



**CITY OF NEW BEDFORD**  
JONATHAN F. MITCHELL, MAYOR

December 6, 2018

City Council President Linda M. Morad and  
Honorable Members of the City Council  
133 William Street  
New Bedford, MA 02740

Dear Council President Morad and Honorable Members of the City Council:

I am submitting for your approval a LOAN ORDER in the amount of \$6,800,000 to pay the costs of the Buttonwood Park Pond and Dam Rehabilitation and Dredging Project.

Sincerely,

Jon Mitchell  
Mayor



# CITY OF NEW BEDFORD

## CITY COUNCIL

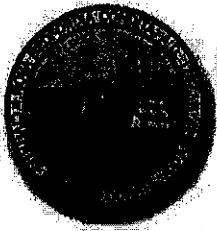
December 13, 2018

A BOND ORDER TO AUTHORIZE THE BORROWING OF FUNDS TO PAY COSTS FOR THE BUTTONWOOD PARK POND AND DAM REHABILITATION AND DREDGING PROJECT

BE IT ORDERED, BY THE CITY COUNCIL OF THE CITY OF NEW BEDFORD AS FOLLOWS:

ORDERED that \$6,800,000 is appropriated to pay the costs of rehabilitating the Buttonwood Park Pond and Dam, including but not limited to the rehabilitation of the dam and spillway, improving the overall operability of the dam, dredging of the pond to remove and dispose of the accumulated sediment, restoration of the pond's habitat, and stabilization the pond's banks to support improved water quality and pond use, (the "Project"); that to meet this appropriation the Treasurer with the approval of the Mayor and the Committee on Finance is authorized to borrow \$6,800,000 under Chapter 44 of the General Laws or any other enabling authority; that the amount authorized to be borrowed for the project by this order shall be reduced by the amount of any grant funds, donations, funds appropriated from the City budget or any other funds for the Project received by the City prior to the issuance of the bonds or notes for the Project; that the premium received by the City upon the sale of any bonds or notes hereunder, less any such premium applied to the payment of the costs of issuance of such bonds or notes, may be applied to pay project costs and the amount authorized to be borrowed hereunder shall be reduced by the amount of any such premium so applied; and that the Mayor is authorized to take any other action necessary to carry out this project; provided, however, that the Chief Financial Officer shall approve the amount and timing of the borrowing for each of the three phases of the Project.

FURTHER ORDERED: That the Treasurer is authorized to file an application with the appropriate officials of The Commonwealth of Massachusetts (the "Commonwealth") to qualify under Chapter 44A of the General Laws any and all bonds of the City authorized by this Order, and to provide such information and execute such documents as such officials of the Commonwealth may require in connection therewith.



**Department of Public Infrastructure**

**Jamie Ponte  
Commissioner**

**Water  
Wastewater  
Highways  
Engineering  
Cemeteries  
Park Maintenance  
Forestry  
Energy**

**CITY OF NEW BEDFORD  
Jonathan F. Mitchell, Mayor**

December 3, 2018

Mr. Ari Sky  
Chief Financial Officer  
City of New Bedford  
133 William Street  
New Bedford, Massachusetts 02746

**Subject: Buttonwood Park Pond and Dam  
Project Summary and Update**

Dear Mr. Sky:

Attached, please find a project summary outlining the project components, schedule, and cost of the Buttonwood Park Pond and Dam Rehabilitation Project (Project). The Project is comprised of two components: rehabilitation of the dam and spillway and dredging of the pond to support habitat restoration. The components are not contingent upon each other and can be completed separately or concurrently depending on funding availability.

The Project is vital to maintain a valued area of one of the city's foremost parks and ensure future recreation, permit compliance with the Office of Dam Safety, and public safety. Should you have any questions about this Project, please do not hesitate to contact me at (508) 979-1556.

Sincerely,

  
Jamie Ponte  
Commissioner

Cc: Manny Silva  
Molly Gilfeather  
Shawn Syde

# Project Summary

## Buttonwood Park Pond and Dam Rehabilitation

The Buttonwood Park Pond and Dam is owned by the City of New Bedford (City) and maintained by the Department of Public Infrastructure (DPI). In 2006, the dam was classified by the Department of Conservation and Recreation (DCR) Office of Dam Safety (ODS) as a small size, significant hazard potential dam, in poor condition. The dam experiences overtopping events and is in general disrepair.

