Appendix F

Dam Safety Inspections and Letters

## Smith, John Z (DEC)

**From:** Chicatelli, Nita (PARKS)
**Sent:** Wednesday, June 27, 2018 10:50 AM
**To:** Smith, John Z (DEC)
**Cc:** Rausch, Ron (PARKS); CebadaMora, Gabriella (PARKS)
**Subject:** FW: Hempstead Lake SP Dam Tree Removal

**Importance:** High

Hi John,

Quick follow up to the email below, is this considered a 'minor' permit which does not require public comment? Just wanted to reconfirm our understanding of the process.

Thank you....

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518-888-5453 (cell)
*nita.chicatelli@parks.ny.gov*

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**Subject:** Hempstead Lake SP Dam Tree Removal

Good Morning Syed, John

We had met several month back regarding the dam assessment at Hempstead Lake SP. I am trying to answer a question regarding permitting. Do we need a permit to remove the trees on the dams? If so, what permit is needed? We are having a meeting today with consultants and regulatory agencies at 2pm, if it's possible to let me know before then.

Much thanks,
Gaby

**Gabriella M. Cebada Mora**
Environmental Analyst 2

**New York State Parks, Recreation & Historic Preservation**
Division of Environmental Stewardship and Planning
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518-474-1229 : phone | 518-545-0257 : cell | 518.474.7013 : fax
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234-0193

## Smith, John Z (DEC)

**From:** Hopkins, Elyssa E (DEC)
**Sent:** Tuesday, February 13, 2018 2:00 PM
**To:** Prunty, Christopher
**Cc:** Fish, Scott (PARKS); CebadaMora, Gabriella (PARKS)
**Subject:** 1-2820-03703/00008 Hempstead Lake Dam Safety Comments
**Attachments:** Hempstead Lake Dam Safety Comments 21318.pdf

Good afternoon Mr. Prunty

See attached for Dam Safety's response to the plans (dated 11/3/2017) submitted for review. Don't hesitate to contact me with any questions you may have.

Elyssa


**Elyssa Hopkins**
*Environmental Analyst*, Division of Environmental Permits

**New York State Department of Environmental Conservation**
50 Circle Rd.
Stony Brook, NY 11790
P: (631) 444-0364 | elyssa.hopkins@dec.ny.gov

www.dec.ny.gov | | |

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

**Division of Environmental Permits, Region 1**
SUNY @ Stony Brook, 50 Circle Road, Stony Brook, NY 11790
P: (631) 444-0365 I F: (631) 444-0360
www.dec.ny.gov

February 13, 2018

Christopher Prunty
Lockwood, Kessler & Bartlett, Inc.
1 Aerial Way
Syosset, NY 11791

Re: Application #1-2820-03703/00008
Hempstead Lake Dam Tree Removal

Dear Mr. Prunty:

The Department of Environmental Conservation (DEC) has completed a review of your client's most recent submission for a Freshwater Wetlands and Dam Safety permit to remove vegetation from the dams and we have the following comments.

The department has no objection in general to the project. However, technical staff indicate the following changes are required prior to permit issuance.

1. The report seems to have been stamped with a corporate stamp. Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York ("6 NYCRR"), Part 673.2, subsection k, define an engineer as an "individual" who is licensed and registered to practice engineering under article 145 of the Education Law of the State of New York. Please have the report stamped and signed by an engineer licensed to practice in New York State, as defined in 6 NYCRR.

2. Joint Application Form, "Proposed site changes" box states: "Trees and shrubs on the dams will be removed, earthen embankments will be re-graded to uniform slopes and then top-soiled and seeded." Will the project include regrading of the Hempstead Lake Dam? If so, the drawings and/or specifications should be revised to show this.

3. Drawing GN-1, Dam Safety, note 6 states: "'The Hempstead Lake Dam and gatehouse, underground brick pipe arch, South Pond gatehouse and outlet weir are historic structures and shall be repaired and restored in accordance with New York State Office of Parks, Recreation and Historic Preservation (NYS OPRHP) requirements. These structures are also functional water control features used to maintain flow through the watershed. Flow shall be maintained at all times." Neither the drawings nor the specifications give any information on this work, and this work

is not noted in the "Proposed site changes" box of the Joint Application Form. Please provide full details of this work or revise the Joint Application Form.

4. Specification 2.04.A states: "Filling material shall be free from debris or any material subject to decay and shall be porous, permitting free percolation of water, and shall consist of soil, gravel, and small stones, with less than 15% by volume of stone larger than 6" or greatest dimension." Please provide an evaluation showing that this porous material is compatible with the exiting embankment material, if applicable. Will the material be tested prior to its placement? Who will certify the quality of this material?

5. Compaction specifications continue to not be clear enough. The specifications and drawings should be revised to more clearly indicate the material, degree of compaction to be achieved, type of equipment, lift thickness, and method of moisture content control. Also, the name of the materials shown in the specifications should match the name used in the drawings, when applicable.

   - Note 1 in drawing TR-3 states: "Backfill with suitable material, and compaction shall be in accordance with NYSDEC standards and project specifications." Please provide a complete citation for the NYSDEC standards.
   - Note 3 in drawing TRD-1 states: "Place and compact suitable fill in accordance with NYSDEC standards and project specifications to subgrade elevation." Please provide a complete citation for the NYSDEC standards and define what you mean by subgrade elevation. Also, there are no specifications for the compact suitable fill. Please provide specifications for this material or revise this material name so as to match the material names listed in the specifications.
   - Specification 2.04.D refers to areas other than hill slopes but it does not specifically reference dam embankment regrading or void backfilling; nor is it clear in this specification whether both the specified compaction equipment and the maximum density at optimum moisture content refer to just pavements, lawns and planted areas, or to embankment regrading and void backfilling. Also, the maximum lift thickness before compaction for embankment regrading and void backfilling is not provided either in this specification or elsewhere in the report or drawings.
   - Drawing TR-2, detail "Temporary Grout Patch" states: "Area top [sic] be cleaned and backfilled with suitable granular material prior to application of 4" thick grout patch." There are no specifications for the suitable granular material. Please provide specifications for this material or revise this material name so as to match the material names listed in the specifications.
   - Specification 2.06.A states: "All locations where tree root balls and roots are removed shall be filled with suitable compacted fill and shall conform to the

requirements of Section 2.04 - Excavating, Filling and Grading of this specification." There are no specifications for the suitable compacted fill. Please provide specifications for this material or revise this material name so as to match the material names listed in the specifications.

6. Drawing TR-2, note 8: "Where stone facing is missing or where piping and/or settlement is a concern, a temporary grout patch shall be installed as ordered by the engineer." How will it be determined if piping is a concern? Who will make this determination? Please provide the maximum depth for which grout patching will be employed. The drawings or specifications should indicate that depths exceeding this maximum depth shall be further investigated.

If these changes are acceptable to your client, then revise the project plans as indicated above and submit five copies of revised plans to my attention. Revised plans must be updated to include a revision date. Processing of this application will remain mutually suspended until we receive a response to this letter.

Please call John Smith of the Dam Safety unit at 518-408-0338 with any technical questions, or myself at 631-444-0364 with any procedural questions.

Sincerely,

Elyssa Hopkins

Elyssa Hopkins
Environmental Analyst

cc: S. Fish - OPRHP
D. Lewis – BOH
J. Smith – Dam Safety
M. Accardi - GOSR
File

## Smith, John Z (DEC)

**From:** Wypyski, Marian <mwypyski@lkbinc.com>
**Sent:** Thursday, July 14, 2016 4:45 PM
**To:** Smith, John Z (DEC); Alam, Syed N (DEC); Fish, Scott (PARKS); Ednie, Brian; Prunty, Christopher
**Subject:** RE: Hempstead Lake Dam

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

Sure no problem.

**Marian Wypyski, PE**
Director of Civil Engineering
**Lockwood, Kessler & Bartlett, Inc**
One Aerial Way
Syosset, NY 11791
V 516.938.0600 x243
F 516.931.6344
mwypyski@lkbinc.com
www.lkbinc.com

"Still Leading the Way."

---

**From:** Smith, John Z (DEC) [mailto:john.smith@dec.ny.gov]
**Sent:** Thursday, July 14, 2016 4:16 PM
**To:** Alam, Syed N (DEC) <syed.alam@dec.ny.gov>; Wypyski, Marian <mwypyski@lkbinc.com>; Fish, Scott (PARKS) <Scott.Fish@parks.ny.gov>; Ednie, Brian <bednie@lkbinc.com>; Prunty, Christopher <CPrunty@LKBINC.COM>
**Subject:** RE: Hempstead Lake Dam

Hi!

We have realized that we may need 2 hours for this meeting. Is it possible to extend the meeting until 3:30 PM?

Regards

---

**From:** Alam, Syed N (DEC)
**Sent:** Wednesday, July 13, 2016 10:32 AM
**To:** Wypyski, Marian <mwypyski@lkbinc.com>; Fish, Scott (PARKS) <Scott.Fish@parks.ny.gov>; Smith, John Z (DEC) <john.smith@dec.ny.gov>; Ednie, Brian <bednie@lkbinc.com>; Prunty, Christopher <CPrunty@LKBINC.COM>
**Subject:** RE: Hempstead Lake Dam

Can we do 1:30 to 2:30?

-----Original Appointment-----
**From:** Wypyski, Marian [mailto:mwypyski@lkbinc.com]

**Sent:** Wednesday, July 13, 2016 10:30 AM
**To:** Fish, Scott (PARKS); Alam, Syed N (DEC); Smith, John Z (DEC); Ednie, Brian; Prunty, Christopher
**Subject:** Hempstead Lake Dam
**When:** Tuesday, July 19, 2016 1:00 PM-2:00 PM (UTC-05:00) Eastern Time (US & Canada).
**Where:** LKB Conference Room

[redacted]

To join the conference call dial 866 590-5055
Use access code 3909451

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## Smith, John Z (DEC)

**From:** Talluto, Marc (PARKS)
**Sent:** Wednesday, October 04, 2017 2:12 PM
**To:** Dominitz, Alon (DEC); Fuchs, Alan (DEC)
**Cc:** Hopkins, Elyssa E (DEC); Smith, John Z (DEC)
**Subject:** Re: Hempstead Lake State Park

Many thanks! I had not seen it yet.

Sent From My Mobile Device. Please Pardon Any Typos

---

**From:** Dominitz, Alon (DEC)
**Sent:** Wednesday, October 4, 2017 1:38:50 PM
**To:** Talluto, Marc (PARKS); Fuchs, Alan (DEC)
**Cc:** Hopkins, Elyssa E (DEC); Smith, John Z (DEC)
**Subject:** RE: Hempstead Lake State Park

Marc – These are Dam Safety's comments, in case you haven't seen them yet.

**From:** Talluto, Marc (PARKS)
**Sent:** Tuesday, October 03, 2017 2:29 PM
**To:** Fuchs, Alan (DEC) <alan.fuchs@dec.ny.gov>
**Cc:** Dominitz, Alon (DEC) <alon.dominitz@dec.ny.gov>; Hopkins, Elyssa E (DEC) <elyssa.hopkins@dec.ny.gov>
**Subject:** RE: Hempstead Lake State Park

Thanks Al,

We're expecting SEQR to be complete within ±2 weeks, so we're trying to move things along on parallel tracks so we can put the bid documents out as soon as possible due to the tight deadline for the tree work. If there are any questions or sticking points, or issues that need clarification, please let me know and we can get a call together quickly to clarify.

Marc

**From:** Fuchs, Alan (DEC)
**Sent:** Tuesday, October 03, 2017 8:39 AM
**To:** Talluto, Marc (PARKS) <Marc.Talluto@parks.ny.gov>
**Cc:** Dominitz, Alon (DEC) <alon.dominitz@dec.ny.gov>; Hopkins, Elyssa E (DEC) <elyssa.hopkins@dec.ny.gov>
**Subject:** RE: Hempstead Lake State Park

Mark,

Sorry for the delay in getting back to you, I lost track of this. Thanks for the reminder.

Staff are actively reviewing this and it is a priority to get the review completed. We anticipate comments no later than next week. We were hoping that the tree removal might be "maintenance" not needing a dam safety permit, but it looks like it is very extensive and most likely will need dam safety approval.

We also understand from our Regional Permits staff that SEQR had not been completed yet, and therefore, the technical review was not holding up the processing of the permit(s).

Al

**From:** Talluto, Marc (PARKS)
**Sent:** Monday, October 02, 2017 3:20 PM
**To:** Fuchs, Alan (DEC) <alan.fuchs@dec.ny.gov>
**Subject:** RE: Hempstead Lake State Park

Al,

I just wanted to touch base to see if you thought we could move this forward. We are just about ready to go out to bid, pending these final pieces falling into place.

Many thanks!

Marc

**From:** Fuchs, Alan (DEC)
**Sent:** Monday, September 18, 2017 7:54 AM
**To:** Talluto, Marc (PARKS) <Marc.Talluto@parks.ny.gov>
**Cc:** Dominitz, Alon (DEC) <alon.dominitz@dec.ny.gov>
**Subject:** RE: Hempstead Lake State Park

Thanks for informing me of this. I will look into.

Al

**From:** Talluto, Marc (PARKS)
**Sent:** Friday, September 15, 2017 2:37 PM
**To:** Dominitz, Alon (DEC) <alon.dominitz@dec.ny.gov>; Fuchs, Alan (DEC) <alan.fuchs@dec.ny.gov>
**Subject:** Hempstead Lake State Park

Good afternoon Alon and Al!

Not sure how familiar you are with our Hempstead Lake State Park project, but we've been actively working with DEC regional staff on a large resiliency project at this facility (funded through the Governor's Office of Storm Recovery) for about a year and a half (and might I add, it's been great working with your team throughout the process).

As these large complicated projects go, we have a very tight schedule (especially for the tree removals due to the limited window), and it is my understanding that there are a few items before the DEC Dam Safety Unit that are under review, and I wanted to draw your attention to these items in the hopes that we can ensure that they move along as quickly as possible, so that we can make some critical deadlines - our goal is to issue the tree removal contract this year, so that we can complete this work within the window for such activities.

We submitted the permit application for tree removals at Hempstead Lake dam and South Pond dam on 8/8/17 – obviously, this is the most critical due to the limited window we have for tree removal, but the two items we're hoping to move along are the tree removal permit as well as feed back on the northeast and southwest pond

## Alam, Syed N (DEC)

**From:** Alam, Syed N (DEC)
**Sent:** Friday, March 17, 2017 4:39 PM
**To:** CebadaMora, Gabriella (PARKS); Smith, John Z (DEC)
**Cc:** Rausch, Ron (PARKS); Chicatelli, Nita (PARKS)
**Subject:** RE: Schedule a Meeting to discuss Hempstead Lake State Park Dam Project

Thanks. I'll inform Eric about this meeting.

Have a nice weekend.

---

**From:** CebadaMora, Gabriella (PARKS)
**Sent:** Friday, March 17, 2017 4:31 PM
**To:** Alam, Syed N (DEC) <syed.alam@dec.ny.gov>; Smith, John Z (DEC) <john.smith@dec.ny.gov>
**Cc:** Rausch, Ron (PARKS) <Ron.Rausch@parks.ny.gov>; Chicatelli, Nita (PARKS) <Nita.Chicatelli@parks.ny.gov>
**Subject:** RE: Schedule a Meeting to discuss Hempstead Lake State Park Dam Project

Thank Syed! Make it 1:30 pm and you have a deal! ☺

I just spoke with JR. He has a meeting at that time but recommended Dan Lewis or Rob Marsh from the Regional Office. I'll reach out to them to see if they are available. Also, we have been working with Eric Star from dam safety out of the DEC regional office, please feel free to pass the calendar invite on to him. I'll be sending out the invite shortly.

Have a great weekend!

