

ROBERT LAGA
Chairman

ANTHONY DUSOVIC
Vice-Chair

ROSE TROMBETTA
Secretary

DAVID KLOTZLE
Wetland Inspector

TOWN OF CARMEL
ENVIRONMENTAL CONSERVATION BOARD



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

BOARD MEMBERS

Edward Barnett
Marc Pekowsky
Vincent Turano
Nicholas Fannin
John Starace

ENVIRONMENTAL CONSERVATION BOARD AGENDA

MAY 7, 2015 – 7:30 P.M.

ELIGIBLE FOR A PERMIT

| <u>APPLICANT</u> | <u>ADDRESS</u> | <u>TAX MAP #</u> | <u>COMMENTS</u> |
|--------------------------------|-----------------------|-------------------------|------------------------------------------|
| 1. Plewinski, Michael & Sharon | 49 Lakeside Road | 64.19-1-16 | Construct 2 nd Floor Addition |

SUBMISSION OF AN APPLICATION OR LETTER OF PERMISSION

| | | | |
|-----------------|---------------------|------------|-----------------------------------------------------------------|
| 2. Tepper, Alex | 36 Kirk Lake Drive | 64.11-1-17 | Bulkhead & Floating Dock Repair/Replacement |
| 3. NYCDEP | Croton Falls Road | 77.-2-7 | Geotechnical Investigation at Croton Falls Dam (3 Borings) |
| 4. NYCDEP | Route 6 & Belden Rd | 65.-1-12 | Geotechnical Investigation at West Branch Reservoir (3 Borings) |

PLANNING BOARD REFERRAL

| | | | |
|-----------|----------------|----------|-------------------------------------------------------------|
| 5. NYCDEP | Drewville Road | 66.-2-53 | Install a Stormwater Detention System (Wetland Permit) |
| 6. NYCDEP | Drewville Road | 66.-2-53 | Install a Stormwater Detention System (Tree Cutting Permit) |

MISCELLANEOUS

| | | | |
|-----------------------------------------------------|------------------|------------|--------------------------------------|
| 7. Sheppard Estates, Inc. | 17 Pleasant Road | 53.15-1-24 | Construct 1 Family Home (Discussion) |
| 8. Minutes – 01/22/15, 02/05/15, 04/09/15, 04/23/15 | | | |

Bob Strohm Design and Construction, Inc.
451 North Lake Boulevard
Mahopac, New York 10541
845-628-1423

February 11, 2015

Re: Tepper Dock Narrative

NYS Department of Environmental Conservation

Attention: Jean V. McAvoy

Jean,

This letter is in response to your application notice received January 22, 2015 and our phone conversation of February 10, 2015.

- The existing bulkhead is made up of P.T. Rail Road Tie approximately 20 years old extending from the neighbor on the north side. This wall is rotting and in disrepair. The natural grade behind the wall is eroding into the lake. This wall is also approximately 9' east of the western property line on the south side and just inside the property line on the north side. Evidence of a prior stone wall exists just inside and parallel to the western property line. This is where we would like to re-establish the bulkhead.
- Proposed bulkhead will be entirely within Tepper's property lines and approximately in the original stone bulkhead location.
- We propose to execute the work during the Kirk Lake draw down period. Presently the water level is low enough to only exhibit a small water course a few feet wide approximately 80' away.
- All precautions to prevent concrete leachate from entering the water course will be exercised.
- We will provide, install and maintain a silt fence during construction.
- We will complete all construction prior to the end of the Kirk Lake draw down.
- Bulk head construction is not expected to take more than 4 or 5 days.
- Floating docks will be constructed off site.
- Dock delivery and installation is less than 1 day.
- Floating dock square footage is less than 200 square feet.
- Excavation and fill area is less than 540 square feet.

Please see revised drawings and photo included in this correspondence.

Best Regards,

Bob Strohm

ROBERT LAGA
Chairman

ANTHONY DUSOVIC
Vice Chair

ROSE TROMBETTA
Secretary

DAVID KLOTZLE
Wetland Inspector

TOWN OF CARMEL
ENVIRONMENTAL CONSERVATION BOARD



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

BOARD MEMBERS

Edward Barnett
Marc Pekowsky
Vincent Turano
Nicholas Fannin
John Starace

APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

Name of Applicant: Alex Tepper

Address of Applicant: 36 Kirk Lake Drive Email: _____

Telephone# _____ Name and Address of Owner if different from Applicant:

ALEX TEPPER, 36 KIRK LAKE DRIVE

Property Address: KIRK LAKE DRIVE Tax Map # 64.11-1-17

Agency Submitting Application if Applicable: N/A

Location of Wetland: KIRK LAKE

Size of Work Section & Specific Location: 10 LINEAL FEET OF BULKHEAD

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

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

REPLACEMENT OF EXISTING BULKHEAD, ON 10' WIDE ACCESS STRIP ON KIRK LAKE. ROTTEN R.R. TIES REPLACED W/ CONCRETE

Proposed Start Date: FALL Anticipated Completion Date: 1 WEEK Fee Paid \$ 225.00

CERTIFICATION

ALL OTHER DEC APPROVALS HAVE BEEN GRANTED.

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

[Signature]
SIGNATURE

4/28/15
DATE

617.20
Appendix B
Short Environmental Assessment Form

Instructions for Completing

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

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

| | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------|-----------|
| Part 1 - Project and Sponsor Information | | | |
| ALEX TEPPEL - KIRK LAKE BULKHEAD | | | |
| Name of Action or Project: | | | |
| BULK HEAD REPAIR/REPLACEMENT | | | |
| Project Location (describe, and attach a location map): | | | |
| 36 KIRK LAKE DRIVE | | | |
| Brief Description of Proposed Action: | | | |
| REPLACEMENT OF EXISTING RR TIE BULKHEAD LOCATED ON 10' WIDE ACCESS STRIP TO KIRK LAKE. REMOVAL OF EXISTING 3' HIGH, 10' WIDE ROTTEN RR TIE BULKHEAD AND INSTALLATION OF CONCRETE BULKHEAD IN SAME LOCATION. | | | |
| Name of Applicant or Sponsor: | | Telephone: 6 _____ | |
| Bob Stratham Design & Construction Inc. | | E-Mail: _____ | |
| Address: | | | |
| 451 N. LAKE BLVD | | | |
| City/PO: | | State: | Zip Code: |
| MAHOPAC | | N.Y. | 10541 |
| 1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? | | | NO YES |
| If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2. | | | ✓ |
| 2. Does the proposed action require a permit, approval or funding from any other governmental Agency? | | | NO YES |
| If Yes, list agency(s) name and permit or approval: | | | ✓ |
| BUILDING DEPT. TOWN OF CARME L | | | |
| 3.a. Total acreage of the site of the proposed action? | | 1.002 acres 900 SQ.FT. | |
| b. Total acreage to be physically disturbed? | | _____ acres 100 SQ.FT. | |
| c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? | | 900 SQ.FT. acres 10'x10' AREA AFFECTED | |
| 4. Check all land uses that occur on, adjoining and near the proposed action. | | | |
| <input type="checkbox"/> Urban <input type="checkbox"/> Rural (non-agriculture) <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Residential (suburban) | | | |
| <input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Aquatic <input checked="" type="checkbox"/> Other (specify): <u>KIRK LAKE</u> | | | |
| <input type="checkbox"/> Parkland | | | |

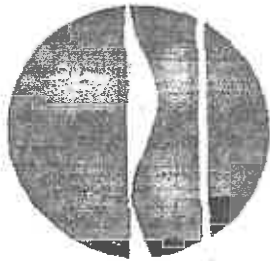
| | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----|-----|
| 5. Is the proposed action, a. A permitted use under the zoning regulations? | NO | YES | N/A |
| | | ✓ | |
| b. Consistent with the adopted comprehensive plan? | | ✓ | |
| | | | |
| 6. Is the proposed action consistent with the predominant character of the existing built or natural landscape? | NO | YES | |
| | | ✓ | |
| 7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: <u>KIRK LAKE</u> | NO | YES | |
| | | ✓ | |
| 8. a. Will the proposed action result in a substantial increase in traffic above present levels? | NO | YES | |
| | | ✓ | |
| | | ✓ | |
| | | ✓ | |
| b. Are public transportation service(s) available at or near the site of the proposed action? | | ✓ | |
| | | ✓ | |
| c. Are any pedestrian accommodations or bicycle routes available on or near site of the proposed action? | | ✓ | |
| | | | |
| 9. Does the proposed action meet or exceed the state energy code requirements? If the proposed action will exceed requirements, describe design features and technologies: <u>N/A</u> | NO | YES | |
| | ✓ | | |
| 10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: <u>N/A</u> | NO | YES | |
| | ✓ | | |
| 11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: <u>N/A</u> | NO | YES | |
| | ✓ | | |
| 12. a. Does the site contain a structure that is listed on either the State or National Register of Historic Places? | NO | YES | |
| | | ✓ | |
| | | ✓ | |
| b. Is the proposed action located in an archeological sensitive area? | | ✓ | |
| | | ✓ | |
| | | | |
| 13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency? | NO | YES | |
| | | ✓ | |
| | | | |
| b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody? If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____ | | ✓ | |
| | | | |
| 14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply: <input checked="" type="checkbox"/> Shoreline <input type="checkbox"/> Forest <input type="checkbox"/> Agricultural/grasslands <input type="checkbox"/> Early mid-successional <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Urban <input type="checkbox"/> Suburban | | | |
| 15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered? | NO | YES | |
| | ✓ | | |
| 16. Is the project site located in the 100 year flood plain? | NO | YES | |
| | | ✓ | |
| 17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes, a. Will storm water discharges flow to adjacent properties? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES | NO | YES | |
| | ✓ | | |
| | | | |
| b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe: _____ | | | |
| | | | |

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----|
| 18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size: _____ | NO | YES |
| 19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe: _____ | NO | YES |
| 20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe: _____ | NO | YES |
| I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE | | |
| Applicant/sponsor name: <u>Bob STROHM DESIGN & CONST. INC</u> Date: <u>4/28/15</u> | | |
| Signature: <u>[Signature]</u> <u>ROBERT W. STROHM</u> | | |

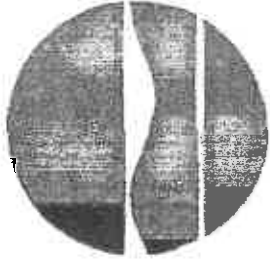
Part 2 - Impact Assessment. The Lead Agency is responsible for the completion of Part 2. Answer all of the following questions in Part 2 using the information contained in Part 1 and other materials submitted by the project sponsor or otherwise available to the reviewer. When answering the questions the reviewer should be guided by the concept "Have my responses been reasonable considering the scale and context of the proposed action?"

| | No, or small impact may occur | Moderate to large impact may occur |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|------------------------------------|
| 1. Will the proposed action create a material conflict with an adopted land use plan or zoning regulations? | | |
| 2. Will the proposed action result in a change in the use or intensity of use of land? | | |
| 3. Will the proposed action impair the character or quality of the existing community? | | |
| 4. Will the proposed action have an impact on the environmental characteristics that caused the establishment of a Critical Environmental Area (CEA)? | | |
| 5. Will the proposed action result in an adverse change in the existing level of traffic or affect existing infrastructure for mass transit, biking or walkway? | | |
| 6. Will the proposed action cause an increase in the use of energy and it fails to incorporate reasonably available energy conservation or renewable energy opportunities? | | |
| 7. Will the proposed action impact existing: a. public / private water supplies? b. public / private wastewater treatment utilities? | | |
| 8. Will the proposed action impair the character or quality of important historic, archaeological, architectural or aesthetic resources? | | |
| 9. Will the proposed action result in an adverse change to natural resources (e.g., wetlands, waterbodies, groundwater, air quality, flora and fauna)? | | |

New York State
Department of Environmental Conservation



NOTICE



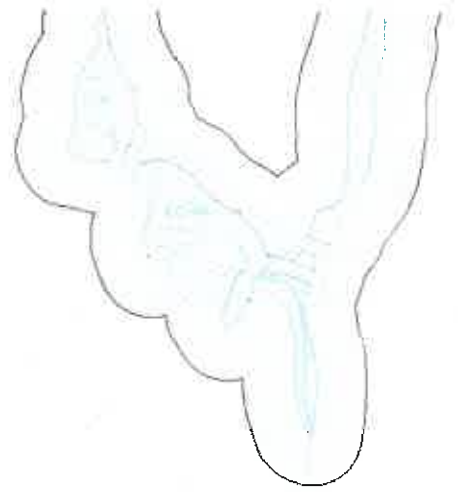
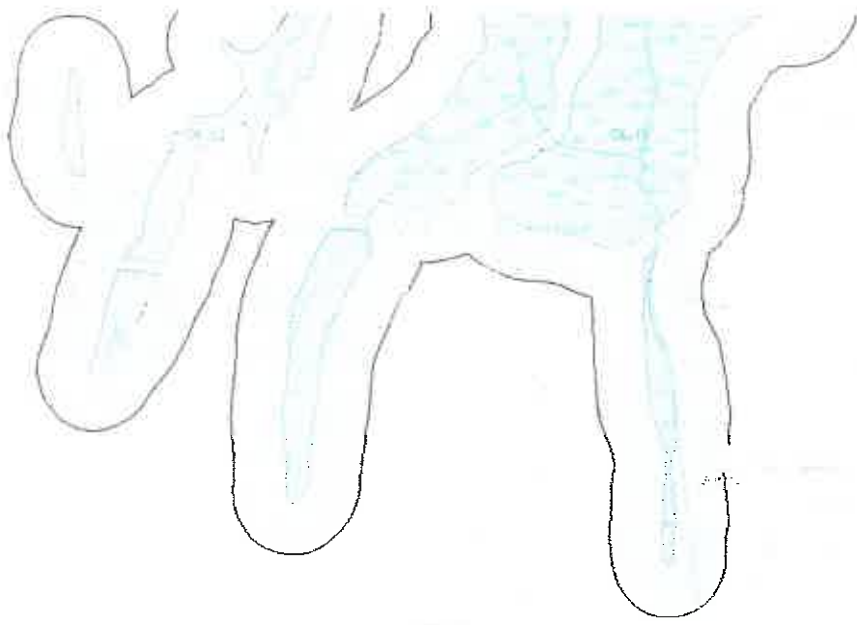
The Department of Environmental Conservation (DEC) has issued permit(s) pursuant to the Environmental Conservation Law for work being conducted at this site. For further information regarding the nature and extent of work approved and any Department conditions on it, contact the DEC at 845/256-3054. Please refer to the permit number shown when contacting the DEC.

