

Cover Letter

WPA Form 3 – Notice of Intent

NOI Wetland Fee Transmittal Form

City of Newton Application Coversheet/Checklist

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Section 1

Introduction

1.1 Project Location & Description

Project Name: Leo J. Martin Recreational Complex Improvements Project

Project Location: Leo J. Martin Recreational Complex (Weston and Newton, MA)
41 Concord Street, 199 Pine Grove Ave, and 81 R Pine Grove Ave,
Newton, MA

Project Proponent: MA Department of Conservation and Recreation (DCR)

On behalf of the MA Department of Conservation and Recreation (DCR) (the "Applicant"), Tighe & Bond is pleased to submit this Notice of Intent (NOI) application to the City of Newton Conservation Commission for the Leo J. Martin Recreational Complex Improvements Project (the "Project") at 41 Concord Street, 199 Pine Grove Ave, and 81 R Pine Grove Ave in Newton, MA. Project activities will occur within wetland resource areas subject to protection under the Massachusetts Wetlands Protection Act (MA WPA; MGL c. 131 § 40) and its implementing regulations (310 CMR 10.00), and the Newton Floodplain Ordinance, Flood Zone Policy, and 25-Foot Naturally Vegetated Buffer Policy. The City does not have a local wetlands ordinance.

The Leo J. Martin Recreational Complex includes the Leo J. Martin Golf Course, which began play in the 1930s. The golf course is located in Newton, Weston, and Wellesley, MA. A NOI is also being submitted to the Weston Conservation Commission for the Project; no work is proposed in Wellesley.

The purpose of the Project is to provide additional irrigation for the course's fairways, while also improving the existing irrigation system by replacing the current existing satellite irrigation controller system with a modern two-wire system that will provide more control over individual sprinkler heads. Irrigation piping and communication cabling will be installed throughout the Leo J. Martin Recreational Complex at 190 Park Road, Weston, MA ("Project Site"), both in Weston and Newton.

This NOI is being submitted pursuant to the Massachusetts Wetlands Protection Act (MA WPA; MGL c. 131 § 40) and its implementing regulations (310 CMR 10.00) and the Newton Floodplain Ordinance, Flood Zone Policy, and 25-Foot Naturally Vegetated Buffer Policy, as the proposed work will occur within wetland resource areas including inland Bank, Land Under Water and Waterbodies (LUW), Bordering Land Subject to Flooding (BLSF), and the 200-foot Riverfront Area.

Tighe & Bond previously prepared and submitted an NOI to the Newton Conservation Commission in October 2020, and an Order of Conditions (MassDEP File # 239-877) was issued on November 20, 2020. At that time, the Project scope included the installation of underground snowmaking piping and site lighting for cross-country skiing. However, due to budgetary constraints, the Project was placed on hold in 2021. The current scope eliminates the snowmaking piping and retains the existing pump house in lieu of constructing a new one.

1.1.1 Project Summary/ Overview

The proposed Project involves activities within the City of Newton and Town of Weston. The activities in Newton include:

- Construction of a new “two wire” irrigation system including new irrigation piping, sprinkler heads, and communication cabling
- Construction of combined seasonal golf course irrigation (spring/summer/fall) and snowmaking main lines along Concord Street and Park Road to facilitate potential future improvements to the snowmaking system. Note that no improvements or expansion of the snowmaking system (winter irrigation) are proposed or planned at this time. Any such improvements are anticipated to occur no sooner than five years from now.
- Repairs to the existing irrigation pump house south of the lagoon
- Removal and disposal of the existing weirs and bridge across the lagoon inlet
- Dredging of the lagoon
- Repairs to existing asphalt and gravel cart paths due to irrigation line construction and deteriorated condition of portions of the existing paths.
- Reconstruction of the greens at holes 7, 15, 16, and the practice green
- Tree planting for screening of golf course and cross-country ski areas

1.2 Project Need and Benefits

Current limitations of the existing irrigation pumping and piping systems limit the operational use of the recreational complex. The majority of the existing golf course irrigation infrastructure is beyond its useful life and has maintenance and serviceability problems. The golf course irrigation system is antiquated with numerous leaks and inefficient water practices mostly controlled by large radius sprinkler heads and manual controls.

The existing irrigation pumphouse building is located in Newton adjacent to a lagoon that is connected to the Charles River. A 12” inlet pipe is installed from the pumphouse wetwell underground to the lagoon. The irrigation piping is then distributed throughout the golf course by underground cast iron and HDPE irrigation piping. The existing abandoned pump house building is located northeast of the lagoon in Weston. This pump house was used for water withdrawal prior to the construction of the pump house south of the lagoon. The Project includes the demolition of the abandoned pump house, which provides a net increase in flood storage capacity of approximately 2,160 cubic feet.

The proposed infrastructure improvements will provide improved control and monitoring of the irrigation system. The golf course currently has limited irrigation capabilities, generally serving only greens and tee boxes. The proposed system allows for individual sprinkler head control, significantly reducing water waste compared to the existing system, which can only operate entire branches at once.

Improvements to the pumping system and intake systems in Newton include replacement of the existing pumps and control equipment within the existing pump house, replacement of the intake screen within the lagoon, and dredging around the intake in the lagoon.

While the proposed Project does not include improvements to the snowmaking system at this time, the main water lines installed in Concord Street and Park Road are designed to accommodate potential future snowmaking use. Potential future improvements to the snowmaking system (winter irrigation) will occur at least five years from now.

1.3 Golf Course History

Leo J. Martin Golf Course is an 18-hole public golf course operated by the DCR that opened in 1930. The golf course was designed by the legendary golf course architect Donald Ross to provide cost effective golfing recreation for the general public.

According to a 2013 online article *Weston Chronicles: Golfing in Weston Through the Years* (by Weston historian Pamela Fox):

The first nine holes were laid out partly on land belonging to Riverside Recreation Grounds, an extensive athletic facility created by Charles Wells Hubbard and donated to the Metropolitan Park Commission in 1914.

Part of the golf course was on the 19-acre Weston Park, which Hubbard had given to the Town in 1892. This parcel was transferred to the control of the Commonwealth of Massachusetts under a long-term lease. A third parcel across the Charles River, which Hubbard had sold at a greatly reduced cost to the city of Newton in 1893, was later used for an additional nine holes.

Riverside Golf Course, also referred to as Riverside Public Golf Links, opened in May 1930. Despite the Depression, 50,000 rounds of golf were played in 1931 at a cost of \$1 each.

The course is named in honor of Leo Jerome Martin, former state amateur golf champion and member at Riverside, who was killed in World War II.

Based on historic aerial photographs and topographic maps, it is believed that the manmade lagoon was constructed prior to 1938 for irrigation purposes. Based on existing plans provided by the DCR, the existing concrete block irrigation pump house in Newton was constructed in 1972. The existing snowmaking pump house and associated infrastructure was constructed in Weston in 2005.

1.4 Water Management Act Applicability

The Leo J. Martin Golf Course does not have a Water Management Act Registration or Permit. As part of project planning, DCR collected meter data regarding irrigation water usage for the months of May, June, July, and August 2020.

Total metered water usage for the highest three water use months, for the months recorded, was approximately 2.2 million gallons [June 2018: 692,543 gallons, July 2020: 743,287 gallons; August 2020: 796,784 gallons]. This is well below the threshold requiring a Water Management Act permit of 100,000 gallons per day on average for three consecutive months during the year, or 9 million gallons over the highest three-month usage period.

While new irrigation capabilities will be expanded, water usage for the new irrigation system will be metered and stay below the MassDEP threshold of 9 million gallons over a three-month period.

1.5 Schedule

The Project is anticipated to be publicly bid in late 2025 or early 2026, with construction to commence in spring of 2026. It is anticipated that construction activities will occur in phases, such that portions of the existing golf course remain open while construction occurs, and that the associated work will be completed during the 2026 calendar year.

1.6 Summary of Anticipated Permits

Table 1-1 contains a list of federal, state, and local agencies from which permits or other actions are or may be required.

TABLE 1-1

Summary of Anticipated Permits, Reviews, and Approvals

Agency	Permit, Review, or Approval
Federal	
U.S. Army Corps of Engineers (Corps)	Section 404 MA General Permit
U.S. Environmental Protection Agency (EPA)	National Pollutant Discharge Elimination System (NPDES) Construction General Permit
State	
Executive Office of Energy and Environmental Affairs (EEA)	Massachusetts Environmental Policy Act (MEPA) Review/Certificate of the Secretary of EEA on the ENF
Massachusetts Department of Environmental Protection (MassDEP)	<ul style="list-style-type: none"> ▪ Chapter 91 Determination/ Potential Dredge Permit ▪ Superseding Order of Conditions (only required upon appeal of local Order)
Massachusetts Historical Commission (MHC) & Massachusetts Tribal Historic Preservation Officers (THPOs)	Section 106 Review
Local	
Weston and Newton Conservation Commissions	Orders of Conditions per the Wetlands Protection Act (MAWPA)
Town of Weston; City of Newton	Building Permits
Town of Weston; City of Newton	Electrical Permits

Section 2

Existing Environment

This section provides a site description and resource area characterization for the Project Site. Wetland resource areas and land use in the general vicinity were determined based on direct observations made during site visits and review of information obtained from MassMapper, publicly available through the Massachusetts Geographic Information System (MassGIS) and City of Newton property records. The Project Site is depicted on the figures in Appendix A.

2.1 General Site Description

2.1.1 Project Location (Newton)

The Project is located at the Leo J. Martin Recreational Complex at 41 Concord Street, 199 Pine Grove Ave, and 81 R Pine Grove Ave (Parcel IDs 42027 001, 42026 0003, and 42026 004). The Project location is bordered to the north and west by the MBTA Commuter rail Worcester Line and Route 23, and to the east and south by residential housing. The Charles River runs generally north to south through the middle of the project location. Lands to the north and west of the Charles River are within Weston, and lands to the east and south of the Charles River are within Newton. The Newton subject parcels are bounded by Interstate 95 to the east, an MBTA rail spur, Pine Grove Avenue and Grayson Avenue to the south, and the Charles River to the west and north. Concord Street/ Park Road traverses the Project location in an east to northwest direction.

2.1.2 Project Locus and Project Site (Newton)

The main Newton parcel (Parcel ID 42027 0001) includes the existing irrigation pumphouse and intake pipe, a manmade lagoon, a former masonry pumphouse structure east of the lagoon, and holes 10, 11, 14, 15. An old wooden bridge crosses the northern portion of the lagoon. The golf course maintenance facility is also within the limits of this parcel. Portions of the parcel south of the limit of work include mature vegetation. Areas of undisturbed vegetation are located along and immediately adjacent to the main stem of the Charles River.

