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Pre-Proposal Meeting

*Replacement of Bridges Along
Marion Road/Wareham Road
(US 6) over the Weweantic
River*

Tuesday October 8th, 2024

Project File Number 605311

Agenda

- RFP
- Major Scope Elements
- Project Risks
- Utility Design
- Procurement Schedule
- ATC Process
- Proposal Submission/Evaluation Overview
- Future Addenda
- Questions



Introductions

MassDOT Highway Division

- Bryan Cordeiro - Project Manager
- Valerie Kilduff - Design-Build Project Manager
- Murthy Kolla - Manager of Alternative Procurement/Delivery
- Frank Welch – Deputy Director of Major Projects

FHWA

- Ken Coelho

Preliminary Design Team

- Parsons
- BSC Group
- Haley & Aldrich
- Dawood



RFP

RFP

- **Released 09/12/24**
- **Changes to RFP**
 - Addendum 1 Issued 09/30/24
 - Addendum 2 Forthcoming
 - Summary sheet of changes to all documents RFP Vol. 1, Vol. 2, BTC Plans, & Special Provisions
- **Questions to be submitted to:**

massdotSpecifications@dot.state.ma.us



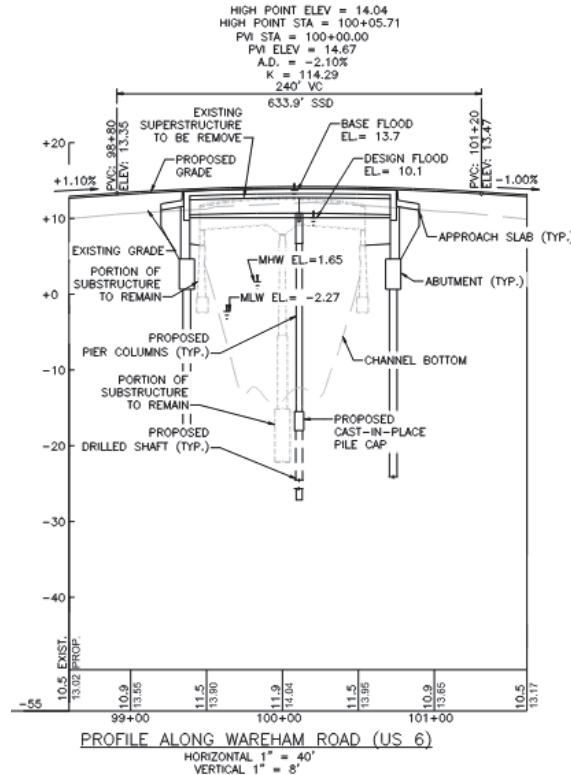
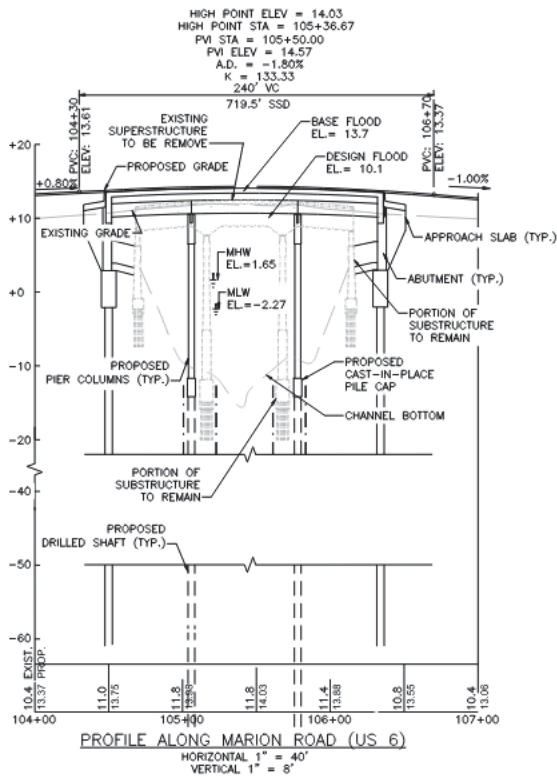
Major Scope Elements

Major Scope Elements – RFP Volume II – Section 4.2

- Demolition of Bridge Nos. M-05-001=W-06-013 & W-06-016 over Weweantic River



Major Scope Elements – RFP Volume II – Section 4.2

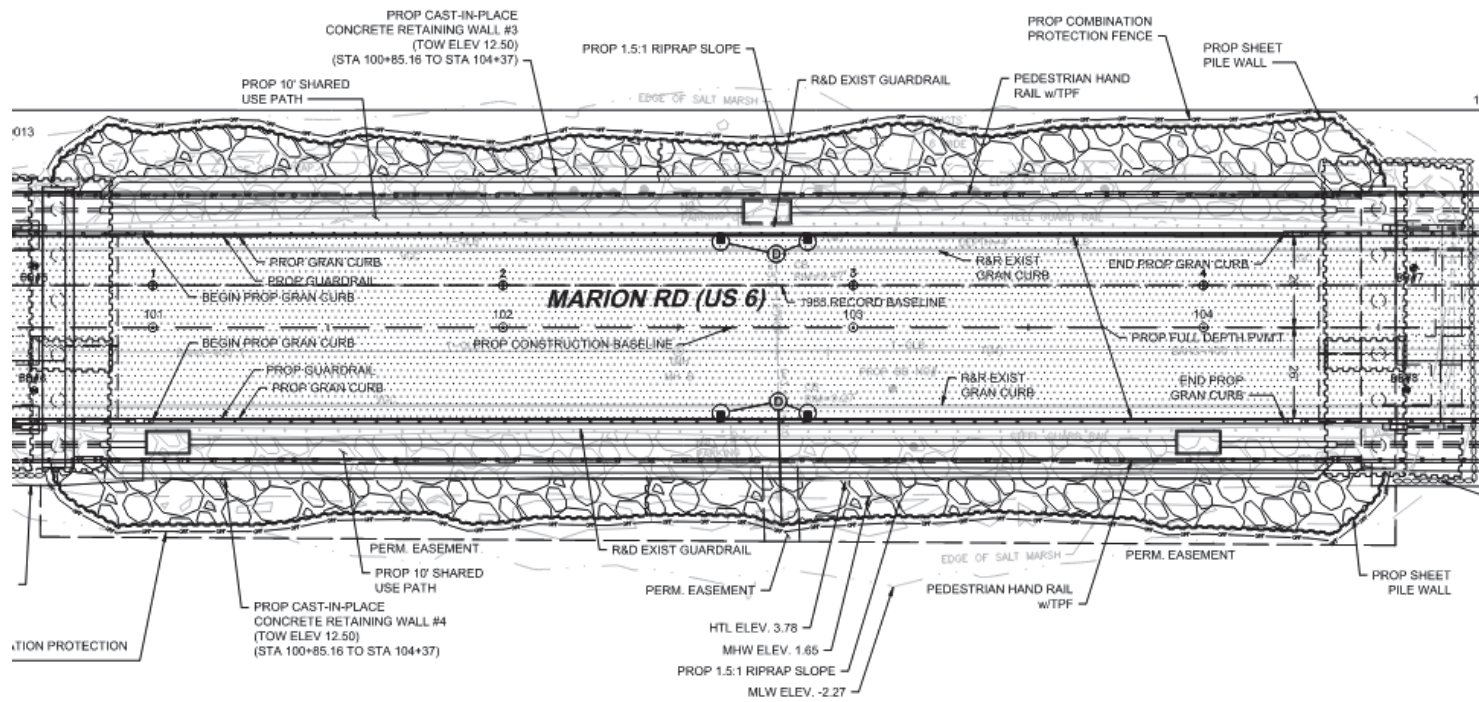


- 2 new bridges both with shared-use paths
- Roadway rehabilitation on Route 6 including full depth reconstruction



