I wanted to touch base to you on the Suez projects in Putnam County. Have you been able to determine of the 5 projects (Archer, Chateau, Geymer, London Bridge and Mahopac) what nationwide permit these projects might fall under? NY DEC is currently waiting USACE's determination of the NWP in order to finalize the state permits.

Thank you very much for your time, we appreciate it!

Jillian

From: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Sent: Monday, November 15, 2021 10:24 AM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Ms. Arnold,

I have provided the Suez Water permit applications to Mr. Brian Orzel, copied on the email, who is the area project manager for Putnam County. If he has any questions on the submittal, he'll contact you.

R/ Rosie

ROSITA MIRANDA
Chief, Western Section
Regulatory Branch
USACE, New York District
Mobile: 347-446-0359

<https://www.nan.usace.army.mil/Missions/Regulatory/>

EFFECTIVE IMMEDIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: CENAN-R-Permit-App@usace.army.mil.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, November 8, 2021 12:42 PM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Good afternoon, I am following up with this email (below) from the 29th. I tried to submit the files to the site that was in the email from the 28th. However, It requested a code when I clicked the location. I know that USACE has not started reviewing these permits, and I am concerned about timeline for construction. Please let me know how I can get USACE the permits that need to be reviewed.

Thank you,
Jillian

From: Arnold, Jillian N.
Sent: Friday, October 29, 2021 7:49 AM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>
Subject: RE: Submission of Suez Water Permit Applications

Good morning Rosie,

I am happy to drop off the files for Suez to the site listed in your email, however, it is asking for a request code? Are you able to send me a drop off request? I have never delivered information to USACE this way. Sorry for all of the questions.

Thank you,
Jillian

From: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Sent: Thursday, October 28, 2021 3:12 PM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please provide the town and county so we can direct your inquiry to the right permit section.

Please use - <https://safe.apps.mil/> for file transfer.

R/ Rosie

ROSITA MIRANDA
Chief, Western Section
Regulatory Branch
USACE, New York District
Mobile: 347-446-0359

<https://www.nan.usace.army.mil/Missions/Regulatory/>

EFFECTIVE IMMEDIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: CENAN-R-Permit-App@usace.army.mil.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Thursday, October 28, 2021 12:12 PM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Could you please tell me how to submit packages to the FTP site? I have not received a response if you received the SUEZ packages for review. I do not want to lose too much time as NYSDEC is review these packages at this time.

Thank you very much for your help!
Jillian

From: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Sent: Tuesday, October 12, 2021 4:54 PM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please note that you have to use DOD Safe as the ftp site for large files.

What Town and County is this project in?

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Friday, October 8, 2021 1:02 PM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Subject: [Non-DoD Source] Submission of Suez Water Permit Applications

Good afternoon,

Please find the electronic versions of the Archer, Chateau and London Bridge Joint Permit Applications for SUEZ Water NY. These applications have been sent to NYSDEC for Joint Permit approvals. Below are the list of DEC IDs for these applications:

- Archer Well – 3-3720-00471/00001
- London Bridge Well – 3-3720-00469/00001
- Chateau Well – 3-3720-00470/00001

The file sizes on each pdf is large making emailing cumbersome. Here is the link to download the 3 Joint Permit Applications.

Download Link: [SUEZ - Archer, Chateau and London Bridge JPA Packages](#)

Please let me know if there are any restrictions with accessing the link above.

Any additional questions, please do not hesitate to let us know.

Thank you,
Jill

Jillian Arnold, PWS | Senior Environmental Scientist
Gannett Fleming | 207 Senate Avenue, Camp Hill, PA 17011
t 717.886.5402 | **c** 717.422.6229 | jarnold@gfnet.com

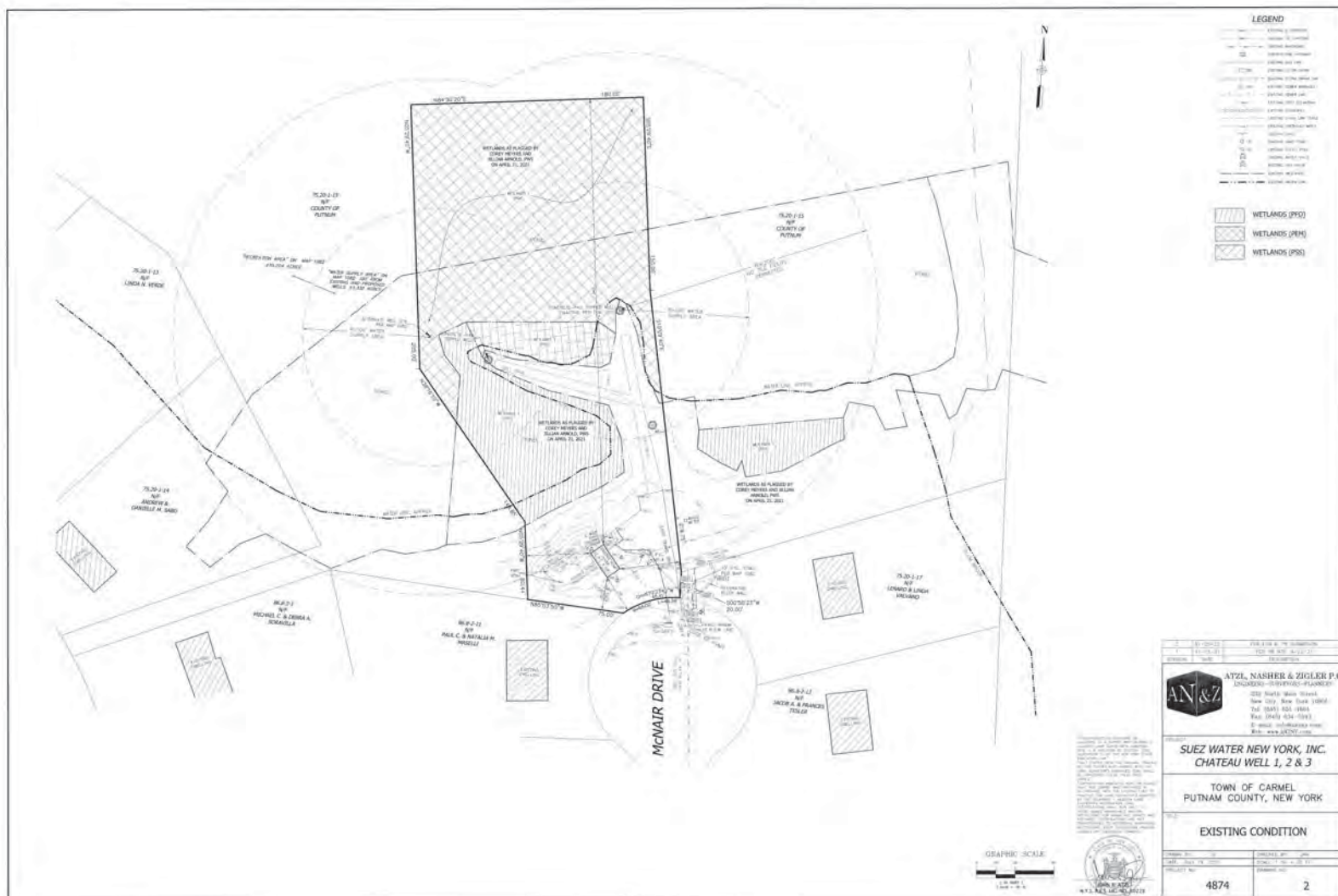
Excellence Delivered As Promised

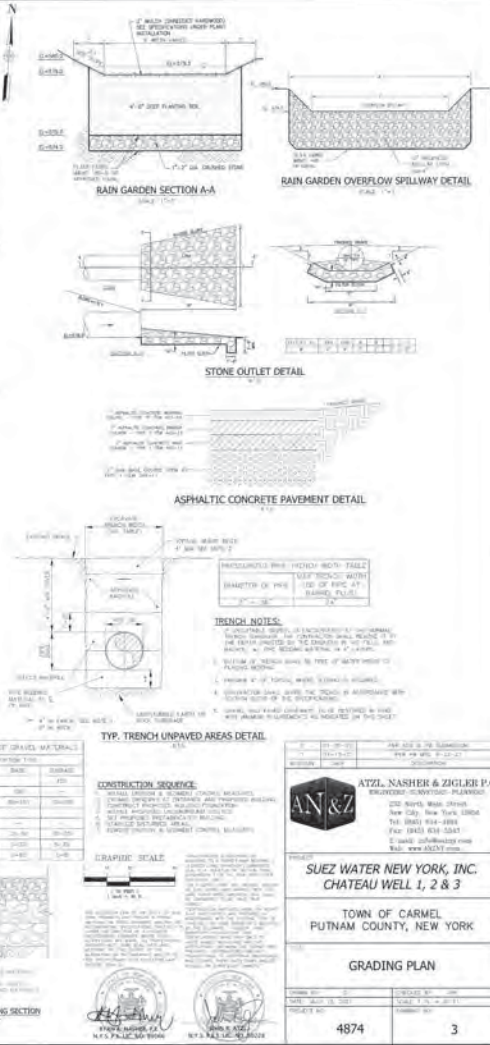
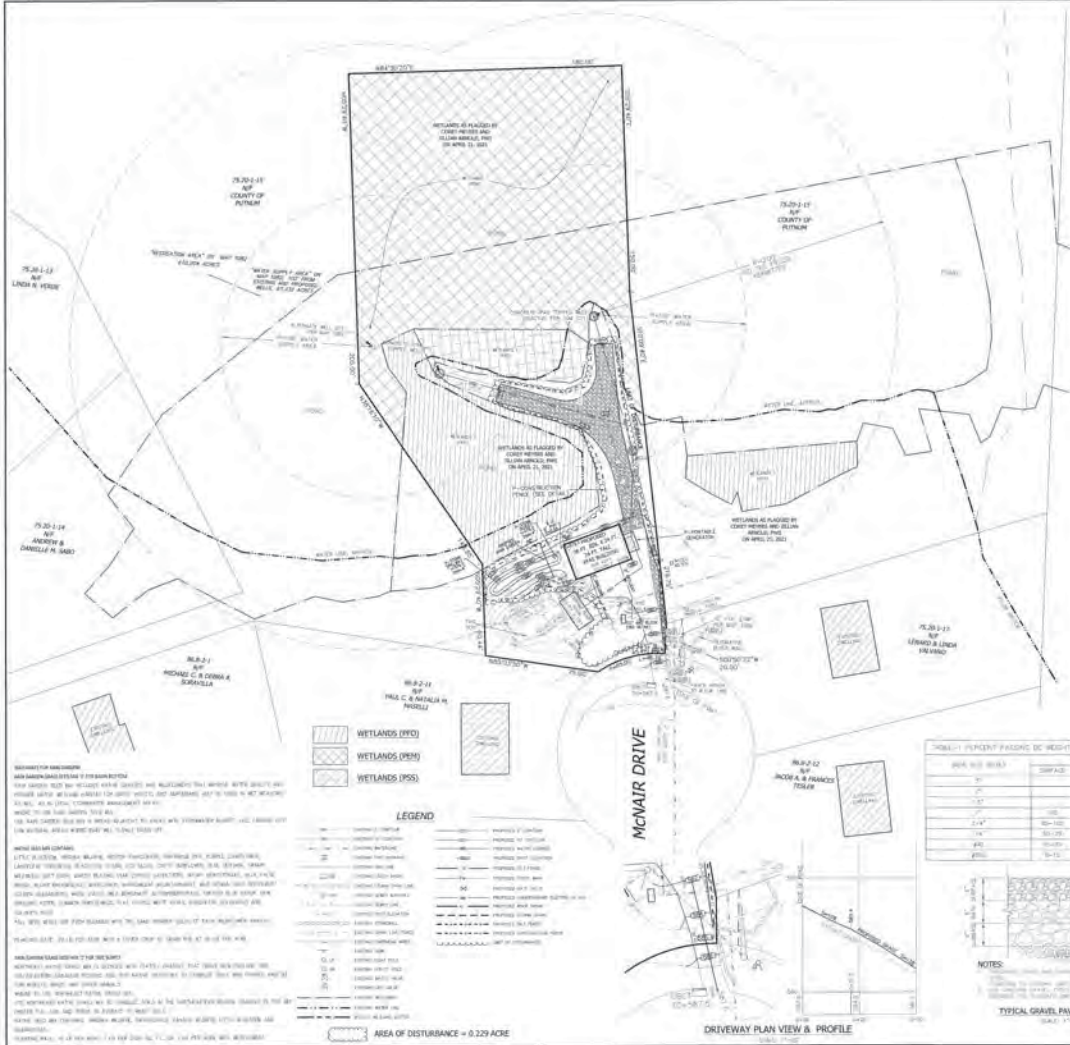
Gannett Fleming is ISO 9001:2008 Certified.

www.gannettfleming.com | Stay connected: [Twitter](#) | [Facebook](#) | [LinkedIn](#) | [YouTube](#)

PRINTING SUSTAINABILITY STATEMENT: Gannett Fleming is committed to conserving natural resources and minimizing adverse environmental impacts in projects. Accordingly, project documentation will be provided in electronic format only unless clients specifically request hard copies. Visit our [website](#) to read more about our sustainability commitment.

CONFIDENTIALITY NOTICE: This email and any attachments may contain confidential information for the use of the named addressee. If you are not the intended recipient, you are hereby notified that you have received this communication in error and that any review, disclosure, dissemination, distribution or copying of it or its contents is prohibited.





ATZL, NASHER & ZIGLER P.C.
 200 North Main Street
 New City, New York 10954
 Tel: (845) 834-8888
 Fax: (845) 834-8887
 E-mail: info@atzl.com
 Web: www.atzl.com

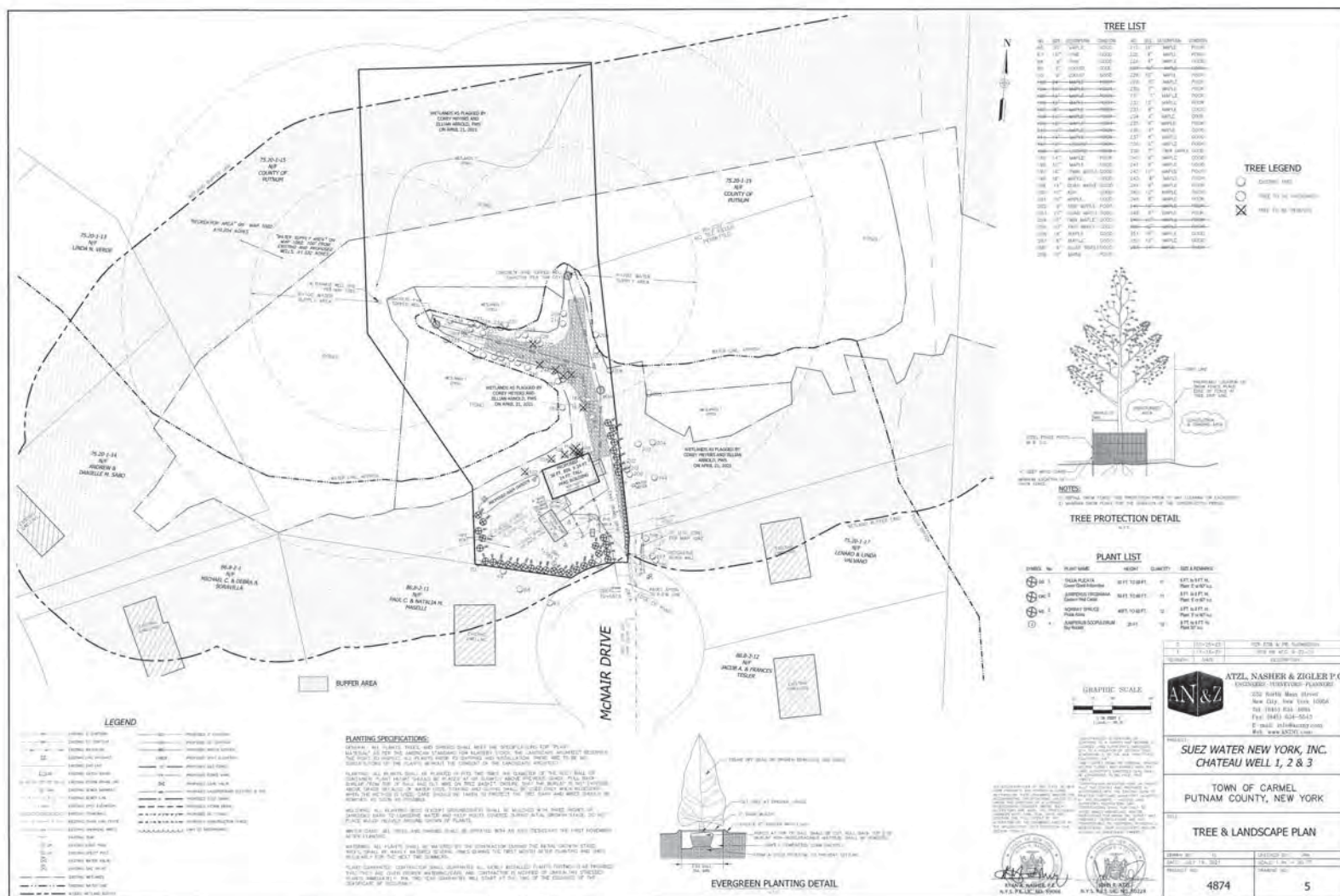
SUEZ WATER NEW YORK, INC.
 CHATEAU WELL 1, 2 & 3

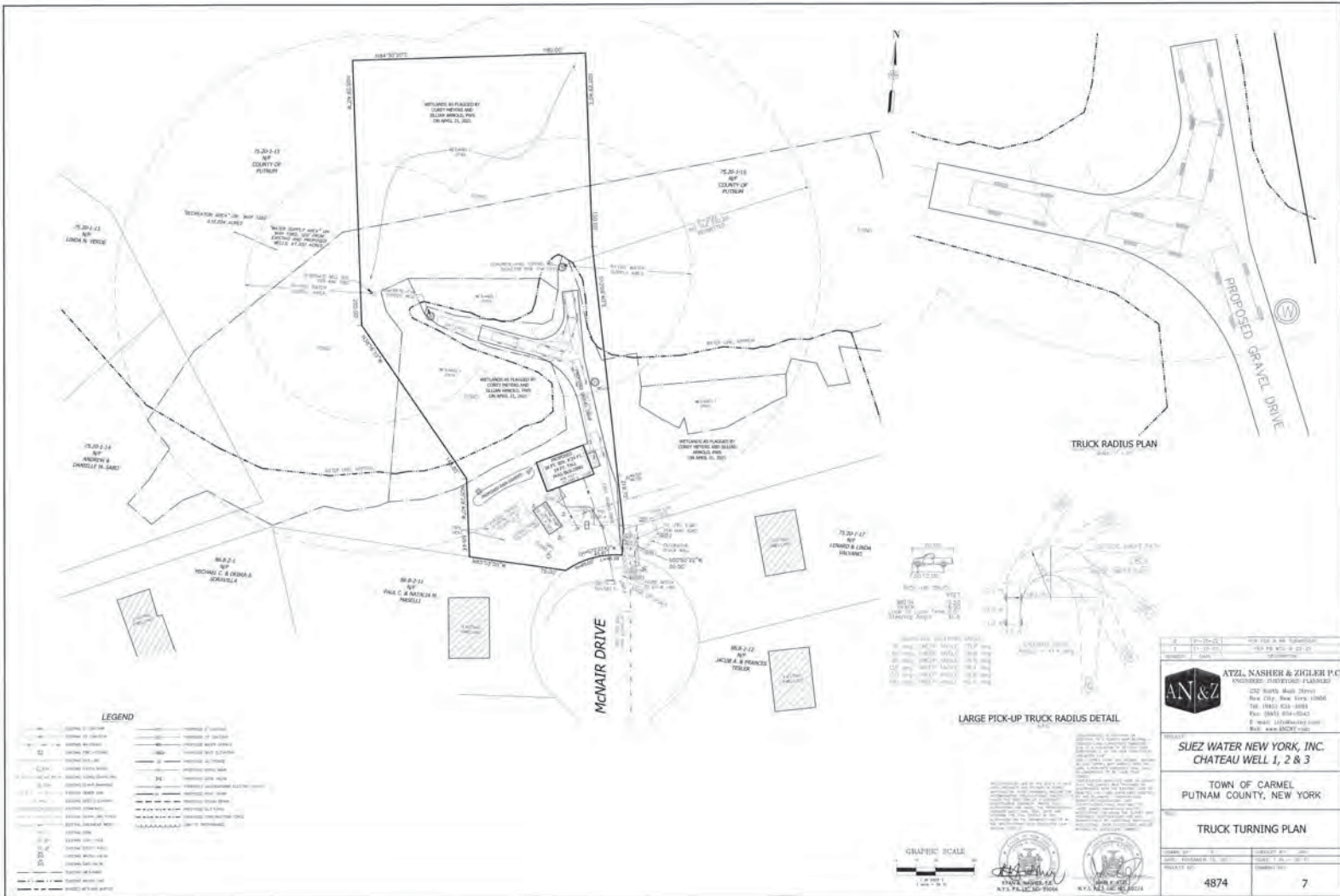
TOWN OF CARMEL
 PUTNAM COUNTY, NEW YORK

GRADING PLAN

4874

3





ROBERT LAGA
Chairman

NICHOLAS FANNIN
Vice Chairman

RICHARD FRANZETTI
Wetland Inspector

ROSE TROMBETTA
Secretary

TOWN OF CARMEL
ENVIRONMENTAL CONSERVATION BOARD



60 McAlpin Avenue
Mahopac, New York 10541
Tel. (845) 628-1500 - Ext. 190
www.ci.carmel.ny.us

BOARD MEMBERS

Edward Barnett
Anthony Federice
Nicole Sedran

APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

Name of Applicant: SUEZ Water New York, Inc

Address of Applicant: 162 Old Mill Road, West Nyack, NY 10994 Email: steven.garabed@suez.com

Telephone# 845-620-3319 Name and Address of Owner if different from Applicant:

APPLICANT IS THE SAME AS OWNER

Property Address: Coventry Circle, Mahopac, NY 10541 Tax Map # 75.20-2-68

Agency Submitting Application if Applicable: Atzl, Nasher & Zigler, P.C.

Location of Wetland: Shown on Site Plan

Size of Work Section & Specific Location: See attached description.

Will Project Utilize State Owned Lands? If Yes, Specify: No

Type and extent of work (feet of new channel, yards of material to be removed, draining, dredging, filling, etc). A brief description of the regulated activity (attach supporting details).
See attached description.

Proposed Start Date: March 2022 Anticipated Completion Date: October 2022 Fee Paid \$ 1,000

CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief, false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. As a condition to the issuance of a permit, the applicant accepts full legal responsibility for all damage, direct or indirect, or whatever nature, and by whomever suffered, arising out of the project described here-in and agrees to indemnify and save harmless the Town of Carmel from suits, actions, damages and costs of every name and description resulting from the said project.


SIGNATURE

1-26-22
DATE

Note: The Long EAF Part 1 was accepted
by the Planning Board in September 2021.
The project is classified as a Type II Action.

Full Environmental Assessment Form
Part 1 - Project and Setting

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 1 is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project:		
Project Location (describe, and attach a general location map):		
Brief Description of Proposed Action (include purpose or need):		
Name of Applicant/Sponsor:		Telephone:
		E-Mail:
Address:		
City/PO:	State:	Zip Code:
Project Contact (if not same as sponsor; give name and title/role):		Telephone:
		E-Mail:
Address:		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor):		Telephone:
		E-Mail:
Address:		
City/PO:	State:	Zip Code:

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 <input type="checkbox"/> Yes <input type="checkbox"/> No		
b. City, Town or Village Planning Board or Commission <input type="checkbox"/> Yes <input type="checkbox"/> No		
c. City, Town or Village Zoning Board of Appeals <input type="checkbox"/> Yes <input type="checkbox"/> No		
d. Other local agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
e. County agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
f. Regional agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
g. State agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
h. Federal agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
i. Coastal Resources.		
i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway?		<input type="checkbox"/> Yes <input type="checkbox"/> No
ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program?		<input type="checkbox"/> Yes <input type="checkbox"/> No
iii. Is the project site within a Coastal Erosion Hazard Area?		<input type="checkbox"/> Yes <input type="checkbox"/> 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):

C.3. Zoning	
a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. If Yes, what is the zoning classification(s) including any applicable overlay district?	□ Yes □ No
<div style="border-bottom: 1px solid black; height: 1.2em; margin-bottom: 2px;"></div> <div style="border-bottom: 1px solid black; height: 1.2em; margin-bottom: 2px;"></div>	
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? If Yes,	□ Yes □ No
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? _____	
b. What police or other public protection forces serve the project site? _____	
c. Which fire protection and emergency medical services serve the project site? _____	
d. What parks serve the project site? _____ _____	

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)? _____	
b. a. Total acreage of the site of the proposed action?	_____ acres
b. b. Total acreage to be physically disturbed?	_____ acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor?	_____ 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) _____	
ii. Is a cluster/conservation layout proposed? □ Yes □ No	
iii. Number of lots proposed? _____	
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____	
e. Will the proposed action be constructed in multiple phases? □ Yes □ No	
i. If No, anticipated period of construction: _____ months	
ii. If Yes:	
<ul style="list-style-type: none"> • Total number of phases anticipated _____ • Anticipated commencement date of phase 1 (including demolition) _____ month _____ year • Anticipated completion date of final phase _____ month _____ year • Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____ _____ _____ 	

*

* Calculation: [Proposed building expansion (sq ft)/ Existing building (sq ft)] X 100
(1,305 sq. ft. proposed building /456 sq. ft. existing building) X 100

f. Does the project include new residential uses? <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, show numbers of units proposed.				
	<u>One Family</u>	<u>Two Family</u>	<u>Three Family</u>	<u>Multiple Family (four or more)</u>
Initial Phase	_____	_____	_____	_____
At completion	_____	_____	_____	_____
of all phases	_____	_____	_____	_____

g. Does the proposed action include new non-residential construction (including expansions)? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If Yes,	
i. Total number of structures _____	
ii. Dimensions (in feet) of largest proposed structure: _____ height; _____ width; and _____ length	
iii. Approximate extent of building space to be heated or cooled: _____ 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? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If Yes,	
i. Purpose of the impoundment: _____	
ii. If a water impoundment, the principal source of the water: <input type="checkbox"/> Ground water <input type="checkbox"/> Surface water streams <input type="checkbox"/> Other specify: _____	
iii. If other than water, identify the type of impounded/contained liquids and their source. _____	
iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres	
v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length	
vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): _____	

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? <input type="checkbox"/> Yes <input type="checkbox"/> No	
(Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)	
If Yes:	
i. What is the purpose of the excavation or dredging? _____	
ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?	
<ul style="list-style-type: none"> • Volume (specify tons or cubic yards): _____ • Over what duration of time? _____ 	
iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them. _____	
iv. Will there be onsite dewatering or processing of excavated materials? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If yes, describe. _____	
v. What is the total area to be dredged or excavated? _____ acres	
vi. What is the maximum area to be worked at any one time? _____ acres	
vii. What would be the maximum depth of excavation or dredging? _____ feet	
viii. Will the excavation require blasting? <input type="checkbox"/> Yes <input type="checkbox"/> No	
ix. Summarize site reclamation goals and plan: _____	

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? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If Yes:	
i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____	

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:

iii. Will the proposed action cause or result in disturbance to bottom sediments? Yes ☐ No ☐
If Yes, describe: _____

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: _____ gallons/day

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

- Name of district or service area: _____
- 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: _____
- Source(s) of supply for the district: _____

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: _____

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ 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 ☐

<ul style="list-style-type: none"> • Do existing sewer lines serve the project site? _____ • Will a line extension within an existing district be necessary to serve the project? _____ <p>If Yes:</p> <ul style="list-style-type: none"> • Describe extensions or capacity expansions proposed to serve this project: _____ _____ _____ 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
<p>iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? _____</p> <p>If Yes:</p> <ul style="list-style-type: none"> • Applicant/sponsor for new district: _____ • Date application submitted or anticipated: _____ • What is the receiving water for the wastewater discharge? _____ 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<p>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): _____ _____ _____</p>		
<p>vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____ _____ _____</p>		
<p>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? _____</p> <p>If Yes:</p> <p>i. How much impervious surface will the project create in relation to total size of project parcel?</p> <p style="margin-left: 40px;">_____ Square feet or _____ acres (impervious surface)</p> <p style="margin-left: 40px;">_____ Square feet or _____ acres (parcel size)</p> <p>ii. Describe types of new point sources. _____</p> <p>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)? _____ _____</p> <ul style="list-style-type: none"> • If to surface waters, identify receiving water bodies or wetlands: _____ _____ • Will stormwater runoff flow to adjacent properties? _____ 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
<p>iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? _____</p>		
<p>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? _____</p> <p>If Yes, identify:</p> <p>i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles) _____</p> <p>ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers) _____</p> <p>iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation) _____</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<p>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? _____</p> <p>If Yes:</p> <p>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) _____</p> <p>ii. In addition to emissions as calculated in the application, the project will generate:</p> <ul style="list-style-type: none"> • _____ Tons/year (short tons) of Carbon Dioxide (CO₂) • _____ Tons/year (short tons) of Nitrous Oxide (N₂O) • _____ Tons/year (short tons) of Perfluorocarbons (PFCs) • _____ Tons/year (short tons) of Sulfur Hexafluoride (SF₆) • _____ Tons/year (short tons) of Carbon Dioxide equivalent of Hydrofluorocarbons (HFCs) • _____ Tons/year (short tons) of Hazardous Air Pollutants (HAPs) 		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No

<p>h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Estimate methane generation in tons/year (metric): _____</p> <p>ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____</p>			
<p>i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust): _____</p>			
<p>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? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes:</p> <p>i. When is the peak traffic expected (Check all that apply): <input type="checkbox"/> Morning <input type="checkbox"/> Evening <input type="checkbox"/> Weekend <input type="checkbox"/> Randomly between hours of _____ to _____.</p> <p>ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____</p> <p>iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____</p> <p>iv. Does the proposed action include any shared use parking? Yes No</p> <p>v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe: _____</p> <p>vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>vii. Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>			
<p>k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Estimate annual electricity demand during operation of the proposed action: _____ * _____</p> <p>ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other): _____</p> <p>iii. Will the proposed action require a new, or an upgrade, to an existing substation? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>			
<p>l. Hours of operation. Answer all items which apply.</p> <table style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ • Saturday: _____ • Sunday: _____ • Holidays: _____ </td> <td style="width: 50%; vertical-align: top;"> <p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ • Saturday: _____ • Sunday: _____ • Holidays: _____ </td> </tr> </table>		<p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ • Saturday: _____ • Sunday: _____ • Holidays: _____ 	<p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ • Saturday: _____ • Sunday: _____ • Holidays: _____
<p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ • Saturday: _____ • Sunday: _____ • Holidays: _____ 	<p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ • Saturday: _____ • Sunday: _____ • Holidays: _____ 		

***The average number of kilowatt hours per square foot for a commercial building is approximately 22.5. (Source: Iota Communications.com). The proposed building is 456 sq. ft.**

<p>m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes:</p> <p>i. Provide details including sources, time of day and duration:</p> <p>_____</p> <p>_____</p>	
<p>ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Describe: _____</p> <p>_____</p>	
<p>n. Will the proposed action have outdoor lighting? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes:</p> <p>i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:</p> <p>_____</p> <p>_____</p>	
<p>ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Describe: _____</p> <p>_____</p>	
<p>o. Does the proposed action have the potential to produce odors for more than one hour per day? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____</p> <p>_____</p> <p>_____</p>	
<p>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? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Product(s) to be stored _____</p> <p>ii. Volume(s) _____ per unit time _____ (e.g., month, year)</p> <p>iii. Generally, describe the proposed storage facilities: _____</p> <p>_____</p>	
<p>q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Describe proposed treatment(s):</p> <p>_____</p> <p>_____</p> <p>_____</p>	
<p>ii. Will the proposed action use Integrated Pest Management Practices? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	
<p>r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Describe any solid waste(s) to be generated during construction or operation of the facility:</p> <ul style="list-style-type: none"> • Construction: _____ tons per _____ (unit of time) • Operation : _____ tons per _____ (unit of time) <p>ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:</p> <ul style="list-style-type: none"> • Construction: _____ • Operation: _____ <p>iii. Proposed disposal methods/facilities for solid waste generated on-site:</p> <ul style="list-style-type: none"> • Construction: _____ • Operation: _____ 	

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. <input type="checkbox"/> Urban <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input type="checkbox"/> Residential (suburban) <input type="checkbox"/> Rural (non-farm) <input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Aquatic <input type="checkbox"/> Other (specify): _____ ii. If mix of uses, generally describe: _____ _____			
b. Land uses and covertypes on the project site.			
Land use or Covertypes	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces			
• Forested			
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)			
• Agricultural (includes active orchards, field, greenhouse etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)			
• Wetlands (freshwater or tidal)*pond is included*			
• Non-vegetated (bare rock, earth or fill)			
• Other Describe: _____ _____			

c. Is the project site presently used by members of the community for public recreation? i. If Yes: explain: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No
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? If Yes, i. Identify Facilities: _____ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No
e. Does the project site contain an existing dam? If Yes: i. Dimensions of the dam and impoundment: <ul style="list-style-type: none"> • 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: _____ _____ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No
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? If Yes: i. Has the facility been formally closed? <ul style="list-style-type: none"> • If yes, cite sources/documentation: _____ ii. Describe the location of the project site relative to the boundaries of the solid waste management facility: _____ _____ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
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? If Yes: i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred: _____ _____ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No
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? 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: <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div style="width: 45%;"> <input type="checkbox"/> Yes – Spills Incidents database <input type="checkbox"/> Yes – Environmental Site Remediation database <input type="checkbox"/> Neither database </div> <div style="width: 50%;"> Provide DEC ID number(s): _____ Provide DEC ID number(s): _____ </div> </div> ii. If site has been subject of RCRA corrective activities, describe control measures: _____ _____ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? If yes, provide DEC ID number(s): _____ iv. If yes to (i), (ii) or (iii) above, describe current status of site(s): _____ _____ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No

v. Is the project site subject to an institutional control limiting property uses? <input type="checkbox"/> Yes <input type="checkbox"/> No													
<ul style="list-style-type: none"> 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? <input type="checkbox"/> Yes <input type="checkbox"/> No Explain: _____ 													
E.2. Natural Resources On or Near Project Site													
a. What is the average depth to bedrock on the project site? _____ <u>>5.7</u> feet													
b. Are there bedrock outcroppings on the project site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, what proportion of the site is comprised of bedrock outcroppings? _____ %													
c. Predominant soil type(s) present on project site: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"><u>CrC - Charlton-Chatfield complex</u></td> <td style="width: 40%; text-align: right;"><u>15</u> %</td> </tr> <tr> <td><u>SEE ATTACHED SOIL TABLE FOR ALL SOILS ON PROJECT SITE</u></td> <td></td> </tr> <tr> <td><u>W - Water</u></td> <td style="text-align: right;"><u>14</u> %</td> </tr> <tr> <td><u>Ce- Catden muck</u></td> <td style="text-align: right;"><u>13</u> %</td> </tr> </table>		<u>CrC - Charlton-Chatfield complex</u>	<u>15</u> %	<u>SEE ATTACHED SOIL TABLE FOR ALL SOILS ON PROJECT SITE</u>		<u>W - Water</u>	<u>14</u> %	<u>Ce- Catden muck</u>	<u>13</u> %				
<u>CrC - Charlton-Chatfield complex</u>	<u>15</u> %												
<u>SEE ATTACHED SOIL TABLE FOR ALL SOILS ON PROJECT SITE</u>													
<u>W - Water</u>	<u>14</u> %												
<u>Ce- Catden muck</u>	<u>13</u> %												
d. What is the average depth to the water table on the project site? Average: _____ <u>>3.5</u> feet													
e. Drainage status of project site soils: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"><input checked="" type="checkbox"/> Well Drained:</td> <td style="width: 30%; text-align: right;"><u>47</u> % of site</td> <td style="width: 30%;"><input type="checkbox"/> Poorly drained:</td> <td style="width: 10%; text-align: right;"><u>3</u> % of site</td> </tr> <tr> <td><input checked="" type="checkbox"/> Very poorly drained</td> <td style="text-align: right;"><u>29</u> % of site</td> <td><input type="checkbox"/> Moderately well drained:</td> <td style="text-align: right;"><u>3</u> % of site</td> </tr> <tr> <td><input checked="" type="checkbox"/> Somewhat poorly drained</td> <td style="text-align: right;"><u>5</u> % of site</td> <td><input type="checkbox"/> Water:</td> <td style="text-align: right;"><u>13</u> % of site</td> </tr> </table>		<input checked="" type="checkbox"/> Well Drained:	<u>47</u> % of site	<input type="checkbox"/> Poorly drained:	<u>3</u> % of site	<input checked="" type="checkbox"/> Very poorly drained	<u>29</u> % of site	<input type="checkbox"/> Moderately well drained:	<u>3</u> % of site	<input checked="" type="checkbox"/> Somewhat poorly drained	<u>5</u> % of site	<input type="checkbox"/> Water:	<u>13</u> % of site
<input checked="" type="checkbox"/> Well Drained:	<u>47</u> % of site	<input type="checkbox"/> Poorly drained:	<u>3</u> % of site										
<input checked="" type="checkbox"/> Very poorly drained	<u>29</u> % of site	<input type="checkbox"/> Moderately well drained:	<u>3</u> % of site										
<input checked="" type="checkbox"/> Somewhat poorly drained	<u>5</u> % of site	<input type="checkbox"/> Water:	<u>13</u> % of site										
f. Approximate proportion of proposed action site with slopes: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;"><input checked="" type="checkbox"/> 0-10%:</td> <td style="width: 60%; text-align: right;"><u>72</u> % of site</td> </tr> <tr> <td><i>Note: Slope information is based on the area surveyed which was 4.096 acres</i> <input checked="" type="checkbox"/> 10-15%:</td> <td style="text-align: right;"><u>11</u> % of site</td> </tr> <tr> <td><input checked="" type="checkbox"/> 15% or greater:</td> <td style="text-align: right;"><u>17</u> % of site</td> </tr> </table>		<input checked="" type="checkbox"/> 0-10%:	<u>72</u> % of site	<i>Note: Slope information is based on the area surveyed which was 4.096 acres</i> <input checked="" type="checkbox"/> 10-15%:	<u>11</u> % of site	<input checked="" type="checkbox"/> 15% or greater:	<u>17</u> % of site						
<input checked="" type="checkbox"/> 0-10%:	<u>72</u> % of site												
<i>Note: Slope information is based on the area surveyed which was 4.096 acres</i> <input checked="" type="checkbox"/> 10-15%:	<u>11</u> % of site												
<input checked="" type="checkbox"/> 15% or greater:	<u>17</u> % of site												
g. Are there any unique geologic features on the project site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No													
ii. Do any wetlands or other waterbodies adjoin the project site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No													
iv. For each identified regulated wetland and waterbody on the project site, provide the following information: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">• Streams:</td> <td style="width: 40%;">Name <u>864-160</u></td> <td style="width: 50%;">Classification <u>C</u></td> </tr> <tr> <td>• Lakes or Ponds:</td> <td>Name _____</td> <td>Classification _____</td> </tr> <tr> <td>• Wetlands:</td> <td>Name <u>Federal Waters, NYS Wetland</u></td> <td>Approximate size <u>-</u></td> </tr> <tr> <td>• Wetland No. (if regulated by DEC)</td> <td colspan="2"><u>CF- 1</u></td> </tr> </table>		• Streams:	Name <u>864-160</u>	Classification <u>C</u>	• Lakes or Ponds:	Name _____	Classification _____	• Wetlands:	Name <u>Federal Waters, NYS Wetland</u>	Approximate size <u>-</u>	• Wetland No. (if regulated by DEC)	<u>CF- 1</u>	
• Streams:	Name <u>864-160</u>	Classification <u>C</u>											
• Lakes or Ponds:	Name _____	Classification _____											
• Wetlands:	Name <u>Federal Waters, NYS Wetland</u>	Approximate size <u>-</u>											
• Wetland No. (if regulated by DEC)	<u>CF- 1</u>												
v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, name of impaired water body/bodies and basis for listing as impaired: _____													
i. Is the project site in a designated Floodway? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
j. Is the project site in the 100-year Floodplain? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
k. Is the project site in the 500-year Floodplain? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes:													
i. Name of aquifer: _____													

<p>m. Identify the predominant wildlife species that occupy or use the project site: _____</p> <p>_____</p> <p>_____</p>
<p>n. Does the project site contain a designated significant natural community? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Describe the habitat/community (composition, function, and basis for designation): _____</p> <p style="margin-left: 20px;">ii. Source(s) of description or evaluation: _____</p> <p style="margin-left: 20px;">iii. Extent of community/habitat:</p> <ul style="list-style-type: none"> • Currently: _____ acres • Following completion of project as proposed: _____ acres • Gain or loss (indicate + or -): _____ acres
<p>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? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Species and listing (endangered or threatened): _____</p> <p>_____</p> <p>_____</p>
<p>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? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Species and listing: _____</p> <p>_____</p> <p>_____</p>
<p>q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, give a brief description of how the proposed action may affect that use: _____</p> <p>_____</p> <p>_____</p>
<p>E.3. Designated Public Resources On or Near Project Site</p>
<p>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? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes, provide county plus district name/number: _____</p>
<p>b. Are agricultural lands consisting of highly productive soils present? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p style="margin-left: 20px;">i. If Yes: acreage(s) on project site? _____</p> <p style="margin-left: 20px;">ii. Source(s) of soil rating(s): _____</p>
<p>c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Nature of the natural landmark: <input type="checkbox"/> Biological Community <input type="checkbox"/> Geological Feature</p> <p style="margin-left: 20px;">ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____</p> <p>_____</p> <p>_____</p>
<p>d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. CEA name: _____</p> <p style="margin-left: 20px;">ii. Basis for designation: _____</p> <p style="margin-left: 20px;">iii. Designating agency and date: _____</p>

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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If Yes: <ul style="list-style-type: none"> i. Nature of historic/archaeological resource: <input type="checkbox"/> Archaeological Site <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
g. Have additional archaeological or historic site(s) or resources been identified on the project site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If Yes: <ul style="list-style-type: none"> i. Describe possible resource(s): _____ ii. Basis for identification: _____ 	
h. Is the project site within five miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
If Yes: <ul style="list-style-type: none"> i. Identify resource: <u>State Scenic Byway</u> ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): <u>Taconic State Parkway</u> iii. Distance between project and resource: _____ <u>3.3</u> miles. 	
i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If Yes: <ul style="list-style-type: none"> i. Identify the name of the river and its designation: _____ ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? <input type="checkbox"/> Yes <input type="checkbox"/> No 	

***A submission has been made to the State Historic Preservation Office (SHPO) to gain input.**

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.

