SUFFOLK COUNTY
FULL ENVIRONMENTAL ASSESSMENT FORM
6 NYCRR Part 617
State Environmental Quality Review

Part 1 – Environment and Setting

Instructions: Part 1 is to be completed by the applicant or project sponsor. 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. If a question is not applicable to the proposed project indicate with "N/A".

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 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 project sponsor to verify that the information contained in Part 1 is accurate and complete.

A. Project and Sponsor Information

Name of Action/Project: INVASIVE SPECIES ERADICATION, CANAAN LAKE
Project Location (specify Town, Village, Hamlet and attach general location map*): NORTH PATCHOGUE, TOWN OF BROOKHAVEN, SUFFOLK COUNTY. SEE ATTACHED LOCATION MAP.
Street Address: NORTH OF TRACTION BOULEVARD AND BETWEEN OLD NORTH OCEAN AVE, TRACTION BOULEVARD, LAKEVIEW DRIVE, AND W WOODSIDE AVENUE.
Name of Property or Waterway: CANAAN LAKE

* Maps of Property and Project: Attach relevant available maps including a location map (note: use road map, Hagstrom Atlas, USGS topography map, tax map or equivalent) and preliminary site plans showing orientation, scale, buildings, roads, landmarks, drainage systems, area to be altered by project, etc.

Type of Project: New ☒ Expansion ☐

Capital Program: Item # - Date Adopted: - Amount: $-

Brief Description of Proposed Action (include purpose or need/attach relevant design reports, plans, etc.): CANAAN LAKE IS A MAN-MADE 21 ACRE LAKE THAT HAS AN AVERAGE DEPTH OF TWO TO FIVE FEET. THERE IS A ONE TO TWO FEET THICK SOFT ORGANIC SEDIMENT BOTTOM LAYER THAT IS DEPOSITED OVER NATIVE SANDS AND GRAVELS. THE LAKE HAS BEEN SIGNIFICANTLY IMPACTED WITH INVASIVE AQUATIC SPECIES WHICH SEVERELY HAMPER THE NATURAL HABITAT AND RECREATION USES OF THE LAKE. TO ADDRESS THE INVASIVE AQUATIC SPECIES, SUFFOLK COUNTY PLANS TO CONDUCT A DRAWDOWN EVENT(S) AT THE LAKE TO EXPOSE AND POTENTIALLY KILL-OFF SOME OF THE AQUATIC INVASIVE SPECIES AND ALLOW FOR DRY EXCAVATION, AND OFF-SITE DISPOSAL, OF SOME OF THE EXPOSED SOFT SEDIMENTS.

THE DRAWDOWN OF THE LAKE WILL BE DONE USING A PROPOSED NEW CULVERT WITH AN ADJUSTABLE SLUICE GATE. THE SLUICE GATE WILL ALLOW FOR A SLOW AND CONTROLLED LOWERING OF THE LAKE TO AVOID DOWNSTREAM FLOODING CONDITIONS. THE DOWNSTREAM WATER BODIES WILL BE MONITORIED ROUTINILY FOR EVIDENCE OF FLOODING AND ELEVATED WATER LEVELS DURING THE CANAAN LAKE LOWERING EVENTS.

THE DRAWDOWN WILL LIKLEY OCCUR IN THE FALL AND WINTER MONTHS BY LOWERING THE SLUICE GATE AND THE LEVEL OF CANAAN LAKE. IT IS HOPED THAT THE ACTIVITIES CAN BE COMPLETED IN THE WINTER SEASON, HOWEVER, DEPENDING UPON THE DRYING RATES OF THE SEDIMENTS, IT IS POSSIBLE THAT THE LEVEL OF THE LAKE MAY BE LEFT ARTIFICALY LOWER FOR AN EXTENDED PERIOD (1-2 YEARS).

THE DRY EXCAVATION PROCESS WILL CONSIST OF SCRAPPING OF THE SOFT SEDIMENTS TO DESIGNATED LAKE ACCESS LOCATIONS TO ALLOW FOR LOAD AND GO OPERATIONS AND OFF-SITE DISPOSAL. THE LAKE WILL BE ACCESSED FROM DEAD END ROADWAYS ALONG THE EASTERN SHORE (Cassie Pl., Poe Pl., Shaber Rd., Elmer St., Virginia Pl., Newman St., Engelke St., Harper St., & Ohio St.) AND POTENTIALLY FROM ADJACENT HOMEOWENRES PROPOERTIES ON THE WESTERN SHORE. DURING THE EXCAVATION, LOADING AND TRANSPORTATION, MEASURES WILL BE TAKEN TO PREVENT UNWANTED EROSION AND REMOVAL OF SEDIMENTS. THE AREAS TO BE EXCVATED ARE NOT INTENDED TO BE ARTIFICALLY REVEGETATED. DURING THE LAKE LOWERING EVENT, EXPOSED LAKE BED, SEDIMENTS, AND DECAYING VEGEATION WILL BE VISIBLE AND ODORS MAY BE PRESENT. TO MINIMIZE NUISANCE ODORS, THE LAKE WILL BE LOWERED IN THE FALL/WINTER SEASON INITIALLY TO ALLOW FOR A VEGEATTION DIE-OFF WHILE THE TEMPERATURE IS LOWER AND THE NUISANCE ODORS ARE LIKLEY TO BE LESSENED.

THIS METHOD OF DRY EXCAVATION IS BEING EVALAUTED TO ELIMINATE THE POTENTIAL FOR CREATING DOWNSTREAM TURBIDITY AND ALLOWING FOR DOWNGRADIENT MIGRTATION OF INVASSIVE AQUATIC SPEICIES. IN DISCUSSION WITH NYSDEC REGION 1, THE USE OF HYDRAULIC DREDGING FOR REMOVAL OF INVASSIVE AQUATIC SPECIES IS BEING SCRUTINIZED AS THE RESULT OF LESSONS LEARNED FROM RECENT DREDGING PROJECTS.

Project Status:

	Start	Completion
Proposal	JUNE 2015	-
Study	OCTOBER 2015	JUNE 2016
Preliminary Planning	JUNE 2016	SEPTEMBER 2016
Final Plans: Specs	OCTOBER 2016	DECEMBER 2016
Site Acquisition	N/A	N/A
Construction	JANUARY	DECEMBER

	2017	2019
Other	-	-

Departments Involved:

	Dept. Performing Design & Construction	Initiating Dept. (if different)
Name:	SUFFOLK COUNTY ECONOMIC DEVELOPMENT AND PLANNING	
Street/PO:	H. LEE DENNISON BUILDING, 100 VETERANS HIGHWAY, 2ND FLOOR	
City, State:	HAUPPAUGE, NY	
Zip:	11788	
Contact Person:	FRANK CASTELLI	
Business Phone:	(631) 853-5943	
Email:	FRANK.CASTELLI@SUFFOLKCOUNTYNY.GOV	

B. <u>Government Approvals, Funding or Sponsorship</u>
("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)
i. City Council, Town Board or Village Board of Trustees	Yes ☐	No ☒		
ii. City, Town or Village Planning Board or Commission	Yes ☒	No ☐	TOWN OF BROOKHAVEN - ROAD OPENING PERMIT	
iii. City, Town or Village Zoning Board of Appeals	Yes ☐	No ☒		
iv. Other local agencies	Yes ☐	No ☒		
v. County agencies	Yes ☒	No ☐	LEGISLATURE, dpw-project design	
vi. Regional agencies	Yes ☐	No ☒		
vii. State agencies	Yes ☒	No ☐	NYSDEC - STREAM DISTURBANCE, DAMS AND IMPOUNDMENT STRUCTURES, 401 WATER QUALITY CERTIFICATION, FRESHWATER WETLANDS, AQUATIC VEGETATION CONTROL	
viii. Federal agencies	Yes ☒	No ☐	US ARMY CORPS OF ENGINEERS - SECTION 404 CLEAN WATER ACT, SECTION 10 RIVERS AND HARBORS ACT	

ix. Coastal Resources Is the project site within a Coastal Area or the waterfront area of a Designated Inland Waterway? **If YES,** Is the project site located in a community with an approved Local Waterfront Revitalization Program? — Yes ☐ No ☐ Is the project site within a Coastal Erosion Hazard Area? — Yes ☐ No ☐	Yes ☐ No ☒

C. Planning and Zoning

C.1. Planning and Zoning Actions	
Will administrative or legislative adoption or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed?	Yes ☐ No ☒
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? **If Yes:** Does the comprehensive plan include specific recommendations for the site where the proposed action would be located? Yes ☐ No ☒	Yes ☒ No ☐
b. Is the site of the proposed action within any local or regional special planning district (i.e. Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; et. al)? **If Yes**, identify the plan(s):	Yes ☐ No ☒
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? **If Yes**, identify the plan(s):	Yes ☐ No ☒
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? A-2 RESIDENTIAL	Yes ☒ No ☐
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**, what is the proposed new zoning for the site?	Yes ☐ No ☒
C.4. Existing Community Services	
a. In what school district is the project site located? PATCHOGUE-MEDFORD	

b.	What police or other public protection forces serve the project site? SUFFOLK COUNTY, PRECINCT 5
c.	Which fire protection and emergency medical services serve the project site? NORTH PATCHOGUE
d.	What parks serve the project site? N/A

D. Project Details

D.1. Proposed and Potential Development	
a. What is the general nature of the proposed action? (if mixed, include all components) Residential ☐; Industrial ☐; Commercial ☐; Recreational☐; Other ☒: REMEDIATION OF INVASIVE SPECIES	
b. Total acreage of the site of the proposed action:	21 acres
c. Total acreage to be physically disturbed:	UP TO 21 acres
d. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor:	10.13 acres
e. Is the proposed action an expansion of an existing project or use? **If Yes,** what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet, etc.)?	Yes ☐ No ☒
f. Is the proposed action a subdivision, or does it include a subdivision? **If Yes:** *i.* Purpose or type of subdivision? (if mixed, specify types) Residential ☐; Industrial ☐; Commercial ☐; Recreational ☐; Other ☐ *ii.*	Yes ☐ No ☒

Is a cluster/conservation layout proposed?	Yes ☐ No ☐
Number of lots proposed:	
Minimum and maximum proposed lot sizes:	

g. Will proposed action be constructed in multiple phases?

If No, What is the anticipated period of construction?

FROM JANUARY 2017 THROUGH DECEMBER 2019

If Yes:

Total number of phases anticipated:
1 - INSTALLATION OF CULVERT
2 - DRAWDOWN OF LAKE
3 - EXCAVATION & REMOVAL OF SOME SOFT SEDIMENTS
4 - ALLOW REMAINING SEDIMENTS ADDITIONAL DRYING TIME - EXCAVATION AND REMOVAL
5 - ADJUST LAKE LEVEL TO ORIGINAL HEIGHT
6 - REPEAT STEPS 2 THGROUGH 5 AS NEEDED

Anticipated commencement date of phase I (including demolition): January 2017

Anticipated completion date of final phase: December 2019+

Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: THE SCHEDULE AND ABILITY TO MOVE BETWEEN PAHSES WILL BE DEPENDANT UPON THE RATYE AT WHICH THE SOFT SEDIMENTS DRY-OUT AND CAN BE EXCAVATED AND LOADED FOR OFF-SITE DISPOSAL.

Yes ☒ No ☐

h. Does the project include new residential uses?

If Yes, show number of units proposed.

	Single Family	Two Family	Three Family	Multi-Family (4+)
Initial Phase				
At Completion				

Yes ☐ No ☒

i. Does the proposed action include new non-residential construction (including expansions)?

If Yes:

Total Number of Structures:

Dimensions of largest proposed structure:

Approximate extent of building space to be heated or cooled:

Yes ☐ No ☒

j.	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? **If Yes:**	Yes ☒ No ☐
	Purpose of the impoundment: THE EXISTING IMPOUNDMENT WAS INSTALLED OVER 100 YEARS AGO TO DAM CANAAN LAKE. THE PROPOSED PROJECT WILL INSTALL A NEW SLUICE GATE IN THE IMPOUNDMENT TO ALLOW FOR SEASONAL LOWERING OF THE LAKE FOR THE PURPOSE OF REMOVING SOFT SEDIMENTS AND INVASIVE AQUATIC SPECIES.	
	If a water impoundment, the principal source of the water: Ground Water ☒; Surface Water Streams ☒; Other ☐ (specify): THE WATER IMPOUNDMENT'S (CANAAN LAKE) PRINCIPLA SOURCE OF WATER IS FROM BOTH SURFACE WATER STREAMS (COMING FROM THE NORTH AND NORTH WEST) AND GROUNDWATER. ONCE THE LAKE IS LOWERED, IT CAN BETTER BE DETEMINED WHAT THE PRINCIPLA SOURCE IS.	
	If other than water, identify the type of impounded/contained liquids and their source:	
	Approximate size of the proposed impoundment (include units): Volume: - 2,000,000 CF Surface area: 21 ACRES	
	Dimensions of the proposed dam or impounding structure: EXISTING IMPOUNDMENT STRUCTURE CONSISTS OF TRACTION BOULEVARD APPROXIMATELY, 400' LONG X 6'-8' HIGH.	
	Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): NO MODIFICATIONS TO IMPOUNDMENT STRUCTURE OTHER THAN PROPOSED SLUICE GATE WHICH CONSISTS OF CONCRETE STRUCTURE WITH STONE AND RIP RAP BASE.	

D.2. Project Operations

a. Does the proposed action include any excavation, mining or dredging, during construction, operations or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) **If Yes:** What is the purpose of the excavation or dredging? TO REMOVE BUILT-UP ORGANIC SEDIMENT LAYER AT BOTTOM OF CANAAN LAKE TO NATIVE SANDY MATERIAL IN ORDER TO REMOVE ROOTS OF INVASIVE PLANT SPECIES. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site? Volume: UP TO 25,000 YARDS Over what duration of time: 24 MONTHS Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them: SILTY ORGANIC MATERIAL AND SOFT SEDIMENTS FROM BOTTOM OF LAKE WILL BE REMOVED UNTIL NATIVE SANDS AND GRAVELS ARE ENCOUNTERED. BASED UPON A 2011 SURVEY, THE SOFT SEDIMENT LAYER IS EXCPECTED TO BE 1-2 FEET THICK ON AVERAGE. SEDIMENTS TO BE EXCAVATED WILL BE SAMPLED IN ADVANCE IN ACCORDANCE WITH NYSDEC'S GUIDANCE TO DETEMINE THE PROPER AND ACCEPTABLE OFF-SITE DISPOSAL FACILTY. AT THIS TIME, THERE IS A POSSIBILITY THAT THE MATERIAL WILL BE DISPOSSED OF AT THE BROOKHAVEN TOWN LANDFILL AS COVER MATERIAL.	Yes ☐ No ☐

D.2.a (cont.) – only answer following if checked "Yes" above

Will there be onsite dewatering or processing of excavated materials? **If Yes**, describe: THE PROPOSED SLUICE GATE IS PLANNED TO TEMPORARILY LOWER THE LEVEL OF THE LAKE 6.5' TO ALLOW EXCAVATION FROM THE EDGES OF THE LAKE.
What is the total area to be dredged or excavated? UP TO 21 ACRES ARE PROPOSED TO BE EXCAVATED
What is the maximum area to be worked at any one time? THE ENTRE EXPOSED LAKE BED MAY BE WORKED DURING THE PHASED APPROACH. THE AREA WILL NOT EXCEED 21 ACRES.
What would be the maximum depth of excavation or dredging? THE MAXIMUM DEPTH WOULD BE UNTIL NATIVE SANDS AND GRAVELS ARE EXPOSED OR A DEPTH OF FOUR FEET BELOW THE CURRENT SURFACE, WHICHEVER IS ENCOUNTERED FIRST.
Will the excavation require blasting? NO
Summarize site reclamation goals and plans: RETURN LAKE TO EXISTING WATER LEVEL AND NATURAL CONDITIONS WITH MINIMLA AQUATIC INVASIVE PLANT SPECIES, TO ALLOW FOR INCREASED RECREATIONAL USE OF CANAAN LAKE.

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, water body, shoreline, beach or adjacent area?

If Yes:

Identify the wetland or water body which would be affected (by name, water index number, wetland map number or geographic description): CANAAN LAKE, NORTH PATCHOGUE

Describe how the proposed action would affect that water body or wetland, e.g. excavation, fill, placement of structures or creation of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres: INSTALLATION OF SLUICE GATE WOULD TEMPORARILY LOWER LAKE LEVEL (APPROXIMATE SIZE OF SLUICE GATE IS 8'X3'X60') 6.5' BELOW EXISTING WATER LEVEL. POST WATER-LEVEL REDUCTION, EXCAVATION OF ORGANIC MATERIALS AND SEDIMENT LAYER ALONG LAKE BOTTOM TO OCCUR USING EXCAVATOR ON UP TO 21 ACRES. AN ESTIMATED TOTAL AMOUNT OF ORGANIC MATERIAL AND SEDIMENT TO BE REMOVED FROM LAKE BOTTOM IS 25,000 CUBIC YARDS OF MATERIAL.

Will proposed action cause or result in disturbance to bottom sediments?
If Yes, describe: YES, PROPOSED REMOVAL OF ORGANIC SEDIMENT, AS DESCRIBED ABOVE, TO A ESTIMATED MAXIMUM DEPTH OF 2'. THE ORGANIC SEDIMENT LAYER IS PROPOSED TO BE REMOVED TO EXPOSE NATIVE SANDY LAKE BOTTOM.

Will proposed action cause or result in the destruction or removal of aquatic vegetation?

Yes ☒ No ☐

If Yes:

Area of vegetation proposed to be removed: UP TO 21 ACRES

Expected acreage of aquatic vegetation remaining after project completion: THIS WILL BE DEPENDANT UPON THE ACESSIBILITY OF DRY EXCAVATION AREAS. PORTIONS OF THE LAKE BOTTOM THAT CANNOT BE DRY EXCAVATED WILL BE LEFT INTACT. IT IS ESTIMATED THAT 20-30% OF THE LAKE BOTTOM WILL BE LEFT UNTOUCHED.

Purpose of proposed removal (e.g., beach clearing, invasive control, boat access): INVASIVE PLANT SPECIES CONTROL

Proposed method of plant removal: EXCAVATION USING EXCAVATOR

If chemical/herbicide treatment will be used, specify product(s): N/A

Describe any proposed reclamation/mitigation following disturbance: THE REMOVAL OF THE ORGANIC SEDIMENT LAYER IS TO EXPOSE NATURAL LAKE SOILS AND BRING THE LAKE BACK TO NATURAL CONDITIONS TO ALLOW FOR INCREASED RECREATIONAL USE OF CANAAN LAKE. THE ORIGINAL SANDY BOTTOM WILL HAVE THE POTENTIAL TO SUSTAIN NATIVE PLANT SPECIES. NO RE-PLANTING ACTIONS ARE PROPOSED AT THIS TIME.

c. Will the proposed action use or create a new demand for water? **If Yes:** Total anticipated water usage/demand per day: Will the proposed action obtain water from an existing public water supply? **If Yes:** Name of district/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 ☐ Will line extension within an existing district be necessary to supply the project? **If Yes:** Describe extensions or capacity expansions proposed to serve this project: Source(s) of supply for the district: Is a new water supply district or service area proposed to be formed to serve the project site? **If Yes:** Applicant/sponsor for new district: Date application submitted or anticipated: Proposed source(s) of supply for new district: If a public water supply will not be used, describe plans to provide water supply for the project: If water supply will be from wells (public or private), what will be the maximum pumping capacity?	Yes ☐ No ☒

d. Will the proposed action generate liquid wastes?

Yes ☐ No ☒

If Yes:

Total anticipated liquid waste generation per day:

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

If sanitary wastewater identify proposed disinfection technology and treatment goals for the following:

Disinfection technology:
Nitrogen:
Phosphorus:
Total Suspended Soilds (TSS):
Biological Oxygen Demand (BOD):

Will the proposed action use any existing public wastewater treatment facilities?

If Yes:

Name of wastewater treatment plant to be used:

Name of district:

Does the existing wastewater treatment plant have capacity to serve the project?
Yes ☐ No ☐

Is the project site in the existing district?
Yes ☐ No ☐

Is expansion of the district needed?
Yes ☐ No ☐

Do existing sewer lines serve the project site?
Yes ☐ No ☐

Will line extension within an existing district be necessary to serve the project?

If Yes:

Describe extensions or capacity expansions proposed to serve this project:

Will a new wastewater (sewage) treatment district be formed to serve the project site?

If Yes:

Applicant/Sponsor for new district:

Date application submitted or anticipated:

What is the receiving water for the wastewater discharge?

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):

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

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? **If Yes:** How much impervious surface will the project create in relation to total size of project parcel? Area of Impervious Surface: 0 ACRES Area of Parcel: Describe types of new point sources: 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)? STORMWATER RUNOFF WILL BE DIRECTED TOWARD THE CENTERLINE OF THE LAKE. THE PROPOSED ACTION IS TO REMOVE SEDIMENTS BROUGHT IN WITH STORMWATER RUNOFF. If to surface waters, identify receiving water bodies or wetlands: CANAAN LAKE Will stormwater runoff flow to adjacent properties? Yes ☒ No ☐ Does proposed plan minimize impervious surfaces use pervious materials or collect and re-use stormwater? Yes ☒ No ☐	Yes ☒ No ☐
f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? **If Yes,** identify: Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles): DURING REMEDIATION CONSTRUCTION EQUIPMENT WILL BE REQUIRED INCLUDING AN EXCAVATOR, DUMP TRUCK, AND GENERATORS. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers): N/A Stationary sources during operations (e.g., process emissions, large boilers, electric generation): N/A	Yes ☒ No ☐
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? **If Yes:** Is the project site located in an Air Quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) Yes ☐ No ☐ In addition to emissions as calculated in the application, the project will generate: - Tons/year (metric) of Carbon Dioxide (CO_2) - Tons/year (metric) of Nitrous Oxide (N_2O) - Tons/year (metric) of Perfluorocarbons (PFCs) - Tons/year (metric) of Sulfur Hexafluoride (SF_6) - Tons/year (metric) of Carbon Dioxide equivalent of Hydroflorocarbons (HFCS) - Tons/year (metric) of Hazardous Air Pollutants (HAPs)	Yes ☐ No ☒

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? **If Yes:** Estimate methane generation in tons/year (metric): Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring):	Yes ☐ No ☒
i. Will the proposed action result in the release of air pollutants from open-air operations or processes such as quarry or landfill operations? **If Yes,** describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust): DURING REMEDIATION THERE IS POTENTIAL FOR DUST TO BE CREATED FROM THE OPERATION OF REMEDIAL EQUIPMENT. MEASURES WILL BE TAKEN TO CONTROL THE GENERATION OF DUST DURING REMEDIATION.	Yes ☒ No ☐
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? **If Yes:** When is the peak traffic expected? (check all that apply) Morning ☐; Evening ☐; Weekend ☐; Randomly ☐ between the hours of to For commercial activities only, projected number of semi-trailer truck trips/day: Parking spaces: Existing: Proposed: Net Increase/Decrease: Does the proposed action include any shared use parking? Yes ☐ No ☐ If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe: Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? Yes ☐ No ☐ Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? Yes ☐ No ☐ Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? Yes ☐ No ☐	Yes ☐ No ☒

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? **If Yes:** Estimate annual electricity demand during operation of the proposed action: Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility or other): Will the proposed action require a new, or an upgrade to, an existing substation? Yes ☐ No ☐	Yes ☐ No ☒
l. Hours of operation (Answer all items which apply) During Construction: Monday-Friday: 8AM - 5 PM; Saturday: NOT ANTICIPATED; Sunday: NOT ANTICIPATED; Holidays: NOT ANTICIPATED During Operations: Monday-Friday: 8AM - 5 PM; Saturday: NOT ANTICIPATED; Sunday: NOT ANTICIPATED; Holidays: NOT ANTICIPATED	N/A ☐
m. Does the proposed action produce noise that will exceed existing ambient noise levels during construction, operation or both? **If Yes:** Provide details including sources, time of day and duration: DURING REMEDIATION, MACHINERY FOR REMEDIATION OF INVASIVE SPECIES MAY CREATE ELEVATED NOISE LEVELS DURING OPERATION. CONSTRUCTION EQUIPMENT MAY INCLUDE EXCAVATOR(S), DUMP TRUCK, GENERATOR(S), AND DEWATERING PUMPS. WORK HOURS WILL BE CONDUCTED IN ACCORDANCE WITH THE TOWN CODE. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? Yes ☐ No ☒ Describe: ONLY REMOVAL OF AQUATIC INVASIVE SPECIES WILL OCCUR.	Yes ☒ No ☐
n. Will the proposed action have outdoor lighting? **If Yes:** Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures: Will proposed action remove existing natural barriers that could act as a light barrier or screen? Yes ☐ No ☐ Describe:	Yes ☐ No ☒
o. Does the proposed action have the potential to produce odors for more than one hour per day? **If Yes:** Describe possible sources, potential frequency and duration of odor emissions and proximity to nearest occupied structures: DURING THE DEWATERING AND DRYING OF THE ORGANIC MATERIAL, NUISANCE ODORS FROM DECAYING VEGETATION MAY BE ENCOUNTERED. TO MINIMIZE THIS POTENTIAL NUISANCE, THE INITIALLY LAKE LOWERING WILL BE COMPLETED IN THE FALL/WINTER WHEN TEMPERATURES ARE LOWER AND THE POTENTIAL FOR OFFENSIVE ODORS BE NOTICED BY ADJACENT NEIGHBORS IS DECREASED.	Yes ☒ No ☐

p. Will the proposed action include any bulk storage of petroleum (over 1,100 gallons) or chemical products (over 550 gallons)? **If Yes:** Product(s) to be stored: Volume(s): per unit time: (e.g., month, year) Generally describe proposed storage facilities:	Yes ☐ No ☒
q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? **If Yes:** Describe proposed treatment(s): Will the proposed action use Integrated Pest Management Practices? Yes ☐ No ☐	Yes ☐ No ☒
r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? **If Yes:** Describe any solid waste(s) to be generated during construction or operation of the facility: Construction: 20,500 YARDS tons per 24 MONTHS (unit of time) Operation: NA tons per (unit of time) Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste: Construction: DISPOSSAL & POSSIBLE BENFICIAL REUSE OPURTUNITIES WILL BE EXPLORED PENDING COLLECTION AND ANALYSIS OF SEDIMENT SAMPLES (IN ACCORDANCE WITH NYSDEC GUIDANCE DOCUMENTS) Operation: Proposed disposal methods/facilities for solid waste generated on-site: Construction: CURRENTLY, THE TOWN OF BROOKHAVEN LANDFILL IS BE EVALUATED FOR DISPOSAL. FOLLOWING COLLECTION OF SEDIMENT SAMPLES, ADDITIONAL DISPOSAL FACILITIES WILL BE EXPLORED. Operation:	Yes ☒ No ☐
s. Does the proposed action include construction or modification of a solid waste management facility? **If Yes:** Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill or other disposal activities): Anticipated rate of disposal/processing: tons/month, if transfer or other non-combustion/thermal treatment, or tons/hour, if combustion or thermal treatment If landfill, anticipated site life: years	Yes ☐ No ☒

t. Will proposed action at the site involve the commercial generation, treatment, storage or disposal of hazardous waste? **If Yes:** Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: Generally describe processes or activities involving hazardous wastes or constituents: Specify amount to be handled or generated: tons/month Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: 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:	Yes ☐ No ☒
u. Will proposed action adhere to Leadership in Energy and Environmental Design (LEED) or any other green building principals? **If Yes:** Describe proposed green building methods and attempted level of certification, if any:	Yes ☐ No ☒
v. Does the project sponsor propose the use of energy benchmarking to monitor and adjust project energy needs? **If Yes, explain:**	Yes ☐ No ☒
w. Will the proposed action use native plants for all landscaping needs? **Identify species to be used and method of irrigation:** EXISTING NATIVE VEGETATION WILL BE LEFT IN PLACE AS PRACTICABLE. EXISTING NATIVE VEGETATION CONSISTS MAINLY (>75%) OF C. CARLOINIANA (FANWORT) AND M. HETEROPHYLLUM (VARIABLE-LEAF WATERMILFOIL). REMAINING AQUATIC VEGETATION WILL NOT REQUIRE IRRIGATION. SOME VEGETATION AT THE END OF EACH ROADWAY ACCESS POINT MAY BE DISTURBED AND NEED TO REPLACED IN KIND FOLLOWING COMPLETION OF EXCAVATION ACTIVITIES.	Yes ☒ No ☐
x. Does the proposed action promote local tourism? **If Yes, explain:** THE PLAN IS TO IMPROVE RECREATIONAL USES OF THE LAKE FOR THE COMMUNITY.	Yes ☒ No ☐

E. Site and Setting of Proposed Action

E.1. Land Uses on and Surrounding the Project Site

a. Existing land uses (Check all uses the occur on, adjoining and near the project site): (include map)

Urban ☐ Industrial ☐ Commercial ☒ Residential ☒ Rural ☐
Forest ☒ Agriculture ☐ Aquatic ☒ Other ☐ Specify:

If mix of uses, generally describe:

b. Land uses and cover types on the project site:

Land Use or Cover Type	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
Roads, buildings and other paved or impervious surfaces	0	0	0
Forested	-	-	-
Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0	0	0
Agricultural (includes active orchards, fields, greenhouse, etc.)	0	0	0
Surface water features (lakes, ponds, streams, rivers, etc.)	21	21	0
Wetlands (freshwater or tidal)	-	-	-
Non-Vegetated (bare rock, earth or fill)	-	-	-
Other Describe:	-	-	-
TOTAL:	21	21	0

c. Is the project site presently used by members of the community for public recreation?