Permittee: Alex Tepper Permit No. 3- 3720-00Y37/0000Z

Effective Date: March 29, 2015 Expiration date: December 31, 2016

Applicable if checked. No instream work allowed between October 1 & April 30

NOTE: This notice is **NOT** a permit.



Disclaimer: This map does not show all natural resources regulated by NYS DEC, or for which permits from NYS DEC may be required. Please contact your DEC Regional office for more information.





Emily Lloyd
Commissioner

Paul Costa, P.E.
Portfolio Manager
Bureau of Engineering
Design & Construction
pcosta@dep.nyc.gov

96-05 Horace Harding
Expressway
Corona, NY 11368
T: (718) 595-5470
F: (718) 595-5997

April 13, 2015

Carl Stone: Chairman
Environmental Conservation Board
Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541

RE: New York City Department of Environmental Protection –
Geotechnical Investigation at East of Hudson Dams
Contract No. EE-DSGN 3B-DES-CM
Town of Carmel- Environmental Conservation Board Application for
Wetlands Permit/Letter of Permission, Croton Falls Dam

Dear Mr. Stone

Enclosed please find a Town of Carmel- Environmental Conservation Board Application for Wetlands Permit/Letter of Permission, for the East of Hudson Dams Geological Investigation at Croton Falls Dam. This permit is being submitted to conform with New York State Environmental Conservation Law- Article 24-Local Governmental Agencies local laws pertaining to wetland protection

The New York City Department of Environmental Protection (DEP) is preparing to perform geotechnical investigations at eight of its East of Hudson (EOH) dams/spillways. Two of the EOH dam/spillway locations are located in the Town of Carmel at Croton Falls and West Branch Reservoirs. The Geological investigation work at Croton Falls Reservoir will consist of 3 borings recovering soil and rock samples. Work is anticipated to start Spring of 2015.

The information obtained from these borings will provide data to further characterize the foundation rock masses and determine the future maintenance requirements of the EOH dams. This work is being conducted in accordance with the New York State Department of Environmental Conservation Dam Safety requirements.

This permit package includes

Town of Carmel Application Form

Attachments:

- Croton Falls Reservoir Dam/Spillway Topographic plan with approximate boring locations
- Croton Falls Reservoir Geological Borings Joint Application For Permit (November 2014)
- Status of Joint Application for Permit
- SEQR Short Environmental Assessment Form
- NYCDEP-BEPA CEQR Type II Determination (also included within Joint Application for Permit)

We greatly appreciate an expeditious review and granting of this permit so that Drilling activities can begin. If you have any questions or require additional information please contact Christopher Morris, Project Manager at 914-844-0257.

Sincerely,

A handwritten signature in black ink that reads "Paul Costa". The signature is written in a cursive style with a large initial "P" and a long, sweeping underline.

Paul Costa P.E.

c: C. Morris, DEP
L. Singh, DEP
M. Klein, DEP
W. Friers, CDM Smith

**NEW YORK CITY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
EAST OF HUDSON DAMS - GEOLOGICAL EVALUATIONS**

**TOWN OF CARMEL – ENVIRONMENTAL CONSERVATION BOARD
APPLICATION FOR WETLANDS PERMIT/LETTER OF PERMISSION**

Town of Carmel Application Form

Attachments:

- Project Description, Location Map and Site Photographs
- Croton Falls Reservoir Dam/Spillway Topographic plan with approximate boring locations
- Issued Permits: NYSDEC and US ACOE
- SEQR Short Environmental Assessment Form and NYCDEP-BEPA CEQR Type II Determination

CARL STONE
Chairman

ROBERT LAGA
Vice Chair

ROSE TROMBETTA
Secretary

DAVID KLOTZLE
Wetland Inspector

TOWN OF CARMEL
ENVIRONMENTAL CONSERVATION BOARD



60 McAlpin Avenue
Mahopac, New York 10541
Tel. (845) 628-1500 - Ext. 190
www.carmelny.org

BOARD MEMBERS

Edward Barnett
Anthony Dusovic
Marc Pekowsky
Vincent Turano
Nicholas Fannin

APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

Name of Applicant: NYCDEP - Paul Costa, P.E., Portfolio Manager

96-05 Horace Harding Expressway, 5th Fl
Address of Applicant: Corona, NY 11368 **Email:** pcosta@dep.nyc.gov

Telephone# 718-595-5470 **Name and Address of Owner if different from Applicant:**

NA

Property Address: Croton Falls Reservoir - Croton Falls Road **Tax Map #** 77-2-7

Agency Submitting Application if Applicable: NYC Environmental Protection

Location of Wetland: Croton Falls Reservoir

Size of Work Section & Specific Location: Approximately 4 inch diameter boreholes. See attachment for locations.

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

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

Geological borings at Croton Falls Reservoir Dam (boring CF2 in reservoir; boring CF1 in adjacent area)

Boring locations and excavation/fill volumes can be found in the attached.

Proposed Start Date: April 2015 **Anticipated Completion Date:** July 2015 **Fee Paid** \$225.00

CERTIFICATION

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

Paul Costa
SIGNATURE

4/14/15
DATE

**NEW YORK CITY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
EAST OF HUDSON DAMS - GEOLOGICAL EVALUATIONS**

**TOWN OF CARMEL – ENVIRONMENTAL CONSERVATION BOARD
APPLICATION FOR WETLANDS PERMIT/LETTER OF PERMISSION**

Project Description, Location Map and Site Photographs

**NEW YORK CITY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
EAST OF HUDSON DAMS - GEOLOGICAL EVALUATIONS**

Project Description

The New York City Department of Environmental Protection (DEP) is advancing geotechnical investigations at eight (8) of its East of Hudson dam/spillway locations. The investigations would include up to three geotechnical borings at each dam/spillway location.

This project will provide data to further characterize the foundation rock masses and more fully define foundation material parameters for the Class "C" High Hazard Dams and Spillways in the East of Hudson watershed. The six (6) Class "C" dams that would be evaluated are:

- Boyd's Corner Dam originally constructed in 1873,
- Cross River Dam originally constructed in 1908,
- Croton Falls Dam originally constructed in 1911,
- Kensico Dam originally constructed in 1915,
- New Croton Dam originally constructed in 1906, and
- Sodom (East Branch) Dam originally constructed in 1892,

All six dams have cyclopean masonry cores with stone masonry or concrete masonry facing. The material parameters obtained through the geological evaluation program will be used to determine if these dams meet current stability analyses criteria of the New York State Department of Environmental Conservation (NYSDEC, 6 NYCRR Part 673) and the US Army Corps of Engineers (USACE Engineering Manual EM 1110-2-2200).

In addition, eight (8) spillways would be evaluated against current stability analyses criteria. The spillways that would be evaluated are:

- Boyd's Corner,
- Cross River,
- Croton Falls,
- Kensico,
- New Croton,
- Sodom (East Branch),
- Titicus, and
- West Branch.

Titicus and West Branch spillways were constructed in 1895. Additional evaluation(s) would be performed at the Boyd's Corner and West Branch spillways to assess the effects that potential

cracking on the upstream spillway face and upstream dam face could have on the stability of these structures.

An equal number of borings would be made on the upstream and downstream sides of these structures. All work would adhere to NYSDEC Dam Safety recommendations and requirements.

Table 1 provides the location information and the number of borings for the Croton Falls dam and spillway.

TABLE 1
Dam and/or Spillway Identification Information and Number of Borings

| Name of Dam and/or Spillway | Town/City and County | Number of Borings | USGS Quad (NY) | NYS Dam ID # | National Inventory of Dams ID # |
|------------------------------------|-----------------------------|--------------------------|-----------------------|---------------------|----------------------------------------|
| Croton Falls | Carmel, Putnam | 3 | Croton Falls | 231-0480 | NY00039 |

The spillway boring locations, including boring substrate and approximate depth, latitude and longitude and the approximate distance and direction to the nearest waterbody, i.e., the Croton Falls Reservoir, are summarized in Table 2 and are shown on the Color Aerial Images, Proposed Boring Layout and Proposed Boring Location(s) included with this description.

Table 2 also includes the volume, in cubic feet (ft³), of material that is anticipated to be excavated from each of the in-water geotechnical boring that would be done at this reservoir.

Latitude and longitude and the distance and direction to the reservoir are based on the best information available at this time. Field conditions will determine the exact location(s) of the borings and distance from the reservoir.

**TABLE 2
Proposed Geotechnical Boring Location(s)**

| Name of Dam and/or Spillway | Boring ID | Location | Approximate Boring Depth | | | Volume (ft ³) | Latitude/Longitude | Distance/Direction to Croton Falls Reservoir |
|-----------------------------|----------------------|-------------------------|--------------------------|-----------|-----------|---------------------------|-----------------------------|----------------------------------------------|
| | | | Water (ft) | Soil (ft) | Rock (ft) | | | |
| Croton Falls | CDMS CF ₁ | Spillway; Left Abutment | 0 | 45 | 20 | NA | 41°21'30.39" / 73°39'99.04" | ~65 feet NW |
| | CDMS CF ₂ | Upstream | 96 | 47 | 42 | 7.77 | 41°21'31.71" / 73°40'01.47" | Within Croton Falls Reservoir |
| | CDMS CF ₃ | Downstream | 0 | 60 | 40 | NA | 41°21'31.41" / 73°40'03.70" | ~117 feet NE |

Drilling Equipment and Procedures

Land Borings - Drill Rigs

A track-mounted drill rig will be necessary to access the land boring locations for all eight (8) dams. The two proposed borings at Croton Falls Reservoir dam/spillway are land borings.

Land Borings - Drilling Operations

The land borings will typically be advanced using flush-jointed casing with drive and wash drilling techniques using a 4-inch drag bit. Drilling fluids, if used, will consist of water and commercially available drilling additives to form a highly colloidal gel resulting in slurry-like fluid capable of transporting drill cuttings to the surface and to support the borehole sidewalls. Oil-based drilling fluid additives will not be permitted, and the driller will be required to protect the water surface from any spilling.

The land drilling operations will be conducted in the vicinity of the toe of the dam. Due to the sensitive nature of drilling in the vicinity of the dam, the drilling contractor shall employ procedures to ensure compliance with Occupational Health and Safety Administration (OSHA) requirements for work near water. The drilling subcontractor shall also employ procedures and protocols to protect the waterways including nearby water bodies and the existing structures including the dam and its auxiliary structures. Blasting is not permitted at the work sites.

In Water - Drill Rigs

A barge-mounted drill rig will be necessary to access the in-water boring location at the East Branch Reservoir. One boring at the Croton Falls dam/spillway is proposed for in-water.

Geotechnical in-water borings will be advanced with a drill rig mounted and transported on a barge. The barge will be outfitted to meet all USCG and OSHA requirements. The barge will have a secured anchorage system that is capable of maintaining barge location under typical and/or rough reservoir and weather conditions, and the secured anchorage system shall ensure the barge does not damage the existing dam structure or any auxiliary dam structures. The drill rig, barge and all support watercraft will be operated by a NYS licensed drilling contractor.

In Water - Drilling Operations

The in-water borings will typically be advanced using flush-jointed casing with drive and wash drilling techniques using a 4-inch drag bit. Drilling fluids, if used, will consist of water and commercially available drilling additives to form a highly colloidal gel resulting in slurry-like fluid capable of transporting drill cuttings to the surface and to support the borehole sidewalls. Oil-based drilling fluid additives will not be permitted, and the driller will be required to protect the water surface from any spilling.