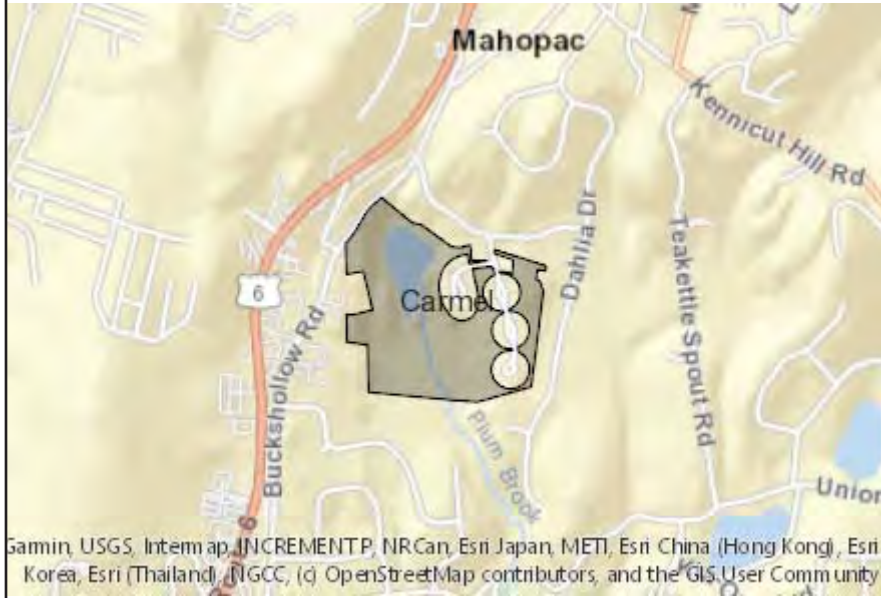
G. Verification

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

Applicant/Sponsor Name John Atzi Date August 27, 2021

Signature _____ Title Land Surveyor





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]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	NYC Watershed Boundary
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]	864-160
E.2.h.iv [Surface Water Features - Stream Classification]	C
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters, NYS Wetland
E.2.h.iv [Surface Water Features - Wetlands Size]	NYS Wetland (in acres):25.5
E.2.h.iv [Surface Water Features - DEC Wetlands Number]	CF-1

E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
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 Long-eared Bat
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
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

Mahopac Wells 1, 2, & 3 – Soil Types		
Soil Types	Soil Description	Percent of Site
Ce	Catden muck, 0 to 2 percent slopes	12.8%
ChB	Charlton fine sandy loam, 3 to 8 percent slopes	5.8%
ChC	Charlton fine sandy loam, 8 to 15 percent slopes	0.5%
ChD	Charlton fine sandy loam, 15 to 25 percent slopes	2.4%
ChE	Charlton loam, 25 to 35 percent slopes	6.3%
CrC	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	15.3%
CsD	Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky	3.2%
LcB	Leicester loam, 3 to 8 percent slopes, stony	1.4%
LeB	Leicester loam, 2 to 8 percent slopes, very stony	3.4%
NcA	Natchaug muck, 0 to 2 percent slopes	10.7%
PnB	Paxton fine sandy loam, 3 to 8 percent slopes	2.0%
PnC	Paxton fine sandy loam, 8 to 15 percent slopes	1.3%
PnD	Paxton fine sandy loam, 15 to 25 percent slopes	7.6%
PoC	Paxton fine sandy loam, 8 to 15 percent slopes, very stony	0.7%
RdB	Ridgebury complex, 3 to 8 percent slopes	2.7%
Sh	Sun loam	1.2%
Sm	Sun loam, extremely stony	4.3%
Ub	Udorthents, smoothed	4.8%
W	Water	13.6%
WdB	Woodbridge loam, 3 to 8 percent slopes	0.0%
Totals for Area of Interest		100.0%

Project Description

General Project Information

Applicant: SUEZ Water New York, Inc.

Project: PFAS Compliance Project H – Mahopac Well

Location: Town of Carmel
Putnam County, New York

Consultant: Gannett Fleming, Inc.
207 Senate Avenue
Camp Hill, PA 17011

Introduction

SUEZ is proposing the construction of upgrades at their existing Mahopac well site. The proposed study area (41° 21' 36.380" N, 73° 44' 24.186" W) is located in the Town of Carmel, Putnam County, New York. The project study area for this project encompassed the entire SUEZ property. During delineation efforts an additional 300-foot buffer was reviewed around the project study area and is referred to in the permit application as the action area. Refer to the Topographic Location Map and Aerial Layout Map for the location and project limits located in **Section A**.

Project Purpose and Need

The State of New York has adopted a new drinking water standard that sets a Maximum Contaminant Level (MCL) of 10 parts per trillion (ppt) for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) in drinking water. Some PFAS do not breakdown easily and persist for a long time in the environment, especially in water. The concern of PFAS chemicals having toxic effects on public health has resulted in new regulations for the New York State Drinking Water Standard.

In order to comply with these new MCLs, SUEZ plans to construct a treatment facility at the existing Mahopac Well Site.

Necessary upgrades were identified based on the water quality sampling results. The Mahopac water quality results also showed elevated levels of iron and manganese which will also be treated with new facility. The site upgrades include upsizing of the existing well pumps and installation of a treatment building with a greensand iron and manganese removal system as well as the installation of a granular activated carbon (GAC) treatment system. The planned upgrades will not increase the firm capacity of the wells.

Architectural, civil, electrical, structural, HVAC and plumbing upgrades will also be implemented to accommodate the new treatment system at the existing location.

Project Description Details

Improvements at the Mahopac Well site include the construction of a GAC building, iron and manganese removal system, a 6” influent pipe, a 6” effluent pipe, an underground electrical conduit, and a 12’ gravel driveway. SUEZ also proposes to replace the existing submersible well pumps at the three wells. Erosion and sediment controls will be installed to protect the regulated features. Disturbance will be kept to a minimum and avoidance measures have been considered during the design phase of the project.

Project Area Description

The proposed PFAS upgrades will be installed within the existing SUEZ property located on the east side of Buckshollow Road in the Town of Carmel, New York. The proposed project study area is approximately 2.3 acres and is located immediately south of Bloomer Pond. The action area surrounding the project study area is approximately 37 acres. The project study area and action area consist of predominantly forested area, gravel access roads, existing well infrastructure, residential properties, and local roads.

Water resources within or adjacent to the project area include Plum Brook and Bloomer Pond as identified by NYSDEC freshwater mapping, National Wetland Inventory mapping, and U.S. Geological Survey topographical mapping. Additional water resources were identified during field investigations.

Project Impacts

One parcel was impacted by the SUEZ PFAS project. Project design will impact one regulated feature and the intent of this package is to obtain approvals from the Town. Refer to the Wetland Delineation Report provided in **Section B** for more information regarding these resources.

The proposed project limit of disturbance overlaps NYSDEC regulated freshwater wetlands, regulated freshwater wetland buffers and USACE regulated wetlands. As per the site visit conducted on June 7, 2021, NYSDEC has accepted the USACE regulated wetland boundary as the NYSDEC freshwater wetland boundary. Therefore, the USACE regulated wetland boundary and NYSDEC freshwater wetland boundary coincide with one another.

There are both permanent and temporary impacts that are associated with the construction of the GAC building, influent and effluent pipelines, electrical conduit, and 12’ gravel driveway. Reclamation to the portion of the wetlands with temporary impacts will take place as soon as

construction is complete. No mitigation is proposed since permanent impacts total less than one square foot.

Please see **Section C** for a typical diagram of construction.

Regulated Activities

Wetland Impacts

The Town of Carmel will regulate impacts at the Mahopac Well site that involve temporary and permanent impacts to Wetland 1. The temporary impacts include areas required for the installation of temporary erosion and sediment controls around the perimeter of the limit of disturbance. All controls shall be removed once construction is complete and the area shall be restored and allowed to revegetate back to pre-construction conditions. There is a minimal permanent wetland impact associated with fill due to construction of the 12' gravel driveway. Below are the calculated impacts to the wetland and within 100 feet adjacent to the wetlands.

Wetland Impacts

- 1,538.92 ft²; 0.033 ac

Impacts 100' Buffer

- 28,227.39 ft²; 0.648 ac

There are no stream impacts associated with this project.

Section A: Topographic Location Map and Aerial Layout Map

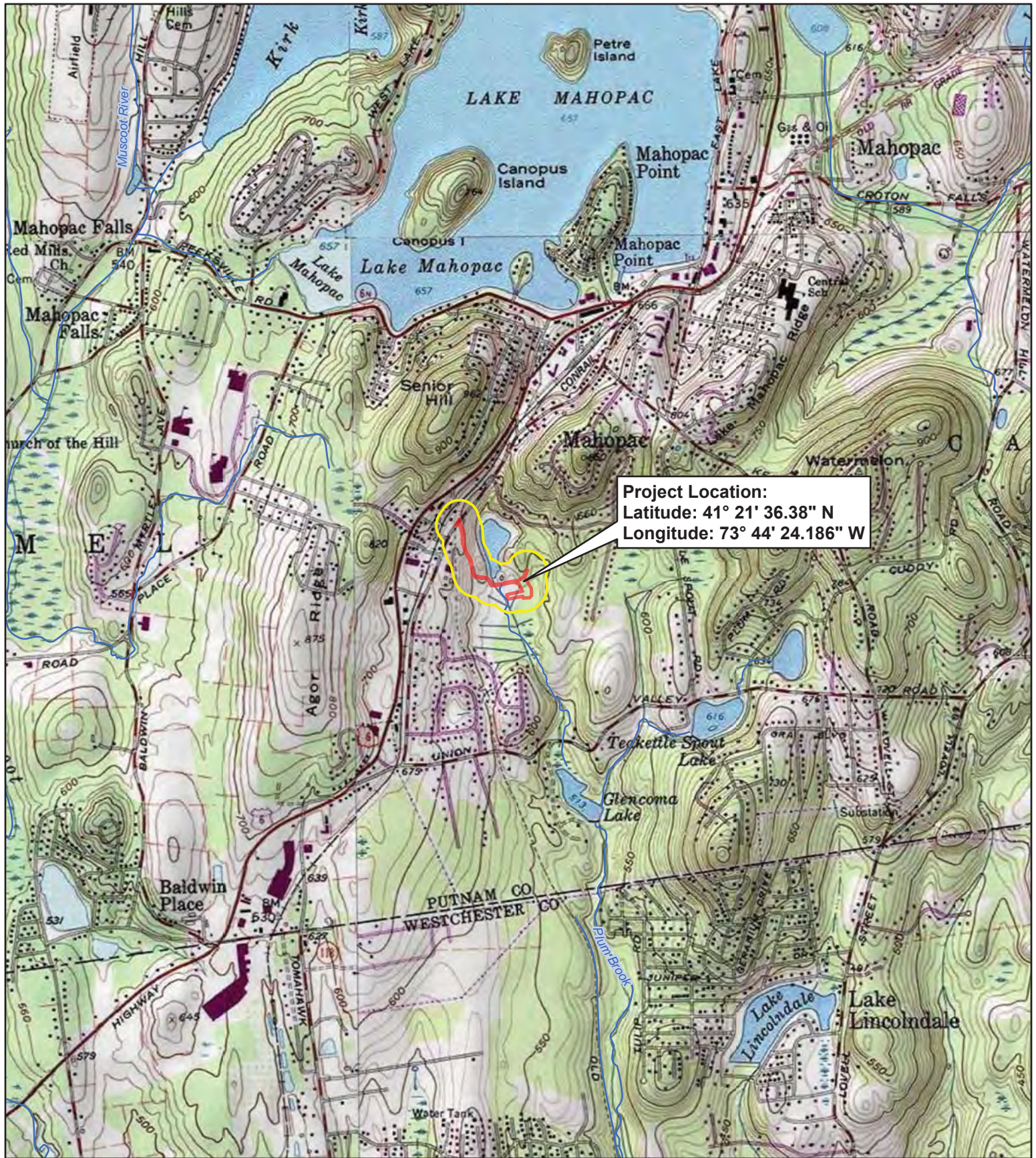


FIGURE 1
USGS TOPOGRAPHIC LOCATION MAP
CROTON FALLS AND MOHEGAN LAKE, NY
7.5-MINUTE QUADRANGLES

SUEZ Water New York, Inc.
 PFAS Compliance Project H - Mahopac Well
 Town of Carmel,
 Putnam County, NY

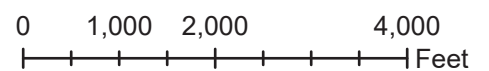
Legend

- Streams
- Project Study Area
- Action Area



Gannett Fleming

SCALE: 1 in = 2,000 ft



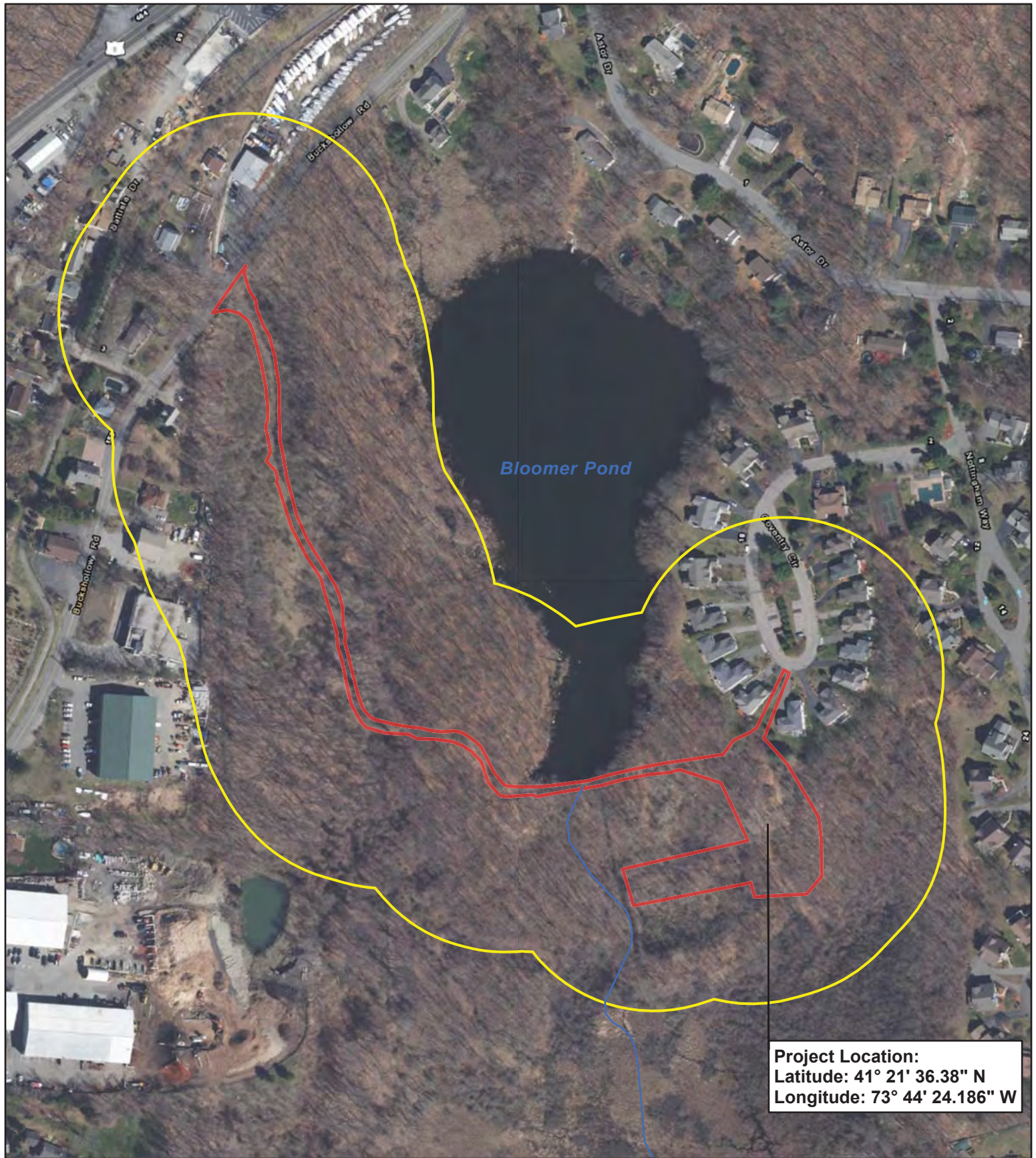


FIGURE 2

**PROJECT LOCATION AND
STUDY AREA MAP**

SUEZ Water New York, Inc.
PFAS Compliance Project H - Mahopac Well
Town of Carmel,
Putnam County, NY

Legend

- Streams
- Action Area
- Project Study Area



Gannett Fleming

SCALE: 1 in = 250 ft

0 125 250 500
Feet

Section C: Typical diagram of construction

Note: Please refer to the attached Site Plan set.

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT



SUEZ Water New York Inc. PFAS Compliance Project H – Mahopac Well No. 1, 2, & 3

Town of Carmel, Putnam County, New York

Prepared for:

SUEZ Water New York, Inc.
162 Old Mill Rd
West Nyack, NY 10994

Prepared by:



Gannett Fleming

207 Senate Avenue
Camp Hill, PA 17011

May 2021

GF Project No. 068577

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT

**SUEZ Water New York Inc. PFAS Compliance
Project H – Mahopac Well No. 1, 2, & 3**
Town of Carmel, Putnam County, New York

Prepared for:

SUEZ Water New York Inc.

Prepared by:



May 2021

TABLE OF CONTENTS

1.0	Executive Summary.....	1
2.0	Project Description	3
3.0	Purpose.....	3
4.0	Study Area Description.....	3
4.1	Topography.....	3
4.2	Soils.....	4
4.3	Geology	4
4.4	Surface Waters	4
4.5	National Wetlands Inventory	4
4.6	NYSDEC Wetlands.....	5
5.0	Methods	11
6.0	Field Observations and Delineated Features.....	12
6.1	Waterbodies & Wetlands.....	12
6.2	Waterways	13
7.0	Wetland & Waterway Resource Summary.....	13
8.0	References.....	14
9.0	List of Contributors	16

FIGURES

Figure 1.	USGS Topographic Location Map.....	6
Figure 2.	Project Location and Study Area Map	7
Figure 3.	Soil Survey Map.....	8
Figure 4.	National Wetlands Inventory Map.....	9
Figure 5.	NYSDEC Wetlands Map.....	10

TABLES

Table 1.	Wetland and Waterway Summary.....	2
Table 2.	Dominant Plant Species List	12
Table 3.	Delineated Wetland Resource Summary	13

APPENDICES

APPENDIX A – WETLANDS AND WATERWAYS MAPPING

APPENDIX B – SITE PHOTOGRAPHS AND PHOTOGRAPH LOCATION MAP

APPENDIX C – WETLAND FIELD DATA FORMS

1.0 Executive Summary

SUEZ Water New York, Inc. (SUEZ) is proposing the construction of upgrades at their existing Mahopac well site. The proposed study area (41°21'36.380"N, 73°44'24.186"W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for per- and polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), the regulated compounds.

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with U.S. Fish and Wildlife Service (USFWS). The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area and action area. This report was prepared to satisfy the regulatory requirements of the U.S. Army Corps of Engineers (USACE) under the purview of Section 404 of the Clean Water Act and New York State Department of Environmental Conservation (NYSDEC) under Article 24, Freshwater Wetlands Act.

On April 20, 2021, Gannett Fleming, Inc. (GF) conducted a field investigation to delineate wetlands and waterways within the 2.3-acre project study area and 37-acre action area for use in project planning and permitting efforts for the PFAS Compliance Project H – Mahopac Well No. 1, 2, & 3. One (1) palustrine wetland and one (1) waterway were delineated within the project study area (**Table 1**). Plum Brook was confirmed in the field as a perennial waterway within the project study area. Bloomer Pond was also confirmed adjacent to the project study area. Wetland and waterway boundaries were mapped in the field and are presented in **Appendix A**. Photographs were taken of the wetlands and waterways and are provided in **Appendix B**. Wetland data forms were completed to document the hydrology, vegetation, and soil conditions of the delineated wetlands and are provided in **Appendix C**.

Table 1. Wetland and Waterway Summary

PROJECT TOTALS		
WETLANDS		
Feature Type	Number Present	Total Acres (AC)
▪ PFO Wetland	1	4.74+
WATERWAYS		
Feature Type	Number Present	Total Linear Feet (LF)
▪ Perennial Waterway	1	186

Wetlands

- Wetland 1 – PFO wetland, 4.74+ acres (Open-Ended)

Waterways

- Stream 1 (Plum Brook) – Perennial, 186 linear feet

2.0 Project Description

SUEZ Water New York, Inc. (SUEZ) is proposing the construction of upgrades at their existing Mahopac well site. The proposed study area (41°21'36.380"N, 73°44'24.186"W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for per- and polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both PFOA and PFOS, the regulated compounds

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with USFWS. The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

The proposed PFAS upgrades will be installed within the existing SUEZ property located on the east side of Buckshollow Road in the Town of Carmel, New York. The proposed project study area is approximately 2.3 acres and is located immediately south of Bloomer Pond. The action area surrounding the project study area is approximately 37 acres. The project study area and action area consist of predominantly forested area, gravel access roads, existing well infrastructure, residential properties, and local roads.

3.0 Purpose

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area. This report was prepared to satisfy the regulatory requirements of the USACE under the purview of Section 404 of the Clean Water Act and NYSDEC under Article 24, Freshwater Wetlands Act.

4.0 Study Area Description

A 300-foot buffer or action area was used surrounding the project study area. The action area was investigated as part of the Phase I bog turtle habitat survey. The 2.3-acre project study area and 37-acre action area consisted of forested wetlands, Plum Brook, Bloomer Pond, the existing wells, adjacent residential properties, and upland forest along the quarter-mile access road.

4.1 Topography

According to the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (Croton Falls and Mohegan Lake, New York), the elevation of the project study area ranged from approximately 560 to 600 feet above mean sea level (amsl). The access road entrance from Buckshollow Road has an elevation of 650 feet amsl. An excerpt from the USGS Topographic Quadrangle Map is provided as **Figure 1**. A Project Location and Study Area Map is provided as **Figure 2**.

4.2 Soils

According to the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey, thirteen (13) soil series were mapped within the project study area, action area, and along the access road: Catden muck, 0 to 2 percent slopes (Ce), Charlton fine sandy loam, 3 to 8 percent slopes (ChB), Charlton fine sandy loam, 8 to 15 percent slopes (ChC), Charlton loam, 25 to 35 percent slopes (ChE), Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky (CrC), Leicester loam, 2 to 8 percent slopes, very stony (LeB), Natchaug muck, 0 to 2 percent slopes (NcA), Paxton fine sandy loam, 15 to 25 percent slopes (PnD), Paxton fine sandy loam, 8 to 15 percent slopes, very stony (PoC), Ridgebury complex, 3 to 8 percent slopes (RdB), Sun loam (Sh), Sun loam, extremely stony (Sm), and Udorthents, smoothed (Ub). Ce, NcA, Sh and Sm are nationally listed hydric soils (100%). RdB and LeB have hydric ratings of 58 and 35%, respectively. CrC is listed as having 5% hydric inclusions. PoC and Ub soils are listed as having 2% hydric inclusions. ChB and PnD are listed as having 1% hydric inclusions. The remaining soil units are listed as non-hydric. An excerpt from the soil survey mapping is provided as **Figure 3**.

4.3 Geology

The project is located in the Hudson Highlands Section of the Physiographic Provinces of New York (NYSM, 1995). The project study area is underlain by the Biotite granite gneiss (bg) unit of bedrock; the bg unit that underlays the project study area consists of “biotite granitic gneiss, overprint signifies inequigranular texture” assumed to be from the Middle Proterozoic period (NYSM, 1995). The project is also underlain by the surficial geologic unit till (t) defined by “variable texture (e.g. clay, silt-clay, boulder clay), usually poorly sorted diamict, deposition beneath glacier ice, relatively impermeable (loamy matrix), variable clast content...potential land instability on steep slopes, thickness variable (1-50 meters)” (NYSM, 1989).

4.4 Surface Waters

The USGS map identified Plum Brook as a perennial waterway within the project area (**Figure 1**). No other streams or waterbodies were identified on USGS mapping within or immediately adjacent to the project study area or action area.

NYSDEC has designated Plum Brook as water quality classification ‘C’. This classification indicates that the water resource supports fisheries and non-contact activities. A ‘C’ classification is not considered protected waters of the state.

4.5 National Wetlands Inventory

The National Wetlands Inventory (NWI) online mapping tool identified multiple features within the project study area and action area. NWI identified Bloomer Pond as a palustrine, unconsolidated bottom, permanently flooded, diked/impounded (PUBHh) feature. Plum Brook was identified as a riverine, intermittent, streambed, seasonally flooded (R4SBC) watercourse. A second R4SBC feature was mapped within and adjacent to the access road. This feature flowed into a mapped riverine, unknown perennial, unconsolidated bottom, permanently flooded (R5UBH) feature along the southern edge of the action area. NWI mapped wetlands included a 0.27 acre palustrine emergent, persistent, scrub-shrub, broad-leaved deciduous, seasonally flooded (PEM1/SS1C) complex near the proposed project site, and a larger 12.64 acre palustrine emergent,

persistent, scrub-shrub, broad-leaved deciduous, seasonally flooded/saturated, partially drained/ditched (PEM1/SS1Ed) complex and 0.09 acre palustrine, unconsolidated bottom, semipermanently flooded, beaver (PUBFb) within the action area. The NWI map for the project study area is provided as **Figure 4**.

4.6 NYSDEC Wetlands

NYSDEC identified one (1) state regulated freshwater wetland within the project study area. Wetland CF-1 is a Class 2 wetland totaling 25.5 acres located within the project study area and action area. The project study area and action area are within the wetland, the 100-foot buffer, and the 500-foot checkzone of this wetland. The NYSDEC wetlands map for the project study area is provided as **Figure 5**.

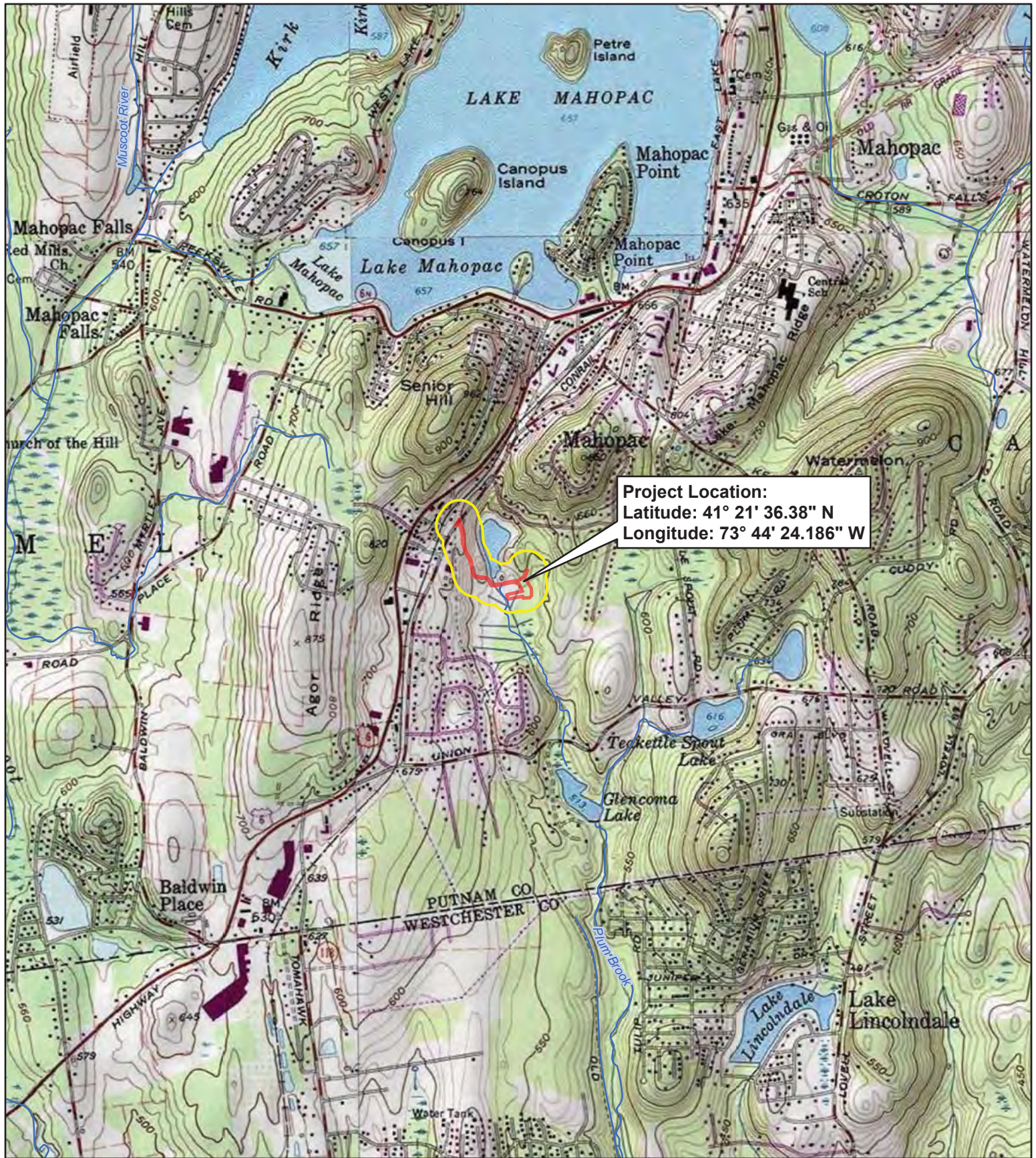


FIGURE 1
USGS TOPOGRAPHIC LOCATION MAP
CROTON FALLS AND MOHEGAN LAKE, NY
7.5-MINUTE QUADRANGLES

SUEZ Water New York, Inc.
 PFAS Compliance Project H - Mahopac Well
 Town of Carmel,
 Putnam County, NY

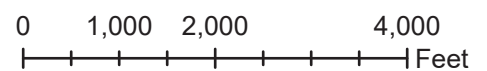
Legend

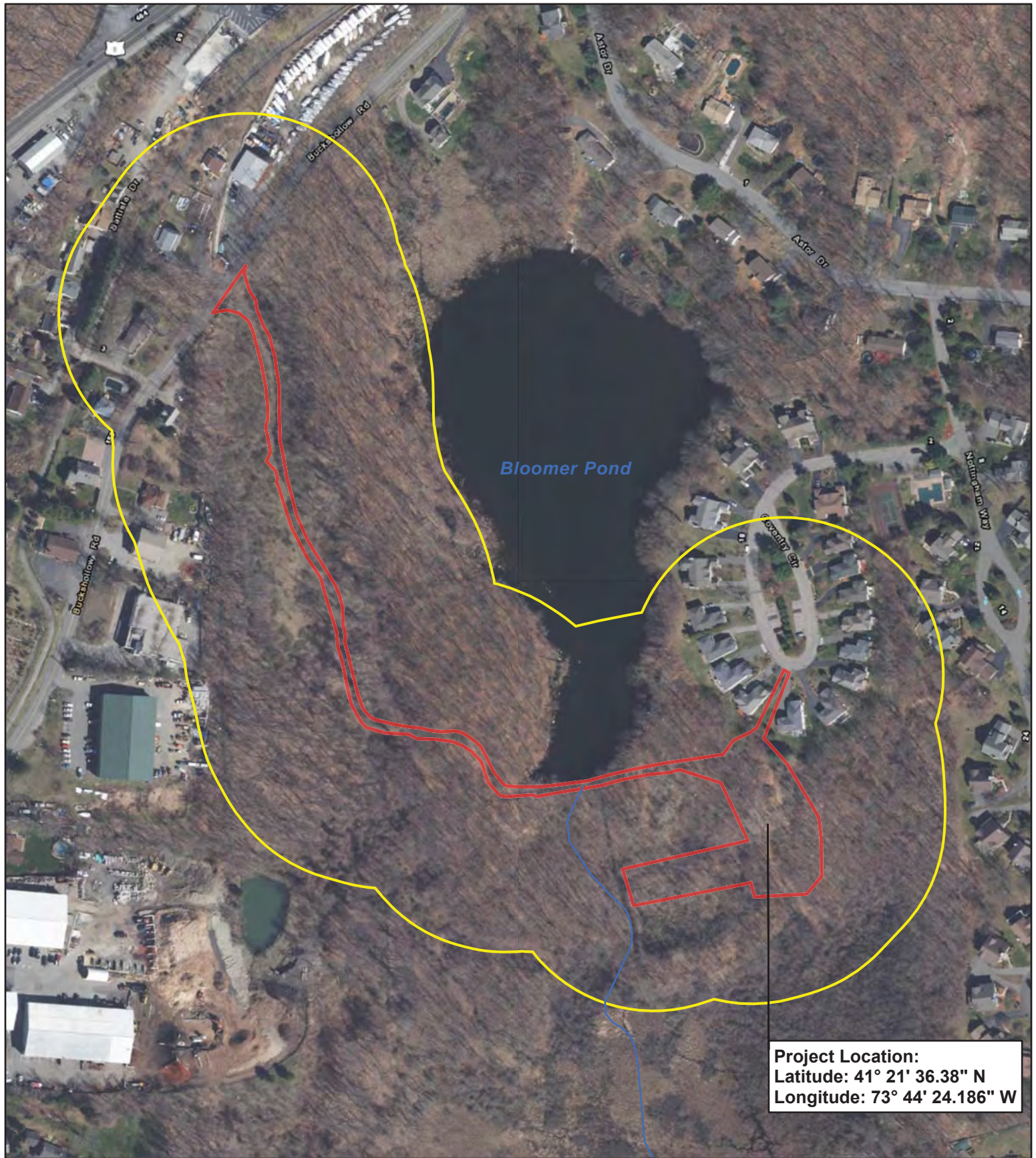
- Streams
- Project Study Area
- Action Area