Yes ☒ No ☐

If Yes, explain:

CANAAN LAKE'S FISH POPULATION IS STOCKED BY THE DEC WITH TROUT AND ALSO PRODUCES YELLOW PERCH AND CHAIN PICKEREL. HOWEVER THE PLANT GROWTH FROM INVASIVE SPECIES MAKES FISHING DIFFICULT IN THE SUMMER MONTHS. OTHER FORMS OF RECREATION INCLUDE PUBLIC SWIMMING, KAYAKING AND OTHER RECREATIONAL ACTIVITIES.

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers or group homes) within 1,500 feet of the project site?

Yes ☒ No ☐

If Yes, identify facilities:

CANAAN ELEMANTARY SCHOOL IS LOCATED APPROXIMATELY 1,000 FEET WEST OF THE LAKE'S EDGE.

e. Does the project site contain an existing dam? **If Yes:** Dimensions of the dam and impoundment: - Dam height: 6-8 feet - Dam length: 400 feet - Surface area: 21 acres - Volume impounded: APPROXIMATELY 60 ACRE-FEET gallons or acre-feet Dam's existing hazard classification: CLASS A Provide date and summarize results of last inspection: UNKNOWN AT THIS TIME.	Yes ☒ 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:** Has the facility been formally closed? Yes ☐ No ☒ If Yes, cite sources/documentation: Describe the location of the project site relative to the boundaries of the solid waste management facility: Describe any development constraints due to the prior solid waste activities:	Yes ☐ 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:** Describe waste(s) handled and waste management activities, including approximate time when activities occurred:	Yes ☐ No ☒

h. Has there been a reported contamination spill at the proposed project site or have any remedial actions been conducted at or adjacent to the proposed site?

Yes ☒ No ☐

If Yes:

Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? (Check all that apply)

☒ Yes – Spills Incidents database — Provide DEC ID number(s): SEE ATTACHED RADIUS MAP

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

☐ Neither database

If site has been subject to RCRA corrective activities, describe control measures:

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

If Yes:

DEC ID number(s):

Describe current status of site(s):
SEE ATTACHED EDR REPORT (numerous Spill have been documented at the Lake and the adjacent properties. There are no significant RCRA corective actions and remedial sites immediately adjacent to the Lake)

E.1.h. (cont.) – only answer following if checked "Yes" above

Is the project site subject to an institutional control limiting property uses?

If Yes:

DEC site ID number(s):

Describe the type of institutional control (e.g., deed restriction or easement):

Describe any use limitations:

Describe any engineering controls:

Will the project affect the institutional or engineering controls in place? Yes ☐ No ☐
Explain:

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site:
~2,000 feet

b. Are there bedrock outcroppings on the project site?

Yes ☐ No ☒

If Yes:

What proportion of the site is comprised of bedrock outcroppings?
%

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

1. Berryland Mucky Sand	80% of site
2. Sandy Marine Deposits	20% of site
3.	% of site
4.	% of site

d. What is the average depth to the water table on the project site?
0 FEET

e. Drainage status of project site soils:

1. ☒ Well Drained	100% of site
2. ☐ Moderately Well Drained	0% of site
3. ☐ Poorly Drained	0% of site

f. Approximate proportion of proposed action site with slopes: (include topographic map)

1. ☒ 0-10%	100% of site
2. ☐ 11-15%	0% of site
3. ☐ 16% or greater	0% of site

g. Are there any unique geologic features on the project site? Yes ☐ No ☒

If Yes, describe:

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

i. Do any wetlands or other waterbodies adjoin the project site? Yes ☒ No ☐

If Yes to either E.2.h or E.2.i, continue. If No, skip to E.2.m

j. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? (include map) Yes ☒ No ☐

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

Streams:	Name: 922-15, 922-14	Classification: B(T), C
Lakes or Ponds:	Name: 922-15	Classification: B(T)
Wetlands:	Name: FEDERAL WATERS, NYS WETLANDS	Approx. Size: 21 ACRES
Wetland No. (if regulated by DEC):	P-2	

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

If Yes, name of impaired water body/bodies and basis for listing as impaired:
CANAAN LAKE: POLLUTANTS, ALGAL/WEED GROWTH, SILT SEDIMENT, RECREATIONAL; PUBLIC BATHING.

m. Is the project site in a designated floodway? Yes ☐ No ☒

n. Is the project site in the 100 year floodplain? Yes ☒ No ☐

o. Is the project site in the 500 year floodplain? Yes ☐ No ☒

p.	Is the project site located over or immediately adjoining a primary, principal or sole source aquifer? **If Yes:** Name of aquifer: NASSAU-SUFFOLK SSA Source of information: NYSDEC EAF MAPPER	Yes ☒ No ☐
q.	Identify the predominant wildlife species that occupy or use the project site: PERCA FLAVESCENS (YELLOW PERCH) / ESOX NIGER (CHAIN PICKEREL) / MICROPTERUS SALMOIDES (LARGEMOUTH BASS) ONCORHYNCUS MYKISS (RAINBOW TROUT) / LEPOMIS GIBBOSUS (PUMPKINSEED SUNFISH / LEPOMIS MACROCHIRUS (BLUEGILL SUNFISH)	
r.	Does the project site contain a designated significant natural community? **If Yes:** Describe the habitat/community (composition, function and basis for designation: Source(s) of description or evaluation: Extent of community/habitat: - Currently: acres - Following completion of project as proposed: acres - Gain or loss (indicate + or –): acres	Yes ☐ No ☒
s.	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? **If Yes:** Species and listing (endangered or threatened): Nature of use of site by the species (e.g., resident, seasonal, transient):	Yes ☐ No ☒
t.	Does project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? **If Yes:** Species and listing: Nature of use of site by the species (e.g., resident, seasonal, transient):	Yes ☐ No ☒
u.	Is the project site or adjoining area currently used for hunting, trapping, fishing or shellfishing? If Yes, give a brief description of how the proposed action may affect that use: PROPOSED ACTION MAY TEMPORARILY LIMIT FISHING ACTIVITIES DURING REMEDIATION.	Yes ☒ No ☐
E.3. Designated Public Resources On or Near Project Site		
a.	Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? **If Yes**, provide county plus district name/number:	Yes ☐ No ☒

b. Are agricultural lands consisting of highly productive soils present? **If Yes:** Acreage(s) on project site: Source(s) of soil rating(s):	Yes ☐ No ☒
c. Does the project site contain all or part of, or is it substantially contiguous to a registered National Natural Landmark? **If Yes:** Nature of the natural landmark: ☐ Biological Community; ☐ Geological Feature Provide brief description of landmark, including values behind designation and approximate size/extent:	Yes ☐ No ☒
d. Is the project site located in or does it adjoin a state listed Critical Environmental Area, including Special Groundwater Protection Areas? **If Yes:** CEA name: Basis for designation: Designating agency and date:	Yes ☐ No ☒
e. Does the project site contain, or is it substantially contiguous to, a building, archeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on the State or National Register of Historic Places? **If Yes:** Nature of historic/archaeological resource: ☐ Archaeological Site; ☐ Historic Building or district Name: Brief description of attributes on which listing is based:	Yes ☐ 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?	Yes ☒ No ☐
g. Have additional archaeological or historic site(s) or resources been identified on the project site? **If Yes:** Describe possible resource(s): Basis for identification: Tim Lloyd, Division for Historic Preservation	Yes ☐ No ☒
h. Would the project site be visible from any officially designated and publicly assessable federal, state or local scenic or aesthetic resource? **If Yes:** Identify resource: Nature of, or basis for designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): Distance between project and resource:	Yes ☐ No ☒

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR Part 666? **If Yes:** Identify the name of the river and its designation: Is the activity consistent with development restrictions contained in 6 NYCRR Part 666? Yes ☐ No ☐	Yes ☐ No ☒

F. Additional Information

Attach any additional information which may be needed to clarify your project.
If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

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

Applicant/Sponsor Name: Date: October 18, 2016

Signature: Title: Environmental Projects Coordinator SCEDP

SUFFOLK COUNTY
FULL ENVIRONMENTAL ASSESSMENT FORM
6 NYCRR Part 617
State Environmental Quality Review

Part 2 – Identification of Potential Project Impacts

Instructions: Part 2 is to be completed by the lead agency. It is designed to help the lead agency inventory all potential resources that could be affected by a proposed project or action. We recognize that the lead agency's reviewer(s) will not necessarily be environmental professionals. So, the questions are designed to walk a reviewer through the assessment process by providing a series of questions that can be answered using the information found in Part 1. To further assist the lead agency in completing Part 2, the form identifies the most relevant questions in Part 1 that will provide the information needed to answer the Part 2 question. When Part 2 is completed, the lead agency will have identified the relevant environmental areas that may be impacted by the proposed activity.

Tips for completing Part 2:

- _____ Review all of the information provided in Part 1.
- _____ Review any application, maps, supporting materials and the Full EAF Workbook.
- _____ Answer each of the 18 questions in Part 2.
- _____ If you answer "**YES**" to a numbered question, please complete all the questions that follow in that section.
- _____ If you answer "**NO**" to a numbered question, move on to the next numbered section.
- _____ Check appropriate column to indicate the anticipated size of the impact.
- _____ Proposed projects that would exceed a numeric threshold contained in a question should result in the reviewing agency checking the box "**Moderate to large impact may occur**."
- _____ The reviewer is not expected to be an expert in environmental analysis.
- _____ If you are not sure or undecided about the size of an impact, it may help to review the sub-questions for the general question and consult the workbook.
- _____ When answering a question consider all components of the proposed activity, that is, the "whole action."
- _____ Consider the possibility for long-term and cumulative impacts as well as direct impacts.
- _____ Answer the question in a reasonable manner considering the scale and context of the project.

1. _____ **Impact on Land** The proposed action may involve construction on, or physical alteration of the land surface of the proposed site. (See Part 1.D.1) *If "YES", answer questions a-h. If "NO", move on to Section 2.*		YES ☒ NO ☐	
	Relevant Part 1 Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. _____ The proposed action may involve construction on land where depth to water table is less than 3 feet.	E.2.d	☐	☒
b. _____ The proposed actin may involve construction on slopes of 15% or greater.	E.2.f	☒	☐
c. _____ The proposed actin may involve construction on land where bedrock is exposed, or generally within 5 feet of existing ground surface.	E.2.a	☒	☐
d. _____ The proposed action may involve the excavation and removal of more than 1,000 tons of natural	D.2.a	☐	☒

material.			
e. _____ The proposed action may involve construction that continues for more than one year or in multiple phases.	D.1.g	☐	☒
f. _____ The proposed action may result in increased erosion, whether from physical disturbance or vegetation removal (including from treatment by herbicides).	D.2.e D.2.q	☒	☐
g. _____ The proposed action is, or may be, located within a Coastal Erosion hazard area.	B.*ix*	☒	☐
h. _____ Other impacts:		☐	☐

2. _____ Impact on Geological Features

The proposed action may result in the modification or destruction of, or inhibit access to, any unique or unusual land forms on the site (e.g., cliffs, dunes, minerals, fossils, caves). (See Part 1.E.2.g)

YES ☐ NO ☒

If "YES", answer questions a-c. If "NO", move on to Section 3.

	Relevant Part 1 Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. _____ Identify the specific land form(s):	E.2.g	☐	☐
b. _____ The proposed action may affect or is adjacent to a geological feature listed as a registered National Natural Landmark. Specific feature:	E.3.c	☐	☐
c. _____ Other impacts:		☐	☐

3. _____ Impact on Surface Water

The proposed action may affect one or more wetlands or other surface water bodies (e.g., streams, rivers, ponds or lakes).
(See Part 1.D.2 & E.2.h)

YES ☒ NO ☐

If "YES", answer questions a-l. If "NO", move on to Section 4.

	Relevant Part 1 Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. _____ The proposed action may create a new water body	D.1.j D.2.b	☒	☐
b. _____ The proposed action may result in an increase or decrease of over 10% or more than a 10 acre increase or decrease in the surface area of any body of water.	D.2.b	☒	☐
c. _____ The proposed action may involve dredging more than 100 cubic yards of material from a wetland or water body.	D.2.a	☐	☒
d. _____ The proposed action may involve construction within or adjoining a freshwater or tidal wetland, or in the bed or banks of any other water body.	E.2.h E.2.i	☐	☒
e. _____ The proposed action may create turbidity in a waterbody, either from upland erosion, runoff or by	D.2.a D.2.h	☐	☒

disturbing bottom sediments.			
f. _____ The proposed action may include construction of one or more intake(s) for withdrawal of water from surface water.	D.2.c	☒	☐
g. _____ The proposed action may include construction of one or more outfall(s) for discharge of wastewater to surface water(s).	D.2.d	☒	☐
h. _____ The proposed action may cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies.	D.2.e	☒	☐
i._____ The proposed action may affect the water quality of any water bodies within or downstream of the site of the proposed action.	E.2.h – E.2.l	☒	☐
j._____ The proposed action may involve the application of pesticides or herbicides in or around any water body.	D.2.q E.2.h – E.2.l	☒	☐
k. _____ The proposed action may require the construction of new, or expansion of existing, wastewater treatment facilities.	D.1.a D.2.d	☒	☐
l._____ Other impacts:		☐	☐

4. _____ **Impact on Groundwater** The proposed action may result in new or additional use of groundwater, or may have the potential to introduce contaminants to groundwater or an aquifer. (See Part 1.D.2.a, D.2.c, D.2.d, D.2.p, D.2.q, D.2.t) *If "YES", answer questions a-h. If "NO", move on to Section 5.*		YES ☐ NO ☒	
	Relevant Part 1 Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. _____ The proposed action may require new water supply wells, or create additional demand on supplies from existing water supply wells.	D.2.c	☐	☐
b. _____ Water supply demand from the proposed action may exceed safe and sustainable withdrawal capacity rate of the local supply or aquifer. Cite Source:	D.2.c	☐	☐
c. _____ The proposed action may allow or result in residential uses in areas without water and sewer services.	D.1.a D.2.c – D.2.d	☐	☐
d. _____ The proposed action may include or require wastewater discharged to groundwater.	D.2.d E.2.p	☐	☐
e. _____ The proposed action may result in the construction of water supply wells in locations where groundwater is, or is suspected to be, contaminated.	D.2.c E.1.f – E.1.h	☐	☐
f. _____ The proposed action may require the bulk storage of petroleum or chemical products over ground water or an aquifer.	D.2.p E.2.p	☐	☐
g. _____ The proposed action may involve the commercial application of pesticides within 100 feet of potable drinking water or irrigation sources.	D.2.q E.2.h – E.2.l E.2.p D.2.c	☐	☐

h. _____ Other impacts:		☐	☐

5. _____ **Impact on Flooding** The proposed action may result in development on lands subject to flooding. (See Part 1.E.2) *If "YES", answer questions a-g. If "NO", move on to Section 6.*	YES ☐ NO ☒		
	Relevant Part 1 Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. _____ The proposed action may result in development in a designated floodway.	E.2.m	☐	☐
b. _____ The proposed action may result in development within a 100 year floodplain.	E.2.n	☐	☐
c. _____ The proposed action may result in development within a 500 year floodplain.	E.2.o	☐	☐
d. _____ The proposed action may result in, or require, modification of existing drainage patterns.	D.2.b D.2.e	☐	☐
e. _____ The proposed action may change flood water flows that contribute to flooding.	D.2.b E.2.m – E.2.o	☐	☐
f._____ If there is a dam located on the site of the proposed action, the dam has failed to meet one or more safety criteria on its most recent inspection.	E.1.e	☐	☐
g. _____ Other impacts:		☐	☐

6. _____ **Impact on Air** The proposed action may include a state regulated air emission source. (See Part 1.D.2.f, D.2.h, D.2.g) *If "YES", answer questions a-f. If "NO", move on to Section 7.*	YES ☐ NO ☒		
	Relevant Part 1 Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. _____ If the proposed action requires federal or state air emission permits, the action may also emit one or more greenhouse gases at or above the following levels:			
i. _____ More than 1000 tons/year of carbon dioxide (CO2)	D.2.g	☐	☐
ii. _____ More than 3.5 tons/year of nitrous oxide (N20)	D.2.g	☐	☐
iii. _____ More than 1000 tons/year of carbon equivalent of perfluorocarbons (PFCs)	D.2.g	☐	☐
iv. _____ More than .045 tons/year of sulfur hexafluoride (SF6)	D.2.g	☐	☐
v. _____ More than 1000 tons/year of carbon dioxide equivalent of hydrochloroflurocarbons (HCFCs) emissions	D.2.g	☐	☐
vi. 43 tons/year or more of methane	D.2.h	☐	☐
b. _____ The proposed action may generate 10 tons/year or more of any one designated hazardous air pollutant, or 25 tons/year or more of any combination of such hazardous	D.2.g	☐	☐

air pollutants.			
c. The proposed action may require a state air registration, or may produce an emissions rate of total contaminants that may exceed 5 lbs. per hour, or may include a heat source capable of producing more than 10 million BTU=s per hour.	D.2.f D.3.g	☐	☐
d. _____ The proposed action may reach 50% of any two or more of the thresholds in "a" through "c", above.	D.1.i D.2.k	☐	☐
e. _____ The proposed action may result in the combustion or thermal treatment of more than 1 ton of refuse per hour.	D.2.s	☐	☐
f. _____ Other impacts:		☐	☐

7. _____ Impact on Plants and Animals

The proposed action may result in a loss of flora or fauna. YES ☒ NO ☐

(See Part 1.E.2.q – E.2.u)

If "YES", answer questions a-j. If "NO", move on to Section 8.

	Relevant Part 1 Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. _____ The proposed action may cause reduction in population or loss of individuals of any threatened or endangered species, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E.2.s	☒	☐
b. _____ The proposed action may result in a reduction or degradation of any habitat used by any rare, threatened or endangered species, as listed by New York State or the federal government.	E.2.s	☒	☐
c. The proposed action may cause reduction in population, or loss of individuals, of any species of special concern or conservation need, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E.2.t	☒	☐
d. _____ The proposed action may result in a reduction or degradation of any habitat used by any species of special concern and conservation need, as listed by New York State or the Federal government.	E.2.t	☒	☐
e. _____ The proposed action may diminish the capacity of a registered National Natural Landmark to support the biological community it was established to protect.	E.3.c	☒	☐
f._____ The proposed action may result in the removal of, or ground disturbance in, any portion of a designated significant natural community. Source:	E.2.r	☒	☐
g. _____ The proposed action may substantially interfere with nesting/breeding, foraging, or over-wintering habitat for the predominant species that occupy or use the project site.	E.2.q	☐	☒
h. _____ The proposed action requires the conversion of more than 10 acres of forest, grassland or any other regionally or locally important habitat. Habitat type & information source:	E.1.b	☒	☐
i._____ Proposed action (commercial, industrial or recreational projects, only) involves use of	D.2.q	☒	☐

herbicides or pesticides.			
j._____ Other impacts:	☒	☐	☐

8. _____ **Impact on Agricultural Resources** The proposed action may impact agricultural resources. (See Part 1.E.3.a & E.3.b) *If "YES", answer questions a-h. If "NO", move on to Section 9.*	YES ☐ NO ☒		
	Relevant Part 1 Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. _____ The proposed action may impact soil classified within soil group 1 through 4 of the NYS Land Classification System.	E.2.c E.3.b	☐	☐
b. _____ The proposed action may sever, cross or otherwise limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc.).	E.1.a E.1.b	☐	☐
c. The proposed action may result in the excavation or compaction of the soil profile of active agricultural land.	E.3.b	☐	☐
d. _____ The proposed action may irreversibly convert agricultural land to non-agricultural uses, either more than 2.5 acres if located in an Agricultural District or more than 10 acres if not within an Agricultural District.	E.1.b E.3.a	☐	☐
e. _____ The proposed action may disrupt or prevent installation of an agricultural land management system.	E.1.a E.1.b	☐	☐
f._____ The proposed action may result, directly or indirectly, in increased development potential or pressure on farmland.	C.2.c, C.3 D.2.c, D.2.d	☐	☐
g. _____ The proposed project is not consistent with the adopted municipal Farmland Protection Plan.	C.2.c	☐	☐
h. _____ Other impacts:	☒	☐	☐

9. _____ **Impact on Aesthetic Resources** The land use of the proposed action are obviously different from, or are in sharp contrast to, current land use patterns between the proposed project and a scenic or aesthetic resource. (See Part 1.E.1.a, E.1.b, E.3.h) *If "YES", answer questions a-g and complete Appendix B - Visual EAF Addendum. If "NO", move on to Section 10.*	YES ☒ NO ☐		
	Relevant Part 1 Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. _____ Proposed action may be visible from any officially designated federal, state, or local scenic or aesthetic resource.	E.3.h	☒	☐
b. _____ The proposed action may	C.2.b	☒	☐

result in the obstruction, elimination or significant screening of one or more officially designated scenic views.	E.3.h		
c. The proposed action may be visible from publicly accessible vantage points: i. Seasonally (e.g., screened by summer foliage, but visible during other seasons) ii. Year round	 E.3.h E.3.h	 ☐ ☐	 ☐ ☒
d. _____ The situation or activity in which viewers are engaged while viewing the proposed action is: i. Routine travel by residents, including travel to and from work ii. Recreational or tourism based activities	 E.3.h E.2.u E.1.c	 ☒ ☒	 ☐ ☐
e. _____ The proposed action may cause a diminishment of the public enjoyment and appreciation of the designated aesthetic resource.	E.3.h	☒	☐
f._____ There are similar projects visible within the following distance of the proposed project: 0 – ½ mile ½ – 3 mile 3 – 5 mile 5+ mile	 D.1.a D.1.h D.1.i E.1.a	 ☒ ☒ ☒ ☒	 ☐ ☐ ☐ ☐
g. _____ Other impacts:		☐	☐

10. _____ Impact on Historic and Archeological Resources The proposed action may occur in or adjacent to an historic or archaeological resource. (See Part 1.E.3.e, E.3.f, E.3.g) *If "YES", answer questions a-e. If "NO", move on to Section 11.*		YES ☒ NO ☐	
	Relevant Part 1 Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. _____ The proposed action may occur wholly or partially within, or substantially contiguous to, any buildings, archaeological site or district which is listed on or has been nominated by the NYS Board of Historic Preservation for inclusion on the State or National Register of Historic Places.	E.3.e	☒	☐
b. _____ The proposed action may occur wholly or partially within, or substantially contiguous to, an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory.	E.3.f	☒	☐
c. The proposed action may occur wholly or partially within, or substantially contiguous to, an archaeological site not included on the NY SHPO inventory. Source:	E.3.g	☒	☐
d. _____ Other impacts:		☒	☐
e. _____ If any of the above (a-d) are answered "Yes", continue with the following questions to help support conclusions in Part 3: i. The proposed action may result in the destruction or alteration of all or part of the site or property.	 E.3.e – E.3g	 ☐	 ☐

ii. The proposed action may result in the alteration of the property's setting or integrity. iii. The proposed action may result in the introduction of visual elements which are out of character with the site or property, or may alter its setting.	E.1.a, E.1.b E.3.e – E.3.g C2, C3 E.3.g, E.3.h	☐ ☐	☐ ☐

11. _____ Impact on Open Space and Recreation

The proposed action may result in a loss of recreational opportunities or a reduction of an open space resource as designated in any adopted municipal open space plan. (See Part 1.C.2.c, E.1.c, E.2.u)

If "YES", answer questions a-e. If "NO", move on to Section 12.

YES ☒ NO ☐

	Relevant Part 1 Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. _____ The proposed action may result in an impairment of natural functions, or "ecosystem services", provided by an undeveloped area, including but not limited to stormwater storage, nutrient cycling, and wildlife habitat.	D.2.e, E.1.b E.2.h – E.2.l E.2.q – E.2.t	☒	☐
b. _____ The proposed action may result in the loss of a current or future recreational resource.	C.2.a, C.2.c E.1.c, E.2.u	☒	☐
c. The proposed action may eliminate open space or recreational resource in an area with few such resources.	C.2.a, C.2.c E.1.c, E.2.u	☒	☐
d. The proposed action may result in loss of an area now used informally by the community as an open space resource.	C.2.c, E.1.c	☐	☒
e. _____ Other impacts:		☐	☐

12. _____ Impact on Critical Environmental Areas

The proposed action may be located within or adjacent to a critical environmental area (CEA). (See Part 1.E.3.d)

If "YES", answer questions a-c. If "NO", move on to Section 13.

YES ☐ NO ☒

	Relevant Part 1 Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. _____ The proposed action may result in a reduction in the quantity of the resource or characteristic which was the basis for designation of the CEA.	E.3.d	☐	☐
b. The proposed action may result in a reduction in the quality of the resource or characteristic which was the basis for designation of the CEA.	E.3.d	☐	☐
c. _____ Other impacts:		☐	☐

13. _____ Impact on Transportation

The proposed action may result in a change to existing transportation systems. (See Part 1.D.2.j)

If "YES", answer questions a-f. If "NO", move on to Section 14.

YES ☐ NO ☒

	Relevant Part 1 Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. _____ Projected traffic increase	D.2.j	☐	☐

may exceed capacity of existing road network.			
b. _____ The proposed action may result in the construction of paved parking area for 500 or more vehicles.	D.2.j	☐	☐
c. _____ The proposed action will degrade existing transit access.	D.2.j	☐	☐
d. _____ The proposed action will degrade existing pedestrian or bicycle accommodations.	D.2.j	☐	☐
e. The proposed action may alter the present pattern of movement of people or goods.	D.2.j	☐	☐
f._____ Other impacts:		☐	☐

14. _____ Impact on Energy

The proposed action may cause an increase in the use of any form of energy (See Part 1.D.2.k) YES ☐ NO ☒

If "YES", answer questions a-e. If "NO", move on to Section 15.

