



Public Facilities Committee Report

City of Newton In City Council

Wednesday, November 20, 2024

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

Also Present: Councilors Farrell and Lucas

City Staff: Commissioner of Public Works Jim McGonagle, City Engineer Lou Taverna, Commissioner of Public Building Josh Morse, Chief Operating Officer Jonathan Yeo, and Co-Director of Sustainability Bill Ferguson

Others Present: GEI Engineering Consultant Jim Nickerson

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: [Public Facilities Committee - November 20, 2024](#)

Referred to Public Facilities and Finance Committees

#410-24 Authorization to appropriate and expend \$700,000 to fund Newton North High School Capital Projects

HER HONOR THE MAYOR requesting authorization to appropriate and expend seven-hundred-thousand dollars (\$700,000) from June 30, 2024 Certified Free Cash for the purpose of funding several high priority Newton Public School capital projects at Newton North High School.

Action: **Public Facilities Approved 6-0 (Councilors Kelley and Leary Not Voting)**

Note: Commissioner of Public Buildings Josh Morse joined the committee to discuss this appropriation for several high priority capital projects at Newton North High School. These projects include the replacement of the air handling unit that serves the pool complex at NNHS. The Department and a consultant had explored two options; replacing the unit within the building in a small mechanical room or installing a new unit on the roof. After evaluation, it was decided that the unit on the roof would be more costly but would extend the life expectancy and make it easier in the future to replace it once it fails. The other part of this project is funds to replace the failing portion of the domestic hot water system at NNHS to extend the life of the entire system.

A councilor expressed support for this project but asked why the funds for the hot water system were coming out of Free Cash rather than from a planned Capital Improvement Plan item. Commissioner Morse answered that the replacement of the system is in the CIP but further down the list and that NPS had intended to pay for this out of their budget, but the cost estimates came back higher than expected so it was recommended to be paid for out of Free Cash.

A councilor asked for clarification on what exactly was being replaced in the hot water system and Commissioner Morse responded that it is a series of four high-capacity hot water heaters. The same councilor asked if the 14-year life of this system was average, and Commissioner Morse answered that it was on the lower end as 15 to 20 years is the expected range.

A councilor asked if any consideration had been made to move these systems to a green energy alternative and Commissioner Morse answered that he had investigated it but the only way to meet the demand of NNHS would be to install a heat pump reversible chiller on the roof which would require expensive structural work to be done first.

A councilor asked about the location of the system on the roof and if neighbors would see it. Commissioner Morse responded that these will be installed close to the center of the building. A councilor followed up to ask about noise level and Commissioner Morse answered that the noise level will be the same or less.

Councilor Danberg motioned to approve, which passed 6-0 with Councilors Leary and Kelley not voting.

Referred to Public Facilities and Finance Committees

#411-24 Authorization to appropriate and expend \$775,000 for Municipal Building Maintenance Projects

HER HONOR THE MAYOR requesting authorization to appropriate and expend seven-hundred and seventy-five-thousand dollars (\$775,000) from June 30, 2024 Certified Free Cash for the purpose of funding municipal building maintenance projects.

Action: **Public Facilities Approved 5-0 (Councilors Kelley, Leary and Laredo Not Voting)**

Note: Commissioner of Public Buildings Josh Morse joined the committee to discuss this request for funds to complete multiple municipal building maintenance projects. The projects include work at Albemarle Field House, on the Police Annex retaining wall, at Crystal Lake Bathhouse, on Jackson Homestead, at the Kennard Estate, at the Main Library, and in Fire Stations 1 and 2. The Commissioner estimates these projects to be completed over the next six months.

A councilor asked for clarification on what specific restoration was happening to the Crystal Lake bathhouse. The Commissioner responded that the work would focus on stabilizing the exterior of the building including painting and gutter and roof fixes.

A councilor shared comments and asked about the entire Crystal Lake complex construction plans. Chief Operating Officer Jonathan Yeo responded that the current top priority of the Department of Parks and Recreation is the beach, not the bathhouse.

A councilor asked if the Public Buildings Department will need to go before the Historic Commission before proceeding with the work on the bathhouse and the Commissioner said he did not need to because he is painting it the same color and using the original materials for the restoration work.

A councilor expressed their support for painting the Jackson Homestead and encouraged more attention to be focused on the Kennard Estate as the building needs significant work.

Councilors discussed updating the language of this item to remove line item control.

Councilor Danberg motioned to approve, which passed 5-0 with Councilors Kelley, Leary and Laredo not voting.