Gannett Fleming

SCALE: 1 in = 2,000 ft





Project Location:
 Latitude: 41° 21' 36.38" N
 Longitude: 73° 44' 24.186" W

FIGURE 2

**PROJECT LOCATION AND
STUDY AREA MAP**

SUEZ Water New York, Inc.
 PFAS Compliance Project H - Mahopac Well
 Town of Carmel,
 Putnam County, NY

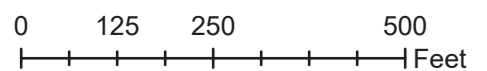
Legend

- Streams
- Action Area
- Project Study Area



Gannett Fleming

SCALE: 1 in = 250 ft



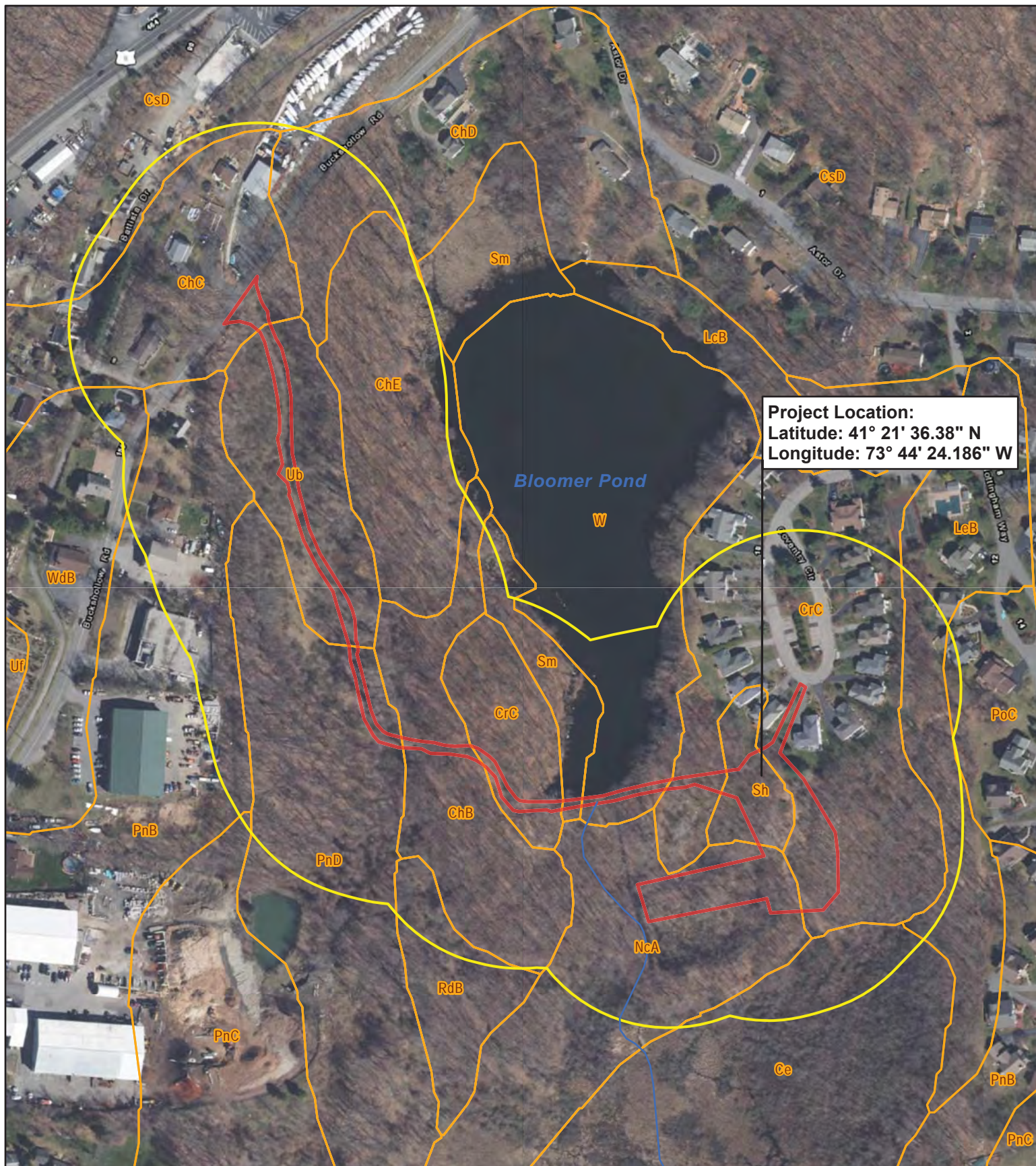


FIGURE 3

SOIL SURVEY MAP

SUEZ Water New York, Inc.
PFAS Compliance Project H - Mahopac Well
Town of Carmel,
Putnam County, NY

Legend

- Streams
- Action Area
- Project Study Area
- Putnam Co. Soils



Gannett Fleming

SCALE: 1 in = 250 ft

0 125 250 500
Feet



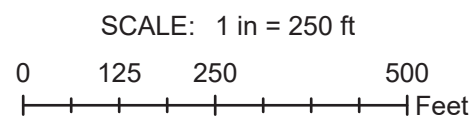
Project Location:
Latitude: 41° 21' 36.38\"

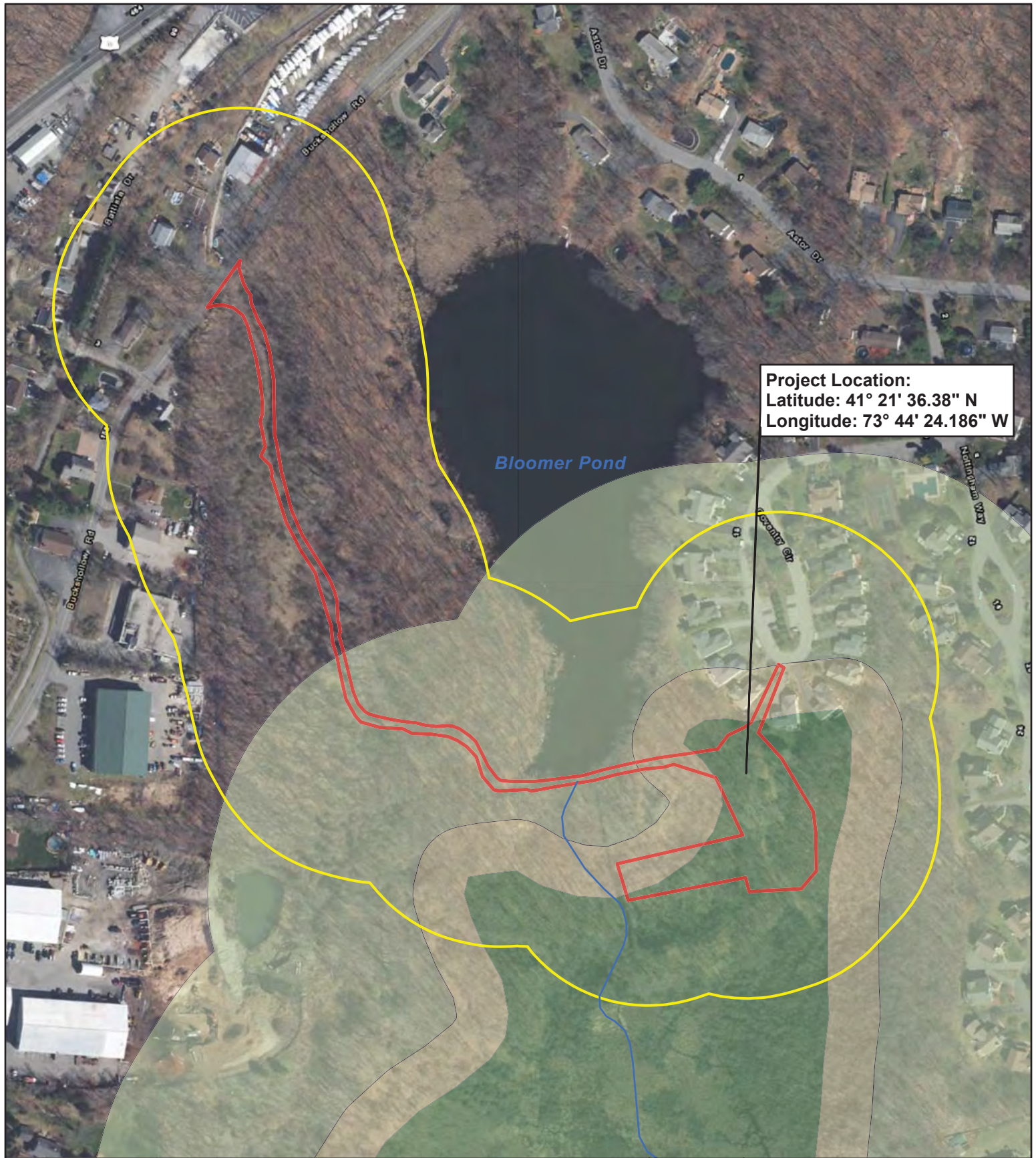
FIGURE 4

NATIONAL WETLANDS INVENTORY MAP

SUEZ Water New York, Inc.
 PFAS Compliance Project H - Mahopac Well
 Town of Carmel,
 Putnam County, NY

- Legend**
- Streams
 - Action Area
 - Project Study Area
 - NWI Wetlands**
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Freshwater Pond
 - Riverine



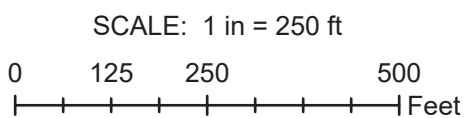


Project Location:
 Latitude: 41° 21' 36.38" N
 Longitude: 73° 44' 24.186" W

FIGURE 5
NYSDEC WETLANDS MAP

SUEZ Water New York, Inc.
 PFAS Compliance Project H - Mahopac Well
 Town of Carmel,
 Putnam County, NY

- Legend**
- Streams
 - Action Area
 - Project Study Area
 - NYSDEC Freshwater Wetland Boundary
 - NYSDEC Freshwater Wetland 100' Buffer
 - NYSDEC Freshwater Wetland Checkzone



5.0 Methods

The 2.3-acre project study area and 37-acre action area was investigated for palustrine wetland indicators of vegetative composition, soil development, and hydrology. The investigation was conducted in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (U.S. Army Corps of Engineers, 2012). Wetland field data forms were completed to document wetland or non-wetland data points. If present, wetlands within and directly adjacent to the study area were delineated so that their presence could be shown on project mapping to aid in impact avoidance and/or minimization during engineering design.

Soils were characterized by evaluating the upper horizons of the soil profile. Soil pits were dug using a “sharpshooter” spade with a 16-inch blade. Soil horizons were evaluated using normal field protocols for determining texture and nomenclature. The *Munsell Soil Color Charts* (Kollmorgen Instruments Corporation, 1994) were used to determine the colors of horizons and redoximorphic features. Soil observations of reducing conditions were determined in the field using presence/absence determinations of redoximorphic concretions and oxidized rhizospheres, and identifying low chroma matrices according to *Field Indicators of Hydric Soils in the United States (Version 7.0)* (USDA-NRCS, 2010).

Vegetation was identified using *A Field Guide to Trees and Shrubs* (Petrides, 1986), *Newcomb's Wildflower Guide* (Newcomb, 1977), and *Grasses: An Identification Guide* (Brown, 1979). Plant species were assigned an indicator status [i.e., Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), or Obligate Wetland (OBL)] based on the *2018 National Wetland Plant List (Version 3.4)* (USACE, 2018).

Data point locations were investigated for primary and secondary wetland hydrology indicators. If present, wetland boundaries were marked using pink wetland flagging. Wetland boundary data points were located using a Trimble Geo7X Global Positioning System (GPS) with Trimble Tornado receiver. The Trimble Geo7X and Tornado are capable of attaining sub-meter accuracy. The GPS data were then transferred onto relevant project mapping using the U.S. State Plane NY East coordinate system.

Wetland type classifications were assigned to each wetland following the Cowardin et al methods (1979). Hydrogeomorphic classifications were assigned to each wetland based on the *Hydrogeomorphic Wetland Classification: HGM Classification for Wetlands of the Mid-Atlantic Region, USA* (Brooks, 2017). Palustrine plant community classifications were assigned to each wetland based on *Ecological Communities of New York State* (Edinger et al, 2014). Color photographs were taken of all relevant features to document site conditions during the time of the investigation.

Waterways were identified through a review of available mapping and field investigation. Topographic and engineering maps were reviewed for the presence of streams within the project study area. A field investigation for waterways was performed in conjunction with the wetland field investigation and included the field verification of mapped watercourses and the identification and delineation of streams, springs, and seeps that were not shown on existing engineering plans. Waterways were identified by the presence of bed and banks and/or ordinary high-water marks. The flow regime of each identified waterway was characterized based upon

field indicators of hydrologic, floral, and faunal character at the time of the investigation. All identified waterways were photographed and located using GPS.

6.0 Field Observations and Delineated Features

On April 20, 2021, GF investigated the 2.3-acre project study area and 37-acre action area for wetlands and waterways. The weather conditions were sunny with a high temperature of 74°F. Precipitation data indicated no precipitation occurred on the day of the investigation and no precipitation fell across the region within the 48 hours prior to the field investigation. Weather data was recorded at Danbury Municipal Airport Station in Danbury, CT, approximately 14 miles east of the project study area.

The dominant land-uses within and surrounding the project study area included gravel access roads and parking areas, residential properties, mixed forests, Bloomer Pond, Plum Brook and existing well infrastructure. Dominant vegetation observed within the project study area is summarized in **Table 2**.

Table 2. Dominant Plant Species List

Scientific Name	Common Name	Indicator Status
Tree Species		
<i>Acer rubrum</i>	Red Maple	FAC
<i>Quercus velutina</i>	Black Oak	NL
<i>Betula alleghaniensis</i>	Yellow Birch	FAC
<i>Fagus grandifolia</i>	American Beech	FACU
<i>Carpinus caroliniana</i>	American Hornbeam	FAC
Shrub Species		
<i>Lindera benzoin</i>	Northern Spicebush	FACW
<i>Rosa multiflora</i>	Multiflora Rose	FACU
<i>Berberis thunbergii</i>	Japanese Barberry	FACU
<i>Vaccinium corymbosum</i>	Highbush Blueberry	FACW
<i>Viburnum lentago</i>	Nannyberry	FAC
<i>Elaeagnus umbellata</i>	Autumn Olive	NL
Herb Species		
<i>Alliaria petiolata</i>	Garlic Mustard	FACU
<i>Symplocarpus foetidus</i>	Skunk Cabbage	OBL
<i>Equisetum arvense</i>	Field Horsetail	FAC
<i>Carex stricta</i>	Tussock Sedge	OBL
<i>Phragmites australis</i>	Common Reed	FACW

6.1 Waterbodies & Wetlands

During the field investigation, one (1) palustrine wetland complex was delineated within the project study area and action area. Delineated wetlands are listed in **Table 3** with their respective delineated area, Cowardin Classification, hydrogeomorphic (HGM) wetland classification, and

Ecological Community of New York State. Wetland boundaries were mapped and are presented in **Appendix A**. Photographs were taken of the wetlands and are provided in **Appendix B**. The Wetland Determination Data Forms are provided in **Appendix C**.

Table 3. Delineated Wetland Resource Summary

Wetland ID	Area (acre)	Cowardin Classification	HGM Wetland Classification	Ecological Community
Wetland 1	4.74+ (Open-Ended)	PFO	Depression Perennial (DFH)	Red Maple-Hardwood Swamp

6.2 Waterways

During the field investigation, one (1) waterway was identified and delineated within the project study area and action area. This waterway was confirmed as perennial Plum Brook during the investigation.

Stream 1 (Plum Brook) - perennial, 186 linear feet

Plum Brook was confirmed within the project study area and action area. Plum Brook flows under the existing access road through a culvert from Bloomer Pond. This waterway flows from north to south and ends in diffuse flow within Wetland 1.

Channel Width	Bank Height	Water Depth	Substrate
5-8 feet	1 foot	2-4 inches	Silt, Sand, Small Cobble, Woody Debris

7.0 Wetland & Waterway Resource Summary

The field investigation conducted by GF on April 20, 2021 identified and delineated one (1) wetland and one (1) waterway in conjunction with the PFAS Compliance Project H – Mahopac Well No. 1, 2, & 3. Bloomer Pond was confirmed in the field adjacent to the project study area but was not delineated. The pond was mapped by traditional land survey and will be added to the project construction drawings. The following features were identified on mapping and delineated in the field:

Wetlands (Field Delineated)

- Wetland 1 – PFO wetland, 4.74+ acres (Open-Ended)

Waterways (Field Delineated)

- Stream 1 (Plum Brook) – Perennial, 186 linear feet

8.0 References

- Brooks, R.P., M.M. Brinson, K.J. Havens, C.S. Hershner, R.D. Rheinhardt, D.H. Wardrop, D.F. Whigham, A.D. Jacobs, and J.M. Rubbo. 2011. *Proposed hydrogeomorphic classification for wetlands of the Mid-Atlantic Region, USA*. *Wetlands* 31(2):207-219.
- Brown, L. 1979. *Grasses: An Identification Guide*. Houghton Mifflin Company; Boston, New York, London.
- Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, D.C.
- Edinger, et al. 2014. *Ecological Communities of New York State: Second Edition*. New York Natural Heritage Program, Albany, NY.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS. Technical Report Y-87-1.
- Munsell. 2015. *Munsell Soil Color Charts*, 2009 Year Revised. Munsell Color, x-rite. 4300 44th Street, Grand Rapids, MI 49512.
- Newcomb, Lawrence. 1977. *Newcomb's Wildflower Guide*. Little, Brown and Company.
- New York State Museum (NYSM). 1989. *Surficial Geologic Map of New York: Lower Hudson Sheet*. Map prepared by the New York State Geological Survey.
- New York State Museum (NYSM). 1995. *Geologic Map of New York: Lower Hudson Sheet*. Map prepared by the New York State Geological Survey.
- New York State Museum (NYSM). 1995. *Physiographic Provinces of New York*, adapted from 1946 version. Map prepared by the New York State Geological Survey.
- Petrides, George A. 1986. *A Field Guide to Trees and Shrubs*. New York: Houghton Mifflin Co.
- U.S. Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*. ERDC/EL TR-12-9. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center.
- U.S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4. <http://wetland-plants.usace.army.mil/>. U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH.
- United States Department of Agriculture - Natural Resources Conservation Service. 2010. *Field Indicators of Hydric Soils in the United States*, Version 7.0. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

- U.S. Department of Agriculture - Natural Resources Conservation Service. 2021 Web Soil Survey. Accessed April 19, 2021. <http://websoilsurvey.nrcs.usda.gov/app/>
- U.S. Fish and Wildlife Service. National Wetlands Inventory NWI Wetlands Online Mapper. Accessed April 19, 2021. <http://www.fws.gov/wetlands/Data/mapper.html>
- U.S. Geological Survey. 2013. Topographic Map 7.5' Quadrangle, Croton Falls, New York.
- U.S. Geological Survey. 2013. Topographic Map 7.5' Quadrangle, Mohegan Lake, New York.
- Weather Underground. 2021. “*Danbury, CT Weather History.*” Available online at <https://www.wunderground.com/>. Accessed April 28, 2021.

9.0 List of Contributors

Steven C. Smith, Senior Environmental Scientist

38 Hour U.S. Army Corps of Engineers Wetland Delineator Certification Training Program

PennDOT Phase I Bog Turtle Habitat Evaluation Training

Professional Experience: 21 years

Education: B.S. Geoenvironmental Studies

Jillian Arnold, Senior Environmental Scientist

36-Hour Swamp School Wetland Delineation & Regional Supplement Training

Society of Wetland Scientists, Professional Wetland Scientist (PWS) #2736

PennDOT Phase I Bog Turtle Habitat Evaluation Training

Professional Experience: 17 years

Education: B.S., Geoenvironmental Studies, GIS Certificate

M.S., Biology

Clayton D. Frey, Environmental Scientist

36-Hour Swamp School Wetland Delineation and Regional Supplement Training

24-Hour OSHA Hazardous Waste Operations and Emergency Response Certification

Professional Experience: 3 years

Education: B.S., Wildlife and Fisheries Science

Kayla Briggs, Environmental Scientist

ESRI MOOC Do it Yourself Geo Apps (6-Week Course)

ESRI Web Courses and Online Training Seminars

Professional Experience: 11 years

Education: B.S., Geoenvironmental Studies, GIS Certificate

APPENDIX A

WETLANDS AND WATERWAYS MAPPING



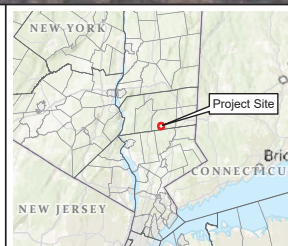
WETLANDS AND WATERWAYS MAPPING

SUEZ Water New York, Inc.
PFAS Compliance Project H - Mahopac Well

Town of Carmel,
Putnam County, NY

Legend

- Project Study Area
- Action Area
- Delineation Data
- Test Pits
- Flag Locations
- ~ Stream
- Wetland Boundary
- Wetland Type
- PFO



Gannett Fleming

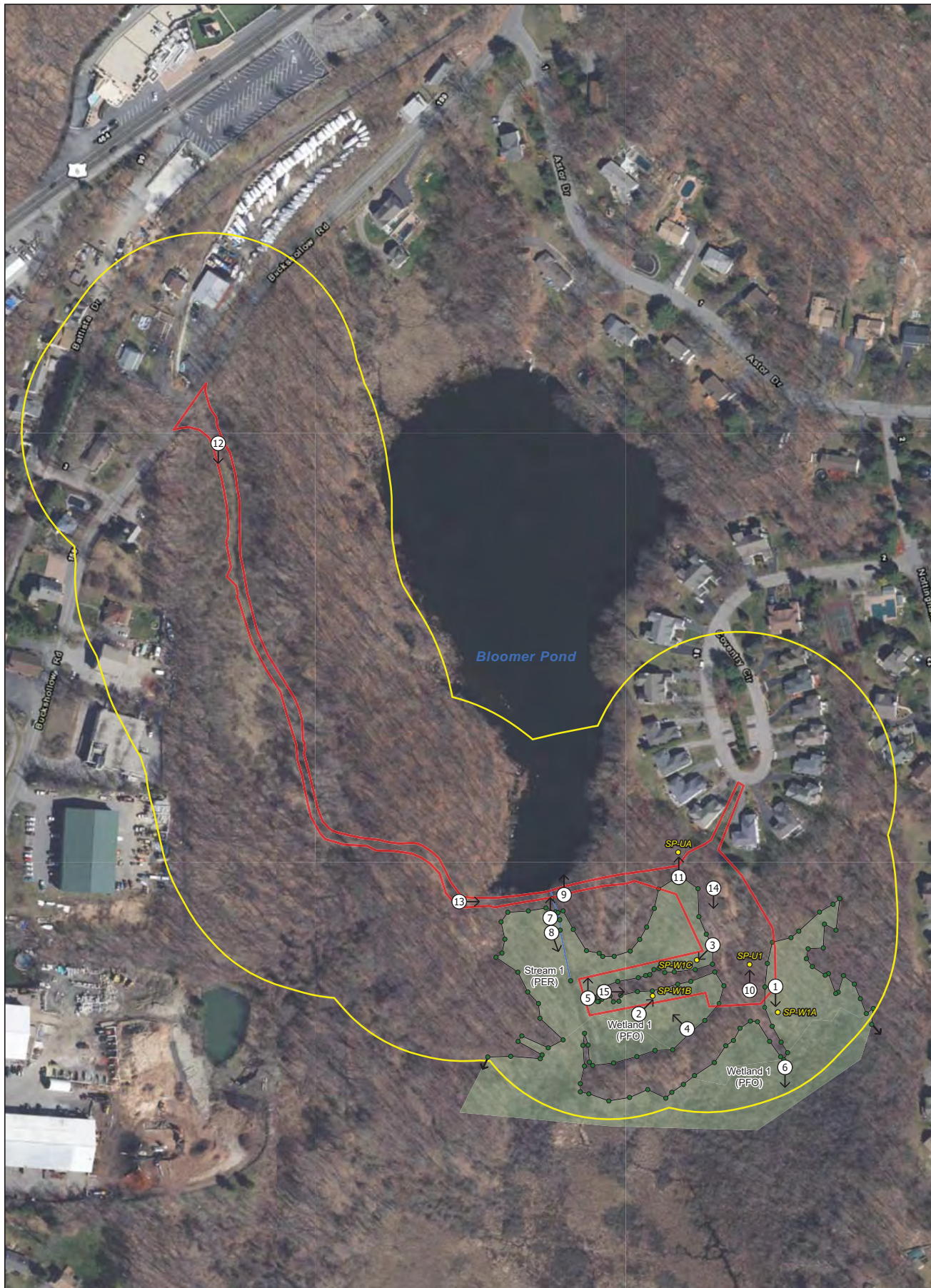
SCALE: 1 in = 175 ft

0 87.5 175 350 Feet

APPENDIX B

SITE PHOTOGRAPHS AND

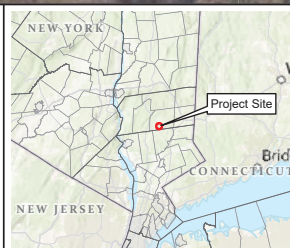
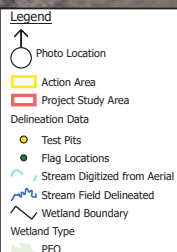
PHOTOGRAPH LOCATION MAP



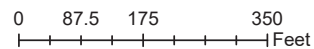
PHOTOGRAPH LOCATION MAP

SUEZ Water New York, Inc.
PFAS Compliance Project H - Mahopac Well

Town of Carmel,
Putnam County, NY



SCALE: 1 in =175 ft



Appendix B – Site Photographs



Photograph 1: Overview of SP-W1A, a wetland test pit recorded within Wetland 1 (PFO). (facing south; 4/20/2021)



Photograph 2: Overview of SP-W1B, a wetland test pit recorded within Wetland 1 (PFO). (facing northeast; 4/20/2021)

Appendix B – Site Photographs



Photograph 3: Overview of SP-W1C, a wetland test pit recorded within Wetland 1 (PFO), looking towards Well No. 2. (facing southwest; 4/20/2021)



Photograph 4: Overview of Wetland 1 (PFO), looking toward Well No. 1. (facing northwest; 4/20/2021)

Appendix B – Site Photographs



Photograph 5: Overview of Wetland 1 (PFO), taken west of Well No. 1. (facing north; 4/20/2021)



Photograph 6: Overview Wetland 1 (PFO), taken near the southern extent of the action area. (facing south; 4/20/2021)

Appendix B – Site Photographs



Photograph 7: Overview of perennial Stream 1 (Plum Brook), looking upstream towards culvert under access road from Bloomer Pond. (facing north; 4/20/2021)



Photograph 8: Downstream view of Stream 1 (Plum Brook), taken south of culvert from Bloomer Pond. Stream 1 dissipates and loses definition beyond this area within Wetland 1 (facing south; 4/20/2021)

Appendix B – Site Photographs



Photograph 9: Overview of Bloomer Pond from the access road. Culvert feeding Stream 1 (Plum Brook) is visible in bottom right of photo. (facing north; 4/20/2021)



Photograph 10: View of SP-U1, an upland test pit taken to document conditions surrounding Wetland 1, looking towards the existing gravel parking area. (facing north; 4/20/2021)

Appendix B – Site Photographs



Photograph 11: View of SP-UA, an upland test pit taken within a well-drained depression on the north side of the access road. (facing north; 4/20/2021)



Photograph 12: Overview of the access road near the gate along Buckshollow Road. (facing south; 4/20/2021)

Appendix B – Site Photographs



Photograph 13: Overview of existing access road. Bloomer Pond is visible on left side of photo, Wetland 1 is visible on right side of photo. (facing east; 4/20/2021)



Photograph 14: Overview of existing gravel parking area at southeastern terminus of access road. Well No. 3 is visible on right side of photo. (facing north; 4/20/2021)

Appendix B – Site Photographs



Photograph 15: View of Well No. 1 with Well No. 2 visible in the background. Wells were located on an elevated berm that is surrounded by Wetland 1(facing east; 4/20/2021)

APPENDIX C

WETLAND FIELD DATA FORMS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Mahopac City/County: Putnam County Sampling Date: 04/20/2021
 Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-W1
 Investigator(s): S. Smith, C. Frey Section, Township, Range: Town of Carmel
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR or MLRA): LRR R Lat: 41.359528 Long: 73.739425 Datum: NAD83
 Soil Map Unit Name: Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky (CrC) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		If yes, optional Wetland Site ID: <u>Wetland 1</u>	
Remarks: (Explain alternative procedures here or in a separate report.)					
Near the proposed turn-around area. Wetland gets wetter and muckier south of this location.					

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<u>0</u>
Saturation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<u>0</u>
(includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-W1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer rubrum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.66</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>50</u>	= Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>0</u> (A)	<u>0</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>5</u>	= Total Cover															
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Symplocarpus foetidus</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Equisetum arvense</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
3. <u>Berberis thunbergii</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
4. <u>Carex stricta</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>29</u>	= Total Cover															
Woody Vine Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															
Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																		
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: SP-W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input checked="" type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ROCK

Depth (inches): 10+

Hydric Soil Present? Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Mahopac City/County: Putnam County Sampling Date: 04/20/2021
 Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-W1B
 Investigator(s): S. Smith, C. Frey Section, Township, Range: Town of Carmel
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR or MLRA): LRR R Lat: 41.359622 Long: 73.740324 Datum: NAD83
 Soil Map Unit Name: Natchaug muck, 0 to 2 percent slopes (NcA) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		If yes, optional Wetland Site ID: <u>Wetland 1</u>	
Remarks: (Explain alternative procedures here or in a separate report.)					
Located adjacent to the peninsula that connects to Wells 1 and 2.					

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<u>6</u>
Saturation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<u>0</u>
(includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-W1B

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.66</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>60</u>	= Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>0</u> (A)	<u>0</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Carpinus caroliniana</u>	<u>1</u>	<u>N</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>6</u>	= Total Cover															
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Symplocarpus foetidus</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Equisetum arvense</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
3. <u>Phragmites australis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
4. <u>Carex stricta</u>	<u>1</u>	<u>N</u>	<u>OBL</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>48</u>	= Total Cover															
Woody Vine Stratum (Plot size: <u>N/A</u>)																		
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-W1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input checked="" type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Mahopac City/County: Putnam County Sampling Date: 04/20/2021
 Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-W1C
 Investigator(s): S. Smith, C. Frey Section, Township, Range: Town of Carmel
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR or MLRA): LRR R Lat: 41.359815 Long: 73.740004 Datum: NAD83
 Soil Map Unit Name: Natchaug muck, 0 to 2 percent slopes (NcA) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		If yes, optional Wetland Site ID: <u>Wetland 1</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Sample site located adjacent to the peninsula that connects Wells 1 and 2.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☒ No ☐ Depth (inches): 10
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-W1C

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer rubrum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>50</u> = Total Cover				
Prevalence Index worksheet:				
Total % Cover of:		Multiply by:		
OBL species	_____	x 1 =	<u>0</u>	
FACW species	_____	x 2 =	<u>0</u>	
FAC species	_____	x 3 =	<u>0</u>	
FACU species	_____	x 4 =	<u>0</u>	
UPL species	_____	x 5 =	<u>0</u>	
Column Totals:	<u>0</u>	(A)	<u>0</u>	(B)
Prevalence Index = B/A = _____				
Hydrophytic Vegetation Indicators:				
<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation				
<input type="checkbox"/> Dominance Test is >50%				
<input type="checkbox"/> Prevalence Index is ≤3.0 ¹				
<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Vegetation Strata:				
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.				
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vines – All woody vines greater than 3.28 ft in height.				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: SP-W1C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input checked="" type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ROCK

Depth (inches): 12+

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Not as strongly hydric as W1A and W1B but it was part of the same complex.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Mahopac City/County: Putnam County Sampling Date: 04/22/2021
 Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-U1
 Investigator(s): S. Smith, C. Frey Section, Township, Range: Town of Carmel
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope (%): 0
 Subregion (LRR or MLRA): LRR R Lat: 41.359788 Long: 73.739625 Datum: NAD83
 Soil Map Unit Name: Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky (CrC) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
If yes, optional Wetland Site ID: _____					
Remarks: (Explain alternative procedures here or in a separate report.)					
Location of proposed turn-around area. Sparse skunk cabbage. Well drained, sandy soils.					

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)				
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)				
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)				
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)				
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)				
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)					
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>0</u>			Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					
Area appears to well drained.					

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-U1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Betula alleghaniensis</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.33</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>60</u>	= Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>0</u> (A)	<u>0</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Rosa multiflora</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>10</u>	= Total Cover															
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Symplocarpus foetidus</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Alliaria petiolata</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Berberis thunbergii</u>	<u>15</u>	<u>N</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>87</u>	= Total Cover															
Woody Vine Stratum (Plot size: <u>N/A</u>)																		
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-U1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ROCK

Depth (inches): 7+

Hydric Soil Present? Yes ☐ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Mahopac City/County: Putnam County Sampling Date: 04/20/2021
Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-UA
Investigator(s): S. Smith, C. Frey Section, Township, Range: Town of Carmel
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 2
Subregion (LRR or MLRA): LRR R Lat: 41.360399 Long: 73.740131 Datum: NAD83
Soil Map Unit Name: Sun loam (Sh) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
If yes, optional Wetland Site ID: _____					
Remarks: (Explain alternative procedures here or in a separate report.)					
Depression between Bloomer Pond and the residential properties. Drains to pipe under access road. Overland flow from storm events likely make this area wet enough to support the skunk cabbage but there is no evidence of prolonged saturation to create a wetland.					