Gaby

**Gabriella M. Cebada Mora**
Environmental Analyst 1

**New York State Parks, Recreation & Historic Preservation**
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gabriella.cebadamora@parks.ny.gov
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---

**From:** Alam, Syed N (DEC)
**Sent:** Friday, March 17, 2017 4:12 PM
**To:** CebadaMora, Gabriella (PARKS); Smith, John Z (DEC)
**Cc:** Rausch, Ron (PARKS); Chicatelli, Nita (PARKS)
**Subject:** RE: Schedule a Meeting to discuss Hempstead Lake State Park Dam Project

Hi Gabriella:

I cover dams in Long Island including this one. John and I can meet you on Monday at 1:30 am. Let us know if that works and please send us an appointment.

Roy Jacobson in the DEC habitat might help you. His number is 402-8853.

**From:** CebadaMora, Gabriella (PARKS)
**Sent:** Friday, March 17, 2017 3:50 PM
**To:** Smith, John Z (DEC) <john.smith@dec.ny.gov>; Alam, Syed N (DEC) <syed.alam@dec.ny.gov>
**Cc:** Rausch, Ron (PARKS) <Ron.Rausch@parks.ny.gov>; Chicatelli, Nita (PARKS) <Nita.Chicatelli@parks.ny.gov>
**Subject:** Schedule a Meeting to discuss Hempstead Lake State Park Dam Project

Hi John, Syed

My name is Gabriella Cebada Mora. I am an Environmental Analyst with NYS Parks out of the Albany Office.

I am currently working on the SEQR for a project occurring on Long Island at Hempstead Lake State Park.

Part of the project involves the dam on Hempstead Lake and I was hoping that I could schedule a meeting upstairs with you early next week (Monday or Tuesday if possible) to discuss the project.

I would also like to include someone from DEC's habitat bureau at the meeting, would you have any suggestions on who I should reach out to from habitat?

Much thanks!

Sincerely,
Gabriella

**Gabriella M. Cebada Mora**
Environmental Analyst 1

**New York State Parks, Recreation & Historic Preservation**
Environmental Management Bureau, 625 Broadway, 2nd Flr., Albany, NY 12238
518-474-1229 : phone | 518-545-0257 : cell | 518.474.7013 : fax
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3/20/17

Hempstead Lake Dam Meet 2 (w/ NYS Parks & John + Ron (Parks) +.)

① North + South pond area ⇒ 28 acre + thousands of trees will be cut to get storage to pass design storm → Not good.

⇒ w/o cutting the trees → Q = ?

or can you increase the S.W.?

② Dam in South pond is < 6' ⇒ under permit threshold size

③ ④

234-0193

## Alam, Syed N (DEC)

**From:** Wypyski, Marian <mwypyski@lkbinc.com>
**Sent:** Tuesday, May 12, 2015 4:56 PM
**To:** Alam, Syed N (DEC)
**Cc:** Fish, Scott (PARKS); Ednie, Brian
**Subject:** Hempstead Lake Dam Inspection Report
**Attachments:** HLSP DAM Inspection 2014.pdf; 2014 Inspection Photos reduced.pdf

Mr. Alam,
Attached please find our inspection report for the Hempstead Lake Dam (ID no. 234-0193). We are currently working to complete the hydraulic analyses for the dam which are part of the Engineering Assessment Report. We hope to complete the report within a few months at which time we will also issue updated EAP and IMP documents. Please let me know if you have any questions.

Regards,

**Marian Wypyski, PE**
Director of Civil Engineering
**Lockwood, Kessler & Bartlett, Inc**
One Aerial Way
Syosset, NY 11791
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# HEMPSTEAD LAKE DAM INSPECTION REPORT

Site visits: April 1, 2 & 17, 2014; May 30, 2014 and August 8, 2014

LKB Staff: Marian Wypyski, PE
Wayne Culver, PE
Steven Fuhrman, RLA

## Purpose

The purpose of this field investigation was to:

a) Inspect the upstream and downstream faces of the dam for signs of: animal activities/burrowing, vegetative cover, cracking, loose stonework, piping through the earthen embankment, debris build-up, vandalism, etc.
b) Examine the overgrowth of vegetative cover that has taken root near the dam.
c) Identify the limits of various root systems on the upstream side of the dam that can potentially cause damage to stone facing on the dam.
d) Inspect the dam gatehouse for structural soundness.
e) Identify appropriate mitigation measures.

## General Conditions

Approximately 1200 linear feet of upstream and downstream dam embankment was inspected along the roadway. The upstream side of the dam extends in a gentle curve around the southern end of Hempstead Lake for a few hundred feet where it then ties back into the natural ground contours at either end. The upstream side of the dam was inspected from the outer ends towards the gatehouse. The gatehouse itself was inspected from inside and outside of the building and is covered at the end of this report.

The downstream limit of the toe of the dam is being further investigated. We have examined historical documents pertaining to construction of the dam and we believe the original downstream toe of the dam is currently located within a few feet of the southern pavement edge of the roadway. The original crest of the dam was much narrower than it is today. It was extended from an original width of 24 feet to approximately 60 feet to accommodate widening of the roadway known as Lakeside Drive. Lakeside Drive is accessed from Southern State Parkway, Eagle Avenue, and Peninsula Boulevard.

Currently the widened dam crest is topped by a two lane roadway with shoulders and adjacent grassed areas. The roadway features drainage structures along the edge of pavement. It appears the inlets on the north side of the roadway are piped to the south side inlets and then discharge onto the grass near the downstream toe of the dam. The north side of the roadway features concrete

curb and blocked-out corrugated guide rail for the length of the dam. A grass area extends approximately 10 feet behind the guide rail to a six foot chain link fence atop the stone top cap of the upstream dam facing. Street lighting is provided on the south side of the roadway and intermittent curbing is provided near drainage inlets.

There is typically a cleared lawn area of several feet adjacent to the south side of the roadway along the length of the dam. Beyond that clearing is a heavily vegetated downstream slope with numerous large diameter trees. See below for further information regarding the vegetation.

## Upstream (North) Dam Embankment

The upstream embankment of the dam consists of a stone lined vertical face pitched at approximately 1 vertical on 2 horizontal, from the top of the dam to the toe of slope. The dam height, as measured from the crest of the dam to the downstream toe, is approximately 14 feet. The structural height from the dam crest to the bottom of the lake at the gatehouse and is approximately 23 feet. The dam is sloped more steeply (approximately 1 vertical on 1 ½ horizontal) where it flanks the existing gatehouse (near station 17+80) which is located along the upstream side of the northeastern section (left side) of the dam. At the toe of the dam there is a flat stone apron which extends beyond the face of the dam into the lake. The width of the apron is difficult to determine due to the current high water elevation.

Both the vertical face of the dam and the apron are surfaced with tightly fitted cut stones. In some areas the stone has been mortared particularly on the steeper faces near the gatehouse but it is primarily held in place by gravity. In some locations one or more stones have dropped lower than the adjacent stone work indicating settlement of the earth embankment below possibly due to plant roots or animal activity. One such area is located west of the gatehouse near the water line where two small multi-stem trees are growing. This roughly 3' by 4' area is approximately one foot lower than the adjacent stones. It is unclear if the area dropped down or if the upper layer of stone has been removed/vandalized. This and other settlement areas should be investigated further and repaired to protect the integrity of the dam. Tree removal will be discussed separately.

The upstream face of the dam is extensively covered by vegetation as reported in previous inspections making it impossible to fully assess the condition of the stone facing and the earthen dam itself. The upstream western end (right side) of the dam area consists primarily of understory shrubs, small trees and, vines and groundcovers. The return ends of the dam which curve around the lake are fairly wooded with deciduous trees including Maples, Oaks, Trees of Heaven, Poplars, and Cottonwoods typically between 6" to 18" in diameter. In addition, Salix exists closer to the water. The vegetation is similar on both sides of the gatehouse consisting of numerous small trees, primarily of Maples, Poplars, Birch, Salix and

Trees of Heaven. Small trees can be seen emerging from the stones even on the steepest part of the dam.

As one proceeds eastward (to the left), the stone perimeter of the dam is located farther back from the edge of Hempstead Lake than elsewhere. The toe of the dam is buried into the adjacent natural embankment and is difficult to find. This arrangement provides a larger shoreline area that is fairly wooded with deciduous tree species consisting of Maple, Oak, Trees of Heaven and Poplar species. Salix exists closer to the water. Approximately 12 mixed species ranging from 36" to 48" diameter and approximately 50 mixed species, 2"-12" diameter were counted in this area. Some dead trees also exist throughout the area. There is a dense understory consisting of Serviceberry, Oriental Bittersweet, Virginia Creeper, and particularly Poison Ivy and Poison Oak throughout the dam.

Typically the dam facing is exposed in limited areas and covered with several inches of soil and leaves in other areas. One section of the flatter stone apron to the right of the gatehouse had more than 30 inches of sediment built up on top of it. Nearby is a cluster of 12" to 18" diameter trees. The exposed stonework appeared generally to be intact with no major signs of cracking, missing stones (except as noted above) or piping apparent. There are numerous places where small gaps have developed between the stones providing shelter for animals or rooting spots for plants. The environment is conducive to plant growth and animal activity. Although no clear signs of burrowing were found chipmunks and squirrels were spotted on the dam. The extent of vegetative cover on the face of the dam is cause for concern due to root damage and the potential for piping and blow-downs.

There is debris littering the area along the shoreline including empty bottles, cups, garbage, and food wrappers providing evidence of human activity in the area and particularly near the gatehouse. There are some branches and natural debris scattered along the shoreline as well. The area around the gate house inlets appears to be free from debris at this time. There are signs of vandalism (primarily graffiti) on the face of the dam and the sides of the gate house. Fencing placed west of the gatehouse along the face of the dam has been shoved aside and partly pulled down. See the gatehouse structural comments below.

There appear to be approximately 150 to 180 trees located on the upstream face of the dam ranging in diameter from three inches to four feet. Some of these trees are located at the normal water line of the lake which may or may not be beyond the limit of the stone apron. Numerous mature trees are located on the sloped face of the dam and pose a threat to the safety of the dam. Additional trees are located near the top of the dam where the stone facing meets the top cap. Here the trees growing between the stones tend to force up the top cap, particularly near the gatehouse.

## Dam Crest

The crest of the dam currently extends approximately 60 feet from the fence line on the north side to a few feet beyond the edge of roadway pavement on the south side. Lakeside Drive runs along the crest of the dam for approximately 1100 feet starting west of Peninsula Boulevard before continuing around the west side of Hempstead Lake. The roadway is approximately 40 feet wide with a 12 foot travel lane and 8 foot shoulder in each direction. The roadway along the dam crest was repaved in 2014 and is in good condition. There are a few drainage inlets along both sides of the roadway. There were no apparent signs of erosion or settlement along this section of the roadway.

The north side of the dam crest ends at the stone cap that tops the stone facing on the upstream side of the dam. The stone cap is topped by a six foot chain link fence. The fencing is covered by vines that obstruct views of the lake and the upstream face of the dam. In numerous locations the stone cap has been lifted by small trees and shrubs growing between the stones. In one area towards the western end of the dam the chain link fencing has been cut.

## Downstream (South) Embankment

Currently, the downstream embankment of the dam consists of a gradual slope, the toe of which is approximately 60 to 80 feet south of the roadway pavement on the dam crest. The downstream embankment is heavily wooded with a mixture of juvenile and mature deciduous and evergreen trees ranging from 2" to 48" in diameter. Unlike the upstream side this side is not faced with stone. Tree species include Maples, Oaks, American Holly, Beeches, Birches and Pines. Shrub and vines include Serviceberry and Poison Ivy.

The downstream embankment is sloped at approximately 1 vertical on 2 horizontal and then the grade flattens out to meet the parking lot at the west end and the area around MacDonald's Pond at the east end. There are a few dirt pathways worn through the vegetation along the embankment toe and slope and there is a paved walk at the east end. The area downstream of the embankment includes open areas for recreation which are fairly well maintained and a more vegetated area featuring dirt paths near the middle of the dam. There is limited exposure of the downstream slope due to dense vegetation, heavy leaf litter, and ground covers but no signs of wet areas, animal burrowing, or piping were observed.

Mature vegetation on the upper portion of the dam on the downstream slope can pose a serious threat to the stability of the dam. Root growth into the embankment tends to loosen the surrounding soils increasing the potential for blow downs during major storm events and for piping through the dam. Tree roots can also affect the water level through the dam drawing it down by capillary

action. Removal of multiple large trees can cause the water level through the dam to rise suddenly destabilizing the downstream slope. The NYSDEC recommends removal of all trees from the crest of the dam to a distance of 50 feet beyond the downstream toe of slope. Given the large number of mature trees on the downstream slope of the dam this work must be approached with caution.

It is not clear how much adverse impact the existing vegetation is having on the embankment. As noted previously, the original crest of the dam was narrow (approximately 24 feet). The original downstream embankment was said to be sloped at 1 vertical on 2 horizontal. For a 14 foot high dam that would have placed the original downstream toe of the dam within the current roadway pavement area. Therefore the vegetation may theoretically be outside of the original dam design limits. Additionally, the contract documents for the dam indicate that it was to be built with an impervious clay core running the full length of the dam. A clay core would force seepage flow through the dam to be much deeper than through a similar dam without a clay core, hence root capillary action has much less impact.

Although we can speculate on how the dam was constructed we do not have as-built plans for either the original dam construction in 1873 or for the roadway widening along the dam crest. Lacking soil boring evidence indicating the presence of a clay core or a toe drain, trees on the downstream embankment should be removed in accordance with the NYSDEC's recommendations.

## Gatehouse Structural Inspection

As part of the safety inspection of the dam, LKB personnel performed a walk through visual inspection of the gatehouse on August 8, 2014. The gatehouse is located partially within the dam and extends out into the lake in front of the dam on the upstream side. The gatehouse features five slide gates at various elevations which are no longer functional and are rusted closed. Openings were cut into the two upper gates to maintain the water level of the lake at a reasonable level. Additionally the gatehouse features four overflow weirs set at a higher elevation than the gates.

Discharge through the gates and weirs enters the weir chamber located beneath the gatehouse control room and leaves the chamber through two 36 inch diameter pipes. The discharge pipes are located within a brick pipe arch that extends from the dam gatehouse to an outlet structure at South Pond. A portion of the brick pipe arch continues around the western perimeter of South Pond to another outlet structure located near the southwest corner of the pond. The pipe arch is bulk-headed at the weir chamber limiting outflow to the two pipes. The weir chamber and brick pipe arch was last inspected in 2002 when Hempstead Lake almost dried up. It was the only time that there was no flow into the weir

chamber and pipe arch system making safe for access. This inspection was limited to the interior of the gatehouse control room and the exterior of the structure above the water level of the lake. Documentation of the gatehouse inspection is as follows:

***Lower Stone Gatehouse***

The lower portion of the gatehouse consists of stone blocks which appear to be generally in good condition, where visible above the water line. The stone block portion of the building extends nearly to the top of the dam and includes the gates and weirs that control the water level of the lake. There is a section of block missing on the west side of the building where the wall meets the stone facing of the dam. Overall the stone base appears to be stable with no evidence of settlement or erosion. The high level of water in the lake did not allow for access to the portion of the building facing the lake or to the weir chamber. The partial remains of a steel catwalk bolted to the eastern side of the building are visible on the exterior wall. It was likely constructed to provide access to the weirs and a view of the gates along the north face of the building. All that remains are some bottom supports and part of the railing.

The five gates that control flow through the dam are rusted shut in the closed position. Openings were cut through the two upper gates to maintain a normal water surface level in Hempstead Lake. Currently all that is visible is the top of the two upper gates and the remains of the piping system that raised and lowered the gates. The actual openings and the lower three gates are below the current water surface so their condition is unknown. A new survey rod was installed through the floor of the gatehouse along the northern face of the building to measure the water level of the lake.