The current surface water source for irrigation is the Charles River. The existing pumphouse for irrigation is located in Newton, west of the Concord Street bridge. A manmade "lagoon", constructed in the 1930s along the Charles River, serves as the surface water withdrawal point for irrigation.

The Project Site/"Limit of Work" (LOW) in Newton consists of approximately 2.24 acres located within the three subject parcels that total approximately 53.46 acres and is defined as the extent of temporary and permanent disturbance required for installation of the upgraded irrigation system; as well as any associated staging areas for construction materials and areas proposed for temporary site access during construction.

The Project Site in Newton is located within and adjacent to jurisdictional resource areas that include inland Bank, Land Under Water and Waterbodies (LUW), Bordering Land Subject to Flooding (BLSF), and 200-foot Riverfront Area as further described below.

Impact areas presented were calculated in AutoCAD using surveyed topography delineated resource areas, and other site features.

A large portion of the 2.24-acre limit of disturbance in Newton consists of previously disturbed areas (golf course) and previously developed areas (paved road and graveled areas). The limit of disturbance for this Project includes the current Newton pumphouse/intake site location, the replacement of an existing water line located approximately 2' to 3' below the sidewalk of the Concord Street/Park Road bridge, and installation of new irrigation piping infrastructure throughout the golf course. Limits of disturbance associated with the installation of irrigation piping are calculated using the length of piping multiplied by a 5-foot width.

Table 2-1 below outlines a summary of property information within the Project Locus in Newton.

TABLE 2-1

Project Locus Information

Property Owner	Parcel ID	Acres	Municipality	Site Features
Commonwealth of Massachusetts	42027 001	31	Newton	Irrigation pumphouse and manmade "lagoon"; Holes 10-11 and 14-15
Commonwealth of Massachusetts	42026 003	18.08	Newton	Holes 16-18
Commonwealth of Massachusetts	42026 004	4.38	Newton	Part of Hole 16
MA Department of Conservation and Recreation	Concord Street/ Park Road Right of Way		Newton and Weston	Existing 8" irrigation water line approximately 2' – 3' below sidewalk on bridge

2.2 Water Withdrawals

The Leo J. Martin Golf Course does not currently hold a Water Management Act (WMA) permit, as its water usage has historically remained below regulatory thresholds. Water usage was measured during 2020. The metering indicated that the highest three-month irrigation usage totaled approximately 2.2 million gallons, well under the WMA threshold of 9 million gallons per three months or 100,000 gallons per day. The proposed Project will expand the irrigated area, potentially increasing peak usage to an estimated 8.6 million gallons over three summer months, assuming no rainfall. However, actual water use will be reduced by natural precipitation, and the system will exclude non-critical areas from irrigation. The Proponent (DCR) has committed to metering the new irrigation system and submitting annual usage reports to ensure compliance with WMA thresholds and will seek a permit if usage approaches regulated limits.

There is no groundwater withdrawal point used at the site for irrigation.

2.2.1 Surface Water Withdrawal Point Information

The Charles River is a perennial stream with an approximately 219 square mile (140,159 acres) drainage area as measured just upstream from the approximate location of the withdrawal point, according to USGS StreamStats. Based on the USGS StreamStats basin characteristics report, the drainage area is approximately 47 percent forested, 43 percent developed land, 14 percent water bodies and wetlands and 2 percent lakes and ponds.

The manmade lagoon was constructed in Newton adjacent to and south of the Charles River as early as 1938. The lagoon is located north of the existing irrigation pumphouse and connected to the pumphouse wetwell with a 12-inch intake pipe. The lagoon is unlined and has a surface area of approximately 2,900 square feet. The depth of the lagoon at its deepest location is approximately 5 feet.

The existing 15' x 15' irrigation pumphouse contains two 50 horsepower pumps. A 12-inch intake pipe connected at the wetwell withdraws water from the lagoon. The withdrawal point is reportedly set near the base of the lagoon, along the southwestern side.

2.2.2 Historic Water Withdrawals

Irrigation water usage was recorded and metered by the DCR during the months of May, June, July, and August of 2020. During the three highest usage months, June, July, and August, the irrigation water usage was approximately 2.2 total million gallons. DCR currently does not have records of the water usage for snowmaking. The DCR intends to continue to record irrigation water usage as well as snowmaking water usage.

The recorded values for irrigation are well below the Water Management Act threshold of 100,000 gallons per day on average for three consecutive months during the year, or 9 million gallons over the highest three-month usage period

2.2.3 Projected Water Withdrawals

New irrigation capabilities will be expanded throughout the course, including additional irrigation on fairways, as such water usage will increase. As part of the proposed Project, an additional 6.51 acres will be irrigated during summer months. Total proposed irrigated acreage for summer golf course use will be approximately 20.07 acres. The sprinkler heads will be programmed to target greens, tees, and fairways while excluding roughs and off-course areas by default. During winter months, water will continue to be drawn from the existing snowmaking pumphouse location on the Weston side of the Charles River to be used for potential future snowmaking.

Based on June 2018 discussions with MassDEP, the 9-million-gallon threshold, if met, would most likely be met due to irrigation only, as withdrawal for snowmaking occurs in winter months and would not be in the same three-month usage period as the highest irrigation usage. The proposed area to be irrigated will consist of 611 sprinklers. Per Turf Products (TPC), the irrigation consultation that designed the irrigation system, a typical golf course would use approximately 1" of water per day, including both irrigation and rainfall. This would be approximately 95,500 gallons per day for the proposed area. Assuming no rainfall, this equates to approximately 2.9 million gallons per month, or 8.6 million gallons over a three-month period. However, the total volume will be reduced based on the actual rainfall, as the total water usage includes rainfall as well.

The proposed irrigation system will be metered and kept below the MassDEP threshold of 100,000 gallons per day on average for three consecutive months during the year, or 9 million gallons over the highest three-month usage period.

On July 30, 2025, MassDEP confirmed in response to DCR's June 27, 2025 letter that it appears that the golf course will continue to remain below WMA permitting threshold based on the metered information provided and the proposed irrigated acreage moving forward. MassDEP noted that metered data is key to confirming whether the project will meet the threshold moving forward. The roughly 2.9 million gallons used to irrigate the existing 13.56 acres during the four peak months (May -August) in 2020, gives a strong indication that irrigating an additional 6.51 acres will not result in the golf course exceeding the 9 million gallons in 3 months threshold for regulation by the WMA Program. 2020 was a dry summer which helps illustrate the demands were high to start, and the approximately 20 acres to be irrigated moving forward is considerably less than the 35 acres MassDEP assumes would trigger the need for a WMA Permit. As previously indicated by DCR, the new irrigation system will be metered moving forward and DCR is committed to submitting annual pumping records to document that withdrawals remain below the permitting threshold.

2.2.4 Evaluation of Potential Effects of Proposed Withdrawal

USGS Gauge data at the Charles River at Wellesley, MA, USGS #01104200 (upstream of the golf course), was downloaded and examined over a 10-year span for the winter and summer water usage periods. The average flow rate of the river during the summer months from 2014 to 2024 was estimated at 141.6 cubic feet per second (cfs). The average flow rate of the river during the winter months from 2014 to 2024 was estimated at 401.5 cfs.

The proposed pumps are designed for a maximum capacity of 2.2 cfs for irrigation. Comparing the river flow rate to the proposed withdrawal rates shows that an estimated 1.18% of the river flow will be utilized for irrigation purposes in the summer months.

It is also noted that during periods of low flow in the river, it is anticipated that water usage may be restricted by mandated water restrictions by the state or local authorities.

2.3 Methodology of Resource Area Investigations

Tighe & Bond's wetland delineation was conducted in conformance with local, state and federal guidelines, including the MA WPA; *Delineating Bordering Vegetated Wetlands under the MA Wetlands Protection Act (1995)* the 1987 Corps of Engineers Wetlands Delineation Manual; the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Northcentral and Northeast Region (2012)*; and *Field Indicators for Identifying Hydric Soils in New England (Version 4, 2018)*.

Land below the Ordinary High Water Mark (OHWM) of the Charles River is regulated under Section 404 of the federal Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. The delineation of the Ordinary High Water Mark (OHWM) of the Charles River at this site was performed in accordance with federal delineation methodology (i.e., based on physical characteristics/ field indicators; see below) and will also serve to demarcate the Bank and Mean Annual High Water (MAHW) lines for purposes of permitting. This approach meets the intent of state regulatory definitions of HWM and MAHW Line.

The OHWM/MAHW of the Charles River was delineated following criteria specified at 310 CMR 10.58(2), the ACOE *Wetland Delineation Manual* (1987) and *Regional Supplement* (January 2012), and the USACE Regulatory Guidance Letter No. 05-05, Ordinary High Water Mark Identification (7 December 2005).

Where jurisdictional wetland resource areas were observed, their boundaries were delineated and information regarding vegetation, soils, and hydrology was collected. BVW boundaries were delineated using pink 'Wetland Boundary' flagging tape, and MAHW/OHW was delineated using blue 'Stream Boundary' flagging tape. Each flag location was determined using a sub-meter GPS unit. Wetland resource areas were named based on a numeric-alpha-numeric nomenclature in which each separate resource area was designated by a different beginning number.

Tighe & Bond reviewed the FEMA Flood Insurance Rate Map (FIRM) for the Project Site within the City of Newton and Town of Weston, Middlesex County, effective July 8, 2025, (Map Numbers 25017C0534E). According to the Flood Insurance Studies (FIS) and Firm, portions of the limit of work are located within the limits of 100-year flooding.

2.4 Description of Wetland Resource Areas

The resource areas listed below were identified within the Project Site in Newton and Weston and are subject to jurisdiction under the MA WPA and its implementing regulations (310 CMR 10.00), **and** the Newton Floodplain Ordinance, Flood Zone Policy, and 25-Foot Naturally Vegetated Buffer Policy.

- MAHW/ Inland Bank (associated with the Charles River)
- Bordering Vegetated Wetlands (BVW)
- Land Under Water (LUW)
- Bordering Land Subject to Flooding (BLSF)
- Riverfront Area (RFA)
- 100-foot Buffer Zone

Additional resource area within the limit of work include:

- Ordinary High Water (federal Clean Water Act jurisdiction) OHW
- 25-foot Naturally Vegetated Buffer (Newton Conservation Commission)

A summary of resource areas delineated by flag series is presented in Table 2-2. The limits of BLSF were determined through FEMA information. Note that impacts located within the limits of Riverfront Area overlaps with impacts to BLSF in some areas.

