2 Project Narrative

2.1 Project Description and Purpose

2.1.1 Site Description

The proposed project is located within and adjacent to the tidal Seekonk River (Waterbody ID: RI0007019E-01) and freshwater Blackstone River (Waterbody ID: RI0001003R-01B) and entails the construction of a vertical slot fishway to provide fishway passage from below the Main Street Dam in the Seekonk River (downstream, tidal) to above the Slater Mill Dam in the Blackstone River (upstream, freshwater) and construction of public access improvements within the areas of construction. The Main Street Dam was constructed in 1896 and is located immediately north/upstream of the Main Street Bridge, which spans the Blackstone River at Pawtucket Falls in Pawtucket, Rhode Island. The Slater Mill Dam is located approximately 300 ft upstream of the Main Street Dam and was built in 1793. The layout of the proposed fish ladder and location of the above-referenced dams are depicted on the Site Location Map provided as *Figure 1*. The project area is located northwest of the intersection of Broadway and School Street and south of Main Street.

2.1.2 Project Description

2.1.2.1 Fish Passage Improvements

The proposed project is designed to provide fish passage around both the Main Street Dam and the Slater Mill Dam with the goal of ultimately restoring connectivity between the Seekonk River and Blackstone River to allow migratory species to access upstream spawning habitat. Based on collaborative review of design alternatives with project stakeholders including Rhode Island Department of Environmental Management Division of Fish and Wildlife staff, U.S. Fish and Wildlife Service (USFWS) staff and U.S. Geologic Service staff, the vertical slot fishway concept was chosen to both minimize impacts to open water resources and avoid impacts to the two historic dam structures.

The proposed vertical slot fishway is depicted on the Project Drawing Set provided as *Attachment C*. The structure has been designed based on the following design criteria and generally incorporates the following elements:

- The fishway entrance will be positioned downstream of the Main Street dam to optimize conditions to attract fish to the fishway entrance and minimize the potential for fish to be attracted to the tailrace discharge from the hydroelectric plant discharge on the opposite side of the river. The fishway entrance will be equipped with a water control gate to maintain optimal velocities to attract fish with changing water levels in the Seekonk River. The entrance will also include controls to close off water from entering the fishway to allow maintenance activities to be completed safely.
    - A supplemental water supply structure inlet will be constructed immediately upstream of the Main Street Dam to provide adequate attraction flows at the fishway entrance under higher flow conditions. This structure will provide between approximately 38 to 74 CFS at the fishway entrance via a 36” pipe having its intake at a gated inlet structure fitted with a debris screen to prevent induction of debris. The intake will be equipped with a slide gate to allow control of flows under varying river flow conditions and to allow closure for maintenance of the fishway diffuser structure.

- The fishway will be constructed as a rectangular channel with a sloping floor divided into a series of pools with interior dimensions measuring approximately 12 feet wide by 15 feet long. Each pool will be separated by baffles having 18-inch-wide openings allowing water to flow through the fishway under conditions supporting navigation of fish ascending from pool to pool and ultimately up to the fishway exit above Slater Mill Dam. The fishway will be constructed with a roughened native bedrock invert surface where bedrock is present at or above the proposed invert elevation, and otherwise with a concrete floor. Each baffle opening will be constructed with substrate improvements facilitating the passage of American eel through the fishway.
    - The floor of the fishway exit will be set to maintain approximately 4 feet of flow depth during minimum operation conditions, approximately 4.7 feet of flow depth during normal operating conditions, and approximately 6.2 feet during maximum operating conditions.
- The top of the fishway walls will be set within approximately 6 inches of the proposed ground surface to minimize visibility from adjacent areas and avoid/minimize fall/trip hazards to the general public. Removable grating (consisting of steel, aluminum or fiberglass reinforced plastic) will be installed over the fishway between the structure's walls to avoid fall hazards at the site.
- The fishway exit upstream of the Slater Mill Dam will be equipped with a slide gate to control flows and slots to accommodate stop logs and a debris screen. The stop logs will be installed during the winter months (after the downstream migration season) to prevent flow and ice from entering the fishway and also to facilitate seasonal maintenance operations. The debris screen will be installed immediately downstream of the stop logs to prevent large debris from entering the fishway while still allowing aquatic organism passage.
    - The furthest upgradient baffle will be designed to limit excessive flood flows from entering and damaging the fishway. The baffle opening will extend approximately one foot above the 5% exceedance (maximum operating condition) water level at the fishway exit and will be a solid wall up to the top of the fishway above this flow condition's water surface elevation. This configuration will allow free-flowing conditions through the fishway during the upstream and downstream migration seasons but will limit excess flow into the fishway during floods to minimize potential damage to structures construction within the fishway (walkway platforms, attraction flow piping and eel pass structures).

This vertical slot fishway, which proposes only one fishway entrance for two dams, also minimizes passage effectiveness concerns that would result from having two fishway entrances (one at each dam). There is inherently some ineffectiveness to a fishway associated with its entrance design resulting in some fish not finding the entrance and falling back downstream. Having only one entrance (as opposed to two) improves the overall passage efficiency.

The vertical slot fishway will include a monitoring/sampling station in the vicinity of the fishway exit at Slater Mill Dam to allow RIDEM staff (who are responsible for monitoring, operation and maintenance of all state-owned fishways including this fishway) to monitor/sample fish using deployable screens and dipnets to allow measurements, tagging and/or other assessments during migration periods to support long-term assessments of the migrating population of respective target species. The eel pass structure within the fishway will similarly be equipped with a sampling station that will be accessed by RIDEM staff as part of its monitoring of the American eel population migrating between the Seekonk River and Blackstone River. This station will also include a public observation station, providing additional opportunities for public engagement and community education.

2.1.2.2 Site and Public Access Improvements

The proposed project provides a unique opportunity to incorporate public access improvements, including public viewing facilities and accommodations. South of Main Street, the proposed project includes construction of a pedestrian promenade extending parallel to the landward side of the fishway. A proposed overlook plaza including stone block seating and Americans with Disabilities Act (ADA) compliance accessibility is situated along the existing vertical stone wall on the eastern embankment to the Seekonk River. The overlook plaza will extend seaward into the Seekonk River around the fishway entrance, resulting in temporary and permanent impacts to the tidal water. The overlook plaza also provides service access to the fishway entrance for maintenance by RIDEM staff.

North of Main Street, a pedestrian promenade will extend parallel to the landward side of the fishway and continues north to a proposed plaza space with stone block seating. An additional pedestrian promenade and plaza overlook will be constructed on the seaward side of the fishway within the existing manicured lawn.

Retaining walls and railings will be installed along portions of the fishway to accommodate steep grade changes and preserve public safety along the fishway and rivers. Native plantings are proposed throughout upland portions of the project site, including ten (10) deciduous trees and fifty (50) shrubs, as depicted on Sheet CS-109 of the Project Drawing Set. Approximately 4 inches of topsoil will be placed and seeded within areas to remain vegetated.

2.1.3 Project Background

The State of Rhode Island has made it a priority to restore fish passage for a variety of rivers within the state. Previous assessments have noted that restoration of the entire Blackstone River in Rhode Island is expected to result in 1,100,000 river herring (*Alosa* spp.) and 22,000 American shad (*Alosa sapidissima*) upon full restoration of the system, based on the 1,400 acres of available habitat upon implementation of fish passage facilities at all barriers along the main stem of the Blackstone River from the Main Street Dam including the Abbott Run Tributary and the Branch River systems (Blackstone River Fisheries Restoration Plan, May 2002). As the Main Street and Slater Mill Dams are the first two dams on this river system, restoration of fish passage at these two dams is the first step in the restoration plan for this river.

The Natural Resources Conservation Service (NRCS) and RIDEM, in partnership with other project stakeholders, undertook design and permitting efforts to construct separate Denil fish passage structures within the river channel at the Main Street Dam and Slater Mill Dam in Pawtucket in 2010-2012 (CRMC Assent No. A2009-10-050, RIDEM WQC File No. 09-031, RIDEM FWP PDA No. 09-0118, Army Corps of Engineers Permit Nos. NAE-2009-1167 and NAE-2009-2085). Construction of these structures, however, did not proceed due to costs received during bidding for construction services.

The current project being proposed has been chosen based on an alternative evaluation (see *Section 2.2*) to better provide fish passage is accomplished through both the Main Street Dam and Slater Mill Dam than what would have been achieved with the previous plans. This current project is being led by the Rhode island Department of Environmental Management (RIDEM), The Nature Conservancy (TNC) and technical review assistance from the USFWS. The proposed project will avoid impacts to both historic dam structures as well as result in less significantly reduced impacts to wetlands and watercourses within the river channel while providing

significantly improved fish passage past both dams for migrating fish as compared to the previous 2010-2012 design.

2.1.4 Project Purpose

The Blackstone River forms in Worcester, Massachusetts, and flows approximately 48 miles downstream in a southeasterly direction where it becomes tidal and joins the Seekonk River which eventually discharges into Narragansett Bay . While the Blackstone River system is home to over 30 species of freshwater fish, including resident and diadromous species, one of the major impediments to anadromous fish passage in the Blackstone River is the number of dams preventing upstream passage and overall river connectivity to Narragansett Bay . Therefore, the primary purpose of this project is to restore fish passage and establish connectivity between the Seekonk River and the Blackstone River. The installation of the vertical slot fishway structure will allow unimpeded diadromous fish passage during adult and juvenile migration periods, which will provide ecological benefits to the river and upper Narragansett Bay and restore historic diadromous fish spawning and rearing areas. This project, in coordination with similar restoration projects at other dams located on the river, will restore approximately seven linear miles and over 200 acres of habitat upstream of the Main Street Dam and below the Ashton Dam in Cumberland, Rhode Island.

This project also includes the development of public access improvements that will better allow the public to access the edge of the river and the new fishway. These improvements will be designed to be ADA-compliant.

2.2 Project Alternatives

An assessment of alternatives was conducted by Fuss & O'Neill in 2019, and further refined in 2023, with the assistance of Alden Research Laboratory to evaluate conceptual alternatives to restore fish passage at the site. Numerous criteria were considered including project goals, site constraints, stakeholder interests, resource protection, financial feasibility, sustainability, and adaptability, amongst others. Based on the results of evaluations, the Linear Vertical Slot Fishway providing volitional passage from below Main Street Dam to above Slater Mill Dam was identified as the preferred alternative. The following sections provide a summary of each alternative.

2.2.1 No Action

The No Action Alternative would leave both dams in place without the addition of fishway passages. This action would result in no wetland impacts, however, diadromous fish passage from Narragansett Bay to upstream areas of the Blackstone River would continue to be impeded and the goals of the project would not be met. Therefore, this alternative was not chosen.

2.2.2 Dam Removal

Dam removal is generally considered the best approach to achieving effective fish passage since it doesn't entail construction of infrastructure that would then need continuing operation, maintenance and future replacement. Although ideal for fish passage, dam removal was not considered as a viable alternative due to the historical significance of the Slater Mill Dam (designated as a National Historic Landmark), significant cost to remove the dams and channel bed material while providing scour protection along riverbanks, and loss of water supply to the Pawtucket Hydropower facility on the west embankment of the Seekonk River.

2.2.3 Volitional Fish Passage

Volitional fish passage can be provided through any means that allows the fish to travel from downstream of the dam to upstream of the dam voluntarily. Volitional fishways include vertical slot fishways, Denil fishways, nature-like fishways, etc.

2.2.3.1 Denil Fish Ladder

Denil fish ladders are a common method for providing upstream passage for American Shad and river herring on the east coast, including New England, at low head dams. A Denil ladder was previously identified as the preferred method of passage at Main Street Dam and Slater Mill Dam by NRCS and other project partners in 2010-2012. This alternative was not chosen due to the proposed design of two fish ladders as they would be less efficient in passing fish compared to the selected alternative, would be constructed directly in the river with associated riverine and floodplain impacts and could also impact the historically significant Slater Mill Dam.

2.2.3.2 Nature-like Fishway

Nature-like fishways are in-stream passage structures constructed of natural materials developed in a configuration to provide flow conditions suitable for passage while protecting adjacent features to remain through sizing/placement of natural stone armor infilled with sediment to establish stable vegetation on bank areas. Similar to the Dam Removal Alternative, the Nature-like Fishway was not considered as a viable alternative due to the historical significance of the Slater Mill Dam significant cost to remove the dams and channel bed material while providing scour protection along riverbanks and loss of water supply to the Pawtucket Hydropower facility.

2.2.3.3 Vertical Slot Fishway

A vertical slot fishway can provide successful passage for a wide variety of species and provides good flow control over varying headpond elevations, while providing greater passage capacity and a higher performance over a greater range of flow conditions.

A vertical slot fishway is considered as a feasible alternative at Main Street Dam. The original vertical slot fishway designs presented to project stakeholders included the folded vertical slot fishway that only provided passage around the Main Street Dam and an in-river linear vertical slot fishway. Based on collaborative review of design options with project stakeholders, the linear vertical slot fishway concept was determined to be the best volitional fish passage option. The original linear vertical slot fishway concept was revisited and reworked to both minimize downstream impacts and provide passage around both the Main Street Dam and Slater Mill Dam.

2.2.3.4 Inland Linear Vertical Slot Fishway (Preferred Alternative)

A linear vertical slot fishway alternative was developed to provide passage around both the Main Street Dam and the Slater Mill Dams, following discussion with USFWS and the USACE.

Based on a collaborative review of design options with project stakeholders, the vertical slot fishway concept was further evaluated due to its favorable fish passage efficiency over the wide range of headpond and tailwater conditions at both sites without operational interventions. The primary goals of the redesign were to minimize the

amount of work required in the river, minimize the amount of fill to be placed in the river, avoid impacts to the historic Slater Mill Dam, and improve constructability by utilizing abandoned tunnel infrastructure built in the embankment of the river and minimizing water control requirements.

The fishway entrance is proposed downstream of the Main Street Dam positioned to minimize impacts of fish being attracted to flows from the hydropower plant located on the opposite side of the river. Fill is proposed at the fishway entrance in order to create hydraulic conditions to better attract fish to the ladder and create a platform to maintain the entrance and fish ladder. The remainder of the ladder will be constructed upstream of the existing river wall with the fishway exit just upstream of the Slater Mill Dam along the existing river wall.

