

Date: November 4, 2022

To: Natick Select Board

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## Memorandum: Comparison of Next Steps for Charles River Dam

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The following memo summarizes next steps for the repair or removal of the Charles River Dam in South Natick. It is informed by conversations with GZA, Stantec and state and federal agencies with experience in grant programs and/or permit responsibilities. The influence a concurrent park design and construction process would have on each option is not reflected.

With respect to both options (repair or removal):

- Section I provides a high level timeline, beginning with the Select Board's decision through final construction;
- Section II details immediate actions necessary to ensure compliance, secure funding, advance design, and begin permit processes over the next 12 months; and
- Section III provides context on required permits and reviews.

### Key Takeaways

- Both projects are years away from completion. The conservative estimated timeline for dam repair is approximately 5 years and the conservative estimate for dam removal is approximately 6 years. These timelines could move faster or slower, depending on the permitting process. In both options, it is possible some permitting could occur concurrently to shorten the overall project timeline.
- Public safety and ongoing compliance with the Office of Dam Safety (ODS) will be a top priority for the Town throughout this multi-year process. This will include following the new inspection schedule (every six months) and more frequent communications with ODS.

- Permits and their associated review processes are the primary driver of the estimated timelines. The Massachusetts Environmental Policy Act (MEPA) requires the development of an Environmental Impact Report and an additional public hearing process beyond those already conducted by the Town, which are expected to have the greatest impact on project timing. MEPA reviews specific projects and does not compare alternative options, which is why the Town cannot file until, at a minimum, preliminary plans are developed.
- As part of the permitting process, additional research or field work may be required that is not anticipated at this time. Several of the permit and review processes for both options may result in requests from the reviewing agencies for additional information.
- In the next six months (December 2022 - May 2023), much of the work required to advance dam repair and dam removal is the same. Given such work would be required for either option, no additional funds are needed immediately to make progress and demonstrate compliance with ODS.
- Should the Select Board decide to pursue dam removal, an appropriation will likely be necessary at the 2023 Spring Annual Town Meeting, to ensure design work can begin in summer 2023 and to provide the 25% local match typically required by state and federal grants. No additional appropriations are expected to be necessary for dam repair until closer to the construction stage.
- It is important to note that design work is not limited to the dam removal option. Repair may also require additional design work and further consideration regarding issues that were identified during the Advisory Committee's process, such as fish passage (MGL Part 1, Title XIX, Chp. 130, Sec. 19), and any additional work to the entraining walls.
- Staff are aware of two short-term state grant opportunities: [Dam & Seawall Design & Permitting Grant Program](#) (application due February 2023 for implementation starting in July 2023) and [Municipal Vulnerability Preparedness Action Grant Program](#) (expect application due in May 2023 for implementation starting in September 2023). Both require a 25% local match, which can be met using cash and/or staff time. The Dam & Seawall grant would prioritize removal in its evaluation process, but would also consider dam repair. The MVP grant is only available for dam removal.
- Should the Town wish to pursue park improvements, staff recommend timing efforts to create efficiencies in permitting and construction (i.e., include park work in dam-related permit applications to avoid additional timing and costs for a second round of permits; include park work in construction contracts to reduce mobilization costs, improve site while "cleaning up", and avoid gaps in construction).

**Section I: Estimated Overall Timeline**

In summary, either option is expected to take multiple years to complete (approximately 5 years for dam repair vs. 6 years for dam removal). As noted above, these timelines could move faster or slower, depending on the permitting process. It is possible certain steps for either process can occur concurrently with others to shorten the overall project timeline.

Action	Dam Repair	Dam Removal	Notes
<b>Finalize Scope and Select Design Consultant</b>	1-2 months	3-6 months	As a design and engineering project, this work is exempt from MGL Chapter 30B. The Town could choose to work with GZA or select a new consultant. Either consultant will need to be able to prepare the Environmental Impact Report (EIR) required standards.
<b>Develop Design Plans</b>	N/A	6-8 months	Preliminary design plans have been developed for a repair scenario and are likely in a place where MEPA and Section 404 review can commence, though additional design work may be required for fish passage or entraining walls at this stage.
<b>MEPA , 404, 401, Chp 91, and WPA Processes</b>	12-36 months	12-36 months	These permits are likely to take the longest, due to the review by several different state and federal agencies. Natick can simultaneously file the EIR with MEPA and for 404 with the US Army Corps of Engineers (USACE). If USACE requires Chapter 91 and 401 permits, these applications should be submitted as soon as possible, along with a Notice of Intent for wetlands review. Chp. 91 will generally not be issued until the Order of Conditions for the wetlands permit is issued.
<b>Finalize Design Plans</b>	3 months	3-6 months	Once all required changes and edits are received from USACE, MEPA, and DEP, plans can be finalized. As there is more potential for variation in design for removal, the changes may take longer to make than with repair.
<b>MWRA Permitting</b>	3-6 months	3-6 months	Recommended to come after plans are finalized as there is less chance required changes are needed as a result of these processes.