TABLE 2-2

Summary of Wetland Resource Areas by Flag Series

Wetland Series ID	Flag Numbers	Municipality	Wetland Type	Wetland Resource Area Type
1	1A-1 → 1A-133	Newton	Perennial Stream ¹	OHWM/MAHW of Charles River
	1B-1 → 1B-100	Newton	Perennial Stream ¹	Bank of Charles River
	1C-1 → 1C-80	Weston	Perennial Stream ¹	Bank of Charles River
	1D-1 → 1D-131	Weston	Perennial Stream ¹	OHWM/MAHW of Charles River
2	2A-1 → 2A-12	Newton	PFO	BVW
3	3A-1 → 3A-10	Newton	PFO	BVW
4	4A-1 → 4A-16	Newton	PSS	BVW
5	5A-1 → to 5A-9	Newton	PFO, PEM/PSS	BVW
6	6A-1 → 6A-9	Newton	PEM/PSS	BVW
7	7A-1 → 7A-7	Newton	PEM/PSS	IVW
8	8A-1 → 8A-9	Newton	PEM/PSS	BVW
9	9A-1 → 9A-17	Newton	PSS/PFO	IVW
10	10A-1 → 10A-8	Weston	PSS/PFO	BVW
11	11A-1 → 11A-11	Weston	PFO	BVW
12	12A-1 → 12A-6	Weston	PFO	BVW
13	13A-1 → 13A-9	Weston	PFO, PEM/PSS	BVW
14	14A-1 → 14A-6	Weston	PFO	IVW
15	15A-1 → 15A-10	Weston	PSS	BVW
16	16A-1 → 16A-7	Weston	PFO	BVW
17	17A-1 → 17A-8	Weston	PEM/PSS	BVW
18	18A-1 → 18A-28	Weston	PSS/PFO	BVW
19	19A-1 → 19A-7	Weston	PSS/PFO	BVW

¹ Stream status determined as per the MAWPA at 310 CMR 10.58(2)(a)(1)(c)(i).

A separate NOI filing that describes the portion of the Project located in Weston will be submitted to the Weston Conservation Commission

Jurisdictional wetland resource areas and Buffer Zones (local and state) are shown on the Project Drawings provided in Appendix B. Representative photographs of each resource area is provided in Appendix C.

2.4.1 Bordering Vegetated Wetlands (BVW)

As set forth at 310 CMR 10.55(2)(a), "*Bordering Vegetated Wetlands are freshwater wetlands which border on creeks, rivers, streams, ponds and lakes. The types of*

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freshwater wetlands are wet meadows, marshes, swamps and bogs. Bordering Vegetated Wetlands are areas where the soils are saturated and/or inundated such that they support a predominance of wetland indicator plants. The ground and surface water regime and the vegetation community which occur in each type of freshwater wetland are specified in M.G.L. c 131 sec. 40."

Fifteen BVWs were delineated within the Project Site in Newton and Weston. The BVWs onsite were associated with the Charles River and included palustrine emergent, scrub-shrub, and forested wetlands. Common vegetation identified within the BVWs included sensitive fern, skunk cabbage, glossy buckthorn, silky dogwood, and buttonbush.

Tighe & Bond delineated BVW by identifying vegetation, hydrology, and hydric soils. Consecutively numbered pink flags were placed in the field to demarcate the wetland boundary. Wetlands were then categorized in accordance with *Classification of Wetlands and Deepwater Habitats of the United States*, Cowardin et.al. 1979.

The Wetland Indicator Status for plant species was ascertained using the USACE Northcentral and Northeast 2013 Regional Wetland Plant List. The Wetland Indicator Status, a designation that is used to convey the likelihood that a plant species will occur in a wetland or upland habitat, is as follows:

- Obligate Wetland (OBL): Hydrophyte, almost always occur in wetlands
- Facultative Wetland (FACW): Hydrophyte, usually occur in wetlands, but may occur in non-wetlands
- Facultative (FAC): Hydrophyte or non-hydrophyte, occur in wetlands and non-wetlands
- Facultative Upland (FACU): Non-hydrophyte, usually occur in non-wetlands, but may occur in wetlands
- Upland (UPL): Non-hydrophyte, almost never occur in wetlands

Vegetation

Wetland communities within the site include palustrine emergent (PEM), palustrine scrub shrub (PSS) and palustrine forested (PFO) wetlands. Common vegetation identified within mapped wetland resource areas included: American elm (*Ulmus americana*; FACW), green ash (*Fraxinus pennsylvanica*; FACW), silky dogwood (*Cornus amomum*; FACW), glossy buckthorn (*Frangula alnus*; FAC), elderberry (*Sambucus nigra*; FACW), buttonbush (*Cephalanthus occidentalis*; OBL), skunk cabbage (*Symplocarpus foetidus*; OBL), sensitive fern (*Onoclea sensibilis*; FACW).

Hydrology

The mapped BVW resource areas are located within low-lying areas and floodplains. Indicators of wetland hydrology that were used during the resource area delineation included: surface water, water stained leaves, and saturated soil.

Soils

Typical hydric soil indicators observed included the presence of a depleted matrix with redox concentrations and a histic epipedon.

2.4.2 Isolated Vegetated Wetlands (IVW)

Three isolated wetlands were also delineated within the Project Site in Newton and Weston. These isolated wetlands included palustrine emergent, scrub-shrub, and forested wetlands located within the Riverfront Area to the Charles River or within BLSF. Common vegetation identified within the isolated wetlands included elderberry, sensitive fern, and glossy buckthorn.

2.4.3 Land Under Water Bodies and Waterways (LUW)

As defined at 310 CMR 10.56(2), Land Under Water Bodies and Waterways (LUW) is the land beneath any creek, river, stream, pond or lake. Said land may be composed of organic rich or peat, fine sediments, rocks or bedrock.

LUW within the Project Site in Newton and Weston is confined to the Charles River, including the lagoon. Lilies (*Nyphaea spp.*) and other aquatic vegetation grow along the edges of the Charles River in lower velocity areas, but the River primarily does not have aquatic vegetation. The Charles River generally flows from the south to north within the reach along the Project Locus.

The proposed impacts to LUW include 4,530 sf of impacts associated with demolishing the bridge and weir walls, dredging the lagoon, and abandoning the existing intake pipe.

2.4.4 Bordering Land Subject to Flooding (BLSF)

As defined at 310 CMR 10.57(2), *Bordering Land Subject to Flooding (BLSF) is an area with low, flat topography adjacent to and inundated by flood waters rising from creeks, rivers, streams, ponds or lakes. It extends from the banks of these waterways and water bodies; where a bordering vegetated wetland occurs, it extends from said wetland.*

According to the FEMA Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRM), portions of the Project Locus are situated within the limits of BLSF associated with the Charles River. The limit of BLSF is shown on the Project Drawings in Appendix B.

Floodplain within the Project Site in Newton and Weston consists of previously developed and disturbed areas along and including Park Road, a paved surface, and the maintained golf course greens.

2.4.5 Riverfront Area

The MA WPA defines Riverfront Area at 310 CMR 10.58(2) as *"the area of land between a river's mean annual high water line and a parallel line measured horizontally. The riverfront area may include or overlap other resource areas or their buffer zones..."*

As noted above, the Charles River is considered perennial under the MA WPA. Riverfront Area of the Charles River was measured from the delineated OHWM/MAHW. Within the Site, Riverfront Area includes wetland and upland areas. The upland areas included the forested riparian zone of the Charles River and the maintained golf course. The 200-foot Riverfront Area also includes the parking lot, park road, and other upland forested sections within the golf course.

2.4.6 Buffer Zone

Buffer Zone is defined in the MA WPA at 310 CRM 10.04 as *"that area of land extending 100 feet horizontally outward from the boundary of any area specified in 310 CMR 10.02(1)(a)."* Buffer Zone within the site is associated with Bank, BVW, and LUW. Per the MA WPA, Buffer Zone is not a wetland resource area and is a measurement made once the boundaries of applicable resource areas have been defined.

The Buffer Zone within the Project Site consists of primarily upland areas, including some BLSF, dominated by non-hydrophyte invasive plant species. Plant species commonly observed within the Buffer Zone during the resource area delineation included: American beech (*Fagus grandifolia*; FACU), oaks (*Quercus spp.*), stinging nettle (*Urtica dioica*; FAC), and the maintained golf course.

2.4.7 Ordinary High Water Mark/ Mean Annual High-Water

The Ordinary High Water Mark (OHWM) is defined at 33 CFR 328.3(e) as *"...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."*

Mean Annual High-Water line is also defined in the MA WPA regulations at 310 CMR 10.58.2 as *"the line that is apparent from visible markings or changes in the character of soils or vegetation due to the prolonged presence of water and that distinguishes between predominantly aquatic and predominantly terrestrial land."*

The OHWM and MAHW are coincident within the Site and therefore will be referred to as OHWM/MAHW. The OHWM/MAHW of both sides of the Charles River was delineated within the Site.

As noted above, the OHWM/MAHW was determined based on physical characteristics. Physical characteristics indicating OHWM/MAHW along the Charles River included: change in plant community, shelving, destruction of terrestrial vegetation, presence of litter and debris, wracking, and water staining.

2.4.8 25-foot Naturally Vegetated Buffer (Newton Conservation Commission)

The Newton Conservation Commission recognizes the importance of the Buffer Zone to wetland resource areas as defined in the MA WPA. A 25-foot Naturally Vegetated Buffer (25-foot NVB) of native trees, shrubs, and low-growing vegetation must be maintained or established to the maximum extent feasible immediately upgradient of the edge of a resource area subject to protection under the MA WPA, G.L. c. 131, § 40.

2.5 Rare Species

The Massachusetts Endangered Species Act (MESA) is implemented by Natural Heritage and Endangered Species Program (NHESP) to protect areas determined to contain endangered, threatened or species of special concern. These areas are designated as "Priority Habitats of Rare Species" or "Estimated Habitats of Rare Wildlife" under the MESA

Regulations 321 CMR 10.00 and are delineated state-wide in the Massachusetts Natural Heritage Atlas.

The NHESP Atlas, 15th edition, effective August 2021, and MassGIS online mapping data were consulted during the preparation of this NOI. According to these sources, **no** portion of the proposed work is within the limits of mapped Estimated Habitat for Rare Wildlife or Priority Habitat for Rare Species.

Section 3

Project Description & Construction Methodology

3.1 Proposed Activities

The overall Project includes irrigation system improvements to the Leo J. Martin Recreational Complex within the City of Newton and the Town of Weston. Proposed activities within Newton are detailed below. In addition, descriptions of activities within Weston are included to give context to the greater goals of the Project.