***Gatehouse Floor***

The floor between the lower stone portion and the upper brick gatehouse is supported by a jack arch system composed of steel beams spanning above the weir chamber which are filled with brick arches between the beams. The exposed bottom flanges of the beams are heavily rusted and the bottom course of bricks in the arches appears sound. The floor above is heavy covered with pigeon debris but areas of worn, cracked, partially settled concrete floor slab are visible. There is an opening to the weir chamber below near the center of the floor system which is secured by a rusted steel grate. Additionally there is a long rectangular opening in the floor with steel supports along the north face of the building where the rusty gate valve mechanisms are located. This opening overhangs the stone face of the building below and provides a view of the water level and the portion of rusted gates above the water line.

### *Upper Brick Gatehouse*

The upper portion of the gatehouse is constructed of red brick set atop the stone base. The bricks on the outside of the building are worn but generally in fair to good condition. There are sections of missing mortar and some minor cracks noted through the exterior bricks. The bricks are partially covered by moss particularly on the north side. Graffiti and vegetation cover other areas on the outside walls.

The bricks on the inside of the building are in fair condition with some areas of partially missing mortar and sporadic fine to medium vertical and diagonal cracks throughout the interior. In the central portion of the northern wall there is a 5 foot long ¼ inch wide diagonal crack from the floor slab through the window sill. This crack extends through the wall to the outside. It does not appear to have changed significantly since a previous inspection in 2004. There are also minor cracks at the top of the brick walls along with bricks which are bulging outward beneath several of the roof joist supports. The bricks in these areas appear to be competent and stable.

The wooden sills in some windows are deteriorated or split. The screening on some of the windows is missing. Holes in the roof combined with lack of window screening allows access for pigeons which have befouled the floor. The paint on the metal door is in poor condition and the door does not operate easily.

Although the gatehouse is worn with significant deterioration noted, the stability of the dam does not appear to be affected. This is primarily because the stone base of the gatehouse, which is built into the dam, appears stable with limited defects noted.

### *Gatehouse Roof System*

The gatehouse roof consists of corrugated steel roof panels supported by steel roof joist and stringers. The roof panels are heavily rusted and deteriorated, inside and out, with numerous holes along the bottom. The supporting steel is moderately to heavily rusted through.

## Recommendations

It is recommended that the following items of work be performed in accordance with all NYSDEC requirements and/or restrictions:

### Upstream (North) Embankment

a) All shrubs, groundcover and vines within the limits of the stone lined upstream embankment face and apron should be carefully cleared and grubbed to the extent possible while leaving the stones in place. Shrubs and ground cover obscure the face of the dam making it impossible to fully inspect. They also provide nesting grounds/food for wildlife which should be discouraged along the dam.

b) Upon clearing and grubbing, a bio-degradable herbicide, approved by the NYSDEC should be sprayed on the upstream stone embankment face and apron in accordance with the manufactures instructions.

c) All trees within the limits of the stone facing on the upstream embankment face and apron should be cut to six inches above the ground. The stumps should be left in place and sealed to retard root decay (see item d below). Trees pose a potential danger to the dam due to root damage while they are in place (through piping and/or uplifting) and structural damage should they become uprooted in a storm. If tree work is to be done over an extended period it should begin near the gatehouse and proceed towards the ends of the dam.

d) The extent of tree tap root penetrations into the stone facing is unknown. The root systems may be spread over the stone facing with limited penetration into the bedding material and embankment itself due to the tightly fitted stonework. We are currently investigating the feasibility of removing the test stumps that were cut last year. It appears at this time that the roots have extensively penetrated through joints in the stone facing and should be left in place and sealed with preservative. The stumps should then be inspected periodically to determine if settlement is occurring which may indicate the roots are decaying.

e) Trash, tree branches and debris should be removed from the dam face particularly in the vicinity of the gatehouse and spillway inlets.

f) Graffiti that might obscure underlying cracks/damage to the gatehouse and adjacent stone facing should be removed.

## Dam Crest

a) All shrubs, groundcover and vines within the limits of the dam crest and along the fence should be carefully cleared and grubbed allowing for full visual inspection.

b) Grass on the dam crest located on either side of the roadway should be mowed regularly. Tall grass obscures visual inspection of the crest and attracts wildlife.

c) Drainage structures within the roadway should be cleaned and inspected for damage and signs of leakage. Rip-rap should be provided around the downstream pipe outlet(s) to prevent erosion.

d) The pavement provides access to the dam and should be routinely inspected for settlement and maintained to prevent sediment buildup, growth of vegetation, and potential pavement damage due to freeze/thaw cycles. The pavement was recently re-paved and is in good condition.

## Downstream (South) Embankment

a) Typically mature woody vegetation on the downstream slope of an earthen dam represents a significant hazard to the safety/stability of the dam. Tree roots loosen the soil around them making the embankment more susceptible to slope failure. Tree roots also impact seepage through the dam by the uptake of soil moisture which tends to lower the zone of saturation. Because tree removals on the slope will likely raise the zone of saturation other tree roots located lower down the slope typically become saturated causing the trees to die. Trees must be removed along the downstream slope carefully with attention given to the sequence of removals and proper backfilling and compaction techniques.

   Consideration should be given to the downstream limits of the original dam and to the construction methods used to widen the crest of the dam in subsequent years. If drains were installed as part of the embankment/roadway widening then the seepage line may be low enough that the tree removals are less problematic. After the vegetation noted in (b) below is removed the location of trees on the downstream face should be carefully plotted relative to the height of the dam. A program for tree removals and slope restoration should then be developed and implemented.

b) All shrubs, groundcover and vines located along the downstream embankment face should be carefully cleared and grubbed, making it possible to visually inspect the embankment for seepage and rodent

activity. Any cavities resulting from grubbing should be filled and properly compacted.

c) Stabilize the embankment as necessary using erosion control measures and apply an appropriate native seed mix that can be maintained and will allow for visual inspection of the embankment.

## Gatehouse

a) Repair or replace the deteriorated stone blocks on the west side of the gatehouse near the current waterline. Repairs should also be performed to any other missing or damaged blocks noted once the water level recedes.

b) The bottom flanges of the beams supporting the floor slab should be cleaned and painted.

c) The floor above should be cleaned of all pigeon and other debris down to the floor slab. Repairs should be made to this slab if required.

d) The bricks both inside and out should be pointed as necessary and cracks routed and filled. Cracked or broken bricks should be replaced. Moss and vegetation should be removed.

e) The roof support steel should be cleaned and painted.

f) The roof panels should be removed and replaced.

g) The entrance door should be refurbished, cleaned and painted.

h) The wood window sills should be removed and replaced with brick.

i) Mesh or screening should be placed over window openings to keep birds and rodents out of the building.

j) Rusted remains of the metal catwalk around the outside of the gatehouse should be removed.

k) Installation of a water level gage should be considered.

l) Replacement of the rusted gates and control valves is currently being examined as part of the hydraulic analysis of the dam.

**Aerial view and stationing along Hempstead Lake Dam**

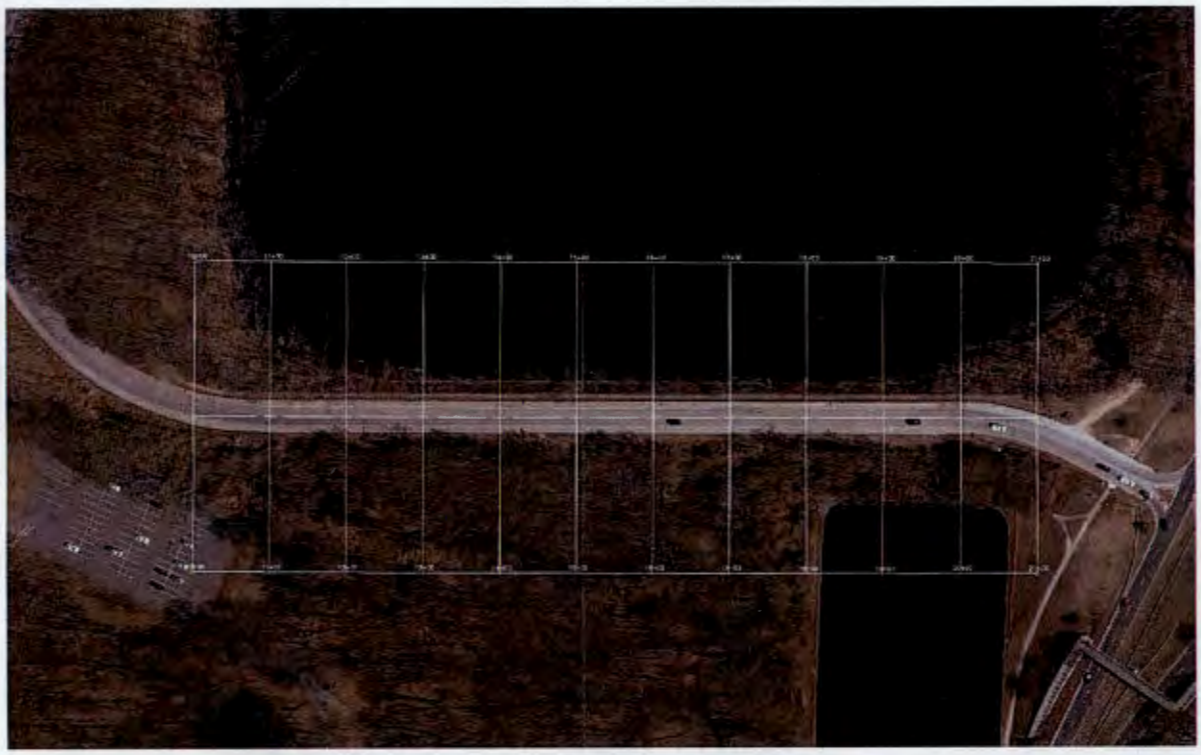

Photo 1. Hempstead Lake Dam – Lake at top and Lakeside Drive along crest.

**Upstream dam embankment photos**

Photo 2. Upstream dam embankment topped with chain link fence, gatehouse at left.

**Upstream dam embankment photos cont'd**

Photo 3. View looking west from gatehouse at the upstream face of Hempstead Lake Dam.

Photo 4. View looking east from gatehouse – note trees growing under cap stones.

**Upstream dam embankment photos cont'd**

Photos 5 & 6. Upstream stone facing is flatter at lake, steeper near crest, topped with fencing. The upstream face varies from densely vegetated with shrubs/vines to clear open spaces.

Photo 7. Dense vegetation at west (right) end of dam. Fence along top cap visible top center of photo. Sandy sediment accumulates on flat stone facing along the edge of the lake. Cottonwood trees grow along water line around the lake – unknown if stone facing extends to trees or not.

**Upstream dam embankment photos cont'd**

Photo 8. View of gatehouse from east (left) end of dam. Extensive graffiti on exterior walls. Roof holes provide interior access for pigeons.

Photo 9. View of depressed area and/or missing stone located west of the gatehouse. Area is approximately 12 inches lower than adjacent stones near trees.

**Test tree removal photos**

Photo 10. Tree removal test at east (left) end of the dam near the top cap.

Photo 11. Same test tree as above four months later. Note extensive root network on top of stone dam facing. Longest roots extend almost ten feet. Main roots grow in gaps between stones.

**Dam crest photos**

Photo 12. View along crest of dam (Lakeside Drive) looking west. Open lawn areas on both sides of the road give way to heavy vegetation on both sides. Upstream side at right in photo.

Photo 13. View along crest of dam (Lakeside Drive) looking east towards Peninsula Blvd.

**Downstream dam embankment photos**

Photo 14. View looking north across MacDonald's Pond at the downstream slope of dam with mature trees.

Photo 15. View looking north at dense vegetation downstream of the dam. Mounded area to left approximates the location of the brick pipe arch between the gatehouse and South Pond.

**Downstream dam embankment photos cont'd**

Photo 16. Dirt path through the dense vegetation. Downstream toe of dam is on right.

Photo 17. Mature trees on upper portion of downstream dam embankment slope.

**Downstream dam embankment photos cont'd**

Photo 18. Cleared path on downstream dam embankment slope from crest to toe.

Photo 19. Typical dense ground cover on downstream dam slope.

**Downstream dam embankment photos cont'd**

Photo 20. Roadway drainage pipe outlet at downstream toe of embankment.

Photo 21. Dense vegetation/vine cover near west end of downstream slope. Roadway light fixture near Lakeview Drive visible near top of photo.

**Gatehouse photos**

Photo 22. Southern exterior face of gatehouse and metal entrance door are heavily covered in graffiti. Windows have been bricked up. Vegetation growing on and near building.

Photo 23. Close up of doorway and rusted door. Missing brick.

**Gatehouse photos cont'd**

Photo 24. Western exterior wall featuring weir opening upper brick gatehouse on top of stone base weir chamber. Vegetation growing along the building face and on stone dam facing.

Photos 25 & 26. Eastern exterior wall showing worn bricks and remains of metal catwalk. Heavy vegetation has taken root near the NE corner of the building and on adjacent dam.

**Gatehouse photos cont'd**

Photo 27. View through opening in gatehouse floor of NW weir opening, stone exterior walls, new survey rod (at left), remains of gate valves and associated piping, top of rusted gate.

Photo 28. View through opening in gatehouse floor of NE weir opening, rusted valve stem piping, and top of rusted upper gate, and exterior stone walls.

**Gatehouse photos cont'd**

Photo 29. Deteriorated corrugated metal roof and bulging bricks at roof supports.

Photo 30. Rusted floor gate over opening to weir chamber. Excessive pigeon debris on worn concrete floor slab.

**New York State Department of Environmental Conservation**
**Division of Water**
**Bureau of Flood Protection and Dam Safety, 4th Floor**
625 Broadway, Albany, New York 12233-3504
**Phone:** (518) 402-8185 • **FAX:** (518) 402-9029
**Website:** www.dec.ny.gov

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FLOOD PROTECTION
AND DAM SAFETY

# Dam Safety Annual Certification Form

*6 NYCRR Part 673.8 requires that Owners of Class C - High Hazard and Class B -Intermediate Hazard dams submit an annual certification to the NYSDEC - Dam Safety Section by January 31 of each year. Please refer to 6 NYCRR Part 673 which governs the definitions and provides additional detail on the questions listed below.*

**Reporting Year:** 2015

**Dam Name:** Hempstead Lake Dam

**Dam Location:** County: Nassau County Town/City: Town of Hempstead

**NYS Dam ID No.:** 234-0193

**Hazard Class:** (select one) ○ B-Intermediate ◉ C-High

**Location (deg/min/sec):** Latitude: 40.6728 Longitude: 73.6470

1. Owner Name: NYS OPRHP LI Region - Attn: Mr. Wayne Horsley, Reg. Director
   Owner Address: 625 Belmont Ave
   Babylon, NY 11702-0247
   Owner Telephone Number: (631) 321-3402 eMail: _____

2. Do you have a written Inspection and Maintenance Plan, in compliance with Part 673, that is being implemented? ○ Yes ◉ No
   If no, provide date it will be completed/implemented: 12/31/17 / ___ / _____

3. Do you have a written Emergency Action Plan (EAP) in compliance with Part 673 and TOGS 3.1.3? ○ Yes ◉ No
   If yes, provide latest revision date of EAP: ___ / ___ / _____

4. Has an annual EAP review been completed for the reporting year? ○ Yes ◉ No
   If yes, fill in date review was completed: ___ / ___ / _____
   **If changes occurred, attach the updated pages OR**
   **I have reviewed the EAP and no changes, including phone numbers, are needed (initial here)** _____

**Certification**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision and that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

**This Certification must be signed by an individual on his or her own behalf, or by either a principal executive officer or ranking elected official, or duly authorized representative of the dam owner.**

Name: Marian Wypyski, PE

Title: Director of Civil Engineering

Company: Lockwood, Kessler & Bartlett, Inc.

