BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: May 17, 2023
LOCATION OF CONFERENCE: Virtual meeting held via Zoom

ATTENDED BY:

NHDOT
Matt Urban
Andrew O'Sullivan
Josh Brown
Jon Evans
Mark Hemmerlein
Paul Lovely
Marc Laurin
Jon Hebert
Mike Mozer
Tim Dunn
Rhona Thomson
Arin Mills
Rebecca Martin
Corey Spetelunas
Dillan Schmidt

ACOE
Absent

USCG
Gary Croot

EPA
Absent

NHDES
Karl Benedict
Mary Ann Tilton

NHB
Ashley Litwinenko

NH Fish & Game
Mike Dionne

Federal Highway
Absent

US Fish & Wildlife
Absent

The Nature Conservancy
Absent

NH Transportation & Wildlife Workgroup
Absent

Consultants/ Public Participants
Kimberly Peace
Aaron LaChance
Edward Weingartner
Christine Perron
Stephen Hoffman
Benjamin Martin

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

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Finalize Meeting Minutes

Finalized and approved the April 19, 2023 meeting minutes.

Jefferson-Randolph, 13602C (X-A004(489)):

Christine Perron introduced the project, which is a continuation of the 13602 corridor project. The 13602A segment from the corridor project has been constructed, beginning just east of Valley Road and proceeding east about 0.84 miles. The 13602A project was last discussed at Natural Resource Agency Coordination Meeting in 2008. The 13602C project being discussed now is located to the west of what has been constructed, beginning about 0.7 miles east of the intersection of US Route 2 and NH Route 115 in the Town of Jefferson and proceeding 2.3 miles easterly on US Route 2 to 800 feet west of the intersection with Valley Road in the Town of Randolph. A NEPA document was completed for the overall corridor project in 2007. To assess changes in design now proposed for 13602C, and to address current environmental regulations, a NEPA re-evaluation is underway for 13602C.

Jon Hebert provided an overview of existing conditions and proposed improvements. The purpose of the project is to improve safety and connectivity for the section of US Route 2 between NH Route 115 and Gorham, which is a National Highway System route and designated as both a critical freight route and bicycle route. The project is needed because of the narrow roadway with narrow shoulders, deficient geometry, and poor roadway condition. Improvements to the corridor would benefit all users. A corridor study was completed in 2001, which identified the need to improve the roadway alignment, better control access management, and provide consistent shoulder widths and bicycle accommodations.

The posted speed limit is 50 mph. Traffic volumes are at 4,700 average annual daily traffic (AADT) with 11% trucks. Truck traffic is higher than average, with the typical percentage of trucks usually in the 6 to 8% range. The existing shoulders are narrow and inconsistent in width. The existing horizontal and vertical geometry contributes to the poor sight distance. The existing roadway typical consists of two 12’ travel lanes and two 1’ shoulders.

The proposed roadway typical would consist of two 11’ travel lanes with two 5’ shoulders and a standard 7’ offset for ditch lines in cut sections along the project corridor, outside the Historic District limits. To mitigate impacts within the Historic District, the typical will remain a 11’-5’, as noted above, but will incorporate curbing and grass panels. Other improvements will consist of localized improvements in horizontal and vertical geometry, while providing drainage upgrades and stormwater treatment. Replacement of the two largest cross culverts in the project area, existing 36-inch and 48-inch pipes, will require minor temporary shifting of the roadway around their locations utilizing one-lane alternating traffic. Stormwater treatment will consist of four treatment swales. Roadway side slopes have been steepened to the extent possible to minimize impacts to adjacent wetlands. In locations where no wetlands are located adjacent to the roadway, side slopes have been flattened to eliminate the need for guardrail.

C. Perron provided an overview of resources in the project area. There are many wetlands adjacent to the project, consisting primarily of forested wetlands that transition to emergent wetlands closer to the roadway. There are also 17 stream crossings, all of which are Tier 1

crossings and all but one of which are intermittent streams. Most culverts are between 15" and 24" in diameter. The two larger culverts (36" and 48") will be replaced in kind as there is no history of flooding and the structures are not hydraulically undersized. The 48" culvert is located on the one perennial stream in the project. There are no Priority Resource Areas mapped in the project area. The streams are all mapped as predicted cold water fisheries.

Wildlife species of concern consist of the federally threatened Canada lynx, federally endangered northern long-eared bat, and American marten, a NH wildlife species of greatest conservation need. Coordination with NHFG and USFWS on Canada lynx and American marten started back in 2019 and will continue as needed. For northern long-eared bat, the project is expected to qualify under the Programmatic FHWA consultation.