	Relevant Part 1 Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. _____ The proposed action will require a new, or an upgrade to an existing, substation.	D.2.k	☐	☐
b. _____ The proposed action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two-family residences or to serve a commercial or industrial use.	D.1.h D.1.i D.2.k	☐	☐
c. _____ The proposed action may utilize more than 2,500 MWhrs per year of electricity.	D.2.k	☐	☐
d. The proposed action may involve heating and/or cooling of more than 100,000 square feet of building area when completed.	D.1.i	☐	☐
e. _____ Other impacts:		☐	☐

15. _____ Impact on Noise, Odor and Light

The proposed action may result in an increase in noise, odors or outdoor lighting (See Part 1.D.2.m, D.2.n, D.2.o) YES ☒ NO ☐

If "YES", answer questions a-f. If "NO", move on to Section 16.

	Relevant Part 1 Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. _____ The proposed action may produce sound above noise levels established by local regulation.	D.2.m	☒	☐
b. _____ The proposed action may result in blasting within 1,500 feet of any residence, hospital, school, licensed day care center, or nursing home.	D.2.m E.1.d	☒	☐
c. _____ The proposed action may result in routine odors for more than one hour per day.	D.2.o	☐	☒
d. _____ The proposed action may result in light shining onto adjoining properties.	D.2.n	☒	☐
e. The proposed action may result in lighting that creates sky-glow brighter than existing-area conditions.	D.2.n E.1.a	☒	☐

f._____ Other impacts:	☒	☐	☐

16. _____ **Impact on Human Health** The proposed action may have an impact on human health from exposure to new or existing sources of contaminants (See Part 1.D.2.q, E.1.d, E.1.f, E.1.g, E.1.h) *If "YES", answer questions a-m. If "NO", move on to Section 17.*	YES ☒ NO ☐		
	Relevant Part 1 Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. _____ The proposed action is located within 1500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community.	E.1.d	☐	☒
b. _____ The site of the proposed action is currently undergoing remediation.	E.1.g, E.1.h	☒	☐
c. _____ There is a completed emergency spill remediation or a completed environmental site remediation on, or adjacent to, the site of the proposed action.	E.1.g E.1.h	☒	☐
d. _____ The site of the action is subject to an institutional control limiting the use of the property (e.g. easement, deed restriction)	E.1.g E.1.h	☒	☐
e. _____ The proposed action may affect institutional control measures that were put in place to ensure that the site remains protective of the environment and human health.	E.1.g E.1.h	☒	☐
f._____ The proposed action has adequate control measures in place to ensure that future generation, treatment and/or disposal of hazardous wastes will be protective of the environment and human health.	D.2.t	☒	☐
g. _____ The proposed action involves construction or modification of a solid waste management facility.	D.2.q E.1.f	☒	☐
h. _____ The proposed action may result in the unearthing of solid or hazardous waste.	D.2.q E.1.f	☒	☐
i._____ The proposed action may result in an increase in the rate of disposal, or processing, of solid waste.	D.2.r D.2.s	☒	☐
j._____ The proposed action may result in excavation or other disturbance within 2000 feet of a site used for the disposal of solid or hazardous waste.	E.1.f – E.1.h	☒	☐
k. _____ The proposed action may result in the migration of explosive gases from a landfill site to adjacent off site structures.	E.1.f E.1.g	☒	☐
l. The proposed action may result in the release of contaminated leachate from the project site.	D.2.r, D.2.s E.1.f	☒	☐
m._____ Other impacts:	☒	☐	☐

17. _____ **Consistency with Community Plans** The proposed action is not consistent with adopted land use plans. (See Part 1.C.1, C.2, C.3) *If "YES", answer questions a-h. If "NO", move on to Section 18.*	YES ☐ NO ☒

	Relevant Part 1 Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. _____ The proposed action's land use components may be different from, or in sharp contrast to, current surrounding land use pattern(s).	C.2, C.3, D.1.a, E.1.a, E.1.b	☐	☐
b. _____ The proposed action will cause the permanent population of the city, town or village in which the project is located to grow by more than 5%.	C.2	☐	☐
c. _____ The proposed action is inconsistent with local land use plans or zoning regulations.	C.2, C.3	☐	☐
d. _____ The proposed action is inconsistent with any County plans, or other regional land use plans.	C.2	☐	☐
e. The proposed action may cause a change in the density of development that is not supported by existing infrastructure or is distant from existing infrastructure.	C.3 D.1.e, D.1.f, D.1.h, E.1.b	☐	☐
f. The proposed action is located in an area characterized by low density development that will require new or expanded public infrastructure.	C.4, D.2.c, D.2.d, D.2.j	☐	☐
g. The proposed action may induce secondary development impacts (e.g., residential or commercial development not included in the proposed action)	C.2.a	☐	☐
h. _____ Other impacts:		☐	☐

18. _____ Consistency with Community Character

The proposed action is inconsistent with the existing community character (See Part 1.C.2, C.3, D.2, E.3) YES ☐ NO ☒

If "YES", answer questions a-g. If "NO", move on to Part 3.

	Relevant Part 1 Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. _____ The proposed action may replace or eliminate existing facilities, structures, or areas of historic importance to the community.	E.3.e, E.3.f, E.3.g	☐	☐
b. _____ The proposed action may create a demand for additional community services (e.g. schools, police and fire)	C.4	☐	☐
c. _____ The proposed action may displace affordable or low-income housing in an area where there is a shortage of such housing.	C.2, C.3,D.1.h, D.1.i, E.1.a	☐	☐
d. _____ The proposed action may interfere with the use or enjoyment of officially recognized or designated public resources.	C.2, E.3	☐	☐
e. The proposed action is inconsistent with the predominant architectural scale and character.	C.2, C.3	☐	☐
f. Proposed action is inconsistent with the character of the existing natural landscape.	C.2, C.3, E.1.a, E.1.b, E.2.g – E.2.l	☐	☐
g. _____ Other impacts:		☐	☐

SUFFOLK COUNTY
FULL ENVIRONMENTAL ASSESSMENT FORM
6 NYCRR Part 617
State Environmental Quality Review

Part 3 – Evaluation of the Magnitude and Importance of Project Impacts and Determination of Significance

Part 3 provides the reasons in support of the determination of significance. The lead agency must complete Part 3 for every question in Part 2 where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.

Based on the analysis in Part 3, the lead agency must decide whether to require an environmental impact statement to further assess the proposed action or whether available information is sufficient for the lead agency to conclude that the proposed action will not have a significant adverse environmental impact. By completing the certification on the next page, the lead agency can complete its determination of significance.

Reasons Supporting This Determination:
To complete this section:

- *_____ Identify the impact based on the Part 2 responses and describe its magnitude. Magnitude considers factors such as severity, size or extent of an impact.
- *_____ Assess the importance of the impact. Importance relates to the geographic scope, duration, probability of the impact occurring, number of people affected by the impact and any additional environmental consequences if the impact were to occur.
- *_____ The assessment should take into consideration any design element or project changes.
- *_____ Repeat this process for each Part 2 question where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.
- *_____ Provide the reason(s) why the impact may, or will not, result in a significant adverse environmental impact
- *_____ For Conditional Negative Declarations identify the specific condition(s) imposed that will modify the proposed action so that no significant adverse environmental impacts will result.
- *_____ Attach additional sheets, as needed.

Please see the attached Part III analysis that addresses the identifed EAF Part II questions which were found to be areas where a moderate to large impact may occur.

EAF- Part III for Invasive Species Eradication, Canaan Lake

Below is an analysis for the identified EAF Part II sub-questions which were found to be areas where a moderate to large impact may occur.

Question 1. Impact on Land, Impact on Plants and Animals, Impact on Energy, and Impact on Noise

- For EAF Part II Question 1.a which states "the proposed action may involve construction on land where depth to water table is less than 3 feet" the moderate to large box was checked because the proposed project may involve the excavation of materials where the water table will be less than 3 feet below the land surface. However, is not expected that the project will have a significant adverse impact on the water table because the project will be done in a phased approach that includes a controlled drawdown of the lake to allow for dry excavation of exposed materials. Limiting the excavation to the dried surface layer will reduce impacts to adjacent surface waters and the underlying water table. In addition, this project requires numerous permits/approvals including for stream disturbance, freshwater wetlands and aquatic vegetation control from the New York State Department of Environmental Conservation (NYSDEC). As a result, specific excavation procedures, excavation locations and sampling methodology will conform to NYSDEC permit approval requirements.

- For EAF Part II Question 1.d which states "the proposed action may involve the excavation and removal of more than 1,000 tons of natural material" the moderate to large box was checked because the proposed project likely will result in the excavation of more than 1,000 tons of soft organic bottom sediment and invasive species material from the bottom of Canaan Lake. However, this excavation work is not anticipated to have a significant adverse impact on the environment because the material being excavated is soft organic bottom sediment as well as invasive aquatic species which is currently adversely impacting Canaan Lake's natural habitat. The excavation is not intended to excavate the native sands and gravels that are located below the organic sediment and invasive species. In addition, all excavation work, including the sampling and removal of excavated materials, will be done in accordance with NYSDEC requirements.

- For EAF Part II Question 1.e which states "the proposed action may involve construction for more than one year or in multiple phases" the moderate to large box was checked because it is anticipated that the project may take place in phases for a period of up to two years. It is not anticipated that the length and phased nature of the project will have a significant impact on area resources due to the fact that the project will not result in continuous impacts for over a year. In addition, the project is being phased to minimize project impacts. The phasing includes the slow draw down of lake water to allow for downstream monitoring followed by an excavation phase to be done in the fall/winter months for the most effective eradication of invasive species and to minimize odors as well as a settling period to allow for further drying of the excavated materials and sampling per NYSDEC protocols and then possibly follow up excavation based on results.

Question 3. Impact on Surface Waters

- For EAF Part II Question 3.c which states "the proposed action may involve dredging more than 100 cubic yards of material from a wetland or water body" and Question 3.d which states "the proposed action may involve construction within or adjoining a freshwater or tidal wetland, or in the bed or banks of any other water body" the moderate to large box was checked because it is anticipated that the project will result in more than 100 cubic yards of material being excavated from the bottom of Canaan Lake. However, this project is not anticipated to result in a significant environmental impact because as noted above the project is being designed so that the excavation is limited to the dried exposed surface materials. This will greatly reduce the amount of suspended sediment that would result from typical wetland/water body excavation. In addition, all excavation work will be done in accordance with NYSDEC permit requirements.

- For EAF Part II Question 3.e which states "the proposed action may create turbidity in a waterbody, either from upland erosion, runoff or by disturbing bottom sediment" the moderate to large box was checked because it is anticipated that the project will result in the excavation of bottom sediment. However, as described above it is anticipated that the proposed action will not have a significant impact on the environment due to project controls and the phased nature of the project which will insure that the exposed bottom sediment materials being excavated are no longer in the surface water body. In addition, any increases in turbidity are expected to be limited when the water returns to Canaan Lake because it is anticipated that the excavation will have removed the fine organic materials down to the native sands and gravels and the lake water will be allowed to return gradually with little velocity. It is also anticipated that after the project the turbidity of Canaan Lake as well as the water quality will be improved from its current state.

Question 7. Impact on Plants and Animals

- For EAF Part II Question 7.g which states "the proposed action may substantially interfere with nesting/breeding, foraging, or over-wintering habitat for the predominant species that occupy or use the project site" the moderate to large box was checked because the project has the potential to interfere with the species that occupy the project site. However, while the project may interfere with the predominant species on the project site (finfish) it is not anticipated that the project will have a significant adverse impact on the environment. This is because the drawdown of Cannon Lake will be done slowly and will not result in a complete withdrawal of water from the Lake. This will allow for habitat in the lake as well as terrestrial and avian species to migrate to areas where surface water remains and avoid the area during excavation activity. In addition, as noted in Part I of the EAF, the project site does not contain a designated significant natural community, a NYS or federal government listed endangered or threated species, or a plant or animal species listed by NYS as rare or species of special concern. In addition, over the long term it is anticipated that the proposed project will result in improved

water quality, a reduction in invasive species and result in a more favorable environment for the natural habitat of Canaan Lake.

Question 9. Impact on Aesthetic Resources

- For EAF Part II Question 9.c which states "the proposed action may be visible from publicly accessible vantage points-year round" the moderate to large box was checked because the project will be visible year round from Traction Boulevard which is a public roadway. However, it is not anticipated that this project will have a significant impact due to the relatively short seasonal duration in which Canaan Lake has a visually altered appearance. In addition, it is anticipated that the reduction of invasive species and improved water quality will have a positive long term impact on the Lake's aesthetics.

Question 11. Impact on Open Space and Recreation

- For EAF Part II Question 11.d which states "the proposed action may result in loss of an area now used informally by the community as an open space resource" the moderate to large box was checked because the project may temporarily result in a loss of an area used by the community for recreational purposes. However, it is not anticipated that this project will have a significant adverse impact due to the relatively short seasonal duration in which the project may result in the loss of use of Canaan Lake for recreational purposes. In addition, it is anticipated that the reduction of invasive species and improved water quality will have a positive long term impact on the recreational uses that can take place at Canaan Lake.

Question 15. Impact on Noise, Odor and Light

- For EAF Part II Question 15.c which states "the proposed action may result in routine odors for more than one hour per day" the moderate to large box was checked because the project may temporarily result in odors for more than one hour per day. However, it is not anticipated that this project will have a significant adverse impact due to the relatively short duration in which the project excavation work is anticipated to take place and due to the fact that the project excavation is being planned to take place in the colder months to reduce the possibility of odors being emitted from the project site.

Question 16. Impact on Human Health

- For EAF Part II Question 16.a which states "the proposed action is located within 1,500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community" the moderate to large box was checked because the project site is located with 1,500 feet of an elementary school (Canaan Elementary School). However, it is not anticipated that the project will have a significant adverse environmental impact on the school due to the relatively short duration of the project, the screening that is present between the elementary school and the

project site and the fact that the project will be done in accordance with all NYSDEC permit requirements.

As demonstrated in Part II of the EAF and for these above reasons it is determined that the proposed action will not have a significant adverse impact on the environment.

Determination of Significance
Type 1 and Unlisted Actions

SEQR Status: Type I ☒ Unlisted ☐

Identify portions of EAF completed for this project: Part 1 ☒ Part 2 ☒ Part 3 ☒

Upon review of the information recorded on this EAF, as noted, plus this additional support information

and considering both the magnitude and importance of each identified potential impact, it is the conclusion of as lead agency that:

☒ A. This project will result in no significant adverse impacts on the environment, and, therefore, an environmental impact statement need not be prepared. Accordingly, this negative declaration is issued.

☐ B. Although this project could have a significant adverse impact on the environment, that impact will be avoided or substantially mitigated because of the following conditions which will be required by the lead agency:

There will, therefore, be no significant adverse impacts from the project as conditioned, and therefore, this conditioned negative declaration is issued. A conditioned negative declaration may be used only for UNLISTED actions (see 6 NYCRR 617.7(d)).

☐ C. This Project may result in one or more significant adverse impacts on the environment, and an environmental impact statement must be prepared to further assess the impact(s) and possible mitigation and to explore alternatives to avoid or reduce those impacts. Accordingly, this positive declaration is issued.

Name of Action: Invasive Species Eradication, Canaan Lake

Name of Lead Agency: Suffolk County

Name of Responsible Officer in Lead Agency:

Title of Responsible Officer in Lead Agency:

Signature of Responsible Officer in Lead Agency: Date:

Signature of Preparer (if different from Responsible Officer) Date:

For Further Information:
Contact Person: John Corral
Address: 100 Vets Highway, P.O Box 6100
Telephone Number: 631-853-5205
Email: john.corral@suffolkcountyny.gov

For Type 1 Actions and Conditioned Negative Declarations, a copy of this Notice is sent to:
Chief Executive Officer of the political subdivision in which the action will be principally located (Town/City/Village)
Other involved agencies (if any)
Applicant (if any)
Environmental Notice Bulletin: http://www.dec.ny.gov/enb/enb.html

SUFFOLK COUNTY
ENVIRONMENTAL ASSESSMENT FORM

Appendix A
Suffolk County Historic Trust

Application for Determination of Appropriateness for Alteration to Suffolk County Historic Trust Landmark or Site

1. APPLICANT
   Agency:
   Contact Person:
   Address:
   Telephone:

2. PROPERTY
   Structure Name:
   Location:
   Historic Trust Status: ☐ Designated; ☐ Eligible
   Use Category:
   Current Use:
   Proposed Use:
   Is the structure listed on or eligible for the National Register of Historic Places? ☐ Yes; ☐ No

3. PROPOSED WORK
   Scope of Work:
   Reason for Work:
   Architect/Engineer:
   Contractor:
   Construction Schedule:

4. FUNDING
   Estimated Cost of Project:
   Source(s) of Funding:

5. PROPERTY HISTORY
   Date of Original Construction:
   Original Architect/Builder:
   History of Use:
   History of Alterations:

6. SUBMISSIONS (check all that apply)
   ☐ Map
   ☐ Drawings
   ☐ HP-1 Form
   ☐ Specifications
   ☐ Environmental Assessment Form
   ☐ Photographs
   ☐ Samples
   ☐ Other:

7. RELATED INFORMATION AND COMMENT:

The Suffolk County Historic Trust is hereby requested to review the scope of work proposed for the above mentioned landmark structure, owned by the County of Suffolk, New York, to determine the appropriateness of design and/or use as regulated by the Suffolk County Charter. Design review guidelines have been made available for reference and it is understood that submission or approval of this application does not relieve applicant's responsibility for securing any and all other permits and approvals as required by law.

SUFFOLK COUNTY
ENVIRONMENTAL ASSESSMENT FORM

Appendix B
Visual EAF Addendum

This form may be used to provide additional information relating to Question 9 of Part 1 of the Full Environmental Assessment Form

VISIBILITY

1. Would the project be visible from:	Distance Between Project and Resource (in miles) 0 - ¼	¼ - ½	½ -3	3-5	5+
a. A parcel of land which is dedicated to and available to the public for the use, enjoyment and appreciation of natural or man-made scenic qualities	☒	☐	☐	☐	☐
b. An overlook or parcel of land dedicated to public observation, enjoyment and appreciation of natural or man-made scenic qualities	☐	☐	☐	☐	☐
c. A site or structure listed on the National or State Registers of Historic Places	☐	☐	☐	☐	☐
d. State Parks	☐	☐	☐	☐	☐
e. The State Forest Preserve	☐	☐	☐	☐	☐
f. National Wildlife Refuges and State Game Refuges	☐	☐	☐	☐	☐
g. National Natural Landmarks and other outstanding natural features	☐	☐	☐	☐	☐
h. National Park Service lands	☐	☐	☐	☐	☐
i. Rivers designated as National or State Wild, Scenic or Recreational	☐	☐	☐	☐	☐
j. Any transportation corridor of high exposure, such as part of the Interstate System or Amtrak	☐	☐	☐	☐	☐
k. A governmentally established or designated interstate or inter-county foot trail, or one formally proposed for establishment or designation	☐	☐	☐	☐	☐
l. A site, area, lake, reservoir or highway designated as scenic	☐	☐	☐	☐	☐
m. Municipal park or designated open space	☐	☐	☐	☐	☐
n. County road	☒	☐	☐	☐	☐
o. State road	☐	☐	☐	☐	☐
p. Local road	☒	☐	☐	☐	☐

2. Is the visibility of the project seasonal? (i.e., screened by summer foliage but visible during other seasons)
   ☐ Yes ☒ No

3. Are any of the resources checked in question 1 used by the public during the time of year during which the project will be visible?
   ☒ Yes ☐ No

DESCRIPTION OF EXISTING VISUAL ENVIRONMENT

4. From each item checked in question 1, check those which generally describe the surrounding environment.

	Within ¼ mile*	Within 1 mile*
Essentially undeveloped	☐	☐
Forested	☐	☐
Agricultural	☐	☐
Suburban Residential	☒	☒
Industrial	☐	☐
Commercial	☐	☐
Urban	☐	☐
River, Lake, Pond	☐	☐
Cliffs, Overlooks	☐	☐
Designated Open Space	☐	☐
Flat	☐	☐
Hilly	☐	☐
Mountainous	☐	☐
Other:	☐	☐

NOTE: Add attachments as needed.

5. Are there visually similar projects within*:
½ mile: ☐ Yes ☒ No 1 mile: ☐ Yes ☒ No 2 miles: ☐ Yes ☐ No 3 miles: ☐ Yes ☒ No

* Distance from project site is provided for assistance. Substitute other distances as appropriate.

EXPOSURE

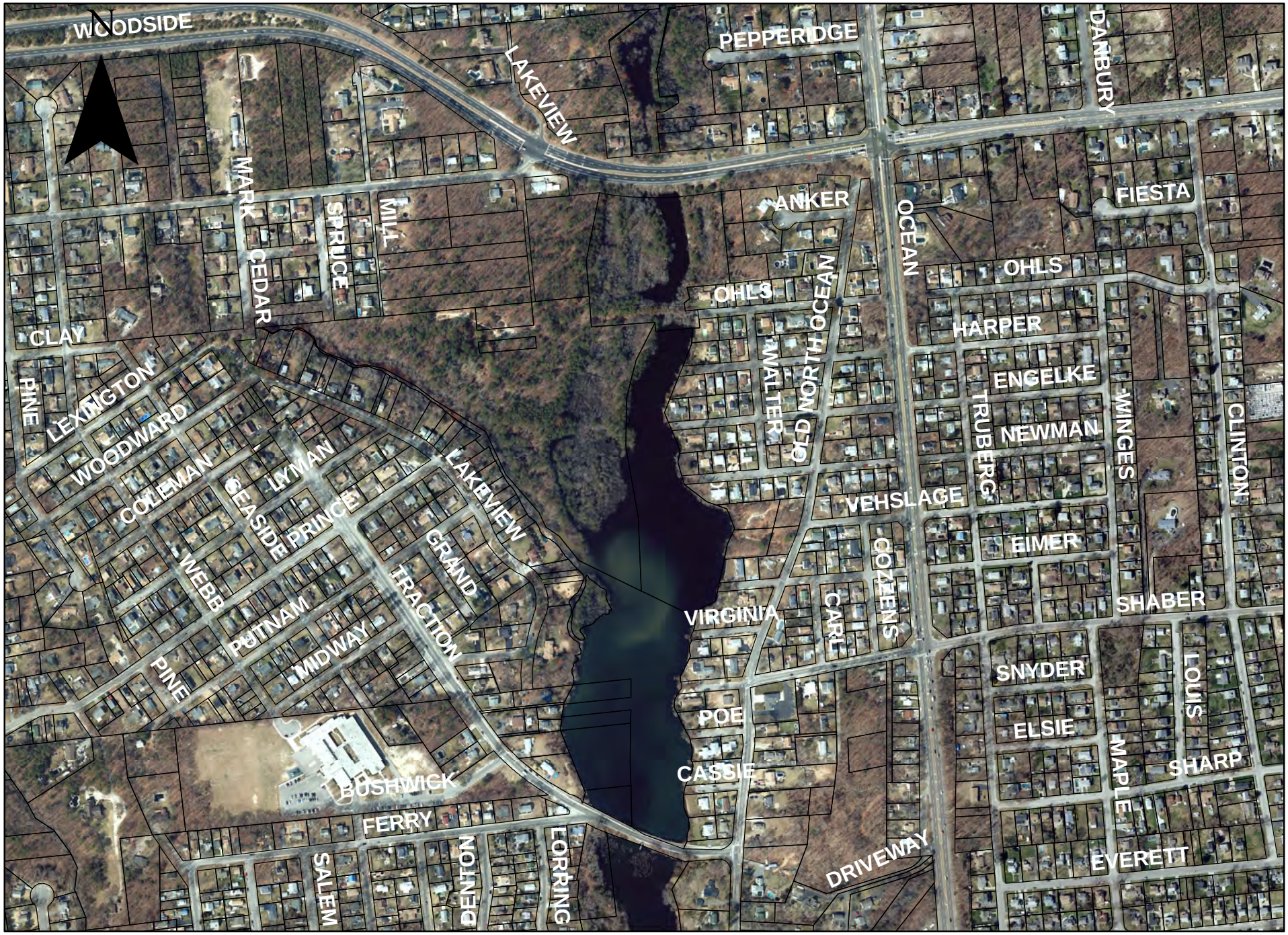
6. The annual number of viewers likely to observe the proposed project is: 200,000 (estimate based on the total number of trips taken on Traction Boulevard and Woodside Avenue over the course of a three months)
NOTE: When user data is unavailable or unknown, use best estimate.

CONTEXT

7. The situation or activity in which the viewers are engaged while viewing the proposed action is:

Activity	Frequency: Daily	Weekly	Holidays/ Weekends	Seasonally
Travel to and from work	☒	☐	☐	☐
Involved in recreational activities	☐	☐	☐	☐
Routine travel by residents	☒	☐	☐	☐
At a residence	☒	☐	☐	☐
At worksite	☐	☐	☐	☐
Other:	☐	☐	☐	☐

Aerial for Canaan Lake



COPYRIGHT 2012, COUNTY OF SUFFOLK, N.Y.
Real Property Taxmap parcel linework used with permission of Suffolk County Real Property Tax Service Agency (R.P.T.S.A.). This rendering is a DRAFT MAP in that 1) the data displayed is an interagency or intra agency work* produced for the purpose of identifying and correcting data. It is not a final agency determination. It is not statistical or factual compilation of data. In some cases correct data has been left out and questionable or inaccurate data has been exaggerated to help identify errors. In short, this is a DRAFT MAP produced in an effort to aid in the correction of data and is not held out as being complete or accurate in any way.

