BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: May 17, 2017
LOCATION OF CONFERENCE: John O. Morton Building
ATTENDED BY:

NHDOT
Matt Urban
Sarah Large
Steve Johnson
Mark Hemmerlein
Jason Trembley
Wendy Johnson
Jim Kirouac
Joseph Adams
Michael Licciardi
Jonathan Hebert

Federal Highway Administration
Jamie Sikora

ACOE
Rick Kristoff

US Coast Guard
Jim Rousseau

NHDES
Gino Infascelli
Lori Sommer
Eben Lewis

NHF&G
Carol Henderson

NH Natural Heritage Bureau
Amy Lamb

Consultants/Public Participants
Jim Murphy
Dan Hageman
Stephanie Dyer-Carroll
Mike Long
Dave Kull
Steve Hoffmann
Ben Martin
John Parrelli
Sean James
Kimberly Peace

(When viewing these minutes online, click on an attendee to send an e-mail)

PRESENTATIONS/ PROJECTS REVIEWED THIS MONTH:
(minutes on subsequent pages)

(When viewing these minutes online, click on a project to zoom to the minutes for that project)

NOTES ON CONFERENCE:

Finalization April 19th, 2017 Meeting Minutes
Matt Urban asked the group if they had any additional comments for the April 19th, 2017 meeting. BOE had received comments from only Amy Lamb and Steve Johnson. The group did not have any further revisions. The minutes were finalized and posted in a subsequent day.

Westmoreland, #41394 (Non-federal)
The purpose of the project is to replace the existing bridge deck, perform minor repairs on the abutments and place a minimal amount of riprap.

Steve Johnson presented an overview stating that the bridge carries NH 63 over Branch of Partridge Brook with an upstream drainage area of 1.5 square miles. The existing structure is a Red-Listed concrete box with a 10' x 6'-2" opening. The bridge was constructed in 1935 and rebuilt in 1978. There were no NHB records in this area. The roadway was overtopped when debris blocked the stream during an event in 2008, but the structure appears to be hydraulically adequate for the 100 year flood flow.

Slides of the upstream and downstream elevations were shown along with slides of the project area on an aerial photograph, the northwest wing riprap, southeast wing riprap, downstream erosion, and the existing bridge deterioration. A conceptual wetland impact drawing was shown with temporary impacts to divert the brook during construction and permanent impacts 1' out along the bottom of the box walls to enable repairs at the bottom of the box.

Carol Henderson asked that a cofferdam be used longitudinally under the structure to allow fish passage instead of a pipe to divert the stream flow. Riprap was discussed, Gino Infascelli agreed that riprap beyond the bridge to address bank erosion was not needed. Riprap impacts will be limited to repairs to the riprap at the southeast wingwall. Because this is protection of an existing structure and additional riprap will not be installed, it was agreed that mitigation would not be required.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Derry, #40572 (Non-federal)
The purpose of this project is to repair undermining under the west abutment, and install riprap to protect the structure.

Steve Johnson presented an overview stating the bridge carries Hampstead Road over an unnamed Brook with a drainage area of 0.6 square miles. The existing structure is a concrete slab bridge with a 10'-6" x 4' opening. The bridge was constructed in 1924 and rebuilt in 1986. An NHB review indicated Blandings Turtles and Spotted Turtles in the area. An emergency permit was issued in 2008 (2008-02638) to address the undermined east abutment. The west abutment is now beginning to undermine, so we are proposing to repair the west abutment and place riprap in front of both abutments and the wingwalls.

Carol Henderson asked if we had talked to Kim Tuttle yet regarding the turtles. NHDOT had not yet contacted Fish and Game, but will coordinate during the permit process. Rick Cristoff asked if we had performed an IPAC search yet. We will review as part of the permit process. It is not anticipated that any tree cutting is required.

Slides of the upstream and downstream elevation were shown along with slides of the project area on an aerial photograph, the existing condition under the span showing the toewall installed in 2008, and proposed impact areas.