The existing irrigation system is supplied by a pump house in Newton, south of the lagoon, which draws water from the Charles River. The proposed improvements include replacement of the existing pumps and irrigation control equipment within the existing pump house, replacement of the screen on the existing intake piping, construction of a new valve house in Weston in front of the clubhouse, and installation of new irrigation piping, control wiring, and sprinkler heads.

A new 10-inch steel water line will be installed from the existing pump house along Concord Street in Newton, across the bridge to Park Road in Weston, where it will enter the proposed 8'-8" by 13'-0" modular concrete valve house building. Removal of four existing trees in the treebelt between Park Road and its sidewalk will be required for the construction of the valve house. The water line is intended to be used for both the proposed irrigation system, as well as for a potential future expansion of the snowmaking system. The valve house building will include stubs for the future snowmaking system. Note that no further improvements to the snowmaking system are proposed or planned at this time.

The existing abandoned pump house building is located northeast of the lagoon in Weston. This pump house was used for water withdrawal prior to the construction of the pump house south of the lagoon. The Project includes the demolition of the abandoned pump house, which provides a net increase in flood storage capacity of approximately 2,160 cubic feet.

A 48-inch concrete manhole structure will be installed in Park Road, south of the valve house, which will contain a drain valve connected to the adjacent existing catch basin which drains to the Charles River. This drain valve will be used to drain the irrigation piping prior to the winter to prevent freezing of the pipes.

The proposed irrigation system will include mainline piping which will vary in size between 3-inch and 10-inch, and 2-inch lateral piping. The lateral piping will be installed using a vibratory plow where possible. This will minimize impacts to the surface by eliminating trenching, instead the pipe will be attached to the machine's plow blade and the vibrating action of the machine will allow the blade to be pulled through the ground, pulling the pipe behind it. Should the shallow subsurface conditions be too rocky for the vibratory plow, the lateral piping will be installed with trench excavation. Communication wiring will be installed parallel to the irrigation piping throughout the site, within the same trench as the piping.

Gravel and hot mix asphalt cart paths located throughout the course will be repaired where trenching is required for the installation of new irrigation piping. In areas where the existing cart paths are already in poor condition near the proposed trench locations, the damaged cart path sections will be repaired.

Four existing greens will be reconstructed. Two of which (hole 7 and the practice green) are located in Weston, while two (holes 15 and 16) are located in Newton. Green reconstruction will include removal and replacement of the existing sod.

The existing lagoon will be dredged to remove sediment buildup. Additional dredging is proposed along the neck of the lagoon leading to the Charles River to allow for improved water flow. Approximately 90 cubic yards of sediment will be removed from below the high water mark. The work will increase the depth of the lagoon from a maximum depth of approximately 5 feet to a maximum depth of 6 feet. Turbidity curtains will be utilized during dredging.

Two sets of concrete weirs and an abandoned wooden bridge will also be removed from the lagoon entrance during the dredging process as part of the Project. The original purpose of the concrete weirs is unclear, and they are no longer in use. The weir appears to have previously held a wooden stop log/ board, potentially intended to manage water levels in the lagoon, but this stop log/ board has not been in place as of recent years. Given the location of the weirs with respect to the lagoon and Charles River, and the fact that the stop log/ board has not been in place for a significant period of time, it is not anticipated that removal of the weirs will affect water level in the lagoon or River. The wooden bridge once provided foot access across the lagoon entrance and has been abandoned and is no longer functional or maintained. Removing these structures will improve natural water flow and aquatic connectivity, eliminate potential safety hazards and obstructions, and reduce long-term maintenance needs.

3.1.1 Site Preparation and Demolition

Site preparation and demolition activities will commence after installation of sedimentation and erosion controls at the limit of work, as necessary, and as depicted on the Project Drawings in Appendix B. Erosion & Sedimentation Control items are noted on the existing and proposed plan sheets. Construction phasing and protective measures are further described in Sections 3.3 and 3.4 below.

3.1.2 Wet Mechanical Dredging

The Project requires construction activities below the high water mark of the Charles River, within the limits of the manmade lagoon in Newton and the inlet to the river. Wet mechanical dredging is proposed to dredge the lagoon in order to remove built up sediment from around the existing intake piping to prevent clogging of the irrigation system. An excavator with clamshell or environmental bucket will be operated from upland areas adjacent to the lagoon. Phased, downgradient siltation controls (i.e. turbidity curtains) will be installed to prevent sediment migration. A seine net will be used to isolate and capture any fish in the lagoon prior to dredging and captured fish will be relocated to the Charles River.

The dredging location footprint has been minimized to the extent practicable while allowing for proper clearances of the proposed pumphouse inlet structure and piping. Approximately 90 cubic yards of sediment will be removed from below the high water

mark. The work will increase the depth of the lagoon from a maximum depth of approximately 5 feet to a maximum depth of 6 feet.

Prior to the commencement of dredging activities, snow fence will be installed generally parallel to the Bank, and adjacent to erosion controls, to restrict access of equipment directly adjacent to the Bank by preserving existing vegetation. Disturbance to the lagoon banks will be minimized during dredging and demolition activities. A temporary gravel access path will be created along the western side of the lagoon, impacting an area dominated by invasive Glossy buckthorn, which will be restored with native seed mix, reinforced turf mat, and dormant live stakes. Snow fencing and erosion controls will protect existing vegetation, and any temporarily disturbed areas—such as where the intake pipe is installed—will be restored using native seed mix, turf mat, and live stakes.

Existing vegetation along the lagoon bank will be preserved to the extent practicable. Please refer to Sections 3.1.4 and 3.5.2 for more information on vegetation management and restoration.

Material will be temporarily stockpiled for dewatering on the west side of the lagoon as shown on Sheet C-116 on the Project Drawings. A proposed sediment dewatering basin/laydown area has been designated in this location to allow excess water to drain from the dredged material. The sediment dewatering area will be lined with a geotextile filter fabric and surrounded with silt fence to control runoff. Once dry, the sediments will be utilized on site in a non-jurisdictional upland location.

The sediment removal and management will be conducted in a manner that ensures the protection of human health, public safety, public welfare and the environment. The Charles River will be appropriately protected during dredging activities within the manmade lagoon to prevent impacts to this water body. Dredged materials will be disposed of in upland locations on site.

3.1.3 Concord Street Bridge Crossing

Based on what is believed to be the original bridge plans received from MassDOT, the existing bridge is a reinforced concrete arched bridge structure. The cross section of the bridge depicts a reinforced concrete bridge deck overlaid by gravel and bituminous concrete. Based on survey information gathered in 2018, a 10" cast iron (CI) water main is depicted running within the sidewalk, which also corresponds to the existing bridge plans. It is believed that the 10" CI water line is owned by the City of Newton. This water line is not anticipated to be impacted by this Project. Based on an irrigation layout plan by White Engineering, Inc dated July, 30, 2013, an 8" pipe is depicted as crossing the bridge near the 10" CI water main location. As part of this Project, the 8" irrigation pipe is proposed to be removed and replaced with a new 10" steel pipe for combined irrigation and snowmaking capabilities. It is anticipated that tests pits will be conducted on both ends of the bridge prior to construction to confirm the location of the irrigation piping.

3.1.4 Vegetation

Tree planting is proposed at several locations throughout the Site in both Weston and Newton to provide visual screening between the golf course areas, cross country ski routes, and roadways. Per discussions with the Newton Conservation Commission during the previous NOI submission (for a Project never constructed), a variety of tree species are proposed to increase species diversity, including Pin Oak, Red Maple, and Silver Maple.

Trees will be spaced approximately 15 feet apart and shrubs are spaced approximately five to seven feet apart as per recommendation by New England Wetland Plants, Inc. (NEWP). Shrubs were selected based on their wide range of shade tolerance, wildlife benefits, and wetland indicator status. Refer to Tables 4 and 5 on Sheet C-507 for a complete list of tree and shrub species proposed for Riverfront Area restoration and Sheets C-109 and C-114 for the proposed planting locations for each species.

Existing vegetation will be preserved to the extent practicable. Trees within the vicinity of the proposed work will be protected with plywood slats wrapped around the tree trunk as detailed in Sheet C-507. Vegetation will be removed during excavation activities for utilities. Utility trenches will be backfilled and either seeded, paved, or graveled depending on the existing surface treatment.

Disturbance of the Banks of the lagoon will be minimized to the extent practicable during both dredging activities and demolition of the weirs and bridge. During the previous NOI hearing in 2020, the Commission suggested providing a temporary gravel access path along the western side of the lagoon and clearing a small, vegetated area along its neck. This area, currently dominated by Glossy buckthorn (*Frangula alnus*), an invasive species, will be restored with a native seed mix, shrubs, and trees (see Sheet C-507).

Prior to the commencement of dredging activities, snow fence will be installed generally parallel to the bank, and adjacent to erosion controls, to restrict access of equipment directly adjacent to the Bank by preserving existing vegetation. Refer to Sheet C-116 for the location of snow fence installation. The portion of the lagoon bank that will be temporarily disturbed during installation of the intake pipe will be restored with native seed mix, reinforced turf mat, and dormant live stakes, as described in Section 3.5.2 in the NOI narrative and detailed on Sheets C-116 and C-507 in the Project Drawings. Existing vegetation along the lagoon bank will be preserved to the extent practicable.

3.1.5 Site Restoration/ Stabilization

Site restoration following construction activities consists of loaming and seeding to match pre-construction conditions and the surrounding area. If necessary, restored areas will be mulched with a layer of weed-free straw (less than one inch thick).

Sedimentation and erosion controls will remain in place until the site is stabilized and their removal is authorized by the Newton Conservation Commission. Please refer to Section 3.5 for additional information regarding restoration within BLSF/Riverfront and Bank. Refer to Sheet C-507 Restoration Plan for additional information.

3.2 Irrigation Efficiency Gains

As indicated above, a Water Management Act Permit is not required for the Project. However, the Applicant has designed the new irrigation system for to allow for greater flexibility and efficiency compared to the existing system. The existing system is manually controlled for watering of the tee and green areas with rotary type heads. This existing system requires zones of eight to ten sprinkler heads to be operated together. The proposed system is a "2-wire" irrigation system which allows individual sprinkler heads to be operated without turning on the entire group of sprinklers. The precision, timing, and diagnostic features of the 2-wire system can significantly enable water efficiency.

3.3 Construction Sequence

The construction sequence described below is anticipated to occur in a number of construction phases. The actual sequence of construction will be determined by the selected contractor. Construction is anticipated to start in late spring/early summer of 2026 and be complete by the fall of 2026. Below is a list of anticipated Project phases.