*excerpted from (F.O.I.L.) the provisions of the Freedom of Information Law [Public Officers Law Article 6 Section 84-90] by section 87.2.g

890 445 0 890 Feet

ATTACHMENT 1 – SUPPLEMENTARY INFORMATION FOR LONG ENVIRONMENTAL ASSESSMENT FORM

P.W. Grosser Consulting, Inc • P.W. Grosser Consulting Engineer & Hydrogeologist, PC
630 Johnson Avenue, Suite 7 • Bohemia, NY 11716
PH 631.589.6353 • FX 631.589.8705 • www.pwgrosser.com
New York, NY • Syracuse, NY • Shelton, CT • Seattle, WA

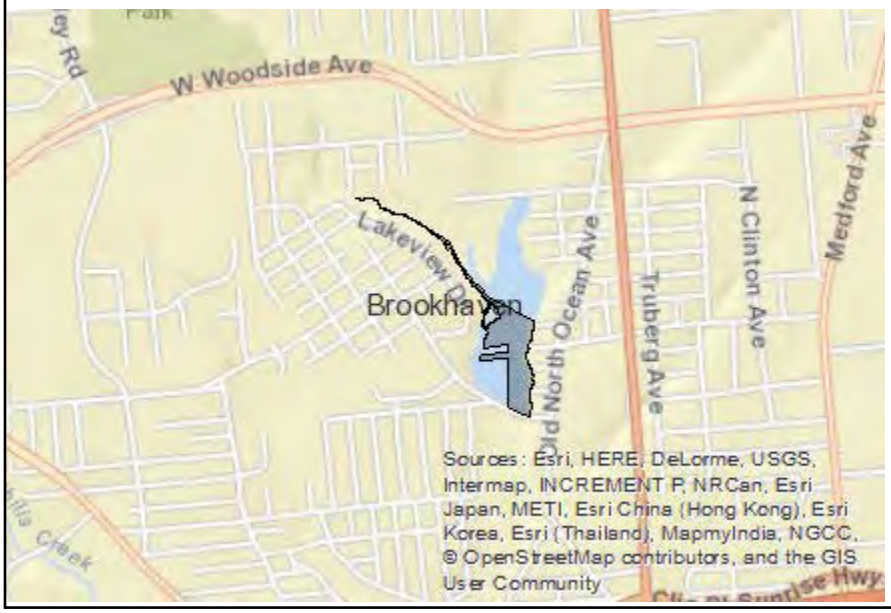
GIS Viewer Suffolk County, NY

Find address or place

CLAY ST
LEXINGTON AV
SEASIDE AV
WOODWARD AV
COLEMAN AV
LYMAN AV
TRACTION BLVD
PINE CT
PRINCE ST
PUTNAM AV
GRAND AV
WILSON ST
JEFFERSON AV
WEST ST
PINE ST
MIDWAY AV
LAKEVIEW DR
Canaan Lake
BUSHWICK AV
FRY BLVD
SANDIE CT
HAMILTON
SHERMAN ST
SALEM ST
HOLBROOK ST
ROWLAND ST
DENTON
LORRI
HARPER ST
WALTER ST
NEWMAN ST
ENGLEKE ST
TRUBERG AV
WINGES AV
VEHSLAGE ST
COZZEN PL
OLD NORTH OCEAN AV
EIMER ST
CARL PL
ETHEL PL
VIRGINIA PL
POE PL
CASSIE PL
JUNIPER AV
OCEAN
SNYDER ST
ELSIE ST
MAPLE AV
HARRIS ST
400ft

EAF Mapper Summary Report

Thursday, October 13, 2016 9:21 AM



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

B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Stream Name]	922-15, 922-14
E.2.h.iv [Surface Water Features - Stream Classification]	B(T), C
E.2.h.iv [Surface Water Features - Lake/Pond Name]	922-15
E.2.h.iv [Surface Water Features - Lake/Pond Classification]	B(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):232.7
E.2.h.iv [Surface Water Features - DEC Wetlands Number]	P-2
E.2.h.v [Impaired Water Bodies]	Yes
E.2.h.v [Impaired Water Bodies - Name and Basis for Listing]	Name - Pollutants - Uses:Canaan Lake – Algal/Weed Growth;Silt/Sediment – Recreation;Public Bathing
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	Yes
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	Yes
E.2.l. [Aquifer Names]	Sole Source Aquifer Names:Nassau-Suffolk SSA
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 Register of Historic Places]	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

Suffolk County, New York

Bd—Berryland mucky sand

Map Unit Setting

National map unit symbol: 9x67
Mean annual precipitation: 45 to 50 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 150 to 225 days
Farmland classification: Not prime farmland

Map Unit Composition

Berryland and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Berryland

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Acid sandy marine deposits

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
Oa - 2 to 10 inches: highly decomposed plant material
A - 10 to 15 inches: mucky sand
Bh - 15 to 20 inches: sand
Bs - 20 to 30 inches: sand
BC - 30 to 40 inches: sand
C - 40 to 60 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Minor Components

Atsion
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

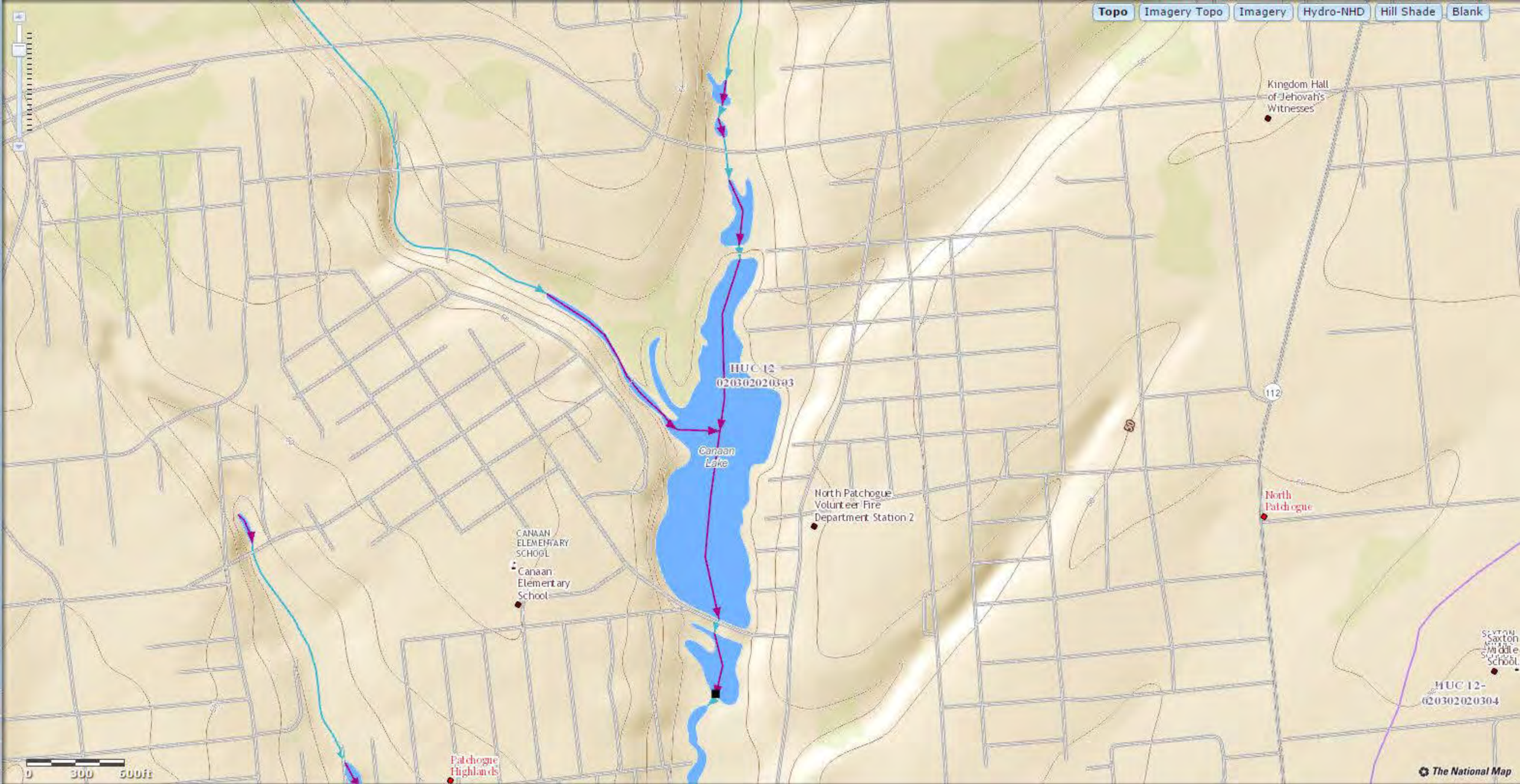
Wareham
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Muck
Percent of map unit: 5 percent
Landform: Marshes, swamps
Hydric soil rating: Yes

Unnamed soils
Percent of map unit: 5 percent
Hydric soil rating: Unranked

Data Source Information

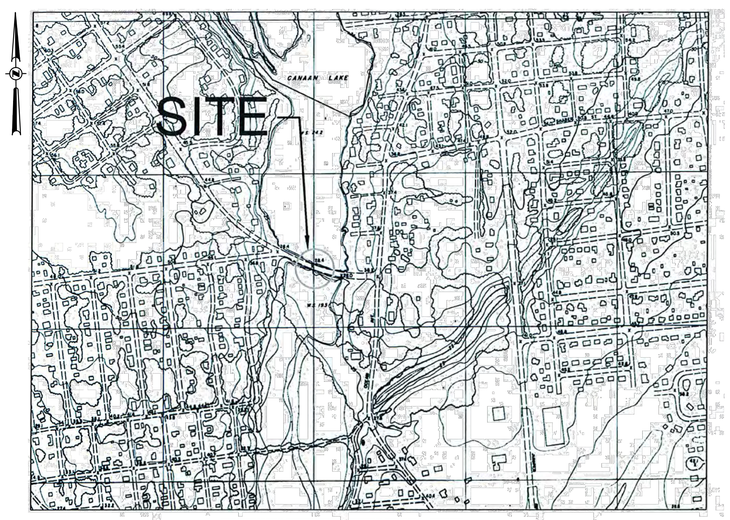
Soil Survey Area: Suffolk County, New York
Survey Area Data: Version 13, Sep 24, 2015


Topo
Imagery Topo
Imagery
Hydro-NHD
Hill Shade
Blank
Kingdom Hall of Jehovah's Witnesses
HUC 12
020302020303
Canaan Lake
112
50
North Patchogue Volunteer Fire Department Station 2
North Patchogue
CANAAN ELEMENTARY SCHOOL
Canaan Elementary School
Saxton Middle School
HUC 12-
020302020304
Patchogue Highlands
0
300
600ft
The National Map

COUNTY OF SUFFOLK
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS AND WATERWAYS

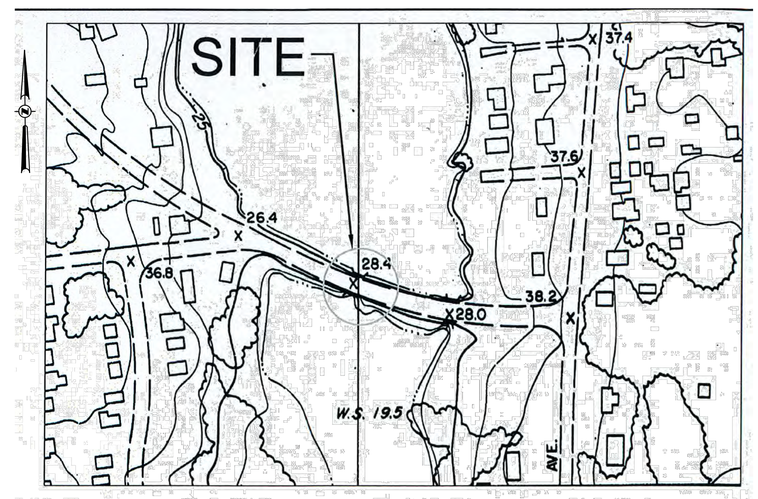
BOX CULVERT INSTALLATION FOR ERADICATION OF INVASIVE SPECIES
CANAAN LAKE, PATCHOGUE, NY

CAPITAL PROJECT: CP 8715.110
DATE: AUGUST 2016



TOWN OF BROOKHAVEN
SCALE: 1"=500'+/-
(SOURCE: SEWAGE WORKS STUDIES, SEPT. 1965)

SITE LOCATION MAP
SCALE: 1" = 150'



PROJECT AREA MAP
SCALE: 1"=150'+/-
(SOURCE: SEWAGE WORKS STUDIES, SEPT. 1965)

THE CONTRACTOR'S ATTENTION IS DIRECTED TO UTILITIES IN THE AREA. THE CONTRACTOR IS RESPONSIBLE FOR THE EXACT LOCATION OF ALL UTILITIES AND WILL TAKE EVERY PRECAUTION NOT TO DISTURB OR DAMAGE.

THE CONTRACTOR SHALL COORDINATE WITH EACH UTILITY COMPANY AS REQUIRED TO ENSURE SUCCESSFUL COMPLETION OF THE PROJECT. RELOCATIONS OF EXISTING UTILITIES WITHIN THE RIGHT OF WAY WILL BE PERFORMED BY THE UTILITY COMPANY AND MAY BE PERFORMED AT THE SAME TIME OF THE NEW CULVERT INSTALLATION

UTILITIES PRESENT ON THE SITE

ELECTRICAL POWER - NATIONAL GRID
GAS - PSEG
WATER - SCWA
TELECOMMUNICATION - VERIZON

DRAWING INDEX

DWG NO. TITLE

CONTRACT NO. 1 – GENERAL CONSTRUCTION

G-100 – COVER
G-200 – GENERAL NOTES AND SEQUENCE OF CONSTRUCTION DETAILS
C-100 – EXISTING CONDITIONS SITE PLAN AND CROSS SECTION
C-200 – PROPOSED SITE PLAN AND CROSS-SECTION
C-300 – DETAILS
C-400 – DETAILS II
C-500 – MAINTENANCE AND PROTECTION TO TRAFFIC
C-600 – MAINTENANCE AND PROTECTION TO TRAFFIC
C-700 – MAINTENANCE AND PROTECTION TO TRAFFIC
C-800 – SOIL AND EROSION CONTROL DETAILS AND NOTES

CONTRACT NO. 2 – PLUMBING

NOT USED

CONTRACT NO. 3– HVAC

NOT USED

CONTRACT NO. 4 – ELECTRICAL

NOT USED

APPROVALS

APPROVED BY: _____ DATE: _____
CHIEF DEPUTY COUNTY EXECUTIVE

APPROVED BY: _____ DATE: _____
GIL ANDERSON, P.E.
COMMISSIONER OF PUBLIC WORKS

APPROVED BY: _____ DATE: _____
BILL HILLMAN, P.E.
CHIEF ENGINEER

PWGC
Strategic Environmental and Engineering Solutions
P.W. GROSSER CONSULTING ENGINEER AND HYDROGEOLOGIST, P.C.
630 Johnson Avenue. • Suite 7
Bohemia • NY • 11716-2618
Phone: (631) 589-6353 • Fax: (631) 589-8705
E-mail: INFO@PWGROSSER.COM

CONSULTANTS

DRAFT

Number	Revision Description	Revision Date
7		
6		
5		
4		
3		
2		
1		

Designed By	GR	Date Submitted	AUGUST 2016
Drawn By	PR & GR	Date Created	08-23-16
Approved By	PKB	Scale	AS SHOWN

Client:
SUFFOLK COUNTY ECONOMIC DEVELOPMENT
H. LEE DENNISON BLDG.
100 VETERANS HWY. 2ND FL.
HAUPPAUGE, NY 11788

Project:
TRACTION BOULEVARD
BOX CULVERT INSTALLATION

Project Address:
TRACTION BOULEVARD
PATCHOGUE, NEW YORK
SUFFOLK COUNTY

County Tax Map Number: | Contract Number:

Regulatory Reference Number:

Title of Drawing:

COVER

Drawing Number:

G-100

Sheet 1 of 10

PWGC Project Number:

EDP-1501

Unauthorized alteration or addition to this drawing and related documents is a violation of Section 7209 of the New York State Education Law

GENERAL NOTES

1. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE VEHICLE AND TRAFFIC LAW OF THE STATE OF NEW YORK IN REGARD TO THE SIZE AND WEIGHT OF VEHICLES. THE CONTRACTOR IS HEREBY NOTIFIED THAT NO VEHICLE IN EXCESS OF LIMITS SET BY THE VEHICLE AND TRAFFIC LAW WILL BE ALLOWED ON ANY PUBLIC ROAD.

2. ALL AREAS DISTURBED BY THE CONSTRUCTION SHALL BE GRADED AND RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AS DIRECTED BY AND TO THE SATISFACTION OF THE ENGINEER.

3. MAINTENANCE OF TRAFFIC AND THE ASSOCIATED WARNING DEVICES SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE NEW YORK STATE SUPPLEMENT.

4. THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT ANY MATERIALS WHICH ARE TO REMAIN IN PLACE, OR WHICH ARE TO REMAIN THE PROPERTY OF THE COUNTY, WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY MATERIALS WHICH ARE TO REMAIN IN PLACE, OR WHICH ARE TO REMAIN THE PROPERTY OF THE COUNTY, THE DAMAGED MATERIALS SHALL BE REPLACED OR REPAIRED IN A MANNER SATISFACTORY TO THE ENGINEER AT THE EXPENSE OF THE CONTRACTOR.

5. DURING REMOVAL OPERATIONS, THE CONTRACTOR SHALL NOT BE ALLOWED TO DROP WASTE, CONCRETE, DEBRIS OR ANY OTHER MATERIALS TO THE AREA BELOW THE CULVERT OR BRIDGE EXCEPT WHERE THE PLANS SPECIFICALLY PERMIT THE DROPPING OF MATERIAL. PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES SHALL BE USED TO CATCH THE MATERIAL. IF THE ENGINEER DETERMINES THAT ADEQUATE PROTECTIVE DEVICES ARE NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.

6. WATCHMAN SERVICES- THE CONTRACTOR SHALL NOT BE REQUIRED TO PROVIDE A WATCHMAN FOR THIS PROJECT. HOWEVER, THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF INSURING THAT THE PROJECT AREA IS IN A SAFE CONDITION AT ALL TIMES DURING THE COURSE OF THIS CONTRACT.

7. WHENEVER ITEMS IN THE CONTRACT REQUIRE MATERIAL TO BE REMOVED AND DISPOSED OF, THE COST OF SUPPLYING A DISPOSAL AREA AND TRANSPORTATION TO THAT AREA SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THOSE ITEMS.

8. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT, DUE TO THE NATURE OF RECONSTRUCTION PROJECTS, THE EXACT EXTENT OF RECONSTRUCTION WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF VARIATIONS IN FIELD CONDITIONS AND PERFORM THE WORK IN ACCORDANCE WITH FIELD CONDITIONS, AS APPROVED BY THE ENGINEER.

9. ANY TRENCH, PIT OR EXCAVATION THAT IS OPEN AND UNATTENDED SHALL BE PROTECTED AS DIRECTED BY THE ENGINEER WITH FENCE, BARRICADES OR OTHER APPROVED METHOD. NO DIRECT PAYMENT WILL BE MADE FOR THIS WORK.

10. TYPES AND KIND OF MATERIAL TO BE USED IN CONCRETE ITEMS:

    PORTLAND CEMENT - TYPE II, WITH AN APPROVED AIR-ENTRAINING AGENT SHALL BE USED FOR ALL CONCRETE ITEMS. CEMENT SHALL BE NEW YORK STATE APPROVED.

    FINE AGGREGATE - TYPE A OR B SHALL BE USED IN ALL CONCRETE ITEMS.

    COARSE AGGREGATE - CRUSHED STONE OR CRUSHED GRAVEL TYPE A OR B SHALL BE USED IN ALL CONCRETE ITEMS.

    ADMIXTURES - AN APPROVED RETARDING ADMIXTURE AND DENSIFIER SHALL BE USED IN ALL CONCRETE ITEMS.

11. UPON PROJECT COMPLETION, THE AREA WITHIN THE COUNTY RIGHT OF WAY AND ADJACENT PROJECT AREA SHALL BE CLEANED THOROUGHLY AND FREE OF ALL DEBRIS INCLUDING BUT, NOT LIMITED TO PLASTIC BOTTLES, PAPER CUPS, ETC... ADDITIONALLY, SIDEWALKS BOTH EXISTING AND NEW SHALL BE SWEPT AND EDGED. ALL AREAS UNDER GUIDE RAILING, SIGNS AND APPURTENANCES ALSO SHALL BE CLEANED OF DEBRIS. PAYMENT FOR THIS CLEANING SHALL BE INCLUDED IN THE VARIOUS ITEMS IN THE CONTRACT.

12. HIGH - VISIBILITY SAFETY APPAREL SHALL BE WORN BY ALL FOOT TRAFFIC WORKERS TO PROVIDE CONSPICUITY DURING BOTH DAYTIME AND NIGHTTIME USAGE. THIS SAFETY APPAREL SHALL MEET PERFORMANCE CLASS 2 OR 3 REQUIREMENTS OF THE ANSI/ISEA 107-2004 PUBLICATION ENTITLED "AMERICAN NATIONAL STANDARD FOR HIGH - VISIBILITY SAFETY APPAREL AND HEADWEAR.

13. THE DATUM USED ON THIS PROJECT IS MEAN SEA LEVEL ELEVATION AT 0.00 FEET AT SANDY HOOK, NJ AS DETERMINED BY THE UNITED STATES COAST AND GEODETIC SURVEY.

14. ALL EXCAVATION SHALL BE DONE IN COMPLIANCE WITH NEW YORK INDUSTRIAL CODE PART (RULE NO.) 23 AND INDUSTRIAL CODE (RULE NO.) 53.

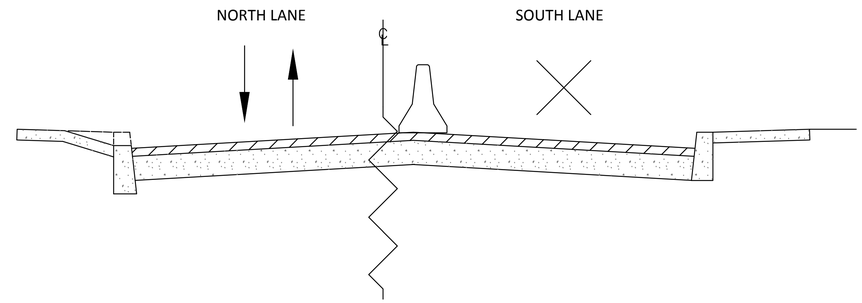
15. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE POSSIBILITY OF ENCOUNTERING GROUND WATER DURING EXCAVATION AND HE/SHE WILL PROCEED WITH HIS WORK HAVING FULL KNOWLEDGE OF THIS FACT.

[redacted]

1. LANE CLOSURES SHALL ONLY BE ALLOWED BETWEEN 9:00 AM AND 3:00 PM OR A.O.B.E.
2. THE ROADWAY SHALL BE OPENED TO TWO LANES OF TRAFFIC (ONE LANE IN EACH DIRECTION) AFTER WORK HOURS. AT NIGHT, AND ON WEEKENDS AND HOLIDAYS. NO EXCEPTIONS UNLESS APPROVED BY THE ENGINEER.
3. ALL WORK ZONE TRAFFIC CONTROL PROCEDURES AND DEVICES SHALL CONFORM TO THE SCDPW STANDARD SPECIFICATIONS AND DETAILS, THE LATEST EDITION OF NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), NEW YORK STATE (NYS) SUPPLEMENT TO THE NATIONAL MUTCD AND AS DIRECTED BY THE ENGINEER.
4. MINIMUM LANE WIDTH OF 11 FEET SHALL BE PROVIDED. LANES SHALL BE KEPT FREE OF CONSTRUCTION DEBRIS DURING ALL HOURS OF OPERATION.
5. ALL WORK ZONES SHALL BE CLEANED AND SWEPT OF ALL DEBRIS PRIOR TO RE-OPENING OF THE LANE CLOSURE.
6. ALL TEMPORARY SIGNS SHALL INDICATE ACTUAL CONDITIONS AT ALL TIMES. CONSTRUCTION SIGNS SHALL BE VISIBLE ONLY WHEN THE WORK THEY PERTAIN TO IS IN PROGRESS. CONSTRUCTION SIGNS HAVING CENTER HINGED SIGN PANELS OR FOLDING PORTABLE SIGN SUPPORTS SHALL BE FOLDED DOWN WHEN THE WORK THEY PERTAIN TO IS NOT IN PROGRESS. OTHER CONSTRUCTION SIGNS THAT CANNOT BE FOLDED DOWN SHALL BE REMOVED OR COMPLETELY COVERED A.O.B.E.
7. CONSTRUCTION SIGNS SHALL NOT BE PLACED AT LOCATIONS WHERE THEY ARE OBSCURED BY TEMPORARY OR PERMANENT OBJECTS AND ARE A HAZARD TO PUBLIC SAFETY. ALL TEMPORARY CONSTRUCTION SIGNS SHALL BE REMOVED AND RETAINED BY THE CONTRACTOR UPON COMPLETION OF THE WORK. ANY EXISTING SIGNS THAT IN THE OPINION OF THE ENGINEER WOULD CAUSE CONFUSION TO MOTORISTS DURING CONSTRUCTION SHALL BE COVERED WITH OPAQUE MATERIAL, A.O.B.E.
8. THE CONTRACTOR SHALL REFERENCE THE LATEST NYSDOT CADD DETAILS SECTION 619 WORK ZONE TRAFFIC CONTROL FOR SUGGESTED LANE CLOSURES. RELATIVE SHEETS INCLUDE BUT ARE NOT LIMITED TO 619-10, -11, -20, -41 AND -60.
9. IF CONTRACTOR DOES NOT FOLLOW THE SUGGESTED SEQUENCE OF CONSTRUCTION, HE MUST NOTIFY THE ENGINEER OF HIS PROPOSED TRAFFIC CONTROL/DETOUR PLAN FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION.