<b>Bid Contractor for Site Work</b>	6 months	6 months	Project will require a formal bid process, but bid language can be developed concurrently with the previous step to shorten time required.
<b>Site Work (excluding parks)</b>	3-6 months	3-6 months	Actual work on site for dam repair or dam removal will occur fairly quickly as there are specific seasons when work will be allowed to occur. Note, work may need to stop and restart if timing takes longer than expected to ensure work is completed during allowed seasons. Park site work and repairs to entraining walls may take longer.
<b>TOTAL TIME ESTIMATED</b>	59 Months (~5 years)	74 months (~6 years)	

*Note, the vote by the Select Board is being considered the start of this process. The total time was calculated using the higher end of the estimated time for each phase.*

## Section II: Immediate Next Steps

Town staff are prepared to quickly advance dam repair or removal, pending the Select Board’s decision. Staff have a good understanding of immediate next steps, and potential federal, state and local partners are well aware the Town will be taking action on the dam soon.

The below table outlines anticipated work for each option in three month increments, starting in December 2022 and ending in December 2023.

### Estimated 12 Month Calendar of Work

Timing	Category	Dam Repair	Dam Removal
Dec 2022 - Feb 2023	<b>Compliance</b>	<ul style="list-style-type: none"> <li>Notify Office of Dam Safety (ODS) and update on the planned next steps</li> <li>Complete 6 month inspection</li> </ul>	<ul style="list-style-type: none"> <li>Notify Office of Dam Safety (ODS) and update on the planned next steps</li> <li>Complete 6 month inspection</li> </ul>
	<b>Design &amp; Permitting</b>	<ul style="list-style-type: none"> <li>Update scope of work for repair, incl updated costs, MEPA EIR preparation, potential analysis of spillway and fish ladder</li> <li>Contract with Public Archaeology Lab and complete preliminary cultural resource assessment</li> </ul>	<ul style="list-style-type: none"> <li>Request new scope of work focused on removal (use Stantec analysis as guide)</li> <li>Contract with Public Archaeology Lab and complete preliminary cultural resource assessment</li> </ul>
	<b>Funding</b>	<p><i>No New Funding Needed at this Stage</i></p> <ul style="list-style-type: none"> <li>Update Capital Plan</li> <li>Apply for Dam &amp; Seawall grant</li> </ul>	<p><i>No New Funding Needed at this Stage</i></p> <ul style="list-style-type: none"> <li>Update Capital Plan</li> <li>Apply for Dam &amp; Seawall grant</li> <li>Submit notice of intent for MVP grant</li> </ul>
Mar - May 2023	<b>Compliance</b>	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>NA</li> </ul>
	<b>Design &amp; Permitting</b>	<ul style="list-style-type: none"> <li>Update wetland delineation and wildlife assessment</li> <li>Conduct additional sediment testing, in coordination with MassDEP</li> <li>Begin development of Environmental Impact Report (EIR)</li> </ul>	<ul style="list-style-type: none"> <li>Update wetland delineation and wildlife assessment</li> <li>Conduct additional sediment testing, in coordination with MassDEP</li> </ul>