Equipment and Materials Used during Construction

A summary of the equipment and materials required to conduct the geotechnical boring events are as follows:

- A drill rig capable of advancing the borehole through the existing soil overburden including soil sampling, and then advancing the borehole in bedrock;
- Surface casing will be a string of new, flush-jointed pipe;
- Cement grout will use Type II Cement at a water-cement ratio of 0.45 in accordance with the NYSDEC Casing and Cementing Practices;
- Rock coring shall be undertaken using wireline diamond drilling triple tube equipment with a split tube inner barrel to obtain a minimum rock core diameter of 2.38 inches (HQ3) or 1.75 inches (NQ3).

The equipment will likely be transported to the proposed boring location via local roadways.

The supplemental geotechnical investigation test borings will be drilled through the overburden by mud rotary methods with water based bentonite mud used as the drilling fluid. The driller shall be responsible for placing all excess drill cuttings and drilling fluids into 55-gallon drums and transportation of the drums to a storage location designated by the Engineer.

For all land borings, boreholes shall be backfilled with cement grout using tremie method, except at the given depth range specified by the Engineer where the vibrating wire piezometer screen interval is to be located. At the vibrating wire piezometer screen interval, the borehole shall be backfilled with cement bentonite grout to a minimum of 10 feet above and 10 feet below the vibrating wire piezometer or as required by the Engineer. The driller shall be responsible for placing all excess drill cuttings and drilling fluids into 55-gallon drums and transportation of the drums to a storage location designated by the Engineer.

The cement bentonite grout shall consist of Type II Portland cement, commercially available bentonite and water mixed at a water-cement-bentonite ratio of 2.5:1:0.3. Water used for grout shall be potable. Backfill cement bentonite grout shall be pumped through a tremie pipe for the range of depths required by the Engineer.

Protective Measures - Waterways and Existing Structures

The drilling contractor will be required to develop procedures to implement soil erosion and sedimentation control measures for all work and laydown areas around the land boring locations to prevent erosion of the work area and any spills to release into the nearby waterways including the tail-race channel, and other water bodies. The driller will be required to include the methods approved by the Engineer to prevent damage to the existing dam and its auxiliary structures by the track-mounted drill rig.

Prior to the start of drilling operations, soil erosion and sedimentation controls will be installed around the work areas to keep the soil/sediment from entering the reservoir or from being tracked onto the road. Erosion control measures such as straw bales or berms around the perimeter of the work area will be employed. All silt and sediment that accumulates behind the

erosion control device will be removed and disposed of off-site in accordance with all applicable Federal, State and local regulations. The driller will inspect the erosion control measures daily and maintain the measures as necessary to ensure their effectiveness throughout the work. Erosion control measures will be removed at the conclusion of the drilling program and the area restored as required.

When sampling sands and loose silts, the driller will be required to keep the casing full of water at all times. If this measure is insufficient to prevent the material from running up into the casing due to soil or groundwater conditions, the driller will be required to use a drilling fluid (bentonite or other drilling fluid additive). Any material employed as a drilling fluid or lubricant, other than potable water, shall be approved by the Engineer prior to its use.

Drill rigs require hydraulic fluids. Hydraulic fluids used in drill rigs and boats (for proposed in-water boring) are required to be non-toxic, biodegradable fluid. Coolant used in drill rigs and boats (for in-water borings) must be propylene glycol rather than ethylene glycol for in-water borings.

Construction Duration

The selected drilling contractor will have one week (seven days), including mobilization and demobilization activities, to complete the geotechnical borings at each reservoir site. At sites where more than one geotechnical boring is required, it is anticipated that the selected drilling contractor would have more than one drill rig in operation at the same time.

Permits and Approvals

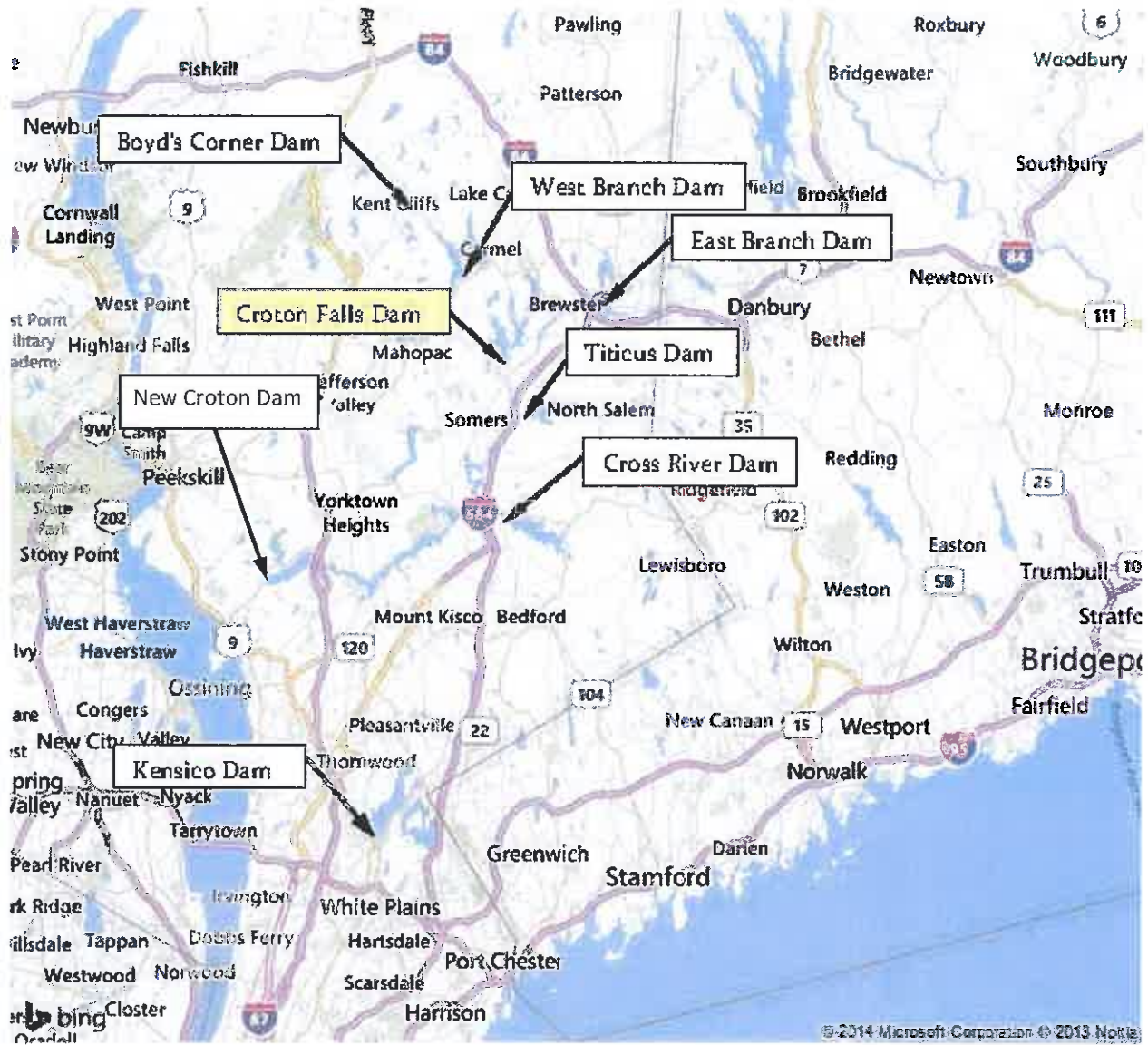
The following permits, approvals and/or consultations have been obtained or completed for the proposed project:

FEDERAL

- United States Army Corps of Engineers (USACE) – Nationwide Permit 6 – Survey Activities (obtained)
- United States Fish and Wildlife Service (FWS) – Informal Consultation (completed)

NEW YORK STATE

- New York State Office of Parks Recreation and Historic Preservation (NYSOPRHP) – Project Review (filed)
- New York State Department of Environmental Conservation (NYSDEC) – Natural Heritage Program Consultation (completed)
- New York State Department of Environmental Conservation (NYSDEC) – Protection of Waters Permit 401 Water Quality Certification (obtained)
- New York State Department of Environmental Conservation (NYSDEC) – Protection of Waters Permit Stream Disturbance (Bed and Banks) (obtained)
- New York State Department of Environmental Conservation (NYSDEC) – Excavation and Fill in Navigable Waters (obtained)



East of Hudson Dams Location Map



**Croton Falls Dam & Spillway Proposed Boring
Layout Plan**



CDMS CF₁ – Proposed Boring Location



CDMS CF₃ – Proposed Boring Location

**NEW YORK CITY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
EAST OF HUDSON DAMS - GEOLOGICAL EVALUATIONS**

**TOWN OF CARMEL – ENVIRONMENTAL CONSERVATION BOARD
APPLICATION FOR WETLANDS PERMIT/LETTER OF PERMISSION**

Topographic Plans with approximate boring locations

**NEW YORK CITY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
EAST OF HUDSON DAMS - GEOLOGICAL EVALUATIONS**

**TOWN OF CARMEL – ENVIRONMENTAL CONSERVATION BOARD
APPLICATION FOR WETLANDS PERMIT/LETTER OF PERMISSION**

Issued Permits: NYSDEC and USACOE



PERMIT

Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:

NYC DEPT OF ENVIRONMENTAL
PROTECTION
96-05 HORACE HARDING EXPWY 5TH FL
CORONA, NY 11368
(718) 595-5050

Facility:

CROTON FALLS RESERVOIR & DAM
HEMLOCK DAM RD|CROTON FALLS RD
CROTON FALLS, NY

Facility Location: In MULTIPLE TOWNS in PUTNAM COUNTY

Facility Principal Reference Point: NYTM-E: 611.647 NYTM-N: 4579.304
Latitude: 41°21'27.0" Longitude: 73°39'54.9"

Authorized Activity: This permit authorizes disturbance to the bed and banks of Croton Falls Reservoir [H-31-P44-23-P59, Class AA(T)] and West Branch Croton River [H-31-P44-23 portion, Class A(TS)], for 3 geotechnical borings.

NOTE: All instream work, or work that may result in the suspension of sediment, is prohibited during the trout spawning and incubation period commencing October 1 and ending April 30.

Permit Authorizations

Excavation & Fill in Navigable Waters - Under Article 15, Title 5

Permit ID 3-3799-00013/00007

New Permit Effective Date: 1/16/2015 Expiration Date: 12/31/2016

Water Quality Certification - Under Section 401 - Clean Water Act

Permit ID 3-3799-00013/00008

New Permit Effective Date: 1/16/2015 Expiration Date: 12/31/2016

Stream Disturbance - Under Article 15, Title 5

Permit ID 3-3799-00013/00009

New Permit Effective Date: 1/16/2015 Expiration Date: 12/31/2016



NYSDEC Approval

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.

Permit Administrator: REBECCA S CRIST, Deputy Regional Permit Administrator
Address: NYSDEC REGION 3 HEADQUARTERS
21 SOUTH PUTT CORNERS RD
NEW PALTZ, NY 12561 -1620

Authorized Signature:

A handwritten signature in black ink, appearing to read "Rebecca S. Crist", written over a horizontal line.

Date 01/16/15

Distribution List

Paul Costa, NYCDEP
Christopher Morris, NYCDEP
Jonathan Russell, NYSDEC Region 3 Bureau of Habitat
Peter Connery, NYSDEC DOW Dam Safety Unit

Permit Components

NATURAL RESOURCE PERMIT CONDITIONS
WATER QUALITY CERTIFICATION SPECIFIC CONDITION
GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS
NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Permit Attachments

Permit Sign



NATURAL RESOURCE PERMIT CONDITIONS - Apply to the Following Permits: EXCAVATION & FILL IN NAVIGABLE WATERS; WATER QUALITY CERTIFICATION; STREAM DISTURBANCE

- 1. Precautions Against Contamination of Waters** All necessary precautions shall be taken to preclude contamination of any wetland or waterway by suspended solids, sediments, fuels, solvents, lubricants, epoxy coatings, paints, concrete, leachate or any other environmentally deleterious materials associated with the project.
- 2. Prohibition Period for Trout** All instream work, as well as any work that may result in the suspension of sediment, is prohibited during the trout spawning and incubation period commencing October 1 and ending April 30.
- 3. Conformance With Plans** All activities authorized by this permit must be in strict conformance with the approved plans submitted by the applicant or applicant's agent as part of the permit application. Such approved plans were prepared by New York City Department of Environmental Protection, entitled "New York City Department of Environmental Protection East of Hudson Dams-Geological Evaluations", Attachments D & E, undated.
- 4. Notice of Intent to Commence Work** The Permittee shall notify the Department 3 to 5 days prior to the commencement of work on the project by emailing Jonathan Russell at jonathan.russell@dec.ny.gov. The email needs to include the permit number, permittee name and the project start date.
- 5. Post Permit Sign** The permit sign enclosed with this permit shall be posted in a conspicuous location on the worksite and adequately protected from the weather.
- 6. No Pollutants in Wetlands or Waterways** During geotechnical boring, no drilling fluid (bentonite), grout, or other pollutants shall be allowed to escape into any wetlands or waters of New York State, nor shall washings from trucks, mixers, or other devices be allowed to enter any wetland or waters.
- 7. Materials Removed from Bed and Banks** Any debris or excess materials from construction of this project shall be immediately and completely removed from the bed and banks of all water areas to an appropriate upland area for disposal.
- 8. No Interference With Navigation** There shall be no unreasonable interference with navigation by the work herein authorized.
- 9. State May Order Removal or Alteration of Work** If future operations by the State of New York require an alteration in the position of the structure or work herein authorized, or if, in the opinion of the Department of Environmental Conservation it shall cause unreasonable obstruction to the free navigation of said waters or flood flows or endanger the health, safety or welfare of the people of the State, or cause loss or destruction of the natural resources of the State, the owner may be ordered by the Department to remove or alter the structural work, obstructions, or hazards caused thereby without expense to the State, and if, upon the expiration or revocation of this permit, the structure, fill, excavation, or other modification of the watercourse hereby authorized shall not be completed, the owners, shall, without expense to the State, and to such extent and in such time and manner as the Department of



Environmental Conservation may require, remove all or any portion of the uncompleted structure or fill and restore to its former condition the navigable and flood capacity of the watercourse. No claim shall be made against the State of New York on account of any such removal or alteration.