Signature: Marian Wypyski

Date: 12/14/16

Send Form and Attachments to:

NYSDEC - Dam Safety Section
625 Broadway, 4th Floor
Albany, New York 12233-3504
Phone: (518) 402-8185
Fax: (518) 402-9029

Note: Please keep in mind the Dam Owner may have other reporting requirements as identified in Part 673 including, but not limited to, reporting: i) flow in an erodible auxiliary spillway, ii) change in ownership, and iii) an engineering assessment every 10 years, following initial assessment.

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE

**New York State Office of Parks, Recreation and Historic Preservation**
Long Island Region - Belmont Lake State Park, P.O. Box 247, Babylon, NY 11702-0247
www.nysparks.com

**Andrew M. Cuomo**
Governor

**Rose Harvey**
Commissioner

March 12, 2015

Mr. Syed Alam, P.E., Environmental Engineer 2
Dam Safety Section
New York State Department of Environmental Conservation
Division of Water
Bureau of Flood Protection and Dam Safety, 4th Floor
625 Broadway
Albany, NY 12233-3504

Dear Mr. Alam:

Re: Hempstead Lake Dam
DEC Dam ID #: 234-0193
Town of Hempstead, Nassau County

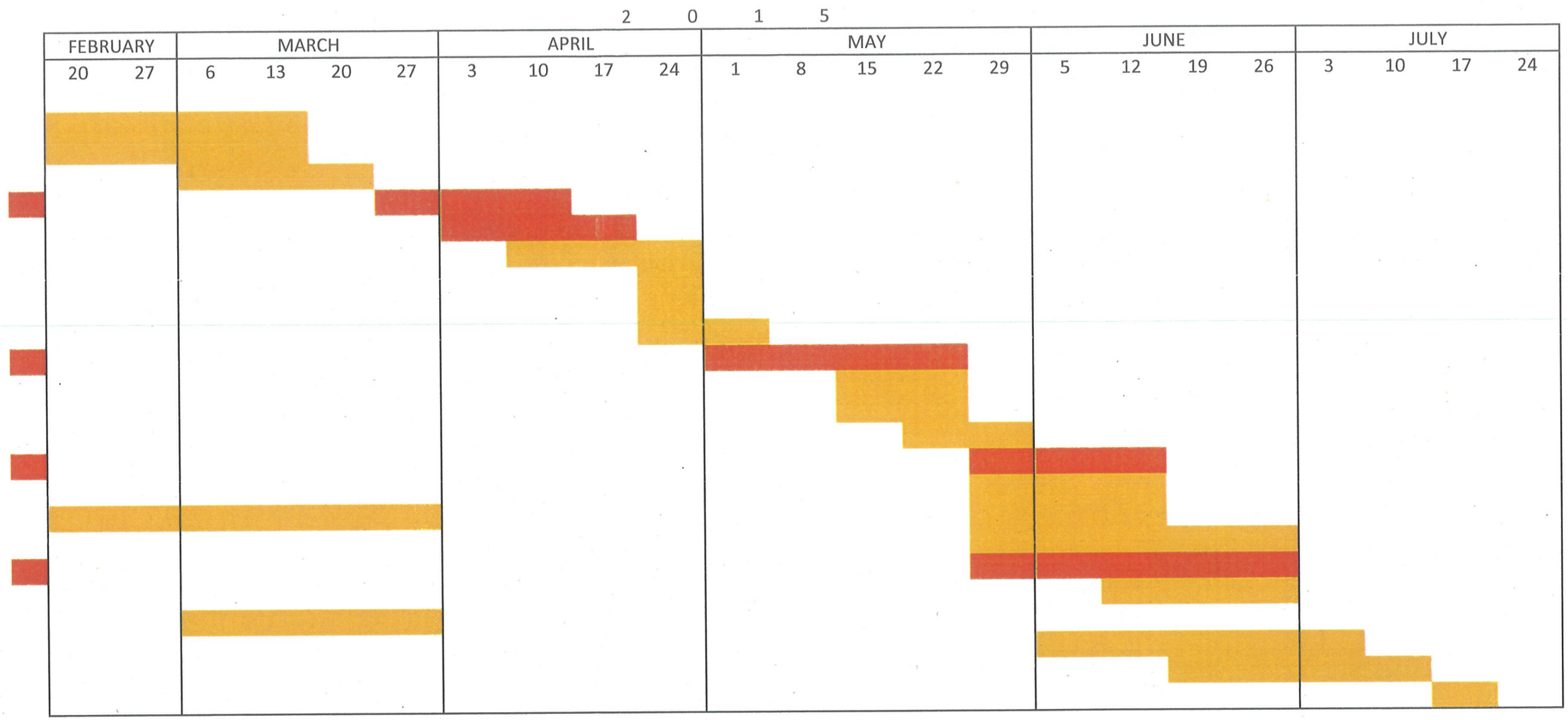
In response to your January 28, 2015 letter, LKB has been Parks' consultant for the Hempstead Lake dam. I have attached a schedule that was prepared by LKB for the completion of the compliance issues mentioned in your letter.

Sincerely,

Scott G. Fish, P.E.
Capital Facilities Regional Manager II

SGF:was
Attachment

I:\PROJECTS\0800 OSA NYSOPRHP\0800-06 Hempstead Lake Dam\SCHEDULE 2015 HL only.xlsx




4419-06 **Hempstead Lake Dam Project**

Preliminary Hydrologic write up
Preliminary HEC RAS results - exist
Preliminary Hydraulics write up
* Field survey shots at outlets
* Bathymetric survey across Lake
Tweak HEC RAS results - exist
Insert proposed NW Pond outlet
Re-run HEC HMS pr NW & ex Dam
Re-run HEC RAS pr NW & ex Dam
Develop proposed dam outlet(s)
Re-run HEC HMS pr NW & pr Dam
Re-run HEC RAS pr NW & pr Dam
Update Hydraulics write up for prop
Run HEC RAS DMBRK analysis
Complete H & H Report for EA
Complete Safety Inspection report
Complete Engineering Assessment
Develop contract plans prop improve
Develop permit apps for prop improve
Develop tree removal program
Update IMP to cover trees & pr improve
Update EAP to include flood mapping
Redistribute EAP to all agancies

*weather dependent items may shift schedule

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

**Division of Environmental Permits, Region 1**
SUNY @ Stony Brook, 50 Circle Road, Stony Brook, NY 11790
P: (631) 444-0365 I F: (631) 444-0360
www.dec.ny.gov

February 13, 2018

Christopher Prunty
Lockwood, Kessler & Bartlett, Inc.
1 Aerial Way
Syosset, NY 11791

Re: Application #1-2820-03703/00008
Hempstead Lake Dam Tree Removal

Dear Mr. Prunty:

The Department of Environmental Conservation (DEC) has completed a review of your client's most recent submission for a Freshwater Wetlands and Dam Safety permit to remove vegetation from the dams and we have the following comments.

The department has no objection in general to the project. However, technical staff indicate the following changes are required prior to permit issuance.

1. The report seems to have been stamped with a corporate stamp. Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York ("6 NYCRR"), Part 673.2, subsection k, define an engineer as an "individual" who is licensed and registered to practice engineering under article 145 of the Education Law of the State of New York. Please have the report stamped and signed by an engineer licensed to practice in New York State, as defined in 6 NYCRR.

2. Joint Application Form, "Proposed site changes" box states: "Trees and shrubs on the dams will be removed, earthen embankments will be re-graded to uniform slopes and then top-soiled and seeded." Will the project include regrading of the Hempstead Lake Dam? If so, the drawings and/or specifications should be revised to show this.

3. Drawing GN-1, Dam Safety, note 6 states: "'The Hempstead Lake Dam and gatehouse, underground brick pipe arch, South Pond gatehouse and outlet weir are historic structures and shall be repaired and restored in accordance with New York State Office of Parks, Recreation and Historic Preservation (NYS OPRHP) requirements. These structures are also functional water control features used to maintain flow through the watershed. Flow shall be maintained at all times." Neither the drawings nor the specifications give any information on this work, and this work

is not noted in the "Proposed site changes" box of the Joint Application Form. Please provide full details of this work or revise the Joint Application Form.

4. Specification 2.04.A states: "Filling material shall be free from debris or any material subject to decay and shall be porous, permitting free percolation of water, and shall consist of soil, gravel, and small stones, with less than 15% by volume of stone larger than 6" or greatest dimension." Please provide an evaluation showing that this porous material is compatible with the exiting embankment material, if applicable. Will the material be tested prior to its placement? Who will certify the quality of this material?

5. Compaction specifications continue to not be clear enough. The specifications and drawings should be revised to more clearly indicate the material, degree of compaction to be achieved, type of equipment, lift thickness, and method of moisture content control. Also, the name of the materials shown in the specifications should match the name used in the drawings, when applicable.

    - Note 1 in drawing TR-3 states: "Backfill with suitable material, and compaction shall be in accordance with NYSDEC standards and project specifications." Please provide a complete citation for the NYSDEC standards.
    - Note 3 in drawing TRD-1 states: "Place and compact suitable fill in accordance with NYSDEC standards and project specifications to subgrade elevation." Please provide a complete citation for the NYSDEC standards and define what you mean by subgrade elevation. Also, there are no specifications for the compact suitable fill. Please provide specifications for this material or revise this material name so as to match the material names listed in the specifications.
    - Specification 2.04.D refers to areas other than hill slopes but it does not specifically reference dam embankment regrading or void backfilling; nor is it clear in this specification whether both the specified compaction equipment and the maximum density at optimum moisture content refer to just pavements, lawns and planted areas, or to embankment regrading and void backfilling. Also, the maximum lift thickness before compaction for embankment regrading and void backfilling is not provided either in this specification or elsewhere in the report or drawings.
    - Drawing TR-2, detail "Temporary Grout Patch" states: "Area top [sic] be cleaned and backfilled with suitable granular material prior to application of 4" thick grout patch." There are no specifications for the suitable granular material. Please provide specifications for this material or revise this material name so as to match the material names listed in the specifications.
    - Specification 2.06.A states: "All locations where tree root balls and roots are removed shall be filled with suitable compacted fill and shall conform to the

requirements of Section 2.04 - Excavating, Filling and Grading of this specification." There are no specifications for the suitable compacted fill. Please provide specifications for this material or revise this material name so as to match the material names listed in the specifications.

6. Drawing TR-2, note 8: "Where stone facing is missing or where piping and/or settlement is a concern, a temporary grout patch shall be installed as ordered by the engineer." How will it be determined if piping is a concern? Who will make this determination? Please provide the maximum depth for which grout patching will be employed. The drawings or specifications should indicate that depths exceeding this maximum depth shall be further investigated.

If these changes are acceptable to your client, then revise the project plans as indicated above and submit five copies of revised plans to my attention. Revised plans must be updated to include a revision date. Processing of this application will remain mutually suspended until we receive a response to this letter.

Please call John Smith of the Dam Safety unit at 518-408-0338 with any technical questions, or myself at 631-444-0364 with any procedural questions.

Sincerely,

Elyssa Hopkins

Elyssa Hopkins
Environmental Analyst

cc: S. Fish - OPRHP
D. Lewis – BOH
J. Smith – Dam Safety
M. Accardi - GOSR
File

**New York State Department of Environmental Conservation**
**Division of Water**
**Bureau of Flood Protection and Dam Safety, 4th Floor**
625 Broadway, Albany, New York 12233-3504
**Phone:** (518) 402-8185 • **FAX:** (518) 402-9029
**Website:** www.dec.ny.gov

Peter M. Iwanowicz
Acting Commissioner

**Certified Mail – Return Receipt Requested**

December 29, 2010

Venice Joseph, Park Manager
Hempstead Lake State Park
P.O. Box 66
West Hempstead, NY 11552

Re: Hempstead Lake Dam
DEC Dam ID #: 234-0193
Town of Hempstead, Nassau County

Dear Mr. Joseph:

I conducted a routine visual inspection at the above referenced dam on October 5, 2010 as part of the Department of Environmental Conservation's (Department) ongoing Dam Safety program. Thank you for accompanying me on this inspection. A copy of my Visual Observations is enclosed for your information.

In general, the dam demonstrates a lack of maintenance. The downstream slope of the earthen section of the dam is too overgrown with dense brush and mature trees to inspect. The upstream slope has some brush and small trees. Trees, brush and other vegetation are not desirable on earthen dams for the following reasons:

- Extensive root systems can provide seepage paths for water, which can lead to internal erosion and failure of the dam.
- Trees that blow down or fall over can leave large holes in the embankment that will weaken the embankment and can shorten seepage paths.
- Brush and tall weeds obscure the surface, thereby limiting visual inspection, provide a haven for burrowing animals, and retard growth of grass vegetation.

The Department generally recommends a well-mowed, erosion-resistant cover such as grass for earth embankments, that small trees and brush (less than 4-inch diameter) be cut off at ground level at the owner's earliest convenience, and that the roots be left in place. Larger trees and all root balls should also be removed, but under the guidance of a professional engineer, and may require a dam safety permit. All undesirable vegetation should be cleared to 20-ft beyond the toe of the embankment, and all cut materials should be removed. A useful reference for developing a vegetation control plan is entitled "Technical Manual for Dam Owners: Impacts of Plants on Earthen Dams (FEMA 534)", dated September 2005, which can be downloaded from:
http://www.fema.gov/plan/prevent/damfailure/publications.shtm#2.

I have reviewed the April 2003 report titled "Hazard Classification Study, Hempstead Lake Dam, DEC # 214-0193", prepared by Civil Dynamics, inc. and received by the Department on April 23, 2007. Based on the report, and my observation of field conditions, the Dam's hazard classification has been reassigned from Class B – Intermediate Hazard to Class C – High Hazard. All high hazard dams should have an Emergency Action Plan (EAP). The EAP should be updated annually. Our records indicate that this dam does not have an EAP. Please develop and submit an EAP for the dam to our office for review.

As you know, this dam has serious inadequate spillway capacity based on both Army Corpse of Engineers July 1981 Phase I Inspection Report and Lockwood Kessler & Bartlett's ("LKB") March 2006 Report titled "Hydraulic Study of Hempstead Lake Dam Spillway at Hempstead Lake State Park". Also, the gates for low level drain are not operational. After reviewing the LKB report, the Dam Safety Section sent a letter (attached) with review comments to the engineer and a copy to Mr. Scott Fish (NYS Parks) dated December 31, 2007. The Department has not gotten a response to that letter to date.

Under the State Agency Environmental Audit, please note that this letter is a written notification from the Department's Dam Safety Section of significant deficiencies and direction that remedial measures must be undertaken at the dam. Please consider entering an N2 in "Rank" box 53A on the Compliance Status Report Form. This noncompliance status is due to serious inadequate spillway capacity and nonexistence of an adequate and operable low level drain.

New Dam Safety Regulations became effective on August 19, 2009. Additional information regarding these and other requirements along with a copy of the new regulations are available on the Department's website at: http://www.dec.ny.gov/lands/311.html
A brief summary of some of the requirements follows:

The owners of Class C - High Hazard dams are required to:

- Operate and maintain the dam and all appurtenant structures in a safe condition at all times;
- Maintain in good order all available records regarding the dam, and provide those records to any new owner;
- Develop and implement an Inspection and Maintenance Plan for each structure within 12 months (i.e. no later than August 19, 2010). An I&M Plan template can be found at: http://www.dec.ny.gov/lands/4991.html;
- Develop and submit to the Department an Emergency Action Plan for each structure no later than August 19, 2010, and annually thereafter. The Department's Draft "Guidance for Developing an Emergency Action Plan," TOGS 3.1.3, including an EAP Template, can be found at: http://www.dec.ny.gov/lands/4991.html;
- Submit to the Department an annual certification of ownership, and that the I&M plans are current and being implemented and that the EAPs are current, for each structure by January 31st of each year;
- Conduct a Safety Inspection by a Professional Engineer on a regular schedule as defined in the Inspection and Maintenance Plan;

- Conduct a full engineering assessment every 10 years, the first engineering assessment of a small, Class C dam is due no later than August 19, 2014; The Department's draft "Guidance for Dam Engineering Assessment Reports," TOGS 3.1.4, can be found at: http://www.dec.ny.gov/lands/4991.html;

- Report flows in erodible auxiliary spillways, within 5 days after the end of the incident.