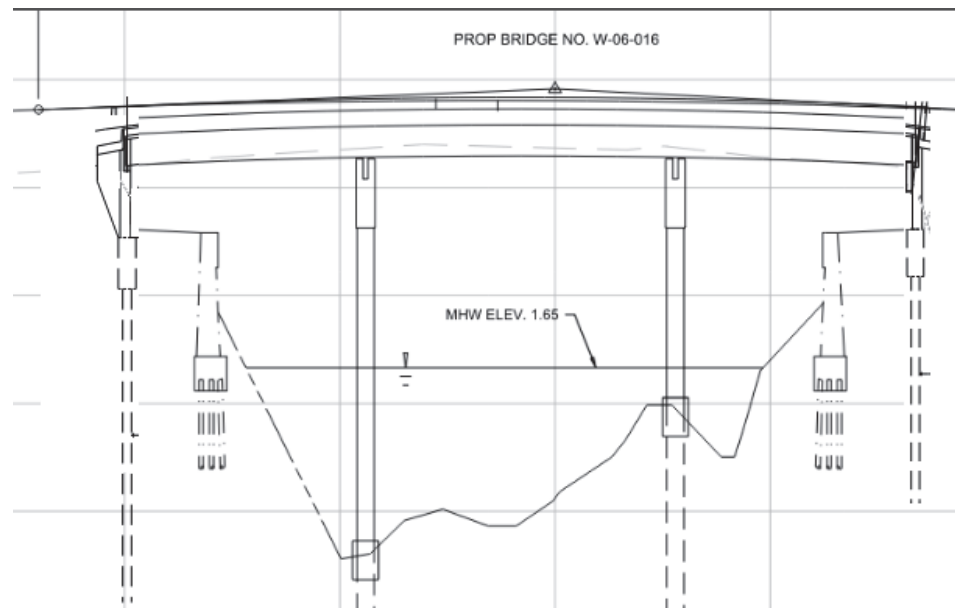
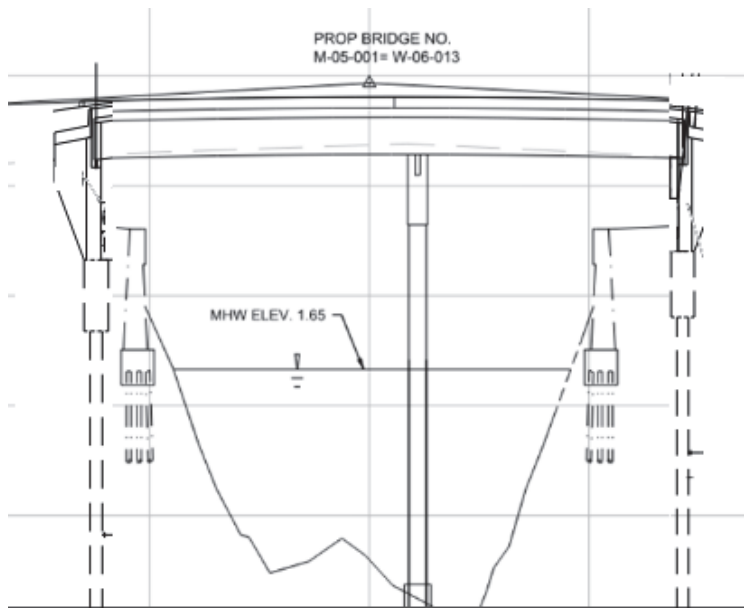
Major Scope Elements – RFP Volume II – Section 4.2 (cont'd)

- Widened roadway/causeway with shared use paths and retaining walls



Major Scope Elements – RFP Volume II – Section 4.2 (cont'd)

- Increase roadway profile over Weweantic River to accommodate future sea level rise.



Major Scope Elements – RFP Volume II – Section 4.2 (cont'd)

- Temporary traffic control and management.
- Furnish and install utility underground infrastructure including manholes, pull boxes, conduit, duct banks and other required facilities for electric and communication relocations.
- Salt Marsh/Wetland mitigation area.



Major Scope Elements – RFP Volume II – Section 4.2 (cont'd)

- Drainage system improvements.
- Pedestrian hybrid beacons with lighting.
- Monitoring, protection, and repairs (as necessary) of existing bridge elements to remain in service during staged construction.
- Removal of invasive and noxious plant species.
- Coordination during design and construction with stakeholders, property owners, State/Municipal officials, local businesses, and SERTA.
- Coordination with surrounding private and public construction activities.
- Community outreach program in coordination with MassDOT.
- Replacement of existing Route 6 steel guardrail to continue bridge barrier.



Project Risks

Project Risks – Volume II – Section 1.4

The Design-Builder shall address in their Technical Proposal how they will mitigate the potential risks below:

- Traffic management
- Contaminated Soils/Groundwater and Staging Areas
 - Contaminated Soil Disposal
 - Streambed Material Stockpiling and Reinstallation
- Subsurface obstructions and conditions
- Stage 1 partial demolition of existing parapet/deck
- Early materials procurement
- Additional encroachment on wetland and streambed areas & successful salt marsh mitigation
- Modification to environmental permitting strategy
- Schedule impact with seasonal restrictions
- Noise mitigation

Project Risks – Volume II – Section 1.4 (cont'd)

Traffic Management

For the duration of construction:

- Route 6
 - Provide two lanes of traffic (one eastbound and one westbound) during construction
 - Reduction to one lane with alternating traffic during nighttime hours will be allowed during certain times for certain activities, refer to section 4.9.1

TTCP shall account for (if required):

- Narrow lanes through the work zone
- Reduced speed through the work zone
- Incident management

Project Risks – Volume II – Section 1.4 (cont'd)

Utility Relocations

- **Coordination will be critical for sequencing of utilities to underground or aerial facilities along Route 6**
- **Caution will be required when working near existing Verizon Ducts**

Project Risks – Volume II – Section 1.4 (cont'd)

Subsurface Obstructions and Conditions

- Potential subsurface obstructions due to previous bridges and the marine environment