The intent is to place riprap 2' to 3' in front of each abutment and minimize the disturbance to the channel bottom in the center; however, sloughing adjacent to the excavations may result in riprap across the entire channel so permanent impacts are shown covering the entire bottom. Gino Infascelli asked that although we show full channel impacts, we state in the permit that our intent is to reduce the permanent impacts to the maximum extent practical. Riprap is also shown within 5' of the face of wingwall and we will work to reduce that impact also.

Carol Henderson asked about stone size. Steve Johnson indicated that preliminary analysis indicates a D_{50} dimension of 9". We are looking to place the larger stone adjacent to the foundations and possibly reduce the stone size as we move toward the center of the channel. We chink in the larger stone generally with 6" minus stone to fill in the voids. Carol asked that we make it as smooth as possible for wildlife movements and keep the middle natural if possible.

Because this is protection of an existing structure, it was agreed that mitigation would not be required.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Gorham, #41393 (Non-federal)

The purpose of this project is to place a concrete invert in the bottom of the existing arch pipe.
Steve Johnson presented an overview stating that the bridge carries NH 16 over an unnamed brook with an upstream drainage area of 0.5 square miles. The existing bridge is a Red-Listed 11' x 7' corrugated plate pipe arch constructed in 1962. An NHB review indicated that there was a record, but it was not expected to be impacted. Constructing an invert requires a bypass pipe in order to install.

Slides showed the location of the brook on a topographic map, the upstream channel, the upstream elevation of the pipe, the downstream channel, and a beaver dam downstream. Slides also showed the pipe location and wetland delineation and an exaggerated profile of the channel. Impacts were not shown pending discussion of a fish weir.

Carol Henderson asked what time of year construction would occur. The project is anticipated to occur during the winter. Gino Infascelli indicated that it looked like a cutoff wall was needed at the inlet and asked if the bottom of the mitered section of pipe could be removed to allow the concrete to taper back to the upstream channel. Steve Johnson indicated that we would look at the need for a cutoff wall and show it on the permit if needed. Placing an additional 6" of concrete in the pipe

will raise the inlet, but will also raise the water level approaching the pipe and will likely silt in over time. Matt Urban asked if the bottom could be removed over the length of the pipe and toewalls installed instead. Steve Johnson noted that the compressive resistance of the bottom metal is necessary to keep the pipe from failing. The concrete invert replaces this capacity after it is installed, but the bottom cannot be removed.

The need for a fish weir was discussed. Carol Henderson would like to have a fish weir installed. Steve Johnson will review the potential location and discuss with the Forest Service if necessary (there are ROW concerns). If a fish weir is installed, the project does not require mitigation.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

New Castle-Rye, 16127 (X-A001(146)

Jim Murphy, a Project Engineer with HDR, provided an overview of the project history and current design. He explained that a Replacement with Bascule Alternative was initially considered but in January 2014 the public raised concerns about the cost. New Hampshire DOT (NHDOT) prepared a Benefit-Cost Analysis (BCA) comparing the replacement with fixed and bascule bridge alternatives. In the winter of 2014, the fixed bridge was presented to the public and was selected by NHDOT as the preferred alternative. In June 2015, the design of a four-span fixed bridge was developed and navigational survey documents were submitted to the US Coast Guard (USCG). In September 2015, the USCG held a public comment period for users of the navigational channel. In March 2016, the USCG notified NHDOT that they'd concluded while a bridge that maintains 65' vertical clearance is optimal, they were unable to produce sufficient data to support it. They indicated that 16.52' of clearance will be required for a fixed bridge, an approximately 2.5' increase over the four-span fixed alternative. In the summer and fall of 2016, the feasibility of a two-span fixed bridge was reviewed. The two-span alternative reduces costs and has fewer environmental impacts. In April 2017, the preliminary design of a two-span fixed bridge with steel beams was completed.

Mr. Murphy described the two-span fixed alternative. He explained that as designed the two-span alternative is a steel girder bridge with a concrete deck, supported by a single central pier. The design maintains the roadway widths envisioned under the four-span design alternative, but that the scenic overlook has been reduced. The steel pipe piles will either be driven or pre-drilled. Mr. Murphy explained that the fixed design would allow for the installation of a new water line along Wentworth Road (NH 1B). Mr. Murphy explained that in the two-span alternative, the approach walls have increased in height and length but that they still sit behind the rock causeways. A drainage swale is being considered in the design to treat stormwater. Mr. Murphy showed both a rendering of the fixed bridge and a plan which illustrated the approach and in-water impacts.