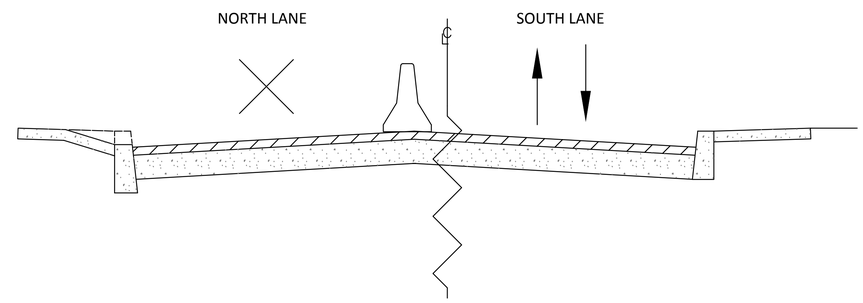
SUGGESTED SEQUENCE OF CONSTRUCTION

ONE LANE ROAD TRAFFIC
FLAGGERS REQUIRED
(MUTCD FIG. 6H-10)



STAGE 1

ONE LANE ROAD TRAFFIC
FLAGGERS REQUIRED
(MUTCD FIG. 6H-10)



STAGE 2

PWGC
Strategic Environmental and Engineering Solutions
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Bohemia • NY • 11716-2618
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E-mail: INFO@PWGROSSER.COM

CONSULTANTS

DRAFT

Number	Revision Description	Revision Date
7		
6		
5		
4		
3		
2		
1		

Designed By	GR	Date Submitted	AUGUST 2016
Drawn By	PR & GR	Date Created	08-23-16
Approved By	PKB	Scale	AS SHOWN

Client:
SUFFOLK COUNTY ECONOMIC DEVELOPMENT
H. LEE DENNISON BLDG.
100 VETERANS HWY. 2ND FL.
HAUPPAUGE, NY 11788

Project:
TRACTION BOULEVARD
BOX CULVERT INSTALLATION

Project Address:
TRACTION BOULEVARD
PATCHOGUE, NEW YORK
SUFFOLK COUNTY

County Tax Map Number:
Contract Number:
Regulatory Reference Number:

Title of Drawing:
GENERAL NOTES

Drawing Number:
G-200

Sheet: 1 of 10

PWGC Project Number:
EDP-1501

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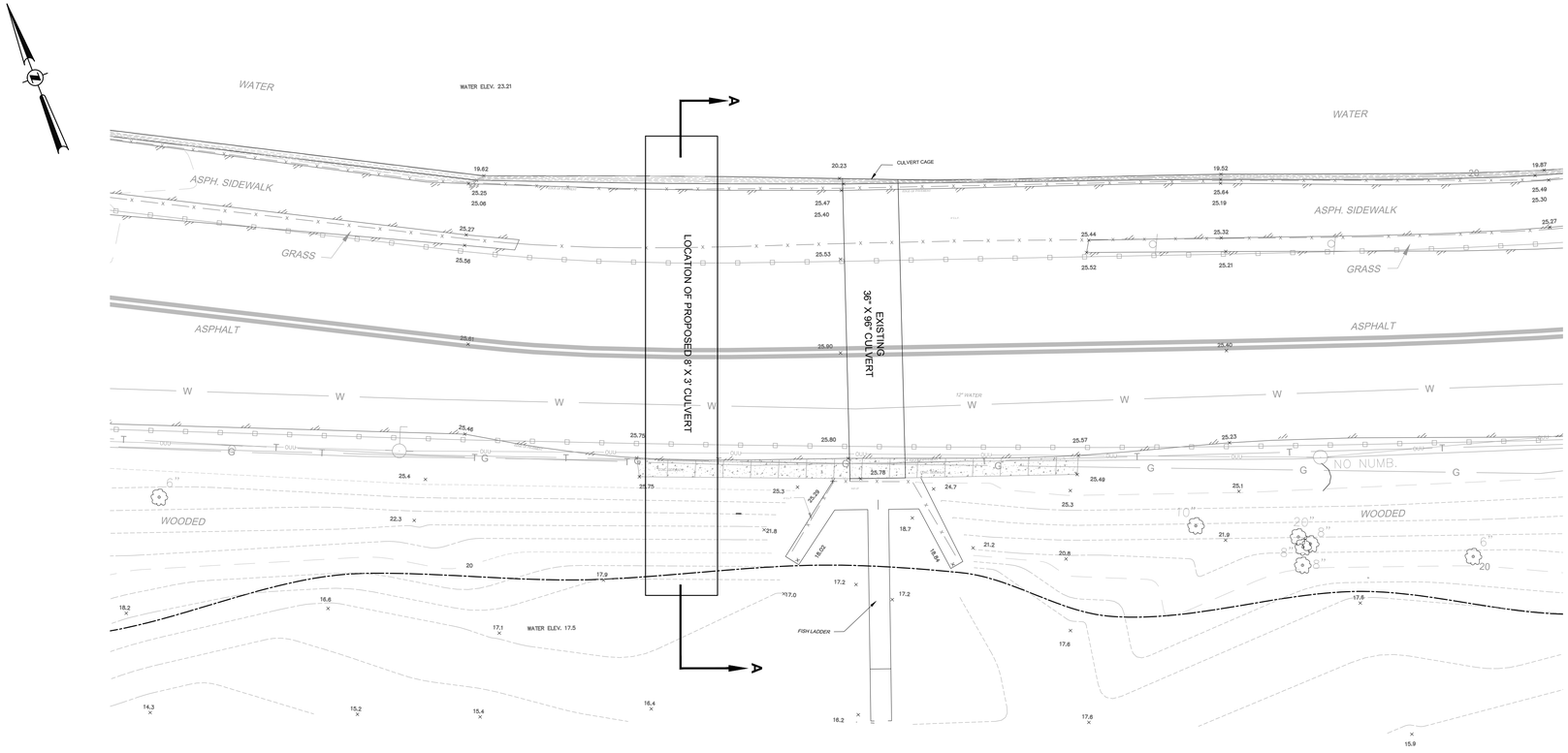
PWGC FILE NAME: P:\Projects\EDP\EDP-1501\EDP-1501 Traction Lane\ACAD\SCDPW\EDP-1501 - PLAN SET\G-200-GENERAL.DWG

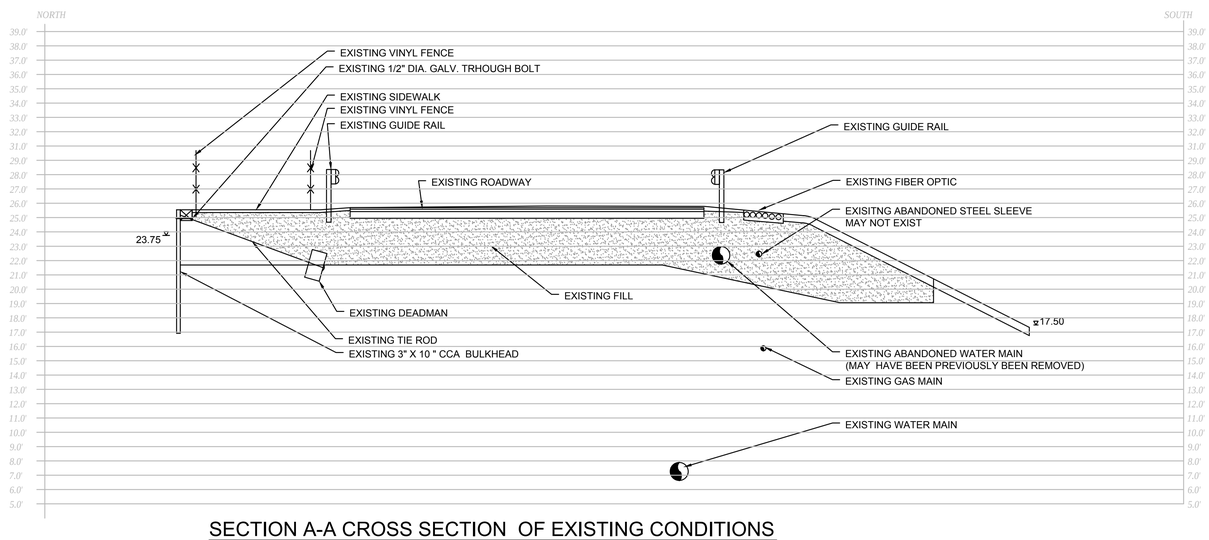


SURVEY OF EXISTING CONDITIONS

SCALE: 1" = 10'

0 10 20

SCALE: 1" = 10'



SECTION A-A CROSS SECTION OF EXISTING CONDITIONS

SCALE 1" = 5'

0 5 10

SCALE: 1" = 5'

PWGC

Strategic Environmental and Engineering Solutions

P.W. GROSSER CONSULTING ENGINEER AND HYDROGEOLOGIST, P.C.

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Project:

TRACTION BOULEVARD
BOX CULVERT INSTALLATION

Project Address:

TRACTION BOULEVARD
PATCHOGUE, NEW YORK
SUFFOLK COUNTY

County Tax Map Number:

Contract Number:

Regulatory Reference Number:

Title of Drawing:

EXISTING CONDITIONS SITE PLAN AND CROSS-SECTION

Drawing Number:

C-100

Sheet 3 of 10

PWGC Project Number:

EDP-1501

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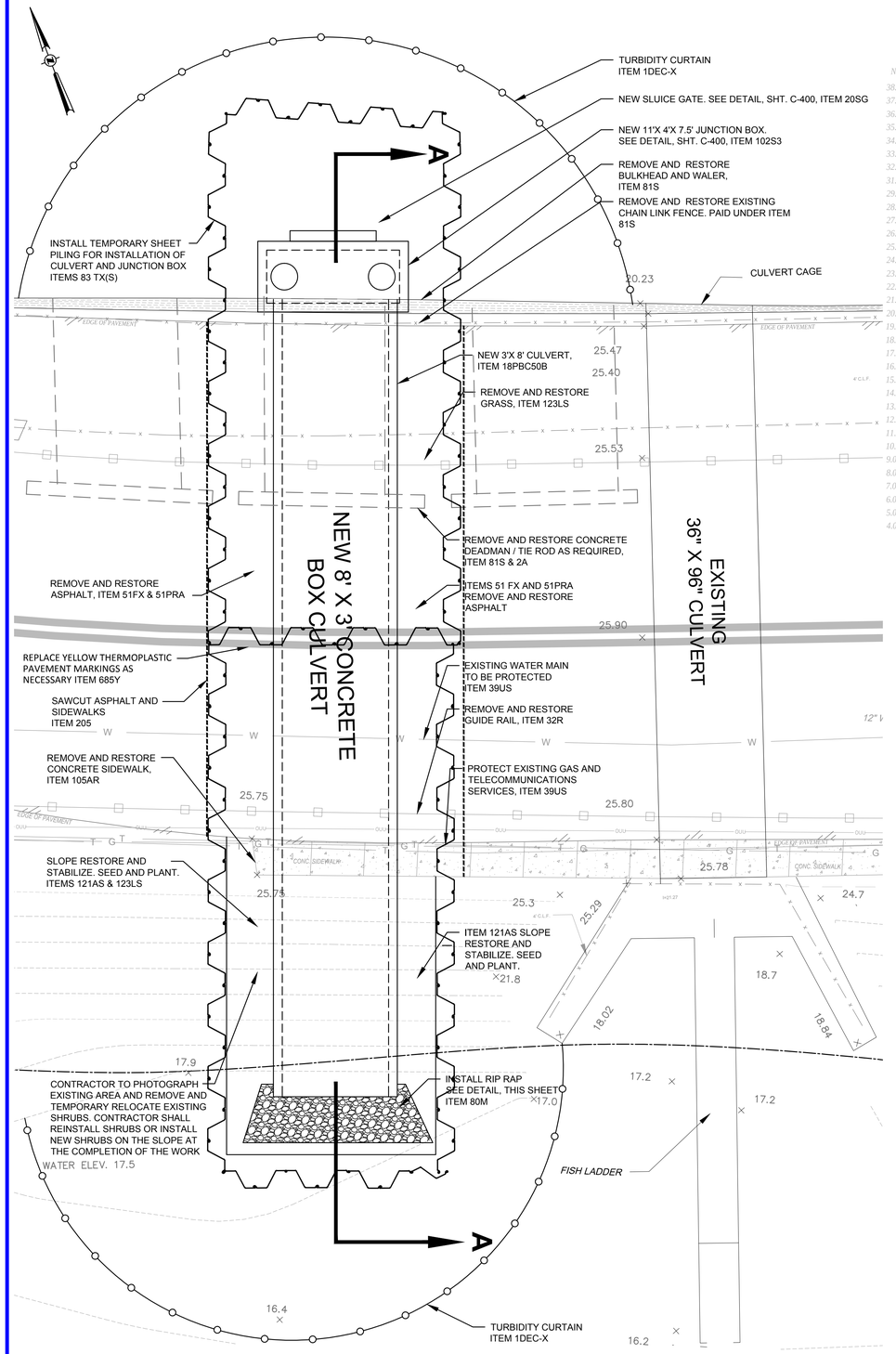
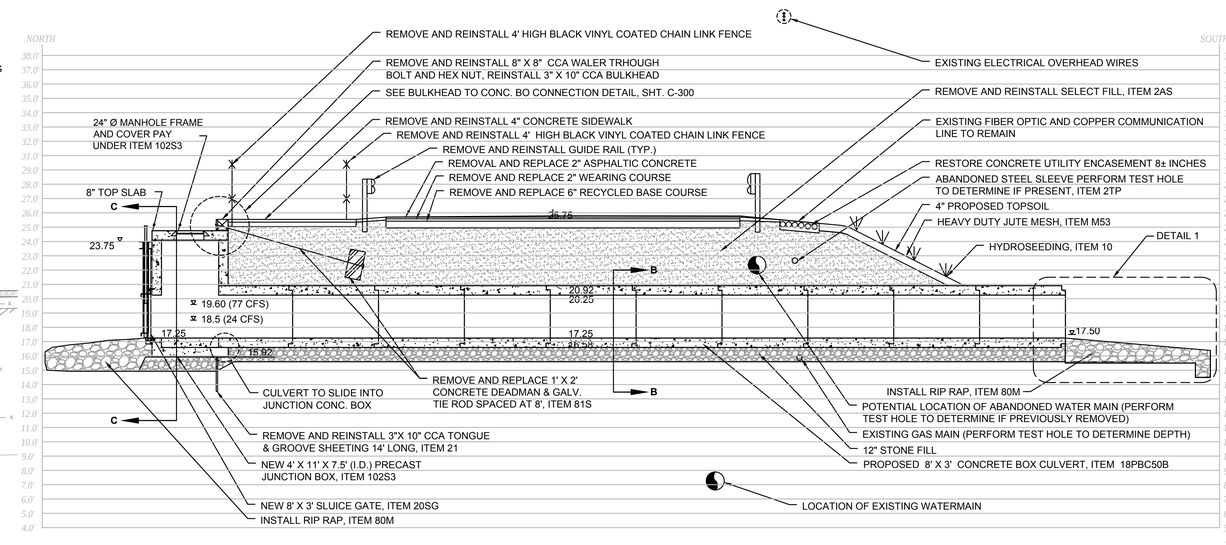
PWGC FILE NAME: J:\Projects\EDP\EDP-1501 - SCED\Cameron Lake\CADD\SCED\EDP-1501 - PLAN SET (10-04-16).dwg (C-100)



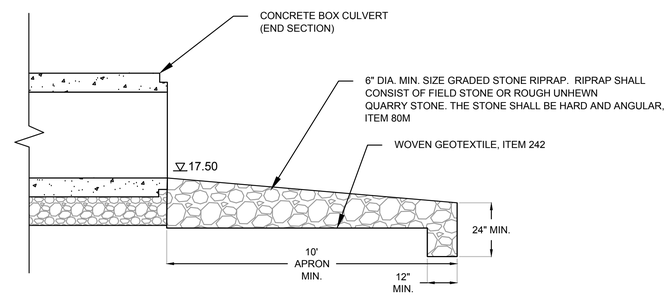
CANAAN LAKE PLAN

SCALE 1" = 5'



CROSS SECTION A -A - PROPOSED IMPROVEMENTS

SCALE 1" = 5'



STONE APRON DETAIL

SCALE= NOT TO SCALE

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CONSULTANTS

DRAFT

Number	Revision Description	Revision Date
7		
6		
5		
4		
3		
2		
1		

Designed By: GR
Date Submitted: AUGUST 2016
Drawn By: PR & GR
Date Created: 08-23-16
Approved By: PKB
Scale: AS SHOWN

Client:
SUFFOLK COUNTY ECONOMIC DEVELOPMENT
H. LEE DENNISON BLDG.
100 VETERANS HWY. 2ND FL.
HAUPPAUGE, NY 11788

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TRACTION BOULEVARD
BOX CULVERT INSTALLATION

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PATCHOGUE, NEW YORK
SUFFOLK COUNTY

County Tax Map Number:
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Regulatory Reference Number:

Title of Drawing:
PROPOSED SITE PLAN AND CROSS SECTION

Drawing Number:
C-200

Sheet 4 of 10

PWGC Project Number:
EDP-1501

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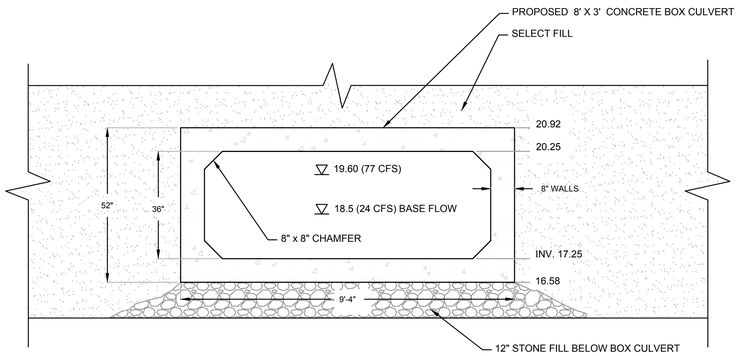
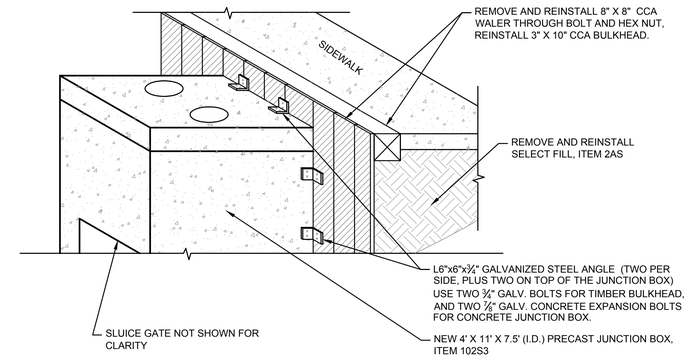


NOTE:

1. DESIGN CONCRETE COMPRESSIVE STRENGTH = 4,000 PSI AT 28 DAYS,
2. AASHTO H-20 LOADING.
3. STEEL REINFORCEMENT - ASTM A-615, GRADE 60.

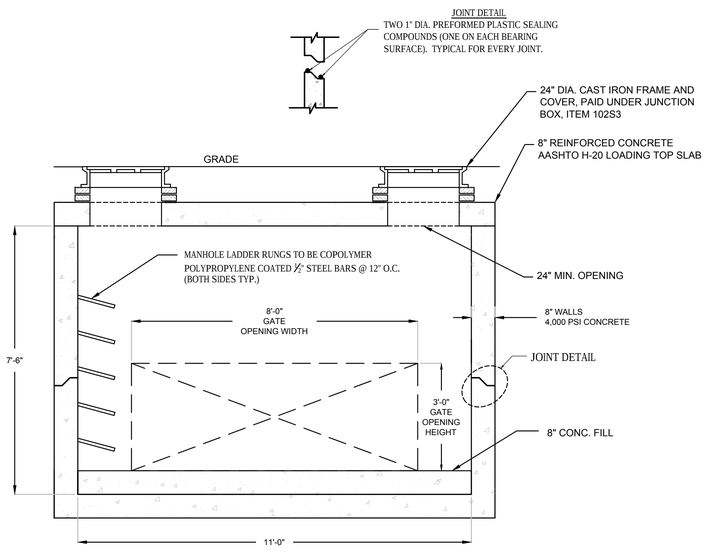
CROSS SECTION B-B

SCALE 1" = 5'



CONC. BOX TO BULKHEAD CONNCETION DETAIL

SCALE NO TO SCALE

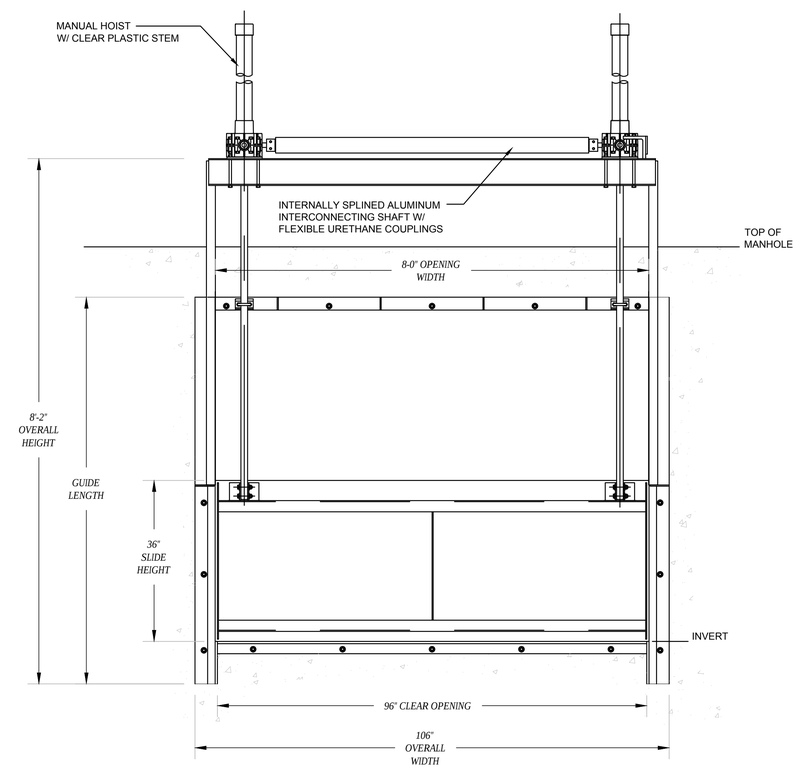


NOTE:

1. DESIGN CONCRETE COMPRESSIVE STRENGTH = 4,000 PSI AT 28 DAYS, AASHTO H-20 LOADING.
2. STEEL REINFORCING TO BE 0.15 SQ. IN. PER L.F. (TYPICAL) 6" MAX. SPACING.
3. MANHOLE BASE TO HAVE A WALL THICKNESS OF 5-INCH MIN. AND JOINT WITH CONCRETE CHIMNEY TO BE AS JOINT DETAIL ABOVE.
4. NO LIFTING HOLES ALLOWED.

CROSS SECTION C-C

SCALE 1" = 5'



SLUICE GATE DETAIL

SCALE = NOT TO SCALE

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Designed By	GR	Date Submitted	AUGUST 2016
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PATCHOGUE, NEW YORK
SUFFOLK COUNTY

County Tax Map Number: | Contract Number:
Regulatory Reference Number:
Title of Drawing:

DETAILS

Drawing Number:
C-300
Sheet: 5 of 10
PWGC Project Number:
EDP-1501

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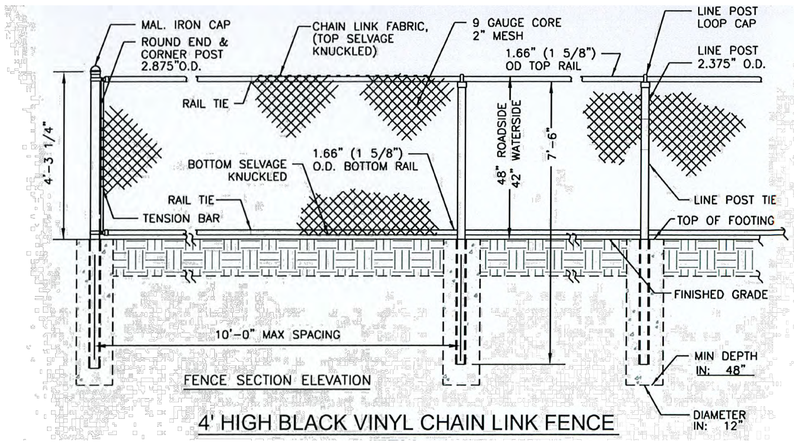


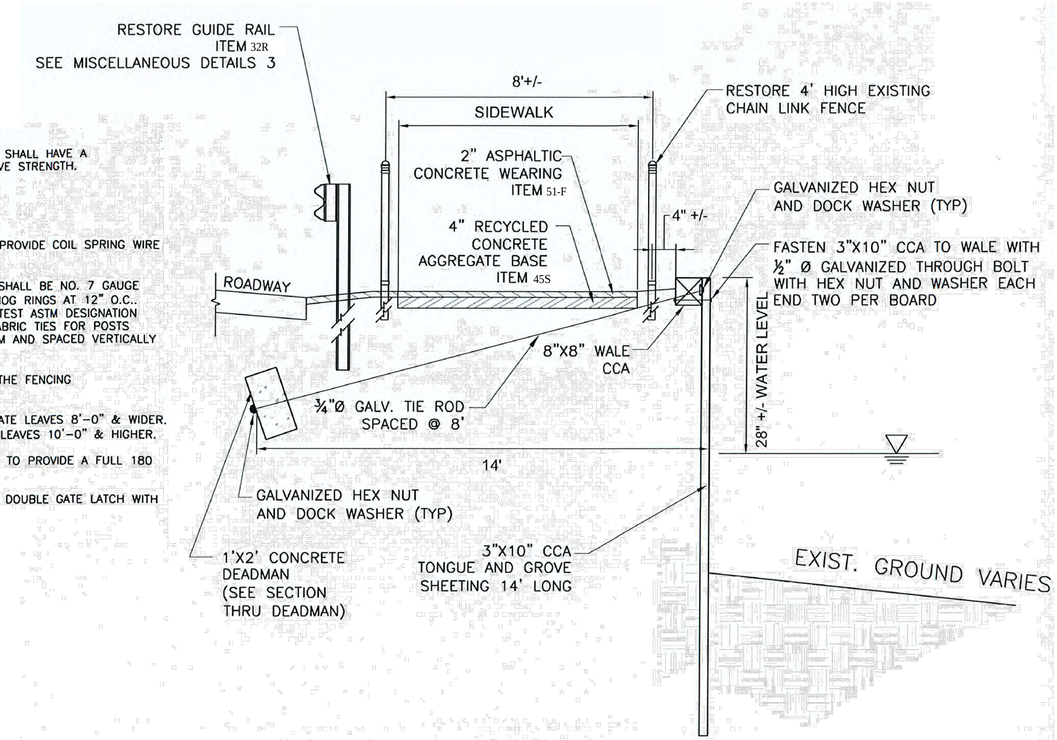
FENCE SECTION ELEVATION

4' HIGH BLACK VINYL CHAIN LINK FENCE

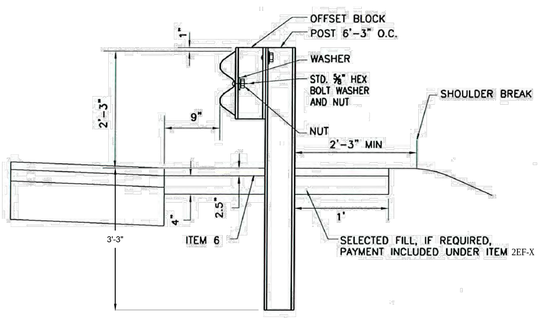
NOTE:
CONCRETE FOR POST FOUNDATIONS SHALL HAVE A A 4,000 P.S.I., 28 DAY COMPRESSIVE STRENGTH.

FENCE & GATE NOTES:

1. WHERE "NO CURB" IS SPECIFIED PROVIDE COIL SPRING WIRE 6" ABOVE BOTTOM OF WIRE.
2. TOP AND BOTTOM TENSION WIRE SHALL BE NO. 7 GAUGE ATTACHED WITH 12-1/2 GAUGE HOG RINGS AT 12" O.C.. ALL WIRE SHALL CONFORM TO LATEST ASTM DESIGNATION A641 CLASS 3 REQUIREMENTS. FABRIC TIES FOR POSTS SHALL BE NO. 6 GAUGE ALUMINUM AND SPACED VERTICALLY AT 1'-2" O.C. MAX.
3. INSTALL GATES AS SPECIFIED BY THE FENCING MANUFACTURER.
4. CENTER UPRIGHT REQUIRED ON GATE LEAVES 8'-0" & WIDER. CENTER RAIL REQUIRED ON GATE LEAVES 10'-0" & HIGHER.
5. GATE HINGES SHALL BE DESIGNED TO PROVIDE A FULL 180 DEGREE SWING.
6. GATE SHALL BE PROVIDED WITH A DOUBLE GATE LATCH WITH PADLOCK AND KEEPERS.