10. State May Require Site Restoration If upon the expiration or revocation of this permit, the project hereby authorized has not been completed, the applicant shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may lawfully require, remove all or any portion of the uncompleted structure or fill and restore the site to its former condition. No claim shall be made against the State of New York on account of any such removal or alteration.

11. State Not Liable for Damage The State of New York shall in no case be liable for any damage or injury to the structure or work herein authorized which may be caused by or result from future operations undertaken by the State for the conservation or improvement of navigation, or for other purposes, and no claim or right to compensation shall accrue from any such damage.

WATER QUALITY CERTIFICATION SPECIFIC CONDITIONS

1. Water Quality Certification The NYS Department of Environmental Conservation hereby certifies that the subject project will not contravene effluent limitations or other limitations or standards under Sections 301, 302, 303, 306 and 307 of the Clean Water Act of 1977 (PL 95-217) provided that all of the conditions listed herein are met.

GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. Facility Inspection by The Department The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. Relationship of this Permit to Other Department Orders and Determinations Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.



3. Applications For Permit Renewals, Modifications or Transfers The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Regional Permit Administrator
NYSDEC REGION 3 HEADQUARTERS
21 SOUTH PUTT CORNERS RD
NEW PALTZ, NY12561 -1620

4. Submission of Renewal Application The permittee must submit a renewal application at least 30 days before permit expiration for the following permit authorizations: Excavation & Fill in Navigable Waters, Stream Disturbance, Water Quality Certification.

5. Permit Modifications, Suspensions and Revocations by the Department The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

- a. materially false or inaccurate statements in the permit application or supporting papers;
- b. failure by the permittee to comply with any terms or conditions of the permit;
- c. exceeding the scope of the project as described in the permit application;
- d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
- e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

6. Permit Transfer Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification

The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or



intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit

The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits

The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights

This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

Item E: SEQR Type II Action Under the State Environmental Quality Review Act (SEQR), this project has been determined to be a Type II Action and therefore is not subject to further procedures under this law.



IMPORTANT NOTICE TO ALL PERMITTEES

The permit you requested is enclosed. Please read it carefully and note the conditions that are included in it. The permit is valid for only that activity expressly authorized therein; work beyond the scope of the permit may be considered a violation of law and be subject to appropriate enforcement action. Granting of this permit does not relieve the permittee of the responsibility of obtaining any other permission, consent or approval from any other federal, state, or local government which may be required.

Please note the expiration date of the permit. Applications for permit renewal should be made well in advance of the expiration date (minimum of 30 days) and submitted to the Regional Permit Administrator at the above address. For SPDES, Solid Waste and Hazardous Waste Permits, renewals must be made at least 180 days prior to the expiration date.


Applicable only if checked. Please note all work authorized under this permit is prohibited during trout spawning season commencing October 1 and ending April 30.

The DEC permit number & program ID number noted on page 1 under "Permit Authorization" of the permit are important and should be retained for your records. These numbers should be referenced on all correspondence related to the permit, and on any future applications for permits associated with this facility/project area.

If a permit notice sign is enclosed, you must post it at the work site with appropriate weather protection, as well as a copy of the permit per General Condition 1.

If the permit is associated with a project that will entail construction of new water pollution control facilities or modifications to existing facilities, plan approval for the system design will be required from the appropriate Department's regional Division of Water or delegated local Health Department, as specified in the State Pollutant Discharge Elimination System (SPDES) permit.

If you have any questions on the extent of work authorized or your obligations under the permit, please contact the staff person indicated below or the Division of Environmental Permits at the above address.



Division of Environmental Permits, Region 3
Telephone (845) 256-3165

Applicable only if checked for **STORMWATER SPDES INFORMATION:** We have determined that your project qualifies for coverage under the General Stormwater SPDES Permit. You must now file a Notice of Intent to obtain coverage under the General Permit. This form can be downloaded at: <http://www.dec.ny.gov/chemical/43133.html>

Applicable only if checked - MS4 Areas: This site is within an MS4 area (Municipal Separate Storm Sewer System), therefore the SWPPP must be reviewed and accepted by the municipality. The MS-4 Acceptance Form must be submitted in addition to the Notice of Intent.

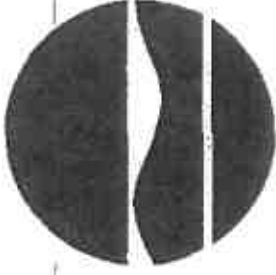
Send the completed form(s) to: NYS DEC, Stormwater Permitting, Division of Water, 625 Broadway, Albany, New York 12233-3505

In addition, DEC requests that you provide one electronic copy of the approved SWPPP directly to NYS DEC, 100 Hillside Avenue - Suite 1W, White Plains, NY 10603-2860.

New York State
Department of Environmental Conservation



NOTICE



The Department of Environmental Conservation (DEC) has issued permit(s) pursuant to the Environmental Conservation Law for work being conducted at this site. For further information regarding the nature and extent of work approved and any Department conditions on it, contact the DEC at 845/256-3054. Please refer to the permit number shown when contacting the DEC.

NYC Dept. of Environ-

Permittee: **mental Protection** Permit No. **3- 3799-00013/00007**

Effective Date: **01/16/2015** Expiration date: **12/31/2016**

A Applicable if checked. No instream work allowed between October 1 & April 30

NOTE: This notice is **NOT** a permit.



DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
26 FEDERAL PLAZA
NEW YORK, NEW YORK 10278-0090

DEC 29 2014

Regulatory Branch

SUBJECT: Permit Application Number NAN-2014-01364-WOM
by New York City Department of Environmental Protection

New York City Department of Environmental Protection
C/o Mr. Gerard Cox
96-05 Horace Harding Expressway
5th Floor Low Rise
Corona, NY 11368

Dear Mr. Cox:

On November 20, 2014 the New York District of the U.S. Army Corps of Engineers received a request for Department of the Army authorization for the discharge of fill material into waters of the United States. The authorization would facilitate proposed geotechnical drilling in the Croton Falls Reservoir for evaluation of the stability of the Croton Falls Dam and Spillway. The proposed project would entail both upland and in-water boreholes. One borehole would be drilled in the Reservoir and two in upland areas in proximity to the dam. An aerial photograph entitled "Croton Falls Dam & Spillway Proposed Boring Layout Plan" in the submittal "New York City Department of Environmental Protection East of Hudson Dams – Geological Evaluations Joint Application for Permit, Attachment E Proposed Boring Layout, Proposed Boring Location(s)", prepared by New York City Department of Environmental Protection, dated November 12, 2014, depicts the locations of the boreholes. The site is located in and around the Croton Falls Reservoir waterway in proximity to the Croton Falls Dam, in the Town of Carmel, Putnam County, New York.

All boreholes drilled for the proposed geotechnical evaluation would be backfilled using the tremie method. The borehole in the Reservoir would be backfilled with a cement-bentonite mixed grout. The upland boreholes would be backfilled using cement grout, with the exception of an interval in each upland borehole for installation of a piezometer, which would be backfilled with cement-bentonite mixed grout.

Based on the information submitted to this office, our review of the project indicates that an individual permit is not required. It appears that the activities within the jurisdiction of this office could be accomplished under Department of the Army Nationwide General Permit Number 6. The nationwide permits are prescribed as a Reissuance of Nationwide Permits in the Federal Register dated February 21, 2012 (77 FR 10184). The work may be performed without further authorization from this office provided the activity complies with the permit conditions listed in Section B, No. 6, Section C, any applicable New York District regional conditions, and any applicable regional conditions added by the State of New York, copies enclosed.

This determination covers only the work described in the submitted material. Any major changes in the project may require additional authorizations from the New York District.

Care should be taken so that construction materials, including debris, do not enter any waterway to become drift or pollution hazards. You are to contact the appropriate state and local government officials to ensure that the subject work is performed in compliance with their requirements.

Please note that this nationwide permit (NWP) verification is based on a preliminary jurisdictional determination (JD). A preliminary JD is not appealable. If you wish, prior to commencement of the authorized work you may request an approved JD, which may be appealed, by contacting the New York District, U.S. Army Corps of Engineers for further instruction. To assist you in this decision and address any questions you may have on the differences between preliminary and approved jurisdictional determinations, please review U.S. Army Corps of Engineers Regulatory Guidance Letter No. 08-02, which can be found at: <http://www.usace.army.mil/Portals/2/docs/civilworks/RGLS/rgl08-02.pdf>

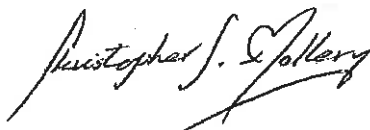
This verification is valid until March 18, 2017, unless the nationwide permit is modified, reissued, or revoked. This verification will remain valid until March 18, 2017, if the activity complies with the terms of any subsequent modifications of the nationwide permit authorization. If the nationwide permits are suspended, revoked, or modified in such a way that the activity would no longer comply with the terms and conditions of a nationwide permit, and the proposed activity has commenced, or is under contract to commence, the permittee shall have 12 months from the date of such action to complete the activity.

Within 30 days of the completion of the activity authorized by this permit and any mitigation required by this permit, you are to sign and submit the attached compliance certification form to this office.

In order for us to better serve you, please complete our Customer Service Survey located at <http://www.nan.usace.army.mil/Missions/Regulatory/CustomerSurvey.aspx>.

If any questions should arise concerning this matter, please contact Melanie O'Meara, of my staff, at (917) 790-8417.

Sincerely,



Christopher S. Mallery, Ph.D.
Deputy Chief, Regulatory Branch

Enclosures

cc: NYSDEC - Region 3

Town of Carmel

Paul Costa, PE, New York City Department of Environmental Protection

**NEW YORK CITY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
EAST OF HUDSON DAMS - GEOLOGICAL EVALUATIONS**

**TOWN OF CARMEL – ENVIRONMENTAL CONSERVATION BOARD
APPLICATION FOR WETLANDS PERMIT/LETTER OF PERMISSION**

SEQR Short Environmental Assessment Form

NYCDEP-BEPA CEQR Type II Determination

Short Environmental Assessment Form

Part 1 - Project Information

Instructions for Completing

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

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

| Part 1 - Project and Sponsor Information | | | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----|-------------------------------------|-------------------------------------|
| NYCDEP East Of Hudson Dams Geological Evaluations | | | | | | | |
| Name of Action or Project: Geological borings landside/water side of EOH dams/spillways (Croton Falls Reservoir) | | | | | | | |
| Project Location (describe, and attach a location map): borings located at dam and spillways | | | | | | | |
| Brief Description of Proposed Action: See attached Project Description. NYSDEC Permits # 3-3799-00013/00007 through 00009 (Croton Falls Reservoir) ACOE # NAN-2014-01364 acknowledging coverage under NWP 6. | | | | | | | |
| Name of Applicant or Sponsor: Paul Costa, P.E. Portfolio Manager - NYCDEP-BEDC | | Telephone: 718-595-5470 E-Mail: pcosta@dep.nyc.gov | | | | | |
| Address: 96-05 Horace Harding Expressway, 5th Floor | | | | | | | |
| City/PO: Corona | | State: NY | Zip Code: 11368 | | | | |
| 1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2. | | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">NO</th> <th style="width: 50%;">YES</th> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table> | NO | YES | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| NO | YES | | | | | | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | | | |
| 2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval: NYSDEC and US ACE for in-water boring | | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">NO</th> <th style="width: 50%;">YES</th> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> | NO | YES | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| NO | YES | | | | | | |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | |
| 3.a. Total acreage of the site of the proposed action? _____ <0.25 acres b. Total acreage to be physically disturbed? _____ <0.25 acres c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? _____ > 2000 acres | | | | | | | |
| 4. Check all land uses that occur on, adjoining and near the proposed action. <input type="checkbox"/> Urban <input type="checkbox"/> Rural (non-agriculture) <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input type="checkbox"/> Residential (suburban) <input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Aquatic <input checked="" type="checkbox"/> Other (specify): <u>reservoir/water supply</u> <input type="checkbox"/> Parkland | | | | | | | |

