



Meeting with staff from the Towns of Dennis and Yarmouth

On June 6, 2019, members of the project team met with staff from the towns of Dennis and Yarmouth, and other project stakeholders, to continue the discussion from the May 3rd meeting concerning the status of the project as well as potential aesthetic features of the proposed bridge. The project team has been meeting with and town staff since the beginning of 2018 to discuss various topics as the project has progressed. The following notes highlight key points of discussion during the meeting, which was generally collaborative and supportive of the direction the project team has taken.

The meeting began with an overview of the project and changes to the design since the last meeting with town staff. Following the introduction, the project team discussed potential options for bridge lighting, bulbout locations, aesthetic treatments at bridge entrances, and speed limits in the project area and on adjacent roadways.

Following these notes are the slides presented by HDR during the meeting, as well as a list of meeting attendees.

Project Progress & Timeline

- The project is currently anticipated to be advertised for bids in fall of 2020, with construction anticipated to begin in 2021. MassDOT is evaluating coordinating this project and the adjacent intersection project in Yarmouth in order to minimize traffic impacts to the extent possible. Coordinating the projects may result in a change to the advertising date.
- The Bridge Type Selection Worksheet has been submitted and field surveys in the project area are complete.
- The project team is currently working to advance the 25% Design and anticipates holding a 25% Design Public Hearing in 2019.

Bridge Cross Section

- The proposed cross-section includes two travel lanes, shoulders, a sidewalk on the northern side of the bridge, and a shared-use path on the southern side of the bridge.
- In the current concept, crash barriers would be installed between the roadway and the sidewalk on the northern side of the bridge, and between the roadway and the shared use path on the southern side of the bridge. Ornamental railings would be installed on the outside edges of the bridge. The exact type and style of railings will be determined as the design process reaches the 75% design level.

- The shared-use path will continue west across the bridge to the intersection at N Main Street in Yarmouth. The project team is evaluating installing a pedestrian crossing of Main Street at Uncle Barney's Road in Dennis, where the Shared Use Path will terminate. At this time, the installation of a Rectangular Rapid Flashing Beacon (RRFB) at the crossing is being evaluated. The project team had previously evaluated including an underpass for the Shared Use Path connecting to Bass River Park. However, due to a lack of vertical clearance under the bridge, and the fact that high tide would inundate the path, an underpass has been deemed infeasible. While a wall could be raised to protect the path from inundation, in the case of an abnormally high tide, the only way to clear the space would be by mechanical means.

Bridge Superstructure & Substructure

- The bridge will be made up of 9 spans, with a 45'8" wide navigational channel.
- The height of the navigational channel will remain roughly the same as it is today. It is not possible to increase the height of the channel without significant impacts to roadways and properties at either end of the bridge.
- The project team analyzed three bridge types and ultimately chose NEXT Beams, which they believe complement existing bridge styles on Cape Cod. Using NEXT Beams allows for year-round construction and the use of Accelerated Bridge Construction techniques.
- The new bridge piles will be installed in between the existing piles, and the existing piles will be cut and removed. Rich Bilski, MassDOT District 5, noted that dredging depth in the river is 7' below mean low tide. The piles will have to be cut below this depth, and will likely need to be cut at a consistent elevation.
- The Yarmouth Harbormaster, Karl von Hone, stated that bridge fenders are not desired, as they tend to break and become floating debris in the river. The project team will solicit the opinion of the Dennis Harbormaster, and will evaluate designing the bridge piers to withstand boat impacts. Karl von Hone also stated that ice flows in the river are a greater concern than boat impacts.

Bridge Lighting

- The project team presented two potential options for lighting on the bridge. In either option, it is anticipated that light fixtures would be located at the bridge piers, resulting in 16 total light fixtures (eight on the northern side of the bridge and eight on the southern side of the bridge). However, a light study needs to be conducted in order to determine the exact location, height, and type of lights. A minimum number of lumens are required on the

roadway and on the sidewalk, and the fixtures and type of lights included in the design will be determined in part by those requirements.