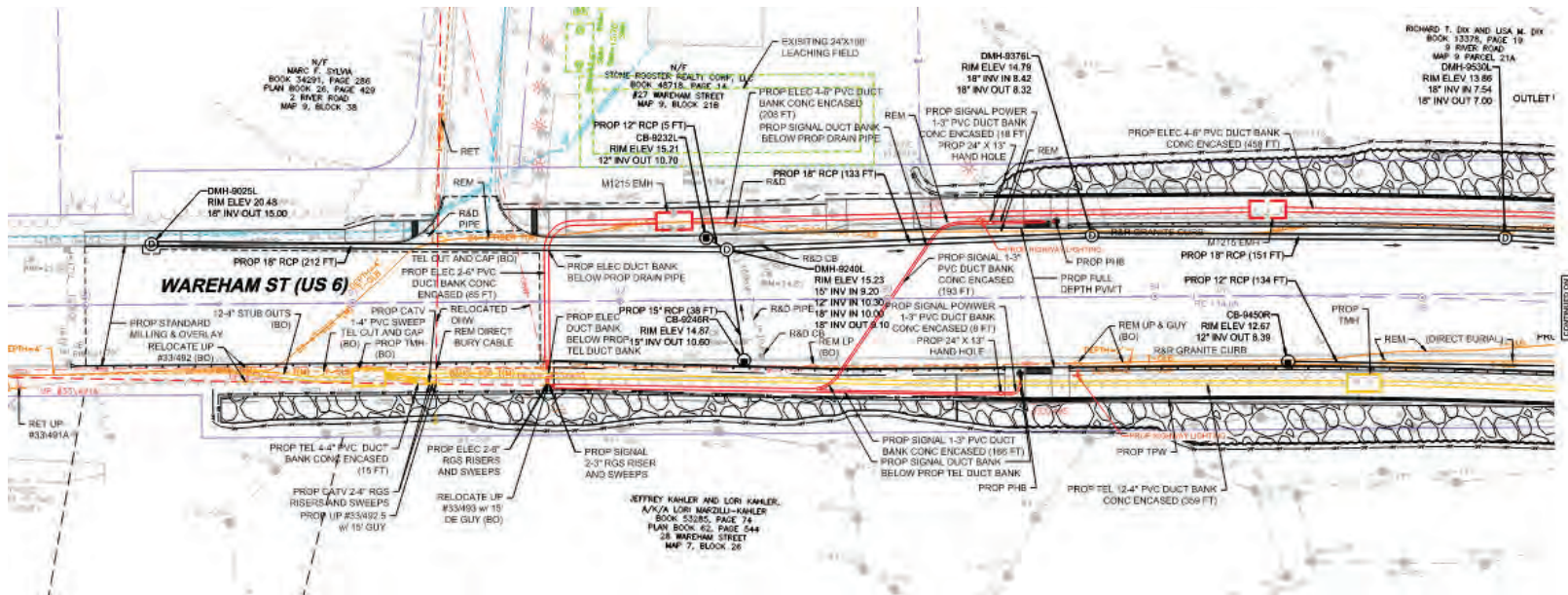


Utility Design

Utility Design

- **PUC Form provided in RFP**
 - **Work shown in PUC is based on Force Accounts with exception for Town of Wareham DPW.**
 - **No updates are anticipated to Force Accounts already shown in PUC Form.**
 - **PUC Form durations were developed based on linear completion of relocations project-wide. Design-Builder may seek opportunities to coordinate with utilities post-award to prioritize enabling work.**
- **Design-Builder will be required to confirm required relocations are consistent with any and all specifications and standards of each utility owner.**

Route 6 - Aerial Undergrounding



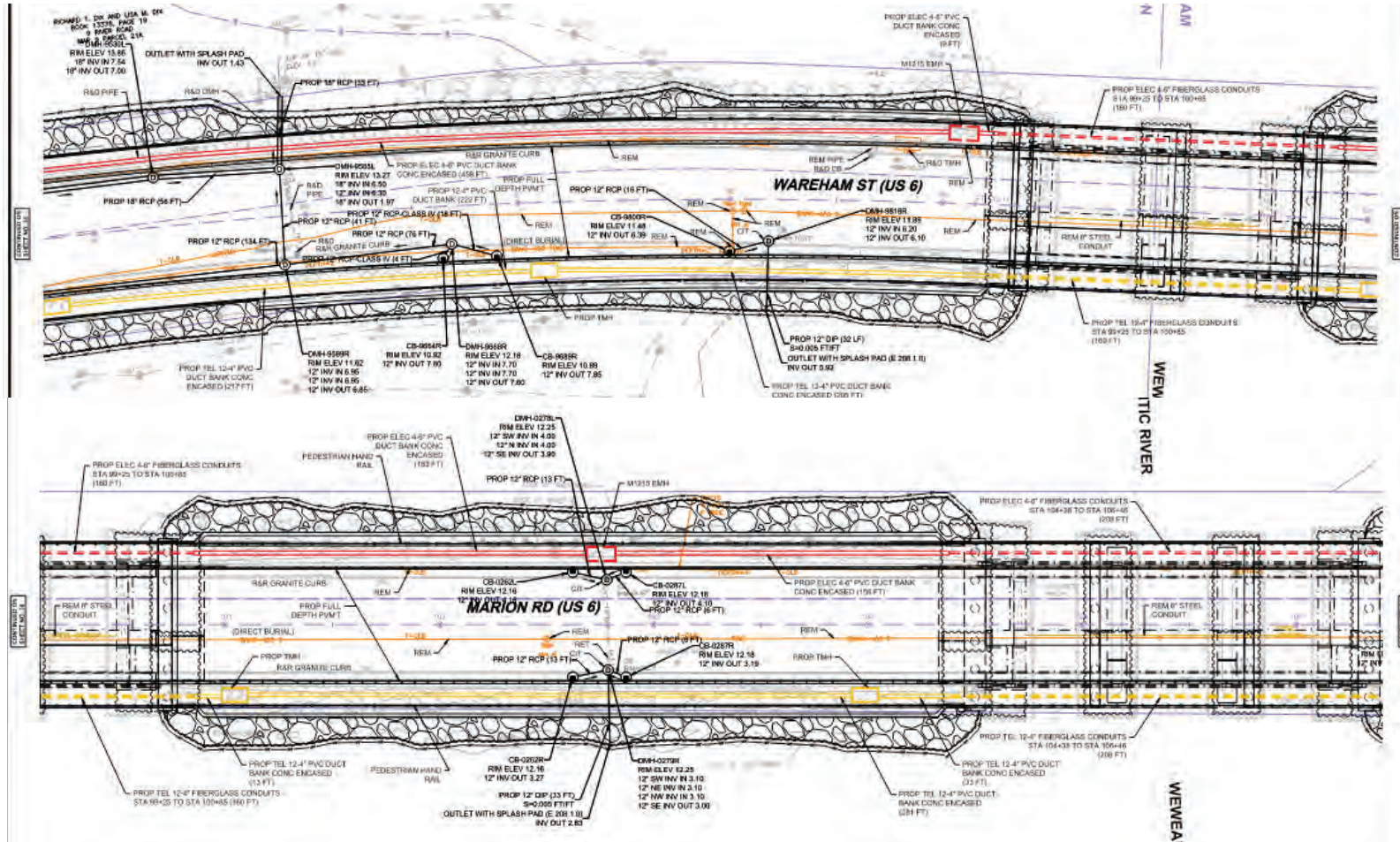
Impacted Utilities:
 Verizon, Comcast, Open Cape, Eversource
 Electric, Lightpath, National Grid