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|--------------------------------------------|
| <p>18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)?</p> <p>If Yes, explain purpose and size: _____</p> <p>_____</p> | <p>NO</p> <p><input checked="" type="checkbox"/></p> | <p>YES</p> <p><input type="checkbox"/></p> |
| <p>19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility?</p> <p>If Yes, describe: _____</p> <p>_____</p> | <p>NO</p> <p><input checked="" type="checkbox"/></p> | <p>YES</p> <p><input type="checkbox"/></p> |
| <p>20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste?</p> <p>If Yes, describe: _____</p> <p>_____</p> | <p>NO</p> <p><input checked="" type="checkbox"/></p> | <p>YES</p> <p><input type="checkbox"/></p> |
| <p>I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE</p> | | |
| <p>Applicant/sponsor name: Paul Costa, P.E., Portfolio Manager</p> | <p>Date: 4/14/15</p> | |
| <p>Signature: <u>Paul Costa</u></p> | | |

Memorandum

To: Paul Costa, BEDC
From: Mark Page Jr, BEPA *MP*
Date: September 25, 2014
Subject: East of Hudson Dams- Geological Evaluations
CEQR No: 15DEP007U

Emily Lloyd
Commissioner

Angela Licata
Deputy Commissioner
Sustainability
alicata@dep.nyc.gov

59-17 Junction Blvd.
Flushing, New York
1373

Tel. (718) 595-4398
Fax (718) 595-4479

The New York City Department of Environmental Protection (DEP) Bureau of Environmental Planning and Analysis has reviewed the proposed project to advance geotechnical investigations at eight (8) of its East of Hudson dam/spillway locations. The investigations would include up to three geotechnical borings at each dam/spillway location. This project would provide data to further characterize the foundation rock masses and more fully define foundation material parameters for the Class "C" High Hazard Dams and Spillways in the East of Hudson watershed. The material parameters obtained through the geological evaluation program would be used to determine if these dams meet current stability analyses criteria of the New York State Department of Environmental Conservation and the US Army Corps of Engineers.

The number and approximate locations for the proposed borings are shown in Table 1 for each reservoir site. The highlighted locations indicate borings that would be conducted over the water at Cross River, Croton Falls, Kensico and East Branch Reservoirs.

A track-mounted drill rig would be used to access the land boring locations for all eight dams. A barge-mounted drill rig would be used to access the in-water boring location at four of the reservoir locations. The borings would be advanced using flush-jointed casing with drive and wash drilling techniques using a 4-inch drag bit. Drilling fluids, if used, would consist of water and commercially available drilling additives to form a highly colloidal gel resulting in slurry-like fluid capable of transporting drill cuttings to the surface and to support the borehole sidewalls. Oil-based drilling fluid additives would not be permitted. Blasting is not permitted at the work sites.

**TABLE 1
Proposed Geotechnical Boring Location(s)**

| Name of Dam and/or Spillway | Town | County | Boring ID | Location | Approximate Boring Depth | | | Distance to nearest Bald Eagle nest (miles) |
|-----------------------------|-------------|-------------|-------------|--------------------|--------------------------|------------|------------|---------------------------------------------|
| | | | | | Water (ft.) | Soil (ft.) | Rock (ft.) | |
| Boyd's Corner | Kent | Putnam | CDMS B1 | Left Abutment | 0 | 15 | 75 | 2.18 |
| | | | CDMS | Downstream | 0 | 10 | 50 | 2.17 |
| Cross River | Bedford | Westchester | CDMS | Upstream; | 10 | 0 | 20 | 5.39 |
| | | | CDMS | Upstream | 106 | 38 | 36 | 5.45 |
| | | | CDMS | Downstream | 0 | 45 | 37 | 5.44 |
| Croton Falls | Carmel | Putnam | CDMS | Spillway; | 0 | 45 | 20 | 3.72 |
| | | | CDMS | Upstream | 96 | 47 | 42 | 3.26 |
| | | | CDMS | Downstream | 0 | 60 | 40 | 3.28 |
| East Branch | Southeast | Putnam | CDMS | Upstream | 52 | 10 | 33 | 1.44 |
| | | | CDMS | Downstream | 0 | 18 | 33 | 1.42 |
| | | | CDMS | Spillway; | 0 | 20 | 20 | 1.32 |
| Kensico | Kensico | Westchester | CDMS | Spillway; | 0 | 25 | 20 | 11.35 |
| | | | CDMS | Upstream | 145 | 70 | 40 | 11.21 |
| | | | CDMS | Downstream | 0 | 10 | 40 | 11.26 |
| New Croton | Cortlandt | Westchester | CDMS NC1 | Downstream ; Right | 0 | 40 | 115 | 0.47 |
| Titicus | North Salem | Westchester | CDMS | Left | 0 | 92 | 24 | 1.89 |
| | | | CDMS | Downstream | 0 | 7 | 33 | 1.90 |
| West Branch | Carmel | Putnam | CDMS | Right | 0 | 56 | 32 | 1.32 |
| | | | CDMS | Downstream | 0 | 21 | 25 | 1.33 |

The equipment for this work would be transported to the proposed boring location via local roadways. Soil erosion and sedimentation control measures such as straw bales and berms would be employed for all work and laydown areas around the land boring locations to prevent erosion of the work area and any spills to release into the nearby waterways. No stockpiling would be permitted on site, and drill cuttings and fluids would be placed in drums and disposed of offsite. Boats and drill rigs for on water use would use non-toxic, biodegradable hydraulic fluids. Coolant used for drill rigs and boats would be propylene glycol. All boats and equipment used in reservoirs would be steam cleaned prior to use. It is anticipated the boring work would take up to seven days for each reservoir site.

There are no tree clearings performed for this work. Nominal soil disturbance under 0.1 acres is estimated for each site and all disturbed areas would be restored after completion of work. As shown in Table 1, all work sites are outside the protected 330 ft. and 660 ft. buffers around Bald Eagle nest sites. It is not anticipated the proposed geotechnical program would impact Bald Eagles or Bald Eagle habitat.

Based upon the information provided, BEPA has concluded that this action would fall within the scope of a Type II action under 6NYCRR Part 617.5. Specifically, the proposed action described above falls under the following categories: 617.5c(18): "information collection

including basic data collection and research, water quality and pollution studies, traffic counts, engineering studies, surveys, subsurface investigations and soils studies that do not commit the agency to undertake, fund or approve any Type I or Unlisted action;”

If you have any questions or comments, please contact Sangamithra Iyer via email at siyer@dep.nyc.gov or by telephone at (718) 595-3585.

c: Sangamithra Iyer, BEPA



Emily Lloyd
Commissioner

Paul Costa, P.E.
Portfolio Manager
Bureau of Engineering
Design & Construction
pcosta@dep.nyc.gov

96-05 Horace Harding
Expressway
Corona, NY 11368
T: (718) 595-5470
F: (718) 595-5997

April 13, 2015

Carl Stone: Chairman
Environmental Conservation Board
Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541

RF: New York City Department of Environmental Protection –
Geotechnical Investigation at East of Hudson Dams
Contract No. EE-DSGN 3B-DES-CM
Town of Carmel- Environmental Conservation Board Application for
Wetlands Permit/Letter of permission, West Branch Dam

Dear Mr. Stone

Enclosed please find a Town of Carmel- Environmental Conservation Board Application for Wetlands Permit/Letter of Permission, for the East of Hudson Dams Geological Investigation at West Branch. This permit is being submitted to conform with New York State Environmental Conservation Law- Article 24-Local Governmental Agencies local laws pertaining to wetland protection

The New York City Department of Environmental Protection (DEP) is preparing to perform geotechnical investigations at eight of its East of Hudson (EOH) dams/spillways. Two of the EOH dam/spillway locations are located in the Town of Carmel at Croton Falls and West Branch Reservoirs. The Geological investigation work at West Branch Reservoir will consist of 3 borings recovering soil and rock samples. Work is anticipated to start Spring of 2015.

The information obtained from these borings will provide data to further characterize the foundation rock masses and determine the future maintenance requirements of the EOH dams. This work is being conducted in accordance with the New York State Department of Environmental Conservation Dam Safety requirements.

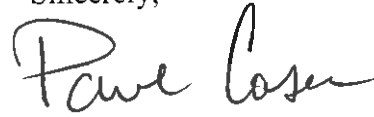
This permit package includes
Town of Carmel Application Form

Attachments:

- West Branch Reservoir Dam/Spillway Topographic plan with approximate boring locations
- West Branch Reservoir Geological Borings Joint Application For Permit (November 2014)
- Status of Joint Application for Permit
- SEQR Short Environmental Assessment Form
- NYCDEP-BEPA CEQR Type II Determination (also included within Joint Application for Permit)

We greatly appreciate an expeditious review and granting of this permit so that Drilling activities can begin. If you have any questions or require additional information please contact Christopher Morris, Project Manager at 914-844-0257.

Sincerely,

A handwritten signature in black ink that reads "Paul Costa". The signature is written in a cursive, flowing style.

Paul Costa P.E.

c: C. Morris, DEP
L. Singh, DEP
M. Klein, DEP
W. Friers, CDM Smith

**NEW YORK CITY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
EAST OF HUDSON DAMS - GEOLOGICAL EVALUATIONS**

**TOWN OF CARMEL – ENVIRONMENTAL CONSERVATION BOARD
APPLICATION FOR WETLANDS PERMIT/LETTER OF PERMISSION**

Town of Carmel Application Form

Attachments:

- Project Description, Location Map and Site Photographs
- West Branch Reservoir Dam/Spillway Topographic plan with approximate boring locations
- Issued Permits: NYSDEC
- SEQR Short Environmental Assessment Form and NYCDEP-BEPA CEQR Type II Determination

CARL STONE
Chairman

ROBERT LAGA
Vice Chair

ROSE TROMBETTA
Secretary

DAVID KLOTZLE
Wetland Inspector

TOWN OF CARMEL
ENVIRONMENTAL CONSERVATION BOARD



60 McAlpin Avenue
Mahopac, New York 10541
Tel. (845) 628-1500 - Ext. 190
www.carmelny.org

BOARD MEMBERS

Edward Barnett
Anthony Dusovic
Marc Pekowsky
Vincent Turano
Nicholas Fannin

APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

Name of Applicant: NYCDEP - Paul Costa, P.E., Portfolio Manager

96-05 Horace Harding Expressway, 5th Fl

Address of Applicant: Corona, NY 11368 **Email:** pcosta@dep.nyc.gov

Telephone# 718-595-5470 **Name and Address of Owner if different from Applicant:**

NA

Property Address: West Branch Reservoir Rte 6 Belden & Drewville Rds **Tax Map #** 65-1-12

Agency Submitting Application if Applicable: NYC Environmental Protection

Location of Wetland: West Branch Reservoir

Size of Work Section & Specific Location: Approximately 4 inch diameter boreholes. See attachment for locations.

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

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

Geological boring West Branch (boring W1 in adjacent area). 1 adjacent area). Excavated volume is 7.7 cubic ft.

Boring location can be found on the attached plan.

Proposed Start Date: April 2015 **Anticipated Completion Date:** July 2015 **Fee Paid** \$205.00

CERTIFICATION

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

SIGNATURE

4/14/15
DATE

**NEW YORK CITY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
EAST OF HUDSON DAMS - GEOLOGICAL EVALUATIONS**

**TOWN OF CARMEL – ENVIRONMENTAL CONSERVATION BOARD
APPLICATION FOR WETLANDS PERMIT/LETTER OF PERMISSION**

Project Description, Location Map and Site Photographs

**NEW YORK CITY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
EAST OF HUDSON DAMS - GEOLOGICAL EVALUATIONS**

Project Description

The New York City Department of Environmental Protection (DEP) is advancing geotechnical investigations at eight (8) of its East of Hudson dam/spillway locations. The investigations would include up to three geotechnical borings at each dam/spillway location.

This project will provide data to further characterize the foundation rock masses and more fully define foundation material parameters for the Class "C" High Hazard Dams and Spillways in the East of Hudson watershed. The six (6) Class "C" dams that would be evaluated are:

- Boyd's Corner Dam originally constructed in 1873,
- Cross River Dam originally constructed in 1908,
- Croton Falls Dam originally constructed in 1911,
- Kensico Dam originally constructed in 1915,
- New Croton Dam originally constructed in 1906, and
- Sodom (East Branch) Dam originally constructed in 1892,

All six dams have cyclopean masonry cores with stone masonry or concrete masonry facing. The material parameters obtained through the geological evaluation program will be used to determine if these dams meet current stability analyses criteria of the New York State Department of Environmental Conservation (NYSDEC, 6 NYCRR Part 673) and the US Army Corps of Engineers (USACE Engineering Manual EM 1110-2-2200).