- In the first option, light fixtures would be located in breaks in the ornamental railings on the outside edges of the bridge. Because of the distance between these light fixtures and the roadway, the light masts would need to be approximately 25'5" tall. By locating the light fixtures in this location, the sidewalk and shared use paths would remain a continuous width along the length of the bridge.
- In the second option, light fixtures would be located on bump outs adjacent to the crash barriers, in the space allocated for the sidewalk and shared use path. As these light fixtures would be closer to the roadway, it is anticipated that the masts would only need to be approximately 17'3". These bump outs will narrow the sidewalk and shared use path at each light fixture by approximately 1'3", reducing the sidewalk width at each fixture from 6'8" to 5'5" wide and the shared use path from 12' to 10'8" wide. As previously stated, these impacts would only occur at the location of each light fixture. Where light fixtures are not present, the sidewalk would remain 6'8" wide and the shared use path would remain 12' wide.
- Meeting attendees discussed including banners on light masts in either option. In the first option, banners could be installed on light masts over the sidewalk and shared use path. In the second option, banners could only be installed on the light masts over the sidewalk and shared use path. Banner could not be installed on the light masts overhanging the roadway, because they would reduce the roadway envelope and create a hazard for trucks traversing the bridge.
- A meeting attendee asked if light fixtures can be installed on cables overhanging the roadway, in order to lower their height. Charlie Swanson responded that due to wind loading, and the potential of corrosion from sea spray, hanging light fixtures on cables over the roadway is not feasible.
- A meeting attendee asked if gooseneck light arms could be used in order to locate lighting closer to the roadway. Patrick McAlpine stated that would need to be evaluated in order to ensure that adequate vertical clearance for trucks is maintained.
- Meeting attendees reached a consensus on using LED lights on the bridge.
- Kathy Williams, Yarmouth Town Planner, asked the project team to evaluate lowering the light masts in the first option to approximately 20' or 22'.
- Meeting attendees discussed the possibility of also including lighting in the ornamental railing itself. Charlie Swanson stated that including lighting in the railing would be determined later in the design process when the railing is selected.
- Kathy Williams and representatives from the Friends of Bass River indicated that some of their primary concerns are reducing light pollution and maintaining the widest shared use

path possible. The latter point relates to the discussion concerning bulbouts along the bridge, which is detailed below.

- The next step for the project team is to work with a light manufacturer to determine the necessary light fixture specifications.

Bridge Bulbouts

- *Author's Note: In the case of these notes, the term "bulbout" refers to extensions of the sidewalk over the river at specific locations that provide bridge users (people walking and biking) an opportunity to stop (and potentially sit) without blocking the flow of pedestrian and bicycle traffic. These features are commonly referred to as overlooks.*
- The project team presented two potential options for bulbout locations on the proposed bridge. In either option, bulbouts would need to be located at bridge piers based on the use of NEXT beams for the bridge. Including bulbouts will also require permanent easements over the river, as they would extend beyond the existing bridge Right of Way. At this time, the owner of the air rights over the river is designated "Owner Unknown" which, it is believed by MassDOT will make the acquisition easier, however the Right of Way process still adds time to the project.
- While the exact dimensions of the bulbouts is yet to be determined, the project team presented bulbouts that are 24' wide and extend 8' from the edge of the bridge. Due to the extra width created by the bulbouts, meeting attendees agreed that the light fixture location in option 2 would have a negligible impact in the sidewalk and shared use path at the bulbout locations. However, attendees expressed a concern about the sidewalk and shared use path widths at the locations where a bulbout is not present.
- In the first option, one bulbout would be located on each side of the bridge, with the bulbout on the northern side located at pier 3, and the bulbout on the southern side located at pier 6.
- In the second option, one bulbout would be located on each side of the bridge, however the bulbout on the northern side of the bridge would be located at pier 6, and the bulbout on the southern side of the bridge would be located at pier 5. In this option, both bulbouts would be located on the Dennis side of the bridge. The bulbout on bridge 5 may facilitate fishing over the navigational channel, which would need to be restricted with signage and enforcement, as fishing over the navigational channel is a safety hazard. Rob Antico, MassDOT Project Manager, indicated that this location for a bulbout is no longer being considered due to the proximity to the navigational channel.
- Meeting attendees universally supported the first option for bulbout locations, and asked the project team to evaluate adding a third and potentially a fourth bulbout, in order to make the bridge symmetrical (in addition to the other benefits of including bulbouts).