Preliminary wetland impacts have been quantified and currently total approximately 2.2 acres. Preliminary impacts to streams and banks total 1563 linear feet. As design progresses, the project team will continue to seek ways to minimize impacts.

Looking back at the 13602 corridor project, the preliminary estimate of impacts was 1.5 acres for the entire corridor. The segment that has been constructed ended up impacting just over ½ an acre. Mitigation was previously provided for the estimated 1.5 acres of impacts in the form of the preservation of a 21 acre parcel.

As the 13602C project moves forward, input is required on mitigation requirements. The actual impacts from the A project plus the estimated impacts from the C project will total approximately 2.8 acres. The land preservation that was completed previously was intended as mitigation for 1.5 acres of impact. This leaves about 58,000 SF of wetland impact that still requires mitigation. Stream impacts were not previously mitigated and it is assumed that the total linear feet of channel and bank impact will require mitigation. Once these mitigation requirements are confirmed, we will start considering options for providing mitigation. For reference, the in-lieu fee based on 58,000 SF of wetland impact and 1,563 linear feet of stream impact would be in the neighborhood of $700,000. Of that amount, almost $500,000 is based on the stream impacts.

Stormwater treatment was summarized. The project will be adding about 1.5 acres of new impervious area. As noted earlier, four treatment areas are proposed, which will treat runoff from approximately 3 acres of roadway, meeting the rule of thumb to treat twice the area of added pavement.

The project schedule was reviewed. There have been two Public Informational Meetings, one in 2019 and one more recently in October 2022. A public hearing required for ROW purchases is planned for this fall. Assuming a successful public hearing process, final design and permitting will start in 2024. The project is expected to advertise in spring of 2026, with construction through 2028.

The project will be discussed at one or more additional resource agency meetings prior to submitting permit applications.

The following is a summary of questions and comments from attendees:

Karl Benedict (DES)

- Be sure to summarize all minimization measures in the permit application, such as minimizing slopes adjacent to wetlands.
- Coordinate with NHFG on the need for time of year restrictions for work in streams.
- Continue coordination with NHFG on wildlife species of concern.
- Recommend minimizing stream impacts with stream simulation, plantings, and accommodating wildlife passage where possible
- When considering possible mitigation projects, there is a lot of conservation land in the area that could be considered for additional preservation opportunities.

MaryAnn Tilton (DES)

- Include a functions and values analysis in the permit application to put impacts into context.
- It doesn't appear that the project will result in completely draining any wetlands, but this should be confirmed.
- Could consider providing additional land to Pondicherry National Wildlife Refuge as mitigation.

Mike Dionne (NHFG)

- The streams in the project area are coldwater fisheries so a Fall time of year restriction for in-water work should be implemented.
- Do the two larger pipes currently provide fish passage? C. Perron noted that the 48" pipe is perched and this can be corrected with the replacement pipe.
- Continue consultation on wildlife species.

Federal Agencies

- FHWA, Army Corps, and EPA were not in attendance.
- M. Tilton noted that DES will be providing a briefing to federal agencies on Friday and this project will be included in that discussion.

Peterborough, 27712 (X-A003(595)):

Kimberly Peace (Hoyle Tanner) introduced the rehabilitation or replacement project for the bridge (Bridge No. 108/116) carrying US Route 202 and NH Route 123 over the Contoocook River in the Town of Peterborough. The bridge was inspected by NHDOT in November 2020 and the Bridge Inspection Reports indicate the bridge deck, superstructure and substructure are in poor, fair and poor condition, respectively. The bridge is currently on the State Redlist, due to its poor condition, and is also considered to be scour critical. The goals for this project are to address the bridge's poor condition and remove it from the State Redlist. Two bridge rehabilitation and three replacement alternatives are being investigated to meet the goals of this project. Bridge Replacement in the existing location is anticipated to be the recommended alternative since it meets the goals of the project and offers the following advantages (note this is still under review and discussion with DOT):

- No impacts to the North Village Dam and the US Route 202/NH Route 123 and NH Route 136 intersection.
- Structure will carry modern design loads.
- Eliminates a scour critical bridge from the State inventory.
- Metallized steel superstructure for increased service life.
- Least long-term maintenance costs as compared to other alternatives.
- An estimated design service life between 75 and 100 years.