In addition, eight (8) spillways would be evaluated against current stability analyses criteria. The spillways that would be evaluated are:

- Boyd's Corner,
- Cross River,
- Croton Falls,
- Kensico,
- New Croton,
- Sodom (East Branch),
- Titicus, and
- West Branch.

Titicus and West Branch spillways were constructed in 1895. Additional evaluation(s) would be performed at the Boyd's Corner and West Branch spillways to assess the effects that potential

cracking on the upstream spillway face and upstream dam face could have on the stability of these structures.

An equal number of borings would be made on the upstream and downstream sides of these structures. All work would adhere to NYSDEC Dam Safety recommendations and requirements.

Table 1 provides the location information and the number of borings for the West Branch spillway.

**TABLE 1
Dam and/or Spillway Identification Information and Number of Borings**

| Name of Dam and/or Spillway | Town/City and County | Number of Borings | USGS Quad (NY) | NYS Dam ID # | National Inventory of Dams ID # |
|------------------------------------|-----------------------------|--------------------------|-----------------------|---------------------|----------------------------------------|
| West Branch | Carmel, Putnam | 2 | Lake Carmel | 231-0511A | NY00029 |

The spillway boring locations, including boring substrate and approximate depth, latitude and longitude and the approximate distance and direction to the nearest waterbody, i.e., the West Branch Reservoir, are summarized in Table 2 and are shown in the Color Aerial images, Proposed Boring Layout and Proposed Boring Location that follow the text.

Latitude and longitude and the distance and direction to the reservoir are based on the best information available at this time. Field conditions will determine the exact location(s) of the borings and distance from the reservoir.

TABLE 2
Proposed Geotechnical Boring Location(s)

| Name of Dam and/or Spillway | Boring ID | Location | Approximate Boring Depth | | | Latitude/Longitude | Distance/Direction to West Branch Reservoir |
|-----------------------------|---------------------|-------------------|--------------------------|-----------|-----------|---------------------------------|---------------------------------------------|
| | | | Water (ft) | Soil (ft) | Rock (ft) | | |
| West Branch | CDMS W ₁ | Right Abutment | 0 | 56 | 32 | 41° 24' 42.17" / 73° 41' 45.14" | ~24 feet W |
| | CDMS W ₂ | Downstream; Right | 0 | 21 | 25 | 41° 24' 42.70" / 73° 41' 43.05" | ~130 feet W |

Drilling Equipment and Procedures

Land Borings - Drill Rigs

A track-mounted drill rig will be necessary to access the land boring locations for all eight (8) dams. The two proposed borings at West Branch Reservoir dam/spillway are both land borings.

Land Borings - Drilling Operations

The land borings will typically be advanced using flush-jointed casing with drive and wash drilling techniques using a 4-inch drag bit. Drilling fluids, if used, will consist of water and commercially available drilling additives to form a highly colloidal gel resulting in slurry-like fluid capable of transporting drill cuttings to the surface and to support the borehole sidewalls. Oil-based drilling fluid additives will not be permitted, and the driller will be required to protect the water surface from any spilling.

The land drilling operations will be conducted in the vicinity of the toe of the dam. Due to the sensitive nature of drilling in the vicinity of the dam, the drilling contractor shall employ procedures to ensure compliance with Occupational Health and Safety Administration (OSHA) requirements for work near water. The drilling subcontractor shall also employ procedures and protocols to protect the waterways including nearby water bodies and the existing structures including the dam and its auxiliary structures. Blasting is not permitted at the work sites.

Equipment and Materials Used during Construction

A summary of the equipment and materials required to conduct the geotechnical boring events are as follows:

- A drill rig capable of advancing the borehole through the existing soil overburden including soil sampling, and then advancing the borehole in bedrock;
- Surface casing will be a string of new, flush-jointed pipe;
- Cement grout will use Type II Cement at a water-cement ratio of 0.45 in accordance with the NYSDEC Casing and Cementing Practices;
- Rock coring shall be undertaken using wireline diamond drilling triple tube equipment with a split tube inner barrel to obtain a minimum rock core diameter of 2.38 inches (HQ3) or 1.75 inches (NQ3).

The equipment will likely be transported to the proposed boring location via local roadways.

The supplemental geotechnical investigation test borings will be drilled through the overburden by mud rotary methods with water based bentonite mud used as the drilling fluid. The driller shall be responsible for placing all excess drill cuttings and drilling fluids into 55-gallon drums and transportation of the drums to a storage location designated by the Engineer.

For all land borings, boreholes shall be backfilled with cement grout using tremie method, except at the given depth range specified by the Engineer where the vibrating wire piezometer screen interval is to be located. At the vibrating wire piezometer screen interval, the borehole shall be backfilled with cement bentonite grout to a minimum of 10 feet above and 10 feet below the

vibrating wire piezometer or as required by the Engineer. The driller shall be responsible for placing all excess drill cuttings and drilling fluids into 55-gallon drums and transportation of the drums to a storage location designated by the Engineer.

The cement bentonite grout shall consist of Type II Portland cement, commercially available bentonite and water mixed at a water-cement-bentonite ratio of 2.5:1:0.3. Water used for grout shall be potable. Backfill cement bentonite grout shall be pumped through a tremie pipe for the range of depths required by the Engineer.

Protective Measures - Waterways and Existing Structures

The drilling contractor will be required to develop procedures to implement soil erosion and sedimentation control measures for all work and laydown areas around the land boring locations to prevent erosion of the work area and any spills to release into the nearby waterways including the tail-race channel, and other water bodies. The driller will be required to include the methods approved by the Engineer to prevent damage to the existing dam and its auxiliary structures by the track-mounted drill rig.

Prior to the start of drilling operations, soil erosion and sedimentation controls will be installed around the work areas to keep the soil/sediment from entering the reservoir or from being tracked onto the road. Erosion control measures such as straw bales or berms around the perimeter of the work area will be employed. All silt and sediment that accumulates behind the erosion control device will be removed and disposed of off-site in accordance with all applicable Federal, State and local regulations. The driller will inspect the erosion control measures daily and maintain the measures as necessary to ensure their effectiveness throughout the work. Erosion control measures will be removed at the conclusion of the drilling program and the area restored as required.

When sampling sands and loose silts, the driller will be required to keep the casing full of water at all times. If this measure is insufficient to prevent the material from running up into the casing due to soil or groundwater conditions, the driller will be required to use a drilling fluid (bentonite or other drilling fluid additive). Any material employed as a drilling fluid or lubricant, other than potable water, shall be approved by the Engineer prior to its use.

Drill rigs require hydraulic fluids. Hydraulic fluids used in drill rigs and boats (where in-water borings are proposed) are required to be non-toxic, biodegradable fluid. Coolant used in drill rigs and boats (for in-water borings) must be propylene glycol rather than ethylene glycol for in-water borings.

Construction Duration

The selected drilling contractor will have one week (seven days), including mobilization and demobilization activities, to complete the geotechnical borings at each reservoir site. At sites where more than one geotechnical boring is required, it is anticipated that the selected drilling contractor would have more than one drill rig in operation at the same time.

Permits and Approvals

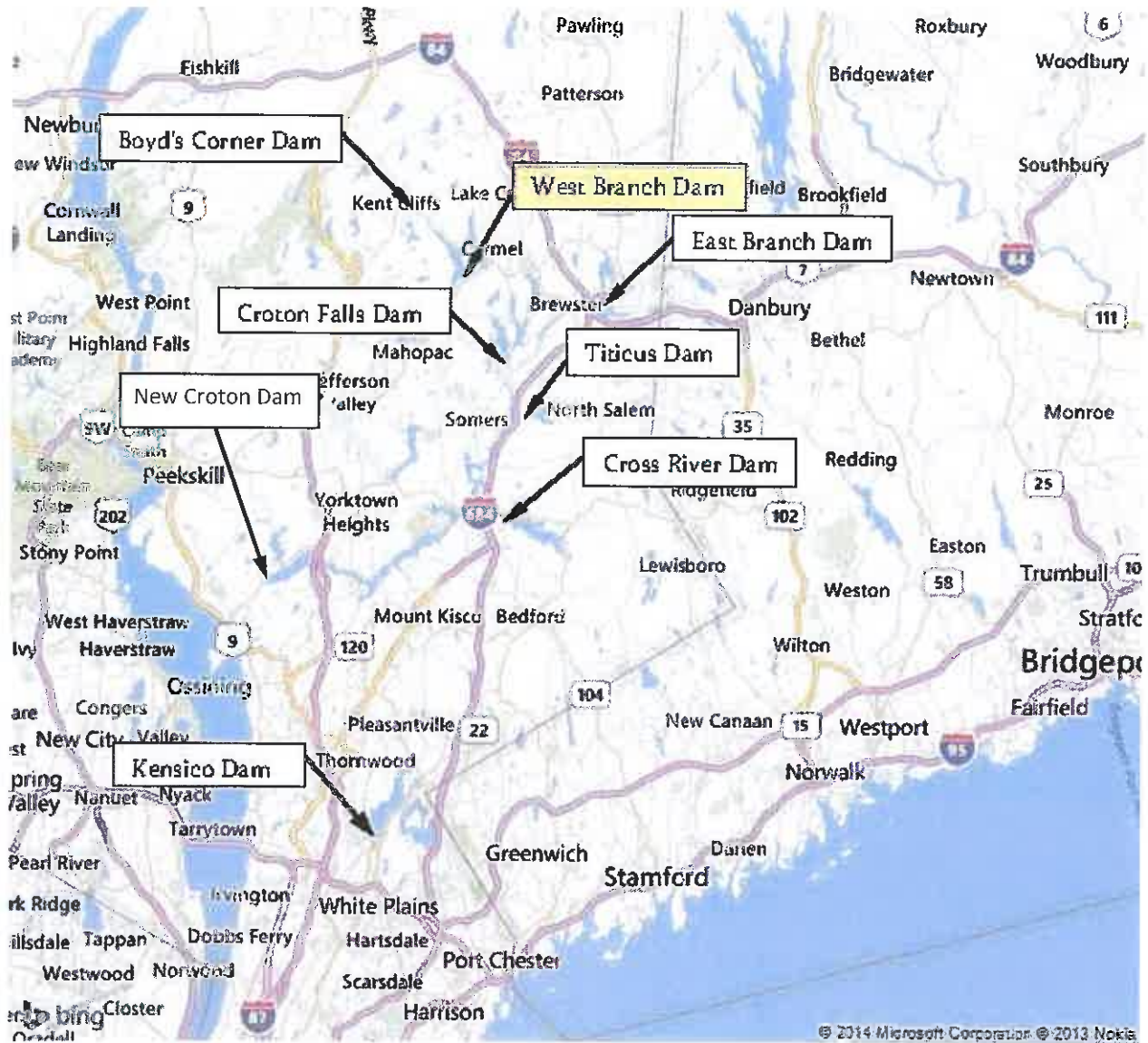
The following permits, approvals and/or consultations have been obtained or completed for the proposed project:

FEDERAL

- None required

NEW YORK STATE

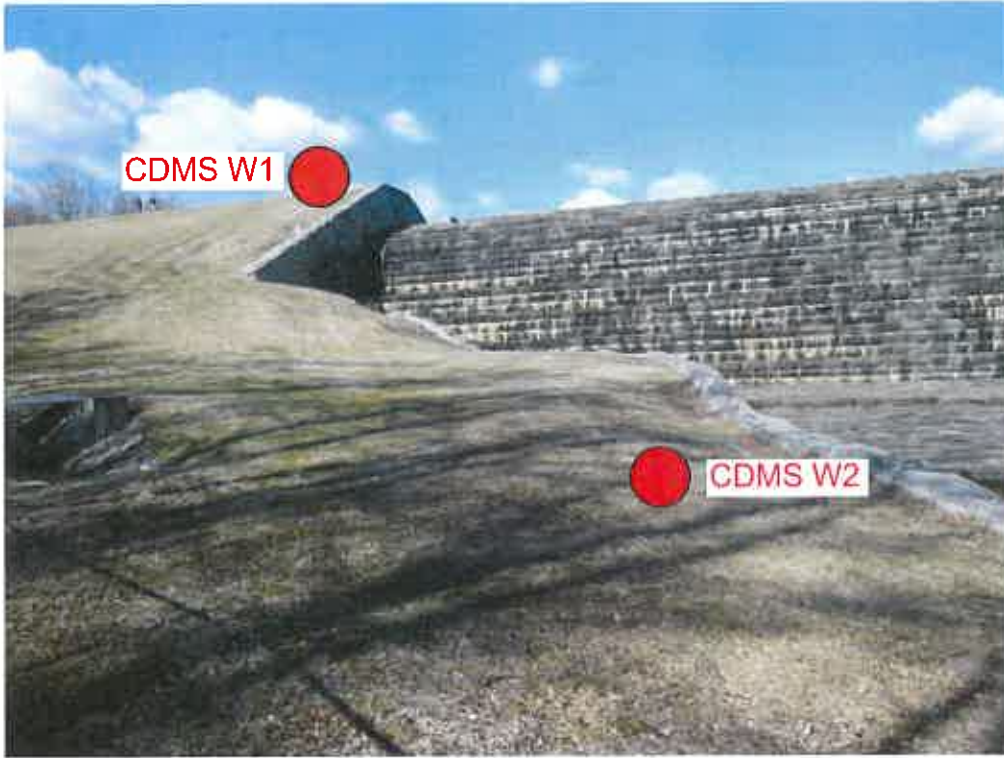
- New York State Office of Parks Recreation and Historic Preservation (NYSOPRHP) – Project Review (**filed**)
- New York State Department of Environmental Conservation (NYSDEC) – Natural Heritage Program Consultation (**completed**)
- New York State Department of Environmental Conservation (NYSDEC) – Protection of Waters Permit Stream Disturbance (Bed and Banks) (**completed**)
- New York State Department of Environmental Conservation (NYSDEC) – 401 Water Quality Certification (**completed**)