Please respond to this letter within 30 days of receipt of this letter with your plan to address the above mentioned dam safety issues.

Please keep in mind that you should contact our office before performing repairs to the dam as the work may require Dam Safety Section approval. If you have any questions regarding this letter, or the Dam Safety program in general, please contact me at (518) 402-8185.

Sincerely,

S. N. Alam

Syed Alam, P.E.
Environmental Engineer 2
Dam Safety Section

ec w/ enc: Eric Star, DOW, NYSDEC Region 1
Bill Spitz, DOW, NYSDEC Region 1
Scott Fish, OPRHP
Brian Ednie, LKB

cc w/ enc: Kate Murray, Supervisor, Town of Hempstead

ec w/o enc: Nassau County Emergency Management Office

**New York State Department of Environmental Conservation**
**Bureau of Flood Protection and Dam Safety**
**625 Broadway, Albany, New York 12233-3507**

# Visual Observations

| | | | | | |
|---|---|---|---|---|---|
| *DAM NAME* | Hempstead Lake Dam | | | | |
| *STATE ID* | 234-0193 | SECTION | A | *HAZARD CODE* | C |
| *COUNTY* | Nassau | | | *INSPECTION DATE* | 10/5/2010 |
| *NEAREST DS CITY/TOWN* | Rockville Centre | | | *INSPECTOR(S)* | SNA |
| *OWNER'S NAME* | NYS PARKS & RECREATION LONG ISLAND | | | | |
| *DOWNSTREAM HAZARD* | Intermediate | | | *TOWNSHIP* | Town of Hempstead |
| *WATER LEVEL BEHIND DAM* | Normal pool | | | | |
| *DRAIN OPERATION* | Unknown | | | | |

*DEFICIENCIES*

| | | | | | |
|---|---|---|---|---|---|
| ☐ | *1)Seepage* | ☒ | *4)Maintenance* | ☐ | *7)Cracking* |
| ☐ | *2)Slope Stability* | ☐ | *5)Surficial Deterioration* | ☐ | *8)Movement/Misalignment* |
| ☒ | *3)Undesirable Growth* | ☐ | *6)Voids* | ☐ | *9)Data* |

Inspected with Venice Joseph (acting park manager)
Similar to previous inspection
Downstream slope is too overgrown with brush and mature trees to inspect properly
Upstream slope has brush and small trees
Spillway outlet is at the downstream end of a pond downstream

**Photo 1 Dam ID# 234-0193 Hempstead Lake Dam 10/05/2010**
Gate houise

**Photo 2 Dam ID# 234-0193 Hempstead Lake Dam 10/05/2010**
Upstream slope near gate house

**Photo 3 Dam ID# 234-0193 Hempstead Lake Dam 10/05/2010**
Dam crest - view from left side

**Photo 4 Dam ID# 234-0193 Hempstead Lake Dam 10/05/2010**
Downstream slope

**Photo 5 Dam ID# 234-0193 Hempstead Lake Dam 10/05/2010**
Mature trees on downstream slope

**Photo 6 Dam ID# 234-0193 Hempstead Lake Dam 10/05/2010**
Flow over spillway

**New York State Department of Environmental Conservation**
**Division of Water**
**Bureau of Flood Protection and Dam Safety, 4th Floor**
625 Broadway, Albany, New York 12233-3504
**Phone:** (518) 402-8185 • **FAX:** (518) 402-8082
**Website:** www.dec.state.ny.us

Alexander B. Grannis
Commissioner

December 31, 2007

Mr. Brian Ednie, PE
Lockwood, Kessler, and Bartlett, Inc.
Consulting Engineers
One Aerial Way
Syosset, New York 11791

RE: Hempstead Lake State Park Dam
DEC Dam ID#: 234-0193
Town of Hempstead, Nassau County
Draft Hydrologic and Hydraulic Report Review Comments

Dear Mr. Ednie:

I have completed my review of your draft hydrologic and hydraulic report including the following documents:

1. Report entitled "Hydraulic Study of the Hempstead Lake Dam Spillway at Hempstead Lake State Park, prepared for New York State Office of Parks, Recreation and Historic Preservation," dated March 2006, prepared by Lockwood, Kessler, and Bartlett, Inc.

2. Report entitled "Hazard Classification Study, Hempstead Lake Dam, DEC # 234-0193, Mill River Basin, Mill River, Town of Hempstead, Nassau County, New York," dated April 2003, and prepared by Civil Dynamics, Inc., Civil Engineering and Land Surveying.

3. Report entitled "Study of Northern Ponds and Gatehouse, prepared for New York State Office of Parks, Recreation, and Historic Preservation, for Hempstead Lake State Park," dated November 2000, prepared by Cameron Engineering and Associates, LLP.

4. Report entitled "Study of Northern Ponds and Hempstead Lake at Hempstead Lake State Park, Prepared For The New York State Office of Parks, Recreation and Historic Preservation, Long Island Region," dated August 2002, prepared by Gibbons, Esposito and Boyce Engineers, P.C.

Please provide a response and additional information regarding the following technical issues.

Hydrologic and Hydraulic Analysis

1. The hydrologic analysis in the report uses a rainfall amount derived from ½ of the 24 hour full PMP value (34 inches for full PMP) for Long Island for a 24 hour storm event, or 17 inches of rainfall for the ½ PMP. While the results from this analysis are conservative based upon a general review of the analysis, there are several issues with this computation approach. HMR 51 provides generalized estimates of all season probable maximum precipitation (PMP) applicable to areas east of the 105$^{th}$ meridian. HMR 52 is used to apply PMP estimates provided in HMR 51 spatially and temporally to a particular drainage area. The spatial and temporal distribution, as determined using HMR 52, determines the maximum PMP precipitation which will fall over a particular watershed. The hydrologic analysis is typically performed using the full PMP to determine the full PMF hydrograph. The ½ PMF flow is determined by taking ½ of the value of the full PMF flow. The ½ PMF value should be used to perform the hydraulic analysis for the spillway. It is recommended that the analysis submitted in the report be reviewed to determine if the PMP and ½ PMP values used provide overly conservative results which may want to be more accurately computed for determining water surface elevations and spillway capacity. In addition, the water surface elevation needs to be verified as a result of the analysis to ensure that the dam stability is properly addressed.

2. The time of concentrations used in the analysis are based upon a previous report and are entered as direct entry values in the analysis. A review of this previous report did not indicate a clear computation or justification for the time of concentration values. Provide a description with justification and computations supporting these values. A statement that a previous report was reviewed and the values from that report were judged to be acceptable and have therefore been used is not sufficient.

3. The curve number used in the analysis has been listed as 65, but no basis for this selection was provided. Please provide justification and documentation as to how the curve number was selected.

4. Hydraulic computations for the spillway need to be provided which demonstrate that the spillway can pass the spillway design flood of ½ PMF. In addition, provide calculations which demonstrate that the service spillway can pass a 25 year storm event.

Other Noted Issues

The dam has mature trees on both the upstream and downstream slopes which will need to be addressed as part of the dam rehabilitation project.

A dam safety permit application package will be required for submission to the New York State Department of Environmental Conservation (DEC) prior to the performance of any work on the dam. The application package requirements include: a written description of downstream conditions and expected damage in the event of dam failure, and hazard class designation; Application Form D-1; design drawings, signed and sealed by a Professional Engineer currently registered in the State of New York; a design report prepared by a Professional Engineer, including hydrologic and hydraulic analysis, stability analysis for the proposed dam, subsurface investigation, schedule of construction inspection activities, specifications for the proposed materials and their installation; Emergency Action Plan, and preparation of an Inspection and Maintenance (I & M) Plan.

If you have any questions related to this letter, please contact myself or Syed Alam at the telephone number listed above.

Sincerely,

David Harmon

David Harmon, PE
Dam Safety Section
Environmental Engineer 2

cc: S Fish, NYS Parks
Eric Star, NYSDEC Region 1

**New York State Department of Environmental Conservation**
**Division of Water**
**Bureau of Flood Protection and Dam Safety, 4th Floor**
625 Broadway, Albany, New York 12233-3504
**Phone:** (518) 402-8185 • **FAX:** (518) 402-9029
**Website:** www.dec.ny.gov

Joe Martens
Commissioner

**Certified Mail – Return Receipt Requested**

February 5, 2013

Scot Fish, Capital Facilities Regional Manager II
NYS OPR&HP-Long Island Region
Belmont Lake State Park
P.O. Box 247
Babylon, NY 11702

Re: Hempstead Lake Dam
DEC Dam ID #: 234-0193
Town of Hempstead, Nassau County

Dear Mr. Fish:

I conducted a routine visual inspection at the above referenced dams on December 12, 2012 as part of the Department of Environmental Conservation's (Department) ongoing Dam Safety program. I am writing to you because it is my understanding that you are, or represent, the owner of this structure. A copy of my Visual Observations is enclosed for your information.

The left/right nomenclature used in this letter and in the enclosed Visual Observation Report is based on looking downstream from the center of the service spillway at the dam's crest.

In general, the dam demonstrates a lack of maintenance. The downstream slope of the dam is too overgrown with dense brush and mature trees to inspect. The upstream slope has some brush and small trees.

As you know, this dam has serious inadequate spillway capacity based on both Army Corpse of Engineers July 1981 Phase I Inspection Report and Lockwood Kessler & Bartlett's ("LKB") March 2006 Report titled "Hydraulic Study of Hempstead Lake Dam Spillway at Hempstead Lake State Park". Also, the gates for low level drain are not operational.

Under the State Agency Environmental Audit, please note that this letter is a written notification from the Department's Dam Safety Section of significant deficiencies and direction that remedial measures must be undertaken at the dam. Please consider entering an N2 in "Rank" box 53A on the Compliance Status Report Form. This noncompliance status is due to serious inadequate spillway capacity and nonexistence of an adequate and operable low level drain.

The Department issued revised dam safety regulations (6 NYCRR Part 673) on August 19, 2009. You are encouraged to read and become familiar with the revised regulations and the specific requirements that may apply to you. The Compliance Status Table below details the dam's current compliance status for those sections of the regulations that had or have specific deadlines for compliance.

*Compliance Status Table:*

| Citation | Requirement | Status |
|---|---|---|
| 673.6 | Develop and implement an Inspection & Maintenance Plan (I&M Plan). Plan does not have to be submitted to the Department but needs to be available for inspection if requested. Guidance can be found at http://www.dec.ny.gov/lands/4991.html. | Plan should be on file with the dam owner. |
| 673.7 | Develop and distribute to the local emergency responders an Emergency Action Plan (EAP) no later than August 19, 2010. EAP should be updated on an annual basis. | EAP submitted December 2012. |
| 673.8 | Submit an Annual Certification to the Department by January 31 of each year (certification is for the previous year). An annual certification form can be found at: http://www.dec.ny.gov/docs/water_pdf/damsacf1010.pdf. | 2012 Annual Certification has not been received yet. No Annual Certification has been received for 2011. **Submit Annual Certification.** |
| 673.13 | Complete and submit to the Department an Engineering Assessment (EA) by August 19, 2014. EA must be performed by a New York State Professional Engineer. The EA must be updated every 10 years after the initial submittal. EA guidance is available at: http://www.dec.ny.gov/docs/water_pdf/damfengarpt.pdf. | EA due no later than August 19, 2014. |

Please keep in mind that you should contact our office before performing repairs to the dam as the work may require Dam Safety Section approval.

Please respond within 30 days of receipt of this letter with your plan to address the above mentioned dam safety issues.

If you have any questions regarding this letter, or the Dam Safety program in general, please contact me at (518) 402-8185.

Sincerely,

S. N

Syed Alam, P.E.
Environmental Engineer 2
Dam Safety Section

| | |
|---|---|
| ec w/ enc: | Eric Star, DOW, NYSDEC Region 1 |
| | Bill Spitz, DOW, NYSDEC Region 1 |
| cc w/ enc: | Kate Murray, Supervisor, Town of Hempstead (Hempstead Town Hall |
| | One Washington Street, Hempstead, NY 11550, (516) 489-5000) |
| ec w/o enc: | Nassau County Emergency Management Office |

**New York State Department of Environmental Conservation**
**Bureau of Flood Protection and Dam Safety**

# Visual Observations

| | | | | | |
|---|---|---|---|---|---|
| *DAM NAME* | Hempstead Lake Dam | | | | |
| *STATE ID* | 234-0193 | SECTION | A | *HAZARD CODE* | C |
| *COUNTY* | Nassau | | | *INSPECTION DATE* | 12/12/2012 |
| *NEAREST DS CITY/TOWN* | Rockville Centre | | | *INSPECTOR(S)* | SNA |
| *OWNER'S NAME* | NYS PARKS & RECREATION LONG ISLAND | | | | |
| *DOWNSTREAM HAZARD* | High | | | *TOWNSHIP* | Town of Hempstead |

*WATER LEVEL BEHIND DAM* 7 feet 7 inches from lake bottom

*DRAIN OPERATION* Unknown

*DEFICIENCIES*

| | | | | | |
|---|---|---|---|---|---|
| ☐ | *1)Seepage* | ☐ | *4)Maintenance* | ☐ | *7)Cracking* |
| ☐ | *2)Slope Stability* | ☐ | *5)Surficial Deterioration* | ☐ | *8)Movement/Misalignment* |
| ☐ | *3)Undesirable Growth* | ☐ | *6)Voids* | ☐ | *9)Data* |

Inspected with William Brown (park manager)
Similar to previous inspection
Downstream slope is too overgrown with brush and mature trees to inspect properly
Upstream slope has brush and small trees
Spillway outlet is at the downstream end of a pond downstream (.5 inch flow depth over spillway)