This linear vertical slot fishway alternative, which proposes only one fishway entrance for two dams, also minimizes passage concerns that would result from having two fishway entrances (one at each dam). There is inherently some ineffectiveness to a fishway associated with its entrance design resulting in some fish not finding the entrance. Having only one entrance (as opposed to two) improves the overall passage efficiency.

2.2.4 Non-Volitional Fish Passage

Trap and transport (also referred to as "catch and haul") operations are often used as an interim measure until fish passage is achieved at other barriers in a river system; however, these programs can be used as long-term solutions, due to various factors.

2.2.4.1 Catch and Haul

A catch and haul facility has been evaluated to provide immediate access to the most valuable spawning habitat which is located above the Valley Falls Dam. A catch and haul facility constructed downstream of the Main Street Dam would essentially "leap-frog" fish upstream of Slater Mill, Elizabeth Webbing, and Valley Falls dams and avoid the delay of waiting for fish passage to be installed at each dam and avoid the compounding effect of individual fish passage inefficiencies at each dam.

This alternative would conceptually consist of the installation of a fish lift downstream of the Main Street Dam adjacent to the Pawtucket Hydropower facility. A Denil fish ladder would be used to attract fish to the lift where the fish would be transported/lifted to holding tanks prior to being transferred by trucks to upstream habitat locations. This alternative was not chosen as it would result in potentially serious impacts to fish and would be difficult to implement due to limited access. In addition, it would be difficult for RIDEM to staff and operate a system like this over the long-term.

2.2.4.2 Hydraulic Fishway System

A recently developed technological approach to fish passage across in-stream barriers has been developed by Whooshh Innovations and has been successfully tested and implemented on the West coast for Pacific salmon. This proprietary fish passage approach, referred to as the Whooshh Fish Transport System (WFTS), passes fish through one or more flexible tubes carrying water under either back pressure (to push) or suction (to pull) transport fish from a downstream location to an upstream discharge point.

A WFTS implemented at Main Street Dam would be configured like the catch and haul facility alternative, though rather than a hopper and hoist to lift fish to holding tanks, fish would be transported directly upstream of the Slater

Mill Dam through several flexible conduits. Like the catch and haul facility, the Denil fishway would include an entrance just upstream of the Pawtucket Hydropower discharge and would trap fish in a holding pool equipped with a false weir leading to a sorting/transport location within the system. This alternative was not chosen as it is unproven for all of the species of fish (e.g. river herring) that will need to access this system.

2.3 Existing Conditions

The project team conducted site evaluations and desktop review of publicly available maps, including examining USGS Topographic maps a for the depiction of blue-lined streams, waterbodies or depressed areas. The Rhode Island Soil Survey was examined for the presence of hydric soils, any perennial waterways, as well as any hydric connection to known public water supplies. Historic aerial photographs and topographic maps were referenced to determine the potential changes to the site or surrounding areas over time.

FEMA floodplain insurance maps were consulted to determine if the subject property would be affected by any existing 100-year floodplain. Additionally, the DEM Division of Water Resources Water Quality Standards Map was utilized to determine the existing quality of waterbodies within the project area. The latest State's *List of Impaired Waters* as well as data layers concerning rare species, historic districts, and other pertinent information. A description of existing conditions based on site evaluations and desktop analyses is provided below.

2.3.1 Main Street Dam

Illustration 1 – Southwest View of Main Street Dam

The Main Street Dam is the first downstream dam on the Blackstone River, constructed in 1896. National Grid and Pawtucket Hydropower, LLC currently own the dam and the associated hydropower plant on the west side of the Seekonk River downstream of the Main Street bridge. The Main Street Dam is a 170-foot long, 7-foot-high overflow spillway with a timber batter board facing on the upstream side, and a timber top sill forming the structure. The hydropower facility's intake is located under the east bridge abutment. The dam sits on a bedrock ledge that creates a total drop of 16.5 feet from dam crest to riverbed. The downstream end of the dam is tidally influenced. The hydropower facility operates two Kaplan-type turbine units, both discharging into two 11-foot-wide concrete tailrace chambers. These chambers eventually merge into one 23-foot-wide concrete conduit that exits into the river approximately 370 feet downstream of the Main Street Bridge.

Pawtucket Hydropower, LLC, originally constructed as the Pawtucket No. 2 Hydroelectric Project, utilizes flows drawn from the impoundment upstream of the Main Street Dam. The hydropower facility is located on the west riverbank downstream of the Main Street Bridge, and has a Federal Energy Regulatory Commission (FERC) exemption from license. The project (FERC Project No. 3689-RI) has operated periodically since 1896.

2.3.2 Slater Mill Dam

The Slater Mill Dam is located approximately 300 ft upstream of the Main Street Dam. The dam is an approximately 171-foot-long, 7-foot-high gravity spillway with cut stone and mortared abutment walls. The mill only contains three remaining turbines, but they have not been operated in recent years. Slater Mill currently functions as a historic museum complex and is a hub for community involvement through education, entertainment, and the arts. A public park extends south from the dam to Main Street on the west side of the Blackstone River.

Illustration 2 – Northwest View of Slater Mill Dam

Adjacent to the dam is the Slater Mill which was built in 1793 and is designated as a historic site. The Slater Mill is located on the northwest side of the dam. The entrance to a power canal was originally located upstream of the spillway but has been filled with a 3-ft diameter pipe currently connecting the canal to the river. The power canal extends under the mill building adjacent to the dam and originally extended downstream of the Main Street Dam. The canal originally supplied water to a number of turbines in mills located along the canal from the dam to below the Main Street Dam. All of the mills have been torn down except for the two buildings at the dam which are owned and maintained by the Slater Mill Historic Site. The power canal has been filled below the remaining buildings, and a park has been created from the dam to Main Street.

Two turbines and one waterwheel remain at the Slater Mill Historic Site. A working waterwheel is in the Wilkinson Mill, and two turbines are located in the Slater Mill adjacent to the dam. Only the waterwheel has been in operation in recent years. Slater Mill recently completed a feasibility study which assessed the options for preserving or rehabilitating the two hydraulic turbines in Slater Mill.

2.3.3 Surrounding Land Use

Land use surrounding the immediate project site consists predominantly of commercial and industrial development. On the west side of the Blackstone River and Seekonk River, the historic Slater Mill and associated public park comprised of landscaping and impervious walking paths, occur north of Main Street. South of Main Street, land is primarily comprised of buildings, pavement, public roadways, and the above-referenced Pawtucket Hydropower building.

On the east side of the Blackstone River and Seekonk River (i.e., the project site), land north of Main Street and west of Broadway is occupied by the Slater Memorial Park comprised of manicured lawn, landscaping trees, and benches. The former Apex site and associated paved parking are located south of Main Street. An approximately 50 ft swath of forested upland occurs between paved parking areas and the Seekonk River at the former Apex property.

Broad land use within a 5-mile radius is dominated by industrial, commercial, and residential uses. The project locations are situated close to Interstate 95 and other major roads and as such, high volumes of daily human traffic occur in the area.

2.3.4 Floodplain Designation

According to FEMA's Flood Insurance Rate Map (FEMA FIRM) for the City of Pawtucket, Rhode Island (Community Panel 44007C0194J, dated October 2, 2015) the Blackstone River is mapped as a Regulatory Floodway (*Figure 2*). The downstream Seekonk River and areas upgradient of the river reaches are mapped within a Zone AE (EL. 12 – 33, NAVD88 – Special Flood Hazard Areas, Base Flood Elevation Determined). Areas upgradient of the Zone AE in the project site are mapped within a Zone X (shaded – Areas determined to be within the 0.2% annual chance flood, areas of 1% annual chance flood with average depth less than one foot, or with drainage areas of less than one square mile). As such, portions of the project site are mapped within the 100-year floodplain, and the upstream fish passage exit will be adjacent to a regulatory floodway.

2.3.5 Rare, Threatened, and Endangered Species

2.3.5.0 Natural Heritage Areas

According to the RIDEM Natural Heritage Area Map (*Figure 3*), an identified area overlaps the project site (ID: 43). Consultation with RIDEM indicated that the mapped polygon represents observations of the common nighthawk (*Chordeiles minor*) and northern diamondback terrapin (*Malaclemys terrapin*). The common nighthawk, a species of State Concern, was last observed in 1986 approximately 1,000 ft north of the project site and presumably is no longer active in the area. As such, potential adverse impacts to the species are not anticipated as a result of the proposed project.

The northern diamondback terrapin observation occurred recently within proximity to the project site in the Seekonk River. The State Endangered species is typically found in estuaries, coves, barrier beaches, tidal flats, and coastal marshes during the active season between early April to mid-November. During the inactive winter season, terrapins bury themselves in the muddy substrates of harbors, tidal bays, tidal creeks, and salt marsh channels and brumate until they emerge in the spring when watercourses become warmer. This species may occur proximate to the project site in the Seekonk River during the inactive season and as such, installation of coffer dams is recommended along with construction-period monitoring to ensure there are no adverse impacts to the species. The Applicant is open to further recommendations from CRMC.

2.3.5.1 U.S. Fish and Wildlife Service and Essential Fish Habitat

The project team obtained an Official Species list for the project site utilizing the USFWS Environmental Conservation Online System (ECOS) Information for Planning and Consultation (IPaC) Tool on November 24, 2025 (*Attachment D*). The Official Species List identifies the following species which may occur within the project site:

- Tricolored Bat (*Perimyotis sublavus*) – Proposed Endangered
- Monarch Butterfly (*Danaus Plexippus*) – Proposed Threatened

There are no Critical Habitats identified within the project site, and no impacts to these species are anticipated as a result of the proposed project. Fuss & O'Neill completed the Biological Analysis using the IPaC tool, dated November 24, 2025 (*Attachment D*), which concluded that the proposed activity does not alter suitable habitat for the species' and would not result in an effect on the proposed federally listed species.

Based on the Section 7 Consultation Mapper (*Attachment D*), Endangered Species Act (ESA) listed fish species include Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) and shortnose sturgeon (*Acipenser brevirostrum*). The Essential Fish Habitat (EFH) Mapper Report (*Attachment C*) identifies thirteen (13) fish species that may be present within the waterway. Additionally, Habitat Areas of Particular Concern (HAPC) are identified for one species, summer flounder (*Paralichthys dentatus*). The Applicant understands that USACE will engage with NOAA Fisheries GARFO PRD regarding the EFH under section 7 of the ESA through their review of the Army Corps of Engineers PCN Application.

2.3.6 Surface Water and Groundwater Supplies

The project site is located within the Blackstone River which is mapped on RIGIS as a public water supply reservoir (*Figure 4*). While the Blackstone River is listed as such, it is not a primary public water supply reservoir, as the Pawtucket Water Supply Board's primary reservoirs are the Diamond Hill and Arnolds Mill Reservoirs located 7± miles north of the project site in Cumberland, RI. Due to the proximity of the project site to the drinking supply reservoirs, the proposed project will not result in any adverse impacts to the water quality.

According to RIGIS and the most recent State of Rhode Island 2024 Impaired Waters Report (dated April 2024), the Blackstone River (RI0001003R-01B) is identified as a Category 5 Impaired Water from the CSO outfall located at River and Samoset Streets in Central Falls to the Slater Mill Dam (*Figure 5*). This segment of the Blackstone River is classified as a Class B1{A} waterbody with causes/impairments including cadmium, mercury in fish tissue, PCBs in fish tissue, iron, enterococcus, and fecal coliform. Additionally, the Seekonk River is listed under Category 5 Impaired Waters and is classified as a Class SB1{A} waterbody with causes/impairments including dissolved oxygen, total nitrogen, and fecal coliform (*Figure 5*).

According to the RI Groundwater Quality Rules at 250-RICR-150-05-03 and the RIGIS, the entire project site and surrounding area is mapped within a Groundwater Classification GB. The Class GB designation indicates that groundwater "*may not be suitable for public or private drinking water use without treatment due to known or presumed degradation."*

According to the Water Quality Regulations (250-RICR-150-05-1), the Blackstone River is designated as Class B1 waters from the Massachusetts-Rhode Island border to the combined sewer overflow (CSO) outfall at River and Samoset Streets in Central Falls, and Class B1(a) waters from the River and Samoset Street CSO to the Slater Mill Dam. According to the regulations, Class B1 waters are "designated for primary and secondary contact recreational activities and fish and wildlife habitat. They shall be suitable for compatible industrial processes and cooling, hydropower, aquacultural uses, navigation, and irrigation and other agricultural uses. These waters shall have good aesthetic value." Waters classified as B1(a) are likely impacted by approved CSO facilities and therefore, "primary contact recreational activities; shell-fishing uses; and fish and wildlife habitat will likely be restricted."

2.3.7 Geology and Soils

According to the Bedrock Geologic Map of Rhode Island, bedrock within the project area is classified as belonging to the Pennsylvanian Period Narragansett Bay Group, and more specifically, the Rhode Island Formation. The Rhode Island Formation consists of stratified gray to black, fine- to coarse-grained quartz arenite, litharenite, shale, and conglomerate, with minor beds of anthracite and meta-anthracite. Geotechnical Assessment Reports were prepared by ECS for both the Main Street Dam and the Slater Mill Dam in July and August 2008. According to ECS the project area is underlain by a sandstone (quartz arenite) unit of the Rhode Island Formation. The strength and stress deformation characteristics of the rock mass present at the project area were considered to be mean properties for the predominate rock type of the area, the sandstone. Narragansett Bay Group rocks tend to be less resistant to erosion and glacial scour in comparison to other rock formations in Rhode Island.

The soils in the vicinity of the project area are predominantly derived from glacial outwash parent material deposited by melt waters following glacial recession. These areas typically consist of well sorted sands and gravels that may or may not be overlain by finer, wind deposited eolian material. In addition, some areas immediately adjacent to the river are overlain by more recent alluvium material associated with flood deposits.

According to the Natural Resources Conservation Service (NRCS) Soil survey (Web Soil Survey State of Rhode Island, Version 25, September 3, 2025 provided as *Figure 6*), upland portions of the project site are mapped within the Merrimac-Urban Land complex (0-8% slopes). The Merrimac-urban land complex soil series is a non-hydric soil that is generally indicative of upland features. However, field investigations of the soil at the site were not entirely consistent with the NRCS survey, as hydric soils were observed in the freshwater wetland adjacent to the Blackstone River (*Section 2.3.10.1,* below). Additional information regarding existing soil conditions can be found in *Attachment E*.