- After discussing the potential locations for additional bulbouts, the project team agreed to evaluate including two bulbouts on the northern side of the bridge, at piers 3 and 6, with a bulbout on the southern side of the bridge also at pier 6.
- The group discussed including a fourth bulbout, on the southern side of the bridge at pier 3, however this bulbout would overlap with the Packet Landing docks. It is currently anticipated that the docks at Packet Landing, and the piers that the docks attach to, will need to be removed during construction to allow for a construction barge to access the bridge. Rich Bilski stated during the discussion that reinstalling the docks parallel to the new bridge may provide enough space for the fourth bulbout. The docks are not currently parallel with the bridge. The docks at Packet Landing are owned by the Town of Yarmouth, and Karl von Hone indicated an openness to the project team exploring this option. The project team is currently evaluating the possibility of including a bulbout at this location.

Bridge Entrances

- The group also discussed aesthetic treatments at the entrances of each bridge. The project team presented two potential options, stepped monuments and sloped sail monuments.
- The group universally supported pedestal-like features that could host statues or other forms of art created at a later date. Staff from both towns indicated a desire for these features being included on all four corners of the bridge.
- The project team will include features on top of the pedestals in the design that can be replaced by art at a later date. These features may take the form of concrete spheres. Kathy Williams stated that it is important for the features to look complete at the end of construction, as the timeline on the towns creating art to mount on the pedestals is undecided.
- Including pedestals at the ends of the bridge is anticipated to reduce the sidewalk and shared use path widths adjacent to the pedestals. The project team is evaluating these impacts as well as the transition from the bridge to the adjacent project in Yarmouth.

Temporary and Permanent Easements

- Including bulbouts in the design will require permanent easements over the river.
- The transitions from bridge to roadway may impact the Packet Landing Park in Yarmouth and the Bass River Park in Dennis. Staff from each town will determine the legal designation of each park and provide that information to the project team. The project team is currently evaluating the potential temporary and permanent easements related to the project.

Speed Limits

- While designing the bridge the project team took an inventory of speed limits on Route 28 in Yarmouth and Dennis. Due to sight line restrictions, speed limits vary along Route 28.
- The project team proposed reducing the speed limit over the bridge from 40 MPH to 35 MPH in order to improve safety. Staff from each town expressed support for reducing the speed limit.

Appendix 1: Meeting Attendees

First Name	Last Name	Affiliation
Amanda	Ruggiero	Town of Yarmouth
Amy	Neill	Cultural Center of Cape Cod
Bob	Churchill	Friends of Bass River
Bob	Wheeler	MassDOT
Charles	Swanson	HDR
David	Johansen	Town of Dennis
Dewitt	Davenport	Friends of Bass River
Doug	Johnson	HSH
Erinn	McCarty	Friends of Bass River
Joanne	Crowley	Yarmouth Planning Board
John	Terrio	Dennis Selectman
Karl	von Hone	Town of Yarmouth
Kathleen	Mason	Friends of Bass River
Kathy	Williams	Town of Yarmouth
Lauren	Wolk	Cultural Center of Cape Cod
Nathaniel	Cabral-Curtis	HSH
Patrick	McAlpine	HDR
Richard	Bikski	MassDOT
Robert	Antico	MassDOT