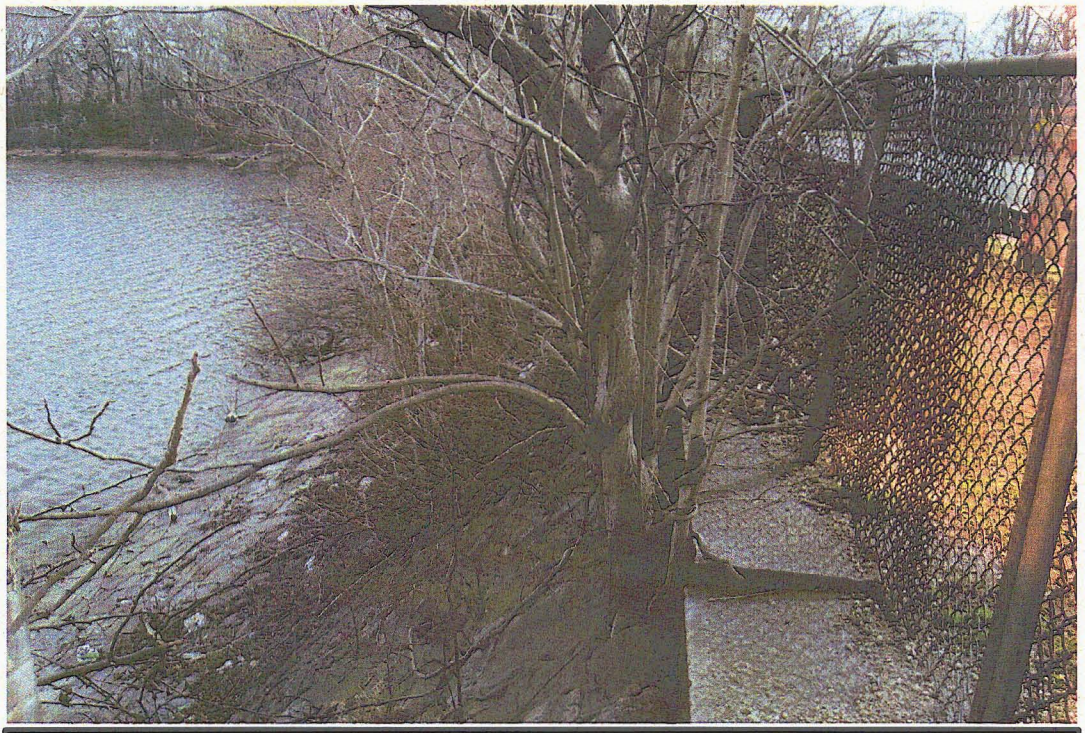


**Photo 1 Dam ID# 234-0193 Hempstead Lake Dam 12/12/2012**
Upstream slope

**Photo 2 Dam ID# 234-0193 Hempstead Lake Dam 12/12/2012**
Dam crest - view towards right abutment

**Photo 3 Dam ID# 234-0193 Hempstead Lake Dam 12/12/2012**
Mature trees on downstream slope

**Photo 4 Dam ID# 234-0193 Hempstead Lake Dam 12/12/2012**
Downstream slope

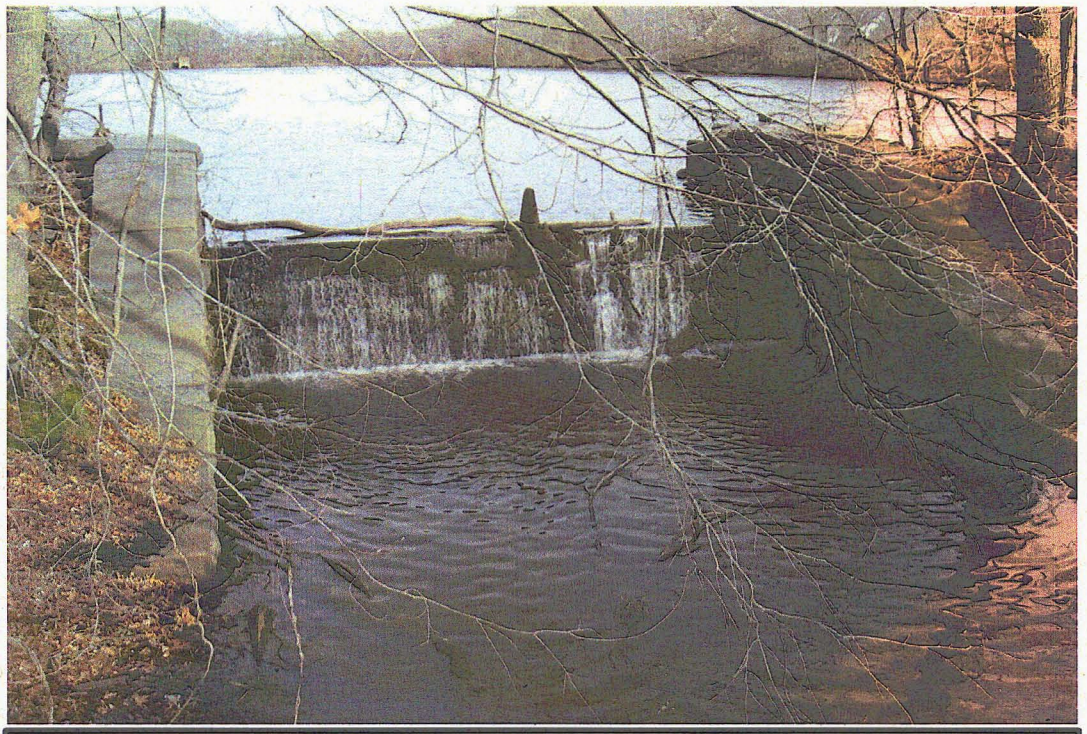


**Photo 5 Dam ID# 234-0193 Hempstead Lake Dam 12/12/2012**
Spillway at the end of downstream pond

**New York State Department of Environmental Conservation**
**Division of Water**
**Bureau of Flood Protection and Dam Safety, 4th Floor**
625 Broadway, Albany, New York 12233-3504
**Phone:** (518) 402-8185 • **FAX:** (518) 402-9029
**Website:** www.dec.ny.gov

Joe Martens
Commissioner

**Certified Mail – Return Receipt Requested**

January 28, 2015

Scott Fish, Capital Facilities Regional Manager II
NYS OPR&HP-Long Island Region
Belmont Lake State Park
P.O. Box 247
Babylon, NY 11702

Re: Hempstead Lake Dam
DEC Dam ID #: 234-0193
Town of Hempstead, Nassau County

Dear Mr. Fish:

I conducted a routine visual inspection at the above referenced dam on October 9, 2014 as part of the Department of Environmental Conservation's (Department) ongoing Dam Safety program. I am writing to you because it is my understanding that you are, or represent, the owner of this structure. A copy of my Visual Observations is enclosed.

The left/right nomenclature used in this letter and in the enclosed Visual Observation Report is based on looking downstream from the center of the service spillway at the dam's crest.

The condition of the dam is similar to the condition noted in previous inspections and has most likely deteriorated further due to the lack of maintenance. The downstream slope of the dam is too overgrown with dense brush and mature trees to inspect. The upstream slope has some brush and small trees.

As you know, this dam has serious inadequate spillway capacity based on both the Army Corps of Engineers July 1981 Phase I Inspection Report and Lockwood Kessler & Bartlett's ("LKB") March 2006 Report titled "Hydraulic Study of Hempstead Lake Dam Spillway at Hempstead Lake State Park." Also, the gates for low level drain are not operational.

Under the State Agency Environmental Audit, please note that this letter is a written notification from the Department's Dam Safety Section of significant deficiencies and direction that remedial measures must be undertaken at the dam. Please consider entering an N2 in "Rank" Box 53A on the Compliance Status Report Form. This noncompliance status is due to serious inadequate spillway capacity and nonexistence of an adequate and operable low level drain.

The table below details the dam's current status for those sections of the regulations that have specific deadlines:

*Compliance Status Table:*

| Citation | Requirement | Status |
|---|---|---|
| 673.6 | Develop and implement a written Inspection & Maintenance Plan (I&M Plan). Owner to retain the Plan in good order and certify annually to the Department that it is complete. Guidance can be found at http://www.dec.ny.gov/lands/4991.html. | I&M Plan review has not been requested by the Department. |
| 673.7 | Develop and distribute to the local emergency responders an Emergency Action Plan (EAP). EAP should be updated on an annual basis. Guidance for developing an EAP can be found at: http://www.dec.ny.gov/lands/4991.html | EAP submitted 12/19/2012. **Submit updated EAP.** |
| 673.8 | Submit an Annual Certification to the Department January 31 of each year (certification is for the previous year). An annual certification form can be found at: http://www.dec.ny.gov/lands/58691.html | Submit 2014 Annual Certification by January 31, 2015. |
| 673.13 | Complete and submit to the Department an Engineering Assessment (EA) by August 19, 2014 (small C dam). EA must be performed by a New York State Professional Engineer. The EA must be updated every 10 years after the initial submittal. EA guidance is available at: http://www.dec.ny.gov/docs/water_pdf/damfengarpt.pdf. | EA overdue. **Submit EA immediately.** |

You should hire a professional engineer (P.E.), registered in New York State and with experience in dam safety, to fully evaluate the structure and recommend alternatives for repair and to bring the dam fully into compliance with applicable safety criteria, as discussed in the Department's Guidelines for Design of Dams.

A written response to the Department is required of you within 30 days of the date of this letter. Your responsive letter must describe your plans, including a schedule for bringing the dam into compliance and submission of an updated EAP and EA.

Please keep in mind that you should contact our office before performing repairs to the dam as the work may require Dam Safety Section approval.

If you have any questions regarding this letter, or the Dam Safety program in general, please contact me at (518) 402-8185.

Sincerely,

S. N. Alam

Syed Alam, P.E.
Environmental Engineer 2
Dam Safety Section

ec w/ enc: Tony Leung, DOW, NYSDEC Region 1
Eric Star, DOW, NYSDEC Region 1

cc w/ enc: Kate Murray, Supervisor, Town of Hempstead (Mailto: Hempstead Town Hall One Washington Street, Hempstead, NY 11550)

ec w/o enc: Nassau County Emergency Management Office

**New York State Department of Environmental Conservation**
**Bureau of Flood Protection and Dam Safety**

# Visual Observations

| | | | | | |
|---|---|---|---|---|---|
| *DAM NAME* | Hempstead Lake Dam | | | | |
| *STATE ID* | 234-0193 | SECTION | A | *HAZARD CODE* | C |
| *COUNTY* | Nassau | | | *INSPECTION DATE* | 10/9/2014 |
| *NEAREST DS CITY/TOWN* | Rockville Centre | | | *INSPECTOR(S)* | SNA |
| *OWNER'S NAME* | NYS PARKS & RECREATION LONG ISLAND | | | | |
| *DOWNSTREAM HAZARD* | High | | | *TOWNSHIP* | Town of Hempstead |

*WATER LEVEL BEHIND DAM* Normal pool

*DRAIN OPERATION* Not observed

*DEFICIENCIES*

| | | | | | |
|---|---|---|---|---|---|
| ☐ | *1)Seepage* | ☐ | *4)Maintenance* | ☐ | *7)Cracking* |
| ☐ | *2)Slope Stability* | ☐ | *5)Surficial Deterioration* | ☐ | *8)Movement/Misalignment* |
| ☐ | *3)Undesirable Growth* | ☐ | *6)Voids* | ☐ | *9)Data* |

–Condition similar to previous inspections
–Brush and trees along upstream slope
–Downstream slope too overgrown with brush and mature trees to inspect

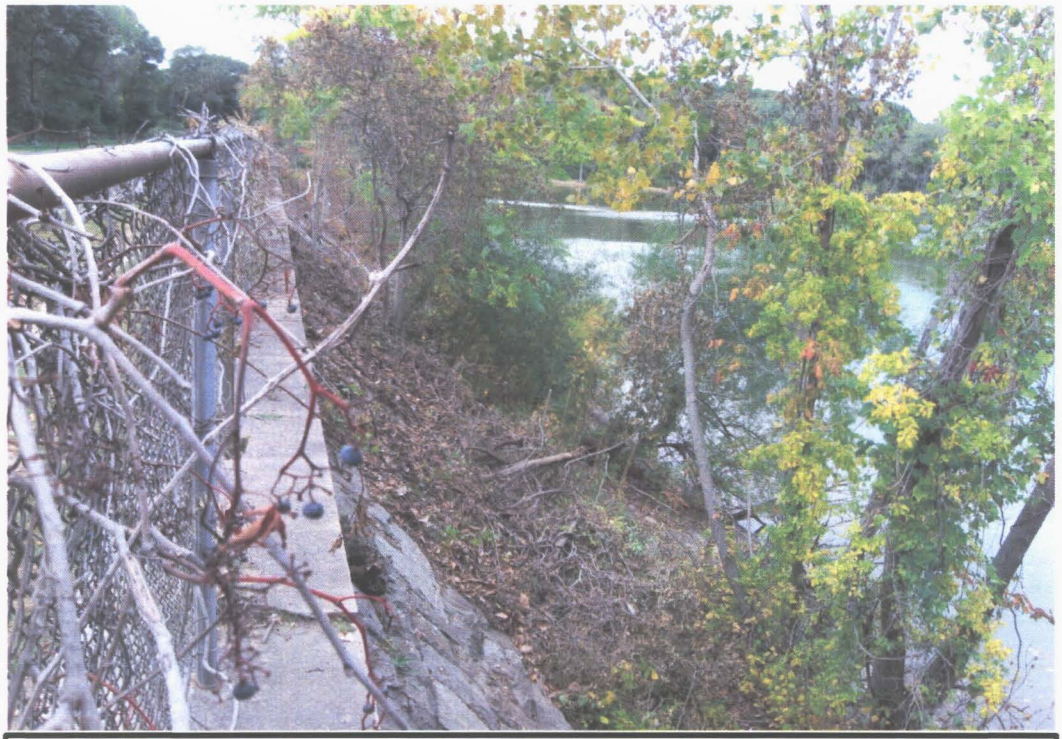


**Photo 1 Dam ID# 234-0193 Hempstead Lake Dam 10/09/2014**
Upstream slope

**Photo 2 Dam ID# 234-0193 Hempstead Lake Dam 10/09/2014**
Dam crest looking towards right abutment

**Photo 3 Dam ID# 234-0193 Hempstead Lake Dam 10/09/2014**
Downstream slope

**Photo 4 Dam ID# 234-0193 Hempstead Lake Dam 10/09/2014**
Downstream toe

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

**Division of Water, Bureau of Flood Protection and Dam Safety**
625 Broadway, Albany, New York 12233-3504
P: (518) 402-8185 I F: (518) 402-9029
www.dec.ny.gov

**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

November 16, 2016

Scott Fish, Capital Facilities Regional Manager II
NYS OPR&HP – Long Island Region
Belmont Lake State Park
P.O. Box 247
Babylon, NY 11702

Re: Hempstead Lake Dam, DEC ID#: 234-0193, High Hazard
Town of Hempstead, Nassau County

Re: South Pond Dam, DEC ID#: 234-0192, Low Hazard
Village of Rockville Centre, Nassau County

Dear Mr. Fish:

Syed Alam and I conducted a routine visual inspection at the above referenced dams on November 3, 2016 as part of the Department of Environmental Conservation's (Department) ongoing Dam Safety program. William Brown, Park Manager for New York State Parks and Christopher Prunty, P.E., Engineer for Lockwood Kessler & Bartlett Inc, accompanied us during the inspection. I am writing to you because it is my understanding that you are, or represent, the owner of these structure. A copy of my Visual Observations is enclosed.

The left/right nomenclature used in this letter and in the enclosed Visual Observation Report is based on looking downstream from the center of the service spillway at the dam's crest.

Highlights of the inspections are below:

Hempstead Lake Dam:

The dam is in similar condition to previous inspections. There are trees and brush growing through the upstream stone lining. The downstream embankment is too overgrown with trees and brush to inspect. The low level outlets are still not operable. As you are aware, the structure's spillway does not have adequate capacity to pass the design flood for a high hazard dam. Such an event will result in the overtopping of the dam and its embankments. Since overtopping of dam embankment may result in its failure, it is important that the inadequate spillway capacity be addressed. This is a high hazard dam which means failure of this dam can result in loss of life and serious economic damage.

South Pond Dam:

This dam has not been maintained. There are trees and brush covering the entire dam. The crest of the dam is uneven and narrow in some locations. The uneven crest could focus erosive action that could breach the dam if the dam was to over top during a large storm event.

The Department recommends hiring a professional engineer (P.E.), registered in New York State and with experience in dam safety, to fully evaluate the structure and recommend alternatives for repair and to bring the dam fully into compliance with applicable safety criteria, as discussed in the Department's Guidelines for Design of Dams.