2.3.8 River Channel Sediment

Sediment sampling was conducted on October 31, 2007 to assess sediment grain size and quality within the proposed work areas associated with construction of the Denil fish ladders previously permitted in 2009. Samples were collected upstream of each dam in the vicinity of the exit for the fish ladders and eel passages, which locations are consistent with proposed areas of work for the auxiliary water supply intake immediately upstream of the Main Street Dam and the fishway exit immediately upstream of the Slater Mill Dam. Several attempts were made to collect samples downstream of the Main Street Bridge, however the river channel bed in this area is dominated by bedrock and cobbles preventing the ability to take sediment samples. .

Pawtucket Hydro LLC inspected the Main Street Dam hydroplant forebay and identified the need for removal of debris and sediment for installation of the replacement trash rack storage system. On March 12, 2009 sediment within the intake channel was sampled for physical and chemical characterization in accordance with RIDEM regulatory guidelines (DEM-OWRDR-02-03) for sampling and disposal of dredged materials. Permitting of the trash rack system modifications to facilitate the downstream migration bypass is anticipated to occur separately from the proposed project at a later date.

Samples were collected using a Ponar grab sampler and submitted to a Rhode Island certified laboratory for analysis using U.S. Environmental Protection Agency approved methods for the following analytes:

- Total petroleum hydrocarbon – Method 8100
- Polychlorinated biphenyls – Method 8082
- Semivolatile organic compounds – Method 8270
- Metals - Resource Conservation and Recovery Act 8
- Toxicity Characteristic Leaching Procedure – Resource Conservation and Recovery Act 8
- Grain size– Sieve Analysis and Hydrometer

Test results from the sediment chemical analyses are provided in *Table 1* below; highlighted results indicate constituents detected are above RIDEM's Direct Exposure Criteria.

Table 1 – Sediment Analytical Test Results

Analyte	Results (mg/kg dry)			RIDEM Residential Direct Exposure Criteria (mg/kg)	RIDEM Industrial/Commercial Direct Exposure Criteria (mg/kg)
	Main Street (2007)	Slater Mill (2007)	Main Street Intake (2009)		
Total Metals					
Arsenic	<2.9	11.1	<3.5	7.0	7.0
Lead	39.8	280	52.9	150	500
Semi-Volatile Organic Compounds					
Benzo(a)anthracene	0.538	10.4	0.902	0.9	7.8
Benzo(a)pyrene	0.516	7.94	0.653	0.4	0.8
Benzo(b)fluoranthene	0.587	7.33	0.562	0.9	7.8
Benzo(g,h,i)perylene	<0.435	1.16	<0.438	0.8	10,000
Benzo(k)fluoranthene	<0.435	5.35	0.591	0.9	78
Chrysene	0.601	9.94	0.852	0.4	780
Dibenzo(a,h)Anthracene	<0.218	<0.205	0.403	0.4	0.8
Fluoranthene	1.22	27.5	1.72	20	10,000
Indeno(1,2,3-cd)Pyrene	<0.435	1.36	<0.438	0.9	7.8
Pyrene	1.04	20.9	1.02	13	10,000
Total Petroleum Hydrocarbons					
Total Petroleum Hydrocarbons	<51.3	784	91.1	500	2,500

Note: Values highlighted in light gray indicate an exceedance of RIDEM Residential Direct Exposure Criteria
Values highlighted in dark gray indicate an exceedance of RIDEM Industrial/Commercial Direct Exposure Criteria

2.3.9 Historic Resources

The Slater Mill Historic Site located on the opposite side of the Blackstone River from the proposed project is a National Historic Landmark and is listed in the State and National Registers of Historic Places. The historic stone and concrete retaining walls along the river and foundation remains in Slater Mill Park have been identified as individual landscape features that contribute to the Slater Mill Site's historic significance. Slater Memorial Park (north portion of the site) and the former Apex property historically contained multiple industrial buildings and a mill raceway dating to the late eighteenth to early twentieth centuries. The buildings were demolished in the 1950s and 1960s and the park was created in the early 1970s. Based on historic aerial imagery, the open section of the raceway was filled, and the former Apex building was constructed on/around 1970. Current visible historic features include the riverbank stone and concrete retaining wall between the dam, and the bridge and foundation remain on the upstream side of the dam at the north end of the lot.

In April 2023, September 2023, and July 2024, The Public Archeology Laboratory, Inc. (PAL) provided archaeological monitoring of environmental geotechnical explorations (soil borings and test pits) under the direction of Fuss and O'Neill in advance of the design for fish passage improvements within the Slater Mill East Lot adjacent to the Slater Mill Dam. PAL also reviewed data collected during a ground-penetrating radar (GPR) survey completed in the Slater Mill Park. PAL provided a 36 CFR 61 qualified archaeologist to monitor six soil borings and two geotechnical test pits within the project site as summarized in a technical memorandum dated August 6, 2021 and included in *Attachment F*.

The above-referenced soil borings and test pits identified intact and disarticulated structural remains (i.e., possible stone associated with a building foundation wall or floor; raceway stone walls, timbers, and probable vertical gate stanchion; and concrete and brick underfloor drainage features) associated with the documented industrial buildings constructed in the East Lot by 1848 and demolished in the 1950s and 1960s. No late eighteenth-century artifacts were noted in the various test pit fill deposits but there were several machine-cut nails in the Test Pit 1 fill soils along with a few ceramic tile fragments that could be associated with constructions and occupations of the documented nineteenth-century factory buildings. Based on the test pit excavations, the potential is moderate to high for additional intact and disarticulated mid-nineteenth- to mid-twentieth-century industrial resources related to the various manufacturing businesses that occupied the Slater Mill East Lot.

Soil borings and test pits adjacent to the former Apex property (within the City owned portion of land between the riverbank retaining walls and the former Apex property line downstream of the Main Street Bridge) in 2023 revealed topsoil, subsoil, brick fragments, stone rubble, and iron pipe segments. No late eighteenth-century artifacts were noted in the various test pit fill deposits, nor is there any indication that they remain in this forested land area adjacent to the former Apex property. Results from archaeological monitoring of this subsurface exploration program and documentation of historical research of the project area is provided in a technical memorandum dated August 2024, also included in *Attachment F*.

2.3.10 Freshwater Wetlands in the Vicinity of the Coast (CRMC/USACE)

The project site occurs within the lower freshwater portion of the Blackstone River (Waterbody ID: RI0001003R-01B). Freshwater wetlands have been evaluated and delineated by Natural Resource Services, Inc. and Applied Bio-Systems, Inc. in 2019 and 2024, respectively. On September 5, 2025, Claire Hoogeboom (Wetland Scientist) of LEC conducted a site evaluation to identify and characterize existing on-site and nearby Freshwater wetlands, and to review and confirm prior delineations through observations of the physical characteristics including the demarcation between the presence of 50% or more hydrophytes/hydrophytic vegetation, the presence of hydric soils, visual observations of hydrology, demarcation between terrestrial and aquatic vegetation, shelving, permanent watermarks and stains on vegetation or other fixed objects, changes in the character of the soil, the presence of water-borne natural litter and debris, evidence of surface scouring, and/or other appropriate notable features defining the ordinary high water mark in accordance with Part 9.21 of the CRMC Regulations, the Field Indicators for Identifying Hydric Soils in New England (June 2020), and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (January 2012).

2.3.10.0 Freshwater Stream Edge/Ordinary High-Water Mark

As previously noted, the Blackstone River upstream of the Main Street Dam is a freshwater perennial stream originating from a series of tributaries in the hills of Worcester, Massachusetts, flowing approximately 48 miles south prior to reaching the tidal Seekonk River downstream of the Main Street Dam.

The edge/Ordinary High-Water Mark (OHWM) of the Blackstone River are almost entirely coincident as depicted on the site plans included in the Project Drawings (*Attachment C*) and were delineated in accordance with the definitions at Part 9.21.2 of the CRMC Regulations and 33 CFR 328.3(c)(4). The Blackstone River is confined within vertical stone walls on each side within the project site functioning as a well-defined delineation of the edge/OHWM of the river. A fringing forested swamp occurs north of the Main Street Bridge, as described below, where the OHWM of the Blackstone River becomes coincident with the freshwater wetland boundary.

2.3.10.1 Vegetated Freshwater Wetlands/Adjacent Wetland

A vegetated freshwater wetland/adjacent wetland occurs north of the Main Street Bridge between the eastern bank of the Blackstone River and the vertical stone wall and is characterized as a forested swamp. The landward edge of the forested swamp was delineated in the field with blaze orange surveyors tape embossed with the text "LEC WETLAND RESOURCE AREA", numbered 100 through 112. The freshwater wetland boundary was delineated in accordance with Section 9.21.1 of the CRMC Regulations and is coincident with the OHWM, defined by evidence of uni-directional flow, drainage patterns, water marks, and scouring.

The forested swamp occurs along the seaward side of a slightly elevated landform at the base of the vertical stone wall and measures less than 1 acre in size. The forested swamp appears to be periodically inundated as a result of higher water elevations in the Blackstone River. Exposed roots and rocks are prevalent throughout. Dominant vegetation includes mature and sapling ash (*Fraxinus* sp.), silky dogwood (*Cornus amomum*), purple loosestrife (*Lythrum salicaria*), various goldenrod (*Solidago* spp.), and poison ivy (*Toxicodendron radicans*) groundcover and entanglements.

The fringing upland between the forested swamp and vertical stone wall is comprised of mature and sapling silver maple (*Acer saccharinum*), eastern cottonwood (*Populus deltoides*), ash, autumn olive (*Elaeagnus umbellata*), Tatarian honeysuckle (*Lonicera tatarica*), multiflora rose (*Rosa multiflora*), and entanglements of Asiatic bittersweet (*Celastrus orbiculatus*).

2.3.10.2 Jurisdictional Areas, Buffer Zone, and Buffer

According to RIGIS and Section 9.24 of the CRMC Regulations, the project site is located within the Urban River Region (*Figure 5*). According to Sections 9.5.2 of the CRMC Regulations, a 200 ft contiguous area extends from the edge of the Blackstone River, and a 100 ft contiguous area extends from the forested swamp boundary. Additionally, in accordance with Part 9.23 of the CRMC Regulations, the Blackstone River is assigned a 150 ft Buffer Zone, and a 25 ft Buffer Zone extends laterally from the forested swamp boundary.

Areas within the Buffer Zone to the Blackstone River are primarily comprised of fringing forested upland, the vertical stone wall, manicured lawn, mature and sapling landscaping trees, and paved roadways and sidewalks. No work is proposed within the fringing forested upland occurring between the forested swamp and stone wall. There are virtually no naturally vegetated Buffers within proximity to the Blackstone River within the project site.

Previous wetland permitting applications have been filed with RIDEM associated with the Slater Mill site. These include RIDEM Application Numbers 4845, 02-0357, 99-0161, and 05-0365. However, based on pre-application meeting with CRMC and RIDEM, the proposed project is subject solely to CRMC jurisdiction and review.

2.3.10.3 Functions and Values

Applied Bio-Systems conducted a Functions and Values assessment during the 2024 investigation, and LEC concurs with their findings. The wetland provides quality habitat for the species of wildlife that were observed during the inspections as well as habitat for those species that were not observed but are expected to utilize the wetland areas due to the highly developed area of the city and surrounding roadways nearby. The wetland provides habitat for the production and diversity of wildlife. These animals include game and non-game wildlife species, which are obligatory or facultative, and which may be permanent residents, seasonal or transient in nature.

The river serves as a travel corridor connecting various wildlife habitats to the east and west of the property. However, the existing dams impede wildlife travel and fish migration within the river. Anadromous fish are unable to migrate up and downstream due to the barriers. The proposed vertical slot fishway would enable anadromous and diadromous fish to travel upstream and downstream of the Main Street and Slater Mill Dams.

The manicured lawn within the Buffer Zone could provide habitat for small rodents and birds of prey; however, the proximity to pedestrian and vehicular traffic may reduce the use in comparison to nearby preferred areas. The flagged wetland area also serves as habitat for species that are overwintering, migrating, and breeding. This project site is within a Natural Heritage Area; however, the forested characteristics are not conducive to the favorable habitat type for the northern diamondback terrapin.

2.3.10.4 Wildlife Indicators, Wildlife Habitat, Recreation and Aesthetics

During the 2024 site investigation, Applied Bio-Systems observed wildlife habitat and presence of wildlife, and LEC documented supplemental observations during the September 5, 2025 site evaluation. Wildlife observed were noted by vocalizations, sight and/or tracks. Numerous species of birds were observed or identified by indicators of wildlife activity during the July 2024 and/or September 2025 inspections for the wetland delineation by sight and/or vocalizations. The birds identified include Canada geese (*Branta canadensis*), herring gull (*Larus argentatus*), blue jay (*Cyanocitta cristata*), American robin (*Turdus migratorius*), American goldfinch (*Spinus tristis*), and great blue heron (*Ardea herodias*). Mammals, amphibians and reptiles were not observed during the time of inspections.

There are many species of wildlife that were not observed during the site inspections but are expected to utilize the habitats present within the wetland and surrounding upland. These species include hawks, such as the red-tailed hawk and the cooper's hawk. Some waterfowl expected to use the river include double crested cormorant and mallard duck. Other bird species expected to use this site include northern cardinal, tufted titmouse, black capped chickadee, American crow, gray catbird, downy woodpecker, red bellied woodpecker, red winged blackbird, white breasted nuthatch, rock pigeon, European starling, and dark eyed junco. Wood warblers would also be present on this site during the spring/fall migrations. Some of these wood warblers include yellow warbler and pine warbler.

Amphibians and reptiles expected in this area include green frog and garter snake. Mammals to be expected include raccoon, gray squirrel, opossum, white-tailed deer, various mouse species, and others. The wildlife habitat is likely to be used by game and non-game species such as mourning dove (*Zenaida macroura*), eastern cottontail (*Sylvilagus floridanus*), gray squirrel (*Sciurus carolinensis*), white tailed deer (*Odocoileus virginianus*), and raccoon (*Procyon lotor*).