Dan Hageman, a Senior Environmental Scientist with FHI, explained that there are tidal wetlands, shellfish beds, eel grass beds, and threatened and endangered species in the vicinity of the project site. He said that recent coordination with the New Hampshire Natural Heritage Bureau (NHNHB) indicated that the Marsh Elder populations have been documented in the Back Channel, but that a

survey was completed and no Marsh Elder was found on the project site. Bald Eagles have been documented on Leachs and Pest Island but not on the project site.

Mr. Hageman then outlined agency coordination that has occurred to date on the project. In addition to attendance at the NHDOT Natural Resources Agency meetings, the project team has coordinated directly with NHNHB, the National Oceanic and Atmospheric Administration (NOAA), the US Fish and Wildlife Service (USFWS), New Hampshire Fish and Game (NHFG), and the USCG. In 2015, an Essential Fish Habitat Assessment (EFH) and Biological Assessment (BA) were submitted to NOAA to evaluate impacts to the shortnose and Atlantic sturgeon, and to EFH and Trust Resources. These documents are currently being revised to reflect the two-span bridge design and will be resubmitted to NOAA.

Mr. Hageman then described key elements of the bridge design and construction. He explained that the two-span structure will minimize in-water work, and that the approach walls will sit behind the existing rock causeways. He said that the piles will either be driven or pre-drilled within an outer casing to minimize siltation. The bridge construction will be staged from either barges with spuds, or trestles, and erosion and sedimentation controls will be employed during construction. Mr. Murphy said the contractor is most likely to stage from the east side due to an existing overhead power line. Mr. Hageman indicated that the fixed structure will allow a potable water line to be run across the bridge. He also stated that stormwater is currently not collected from the roadway surface, but runs through the grate. The replacement bridge will improve stormwater conditions through collecting and treating the roadway runoff.

Mr. Hageman said there will be no direct impact to vegetated tidal wetlands. The only permanent impacts to the riverbed will result from the pier and the dolphins, and overall there will be a net gain of the estuarian bottom due to the complete removal of the existing piers. No impacts are anticipated to water quality during construction due to Best Management Practices (BMPs). Furthermore, there will be no direct or indirect impacts to the eel grass beds. There could be a temporary impact to a softshell clam bed located to the northwest of the bridge due to staging, but this bed is currently closed. The bed is mapped in the NH GRANITE GIS data, but the substrate is cobble and gravel and not ideal for this species. The impacts would be temporary and the bed would likely restore over time. Although the Federally listed species Roseate Tern and Red Knot have been observed in the larger vicinity of the bridge, no habitat exists within the study area and thus impacts aren't anticipated. Field survey provided no evidence of the Northern long-eared bat on the bridge. Due to time of year restrictions (November 15th-March 15th) for the in-water work, and due to water quality BMPs, no impacts are anticipated to the shortnose or Atlantic sturgeon, EFH or Trust resources.

Mr. Hageman concluded the presentation by outlining the permits anticipated, including: US Coast Guard Permit; US Army Corps of Engineers (USACE) 408; USACE 404 (PGP or individual); NHDES 401 approval; NH Wetlands Permit; and NH Shoreland Permit. Moving forward, Mr. Hageman said the project team will be revising the BA and EFH Assessment, providing the Environmental Assessment for public comment, and preparing the suite of permits.

Mr. Hageman asked Rick Cristoff with USACE whether he thought the project could be permitted through a PGP. Mr. Cristoff said he didn't know why it couldn't be a PGP, but that he wanted to confirm with Mike Hicks.

Jim Rousseau with the USCG said that the project team will need to coordinate with the USCG office in Boston. He indicated that Witch Cove Marina has been purchased and that this will need to be addressed.