Phase 1 (April/May 2026):

- Install sedimentation and erosion controls at limit of work, as necessary, and where specified on the plans
- Demolish and remove the existing abandoned pumphouse building and abandon the existing irrigation lines

Phase 2 (April-September 2026):

- Install irrigation piping, control wiring, and valve house
- Install new irrigation pumps and equipment within existing irrigation pumphouse
- Select green reconstruction
- Restore surfaces at trenches with topsoil, seed, mulch, gravel, and/or pavement

Phase 3 (July/ August 2026):

- Lagoon dredging and installation of turbidity curtains
- Remove and dispose of existing weirs and bridge

Phase 4 (August–October 2026):

- Restoration plantings

3.4 Construction Period Protective Measures

3.4.1 General

The Applicant will use Best Management Practices (BMPs) to protect environmental resources and water quality. Further restoration measures specific to wetland resource areas are discussed in Section 3.5.

BVW and LUW will be protected by straw bales/ wattles and/or silt fence. These protective measures will be placed in a fashion that defines the limits of work and restricts the Contractor to the areas necessary to conduct the work. The locations of these barriers are illustrated on the Project Drawings provided in Appendix B. Typical details are also provided in the Project Drawings. In addition:

- The Contractor will be required to maintain a reserve supply of straw bales and silt fence on-site to make repairs, as necessary.
- Protective measures will be inspected regularly and also after significant precipitation events and repaired, as necessary.

During construction, BMPs will be used to minimize soil disturbance caused by compaction and rutting from construction equipment. Use of these BMPs will minimize the potential for erosion and sedimentation which will assist in keeping soil and nutrients within the Project Site. Erosion and sedimentation control measures will be installed as necessary to stabilize areas of disturbance and will be maintained through construction until final stabilization of the site. The erosion control methods are depicted on the Project Drawings; however, the contractor shall use methods necessary to maintain a stabilized site during construction.

The contractor will be responsible for removal of equipment and stockpiled materials stored in the BLSF in the event that the Charles River is forecasted to reach flood stage.

3.4.2 Trench Dewatering

In the event trench dewatering is necessary, standard dewatering measures will be employed. No untreated groundwater will be discharged to wetlands or waterways. Excess water will be discharged overland in upland areas and allowed to naturally infiltrate in well-drained soils, or discharged to wetlands or streams only after passing through filtration sacks or similar devices. The contractor will be required to provide adequate treatment so that all groundwater pumped and discharged toward or into a wetland resource area shall be a "clean discharge" (less than 50 NTU). If the flow is not clean, the contractor will be required to direct that flow to one or more filtration devices for the purpose of substantially removing suspended solids from the water. Filtration devices are subject to the approval of the Newton Conservation Commission and/or its authorized agent.

3.4.3 Turbidity Curtain

A turbidity curtain will be installed within the manmade lagoon in Newton prior to dredging. Installation of the turbidity curtain will be phased to isolate discrete work areas. The curtain will remain in place until in-water work is complete and suspended solids have settled out of the water column. Following the completion of in-water construction activities, any accumulated material will be removed prior to the removal of the turbidity curtain. The approximate footprint of the proposed turbidity curtain is shown on the Project Drawings provided in Appendix B.

A seine net will be used to remove any fish present within the limits of the manmade lagoon prior to work activities. Any captured fish will be relocated to the main stem of the Charles River.

3.5 Wetland Resource Area Restoration Plan

The Restoration Plan presented in this section describes the actions proposed to stabilize disturbed areas upon the completion of construction. These areas include BLSF, Riverfront Area, LUW and inland Bank. Restoration details are provided on Sheet C-507 as part of the Project Drawings in Appendix B.

3.5.1 BLSF/Riverfront Area

Upland BLSF and Riverfront Area (outside of paved and gravel roadways and golf course tees) will be loamed and seeded with native seed mixes to promote revegetation of disturbed soils. New England Wetland Plants, Inc. (NEWP) New England Erosion Control/

Restoration Mix for Dry sites (or equivalent) has been selected for use at this location. A summary of species included in this mix is presented in Table 3-1.

TABLE 3-1

New England Erosion Control/Restoration Mix for Dry Sites

Common Name	Scientific Name ¹	Indicator Status ¹
Canada Wild Rye	<i>Elymus canadensis</i>	FACU
Red Fescue	<i>Festuca rubra</i>	FACU
Annual Ryegrass	<i>Lolium multiflorum</i>	
Perennial Ryegrass	<i>Lolium perenne</i>	
Little Bluestem	<i>Schizachyrium scoparium</i>	FACU
Switch Grass	<i>Panicum virgatum</i>	FAC
Indian Grass	<i>Sorghastrum nutans</i>	FACU

¹Source: USDA, NRCS. 2019. The PLANTS Database (<http://plants.usda.gov>, 11 February 2020). National Plant Data Team, Greensboro, NC 27401-4901 USA

For best results, seeding will take place in either spring or late summer. Late spring through mid-summer seeding will benefit from a light (i.e. less than one inch thick) mulching of straw to conserve moisture. The mix comes with a recommended application rate of 35 pounds per acre (or 1,250 square feet per pound). The mix may be applied by hydro-seeding, by mechanical spreader, or on small sites it can be spread by hand.

The Riverfront Area mitigation planting of 12 trees will improve wildlife habitat and cover for passive recreation. In addition, the proposed shrubs will improve wildlife habitat and provide understory shrub growth.

3.5.2 Inland Bank

The demolition of the existing bridge and weirs, and access for dredging, will cause impacts to the inland bank at the lagoon inlet in Newton. The upper/ soil matrix portion of the Bank restoration area will be seeded with an erosion control mix for moist sites (NEWP *New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites*) (or equivalent) and topped with reinforced turf mat to provide stabilization until vegetation takes hold. A summary of species included in this mix is presented in Table 3-2.

Portions of the slope above the water line will be vegetated with willow (*Salix* spp.) 4-foot long rooted woody cuttings or dormant live stake material at a random pattern at an approximate density of three (3) feet on center (OC). If used, dormant live stake material will be planted between November 15 and March 15. Live tubelings (rooted cuttings in 5-inch deep plug cells) of black willow (*Salix nigra*) or other comparable native willow species (as available from NEWP, Inc.) will be planted at an approximate spacing of two (2) feet on center, staggered. Staked tubelings or live stakings and seed mix will also be installed within an approximately 5' x 5' area at the top of Bank.

Willow species have been selected to revegetate the slope based on their ideal characteristics for Bank stabilization, including their ability to propagate vegetatively and to produce vigorous root systems. Willows are a natural pioneer species that occur

naturally along river banks. Willows provide important habitat functions and also provide cover for birds and small mammals, as well as overhanging vegetation and shade.

TABLE 3-2

New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites

Common Name	Scientific Name¹	Indicator Status¹
Riverbank Wild Rye	<i>Elymus riparius</i>	FACW
Little Bluestem	<i>Schizachyrium scoparium</i>	FACU
Red Fescue	<i>Festuca rubra</i>	FACU
Big Bluestem	<i>Andropogon gerardii</i>	FACU
Switch Grass	<i>Panicum virgatum</i>	FAC
New York Ironweed	<i>Vernonia noveboracensis</i>	FACW
Upland Bentgrass	<i>Agrostis perennans</i>	FACU
Beggar Ticks	<i>Bidens frondosa</i>	FACW
Spotted Joe Pye Weed	<i>Eupatorium maculatum</i>	OBL
Boneset	<i>Eupatorium perfoliatum</i>	OBL
New England Aster	<i>Aster novaie-angliae</i>	FACW-
Wool Grass	<i>Scirpus cyperinus</i>	OBL
Soft Rush	<i>Juncus effusus</i>	OBL

¹Source: USDA, NRCS. 2019. The PLANTS Database (<http://plants.usda.gov>, 11 February 2020). National Plant Data Team, Greensboro, NC 27401-4901 USA.

This seed mix is suitable for application at any time of year at a rate of 35 pounds per acre (or 1,250 square feet per pound), though best results are obtained with a spring or late summer seeding. Further, late fall and winter dormant seeding require an increase in the seeding rate. The mix may be applied by hydro-seeding, by mechanical spreader, or on small sites it can be spread by hand.

Section 4

Alternatives Analysis

4.1 Alternatives Analysis Summary

The goal of the proposed Project is to support maintenance of the golf course, as well as facilitate potential future expansion and reduced maintenance costs associated with the Nordic ski track. Project design has taken into consideration regulatory requirements and pre-permitting discussions with regulatory agencies.

Alternatives evaluated for the Leo J. Martin Recreational Complex Improvement Project are summarized below.

- Project Build/No Build – Presents the impacts of building or not building the proposed improvements.
- Construction of New Pump House – Presents the impacts of building a new pump house in the general location of the existing pump house in Newton in lieu of improvements to the existing pump house.
- Alternative Pumphouse Locations – Presents the impacts of developing the pumphouse at an alternative location.
- Irrigation Layout Alternatives – Presents alternatives that were considered during the development of the irrigation layout

The remainder of this section evaluates each alternative option in detail, including the selected Preferred Alternative, and provides information on why other evaluated alternatives were not considered viable for the Project.

4.2 Project No-Build Alternative

The no action alternative would limit the golf course in terms of operation and opportunities for increased efficiency, while increasing maintenance costs and limiting functionality of the site. There are currently two inlet locations that are utilized for the separated irrigation and snowmaking systems. The existing irrigation pumphouse building is located in Newton adjacent to a lagoon that is connected to the Charles River. A 12" inlet pipe is installed from the pumphouse wetwell underground to the lagoon. The irrigation piping is then distributed throughout the golf course by underground cast iron and HDPE irrigation piping. The existing snowmaking pump station is located in Weston adjacent to wetlands bordering the Charles River. The pumphouse is connected to the existing snowmaking fan guns by above ground steel piping.

The majority of the existing golf course irrigation is beyond its useful life and has maintenance and serviceability problems. The golf course irrigation system is antiquated with numerous leaks and inefficient water practices mostly controlled by large radius sprinkler heads and manual controls.

4.3 Project Build Alternative (Preferred)

The proposed Project would greatly improve the serviceability and efficiency of the irrigation system. The new irrigation system will allow for greater control and less leakage compared to the existing system. The proposed irrigation piping layout has been designed to avoid wetland areas and minimize impacts to resource areas and undisturbed areas.

The proposed design includes the reuse of the existing pump house in Newton and the existing piping around the greens to reduce impacts.

4.4 Construction of New Pump House

Replacement of the existing irrigation pump house with a larger pump house for a combined irrigation and snowmaking system was considered. A design for this layout was previously developed, NOIs were submitted, and Orders of Conditions were issued by the Newton and Weston Conservation Commissions. Construction of a new combined pump house was subsequently determined to be infeasible due to budgetary constraints. The proposed construction of a new pump house also included additional tree removal, vegetative clearing, and significantly more impacts than the preferred alternative.