East of Hudson Dams Location Map



West Branch Dam – Proposed Boring Layout Plan



CDMS W₁ and CDMS W₂ – Proposed Boring Location

**NEW YORK CITY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
EAST OF HUDSON DAMS - GEOLOGICAL EVALUATIONS**

**TOWN OF CARMEL – ENVIRONMENTAL CONSERVATION BOARD
APPLICATION FOR WETLANDS PERMIT/LETTER OF PERMISSION**

Topographic Plans with approximate boring locations

**NEW YORK CITY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
EAST OF HUDSON DAMS - GEOLOGICAL EVALUATIONS**

**TOWN OF CARMEL – ENVIRONMENTAL CONSERVATION BOARD
APPLICATION FOR WETLANDS PERMIT/LETTER OF PERMISSION**

Issued Permits: NYSDEC



PERMIT
Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:
NYC DEPT OF ENVIRONMENTAL
PROTECTION
96-05 HORACE HARDING EXPWY 5TH FL
CORONA, NY 11368
(718) 595-5050

Facility:
WEST BRANCH RESERVOIR
RTE 6 NEAR BELDEN & DREWVILLE RDS
MAHOPAC, NY 10541

Facility Location: in CARMEL in PUTNAM COUNTY

Facility Principal Reference Point: NYTM-E: 609.1 NYTM-N: 4585.2
Latitude: 41°24'39.4" Longitude: 73°41'40.7"

Authorized Activity: This permit authorizes disturbance to the banks of West Branch Croton River [H-31-P44-23, Class A(TS)], for 2 geotechnical borings.

Permit Authorizations

Stream Disturbance - Under Article 15, Title 5

Permit ID 3-3720-00219/00005

New Permit Effective Date: 1/20/2015 Expiration Date: 12/31/2016

Water Quality Certification - Under Section 401 - Clean Water Act

Permit ID 3-3720-00219/00006


New Permit Effective Date: 1/20/2015 Expiration Date: 12/31/2016

NYSDEC Approval

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.

Permit Administrator: REBECCA S CRIST, Deputy Regional Permit Administrator

Address: NYSDEC REGION 3 HEADQUARTERS
21 SOUTH PUTT CORNERS RD
NEW PALTZ, NY 12561 -1620

Authorized Signature: 

Date 01/20/2015



Distribution List

Paul Costa, NYCDEP
Christopher Morris, NYCDEP
Jonathan Russell, NYSDEC Region 3 Bureau of Habitat
Peter Connery, NYSDEC DOW Dam Safety Unit

Permit Components

NATURAL RESOURCE PERMIT CONDITIONS
WATER QUALITY CERTIFICATION SPECIFIC CONDITION
GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS
NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Permit Attachments

Permit Sign

NATURAL RESOURCE PERMIT CONDITIONS - Apply to the Following Permits: STREAM DISTURBANCE; WATER QUALITY CERTIFICATION

- 1. Precautions Against Contamination of Waters** All necessary precautions shall be taken to preclude contamination of any wetland or waterway by suspended solids, sediments, fuels, solvents, lubricants, epoxy coatings, paints, concrete, leachate or any other environmentally deleterious materials associated with the project.
- 2. Conformance With Plans** All activities authorized by this permit must be in strict conformance with the approved plans submitted by the applicant or applicant's agent as part of the permit application. Such approved plans were prepared by New York City Department of Environmental Protection, entitled "New York City Department of Environmental Protection East of Hudson Dams-Geological Evaluations", Attachments D & E, undated.
- 3. Notice of Intent to Commence Work** The Permittee shall notify the Department 3 to 5 days prior to the commencement of work on the project by emailing Jonathan Russell at jonathan.russell@dec.ny.gov. The email needs to include the permit number, permittee name and the project start date.
- 4. Post Permit Sign** The permit sign enclosed with this permit shall be posted in a conspicuous location on the worksite and adequately protected from the weather.



5. No Pollutants in Wetlands or Waterways During geotechnical boring, no drilling fluid (bentonite), grout, or other pollutants shall be allowed to escape into any wetlands or waters of New York State, nor shall washings from trucks, mixers, or other devices be allowed to enter any wetland or waters.

6. Materials Removed from Bed and Banks Any debris or excess materials from construction of this project shall be immediately and completely removed from the bed and banks of all water areas to an appropriate upland area for disposal.

7. State May Order Removal or Alteration of Work If future operations by the State of New York require an alteration in the position of the structure or work herein authorized, or if, in the opinion of the Department of Environmental Conservation it shall cause unreasonable obstruction to the free navigation of said waters or flood flows or endanger the health, safety or welfare of the people of the State, or cause loss or destruction of the natural resources of the State, the owner may be ordered by the Department to remove or alter the structural work, obstructions, or hazards caused thereby without expense to the State, and if, upon the expiration or revocation of this permit, the structure, fill, excavation, or other modification of the watercourse hereby authorized shall not be completed, the owners, shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may require, remove all or any portion of the uncompleted structure or fill and restore to its former condition the navigable and flood capacity of the watercourse. No claim shall be made against the State of New York on account of any such removal or alteration.

8. State May Require Site Restoration If upon the expiration or revocation of this permit, the project hereby authorized has not been completed, the applicant shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may lawfully require, remove all or any portion of the uncompleted structure or fill and restore the site to its former condition. No claim shall be made against the State of New York on account of any such removal or alteration.

9. State Not Liable for Damage The State of New York shall in no case be liable for any damage or injury to the structure or work herein authorized which may be caused by or result from future operations undertaken by the State for the conservation or improvement of navigation, or for other purposes, and no claim or right to compensation shall accrue from any such damage.

WATER QUALITY CERTIFICATION SPECIFIC CONDITIONS

1. Water Quality Certification The NYS Department of Environmental Conservation hereby certifies that the subject project will not contravene effluent limitations or other limitations or standards under Sections 301, 302, 303, 306 and 307 of the Clean Water Act of 1977 (PL 95-217) provided that all of the conditions listed herein are met.



GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. Facility Inspection by The Department The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. Relationship of this Permit to Other Department Orders and Determinations Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. Applications For Permit Renewals, Modifications or Transfers The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Regional Permit Administrator
NYSDEC REGION 3 HEADQUARTERS
21 SOUTH PUTT CORNERS RD
NEW PALTZ, NY12561 -1620

4. Submission of Renewal Application The permittee must submit a renewal application at least 30 days before permit expiration for the following permit authorizations: Stream Disturbance, Water Quality Certification.

5. Permit Modifications, Suspensions and Revocations by the Department The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

- a. materially false or inaccurate statements in the permit application or supporting papers;
- b. failure by the permittee to comply with any terms or conditions of the permit;
- c. exceeding the scope of the project as described in the permit application;



- d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
- e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

6. Permit Transfer Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification

The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit

The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits

The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

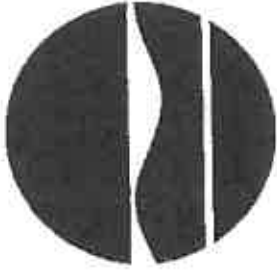
Item D: No Right to Trespass or Interfere with Riparian Rights

This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

Item E: SEQR Type II Action Under the State Environmental Quality Review Act (SEQR), this project has been determined to be a Type II Action and therefore is not subject to further procedures under this law.



New York State
Department of Environmental Conservation



NOTICE



The Department of Environmental Conservation (DEC) has issued permit(s) pursuant to the Environmental Conservation Law for work being conducted at this site. For further information regarding the nature and extent of work approved and any Department conditions on it, contact the DEC at 845/256-3054. Please refer to the permit number shown when contacting the DEC.

NYC Department of

Permittee: *Environmental Protection* Permit No. *3-3720-00219/00005*

Effective Date: *01/20/2015* Expiration date: *12/31/2016*

Applicable if checked. No instream work allowed between October 1 & April 30

NOTE: This notice is **NOT** a permit.



IMPORTANT NOTICE TO ALL PERMITTEES

The permit you requested is enclosed. Please read it carefully and note the conditions that are included in it. The permit is valid for only that activity expressly authorized therein; work beyond the scope of the permit may be considered a violation of law and be subject to appropriate enforcement action. Granting of this permit does not relieve the permittee of the responsibility of obtaining any other permission, consent or approval from any other federal, state, or local government which may be required.

Please note the expiration date of the permit. Applications for permit renewal should be made well in advance of the expiration date (minimum of 30 days) and submitted to the Regional Permit Administrator at the above address. For SPDES, Solid Waste and Hazardous Waste Permits, renewals must be made at least 180 days prior to the expiration date.


- Applicable only if checked.** Please note all work authorized under this permit is prohibited during trout spawning season commencing October 1 and ending April 30.

The DEC permit number & program ID number noted on page 1 under "Permit Authorization" of the permit are important and should be retained for your records. These numbers should be referenced on all correspondence related to the permit, and on any future applications for permits associated with this facility/project area.

If a permit notice sign is enclosed, you must post it at the work site with appropriate weather protection, as well as a copy of the permit per General Condition 1.

If the permit is associated with a project that will entail construction of new water pollution control facilities or modifications to existing facilities, plan approval for the system design will be required from the appropriate Department's regional Division of Water or delegated local Health Department, as specified in the State Pollutant Discharge Elimination System (SPDES) permit.

If you have any questions on the extent of work authorized or your obligations under the permit, please contact the staff person indicated below or the Division of Environmental Permits at the above address.



Division of Environmental Permits, Region 3
Telephone (845) 256-3165

- Applicable only if checked** for **STORMWATER SPDES INFORMATION:** We have determined that your project qualifies for coverage under the General Stormwater SPDES Permit. You must now file a Notice of Intent to obtain coverage under the General Permit. This form can be downloaded at: <http://www.dec.ny.gov/chemical/43133.html>

- Applicable only if checked - MS4 Areas:** This site is within an MS4 area (Municipal Separate Storm Sewer System), therefore the SWPPP must be reviewed and accepted by the municipality. The MS-4 Acceptance Form must be submitted in addition to the Notice of Intent.

Send the completed form(s) to: NYS DEC, Stormwater Permitting, Division of Water, 625 Broadway, Albany, New York 12233-3505

In addition, DEC requests that you provide one electronic copy of the approved SWPPP directly to NYS DEC, 100 Hillside Avenue - Suite 1W, White Plains, NY 10603-2860.

