Public Facilities Committee Report

City of Newton
In City Council

Wednesday, November 5, 2025

Present: Councilors Albright (Chair), Danberg, Gentile, Getz, Kalis, Kelley, Leary, and Laredo

Also present: Councilors Lucas, Greenberg, Block, and Wright

City Staff: Chief Operating Officer Jonathan Yeo, City Engineer Alfredo Vargas, Senior Assistant City Solicitor Andrew Lee, Director of Planning and Development Barney Heath

All Public Facilities agendas and reports, both past and present, can be found at the following link: https://www.newtonma.gov/government/city-clerk/city-council/council-standing-committees/public-facilities-committee.

For more information regarding this meeting, a video recording can be found at the following link: https://www.youtube.com/live/vIo_Bnn0fF8?si=ETaN3HvUKMU7H3fo.

Public Hearing 11-05-2025

#320-25 **Eversource petition for a grant of location in Armory and Washington Street**
EVERSOURCE ENERGY petitioning for a grant of location to install and maintain approximately:
- 120 feet of conduit in Armory Street, northerly from Washington Street
- 30 feet of conduit in Washington Street, northerly from manhole MH7042, approximately 30 feet south of Armory Street.

https://newtonma.portal.opengov.com/records/897056

Action: **Public Facilities Approved 7-0 (Councilor Kelley Not Voting)**

Note: Joanne Callender, Representative from Eversource, presented the item. She explained the grant of location would provide underground service to the Armory at 1137 Washington Street.

A councilor asked whether Eversource would repave the road afterwards, to which Ms. Callender answered that if doing so falls under the DPW's requirements, they would.

The public hearing was opened and closed.

Councilor Danberg motioned to approve the item, which passed unanimously.

#338-25 **Authorization to grant an easement to NStar Electrical Company d/b/a Eversource Energy at the West Newton Armory for access to electrical equipment**

HER HONOR THE MAYOR requesting authorization to grant an easement to NStar Electric Company d/b/a Eversource Energy at the West Newton Armory for the purposes of installing a transformer and other electrical equipment to service the Armory building.

Action: **<u>Public Facilities Approved 7-0 (Councilor Kelley Not Voting)</u>**

Note: Sharone Small, Director of Real Estate at Metro West Collaborative Development, explained that the item is an easement for Eversource to access equipment they will install to provide an electrical connection to the Armory. The City of Newton owns the property, though they provided a long-term ground lease to an affiliate of Metro West Collaborative Development, so they would need to grant the easement.

Councilor Danberg motioned to approve the item, which passed unanimously.

<u>Referred to Public Facilities & Finance Committees</u>

#312-25 **Appropriation of $1,650,000 from June 30, 2025 Certified Free Cash for Vehicle Replacement Program**

HER HONOR THE MAYOR requesting authorization to appropriate and expend the sum of one million six hundred fifty thousand dollars ($1,650,000) from June 30, 2025 Certified Free Cash to support the City's Vehicle Replacement Program.

Finance Committee to Vote on 11-10-25

Action: **<u>Public Facilities Approved 7-0 (Councilor Kelley Not Voting)</u>**

Note: City Engineer Alfredo Vargas presented the item. He explained that the remaining eight hundred fifty thousand dollars ($850,000) for vehicle purchases is included within the department’s FY26 operating budget. This request is consistent with the FY26 Capital Improvement Plan.

He added that providing funding early in the fiscal year will allow the City to place vehicle orders promptly as manufacturer order banks open, ensuring that procurement schedules align with production cycles. Missing these windows can result in delivery delays of 6 to 12 months, extending the service life of aging equipment and increasing maintenance costs. Early ordering can also save the City an estimated fifty thousand dollars ($50,000) to seventy-five thousand dollars ($75,000) annually by avoiding model year price increases and late procurement markups, while delayed orders typically increase the cost by three to five percent per vehicle. Early appropriation of these funds will allow the department to maintain a reliable and efficient fleet, manage costs efficiently, and ensure that essential public services continue without disruption.