> Jim Murphy's previous statement is incorrect.
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> "They (Coast Guard) indicated that 16.52' of clearance will be required for a fixed bridge, an approximately 2.5' increase over the four-span fixed alternative."
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> The following is a more accurate statement for the Coast Guard. The Coast Guard has issued a preliminary navigation determination to NHDOT. The key word is preliminary. Navigational clearances are not set and any application must go through the Coast Guard Permit process including a public review process. There is no guarantee that the 16.52' vertical clearance is what the Coast Guard will actually Permit. This is especially true since there is another major waterway user after the preliminary review was completed. As indicated in the minutes the waterway users have changed since the preliminary determination and also the waterway has been recently dredged as well.

Lori Sommer with NH Department of Environmental Services (NHDES) asked whether Mike Johnson had provided feedback. Mr. Hageman said the project team coordinated with Mr. Kevin Madley of NOAA in 2014. Ms. Sommer stated that the permanent impacts would be assessed a 3 to 1 in lieu fee payment. She also suggested the project team point out the temporary impacts to NOAA, and that the project's temporary impacts may also need an in-lieu-fee payment. Mr. Cristoff said that would be up to Mike Hicks at USACE.

Ms. Sommer asked if the pier will be put in the existing footprint. Mr. Murphy said they will overlap but the new pier will be offset slightly. Mr. Cristoff asked what the approximate temporary impacts of the spuds and trestles would be. Mr. Murphy said, if used, a trestle would have approximately 300 sf of temporary impact. Mr. Cristoff said temporary impacts should be based on spud size and number, and an assumption made on the number of barge movements.

Carol Henderson with NHFG said that in a prior meeting they'd requested additional eel grass survey. Stephanie Dyer-Carroll with FHI said that the project team initially surveyed in November 2013, but then went back out in August 2014. Ms. Henderson said Fred Short at the University of New Hampshire had done additional surveys since 2014. The project team should also consult the NH Granite layers. Ms. Henderson said the surveys should be undertaken as close to the construction date as possible.

Mr. Murphy asked if an Individual 401 Water Quality Certification will be required if there's no Individual 404 Permit. Jim Rousseau with the USCG said that they just need something stating that water quality is covered. Mr. Cristoff said the USACE 401 requirements would be covered under a PGP.

This project has been previously discussed at the 3/20/13 and 1/15/14 Monthly Natural Resource Agency Coordination Meetings.

Statewide, #27287 (X-A003(473)

This project involves the placement of stone protection at six locations to repair scour issues on a number of bridges. Each of the sites where assessed individually and it is the intent of the Department to permit each site independently but advertise all the sites as one contract.

Cornish 172/148 NH Route 120 over Blow Me Down Brook

The proposed work involves placing stone on the northern abutment footing; both downstream wing walls, and the northern upstream wing wall. There was some discussion the sediment control during the installation of the stone and small sediment island that has formed near the southern downstream wing wall. The work will not involve any dredge; just placement of stone in existing scour holes and the stone will be place on top of the existing silt. Access will be from the southern upstream wing wall bank. The ACOE was concerned about leaving as much natural channel as possible. The NH Wetlands Bureau indicated no mitigation was necessary for the work and the ACOE confirmed this work would qualify under the PGP.

Hinsdale 132/113 NH route 63 over the Ashuelot River

The proposed work involves placing stone on both abutments, all four wing walls and the pier. Access to the river will be from the northerly and southerly downstream embankments. There are utility corridors on both sides of the river; overhead electric on the north and underground sewer on the south. NH Wetlands requested red maples be replanted once the work is complete to restore the banks. A causeway will be constructed from the north banks to the pier. The wetlands application will be sent to the Ashuelot Local Advisory Committee. The NH Wetlands Bureau indicated no mitigation was necessary for the work and the ACOE confirmed this work would qualify under the PGP.