2.3.11 Coastal Resources (CRMC/USACE)

Coastal resources have been evaluated and delineated by Natural Resource Services, Inc. and Applied Bio-Systems, Inc. in 2019 and 2024, respectively. On September 5, 2025, Claire Hoogeboom (Wetland Scientist) of LEC conducted a site evaluation to identify and characterize existing on-site and nearby coastal resources and features, and to review and confirm prior delineations in accordance with the CRMP (650-RICR-20-00-1), Part 9.21 of the CRMC Rules and Regulations Governing the Protection and Management of Freshwater Wetlands in the Vicinity of the Coast (650-RICR-20-00-9), Section 404 of the Clean Water Act (33 U.S.C. 1344), the Field Indicators for Identifying Hydric Soils in New England (June 2020), and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (January, 2012).

2.3.11.0 Tidal Waters and Water Type Classifications

Downstream of the Main Street Dam, the Seekonk River is subject to jurisdiction under the CRMP, as it is tidally influenced, and is classified as a Type 4 Multipurpose Waters (*Figure 5*). As stated in CRMP Section 1.2.1.E, the Seekonk River is identified as a Type 4 Multipurpose Waters, including "*(1) large expanses of open water in Narragansett Bay and the Sounds which support a variety of commercial and recreational activities while maintaining good value as a fish and wildlife habitat; and (2) open waters adjacent to shorelines that could support water-dependent, commercial, industrial, and/or high-intensity recreational activities*."

The Seekonk River continues flowing south from Blackstone River via the Main Street Dam within the confines of vertical stone walls on each side. While this segment of the river is tidally influenced, the seaward edge of the vertical stone wall is more appropriately representative of the OHWM/High Tide Line.

2.3.11.1 Manmade Shoreline

The shoreline feature upgradient of the Seekonk River is identified as a top of bank to the river proper, which is directly coincident with the top of the vertical stone wall. The land slopes continuing upgradient of the vertical stone wall approximately 50 ft up to the paved parking area at the former Apex property are identified at a grade greater than 3H to 1V. This area is generally vegetated with Norway maple (*Acer platanoides*), box elder (*Acer negundo*), multiflora rose (*Rosa multiflora*), black willow (*Salix nigra*), ragweed (*Ambrosia artemisiifolia*), poison ivy, and Asiatic bittersweet, among other species.

2.4 Climate Change and Resiliency Considerations

This project has been designed to be adaptable to future climate change impacts including sea level with an entrance gate that is adjusted based on downstream (i.e. tidal) water levels in order to maintain appropriate water velocities at the entrance below the Main Street Dam. The fishway entrance gate system will consist of an inclined gate that will be automatically adjusted/positioned to maintain optimum entrance jet flow velocities ranging from 4 ft/sec to 6 ft/sec in accordance with fishway design guidelines for the project's target species.

The range of gate positions will include project sea level rise tidal conditions; future flood/storm events are not considered in gate positioning for fishway operations since they are transient and reflet extremal conditions where suitable passage conditions will be restored following such events. The downstream entrance structure projecting riverward of the existing riverbank walls is designed to withstand overtopping associated with projected storm/flood events.

The configuration of the vertical slot fishway's furthest upstream baffle has been designed to prevent excessive flood flows from entering and damaging the fishway. The baffle opening has been designed to extend approximately one (1) foot above the 5% exceedance (maximum operating condition) water level at the fishway exit but will then be solid up to the top of the fishway. This configuration will allow for free-flowing conditions through the fishway during the upstream and downstream migration seasons but will limit excess flow into the fishway during floods to minimize potential damage to attraction flow piping and eel pass channel that will be set within the fishway walls but well above the top of the remainder of the fishway baffles.

The site stormwater improvements incorporates use of porous materials to recharge stormwater on the site which will be more adaptable to anticipated changes in precipitation as compared to a traditional closed drainage system with structural Best Management Practices (BMPs).

2.5 Project Construction Impacts and Soil Erosion and Sediment Control Methods

Refer to Sheets CN-001, CS-107, and CS-108 of the Project Drawing Set (*Attachment C*) for a description of the general sequence for construction activities and the Stormwater Management Plan, attached by reference to this application and to be transmitted separately to CRMC with this application, and which includes a Soil Erosion and Sediment Control (SESC) plan in support of proposed construction activities at the Project Site.

Erosion and sediment control (ESC) measures will be employed in accordance with the July 2016 revision of the Rhode Island Soil Erosion and Sediment Control Handbook. Placement of ESC practices is shown on Sheets CS-103 and CS-104 of the Project Drawing Set; ESC details are provided on Sheet CD-501.

Temporary controls generally consist of stabilized construction entrances, erosion and sediment control perimeter silt fencing, erosion control blanketing, and a turbidity curtain. Permanent controls generally consist of vegetation, stone armor, and vegetated articulated concrete block matting accessways. The Contractor, once contracted for construction activities, will be responsible for the maintenance and/or replacement of all temporary erosion and sedimentation control devices to ensure proper operation throughout the construction period. The City of Pawtucket, as the owner of each property and its public access improvements, will be responsible for the inspection and maintenance of permanent measures following construction.

Construction access, staging, sequencing and dewatering proposed for this project are detailed on the Project Drawing Set provided as *Attachment C*. Construction access at the former Apex and Slater Mill East Lot properties will be from the locations depicted below in *Illustration 3.*

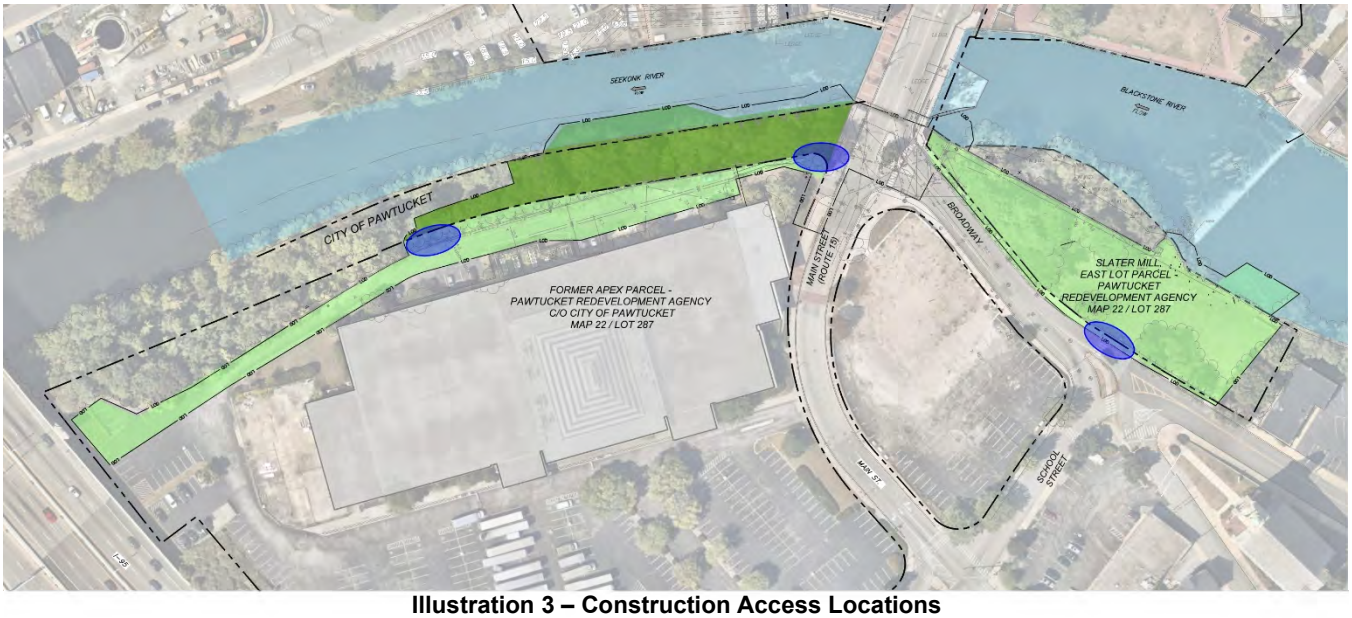

Illustration 3 – Construction Access Locations

2.5.1 Sediment Mobility and Management

2.5.1.1 Sediment Management

This section will serve as the project's Sediment Management Plan (SMP) to identify measures to mitigate sediment exposure risks through establishment of procedures that will be implemented as part of sediment excavation and disposal activities to be conducted during the project.

For the purposes of this SMP, "sediment" discussed in this document refers to accessible sediment that will be located within the work area, which will be removed during construction activities to allow construction of fish passage structure elements at the following three locations:

- at the fishway exit stone armor apron upstream of Slater Mill Dam,
- at the auxiliary water supply intake structure's stone armor apron upstream of the Main Street Dam, and
- within the fishway entrance channel and structure riverward of the existing riverbank walls downstream of the Main Street Bridge.

During sediment excavation activities, the work area will be left in a secure and stable condition following each day of work. Temporary or permanent fencing and signage will be utilized to restrict unauthorized access to the work area and resulting exposure to impacted sediments. Additionally, care will be taken by site workers to limit direct contact with excavated sediment, including use of personal protective equipment, as warranted.

Heavy equipment utilized as part of excavation will remain on-site during the course of excavation activities, with overnight parking outside the riverbanks to prevent damage from potential overnight high flows or leaks of hydraulic fluid, oil, etc. Heavy equipment that has become contaminated during excavation activities may be decontaminated prior to removal from the site.

2.5.1.2 Sediment Excavation and Backfilling

Sediment excavated from the three locations referenced above will be reused to fill voids in stone armor scour protection placed at the two aprons upstream of the Main Street and Slater Mill Dams, and otherwise placed as fill material required within the interior (landward) area of the fishway entrance structure downstream of the Main Street Bridge. It is estimated that approximately 465 cubic yards of sediment will be excavated from these locations and placed as fill as noted above.

Sediment excavation activities will commence following installation of temporary cofferdams and completion of dewatering activities within the work areas upstream of the Main Street Dam and Slater Mill Dam. Temporary turbidity curtains will be installed to enclose work areas during installation and removal of the temporary cofferdams. During periods of high river flows where water crests the temporary cofferdams, thus inundating the work areas (as occurs under existing conditions), work will cease until river flows subside to a level within the cofferdam's retention capacity. Since excavation activities for the perimeter of the proposed fishway entrance structure downstream of the Main Street Bridge are required for construction of the wall system that will also function as the temporary cofferdam for subsequent construction of interior portions of the fishway entrance, construction associated with this structure will also occur within areas enclosed by temporary turbidity curtains.

Excavation of the sediment will be conducted using a standard excavator. Excavated sediment will be temporarily stockpiled adjacent to respective work areas and contained within controlled areas enclosed by perimeter sedimentation controls to facilitate drainage of decanted river water. The sediment will remain stockpiled within the channel until sufficiently dry to be transported to the final placement area at the fishway entrance.

2.5.2 Freshwater Wetland Impacts

The proposed project will result in impacts to the edge of the Blackstone River (i.e., the vertical stone wall) and within the Blackstone River (i.e., flowing stream/WOTUS), protectable as a freshwater wetland under the CRMC Regulations and the CWA Regulations. Estimated impacts and dredge/fill volumes expected upstream of the Main Street Dam and Slater Mill Dam are summarized in *Table 2* below:

Table 2 – Estimated Impact Areas and Dredge/Fill Volumes Upstream of Main Street Dam

Activity	Temporary Impact (sf) [6]	Permanent Impact (sf) [6]	Dredge (CY) [6]	Fill (CY) [6]	Length of Stone Wall to be Demolished (lf)
Supplemental Water Supply Intake [1]	900 ± [3]	225 ± [4]	40 ± [4]	40± [5]	20 ±
Fishway Exit [2]	1,500 ± [3]	590 ±[4]	155 ±[4]	65 ±[5]	20 ±
Total Impacts	2,400 ±	815 ±	190 ±	105 ±	40 ±

1. Upstream of Main Street Dam. 2. Upstream of Slater Mill Dam. 3. Temporary cofferdam. 4. Stone armor apron.
5. Stone armor at lower elevation than existing channel bottom. 6. Impacts within the Blackstone River/WOTUS

There are no impacts proposed within the forested swamp. Proposed activities within Slater Mill East Lot Park will not disturb naturally vegetated Buffer and are not anticipated to result in a permanent adverse impact to the

landscaped park, as the proposed restoration of this area (depicted on Sheet CS-109 of the Project Drawing Set in *Attachment C*) will result in replacement of existing, and establishment of additional, trees and plantings providing shade canopy and wildlife habitat at this portion of the site.

2.5.3 Coastal Resources Impacts

The proposed project will result in impacts to the edge, and within, the Seekonk River, protectable as a tidal water/WOTUS under the CRMP and CWA Regulations. Estimated impacts and dredge/fill volumes expected downstream of the Main Street Dam are summarized in *Table 3* below.

Table 3 – Estimated Impact Areas and Dredge/Fill Volumes Downstream of Main Street Dam

Activity	Temporary Impact (sf) [4]	Permanent Impact (sf) [4]	Dredge (CY) [5]	Fill (CY) [4]	Length of Stone Wall to be Demolished (lf)
Fishway Entrance	5,000 ±	1,700 ± [1]	275 ± [2]	385 ±	180 ±

- 1,700 sf of structure projecting into the river. 200 sf includes grading the entrance channel beyond the structure.

1. Mostly bedrock for fishway entrance.
3. Work below MHW associated with the structure projecting into the river.
4. Impacts within the Seekonk River/WOTUS downstream of Main Street Dam.

Mitigation measures within both the Blackstone River and Seekonk River include implementation of turbidity curtains and cofferdams within the rivers/WOTUS throughout the duration of in-water work. The Contractor will adhere to any time-of-year (TOY) restrictions recommended by RIDEM and NOAA for in-water work activities in the tidal and freshwater rivers.

3 Applicable CRMC Programs and Plans

Based on feedback from CRMC staff during the September 29, 2025 inter-agency pre-application meeting, it is the Applicant's understanding that CRMC will review the entire project under the application for State Assent. However, since the project site spans two different water-types, both the CRMP and CRMC Regulations apply to two portions of the project site. The southern half of the project site (downstream of the Main Street Dam) is within and proximate to tidal waters (CRMP) and the northern half of the project site (upstream of the Main Street Dam) is within and proximate to freshwater waterbodies and freshwater wetlands (CRMC Regulations). The project site is located entirely within the Metro Bay SAMP, which is addressed in *Section 3.3*.