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	0
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	0
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	0
(includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			
Area is well drained			

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-UA

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Betula alleghaniensis</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60.00</u> (A/B)
2. <u>Fagus grandifolia</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Carpinus caroliniana</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>100</u> = Total Cover				
Prevalence Index worksheet:				
Total % Cover of:		Multiply by:		
OBL species	_____	x 1 =	<u>0</u>	
FACW species	_____	x 2 =	<u>0</u>	
FAC species	_____	x 3 =	<u>0</u>	
FACU species	_____	x 4 =	<u>0</u>	
UPL species	_____	x 5 =	<u>0</u>	
Column Totals:	<u>0</u>	(A)	<u>0</u>	(B)
Prevalence Index = B/A = _____				
Hydrophytic Vegetation Indicators:				
<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation				
<input type="checkbox"/> Dominance Test is >50%				
<input type="checkbox"/> Prevalence Index is ≤3.0 ¹				
<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Vegetation Strata:				
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.				
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vines – All woody vines greater than 3.28 ft in height.				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: SP-UA

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ROCK

Depth (inches): 6+

Hydric Soil Present? Yes ☐ No ☒



















Remarks:

SWNY PFAS Compliance											
ID	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names
1		1	SWNY PFAS Compliance	384 days?	Wed 3/31/21	Mon 10/10/22		8%	Wed 3/31/21	NA	
2		2	D/B Contract Notice to Proceed	1 day	Mon 4/5/21	Mon 4/5/21		100%	Mon 4/5/21	Mon 4/5/21	
3		3	Maintain Secure Project Website	365 days	Tue 4/6/21	Mon 9/19/22	2	0%	Tue 4/6/21	NA	
5		5	Design Phase	251 days?	Wed 3/31/21	Fri 4/1/22		23%	Wed 3/31/21	NA	
54		54	Design Construction Services	345 days	Wed 3/31/21	Mon 8/15/22		0%	NA	NA	
62		62	Construction Phase	384 days	Wed 3/31/21	Mon 10/10/22		3%	Wed 3/31/21	NA	
63		63	Administration	233 days	Wed 3/31/21	Tue 3/8/22		4%	Wed 3/31/21	NA	
133		133	Construction Phase	229 days	Mon 11/8/21	Mon 10/10/22	65,66,67,68,78,83	0%	Mon 11/8/21	NA	
134		134	Survey-Establish Control	1 day	Mon 3/7/22	Mon 3/7/22	50	0%	Mon 3/7/22	NA	
135		135	Test Pit and Verify 6" OD for Tapping Sleeve	1 day	Mon 11/8/21	Mon 11/8/21	50	0%	NA	NA	
136		136	Mobilization	2 days	Mon 3/7/22	Tue 3/8/22	53	0%	Mon 3/7/22	NA	
137		137	Erosion Control	3 days	Wed 3/9/22	Fri 3/11/22	136	0%	NA	NA	
138		138	Site Clearing of Existing Trees/Brush	3 days	Mon 3/14/22	Wed 3/16/22	137	0%	NA	NA	
139		139	Strip Topsoil	3 days	Thu 3/17/22	Mon 3/21/22	138	0%	NA	NA	
140		140	Site Grading	3 days	Tue 3/22/22	Thu 3/24/22	139	0%	NA	NA	
141		141	Install fill	1 day	Fri 3/25/22	Fri 3/25/22	140	0%	NA	NA	
142		142	Install Stone Base for Access Road	3 days	Fri 3/25/22	Tue 3/29/22	140	0%	NA	NA	
143		143	Exterior Piping	116 days	Wed 4/6/22	Mon 9/19/22		0%	NA	NA	
144		144	Install 6" DIP Influent Piping into building including Tapping 6" Main	2 days	Wed 4/6/22	Thu 4/7/22	142,155FF+1 day,119,120	0%	NA	NA	
145		145	Install 6" DIP Effluent Piping into building including Tapping 6" Main	1 day	Fri 4/8/22	Fri 4/8/22	144	0%	NA	NA	
146		146	Install Well Pumps	5 days	Fri 8/5/22	Thu 8/11/22	122,152	0%	NA	NA	
147		147	Chlorinate, Pressure Test and Flush/DOH Approval	10 days	Fri 9/2/22	Fri 9/16/22	175	0%	NA	NA	
148		148	Cut & Cap 6" Main After Tie In	1 day	Mon 9/19/22	Mon 9/19/22	147	0%	NA	NA	
149		149	Install 6" DIA Seepage Pit	1 day	Thu 6/23/22	Thu 6/23/22	153	0%	NA	NA	
150		150	Electric	84 days	Thu 4/7/22	Thu 8/4/22		0%	NA	NA	
151		151	Excavate and Install Underground Electric Feed into building	3 days	Thu 4/7/22	Mon 4/11/22	155	0%	NA	NA	
152		152	Install Electrical Appurtenances	30 days	Thu 6/23/22	Thu 8/4/22	166	0%	NA	NA	
153		153	Building/Superstructure	60 days	Wed 3/30/22	Wed 6/22/22		0%	NA	NA	
154		154	Excavate for Building Footings	1 day	Wed 3/30/22	Wed 3/30/22	142	0%	NA	NA	
155		155	Form, Install Rebar and Pour Footings for Building	5 days	Thu 3/31/22	Wed 4/6/22	154	0%	NA	NA	
156		156	Form, Install Rebar and Pour Foundation Wall for Building	5 days	Tue 4/12/22	Mon 4/18/22	155,151,145	0%	NA	NA	
157		157	Form, Install Rebar and Pour Foundation Wall with Integral Piers for Building	6 days	Tue 4/19/22	Tue 4/26/22	156	0%	NA	NA	
158		158	Backfill Footings	1 day	Wed 4/27/22	Wed 4/27/22	157	0%	NA	NA	
159		159	Install GAC Equipment Pad	4 days	Thu 4/28/22	Tue 5/3/22	158	0%	NA	NA	
160		160	Plumbing-Install Floor Drains	3 days	Wed 5/4/22	Fri 5/6/22	159	0%	NA	NA	
161		161	Install Stone Base for Slab on Grade	1 day	Mon 5/9/22	Mon 5/9/22	160	0%	NA	NA	
162		162	Install Slab on Grade	5 days	Tue 5/10/22	Mon 5/16/22	161	0%	NA	NA	
163		163	Sawcut Control Joints	1 day	Tue 5/17/22	Tue 5/17/22	162	0%	NA	NA	
164		164	Install Equipment Pads- Form, Rebar, Pour, Strip and Rub	3 days	Wed 5/18/22	Fri 5/20/22	163	0%	NA	NA	
165		165	Install Filter Pads- Form, Rebar, Pour, Strip and Rub	3 days	Mon 5/23/22	Wed 5/25/22	164	0%	NA	NA	
166		166	Installation of Pre-Engineered Building	25 days	Wed 5/18/22	Wed 6/22/22	163	0%	NA	NA	
167		167	Chemical Feed System	4 days	Thu 6/23/22	Tue 6/28/22		0%	NA	NA	
168		168	Install Piping for Sodium Hypo and Phosphoric	4 days	Thu 6/23/22	Tue 6/28/22	166	0%	NA	NA	
169		169	Treatment Equipment	20 days	Thu 6/9/22	Thu 7/7/22		0%	NA	NA	
170		170	Install 8" DIA GAC Equipment	2 days	Thu 6/9/22	Fri 6/10/22	166FS-10 days	0%	NA	NA	
171		171	Install Filters	1 day	Thu 6/23/22	Thu 6/23/22	166,170	0%	NA	NA	

Note: "?" stands for approximate estimate

Page 1 of 2

Note: ?" stands for approximate estimate

SWNY PFAS Project F-Chateau											
ID	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names
172		172	Install Influent, Effluent and Wastewater Flanged Piping	7 days	Thu 6/23/22	Fri 7/1/22	166,170	0%	NA	NA	
173		173	Install Pipe Supports	3 days	Tue 7/5/22	Thu 7/7/22	172	0%	NA	NA	
174		174	Instrumentation	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
175		175	Install Instrumentation Appurtenances	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
176		176	Building HVAC Work	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
177		177	Install HVAC	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
178		178	Painting/Coating	5 days	Fri 7/8/22	Thu 7/14/22		0%	NA	NA	
179		179	Paint Interior Piping	5 days	Fri 7/8/22	Thu 7/14/22	169	0%	NA	NA	
180		180	Site Work	15 days	Fri 7/8/22	Thu 7/28/22		0%	NA	NA	
181		181	Install Site Civil-Gravel Turnaround and Landscaping	15 days	Fri 7/8/22	Thu 7/28/22	173	0%	NA	NA	
182		182	Start Up and Testing	10 days	Mon 9/19/22	Fri 9/30/22		0%	NA	NA	
183		183	Start up and Test Equipment and Instrumentation	10 days	Mon 9/19/22	Fri 9/30/22	147,152	0%	NA	NA	
184		184	Substantial Completion	1 day	Mon 10/3/22	Mon 10/3/22	182	0%	NA	NA	
185		185	DOH Review and Approval	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
186		186	In Service	0 days	Mon 10/10/22	Mon 10/10/22	185	0%	NA	NA	
187		187	Demobilization	5 days	Tue 10/4/22	Mon 10/10/22		0%	NA	NA	
188		188	Cleanup/Demobilization	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
189		189	Final Completion	0 days	Mon 10/10/22	Mon 10/10/22	188,186	0%	NA	NA	

Page 2 of 2

-
4. The hydrology and the hydraulics study for this project have been undertaken to examine the pre and post construction drainage conditions. The study provides the impact of the proposed impervious area to the drainage system. To attenuate the post-development peak flow to pre-development peak flow we are proposing a rain garden system. The rain garden system is design per NYSDEC's stormwater management design manual. The drainage system consists of pipes, stone outlet, rain garden system, and a 12" riser. The system it's an above ground practice and is design to store 1,571 cu.ft.. The ponding depth of the system is 6 inches and in order to address the overflow a 12-inch riser has been proposed. In addition, a list of the approved rain garden landscaping has been provided. Please refer to the site plan (dwg. no 1) and the grading plan (dwg. no 4).
5. The erosion and sediment control measures to be used on the site during the proposed work include silt fences and a construction entrance. In addition, disturbed portions of the site where construction activities permanently cease shall be stabilized no later than 14 days after the last construction activity. The Erosion and Sediment Control (E&SC) Plan is prepared per NYS Standards and Specifications for Erosion and Sediment Control. Please refer to the erosion and sediment control plan (dwg. no 5).
6. Stormwater runoff generated by the proposed site improvement will be routed to the rain garden system in order to provide zero net increase of peak runoff. The rain garden system is design to provide peak flow attenuation up to 100-year storm peak runoff. The rain garden system is design per NYSDEC's stormwater management design manual.

Ramya Ramanathan

From: Liskovich, Sophia Z. <sliskovich@GFNET.com>
Sent: Thursday, January 27, 2022 9:28 AM
To: Ramya Ramanathan
Subject: FW: 3-3720-00473 Mahopac Well

Mahopac.

Sophia Liskovich, PE | Project Manager
Gannett Fleming, Inc. | 7133 Rutherford Road
t 410-907-2682 | c 856-296-3636 | sliskovich@gfnet.com

From: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Sent: Friday, November 12, 2021 12:44 PM
To: Arnold, Jillian N. <jarnold@GFNET.com>; Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Cc: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Subject: 3-3720-00473 Mahopac Well

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Morning,

The technical review is complete and program staff had the following comments.

- It is not evident where the permanent wetland impact will occur on the plan. Please identify the area on the plans.
- An erosion and sediment control plan is missing.

In addition, please let me know which Nationwide Permit # this project will fall under.

Please let me know if you have any questions.

Alysse Devine

Environmental Analyst, Division of Environmental Permits
New York State Department of Environmental Conservation
21 South Putt Corners Rd, New Paltz, NY 12561
P: (845) 240-7806 | alysse.devine@dec.ny.gov
www.dec.ny.gov |  |  | 



Liskovich, Sophia Z.

From: Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Sent: Monday, January 10, 2022 12:24 PM
To: Arnold, Jillian N.
Cc: Smith, Steven C.; Liskovich, Sophia Z.
Subject: RE: Submission of Suez Water Permit Applications
Attachments: NWP Regulations FR 06JAN17.pdf; PN-LRB NAN Final Regional Conditions WQC CZM for NY (dated 21-MAR-2017).pdf

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Jillian,

We received the pre-construction notification for NWP 3 for the above referenced project on November 16, 2021.

Due to my excessive work load, I was unable to provide a written determination within 45 days of its submission.

In accordance with the current nationwide general permit regulations (Federal Register dated January 6, 2017, pages 1860 to 2008), if the Corps of Engineers district does not respond to a pre-construction notification within 45 days of receipt, then the applicant may proceed with the project as proposed.

That means that the applicant must perform the work as proposed in your pre-construction notification. Any substantive changes to the project would require the applicant to submit a new notification to this office.

If you have any questions, let me know.

Brian

Brian A. Orzel
Project Manager, Civil Engineer
NY District US Army Corps of Engineers
Regulatory Branch
26 Federal Plaza, Room 16-406
New York, New York 10278-0090

Please note in order to ensure our continuity of operations and improve the timeliness of permit application reviews due to the current COVID-19 virus, effective immediately, the New York District, U.S. Army Corps of Engineers is requiring that all new permit applications be submitted to the New York District electronically. Until further notice, the New York District will no longer process any paper permit applications. This electronic processing procedure will increase the efficiency of correspondence, furthering the goal of providing timely decisions. Please see the link below to the Regulatory Branch Operational Modification Special Public Notice describing the instructions for electronic application submittals:

<https://www.nan.usace.army.mil/Portals/37/docs/regulatory/publicnotices/Non%20Project%20Specific/2020/CENAN-OP-R%20PN%20Electronic%20Submission%20of%20Permit%20Applications%2027MAR2020.pdf?ver=2020-03-31-163215-913>.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, December 13, 2021 1:04 PM
To: Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Brian,

I wanted to touch base to you on the Suez projects in Putnam County. Have you been able to determine of the 5 projects (Archer, Chateau, Geymer, London Bridge and Mahopac) what nationwide permit these projects might fall under? NY DEC is currently waiting USACE's determination of the NWP in order to finalize the state permits.

Thank you very much for your time, we appreciate it!

Jillian

From: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Sent: Monday, November 15, 2021 10:24 AM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Ms. Arnold,

I have provided the Suez Water permit applications to Mr. Brian Orzel, copied on the email, who is the area project manager for Putnam County. If he has any questions on the submittal, he'll contact you.

R/ Rosie

ROSITA MIRANDA
Chief, Western Section
Regulatory Branch
USACE, New York District
Mobile: 347-446-0359

<https://www.nan.usace.army.mil/Missions/Regulatory/>

EFFECTIVE IMMEDIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: CENAN-R-Permit-App@usace.army.mil.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, November 8, 2021 12:42 PM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Good afternoon, I am following up with this email (below) from the 29th. I tried to submit the files to the site that was in the email from the 28th. However, It requested a code when I clicked the location. I know that USACE has not started reviewing these permits, and I am concerned about timeline for construction. Please let me know how I can get USACE the permits that need to be reviewed.

Thank you,
Jillian

From: Arnold, Jillian N.
Sent: Friday, October 29, 2021 7:49 AM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>
Subject: RE: Submission of Suez Water Permit Applications

Good morning Rosie,

I am happy to drop off the files for Suez to the site listed in your email, however, it is asking for a request code? Are you able to send me a drop off request? I have never delivered information to USACE this way. Sorry for all of the questions.

Thank you,
Jillian

From: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Sent: Thursday, October 28, 2021 3:12 PM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please provide the town and county so we can direct your inquiry to the right permit section.

Please use - <https://safe.apps.mil/> for file transfer.

R/ Rosie

ROSITA MIRANDA
Chief, Western Section
Regulatory Branch
USACE, New York District
Mobile: 347-446-0359

<https://www.nan.usace.army.mil/Missions/Regulatory/>

EFFECTIVE IMMEDIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: CENAN-R-Permit-App@usace.army.mil.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Thursday, October 28, 2021 12:12 PM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Could you please tell me how to submit packages to the FTP site? I have not received a response if you received the SUEZ packages for review. I do not want to lose too much time as NYSDEC is review these packages at this time.

Thank you very much for your help!
Jillian

From: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Sent: Tuesday, October 12, 2021 4:54 PM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please note that you have to use DOD Safe as the ftp site for large files.

What Town and County is this project in?

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Friday, October 8, 2021 1:02 PM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Subject: [Non-DoD Source] Submission of Suez Water Permit Applications

Good afternoon,

Please find the electronic versions of the Archer, Chateau and London Bridge Joint Permit Applications for SUEZ Water NY. These applications have been sent to NYSDEC for Joint Permit approvals. Below are the list of DEC IDs for these applications:

- Archer Well – 3-3720-00471/00001
- London Bridge Well – 3-3720-00469/00001
- Chateau Well – 3-3720-00470/00001

The file sizes on each pdf is large making emailing cumbersome. Here is the link to download the 3 Joint Permit Applications.

Download Link: [SUEZ - Archer, Chateau and London Bridge JPA Packages](#)

Please let me know if there are any restrictions with accessing the link above.

Any additional questions, please do not hesitate to let us know.

Thank you,
Jill

Jillian Arnold, PWS | Senior Environmental Scientist
Gannett Fleming | 207 Senate Avenue, Camp Hill, PA 17011
t 717.886.5402 | **c** 717.422.6229 | jarnold@gfnet.com

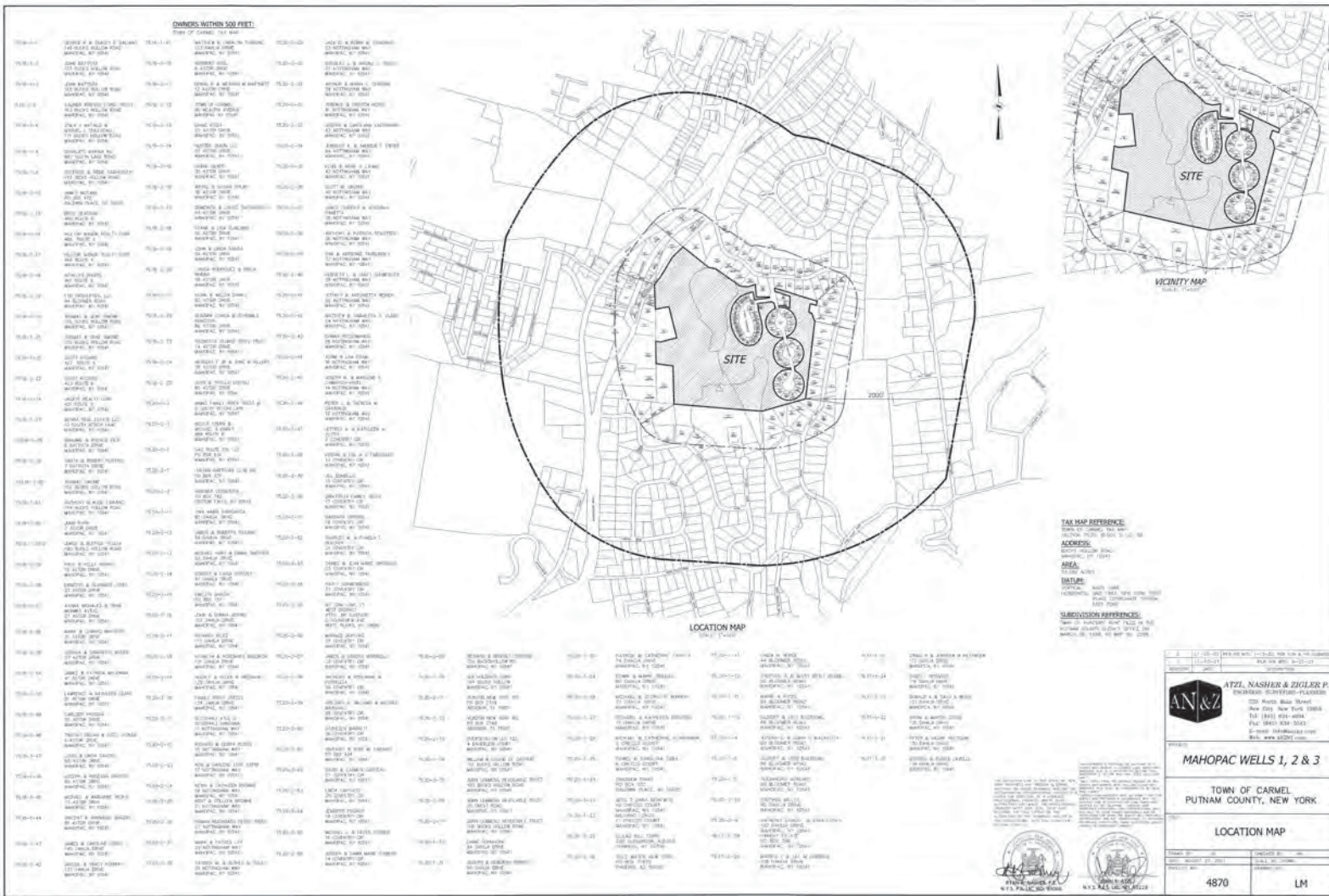
Excellence Delivered As Promised

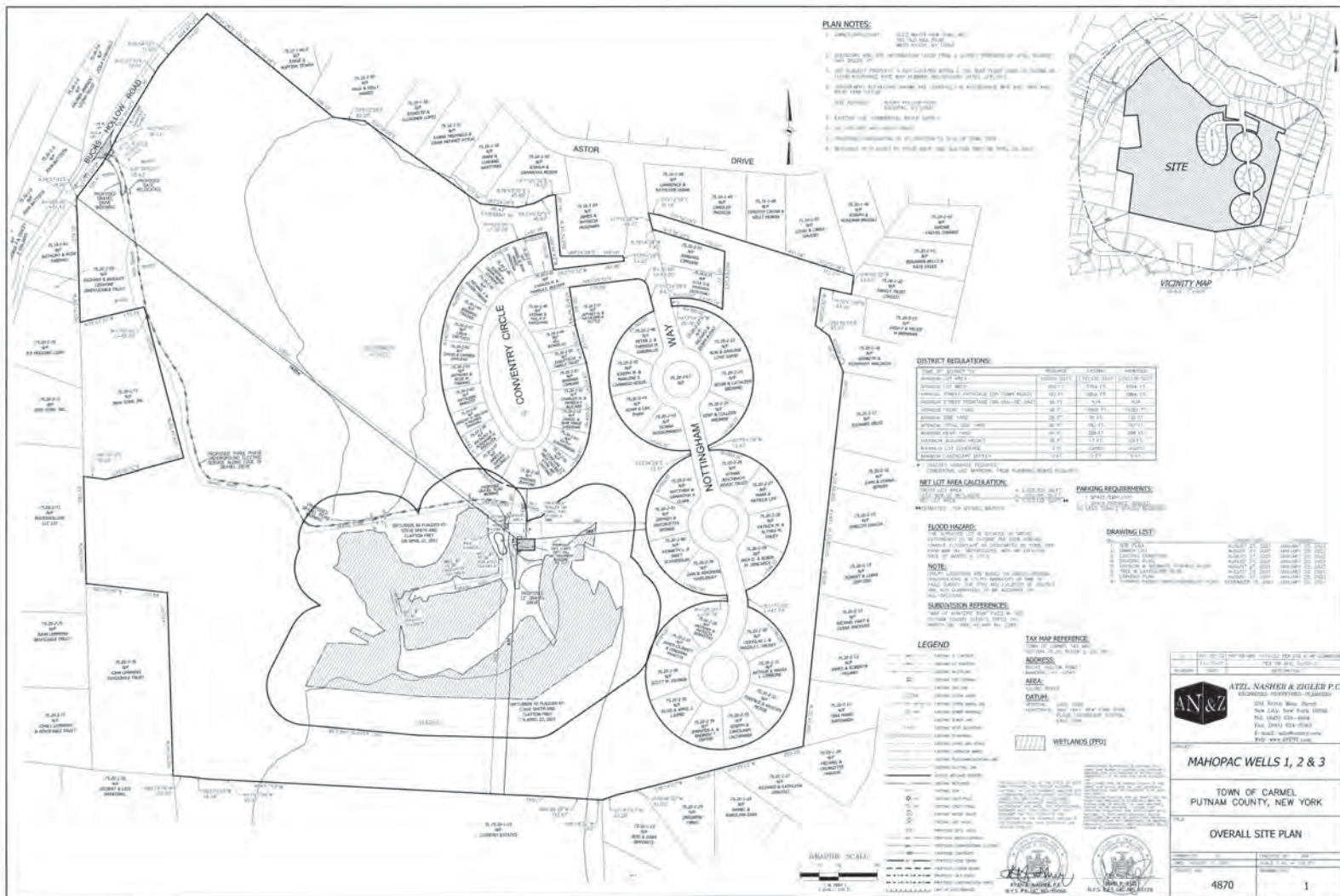
Gannett Fleming is ISO 9001:2008 Certified.

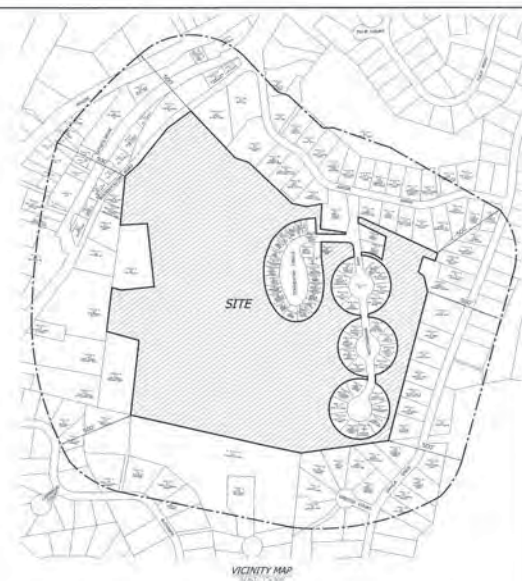
www.gannettfleming.com | Stay connected: [Twitter](#) | [Facebook](#) | [LinkedIn](#) | [YouTube](#)

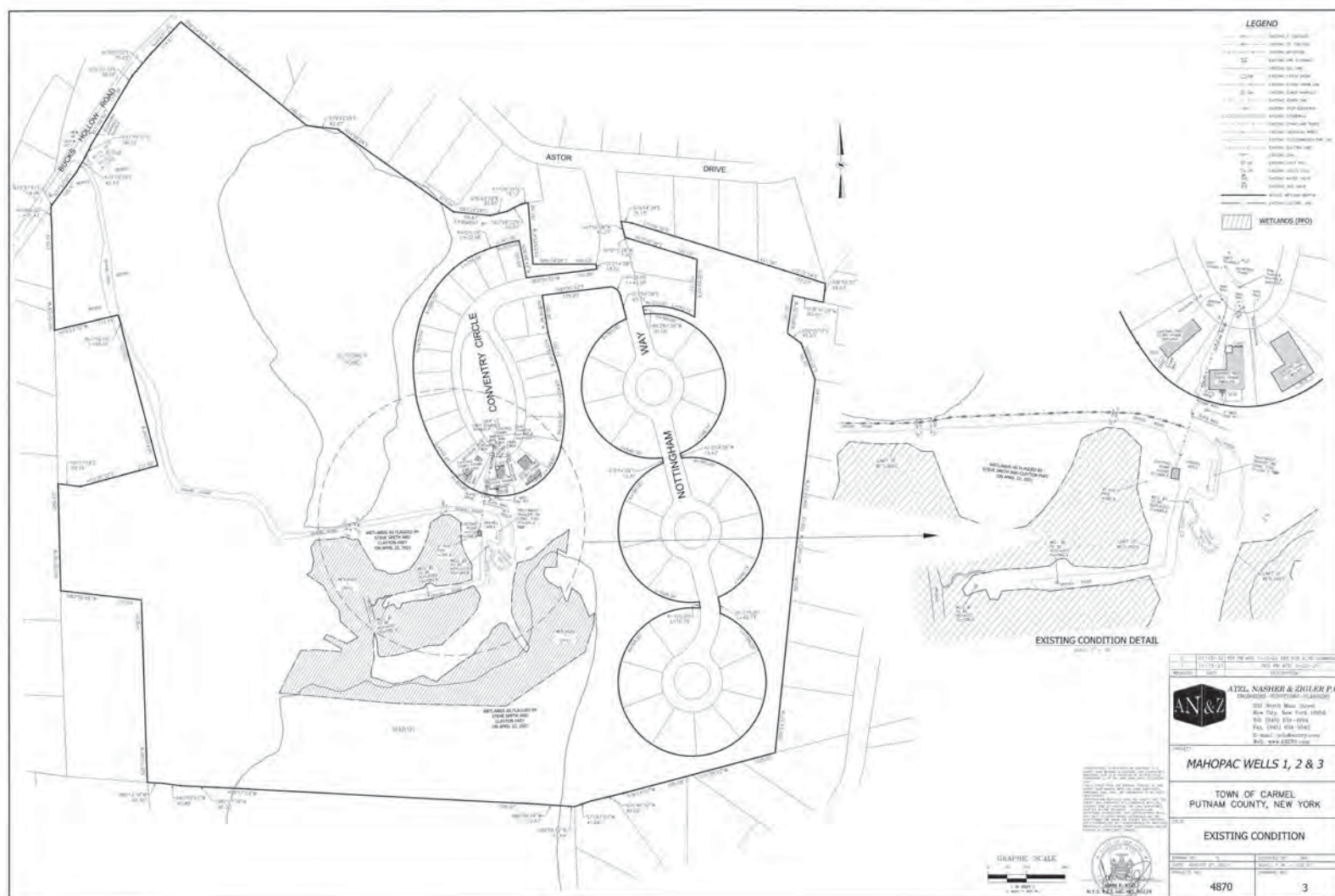
PRINTING SUSTAINABILITY STATEMENT: Gannett Fleming is committed to conserving natural resources and minimizing adverse environmental impacts in projects. Accordingly, project documentation will be provided in electronic format only unless clients specifically request hard copies. Visit our [website](#) to read more about our sustainability commitment.

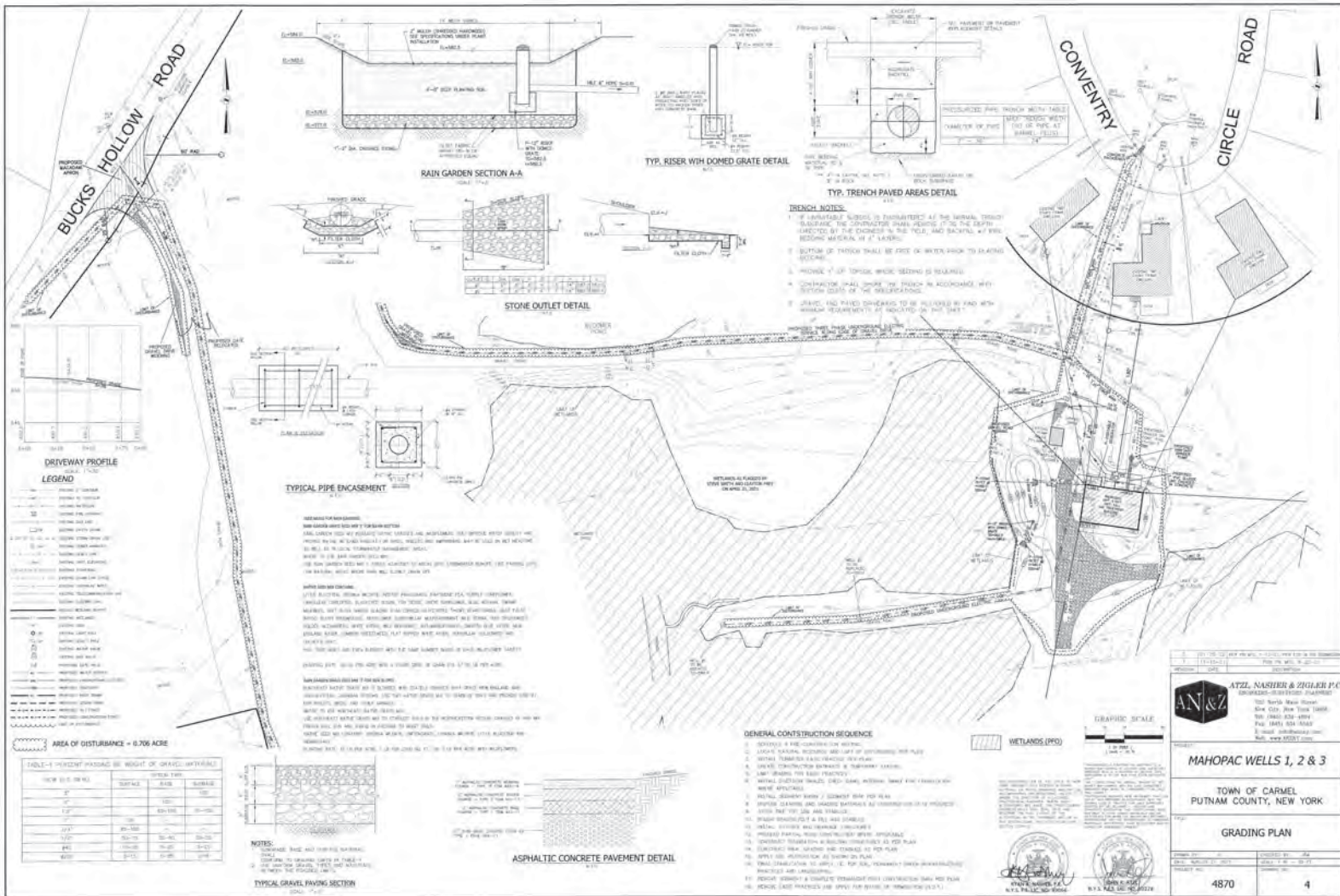
CONFIDENTIALITY NOTICE: This email and any attachments may contain confidential information for the use of the named addressee. If you are not the intended recipient, you are hereby notified that you have received this communication in error and that any review, disclosure, dissemination, distribution or copying of it or its contents is prohibited.





[illegible]





ROBERT LAGA
Chairman

NICHOLAS FANNIN
Vice Chairman

RICHARD FRANZETTI
Wetland Inspector

ROSE TROMBETTA
Secretary

TOWN OF CARMEL
ENVIRONMENTAL CONSERVATION BOARD



60 McAlpin Avenue
Mahopac, New York 10541
Tel. (845) 628-1500 - Ext. 190
www.ci.carmel.ny.us

BOARD MEMBERS

Edward Barnett
Anthony Federice
Nicole Sedran

APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

Name of Applicant: SUEZ Water New York, Inc

Address of Applicant: 162 Old Mill Road, West Nyack, NY 10994 **Email:** steven.garabed@suez.com

Telephone# 845-620-3819 **Name and Address of Owner if different from Applicant:**

APPLICANT IS THE SAME AS OWNER

Property Address: 9 Colton Road, Mahopac, NY 10541 **Tax Map #** 85.12-1-8

Agency Submitting Application if Applicable: Atz, Nasher & Zigel, P.C

Location of Wetland: Shown on Site Plan

Size of Work Section & Specific Location: See attached description.

Will Project Utilize State Owned Lands? If Yes, Specify: No

Type and extent of work (feet of new channel, yards of material to be removed, draining, dredging, filling, etc). A brief description of the regulated activity (attach supporting details).

See attached description.

Proposed Start Date: March 2022 **Anticipated Completion Date:** October 2022 **Fee Paid \$** 1,000

CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief, false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. As a condition to the issuance of a permit, the applicant accepts full legal responsibility for all damage, direct or indirect, or whatever nature, and by whomever suffered, arising out of the project described here-in and agrees to indemnify and save harmless the Town of Carmel from suits, actions, damages and costs of every name and description resulting from the said project.

SIGNATURE

1-26-22
DATE

Note: The Long EAF Part 1 was accepted by the Planning Board in September 2021. The project is classified as a Type II Action.

Full Environmental Assessment Form Part 1 - Project and Setting

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 1 is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: SUEZ Water New York, Inc. – London Bridge Well 1 & 2		
Project Location (describe, and attach a general location map): 39 Brook Street in the Town of Carmel, Putnam County		
Brief Description of Proposed Action (include purpose or need): SUEZ Water is proposing the construction of upgrades at their existing London Bridge Well 1 & 2 site. The proposed upgrades will comply with the new state drinking water regulations for polyfluoroalkyl substances (PFAS). The planned upgrade will add treatment for PFAS to remain below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both Perfluorooctanoic acid (PFOA) and Perfluorooctane sulfonate (PFOS), the regulated compounds. See the attached narrative for details.		
Name of Applicant/Sponsor: SUEZ Water New York, Inc.	Telephone: 845-620-3319	
	E-Mail: steven.garabed@suez.com	
Address: 162 Old Mill Road		
City/PO: West Nyack	State: NY	Zip Code: 10994
Project Contact (if not same as sponsor; give name and title/role): John Atzl - Atzl, Nasher & Zigler, PC	Telephone: 845-634-4694	
	E-Mail: jatzl@anzny.com	
Address: 234 North Main Street		
City/PO: New City	State: NY	Zip Code: 10956
Property Owner (if not same as sponsor): PROPERTY OWNER IS THE SAME AS APPLICANT	Telephone:	
	E-Mail:	
Address:		
City/PO:	State:	Zip Code:

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, <input type="checkbox"/> Yes <input type="checkbox"/> No or Village Board of Trustees		
b. City, Town or Village Planning Board or Commission <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Town of Carmel Planning Board - Site Plan and Conditional Use Approval	August 2021
c. City, Town or Village Zoning Board of Appeals <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Town of Carmel Zoning Board - variance	August 2021
d. Other local agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Town of Carmel Building Department - Building Permit, Sewer Connection Permit	August 2021
e. County agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Putnam County Department of Health	August 2021
f. Regional agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
g. State agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
h. Federal agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
i. Coastal Resources. i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No iii. Is the project site within a Coastal Erosion Hazard Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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):

NYC Watershed Boundary

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):

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?

Residential District

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? Mahopac Central School District

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

Town of Carmel Police Department

c. Which fire protection and emergency medical services serve the project site?

Mahopac Volunteer Fire Department

d. What parks serve the project site?

Airport Field, Sycamore Town Park

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)? Industrial Water Treatment and Supply

b. a. Total acreage of the site of the proposed action? 1.61 acres

b. Total acreage to be physically disturbed? 0.26 acres

c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 1.61 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)? % 194 Units: 726 sq. ft.

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)

ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No

iii. Number of lots proposed? _____

iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☒ No

i. If No, anticipated period of construction: 12 months

ii. If Yes:

- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____ year

• Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

*** Calculation: [Proposed building expansion (sq ft)/ Existing building (sq ft)] X 100
(792 sq. ft. proposed building /235 sq. ft. existing building) X 100**

f. Does the project include new residential uses? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, show numbers of units proposed.				
	<u>One Family</u>	<u>Two Family</u>	<u>Three Family</u>	<u>Multiple Family (four or more)</u>
Initial Phase	_____	_____	_____	_____
At completion	_____	_____	_____	_____
of all phases	_____	_____	_____	_____

g. Does the proposed action include new non-residential construction (including expansions)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes,	
i. Total number of structures _____ 1 ii. Dimensions (in feet) of largest proposed structure: _____ 22 height; _____ 22 width; and _____ 33 length iii. Approximate extent of building space to be heated or cooled: _____ 726 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes,	
i. Purpose of the impoundment: _____ ii. If a water impoundment, the principal source of the water: <input type="checkbox"/> Ground water <input type="checkbox"/> Surface water streams <input type="checkbox"/> Other specify: _____ iii. If other than water, identify the type of impounded/contained liquids and their source. _____ iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): _____ _____	

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) If Yes:	
i. What is the purpose of the excavation or dredging? _____ ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site? • Volume (specify tons or cubic yards): _____ • Over what duration of time? _____ iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them. _____ _____ iv. Will there be onsite dewatering or processing of excavated materials? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe. _____ _____ v. What is the total area to be dredged or excavated? _____ acres vi. What is the maximum area to be worked at any one time? _____ acres vii. What would be the maximum depth of excavation or dredging? _____ feet viii. Will the excavation require blasting? <input type="checkbox"/> Yes <input type="checkbox"/> No ix. Summarize site reclamation goals and plan: _____ _____ _____	

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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes:	
i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____ _____	

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:

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☐ No
If Yes, describe: _____

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: _____ gallons/day

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

- Name of district or service area: _____
- 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: _____
- Source(s) of supply for the district: _____

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: _____

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ 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

<ul style="list-style-type: none"> • Do existing sewer lines serve the project site? _____ • Will a line extension within an existing district be necessary to serve the project? _____ <p>If Yes:</p> <ul style="list-style-type: none"> • Describe extensions or capacity expansions proposed to serve this project: _____ _____ _____ 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
<p>iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? _____</p> <p>If Yes:</p> <ul style="list-style-type: none"> • Applicant/sponsor for new district: _____ • Date application submitted or anticipated: _____ • What is the receiving water for the wastewater discharge? _____ 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<p>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): _____ _____ _____</p>		
<p>vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____ _____ _____</p>		
<p>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? _____</p> <p>If Yes:</p> <p>i. How much impervious surface will the project create in relation to total size of project parcel?</p> <p style="margin-left: 40px;">_____ Square feet or _____ acres (impervious surface)</p> <p style="margin-left: 40px;">_____ Square feet or _____ acres (parcel size)</p> <p>ii. Describe types of new point sources. _____</p> <p>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)? _____ _____</p> <ul style="list-style-type: none"> • If to surface waters, identify receiving water bodies or wetlands: _____ _____ • Will stormwater runoff flow to adjacent properties? _____ 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
<p>iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? _____</p>		
<p>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? _____</p> <p>If Yes, identify:</p> <p>i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles) Construction equipment and vehicles _____</p> <p>ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers) Power generation _____</p> <p>iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation) _____</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<p>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? _____</p> <p>If Yes:</p> <p>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) _____</p> <p>ii. In addition to emissions as calculated in the application, the project will generate:</p> <ul style="list-style-type: none"> • _____ Tons/year (short tons) of Carbon Dioxide (CO₂) • _____ Tons/year (short tons) of Nitrous Oxide (N₂O) • _____ Tons/year (short tons) of Perfluorocarbons (PFCs) • _____ Tons/year (short tons) of Sulfur Hexafluoride (SF₆) • _____ Tons/year (short tons) of Carbon Dioxide equivalent of Hydrofluorocarbons (HFCs) • _____ Tons/year (short tons) of Hazardous Air Pollutants (HAPs) 		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No

<p>h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Estimate methane generation in tons/year (metric): _____</p> <p>ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____</p>			
<p>i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust): _____</p>			
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. When is the peak traffic expected (Check all that apply): <input type="checkbox"/> Morning <input type="checkbox"/> Evening <input type="checkbox"/> Weekend <input type="checkbox"/> Randomly between hours of _____ to _____.</p> <p>ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____</p> <p>iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____</p> <p>iv. Does the proposed action include any shared use parking? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe: _____</p> <p>vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>vii. Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>			
<p>k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Estimate annual electricity demand during operation of the proposed action: _____ 16,335 kWh*</p> <p>ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other): <u>New York State Electric & Gas Corporation</u></p> <p>iii. Will the proposed action require a new, or an upgrade, to an existing substation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>			
<p>l. Hours of operation. Answer all items which apply.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 8AM - 6PM • Saturday: _____ 8AM - 6PM • Sunday: _____ 8AM - 6PM • Holidays: _____ CLOSED </td> <td style="width: 50%; vertical-align: top;"> <p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 24 hours/day • Saturday: _____ 24 hours/day • Sunday: _____ 24 hours/day • Holidays: _____ 24 hours/day </td> </tr> </table>		<p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 8AM - 6PM • Saturday: _____ 8AM - 6PM • Sunday: _____ 8AM - 6PM • Holidays: _____ CLOSED 	<p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 24 hours/day • Saturday: _____ 24 hours/day • Sunday: _____ 24 hours/day • Holidays: _____ 24 hours/day
<p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 8AM - 6PM • Saturday: _____ 8AM - 6PM • Sunday: _____ 8AM - 6PM • Holidays: _____ CLOSED 	<p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 24 hours/day • Saturday: _____ 24 hours/day • Sunday: _____ 24 hours/day • Holidays: _____ 24 hours/day 		

*** The average number of kilowatt hours per square foot for a commercial building is approximately 22.5. (Source: Iota Communications.com). The proposed building is 792 sq. ft.**

<p>m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes:</p> <p>i. Provide details including sources, time of day and duration:</p> <p>The operation of construction equipment will increase local daytime ambient noise levels. This will only occur during permitted hours of operation and the resulting noise will cease upon completion of the project.</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<p>ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe: _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>n. Will the proposed action have outdoor lighting? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes:</p> <p>i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:</p> <p>See Lighting Plan</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<p>ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe: _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>o. Does the proposed action have the potential to produce odors for more than one hour per day? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Product(s) to be stored _____</p> <p>ii. Volume(s) _____ per unit time _____ (e.g., month, year)</p> <p>iii. Generally, describe the proposed storage facilities: _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Describe proposed treatment(s): _____</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>ii. Will the proposed action use Integrated Pest Management Practices? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Describe any solid waste(s) to be generated during construction or operation of the facility:</p> <ul style="list-style-type: none"> • Construction: _____ tons per _____ (unit of time) • Operation : _____ tons per _____ (unit of time) <p>ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:</p> <ul style="list-style-type: none"> • Construction: _____ • Operation: _____ <p>iii. Proposed disposal methods/facilities for solid waste generated on-site:</p> <ul style="list-style-type: none"> • Construction: _____ • Operation: _____ 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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): Industrial Water Treatment and Supply

ii. If mix of uses, generally describe: _____

b. Land uses and covertypes on the project site.