A councilor asked whether the City sells the old vehicles. Chief Operating Officer Jonathan Yeo explained that the City uses a trading system in which some vehicles are reused for other purposes and others are traded in for money. He added that this is factored into the amount of money being requested tonight.

Another councilor inquired about electrical vehicles. Mr. Yeo responded that larger pieces of equipment are now becoming plug-in electric or electric, and the City continues to evaluate the efficiency of such models, observe how other communities operate them, and generally watch the trends.

Councilor Kalis motioned to approve the item, which passed unanimously.

#103-24 **Update on Planning and Construction of Bullough's Pond Dam**
COUNCILOR ALBRIGHT on behalf of the Public Facilities Committee requesting update on planning and construction of Bullough's Pond Dam.
Public Facilities Held on 11-20-24
Public Facilities Held on 04-23-25
Public Facilities Held on 06-04-25
Public Facilities Held 8-0 on 07-23-25
Action: **<u>Public Facilities Held 8-0</u>**

Note: This item was discussed with item #418-24. Please see below for the report.

#418-24 **Requesting a discussion regarding Bullough's Pond Dam Rehabilitation Project**
HER HONOR THE MAYOR requesting a discussion of the Bullough's Pond Dam rehabilitation project and the preferred safety design.
Public Facilities Held on 11-20-24
Public Facilities Held on 04-23-25
Public Facilities Held on 06-04-25
Public Facilities Held 8-0 on 07-23-25
Action: **<u>Public Facilities Held 8-0</u>**

Note: The Chair noted she previously sent a memorandum to guide the Committee through their discussions tonight.

The Chair and City Engineer Alfredo Vargas introduced Jim Nickerson, Senior Water Resource Engineer from GEI Consultants, who has extensive experience in dam safety evaluations, rehabilitation, design, and regulatory compliance.

City Engineer Alredo Vargas presented the attached slides.

He reminded the Committee of the reasons for the dam rehabilitation, being that the City is under an order of the Office of Dam Safety (ODS) to address the significant hazard potential of the dam, which could lead to significant property damage and/or loss of life. He explained that the primary spillway is undersized, such that overtopping during a design storm would likely result in a dam breach.

He detailed a statement the City recently received from the ODS, stating that if the City fails to approve any repairs, the dam would remain in Poor condition and be considered an unacceptable risk to public safety. As such, the Certificate of Non-Compliance and Dam Safety Order would remain in full force and effect, and the City would be responsible and liable for damage to property of others or injury to persons.

Mr. Nickerson presented the next slides.

He went over the difference between a dam overtopping and a dam breach. He summarized that an overtopping would result in limited damage to the dam with a warning time of hours, whereas a dam breach would lead to failure of the dam with a warning time of seconds to minutes.

A councilor asked what a flow of 1,700 cubic feet per second (cfs) breach would look like and what damage it would do. Mr. Nickerson responded that it is difficult to describe as it would depend on the size of the dam. A large dam could easily pass 1,700 cfs, but the Bullough's Pond dam is small, so a breach would be violent with turbulent water going in every direction.

The councilor read aloud an AI-generated summary about flooding, based on cited sources attached to this report (page 16-17). She stated that 1,700 cfs means that 1,700 cubic feet of water flows past a specific point every single second. This is equivalent to 1,700 boxes, each 1 foot wide, high, and deep, about the size of a basketball in volume, rushing past someone every second, or 12,700 gallons of water per second. With respect to force and speed, the water moves with significant force capable of carrying large debris, swallowing entire trees, and quickly submerging banks and low-lying road crossings. The water is likely churning and turbulent with powerful waves and long rapids. In short, 1,700 cfs represents a large, powerful, and potentially dangerous amount of water that demands caution.

The councilor noted that the peak flow at Hull Street is 1,700 cfs. Another councilor asked clarifying questions. The chart below represents the peak flow as determined by GEI Consultants at various points as part of the slide presentation at the July 23rd Public Facilities meeting.