New Electrical Duct Bank
New Communications Duct Bank

BTC Plans – Sheet 35



Route 6 - Aerial Undergrounding

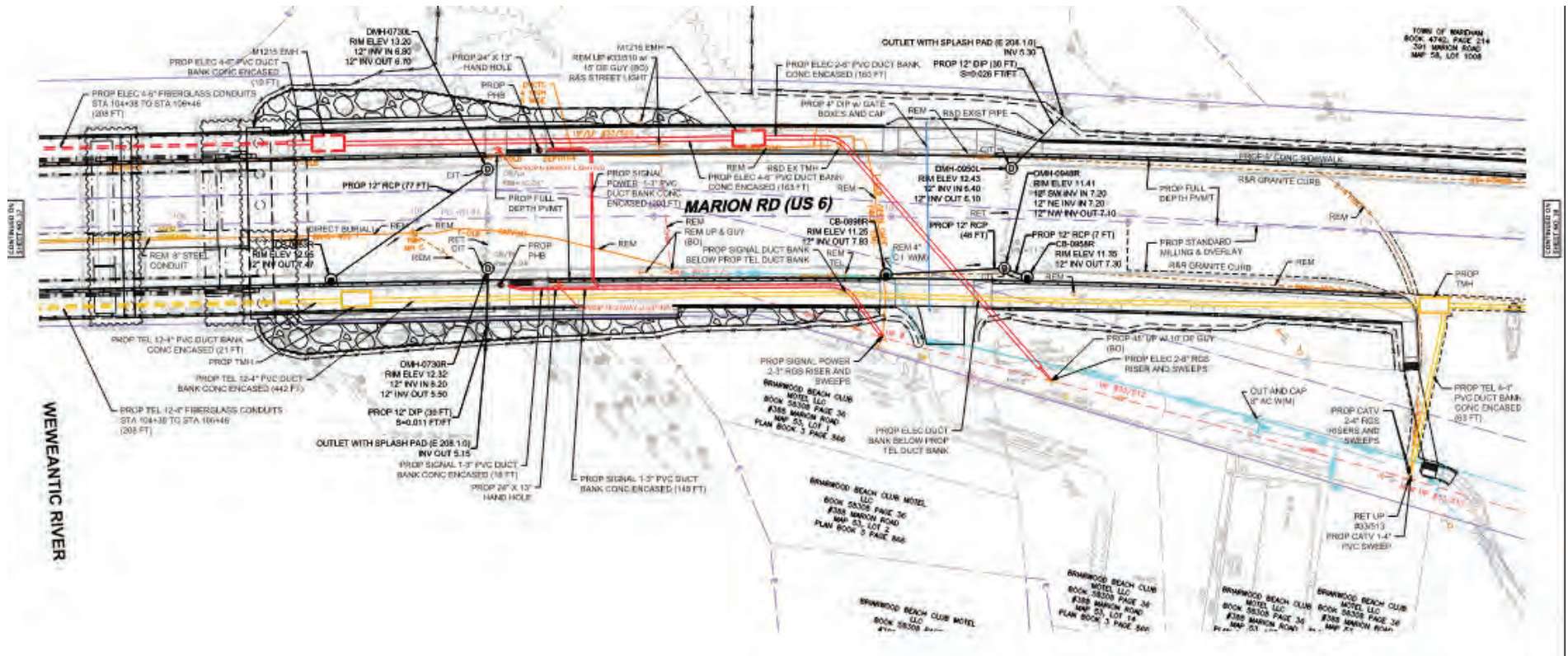


BTC Plans - Sheet 36

BTC Plans - Sheet 37



Route 6 - Aerial Undergrounding



BTC Plans – Sheet 38



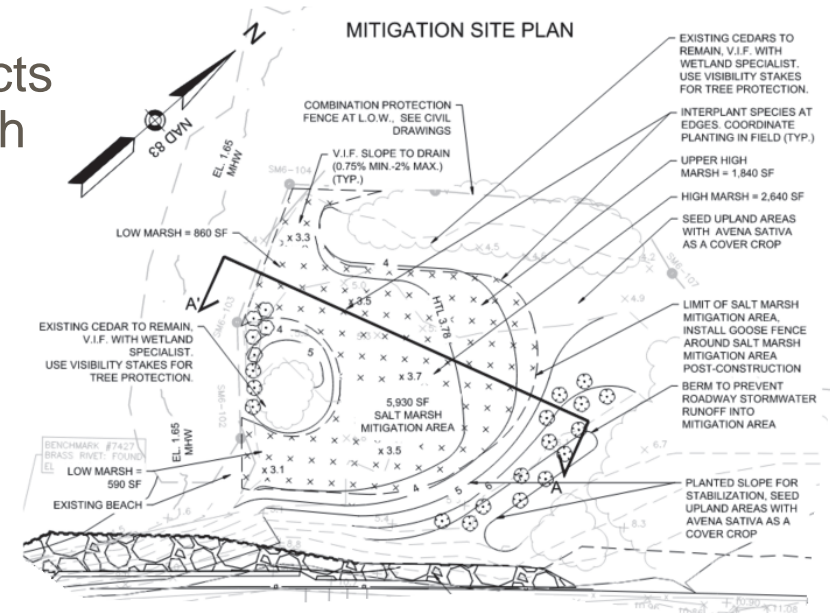


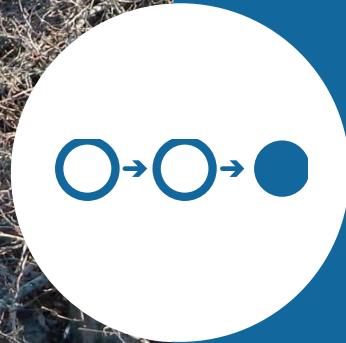
Environmental, Considerations

Environmental Impacts

Impacts to vegetated wetlands, salt marsh, and land below high tide are required for the proposed project. Impacts have been minimized to the maximum extent practicable.