Lebanon 097/112, 098/111, 099/111, I-89 over the Mascoma River

The proposed work involves placing stone on both embankments and northerly piers. Access to the northerly embankment will be from the northbound barrel and access to the southerly embankment and piers will be from Truck road. Mark noted the depth of the scour within the bridge as almost 6 feet as the stone covered the exposed footing by three feet and there was at least three feet to the water line in the pictures. There were some questions about the knotweed in the project and it was discussed that it would not be spread by the proposed action. The ACOE encourage the Department to keep the stone flat at the waterline to accommodate wildlife passage. The NH Wetlands Bureau indicated no mitigation was necessary for the work and the ACOE confirmed this work would qualify under the PGP.

Peterborough 108/116 US 202/NH Route 123 over the Contoocook River

The proposed work involves placing stone around the pier. Access with be from the southerly downstream embankment. ACOE discussed possible floodway and floodplain impacts and it was agreed there would be none for this proposed work. The NH Wetlands Bureau indicated no mitigation was necessary for the work and the ACOE confirmed this work would qualify under the PGP.

Plainfield 162/100, NH Route 120 over Bloods Brook
The proposed work involves placing stone on both abutments, and both upstream wing walls. Access will be from the easterly upstream bank. The NH Wetlands Bureau indicated no mitigation was necessary for the work and the ACOE confirmed this work would qualify under the PGP.

Westmoreland 109/124 NH Route 63 over Mill Brook
The proposed work involves placing stone on the southerly upstream wing wall. Also included are five bendway weirs to address severe erosion on the southerly upstream bank. Gino commented that the bendway weirs looked like they needed to be turned upstream more and requested we coordinate with USGS on the fluvial geomorphology. The group agreed this was a good approach to address the scour at this location. Access will be from the southern upstream bank. The NH Wetlands Bureau indicated no mitigation was necessary for the work and the ACOE confirmed this work would qualify under the PGP.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Nashua-Merrimack-Bedford, #13761 (IM-0931(201)
This project involves widening approximately 7.5 miles of Everett Turnpike from two lanes to three in each direction. The purpose of this agenda item was to discuss the ongoing alternative analysis of the Pennichuck Brook crossing and reach a concurrence on a preferred alternative, and to introduce the alternatives developed for the Naticook Brook crossing.

Due to recent project developments, Mr. Evans informed the group that the Naticook Brook alternatives would not be presented and discussed during this meeting.

Pennichuck Brook Alternatives 2, 4, 5, 6, and 7 had been discussed at the October 19, 2016 meeting, and it was agreed at that time that they could be eliminated from further consideration.

A new alternative (Alternative 8) for the Pennichuck Brook crossing was developed through comments and discussion that occurred during the February 15, 2017 meeting. This alternative involves a 19-foot shift of the roadway centerline to the east. This shift will eliminate impacts to the causeway and Pennichuck Brook on the west side of the Everett Turnpike. Alternative 8 consists of 2:1 vegetated side slopes, with approximately 24,700 square feet of impacts below ordinary high water, with an estimated construction cost of 6.7 million dollars. This alternative has significantly lower impacts to lands below ordinary high water in Pennichuck Brook as compared to Alternatives 1 and 3 with similar 2:1 side slopes. Alternative 8 is also the cheapest option, due to a reduction in environmental mitigation costs.

A question was asked regarding the construction sequence. Mr. Kull explained that the project would be constructed in a 3-phase approach over three construction seasons. First, two lanes of the new bridge would be constructed east of the existing bridge. In the second phase NB traffic would be moved to the newly constructed roadway and the existing southbound bridge would be replaced,

and in the third phase SB traffic would be moved to the new roadway and the existing northbound bridge would be replaced.

Ms. Sommer inquired as to which construction phase the impacts to lands below ordinary high water would occur. Mr. Kull indicated that these impacts would occur during the first phase.

Mr. Urban asked about placing stone fill around the new abutments. Mr. Kull explained that the proposed abutments will be founded on piles driven to bedrock at a depth of approximately 35 feet. The proposed abutments will be set behind the existing ones, and the proposed span length will be increased from 85 to approximately 100 feet.

Mr. Infascelli noted that Alternative 8 minimizes the linear feet of shoreline impacts along Pennichuck Brook, which is a significant benefit.