Peak Flow Summary (as described in 07/23/2025 slides, page 17)

Street	Overtopping	Breach
Hull	400	1700
Harvard St	400	1000
Newtonville Ave	300	800

Mr. Yeo added that 1,700 cfs would look different at different places in the City, highlighting Laundry Brook, a relatively small channel, and culverts downstream of Bullough's Pond. He emphasized that a breach would cause great damage.

The councilor noted that she had read the passage to highlight the difference between a breach and an overtopping. She recalled that Mr. Nickerson had presented three City locations where heights of flooding were similar in both breach and overtopping events, but where peak flows at Hull Street during a breach would be four times faster than during an overtopping.

Another councilor expressed concern that the City is not building downstream capacity to deal with a breach.

Mr. Yeo noted that the City has hired a company to update the City's stormwater management plan over the next 16 to 18 months. He added that the City will never be able to build its stormwater system to completely mitigate the damage of a 100-year design storm.

A councilor asked how the City's current stormwater plan proposes to solve the issues. Mr. Yeo answered that the City has dredged the City Hall Pond and is planning work at Edmands Park as well as replacing culverts. The councilor further asked whether anything in the plan addresses the stream and culverts directly downstream from Bullough's Pond, to which Mr. Yeo answered that there wasn't currently.

He noted challenges to this issue are that the water must first get through Watertown and some culverts run through residents' backyards. He added that the upcoming study will look at all the streams, culverts, and infrastructure in the City's stormwater system.

The Committee discussed the ODS submission and approval process.

A councilor asked about the ODS' supervisors, to which Mr. Yeo noted that the ODS is housed within the Department of Conservation and Recreation, but it is an independent entity with its own regulatory authority.

The Chair noted that the first consultants the City hired submitted a proposal almost identical to GEI Consultants' option three. She added that GEI Consultants had initially supported the sheet pile option, but later rejected it, and asked why that was.

Mr. Nickerson answered that the sheet pile option was initially considered due to the trees it would save, but after evaluating further and considering the complexity of the location, they realized the option carried low benefits with a high risk that it would be unsuccessful.

A councilor asked about the difference in warning time for overtopping and breaching. Mr. Nickerson clarified that the City would be able to see water levels come up in an overtopping event, which can start with a trickle, giving staff time to enact emergency operations, whereas a breach would be instantaneous.

The councilor expressed concerns that given the larger scale stormwater study that the City will conduct, fixing the dam would be a “band-aid” solution that doesn’t solve the problem. She stated she was worried that the City would be sued for negligence if an overtopping were to occur, but was unsure about the right solution.

The Committee briefly discussed removing the dam. Mr. Yeo explained that the dam, besides being an important amenity in Newton, plays a role in managing water from Hammond Pond to Laundry Brook. He added that removing the dam would require an engineering study.

Another councilor stated that she sees this as a phased issue, which starts with fixing the dam and is followed by the larger scale study and updating the stormwater system.

Another councilor expressed concern that the Committee was not considering any of the Bullough’s Pond Association’s suggestions. Katheen Grieser, Vice-President and Media/Events Director of the Bullough’s Pond Association from 238 Mill Street, stated that the latest suggestions from the Bullough’s Pond Association (BPA) and the Working Group have not been presented accurately in correspondence with ODS Director William Salomaa. She noted that the BPA opposes armoring the dam, adding that current thinking about maintaining trees on dams has evolved, while the ODS’ approach is outdated. She mentioned advances in modern weir technology and noted that engineers are developing mechanisms to remediate historic dams in other states.

The Committee and Mr. Nickerson discussed previously presented options with Mrs. Grieser.

A councilor asked about the legal consequences of the dam breaching in terms of the City’s liability. Attorney Lee will be consulted regarding the applicability of the regulation referred to in the letter from the Office of Dam Safety to a municipality (regulations 302 CMR 10.13, “the owner shall be responsible and liable for damage to property of others or injury to persons, including but not limited to, loss of life resulting from the operation, failure of or mis-operation of a dam.”).

Another councilor expressed she was ready to vote given the dam’s condition as a significant hazard.