- **Salt Marsh Mitigation Area** to mitigate impacts to adjacent vegetated wetlands and salt marsh
- **Turtle Protection Fencing**
- **Landscaping and restoration** of disturbed areas within the Project limits





Procurement Schedule

Schedule of Events – RFP Volume I – Section 1.3

- RFQ Issued** - **February 28, 2024**
- Final RFP Issued** - **September 12, 2024**
- Mandatory Pre-Proposal Meeting** ★ - **October 8, 2024**
- ATC Period** - **October-November2024**
- Technical/Price Proposals Due** - **December 19, 2024**
- Oral Presentations** - **January 8, 2025**
- Price Opening** - **January 23, 2025**
- Anticipated NTP** - **March 27, 2025**



ATC Process

ATC Meetings

Meeting Dates

- **Meeting 1** - **October 16, 2024**
1 hour 15 minutes (30 Minutes Proposer Presentation, 45 Minutes Q&A)
- **Meeting 2** - **November 6, 2024**
1 hour 30 minutes (45 Minutes Proposer Presentation, 45 Minutes Q&A)
- **Meeting 3** - **TBD (if necessary)**

ATC Meetings

- **Current design developed through concept plans**
- **Any changes to major bridge elements will require an ATC such as:**
 - **Foundation type**
 - **Superstructure type**
- **Changes to Temporary Traffic Control Criteria will require an ATC:**
 - **Lane Widths**
 - **Design Speed**
 - **Number of Lanes**
- **Up to 3 FINAL ATCs may be submitted for approval to be included in Technical Proposal**
- **Proposer may discuss more than 3 at ATC meetings (limited by time)**
- **Last day to submit ATCs – November 19, 2024**
- **ATC meetings are confidential**
- **No discussions of price**
- **Proposer shall set meeting and send invitations**
- **Executive Summaries due by 12 noon on Friday October 11- uploaded to secure dropbox**



Proposal Submission Evaluation

Proposal Submission

Technical and Price Proposals Due December 19, 2024

See RFP Volume I – Section 3.3

Format

Organization

Proposal Requirements



Proposal Evaluation

Best Value Design-Build

Lowest cost per quality point

See RFP Volume I – Section 4.5

35% - Project Management and Coordination

- Project Management and Personnel Experience
- Quality Control System
- Design Management
- Construction Management
- Schedule and Cost Control

65% - Technical Approach

- Civil/Traffic
- Environmental
- Utilities
- Structures
- Construction Staging





Future Addenda

Future Addenda

- **Final Hydraulic Report**
- **Updated Project Milestones and Durations**
 - **Contract duration approximately 1167 days**



Thank You

Pre-Proposal Meeting

October 8, 2024

**Questions on RFP write to:
massdotSpecifications@dot.state.ma.us**

MassDOT #605311



Project # 605311		Contract # 128035		
Location : MARION - WAREHAM				
Description : Bridge Replacement, M-05-001=W-06-013 & W-06-016, Marion Road/Wareham Road (Route 6) Over Weweantic River DESIGN-BUILD				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
227.31	460	REMOVAL OF DRAINAGE PIPE SEDIMENT AT _____ PER FOOT		
451.	85	HMA FOR PATCHING AT _____ PER TON		
600.1	1	GUARDRAIL AND FENCING AT _____ LUMP SUM		
③ 740.3	38	ENGINEER'S FIELD OFFICE AND EQUIPMENT AT _____ PER MONTH		
748.	1	MOBILIZATION AT _____ LUMP SUM		
③ 755.2	1	TIDAL WETLAND MITIGATION AND SALT MARSH REPLICATION AREA AT _____ LUMP SUM		
851.	1	TEMPORARY TRAFFIC CONTROL AT _____ LUMP SUM		
851.11	30	TRAFFIC MANAGEMENT AND MOBILIZATION AT _____ PER DAY		
900.9	1	PUNCHLIST/AS BUILTS REQUIREMENTS-FIXED PRICE \$30,000 AT Thirty Thousand Dollars LUMP SUM	\$30,000.00	\$30,000.00

Project # 605311		Contract # 128035		
Location : MARION - WAREHAM				
Description : Bridge Replacement, M-05-001=W-06-013 & W-06-016, Marion Road/Wareham Road (Route 6) Over Weweantic River DESIGN-BUILD				
ITEM #	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	AMOUNT
909.5	25	RAPID SETTING CONCRETE FOR REPAIRS AT _____ PER CUBIC YARD		
910.1	1,250	STEEL REINFORCEMENT FOR STRUCTURES - EPOXY COATED AT _____ PER POUND		
990.1	1	COFFERDAM STRUCTURE NO. M-05-001=W-06-013 AT _____ LUMP SUM		
990.2	1	COFFERDAM STRUCTURE NO. W-06-016 AT _____ LUMP SUM		
993.01	1	TEMPORARY WORKS AT _____ LUMP SUM		
995.01	1	BRIDGE STRUCTURE, BRIDGE NO. M-05-001=W-06-013 AT _____ LUMP SUM		
995.02	1	BRIDGE STRUCTURE, BRIDGE NO. W-06-016 AT _____ LUMP SUM		
996.12	1	RETAINING WALL STRUCTURES AT _____ LUMP SUM		
Total Qty:		3,105		

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ADDENDUM NO. 3, October 21, 2024

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③ ADDENDUM NO. 3, October 21, 2024

② ADDENDUM NO. 2, October 4, 2024

4.3 BTC DESIGN INTENT AND ATC RESTRICTIONS

MassDOT has advanced the design development for the Bridge Replacement, M-05-001=W-06-013 & W-06-016, Marion Road/Wareham Road (Route 6) over the Weweantic River Design-Build Project through the BTC stage. The BTC design was advanced from other alternatives based on meeting the project purpose. The intent of the BTC design is to improve safety, operational efficiency, pedestrian access, cyclist accommodations, and the vertical profile at both bridges. The BTC design will increase safety for all movements within the Project area and address deficient traffic conditions for the movement of people, bicyclists and motorists. This Project has the following objectives:

- Improve public safety by replacing the deteriorating bridges.
- Increase vertical clearance to accommodate future sea level rise
- Provide improved multimodal transportation through the construction of Shared Use Paths along Route 6 to accommodate bicycles, and pedestrians

③② MassDOT has advanced the design development for the bridge replacements through the BTC stage. Bridge Type Selection Worksheets and Formal Sketch Plans will not be required to be submitted before advancing to First Structural Submission. ATCs may be submitted for review, and, if accepted, incorporated in the Final Design documents. The MassDOT Bridge Manual, MassDOT Construction Standard Details, and other specific project criteria will be required for the design, detailing, and construction of all components of this Project if not specifically required by the contents of this RFP. The Design-Builder will be required to submit a minimum of three Final Design submissions in addition to the Geotechnical Report, (75% Highway/First Structural Design Submittal; 100% Highway/Second Structural Design Submittal, and Issued for Construction (IFC) Highway/Structural) including Plans and Special Provisions advancing the BTC as required by the MassDOT Project Development and Design Guide (PDDG). Approved ATCs that modify the BTC Plans shall be included in the technical proposal concept plans. The Proposer's concept plans shall show all principal design elements to a level of detail consistent with the Bridge Manual Sketch Plans as modified by ATC's and serve as Bridge Sketch Plans for the Project moving forward.