3.1 Rhode Island Coastal Resources Management Program

The design of the proposed project and its constituent elements have been developed for consistency with the applicable policies and standards of the CRMP. The southern half of the proposed project proximate to the Seekonk River, subject to the CRMP, is addressed in this Section.

3.1.1 Activities That Require an Assent from the CRMC (CRMP Sections 1.1.3(A-E), 1.1.4 (A-D), 1.1.5)

The primary purpose of the proposed project is to restore fish passage and establish connectivity between the Seekonk River (Tidal – Type 4 water) and the Blackstone River (Freshwater). As noted above, the ability of fish

and other aquatic organisms to move freely up and down the Blackstone River enhances the diversity and sustainability of the Blackstone River Watershed. The proposed project is to construct a vertical slot fishway extending from the south portion of the Main Street Dam (Seekonk River) up to the Blackstone River north of the Slater Mill Dam.

A CRMC Council Assent is required for any alteration of activity that is proposed for tidal waters within the territorial seas (including coastal ponds), shoreline features, and areas contiguous to shoreline features. Due to the location-dependent nature of the work, the Applicant cannot avoid working within the Seekonk River, the associated manmade shoreline feature, or it's 200 ft contiguous area. As a result, it is our professional opinion that this project requires a 'Category B' Assent.

This project requires direct access to the watercourse south/downstream of the Main Street Dam and north/upstream of the Slater Mill Dam to facilitate fish passage into and out of the fishway. In accordance with Section 1.1.5.A Activity Matrix for Type 4 Waters, the following activities are proposed: Filing in Tidal Waters, and Open Water Dredged Material Disposal. Grading and dredging within the river channel will be required at the entrance of the fishway to guide fish into the fishway and match existing channel grades. A new seawall will be constructed at the fishway entrance in the Seekonk River. This wall will be backfilled with dredged material from the project site (as described above) and other clean fill material. An overlook plaza is proposed along this embankment to provide continued maintenance access and enhance public access to the Seekonk River shoreline where there currently is none. Filling and removal of the existing manmade shoreline (vertical stone wall) is also proposed as part of construction of the fishway.

The proposed fishway is located in the upland contiguous area to significantly reduce direct impacts to waters and wetlands in comparison to the previously permitted separate Denil fish ladders. While some disturbance is required, the primary purpose of this project is to restore and enhance the ecological integrity of the Blackstone River while minimizing in-water impacts. In accordance with Section 1.1.5.B Activity Matrix for the 200-foot area contiguous to shoreline features, the proposed project activities are consistent with the activity for "filling, removal, and grading of shoreline features and Recreational structures." The southern/downstream portion of the project occurs partially within the Seekonk River, floodplain (contained within the Seekonk River embankment), and 200 ft contiguous area.

3.1.2 Applications for Assent (CRMP Section 1.1.6)

Section 1.1.6.D.12 states that applications through which administrative review is viable include "Habitat Restoration projects undertaken by public entities or in partnership with public entities." The Applicant (RIDEM) is a public entity and the proposed project is to restore and enhance the ecological functions of the Seekonk River and the Blackstone River by enabling migratory passage of diadromous and anadromous fish species and other resident aquatic species. Although this requires structure components to be installed within these waterbodies and some recreational improvements, the goal is to ultimately enhance the ecological functions of this watercourse. This narrative and supporting documents have been prepared in accordance with CRMP Section 1.1.6.

3.1.3 Variances, Setbacks, and Coastal Buffer Zones (CRMP Sections 1.1.7, 1.1.9 and 1.1.11)

While the proposed project is not residential, the applicable coastal buffer zone is presumably consistent with Section 1.1.11(7)(a). Since the proposed project is located within a parcel greater than 200,000 sf and along a Type 4 Waterway, the coastal buffer zone presumably extends 150 ft from the edge of the Seekonk River.

According to Section 1.1.9(B), "A setback is the minimum distance from the inland boundary of a coastal feature at which an approved activity or alteration may take place. Setbacks shall be maintained in areas contiguous to…existing manmade shorelines, and apply to the following categories of activities and alterations:"

1. *Filling, removal, or grading,* ***except when part of an approved alteration involving a water dependent use of activity or structure (see §1.3.1(B) of this Part)***

Based on the provision cited above, the water-dependent project (i.e., fishway and water-dependent recreation) does not have an applied setback.

The proposed project does involve permanent impacts to naturally vegetated buffer within the coastal buffer zone, comprised of forested upland and meadow between the Seekonk River and the former Apex parking lot. As such, the Applicant respectfully requests a variance from the applicable Buffer Zone Standard under CRMP Section 1.1.11(C)(1) for the proposed recreational improvements within the 150 ft coastal buffer zone.

Responses to the six criteria provided at CRMP Section 1.1.7(A) are provided below.

1. *The proposed alteration conforms with applicable goals and policies of the Coastal Resources Management Program*

   The proposed fish passage structure is designed to improve fish migration between the Blackstone and Seekonk Rivers. This is aligned with the CRMP policies to maintain good fish and wildlife value and habitat. The proposed pedestrian pathways and overlook area are designed to improve public access to the Seekonk River shoreline, and will include tree and shrub plantings to provide shade and wildlife habitat to the river and public access areas. The fish passage also incorporates signage and observation opportunities to enhance public education of the migratory habits of native fish species.

2. *The proposed alteration will not result in significant adverse environmental impacts or use conflicts, including but not limited to, taking into account cumulative impacts.'*

   The proposed activities occur within areas presently comprised of forested upland and meadow vegetation; however, invasive and non-native species also occur within this area. The proposed project provides an opportunity to remove non-native, invasive species and replace them with native vegetation immediately adjacent to the Seekonk River. Areas that will not be re-vegetated are proposed with pervious materials to reduce the amount of increased impervious area proximate to the river and coastal feature. The proposed project has been designed to minimize potential adverse environmental impacts.

3. *Due to conditions at the site in question, the applicable standard(s) cannot be met.*

Due to the water-dependent nature of the fish passage restoration improvements, there are no reasonable alternatives to install the feature along the waterway. Dense development with existing buildings in use are located along the western shoreline of the river, eliminating that side of the river as an alternative location.

4. *The modification requested by the applicant is the minimum variance to the applicable standard(s) necessary to allow a reasonable alteration of use of the site.*

   Similar to the response provided above, design needs, physical constraints, and proximity to the river are considerations and justifications to the modification request. The Applicant is not requesting a Variance for any other Standards and the proposed work within the coastal buffer zone is anticipated to result in an improvement compared with existing conditions.

5. *The requested variance to the applicable standard(s) is not due to any prior action of the applicant or the applicant's predecessors in title. With respect to subdivisions, the Council will consider the factors as set forth in §1.1.7(B) of this Part below in determining the prior action of the applicant.*

   The requested Variance is not due to any prior action of the Applicant and/or prior property owners and is subject to the water-dependency of the project and physical constraints of the urban setting.

6. *Due to the conditions of the site in question, the standard(s) will cause the applicant undue hardship. In order to receive relief from an undue hardship an applicant must demonstrate, inter alia, the nature of the hardship and that the hardship is shown to be unique or particular to the site. Mere economic diminution, economic advantage, or inconvenience does not constitute a showing of undue hardship that will support the granting of a variance.*

   The purpose of the proposed project is to restore fish migration between the Blackstone and Seekonk Rivers, and connectivity and proximity to the rivers is necessary to achieve the project goals. The undue hardship would primarily be placed on the fish species and secondarily on the state-wide goal to restore fish migration throughout Rhode Island and in particular wider regional goal within the Blackston River watershed. The recreational aspect of the proposed project is aligned with the Pawtucket Redevelopment Agency's goal to assist in revitalizing Pawtucket's neighborhood and commercial areas. An undue hardship may be placed upon the residents of the City of Pawtucket, who would benefit from public access to the river that is not currently afforded, as a result of the project's proposed public access improvements.

3.1.4 Type 4 Multipurpose Waters (CRMP Section 1.2.1.E)

The tidal Seekonk River is identified as Type 4 Multipurpose Waters (*Figure 5*). As previously noted, the proposed project will result in 5,000± square feet of temporary impacts and 2,700± square feet of permanent impacts within the Seekonk River. T0570he proposed project's compliance with applicable Policies at CRMP Section 1.2.1(E)(2) is provided below.

a. *The Council's goal is to maintain a balance among the diverse activities that must coexist in Type 4 waters. The changing characteristics of traditional activities and the development of new water dependent*

uses shall, where possible, be accommodated in keeping with the principle that the Council shall work to preserve and restore ecological systems.

The proposed fishway is a water-dependent use that is aligned with the Council's goal to preserve and restore ecological systems. The water-dependent improvements will result in an overall improvement to the overall ecological community within the 200 ft contiguous area and are consistent with this goal.

b. *The Council recognizes that large portions of Type 4 waters include important fishing grounds and fishery habitats and shall protect such areas from alterations and activities that threaten the vitality of Rhode Island fisheries.*

The project goal is to restore, and improve/enhance fisheries habitat and is aligned with this goal. The proposed public access and recreational improvements have been designed to provide ADA-compliant access to the river edge and provide educational opportunities to the public of the importance of Rhode Islands' fisheries and ecosystem. Additionally, short-term adverse impacts are not anticipated through implementation of the following construction period methods and mitigation for the duration of in-water work:

- Temporary cofferdams and turbidity curtains shall be utilized as described on the plans on the Seekonk River throughout the duration of construction as required to protect water quality and aquatic habitat during construction.
- Temporary dewatering filter bags will be placed in upland areas adjacent to areas where dewatering is required.

c. *Aquaculture leases shall be considered if the Council is satisfied there will be no significant adverse impacts on the traditional fishery.*

Not Applicable

d. *The Council shall work to promote the maintenance of good water quality within the Bay. While recognizing that stresses on water quality will always be present in urban areas such as the Providence River, the Council shall work to promote a diversification of activities within the upper Bay region through the water quality improvement process.*

The proposed project will utilize pervious surfaces for access ways for the public and long-term operation/maintenance of the fishway. As a result, this project will result in a negligible amount of new impervious surface. This approach has been proposed to be protective of water quality.

3.1.5 Manmade Shoreline (CRMP Section 1.2.2.F)

Proposed project activities on Manmade Shorelines includes the demolition and reconstruction of the vertical stone embankment along the Seekonk River. The proposed project's compliance with applicable policies at Section 1.2.2(F)(1) are provided below.

b. The Council's goals are:

1. *to encourage the maintenance of structures that effectively mitigate erosion and/or sustain landforms adjacent to the water; and*

   The existing vertical stone wall is effectively stabilized with no indication of erosion along the wall itself. The proposed vertical wall construction is designed to abut portions of the wall that will remain to reduce the risk of future erosion. The project includes provisions to repair deteriorated segments of the existing wall as part of the project, due to the mobilization of extensive materials, personal and equipment at the project site that would otherwise not be available to complete such repairs.

2. *prevent the accumulation of debris along the shore where such structures are ineffective or no longer in active use.*

   As noted above, the existing hard engineering structure is will be repaired/maintained where adjacent segments are determined to be in poor condition; while scattered vegetation and/or debris accumulates at the base of the wall, it is not impeding the integrity of the structure and will remain in place.

c. *The Council encourages proper maintenance of existing shoreline protection structures (see § 1.3.1(G) of this Part).*

As noted above, portions of the Manmade Shorelines that are in poor condition requiring spot repairs within the project limits will be completed as necessary as part of this project.

3.1.6 Areas of Historic and Archeological Significance (CRMP Section 1.2.3)

Applicable policies at CRMP Section 1.2.3(A) are addressed below.

- *The Council's goal is to, where possible, preserve and protect significant historic and archaeological properties in the coastal zone.*

  As summarized in the PAL 2024 *Technical Memorandum* for the former Apex property (*Attachment F*), "*The results of the historical research and environmental testing indicate that neither material remains of the eighteenth-century mills nor earlier cultural deposits or features that may have existed in the Project area would have survived the building episodes that began in 1805. Likewise, the 1969 aerial photograph of the Project area vicinity (taken after demolition of the mill buildings) suggests that the majority of the architectural and operational materials associated with the last iteration of the mill complex were removed from the site before the construction of the Apex building and parking lot. This conclusion is supported by the scarcity of potentially mill-related materials encountered in the two geotechnical tests pits. The foundation walls and raceway outlets visible along the river channel are associated with building episodes undertaken by the Goff family beginning in the late nineteenth century. Associated elements of the sluice gates survive on the northeast side of the Main Street Bridge/Dam*."

  The proposed project is not anticipated to result in a negative impact to historic and archaeological properties. As recommended by PAL in this Technical Memorandum, incorporating existing stone foundation remains (i.e., the retaining wall) into the fish passage and reconstructed stone wall along the Former Apex property will retain the remains of the industrial history of the project site.

As summarized in the PAL's 2021 Technical Memorandum for Slater Mill Park (also included in *Attachment F*), *"The physical integrity and historical research value of the identified structural remains (including the buried and filled raceway) is fair based on the limited test pit excavations in the geotechnical study area portion of the park. Based on the test pit excavations, the potential is moderate to high for additional intact and disarticulated mid-nineteenth- to mid-twentieth-century industrial resources related to the various manufacturing businesses that occupied the East Lot. More intact portions of the covered and/or filled ca. 1823 (or earlier) raceway channel may also be present in the landscaped park and contain evidence of power generation machinery (e.g., water wheel and/or turbine emplacements, gears, and shafts) in the sub-floor sections of the mill buildings. The presence and complexity of these remains depend on the extent of grading associated with the park's creation in the 1970s and with subsequent maintenance modifications that could have severely affected the industrial integrity of this important historical waterpower feature.*

The possibility of finding intact belowground industrial remains (including building foundations, land surfaces, and/or artifact assemblages) associated with the 1797–1798 "White Mill" established by Samuel Slater and other documented early nineteenth-century mill buildings is less than that of finding later industrial remains."