**NEW YORK CITY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
EAST OF HUDSON DAMS - GEOLOGICAL EVALUATIONS**

**TOWN OF CARMEL – ENVIRONMENTAL CONSERVATION BOARD
APPLICATION FOR WETLANDS PERMIT/LETTER OF PERMISSION**

SEQR Short Environmental Assessment Form

NYCDEP-BEPA CEQR Type II Determination

Short Environmental Assessment Form

Part 1 - Project Information

Instructions for Completing

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

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

| Part 1 - Project and Sponsor Information | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------|--------------------------------------------|
| NYCDEP East Of Hudson Dams Geological Evaluations | | | |
| Name of Action or Project: Geological borings landside/water side of EOH dams/spillways (West Branch Reservoir) | | | |
| Project Location (describe, and attach a location map): borings located at dam and spillways | | | |
| Brief Description of Proposed Action: See attached Project Description. NYSDEC Permits # 3-3720-00219/00005 and 00006 | | | |
| Name of Applicant or Sponsor: Paul Costa, P.E. Portfolio Manager - NYCDEP-BEDC | | Telephone: 718-595-5470 E-Mail: pcosta@dep.nyc.gov | |
| Address: 96-05 Horace Harding Expressway, 5th Floor | | | |
| City/PO: Corona | | State: NY | Zip Code: 11368 |
| 1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2. | | | NO <input type="checkbox"/> |
| 2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval: NYSDEC and US ACE for in-water boring | | | YES <input checked="" type="checkbox"/> |
| 3.a. Total acreage of the site of the proposed action? _____ <0.25 acres | | | |
| b. Total acreage to be physically disturbed? _____ <0.25 acres | | | |
| c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? _____ > 2000 acres | | | |
| 4. Check all land uses that occur on, adjoining and near the proposed action. <input type="checkbox"/> Urban <input type="checkbox"/> Rural (non-agriculture) <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input type="checkbox"/> Residential (suburban) <input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Aquatic <input checked="" type="checkbox"/> Other (specify): <u>reservoir/water supply</u> <input type="checkbox"/> Parkland | | | |

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------|
| <p>18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size: _____ _____</p> | <p>NO</p> <p><input checked="" type="checkbox"/></p> | <p>YES</p> <p><input type="checkbox"/></p> |
| <p>19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe: _____ _____</p> | <p>NO</p> <p><input checked="" type="checkbox"/></p> | <p>YES</p> <p><input type="checkbox"/></p> |
| <p>20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe: _____ _____</p> | <p>NO</p> <p><input checked="" type="checkbox"/></p> | <p>YES</p> <p><input type="checkbox"/></p> |
| <p>I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE</p> | | |
| <p>Applicant/sponsor name: Paul Costa, P.E., Portfolio Manager</p> | <p>Date: <u>4/14/15</u></p> | |
| <p>Signature: <u>Paul Costa</u></p> | | |

Memorandum

To: Paul Costa, BEDC
From: Mark Page Jr, BEPA *MP*
Date: September 25, 2014
Subject: East of Hudson Dams- Geological Evaluations
CEQR No: 15DEP007U

Emily Lloyd
Commissioner

Angela Licata
Deputy Commissioner
Sustainability
alicata@dep.nyc.gov

59-17 Junction Blvd.
Flushing, New York
1373

Tel. (718) 595-4398
Fax (718) 595-4479

The New York City Department of Environmental Protection (DEP) Bureau of Environmental Planning and Analysis has reviewed the proposed project to advance geotechnical investigations at eight (8) of its East of Hudson dam/spillway locations. The investigations would include up to three geotechnical borings at each dam/spillway location. This project would provide data to further characterize the foundation rock masses and more fully define foundation material parameters for the Class "C" High Hazard Dams and Spillways in the East of Hudson watershed. The material parameters obtained through the geological evaluation program would be used to determine if these dams meet current stability analyses criteria of the New York State Department of Environmental Conservation and the US Army Corps of Engineers.

The number and approximate locations for the proposed borings are shown in Table 1 for each reservoir site. The highlighted locations indicate borings that would be conducted over the water at Cross River, Croton Falls, Kensico and East Branch Reservoirs.

A track-mounted drill rig would be used to access the land boring locations for all eight dams. A barge-mounted drill rig would be used to access the in-water boring location at four of the reservoir locations. The borings would be advanced using flush-jointed casing with drive and wash drilling techniques using a 4-inch drag bit. Drilling fluids, if used, would consist of water and commercially available drilling additives to form a highly colloidal gel resulting in slurry-like fluid capable of transporting drill cuttings to the surface and to support the borehole sidewalls. Oil-based drilling fluid additives would not be permitted. Blasting is not permitted at the work sites.

**TABLE 1
Proposed Geotechnical Boring Location(s)**

| Name of Dam and/or Spillway | Town | County | Boring ID | Location | Approximate Boring Depth | | | Distance to nearest Bald Eagle nest (miles) |
|-----------------------------|-------------|-------------|-----------|--------------------|--------------------------|------------|------------|---------------------------------------------|
| | | | | | Water (ft.) | Soil (ft.) | Rock (ft.) | |
| Boyd's Corner | Kent | Putnam | CDMS B1 | Left Abutment | 0 | 15 | 75 | 2.18 |
| | | | CDMS | Downstream | 0 | 10 | 50 | 2.17 |
| Cross River | Bedford | Westchester | CDMS | Upstream; | 10 | 0 | 20 | 5.39 |
| | | | CDMS | Upstream | 106 | 38 | 36 | 5.45 |
| | | | CDMS | Downstream | 0 | 45 | 37 | 5.44 |
| Croton Falls | Carmel | Putnam | CDMS | Spillway; | 0 | 45 | 20 | 3.72 |
| | | | CDMS | Upstream | 96 | 47 | 42 | 3.26 |
| | | | CDMS | Downstream | 0 | 60 | 40 | 3.28 |
| East Branch | Southeast | Putnam | CDMS | Upstream | 52 | 10 | 33 | 1.44 |
| | | | CDMS | Downstream | 0 | 18 | 33 | 1.42 |
| | | | CDMS | Spillway; | 0 | 20 | 20 | 1.32 |
| Kensico | Kensico | Westchester | CDMS | Spillway; | 0 | 25 | 20 | 11.35 |
| | | | CDMS | Upstream | 145 | 70 | 40 | 11.21 |
| | | | CDMS | Downstream | 0 | 10 | 40 | 11.26 |
| New Croton | Cortlandt | Westchester | CDMS NC1 | Downstream ; Right | 0 | 40 | 115 | 0.47 |
| Titicus | North Salem | Westchester | CDMS | Left | 0 | 92 | 24 | 1.89 |
| | | | CDMS | Downstream | 0 | 7 | 33 | 1.90 |
| West Branch | Carmel | Putnam | CDMS | Right | 0 | 56 | 32 | 1.32 |
| | | | CDMS | Downstream | 0 | 21 | 25 | 1.33 |

The equipment for this work would be transported to the proposed boring location via local roadways. Soil erosion and sedimentation control measures such as straw bales and berms would be employed for all work and laydown areas around the land boring locations to prevent erosion of the work area and any spills to release into the nearby waterways. No stockpiling would be permitted on site, and drill cuttings and fluids would be placed in drums and disposed of offsite. Boats and drill rigs for on water use would use non-toxic, biodegradable hydraulic fluids. Coolant used for drill rigs and boats would be propylene glycol. All boats and equipment used in reservoirs would be steam cleaned prior to use. It is anticipated the boring work would take up to seven days for each reservoir site.

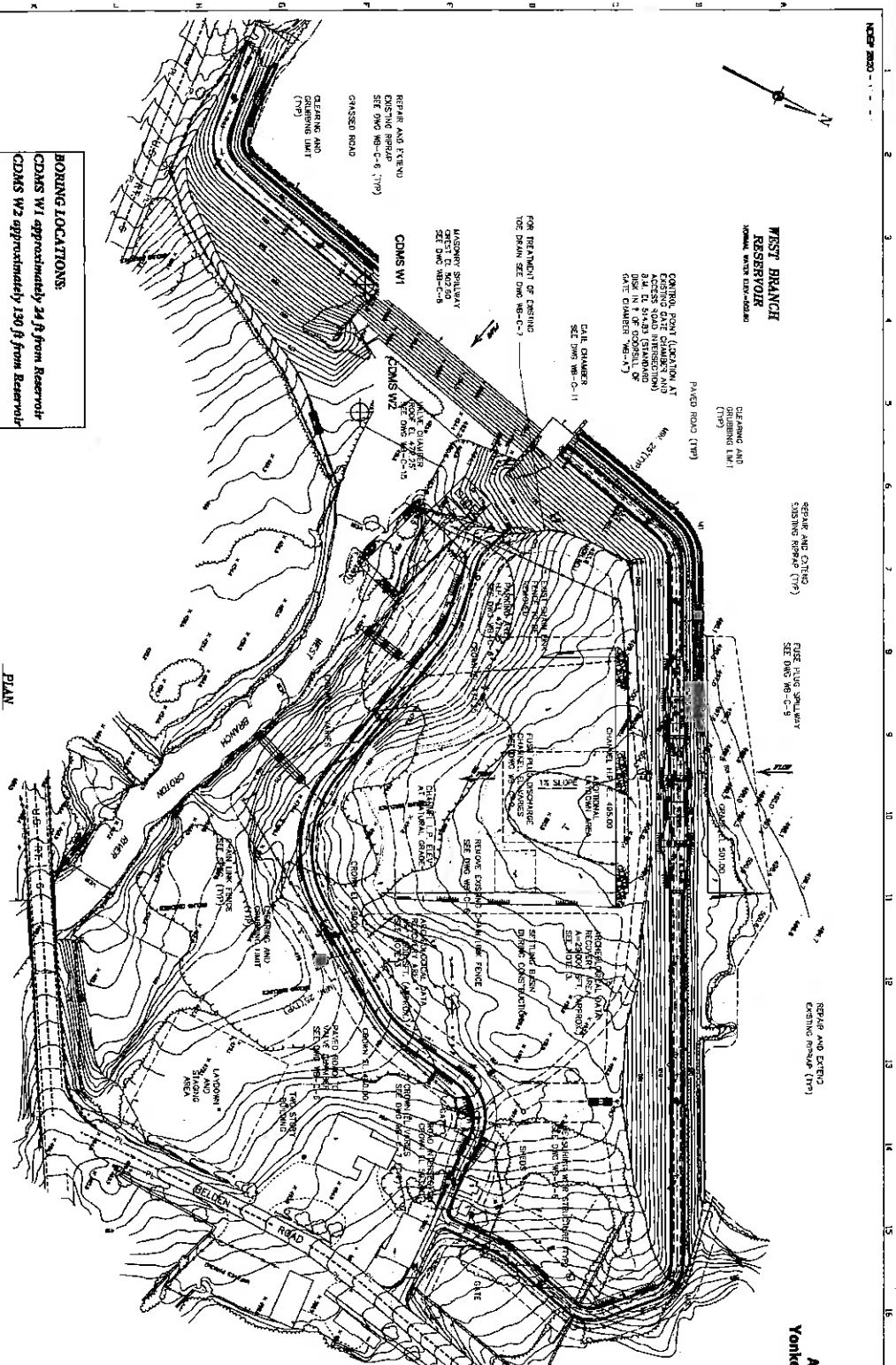
There are no tree clearings performed for this work. Nominal soil disturbance under 0.1 acres is estimated for each site and all disturbed areas would be restored after completion of work. As shown in Table 1, all work sites are outside the protected 330 ft. and 660 ft. buffers around Bald Eagle nest sites. It is not anticipated the proposed geotechnical program would impact Bald Eagles or Bald Eagle habitat.

Based upon the information provided, BEPA has concluded that this action would fall within the scope of a Type II action under 6NYCRR Part 617.5. Specifically, the proposed action described above falls under the following categories: 617.5c(18): "information collection

including basic data collection and research, water quality and pollution studies, traffic counts, engineering studies, surveys, subsurface investigations and soils studies that do not commit the agency to undertake, fund or approve any Type I or Unlisted action;”

If you have any questions or comments, please contact Sangamithra Iyer via email at siyer@dep.nyc.gov or by telephone at (718) 595-3585.

c: Sangamithra Iyer, BEPA



BORING LOCATIONS:
 CDMS W1 approximately 24 ft from Reservoir
 CDMS W2 approximately 130 ft from Reservoir

PLAN
 SCALE: 1" = 30'

TOWN OF CARLE, N.Y.
 SCHEDULE OF DISTRICT REGULATIONS

| REQUIRED | PROPOSED |
|-----------------------|----------------|
| LOT DIMENSIONS (MIN.) | 40,000 SFT |
| AREA | 64,000,000 S*7 |
| WIDTH | 200 FT |
| DEPTH | 7,000 FT |
| YARD DIMENSIONS | 200 FT |
| FRONT | 800 FT |
| REAR | 40 FT |
| SIDE | 40 FT |
| CONCRETE OF LOT | 500 FT |
| BY BUILDINGS | 20 % |
| | 0.45 % |

TAX MAP # 43, 14, 54 & 65
 ZONING DISTRICT R-62/70
 OWNER'S NAME: U E & C URBAN SERVICES - G.P.
 OWNER'S ADDRESS: 60-17 ANSON RD. LOW WISE - 5TH FLOOR
 CORONA, NEW YORK 11388
 OWNER'S TEL. NO. (718) 593-9104

As-Built July 2003 by
 Yonkers Contracting Company

| NO. | DATE | REVISION | BY | CHK | APPROVED |
|-----|---------|----------------|----|-----|----------|
| 1 | 7/21/03 | COMPLETION | WJ | SS | ETC |
| 2 | 7/23/03 | FINAL COMMENTS | WJ | SS | ETC |

- NOTES:**
1. ALL ELEVATIONS ARE IN FEET AND METERS.
 2. FOR LIST OF DRAWINGS SEE SHEET 103-1080-1.
 3. ARCHITECTURAL DATA RECOVERY ASBESTOS INVESTIGATION DATA RECOVERY, OF THE SPECIFICATIONS.
 4. NO AREA IS THE WEST BRANCH LINK PAV SITE SHALL BE USED BY THE CONTRACTOR FOR ANY PURPOSE, AND SHALL NOT BE ENTERED UPON BY ANY OF CONTRACTOR'S EQUIPMENT, WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE SPECIFICATIONS.

THIS CITY OF NEW YORK
 DEPARTMENT OF ENVIRONMENTAL CONSERVATION
 BUREAU OF WATER SUPPLY AND WATER COLLECTION
 PROJECT PLAN

U E & C URBAN SERVICES - G.P.
 60-17 ANSON RD. LOW WISE - 5TH FLOOR
 CORONA, NEW YORK 11388
 (718) 593-9104