4.3.1 BTC Elements

- The BTC is based on the bridges and span configurations, highway and bridge alignments, profiles, lane configurations, roadside elements, and retaining walls as shown on the BTC plans, and the projected and existing traffic volumes shown in the Functional Design Report.
- Bridges shall be designed and detailed for existing and future utilities as described in Section 4.10 and/or depicted on the BTC plans and detailed so as to be accessible for future maintenance, replacement, and/or upgrading.
- Roadside elements, shall be designed to maximize maintenance access and minimize required roadside protections.
- Proposed limits of work, as shown in the BTC plans are developed to minimize impacts to adjacent properties and the waterway to the extent practicable.

③ ADDENDUM NO. 3, October 21, 2024

The Design-Builder shall prepare meeting minutes for all the over the shoulder reviews. Meeting minutes shall be distributed within 2 business days of the meeting and reviewed for completeness by all attendees. Meeting minutes shall be included as part of the design submittal package.

The 75% Highway Design and Structural Bridge submittals shall consist of all documents required by MassDOT in its design materials. First Structural Bridge submittal shall not be submitted prior to review of the Bridge Geotechnical Report. The applicable Geotechnical Reports and Water Quality Data Form (WQDF) shall be submitted concurrently with the Highway and Bridge submittals. The work shall be completed in conformance with all current engineering and policy directives, and other correspondence normally generated and distributed to Design Consultants for MassDOT. Acceptance of the 75% and 100% Highway Design, and Structural Bridge Design submittals shall be obtained from MassDOT prior to proceeding to Issued for Construction. The Design-Builder may continue its design efforts beyond the 75% Highway Design and Bridge Structural plans prior to receiving acceptance of the 75% Highway Design and 1st Structural Bridge from MassDOT at its sole risk, and shall only submit subsequent design submissions for MassDOT review and acceptance after full consensus (from Bridge section; FHWA and any third party as required) with all general highway design and bridge substructure and superstructure design elements have been reached. Such continuation in no way relieves the Design-Builder of the responsibility to incorporate MassDOT and FHWA comments into the Design Documents, nor does it entitle the Design-Builder to any additional compensation or time extension resulting from changes to the Design Documents required by the Design-Builder's QC Team.

4.5.6.4 Second Structural Bridge and 100% Highway Design Submittal

- ③ The Second Structural Bridge and 100% Highway Design Submittal shall consist of detailed, complete, and checked drawings, reports, and specifications necessary for construction of the applicable portion of the Project and shall be at least 6 weeks prior to starting any physical work. The applicable Geotechnical reports shall be submitted concurrently with the Highway and Bridge submittals. All documentation, including MassDOT and FHWA written acceptance, relating to Design Exceptions from design standards shall be provided with the Second Structural Bridge and 100% Highway Design Submittal. The Design-Builder shall schedule at least one over-the-shoulder review prior to the Final Design Submittal. The Design-Builder shall determine an appropriate method (i.e., memorandum) to call reviewers attention to any changes that have been made since the acceptance of the 75% Highway Design & First Structural Bridge submissions; specifically, those changes that were not a result of a comment.

4.5.6.5 Re-submittal Process

Re-submittals of any Design Submittal may be required if deemed necessary by MassDOT, or any Federal, State or local regulatory agency with jurisdiction over the Project. Each re-submittal shall address all comments received from a prior submittal. The Design-Builder shall not be entitled to any additional compensation or time extension due to any re-submittal requirement by MassDOT or Federal, State, or local agency.

Resubmittals shall include a summary narrative of design changes from the original submittal, including those that were not the result of a project comment.

③ ADDENDUM NO. 3, October 21, 2024

② ADDENDUM NO. 2, October 4, 2024

The Design-Builder may continue its design efforts, at its sole risk, during the design submittal or re-submittal review process, and shall only submit subsequent design submissions for MassDOT review and acceptance after full consensus (from Bridge section; FHWA and any third party as required) with all general highway design and bridge substructure and superstructure design elements have been reached. Such continuation in no way relieves the Design-Builder of the responsibility to incorporate MassDOT comments into the Design Documents, nor does it entitle the Design-Builder to any additional compensation or time extension resulting from changes to the Design Documents required by the Design-Builder's QC Team.

MassDOT will review and respond to complete design and permit application/amendment submittals within thirty (30) Days. However, the Design-Builder acknowledges that MassDOT has not guaranteed any specific review period for internal reviews or reviews by Federal, State, local agencies, or utility owners. The period for each such review shall be established by the reviewing entity, at its discretion, after a plan submittal has been made to such entity.

- ② After "Issued for Construction," Design Documents are accepted, the Design-Builder shall, at a minimum, provide MassDOT with three (3) full size sets of signed and sealed Design Documents and with four (4) sets of ½ scale signed and sealed Design Documents. In addition, the Design-Builder shall post these documents to the SharePoint IFC library and provide MassDOT with a USB Drive of electronic files consisting of all signed and sealed plans.

4.5.6.6 Issued for Construction/Approval/Acceptance

Within thirty (30) days of MassDOT and FHWA written acceptance of the Second Structural Bridge and 100% Highway design of all items and segments of the Project, the Design-Builder shall provide the Design Documents (plans, specifications, reports, calculations, and materials list) organized and indexed in accordance with MassDOT's project development uniform file system. All plans, specifications, and reports shall be signed and sealed by the Professional Engineer registered in the Commonwealth of Massachusetts who is in responsible charge. A written statement shall accompany the final Design Submittal from the QC Administrator indicating that the Issued for Construction Design Submittal is in conformance with all RFP and Contract requirements.

- ③ The Design-Builder acknowledges and agrees that acceptance of the 100% Highway and Second Structural submissions shall be obtained from MassDOT and applicable local agencies prior to the submission of an "Issued for Construction" Design Documents to MassDOT. MassDOT will also seek and receive FHWA concurrence (as applicable) prior to the acceptance of an "Issued for Construction" (IFC) Design Documents.

4.5.6.7 Design Change Notices

For this Project, Design Change Notices, DCNs, are defined as changes to existing Issued for Construction Design Drawings or Special Provisions prior to the commencement of the related construction or material fabrication. These are changes that are not necessitated by a non-conformance corrective action, nor necessitated by a changed field condition. Changes required by the above shall be submitted as Field Design Changes. Design Change Notices include changes implemented by the Designer based on coordination with the Design-Builder, Design-Builder's Fabricator, or MassDOT District or Construction Division personnel. Justification for the design change shall be provided to MassDOT for review and concurrence.

③ ADDENDUM NO. 3, October 21, 2024

The BTC plans detail the general configuration, bridge type and elements/treatments that have been developed through the preliminary concept phase of the Project. The preliminary roadway alignment, profile, and cross section shown on the BTC plans were developed through coordination performed for the Project. Final bridge design will be required as part of this Project. Further details on modification limitations in the final design are outlined in this RFP.