PAL recommended Phase I/II subsurface archaeological investigations to identify and evaluate intact structural remains, including the raceway channel, in areas considered to have the highest probability of containing remains and/or highest research value. The Applicant is open to recommendations from CRMC and USACE consultations to determine archaeological monitoring protocols to implement during construction in areas of archaeological significance.

3.1.7 Category B Requirements (CRMP Section 1.3.1.A)

All persons applying for a Category B Assent are required to:

a. Demonstrate the need for the proposed activity or alteration;

The Blackstone River system is home to over 30 species of freshwater fish, including resident and diadromous species. One of the major impediments to anadromous and diadromous fish passage in the Blackstone River is the number of dams preventing upstream passage and overall river connectivity to the Seekonk River and ultimately, Narragansett Bay. The proposed project directly aligns with statewide and regional goals to restore fish passage and establish connectivity between the Seekonk River and the Blackstone River.

b. Demonstrate that all applicable local zoning ordinances, building codes, flood hazard standards, and all safety codes, fire codes, and environmental requirements have or will be met; local approvals are required for activities as specifically prescribed for nontidal portions of a project in §§ 1.3.1(B), (C), (F), (H), (I), (K), (M), (O), and (Q) of this Part; for projects on state land, the state building official, for the purposes of this section, is the building official;

The project complies with all applicable zoning ordinances, flood hazard standards, safety codes, fire codes, and environmental requirements.

c. Describe the boundaries of the coastal waters and land area that is anticipated to be affected;

The coastal features and limit of disturbance are indicated on the attached Project Drawing Set provided as *Attachment C*. Work will be conducted within the Seekonk River (Tidal - Type 4 water), the associated manmade shoreline feature (vertical stone wall), and its 200 ft contiguous area.

d. Demonstrate that the alteration of activity will not result in significant impacts on erosion and/or deposition processes along the shore and in tidal waters.

A Soil Erosion and Sediment Control Plan has been prepared and is included with this application under separate cover. The plan has been developed to prevent and minimize impacts to coastal and inland wetland resources due to construction activities, soil erosion, and construction site runoff. Further details are provided above in *Section 2.5*.

e. Demonstrate that the alteration or activity will not result in significant impacts on the abundance and diversity of plant and animal life;

The proposed project will have beneficial impact on the abundance and diversity of animal life within the vicinity of the project and throughout the tidal Seekonk River. Construction of the vertical slot fishway structure will allow passage of anadromous and diadromous fish species during adult and juvenile migration periods, which will provide ecological benefits to the river and downstream Narragansett Bay, and restore historic fish spawning and rearing areas. This project, in coordination with similar restoration projects at the Elizabeth Webbing Dam, Valley Falls Dam and other dams located on the Blackstone River, will restore approximately seven linear miles and over 200 acres of habitat upstream of the Main Street Dam and below the Ashton Dam in Cumberland. The proposed improvements will incorporate a native and diverse planting plan increasing value for wildlife and pollinator species.

f. Demonstrate that the alteration or activity will not unreasonably interfere with, impair, or significantly impact existing public access to, or use of, tidal waters and/or the shore;

Within the former Apex property along the Seekonk River, there is currently no public access to the Seekonk River. Following construction, areas upgradient of the Seekonk River will be restored and enhanced with pedestrian paths and an overlook plaza for public access. The project will promote public access to the fishway through river viewing areas, a fishway viewing area in the Slater Mill East Lot near the fishway's exit, and educational signs. Public access will also be improved in the park area above Main Street Dam.

g. Demonstrate that the alteration will not result in significant impacts to water circulation, flushing, turbidity, and sedimentation;

This project will divert water through the fish passage structure as required to provide conditions for migrating fish effectively to move through the structure through the range of upstream/downstream water surface elevations, tidal conditions and river flows during upstream and downstream migratory periods. Based on a previous study, the United States Fish & Wildlife Service (USFWS) recommends that the fishway be designed to convey a minimum of 70 CFS general, about 5% of the capacity of the Main Street hydroelectric facility i order to provide adequate attraction flow to the fishway entrance. Since the fishway only conveys approximately 36 CFS and 46 CFS during minimum and normal operating conditions during the upstream

(spring) migratory period, the system has been designed to provide supplemental attraction flow from a new intake above the Main Street Dam. This system has been designed to maintain a minimum base flow over the Main Street Dam of 50 CFS, provide for 5 to 10 CFS to operate a waterwheel in the Slater Mill millrace channel for 97% of the time.

The turbines at the Main Street hydropower facility require a minimum flow of 130 CFS through the turbines (180 CFS in the river) to operate and this project. After construction of this fishway, this flow will be achieved about 87% of the time when the fishway is fully open from April 1 to June 30. At the start of the low flow season when the fishway will still be operating for downstream migration in July and August, this minimum flow will be available 66% to 78% of the time. This change in river flows will be diminished during later portions of the downstream migration season (September to November) when the supplemental attraction flow will be closed, and flows restricted into the vertical slot fishway.

Erosion and sedimentation controls will be installed and maintained during construction to prevent construction-related impacts to the river and will remain in place until the project site is stabilized. Scour controls are proposed where water will flow into the fishway from the river thereby minimizing the potential for turbidity when the fishway is in operation.

h. Demonstrate that there will be no significant deterioration in the quality of the water in the immediate vicinity as defined by DEM;

The project will not have negatively impact water quality within the Seekonk River, as the Contractor will be required to implement best management practices including turbidity curtains and cofferdams to isolate work areas from adjacent river flows. The in-water work will occur outside the recommended TOY restrictions recommended by RIDEM and NOAA. Pervious surfaces will be used to control potential water quality impacts from stormwater.

i. Demonstrate that the alteration or activity will not result in significant impacts to areas of historic and archaeological significance;

As demonstrated in PAL's 2024 Technical Memorandum and summarized above in *Section 3.1.6*, the southern/downstream portion of the project is not anticipated to result in an adverse effect to areas of historic and/or archaeological significance. The Applicant is open to recommendations from CRMC and USACE consultations to determine archaeological monitoring protocols to implement during construction in areas of archaeological significance in order to avoid impacts.

j. Demonstrate that the alteration of activity will not result in significant conflicts with water dependent uses and activities such as recreational boating, fishing, swimming, navigation, and commerce;

The proposed project will not create conflicts with water-dependent uses. The majority of the project activities occur within the 200 ft area continuous to coastal features. Activities proposed within the water include the entrance and exit to the fishway and grading of the channel bottom and will only temporarily impact a small portion of the river (i.e., work will not impede the entire width of the river). The proposed overlook extends 15 ft seaward of the existing stone wall and will not impede activities occurring in the river.

k. Demonstrate that measures have been taken to minimize any adverse scenic impact;

There will be no impacts to the scenic quality of the site as a result of the project. The additional viewing platform and educational signage will enhance the scenic quality of the site.

3.1.8 Filling, removing, or grading of shoreline features (CRMP Section 1.3.1.B)

Compliance with the applicable policies at CRMP Section 1.3.1(B)(1) for work within the 200 ft contiguous area is provided below. Policies at CRMP Section 1.3.1(B)(1)(a) and CRMP Section 1.3.1(B)(1)(e) are not applicable.

1. Policies

b. All filling, removing or grading activities shall be done in accordance with the policies and standards of this Section and the standards and specifications set forth in the most recent edition of the Rhode Island Soil Erosion and Sediment Control Handbook.

Fuss & O'Neill prepared a Stormwater Management Plan summarizing the proposed projects compliance with applicable stormwater policies. The Stormwater Management Plan includes an SESC providing guidance to implement construction-period stormwater management measures, and an O&M Plan providing guidance for continued inspection and maintenance requirements following construction and site stabilization. The aforementioned documents are provided under separate cover.

c. All new activities subject to §§ 1.3.1(C) (residential, commercial, and industrial structures), 1.3.1(M) and 1.3.3 of this Part, or those activities which disturb more than five thousand (5,000) square feet of land on a site shall prepare and implement an erosion and sediment control plan approved by the Council which references all necessary practices for erosion and sediment control. All erosion and sediment control plans shall be consistent with applicable policies and standards contained in the Rhode Island Coastal Resources Management Program and the standards and specifications set forth in the most recent edition of the Rhode Island Soil Erosion and Sediment Control Handbook. All erosion and sediment control plans shall be strictly adhered to.

The proposed project will disturb more than 5,000 sf of land, and as such, a SESC providing guidance to implement construction-period stormwater management measures in accordance with the RISESCH is included in the Stormwater Management Plan (transmitted under separate cover).

e. The Council recognizes the most recent version of the Rhode Island Soil Erosion and Sediment Control Handbook, and its amendments, published jointly by the Rhode Island Department of Environmental Management and the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), as containing appropriate Best Management Practices (BMP) for use within the CRMC's jurisdiction. All erosion and sediment control plans shall be consistent with this manual. Applicants are also encouraged to consult the most recent version of the Rhode Island Stormwater Design and Installation Standards Manual during the preparation of their erosion and sediment control plan in order to ensure consistency with the Council's stormwater management requirements (see § 1.3.1(F) of this Part).

The stormwater design for the entire project, comprised of replacement of existing infrastructure, complies with the Stormwater Rules and the latest version of the RISESCH, as documented in the Stormwater Management Plan (transmitted under separate cover).

f. *Filling, removing, or grading activities shall be reviewed at the Category B level when: (1) The filling or removing involves more than ten thousand (10,000) cubic yards of material; (2) The affected area is greater than two (2) acres; or (3) The affected area is a designated historic area or archaeologically sensitive site.*

The proposed filling will not require less than 10,000 cubic yards of material within the 200 ft contiguous area, will occupy more than two acres, and will not be associated with an area recognized for potential archaeological sensitivity. Despite the above information, the proposed project rises to a Category B Assent review for other reasons, as noted above.

2. Prohibitions

The proposed project does not involve any prohibited activities under CRMP Section 1.3.1(B)(2), as there are no Type 1 or Type 2 waters; the project does not involve filling, removing, or grading in coastal wetlands designated for preservation; no on-site beach materials are being used for construction materials; and no mining is proposed.

3. Standards

(a) The following standards apply in all cases where filling, removal, or grading is undertaken: (1) Fill slopes shall have a maximum grade of thirty percent (30%); (2) All excess excavated materials, excess fill, excess construction materials, and debris shall be removed from the site and shall not be disposed in tidal waters or on a coastal feature; (3) Disturbed uplands adjacent to a construction site shall be graded and re-vegetated or otherwise stabilized to prevent erosion during or immediately after construction. Nutrients shall be applied at rates necessary to establish and maintain vegetation without causing significant nutrient runoff to surface waters; (4) Removal or placement of sediments along jetties or groins may be permitted only as part of an approved dredging or beach nourishment project (see § 1.3.1(I) of this Part); (5) All fill shall be clean and free of materials which may cause pollution of tidal waters; (6) Cutting into rather than filling out over a coastal bank is the preferred method of changing upland slopes; and (7) Limit the application, generation, and migration of toxic substances and ensure that toxic substances are properly stored and disposed of onsite in accordance with all applicable federal, state, and local requirements.

The project as proposed meets all of the above-referenced Standards. The existing, and proposed condition of the man-made shoreline feature will remain to continue supporting the Seekonk River embankment. Proposed conditions upgradient of the manmade shoreline feature, grades will not exceed slopes steeper than 3H:1V.

Disturbed pervious areas within the project site will be loamed and seeded following completion of construction in accordance with the site restoration plan (Sheet CS-109 of the Project Drawing Set provided as *Attachment C*) and proposed pervious areas will be stabilized. As noted above, erosion and sedimentation controls (i.e., silt fencing, straw bales) will be installed prior to the start of work, will be maintained throughout construction, and will remain in place until the site is stabilized in accordance with the SESC and notes on the Project Drawing Set. Silt sacks will be installed in catch basins within the project site. No material will be placed along jetties. While fill is

proposed to achieve grades, including within a portion of the tidal Seekonk River, much of the fill material will be comprised of the dredged material with imported clean material incorporated as needed. Excavated material will be handled in accordance with appropriate state and federal regulatory protocols for handling, testing, transporting, and disposal.

The proposed project is anticipated to meet Standards (c) and (d) for earthwork on shoreline features and to minimize erosion should the Council determine that additional measures are warranted to protect the environment and coastal region. The proposed project includes a restoration plan (Sheet CS-109) included in the Project Drawing Set; stockpiling locations will be located outside of shoreline features; disturbed soils will be re-vegetated following construction; erosion and sedimentation controls will be installed prior to construction and will demarcate the limit of work; proposed slopes will be graded to a suitable slope to minimize erosion; dewatering measures are depicted in the Project Drawing Set and will be surrounded by haybales to reduce the risk of erosion and sedimentation; and the Applicant is open to a condition that the Contractor shall meet with CRMC staff on-site prior to the start of construction.

3.1.9 Dredging and dredging material disposal (CRMP Section 1.3.1.I)

Policies at CRMP Section 1.3.1(I)(1) are not applicable, as the proposed project does not involve maintenance dredging and dredged materials will not be disposed of off-site. Compliance with the applicable Standards at CRMP Section 1.3.1(I)(1) for work within the Seekonk River is provided below.

1. *Standards: All applications submitted to the Council for dredging and disposal shall demonstrate that they have met all applicable sections of the CRMC/DEM dredging application checklist.*

   a. All materials to be dredged for either open water disposal or upland disposal must be classified by the Department of Environmental Management (DEM). Applicants for dredging or open water disposal of dredged materials shall also be required to obtain a dredging permit (which contains the Section 401 Clean Water Act Water Quality Certification) from the DEM.

   An application for a Section 401 Water Quality Certification will be concurrently submitted with RIDEM for the proposed project.

   c. For dredged materials disposal in open water:

   (1) Dredged materials may not be placed in areas determined by the CRMC to be prime fishing grounds.

   The Applicant understands that this segment of the Seekonk River is not considered prime fishing grounds.

   (2) Measures must be employed and described to ensure that all dredged materials will be dumped solely within the confines of an approved site.

   Dredged material will be backfilled within the proposed overlook plaza and confined by the proposed seawall structure.

(3) *Hydrographic conditions at the approved disposal site must be such that the disposed dredged materials will remain within the disposal area and that re-suspension of bottom sediments will be minimal.*

The above-referenced seawall will be constructed to encompass the dredge material such that it will remain in place and not subject to scour erosion following construction.