Land use or Covertypes	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.07	0.2	+ 0.13
• Forested, brushlands	1.34	1.21	- 0.13
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0.02	0.02	0
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0.05	0.05	0
• Wetlands (freshwater or tidal)	0.13	0.13	0
• Non-vegetated (bare rock, earth or fill)	0	0	0
• Other Describe: _____			

c. Is the project site presently used by members of the community for public recreation? i. If Yes: explain: _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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? If Yes, i. Identify Facilities: _____ _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
e. Does the project site contain an existing dam? If Yes: i. Dimensions of the dam and impoundment: <ul style="list-style-type: none"> • 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: _____ _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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? If Yes: i. Has the facility been formally closed? _____ • If yes, cite sources/documentation: _____ ii. Describe the location of the project site relative to the boundaries of the solid waste management facility: _____ _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
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? If Yes: i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred: _____ _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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? 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: <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div> <input type="checkbox"/> Yes – Spills Incidents database <input type="checkbox"/> Yes – Environmental Site Remediation database <input type="checkbox"/> Neither database </div> <div> Provide DEC ID number(s): _____ Provide DEC ID number(s): _____ </div> </div> ii. If site has been subject of RCRA corrective activities, describe control measures: _____ _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? If yes, provide DEC ID number(s): _____ iv. If yes to (i), (ii) or (iii) above, describe current status of site(s): _____ _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

v. Is the project site subject to an institutional control limiting property uses? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
<ul style="list-style-type: none"> 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? <input type="checkbox"/> Yes <input type="checkbox"/> No Explain: _____ _____ 													
E.2. Natural Resources On or Near Project Site													
a. What is the average depth to bedrock on the project site? _____ 2.1 feet													
b. Are there bedrock outcroppings on the project site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, what proportion of the site is comprised of bedrock outcroppings? _____ %													
c. Predominant soil type(s) present on project site: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">RdB- Ridgebury complex</td> <td style="width: 40%; text-align: right;">37 %</td> </tr> <tr> <td>WdC- Woodbridge loam</td> <td style="text-align: right;">63 %</td> </tr> <tr> <td>_____</td> <td style="text-align: right;">_____ %</td> </tr> </table>		RdB- Ridgebury complex	37 %	WdC- Woodbridge loam	63 %	_____	_____ %						
RdB- Ridgebury complex	37 %												
WdC- Woodbridge loam	63 %												
_____	_____ %												
d. What is the average depth to the water table on the project site? Average: _____ 1 feet													
e. Drainage status of project site soils: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"><input type="checkbox"/> Well Drained:</td> <td style="width: 70%; text-align: right;">_____ % of site</td> </tr> <tr> <td><input checked="" type="checkbox"/> Moderately Well Drained:</td> <td style="text-align: right;">63 % of site</td> </tr> <tr> <td><input checked="" type="checkbox"/> Poorly Drained</td> <td style="text-align: right;">37 % of site</td> </tr> </table>		<input type="checkbox"/> Well Drained:	_____ % of site	<input checked="" type="checkbox"/> Moderately Well Drained:	63 % of site	<input checked="" type="checkbox"/> Poorly Drained	37 % of site						
<input type="checkbox"/> Well Drained:	_____ % of site												
<input checked="" type="checkbox"/> Moderately Well Drained:	63 % of site												
<input checked="" type="checkbox"/> Poorly Drained	37 % of site												
f. Approximate proportion of proposed action site with slopes: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;"><input checked="" type="checkbox"/> 0-10%:</td> <td style="width: 60%; text-align: right;">45 % of site</td> </tr> <tr> <td><input checked="" type="checkbox"/> 10-15%:</td> <td style="text-align: right;">30 % of site</td> </tr> <tr> <td><input checked="" type="checkbox"/> 15% or greater:</td> <td style="text-align: right;">25 % of site</td> </tr> </table>		<input checked="" type="checkbox"/> 0-10%:	45 % of site	<input checked="" type="checkbox"/> 10-15%:	30 % of site	<input checked="" type="checkbox"/> 15% or greater:	25 % of site						
<input checked="" type="checkbox"/> 0-10%:	45 % of site												
<input checked="" type="checkbox"/> 10-15%:	30 % of site												
<input checked="" type="checkbox"/> 15% or greater:	25 % of site												
g. Are there any unique geologic features on the project site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
ii. Do any wetlands or other waterbodies adjoin the project site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No													
If Yes to either <i>i</i> or <i>ii</i> , 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No													
iv. For each identified regulated wetland and waterbody on the project site, provide the following information: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">• Streams:</td> <td style="width: 40%;">Name _____</td> <td style="width: 50%;">Classification _____</td> </tr> <tr> <td>• Lakes or Ponds:</td> <td>Name _____</td> <td>Classification _____</td> </tr> <tr> <td>• Wetlands:</td> <td>Name _____</td> <td>Approximate Size _____</td> </tr> <tr> <td>• Wetland No. (if regulated by DEC)</td> <td colspan="2">_____</td> </tr> </table>		• Streams:	Name _____	Classification _____	• Lakes or Ponds:	Name _____	Classification _____	• Wetlands:	Name _____	Approximate Size _____	• Wetland No. (if regulated by DEC)	_____	
• Streams:	Name _____	Classification _____											
• Lakes or Ponds:	Name _____	Classification _____											
• Wetlands:	Name _____	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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, name of impaired water body/bodies and basis for listing as impaired: _____ _____													
i. Is the project site in a designated Floodway? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
j. Is the project site in the 100-year Floodplain? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
k. Is the project site in the 500-year Floodplain? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes:													
i. Name of aquifer: _____													

<p>m. Identify the predominant wildlife species that occupy or use the project site: _____</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Squirrel _____</td> <td style="width: 33%;">Raccoon _____</td> <td style="width: 33%;">_____</td> </tr> <tr> <td>Deer _____</td> <td>Possum _____</td> <td>_____</td> </tr> <tr> <td>Rabbit _____</td> <td>Fox _____</td> <td>_____</td> </tr> </table>		Squirrel _____	Raccoon _____	_____	Deer _____	Possum _____	_____	Rabbit _____	Fox _____	_____
Squirrel _____	Raccoon _____	_____								
Deer _____	Possum _____	_____								
Rabbit _____	Fox _____	_____								
<p>n. Does the project site contain a designated significant natural community? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Describe the habitat/community (composition, function, and basis for designation): _____</p> <p style="margin-left: 20px;">ii. Source(s) of description or evaluation: _____</p> <p style="margin-left: 20px;">iii. Extent of community/habitat:</p> <ul style="list-style-type: none"> • Currently: _____ acres • Following completion of project as proposed: _____ acres • Gain or loss (indicate + or -): _____ acres 										
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Species and listing (endangered or threatened): _____</p> <p>_____</p> <p>_____</p>										
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Species and listing: _____</p> <p>_____</p> <p>_____</p>										
<p>q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If yes, give a brief description of how the proposed action may affect that use: _____</p> <p>_____</p> <p>_____</p>										
<p>E.3. Designated Public Resources On or Near Project Site</p>										
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes, provide county plus district name/number: _____</p>										
<p>b. Are agricultural lands consisting of highly productive soils present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p style="margin-left: 20px;">i. If Yes: acreage(s) on project site? _____</p> <p style="margin-left: 20px;">ii. Source(s) of soil rating(s): _____</p>										
<p>c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Nature of the natural landmark: <input type="checkbox"/> Biological Community <input type="checkbox"/> Geological Feature</p> <p style="margin-left: 20px;">ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____</p> <p>_____</p> <p>_____</p>										
<p>d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. CEA name: _____</p> <p style="margin-left: 20px;">ii. Basis for designation: _____</p> <p style="margin-left: 20px;">iii. Designating agency and date: _____</p>										

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? If Yes: i. Nature of historic/archaeological resource: <input type="checkbox"/> Archaeological Site <input type="checkbox"/> Historic Building or District ii. Name: _____ iii. Brief description of attributes on which listing is based: _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
g. Have additional archaeological or historic site(s) or resources been identified on the project site? If Yes: i. Describe possible resource(s): _____ ii. Basis for identification: _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
h. Is the project site within five miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? If Yes: i. Identify resource: <u>State Scenic Byway</u> ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): <u>Taconic State Parkway</u> iii. Distance between project and resource: _____ <u>1.1</u> miles.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> 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.

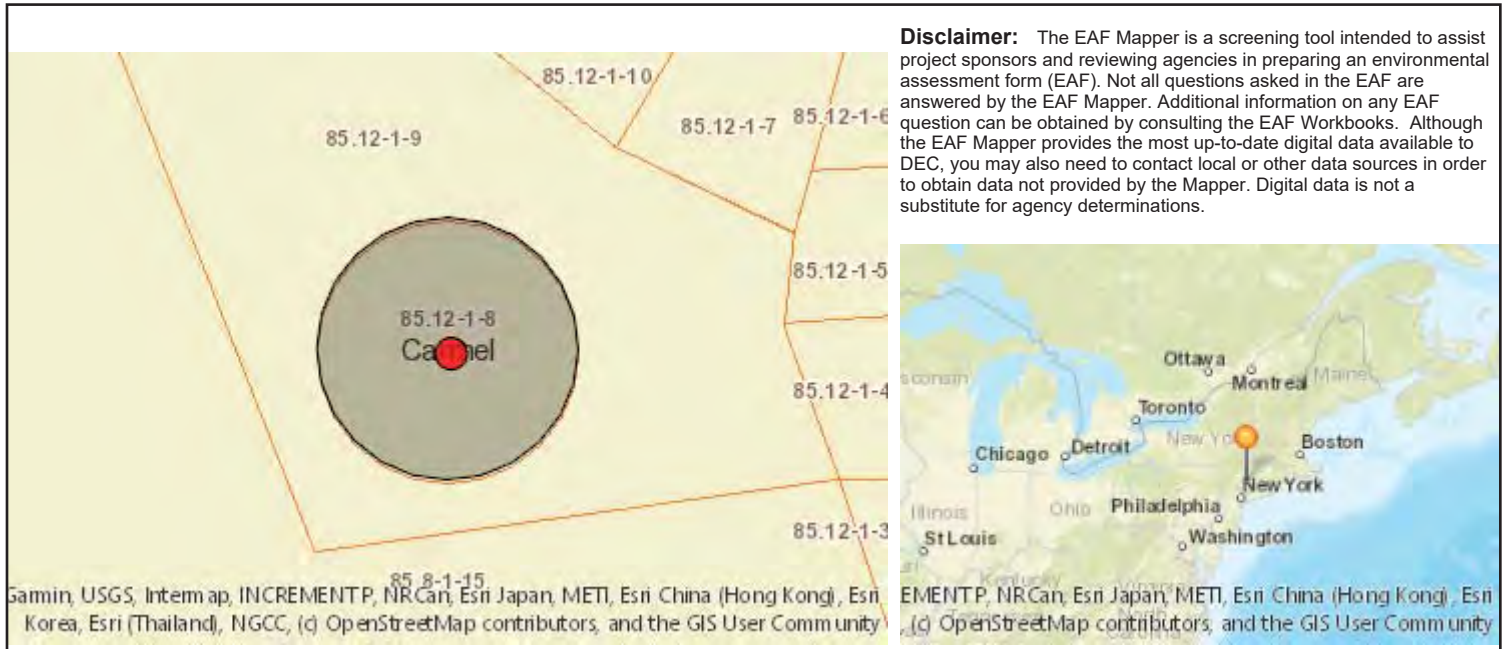
G. Verification

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

Applicant/Sponsor Name John Atz Date September 10, 2021

Signature _____ Title Land Surveyor

PRINT FORM



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]	No
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.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No
E.2.p. [Rare Plants or Animals]	No

E.3.a. [Agricultural District]	No
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]	No
E.3.i. [Designated River Corridor]	No

Project Description

General Project Information

Applicant: SUEZ Water New York, Inc.

Project: PFAS Compliance Project F – Archer Well

Location: Town of Carmel
Putnam County, New York

Consultant: Gannett Fleming, Inc.
207 Senate Avenue
Camp Hill, PA 17011

Introduction

SUEZ is proposing the construction of upgrades at their existing Archer well site. The proposed study area (41° 21' 01.477" N, 73° 47' 07.451" W) is located in the Town of Carmel, Putnam County, New York. The project study for this project encompassed the entire SUEZ property. During delineation efforts an additional 300-foot buffer was reviewed around the project study area and is referred to in the permit application as the action area. Refer to the Topographic Location Map and Aerial Layout Map for the location and project limits located in **Section A**.

Project Purpose and Need

The State of New York has adopted a new drinking water standard that set a Maximum Contaminant Level (MCL) of 10 parts per trillion (ppt) for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) in drinking water. Some PFAS do not breakdown easily and persist for a long time in the environment, especially in water. The concern of PFAS chemicals having toxic effects on public health has resulted in new regulations for the New York State Drinking Water Standard.

In order to comply with these new MCLs, SUEZ plans to construct a treatment facility at the existing Archer Well Site.

Necessary upgrades were identified based on the water quality sampling results. The site upgrades include upsizing of the existing well pumps, installation of a prefiltration system consisting of bag filters, and installation of a GAC treatment system. The planned upgrades will not increase the firm capacity of the wells.

Architectural, civil, electrical, structural, HVAC and plumbing upgrades will also be implemented to accommodate the new treatment system at the existing location.

Project Description Details

Improvements at the Archer Well site shall include the construction of a new PFAS treatment building, a 6" influent pipe, a 6" effluent pipe, an underground electrical conduit, and a 12' permanent access road off of Colton Road to the new PFAS treatment building. There will be a temporary construction access road used from Archer Road across a farmer's field to the PFAS location. This temporary access road will be reclaimed up completion of construction. Erosion and sediment controls will be installed to protect the regulated features. Disturbance will be kept to a minimum and avoidance measures have been considered during the design phase of the project.

Project Area Description

The proposed PFAS upgrades will be installed within the existing SUEZ property located on the west side of Colton Road in the Town of Carmel, New York. The proposed project study area is approximately 1 acre and is located west of the Colton Road and Archer Road intersection. The action area surrounding the project study area is approximately 10 acres. The project study area and action area consist of forested hillslopes, forested stream valley, grass access roads, residential properties, and local roads.

Water resources within or adjacent to the project area include an unnamed tributary to Shrub Oak Brook as identified by NYSDEC freshwater mapping, National Wetland Inventory mapping, and U.S. Geological Survey topographical mapping. Additional water resources were identified during field investigations.

Project Impacts

One parcel was impacted by the SUEZ PFAS project. Project design will impact one regulated feature and the intent of this package is to obtain approvals from the Town. Refer to the Wetland Delineation Report provided **Section B** for more information regarding the resource.

The proposed project limit of disturbance overlaps one USACE regulated wetland. Permanent and temporary impacts shall occur as a result of the proposed 12' access road from Colton Road to the new PFAS building. Reclamation to the portion of the wetlands with temporary impacts will take place as soon as construction is complete.

Please see **Section C** for a typical diagram of construction.

Regulated Activities

Wetland Impacts

The Town of Carmel will regulate impacts at the Archer Well site involve temporary and permanent impacts to Wetland 3. Impacts shall occur as a result of the grading of the PFAS facility, construction of piping to connect to the well and from the 12' permanent access road being constructed from Colton Road to the new PFAS treatment building. The temporary wetland impacts will be contained within the location of permanent impacts. No additional temporary impacts will take place. All erosion and sediment controls shall be removed once construction is complete. Permanent impacts shall occur as a result of fill being placed in Wetland 3 associated with the project. Below are the calculated impacts to the wetland and within 100 feet adjacent to the wetlands.

Wetland Impacts

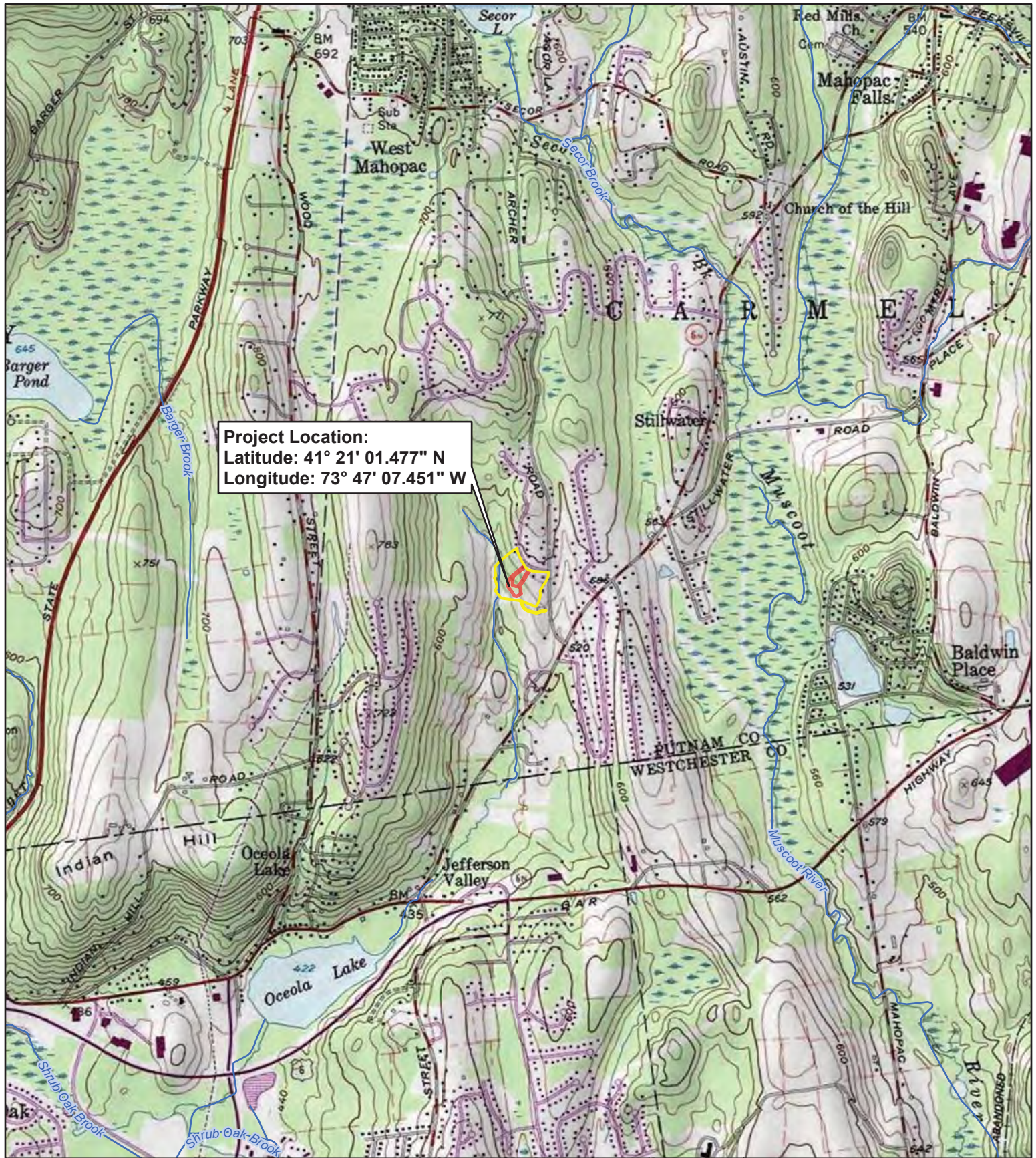
- 3,339.32 ft²; 0.077 ac

Impacts to the 100' Buffer

- 14,617.94 ft²; 0.404 ac

There are no stream impacts associated with this project.

Section A: Topographic Location Map and Aerial Layout Map



Project Location:
 Latitude: 41° 21' 01.477" N
 Longitude: 73° 47' 07.451" W

FIGURE 1
USGS TOPOGRAPHIC LOCATION MAP
MOHEGAN LAKE, NY
7.5-MINUTE QUADRANGLES

SUEZ Water New York, Inc.
 PFAS Compliance Project F - Archer Well
 Town of Carmel,
 Putnam County, NY

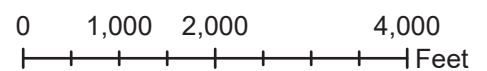
Legend

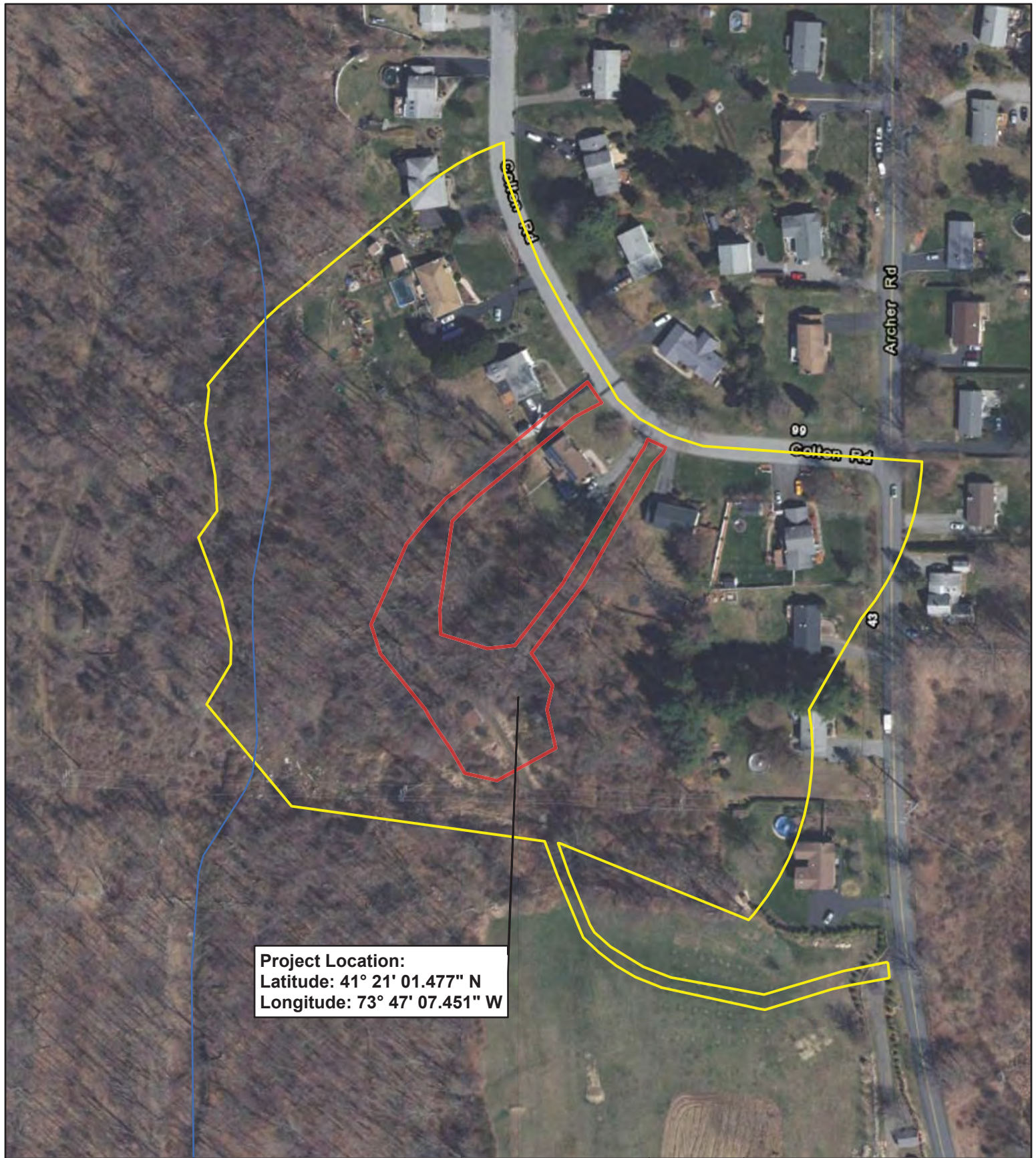
- Streams
- Project Study Area
- Action Area



Gannett Fleming

SCALE: 1 in = 2,000 ft





Project Location:
Latitude: 41° 21' 01.477" N
Longitude: 73° 47' 07.451" W

FIGURE 2

**PROJECT LOCATION AND
STUDY AREA MAP**

SUEZ Water New York, Inc.
PFAS Compliance Project F - Archer Well
Town of Carmel,
Putnam County, NY

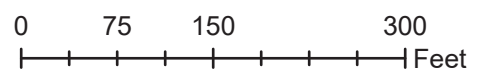
Legend

- Streams
- Action Area
- Project Study Area



Gannett Fleming

SCALE: 1 in = 150 ft



Section C: Typical diagram of construction

Note: Please refer to the attached Site Plan set.

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT



SUEZ Water New York Inc. PFAS Compliance Project F – Archer Well

Town of Carmel, Putnam County, New York

Prepared for:

SUEZ Water New York, Inc.
162 Old Mill Rd
West Nyack, NY 10994

Prepared by:



Gannett Fleming

207 Senate Avenue
Camp Hill, PA 17011

May 2021

GF Project No. 068577

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT

SUEZ Water New York Inc. PFAS Compliance Project F – Archer Well Town of Carmel, Putnam County, New York

Prepared for:

SUEZ Water New York Inc.

Prepared by:



May 2021

TABLE OF CONTENTS

1.0	Executive Summary.....	1
2.0	Project Description	3
3.0	Purpose.....	3
4.0	Study Area Description.....	3
4.1	Topography.....	3
4.2	Soils.....	4
4.3	Geology	4
4.4	Surface Waters	4
4.5	National Wetlands Inventory	4
4.6	NYSDEC Wetlands.....	4
5.0	Methods	10
6.0	Field Observations and Delineated Features.....	11
6.1	Waterbodies & Wetlands.....	11
6.2	Waterways	12
7.0	Wetland & Waterway Resource Summary.....	12
8.0	References.....	13
9.0	List of Contributors	15

FIGURES

Figure 1.	USGS Topographic Location Map.....	5
Figure 2.	Project Location and Study Area Map	6
Figure 3.	Soil Survey Map.....	7
Figure 4.	National Wetlands Inventory Map.....	8
Figure 5.	NYSDEC Wetlands Map.....	9

TABLES

Table 1.	Wetland and Waterway Summary.....	2
Table 2.	Dominant Plant Species List	11
Table 3.	Delineated Wetland Resource Summary	12

APPENDICES

APPENDIX A – WETLANDS AND WATERWAYS MAPPING

APPENDIX B – SITE PHOTOGRAPHS AND PHOTOGRAPH LOCATION MAP

APPENDIX C – WETLAND FIELD DATA FORMS

1.0 Executive Summary

SUEZ Water New York, Inc. (SUEZ) is proposing the construction of upgrades at their existing Archer well site. The proposed study area (41° 21' 01.477" N, 73° 47' 07.451" W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for per- and polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), the regulated compounds.

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with U.S. Fish and Wildlife Service (USFWS). The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area and action area. This report was prepared to satisfy the regulatory requirements of the U.S. Army Corps of Engineers (USACE) under the purview of Section 404 of the Clean Water Act and New York State Department of Environmental Conservation (NYSDEC) under Article 24, Freshwater Wetlands Act.

On April 22, 2021, Gannett Fleming, Inc. (GF) conducted a field investigation to delineate wetlands and waterways within the 1-acre project study area and 10-acre Action area for use in project planning and permitting efforts for the PFAS Compliance Project F – Archer Well. Three (3) wetlands and one (1) waterway were delineated within the project study area and action area (**Table 1**). An unnamed tributary (UNT) to Shrub Oak Brook was confirmed in the field as a perennial waterway flowing through the western portion of the action area. Wetland and waterway boundaries were mapped in the field and are presented in **Appendix A**. Photographs were taken of the wetlands and waterways and are provided in **Appendix B**. Wetland data forms were completed to document the hydrology, vegetation, and soil conditions of the delineated wetlands and are provided in **Appendix C**.

Table 1. Wetland and Waterway Summary

PROJECT TOTALS		
WETLANDS		
Feature Type	Number Present	Total Acres (AC)
▪ PFO Wetland	2	0.569+
▪ PFO/PSS/PEM	1	0.817+
WATERWAYS		
Feature Type	Number Present	Total Linear Feet (LF)
▪ Perennial Waterway	1	689

Wetlands

- Wetland 1 – PFO wetland, 0.564+ acres (Open-Ended)
- Wetland 2 – PFO wetland, 0.005 acres
- Wetland 3 – PFO/PSS/PEM wetland, 0.817+ acres (Open-Ended)

Waterways

- Stream 1– Perennial, 689 linear feet

**Length in linear feet represents delineated length*

A “+” indicates the delineated resource extends beyond the Project Study Area or Action area.

2.0 Project Description

SUEZ Water New York, Inc. (SUEZ) is proposing the construction of upgrades at their existing Archer well site. The proposed study area (41° 21' 01.477" N, 73° 47' 07.451" W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for per- and polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both PFOA and PFOS, the regulated compounds

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with USFWS. The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

The proposed PFAS upgrades will be installed within the existing SUEZ property located on the west side of Colton Road in the Town of Carmel, New York. The proposed project study area is approximately 1 acre and is located west of the Colton Road and Archer Road intersection. The action area surrounding the project study area is approximately 10 acres. The project study area and action area consisted of forested hillslopes, forested stream valley, grass access roads, residential properties, and local roads.

3.0 Purpose

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area. This report was prepared to satisfy the regulatory requirements of the USACE under the purview of Section 404 of the Clean Water Act and NYSDEC under Article 24, Freshwater Wetlands Act.

4.0 Study Area Description

A 300-foot buffer was used surrounding the project study area to create the action area. The action area was investigated as part of the Phase I bog turtle habitat survey. The 1-acre project study area and 10-acre action area consisted of forested hillslopes, forested stream valley, grass access roads, residential properties, and local roads.

4.1 Topography

According to the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (Mohegan Lake, New York), the elevation of the project study area ranged from approximately 500 to 580 feet above mean sea level (amsl). An excerpt from the USGS Topographic Quadrangle Map is provided as **Figure 1**. A Project Location and Study Area Map is provided as **Figure 2**.

4.2 Soils

According to the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey, eight (8) soil series were mapped within the project study area and Action area: Charlton-Chatfield complex, 0-15% slopes (CrC), Chatfield-Charlton complex, 15-35% slopes (CsD), Paxton fine sandy loam, 3-8% slopes (PnB), Paxton fine sandy loam, 8-15% slopes (PnC), Paxton fine sandy loam, 15-25% slopes (PnD), Ridgebury complex, 3-8% slopes (RdB), Ridgebury complex, 0-8% slopes, very stony (RgB), Woodbridge loam, 8-15% slopes (WdC). CrC was listed with 5% hydric inclusions. CsD was listed with 6% hydric inclusions. PnB was listed with 6% hydric inclusions. PnC was listed with 2% hydric inclusions. PnD was listed with 1% hydric inclusions. RdB was listed as 58% hydric. RgB was listed as 58% hydric. WdC was listed with 7% hydric inclusions. An excerpt from the soil survey mapping is provided as **Figure 3**.

4.3 Geology

The project is located in the Hudson Highlands Section of the Physiographic Provinces of New York (NYSM, 1995). The project study area is underlain by the Biotite-quartz-plagioclase paragneiss (bqpc) unit of bedrock; the bqpc unit that underlays the project study area consists of “biotite-quartz-plagioclase gneiss with subordinate biotite granitic gneiss, amphibolite, calcsilicate rock” assumed to be from the Middle Proterozoic period (NYSM, 1995). The project is also underlain by the surficial geologic unit till (t) defined by “variable texture (e.g. clay, silt-clay, boulder clay), usually poorly sorted diamict, deposition beneath glacier ice, relatively impermeable (loamy matrix), variable clast content...potential land instability on steep slopes, thickness variable (1-50 meters)” (NYSM, 1989).

4.4 Surface Waters

The USGS map identified a perennial UNT to Shrub Oak Brook flowing through the western portion of the Action area (**Figure 1**). No other streams or waterbodies were identified on USGS mapping within or immediately adjacent to the project study area or Action area.

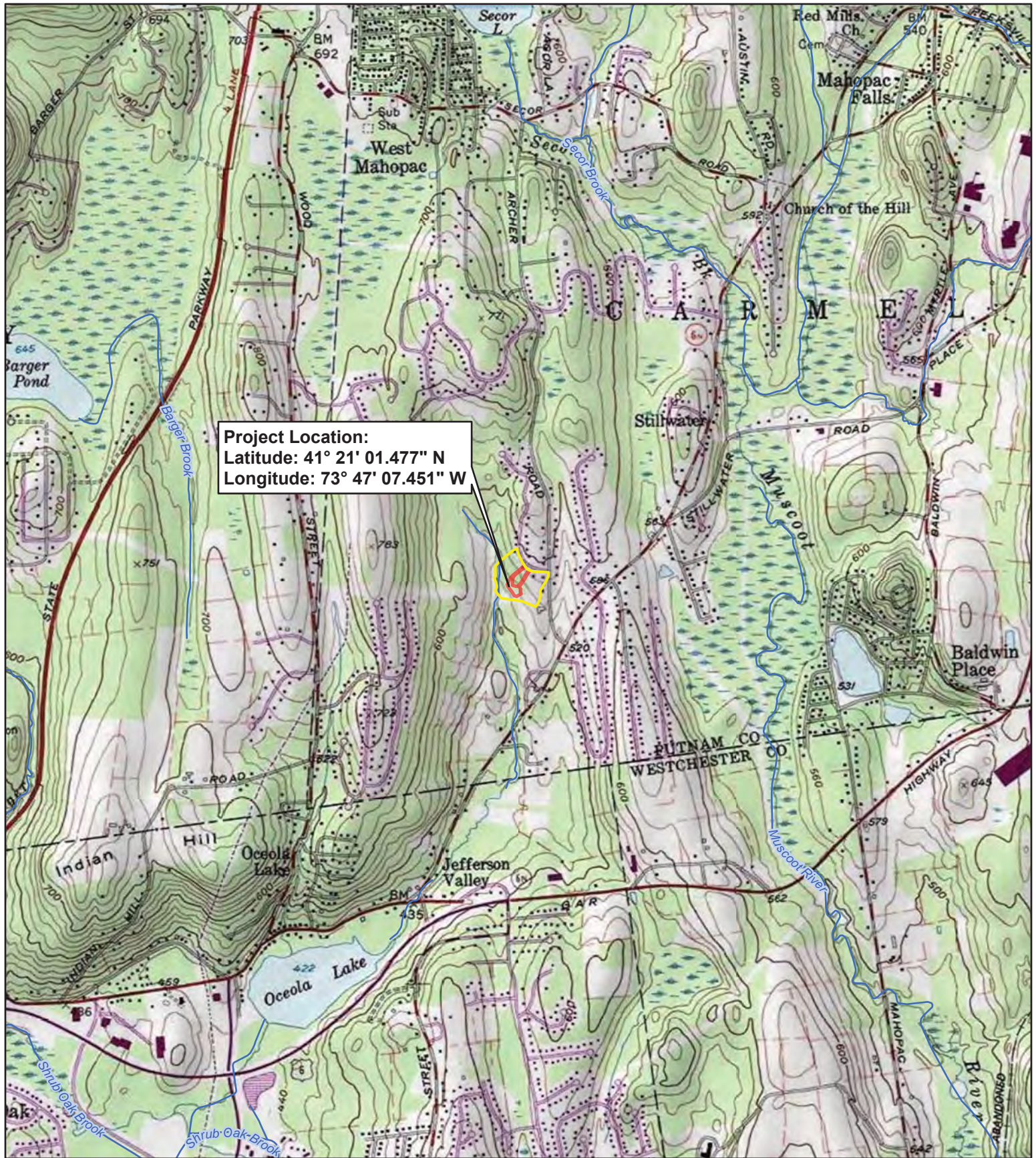
NYSDEC has designated the UNT to Shrub Oak Brook as water quality classification ‘C’. This classification indicates that the water resource is best used for fishing. A ‘C’ classification is not considered protected waters of the state.

4.5 National Wetlands Inventory

The National Wetlands Inventory (NWI) online mapping tool identified one (1) feature within the action area. NWI identified the UNT to Shrub Oak Brook as a riverine, upper perennial, unconsolidated bottom, permanently flooded (R3UBH). The NWI map for the project study area is provided as **Figure 4**.