A different councilor asked why the culverts and streams over the road were not included in the process and expressed disappointment at the public engagement for this project.

Mr. Yeo noted that Commissioner Sullivan had sent detailed responses to different questions from the public and the Bullough’s Pond Association. The Committee further discussed the public engagement process.

Mayor-Elect Laredo stated that he would make this issue a high priority and commit to reviewing it promptly in January. He emphasized the importance of examining downstream impacts and returning to the Council quickly with proposed solutions. He acknowledged that the final solution may align with what has already been proposed, but wished to build trust in the process and avoid further delays.

Another councilor inquired about Laura Studen, President of the Bullough's Pond Association, and why she had not attended any meetings or communicated with the Committee about this issue. Mrs. Grieser noted that the BPA has sent multiple letters signed by Laura Studen, she has published letters to the editors in different publications, and she is part of the Working Group. In connection to earlier discussions about public engagement, the councilor questioned whether all stakeholders felt they had not been heard.

A councilor suggested that a list of remaining concerns from the BPA be written out, for Commissioner Sullivan and Mr. Nickerson to answer to.

The Committee discussed upgrading culverts. Mr. Yeo mentioned that the City works with Woodard & Curran for its stormwater system, as GEI Consultants are specialized in dams.

Mr. Yeo added that mitigation work to make the area beautiful for residents is also an important part of this project.

Katherine Howard, 84 Fenwick Road, spoke about the benefits of removing the dam and asked how extensively dam removal had been studied as part of this process, as well as what the short- and long-term costs would be. She added that if the dam is to be repaired, the project should include a well-functioning fish ladder or be designed to allow for one in the future.

Mr. Yeo responded that the aesthetics and history of Bullough's Pond are very important to the City. Aside from Crystal Lake, there are no other water features apart from rivers and streams. He added that Bullough's Pond also serves as a reservoir, helping to mitigate downstream flooding during most rain events except the most extreme. Losing the pond could increase flood risks to the village center, high school, and residences downstream.

A councilor reminded the Committee that two separate experts had arrived at the same recommendation for repairing the dam, noting the first firm's proposal was not pursued because some stakeholders opposed it.

Councilor Kalis motioned to hold items #103-24 and #418-24, which passed unanimously.

The Committee adjourned at 8:51PM.

Respectfully Submitted,
Susan Albright, Chair of the Public Facilities Committee

City of Newton

BULLOUGH'S POND DAM REHABILITATION

11/05/2025

Reasons For The Dam Rehabilitation

- The City is under **the order of the Office of Dam Safety** to address the "significant hazard" potential of the dam, which could lead to significant property damage, and/or loss of life
- **Primary spillway is undersized**
  - Overtopping likely during design storm.
  - **Overtopping** would likely **lead to dam breach**.
- **Woody vegetation on the dam** is required to be cleared
- **Masonry repairs** are needed at the spillway and low-level outlet

From ODS

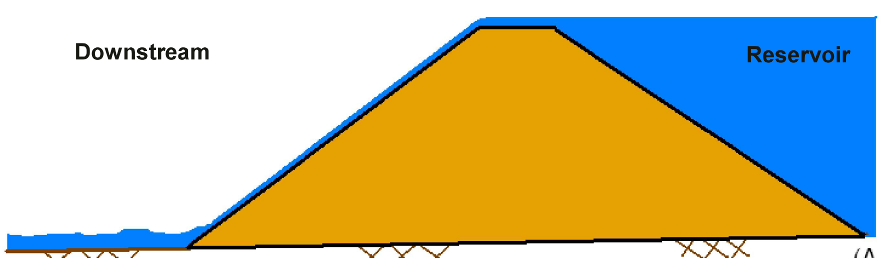
- *If the City fails to approve any repairs and therefore fails to comply with the Dam Safety Order, what actions might the State take?*
  - ODS answer: The dam would remain in Poor condition and considered a heightened, unacceptable risk to public safety. As such, the Certificate of Non-Compliance and Dam Safety Order would remain in full force and effect. Please be advised that per Dam Safety regulations 302 CMR 10.13, "**the owner shall be responsible and liable for damage** to property of others or injury to persons, including but not limited to, loss of life resulting from the operation, failure of or mis-operation of a dam."