Referred to Public Facilities and Finance Committees

#416-24 Authorization to appropriate and expend \$225,000 for Fire and Police Security Camera and Access Control Improvements

HER HONOR THE MAYOR requesting authorization to appropriate and expend two-hundred and twenty-five thousand dollars (\$225,000) from June 30, 2024 Certified Free Cash for the purpose of funding security camera and access control improvements at Fire and Police Department locations.

Action: Public Facilities Approved 5-0 (Councilors Kelley, Leary and Laredo Not Voting)

Note: Commissioner of Public Buildings Josh Morse joined the committee to discuss this request for funds for security camera and access control improvements at Fire and Police Department locations. The Commissioner acknowledged that while he had given detailed updates to the Fire Department locations, he was intentionally leaving out the updates to Police Headquarters for safety and security reasons. The Fire Stations included in this work are 1, 2, 4, 7, 10, and the Wires Division building. The work at Police Headquarters will improve the clarity and resolution of the security cameras and it will better coordinate the access control system with the cameras at various entry points.

A councilor asked who was running the technology for these updates and Commissioner Morse responded that for the Fire Department, it is contained within Station 3 Headquarters and for the Police Department, it is within their sever system.

Councilor Kalis motioned to approve, which passed 5-0 with Councilors Kelley, Leary and Laredo not voting.

#346-24 Requesting a discussion on installation of solar panels at brown and Oak Hill schools

COUNCILORS LUCAS AND FARRELL requesting a discussion and potential pause of the solar panel installation in the summer of 2025 at Brown and Oak Hill Schools in light of recent School discussions on plans for a revitalized campus at Brown, Oak Hill, and Newton South Schools.

Action: **Public Facilities Voted No Action Necessary 6-0 (Councilors Leary and Laredo Not Voting)**

Note: Commissioner of Public Buildings Josh Morse joined the committee to provide an update on the solar panel installation at Brown and Oak Hill schools and general updates on school building construction project priorities. The Commissioner shared that the School Committee has not changed the order of the school construction projects and he anticipates that they would not take on a middle school like Brown for many decades. The solar carport projects are 20-year power purchase agreements and at the end of which, the City can choose to have everything removed, extend the agreement, or purchase it outright. The Commissioner's recommendation is to move ahead with the solar carport projects and in 20 years, reevaluate whether they should be removed or not. Co-Director of Sustainability Bill Ferguson shared that two projects are already under contact and lease.

Councilor Farrell joined the committee and expressed great surprise that no major middle school construction projects were planned within the next few decades. Commissioner Morse explained that Newton has more schools per capita than peer communities which is part of the City's village structure but makes it expensive to maintain them all. He also shared that even if the School Committee was to make changes to the current list of projects, it would still be 17+ years before a middle school project would be officially open and at that point, it would be close to the 20-year agreement with the solar carports, so he again advocated continuing with these solar projects.

Chair Albright shared that this work on elementary schools has been years in the making and that prior to this round of school projects, the last few major school building projects have been at the high school or middle school levels.

Councilor Danberg motion to vote no action necessary, which passed 6-0 with Councilors Leary and Laredo not voting.

#359-24 Requesting Discussion regarding Dam Flooding at Wells Avenue

COUNCILORS FARRELL AND LIPOF requesting a discussion with DPW Utilities Director and Conservation Commission Director to understand the problem of restoring culvert operations at Wells Ave with respect to non-lethal beaver

intervention, protection of conservation land and accessing recently discovered sewer main. This would include discussion of the importance of beavers to conservation land, alternative solutions to the beaver population and City needs for access to sewer main.

Action: **Public Facilities Held 7-0-1 (Councilor Leary Abstained)**

Note: Commissioner of Public Works McGonagle joined the committee to discuss this item and provide an update. The Commissioner explained that a beaver dam on a culvert at Wells Ave has restricted the culvert's flow which created flooding, so DPW has been looking into removing the dam through the state's regulated process. The DPW has been observing the area and due to current drought conditions, the water is too low to sustain the beaver, and they appear to have left the area. They have submitted the necessary paperwork to the Conservation Commission for the removal of the vacated dam, to install a trash grate on the culvert, and to raise the sewer manhole.

Councilor Farrell provided some background information regarding the flooding of the Wells Ave area in 2023 and advocated for installing a flow management device to maintain the dam and wetlands but prevent future flooding issues. Commissioner McGonagle acknowledged DPW has investigated a similar device called a Beaver Deceiver but for the device to work properly, it needs at least three feet of water depth which is greater than the water level at the culvert currently.

A councilor asked about the price of the grate over the culvert and Commissioner McGonagle answered that it can be made in house, so he estimates about \$1,000 in materials plus labor costs.