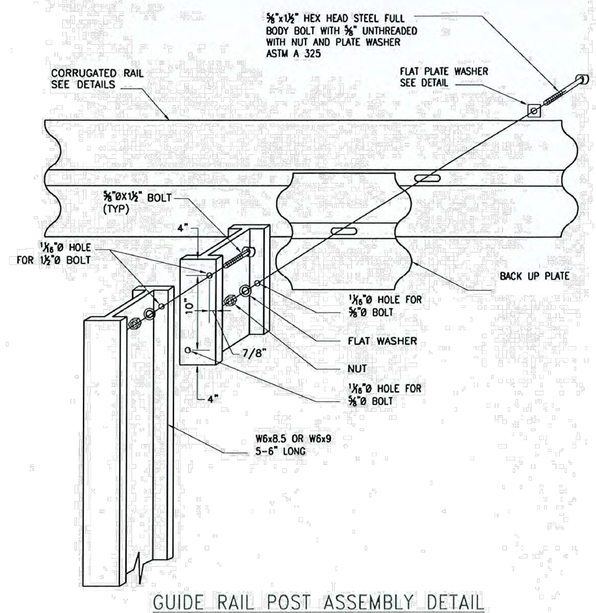
TYPICAL TIMBER BULKHEAD SECTION



TYPICAL SECTION FOR CORRUGATED GUIDE RAIL

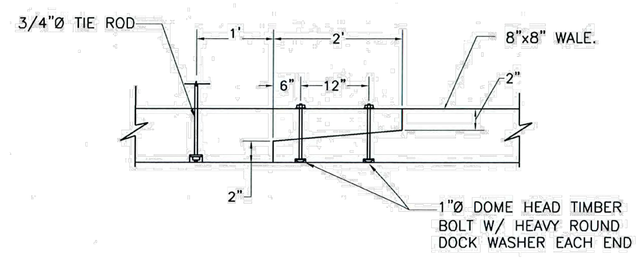
ITEM 20

NTS



GUIDE RAIL POST ASSEMBLY DETAIL

NTS



PLAN VIEW – TYPICAL WALE SPLICE

NTS

NOTES

1. ALL RUNS OF GUIDE RAIL ARE TO BE ANCHORED AT BOTH ENDS.
2. THE POST SPACING FOR REDUCED DEFLECTION SHALL BE AS FOLLOWS:

DEFLECTION CLEARANCE	POST SPACING
2'-0" MIN. 4'-0" MAX.	3'-1½"

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Designed By	GR	Date Submitted	AUGUST 2016
Drawn By	PR & GR	Date Created	08-23-16
Approved By	PKB	Scale	AS SHOWN

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SUFFOLK COUNTY ECONOMIC DEVELOPMENT
H. LEE DENNISON BLDG.
100 VETERANS HWY. 2ND FL.
HAUPPAUGE, NY 11788

Project:
TRACTION BOULEVARD
BOX CULVERT INSTALLATION

Project Address:
TRACTION BOULEVARD
PATCHOGUE, NEW YORK
SUFFOLK COUNTY

County Tax Map Number:
Contract Number:
Regulatory Reference Number:

Title of Drawing:
DETAILS II

Drawing Number:
C-400

Sheet 6 of 10

PWGC Project Number:
EDP-1501

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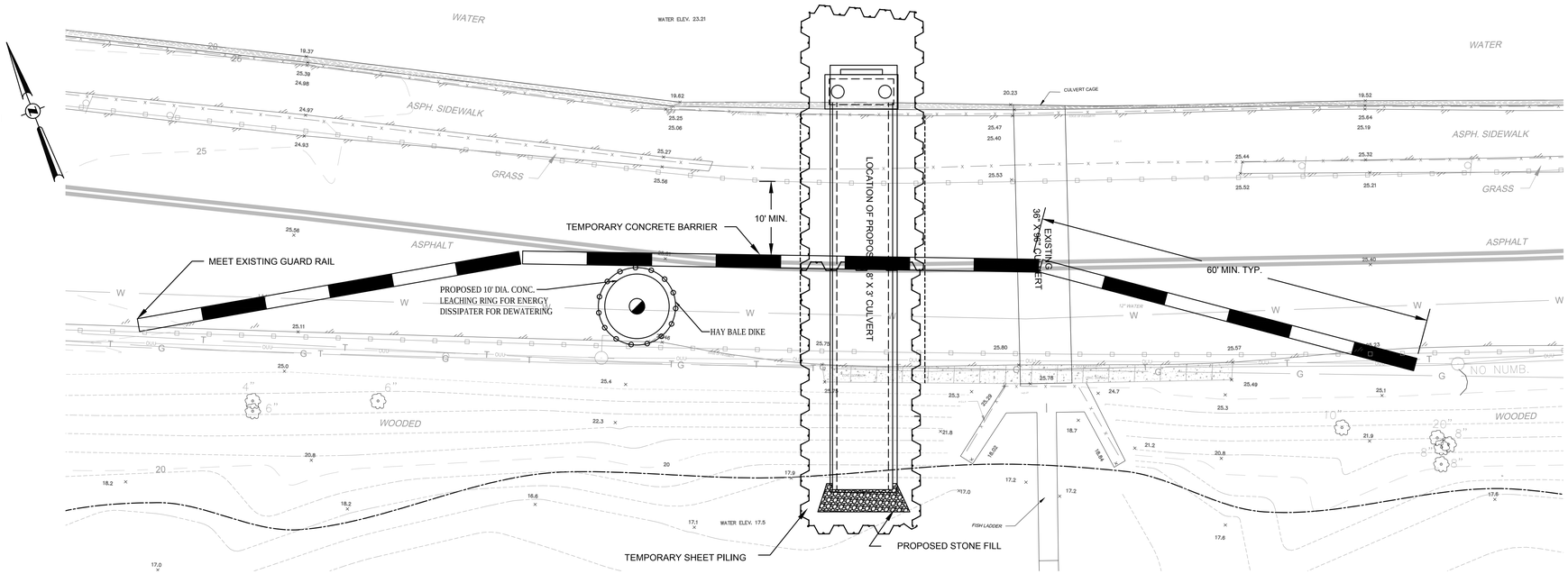
NOTES

1. CONCRETE BARRIER SHALL CONFORM TO NYS STANDARD DETAILS.
2. ALL BARRIER SECTIONS, FOR TAPERS, SHALL BE PINNED. SEE MPT DETAILS.
3. THE ROADWAY SHALL BE MAINTAINED IN A PASSABLE CONDITION AT ALL TIMES FOR EMERGENCY VEHICLES.
4. TEMPORARY PAVEMENT SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE NYS SUPPLEMENT. COST SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 76SX, MAINTENANCE AND PROTECTION OF TRAFFIC.
5. THE CONTRACTOR IS PLACED ON NOTICE THAT THE MAINTENANCE AND PROTECTION OF TRAFFIC OVER THE HIGHWAY DURING CONSTRUCTION IS CONSIDERED AS IMPORTANT AND NECESSARY AN ITEM OF WORK AS IS THE ACTUAL CONSTRUCTION ITSELF. THE CONTRACTOR SHALL AT ALL TIMES CONDUCT HIS OPERATION IN A MANNER TO INSURE THE SAFETY OF NOT ONLY THE MOTORIST BUT ALSO THE PEDESTRIAN AND HIS OWN EMPLOYEES.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF TRAFFIC (MPT). MPT SCHEMES SHALL BE IN ACCORDANCE WITH THE PLANS, THE NATIONAL MANUAL ON UNIFORMED TRAFFIC CONTROL DEVICES (MUTCD), AND THE NEW YORK STATE SUPPLEMENT AS APPROVED OR DIRECTED BY THE ENGINEER. MPT SCHEMES SHOWN ON THE PLANS OR IN THE NATIONAL MUTCD AND NYS SUPPLEMENT ARE TO BE CONSIDERED MINIMUM REQUIREMENTS. THE ENGINEER MAY ORDER ADDITIONAL MPT DEVICES SUCH AS SIGNS, CONES, DRUMS, FLAGGERS, REFLECTORIZATION, SHADOW VEHICLES. FLASHING AND STEADY BURN LIGHTS. TEMPORARY CONCRETE BARRIER. LIGHTS FOR NIGHT TIME OPERATIONS, ETC., IF HE DEEMS IT NECESSARY AT NO ADDITIONAL COST TO THE COUNTY. PAYMENT FOR ALL SUCH WORK SHALL BE INCLUDED IN ITEM 76SX.
7. DURING NON-WORKING HOURS, ALL CONSTRUCTION EQUIPMENT AND MATERIALS SHALL BE STORED OFF OF ALL PAVEMENTS IN THE AREA WHERE THEY ARE NOT DEEMED A HAZARD TO EMERGENCY VEHICLE TRAFFIC. STORED CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT EMERGENCY VEHICLE TRAFFIC OR ACCESS.
8. WHEN BARRELS OR OTHER TRAFFIC CONTROL DEVICES ARE USED IN CONTROLLING THE MOVEMENT OF TRAFFIC THROUGH WORK AREAS, THE CONTRACTOR SHALL TAKE STEPS AS NECESSARY TO PREVENT THE DEVICES FROM BEING BLOWN OVER OR DISPLACED BY PASSING VEHICLES. THE CONTRACTOR SHALL ACCOMPLISH THIS BY DOUBLING CONES, BY THE USE OF SAND BAG RINGS, OR BY OTHER SUCH MEANS AS MAY BE APPROVED BY THE ENGINEER WHICH SHALL PRESENT NO HAZARD TO MOTORISTS OR TO WORKERS IF THE DEVICES ARE STRUCK.
9. THE CONTRACTOR SHALL NOTIFY THE LOCAL POLICE AND FIRE DEPARTMENTS, SCHOOL DISTRICTS, AND VILLAGE AUTHORITIES TWO (2) WEEKS PRIOR TO CONSTRUCTION. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE POLICE AND FIRE DEPARTMENTS 24 HOURS PRIOR TO OPERATIONS WHICH MAY AFFECT THE FREE FLOW OF EMERGENCY VEHICLES TO AND THROUGH THE CONSTRUCTION AREA.
10. ALONG THE DETOUR ROUTES THE CONTRACTOR'S RESPONSIBILITY IS LIMITED TO THE PLACEMENT, MAINTENANCE AND REMOVAL OF DETOUR SIGNS AND DEVICES AND A DAILY PATROL TO MAKE SURE THEY ARE IN GOOD CONDITION.
11. ALONG THE CONTRACT LIMITS THE CONTRACTOR IS RESPONSIBLE FOR IMPROVING AND REPAIRING AND MAINTAINING THE PAVEMENT AND FOR THE INSTALLATION, MAINTENANCE, AND REMOVAL OF TRAFFIC CONTROL DEVICES AS SHOWN ON THE PLANS OR A.O.B.E. THE CONTRACTOR SHALL ALSO MAKE PERIODIC PATROLS TO MAKE SURE THAT THE MAINTENANCE & PROTECTION OF TRAFFIC IS IN ACCORDANCE WITH THAT IN THE NATIONAL MUTCD, THE NYS SUPPLEMENT & A.O.B.E.
12. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 6F.02 OF THE NATIONAL MUTCD WHICH REQUIRES THAT WITH THE EXCEPTION OF THE RAILROAD ADVANCE WARNING SIGN, WARNING SIGNS USED IN CONJUNCTION WITH WORK ZONE ACTIVITIES SHOULD HAVE ORANGE BACKGROUNDS WITH BLACK LETTERING.
13. IN ADDITION TO THE SIGNAGE SHOWN ON THE PLANS, THE CONTRACTOR SHALL ERECT W20-1 "ROAD WORK AHEAD" SIGNS IN ADVANCE OF INTERSECTING CROSS STREETS OR ENTERING RAMPS WITHIN THE CONTRACT LIMITS. PAYMENT FOR THESE SIGNS WILL BE MADE UNDER ITEM 76SX – MAINTENANCE AND PROTECTION OF TRAFFIC.
14. THE CONTRACTOR SHALL PLACE W8 – 1 "BUMP" SIGNS, W8 – 2 "DIP" SIGNS AND /OR W8 – 8 "ROUGH ROAD" SIGNS WHERE DIRECTED BY THE ENGINEER.
15. ANY EXISTING REGULATORY AND/OR WARNING SIGNS, WHICH IN THE OPINION OF THE ENGINEER WOULD CAUSE CONFUSION TO MOTORISTS DURING CONSTRUCTION, SHALL BE COVERED WITH AN OPAQUE MATERIAL OR REMOVED AND RESET AT A LATER TIME AS ORDERED BY THE ENGINEER. PAYMENT UNDER ITEM 76SX.
16. PROVISIONS FOR SNOW AND ICE REMOVAL OPERATIONS: IN ORDER TO ALLOW FOR SNOW AND ICE CONTROL BY LOCAL MUNICIPALITIES ON LOCAL ROADS. THE CONTRACTOR SHALL SCHEDULE HIS WORK IN ACCORDANCE WITH THE FOLLOWING :
    A. INTERFERENCE WITH SNOW PLOWING OPERATIONS BY DRUMS, BARRICADES, AND OTHER TRAFFIC CONTROL EQUIPMENT SHALL BE KEPT TO A MINIMUM. ANY DEVICES DISTURBED OR DAMAGED BY SNOW AND ICE CONTROL OPERATIONS SHALL BE REPLACED AND/OR RESET AS NECESSARY AND AS SOON AS POSSIBLE BY THE CONTRACTOR.
    B. DRAINAGE FRAMES, GRATES AND COVERS AND OTHER CASTINGS SHALL NOT ADJUST IN A TRAVEL LINE UNLESS THE FINAL PAVEMENT COURSE IS TO BE PLACED PRIOR TO THE ONSET OF SNOW AND ICE WEATHER. STEEL PLACES, ETC., SHALL NOT PROTRUDE ABOVE THE ADJACENT PAVEMENT. IF ANY OF THESE PROTRUSIONS EXIST IN A NON-TRAVEL LANE PRIOR TO A SNOW AND ICE CONDITION, THEN TEMPORARY ASPHALT RAMPS MUST BE PLACED SO THAT FOR EVERY 1" OF RISE, THERE IS AN 80" RUN OF RAMP.
    C. ALL PAVEMENT CUTS SHALL BE RESTORED TO THE ADJACENT PAVEMENT GRADE TO ELIMINATE RECESSED AREAS WHERE SNOW CANNOT BE PLOWED OR WHERE THE PLOWS MAY SNAG.
17. THE CONTRACTOR SHALL LIMIT THE HOURS OF CONSTRUCTION OPERATIONS WITH THE PROJECT AREA TO REGULAR WORKING HOURS (7 HOURS) BETWEEN 9:00 A.M. TO 3:00 P.M.
18. CONTRACTOR SHALL SUBMIT IN WRITING A MAINTENANCE AND PROTECTION OF TRAFFIC PLAN CONFORMING TO THE GUIDELINES SPECIFIED HEREIN TO ENGINEER FOR APPROVAL PRIOR TO STARTING CONSTRUCTION.



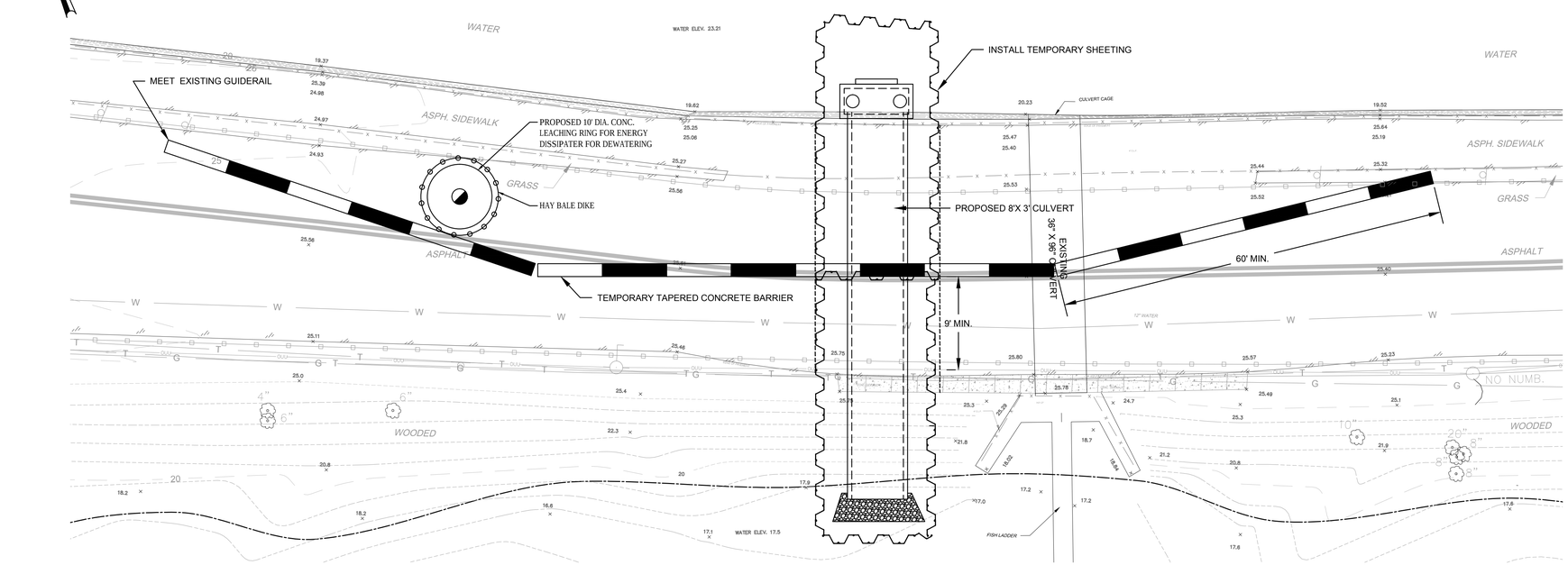
STAGE 1

SCALE : 1' = 10'

0 10 20

SCALE: 1" = 10'

ITEM 76 SX
WORK TO BE PERFORMED IN STAGE 1
REMOVE AND RELOCATE EXISTING SHRUBS IN WORK AREA
INSTALL COFFERDAM AND DEWATERING MEASURES
EXCAVATE AND INSTALL SOUTH END OF CULVERT
RESTORE ROADWAY CONSTRUCT OUTLET EROSION CONTROL
REMOVE COFFERDAM AND TEMPORARY DEWATERING
REMOVE AND REPLANT EXISTING SHURBS



STAGE 2

SCALE : 1' = 10'

0 10 20

SCALE: 1" = 10'

WORK TO BE PERFORMED IN STAGE 2
INSTALL COFFERDAM AND DEWATERING MEASURES
EXCAVATE AND INSTALL NORTH END OF CULVERT, JUNCTION BOX AND SLUICE GATE
RESTORE ROADWAY
REMOVE COFFERDAM AND TEMPORARY DEWATERING

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Title of Drawing:

MAINTENANCE AND PROTECTION TO TRAFFIC PLAN

Drawing Number:

C-500

Sheet: 7 of 10

PWGC Project Number: **EDP-1501**

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PWGC FILE NAME: J:\Projects FILES\EDP-1501 - SC CDP Traction Lane\CADD\SCDCDP1501.DWG - PLAN SET(11x34) MAINTENANCE PLAN

GRAPHIC SCALE

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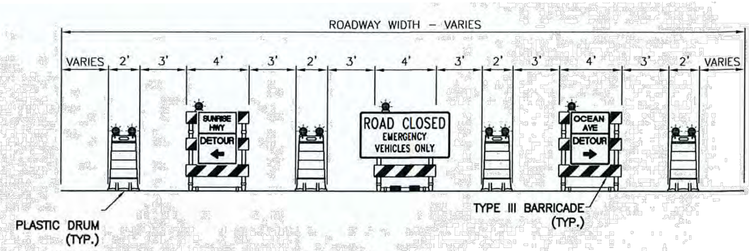
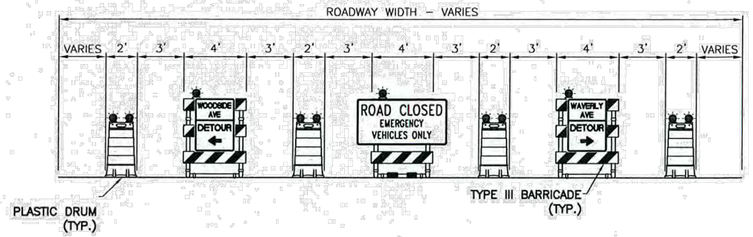
(IN FEET)



FULL ROAD CLOSURE DETAIL 1

N.T.S.



FULL ROAD CLOSURE DETAIL 2

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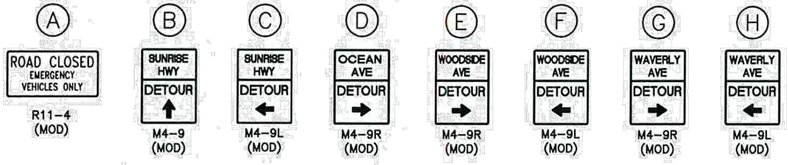

SIGN LEGEND

(N.T.S.)

NOTES:

- DETOUR ROUTES SAME AS PREVIOUS CULVERT INSTALLATION THAT TOOK PLACE IN 2010.

PWGC

Strategic Environmental and Engineering Solutions

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MAINTENANCE AND PROTECTION TO TRAFFIC PLAN

Drawing Number:

C-600

Sheet 8 of 10

PWGC Project Number:

EDP-1501

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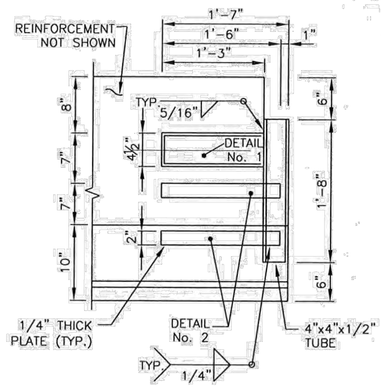
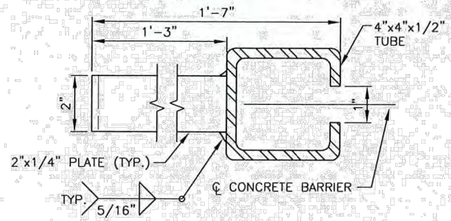
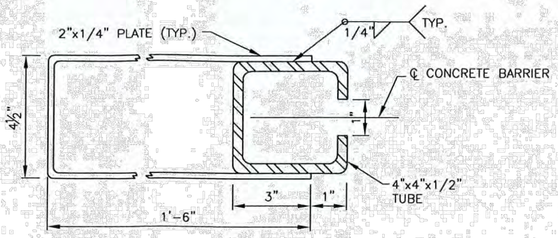


ELEVATION



PLAN VIEW

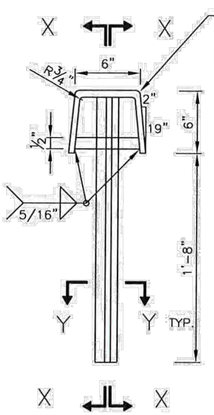
DETAIL NO. 1



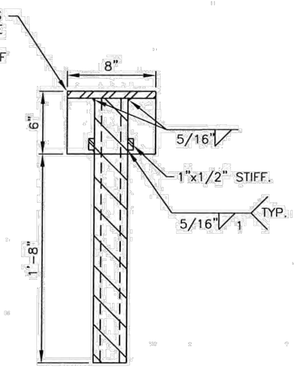
PLAN VIEW

DETAIL NO. 2

JOINT CONNECTION DETAIL

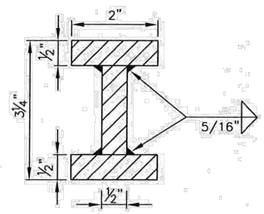


ELEVATION

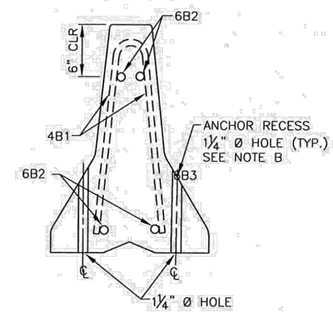


SECTION X–X

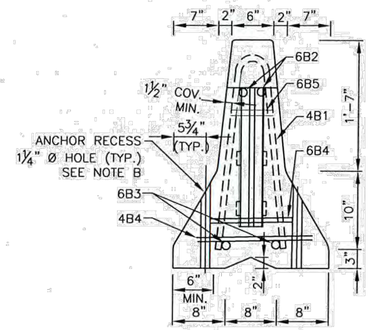
CONNECTION KEY



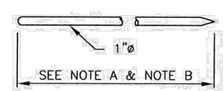
SECTION Y–Y



SECTION A–A



SECTION D–D

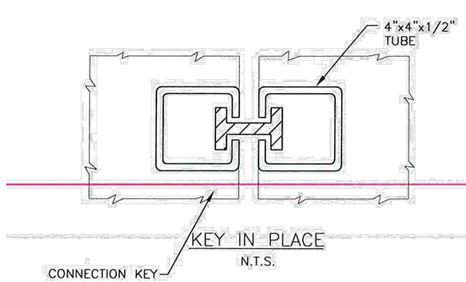


ANCHOR ROD/PIN

NOTE A: THE LENGTH OF THE ANCHOR RODS SHALL BE SUCH THAT THE FOLLOWING MINIMUM EMBEDMENT LENGTHS ARE OBTAINED:

a) INTO FLEXIBLE PAVEMENT 1'-6"

NOTE B: IN UNITS THAT ARE TO BE ANCHORED, PINS SHALL BE REQUIRED IN EVERY ANCHOR RECESS.



KEY IN PLACE

N.T.S.

NOTES:

1. STEEL PLATE SHALL BE ASTM A36M, A572M, GRADE 345 OR A588M.
2. TUBE STEEL SHALL BE ASTM A500, GRADE B OR C.
3. WELDING AND FABRICATION OF STEEL STRUCTURES SHALL BE IN ACCORDANCE WITH SECTIONS 1 THRU 6 OF THE ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE AND SECTION 10 OF THE ANSI/AWS D.1 STRUCTURAL WELDING CODE. SURFACES TO BE WELDED SHALL BE FREE OF SCALE, SLAG, RUST, MOISTURE, GREASE, OR ANY OTHER MATERIAL THAT WILL PREVENT PROPER WELDING OR PRODUCE OBJECTIONAL FUMES. WELDING SHALL BE SHIELDED METAL ARC WELDING USING PROPERLY DRIED 5/32" Ø E7018 ELECTRODES.

PRECAST CONCRETE CONSTRUCTION BARRIER

JOINT CONNECTION DETAILS

NOT TO SCALE

PWGC

Strategic Environmental and Engineering Solutions

P.W. GROSSER CONSULTING ENGINEER AND HYDROGEOLOGIST, P.C.

630 Johnson Avenue. • Suite 7
Bohemia • NY • 11716-2618
Phone: (631) 589-6353 • Fax: (631) 589-8705
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CONSULTANTS

DRAFT

Number	Revision Description	Revision Date
7		
6		
5		
4		
3		
2		
1		

Designed By	GR	Date Submitted	AUGUST 2016
Drawn By	PR & GR	Date Created	08-23-16
Approved By	PKB	Scale	AS SHOWN

Client:
SUFFOLK COUNTY ECONOMIC DEVELOPMENT
H. LEE DENNISON BLDG.
100 VETERANS HWY. 2ND FL.
HAUPPAUGE, NY 11788

Project:
TRACTION BOULEVARD
BOX CULVERT INSTALLATION

Project Address:
TRACTION BOULEVARD
PATCHOGUE, NEW YORK
SUFFOLK COUNTY

County Tax Map Number:

Contract Number:

Regulatory Reference Number:

Title of Drawing:

MAINTENANCE AND PROTECTION TO TRAFFIC PLAN

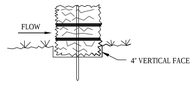
Drawing Number:

C-700

Sheet 9 of 10

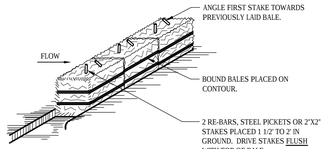
PWGC Project Number: EDP-1501

Unauthorized alteration or addition to this drawing and related documents is a violation of Section 7209 of the New York State Education Law



BEDDING DETAIL
NOT TO SCALE

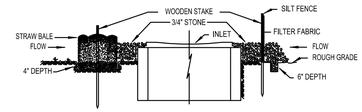
DRAINAGE AREA NO MORE THAN 1/4 ACRE PER 100 FEET OF STRAW BALE DIKE FOR SLOPES LESS THAN 25%.



ANCHORING DETAIL
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULLNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.