4.5 Alternative Pump House Location

Alternative pumphouse locations for both the irrigation and snowmaking were considered for this Project. One proposed location considered was to continue to utilize the existing snowmaking pumphouse location in Weston, however due to environmental impacts and proximity to wetlands, this location was not pursued further. Another location in Weston was considered near the eastern boundary of the project site along the plateau adjacent to the Charles River. This location also had potential significant environmental impacts along with significant grade change issues. The grade change from the river to the plateau could cause significant impacts on pump efficiency and energy usage due to the head loss during the pumping process. Work on the steep Bank along the Charles River was also considered problematic from a disruption and environmental impact perspective. After review of the proposed locations, it was decided that the existing irrigation pumphouse location in Newton was the best location due to the existing infrastructure in place, limited elevation change, limited environmental impacts, and proximity to the existing maintenance garage.

4.6 Irrigation Layout Alternatives

The layout of the proposed irrigation system was developed through an iterative process with the intent of minimizing impacts to resource areas. The irrigation scope includes replacement of the existing fairway irrigation, which is outdated and provides limited coverage. Replacement of the entire irrigation system, including the greens, was considered, however irrigation at the greens was replaced in 2013, and the piping is considered to be usable. Instead, the proposed irrigation piping will connect to the existing piping around the greens, and the sprinkler heads around the greens will be replaced with heads that are compatible with the new 2-wire system.

The initial layout was developed by Turf Products Corp., a representative for the Toro Company's golf irrigation products. The preliminary layout included piping which was routed through resource areas in several locations and was updated to eliminate encroachments into bordering vegetated wetland areas and to minimize impacts to buffer zones.

Section 5

Jurisdictional Activities and Regulatory Compliance

The proposed Project has been designed to avoid environmental impacts when possible, minimize unavoidable impacts when practicable, and provide restoration that is commensurate with the proposed temporary alterations. This section of the application outlines the Project's compliance with applicable wetlands regulations including the MA WPA and Newton Floodplain Ordinance.

5.1 Massachusetts Wetlands Protection Act

Activities are proposed within areas subject to the Newton Conservation Commission's jurisdiction under the MAWPA (M.G.L. c. 131 § 40). Portions of the proposed work will occur in and near wetland resource areas, including inland Bank, LUW, BLSF, and Riverfront Area. Work will also occur within the 100-foot Buffer Zones to inland Bank and BVW.

5.1.1 Exempt Activities

Portions of the proposed project are considered exempt "Minor Activities within Buffer Zone" and Riverfront Area as per 310 CMR 10.02(2)(b) 2. These activities are summarized in Table 5-1.

TABLE 5-1
Summary of Exempt Activities

Activity	Regulatory Citation	Jurisdictional Area(s)	Sheet ¹
Tree planting in Riverfront Area	310 CMR 10.02(2)(b)(2)(d)	Buffer Zone Riverfront Area	C-507
Install irrigation pipes	310 CMR 10.02(2)(b)(2)(i)	Buffer Zone Riverfront Area	C-102 – C-115

¹ Project Drawings are provided in Appendix B.

5.1.2 Summary of MA WPA Jurisdictional Activities

The proposed activities will result in direct temporary and permanent alterations to Inland Bank, LUW, BLSF and Riverfront Area. Table 5-2 presents a summary of footprints of disturbance by resource area and buffer zone in Newton. Table 5-3 presents a summary of each resource area by activity in Newton. It should be noted that impacts include exempt activities, as well as that impacts located within the limits of Riverfront Area overlap with impacts to BLSF, and the 100-foot Buffer Zone. Please refer to the Project Drawings in Appendix B for an overview of how resource areas overlap in multiple areas across the Project Site.

TABLE 5-2

Summary of Footprints of Disturbance by Resource Area and Buffer Zone

Resource Area	Alteration ¹
Bank	25 linear feet
Land Under Water	4,530 square feet
Bordering Land Subject to Flooding	69,201 square feet
WHE Bordering Land Subject to Flooding ^{2, 3}	57,074 square feet
Riverfront Area	98,336 square feet
100-foot Buffer Zone	63,728 square feet

¹ Impacts to BLSF, RFA, and the 100-foot Buffer Zone to BVW and inland Bank overlap at multiple locations within the Project Site. Therefore, the total footprint of work (i.e., the Project Site) is not equal to the sum of alterations presented in Table 5-2.

² Impacts to the "Lower Floodplain" as per 310 CMR 10.60(2)(d) and 310 CMR 10.57(1)(a)(3).

³ Refer to Section 5.1.5 for details on Wildlife Habitat Evaluation (WHE) Bordering Land Subject to Flooding calculations

TABLE 5-3

Summary of Jurisdictional Alterations by Activity

Activity	Impact Type ¹	Resource Areas ²					
		Bank	LUW	BLSF ³	RFA 0-100 ft	RFA 100-200 ft	100-foot Buffer Zone
	T/P	lf	cy	sf	sf	sf	sf
Demolition Activities							
Demolish Bridge & Weir Walls	P	25	50	50	50		
Demolish Existing Pump House (near lagoon)	P			360	360		360
Dredge Sediment from Lagoon	P		4,480	4,480	4,480		4,480
Remove cart path	P				2,860	847	2,860
New Construction & Mitigation							
Install irrigation piping	T			54,201	47,361	38,823	54,286
Hole 16 Green Reconstruction	T					2,730	1,392

Tree Planting	P		825	350	475	350	
TOTAL		25	4,530	59,916	55,461	42,875	63,728

¹ Impact Type: T= Temporary; P = Permanent

² Alterations to BLSF, RFA, and the 100-foot Buffer Zone overlap in multiple areas across the Project Site. Therefore, the sum of alterations for each activity presented in Table 5-3 do not reflect the total footprint of work.

³ Alterations within BLSF are presented in 1-foot increments (by elevation) in Section 5.1.3.3 in Table 5-4

5.1.3 Performance Standards Compliance

The following section presents the MA WPA Performance Standards for each pertinent resource area (presented in *italic* font) and the compliance of the proposed activities with those standards (normal font).

5.1.3.1 Inland Bank

The proposed Project, through protective and restoration measures, has been designed so that construction activities do not result in long-term impairment of the physical stability of the Bank, the water carrying capacity of the existing channel within the Bank, ground and/or surface water quality, the capacity of the Bank to provide breeding habitat, escape cover and food for fisheries, and the capacity of the Bank to provide important wildlife habitat functions.

Proposed activities including the installation of a 12’ diameter intake pipe and weir removal will result in 25 lf of disturbance of inland Bank along the lagoon in Newton.

The Performance Standards for inland Bank are set forth at 310 CMR 10.54 (4)(a).

1. The physical stability of the Bank

Bank restoration in Newton consists of the installation of reinforced turf mat, application of a native erosion control seed mix, installation of willow (*Salix spp.*) via live stakes or rooted woody cuttings, depending on time of year). Refer to Section 3.5.2 of this NOI for a detailed description of Bank restoration. As such, this standard has been satisfied. The proposed design includes bank stabilization and restoration measure as shown on the Project Drawings (Sheet C-507) in Appendix B and Section 3.1.5.

2. The water carrying capacity of the existing channel within the bank;

The proposed excavation in Newton will not alter the existing character of Bank. The proposed design will not significantly alter the geometry of the existing Bank, which is not within the mainstem of the Charles River and therefore will not result in an alteration of the water carrying capacity of the existing channel.

3. Ground and surface water quality;

Construction period BMPs including phased construction, trench dewatering, the installation of a turbidity curtain and cofferdam, have been incorporated into the design

to minimize impacts to ground and/or surface water quality. This standard has been satisfied.

4. The capacity of the Bank to provide breeding habitat, escape cover and food for fisheries; and

Work in Newton within Bank will result in temporary impacts that will be restored upon completion of construction. The Bank will be restored with planting of native vegetation via live stakes and seeded with a native seed mix. Upon restoration, the Bank will provide habitat features for fisheries to its current capacity, which is limited by the presence of a weir that will be removed as a part of this project. This standard has been satisfied.

5. The capacity of the Bank to provide important wildlife habitat functions. A project or projects on a single lot, for which Notice(s) of intent is files on or after November 1, 1987, that (cumulatively) alter(s) up to 10% or 50 feet (whichever is less) of land in the bank found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. Additional alterations beyond the above threshold may be permitted in they will have no adverse effects on wildlife habitat, as determined by procedures established under 310 CMR 10.60.

As noted in Table 5-3, the installation of the intake pipe and weir removal will result in 25 lf of disturbance of Bank in Newton. This alteration is below the thresholds for a Wildlife Habitat Evaluation as noted in Section 5.1.5. Therefore, this standard is not applicable.

5.1.3.2 Land Under Water Bodies and Waterways

As noted in Tables 5-2 and 5-3, the proposed Project will result in approximately 4,530 sf of permanent impacts to LUW of the Charles River resulting from the dredging of approximately 90 cubic yards (cy) from the lagoon, the removal of weir walls, and the replacement of the existing intake pipe.

The General Performance Standards for Land Under Water Bodies and Waterways are set forth at 310 CMR 10.56(4) and presented below.

(a) Where the presumption set forth in 310 CMR 10.56(3) is not overcome, any proposed work within Land Under Water Bodies and Waterways shall not impair the following:

1. The water carrying capacity within the defined channel, which is provided by said land in conjunction with the banks;

The Project has been designed so that the proposed improvements do not restrict flows. The proposed dredging in Newton will not alter the existing character of Bank, nor does the proposed design result in significant alterations of the geometry of the existing Bank, which is not within the mainstem of the Charles River and therefore will not result in an alteration of the water carrying capacity of the existing channel.

2. Ground and surface water quality;

The proposed Project incorporates construction-phase BMPs to maintain surface and groundwater quality during dredging. As such, this standard has been met.

3. *The capacity of said land to provide breeding habitat, escape cover and food for fisheries; and*

By removing weir walls, which serve as a barrier to the movement of aquatic species, there will be an increase in LUW available for breeding habitat. Impacts associated with dredging and replacement of the intake pipe are not expected to significantly affect the capacity of the lagoon to provide breeding habitat, escape cover and food for fisheries. Further, an intake screen will be installed at the end of the intake pipe to further protect aquatic fauna. As such, this standard has been satisfied.