A councilor asked if the City got a significant amount of rain, would this area reach the three feet of water necessary but the Commissioner said it was unlikely because the dam was only created after two years of extreme rain. Councilor Farrell suggested that he knew of a Beaver Deceiver which wouldn't require 3 feet of water and promised to provide this information to Commissioner McGonagle.

Councilor Getz motioned to hold, which passed 7-0-1 with Councilor Leary abstaining.

#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.

Action: **Public Facilities Held 7-0 (Councilor Danberg Not Voting)**

Note: Please see #418-24 for committee discussion on this item.

#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.

Action: Public Facilities Held 7-0 (Councilor Danberg Not Voting)

Note: Commissioner of Public Works Jim McGonagle and GEI Engineering Consultant Jim Nickerson joined the committee to discuss the Bullough's Pond Dam rehabilitation project. Commissioner McGonagle provided background information on this project including that this was just an update and that they would be back in the future with an official proposal. Mr. Nickerson explained that this dam has been deemed a significant hazard by the Massachusetts' Office of Dam Safety and the City has been ordered to fix the issues with the dam. He mentioned they had considered three options and illustrated the preferred downstream slope erosion protection plan in the presentation attached to this report. This plan includes removal of 199 trees, grading the downstream slope, and placing articulated concrete blocks which will be covered with seeded topsoil.

A councilor asked if shoring up the dam on the downstream side would prevent the overtopping of the dam and Mr. Nickerson said it would not but instead the erosion resistant material, or the concrete blocks, would prevent this slope from eroding and ultimately causing a breach of the dam.

A councilor asked if any of the trees that need to be removed could be replanted after the work was done and Mr. Nickerson responded that the State does not allow any woody vegetation on the dam or within 20 feet of the dam.

A councilor asked what was in place to prevent trees from growing back after the initial work is done and if there was a plan to plant new trees to replace those being cut down per the City's Tree Ordinance. Mr. McGonagle answered that DPW would be required to mow this area to maintain it and to recoup the tree loss, the DPW plans to work with Mark Welch, City Forester, to plant trees in the surrounding area and the project would pay into the Tree Fund.

A councilor asked if this was a long-term solution or if the dam would need additional structural support in the future. Mr. Nickerson answered that they had considered other alternatives that would have modified the primary spillway but the cost of a project like that would have been significantly higher than the current proposal. The same councilor asked if hydrologic modeling could be done to play out what the 100-year storm would look like coming through each model proposed. Mr. Nickerson said that they could do that but that all three alternatives are essentially the same because the downstream slope configuration would be the same since all options are buried on the downstream slope.

A councilor asked about the process with the Bullough's Pond Dam Working Group and Mr. McGonagle answered that they have minutes from their meetings.

A councilor asked if dredging the pond was an option to reduce the risk of an overtopping event and Mr. Nickerson said that they had investigated this but because the pond fills the spillway

and flows over the spillway weir, that sets the depth of the pool. Any additional storage created by dredging would just be filled with water and wouldn't help prevent an overtopping event.

A councilor asked for someone from ODS to come to a future meeting and Commissioner McGonagle said they could ask for that.

A councilor provided additional comments regarding the history of the dam, the pond and the open space within the neighborhood.

A councilor asked about pollinator gardens on the downstream slope and Mr. Nickerson said it was a maybe.

A councilor asked for confirmation that the concern was the dam overtopping not failing and Mr. Nickerson confirmed that the dam was in good shape but that it is at risk for overtopping which would lead to erosion and then ultimately could lead to a breach of the dam.

A councilor asked for the specific measurements of the zone along Dexter Rd. that ODS considers as the dam and Mr. Nickerson answered that he estimated it to be 300 feet. The same councilor asked for a list of the tree sizes and species in the area that would be removed. Mr. Nickerson said they did have something like that, and Commissioner McGonagle confirmed that the City Forester has been involved in this process as well.

A councilor asked about raising the height of the dam, but Mr. Nickerson said the concern would then be water traveling around the dam and flooding the surrounding areas.

Kathleen Greiser of the Bullough's Pond Association asked if a cost analysis had been done on incorporating a piano key or labyrinth weir and Mr. Nickerson answered that while they had not done a cost analysis, they had considered it as an option. The same person asked if any neighborhood outreach had taken place and Commissioner McGonagle responded that it had not. Mr. Nickerson also pointed out that the preferred option would stop erosion earlier in the process than the other two proposed options.

Councilor Laredo motioned to hold which passed 7-0 with Councilor Danberg not voting.

The Committee adjourned at 9:45PM.