		<ul style="list-style-type: none"> <li>Conduct analysis of spillway and fish ladder</li> </ul>	
	<b>Funding</b>	<p><i>No New Funding Needed at this Stage</i></p> <ul style="list-style-type: none"> <li>N/A</li> </ul>	<p><i>No New Funding Needed at this Stage</i></p> <ul style="list-style-type: none"> <li>Request appropriation at Spring Town Meeting (for next phase of work)</li> <li>Apply for MVP grant</li> </ul>
<b>June - Aug 2023</b>	<b>Compliance</b>	<ul style="list-style-type: none"> <li>Complete 6 month inspection</li> </ul>	<ul style="list-style-type: none"> <li>Complete 6 month inspection</li> </ul>
	<b>Design &amp; Permitting</b>	<ul style="list-style-type: none"> <li>File EIR with MEPA and submit application for USACE 404</li> <li>If necessary, file for Chp. 91 and Section 401 approval.</li> <li>If Chp. 91 and Section 401 are required, the Notice of Intent for Conservation Commission review should also be filed.</li> </ul>	<ul style="list-style-type: none"> <li>Begin development of 40% design plans</li> <li>Begin development of EIR in conjunction with plan development</li> <li>Coordinate with MWRA as plans and EIR are developed to determine if MRWA permitting is required as anticipated</li> </ul>
	<b>Funding</b>	<p><i>No New Funding Needed at this Stage</i></p> <ul style="list-style-type: none"> <li>Plan to seek additional funding at Fall Town Meeting as necessary</li> <li>Continue to engage with potential funders for construction (e.g., Dam and Seawall)</li> </ul>	<p><i>Funding Needed</i></p> <ul style="list-style-type: none"> <li>Continue to engage with potential funders for construction (e.g., US Fish &amp; Wildlife, NOAA, FEMA, Dam and Seawall, MVP)</li> </ul>
<b>Sept - Nov 2023</b>	<b>Compliance</b>	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>
	<b>Design &amp; Permitting</b>	<ul style="list-style-type: none"> <li>Continue working through the permitting processes.</li> </ul>	<ul style="list-style-type: none"> <li>Finalize 40% design plans</li> <li>File EIR with MEPA and submit application for USACE 404</li> <li>If necessary, file for Chp. 91 and Section 401 approval.</li> </ul>
	<b>Funding</b>	<ul style="list-style-type: none"> <li>Continue to engage with potential funders for construction (e.g., Dam and Seawall)</li> </ul>	<ul style="list-style-type: none"> <li>Continue to engage with potential funders for construction (e.g., US Fish &amp; Wildlife, NOAA, FEMA, Dam and Seawall, MVP)</li> </ul>

### **Section III: Permits and Reviews**

In both scenarios, the timing for completion is heavily influenced by state and federal permitting/reviews. The following table details the potential timing of each permit/review process, in relation to the two options. A description of each type of permit is provided below the table.

#### **Permits and Reviews Required**

<b>Permit/Review</b>	<b>Dam Repair</b>	<b>Dam Removal</b>	<b>Estimated Timing</b>
<b>MEPA Review</b>	Required	Required	12-18 months
<b>US Army Corps of Engineers 404</b>	Potentially Required	Required	12-18 months
<b>Chp. 91</b>	Potentially Required	Potentially Required	6-8 months
<b>Section 401</b>	Potentially Required	Potentially Required	3-6 months
<b>WPA 310 CMR 10.00 (Conservation Commission)</b>	Required	Required	3-6 months
<b>MWRA 8m</b>	Not Required	Required	6-8 months
<b>Massachusetts Historical Commission</b>	Potentially Required	Required	1-3 months
<b>Office of Dam Safety</b>	Required	Required	3-6 months

#### **Expanded Information**

##### **Massachusetts Environmental Policy Agency (MEPA)**

*Background:* MEPA review is not a permitting process. MEPA requires public study, disclosure, and development of feasible mitigation for a proposed project. It does not pass judgment on whether a project is environmentally beneficial, or whether a project can or should receive a particular permit. Those decisions are left to the permitting agencies. MEPA review occurs before permitting agencies act, to ensure they are fully cognizant of environmental consequences of their actions. MEPA review provides the mechanism through which this information collection and mitigation mandate is executed.

*Relevance to Natick:* There is no question that MEPA will require the development of a full Environmental Impact Report (EIR) for either repair or removal due to the downstream Environmental Justice Community. As such, the Town may choose to submit the EIR without going through the “traditional” process of having a pre-filing meeting, submitting an Environmental Notification Form, and then submitting the EIR. This will cut down on the time, though this will likely be one of the longest review processes, as there are several different agencies involved.

## US Army Corps of Engineers (USACE) Section 404

*Background:* As the Charles River is a navigable waterway of the United States, the US Army Corps of Engineers have jurisdiction over all work occurring within the limits of the waterway. The basic premise of the program is that no discharge of dredged or fill material may be permitted if: (1) a practicable alternative exists that is less damaging to the aquatic environment or (2) the nation's waters would be significantly degraded. In other words, when you apply for a permit, you must first show that steps have been taken to avoid impacts to wetlands, streams and other aquatic resources; that potential impacts have been minimized; and that compensation will be provided for all remaining unavoidable impacts.

*Relevance to Natick:* Review by the USACE may be required for either option.

- *Dam Repair:* would likely qualify for General Permit type 7. The Town would work with USACE to determine if the project is eligible for self-verification (SV) or will require pre-construction notification (PCN), but it is likely that PCN would be the appropriate path. USACE will review SV or PCN and issue a determination on the project and whether Chp. 91 and/or Section 404 permitting is required.
- *Dam Removal:* would likely qualify for General Permit type 14, and also General Permit type 5 if dredging is proposed. The Town would work with USACE to determine if the project is eligible for SV or will require PCN, but it is likely that PCN would be the appropriate path. USACE will review SV or PCN and issue a determination on the project and whether Chp. 91 and/or Section 404 permitting is required.