INSTALLATION NOTES

SILT FENCE

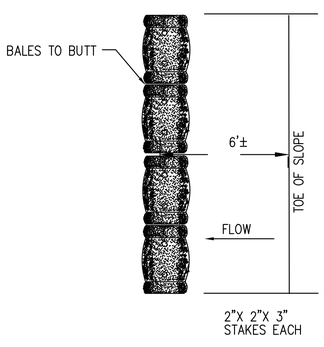
1. EXCAVATE A 6 INCH x 6 INCH TRENCH, OFFSET APPROXIMATELY 2 FEET FROM THE INLET PERIMETER.
2. UNROLL A SECTION AT A TIME AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH (NET SIDE AWAY FROM DIRECTION OF FLOW).
3. DRIVE THE POST INTO THE GROUND UNTIL THE NETTING IS APPROXIMATELY 2 INCHES FROM THE TRENCH BOTTOM.
4. LAY THE TOE-IN FLAP OF FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH, BACKFILL THE TRENCH AND TAMP THE SOIL. STEEPER SLOPES REQUIRE AN INTERCEPT TRENCH. SUPPLEMENT WITH GRAVEL, PILED AGAINST THE FENCE.
5. JOIN SECTIONS AS SHOWN ABOVE.

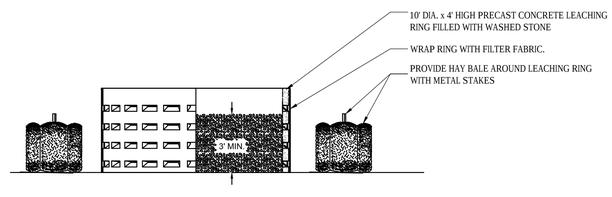
STRAW BALES

1. PLACE BALES OF STRAW WITH ENDS TIGHTLY ABUTTING OTHER BALES TO SURROUND THE INLET. WHERE SLOPE AND SPACE PERMIT, ESTABLISH THE LINE OF BALES 2 TO 10 FEET AWAY FROM THE INLET. ANCHOR BALES IN PLACE BY DRIVING REBARS OR 2" x 2" STAKES THROUGH THE BALES. SUPPLEMENT WITH GRAVEL, PILED AGAINST THE BALES ON INLET SIDE.
2. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
3. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
4. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION SHALL BE MINIMIZED.
5. THE SEDIMENT TRAP SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

INLET PROTECTION

NOT TO SCALE





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DRAFT

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PATCHOGUE, NEW YORK
SUFFOLK COUNTY

County Tax Map Number:
Contract Number:
Regulatory Reference Number:

Title of Drawing:
SEDIMENT AND EROSION CONTROL DETAILS

Drawing Number:
C-800

Sheet 10 of 10

PWGC Project Number:
EDP-1501

Unauthorized alteration or addition to this drawing and related documents is a violation of Section 7209 of the New York State Education Law

PWGC FILE NAME: J:\Projects\EDP\EDP-1501 - SCEDP Cameron Lake\CADD\SCEDP EDP-1501 - PLAN SET 03-04-16.dwg (C-800)

Suffolk County Department of Public Works

Division of Vector Control

Steve Bellone
Suffolk County Executive

Gilbert Anderson, P.E.
Commissioner of Public Works

Thomas Iwanejko
Chief Environmental Analyst

To: Gloria Russo, Suffolk County Council on Environmental Quality

From: Thomas Iwanejko

Date: September 29, 2016

Subject: 2017 Annual Plan of Work

Attached is the annual Suffolk County Vector Control Plan of Work for 2017. The Suffolk County Charter Article VIII, Section C8-4B(2) requires the Division of Vector Control to file this annual work plan for the following year with the County Legislature, with CEQ review of the plan required as part of the SEQRA process. I have also prepared a short form EAF for SEQRA compliance. This Annual Plan is consistent with the Findings of the Vector Control and Wetlands Management Long Term Plan and GEIS as approved by the Legislature in Resolution 285-2007. I have also included a section on Vector's tick control program as required by Resolution 797-2013. There are no planned county-wide tick control activities for 2017 that require additional review under SEQRA. The tick program will continue to research potential methods Vector could utilize for tick control, as there are currently no similar county-wide tick control programs to guide Vector. These documents are available in electronic format for ease of transmission to the Council and Legislature.

Cc: John Corral
Gilbert Anderson

Project ID:

SUFFOLK COUNTY
SHORT ENVIRONMENTAL ASSESSMENT FORM

For UNLISTED ACTIONS Only
6 NYCRR Part 617.20
STATE ENVIRONMENTAL QUALITY REVIEW

Part I-PROJECT INFORMATION (to be completed by Applicant or Project Sponsor)

1. APPLICANT /SPONSOR	2. PROJECT NAME
Suffolk County DPW, Division of Vector Control	**Vector Control 2017 Annual Plan of Work**

3. PROJECT LOCATION
Municipality **Suffolk County** County **Suffolk**

4. PRECISE LOCATION (Street address and road intersections, prominent landmarks, etc., or provide map)
Mosquito larval habitats and residential areas, as determined by surveillance. Maps and other information are on file at the Vector office in Yaphank.

5. IS PROPOSED ACTION:
☐ New ☐ Expansion ☒ Modification /alteration **The project is the annual plan for the County's ongoing mosquito control program, to be conducted pursuant to the Vector Control and Wetlands Management Long Term Plan and GEIS (the Long Term Plan).**

6. DESCRIBE PROJECT BRIEFLY:
The project is an integrated mosquito control program as described in the Long Term Plan.

7. AMOUNT OF LAND AFFECTED:
Initially _____ acres Ultimately _____ acres **Acres treated varies according to results of surveillance.**

8. WILL PROPOSED ACTION COMPLY WITH EXISTING ZONING OR OTHER LAND USE RESTRICTIONS?
☒ Yes ☐ No If No, describe briefly

9. WHAT IS PRESENT LAND US IN VICINITY OF PROJECT?
☐ Residential ☐ Industrial ☐ Commercial ☐ Agriculture ☐ Park/Forest/Open Space ☐ Other
Describe: **Mosquito control takes place in all types of areas.**

10. DOES ACTION INVOLVE A PERMIT APPROVAL, OR FUNDING, NOW OR ULTIMATELY FROM ANY OTHER GOVERNMENTAL AGENCY (FEDERAL, STATE OR LOCAL)?
☒ Yes ☐ No If yes, list agency(s) and permit/approvals **Use of larvicides requires a variety of NYDEC permits, including Article 15 (Aquatic Pesticides), Article 24 (Freshwater Wetlands) and Temporary Revocable Permits of NYDEC lands. Use of adulticides in or adjacent to freshwater wetlands requires an Article 24 permit or Emergency Authorization. Use of pesticides in and near water requires permits under the Clean Water Act. Water management may require NYDEC Article 24 or Article 25 (Tidal Wetlands) permits, and also may require Army Corps of Engineers permits.**

11. DOES ANY ASPECT OF THE ACTION HAVE A CURRENTLY VALID PERMIT OR APPROVAL?
y☐ Yes ☐ No If yes, list agency name and permit/approval **Article 24 permits for pesticide use are valid through 2021. A Notice of Intent has been filed as required under the Clean Water Act. The proposed activities are also being conducted under the approved Long Term Plan/GEIS.**

12. AS A RESULT OF PROPOSED ACTION WILL EXISTING PERMIT/APPROVAL REQUIRE MODIFICATION?
☐ Yes ☒ No

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor Name: **Thomas Iwanejko, Chief Environmental Analyst** Date: **September 29, 2016**

Signature: _____

If the action is in the Coastal Area, and you are a state agency, complete the Coastal Assessment Form before proceeding with this assessment

Continue to Part II

PART II - ENVIRONMENTAL ASSESSMENT (To be completed by Agency)

A. DOES ACTION EXCEED ANY TYPE I THRESHOLD IN 6 NYCRR, PART 617.4? If yes, coordinate the review process and use the FULL EAF.

☒ yes ☐ No Comment: **Coordinated review has already been conducted for the Vector Control and Wetlands Management Long Term Plan, a full EAF and a full GEIS have been prepared and approved for that Plan. This Annual Plan is fully consistent with the March 22, 2007 Findings for the GEIS and as such, no further SEQRA review is required.**

B. WILL ACTION RECEIVE COORDINATED REVIEW AS PROVIDED FOR UNLISTED ACTIONS IN 6 NYCRR, PART 617.6? If No, a negative declaration may be superseded by another involved agency.

☒ yes ☐ No **Coordinated review and GEIS have already been conducted, and this Annual Plan is fully consistent with the March 22, 2007 Findings for the GEIS. As such, no further SEQRA review is necessary.**

C. COULD ACTION RESULT IN ANY ADVERSE EFFECTS ASSOCIATED WITH THE FOLLOWING: (Answers may be handwritten, if legible)

C1. Existing air quality, surface or groundwater quality or quantity, noise levels, existing traffic patterns, solid waste production or disposal, potential or erosion, drainage or flooding problems?
Explain briefly: **no**

C2. Aesthetic, agricultural, archaeological, historic, or other natural or cultural resources; or community or neighborhood character?
Explain briefly: **no**

C3. Vegetation or fauna, fish, shellfish or wildlife species, significant habitats, or threatened or endangered species?
Explain briefly: **no**

C4. A community's existing plans or goals as officially adopted, or a change in use or intensity of use of land or other natural resources?
Explain briefly: **no**

C5. Growth, subsequent development, or related activities likely to be induced by the proposed action?
Explain briefly: **no**

C6. Long term, short term, cumulative, or other effects not identified in C1-C5?
Explain briefly: **no**

C7. Other impacts (including changes in use of either quantity or type of energy)?
Explain briefly: **no**

D. WILL THE PROJECT HAVE AN IMPACT ON THE ENVIRONMENTAL CHARACTERISTICS THAT CAUSED THE ESTABLISHMENT OF A CEA?

☐ yes ☒ No If Yes, explain briefly:

E. IS THERE, OR IS THERE LIKELY TO BE, CONTROVERSY RELATED TO POTENTIAL ADVERSE ENVIRONMENTAL IMPACTS?

☒ yes ☐ No If Yes, explain briefly: **A completed EIS was prepared with extensive public input and review, with approval by the County Legislature after extensive hearings.**

PART III - DETERMINATION OF SIGNIFICANCE (To be completed by Agency)

INSTRUCTIONS: For each adverse effect identified above, determine whether it is substantial, large, important or otherwise significant. Each effect should be assessed in connection with its (a) setting (i.e. urban or rural); (b) probability of occurring; (c) duration; (d) irreversibility; (e) geographic scope; and (f) magnitude. If necessary, add attachments or reference supporting materials. Ensure that explanations contain sufficient detail to show that all relevant adverse impacts have been identified and adequately addressed.

☒ Check this box if you have identified one or more potentially large or significant adverse impacts which **MAY** occur. Then proceed directly to the **FULL EAF** and/or prepare a positive declaration. **A full EAF and GEIS have already been prepared for the Suffolk County Vector Control Program**

☐ Check this box if you have determined, based on the information and analysis above and any supporting documentation, that the proposed action **WILL NOT** result in any significant adverse environmental impacts **AND** provide on attachments as necessary, the reasons supporting this determination:

Suffolk County Department of Public Works, Division of Vector Control
Name of Lead Agency

Thomas Iwanejko
Print or Type Name of Responsible Officer in Lead Agency

Chief Environmental Analyst
Title of Responsible Officer

Signature of Responsible Officer in Lead Agency

Signature of Preparer (If different from responsible officer)

2017 ANNUAL PLAN OF WORK- DIVISION OF VECTOR CONTROL

SUFFOLK COUNTY DEPARTMENT OF PUBLIC WORKS
DIVISION OF VECTOR CONTROL

2017 ANNUAL PLAN OF WORK

The Suffolk County Department of Public Works, Division of Vector Control, is responsible under the County Charter for controlling mosquito infestations that are of public health importance. The Division's responsibility is to control mosquito infestations that significantly threaten public health, or create social or economic problems for the communities in which they occur. The Division meets its responsibilities in consultation with the Suffolk County Department of Health Services (SCDHS) and the appropriate federal, state and local agencies. This Plan of Work has been prepared pursuant to and in compliance with the Vector Control and Wetlands Management Long Term Plan and Generic Environmental Impact Statement (the Long Term Plan). The Long Term Plan was approved by the County Legislature as Resolution 285-2007 on March 20, 2007 and signed by the County Executive on March 22, 2007. The 2017 Annual Plan of Work is therefore governed by State Environmental Quality Review Act (SEQRA) Regulation 617.10(d)(1) which provides the following: "When a final generic EIS has been filed under this part (1) no further SEQR compliance is required if a subsequent proposed action will be carried out in conformance with the conditions and thresholds established for such actions in the generic EIS or its findings statement." This issue is also discussed in the Findings, appended hereto, pages 7 and 58. The 2015 Plan of Work added the use of a new active ingredient, prallethrin, which required a modification of the Long Term Plan. In accordance with the Findings, a SEQR review of prallethrin was conducted in order to allow the use of the new active ingredient. This review was completed with the issuance of a Negative Declaration as CEQ Resolution 34-2014 and the modification of the Long Term Plan approved by the Legislature as Resolution 706-2014. This Annual Plan complies with the reporting requirements in Executive Order 15-2007 (Suffolk County Vector Control Pesticide Management Committee) and Resolution 285-2007 (which adopts the Findings Statement for the Long-Term Plan). The reporting requirements of Resolution 285-2007 are satisfied within this Annual Plan, and the Pesticide Management Committee will submit a report to CEQ independently to satisfy Executive Order 15-2007.

On October 17, 2013, the County approved Resolution 797-2013 requiring this Plan of Work to include a section on the "steps being taken to reduce the incidence of tick-borne diseases in Suffolk County". Accordingly, the 2017 Plan of Work includes a section on current tick surveillance, research and control activities. For 2017, these steps will be limited to planning, information gathering, outreach, technical assistance, and small scale tick control trials and as such will be Type II actions under SEQRA Section 617.5 (c) (20), (21) and (27).

2016 SUMMARY

1. Water Management: Water Management activities will conform to the guidelines outlined in the Long Term Plan and GEIS Finding statement's Wetlands Best Management Practices (BMP's). The Wetlands Stewardship Program finalized the Wetlands Stewardship Strategy in 2015. Maintenance of existing structures (select ditches and culverts) will be conducted as

described in BMP's 2, 3 and 4 in the Findings Statement and Long Term Plan. Water management work beyond those measures specified in BMP's 2, 3, and 4 will have to undergo review under SEQRA, and would be subject to Suffolk County's Council of Environmental Quality (CEQ) review. With the Wetlands Stewardship Strategy finalized, the County is undertaking Integrated Marsh Management (IMM) projects as called for under that Strategy. The County received $1.3M in Sandy funding from the National Fish and Wildlife Foundation Coastal Resiliency grant for IMM work to be done in cooperation with the Towns of Babylon, Islip and Brookhaven and New York State. These projects are in the planing and permiting stage with work to begin in early 2017. The County has also received $560,000 from a Federal Hazard Mitigation Grant Program for IMM work at Smith Point County Park marsh in Shirley for costal resiliency. Planning is underway for that project with construction targeted for 2017-18 completion.

2. Larval Control: Perform approximately 15,000 inspections of larval sites. Treat approximately 20,000 to 30,000 acres with the biorational larvicides: Bacillus thuringiensis israelensis (Bti), Bacillus sphaericus or methoprene depending on weather, coastal tides and virus findings.

3. Adult Control: Conduct adult control when infestations are severe and widespread and/or necessary to respond to the presence of pathogens.

4. Research and Surveillance: Vector Control collects and identifies 10,000-12,000 larval and adult mosquito samples each season, depending on mosquito populations and viral activity. The Department of Health Services Arthropod-Borne Disease Laboratory (ABDL) will collect and process approximately 50,000 mosquitoes for arbovirus surveillance. Vector Control will evaluate the effectiveness of treatments in cooperation with the ABDL. Vector staff perform special studies of new mosquito problem areas, check for pesticide resistance, identifying the sources of unusual infestations or researching introduced vector species, including the Asian Tiger Mosquito.

Technical and Institutional Framework for Vector Control

To achieve this goal, the Division employs an integrated control program. Control measures are employed in a hierarchical manner that emphasizes prevention, and are guided by a surveillance program to ensure that control measures are only directed to address a clear need. Control proceeds from the long-lasting, more "environmentally friendly" measures such as water management and biological control to highly specific larvicides, and uses chemical control such as adulticiding only after other measures prove to be either insufficient or not feasible. This integrated approach is recognized as the most effective and environmentally sound manner in which to conduct a mosquito control program.

Because mosquitoes are of high public health importance, the Division works closely with SCDHS Arthropod Borne Disease Laboratory (ABDL). The ABDL concentrates its efforts on surveillance for mosquito-borne pathogens, primarily the arboviruses West Nile Virus (WNV), Zika and Eastern Equine Encephalitis (EEE). The Division conducts laboratory work that concentrates on estimating populations of mosquito adults and larvae. The Division also

conducts laboratory work related to special projects designed to improve the control program and to evaluate the impacts of wetlands management. The results of this surveillance are used to guide and evaluate the Division's control work. During times of a declared public health emergency, the Division comes under the operational control of SCDHS. However, these declarations are rare and must be issued by the New York State Health Commissioner. The State has determined that such declarations are not normally needed for West Nile Virus, since the virus is now established here and its control is not considered a General Public Health activity. Under most circumstances, the Division takes the lead role on control efforts but works in close consultation with SCDHS when there is active virus activity. Under the County's NY State Freshwater Wetlands permit, the Commissioner of Health Services must determine that application of adulticides is required in response to mosquito-borne pathogens before they can be applied to most freshwater wetlands. SCDHS is also responsible for other activities related to mosquitoes and the public health, such as medical surveillance, sanitation, environmental monitoring, community outreach and public education.

The New York State Department of Health (DOH) provides important support to the program by analyzing mosquito samples for pathogens, providing technical advice and guidelines and determining when a public health threat declaration is required. DOH also provides significant assistance with public education, as well as financial aid for vector surveillance and control. Because mosquito control involves work in environmentally sensitive areas and the use of pesticides, environmental compliance and protection are important components of the program. The Division is heavily regulated and subject to inspection under a series of New York State Department of Environmental Conservation (DEC) permits, as well as regulations pertaining to the use of pesticides and licensing of applicators. Close contact is maintained with DEC, United States Fish and Wildlife Services (USFWS) and other agencies throughout the year to ensure that all work is conducted to a high environmental standard.

2017 PROGRAM COMPONENTS

WATER MANAGEMENT: Field personnel conduct this component from January 1 to April 30, and October 1 to December 31 (varies due to seasonal weather). Water management during the winter months is a functional way to reduce the need for pesticide applications during the summer, by keeping ditches and creeks free of blockages. The Division expects to conduct water management in each of the County's ten towns, as needed. Highest priority is assigned to larval habitats where adult mosquito infestations have the greatest potential for negative impact. In particular, areas that showed unexpectedly high infestations in 2016 will have high priority over the coming winter. Water management activities will be carried out in such a manner so that the primary goal of the work will be to protect the health of the marsh, while also reducing mosquito numbers.

Water management minimizes mosquito production through maintaining or improving systems of tidal channels, ditches, culverts and other structures that drain off surface water and/or allow access to potential larval habitats by predatory fish. In some cases, the current ditch system has become an important component of the wetland as it exists today, and maintenance of the system is necessary to maintain tidal flow, fish habitat, or existing vegetative patterns. Much of this is maintenance work that may not require a permit, but is nonetheless conducted after consultation

with the New York State Department of Environmental Conservation (DEC) to ensure consistency with conservation of the wetland. Sometimes, work to restore a system, even within its original configuration, requires a permit. In such cases, work is performed under permit and in cooperation with the DEC. More extensive work to rehabilitate wetlands in a manner that restores and preserves resource values while also reducing mosquito production is now underway under the umbrella term Integrated Marsh Management (IMM). In accordance with the Long Term Plan, all water management activities will be conducted with appropriate notification to and oversight by the Wetlands Stewardship Committee (WSC) and Council for Environmental Quality (CEQ), as outlined in the Findings Statement of the Suffolk County Legislature that was adopted by Suffolk County Resolution 285-2007.

The Wetlands Stewardship Committee completed its work in establishing standards for wetlands Best Management Practices (BMP's) and a Wetlands Stewardship Strategy was issued by Executive Order 01-2015 on July 13, 2015. With that Strategy in place, 2017 will include more extensive marsh projects using more intensive BMP's described in the Long Term Plan will be undertaken under the framework of IMM in consultation with CEQ, WSC and DEC. These will be projects that restore and enhance the natural resource values of the wetlands while also reducing or eliminating the need for pesticides to control mosquitoes. All work will be planned in partnership with the landowner and NYSDEC, USFWS and other natural resources agencies.

CONTROL OF MOSQUITO LARVAE: All field personnel conduct larval control during the active mosquito season. Most crews conduct ground larviciding, while a heavy equipment crew assists in helicopter larvicide applications. This component is conducted during the active mosquito season of May 1 to September 30 (approximate dates). Larval control is most often employed when water management has not been able to completely prevent mosquito production. It also is used when water management has not been conducted or is not appropriate. Larval control is the Division's second most important control method. Ground crews visit known larval habitats, check for the presence of larvae, obtain larval specimens for identification in the laboratory and apply larvicide if necessary. Field crews also eliminate larval habitats by unclogging pipes, removing containers or otherwise eliminating standing water. While the acreage of these sites is small, their proximity to residential areas makes them important. Ground crews also respond to complaints from the public. Over 90% of the larvicide used by the Division is applied in the major salt marshes and other wetlands, by helicopter. These marshes are surveyed at least weekly, or after flood tides. If larvae are discovered, a contract helicopter applies larvicide. For salt marshes and similar habitats, either liquid Bti (Bacillus thuringiensis israelensis) or liquid Altosid (methoprene), or both ("Duplex") are applied, based on larval stage, temperature, and weather conditions. Larval control is used only if inspection of a site reveals or has the potential for significant larval production.

The larval control products to be used in 2017 and the conditions under which they are used are described as follows:

Altosid Liquid Larvicide concentrate (methoprene, EPA 2724-446) – Aerial application to tidal and freshwater marshes.

Altosid Liquid Larvicide (methoprene, EPA 2724-392) – Ground application to tidal and freshwater marshes, as well as other temporarily flooded areas.

Altosid Pellets (methoprene, EPA 2724-448) – Ground application to intermittently or permanently flooded areas such as freshwater swamps, catch basins, drainage areas and recharge basins, provided that they are not fish habitats.

Altosid XR-G (methoprene, EPA 2724-451) – Ground or aerial application to tidal wetlands; ground application to intermittently flooded freshwater areas; aerial application in freshwater areas in response to Eastern Equine Encephalitis (EEE) or West Nile Virus (WNV) with case-by-case approval by DEC.

Altosid XR Briquets (methoprene, EPA 2724-421) – Catch basins and other drainage or artificial structures that are not fish habitats. XR briquets will be used in May and June, with follow up treatments using Vectolex or Altosid pellets as necessary.

Aquabac 200G (Bti, EPA 62637) – Ground application to intermittently flooded freshwater and tidal areas.

Sphaeratax SPH (50G) (B. sphaericus, EPA 84268-2) - Aerial or ground application to freshwater and tidal areas that hold water for more than 7 days, such as ditches, impounded marshes, swamps, ponds; catch basins in July and August.

Valent BioSciences Vectobac 12 AS (Bti, EPA 73049-38) – Aerial application to tidal and freshwater marshes; ground application to intermittently flooded areas such as tidal and freshwater marshes.

Summit B.t.i. Briquets (Bti, EPA 6218-47) – Catch basins, ground depressions, artificial sites.

Fourstar Briquets 90 (Bti plus B. sphaericus, EPA 83362-3) – Catch basins, ground depressions, artificial sites

Valent VectoPrime (Bti and methoprene EPA 73049-501) Ground and aerial application to tidal and freshwater marshes, as well as other temporarily flooded areas.

Valent VectoBac WDG (Bti EPA 73049-56) Ground and aerial application to tidal and freshwater marshes, as well as other temporarily flooded areas.

The equipment to be used for larval control includes various trucks for crew transportation, samplers such as dippers and mosquito traps, truck-mounted hydraulic sprayers, backpack sprayers and granular blowers, plus specially-equipped helicopters for larvicide applications on areas too large or inaccessible for ground treatment. All pesticide applications will use EPA and DEC-registered materials and be conducted under appropriate DEC permits and in accordance with label directions and other relevant State and Federal law.

The Division has developed technical guidelines for larval surveillance and control that determine where and when larvicides are used and what materials are selected for a particular situation. These guidelines emphasize the use of bacterial products when possible and reserve methoprene for those situations where bacterial products are unlikely to be effective. As per the Findings for the Long Term Plan and Executive order 15-2007, the Pesticide Management Committee has reported on the results of its review of literature on methoprene and potential impacts, as well as on research sponsored by the County. The Committee found no significant new concerns regarding the use of methoprene. The County is committed to implementing a Pesticide Reduction Action Plan, that will seek to further accelerate pesticide reduction. As part of this Pesticide Reduction Action Plan, the County will continue to work with technical experts to further refine protocols related to larval monitoring and larvicide usage, consistent with the Long-Term Plan and GEIS. The County is not aware of any new data, studies or reports which

contravene research, reports and Findings of the Long Term Plan with respect to larval treatment guidelines or thresholds. Therefore, those Findings are still valid, and control this Annual Plan.

In accordance with the Division's priorities and goals, approximately 1,500 of the 2,000 plus major larval habitats known to the Division will be surveyed and controlled as necessary throughout the active season. These known historic mosquito habitats consist primarily of freshwater wetlands and salt marshes, as well as roadside ditches, recharge areas and other non-wetland sites. The remaining major larval habitats and the countless artificial container larval sites will be controlled on a service requested basis, as resources permit. Maps showing major larval habitats requiring control are on file at the Division's office in Yaphank.

CONTROL OF ADULT MOSQUITOES: This control method is conducted generally from June 1 through September 15. It is carried-out on an overtime basis; because the need is so highly variable and it is not efficient to dedicate staff full time to the task. This is a tertiary form of control and the smallest component of the program, although the most noticed. It is carried out only when adult infestations constitute an immediate threat of mosquito-borne disease or there is a severe and widespread infestation of vector species, as determined by surveys and/or numerous public complaints. While the need for adult control can be reduced by the other program components, it is not possible to control all larval sites in Suffolk County for a variety of reasons. Higher than normal rainfall can increase the need for adult control and some sites cannot be expeditiously treated due to independent permitting requirements. In addition, some Federal and State lands are restricted as is the case of extensive larval habitats in the Wilderness portions of Fire Island. New or unexpected larval habitats always seem to occur, despite the best efforts of the program. It is not appropriate to treat for adult mosquitoes in every area where residents express a concern, nor is it appropriate to treat small areas or individual properties for adult mosquitoes. Adult control is conducted only when it is clear, based on complaints, Division surveillance and SCDHS consultation that a substantial portion of a community is infested with vector species or there is a threat of mosquito-borne disease. Then, the entire affected area is treated so as to give relief to the greatest number of residents in an environmentally sound and cost effective manner. The guidelines for adult control in this Plan are consistent with those described in the GEIS Findings Statement.

Adult control can be deemed to be necessary under two separate operational scenarios in the GEIS. One is defined as a "Vector Control" (public health nuisance) application, the other is defined as "Health Emergency" application. Vector Control adulticide applications are made to reduce excessive numbers of human biting mosquitoes that impact public health and quality of life by their biting activities. These high populations also represent potential vectors if a pathogen is present or appears in the area. Health Emergency applications are made when an unacceptably high risk of disease transmisson to humans is detected, based on the ongoing presence of pathogens in mosquitoes. In either case, pesticide use decisions are only made on the basis of scientifically-determined surveillance data.