The Design-Builder will finalize the bridge design in conformance with the latest MassDOT LRFD Bridge Manual, AASHTO standards, and all other standards as applicable. The final design will meet the current seismic requirements of the MassDOT Bridge Manual as amended in Section 4.10.3.2. Bridge Rating Reports (per MassDOT Bridge Manual, Chapter 7) of the as-built replacement structures will be prepared by the Design-Builder after the bridges are constructed, open for full beneficial use, and inspected by MassDOT.

In general, the scope of work for this Project is based on the BTC shown on the reference Plans issued with this RFP. The final design, details, and means and methods of construction for the Work will be the responsibility of the Design-Builder. This narrative will specify components and concepts to establish a minimum level of design and detailing that must be equaled or exceeded by the Design-Builder. All Design-Builders acknowledge by receipt of such plans that they explicitly understand that while these plans have been advanced to the preliminary design level, the Design-Builder shall be required to provide a final, complete Project design that is stamped, sealed and certified by their own Professional Engineer of Record for review and approval by MassDOT and possible third parties. The Professional Engineer must be registered in the Commonwealth of Massachusetts.

The structural integrity of existing structures and utility infrastructure must be maintained throughout construction until and unless those structures or utilities are removed from service. The Design-Builder shall verify locations of all existing structures and utilities, and shall also provide a final design of proposed structures needed to maintain the integrity of the existing structures and utilities, until they are removed from use and/or demolished.

The Design-Builder shall address construction loading on all existing and proposed bridge elements, including but not limited to loads on the existing bridge's superstructure, abutments, wingwalls, and piers. Construction loading on existing and new bridge elements is not addressed on the BTC Plans.

Construction plans for the existing structures are included in Appendix C. A brief description of each existing structure is provided below. The existing utilities listed for each bridge are approximately as shown on the BTC plans; the Design-Builder is responsible for verifying existing utilities and existing utility locations. The Design-Builder shall also refer to the Utility plans and Section 6.0.

The Design-Builder shall be aware that all existing paint is assumed to be lead based or containing lead.

- ③ Two Bridge Design Waivers related to MassDOT Bridge Design Manual Part 1, Section 2.6.5I&J (placement of the top of footing for design scour) and Section 2.6.4 (overtopping) will be provided to the Design-Build Teams in a future addendum upon MassDOT Bridge Section's approval.

ADDENDUM NO. 3, October 21, 2024

4.15 LANDSCAPE RESTORATION

4.15.1 Qualifications

The Design-Builder's landscape design team shall include the following individuals and services:

Landscape Architect. Qualifications of the Design-Builder's landscape design team shall be submitted for approval by MassDOT Landscape Architect. Landscape architect shall have at least ten years of experience with restoration design and oversight.

The landscape architects shall provide design services as required in relevant MassDOT Standard Specifications and Special Provisions; as well as documenting as built conditions and for the wetland mitigation areas, as needed. They shall oversee all upland planting and plant care. The landscape architect shall work with the MassDOT Landscape Architect on all aspects of design and planting.

Wetland Specialist shall provide design and construction oversight outlined in wetland specifications, regulations and permits. Qualifications of the Design Builder's Wetland Specialist shall be as required in wetland specifications submitted for approval by MassDOT Landscape Architect.

Invasive plant specialist to develop an invasive plant management strategy (IPMS) to manage invasive plant species and soils on site. Qualifications and work shall be per the MassDOT special provision for Invasive Plant Management Strategy for this Project (Subitems 102.3 and 102.33).

Licensed applicators to implement herbicide treatment as required by the IPMS, the MassDOT Landscape Architect, and the DB Native Seed Specialist for seeded areas.

ADDENDUM NO. 3, October 21, 2024

4.15.2 Landscape Design

The landscape design team shall develop the final design for upland areas in conformance with all applicable environmental clearances/approvals.

Wetland resource area mitigation is referenced under Section 5.6, Appendix C BTC Special Provisions and applicable permits including approved regulatory wetland mitigation plans.

Seventy-Five Percent Design (75%), One Hundred Percent Design (100%), and Issued for Construction (IFC) Landscape Plans and Special Provisions shall be prepared by the Design-BUILDER's Landscape Architect and submitted for approval by MassDOT Landscape Architect. Landscape restoration shall be in accordance with the current MassDOT Project Development and Design Guide and MassDOT Engineering Directive No. E-93-011 (EOT Landscape Restoration Policy). These plans shall meet or exceed the requirements set forth in the Standard Specifications and BTC Special Provision Requirements provided in Appendix C for specifications and forms.

The guiding approach to the landscape design shall be landscape and ecological restoration and enhancement. The goal of the mitigation area will be to successfully establish over two times the area of salt marsh being impacted by construction activities related to this project. The successful establishment of salt marsh will include a vegetated berm that will help direct stormwater runoff away from the mitigation area, as well as maintaining existing native vegetation wherever practical. Other goals of the design shall be to restore and enhance the ecosystem and promote diversity of native species. The natural spread of native plant species shall be fostered by introducing native "flagstaff" plants into isolated landscape restoration areas in order to increase local seed sources. The selection and placement of plants shall enhance and protect habitats for native pollinators and other wildlife by providing vegetative buffers, plantings to filter and cool stormwater run-off from paved and rock surfaces, and short- and long-term erosion and sedimentation control on steep slopes and toward adjacent salt marsh and vegetated wetlands. This will also include the removal of existing debris and inappropriate soils, and the replacement with sand-based planting media and temporary browser protection.

The BTC landscape plan shall be modified, if required, and developed concurrently with the overall design of the Project, including roadway improvements and structures and environmental impact mitigation, and shall be coordinated with all other work.

ADDENDUM NO. 3, October 11, 2024

The landscape design shall identify where the Project may impact local neighborhoods by exposing views and noise of the highway and take measures to mitigate them.

Goals of the design shall be:

1. Unified project landscape:
 - a. Integrate elements such as roadways, stormwater practices, waterways, and native restoration areas into an overall attractive, well-considered, landscape design.
 - b. Landscape plan as designed shall follow or improve logical drainage patterns.
 - c. Integrate roadway project into existing site with naturalistic grading such that slopes steeper than 2:1 are minimized where possible. Intersections of graded vertical and horizontal planes shall transition gently with rounded curves. Care with grading shall allow for simple maintenance (i.e. mowing) and minimize opportunity for soil erosion.
 - d. Invasive plants shall be identified in an invasive plant management strategy and managed during construction.

2. Improve natural resources. Given the complexity of establishing native meadows, preservation of existing native vegetation on site may be the most successful and economical strategy to increase pollinators and native grasses and forbs for this project.
 - a. Preserve, define, restore, and (when opportunity allows) expand native pollinator areas within the Project.
 - b. Improve water quality by developing stormwater BMPs.
 - c. Improve pollinator habitat, adding desirable pollinator plants.
 - d. Improve air quality by increasing quantity of vegetation.
 - e. Restore construction impacts such as laydown areas.
 - f. Repair and revegetate compacted soils such as areas of former roadways and construction staging areas.
 - g. Eradicate invasive plants and infill with sustainable alternative vegetation.