The table below details the current status for Hempstead Lake Dam for those sections of the regulations that have specific deadlines:

| Citation | Requirement | Status |
|---|---|---|
| 673.6 | Develop and implement a written Inspection & Maintenance Plan (I&M Plan). Owner to retain the Plan in good order and certify annually to the Department that it is complete. Guidance can be found at http://www.dec.ny.gov/lands/4991.html. | I&M Plan review has not been requested by the Department. |
| 673.7 | Develop and distribute to the local emergency responders an Emergency Action Plan (EAP). EAP should be updated on an annual basis. Guidance for developing an EAP can be found at: http://www.dec.ny.gov/lands/4991.html | EAP submitted 12/19/2012. **Submit updated EAP.** |
| 673.8 | Submit an Annual Certification to the Department January 31 of each year (certification is for the previous year). An annual certification form can be found at: http://www.dec.ny.gov/lands/58691.html | **Submit 2015 Annual Certification immediately.** |
| 673.13 | Complete and submit to the Department an Engineering Assessment (EA) by August 19, 2014 (small C dam). EA must be performed by a New York State Professional Engineer. The EA must be updated every 10 years after the initial submittal. EA guidance is available at: http://www.dec.ny.gov/docs/water_pdf/damfengarpt.pdf. | EA overdue. **Submit EA immediately.** |

South Pond Dam has a hazard classification of "Class A - Low Hazard." This means that a failure of the dam is unlikely to result in damage to anything more than isolated or unoccupied buildings, undeveloped lands, minor roads such as town or county roads; is unlikely to result in interruption of important utilities, including water supply, sewerage treatment, fuel, power, cable or telephone infrastructure; and/or is otherwise unlikely to pose a threat of personal injury, substantial economic loss or substantial environmental damage.

The revised dam safety regulations became effective on August 19, 2009. The owners of Class A - Low Hazard dams are required to:

1. Operate and maintain the dam and all appurtenant structures in a safe condition at all times;

2. Maintain in good order all available records regarding the dam, and provide those records to any new owner;

3. Develop and implement an Inspection and Maintenance (I&M) Plan for each structure within 12 months (i.e. no later than August 19, 2010).

Please provide a written response to this letter no later than December 16, 2016 with your plans and schedule for remedial action that will bring the dams into conformance with dam safety criteria.

Please keep in mind that you should contact our office before performing repairs to the dam as the work may require Dam Safety Section approval.

If you have any questions regarding this letter, or the Dam Safety program in general, please contact Syed Alam at (518) 402-8185.

Sincerely,

Jennifer Ross

Jennifer Ross, E.I.T.
Environmental Engineer 1
Dam Safety Section

ec w/ enc: Eric Star, DOW, NYSDEC Region 1
Syed Alam, NYSDEC, Dam Safety Section
Anthony J. Santino, Supervisor, Town of Hempstead, asantino@tohmail.org
William Brown, Park Manager, William.brown@parks.ny.gov

cc w/ enc: Francis X. Murray, Mayor, Village of Rockville Centre, (P.O. Box 950, Rockville Centre, NY 11571-0950)

ec w/o enc: Craig Craft, Commissioner, Nassau County Emergency Management, ccraft@nassaucountyny.gov

**New York State Department of Environmental Conservation**
**Bureau of Flood Protection and Dam Safety**

# Visual Observations

| | | | | | |
|---|---|---|---|---|---|
| *DAM NAME* | Hempstead Lake Dam | | | | |
| *STATE ID* | 234-0193 | SECTION | A | *HAZARD CODE* | C |
| *COUNTY* | Nassau | | | *INSPECTION DATE* | 11/3/2016 |
| *NEAREST DS CITY/TOWN* | Rockville Centre | | | *INSPECTOR(S)* | SNA/JER |
| *OWNER'S NAME* | NYS OFFICE OF PARKS, RECREATION & HISTORIC PRESERVATION- LONG ISLAND REGION | | | | |
| *DOWNSTREAM HAZARD* | High | | | *TOWNSHIP* | Town of Hempstead |

*WATER LEVEL BEHIND DAM* Approximately 13 feet below spillway crest

*DRAIN OPERATION* Not operational

*DEFICIENCIES*

| | | | | | |
|---|---|---|---|---|---|
| ☐ | *1)Seepage* | ☒ | *4)Maintenance* | ☐ | *7)Cracking* |
| ☐ | *2)Slope Stability* | ☐ | *5)Surficial Deterioration* | ☐ | *8)Movement/Misalignment* |
| ☒ | *3)Undesirable Growth* | ☐ | *6)Voids* | ☐ | *9)Data* |

–Inspected with Bill Brown, Park Manager, and Chris Prunty, P.E., Engineer for Lockwood, Kessler & Bartlett, Inc.

Upstream:

–Trees and brush are growing through the stone on the upstream embankment.

Downstream:

–Downstream embankment slope is too overgrown with trees and brush to inspect.

**Photo 1 Dam ID# 234-0193 Hempstead Lake Dam 11/03/2016**
Spillway weir on right side of intake tower

**Photo 2 Dam ID# 234-0193 Hempstead Lake Dam 11/03/2016**
Low level valve operators - not operable

**Photo 3 Dam ID# 234-0193 Hempstead Lake Dam 11/03/2016**
Right upstream embankment slope

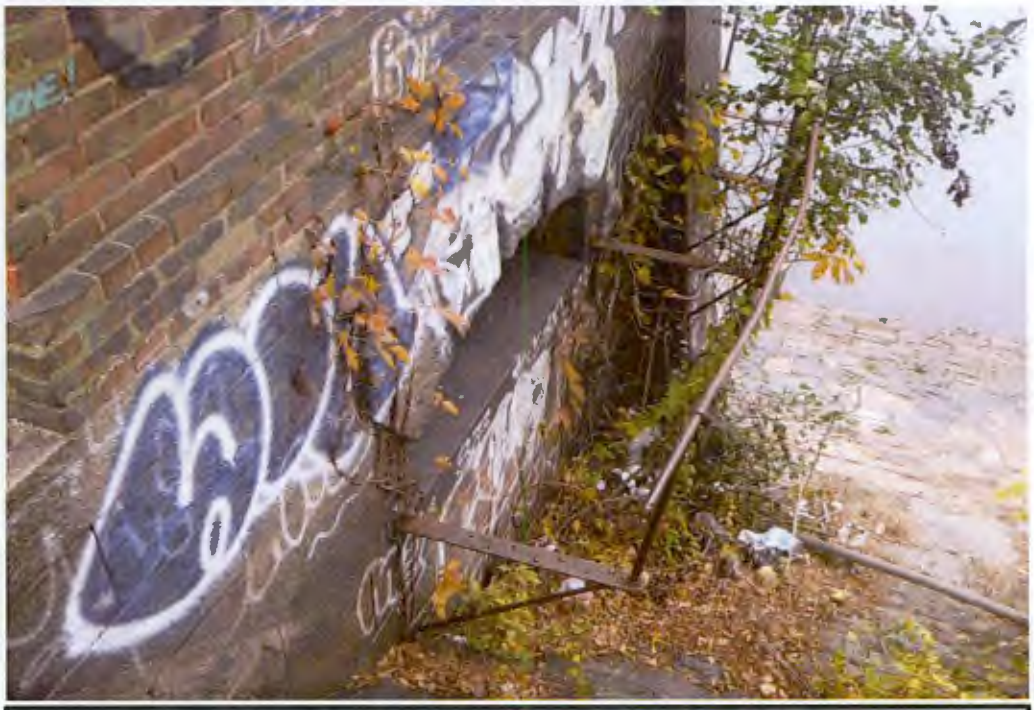


**Photo 4 Dam ID# 234-0193 Hempstead Lake Dam 11/03/2016**
Spillway weir on left side of intake tower

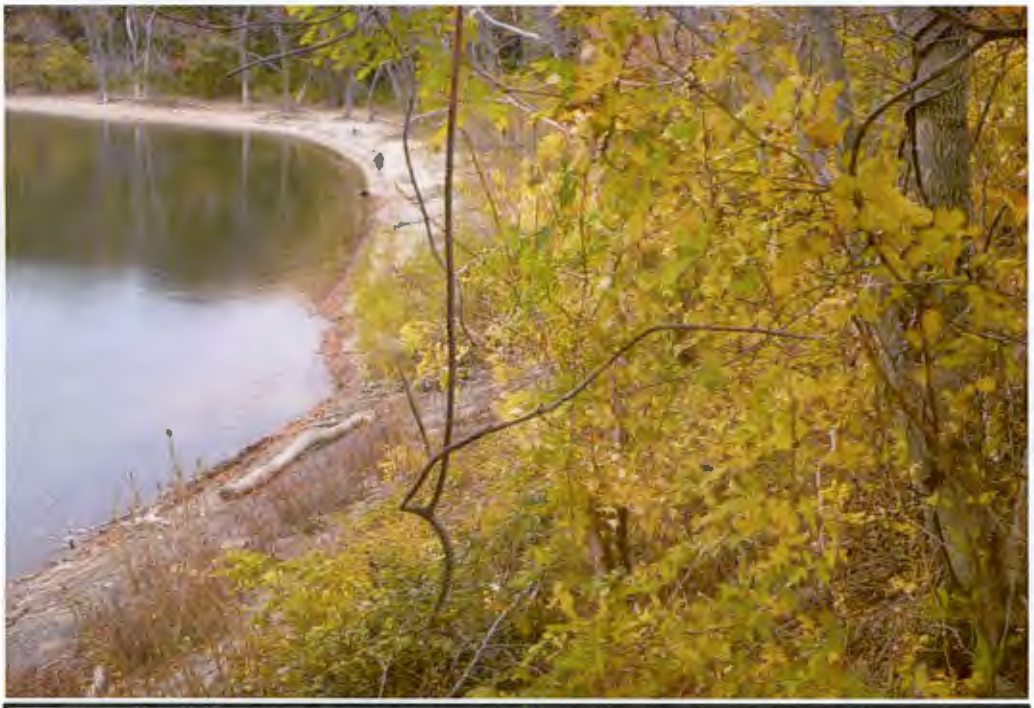


**Photo 5 Dam ID# 234-0193 Hempstead Lake Dam 11/03/2016**
Left upstream embankment slope

**Photo 6 Dam ID# 234-0193 Hempstead Lake Dam 11/03/2016**
Dam crest

**Photo 8 Dam ID# 234-0193 Hempstead Lake Dam 11/03/2016**
Downstream embankment slope

**Photo 9 Dam ID# 234-0193 Hempstead Lake Dam 11/03/2016**
Brick lined outlet to South Pond

**New York State Department of Environmental Conservation**
**Bureau of Flood Protection and Dam Safety**

# Visual Observations

| | | | | | |
|---|---|---|---|---|---|
| *DAM NAME* | South Pond Dam | | | | |
| *STATE ID* | 234-0192 | SECTION | A | *HAZARD CODE* | A |
| *COUNTY* | Nassau | | | *INSPECTION DATE* | 11/3/2016 |
| *NEAREST DS CITY/TOWN* | Rockville Centre | | | *INSPECTOR(S)* | SNA/JER |
| *OWNER'S NAME* | NYS OFFICE OF PARKS, RECREATION & HISTORIC PRESERVATION- LONG ISLAND REGION | | | | |
| *DOWNSTREAM HAZARD* | Low | | | *TOWNSHIP* | Village of Rockville Center |
| *WATER LEVEL BEHIND DAM* | Approximately two feet below the spillway crest | | | | |
| *DRAIN OPERATION* | Not operational | | | | |

*DEFICIENCIES*

| | | | | | |
|---|---|---|---|---|---|
| ☐ | *1)Seepage* | ☒ | *4)Maintenance* | ☐ | *7)Cracking* |
| ☐ | *2)Slope Stability* | ☐ | *5)Surficial Deterioration* | ☐ | *8)Movement/Misalignment* |
| ☒ | *3)Undesirable Growth* | ☐ | *6)Voids* | ☐ | *9)Data* |

–Inspected with Bill Brown, Park Manager, and Chris Prunty, P.E., Engineer for Lockwood, Kessler & Bartlett, Inc.

General:

–Dam is not maintained.

–There are mature trees and brush covering the entire dam.

Dam Crest:

–The dam crest is uneven and narrow in some places.

**Photo 1 Dam ID# 234-0192 South Pond Dam 11/03/2016**
Upstream embankment slope

**Photo 2 Dam ID# 234-0192 South Pond Dam 11/03/2016**
Dam crest

**Photo 3 Dam ID# 234-0192 South Pond Dam 11/03/2016**
Downstream embankment slope

**Photo 4 Dam ID# 234-0192 South Pond Dam 11/03/2016**
Spillway crest

**Photo 5 Dam ID# 234-0192 South Pond Dam 11/03/2016**
Lowe level outlet -not operational

**Photo 6 Dam ID# 234-0192 South Pond Dam 11/03/2016**
Downstream face of spillway

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

**Division of Environmental Permits, Region 1**
SUNY @ Stony Brook, 50 Circle Road, Stony Brook, NY 11790
P: (631) 444-0365 I F: (631) 444-0360
www.dec.ny.gov

October 24, 2017

Christopher Prunty
Lockwood, Kessler & Bartlett, Inc.
1 Aerial Way
Syosset, NY 11791

Re: Application #1-2820-03703/00008
Hempstead Lake Dam Tree Removal

Dear Mr. Prunty:

The Department of Environmental Conservation (DEC) has completed a review of your client's request for a Freshwater Wetlands and Dam Safety permit to remove vegetation from the dams and we have the following comments. This letter serves as an addendum to the memorandum dated October 3, 2017 by John Smith, subject "Repairs at Hempstead Lake Dam & South Pond Dam" (copy enclosed).

The product proposed to seal the stumps, Total Wood Preservative 1500 series, is a registered pesticide. Use as a stump sealant is an off-label use that, if used as proposed, would result in a pesticide violation. DEC suggests eliminating the use of pesticides or proposing a different product to seal the stumps. If an alternative product is proposed it must be a product registered in New York State and labeled for sealing stumps, or must not be a registered pesticide.

If these changes are acceptable to your client, then revise the project plans as indicated above and in the October 3, 2017 memorandum, and submit five copies of revised plans and stamped engineering report to my attention. Revised plans must be updated to include a revision date. Processing of this application will remain mutually suspended until we receive a response to this letter.

Sincerely,

Elyssa Hopkins
Environmental Analyst

cc: S. Fish - OPRHP
D. Lewis – BOH
J. Smith – Dam Safety
M. Accardi - GOSR
File

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

Division of Water, Bureau of Flood Protection and Dam Safety
625 Broadway, Albany, New York 12233-3504
P: (518) 402-8185 | F: (518) 402-9029
www.dec.ny.gov

# MEMORANDUM

**TO:** Roger Evans, Region 1, Environmental Permits

**CC:** Syed Alam, P.E., Dam Safety Central Office
Eric Star, Water, Stony Brook Office
Alon Dominitz, P.E., Dam Safety Section Chief

**FROM:** John Smith, P.E., Dam Safety Central Office

**SUBJECT:** **Repairs at Hempstead Lake Dam & South Pond Dam**
DEC Application ID#: 1-2820-03703/00008
DEC Dam ID#: 234-0193
Town of Nassau, Nassau County

**DATE:** October 3, 2017

---

I have received the following information in regards to a dam safety permit application for the above referenced project:

1. Report titled "HEMPSTEAD LAKE STATE PARK. HEMPSTEAD LAKE DAM & SOUTH POND DAM. TREE REMOVAL. DAM SAFETY PERMIT APPLICATION", received August 10, 2017, unstamped and unsigned.