4. *The capacity of said land to provide important wildlife habitat functions. A project or projects on a single lot, for which Notice(s) of intent is files on or after November 1, 1987, that (cumulatively) alter(s) up to 10% or 5,000 square feet (whichever is less) of land in this resource area found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. Additional alterations beyond the above threshold may be permitted in they will have no adverse effects on wildlife habitat, as determined by procedures established under 310 CMR 10.60.*

As noted in Tables 5-2 and 5-3, the proposed activities will result in the alteration of approximately 4,530 sf of LUW. This alteration does not exceed the threshold for a Wildlife Habitat Evaluation. Therefore, this standard is not applicable.

- (b) *Notwithstanding the provisions of 310 CMR 10.56(4)(a), the issuing authority may issue an Order in accordance with M.G.L. c. 131, § 40 to maintain or improve boat channels within Land Under Water Bodies and Waterways when said work is designed and carried out using the best practical measures so as to minimize adverse effects such as the suspension or transport of pollutants, increases in turbidity, the smothering of bottom organisms, the accumulation of pollutants by organisms or the destruction of fisheries habitat or nutrient source area.*

Not applicable.

- (c) *Notwithstanding the provisions of 310 CMR 10.56(4)(a) and (b), no project may be permitted which will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.59.*

As noted in Section 2.5 and as shown on Figure 2 in Appendix A, the proposed Project area is not located within Estimated or Priority Habitat as mapped by NHESP. As such, this standard is not applicable.

5.1.3.3 Bordering Land Subject to Flooding

The proposed Project will result in approximately 69,201 sf of temporary impacts to BLSF associated with the Charles River. The proposed activities will result in a net increase in flood storage capacity within the Project Site as shown in Table 5-4.

The Performance Standards for Bordering Land Subject to Flooding are set forth at 310 CMR 10.57(4)(a).

1. *Compensatory flood storage shall be provided for all flood storage volume that will be lost as the result of a proposed project within Bordering Land Subject to Flooding,*

when in the judgment of the issuing authority said loss will cause an increase or will contribute incrementally to an increase in the horizontal extent and level of flood water during peak flows.

Compensatory flood storage shall mean a volume not previously used for flood storage and shall be incrementally equal to the theoretical volume of flood water at each elevation, up to and including the 100-year flood elevation, which would be displaced by the proposed project. Such compensatory volume shall have an unrestricted hydraulic connection to the same waterway or water body. Further, with respect to waterways, such compensatory volume shall be provided within the same reach of the river, stream or creek.

The proposed Project will result in a net increase of 2,160 cubic feet of flood storage capacity due to the demolition of the existing abandoned pump house located northeast of the lagoon in Weston. This demolition results in a net increase in flood storage capacity of approximately 2,160 cubic feet. The proposed green reconstruction will occur within the same footprint and depth as the existing green, resulting in no new fill in BLSF. All grades within BLSF will be restored to preconstruction condition, and no additional fill is proposed. As a result of the net increase in flood storage capacity, compensatory flood storage is not required, and this standard has been met.

TABLE 5-4
Cut/ Fill Within BLSF – Removal of Pump House Building near Weir

Elevation (ft)	Proposed Fill (cf)	Proposed Cut (cf)	Net Difference/ Cut (cf)
37	0	-360	-360
38	0	-360	-360
39	0	-360	-360
40	0	-360	-360
41	0	-360	-360
42	0	-360	-360
TOTAL:	0	-2,160	-2,160

- 2. Work within Bordering Land Subject to Flooding, including work required to provide the above-specified compensatory flood storage, shall not restrict flows so as to cause an increase in flood stage or velocity.*

The proposed removal of the pump house will result in a net increase of 2,160 cf of flood storage capacity and therefore will not increase flood stage or velocity.

- 3. Work in those portions of bordering land subject to flooding found to be significant to the protection of wildlife habitat shall not impair its capacity to provide important wildlife habitat functions. Except for work which would adversely affect vernal pool habitat, a project or projects on a single lot, for which Notice(s) of Intent is filed on or after November 1, 1987, that (cumulatively) alter(s) up to 10% or 5,000 square feet (whichever is less) of land in this resource area found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. Additional alterations beyond the*

threshold, or altering vernal pool habitat, may be permitted if they will have no adverse effects on wildlife habitat, as determined by procedures contained in 310 CMR 10.60.

Per 310 CMR 10.57(1)(a)(3), certain portions of BLSF are likely significant to the protection of wildlife habitat. These include all areas on the 10-year floodplain or within 100 feet of Bank/BVW (whichever is further from the waterway, so long as such area is contained within the 100-year floodplain) except for those portions that have been so extensively altered by human activity that their important wildlife habitat functions have effectively been eliminated. The regulations specifically include "golf courses" and "paved areas" in this list of human-altered areas.

*"all areas on the ten year floodplain or within 100 feet of the bank or bordering vegetated wetland (whichever is further from the water body or waterway, so long as such area is contained within the 100 year floodplain)... except for those portions of which have been so extensively altered by human activity that their important wildlife habitat functions have been effectively eliminated (such "altered" areas include paved and gravelled areas, **golf courses**... and similar areas lawfully existing on November 1, 1987 and maintained as such since that time."*

Although the Project involves a small amount of work in the "Lower Floodplain," i.e., the 10-year floodplain, and greater than 5,000 sf of work in BLSF, the Project area as a maintained golf course is not likely significant to the protection of wildlife habitat and will not impair the capacity of the site to provide important wildlife habitat functions.

5.1.3.4 Riverfront Area

Work is proposed within the 200-foot Riverfront Area of the Charles River. As noted in Tables 5-2 and 5-3, the proposed Project will result in 98,336 sf of permanent impacts to Riverfront Area due to the demolition of the pump house, tree planting, installation of irrigation piping, and installation of intake piping.

The Performance Standards for Riverfront Area are set forth at 310 CMR 10.58(4).

a) *Protection of Other Resource Areas.*

As described in Sections 5.1.2.1, 5.1.2.2, and 5.1.2.3, the proposed activities meet the performance standards established for inland Bank, LUW and BLSF and, as such, this standard for Riverfront Area has been met.

b) *Protection of Rare Species.*

As noted in Section 2.5 and as shown on Figures 2 in Appendix A, the proposed Project Site is not located within Estimated and Priority Habitat as mapped by NHESP. Therefore, this standard is not applicable.

c) *Practicable and Substantially Equivalent Economic Alternatives. There must be no practicable and substantially equivalent economic alternative to the proposed project with less adverse effects on the interests identified in M.G.L. c. 131 § 40.*

A detailed alternatives analysis has been prepared and is provided in Section 4. As presented, alternative means of construction access and design were considered relative to avoiding and minimizing environmental impacts. The proposed alternative described in this NOI is the most practicable and feasible means of achieving the Project goals.

No Significant Adverse Impact. The work, including proposed mitigation measures, must have no significant adverse impact on the riverfront area to protect the interests identified in M.G.L. c. 131, § 40.

1. *Within 200 foot riverfront areas, the issuing authority may allow the alteration of up to 5000 square feet or 10% of the riverfront area within the lot, whichever is greater, on a lot recorded on or before October 6, 1997 or lots recorded after October 6, 1997 subject to the restrictions of 310 CMR 10.58(4)(c)2.b.vi., or up to 10% of the riverfront area within a lot recorded after October 6, 1997, provided that:*
 - a. *At a minimum, a 100 foot wide area of undisturbed vegetation is provided. This area shall extend from mean annual high-water along the river unless another location would better protect the interests identified in M.G.L. c. 131 § 40. If there is not a 100 foot wide area of undisturbed vegetation within the riverfront area, existing vegetative cover shall be preserved or extended to the maximum extent feasible to approximate a 100 foot wide corridor of natural vegetation. Replication and compensatory storage required to meet other resource area performance standards are allowed within this area; structural stormwater management measures may be allowed only when there is no practicable alternative. Temporary impacts where necessary for installation of linear site-related utilities are allowed, provided the area is restored to its natural conditions. Proposed work which does not meet the requirement of 310 CMR 10.58(4)(d)1.a. may be allowed only if an applicant demonstrates by a preponderance of evidence from a competent source that an area of undisturbed vegetation with an overall average width of 100 feet will provide equivalent protection of the riverfront area, or that a partial rebuttal of the presumptions of significance is sufficient to justify a lesser area of undisturbed vegetation;*

The total Riverfront Area within the Project Locus is 1,689,908 sf. As shown in Table 5-2, there is a total of 98,336 sf of impacts within the 200-foot Riverfront Area which accounts for 5.5% of the total Riverfront Area. This is well below the 10% threshold in the performance standard.

Impacts within the first 100 feet of Riverfront Area will primarily be within previously disturbed areas of the golf course. The first 100 feet of Riverfront Area is vegetated with maintained golf turf greens bordered by shrub species. The proposed activities in Riverfront Area include demolishing the bridge and weir walls, demolishing the existing pump house, removing the cart path, and dredging the lagoon.

Given the absence of an existing 100-foot wide corridor of natural vegetation and the proposed installation of native trees within Riverfront Area, the proposed alterations within the first 100 feet of Riverfront Area will not significantly alter the existing character. The vegetation within this area will be preserved to the maximum extent feasible and disturbed areas will be restored by loaming and seeding as detailed in Section 3.1.5.

- b. Stormwater is managed according to standards established by the Department in its Stormwater Policy.*

Though not categorically exempt, the stormwater standards are generally not applicable as the proposed Project will not result in any point source discharges, nor will it result in any increases in impervious area. Please refer to the Stormwater Checklist in Appendix E.

- c. Proposed work does not impair the capacity of the riverfront area to provide important wildlife habitat functions. Work shall not result in an impairment of the capacity to provide vernal pool habitat identified by evidence from a competent source, but not yet certified. For work within an undeveloped riverfront area which exceeds 5,000 square feet, the issuing authority may require a wildlife habitat evaluation study under 310 CMR 10.60.*

Per 310 CMR 10.58(1), those portions of Riverfront Areas that have been so extensively altered by human activity are not significant to the protection of wildlife habitat, as their important wildlife habitat functions have been effectively eliminated. Similar to considerations of human-altered areas for BLSF, the Riverfront Area is within the previously disturbed golf course which offers minimal wildlife habitat. Therefore, this standard is not applicable.

- d. Proposed work shall not impair groundwater or surface water quality by incorporating erosion and sedimentation controls and other measures to attenuate nonpoint source pollution.*

Construction period BMPs have been incorporated into the design and are shown on the Project Drawings. These BMPs are discussed further in Section 3.4.

- 2. Within 25 foot riverfront areas, any proposed work shall cause no significant adverse impact:*

Not Applicable

- 3. Notwithstanding the provisions of 310 CMR 10.58(4)(d)1. or 2., the issuing authority shall allow the construction of a single family house, a septic system if no sewer is available, and a driveway, on a lot recorded before August 7, 1996 where the size or shape of the lot within the riverfront area prevents the construction from meeting the requirements of 310 CMR 10.58(4)(d)1. or 2., provided that:*

Not applicable.