Respectfully Submitted,

Susan Albright, Chair

One of Superintendent Nolin's Strategies for Future Buildings (June 10, 2024)

1. Superintendent recommendation: Brown Middle School and explore options to combine it with a geothermal, or other major building emission reduction project at the Newton South/Oak Hill/Brown campus.
2. The Brown heating and cooling system and general facilities are not at the standard for modern middle schools. The heating and cooling is the most uneven and unpredictable in the district. I am concerned we will continue to pour money into this heating/cooling system in a reactive way, depleting resources needed for academic operations, only to have to renovate anyway.
 - i. This recommendation allows children from all sides of town to experience at least one state of the art educational facility in their school experience in Newton.
 - ii. Creating a STEM-based Sustainability Teaching Building at Brown allows three campuses of our students to potentially use potential lab spaces and the building itself can be arranged so that its systems become part of the secondary school STEM curricula (heating, cooling, waste management, rooftop gardening, solar options, geothermal, VR/AR and drone labs, planetarium, aquaponic and hydroponic labs and greenhouses).
 - iii. Proximity to South allows for more STEM access for HS students including internship options and student teaching options (which are now being encouraged by DESE for high school students). A pipeline of teaching aides within NPS could be created in this fashion.
 - iv. A Brown building project would also open the possibility of a tri-building geothermal project which would save money for the system long-term and help us move closer to our sustainability goals and mandates.

Questions for Commissioner McGonagle RE Beavers at 2 Wells Avenue

Rather than go through the entire process that we have each endured together over the past ten months, I hope this evening we can determine how we can- finally – resolve both issues. So, again, thank you Commissioner McGonagle, for joining in this discussion. Can you please tell us where the City is in this process, what steps remain and when can we expect resolution? Specifically:

1. Have you a plan to protect the beavers throughout the process of removing the dam, including;
 - a. How will you protect the beavers throughout the process you are about to describe;
 - b. Have you determined which type of flow through device is most appropriate to ensure that the beavers cannot get to the culvert in the future but will still be able to work for the health and well-being of the wetlands;
 - c. I understand that your department has discovered a long-lost sewer line that you believe you must have access to in the future, and that the appropriate access point is directly below the current lodge;
 - d. Have you worked with beaver specialists to be certain that if you must create access to this long-lost line that you have a plan to move the beavers to a new site;
 - e. How long will it take to get to the line and create permanent access without harm to the beavers; and,
 - f. Will we be able to bring students interested in environmental sciences, and wetlands in particular, to observe the area from a safe distance during the process?