4.6 NYSDEC Wetlands

There were no NYSDEC freshwater or tidal wetlands identified within either the project study area or the action area. The NYSDEC wetland map for the project study area is provided as **Figure 5**.

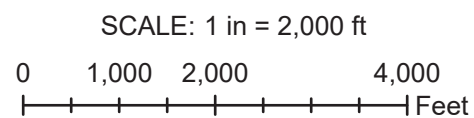


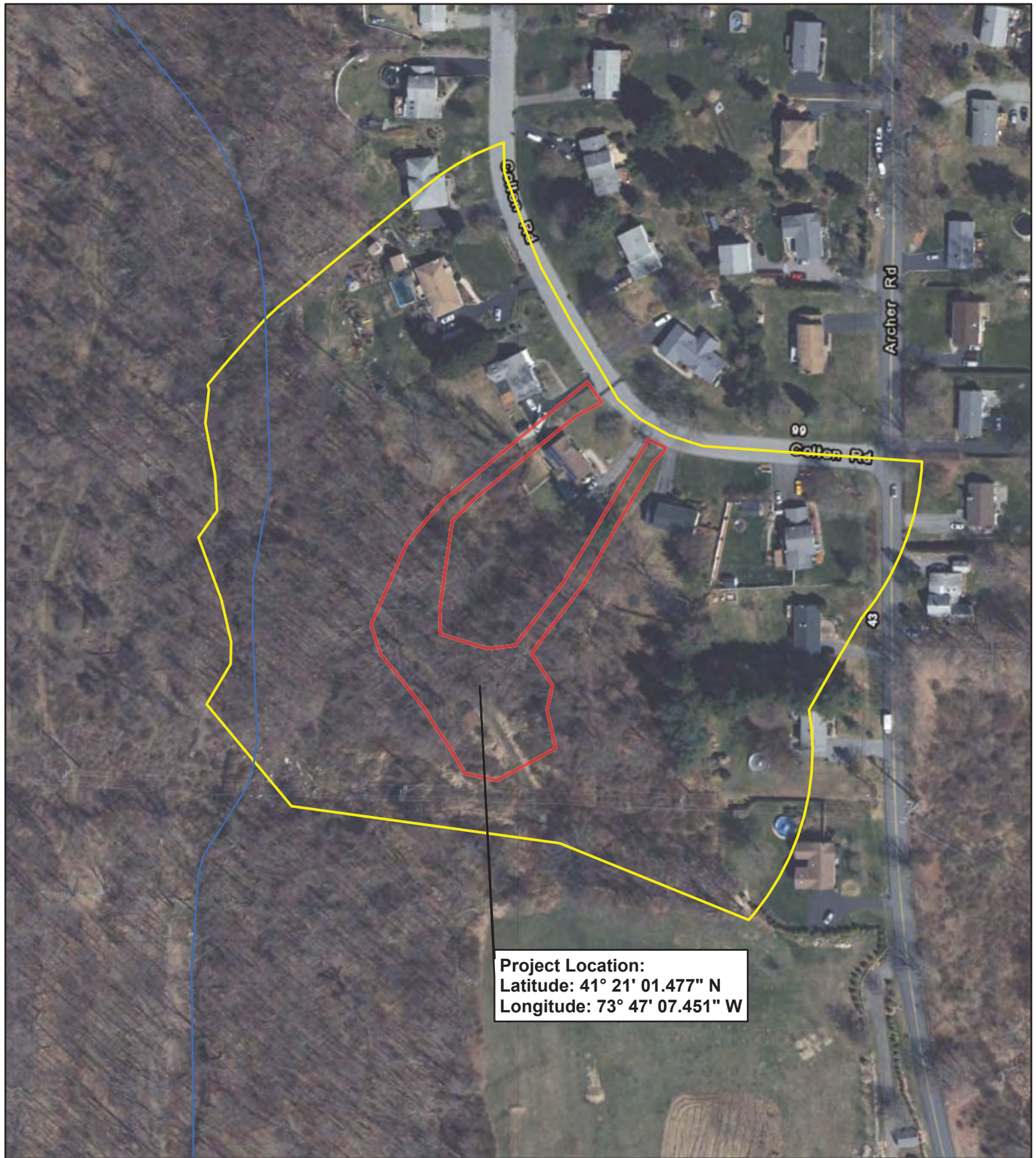
Project Location:
 Latitude: 41° 21' 01.477" N
 Longitude: 73° 47' 07.451" W

FIGURE 1
USGS TOPOGRAPHIC LOCATION MAP
MOHEGAN LAKE, NY
7.5-MINUTE QUADRANGLES

SUEZ Water New York, Inc.
 PFAS Compliance Project F - Archer Well
 Town of Carmel,
 Putnam County, NY

- Legend**
- Streams
 - Project Study Area
 - Action Area





Project Location:
 Latitude: 41° 21' 01.477" N
 Longitude: 73° 47' 07.451" W

FIGURE 2

**PROJECT LOCATION AND
STUDY AREA MAP**

SUEZ Water New York, Inc.
 PFAS Compliance Project F - Archer Well
 Town of Carmel,
 Putnam County, NY

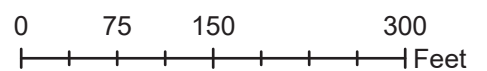
Legend

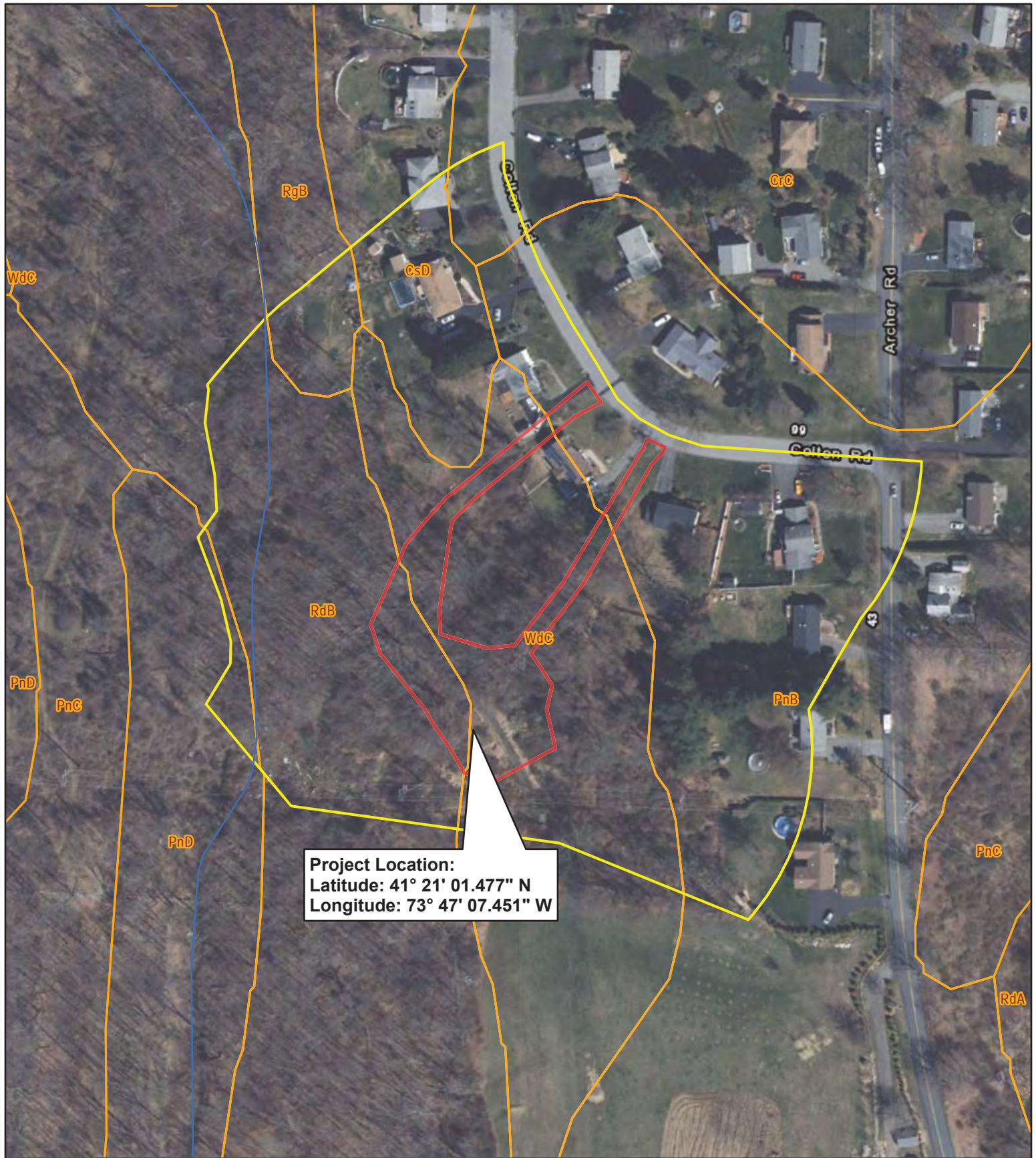
- Streams
- Action Area
- Project Study Area



Gannett Fleming

SCALE: 1 in = 150 ft





Project Location:
 Latitude: 41° 21' 01.477" N
 Longitude: 73° 47' 07.451" W

FIGURE 3
SOIL SURVEY MAP

SUEZ Water New York, Inc.
 PFAS Compliance Project F - Archer Well
 Town of Carmel,
 Putnam County, NY

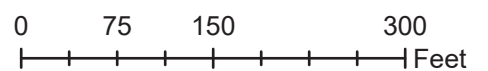
Legend

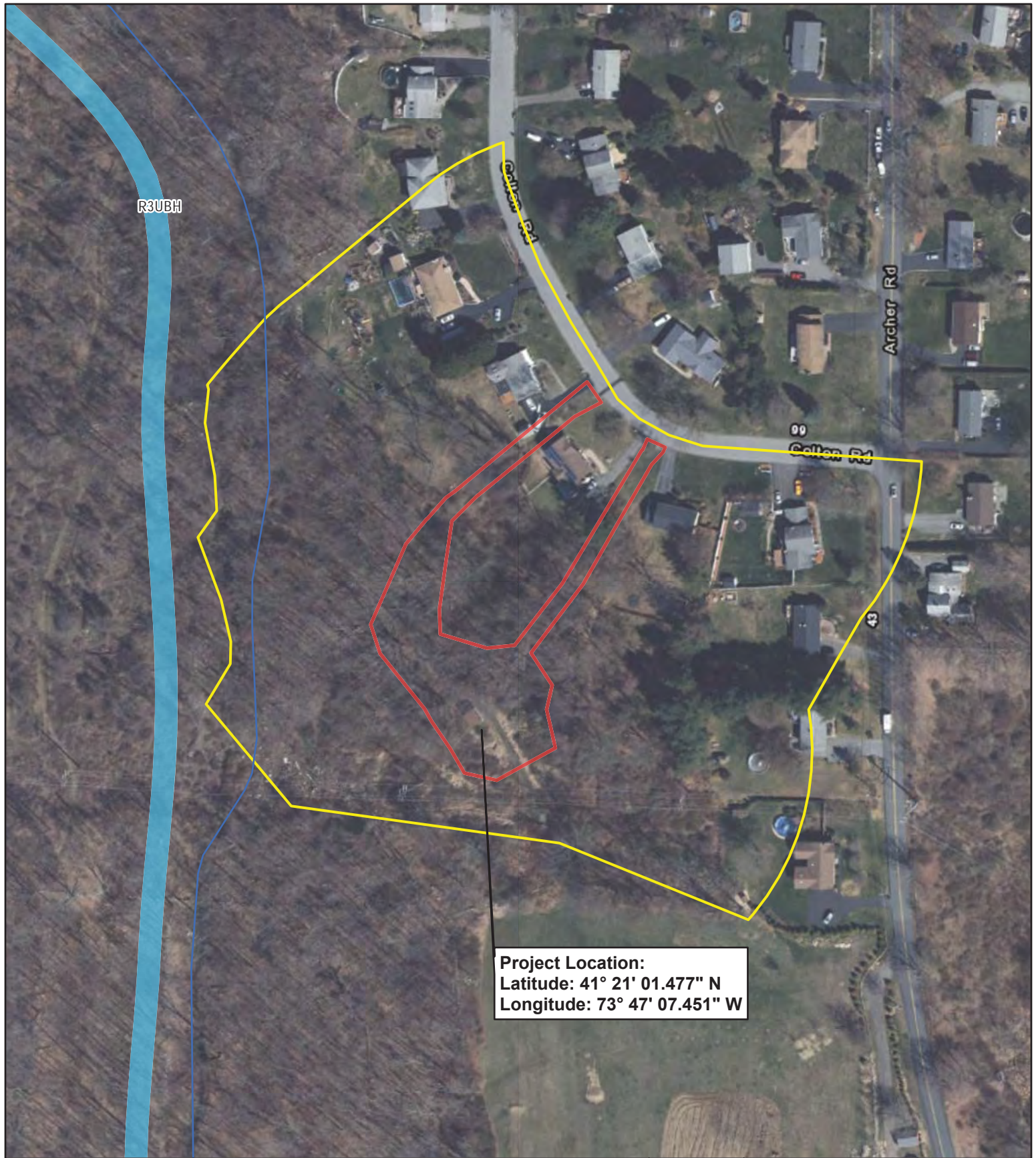
- Streams
- Action Area
- Project Study Area
- Putnam Co. Soils



Gannett Fleming

SCALE: 1 in = 150 ft





Project Location:
 Latitude: 41° 21' 01.477" N
 Longitude: 73° 47' 07.451" W

FIGURE 4

NATIONAL WETLANDS INVENTORY MAP

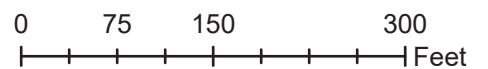
SUEZ Water New York, Inc.
 PFAS Compliance Project F - Archer Well
 Town of Carmel,
 Putnam County, NY

Legend

- Streams
- Action Area
- Project Study Area
- NWI Wetlands**
- Riverine



SCALE: 1 in = 150 ft



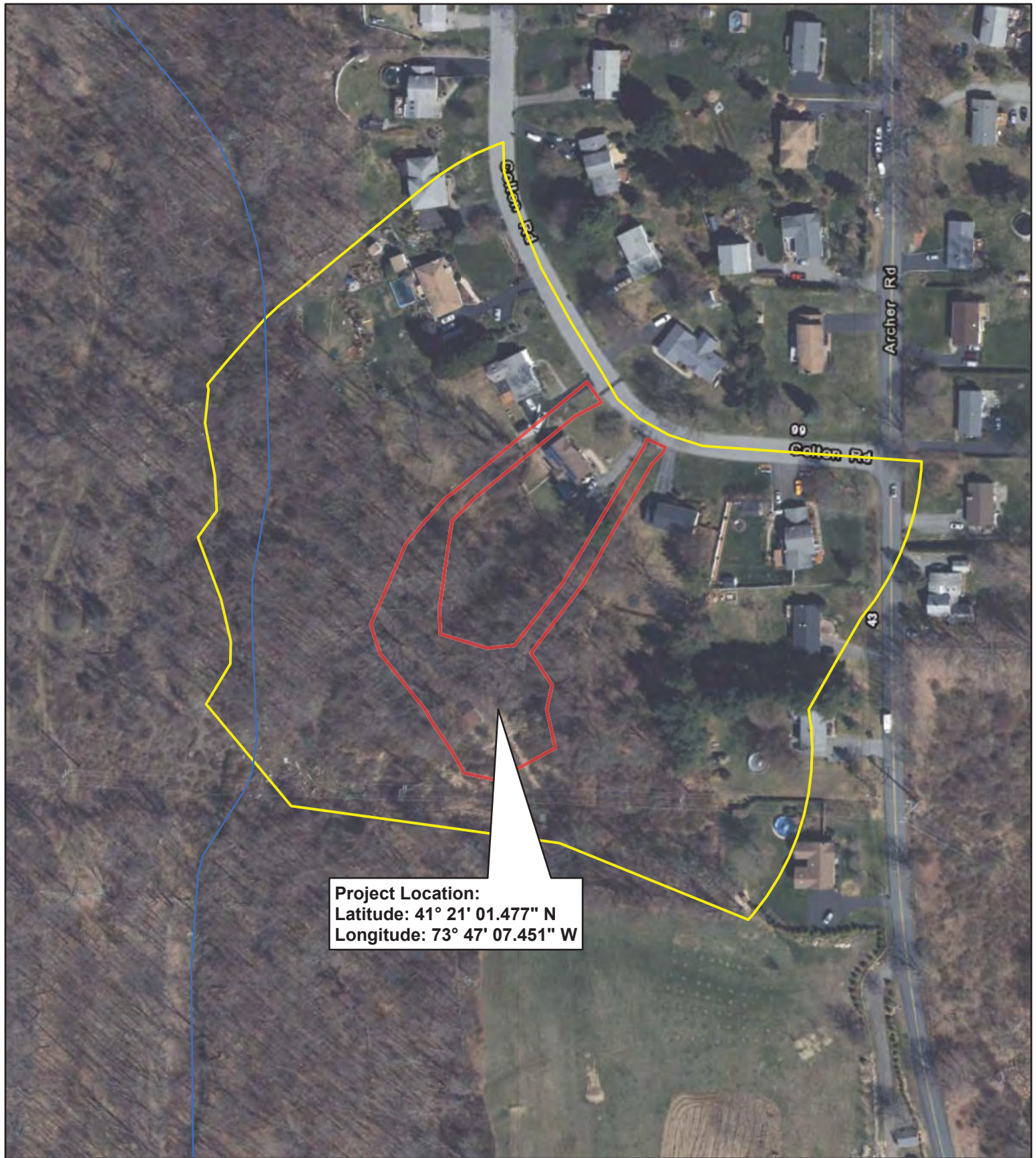


FIGURE 5

NYSDEC WETLANDS MAP

SUEZ Water New York, Inc.
 PFAS Compliance Project F - Archer Well
 Town of Carmel,
 Putnam County, NY

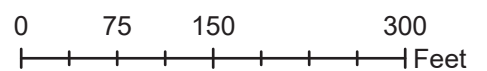
Legend

- Streams
- Action Area
- Project Study Area
- NYSDEC Freshwater Wetland Boundary
- NYSDEC Freshwater Wetland 100' Buffer
- NYSDEC Freshwater Wetland Checkzone



Gannett Fleming

SCALE: 1 in = 150 ft



5.0 Methods

The 1-acre project study area and 10-acre action area were investigated for palustrine wetland indicators of vegetative composition, soil development, and hydrology. Portions of the action area located west of the UNT to Shrub Oak Brook and south of the overhead electric line were not able to be investigated due to site access issues. The investigation was conducted in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (U.S. Army Corps of Engineers, 2012). Wetland field data forms were completed to document wetland or non-wetland data points. If present, wetlands within and directly adjacent to the study area were delineated so that their presence could be shown on project mapping to aid in impact avoidance and/or minimization during engineering design.

Soils were characterized by evaluating the upper horizons of the soil profile. Soil pits were dug using a “sharpshooter” spade with a 16-inch blade. Soil horizons were evaluated using normal field protocols for determining texture and nomenclature. The *Munsell Soil Color Charts* (Kollmorgen Instruments Corporation, 1994) were used to determine the colors of horizons and redoximorphic features. Soil observations of reducing conditions were determined in the field using presence/absence determinations of redoximorphic concretions and oxidized rhizospheres, and identifying low chroma matrices according to *Field Indicators of Hydric Soils in the United States (Version 7.0)* (USDA-NRCS, 2010).

Vegetation was identified using *A Field Guide to Trees and Shrubs* (Petrides, 1986), *Newcomb's Wildflower Guide* (Newcomb, 1977), and *Grasses: An Identification Guide* (Brown, 1979). Plant species were assigned an indicator status [i.e., Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), or Obligate Wetland (OBL)] based on the *2018 National Wetland Plant List (Version 3.4)* (USACE, 2018).

Data point locations were investigated for primary and secondary wetland hydrology indicators. If present, wetland boundaries were marked using pink wetland flagging. Wetland boundary data points were located using a Trimble Yuma 2 Global Positioning System (GPS) with Trimble Pro 6T receiver. The Trimble Yuma 2 and the Pro 6T are capable of attaining sub-meter accuracy. The GPS data were then transferred onto relevant project mapping using the U.S. State Plane NY East coordinate system.

Wetland type classifications were assigned to each wetland following the Cowardin et al methods (1979). Hydrogeomorphic classifications were assigned to each wetland based on the *Hydrogeomorphic Wetland Classification: HGM Classification for Wetlands of the Mid-Atlantic Region, USA* (Brooks, 2017). Palustrine plant community classifications were assigned to each wetland based on *Ecological Communities of New York State* (Edinger et al, 2014). Color photographs were taken of all relevant features to document site conditions during the time of the investigation.

Waterways were identified through a review of available mapping and field investigation. Topographic and engineering maps were reviewed for the presence of streams within the project study area. A field investigation for waterways was performed in conjunction with the wetland field investigation and included the field verification of mapped watercourses and the identification and delineation of streams, springs, and seeps that were not shown on existing engineering plans. Waterways were identified by the presence of bed and banks and/or ordinary

high-water marks. The flow regime of each identified waterway was characterized based upon field indicators of hydrologic, floral, and faunal character at the time of the investigation. All identified waterways were photographed and located using GPS.

6.0 Field Observations and Delineated Features

On April 22, 2021, GF investigated the 1-acre project study area and 10-acre Action area for wetlands and waterways. The weather conditions on April 22, 2021 were partly cloudy with a high temperature of 46°F. Precipitation data indicated 0.17 inches of rain fell on April 21, 2021. Weather data was recorded at Danbury Municipal Airport Station in Danbury, CT, approximately 16 miles east of the project study area.

The dominant land-uses within and surrounding the project study area included forested stream valley, forested hillslopes, grass access roads and parking areas, residential properties, local roads, and existing well infrastructure. Dominant vegetation observed within the project study area is summarized in **Table 2**.

Table 2. Dominant Plant Species List

Scientific Name	Common Name	Indicator Status
Tree Species		
<i>Acer rubrum</i>	Red Maple	FAC
<i>Betula alleghaniensis</i>	Yellow Birch	FAC
<i>Carpinus caroliniana</i>	American Hornbeam	FAC
<i>Quercus velutina</i>	Black Oak	NL
Shrub Species		
<i>Berberis thunbergii</i>	Japanese Barberry	FACU
<i>Cornus amomum</i>	Silky Dogwood	FACW
<i>Ligustrum vulgare</i>	European Privet	FACU
<i>Lindera benzoin</i>	Northern Spicebush	FACW
<i>Lonicera tatarica</i>	Tartarian Honeysuckle	FACU
<i>Rosa multiflora</i>	Multiflora Rose	FACU
Herb Species		
<i>Alliaria petiolata</i>	Garlic Mustard	FACU
<i>Equisetum arvense</i>	Field Horsetail	FAC
<i>Erythronium rostratum</i>	Yellow Troutlily	NL
<i>Phragmites australis</i>	Common Reed	FACW
<i>Symplocarpus foetidus</i>	Skunk Cabbage	OBL

6.1 Waterbodies & Wetlands

During the field investigation, three (3) palustrine wetlands were delineated within the project study area and action area. Delineated wetlands are listed in **Table 3** with their respective delineated area, Cowardin Classification, hydrogeomorphic (HGM) wetland classification, and Ecological Community of New York State. Wetland boundaries were mapped and are presented

in **Appendix A**. Photographs were taken of the wetlands and are provided in **Appendix B**. The Wetland Determination Data Forms are provided in **Appendix C**.

Table 3. Delineated Wetland Resource Summary

Wetland ID	Area (acre)	Cowardin Classification	HGM Wetland Classification	Ecological Community
Wetland 1	0.564+	PFO	Riverine headwater complex (R3c)	Red Maple-Hardwood Swamp
Wetland 2	0.005	PFO	Riverine headwater complex (R3c)	Red Maple-Hardwood Swamp
Wetland 3	1.02+	PFO/PSS/PEM	Slope mineral soil (SLn)	Red Maple-Hardwood Swamp/Shrub Swamp

6.2 Waterways

During the field investigation, one (1) waterway was identified and delineated within the project study area and action area. Stream 1 was confirmed as a perennial UNT to Shrub Oak Brook during the investigation.

Stream 1 - perennial, 689 linear feet

The UNT to Shrub Oak Brook was confirmed within the western portion of the action area flowing from north to south. It is conveyed under an existing access road via culvert and continues off-site.

Channel Width	Bank Height	Water Depth	Substrate
6-20 feet	0.5-2.0 feet	2-4 inches	Boulders, Cobble, Sand, Silt, Woody Debris

7.0 Wetland & Waterway Resource Summary

The field investigation conducted by GF on April 22, 2021 identified and delineated three (3) wetlands and one (1) waterway in conjunction with the PFAS Compliance Project F – Archer Well. The following features were identified on mapping and delineated in the field:

Wetlands (Field Delineated)

- Wetland 1 – 0.564+ acres (Open-Ended)
- Wetland 2 – PFO wetland, 0.005 acres
- Wetland 3 – PFO/PSS/PEM wetland, 1.02+ acres (Open-Ended)

Waterways (Field Delineated)

- Stream 1– Perennial, 689 linear feet

8.0 References

- Brooks, R.P., M.M. Brinson, K.J. Havens, C.S. Hershner, R.D. Rheinhardt, D.H. Wardrop, D.F. Whigham, A.D. Jacobs, and J.M. Rubbo. 2011. *Proposed hydrogeomorphic classification for wetlands of the Mid-Atlantic Region, USA*. *Wetlands* 31(2):207-219.
- Brown, L. 1979. *Grasses: An Identification Guide*. Houghton Mifflin Company; Boston, New York, London.
- Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, D.C.
- Edinger, et al. 2014. *Ecological Communities of New York State: Second Edition*. New York Natural Heritage Program, Albany, NY.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS. Technical Report Y-87-1.
- Munsell. 2015. *Munsell Soil Color Charts*, 2009 Year Revised. Munsell Color, x-rite. 4300 44th Street, Grand Rapids, MI 49512.
- Newcomb, Lawrence. 1977. *Newcomb's Wildflower Guide*. Little, Brown and Company.
- New York State Museum (NYSM). 1989. *Surficial Geologic Map of New York: Lower Hudson Sheet*. Map prepared by the New York State Geological Survey.
- New York State Museum (NYSM). 1995. *Geologic Map of New York: Lower Hudson Sheet*. Map prepared by the New York State Geological Survey.
- New York State Museum (NYSM). 1995. *Physiographic Provinces of New York*, adapted from 1946 version. Map prepared by the New York State Geological Survey.
- Petrides, George A. 1986. *A Field Guide to Trees and Shrubs*. New York: Houghton Mifflin Co.
- U.S. Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*. ERDC/EL TR-12-9. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center.
- U.S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4. <http://wetland-plants.usace.army.mil/>. U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH.
- United States Department of Agriculture - Natural Resources Conservation Service. 2010. *Field Indicators of Hydric Soils in the United States*, Version 7.0. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

- U.S. Department of Agriculture - Natural Resources Conservation Service. 2021 Web Soil Survey. Accessed May 3, 2021. <http://websoilsurvey.nrcs.usda.gov/app/>
- U.S. Fish and Wildlife Service. National Wetlands Inventory NWI Wetlands Online Mapper. Accessed May 3, 2021. <http://www.fws.gov/wetlands/Data/mapper.html>
- U.S. Geological Survey. 2013. Topographic Map 7.5' Quadrangle, Mohegan Lake, New York.
- Weather Underground. 2021. “*Danbury, CT Weather History.*” Available online at <https://www.wunderground.com/>. Accessed May 4, 2021.

9.0 List of Contributors

Steven C. Smith, Senior Environmental Scientist

38 Hour U.S. Army Corps of Engineers Wetland Delineator Certification Training Program

PennDOT Phase I Bog Turtle Habitat Evaluation Training

Professional Experience: 21 years

Education: B.S. Geoenvironmental Studies

Jillian Arnold, Senior Environmental Scientist

36-Hour Swamp School Wetland Delineation & Regional Supplement Training

Society of Wetland Scientists, Professional Wetland Scientist (PWS) #2736

PennDOT Phase I Bog Turtle Habitat Evaluation Training

Professional Experience: 17 years

Education: B.S., Geoenvironmental Studies, GIS Certificate

M.S., Biology

Corey Myers, Project Environmental Scientist

36-Hour Rutgers University Wetland Delineator Certification Program

40-Hour OSHA Hazardous Waste Operations and Emergency Response Certification

Wetland Delineation, Wetland Training Institute

Professional Experience: 10 years

Education: B.S., Environmental Technology Management

Kayla Briggs, Environmental Scientist

ESRI MOOC Do it Yourself Geo Apps (6-Week Course)

ESRI Web Courses and Online Training Seminars

Professional Experience: 11 years

Education: B.S., Geoenvironmental Studies, GIS Certificate

Clayton D. Frey, Environmental Scientist (QAQC)

36-Hour Swamp School Wetland Delineation and Regional Supplement Training

24-Hour OSHA Hazardous Waste Operations and Emergency Response Certification

Professional Experience: 3 years

Education: B.S., Wildlife and Fisheries Science

APPENDIX A

WETLANDS AND WATERWAYS MAPPING



APPENDIX B
SITE PHOTOGRAPHS AND
PHOTOGRAPH LOCATION MAP



PHOTOGRAPH LOCATION MAP

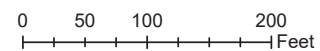
SUEZ Water New York, Inc.
PFAS Compliance Project F - Archer Well

Town of Carmel,
Putnam County, NY

- Legend**
- Photo Location
 - Action Area
 - Project Study Area
 - Delineation Data
 - Test Pits
 - Flag Locations
 - Stream
 - Stream Boundary
 - Wetland Type
 - PEM
 - PFO
 - PSS



SCALE: 1 in = 100 ft



Appendix B – Site Photographs



Photograph 1: Overview of Wetland 1 (PFO), located adjacent to Stream 1. Wetland 1 was identified within the action area of the Archer site. (facing north; 4/22/2021)



Photograph 2: Overview of Wetland 2 (PFO), which was a small resource identified adjacent to Stream 1 within the action area. (facing southwest; 4/22/2021)

Appendix B – Site Photographs



Photograph 3: Overview of SP-W3, a wetland test pit recorded in the PEM portion of Wetland 3. The area was dominated by reed canary grass and skunk cabbage. (facing east; 4/22/2021)



Photograph 4: Overview of wetland test pit SP-W3A, which was recorded in the PSS section of Wetland 3. (facing south; 4/22/2021)

Appendix B – Site Photographs



Photograph 5: Overview of wetland test pit SP-W3B, which was recorded in the PFO portion of Wetland 3. The PFO portion of the wetland was dominated by skunk cabbage and red maple. (facing north; 4/22/2021)



Photograph 6: Overview of Wetland 3 near the PSS/PFO wetland boundary along the overhead electric line. (facing south; 4/22/2021)

Appendix B – Site Photographs



Photograph 7: View of the PSS portion of Wetland 3 located within the overhead electric line right-of-way. (facing east; 4/22/2021)



Photograph 8: Stream 1 was a perennial watercourse which flowed from northwest to southeast through the action area. Photo is looking upstream. (facing northwest; 4/22/2021)

Appendix B – Site Photographs



Photograph 9: Looking downstream at Stream 1. A 3-inch pipe was observed in the channel throughout the entire delineated reach. Stream 1 is conveyed under the overhead electric line right-of-way via culvert. (facing southwest; 4/22/2021)



Photograph 10: Typical upland hillside observed during the wetland investigation at the Archer site. (facing northwest; 4/22/2021)

Appendix B – Site Photographs



Photograph 11: Overview of the upland forest adjacent to Stream 1 and Wetland 3. Photo taken from existing access road. (facing southwest; 4/22/2021)



Photograph 12: View of the existing structure and generator located at the Archer site. (facing northwest; 4/22/2021)

Appendix B – Site Photographs



Photograph 13: View of the potential access route to the proposed project area. (facing southeast; 4/22/2021)



Photograph 14: Image of typical residential property observed along Colton Road bordering the Archer site. (facing north; 4/22/2021)

Appendix B – Site Photographs



Photograph 15: Existing path from Colton Road to the Archer site. (facing southwest; 4/22/2021)



Photograph 16: Overview of the easement from Colton Road, through a residential property to reach the access path shown in Photograph 15. (facing southwest; 4/22/2021)

APPENDIX C

WETLAND FIELD DATA FORMS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Archer Well City/County: Putnam County Sampling Date: 04/22/2021
 Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-W3
 Investigator(s): J.Arnold (PWS #2736), C.Myers Section, Township, Range: Town of Carmel
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave Slope (%): 3-5
 Subregion (LRR or MLRA): LRR R Lat: 41° 21' 00.33" N Long: 73° 47' 07.15" W Datum: NAD83
 Soil Map Unit Name: Woodbridge loam, 8-15% slopes (WdC) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		If yes, optional Wetland Site ID: <u>Wetland 3</u>	
Remarks: (Explain alternative procedures here or in a separate report.)					
Wetland 3 is a PFO/PSS/PEM complex located within the project study area. SP-W3 is the wetland test pit recorded within the PEM portion of the wetland. The test pit was recorded within a ditch along an existing grass access road.					

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)			Secondary Indicators (minimum of two required)		
<input checked="" type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Surface Soil Cracks (B6)		
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)		
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)		
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)		
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)		
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> FAC-Neutral Test (D5)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)				
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)				
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)					
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>10</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>			Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-W3

Tree Stratum (Plot size: <u>N/A</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u>	= Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>0</u> (A)	<u>0</u> (B)																	
		<u>0</u>	= Total Cover															
Sapling/Shrub Stratum (Plot size: <u>N/A</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Phalaris arundinacea</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Symplocarpus foetidus</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Solidago spp</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
4. <u>Impatiens capensis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>90</u>	= Total Cover															
Woody Vine Stratum (Plot size: <u>N/A</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															
Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																		
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.) The Solidago spp. could not be identified to species, however due to its location in the wetland, it is assumed to have a status of facultative or wetter.																		

SOIL

Sampling Point: SP-W3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Archer Well City/County: Putnam County Sampling Date: 04/22/2021
 Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-W3A
 Investigator(s): J.Arnold (PWS #2736), C.Myers Section, Township, Range: Town of Carmel
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 10%
 Subregion (LRR or MLRA): LRR R Lat: 41° 21' 00.50" N Long: 73° 47' 06.73" W Datum: NAD83
 Soil Map Unit Name: Woodbridge loam, 8-15% slopes (WdC) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		If yes, optional Wetland Site ID: <u>Wetland 3A</u>	
Remarks: (Explain alternative procedures here or in a separate report.)					
Wetland 3 is a PFO/PSS/PEM complex located within the project study area. SP-W3A is the wetland test pit recorded within the PSS portion of the wetland. The test pit was recorded on a hillslope supported by a groundwater expression.					

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
Primary Indicators (minimum of one is required; check all that apply)			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1"</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>at 12" bgs</u>		
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0-9" bgs</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-W3A

Tree Stratum (Plot size: <u>N/A</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>83.33</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Lindera benzoin</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>0</u> (A)	<u>0</u> (B)																	
2. <u>Cornus racemosa</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Rosa multiflora</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>35</u>	= Total Cover															
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Solidago spp</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Symplocarpus foetidus</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Poa palustris</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>															
4. <u>Impatiens capensis</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>120</u>	= Total Cover															
Woody Vine Stratum (Plot size: <u>N/A</u>)																		
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															

Remarks: (Include photo numbers here or on a separate sheet.)

The Solidago spp. could not be identified to species, however due to its location in the wetland, it is assumed to have a status of facultative or wetter.

SOIL

Sampling Point: SP-W3A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Archer Well City/County: Putnam County Sampling Date: 04/22/2021
Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-W3B
Investigator(s): J.Arnold (PWS #2736), C.Myers Section, Township, Range: Town of Carmel
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 10%
Subregion (LRR or MLRA): LRR R Lat: 41° 21' 01.33 N Long: 73° 47' 07.50" W Datum: NAD83
Soil Map Unit Name: Woodbridge loam, 8-15% slopes (WdC) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		If yes, optional Wetland Site ID: <u>Wetland 3B</u>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Remarks: (Explain alternative procedures here or in a separate report.) Wetland 3 is a PFO/PSS/PEM complex located within the project study area. SP-W3B is the wetland test pit recorded within the PFO portion of the wetland. The test pit was recorded within a depression supported by a groundwater seep emerging from the hillslope.					

HYDROLOGY

Wetland Hydrology Indicators:			<u>Secondary Indicators (minimum of two required)</u>		
Primary Indicators (minimum of one is required; check all that apply)					
<input checked="" type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)			
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)			
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)			
		<input type="checkbox"/> FAC-Neutral Test (D5)			
Field Observations:			Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Surface Water Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>1"</u>			
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>6" bgs</u>			
Saturation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>0-16" bgs</u>			
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-W3B

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80.00</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>60</u>	= Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>0</u> (A)	<u>0</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Lindera benzoin</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Lonicera tatarica</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>15</u>	= Total Cover															
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Solidago spp</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Symplocarpus foetidus</u>	<u>35</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Poa palustris</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>															
4. <u>Impatiens capensis</u>	<u>15</u>	<u>N</u>	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>80</u>	= Total Cover															
Woody Vine Stratum (Plot size: <u>N/A</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															

Remarks: (Include photo numbers here or on a separate sheet.)

The Solidago spp. could not be identified to species, however due to its location in the wetland, it is assumed to have a status of facultative or wetter.

SOIL

Sampling Point: SP-W3B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric Soil Present? Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Archer Well Site City/County: Putnam County Sampling Date: 04/22/2021
 Applicant/Owner: SUEZ Water NY State: NY Sampling Point: SP-U3
 Investigator(s): J.Arnold (PWS #2736), C.Myers Section, Township, Range: Town of Carmel
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 10%
 Subregion (LRR or MLRA): LRR R Lat: 41° 21' 01.43 N Long: 73° 47' 08.34 W Datum: NAD83
 Soil Map Unit Name: Woodbridge loam, 8-15% slopes (WdC) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
If yes, optional Wetland Site ID: _____					
Remarks: (Explain alternative procedures here or in a separate report.)					
SP-U3 is the upland test pit recorded to document the upland forest conditions surrounding the Wetland 3 complex.					