Several traffic control alternatives are being investigated to accommodate traffic and pedestrians during bridge rehabilitation or replacement construction. Bridge closure with traffic maintained via a temporary bridge is anticipated to be the recommended alternative for traffic control since the replacement bridge can be constructed offline, which will reduce the overall project cost and construction duration and will allow the project to be completed in a single phase rather than multiple phases.

Environmental concerns regarding Rare Species, Archaeology, Wetlands, Protected Shoreland, and Conservation Land were presented and discussed. Following the presentation questions and comments were received. Karl Benedict (NHDES Wetlands Bureau) asked how long would temporary impacts be needed? K. Peace responded more than one construction season. K. Benedict noted that the team should minimize temporary construction access (bank impacts), especially tree clearing impacts where feasible.

K. Benedict asked about the extent of work that will be proposed in-stream? Ed Weingartner (Hoyle Tanner) responded that complete abutment replacement is likely, and that they are still evaluating single span alternatives which would result in removal of existing pier (down to mudline) and the potential to locate the new north abutment further from the stream than existing. It was recognized that DES' preference is to remove riprap/stone from streambed. E. Weingartner agreed, the stones will likely be re-used for scour protection on new abutments.
K. Benedict stated that alternatives analysis should be documented in the wetland permit application and that because the bridge is within floodplain/floodway, any fill will need to be considered when determining wetland impacts. Because this is a Tier 3 crossing, Priority Resource Area impacts may need to be accounted for and mitigated.

Andy Sullivan (NHDOT) suggested the size of the crane needed for construction access should be considered during both temporary bridge layout and for temporary construction impacts identification.

E. Weingartner addressed truck traffic concerns and explained the potential need to shorten the temporary bridge on NH 136 side to improve truck turning movements or stop bars will need to be set way back and/or vehicle off tracking will occur for trucks to make turns onto and off of the temporary bridge.

Mike Dionne (NHF&G) suggested there may be a need for a mussel survey for impacts from temporary bridge pier or removal of existing pier. K. Peace stated the NHNHB did not list mussels, and Jon Evans asked what would be the trigger for a mussel survey if not listed on NHNHB Datacheck? M. Dionne said NHF&G would need to consider protection of even non-threatened species. He suspected that since it is a fairly shallow river it would not need divers but

should identify potential species in the area of the bridge and follow up with NHF&G when impacts are estimated. Mary Ann Tilton (NHDES) noted that for the wetland permit application, a functions assessment will need to be completed that would include this information.

NHNHB had no comment.

Nashua-Merrimack-Bedford, 13761A (Non-Fed):

Stephen Hoffmann introduced the proposed project involving the southern segment of the overall 13761 F.E. Everett Turnpike Widening project located in Nashua and Merrimack, New Hampshire. The proposed 13761A project is approximately 2.2 miles long and is located between Exit 8 and Exit 10. The proposed project involves widening of the Turnpike from two to three lanes in both the southbound and northbound directions, replacement of the existing bridges carrying the Turnpike over Pennichuck Brook, drainage improvements, and stormwater treatment BMPs. There a currently four stormwater BMPs proposed but the design is still being finalized regarding the treatment type.

The anticipated advertising date is January 30, 2024. Anticipated permitting requirements include a NHDES Standard Dredge and Fill Permit as well as a Standard Shoreland Permit. Permit applications are anticipated to be submitted to NHDES in September 2023.

Existing resources in the project area include Pennichuck Brook and adjacent forested wetlands. Additional wetlands were delineated along the project corridor but wetland and surface water impacts are limited to Pennichuck Brook and the adjacent wetland areas. Pennichuck Brook is the only surface water in the 13761A project area. The wetland and surface water delineation was completed in 2016-2017 and wetland boundaries were confirmed in 2021-2022. Pennichuck Brook also has FEMA mapped 100-year floodplains and a regulatory floodway associated. The delineated wetlands adjacent to Pennichuck Brook are located within the 100-year floodplain, and therefore, are classified as PRAs (floodplain wetlands adjacent to Tier 3 crossings). In Nashua, wetlands adjacent to Pennichuck Brook are identified as Prime Wetlands. It is assumed that Pennichuck Brook is classified as a surface water and impacts below OHW are not considered Prime Wetland impacts. Impacts to the wetland in the southwest bridge quadrant are not anticipated. Therefore, there are no Prime Wetland impacts anticipated from the proposed project. Based on prior discussions with NHDES, the Pennichuck Brook crossing is assumed to be considered a Tier 3 crossing (23.9 square mile watershed) under the NHDES Stream Crossing Rules. There is also a vernal pool east of the Turnpike near the southern end of the project. This resource area was located outside the study area of the delineation and is not anticipated to be impacted by the proposed project.