Dam Overtopping

Dam Overtopping: When water flows **over the top** of a dam because the reservoir level exceeds the crest elevation.

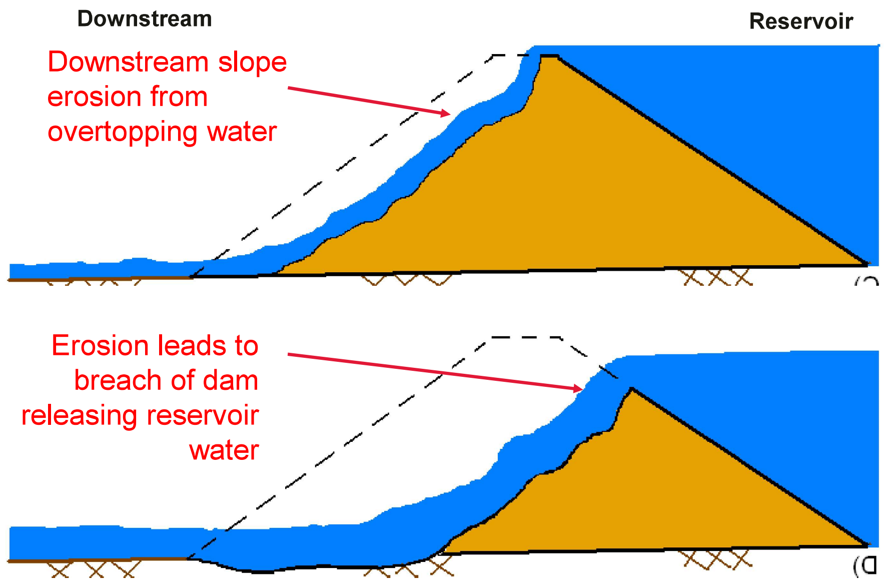
Impacts:

- **Limited duration**. Only when inflows exceed crest level.
- Can be **temporary** and **controlled** (if designed for it).
- Can lead to **erosion of the dam crest and downstream face**, especially for **earthen dams** if not designed.



Dam Breach

- **Dam Breach:** A **structural failure** that creates an **uncontrolled release** of the reservoir water.
- **Impacts:**
  - Sudden, **catastrophic release of water**
  - **Loss of reservoir** and potential **downstream flooding**
  - High potential for **property damage and loss of life**
  - **Loss of Dexter Rd.**



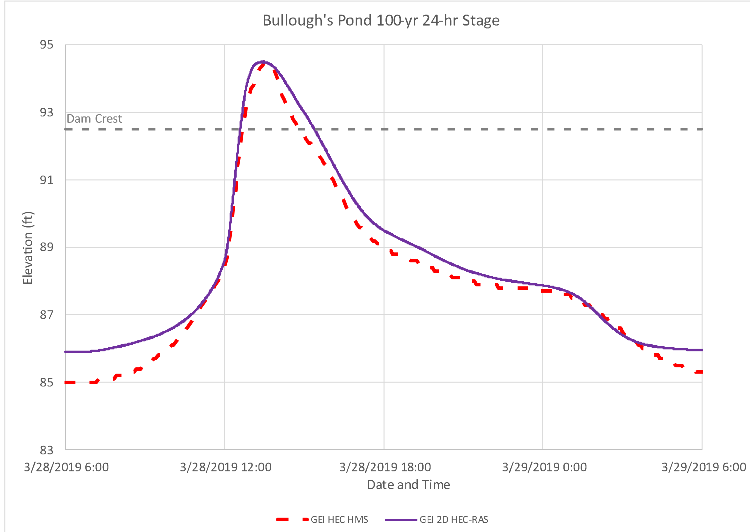
Comparison

Feature	Dam Overtopping	Dam Breach
Dam Condition	Standing, limited damage	Failed with large erosion channel
Flow	Limited Water that passes over crest	Loss of reservoir through destroyed section
Downstream Flooding	Streets & low areas	Entire floodplain
Warning Time	Hours	Seconds–minutes
Damage to Dexter Road	Minimal	Destroyed; Utilities breached