(4) *Following disposal operations involving polluted materials, clean coarse-grained materials may be required to be deposited to cap the spoil mound and minimize the release of any potential contaminants to the water column. The cap shall have a minimum thickness of six (6) inches.*

Not Applicable.

(5) *The applicant may be required by the Executive Director to provide for an environmental monitoring program designed to detail physical conditions and biological activity at and near the site for a period of at least one (1) year. The results of such programs shall be made public. This shall not apply to disposal into the CAD cell. However, if the monitoring of the disposal of dredged materials at a site is to be performed by, and/or in conjunction with, a state or federally-sponsored monitoring program, then the applicant shall adhere to the requirements of such state or federally sponsored program.*

While the Applicant understands this may be required by the Executive Director, RIDEM fisheris staff responsible for operating the fishway will be conducting monitoring/sampling of fish migrating through the fishway structure during upstream and downstream migratory periods.

3.1.10 Filling in tidal waters (CRMP Section 1.3.1.J)

As a water-dependent project, filling in tidal waters is necessary to fulfill the project purpose and goals. The proposed fill in tidal waters will result in an ecological benefit to migratory fish species. Additionally, the recreational improvements will be a public benefit to residents and visitors of the City of Pawtucket to view and engage with natural resources and wildlife at the project site. In accordance with CRMP Section 1.3.1.J(3)(c)(2), an alternatives analysis is provided in *Section 2.2.*

3.1.11 Alterations to Freshwater Flows to Tidal Waters and Water Bodies and Coastal Pond (1.3.2)

Per the Standards at CRMP Section 1.3.2(C), applicable standards are addressed above in *Section 3.1.8*.

3.1.12 Activities Located Within Critical Coastal Areas (1.3.4)

The project site is located within the Metro Bay SAMP; however, the proposed project is not an activity listed in the Coastal Hazard Application determining compliance with the aforementioned SAMP.

3.1.13 Policies for the Protection and Enhancement of the Scenic Value and Public Access of the Shore (RICRMP 1.3.5 and 1.3.6)

This project will retain and enhance the visual character of the scenic area along the Seekonk River, which is currently not accessible and overgrown with non-native, invasive species. The proposed project is designed with few above-ground features (aside from seating and safety rails) and will minimize obstruction of significant views. Public access will be provided where it currently is not through construction of ADA-compliant walking paths and the overlook plaza. Scenic enhancement will be promoted through the addition of educational signage.

3.2 Rules and Regulations Governing the Protection and Management of Freshwater Wetlands in the Vicinity of the Coast

As previously noted, the northern/upstream portion of the proposed activities occur within and adjacent to the freshwater portion of the Blackstone River (Waterbody ID: RI0001003R-01B). Freshwater wetlands present on site, as defined in Section 9.4 of the CRMC Regulations, includes a stream (i.e., Blackstone River) and a forested swamp. Jurisdictional Areas associated with the northern/upstream portion of the site include the freshwater wetlands 100-foot contiguous area, the 200-foot contiguous area to the Blackstone River, floodway and floodplain. The project site occurs within the Urban River Region, and therefore, the Blackstone River has a 150-ft buffer zone and the forested swamp has a 25-foot buffer zone. Refer to *Section 2.3.10* above for further details.

Based on feedback from CRMC staff during the September 29, 2025 inter-agency pre-application meeting, it is the Applicant's understanding that CRMC will review the entire project under the application for State Assent; however, applicable policies and standards for activities proximate to freshwater wetlands and streams (i.e., the northern half of the project north of Main Street) subject to the CRMC Regulations are provided below.

3.2.1 Exempt Activities

The proposed fish passageway proximate to the Blackstone River meets the following exemption at Section 9.6.13.A of the CRMC Regulations, which states:

A. *Conservation activities, such as fish and wildlife management that are carried out on State or Federal property by the DEM or by the U.S. Department of Interior Fish and Wildlife Service, are permissible in accordance with § 9.6.1 of this Part. Such activities are limited to the following:*

   5. *The maintenance, repair or installation of in-stream structures for manipulation and management of fisheries habitat including fish ladders, fish diversions, fish traps and structures to moderate river or stream velocities/volumes for fisheries management objectives;*

   The proposed fishway complies with applicable provisions for exempt activities in accordance with the following citation at Section 9.6.1.E:

   1. *Exempted activities do not obviate the need to obtain other applicable Federal, State, or local permits, approvals, or authorizations required by law;*

The proposed project is subject to permitting with RIDEM and USACE. Applicable permits summarized in *Section 3* will be submitted concurrently or subsequently to this application for State Assent.

2. *Any structure or fill exempt under § 9.6 of this Part shall be properly maintained to ensure public safety, and to protect freshwater wetland functions and values;*

   The proposed project will be maintained by the Rhode Island Department of Environmental Management following completion of construction with an emphasis to continue supporting public safety and protection of freshwater wetland functions and values through implementation of the Operation and Maintenance Plan included separately with the Stormwater Management Plan.

3. *Best management practices for erosion and sediment controls must be used and maintained in effective operating condition during the activity, and all exposed soil and other fills must be permanently stabilized at the earliest possible date. (See the Stormwater Design and Installation Rules, 250-RICR-150-10-8);*

   Erosion and sedimentation controls consisting of silt fencing will be installed prior to the start of work and maintained throughout, and following completion of, construction until the site is stabilized.

4. *No activity exempted herein may jeopardize the continued existence of a rare freshwater wetland type, or a rare species; likewise, no activity exempted herein may destroy or adversely modify the critical habitat of such species;*

   The proposed project has been designed to minimize direct impacts to the main channels of the Blackstone River by constructing the fish passage structure on the east embankment. No rare freshwater wetland types or rare species are documented within this portion of the project site.

5. *Exempt activities shall be undertaken and performed in a manner that prevents the introduction or spread of invasive species, and all vehicles and equipment used in freshwater wetlands, including rivers, streams, and ponds shall be routinely inspected and cleaned of all invasive plant material before and after use within each freshwater wetland;*

   The Contractor will be responsible for importing clean materials free of non-native, invasive species in accordance with the project's specifications and SESC (contained within the Stormwater Management Plan).

6. *Following the limited activity, all equipment used in installation or maintenance activities shall be removed from any freshwater wetland and any created access paths must be restored and allowed to naturally revegetate; and*

   All construction materials will be removed following completion of the proposed project, and equipment will be demobilized. Erosion and sedimentation controls will remain in place until the site is stabilized and will subsequently be removed.

7. *All freshwater wetland functions and values must be protected to the maximum extent possible so as to prevent pollutants, direct discharge of stormwater runoff, or any material foreign to a freshwater wetland*

or hazardous to life, from entering any freshwater wetland, buffer or floodplain so as to be protective of aquatic life and not result in long-term reductions in stream flow or increased flooding. Hydro-demolition of concrete structures within or adjacent to freshwater wetlands is not authorized for any exempt activity in this Part.

The proposed project has been designed to minimize impacts to the functions and values of the Blackstone River and Seekonk River. Proposed pedestrian pathways have been designed to incorporate pervious materials so as to reduce the amount of new impervious area on the project site, thereby reducing the increase of peak stormwater flow. This project will not impact flows in this river upstream and downstream of the fish vertical slot fishway, some water will be diverted through the fishway as required for it to provide safe, timely and effective fish passage through the project site.

3.2.2 Standards Applicable to Regulated Projects and Activities and Variance Procedures (CRMC Part 9 Section 9.7)

Pursuant to Parts 9.11.2 and 9.11.3 of the CRMC Regulations, the following provides information for CRMC's consideration regarding the following applicable Application requirements for non-exempt activities: Freshwater Wetlands and Buffer Protection Standards [Section 9.7.1], Review Criteria [Section 9.7.2], and Variance Request [Section 9.7.3]. Non-exempt activities located entirely within the buffer zone include construction of pervious pedestrian paths and plaza spaces, lighting and seating, grading, and landscaping.

3.2.2.1 Freshwater Wetland and Buffer Protection Standards (CRMC Part 9 Section 9.7.1)

Pursuant to this Part of the CRMC Regulations, the following provides a response to the non-exempt portions of the project's compliance with applicable Standards at Part 9.7.1, some of which are consolidated.

General Freshwater Protection Standard

The non-exempt portions of the proposed project do not propose any alterations to freshwater wetlands. The project complies with this Standard.

Freshwater Wetland Buffer Standard and Setback Standards

The project site occurs within the Urban River Region and therefore, the Blackstone River has a 150-ft buffer zone and the forested swamp has a 25-foot buffer zone. The existing buffer zone within the project site is primarily disturbed/developed and is composed of a public park and impervious areas. No work is proposed within the fringing forested upland between the forested swamp and vertical stone wall. Due to the water-dependent nature of the project purpose, disturbance within the buffer zone cannot be avoided. Notably, no portion of the buffer zone within the project site meets the definition of naturally vegetated buffer and as such, the Freshwater Wetland Buffer Standards at Section 9.7.1.B of the CRMC Regulations and the Setback Standards at Section 9.7.1.C of the CRMC Regulations do not apply. However, in the event CRMC determines these standards to apply and the project components do not meet these standards, a Variance Request is provided below in *Section 3.2.2.3.*

Rare or Endangered Species Standard

The northern/upstream portion of the project site occurs within a Natural Heritage Area polygon, as described in *Section 2.3.5*. No impacts are anticipated to the forested swamp and only temporary impacts are proposed to the other Jurisdictional Areas (i.e., floodplain, buffer zone). Overall, the proposed project will result in a beneficial impact to migratory and resident fish species and American eels, as the proposed project's goal is habitat restoration and connectivity for fish and eel species. The proposed activities proximate to freshwater wetlands, excluding the fishway, are located entirely on land elevated at least 20 feet above the stream channel and will not result in an adverse impact to the diamondback terrapin historically observed within proximity to the project site. No rare or endangered plant species were observed within the project site. The Rare or Endangered Species Standard at Section 9.7.1.D of the CRMC Regulations is met.

Flood Protection Standard and Surface and Groundwater Diversion Standard

The project site occurs within a floodplain and floodway (*Figure 2*). The proposed non-exempt activities occur within a Zone AE (el. 32.9 NAVD88). Due to the water-dependent nature of the project, the fishway exit and auxiliary water supply intake will need to be constructed adjacent to the regulatory floodway. However, the construction of these fishway elements will be within the existing river walls and as a result no new construction will encroach into the regulatory floodway. As noted above, the fishway meets the criteria as an exempt activity. The project will not reduce flood storage capacity in the Blackstone River as the proposed work above the Main Street dam will either be completed at or below grade within the floodplain. While water from the Blackstone River will be conveyed through the fishway for its operation, it will not change upstream and downstream flows in the river. This project will also not divert groundwater. The Flood Protection Standard at Section 9.7.1.E of the CRMC Regulations is met. However, in the event CRMC determines these standards to apply and the project components do not meet these standards, a Variance Request is provided below in *Section 3.2.2.3.*

Stormwater Management Standard, Erosion and Sedimentation Control Standard, and Water Quality Standard

The proposed project has been designed to incorporate pervious materials to reduce an increase in impervious areas and avoid the potential for the site to contribute to further degradation of surface or groundwater resources. As summarized in the attached Stormwater Management Plan, the proposed project meets the minimum standards in the Stormwater Management Rules (250-RICR-150-10-8) and erosion and sedimentation controls will be designed and carried out consistent with the Stormwater Management Rules. The Stormwater Management Standard at Section 9.7.1.G, Erosion and Sedimentation Control Standard at Section 9.7.1.H, and Water Quality Standard at Section 9.7.1.I of the CRMC Regulations are met.

3.2.2.2 Review Criteria (CRMC Part 9 Section 9.7.2)

Pursuant to this part of the CRMC Regulations, CRMC reviews criteria to confirm that proposed projects incorporate "best management practices, best available technologies, and any maintenance or inspection schedules necessary to comply with the applicable criteria." The following provides the project's non-exempt components' compliance with the twenty-six (26) review criteria at Part 9.7.2(B). Review Criteria that are not applicable to the project has been consolidated.

9. *Significant reduction in the overall wildlife production or diversity of a freshwater wetland or buffer; 2. Significant reduction in the ability of a freshwater wetland or buffer to satisfy the needs of a particular wildlife species; 3. Significant displacement or extirpation of any wildlife species from a freshwater wetland or surrounding areas due to the alteration of the freshwater wetland or buffer; 4. Any reduction in the ability of*

the freshwater wetland or buffer to ensure the long-term viability of any rare animal or rare plant species; 5. Any degradation in the natural characteristic(s) of any rare freshwater wetland type; 6. Significant reduction in the suitability of any freshwater wetland or buffer for use by any resident, migratory, seasonal, transient, facultative, or obligate wildlife species, in either the short or long term as a travel corridor; feeding site; resting site; nesting site; escape cover; seasonal breeding or spawning area; 7. Any more than a minimal intrusion of, or increase in, less valuable, invasive or exotic plant or animal species in a freshwater wetland or buffer; 8. Significant reduction in the wildlife habitat functions and values of any freshwater wetland or buffer which could disrupt the management program for any game or non-game wildlife species carried out by State or Federal fish, game, or wildlife agencies; 9. Significant reduction in overall current or potential ability of a freshwater wetland or buffer to provide active or passive recreational activities to the public;

The northern portion of the proposed project does not involve work within freshwater wetlands or naturally vegetated Buffer. The proposed project will require removing deciduous trees; however, the proposed landscaping plan includes installation of native shrub and sapling species within the public park that will improve shaded areas and active and passive recreational opportunities for the public. Additionally, the proposed project and proposed planting plan is not anticipated to reduce the ability of the freshwater wetland to support wildlife species; will not displace wildlife species; will not reduce the ability of the freshwater wetland to support rare animal or plant species; and will not degrade natural characteristics of the freshwater wetland. The project site is located within a Natural Heritage Area polygon; however, the public park does not provide the preferred habitat for the northern diamondback terrapin observed within the stream.

10. *Significant disruption of any on-going scientific studies or observations performed by or in cooperation with Federal, State, or municipal agencies or educational institutions;*

    The proposed project does not alter land which would disrupt ongoing or future scientific studies. The exempt fishway incorporates equipment to continue monitoring fish species following completion of construction.