Public Facilities Presentation

BULLOUGH'S POND DAM REHABILITATION

- Identified Deficiencies
- Selected Design
- Tree Removal Impacts
- Costs

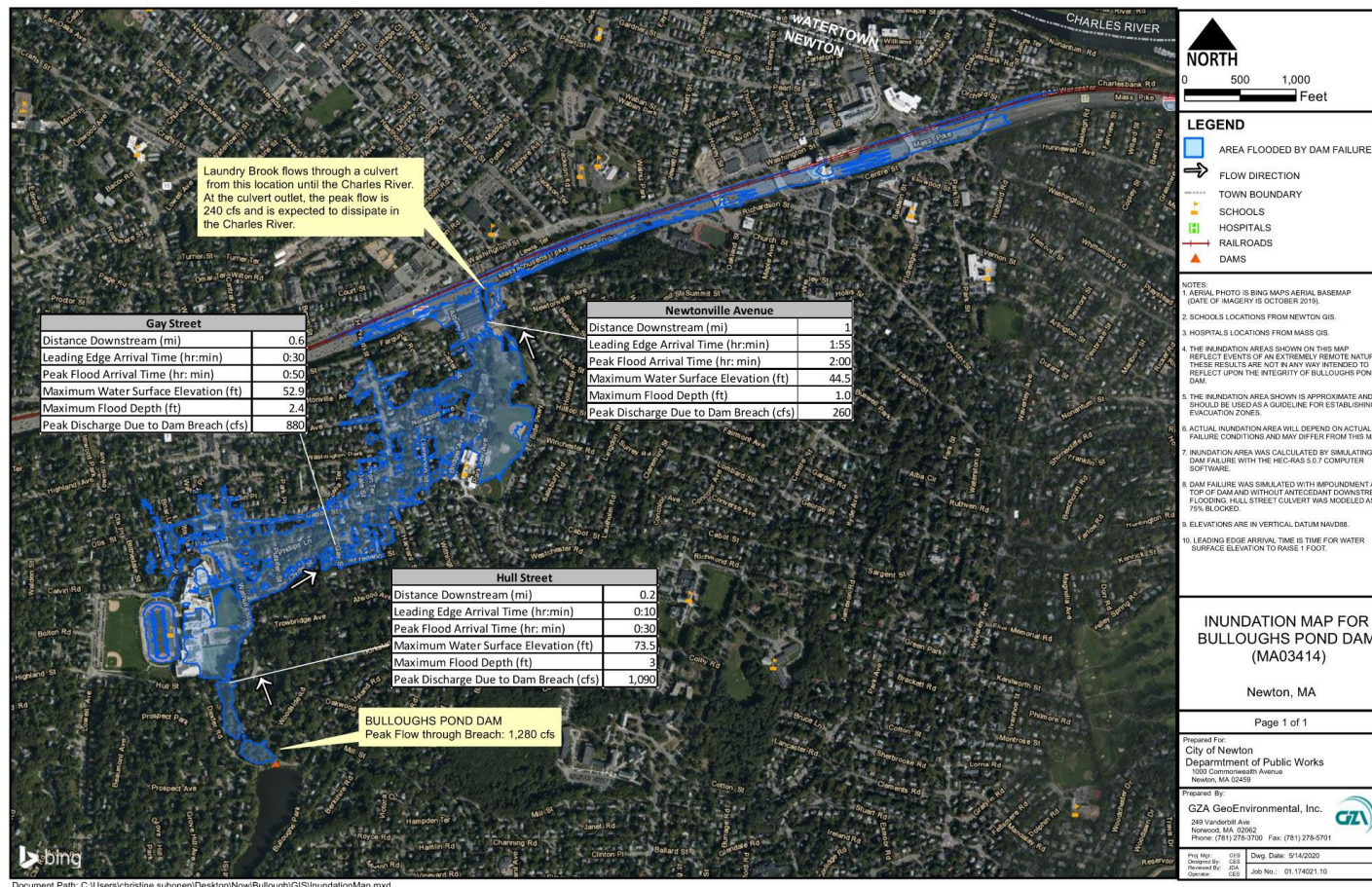


Reasons For This Project

- 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, as shown on the inundation map
- Primary spillway undersized for design storm
 - Overtopping likely during design storm.
 - Overtopping would likely lead to dam breach.
- Woody Vegetation on Dam in areas required to be cleared
- Masonry Repairs Needed at Spillway and Low-Level Outlet



Inundation Map



Selected Design

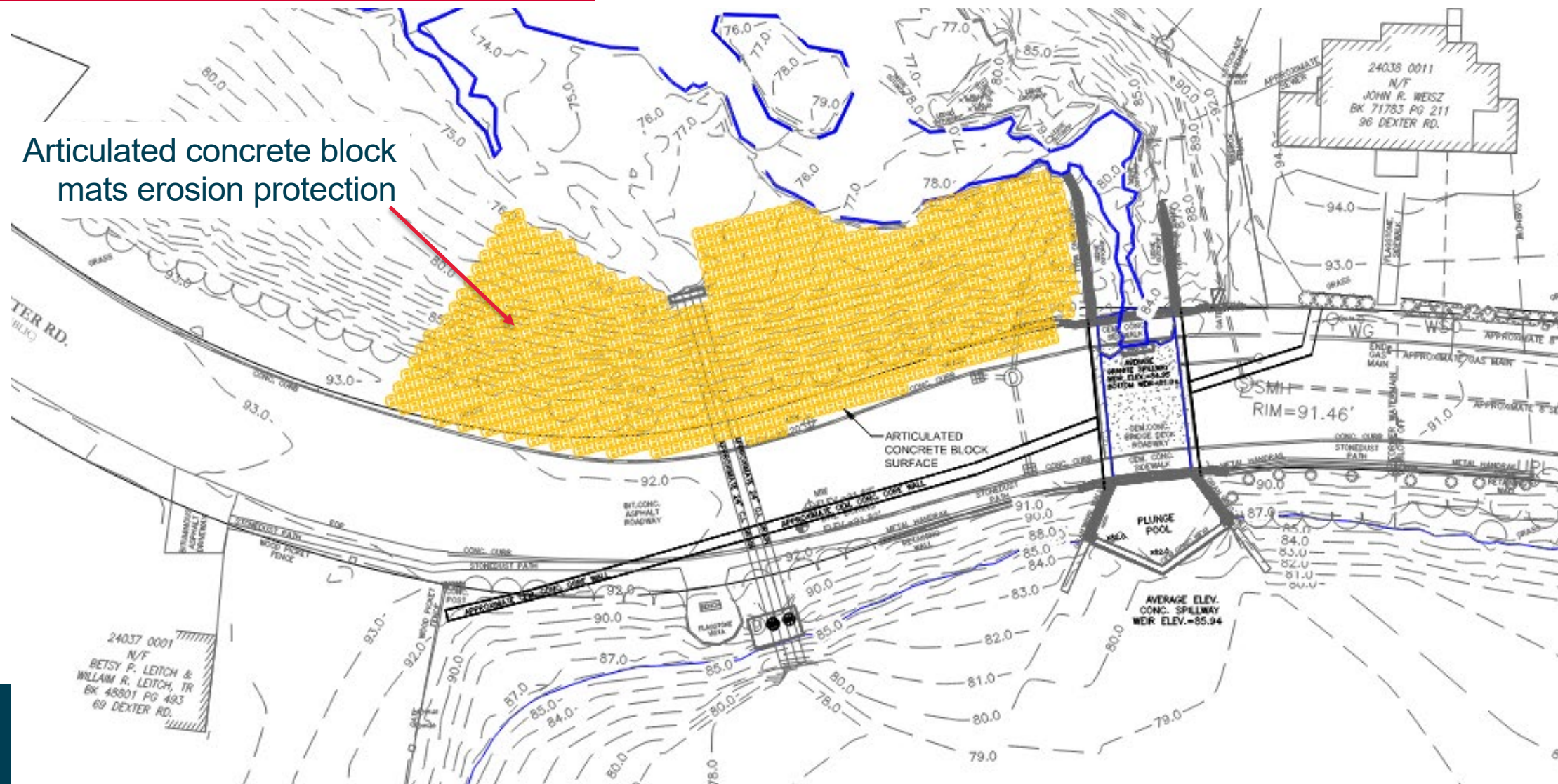
DCR Requirement (302 CMR 10.14 (6)) for Significant Hazard Potential, Intermediate Size, Existing Dams:

- *The spillway system shall have a capacity to pass a flow resulting from a design storm, unless the applicant provides calculations, designs and plans to show that the design flow can be stored, passed through, or passed over the dam without failure occurring.*
- SDF = 100-year storm event

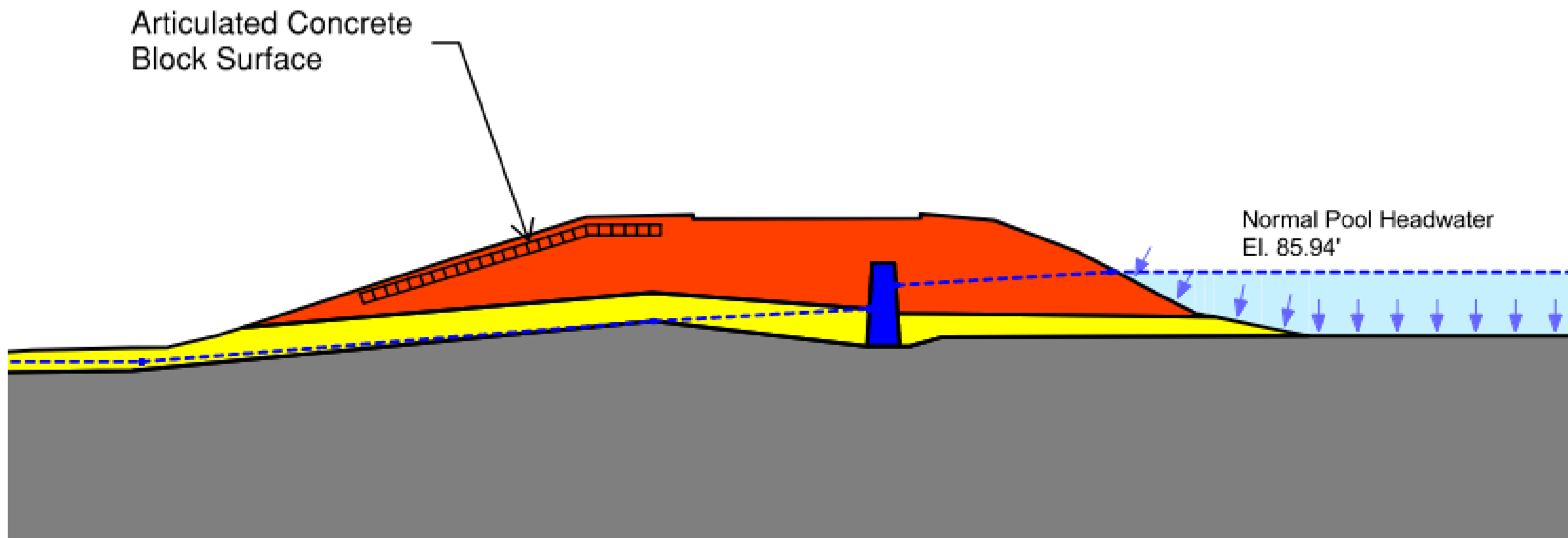


Selected Design- Downstream slope erosion protection

Articulated concrete block mats erosion protection



Selected Design– Downstream slope erosion protection



Selected Design– Downstream slope erosion protection

Downstream slope erosion protection elements:

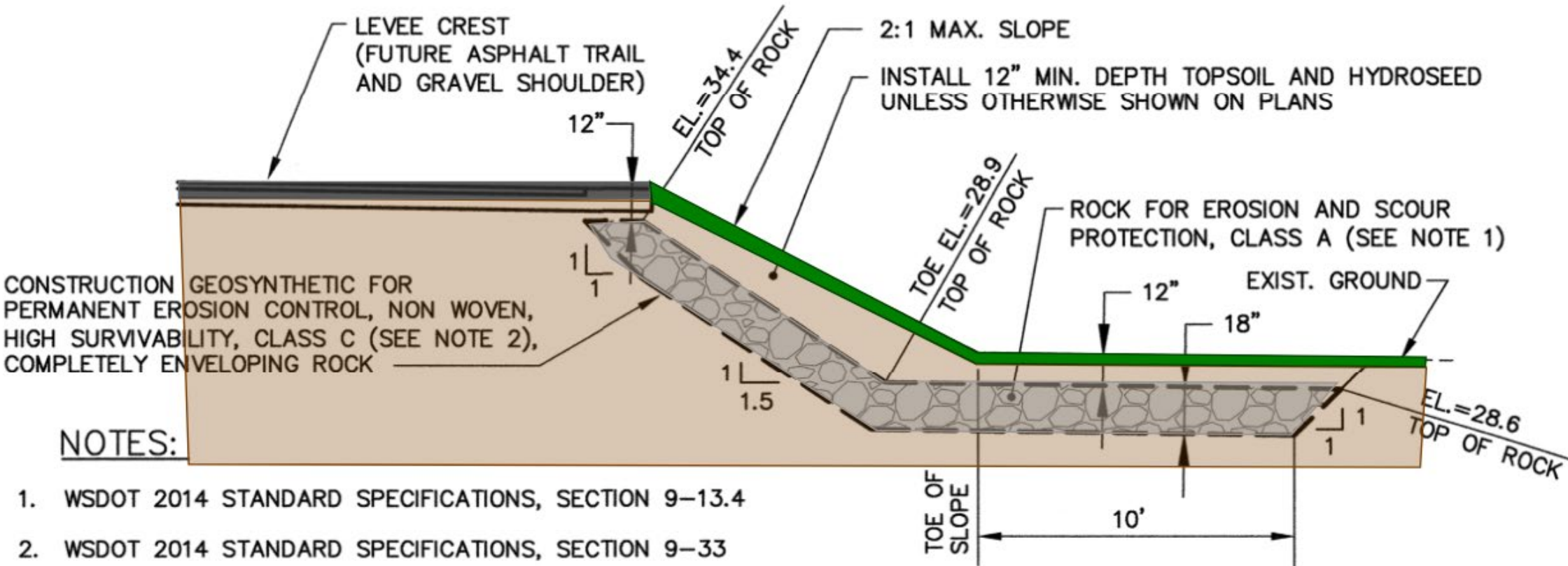
- Remove trees and vegetation
- Strip ~1 feet depth, grade smooth and compact
- Place bedding layers
- Place articulated concrete block mattresses ~8,200 SF area
- Cover with seeded topsoil



Articulated Concrete Blocks



Buried Articulated Concrete Block



Tree and Wood Vegetation Removal

Selected Design:

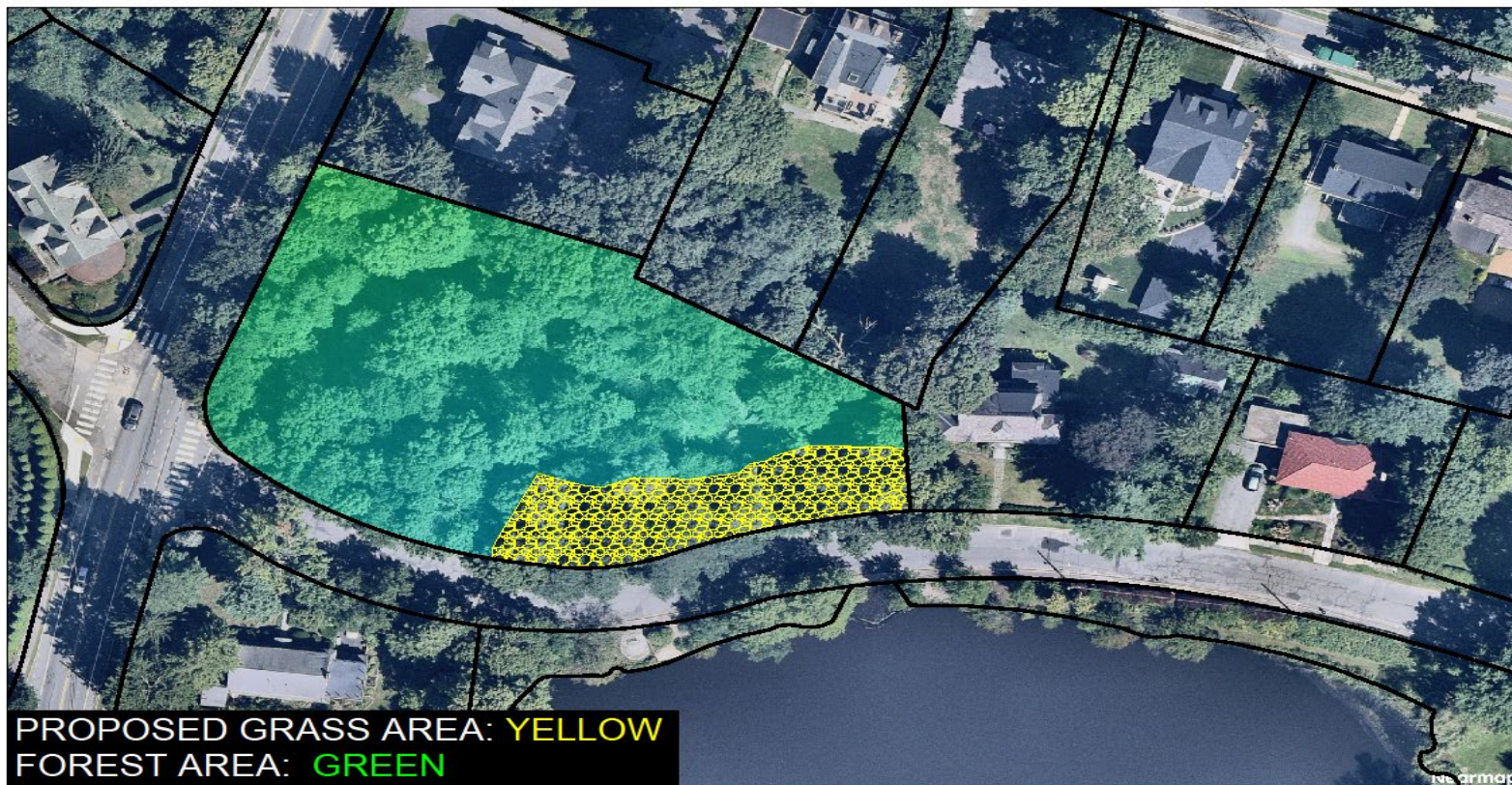
- All trees/woody vegetation would need to be removed from the upstream slopes
- All trees/woody vegetation would need to be removed from the downstream slopes
- Total of 199 trees would be removed, 0-5" = 143; >6" = 56.



Tree Removal Plan



Forest vs Proposed Grass Area



Tree Removal Estimate, Probable Construction Costs

Alternative	1 – Steel Sheet Pile	2 – Core Wall Raise	Selected Design, Downstream Erosion Protection
Tree Removal Estimate	172 trees	172 trees	199 trees
2024 Const. Cost	\$2,900,000	\$3,500,000	\$2,300,000
Tree Removal Fee	\$200,000	\$200,000	\$300,000
Utility Relocation/ Road Restoration	\$650,000	\$650,000	--
Total 2024 Opinion of Probable Cost	\$3.75 Mil	\$4.35 Mil	\$2.6 Mil



Environmental Permits

- Order of Conditions under the Massachusetts Wetlands Protection Act (Newton Conservation Commission).
- Chapter 253 Dam Safety Permit (DCR-Office of Dam Safety).
- Section 106 Historical Notification (Mass. Heritage Commission).
- Chapter 91 license review by the Massachusetts Department of Environmental Protection (MADEP).
- Water Quality Certification by MADEP under Section 401.
- Review by the U.S. Army Corps of Engineers under Section 404.
- Environmental Notification Form for Massachusetts Environmental Policy Act Office.



Next Steps

- Public Facilities Committee 11-20-24
- Grant Opportunities: Dam and Seawall Repair Program - EOEEA, Hazard Mitigation Assistance Grants - MEMA
- Proceed to final design, winter, spring
- Conservation Commission, at final design
- Office Of Dam Safety, at final design
- Construction bids, Funding request