The above goals shall be designed consistent with MassDOT landscape PDDG and shall consider ways that restore and enhance local ecology and promote diversity of native species.

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The landscape design team shall develop the design in conformance with the Project objectives as shown in all applicable environmental clearances/approvals.

Where appropriate to site conditions and context, native woody and herbaceous plant species should be native to EPA Level III Ecoregions of the Project area. For this Project, that is 59 Northeastern Coastal Zone. An exception to the native plant species requirement may be some non-native grasses in the MassDOT native warm season grass mixes.

Landscape restoration shall include an invasive plant management plan, and herbicide treatment to promote native seed establishment, as specified in the Draft BTC Special Provisions.

4.15.3 Construction Services

Invasive Plant and Infested Soil Management

Invasive Plant Management shall be provided as required in Special Provision ITEMS 102.3 Herbicide Treatment of Invasive Plants and 102.33 Invasive Plant Management Strategy. The intent of the Invasive Plant Management Strategy is to thoroughly document presence of invasive plants within the project area and present the proposed treatment approach for acceptance by MassDOT Landscape Architect. Invasive plant management includes management of soils infested with native plant material and seeds so as to prevent spread to non-affected areas within the project limits or other off-site areas. New, undocumented infestations within project areas shall be corrected to the satisfaction of MassDOT and at the Design Builder's expense.

Invasive Plant treatment shall be provided for the entire project duration and as approved in the Invasive Plant Management Strategy. Re-use of infested soils within existing infested areas on-site may be considered by written request and approval. Treatment of *Phragmites australis* (common reed) shall begin as soon as possible within the effective season(s). Invasive plant management will continue for the duration of the Contract, two years of seeding establishment, and the duration of the monitoring period for the wetlands, and as specified in the special provisions.

If Invasive Plant growth or propagation is discovered in treated areas immediately prior to scheduled excavation for stockpiling for reuse despite having been treated according to the approved IPMS, then the excavated soil shall be segregated from successfully treated excavated soil prior to reuse on site. All construction schedule submissions shall include line items for work related to management of segregated excavated soil with the intent that temporary stockpile locations will be identified and reserved on the project to the maximum extent possible without affecting other work. Infested, segregated stockpiles shall be treated according to Special Provisions Item 102.3, Herbicide Treatment for Invasive Plants, for subsequent reuse when there is no evidence of invasive plant propagation for 6 months. All stockpiles of infested soil shall be managed for the duration of the contract in accordance with these requirements and the requirements in the SWPPP.

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Native Seeding

Areas within the Project limits that are not intended for routinely maintained lawn shall be seeded to a MassDOT Native Seed Mix available on the MassDOT Landscape Design Webpage. The Landscape Architect shall propose and coordinate appropriate seed mixes for the various site conditions with MassDOT Landscape Architect.

Planting Design and Oversight

The BTC plan is expected to serve as the final planting and seeding plan. However, if the current proposed plan requires redesigning the current planting areas, relocating plants, or changing the proposed seeding, the Design-Builder's Landscape Architects will be required to provide updated Landscape Plans.

The Design-Builder's Landscape Architects shall work with the MassDOT Landscape Architect and shall review plant submittals, tag plants at the nursery, and approve site preparation prior to shipment of plants, and perform duties as required per the planting special provisions.

The Landscape Architects shall be on site when the plants arrive to inspect plants and oversee plant layout and planting and ensure that proper planting procedures are followed.

The Landscape Architects will inspect plantings during establishment and the one-year warranty as specified in the special provision (ex., Conditional Acceptance, Interim, and Final). They shall be responsible for ensuring that plants are watered, weeded if necessary, and replaced in accordance with the specifications. They shall submit a brief report with findings and recommendations to MassDOT LA after each inspection.

4.15.4 Soil Restoration and Enhancement

Compacted areas soils, including temporary access ways and laydown areas, shall be decompacted and restored with organic amendments to ensure sufficient drainage for landscape function and plant growth.

Slopes up to 2H:1V shall be surfaced with compost blanket to mitigate potential erosion and enhance plant establishment.

Where modified rock fill is used for slope armoring, rock shall be surfaced with compost conforming to the material requirements of compost blanket, hydraulically applied over the rock and seeded with an approved Native seed mix. If used, compost shall not be applied within any areas subject to tidal flooding.

Compost shall conform to MassDOT Special Provisions except that the material specifications and requirements of the AASHTO material specifications for compost, included in Appendix C. Vendors shall be active participants in the US Compost Council quality assurance program. Compost derived from biosolids shall not be used in areas.

4.15.5 Seeding

The Design-Builder's landscape design team shall develop methods of preparing substrates, installation procedures, erosion control procedures and maintenance procedures that will result in healthy full ground coverage of the specified plant species. Final design plans shall provide details and locations for the materials and procedures used to provide short term erosion control and long-term establishment of the specified seed mixes.

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Proposed seed mixes and methods shall conform to MassDOT Special Provisions and agency approvals.

Areas to be maintained as lawn shall be seeded with an appropriate seed mix for lawns placed over loam.

Areas that will have minimal maintenance such as steep slopes shall be seeded with appropriate native grass seed mix as shown on the Plans or as selected from the from the MassDOT website ([Landscape Design and Roadside Maintenance | Mass.gov](https://www.mass.gov/lists/landscape-design-and-roadside-maintenance)). Other appropriate seed mixes may be accepted upon written approval of MassDOT Landscape Architect. Specific seed mix will be selected based on site conditions, such as solar orientation, slope, soil moisture and soil composition.

The intent for the bioretention swale is to utilize seed mixes that promote the filtering of stormwater pollutants in the bioretention swale, and adjacent perimeters, control erosion, promote native plant diversity and provide food and habitat to wildlife, including pollinators. Areas shown as seed mixes in and around the bioretention swale shall be kept clear (mown yearly or bi-annually) in order to facilitate maintenance personnel and vehicle access. Woody plants shall not be planted in these areas, including the maintenance access drives.

4.15.6 Maintenance of Plantings and Seeded Areas

Refer to the MassDOT Landscape Design and Roadside Maintenance website for guidance regarding basic plant care and establishment of native seed mixes: <https://www.mass.gov/lists/landscape-design-and-roadside-maintenance>. Watering the marsh area is not to be required.

Woody plantings (trees and shrubs) shall be inspected for acceptance per the Standard Specifications, with the following inspection schedule:

- Spring planting of trees and shrubs shall be inspected in September, following the growing season and for final acceptance the following spring, one year following completed installation.
- Summer and fall planting of trees and shrubs shall be inspected in September, again the following spring, and again for final acceptance one year following installation.
- Failed or failing plants shall be replaced as directed at each inspection. Watering logs for watering during growing season shall be required.

Inspection and maintenance of all areas subject to Regulatory Review shall be subject to these specifications and all permit requirements. Coordinate any planting or work near Wetland replication area with Wetland Specialist for permit compliance.