11. *Elimination of, or severe limitation to traditional human access to, along the bank of, up or down, or through any rivers, streams, ponds, or other freshwater wetlands or buffers;*

    The project will not result in a physical limitation for human access to freshwater wetlands that does not already exist. The proposed project will improve public access to the river, especially to the Seekonk River, and the improvements will also be ADA-accessible.

12. *Any reduction in water quality functions and values or negative impacts to natural water quality characteristics, either in the short or long term, by modifying or changing: water elevations, temperature regimes, volumes, velocity of flow regimes of water; increasing turbidity; decreasing oxygen; causing any form of pollution; or modifying the amount of flow of nutrients so as to negatively impact freshwater wetland functions and values;*

    The non-exempt portions of the proposed project will not result in any direct impacts to the functions and values of the freshwater wetland. Erosion and sedimentation controls will be implemented prior to construction and will remain in place until the site is stabilized to mitigate potential short-term impacts. Pervious materials are proposed for access ways to reduce new impervious areas and thus, reduce potential long-term impacts to downgradient freshwater wetlands.

13. *Any placement of any matter or material beneath surface water elevations or erection of any barriers within any ponds or flowing bodies of water which could cause any hazards to safety; 14. Significant loss of important open space or significant modification of any uncommon geologic or archaeological features; 15. Significant modification to the natural characteristics of any freshwater wetlands or buffer area of unusually high visual quality;*

    Review Criteria 13 through 15 do not apply, as the non-exempt portions of the proposed project are not located within Ponds, flowing water, or freshwater wetlands; the project site is not comprised of important open space or uncommon geologic or archaeological features; and the freshwater wetland does not have unusually high visual quality. The exempt fish passage improvements will result in filling within flowing water; however, it will not cause hazards to safety, will not result in a loss of important open space or modification to uncommon geologic or archaeological features, and will not significantly modify freshwater wetlands of unusually high visual quality.

16. *Any decrease in the flood storage capacity of any floodplain or area subject to flooding which could impair its ability to protect life or property from flooding or flood flows; 17. Significant reduction of the rate at which flood water is stored by any floodplain or any area subject to flooding during any flood event; 18. Restriction or significant modification of the path or velocities of flood flows for the one (1) year, ten (10) year, or one hundred (100) year frequency, twenty-four (24) hour, Type III storm events so as to cause harm to life, property, or other functions and values provided by freshwater wetlands, buffers or floodplain; 19. Placement of any structure or obstruction within a floodway so as to cause harm to life, property, or other functions and values provided by freshwater wetlands or their associated buffers; 20. Any increase in run-off rates over pre-project levels or any increase in peak flood elevations within freshwater wetlands, buffers, floodplains, areas subject to flooding or areas subject to storm flowage for the one (1) year, ten (10) year, or one hundred (100) year frequency, twenty-four (24) hour, Type III storm events which could impair their ability to protect life or property from flooding or flood flows;*

    As explained previously, the exempt fishway will be constructed at our below grade in the Blackstone River floodplain. No new structures will be constructed beyond the river wall above the Main Street Dam that could impact river hydraulics.

21. *Any increase in run-off volumes and discharge rates which could, in any way, exacerbate flooding conditions in flood-prone areas;*

    As stated above, the proposed project will incorporate pervious surfaces for all access improvements, thereby only resulting in a de-minimis increase in impervious area associated with features such as the top of walls. As a result, this project will not substantially increase the volume and rate of runoff discharged from the site.

22. *Significant changes in the quantities and flow rates of surface or groundwater to or from isolated freshwater wetlands (e.g., those freshwater wetlands without inflow or outflow channels); 23. Placement of any structural stormwater best management practices within freshwater wetlands, or proposal to utilize freshwater wetlands as a stormwater best management practice;*

Review Criteria 22 and 23 do not apply, as there are no isolated freshwater wetlands on-site and stormwater management features are not proposed within freshwater wetlands.

24. *Any more than a short-term decrease in surface water or groundwater elevations within any freshwater wetlands;*

    The non-exempt portions of the proposed project do not redirect surface or groundwater away from the freshwater wetland.

25. *Non-compliance with the DEM's Water Quality Regulations, 250-RICR150-05-1; or*

    The non-exempt portions of the proposed project do not involve temporary or permanent impacts to Waters of the U.S. and as such, the RIDEM Water Quality Regulations do not apply. However, the exempt fish passage improvements does involve fill and dredge within WOTUS and as such, compliance with the RIDEM Water Quality Regulations is required for that portion of the proposed project. A 401 Water Quality Certificate Application is being submitted with RIDEM in conjunction with this Application for State Assent.

26. *Any detrimental modification of the ability of a freshwater wetland or buffer to retain or remove nutrients or act as natural pollution filter.*

    The non-exempt portions of the project are not located within a freshwater wetland or naturally vegetated buffer and are not anticipated to result in a negative impact to the project site's capacity to retain or remove nutrients. The northern portion of the project site will be re-vegetated with native saplings, shrubs, and seed mixes as depicted on the Project Drawing Set included as *Attachment C*.

3.2.2.3 Variances from Standards Applicable to Regulated Projects and Activities (CRMC Part 9 Section 9.7.3)

Variances for the buffer protection standard (Section 9.7.1.B) and the flood protection standard (Section 9.7.1.E) are requested from the CRMC for non-exempt activities within the 200 ft contiguous area. Due to the water-dependent nature of the project, disturbance within the buffer zone and floodway/floodplain cannot be avoided. All reasonable alternatives to the project were evaluated and the inland linear vertical slot fishway was chosen due to its reduction in direct wetland and water impacts and the project goals to increase fish passage, as described in *Section 2.2*. Please refer to the discussion below which describes how the criteria outlined in 9.7.3(A)(2) have been met.

3.2.2.3.1 Avoidance

2.a.(1) *Whether the primary proposed activity is water-dependent or whether it requires access to freshwater wetlands, buffers, floodplains, areas subject to flooding or areas subject to storm flowage as a central element of its primary purpose.*

The primary proposed activity is the creation of a new fishway for the furthest downstream dams along the Blackstone River and Seekonk River. The purpose of this activity is to restore connectivity of the habitats along the rivers. This activity is water-dependent and requires access to the flowing waterbodies as a central element of its primary purpose.

It is important to note that, due to the nature of this project, no long-term adverse impacts to the functions or values of the identified freshwater wetlands are anticipated to result from this project. The site is not expected to experience any adverse impacts upon completion of the proposed work.

2.a.(2) *Whether any areas within the same property or other properties owned or controlled by the applicant could be used to achieve the project purpose without altering the natural character of any freshwater wetlands, buffers, floodplains, areas subject to flooding or areas subject to storm flowage.*

The two existing dams within the rivers are an impediment to migratory anadromous and diadromous fish species. No alternative location could be used to achieve the restoration of migratory passage past the Slater Mill and Main Street Dams. As summarized in *Section 2.2*, removal of the dams is cost-prohibitive and would result in greater impacts to freshwater wetlands and other natural and historic resources.

2.a.(3) *Whether any other properties reasonably available to, but not currently owned or controlled by, the applicant could be used to achieve the project purpose while avoiding freshwater wetlands, buffers, floodplains, areas subject to flooding or areas subject to storm flowage alterations. A property is reasonably available if, in whole or in part, it can be acquired without excessive cost, taking individual circumstances into account, or, in the case of property owned or controlled by the same family, entity, group of affiliated entities, or local, State or Federal government, may be obtained without excessive hardship.*

There are no other properties that could be reasonably obtained by the Applicant, and which could be used to achieve the same project purpose and avoid work within state jurisdictional wetlands. The overall project purpose is to restore fish passage to spawning areas upstream of the two dams at the project site. Such goals cannot be accomplished without accessing and working within the on-site jurisdictional areas and existing disturbed habitat provided by this property.

2.a.(4) *Whether alternative designs, layouts or technologies could be used to avoid freshwater wetlands, buffers, floodplains, areas subject to flooding or areas subject to storm flowage or impacts on functions and values on the subject property or whether the project purpose could be achieved on other property that is reasonably available and would avoid freshwater wetlands, buffers, floodplains, areas subject to flooding or areas subject to storm flowage*

The purpose of this project and specific project location, by its very nature, requires impacts of freshwater wetlands (i.e., Blackstone River). Impacts are anticipated to be positive, as this project will improve habitat functions and values in the rivers. The proposed project was designed to minimize wetland alterations; however, several elements of the project are required to be constructed in wetland areas in order to provide their desired function.

2.a.(5) *Whether the applicant has made any attempts (and if so, what they were) to avoid alterations to freshwater wetlands, buffers, floodplains, areas subject to flooding or areas subject to storm flowage by overcoming or removing constraints imposed by zoning, infrastructure, parcel size or the like.*

Since the proposed restoration of anadromous and diadromous fish passage to the lower Blackstone River could not occur elsewhere, there are no practicable changes in zoning, infrastructure, parcel size or the like that would have resulted in avoidance of wetland alterations.

2.a.(6) *Whether the feasible alternatives that would not alter the natural character of any freshwater wetlands, buffers, floodplains, areas subject to flooding or areas subject to storm flowage on the subject property or on property that is reasonably available, if incorporated into the proposed project would adversely affect public health, safety or the environment.*

There are no alternatives, layouts or technologies to avoid or minimize wetland impacts that have not been incorporated into the project that, if utilized, would also achieve the same project purpose. This project has been designed to minimize the impact and restore the function of the Blackstone River and Seekonk River. As proposed, the project will not result in any significant adverse consequences to public health and safety, or the environment. The project is anticipated to improve the environment by increasing wildlife habitat.

3.2.2.3.2 Minimization

2.b(1) *Whether the proposed project is necessary at the proposed scale or whether the scale of the wetland alteration could be reduced and still achieve the project purpose.*

The proposed project scale is the minimum necessary to restore fish passage through both the Main Street and Slater Mill Dams. Any reduction in the current project scope will compromise the goals to restore connectivity of aquatic and wildlife habitat.

2.b(2) *Whether the proposed project is necessary at the proposed location or whether another location within the site could achieve the project purpose while resulting in less impacts to the freshwater wetlands, buffers, floodplains, areas subject to flooding or areas subject to storm flowage.*

Since this project is focused on the restoration of aquatic and wildlife habitat connectivity, no alternate location is available that could achieve the project goals while resulting in a greater extent of impact minimization.

2.b(3) *Whether there are feasible alternative designs, layouts, densities or technologies, that would result in less impacts to the freshwater wetlands, buffers, floodplains, areas subject to flooding or areas subject to storm flowage while still achieving the project purpose.*

There are no feasible alternative designs, layouts, densities or technologies that would result in less impact to the river while still achieving the project purpose. The current project design, layout, and technologies that are proposed have been chosen specifically for their ability to restore fishway passage, while minimizing potential long-term impacts to the greatest extent possible. The overall footprint of the proposed work is the minimum necessary to achieve the project goals. The site conditions that will result from this project will serve to improve the overall habitat value of the Seekonk River and Blackstone River.

2.b(4) *Whether reduction in the scale or relocation of the proposed project to minimize impact to the freshwater wetlands, buffers, floodplains, areas subject to flooding or areas subject to storm flowage would result in adverse consequences to public health, safety or the environment.*

No adverse consequences to public health, safety, or the environment are anticipated as part of the proposed project.

3.3 Metro Bay Region Special Area Management Plan

3.3.1 Metro Bay Region Policies (Section 5.3)

The regional approach of the Metro Bay Regional Polices is to "*promote the revitalization of the Metro Bay region in a manner which increases public access and recreational opportunities as well as economic uses*" (Section 5.3.A). The northern/upstream portion of the project site is currently a public park, and the southern/downstream portion currently provides no public access to the Seekonk River.

The proposed project will retain and enhance public access to the Blackstone River and create access to the Seekonk River through the construction of a overlook plaza and educational signage associated with construction of the fish passage improvements. The proposed project will not result in an adverse impact to areas of potential historic and/or archaeological significance. Overall, public access to the waterbodies will be maintained and enhanced as a result of the proposed project.

3.3.2 Urban Coastal Greenways Policies and Regulations (Section 5.4 & Section 5.5)

Under the District-wide CRMC Assent, the Urban Coastal Greenway (UCG) Policy is applied to the District as a whole. The entire project occurs within the Metro Bay SAMP boundary and the CRMC jurisdiction of 200 feet inland from the coastal feature. The former Apex property is located within the UCG Development Zone with portions of the project located within conservation (C2) and (S3) zones. The project directly supports the UCG goals to restore coastal habitats and ensure public access to the urban shoreline. The UCG Policy requires 15% of an applicable parcel to be vegetated. The project will meet and exceed this 15% vegetated cover requirement, as the majority of the site will be revegetated with a native conservation seed mix post-construction. This will result in the removal of non-native; invasive species present within the fringing upland upgradient of the Seekonk River.

The proposed project will meet the minimum standards in the Stormwater Rules and erosion and sedimentation controls will be installed and maintained consistent with the Stormwater Management, Design, and Installation Rules (250-RICR-150-10-8.16). All public access standards outlined in Section 5.5.1.E will be met to the greatest extent possible, with ADA-compliant walkways provided throughout.

The proposed fishway and public access improvements along the Seekonk River are consistent with the UCG Policies and Regulations.

3.3.3 Area of Particular Concern Zone (Section 5.7)

A portion of the site is located within the C3 and S3 zones. In accordance with Section 5.7.B.2 and Section 5.11, a variance is requested for the buffer zone requirement, as the standard buffer width applied to the Seekonk River is 150 ft. Therefore, the project will request a Special Exception in the Category B Assent application in accordance with the CRMP Section 1.1.8. See *Section 3.1.3.*

3.3.4 Development Zone (Section 5.9)

A portion of the site is located within the Development Zone as depicted on the Urban Coastal Greenway Zone Map (Figure 2 of the Metro Bay SAMP). The majority of the project occurs within Option 2: standard UCG width of 150 ft. Due to the water-dependent nature of the project, the construction setback requirement of 25 ft [Section 5.5.1(A)(3)] cannot be met. Refer to *Section 3.1.3* for the variance request also applicable to the Development Zone.