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<u>0</u>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<u>0</u>
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<u>0</u>
(includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-U3

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40.00</u> (A/B)														
2. <u>Quercus alba</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
3. <u>Quercus rubra</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
			<u>45</u>	= Total Cover														
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Lindera benzoin</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species <u>1</u></td> <td>x 1 = <u>1</u></td> </tr> <tr> <td>FACW species <u>40</u></td> <td>x 2 = <u>80</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>60</u></td> <td>x 4 = <u>240</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>131</u> (A)</td> <td><u>421</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.21</u>	Total % Cover of:	Multiply by:	OBL species <u>1</u>	x 1 = <u>1</u>	FACW species <u>40</u>	x 2 = <u>80</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>60</u>	x 4 = <u>240</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>131</u> (A)	<u>421</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>1</u>	x 1 = <u>1</u>																	
FACW species <u>40</u>	x 2 = <u>80</u>																	
FAC species <u>25</u>	x 3 = <u>75</u>																	
FACU species <u>60</u>	x 4 = <u>240</u>																	
UPL species <u>5</u>	x 5 = <u>25</u>																	
Column Totals: <u>131</u> (A)	<u>421</u> (B)																	
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
			<u>40</u>	= Total Cover														
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Geum aleppicum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Alliaria petiotata</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Symplocarpus foetidus</u>	<u>1</u>	<u>N</u>	<u>OBL</u>															
4. <u>Elaeagnus umbellata</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
			<u>41</u>	= Total Cover														
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. <u>Rubus phoenicolasius</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
			<u>5</u>	= Total Cover														

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-U3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, |
| <input type="checkbox"/> Histic Epipedon (A2) | MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> | Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> | Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> | Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> | Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> | Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> | Red Parent Material (F21) |
| <input type="checkbox"/> | Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> | Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Sodium Hypochlorite (12%) – 50 gallon tank

(545138)

ALLIED UNIVERSAL CORPORATION

Headquarters: 3901 NW 115th Avenue, Miami, Florida 33178 Phone: (305) 888 - 2623

MATERIAL SAFETY DATA SHEET

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR § 1910.1200.

TODAY'S DATE: 09/06/07

MSDS NUMBER: 0001

24 HOUR EMERGENCY CHEMICAL SPILL OR RELEASE PHONE NUMBERS:

Allied Universal Corp. at 1-305-483-7732 (Digital Beeper) and/or CHEMTREC at 1-800-424-9300

SECTION 1 CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Sodium Hypochlorite

Product Names: Aqua Guard Chlorinating Sanitizer, Aqua Guard Bleach, Liquid Chlorine Solution, Liquid Bleach, Hypochlorite, Hypo and Chlorine Bleach.

Listed Strengths: 10.5%, 12.5% and 15%

CAS Number: 7681-52-9

Date MSDS Revised: August 2007 (previous revision 11/04)

Product Use: Disinfectant and sanitizer, see product label for all approved uses & instructions.

NSF Approval: Yes. Certified to NSF/ANSI Standard 60. Maximum use in Potable Water is 84 mg/L for 12.5% bleach and 100 mg/L for 10.5% bleach.

NSF Non-Food Compounds Approval: Yes

SECTION 2 HAZARD INGREDIENTS/IDENTITY INFORMATION

Hazardous Ingredient(s): % (w/w) as Sodium Hypochlorite : 10.5-16%

Exposure Standards: None established for Sodium Hypochlorite, as Chlorine exposure standards are:

PEL (OSHA): 1 ppm as Cl₂

STEL (OSHA): 3 ppm as Cl₂

TLV (ACGIH): 0.5 ppm as Cl₂

TWA (ACGIH): 0.5 ppm as Cl₂

WEEL (AIHA): 2 mg/m³, 15 minute TWA as Cl₂

STEL (ACGIH): 1 ppm as Cl₂

Emergency Overview: May cause burns to the eyes, skin and mucous membranes.

SECTION 3 PHYSICAL/CHEMICAL CHARACTERISTICS

Alternate Name(s):	Bleach
Chemical Name:	Sodium Hypochlorite
Chemical Family:	Oxidizing Agent
Molecular Formula:	Na-O-Cl
Form:	Liquid
Appearance:	Water clear to a slight greenish-yellow, or light yellow aqueous solution
Odor:	Chlorine odor
pH:	11-14, dependent upon % weight as Sodium Hypochlorite
Vapor Pressure:	Not available
Vapor Density (Air=1):	Not available
Boiling Point:	Approximately 230° F (110° C)
Freezing Point:	14 F (8% w/w Cl ₂ solution), 7 F (10% w/w Cl ₂ solution), -3 F (12% w/w Cl ₂ solution)
Solubility (Water):	Completely Soluble
Solubility (Other):	Reacts with Many Organic Solvents
Density:	Appx. 10 lbs. per gallon
Evaporation Rate:	Not Available
Specific Gravity:	1.126 (8% w/w Cl ₂ solution), 1.163 (10% w/w Cl ₂ solution), 1.202 (12% w/w Cl ₂ solution), 1.25 (15% w/w Cl ₂ solution)
Molecular Weight:	74.5

SECTION 4 STABILITY & REACTIVITY DATA

Chemical Stability	Stable <u> X </u>	Unstable <u> </u>
Incompatibility (Conditions to Avoid): Stability decreases with heat and light exposure.		
Incompatibility (Materials to Avoid): May react violently with strong acids. Other incompatibles include strong caustics, ammonia, urea, reducing agents, organics, ether and oxidizable materials. Reaction with metals (nickel, iron, cobalt and copper) may produce oxygen gas, which supports combustion. May react with organohalogen compounds to		

(545138)

form spontaneously combustible compounds. May react explosively with nitro- and chloro-organic compounds as well as acids and reducing agents. Acidification liberates chlorine gas.		
Hazardous Decomposition or Byproducts: Chlorine gas. Decomposes with heat and reacts with acids. Hazardous gases/vapors produced are hypochlorous acid, chlorine and hydrochloric acid. Composition depends upon temperature and decrease in pH. Additional decomposition products, which depend on pH, temperature and time, are sodium chloride and chlorate, and oxygen.		
No Mechanical Shock or Impact	No Static Discharge	Oxidizer: No if <12% by weight, Yes if > than 12% by weight
Hazardous Polymerization	May Occur	Will Not Occur X

Note: Sodium Hypochlorite reacts violently with amines and ammonium salts. Solutions are reactive with common cleaning products such as toilet bowl cleaners, rust removers, vinegar, acids, organics and ammonia products to produce hazardous gases such as chlorine and other chlorinated species.

SECTION 5 POTENTIAL HEALTH EFFECTS AND FIRST AID INFORMATION

GENERAL: May cause immediate pain. Exposure to the skin may cause sensitization or other allergic responses. If the eye is not irrigated immediately after it has been exposed permanent eye damage may occur. Strict adherence to first aid measures following any exposure is essential. **SPEED IS ESSENTIAL!**

ROUTE(S) OF ENTRY AND POTENTIAL HEALTH EFFECTS	EMERGENCY & FIRST AIDE PROCEDURES
INHALATION: Strong irritating to mucous membranes in the nose, throat and respiratory tract. Prolonged contact can cause chronic irritation, pulmonary edema and central nervous system depression. Repeated inhalation exposure may cause impairment of lung function and permanent lung damage.	If inhaled, move expose person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. If breathing is difficult, have trained person administer oxygen. Call a poison control center or medical physician for further treatment advice. Have the product label or MSDS with you when calling or going for medical treatment.
SKIN CONTACT: Prolonged and repeated exposure to dilute solutions often causes irritation, redness, pain and drying and cracking of the skin. Human evidence has indicated that an ingredient in this product can cause skin sensitization. Depending upon the concentration and how soon after exposure the skin is washed with water, skin contact may cause burns and tissue destruction.	If on skin or clothing, take off all contaminated clothing and rinse skin immediately with plenty of water for 15-20 minutes. If irritation persists, repeat flushing. Do not transport victim unless the recommended irrigation period is completed unless flushing can be continued during transport. Call a poison control center or medical physician for treatment advice. Have the product label or MSDS with you when calling or going for medical treatment.
EYE CONTACT: Strongly irritating to eyes. Exposure to vapor can cause tearing, conjunctivitis and burning of the eyes. Eye contact may cause a corneal injury. The severity of the effects depend on the concentration and how soon after exposure the eyes are washed with water. In severe exposure cases, glaucoma, cataracts and permanent blindness may occur.	If in eyes, hold eye open and rinse slowly and gently with plenty of water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye for 10-15 minutes. Do not transport victim until the recommended flushing period is completed unless irrigation can be continued during transport. Call a poison control center or medical physician for further treatment advice. Have the product label and/or MSDS with you when calling or going to medical treatment.
INGESTION: Corrosive. Can cause severe corrosion of and damage to the gastrointestinal tract (including mouth, throat, and esophagus). Exposure is characterized by nausea, vomiting, abdominal pain, diarrhea, bleeding, and/or tissue ulceration.	If swallowed, call poison control center or medical physician immediately for treatment advice. Have the product label or MSDS with you when calling or going for medical treatment. Have exposed person sip a glass of water if able to swallow, and dilute immediately by giving milk, melted ice cream, starch paste or antacids such as milk of magnesia. Avoid sodium bicarbonate because of carbon dioxide release. DO NOT INDUCE VOMITING, LAVAGE OR ACIDIC ANTIDOTES unless told to do so by poison control center or medical physician. DO NOT give anything by mouth to an unconscious person. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water.

NOTE TO PHYSICIAN(S): Pre-existing medical conditions may be aggravated by exposures affecting target organs. There are no known chronic effects. Probable mucosal damage may contraindicate the use of gastric lavage. In addition to the alkalinity of this product, the continued generation of chlorine gas after ingestion can damage further the stomach mucous, depending on the amount ingested. Consideration may be given to removal of the product from the stomach, taking care to avoid perforation of esophagus or stomach. An ounce of 1% sodium thiosulfate or milk of magnesia is helpful.

SECTION 6 TOXICOLOGICAL DATA

ANIMAL DATA: Inhalation 0.25-hour LC50 - 10.5 mg/L in rats; Acute Dermal LD50 - 10,000 mg/kg in rabbits; Acute Oral LD50 - 8910 mg/kg in rats

(545138)

SUMMARY: The concentrated solution is corrosive to skin, and a 5% solution is a severe eye irritant. Solutions containing more than 5% available chlorine are classified by DOT corrosive (please see section 10 of this MSDS). Toxicity described in animals from single exposures by ingestion include muscular weakness, and hypoactivity. Repeated ingestion exposure in animals caused an increase in the relative weight of adrenal glands in one study, but no pathological changes were observed in two other studies. Long-term administration of compound in drinking water of rats caused depression of the immune system. No adverse changes were observed in an eight week dermal study of a 1% solution in guinea pigs. Tests in animals demonstrate no carcinogenic activity by either the oral or dermal routes. Tests in bacterial and mammalian cell cultures demonstrate mutagenic activity.

CARCINOGENICITY: None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as carcinogen.

MUTAGENICITY: Sodium Hypochlorite has been shown to produce damage to genetic material when tested in vitro. Studies in vivo have shown no evidence of mutagenic potential for this material. It is judged that the risk of genetic damage is insignificant for sodium hypochlorite because of its biological activity, lack of mutagenicity in vivo, and failure to produce carcinogenic response.

SECTION 7 FIRE AND EXPLOSION HAZARD DATA

Flash Point: This product does not flash		Flammable Limits (Lower): Not Applicable	
Flammable Limits (Upper): Not Applicable		Auto Ignition Temperature: Not Applicable	
Decomposition Temperature: Not Applicable		Rate of Burning: Not Available	
Explosive Power: Not Available	Sensitivity to Mechanical Impact: Not expected to be sensitive to mechanical impact	Sensitivity to Static Discharge: Not expected to be sensitive to static discharge	
Fire and Explosion Hazards: This material is non-flammable but is decomposed by heat and light, causing a pressure build-up which could result in an explosion. When heated, it may release chlorine gas or hydrochloric acid. Vigorous reaction with oxidizable or organic materials may result in fire.		Extinguishing Media: Use agents appropriate for surrounding fire. Foam, dry chemical, carbon dioxide, water fog or spray. If leak or spill has not ignited, use water spray to disperse the vapors and to protect persons attempting to stop the leak.	
Fire Fighting Procedures: Water spray should be used to cool containers and may be used to knock down escaping vapor. Remove storage vessels from the fire zone.		Fire Fighting Protective Equipment: Full protective clothing, including a NIOSH approved self-contained breathing apparatus, must be worn in a fire involving this material. Toxic gas vapors are produced upon decomposition.	

SECTION 8 ECOLOGICAL INFORMATION

The toxicity and corrosivity of this product is a function of concentration and the concentration's pH.

ECOTOXICOLOGICAL INFORMATION: Toxic to aquatic life. 96-hour LC50: fathead minnows: 0.090-5.9 mg/L, bluegill sunfish: 0.10-2.48 mg/L, shore crab: 1.418 mg/L, grass shrimp: 52.0 mg/L, scud: 0.145-4.0 mg/L, water flea: 2.1 mg/L.

ENVIRONMENTAL EFFECTS: Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers. May be an aesthetic nuisance due to color. Mammals and birds, exposed wildlife would be subject to skin irritation and burns due to the corrosive nature of this material.

SECTION 9 DISPOSAL CONSIDERATIONS

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State, and Local regulations. Do not burn. Do not flush to surface water or sanitary sewer system. If pH of material is equal to or greater than a 12.5, the material is a RCRA Hazardous Waste D002, corrosive.

SECTION 10 TRANSPORT INFORMATION

U.S. DOT Basic Shipping Description: Hypochlorite Solutions, 8, UN1791, III

U.S. DOT Hazardous Substance: Yes, RQ 100 pounds (Sodium Hypochlorite)

U.S. DOT Marine Pollutant: No

U.S. DOT Required Label: Corrosive (see column 6, 49 CFR §172.101)

U.S. DOT Packaging Exception: Yes, if package meets the criteria of a limited quantity or consumer commodity as defined by 49 CFR §171.8, §173.144 and .154, and §172.312 and .316

N. AMERICAN EMERGENCY GUIDE PAGE NUMBER: 154

Transportation Emergency Phone Numbers: CHEMTREC 1-800-424-9300

SECTION 11 PRECAUTIONS FOR SAFE HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Take all precautions to avoid personal contact. Keep container closed except when transferring material. Locate safety shower and eyewash station close to chemical handling area. Use normal good industrial hygiene and housekeeping practices, wash thoroughly after handling. Store in a cool, dry, well-ventilated area, away from incompatibles (minimum distance of 20-25 feet per NFPA Code 1) and direct sunlight. Keep container properly labeled at all times. Vented containers must be used and must be kept closed when not

(545138)

being used. Long-term storage is impossible without decomposition. Only use containers made from tinted glass, polyethylene & FRP. Keep out of reach of children.

PROCESS HAZARDS: Not Available

STORAGE TEMPERATURE: Store containers below 29°C and above freezing point. Do not expose sealed containers above 40°C. Try to store in the dark at the lowest possible temperature, but keep from freezing, to slow-down decomposition.

SECTION 12 EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Full handling precautions should be taken at all times. Provide good room ventilation plus local exhaust at points of emission and low level floor exhaust in immediate handling area. Where engineering controls are not feasible, use adequate local exhaust ventilation wherever mist, spray or vapor may be generated

PERSONAL PROTECTIVE EQUIPMENT:

Eye: Use chemical safety goggles when there is potential for contact (splashing), faceshield recommended – ANSI Z87.1

Skin: Gloves and protective clothing (apron, boots, and bodysuits) made from rubber, vinyl, neoprene or PVC. Standard work clothing closed at the neck and wrist while wearing impervious equipment.

Respiratory (Specify Type): A NIOSH/MSHA approved air purifying respirator with an acid gas cartridge or canister may be permissible under circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is potential for uncontrolled releases, exposure levels are not known, or other circumstances where air purifying respirators may not provide adequate protection.

Other: Eyewash, shower station (ANSI Z358.1) must be provided within the immediate work area.

SECTION 13 ACCIDENTAL RELEASE MEASURES

Ventilate enclosed area. Collect product for recovery or disposal. For release to land, contain discharge by constructing dikes or applying inert absorbent; for release to water, utilize damming and/or water diversion to reduce the spread of contamination; and, for release to air, vapors may be suppressed by the use of a water fog. All run-off water must be captured for treatment and disposal. Collect contaminated soil and water, and absorbent for disposal. Notify applicable government authority if release is reportable or could adversely affect the environment. Please follow all Local, State and Federal Laws for clean-up and disposal of all contaminated material. **Deactivating Chemicals:** Sodium Sulfite, Sodium Thiosulfate and Sodium Bisulfite.

SECTION 14 REGULATORY INFORMATION

OSHA CLASSIFICATION, 29 CFR §1900-1910:

Physical Hazards: Reactivity

Health Hazards: Acute - Skin Sensitizer, Corrosive

CERCLA AND SARA REGULATIONS, 40 CFR §300-373:

Reportable Quantity = 100 lb.

CERCLA Hazardous Material: Yes

Title III Hazard Classifications: Acute - yes, Chronic - no, Fire - yes, Reactivity - yes & Sudden Release of Pressure - No. This product may be reportable under the requirements of 40 CFR §370.

SARA Extremely Hazardous Substance: No **SARA Toxic Chemical:** No

CA Prop 65: No

FDA 21 CFR 178.1010: Yes, Approved as Sanitizer

NSF Whitebook (former USDA Approval) Listing: Aqua Guard Chlorinating Sanitizer 10.5% - 3D, B1, B2, D1, D2, G4, G7, GX, Q4, Aqua Guard Bleach 12.5% - 3D, B1, B2, D1, D2, G4, GX, Q4

EPA "CLEAN AIR ACT": This product does not contain nor is it manufactured with ozone depleting substances. It is not defined as a Hazardous Air Pollutant per 40 CFR 112.

EPA Pesticide: The 10.5% and 12.5% sodium hypochlorite products are registered with the U.S. EPA as a pesticide, as required under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). It is a violation of Federal law to use this product for pesticidal applications in a manner inconsistent with the FIFRA labeling.

NPCA-HMIS RATING: HEALTH:

3

FLAMMABILITY: 0

REACTIVITY: 2

NFPA RATING: NONE AT THIS TIME

SECTION 15 REFERENCES

Suppliers' Material Safety Data Sheets and EPA Labeling Requirements

Olin and OxyChem Sodium Hypochlorite Handbook

Chlorine Institute Sodium Hypochlorite Pamphlet #96

Chlorine Institute Product Stewardship Bulletins for Sodium Hypochlorite

This information contained herein, while not guaranteed, is offered only as a guide to the handling of this specific material and has been prepared in good faith by product knowledgeable personnel. This information is not intended to be all-inclusive as to the manner and conditions of use, handling and storage. Other factors may involve other or additional safety or performance considerations. Though Allied Universal Corporation is happy to respond to questions regarding safe handling of Allied's products, safe handling and use remains the responsibility of the product's consumers and/or customers. No warranty of merchantability or fitness for purpose, or any other kind, express or implied, is made regarding performance, stability or otherwise. Allied Universal Corp. will not be liable for any damages, losses, injuries or consequential damages that may result from the use of or reliance on any information contained herein. No suggestions for use are intended as, and nothing herein shall be construed as a recommendation to infringe any existing patents or violate any federal, state or local laws, rules, regulations or ordinances.



Kuehne COMPANY

5 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Phone: (973) 589-0700

Fax: (973) 589-4866

Sodium Hypochlorite

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: KCC – HYPO - 001

MSDS DATE: March 06, 2007

PRODUCT NAME: SODIUM HYPOCHLORITE SOLUTION

24 HOUR EMERGENCY PHONE NUMBER: 973-589-0700

I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

HMIS HAZARD RATINGS

HEALTH HAZARD - 3 (Serious)

FIRE HAZARD - 0 (Minimal)

REACTIVITY - 2 (Slight)

WARNING - Corrosive, Oxidizing Agent

NFPA HAZARD RATINGS

HEALTH HAZARD (Blue) - 2

FLAMMABILITY (Red) - 0

INSTABILITY (Yellow) - 1

Based on Nat'l Paint & Coatings Association HMIS system.

Chemical not listed. Ratings based on NFPA guidelines

**MANUFACTURERS
NAME AND
ADDRESS**

**KUEHNE CHEMICAL COMPANY, INC.
86 HACKENSACK AVENUE NORTH
SOUTH KEARNY, NEW JERSEY 07032-4675**

CHEMICAL NAME: SODIUM HYPOCHLORITE SOLUTION

CAS NUMBER: 7681-52-9

SYNONYMS/COMMON NAMES: Chlorine Bleach, Soda Bleach

CHEMICAL FORMULA: NaOCl

DOT PROPER SHIPPING NAME: Hypochlorite Solutions

DOT HAZARD CLASS: 8

DOT ID NUMBER: UN1791

DOT PACKING GROUP: III

DOT HAZARDOUS SUBSTANCE: RQ-100# (Sodium Hypochlorite)

Kuehne COMPANY
Sodium Hypochlorite
Revision A - 06 March 2007




Responsible Care®
Page 1 of 11



Sodium Hypochlorite

I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION (Continued)

DOT MARINE POLLUTANT: NA

ADDITIONAL DESCRIPTION: NA

II. HEALTH HAZARDS INFORMATION

EMERGENCY AND FIRST AID PROCEDURES

EYES:

OBJECT IS TO FLUSH MATERIAL OUT IMMEDIATELY AND THEN SEEK MEDICAL ATTENTION. IMMEDIATELY flush eyes with a directed stream of water for at least 15 minutes while forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. Washing eyes within one (1) minute is essential to achieve maximum effectiveness. **SEEK MEDICAL ATTENTION IMMEDIATELY.**

SKIN:

Flush thoroughly with cool water under shower while removing contaminated clothing and shoes. Discard non-rubber shoes. Wash clothing before reuse. Continue to flush until medical attention arrives.

SEEK MEDICAL ATTENTION IMMEDIATELY.

INHALATION:

Remove to fresh air. If breathing is difficult, have qualified person administer oxygen. If respiration stops, give mouth-to-mouth resuscitation. **GET IMMEDIATE MEDICAL ATTENTION.**

INGESTION:

NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. If swallowed. **DO NOT INDUCE VOMITING.** Give large quantities of milk. If these are not available, give large quantities of water. If vomiting occurs spontaneously keep airway clear and give more milk or water. **GET MEDICAL ATTENTION IMMEDIATELY.** Avoid vomiting, lavage or acidic antidotes.

NOTE TO PHYSICIAN:

Sodium Hypochlorite is an alkaline corrosive. For exposure by ingestion do not use emesis, lavage or acidic antidotes. Dilute immediately by giving milk, melted ice cream, beaten egg white, starch paste or antacids such as milk of magnesia, aluminum hydroxide gel or magnesium trisilicate gel. Avoid sodium bicarbonate because of carbon dioxide release. Sodium thiosulfate solution may prove beneficial by reducing unreacted material.





Sodium Hypochlorite

II. HEALTH HAZARDS INFORMATION

(Continued)

ROUTES OF EXPOSURE

INHALATION:

Inhalation of hypochlorous acid fumes may cause severe respiratory tract irritation and pulmonary edema.

SKIN:

Skin contact may cause severe irritation and burns.

EYE CONTACT:

Eye contact may cause severe irritation, burns, and/or corrosion.

INGESTION:

Ingestion may cause pain and inflammation of the mouth and digestive system, burns and perforation of the esophagus or stomach, vomiting, circulatory collapse, confusion, delirium and coma.

EFFECTS OF OVEREXPOSURE

ACUTE:

Corrosive and strongly irritating to the eyes, skin, and respiratory tract. Inhalation of fumes may cause pulmonary edema. Ingestion may cause burns to the mouth and digestive tract and abdominal distress.

CHRONIC:

No Data.

TOXICOLOGY DATA:

The toxicity and corrosivity of Sodium Hypochlorite is a function of concentration. Industrial grades of higher concentrations than household bleach are more toxic and corrosive.

Pentahydrate: 45% Concentration

Acute Oral LD ₅₀	(rat)	8,910 mg/kg
Acute Dermal LD ₅₀	(rabbit)	10,000 mg/kg
Primary Skin Irritation		Severely irritating
Primary Eye Irritation		Severely irritation





Sodium Hypochlorite

III. IMPORTANT COMPONENTS

<u>CAS Number</u>	<u>Name</u>
7732-18-5	Water

EXPOSURE LIMITS

PEL: Not Established

TLV: Not Established

PERCENTAGE

VOL 85

WT 85 - 87

Common Names:

<u>CAS Number</u>	<u>Name</u>
7681-52-9	Hypochlorous Acid, Sodium Salt

EXPOSURE LIMITS

PEL: 1 ppm (as Cl₂) ceiling

TLV: 1 ppm (as Cl₂) TWA

PERCENTAGE

VOL 15

WT 12 - 14

Common Names: Sodium Hypochlorite

<u>CAS Number</u>	<u>Name</u>
1310-73-2	Sodium Hydroxide (NaOH)

EXPOSURE LIMITS

PEL: 2 ppm ceiling

TLV: 2 ppm ceiling

PERCENTAGE

VOL 1

WT 1

Common Names: Caustic Soda, Lye

This product has not been listed as carcinogenic by the following agencies: IARC, NTP, and OSHA

IV. FIRE & EXPLOSION DATA

FLASH POINT: NA

AUTOIGNITION TEMPERATURE: NA

FLAMMABLE LIMITS IN AIR - % BY VOLUME - UPPER: NA





Sodium Hypochlorite

IV. FIRE & EXPLOSION DATA

(Continued)

EXTINGUISHING MEDIA:

Use water spray, fog, foam, dry chemical, or carbon dioxide or agents suitable for materials in surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES:

Use self-contained breathing apparatus and full protective equipment. Acid contamination will produce very irritating fumes similar to chlorine.

UNUSUAL FIRE AND EXPLOSION HAZARD:

Sodium Hypochlorite or its solutions decompose when heated. Decomposition products may cause containers to rupture or explode. Vigorous reaction is possible with organic materials or oxidizing agents and may result in fire.

V. SPECIAL PROTECTION

VENTILATION REQUIREMENTS

Provide good general room ventilation plus local exhaust at points of emission.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY:

NIOSH/MSHA approved respirator, following manufacturer's recommendations should be used as a precautionary measure where airborne contaminants may occur.

EYE:

Wear chemical safety goggles plus full face shield to protect against splashing when appropriate.

GLOVES:

Wear impervious gloves such as rubber, neoprene or vinyl.

OTHER CLOTHING AND EQUIPMENT:

Wear impervious protective clothing including rubber safety shoes. Eye wash facility and emergency shower should be in close proximity





Sodium Hypochlorite

VI. PHYSICAL DATA

Boiling Point: (@760 mm Hg) Decomposes above 110 °C (230 °F)

Freezing Point:	Weight %	Freezing Point °F
	10	7
	12	- 3
	14	- 14

Vapor Pressure:	Temperature °F	mm Hg	PSIA
	48.2	3.7	0.071
	60.8	8.0	0.15
	68.0	12.1	0.23
	89.6	31.1	0.60
	118.4	100.0	1.93

Specific Gravity: (H₂O = 1) 1.190 - 1.215

Solubility in H₂O (by Weight) 100%

pH 12 @ 100 g/l

Appearance/Odor: Colorless to light yellow-green liquid with chlorine like odor.

VII. REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY:

Strong Oxidizer, stability decreases with concentration, heat, light, decrease in pH and contamination by metals.

INCOMPATIBILITY:

Avoid contamination with heavy metals, reducing agents, organics, ether, ammonia, and acids.

HAZARDOUS DECOMPOSITION PRODUCTS:

Acid fumes.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION:

Material is not known to polymerize.





Sodium Hypochlorite

VIII. HANDLING & STORAGE

HANDLING AND STORAGE PRECAUTIONS:

Do not store adjacent to chemicals that may react if spillage occurs. Comply with DOT regulations when shipped. If closed containers become heated, vent to release decomposition products (mainly oxygen under normal decomposition). Do not mix or contaminate with ammonia, hydrocarbons, acids, alcohols or ethers.

DO NOT REUSE CONTAINERS:

Product residues may remain in containers. All labeled precautions must be observed. Dispose of container in a manner meeting government regulations.

PRODUCT DISPOSAL:

Product should be completely removed from containers. Material that cannot be used or chemically reprocessed should be disposed of in a manner meeting government regulations.

IX. ENVIRONMENTAL PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Do not allow spilled material to enter sewers or streams. Flush with water to dilute as much as possible and pump into polyethylene containers for disposal. Avoid heat and contamination with acid materials. Do not use combustible materials such as sawdust to absorb Sodium Hypochlorite Solution.

WASTE DISPOSAL METHOD:

Reduce with agents such as bisulfites or ferrous salt solutions. Some heat will be produced. Keep on alkaline side and dilute with copious amounts of water. Main end product is salt water. Comply with all applicable governmental regulations.

X. ADDITIONAL INFORMATION

Section 311 of The Clean Water Act lists this product as a hazardous substance, which, if discharged to water, may require immediate response to mitigate danger to public health and welfare. Spills of 100 pounds or more must be reported to the National Response Center at the following number:
1-800-424-8802

Material is contained on a composite list as required under 101 (14) of CERCLA.





Sodium Hypochlorite

X. ADDITIONAL INFORMATION

(Continued)

Sodium Hypochlorite Solution is regulated by the USEPA under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) as a pesticide product.

Sodium Hypochlorite Solution produced by KUEHNE CHEMICAL COMPANY, INC. is registered with the USEPA under Registration Number 35317-20001.

NSF CERTIFICATION: This product has been classified as an approved drinking water treatment chemical under ANSI/NSF Standard 60 by Underwriter's Laboratories (reference number: MH17612)

USDA APPROVALS: B-1, D-2, L-1, Q-4 & Fruit and Vegetable washing compounds.

XI. PREPARATION DATA

Prepared By: Safety, Health and Environment Department : 1-973-589-0700

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and KUEHNE CHEMICAL COMPANY, INC. will not be liable for any damages, losses, injuries or consequential damages that may result from the use of or reliance on any information contained herein.

REFERENCES:

National Institute for Occupational Safety and Health, US Dept. of Health & Human Services, Cincinnati, June, 1994.

Supplier's Material Safety Data Sheets.

Windholz, Martha, Ed, The Merck Index, 11th ed., Merck and Co, Inc., Rahway, New Jersey, 1989.

Chlorine Institute Pamphlet 96 (Sodium Hypochlorite Safety & Handling), Edition I, September, 1992





Kuehne COMPANY

6 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Phone: (973) 589-0700

Fax: (973) 589-4866

Sodium Hypochlorite

WARNING LABEL INFORMATION

Active Ingredient:	Sodium Hypochlorite (NaOCl)	12.5 %	(weight per cent)
Inert Ingredients:	-----	87.5 %	
Total		100.0 %	

KEEP OUT OF REACH OF CHILDREN

DANGER

FIRST AID

IF CONTACT WITH EYES OCCURS: Hold eye open and rinse slowly and gently with water for 15 –20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue to rinse eye. Call a poison control center or doctor for treatment advice.

IF CONTACT WITH SKIN OCCURS: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF INHALED: Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

PRECAUTIONARY STATEMENTS HAZARDOUS TO HUMANS AND DOMESTIC ANIMALS

DANGER:

Corrosive, may cause severe skin and eye irritation or chemical burns to broken skin. Causes eye damage. Wear safety glasses or goggles and rubber gloves when handling this product. Wash after handling. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until strong odors have dissipated.





Sodium Hypochlorite

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

PHYSICAL OR CHEMICAL HAZARDS

STRONG OXIDIZING AGENT:

Mix only with water according to label directions. Mixing this product with chemicals (e.g. ammonia, acids, detergents, etc.) or organic matter (e.g. urine, feces, etc.) will release chlorine gas, which is irritating to eyes, lungs and mucous membranes.

DIRECTION FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING

Reformulators and Repackagers of this product must obtain their own registrations from the United States Environmental Protection Agency (USEPA).

For manufacturing use in the formation of end-use Products:

NOTE: This product degrades with age. Use a Chlorine test kit and increase dosage as necessary, to obtain the required level of available Chlorine.

For specific use directions, see KUEHNE Circular for each particular application.

CIRCULAR NUMBER K586A

sanitizers of surfaces (wooden butcher blocks, stainless steel tops, concrete floors, tile walls)

CIRCULAR NUMBER K586B

sanitizers of commercial laundry

CIRCULAR NUMBER K586C

agents to wash or assist in lye peeling of fruits and vegetables (sodium hypochlorite only), agents to help control microorganisms on mushrooms (pins), potatoes, sweet potatoes (post harvest), agents to help control microorganisms on eggs for human consumption





Kuehne COMPANY

6 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Phone: (973) 589-0700

Fax: (973) 589-4866

Sodium Hypochlorite

CIRCULAR NUMBER K586D

disinfectants of human drinking water (emergency/public & individual), swimming pool water, spas/hot tubs, hydrotherapy pools, human drinking water systems (water mains)

CIRCULAR NUMBER K586E

disinfectants of nonporous hard surfaces (tile, glass, stainless steel, fiberglass)

CIRCULAR NUMBER K586F

agents to help control microorganisms in sewage, waste water, industrial and pulp and paper process water systems

CIRCULAR NUMBER K586G

algicides, slimicides in cooling towers or evaporative condensers

STORAGE AND DISPOSAL

Store this product in a cool dry area away from direct sunlight and heat to prevent deterioration. In case of a spill, flood areas with large quantities of water. Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer. Do not contaminate food or feed by storage, disposal or cleaning of equipment.

Large storage containers should be rinsed thoroughly with water and returned to manufacturer for reconditioning. Large storage containers should be thoroughly rinsed with water before reuse.

IN CASE OF:

FIRE:

Use self-contained breathing apparatus and full protective equipment. Use water spray, foam, dry chemical or CO₂. Fire may liberate toxic gases.

SPILL:

Get protective equipment. Contain spill and pump into marked container for reclamation for disposal. Avoid discharges to sewers and streams. Spills of 100 pounds or more must be reported to the National Response Center at the following number:

1-800-424-8802

**IN CASE OF CHEMICAL EMERGENCIES CALL:
24 HOUR EMERGENCY PHONE (973) 589-0700**



SODIUM HYPOCHLORITE SOLUTION, 10.5%

ACTIVE INGREDIENT:

SODIUM HYPOCHLORITE 10.5%*
OTHER INGREDIENT: 89.5%
TOTAL 100.0%

*Available chlorine: 10%

KEEP OUT OF REACH OF CHILDREN DANGER

FIRST AID

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control center or doctor for treatment advice.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Drink large amounts of water. DO NOT induce vomiting. Call a physician or poison control center immediately.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Have product container or label with you when calling a poison control center or doctor for treatment advice.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER: Corrosive. Causes irreversible eye and skin damage. Do not get in eyes, on skin or on clothing. Wear face shield or goggles and rubber gloves when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until odors have dissipated. Remove and wash contaminated clothing before reuse.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your state water board or regional office of the EPA.

PHYSICAL OR CHEMICAL HAZARDS

STRONG OXIDIZING AGENT: Mix only with water according to label directions. Mixing this product with chemicals (e.g., ammonia, acids, detergents, etc.) or organic matter (e.g., urine, feces, etc.) will release chlorine gas which is irritating to eyes, lungs and mucous membranes.

Manufactured by:

KUEHNE CHEMICAL COMPANY INC.
86 N. HACKENSACK AVENUE
SOUTH KEARNY, NJ 07032-4675
(973) 589-0700

EPA REG. NO. 35317-4

EPA EST. NO. 35317-DE-1

ANSI / NSF 60

DRINKING WATER TREATMENT ADDITIVE

Net Contents:

DIRECTIONS FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING

NOTE: This product degrades with age. Use a chlorine test kit and increase dosage as necessary, to obtain the required level of available chlorine.

For specific use directions, see KUEHNE Circular for each particular application.

CIRCULAR NUMBER K586A

sanitizers of hard nonporous surfaces (stainless steel tops)

CIRCULAR NUMBER K586B

sanitizers of commercial laundry

CIRCULAR NUMBER K586C

agents to wash or assist in lye peeling of fruits and vegetables (sodium hypochlorite only), agents to help control microorganisms on mushrooms (pins), potatoes, sweet potatoes (post harvest), agents to help control microorganisms on eggs for human consumption

CIRCULAR NUMBER K586D

disinfectants of human drinking water (emergency/public & individual) and human drinking water systems (water mains)

CIRCULAR NUMBER K586E

disinfectants of hard nonporous surfaces (sealed tile and fiberglass, glass, stainless steel)

CIRCULAR NUMBER K586F

agents to help control microorganisms in sewage, waste water, industrial and pulp and paper process water systems

CIRCULAR NUMBER K586G

algaecides, slimeicides in cooling towers or evaporative condensers

CIRCULAR NUMBER K586H

sanitizers of porous food contact surfaces (wooden butcher blocks)

CIRCULAR NUMBER K586I

sanitizers of porous non-food contact surfaces (tile walls, concrete floors)

CIRCULAR NUMBER K586J

disinfectants of swimming pool water, spas/hot tubs, hydrotherapy pools

STORAGE AND DISPOSAL

Pesticide Storage: Store this product in a cool dry area away from direct sunlight and heat to prevent deterioration. In case of a spill, flood area with large quantities of water.

Pesticide Disposal: Do not contaminate food or feed by storage, disposal or cleaning of equipment. Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer.

Container Disposal: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling the container is the responsibility of the refiller.

Corrosion Inhibitor – 50 gallon tank

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification

Product Name: SeaQuest[®] Liquid

Date: June 23, 2021

Use of the product

Liquid-Potable water treatment compound for Corrosion & Scale Control, Sequestering NSF[®] Listed

DWI Listed

Company information

Aqua Smart, Inc.

4445 Commerce Dr SW Ste. A-4

Atlanta, GA 30336-1962

Emergency Telephone: In USA call Aqua Smart, Inc.:

404-696-4406 or 1-800-278-2762

Outside the USA, including ships at sea, call Aqua Smart, Inc.:

+1-404-696-4406 or +1-800-278-2762

General Information: +1-404-696-4406 or +1-800-278-2762 (Worldwide)

SECTION 2 – HAZARD(S) IDENTIFICATION

USA:

GHS- This product does not meet the criteria for classification under GHS.