The need for Health Emergency treatments is determined by the New York State Department of Health West Nile Virus Response Plan and the County's Zika Action Plan, adapted for local conditions by staff experts at Vector and Health Services. Because of the persistent presence of WNV in the County, the County perpetually begins each year in Risk Category 2. The New York

State Department of Health has determined that there is an ongoing threat to the public health from West Nile Virus, and no longer declares health threats on a year-by-year basis for WNV. The determination of when this ongoing threat rises to the level that requires adulticiding is made by the County. As Zika virus becomes entrenched in the US; the CDC, NYS Health and the Suffolk continually reevalute the risk to County residents. Currently, only travel related Zika cases have been repoted in Suffolk, but Health continues to monitor Asian Tiger mosquitoes that have shown competence to carry Zika.

The need for adulticiding in response to WNV varies greatly from year to year. An analysis of Suffolk County's WNV history during the years 2000-2015 indicates that most years, (10 of 16) the number of human cases of WNV is low, 0-4 cases. Under such conditions, the WNV human transmisson risk level is low, even when WNV is found in the County. In these low risk years, determining exactly where and when to adulticide is nearly impossible with limited data. As a result, in low years, adulticiding is usually not warranted due to the difficulty in delinating areas to target. High risk years are caused largely by environmental conditions favorable to virus amplification in birds and mosquitoes, such as a warm spring and a hot dry summer weather. These conditions manifest themselves in late July and early August through higher than normal numbers of positive mosquito samples and infection rates. WNV history also demonstrates that, in years when WNV activity is higher than normal, human cases are more likely to occur in some parts of the County than others. In years with early indicators of high risk, adulticiding targeted to these high risk areas can measurably reduce the risk of human transmission and is therefore warranted. When a high risk year is identified, these WNV applications generally take place in late July and August. Responding to early indications of high risk is important, because adulticiding should occur before peak human transmisson occurs in the first 2-3 weeks of August. Waiting to see if transmission results in actual human cases is not appropriate because by the time cases are detected, transmission has been ongoing for several weeks and it may be to late to prevent further transmission.

As indicators of risk of transmisson to humans accumulate, Vector Control and Health determines when control measures are best suited to the situation and which areas should be targeted for maximum benefit. The Commissioner of the SCDHS makes the final determination of the need for adult control in reponse to pathogens. By limiting the use of adulticides for virus response to only those years and areas where a benefit is likely, the risks associated with adulticiding can be reduced while still providing a high level of public health protection. This strategy is consistent with the goal in the Findings to reduce the use of pesticides by a targeted approach.

To ensure adulticides are used only when there is a clear need and a likely benefit, the criteria for conducting an adulticide treatment will include:

1. Evidence of high numbers of mosquitoes biting residents and visitors (Vector Control):

- Service requests from public - mapped to determine extent of problem.
- Requests from community leaders, elected officials.
- New Jersey trap counts higher than generally found for area in question (at least 25 females of human-biting species per night).
- Centers for Disease Control (CDC) portable light trap counts of 100 or more.

- Confirmatory crew reports from the problem area or adjacent larval habitat, with landing rates of over one biting mosquito per minute over a five minute period.

2. Higher than normal risk of human disease transmission that can be reduced by adulticiding (Health Emergency):

- Indications of a higher than normal year for WNV activity County-wide as determined by such measures as infection rates and/or the number or proportion of positive mosquito samples, especially by late July or early August. In a year with normal or below normal levels of WNV activity, adulticiding is generally not indicated.
- In a high risk year, adulticiding may be warranted when there are indications of higher than normal levels of WNV risk (such as the number of positive mosquito samples, infection rates, vector species populations and history of human transmission) in particular areas. Adulticiding priority will be given to those parts of the County where WNV cases have occurred in multiple years and at high densities compared to the rest of the County.
- Zika response will occur when positive mosquitoes are found in traps or local transmission by mosquitoes is suspected due to aquired cases without travel history.
- Adulticiding will be strongly considered if EEE is detected during July, August or September when human transmission is most likely.
- Adulticiding in reponse to other pathogens (such as dengue, chikungunya, malaria or other emerging pathogens) will be considered on a case-by case basis based on the vector ecology of the pathogen involved.

3. Control is technically and environmentally feasible:

- A target area can be clearly defined based on geographic features and the distribution of vector species and other risk factors.
- Weather conditions are predicted to be suitable for ULV application when mosquitoes are active. Aerial applications in response to WNV are particularly dependent on weather conditions, and near-ideal conditions of low wind combined with high temperatures and humidity are needed for truly effective results.
- The road network is adequate and appropriate when truck applications are considered.
- Legal restrictions on the treatment of wetlands, open water buffers, and no-spray list members in the treatment zone will not create untreated areas that would prevent adequate coverage to ensure treatment efficacy.
- There are no issues regarding listed or special concern species in the treatment area.
- Meeting label restrictions for selected compounds will not compromise expected treatment efficacy.

4. Likely persistence or worsening of problem without intervention:

- Considerations regarding the history of the area, such as the identification of a chronic problem area for biting mosquitoes or a history of virus transmission.
- Seasonal cycles of pathogen activity, such as whether or not the treatment is in time to prevent WNV transmission or whether it is too late and most transmission has already occurred.
- Determination if the problem will spread beyond the currently affected area absent intervention, based on the life history and habits of the species involved.

- Crew reports from adjacent larval habitats suggest adults will soon move into populated areas.
- Life history factors of mosquitoes present – i.e., if a brooded species is involved, determining if the brood is young or is naturally declining.
- Weather factors, in that cool weather generally alleviates immediate problems, but warm weather and/or the onset of peak viral seasons exacerbate concerns.
- Determining, if the decision is delayed, if later conditions will prevent treatment at that time or not. Conversely, adverse weather conditions might remove most people from harm's way.

In essence, criteria 1 and/or 2 are necessary thresholds which should be met, prior to a treatment being considered, while criteria 3 and 4 are countervailing factors that would indicate treatment may not be required. Treatment will not occur unless criteria 1 or 2 are satisfied through a combination of surveillance indicators, although not all surveillance techniques may be feasible in every setting and situation. The County is not aware of any new data, studies or reports which contravene the research, reports and Findings of the Long Term Plan with respect to adulticide treatment guidelines or thresholds. Therefore, those Findings remain valid and guide this Annual Work Plan.

Vector Control applications will normally be made by truck since that technique has been shown to be effective for the most common species involved, although aerial application remains an option for unusually widespread problems or areas with limited road networks. Health Emergency applications will be done by aerial application due to the need to treat large arease and due to the lack of evidence ground application significantly impacts WNV activity in our setting. Necessary public notices will be issued in a timely manner (normally, at least 24 hours pre-application), and appropriate precautions will be made to meet DEC restrictions on applications, and to avoid "No Spray" properties. If necessary to protect sensitive resources, buffer areas will be provided between the sensitive area and the application equipment. A 150-foot buffer from freshwater wetlands will be provided to avoid the need for DEC Article 24 (Freshwater Wetlands) permits unless a permit or other authorization from DEC has been received.

In 2009 and previous years, an Emergency Authorization were requested from DEC if freshwater wetlands were involved to eliminate the need for an Article 24 (Freshwater Wetlands) permit. In 2011, NYSDEC issued an Article 24 permit to allow adulticide applications in freshwater wetlands or adjacent areas if necessary to protect the public health and replace the use of Emergency Authorizations. This permit controls the use of adulticides in and adjacent to freshwater wetlands during the term of that permit, 2011-2020. The permit covers Health Emergency applications throughout the County and will also allow Vector Control applications in and adjacent to some freshwater wetlands in heavily developed areas of southern Brookhaven Town. Appropriate required public notices will be issued, including CodeRed telephone alerts. Pre-application mosquito sampling will be conducted (for efficacy determinations). If an aerial application is required, a helicopter using a GPS guidance technology will be used to optimize the delivery of the pesticide to the targeted zone.

Efficacy measurements will be made following adulticide applications as weather conditions and staff resources allow. The Long-Term Plan also calls for the establishment of resistance testing

for the more commonly used compounds. Continued testing of local mosquitoes against resmethrin (Scourge), sumithrin (Anvil) and Duet (sumithrin and prallethrin) in 2016 revealed no local resistance to these materials in several species of mosquitoes tested. Species recently tested included the Asian Tiger Mosquito (Zika), Culex pipiens (WNV) and salt marsh species (Aedes sollicitans and A. taeniorhynchus).

The Long-Term Plan proposed a general reliance on resmethrin, a synthetic pyrethroid, as the adulticide pesticide. However, the Federal and State registration for resmethrin products is ending and existing stocks are nearly exhausted. Sumithrin, a similar pyrethroid, was proposed by the Long Term Plan to be the primary back-up to resmethrin, and the primary pesticide for hand-held applications. Sumithrin has now become the Division's primary adulticide material. Sumithirn, like resmethrin has been found to be an effective pesticide for mosquito control, can be used for ultra-low volume applications for truck and aerial delivery, undergoes rapid decay in the environment, and, as discussed below, has few identified non-target effects when applied as proposed under the Long-Term Plan. The Division has also begun use of Duet, the Long Term Plan has been modified to include it and its active ingredients, sumithrin and prallethrin. Duet is similar to the Division's primary sumithrin product, Anvil, in that both products contain sumithrin and the synergist piperonyl butoxide (PBO). However, in addition to 5% sumithrin and 5% PBO, Duet also contains 1% prallethrin. This amount of prallethrin is not sufficient to control mosquitoes, but it does induce them to fly, a phenomenon known as "benign agitation". Benign agitation casues mosquitoes that are resting to fly so that they will encounter aerosol droplets and be exposed to a lethal dose of sumithrin. Duet has been shown to be particularly effective against mosquitoes that tend to rest during the optimal time of the day for aerosol treatment, that is, at night. The primary use for Duet will be against the Asian Tiger mosquito (ATM), *Aedes albopictus* and may be used for control of other daytime species including salt marsh mosquitoes. The ATM is an introduced species that inhabits containers and tends to bite during the daytime, making it a significant biting pest that is difficult to control because it is less active at night. The Long-Term Plan also identifies two other pyrethroids, permethrin and natural pyrethrins, as potential adulticide compounds. Neither is preferred; however, as permethrin is a widely available product that is manufactured for many uses that may increase resistence to the material. Natural pyrethrins are identified as a potentially useful compound because its label allows for use over agricultural areas. In addition to the pyrethroids, malathion, an organophosphate pesticide, was identified as a potential adulticide. Malathion would be used under very specialized conditions, such as Zika response if thermal fogging were needed, daylight applications were called for, or if resistance testing indicated pyrethroid applications would be ineffective in meeting the goals of public health protection. All of these pesticides would be applied at the label rate, in the best way of achieving effective mosquito control and to avoid the development of pesticide resistance. The adulticides included in this Annual Plan have been fully evaluated in the GEIS for the Long-Term Plan, and this Annnual Plan is fully consistent with the attached Findings. Vector Control continually reviews available pesticides and alternatives, including emerging materials and application techniques for the most environmentally suitable control methods.

PUBLIC EDUCATION: Mosquito problems resulting from larval habitats around homes and yards, containers, drains and the like, is generally brought to the Division's attention through residents' requests for service. Control of these "domestic" mosquitoes is promoted through

education and appeal to individual property owners. Given the Zika and WNV threat posed by these container mosquitoes, especially the Asian Tiger Mosquito *Aedes albopictus* and the House Mosquito *Culex pipiens*, Vector and SCDHS has taken on a leading role in public education. Sanitarians are utilized to require property owners to clean up potential mosquito larval sites. Public education includes the distribution of pamphlets, telephone contact, site visits, media exposure and presentations to various citizens' groups and associations. In addition, the Division offers assistance to residents in eliminating sources of mosquitoes on their property, and leaves "door hangers" with educational information at properties they visit. Educational materials are also available on the County Web site. The appearance of introduced, container-breeding species *Aedes japonicus* and *Aedes albopictus* and Zika means this component must take on increasing importance, since the public's cooperation will be needed to control these backyard container larval habitats.

PUBLIC NOTIFICATION AND THE "NO-SPRAY" REGISTRY: In 2000, the County passed new laws to improve required public notification for adult mosquito control. As a result, there is now an increased use of the media and extensive outreach to local officials. The Health Services Web site is used to post spray maps. For each adulticide application, over 150 e-mails and faxes are sent to various officials and other interested parties. Newsday and News12 often post spray schedules and maps. It is important to recognize that adulticide applications are very sensitive to the weather, especially aerial pyrethroid applications. The need to inform the public needs to be balanced with the need to conduct operations promptly, within weather windows and before the problem spreads and more acreage needs treatment. It is usually not appropriate to provide more than 24 hours' notice in most cases, because beyond that time, weather forecasts are not very reliable. Attempts to provide more than 24-hour notice often result in aerial spray operations being announced and then cancelled. These cancellations are confusing to the public and difficult to reschedule. Despite these difficulties, the County provides 48-hour notice for aerial adulticide applications whenever possible for non-virus response.

In addition to the previous public notification procedures, the County has implemented a County law, passed in 2010, requiring the use of its "Code Red" automated calling and messaging system to provide more thorough public notice for adulticiding. This system allows automated phone calls to be placed to all telephones in an area designated for treatment. These messages provide basic information about the operation, such as spray hours, and refer the recipient to additional sources of information. The system ensures that nearly everyone in the area knows about the operation. Use of the Code Red system has been very successful and provides a new level of public information for the program.

The Division maintains a "no-spray" registry of residences where adult mosquito control is not desired. During ground applications the application unit is shut off 150 feet prior to passing such a residence and not turned on until 150 feet after. For aerial control, a system has been devised for identifying and avoiding areas with a minimum radius of ¼ mile, more than 65% of the area is residential and where more than 35% of the residences are on the registry. This registry represents an effort to balance the desires of those residents who want control of adult mosquitoes with those who oppose the use of pesticides. At this writing, the "no-spray" registry lists 326 properties, including beekeepers and organic farms. When control is required to deal with a public health emergency, the Commissioner of SCDHS can override the list. Even then

list members are contacted prior to applications in their area through the Code Red system. In addition to this legally required registry, the Division maintains on the listing beekeepers and organic farms who register. Beekeepers' properties are generally avoided and beekeepers are notified via Code Red before treatments so that they can take any additional actions they may deem necessary to protect their hives. In addition, steps are taken to avoid impacts to bees including timing of applications to the evening hours when bees are not foraging. Vector also uses mosquito control materials least likely to impact bees and through adjustment of spray equipment and technique using an ultra-low volume (ULV) droplet size that will impact mosquitoes, but not larger bodied insects, including bees. Certified organic farms are avoided and a buffer zone around the farm is included.

Although not required to do so by law, the County also provides public notification for aerial larviciding. An e-mail notice of the marshes to be treated by helicopter is sent each week to Legislators, local governments and other interested parties. In addition, a list of marshes to be treated is posted each week on the County Web site and the list is sent to the media, including Newsday.

SURVEILLANCE AND RESEARCH: All control operations are based on information obtained from surveillance and research. This a cooperative effort between Vector Control staff in the Department of Public Works and the Arthropod Borne Disease Laboratory in the Department of Health Services. Knowledge of mosquito populations, species composition and arbovirus activity is used to guide and evaluate control measures. Arbovirus surveillance allows the Division, in cooperation with the County and State Health Departments, to gauge the potential for disease transmission and take appropriate action.

A) Mosquito population surveillance: Approximately 12,000 larval and adult mosquito surveys are analyzed each year. These surveys are necessary for locating infestations, directing control efforts and evaluating the effectiveness of those efforts. The mosquito species that breed in various locations are determined from larval samples. Numbers of adult mosquitoes in residential areas are estimated from a network of approximately 29 New Jersey light traps in fixed locations throughout the County. New Jersey traps provide staff with ongoing population trends and are compared with service requests in a community to assist in determining the need for adult mosquito spraying. Some 50,000-100,000 mosquitoes per year from these traps are identified and counted. This work is conducted by DPW staff. In addition, Vector DPW maintains an array of specialized Mosquito Magnet traps to monitor seasonal cycles and long term trends in populations of the introduced exotic, container-breeding species *Aedes japonicus* and *Aedes albopictus* (The Asian Tiger Mosquito).

B) Arbovirus surveillance in mosquitoes: Viral surveillance is conducted primarily by the ABDL and will be directed primarily at the main pathogens, WNV, Zika and EEE. Surveillance will be conducted according to the latest CDC and State DOH guidelines, modified for Suffolk County's unique environment. To monitor virus activity, CDC light traps and gravid traps are placed on a weekly or rotating basis at various locations throughout the County. These sites are chosen based on their history of viral activity or the presence of viral indicators such as the finding of birds with WNV in the area. The ABDL and the Division collect and process approximately 50,000 live, adult mosquitoes annually for viral

analysis. In 2017, the samples will be sorted by species, frozen, and sent to Albany for arbovirus analysis in the State DOH laboratory.

C) Human, avian and other surveillance: SCDHS, State DOH, DEC and CDC monitor other WNV indicators such as unusual bird deaths or the number of dead birds sighted in an area. The presence of WNV-positive birds is an indicator of virus activity in an area, although the usefulness of dead birds as an indicator has declined in recent years as birds adapt to the virus. The County picks up selected dead birds for WNV testing. The County conducts a rapid, field test (the RAMP test). There are also indications that the number of dead bird sightings in an area is a surrogate indicator of risk. There is also SCDHS monitoring of hospitals, blood banks and outreach to physicians to quickly detect human cases of Zika, WNV and other emerging vector borne illnesses.

D) Efficacy monitoring: While the Division has always monitored the effectiveness of the control program in a variety of ways, there has been an increased effort in this area, based on trial work to develop methods conducted in 2007. In particular, trapping of adult mosquitoes before and after adulticide events is conducted using carbon dioxide baited CDC light traps, NJ traps or service request logs. In addition, indicators of virus activity before and after treatment are followed to be sure the desired effect is achieved. While the number of adult mosquitoes in New Jersey traps and other traps is a key indicator of the overall success of the larval control program, additional effort will be directed toward before and after sampling of treated areas to confirm the efficacy of the treatment methods used.

E) Special surveys and field investigations: Vector's Control staff conduct special surveys to determine the source of mosquito problems when these turn up in places where they are not expected. Special surveys of problems that appear early in a season can allow larval crews to prevent further trouble through the summer. Ongoing studies on mosquito production in catch basins are helping to define appropriate control measures for this important habitat for *Culex* mosquitoes that transmit WNV. In addition, we are developing new techniques to improve surveillance and control for the Asian tiger mosquito, *Ae. albopictus* a species which has become a major biting pest in large portions of the County the last four years. Given the somewhat unpredictable ways mosquitoes seem to find to cause problems for residents of and visitors to the County, it is important that the Division retain a flexible ability to investigate issues as they come up.

F) Support for Wetlands Stewardship activities: Vector Control continues to provide support for monitoring and other investigations related to Wetlands Stewardship activities. In particular, Division staff assist in the ongoing monitoring of the Integrated Marsh Management (IMM) projects at Wertheim and Seatuck National Wildlife Refuges. In addition, the Division will assist the Wetlands Stewardship Program in identifying and evaluating prospective sites for future IMM projects, particularly those that will help meet Long Term Plan goals for pesticide use reduction. With the completion of the Wetlands Stewardship Strategy and the availability of grant funding, this component of the program will commence in 2017 with several funded restoration projects. Grant projects include:

i) National Fish and Wildlife Foundation (NFWF) a Sandy restoration grant of $1.3 million to restore south shore marshes for coastal resiliency. Proposed sites include Gardiners County Park, Timber Point & Pepperidge Hall NYSDEC marshes, and Babylon barrier beach marshes. The consultant is currently working up the project plans with County consultation and will be submitting the permit application package for the first sites in the fall of 2016. This grant is funded through Spring of 2018, with Gardiners Park and Timber Point projects to begin in the winter/spring of 2017. A second set of sites will be selected during spring 2017 with work scheduled for fall/winter of 2017-18.

ii) Hazard Mitigation Grant Program (HMGP) for coastal resiliency of Sandy impacted communities. A $564,000 grant for salt marsh restoration work at Smith Point County Park North (Marina). The consultant is working on phase I which includes project plans and completing the permit package. Phase II funding is for the actual restoration work to be completed over the 2017-18 winter.

iii) NYSDOS grant for the restoration a former wetland that was partly filled in by dredge material from Beaverdam Creek in Brookhaven hamlet. The $85,000 grant is to be used for design and permitting work with anticipated completed of all work in April 2017, when the grant expires. The County is working on bringing in a consultant to undertake the design and permit application packages. The Post Morrow Foundation is a project partner on this grant with a section of the restoration site on Post Morrow lands, with the remainder of land held by SC Parks.

iv) Indian Island/Terry Creek marsh restoration project is to partially restore a dredge material filled wetland at the County Park in Riverhead. Project is funded by the NYSDEC for the removal of dredge material and reestablishing a tidal connection to the former wetland. A consultant was chosen in 2016 to begin final design work and project permit applications. It is anticipated that work will commence in late 2017.

Other provisions of the Work Plan notwithstanding, Vector Control may participate in limited research, monitoring, and demonstration projects in cooperation with other levels of government such as the State, Towns or Federal agencies such as the US Fish and Wildlife Service or Army Corps of Engineers. These activities would be subject to separate DEC permitting and SEQRA compliance, and would be subject to CEQ and Wetlands Stewardship Committee review as well.

TICK RESEARCH SURVEILLANCE AND CONTROL:

In 2013, the Division began work under Resolution 797-2013 to determine how the County might be able to reduce the impact of tick-borne diseases. It's important to remember that this subject was covered in the report of the Tick Management Task Force (TMTF) that was submitted to the Legislature in May of 2008 in response to Resolution 1123-2006. In addition, Resolution 132-2014 created the Tick Control Advisory Committee (TCAC) to advise Vector on tick control planning. Large scale effort to reduce the number of ticks on the landscape, such as

those described by the TMTF, would have the potential for adverse impacts on the environment and would need SEQRA review. This means that no large scale control efforts can be undertaken without an environmental review of tick control under SEQRA and potentially an EIS of the plan. The development of a control plan, therefore, is a major effort that has yet to be funded. It is expected that the re-established TCAC under Resolution 1668-2016 will help the County develop a plan of action and identify the resources needed going forward to fully develop a County-wide environmentally sound tick control plan.

In 2017, Vector Control will continue to work on developing a tick control plan with the limited resources available. Studies are restricted to research activities that would not require full environmental review under SEQRA. Vector is working to improve the technical basis for control efforts and provide practical information to the various public and private entities currently undertaking localized tick control programs. These cooperative efforts can help leverage the County's limited resources through partnership efforts.

The 2017 tick control efforts include:

1. In 2015 the County created a new position and hired an Entomologist for tick-related activities. Having this person devoted full time to tick research and control was a major step forward in understanding the tick problem in Suffolk.
2. We will continue to work with the reestablished TCAC in 2017 to explore alternatives that might be available to the County. Most importantly, the TCAC will allow for the continued input and feedback from stakeholders needed to gauge what options might be feasible and acceptable for implementation at each local level. This is a significant task, since each of the available control options have their own unique benefits and drawbacks
3. We have initiated several long-term and seasonal surveillance sites and sampling methods and will continue baseline surveillance of tick populations across Suffolk County. This continued surveillance effort will provide important locally based data such as species composition, abundance, seasonal cycles, and -pathogens present. This information will help design and conduct control efforts by other jurisdictions and private pest control operators.
4. Vector staff will continue submitting tick samples collected during population surveys for pathogen testing by NYSDOH and assist SCDOH with tick sample collections for future County based testing.
5. Additional tick samples will continue to be collected for current collaborations with academic research institutions at Columbia University and The City University of New York. Vector Control will continue to collaborate with USDA- Wildlife Services, DEC, local municipalities, government agencies and others interested in assisting with tick or tick pathogen related sample collections.
6. Vector Control will continue to search the literature on the subject in order to improve the Division's technical expertise in tick control and the environmental effects thereof.
7. We will continue our efforts to reach out to experts for their advice and input and attend related seminars and conferences in the field. These efforts have already proven very helpful in gaining knowledge that may not be published but is highly valuable and allow fostering of mutually beneficial collaborations.

8. Vector staff will continue to provide workshops, technical advice and tick management program design to landowners, government agencies, municipalities and civic groups that are conducting tick control or are considering doing so. These activities will continue to provide further opportunities to learn what techniques local entities are interested in adopting, currently using, or which may be useful to the County and others.
9. In 2016 Vector Control and Cornell Cooperative Extension held three tick management workshops for private pest control operators with funding through a small grant. These workshops allow us to collect information on locally used materials in tick management, discuss application techniques and provide technical assistance to commercial tick control providers within Suffolk County.
10. Vector staff will continue to hold requested presentations at various pest control association meetings, municipalities and civic groups as time and resources allow.
11. Vector Control, in cooperation with Cornell Cooperative Extension, will continue local field trial assessment of tick management materials and area-wide management strategies as opportunities and resources allow.
12. Vector Control and Cornell Cooperative Extension were awarded small grant in 2016 to fund educational workshops and field testing of acaricides. Additional grant applications are planned for 2017.

The prevention of tick-borne diseases in the County is a difficult and complex issue. It is particularly difficult because the biology of these vectors and diseases are significantly linked to deer overpopulation, expansion of range and limited management. In addition, tick control technology suitable for large scale application is not as well developed as mosquito control techniques. A proper plan with concurrent SEQRA compliance would require additional resources to undertake an EIS, beyond those currently available to Vector. However, tick-borne diseases and the adverse impacts ticks have on the ability of County residents to utilize the outdoors, and even their own property, are important issues that need continued investigation.

2017 ANNUAL PLAN OF WORK- DIVISION OF VECTOR CONTROL

Pesticide Use in 2016

The Findings Statement for the Long Term Plan requires Vector Control to provide an annual report of pesticide use to the Legislature. The table below summarizes the use of pesticides by the Division in 2016. The acres treated are compiled by multiplying the total used by the standard dose. In a Duplex treatment, the acres treated with two products simultaneously are only counted once.

Suffolk County Pesticide Acreage Estimates for 2016					
Product	**Active ingredient**	**Amount used**	**Units**	**Air/Ground Application**	**2016 Acreage**
Larvicides					
Altosid Liquid Larvicide (5%)	Methoprene	0	gal	Ground	0
Altosid Liquid Larvicide concentrate (20%)	Methoprene	35	gal	Aerial	
Altosid pellets	Methoprene	308	lbs	Ground	62
Altosid XR-G	Methoprene	1,120	lbs	Ground	224
Valent BioSciences Vectobac 12 AS	Bti	1,892	gal	Aerial	
Summit Bti briquets	Bti	300	ea	Ground	1
Fourstar 90 briquets	Bti/*B. sphaericus*	7,600	ea	Ground	17
Valent VectoPrime FG	Bti/Methoprene	7,800	lbs	Ground	1,950
Aquabac 200G	Bti	3,160	lbs	Ground	316
Altosid XR briquets	Methoprene	24,420	ea	Ground	112
Spheratax 50G	*B. sphaericus*	2,440	lbs	Ground	163
Ground Larvicide Total					**2,844**
Aerial Larvicide:					
Vectobac 12AS	Bti	378	gal	Aerial	3,027
Altosid 20%	Methoprene	34	gal		4,372
Duplex Vectobac 12AS + Altosid 20%	methoprene+Bti tank mix	136.6 ALL 20% 1,514 12AS	gal	Aerial	10,763
Total larvicide					**30,720**
Adulticides					
Scourge 18+54	resmethrin	2	gal	Ground/Air	427
Anvil 10+10 ULV	sumithrin	213	gal	Ground	45,333
Duet	sumithrin+prallethrin	416	gal	Ground	70,997
Adulticide acreage					**116,757**