- 4. Notwithstanding the provisions of 310 CMR 10.58(4)(d)1. or 2., the issuing authority may allow the construction of a commercial structure of minimum*

feasible dimension, on a lot recorded before August 7, 1996 where the size or shape of the lot within the riverfront area prevents the construction from meeting the requirements of 310 CMR 10.58(4)(d)1. or 2., only if:

Not Applicable.

5.1.3.5 100-foot Buffer Zone

The MA WPA regulations do not contain any performance standards specific to Buffer Zone. The Buffer Zone within the Project Site consists of primarily upland areas, including some BLSF, dominated by non-hydrophyte invasive plant species. The proposed Project proposes approximately 63,728 SF of work in the 100-foot Buffer Zone in Newton.

As described in this NOI, the Project has been designed to satisfy the requirements of 310 CMR 10.03(1)(a)(3). Further, as described in Section 3.4, construction-period erosion control barriers will be installed and maintained to protect wetland resource areas and define the limits of work.

5.1.4 Stormwater Management

Though not categorically exempt per 310 CMR 10.05(6)(l), the stormwater standards are generally not applicable since the proposed activities will not result in any new point source discharges, nor will they result in a net increase in impervious area at the completion of construction and restoration activities. Existing drainage structures within the Project vicinity will continue to operate under current conditions. Best Management Practices (BMPs) will be utilized during construction. A Stormwater Checklist is provided in Appendix E.

5.1.5 Wildlife Habitat Evaluation

The proposed activities with respect to the MAWPA Wildlife Habitat Evaluation thresholds are as follows: Bank (>50 lf), LUW (> 5,000 sf), BLSF (> 5,000 sf), and Riverfront Area (subject to the discretion of the issuing authority in disturbed/developed Riverfront Area). Impacts to resource areas are as follows: Bank (25 lf), LUW (4,530 sf), BLSF (69,201 sf), Riverfront Area (98,336 sf). Further discussion is provided below.

5.1.5.1 Bank and LUW

Impacts to Bank and LUW are confined to the manmade lagoon and are below the thresholds.

5.1.5.2 BLSF

Per 310 CMR 10.57(1)(a)(3), areas significant to the protection of wildlife habitat include *"all areas on the ten year floodplain or within 100 feet of the bank or bordering vegetated wetland (whichever is further from the water body or waterway, so long as such area is contained within the 100 year floodplain)... except for those portions of which have been so extensively altered by human activity that their important wildlife habitat functions have been effectively eliminated (such "altered" areas include paved and gravelled areas, **golf courses**... and similar areas lawfully existing on November 1, 1987 and maintained as such since that time."*

According to FEMA FIS, the 10-year floodplain varies between an elevation of 41.1 feet and 42 feet which is generally within 15 feet of MAHW of the Charles; therefore, the area within 100 feet of Bank or BVW was used to calculate impacts to BLSF important to

Wildlife. While the Project proposes work in the 10-year floodplain and in excess of the threshold at 310 CMR 10.57(4)(a)(3), BLSF within golf courses is considered areas so extensively altered by human activity that their important wildlife habitat functions are negligible. The Project also proposes restoration of temporarily impacted areas to restore existing conditions.

5.1.5.3 Riverfront Area

Per 301 CMR 10.58(1), *"In those areas so extensively altered by human activity that their important wildlife habitat functions have been effectively eliminated, riverfront areas are not significant to the protection of important wildlife habitat..."*

Similarly to BLSF, RFA is located within the golf course, an area so extensively altered by human activity that the important wildlife habitat functions are negligible.

5.1.5.4 Habitat

According to the Habitat of Potential Regional and Statewide Importance for the City of Newton, the proposed work is not located within mapped Important Wildlife Habitat Areas. In addition, no proposed activities are located within important habitat features listed on the Appendix A: Simplified Wildlife Habitat Evaluation form.

Based on the extensively altered nature of the Project Site, impacts below thresholds, and no activities within mapped Important Wildlife Habitat Areas, it is not necessary to perform a Wildlife Habitat Evaluation.

5.1.6 Abutter Notification

Abutters within 100 feet of the subject parcel were notified in accordance with the MA WPA and Newton Conservation Commission requirements. A copy of the certified list of abutters, abutter notification form, and Affidavit of Service are provided in Appendix D.

5.2 Newton Floodplain Ordinance

In addition to administering the MA WPA and its implementing regulations, the Newton Conservation Commission maintains the Newton Floodplain Ordinance. The limits of 100-year flooding, as determined by FEMA, are shown on the Project Drawings in Appendix B. Best Management Practices (see Section 3.3) have been incorporated into the Project design to protect wetland resource areas and the interests of the MA WPA, as well as the Newton Floodplain District.

5.3 25-foot Naturally Vegetated Buffer (NVB)

The Newton Conservation Commission recognizes the importance of the Buffer Zone to wetland resource areas as defined in the MA WPA. A 25-foot Naturally Vegetated Buffer (25-foot NVB) of native trees, shrubs, and low-growing vegetation must be maintained or established to the maximum extent feasible immediately upgradient of the edge of a resource area subject to protection under the MA WPA, G.L. c. 131, § 40.

Site restoration following construction activities consists of loaming and seeding to match pre-construction conditions and the surrounding area. If necessary, restored areas will be mulched with a layer of weed-free straw (less than one inch thick). The portion of the

lagoon bank that will be temporarily disturbed during installation of the intake pipe will be restored with native seed mix, reinforced turf mat, and dormant live stakes, as detailed on Sheet C-507 in the Project Drawings. Existing vegetation along the lagoon bank will be preserved to the extent practicable. Please refer to Sections 3.1.5 and 3.5.2 for more information.

Section 6

Other Pertinent Regulatory Programs

6.1 Federal Permits/ Authorizations

6.1.1 Army Corps of Engineers Section 10/ Section 404

The proposed Project is subject to jurisdiction under Section 10 of the Rivers and Harbors Act of 1899 due to work proposed below the ordinary high water (OHW) line within the Charles River, a designated navigable water of the U.S. Fill placed below the OHW is also subject to Corps jurisdiction under Section 404 of the Clean Water Act. A Pre-Construction Notification (PCN) application will be submitted to the United States Army Corps of Engineers (ACOE). The Project is designed to comply with Army Corp's general conditions. This application will be submitted the summer of 2025.

6.1.2 NPDES Construction General Permit

The Environmental Protection Agency (EPA) issues National Pollutant Discharge Elimination System (NPDES) Construction General Permits (CGP) as a part of the effort to minimize detrimental runoff caused by the clearing, grading, and excavating or general construction activities on construction sites. Construction activities will result in the cumulative disturbance of one (1) or more acres of land. A Notice of Intent (NOI) will be submitted to EPA, and coverage under the NPDES Construction General Permit (CGP) will be obtained. A Stormwater Pollution Prevention Plan (SWPPP) will also be developed for the Project.

6.2 State Permits/ Authorizations

6.2.1 MA Historical Commission

Any project that involves state or federal funding and/or approvals requires review by the MA Historical Commission (MHC) (State Historic Preservation Officer, SHPO) to determine potential impacts to historic and/or archaeological resources and to ensure compliance with MGL c.9 § 26-27(c) and Section 106 of the National Historic Preservation Act. Additionally, underwater projects must contact the Board of Underwater Archeological Resources (MA BUAR) to determine whether the project will disturb underwater archaeological resources. A Project Notification Form will be submitted to the SHPO and Tribal Historic Preservation Officers (THPOs), including MA BUAR. The Proponent will continue to coordinate with them as the Project progresses.

6.2.2 Chapter 91 Waterways

Chapter 91 review is required for the placement of any structures and fill and/or dredging below the Mean High Water (MHW) in certain waterways, including the Charles River. The replacement of the screen on the existing intake piping is proposed within the manmade lagoon in Newton, which is below the high water mark of the Charles River, a jurisdictional waterway pursuant to 310 CMR 9.04. The intake pipe is exempt from Chapter 91 licensing pursuant to 310 CMR 9.05(3)(c), which exempts existing, unauthorized public service projects from licensing provided that no unauthorized structural alteration or change in use has occurred since January 1, 1984, unless the Department determines that licensing

is essential to prevent significant harm to an overriding water-related public interest. The lagoon was constructed prior to 1938 for irrigation, and the pump house in Newton was built in 1972, indicating the intake pipe was constructed prior to January 1, 1984. The intake pipe has continued to serve the same function—drawing water from the lagoon for site operations—since that time, with no change in use or unauthorized structural modification. According to MassDEP Waterways, the intake pipe is authorized to be maintained under 310 CMR 9.22(1), and eligible for Minor Project Modifications pursuant to 310 CMR 9.22(3).

A Chapter 91 Dredge Permit will be required for the Project.

6.2.3 401 Water Quality Certification

The proposed work will occur below MHW but will not meet any thresholds at 314 CMR 9.00 related to fill or dredging. As such, an individual Water Quality Certification in accordance with Section 401 of the Clean Water Act is not required from MassDEP.

6.2.3 Massachusetts Environmental Policy Act

The Project is subject to environmental review pursuant to Section 11.01(2)(a) of the Massachusetts Environmental Policy Act (MEPA) regulations (301 CMR 11) as the applicant is a State Agency and will utilize state funding. The Project meets the following Environmental Notification Form (ENF) review thresholds:

- 11.03(3)(b)(1)(f): Alteration of ½ or more acres of “any other wetlands”. “Any other wetlands” includes Land Under Water (i.e. lagoon), BVW, BLSF and Riverfront Area.

No mandatory Environmental Impact Report (EIR) thresholds are triggered by the proposed project. The projected water usage will not exceed the EIR threshold at 11.03(4)(a)(1): New withdrawal or Expansion in withdrawal of 2,500,000 or more gpd from a surface water source.

6.2.4 Massachusetts Endangered Species Act (MESA)

The Massachusetts Endangered Species Act (MESA) is implemented by the Massachusetts Natural Heritage and Endangered Species Program (NHESP) to protect areas determined to contain endangered, threatened or species of special concern. These areas are designated as “Priority Habitats of Rare Species” under the MESA Regulations (321 CMR 10.00) and are delineated state-wide in the Massachusetts Natural Heritage Atlas. The Project is not located within mapped NHESP habitat area and does not require review pursuant to the MESA.

6.3 Local Permits

6.3.1 Order of Conditions - MA WPA (Weston)

Due to wetland resource area impacts associated with the Project, an additional Order of Conditions will be required from the Weston Conservation Commission.