## Chp. 91

*Background:* The oldest program of its kind in the nation, Chapter 91 regulates activities on both coastal and inland waterways, including construction, dredging and filling in tidelands, great ponds and certain rivers and streams. The purpose of the program is to ensure that public access rights to waterways are protected, including assurances regarding the removal or repair of unsafe or hazardous structures.

*Relevance to Natick:* This permit may be required for both the repair and removal options. In either case, Massachusetts DEP would review the application and issue a Waterways License for the project. It is important to note that while this summary does not apply to the park redesign projects intended to be completed, should any structures (including but not limited to boardwalks, decks/docks, or boat launches) be proposed as part of park redesign, this permit will be required.

- *Dam Repair:* may be required due to the structural alteration of the existing earthen dam due to the reinforcement of the upstream face of the dam.
- *Dam Removal:* may be required for the structural alteration associated with the removal of the spillway and/or for dredging of the channel to improve recreational value of the area.

## Section 401

*Background:* Section 401 is a permitting process focused on water quality. It is used to ensure that fill placed in water bodies is clean and will not impact the water body, or that material removed from water bodies is disposed of properly based on the quality of the material.



*Relevance to Natick:* This permit may be required for both the repair and removal options.

- *Dam Repair:* may be required to approve material proposed for reinforcement of the upstream face of the earthen dam which could qualify as “fill” material.
- *Dam Removal:* may be required to approve any dredging proposed for the project, either for channel creation or removal and disposal of sediment trapped behind the dam if Natick is not approved for the natural release of the sediment.

#### WPA 310 CMR 10.00 (Conservation Commission)

*Background:* As this location falls within several areas of wetlands jurisdiction under both the state and local wetlands protection regulations, such as Riverfront Area, Bordering Land Subject to Flooding, Bank, Land under Waterbodies and Waterways, and Bordering Vegetative Wetlands, permitting is required by the Conservation Commission. This permitting process ensures that all work proposed falls within the performance standards for each jurisdictional resource area, and that overall the project will have no adverse impacts on the eight interests of the Wetlands Protection Act.

*Relevance to Natick:* Wetland permitting through the filing of a Notice of Intent will be required for either project option. As a Chp. 91 license will not be issued until an Order of Conditions is issued, if Chp. 91 licensing is required, the Notice of Intent should be filed as soon as possible. The project will be reviewed by the Natick Conservation Commission, as well as MassDEP.

- *Dam Repair:* the project would not qualify for any exemptions or limited projects.
- *Dam Removal:* the project may qualify for a ecological limited project which would allow the project to meet performance standards to the maximum extent possible rather than in full.

#### MWRA 8m Permit

*Background:* The Massachusetts Water Resources Authority (MWRA) issues 8m permits to other entities to build, construct, excavate, or cross within an easement or other property interest held by the Authority. The review and approval process allows MWRA to ensure that there will be no adverse impact to their infrastructure and that appropriate mitigation measures are in place, should there be an expected impact.

*Relevance to Natick:* This would very likely be required for a spillway removal project to ensure there is no adverse impact to the sewer main that flows through the MWRA easement that falls within the impoundment area. The review process by MWRA may result in a requirement that the Town armor the existing concrete to protect from faster water flow and lower water level impacts, but it is unclear at this time if that would be necessary and if that burden would fall on the Town or on MWRA.

#### Massachusetts Historical Commission (MHC)

*Background:* Any new construction projects or renovations to existing buildings/structures that require funding, licenses, or permits from any state or federal governmental agencies must be reviewed by the Massachusetts Historical Commission (MHC) for impacts to historic and archaeological properties. It is the nature of the federal or state agency involvement that triggers

MHC review, not listing in the National or State Registers of Historic Places. A listing in either register does not necessarily require review and likewise, lack of listing does not eliminate the need for review.

*Relevance to Natick:* A Project Notification Form would be submitted to MHC when the EIR is filed with MEPA or if state/federal grant funding is applied for depending on the funding source. The Town can perform a preliminary analysis to determine the likely involvement of MHC in the overall process (see Section II, 12 month timeline), but a final determination will be issued when Natick formally notifies MHC. A review will be completed within 30 days of receipt of the Project Notification Form. Based on MHC's review of the preliminary analysis and proposed project scope, they will determine whether review and monitoring of the project is required for certain phases or the entire project to ensure there is no disturbance or alteration of historically or archaeologically important resources/sites.