Ms. Sommer asked whether wildlife shelves would be included in the design. Mr. Kull stated that the 2:1 side slopes would be vegetated, and the intent is to include a wildlife shelf around the causeways and underneath the proposed structure.

Mr. Evans confirmed that there was general agreement that Alternative 8 would move forward as the preferred alternative for the Pennichuck Brook crossing.

This project has been previously discussed at the 10/19/16, 11/16/16, and 2/15/17 Monthly Natural Resource Agency Coordination Meetings.

Nashua Heritage Trail to Mine Falls Park Connection, #40429 (X-A004(400)

The Department of Transportation held a natural resources meeting to review upcoming projects. Hoyle, Tanner personnel presented the above-listed project:

The proposed project is intended to connect two existing recreation trails, the Heritage Rail Trail and the Mine Falls Park trails, with a safe, low maintenance trail and pedestrian bridge. The proposed trail consists of an ADA complaint ramp from the Heritage Trail to an at-grade path along the western side of Everett Street. This path will cross Ledge Street to access the small existing park between Ledge Street and the Nashua Canal. A short section of proposed concrete sidewalk will transition from the existing brick pavers in the park to the proposed prefabricated steel truss pedestrian bridge. The proposed pedestrian bridge is a 90-foot single span structure that crosses the Nashua Canal and connects to the existing Mine Falls Park trail system. The proposed span length was selected to avoid wetland and wetland buffer impacts. The bridge will be founded on helical pile supported cast-in-place concrete stub abutments in which helical piles were selected in part to reduce the excavation area and depth required to install the abutment on the existing earthen embankment on the west side of the canal. Actual equipment used for bridge construction is part of the Contractor's means and methods of construction, however it is anticipated that the equipment to be used for bridge installation includes excavators, helical pile installation vehicles, concrete trucks, and cranes to install the proposed prefabricated pedestrian bridge. All equipment will be located beyond the wetland buffer and behind erosion control measures. The proposed changes to the existing topography include the ADA compliant ramp at the south end of the project at the Heritage Rail Trail, the short section of concrete sidewalk and the plan area of the proposed bridge and abutments. The remainder of the project is constructed at-grade on top of existing impervious surface area. As such, no changes to existing natural drainage or existing closed drainage systems are anticipated.

S. James presented a project overview and discussed the purpose of the project and basic project details.

K. Peace discussed the potential environmental impacts and permitting requirements. The pedestrian bridge will span canal from bank to bank, with no wetland impacts jurisdictional to NHDES or USACE.
Impacts to the 75-foot buffer of a Nashua Prime Wetland will require a City permit. The bridge is located within the urbanized exemption area for the Shoreland Water Quality Protection Act (SWQPA), thus a PBN is not required. The project is not located within a FEMA floodway/floodplain. The NHNHB Datacheck Tool did not result in state-listed species impacts. Because a single tree over 3" dbh will be removed, coordination with USFWS for potential impacts to Northern long-eared bats is ongoing, but expected to result in a "No effect" or "May effect, not likely to adversely affect" determination.

Because the project is federally-funded, a programmatic Categorical Exclusion (Cat Ex) is being prepared for submittal to NHDOT. The single concern to date is that Mine Falls park was purchased using Land, Water Conservation Funds, thus triggering Section 6(f) review. This coordination has been initiated. The project is not anticipated to negatively impact the LWCF-funded property.

L. Somer asked if there are photos of the banks at the proposed pedestrian bridge? K. Peace showed an aerial view and gave a description of the bank vegetation.

S. James stated the bridge footings will be made of helical piles to reduce the square footage of impacts to the City of Nashua wetland buffer.

C. Henderson asked about the contaminated soils box checked on the Agenda Item Request Form. K. Peace stated that many areas of Nashua are assumed to have contaminated soils, and soil testing will occur in any areas of soil disturbance to ensure contamination is identified and sufficiently addressed per NHDES regulations.

R. Kristoff asked what the source of federal funding is. S. James replied that the project is funded through the FHWA Transportation Alternatives program.

If the contents of this conference report are incomplete or not to your understanding of the conference, please contact the preparer at Hoyle, Tanner & Associates as soon as possible.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.