The Pennichuck Brook impoundment is owned and operated by the Pennichuck Water Works and provides a drinking water source for the City of Nashua and surrounding municipalities. VHB has completed preliminary coordination with PWW. Additional coordination with PWW regarding impacts to Pennichuck Brook and stormwater treatment will continue into final design. Water levels in Pennichuck Brook are controlled by a series of dams upstream and downstream from the project area. The supply pond and drinking water intake are located east of the project area and are isolated from the project area by two downstream dams.

The existing crossing structures were constructed in 1954 and rehabilitated in 1980 and consist of two separate NB and SB superstructures that are 87’ long. The approach roadways to the north and south are constructed on existing causeways that extend into Pennichuck Brook. The causeways are approximately 200’-250’ long, 75’ wide, and 12’ high.

The proposed structure consists of a 100’ single span bridge with a 123’ width. The proposed widening will occur on the east side of the causeway. Impacts to the west side of the causeway are anticipated to be

minimal. The new bridge abutments will be constructed behind the existing abutments, and the original abutments will be removed to a minimum of one foot below grade. The design and grading for the proposed wildlife shelves are still being finalized, but it is anticipated that an approximately 2' wide wildlife shelf can be accommodated in front of both abutments in areas of proposed stone fill. The proposed shelves will tie into the vegetated 2:1 slopes along the remaining length of the causeways.

Wetland and surface water impacts are still being finalized, but the approximate impact totals are summarized below:

Palustrine Wetland Impacts / PRA (Floodplain Wetlands Adjacent to Tier 3 Stream)
3,285 SF

Surface Water Impacts (Pennichuck Brook)
21,472 SF
210 LF

Bank Impacts (Pennichuck Brook)
15,050 SF
1,153 LF

Based on the amount of impacts and types of resources present, the proposed project is anticipated to be classified as a major impact project.

Mitigation for the previous 13761D and 13761E projects was briefly discussed. The 13761A contract is anticipated to require an in-lieu fee payment in the amount of approximately $436,705.37. Mr. Hoffmann asked for clarification/confirmation from NHDES regarding whether impacts to constructed causeways would be included as bank impacts and if portions of the impacts could be considered self-mitigating with various improvements over existing conditions including incorporating wildlife shelves to improve wildlife passage, and/or a planting plan for restoring impacted banks. Approximately $240,000 of the total in-lieu fee payment are associated with the 1,153 LF of bank (causeway) impacts.

The proposed project is anticipated to result in 6,500 CY of fill in floodplains and 4,850 CY of fill in floodways. These fills are primarily associated with the expansion of the existing causeways. VHB completed a hydraulic analysis, and despite the quantities of fill, the proposed project is not anticipated to result in an increase in the base flood elevation. Water levels are controlled by the existing dams upstream and downstream from the project area. A FEMA No-Rise Certification will be included in VHB's final hydraulic report.

Existing impervious is 28.62 acres. The proposed impervious is 31.97 acres, for a net increase of 3.35 acres of impervious surfaces. The proposed treatment area is 14.80 acres. The stormwater BMP design is still being finalized, but the treatment areas are anticipated to be Wet Extended Detention Basins and/or Infiltration Basins, pending infiltration test results.

Federally listed species include the northern long eared bat. Acoustic surveys for the 13761A contract were completed in 2021 and did not detect NLEB. Informal consultation with USFWS will be completed. Mr. Hoffmann also noted that the USFWS is currently reviewing the listing of the tri-colored bat under the ESA, with final determination anticipated in September 2023. No

tricolored bats were detected during the 2021 surveys and additional consultation with USFWS regarding this species will be completed as needed.

The NHB DataCheck Results Letter identified the following species: bird foot violet, clasping milkweed, long-spined sand bur, Blanding's turtle, eastern hognose snake, and northern black racer. Coordination with NHFG regarding fish and wildlife concerns is ongoing. Rare plant surveys were conducted in 2021 and three populations of bird foot violet were identified in the project area. Impacts to populations 1 and 2 can likely be avoided by removing a proposed berm. However, impacts to population 3 on the west side of the turnpike are unavoidable due to the proximity to the existing edge of pavement and propose widening. Preliminary coordination with NHB has occurred and will continue to evaluate impacts and relocation efforts. A transplanting plan for the 13761A project will be developed similar to the one for the 13761E project, and a relocation site will be determined for the plants in population 3 through coordination with VHB, MJ, NHDOT, and NHB.