Discussion

GEI H&H Results

- 100-yr, 24-hour precipitation – 8.8 in
    - Based on records of rainfall in the area
- Ran 2 different programs to model storm inflows/outflows
    - 1-D - HEC-HMS – Dam is simplified with spillway rating curve
    - 2D HEC-RAS - Dam is represented with detailed terrain and topo
- Both models show the dam would be overtopped by 2-ft during the design storm.



	HEC-HMS	2D HEC-RAS
Max Stage (ft)	94.5	94.5
Overtopping (ft)	2.0	2.0
Overtopping Duration (hours)	2.2	2.8

Safe Overtopping

- Lake Tomahawk Dam, NC
    - Survived Hurricane Helene
        - 12-inch rainfall event over 3 days
        - Minimal topsoil erosion over articulated concrete blocks (ACBs)

Courtesy: Town of Tomahawk;
Designer: S&ME
Constructor: Baker Construction, Inc.

ODS Correspondence (Policy on Trees on Dams)

Please note the Office of Dam Safety's Policy on Trees on Dams requires that earth embankment dams be maintained free of the existence of trees and woody growth. More information on this policy is available on the ODS website at the following link: https://www.mass.gov/info-details/policy-on-trees-ondams. Additional resources regarding the impacts of vegetation on dams has been made available by FEMA at the following links: https://www.mass.gov/doc/fema-publication-l-263/download and https://www.mass.gov/doc/fema-publication-534/download.

ODS Correspondence (Failure to bring dam into compliance)

If the City implemented an alternative that did not address the dam's deficiencies and, therefore, did not bring the dam into compliance with Dam Safety regulations, the dam would remain in Poor condition and considered a heightened, unacceptable risk to public safety. As such, the Certificate of Non-Compliance and Dam Safety Order would remain in full force and effect. **Please also be reminded that per Dam Safety regulations 302 CMR 10.13, "the owner shall be responsible and liable for damage to property of others or injury to persons, including but not limited to, loss of life resulting from the operation, failure of or mis-operation of a dam."**

ODS 10/30/25 Correspondence (Question 1)

1. Would ODS approve a modified Alternative #2 that excludes both tree removal and downstream erosion protection?

ODS answer: No, ODS would not approve this alternative as it does not bring the dam into compliance.

ODS 10/30/25 Correspondence (Question 2)

2. Is it a requirement that the City repair the Dam and thereby prevent a breach of the Dam, knowing that the Dam may still experience overtopping and the associated downstream flooding from overtopping?

ODS answer: The dam has been found to be in need of repair, breaching, or removal to bring the dam into compliance with Dam Safety regulations. Office of Dam Safety does not require a dam owner to pursue a specific alternative as each dam is unique. We recommend you seek the guidance of your chosen engineering consultant for guidance on which alternative would bring the dam into compliance with Dam Safety regulations.

ODS 10/30/25 Correspondence (Question 3)

3. Could mechanical systems (e.g., pumps or other manual interventions) be considered as a substitute for physical dam repair?

ODS answer: No, mechanical systems are not a substitute for physical dam repair as they would not address the dam's structural deficiencies.

ODS 10/30/25 Correspondence (Question 4)

4. If the City fails to approve any repairs and therefore fails to comply with the Dam Safety Order, what actions might the State take? o ODS answer: The dam would remain in Poor condition and considered a heightened, unacceptable risk to public safety. As such, the Certificate of Non-Compliance and Dam Safety Order would remain in full force and effect. **Please be advised that per Dam Safety regulations 302 CMR 10.13, "the owner shall be responsible and liable for damage to property of others or injury to persons, including but not limited to, loss of life resulting from the operation, failure of or mis-operation of a dam."**

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