Per a Non-Compliance Order from ODS issued in 2008, the City has been requested to conduct repairs on the dam to improve the overall rating of the structure. These repairs were required to be completed by November 30, 2009; however, the City was granted an extension by the ODS to allow time to acquire funding through grants or loans. In the interim, continued 6-month inspections are being conducted. In 2017 and 2018, the City submitted to ODS applications for funding to support the dam rehabilitation. In November 2018, the City was notified that they were selected to receive \$1 million in low interest loans through this program to support dam repairs.

The Buttonwood Park Pond and Dam Rehabilitation Project (Project) is comprised of two components; rehabilitation of the dam and spillway and dredging of the pond to support habitat restoration. The following summarizes those components. The components are not contingent upon each other and can be completed separately or concurrently depending on funding availability.

### Dam Rehabilitation and Spillway Improvements

The rehabilitation of the dam and spillway will bring the dam into compliance with ODS requirements while reinforcing the dam to mitigate the effects of the overtopping events. In addition, the project will also improve the overall operability of the dam and address climate change and resiliency associated with changing weather patterns. If overtopping of the dam is allowed to continue without protection to the crest and downstream slope, erosion of the dam becomes a concern. Erosion stemming from the repeated flow of water over the crest could cause possible structural failure, if left unchecked. The major components to this project include:

- Place reinforced turf on the crest of the dam in lawn areas for its entire length;
- Rehabilitate the existing brick culvert under Fuller Parkway and downstream concrete spillway;
- Replace existing stone and mortar training walls and spillway and construct a new concrete spillway with removable stop logs and a new low level gate valve outlet;
- Construct a new reinforced concrete retaining wall upstream of the existing upstream wall; and
- Place articulated concrete block mats up to 10 feet from the face of the masonry wall; where vegetation was cleared downstream of the dam;

This project is expected to take between 12 to 15 months to complete at an estimated cost of \$3.05 million (November 2018 dollars). The design is currently at 90-percent. The project permits have been developed but not yet submitted. Submittal of the permits and completion of the design is pending to allow time to conduct outreach to the Friends of Buttonwood Park and other key project stakeholders.

## Pond Dredging and Habitat Restoration

The Buttonwood Park Pond is approximately 8.5 acres and impounds approximately 5.2 million gallons of water. The pond was originally constructed for irrigation purposes but has been used for many purposes including flood control and its current recreational use. Since the pond's construction in 1902, the pond has been slowly filled with sediment resulting in reduced water depths and storage volume. Sediment is transported to the pond via bank erosion, Buttonwood Brook and stormwater outfalls. The sediment transport has resulted in sediment deposition, particularly in the northern sections of the pond and at the base of the dam. In addition to the sediment deposition, invasive species have begun to grow in the pond. Recently, the pond has also been subjected to water quality issues including algae blooms which have resulted in fish kills.

The Pond Dredging and Habitat Restoration Project will remove and dispose of the accumulated sediment, restore the pond's habitat and stabilize the pond banks to support improved water quality and pond use.

This portion of the project is expected to take between approximately 24 to 30 months to complete including design, permitting and construction at an estimated cost of \$3.75 million (November 2018 dollars). No work has yet been completed on this portion of the project.

## Cash Flow and Schedule

For budgeting purposes, the project has been divided into two phases to be permitted, designed and constructed over three fiscal years. Table 1 below summarizes the approximate annual expenditures over each of those years:

Fiscal Year	Activity	Estimated Cost
FY19	Permitting for Pond Dredging	\$150,000
FY20	Dam Rehabilitation & Spillway Improvements	\$3,050,000
FY21	Pond Dredging & Habitat Restoration	\$3,600,000
	<b>Total Project Cost</b>	<b>\$6,800,000</b>

The project schedule and cash flow has been developed taking into consideration the type of work, seasonal constraints, and bidding requirements for funding of the project. The costs and phases have been broken out such that work can be completed concurrently or separate depending on funding availability.

The dam rehabilitation work can be completed under a single project. This work can be completed prior to or after the pond dredging. Should funding be available in FY 19, the work to be completed under the dam rehabilitation and spillway improvements could be started as early as spring 2019 concurrently with the permitting for the pond dredging.

The pond dredging and habitat restoration work can be completed in two phases; project permitting (estimated cost of \$150,000) followed by the pond dredging and habitat restoration (estimated cost of \$3,600,000). The permitting must be completed prior to any work activities. It is anticipated that permitting will take approximately one year to complete. As such, this work has been front loaded in the project schedule to stream line future work activities due to the long lead time on getting the permits.