Agency Discussion:

Karl Benedict asked if the anticipated schedule for the 13761A project (shown on the introductory slides) and the other F.E. Everett Turnpike widening project segments was accurate. Jon Evans confirmed that the schedule was up to date, but some of the later contracts could change. Mr. Benedict asked if Pennichuck Brook was a Class A surface water due to the drinking water source. Jon Evans and Mark Hemmerlein confirmed that Pennichuck Brook is not considered a Class A surface water. Mr. Benedict agreed that the existing crossing would be permitted as a Tier 3 stream crossing based on the watershed size, despite the impounded nature of the waterbody, and indicated that the permit application should address the conditions of the existing impoundment and how the proposed bridge structure meets the hydraulic requirements and geomorphic compatibility. Mr. Benedict also indicated that specifications for the wildlife shelf material should be provided along with other mitigation measures such as improvements to geomorphic compatibility, and that some of the impacts could likely be considered self-mitigating.

Mr. Hoffmann asked for clarification on whether the impacts to the constructed causeways are considered bank impacts. Mr. Benedict indicated that his initial thought was yes, the causeways are considered bank impacts. Mr. Hemmerlein indicated that a similar issue had come up on a previous NHDOT project in Bartlett, and that impacts to fully engineered slopes were not included in the mitigation package. Mr. Hoffmann provided some additional clarification and photos of the existing causeways, which consist of stone fill around the existing abutments, but are largely vegetated with shrubs, saplings, and small trees further from the bridges. Mr. Benedict said that he could look into this question further but was not prepared to make a final decision on this issue at this time.

Jon Evans added that one alternative would be to consider the wildlife shelf as mitigation for a portion of the bank impacts. Mr. Benedict suggested breaking out the linear feet of impacts by what is proposed to be self-mitigating, additional bank impacts may be considered in-kind replacement, and then determine what is still required for mitigation.

Mary-Ann Tilton brought up the protected turtle species identified in the NHB report, including Blanding's turtle. Ms. Tilton indicated that NHFG and UNH are working on an EPA grant that is evaluating the design of wildlife crossings specifically for turtles, and Tom Ballestero and Sandi Houghton are preparing a guidance document for the design of these types of structures. Ms. Tilton recommended reaching out to them for additional information.

Jon Evans, reiterated that one of the objectives of the project was to avoid impacts to the west side of the causeway, and questioned whether this would provide a benefit to turtles and other wildlife. Ms. Tilton agreed that the wildlife crossing would need to provide a benefit to wildlife species. Mr. Hoffmann explained that the design team previously discussed extending the wildlife shelves along the entire length of the causeways, however, the required grading would increase impacts to Pennichuck Brook. It was agreed that 2:1 vegetated slopes could be navigated by wildlife and that the constructed shelves would be limited to areas of riprap in order to minimize impacts to wetlands and surface waters. Ms. Tilton indicated that the UNH/NHFG study evaluated slopes for wildlife crossings and to refer to this study for additional guidance.

Ms. Tilton also indicated that there is an environmental justice community in Nashua and a future EPA grant associated with benefiting EJ communities. Ms. Tilton also asked about the floodplain/floodway mapping and what this was based on. Ms. Tilton indicated that updates in LiDAR may provide more accurate information. Mr. Hoffman indicated that the mapping was based on the latest available FEMA National Flood Hazard Layer and that the hydraulic report was prepared by VHB. Jon Evans told Ms. Tilton to reach out to him and he could provide additional information regarding the floodplain and floodway.

Christine Perron circled back to the wildlife shelf issue and reiterated that constructing a more substantial wildlife shelf along the entire causeways would result in additional impacts to surface waters, including a drinking water supply, and wanted to confirm that this trade off was acceptable from NHDES's perspective. Ms. Tilton suggested additional coordination with NHFG to determine if this crossing location is considered a high mortality area. This issue would need to be revisited once more information is available.

Mr. Benedict added that in order for impacts to be self-mitigating, it would need to be demonstrated that the wildlife/turtle crossing would be successful. Mr. Benedict reiterated breaking out impacts to existing riprap slopes versus vegetated areas for the mitigation package.

Mike Dionne had no additional comments.

Ashley Litwinenko had no additional comments, and asked for coordination to continue regarding the impacts to the bird foot violet and the transplanting plan.