Not classified as: "Hazardous Chemicals" in normal use in 29 CFR section 1910.1200

According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012 * Not classified

2.2 Label elements

OSHA HCS 2012

Hazard statements * No label element(s) required

2.3 Other Hazards

OSHA HCS 2012

* This product is not considered hazardous under the U.S.

OSHA 29 CFR 1910.1200 Hazard Communication Standard.

EU/EEC:

According to Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]

According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP * Not classified

DSD/DPD * Not classified

2.2 Label elements

CLP

Hazard statements * No label element(s) required

DSD/DPD

Risk phrases * No label element(s) required

2.3 Other Hazards

CLP * According to Regulation (EC) No. 1272/2008 (CLP) this material is not considered hazardous.

DSD/DPD * This product is not considered dangerous under the European Directive 67/548/EEC

CANADA:

According to WHMIS

2.1 Classification of the substance or mixture

WHMIS * Not classified

2.2 Label elements

WHMIS * No label element(s) required

2.3 Other hazards

WHMIS * In Canada, the product mentioned above is not considered hazardous under the Workplace Hazardous Materials Information System (WHMIS)

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Composition

Substance

SeaQuest: Blend of inorganic phosphates / Liquid-Potable water treatment compound for Corrosion & Scale Control, Sequestering CAS No.: 14265-44-2 100 % w/w

NSF® Listed: Maximum use level in potable water = 28.0 mg/l

DWI Listed

SECTION 4 – FIRST AID MEASURES

General

Likely Routes of Exposure: Eye and Skin contact.

Eye Contact

In case of contact, flush with plenty of water for 15 minutes. If irritation persists, get medical attention.

Skin Contact

In case of contact, wash with soap and water. If irritation persists, get medical attention.

Inhalation

No emergency care anticipated

Ingestion

No emergency care anticipated. Treat symptomatically.

SECTION 5 - Fire Fighting Measures

Extinguishing media

Non-combustible. No special requirement.

Unsuitable extinguishable media

Non-combustible. No special requirement.

Exposure hazards

No special considerations.

Protective equipment

As a general precaution, firefighters and others exposed, wear self-contained breathing apparatus.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid unnecessary exposure and remove all material from eyes, skin and clothing.

Environmental precautions

Small or large quantities: Avoid discharge into the environment.

Method of cleaning up

If spilled, soak up on mineral clay absorbent material.

Waste disposal methods

To dispose of, check with Federal, State and local regulations.

SECTION 7 – HANDLING AND STORAGE

Handling

Gloves are recommended to avoid skin contact.

Goggles / safety glasses are recommended to avoid eye contact.

Storage

Keep container closed when not in use.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Hand / Skin Protection

Although this product does not present a significant skin concern, minimize skin contamination by following good industrial practice. Wearing protective gloves is recommended. Wash hands and contaminated skin thoroughly after handling.

Eye Protection

This product does not cause significant eye irritation or eye toxicity requiring special protection. Use good industrial practice to avoid eye contact. Refer to OSHA 29 CFR 1910.133 or European Standard EN166.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

- a) Appearance: Clear to slight hazy, colorless liquid
- b) Odor: None
- c) Odor threshold: Undetermined
- d) Boiling Point: Not applicable
- e) Specific gravity: 1.300-1.350
- f) Vapor pressure: Not applicable (mm Hg)
- g) Solubility: Water: 300 parts in 100 parts of water
- h) Flash point: Undetermined
- i) Flammability (solid, gas): Lower limits

NOTE: The physical data is based on typical values from material testing but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

SECTION 10 – STABILITY AND REACTIVITY

Product is stable under normal conditions of storage and handling.

Conditions to avoid

None known.

Materials to avoid

None known.

Hazardous decomposition

None known.

SECTION 11 – TOXICOLOGICAL INFORMATION

The liquid may cause slight foreign body irritation in some individuals. Prolonged contact with the product may cause blistering on the skin upon frequent, repeated, or prolonged contact.

NSF® Listed (U.S.A.)

On the Inspectorate Website Listed, Drinking Water Inspectorate (U.K.) DWI

SECTION 12 – ECOLOGICAL INFORMATION

Environmental toxicity

The following data have been classified using the criteria adopted by the European Economic Community (EEC) for aquatic organism toxicity.

Invertebrate: 48-hr LC50 - Daphnia Magna >500mg/l; non-toxic

Warm-water fish: 96-hr LC50 - Inland Silverfish >1000mg/l; non-toxic

Coldwater fish: 96-hr LC50 – Rainbow Trout >1000mg/l; non-toxic

Environmental fate

No definite algal toxicity or biodegradation data was available for this material.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste information

Waste must be disposed of in accordance with the federal, provincial and local environmental regulations.

Aqua Smart Inc.

H₂O-IQ

Aqua Smart, Inc.
Material: SeaQuest® Liquid

SAFETY DATA SHEET

Page 6 of 6

SECTION 14 – TRANSPORT INFORMATION

US DEPARTMENT OF TRANSPORTATION

DRUMS:

Not Regulated

Proper Shipping Name: SeaQuest® Liquid Blended Phosphate
Non-Hazardous – NNMFC 043800-01

SECTION 15 – REGULATORY INFORMATION

TSCA STATUS:

All components of this product are listed in the TSCA inventory.

DSL:

All components are on the Domestic Substance List

CANADIAN WHIMS:

Not a "Hazardous Product" under WHIMS classifications.

WHIMS Classification: Not Controlled

EC Label

None

Non-Hazardous Schedule B

2835.39.00

Refer to Section 11 for OSHA/HPA Hazardous Chemical(s) classification.

SECTION 16 – OTHER INFORMATION

This product is certified to NSF/ANSI 60 by NSF® International for use in potable water.

Reason for revision: Revised all sections to be compliant with OSHA / GHS regulations.
Supersedes MSDS dated: January 21, 2020

To the best of our knowledge, the information contained herein is accurate. However, neither the abovenamed supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy of the completeness of the information contained herein.

Caustic Soda – 50 gallon tank



Colonial Chemical Solutions, Inc.

Material Safety Data Sheet – Caustic Soda Micro Pearls

SECTION I • PRODUCT IDENTIFICATION

Manufacturers Address:
916 West Lathrop Avenue
Savannah, Georgia 31415

CHEMTREC – 24HR Emergency Telephone 1-800-424-9300

Information Phone: (912) 443-6702

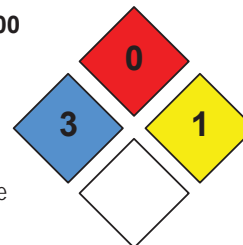
Date Prepared: 08 June 2009

Preparer: F.Spaeth

Synonym: Sodium Hydroxide,
Chemical Family: Alkali

NFPA Rating

0- Minimal 1- Slight 2- Moderate
3- Serious 4- Extreme



SECTION II • HAZARDOUS INGREDIENTS

CHEMICAL NAME	CAS Number	%WT	TLV	PEL
Caustic Soda, micro pearls	1310-73-2	100	2 mg/m ³	2 mg/m ³

SECTION III • HAZARDOUS IDENTIFICATION

Potential Acute Health Effects: Prolonged contact with dilute solutions of dust has a destructive effect upon tissue.

Potential Chronic Health Effects: No chronic Sara 311/312 effects listed.

SECTION IV • PHYSICAL and CHEMICAL PROPERTIES

Boiling Point Range: 2534°F

pH: 13-14 (0.5% Soln.)

Solubility In Water: Soluble.

Appearance/Odor: White deliquescent pearls with no odor.

Melting Point/Freezing Point: 604 °F

Vapor Density (Air=1): > 1.0

Vapor Pressure (mmHg): < 0.1

VOC %: 0

Specific Gravity (H₂O=1): 2.13

SECTION V • FIRE FIGHTING MEASURES

Flash Point: None.

Auto Ignition: Decomposes.

Extinguishing Media: Not considered a fire hazard. Use any means suitable for extinguishing surrounding fire.

Flammable Limits: Lower: None Upper: None

Fire Fighting Procedures: Cool fire-exposed containers with water spray to prevent container weakening and possible rupture. Do not enter confined spaces without self-contained breathing apparatus (SCBA) and structural firefighter's protective clothing.

Unusual Fire and Explosion Hazards: Not considered an explosion hazard.

SECTION VI • STABILITY AND REACTIVITY

Stability: Stable under normal use conditions.

Conditions to Avoid: Moisture, dusting and incompatibles.

Incompatibility: Avoid contact with acids, moisture, strong oxidizing agents, powdered metals.

Hazardous Decomposition Products: Oxides of Sodium.

Hazardous Polymerization: Will not occur.



Colonial Chemical Solutions, Inc.

SECTION VII • STORAGE AND HANDLING

Precautions To Be Taken In Handling and Storage: Always store in tightly sealed, properly labeled, original container. Store in a cool, dry well ventilated area. Prevent physical damage. Keep away from sources of heat, moisture and incompatibles.

Other Precautions: Follow Label Instructions and Precautions.

SECTION VIII • HEALTH AND FIRST AID

Skin: Corrosive! Severely irritating.

Eyes: Corrosive! Severely irritating.

Inhalation: Severely irritating. High dust concentrations can do serious damage to respiratory system.

Ingestion: Severely irritating. May cause severe burns of mouth, throat, and stomach.

FIRST AID PROCEDURES:

Eyes: Flush with large amounts of cool running water for at least 15 minutes. Get medical attention immediately.

Skin: Flush off excess with large amounts of cool running water for at least 15 minutes. Get medical attention immediately.

Inhalation: For excessive inhalation remove to fresh air. If breathing is difficult seek medical attention.

Ingestion: DO NOT induce vomiting. Drink large amounts of water or milk. Seek medical attention immediately.

SECTION IX • EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye Protection: Eye Protection when handling. Goggles, safety glasses with side shields or full-face shield are recommended.

Respiratory Protection: Where adequate ventilation is not available an approved respirator (NIOSH N95 or better) must be worn. In confined or areas where exposure is above is above 50 times the TLV, use a self-contained breathing apparatus.

Skin Protection: Wear impervious clothing, including boots, gloves, apron or coveralls, as appropriate to prevent skin contact.

Ventilation: General Mechanical ventilation to prevent dusting and TLV from exceeding control limits.

Protective Clothing: Selection of protective clothing depends on potential exposure conditions and may include gloves, boots, suits and other protective items.

Other Equipment: Eye wash station and drench shower in close proximity.

SECTION X • ACCIDENTAL RELEASE MEASURES

Ventilate area of spill. Wear appropriate PPE as specified in Section IX. Sweep up and containerize for reclamation or disposal. Avoid dust dispersal during clean up operation.

SECTION XI • DISPOSAL CONSIDERATIONS

Whatever cannot be salvaged should be managed in an appropriate and approved waste disposal facility. Processing use or contamination of this product may alter its waste classification. State and local disposal regulations may differ from federal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.



Colonial Chemical Solutions, Inc.

SECTION XII • TRANSPORTATION

Proper Shipping Name: Sodium Hydroxide, Solid
Hazard Class: 8
UN Number: 1823
Packaging Group: II

SECTION XIII • TOXICOLOGY

Carcinogenicity: Not NTP listed
Mutagenicity: Not reported to produce mutagenic effects in humans.
Reproductive: Not reported to produce reproductive effects in humans..
Sensitization: Persons with pre-existing skin disorders or eye problems may be more susceptible to this product.

SECTION XIV • REGULATORY

RMP/PSM: Not listed
CERCLA-RQ: 1000 Lbs
EPCRA 311/312: Yes
EPCRA 313: Yes
FIFRA: No documented information available.
RCRA-CODE: No Hazardous Waste Identification.
TSCA: Listed

SECTION XV • OTHER INFORMATION



















The information contained on this Material Safety Data Sheet is considered accurate as of the date of publication. It is not necessarily all inclusive nor fully adequate in every circumstance. The suggestions should not be confused with, nor followed in violation of applicable laws, regulations, rules or insurance requirements. No warranty, express or implied, of merchantability, fitness, accuracy of data, or the results to be obtained from the use thereof is made. The vendor assumes no responsibility for injury or damages resulting from the inappropriate use of this product.

SWNY PFAS Compliance											
ID	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names
1		1	SWNY PFAS Compliance	384 days?	Wed 3/31/21	Mon 10/10/22		8%	Wed 3/31/21	NA	
2		2	D/B Contract Notice to Proceed	1 day	Mon 4/5/21	Mon 4/5/21		100%	Mon 4/5/21	Mon 4/5/21	
3		3	Maintain Secure Project Website	365 days	Tue 4/6/21	Mon 9/19/22	2	0%	Tue 4/6/21	NA	
5		5	Design Phase	251 days?	Wed 3/31/21	Fri 4/1/22		23%	Wed 3/31/21	NA	
54		54	Design Construction Services	345 days	Wed 3/31/21	Mon 8/15/22		0%	NA	NA	
62		62	Construction Phase	384 days	Wed 3/31/21	Mon 10/10/22		3%	Wed 3/31/21	NA	
63		63	Administration	233 days	Wed 3/31/21	Tue 3/8/22		4%	Wed 3/31/21	NA	
133		133	Construction Phase	229 days	Mon 11/8/21	Mon 10/10/22	65,66,67,68,78,83	0%	Mon 11/8/21	NA	
134		134	Survey-Establish Control	1 day	Mon 3/7/22	Mon 3/7/22	50	0%	Mon 3/7/22	NA	
135		135	Test Pit and Verify 6" OD for Tapping Sleeve	1 day	Mon 11/8/21	Mon 11/8/21	50	0%	NA	NA	
136		136	Mobilization	2 days	Mon 3/7/22	Tue 3/8/22	53	0%	Mon 3/7/22	NA	
137		137	Erosion Control	3 days	Wed 3/9/22	Fri 3/11/22	136	0%	NA	NA	
138		138	Site Clearing of Existing Trees/Brush	3 days	Mon 3/14/22	Wed 3/16/22	137	0%	NA	NA	
139		139	Strip Topsoil	3 days	Thu 3/17/22	Mon 3/21/22	138	0%	NA	NA	
140		140	Site Grading	3 days	Tue 3/22/22	Thu 3/24/22	139	0%	NA	NA	
141		141	Install fill	1 day	Fri 3/25/22	Fri 3/25/22	140	0%	NA	NA	
142		142	Install Stone Base for Access Road	3 days	Fri 3/25/22	Tue 3/29/22	140	0%	NA	NA	
143		143	Exterior Piping	116 days	Wed 4/6/22	Mon 9/19/22		0%	NA	NA	
144		144	Install 6" DIP Influent Piping into building including Tapping 6" Main	2 days	Wed 4/6/22	Thu 4/7/22	142,155FF+1 day,119,120	0%	NA	NA	
145		145	Install 6" DIP Effluent Piping into building including Tapping 6" Main	1 day	Fri 4/8/22	Fri 4/8/22	144	0%	NA	NA	
146		146	Install Well Pumps	5 days	Fri 8/5/22	Thu 8/11/22	122,152	0%	NA	NA	
147		147	Chlorinate, Pressure Test and Flush/DOH Approval	10 days	Fri 9/2/22	Fri 9/16/22	175	0%	NA	NA	
148		148	Cut & Cap 6" Main After Tie In	1 day	Mon 9/19/22	Mon 9/19/22	147	0%	NA	NA	
149		149	Install 6" DIA Seepage Pit	1 day	Thu 6/23/22	Thu 6/23/22	153	0%	NA	NA	
150		150	Electric	84 days	Thu 4/7/22	Thu 8/4/22		0%	NA	NA	
151		151	Excavate and Install Underground Electric Feed into building	3 days	Thu 4/7/22	Mon 4/11/22	155	0%	NA	NA	
152		152	Install Electrical Appurtenances	30 days	Thu 6/23/22	Thu 8/4/22	166	0%	NA	NA	
153		153	Building/Superstructure	60 days	Wed 3/30/22	Wed 6/22/22		0%	NA	NA	
154		154	Excavate for Building Footings	1 day	Wed 3/30/22	Wed 3/30/22	142	0%	NA	NA	
155		155	Form, Install Rebar and Pour Footings for Building	5 days	Thu 3/31/22	Wed 4/6/22	154	0%	NA	NA	
156		156	Form, Install Rebar and Pour Foundation Wall for Building	5 days	Tue 4/12/22	Mon 4/18/22	155,151,145	0%	NA	NA	
157		157	Form, Install Rebar and Pour Foundation Wall with Integral Piers for Building	6 days	Tue 4/19/22	Tue 4/26/22	156	0%	NA	NA	
158		158	Backfill Footings	1 day	Wed 4/27/22	Wed 4/27/22	157	0%	NA	NA	
159		159	Install GAC Equipment Pad	4 days	Thu 4/28/22	Tue 5/3/22	158	0%	NA	NA	
160		160	Plumbing-Install Floor Drains	3 days	Wed 5/4/22	Fri 5/6/22	159	0%	NA	NA	
161		161	Install Stone Base for Slab on Grade	1 day	Mon 5/9/22	Mon 5/9/22	160	0%	NA	NA	
162		162	Install Slab on Grade	5 days	Tue 5/10/22	Mon 5/16/22	161	0%	NA	NA	
163		163	Sawcut Control Joints	1 day	Tue 5/17/22	Tue 5/17/22	162	0%	NA	NA	
164		164	Install Equipment Pads- Form, Rebar, Pour, Strip and Rub	3 days	Wed 5/18/22	Fri 5/20/22	163	0%	NA	NA	
165		165	Install Filter Pads- Form, Rebar, Pour, Strip and Rub	3 days	Mon 5/23/22	Wed 5/25/22	164	0%	NA	NA	
166		166	Installation of Pre-Engineered Building	25 days	Wed 5/18/22	Wed 6/22/22	163	0%	NA	NA	
167		167	Chemical Feed System	4 days	Thu 6/23/22	Tue 6/28/22		0%	NA	NA	
168		168	Install Piping for Sodium Hypo and Phosphoric	4 days	Thu 6/23/22	Tue 6/28/22	166	0%	NA	NA	
169		169	Treatment Equipment	20 days	Thu 6/9/22	Thu 7/7/22		0%	NA	NA	
170		170	Install 8" DIA GAC Equipment	2 days	Thu 6/9/22	Fri 6/10/22	166FS-10 days	0%	NA	NA	
171		171	Install Filters	1 day	Thu 6/23/22	Thu 6/23/22	166,170	0%	NA	NA	

Note: ?" stands for approximate estimate

Page 1 of 2

Note: ?" stands for approximate estimate

SWNY PFAS Project F-Chateau											
ID	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names
172		172	Install Influent, Effluent and Wastewater Flanged Piping	7 days	Thu 6/23/22	Fri 7/1/22	166,170	0%	NA	NA	
173		173	Install Pipe Supports	3 days	Tue 7/5/22	Thu 7/7/22	172	0%	NA	NA	
174		174	Instrumentation	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
175		175	Install Instrumentation Appurtenances	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
176		176	Building HVAC Work	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
177		177	Install HVAC	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
178		178	Painting/Coating	5 days	Fri 7/8/22	Thu 7/14/22		0%	NA	NA	
179		179	Paint Interior Piping	5 days	Fri 7/8/22	Thu 7/14/22	169	0%	NA	NA	
180		180	Site Work	15 days	Fri 7/8/22	Thu 7/28/22		0%	NA	NA	
181		181	Install Site Civil-Gravel Turnaround and Landscaping	15 days	Fri 7/8/22	Thu 7/28/22	173	0%	NA	NA	
182		182	Start Up and Testing	10 days	Mon 9/19/22	Fri 9/30/22		0%	NA	NA	
183		183	Start up and Test Equipment and Instrumentation	10 days	Mon 9/19/22	Fri 9/30/22	147,152	0%	NA	NA	
184		184	Substantial Completion	1 day	Mon 10/3/22	Mon 10/3/22	182	0%	NA	NA	
185		185	DOH Review and Approval	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
186		186	In Service	0 days	Mon 10/10/22	Mon 10/10/22	185	0%	NA	NA	
187		187	Demobilization	5 days	Tue 10/4/22	Mon 10/10/22		0%	NA	NA	
188		188	Cleanup/Demobilization	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
189		189	Final Completion	0 days	Mon 10/10/22	Mon 10/10/22	188,186	0%	NA	NA	

Page 2 of 2

4. The hydrology and the hydraulics study for this project have been undertaken to examine the pre and post construction drainage conditions. The study provides the impact of the proposed impervious area to the drainage system. To attenuate the post-development peak flow to pre-development peak flow we are proposing a rain garden system. The rain garden system is design per NYSDEC's stormwater management design manual. The drainage system consists of pipes, stone outlet, stone spillways, and two rain garden systems. The system it's an above ground practice and is design to store 846 cu.ft.. The ponding depth of the system is 6 inches and in order to address the overflow a stone spillway has been proposed. In addition, a list of the approved rain garden landscaping has been provided. Please refer to the site plan (dwg. no 1) and the grading plan (dwg. no 3).

5. The erosion and sediment control measures to be used on the site during the proposed work include silt fences and a construction entrance. In addition, disturbed portions of the site where construction activities permanently cease shall be stabilized no later than 14 days after the last construction activity. The Erosion and Sediment Control (E&SC) Plan is prepared per NYS Standards and Specifications for Erosion and Sediment Control. Please refer to the erosion and sediment control plan (dwg. no 4).

6. Stormwater runoff generated by the proposed site improvement will be routed to the rain garden systems in order to provide zero net increase of peak runoff. The rain garden systems are design to provide peak flow attenuation up to 100-year storm peak runoff. The rain garden system is design per NYSDEC's stormwater management design manual.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 3

21 South Putt Corners Road, New Paltz, NY 12561-1620

P: (845) 256-3054 | F: (845) 255-4659

www.dec.ny.gov



**Department of
Environmental
Conservation**

January 20, 2022

Jillian Arnold
207 Camp Hill Ave
Camp Hill, PA 17011

RE: Joint Application for Permit # 3-3720-00471/00001
Archer Well
Town of Carmel, Putnam County
Blanket Water Quality Certification

Dear Jillian Arnold:

The New York State Department of Environmental Conservation (DEC) has reviewed your resubmission received electronically October 6, 2021 regarding the above-referenced project. According to the information provided, the project involves the construction of a PFAS treatment building, an influent pipe, an effluent pipe, an underground electrical conduit, and a 12' access road at the Archer Well site. This action will create approximately 0.077 acres of disturbance to federally regulated wetlands. The submitted information identifies that this project qualifies for authorization under U.S. Army Corps of Engineers (USACE) Section 404 Nationwide Permit (NWP) 3, Maintenance

The DEC has reviewed the submitted information and determined that this project is eligible for coverage under the Blanket Section 401 Water Quality Certification that DEC has issued for NWP 3. Therefore, an individual WQC permit from the DEC is not required and your application has been withdrawn from further processing.

This determination does not relieve you of any requirements under any other applicable laws which may exist. You are advised to contact all appropriate Federal, State, and/or local agencies for any approvals that may be required.

Please contact this office if project plans change to the extent that it does not meet the conditions for coverage under the Blanket WQC or, if the USACE determines that this project is ineligible for coverage under NWP 3. The project must comply with all required general conditions of the Blanket WQC, which can be found on the DEC website at

https://www.dec.ny.gov/docs/permits-ej_operations_pdf/wqcnwp2018.pdf



**Department of
Environmental
Conservation**

Sincerely,

Frank Benedetto

Frank J. Benedetto
Environmental Analyst I
Frank.benedetto@dec.ny.gov

CC: Sarah Pawliczak; NYSDEC
Steven Smith; Gannett Fleming, Inc
Brian Orzel; USACE

Liskovich, Sophia Z.

From: Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Sent: Monday, January 10, 2022 12:24 PM
To: Arnold, Jillian N.
Cc: Smith, Steven C.; Liskovich, Sophia Z.
Subject: RE: Submission of Suez Water Permit Applications
Attachments: NWP Regulations FR 06JAN17.pdf; PN-LRB NAN Final Regional Conditions WQC CZM for NY (dated 21-MAR-2017).pdf

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Jillian,

We received the pre-construction notification for NWP 3 for the above referenced project on November 16, 2021.

Due to my excessive work load, I was unable to provide a written determination within 45 days of its submission.

In accordance with the current nationwide general permit regulations (Federal Register dated January 6, 2017, pages 1860 to 2008), if the Corps of Engineers district does not respond to a pre-construction notification within 45 days of receipt, then the applicant may proceed with the project as proposed.

That means that the applicant must perform the work as proposed in your pre-construction notification. Any substantive changes to the project would require the applicant to submit a new notification to this office.

If you have any questions, let me know.

Brian

Brian A. Orzel
Project Manager, Civil Engineer
NY District US Army Corps of Engineers
Regulatory Branch
26 Federal Plaza, Room 16-406
New York, New York 10278-0090

Please note in order to ensure our continuity of operations and improve the timeliness of permit application reviews due to the current COVID-19 virus, effective immediately, the New York District, U.S. Army Corps of Engineers is requiring that all new permit applications be submitted to the New York District electronically. Until further notice, the New York District will no longer process any paper permit applications. This electronic processing procedure will increase the efficiency of correspondence, furthering the goal of providing timely decisions. Please see the link below to the Regulatory Branch Operational Modification Special Public Notice describing the instructions for electronic application submittals:

<https://www.nan.usace.army.mil/Portals/37/docs/regulatory/publicnotices/Non%20Project%20Specific/2020/CENAN-OP-R%20PN%20Electronic%20Submission%20of%20Permit%20Applications%2027MAR2020.pdf?ver=2020-03-31-163215-913>.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, December 13, 2021 1:04 PM
To: Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Brian,

I wanted to touch base to you on the Suez projects in Putnam County. Have you been able to determine of the 5 projects (Archer, Chateau, Geymer, London Bridge and Mahopac) what nationwide permit these projects might fall under? NY DEC is currently waiting USACE's determination of the NWP in order to finalize the state permits.

Thank you very much for your time, we appreciate it!

Jillian

From: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Sent: Monday, November 15, 2021 10:24 AM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Ms. Arnold,

I have provided the Suez Water permit applications to Mr. Brian Orzel, copied on the email, who is the area project manager for Putnam County. If he has any questions on the submittal, he'll contact you.

R/ Rosie

ROSITA MIRANDA
Chief, Western Section
Regulatory Branch
USACE, New York District
Mobile: 347-446-0359

<https://www.nan.usace.army.mil/Missions/Regulatory/>

EFFECTIVE IMMEDIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: CENAN-R-Permit-App@usace.army.mil.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, November 8, 2021 12:42 PM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Good afternoon, I am following up with this email (below) from the 29th. I tried to submit the files to the site that was in the email from the 28th. However, It requested a code when I clicked the location. I know that USACE has not started reviewing these permits, and I am concerned about timeline for construction. Please let me know how I can get USACE the permits that need to be reviewed.

Thank you,
Jillian

From: Arnold, Jillian N.
Sent: Friday, October 29, 2021 7:49 AM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>
Subject: RE: Submission of Suez Water Permit Applications

Good morning Rosie,

I am happy to drop off the files for Suez to the site listed in your email, however, it is asking for a request code? Are you able to send me a drop off request? I have never delivered information to USACE this way. Sorry for all of the questions.

Thank you,
Jillian

From: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Sent: Thursday, October 28, 2021 3:12 PM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please provide the town and county so we can direct your inquiry to the right permit section.

Please use - <https://safe.apps.mil/> for file transfer.

R/ Rosie

ROSITA MIRANDA
Chief, Western Section
Regulatory Branch
USACE, New York District
Mobile: 347-446-0359

<https://www.nan.usace.army.mil/Missions/Regulatory/>

EFFECTIVE IMMEDIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: CENAN-R-Permit-App@usace.army.mil.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Thursday, October 28, 2021 12:12 PM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Could you please tell me how to submit packages to the FTP site? I have not received a response if you received the SUEZ packages for review. I do not want to lose too much time as NYSDEC is review these packages at this time.

Thank you very much for your help!
Jillian

From: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Sent: Tuesday, October 12, 2021 4:54 PM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please note that you have to use DOD Safe as the ftp site for large files.

What Town and County is this project in?

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Friday, October 8, 2021 1:02 PM
To: CENAN-R-Permit-App <CENAN-R-Permit-App@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Subject: [Non-DoD Source] Submission of Suez Water Permit Applications

Good afternoon,

Please find the electronic versions of the Archer, Chateau and London Bridge Joint Permit Applications for SUEZ Water NY. These applications have been sent to NYSDEC for Joint Permit approvals. Below are the list of DEC IDs for these applications:

- Archer Well – 3-3720-00471/00001
- London Bridge Well – 3-3720-00469/00001
- Chateau Well – 3-3720-00470/00001

The file sizes on each pdf is large making emailing cumbersome. Here is the link to download the 3 Joint Permit Applications.

Download Link: [SUEZ - Archer, Chateau and London Bridge JPA Packages](#)

Please let me know if there are any restrictions with accessing the link above.

Any additional questions, please do not hesitate to let us know.

Thank you,
Jill

Jillian Arnold, PWS | Senior Environmental Scientist
Gannett Fleming | 207 Senate Avenue, Camp Hill, PA 17011
t 717.886.5402 | **c 717.422.6229** | jarnold@gfnet.com

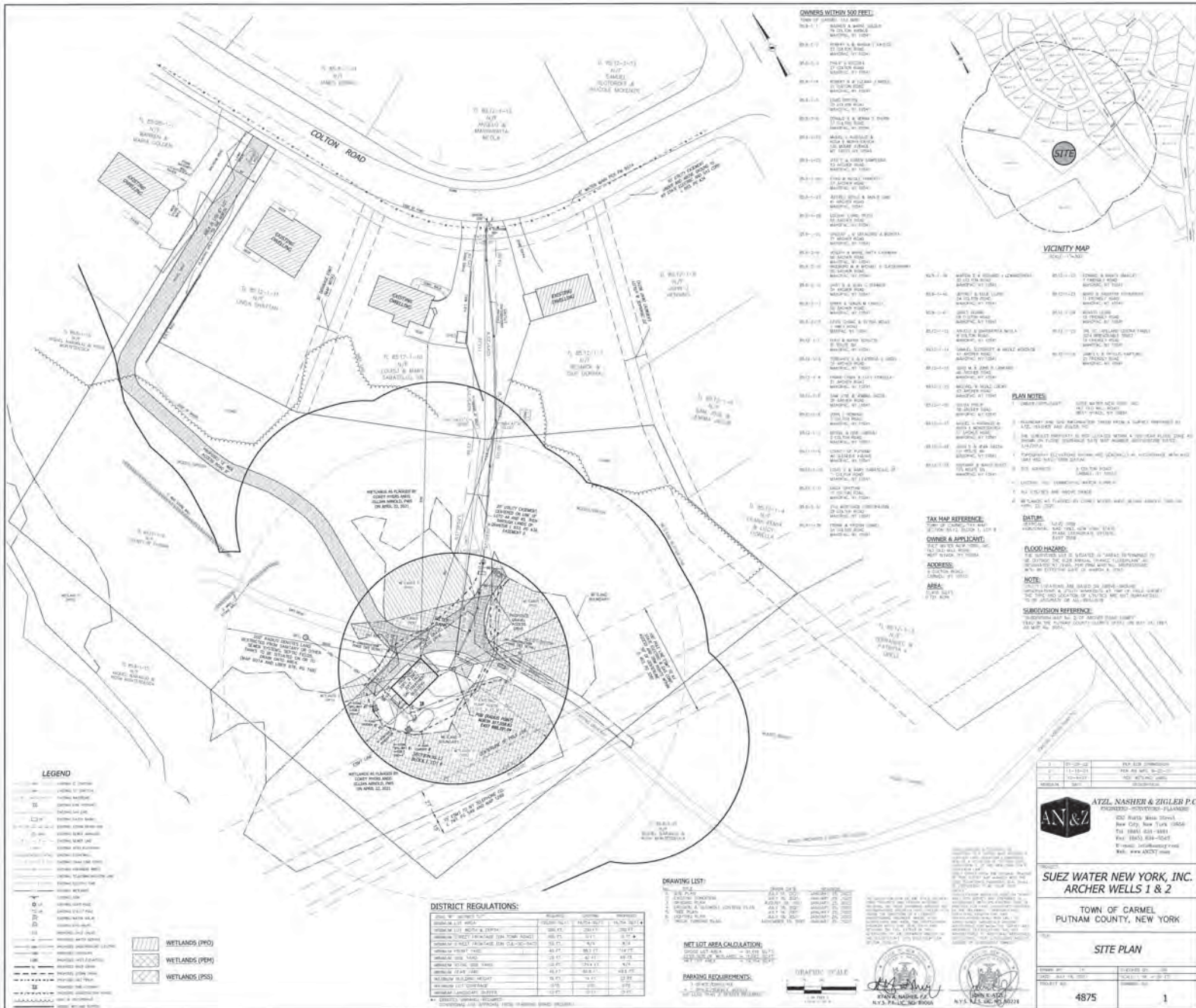
Excellence Delivered As Promised

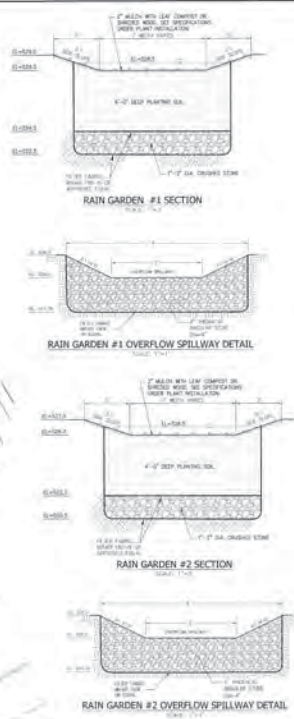
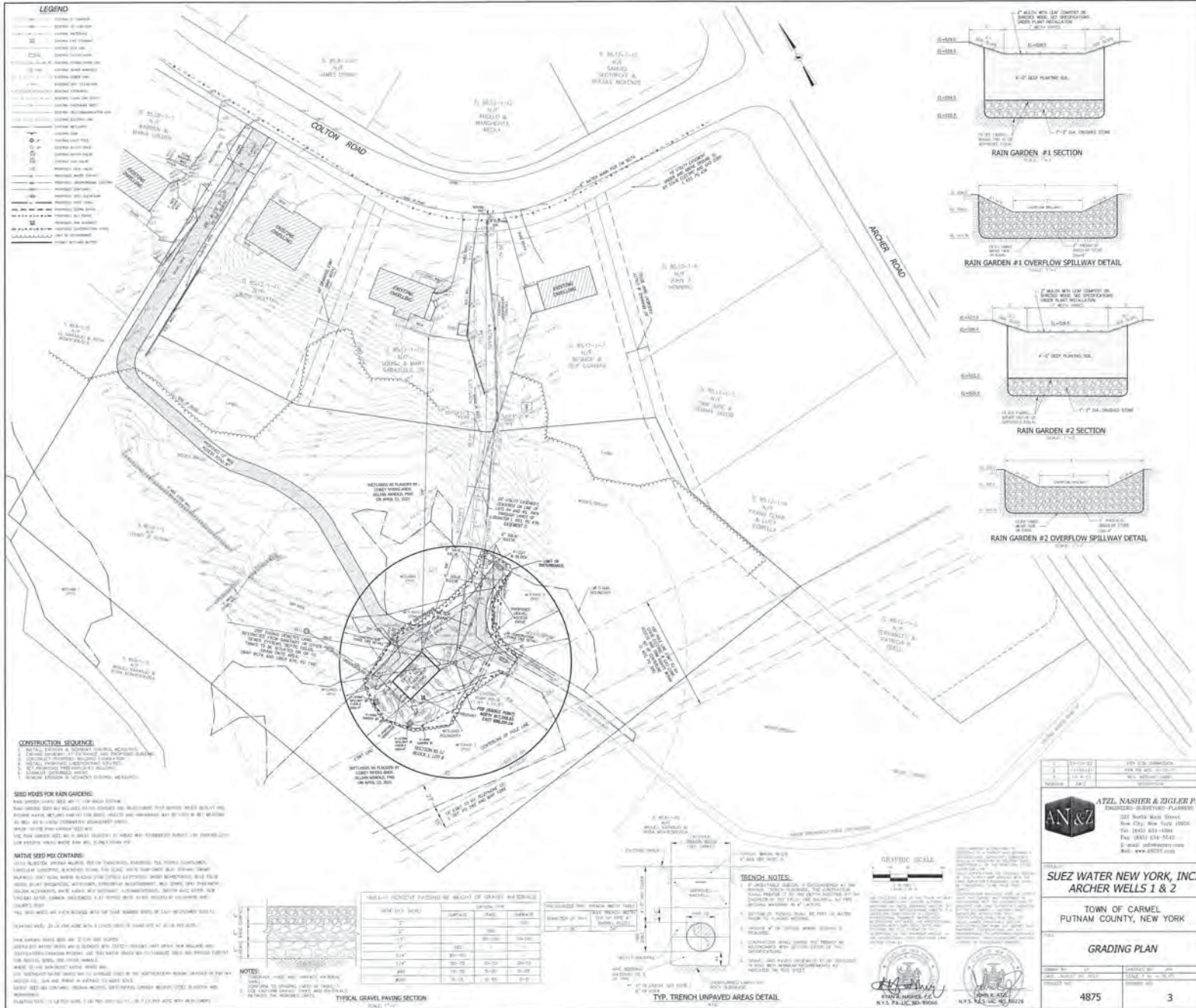
Gannett Fleming is ISO 9001:2008 Certified.

www.gannettfleming.com | Stay connected: [Twitter](#) | [Facebook](#) | [LinkedIn](#) | [YouTube](#)

PRINTING SUSTAINABILITY STATEMENT: Gannett Fleming is committed to conserving natural resources and minimizing adverse environmental impacts in projects. Accordingly, project documentation will be provided in electronic format only unless clients specifically request hard copies. Visit our [website](#) to read more about our sustainability commitment.

CONFIDENTIALITY NOTICE: This email and any attachments may contain confidential information for the use of the named addressee. If you are not the intended recipient, you are hereby notified that you have received this communication in error and that any review, disclosure, dissemination, distribution or copying of it or its contents is prohibited.





ATZEL, NASHER & ZIGLER P.C.
ENGINEERS/ARCHITECTS/PLANNERS
322 South Main Street
New City, New York 10954
Tel: (845) 633-4384
Fax: (845) 633-4343
E-mail: info@anaz.com
Web: www.anaz.com

SUEZ WATER NEW YORK, INC.
ARCHER WELLS 1 & 2

TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

GRADING PLAN

DESIGNED BY: JN
CHECKED BY: JN
DATE: 10-15-10

PROJECT NO: 4875

SHEET NO: 3