Please advise the applicant of the following comments:

**Comments:**

1. Please have the report stamped and signed by an engineer licensed to practice in New York State with appropriate dam safety experience.
2. The earthwork specifications are not clear enough. For example, specification 02 3001 – 4, 2.06-A reads: "All locations where tree root balls and roots are removed shall be filled with suitable compacted fill."; Note 3 in drawing TR-3 reads: "Vegetation and tree removals on earthen embankment shall include removal of the root ball, backfill with suitable material, and compaction in accordance with NYSDEC standards."; and Note 4 in drawing TR-3 reads: "Backfill and compact stump pit in 8-inch layers." Also, specifications 02 3001 – 3, 2.04 A & 2.04 D apply to embankment regrading; and specification 02 3001 – 3, 2.04 H also applies to this work item, but the shown material is not indicated in any of the drawings. Please revise the specifications for void backfilling and all other

earthwork to more clearly indicate material gradation requirements or source, degree of compaction to be achieved, type of equipment, lift thickness, and method of moisture content control.

3. Please add a note to your specifications or drawings to indicate that no frozen soil or organic material will be placed in the embankment, and that no embankment material will be placed on a frozen surface.

I request that the applicant revise the application based on the comments above and if necessary submit updated documents including engineering report for the proposed work. Revision dates must be indicated on the items submitted.

If you have any questions, please feel free to contact me by phone at 518-408-0338, or by e-mail at john.smith@dec.ny.gov.

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

**Division of Water, Bureau of Flood Protection and Dam Safety**
625 Broadway, Albany, New York 12233-3504
P: (518) 402-8185 | F: (518) 402-9029
www.dec.ny.gov

# M E M O R A N D U M

**TO:** Roger Evans, Region 1, Environmental Permits

**CC:** Syed Alam, P.E., Dam Safety Central Office
Eric Star, Water, Stony Brook Office
Alon Dominitz, P.E., Dam Safety Section Chief

**FROM:** John Smith, P.E., Dam Safety Central Office

**SUBJECT:** **Repairs at Hempstead Lake Dam & South Pond Dam**
DEC Application ID#: 1-2820-03703/00008
DEC Dam ID#: 234-0193 & 234-0192
Town of Nassau, Nassau County

**DATE:** June 15, 2018

---

I have received the following information in regard to a dam safety permit application for the above referenced project:

1. Report titled "HEMPSTEAD LAKE STATE PARK HEMPSTEAD LAKE DAM & SOUTH POND DAM TREE REMOVAL DAM SAFETY PERMIT APPLICATION RESUBMISSION NOVEMBER #2 – MARCH 05, 2018," received March 15, 2018, and stamped and signed by Andre Haddad from LKB Consulting Engineers, NYS PE #058318.
2. Two Supplement D-1 forms, received November 13, 2017.
3. Joint Application form, included in the report.
4. March 5, 2018 letter by Christopher Prunty from LKB Consulting Engineers, received March 15, 2018.

I recommend issuance of a dam safety permit for the above referenced dams in accordance with the following requirements and special conditions (numbers match the condition numbers in DART):

29671 - Approved Construction Documents. All work shall be accomplished in strict conformance with the approved construction documents, as follow:

DRAWINGS: Title sheet, and sheets L-1, GN-1, OSP-1, ARP-1, ARP-2, E&S-1, E&S-2, ESD-1, TR-1, TR-2, TR-3, TRD-1, GR-1, BL-1 and BL-2, as included in the report titled "HEMPSTEAD LAKE STATE PARK HEMPSTEAD LAKE DAM & SOUTH POND DAM TREE REMOVAL DAM SAFETY PERMIT APPLICATION

RESUBMISSION NOVEMBER #2 – MARCH 05, 2018," received March 15, 2018, and stamped and signed by Andre Haddad from LKB Consulting Engineers, NYS PE #058318.

SPECIFICATIONS: As included in the report titled "HEMPSTEAD LAKE STATE PARK HEMPSTEAD LAKE DAM & SOUTH POND DAM TREE REMOVAL DAM SAFETY PERMIT APPLICATION RESUBMISSION NOVEMBER #2 – MARCH 05, 2018," received March 15, 2018, and stamped and signed by Andre Haddad from LKB Consulting Engineers, NYS PE #058318.

30198 - Dam Safety Section Contact Information.

29672 - Substantial Deviations. Any substantial deviation from the approved construction documents must be approved in writing by the Dam Safety Section prior to implementation. All deviations from the approved plans shall be indicated in the "as-built" records.

29673 - Construction Engineer. Within two weeks of the date of permit issuance, the permittee shall notify the Dam Safety Section, by certified mail (return receipt requested), of the name, address, telephone number and license number of the registered professional engineer responsible for oversight of the dam construction work (construction engineer) and for submission of the construction certification and "as-built" records required under this permit.

70528 – Construction Schedule. Within 2 weeks after start of construction, provide the Department's Dam Safety Section with a construction schedule indicating timing of major work items. Provide updated schedules as needed to indicate significant changes to the schedule.

29694 - Completion of Work. Within two weeks after the completion of the permitted work, the permittee shall provide the Dam Safety Section by certified mail (return receipt requested) an original signed and sealed statement from the construction engineer that the project has been completely constructed under his/her care and supervision and in accordance with the construction documents approved by the Department ("certification"), with a copy to the Regional Permit Administrator.

29698 - As-Built Records. Within four weeks after completion of the permitted work, the permittee shall provide to the Dam Safety Section, one complete set of "as-built" records. "As-built" records shall include at a minimum: ***photos of major work items and record drawings, on paper and electronic format.*** The "as-built" records shall be signed and sealed by the construction engineer and shall include identification of all changes to the approved construction documents.

RECEIVED
BUREAU OF
DEC 22 2016
FLOOD PROTECTION
AND DAM SAFETY

December 15, 2016
LKB #4419-06

Mr. Syed Alam, PE
NYSDEC Division of Water
Bureau of Flood Protection & Dam Safety, 4th Floor
625 Broadway
Albany, NY 12233-3504

Re: Hempstead Lake Dam, DEC Dam ID #234-0193, High Hazard
South Pond Dam, DEC ID #234-0192, Low Hazard
Hempstead Lake State Park, Nassau County

Dear Mr. Alam:

Lockwood, Kessler and Bartlett, Inc. (LKB) has been working on behalf of the NYS OPRHP-Long Island Region to bring Hempstead Lake Dam and South Pond Dam into conformance with the latest State and Federal dam regulations. This work is being coordinated with a larger GOSR project, *Living With The Bay (LWTB)*, to implement water quality/water management improvements throughout the Mill River watershed. The scope of work under the LWTB project includes extensive re-grading of the North Ponds located immediately upstream of Hempstead Lake and reconstruction of a small unclassified dam at the NW Pond. This proposed work plus additional dredging and/or re-grading of downstream areas may impact the timing and rate of flow through both Hempstead Lake Dam and South Pond Dam.

In August 2015 we submitted our Hydrological and Hydraulic Assessment for the watershed impacting these two dams to the NYSDEC for your review and comments. We discussed those comments with you and your colleague, John Smith, a few months ago and again when we met at HLSP while you were there to perform your latest dam inspections. We are working to resolve your comments and to update the model for the latest changes. We also performed additional geotechnical investigations at the Hempstead Lake Dam and the NW Pond in 2016 and found evidence that the HL dam was in fact constructed with an impervious clay core as per the original contract document from 1873. On October 26, 2016 we inspected the pipe arch outlet from the HL gatehouse to South Pond and found it to be generally in good condition except for a few isolated locations that need repair.

Lockwood, Kessler & Bartlett, Inc.
One Aerial Way, Syosset, NY 11791
Phone: 516.938.0600 Fax: 516.931.6344

We are currently preparing contract documents for proposed work to be done at the NW Pond, Hempstead Lake Dam and gatehouse (including new gates and controls), and South Pond Dam outlet weir as well as incidental work related to the LWTB project for stream crossings. We hope to submit the plans and related dam safety permit applications to the NYSDEC in January 2017. The application will be to remove trees, vegetation, and sediment from the dam to allow for proper inspection of the upstream and downstream faces. Once this is done we will be able to perform a complete inspection of the dam and note if any additional repairs are required. This in turn will allow us to complete the Engineering Assessment for the dam.

The priority is to get the Hempstead Lake Dam cleared of vegetation as soon as possible so complete inspection can be done and the full scope of repairs/improvements can be determined. We are optimistic that this work will be accomplished in the next 12 to 18 months depending on permit approvals, weather conditions, and funding availability. Upon completion of this work, the current Inspection & Maintenance Plan, and Emergency Action Plan will be updated.

Meanwhile the emergency contact information for the EAP was last updated in February 2016 (a copy is attached for your file) and the 2015 Annual certification is attached. Please note we have indicated the I&MP and EAP documents are not in compliance since they will be subject to major revisions depending on the results of the upcoming work.

If you have any questions or wish to discuss this matter further please feel free to contact me directly at 516-938-0600, extension 243.

Sincerely yours,

Lockwood, Kessler & Bartlett, Inc.

Marian Wypyski

Marian Wypyski, PE
Director of Civil Engineering

Att: 2015 Certification Form
EAP Emergency Contact Flowcharts

CC: Scott Fish, NYS OPRHP
Jennifer Ross, NYSDEC



Lockwood, Kessler & Bartlett, Inc.
One Aerial Way, Syosset, NY 11791
Phone: 516.938.0600 Fax: 516.931.6344

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

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**Certified Mail – Return Receipt Requested**

December 13, 2018

Wayne Horsley, Regional Director
NYS Office of Parks, Recreation & Historic Preservation
Long Island Region
Belmont Lake State Park
625 Belmont Avenue
Babylon, NY 11702

Re: **Notice of Condition Rating – Unsound, Deficiency Recognized**
Hempstead Lake Dam
DEC Dam ID #: 234-0193
Town of Hempstead, Nassau County

Dear Mr. Horsley:

I conducted a routine visual inspection at the above referenced dam on November 8, 2018 as part of the Department of Environmental Conservation's (Department) ongoing Dam Safety program. I am writing to you because it is my understanding that you are, or represent, the owner of this structure. A copy of my Visual Observations is enclosed.

The left/right nomenclature used in this letter and in the enclosed Visual Observation Report is based on looking downstream from the center of the service spillway at the dam's crest.

The condition of the dam is similar to the condition noted in the previous inspections. There are trees and brush growing through the upstream stone lining. The downstream embankment is too overgrown with trees and brush to inspect. The low-level outlets are still not operable. As you are aware, the structure's spillway does not have adequate capacity to pass the design flood for a high hazard dam. Such an event will result in the overtopping of the dam and its embankments. Since overtopping of dam embankment may result in its failure, it is important that the inadequate spillway capacity be addressed. This is a high hazard dam which means failure of this dam can result in loss of life and serious economic damage.

Your application for removal of the trees was reviewed and approved by Dam Safety Section. Please update us on the schedule/status of the tree removal work.

The following table summarizes the current status of the dam for those sections of the regulations that have specific deadlines:

| Citation | Requirement | Status |
|---|---|---|
| 673.6 | Develop and implement a written Inspection & Maintenance Plan (I&M Plan). Owner to retain the Plan in good order and certify annually to the Department that it is complete. Guidance can be found at http://www.dec.ny.gov/lands/4991.html. | I&M Plan review has not been requested by the Department. |
| 673.7 | Develop and distribute to the local emergency responders an Emergency Action Plan (EAP). EAP should be updated on an annual basis. Guidance for developing an EAP can be found at: http://www.dec.ny.gov/lands/4991.html | EAP submitted 2/1/2016. **Submit updated EAP.** |
| 673.8 | Submit an Annual Certification to the Department January 31 of each year (certification is for the previous year). An annual certification form can be found at: http://www.dec.ny.gov/lands/58691.html | No Annual Certifications (AC) after 2015 submitted. **Submit 2017 Annual Certification immediately.** |
| 673.13 | Complete and submit to the Department an Engineering Assessment (EA) by August 19, 2012 (C dam). EA must be performed by a New York State Professional Engineer. The EA must be updated every 10 years after the initial submittal. EA guidance is available at: http://www.dec.ny.gov/docs/water_pdf/damfengarpt.pdf. | No EA submitted. **Submit EA immediately.** |

**Condition Rating**

Due to the inadequate spillway capacity noted in the August 2015 (revised May 2017) Hydrological and Hydraulic Assessment prepared by LKB Inc., lack of operational low-level drain, compliance issues noted in the table above and the visual observations made during this routine inspection, a **Condition Rating** of **"Unsound, Deficiency Recognized"** is hereby assigned to the Hempstead Lake Dam. This Condition Rating means that the dam has several deficiencies which could be considered significant. These deficiencies are of such a nature that the safety of the dam cannot be assured. In the State Agency Environmental Audit, please place an "N2" in Status Box 53A on the Compliance Status Form.

A written response to the Department is required of you within 30 days of the date of this letter. Your responsive letter must describe your plans, including a schedule

for bringing the dam into compliance and submission of an EA, updated EAP and 2017 AC.

Please keep in mind that while any repair or construction activities related to State-owned dams may not require permits, they do require technical review and approval from the Dam Safety Section at the Department. Well before beginning work on a dam, please check with the Dam Safety Section to coordinate those reviews.

If you have any questions regarding this letter, or the Dam Safety program in general, please contact me at (518) 402-9668, or by email at syed.alam@dec.ny.gov.

Sincerely,

S. N. Alam

Syed Alam, P.E.
Professional Engineer 1
Dam Safety Section

ec w/ enc: Tony Leung, DOW, NYSDEC Region 1
Eric Star, DOW, NYSDEC Region 1
Laura Gillen, Supervisor, Town of Hempstead
(email to: lgillen@tohmail.org)
Nassau County Emergency Management Office

**New York State Department of Environmental Conservation**
**Bureau of Flood Protection and Dam Safety**

# Visual Observations

| | | | | | |
|---|---|---|---|---|---|
| *DAM NAME* | Hempstead Lake Dam | | | | |
| *STATE ID* | 234-0193 | SECTION | A | *HAZARD CODE* | C |
| *COUNTY* | Nassau | | | *INSPECTION DATE* | 11/8/2018 |
| *NEAREST DS CITY/TOWN* | Rockville Centre | | | *INSPECTOR(S)* | SNA |
| *OWNER'S NAME* | NYS OFFICE OF PARKS, RECREATION & HISTORIC PRESERVATION- LONG ISLAND REGION | | | | |
| *DOWNSTREAM HAZARD* | High | | | *TOWNSHIP* | Town of Hempstead |

*WATER LEVEL BEHIND DAM* ~10 feet below spillway crest

*DRAIN OPERATION* Not operational

*DEFICIENCIES*

| | | | | | |
|---|---|---|---|---|---|
| ☐ | *1)Seepage* | ☐ | *4)Maintenance* | ☐ | *7)Cracking* |
| ☐ | *2)Slope Stability* | ☐ | *5)Surficial Deterioration* | ☐ | *8)Movement/Misalignment* |
| ☐ | *3)Undesirable Growth* | ☐ | *6)Voids* | ☐ | *9)Data* |

–Inspected with Chris (owner's engineer)
–Condition similar to previous inspection
–Brush and small trees along upstream slope
–Dense brush and mature trees on downstream slope
–Water flowing through upper 2 gates

**Photo 1  Dam ID#  234-0193 Hempstead Lake Dam  11/08/2018**
Gate operators in the gate house - not operational

**Photo 2  Dam ID#  234-0193 Hempstead Lake Dam  11/08/2018**
Right upstream slope

**Photo 3  Dam ID#  234-0193 Hempstead Lake Dam  11/08/2018**
Left upstream slope

**Photo 4  Dam ID#  234-0193 Hempstead Lake Dam  11/08/2018**
Downstream slope

**Photo 5  Dam ID#  234-0193 Hempstead Lake Dam  11/08/2018**
Downstream slope

**Photo 6  Dam ID#  234-0193 Hempstead Lake Dam  11/08/2018**
Arch outlet to the south pond

**Photo 7  Dam ID#  234-0193 Hempstead Lake Dam  11/08/2018**
Inside the arch - open channel flow

**Photo 8  Dam ID#  234-0193 Hempstead Lake Dam  11/08/2018**
Dam crest