BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: February 21, 2018
LOCATION OF CONFERENCE: John O. Morton Building
ATTENDED BY:

NHDOT
Matt Urban
Sarah Large
Ron Crickard
Steve Johnson
Doug Locker
Tobey Reynolds
Rebecca Martin
Leah Savage
Zachary Schmidt
Trina Russo
Don Lyford
Bill Saffian
Trent Zanes
John Butler
Joe Adams
Marc Laurin
Wendy Johnson
Jon Evans
Kevin Nyhan
Kirk Mudgett
Mark Hemmerlein
Ron Kleiner

ACOE
Rick Cristoff

EPA
Mark Kern

Federal Highway
Jamie Sikora

NHDES
Gino Infascelli
Lori Sommer
Tim White

NHF&G
Carol Henderson

NH Natural Heritage Bureau
Amy Lamb

Consultants/Public Participants
Christine Perron
Brian Colburn
Jennifer Zorn
Ed Weingartner
Vicki Chase
Christopher Fourneir
Jed Merrow
Kevin Thatcher
Bill Ashford

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

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NOTES ON CONFERENCE:

Finalization of the October 18th and November 15th Natural Resource Agency Meeting Minutes.
Matt Urban ask the group if there were any other comments or edits for the October 18th and November 15th 2017 meeting minutes. We had received only a few comments for each. No one objected to finalizing both sets of minutes. The minutes were finalized and posted after the meeting.

Brookline, #41814 (Non-Federal)
Steve Johnson noted that the AIR form incorrectly noted in the first sentence that the project involved "bridge replacement". The purpose of the project is to replace the deck, and place riprap to protect the structure. An overview of the project was presented including the project location. The existing structure is a concrete rigid frame constructed in 1931 that carries Pepperell Road over Rocky Pond Brook (Brookline 116/058). The drainage area is 4.3 square miles. There were NHB records noted, but it was expected that there would be no impacts.

Steve Johnson showed photos with the wetlands delineation, the upstream and downstream channel and the upstream wingwalls along with a sketch showing the proposed impacts.

Rick asked about the design and placement of the rip rap. Steve Johnson explained that the rip rap would be placed around the wingwalls and wrap around to the bank of the brook and sloped at 1½:1 as shown on the proposed impacts.

Carol Henderson asked if it was expected to use either sandbag cofferdams or a diversion pipe for this project. Steve Johnson noted that there would probably be a 36" or 48" pipe used divert the streamflow during construction. Carol noted that the pipe was not the preferred alternative to sandbag cofferdam that maintained the natural stream bottom for fish passage during construction. Steve noted that a longitudinal sandbag cofferdam was not practical at this structure. Matt Urban mentioned that the pipe would be at the streambed elevation, and which would allow for the fish to make passage through the pipe.

Steve Johnson mentioned that the project would most likely last two months and may take place during the winter depending upon ability to plow snow with one lane closed. Steve Johnson also noted that the riprap would be installed to protect the existing structure and which in the past has not required mitigation.

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

Sandwich, #99055Z (Non-Federal)
Steve Johnson gave an overview of the project and its location. The existing structure is a 10' span by 6' high concrete box constructed in 1946 which was extended from an older stone box. The structure carries NH25 over Weed Brook (Sandwich 203/029). The drainage area is 2.6 square miles and there were no NHB records.

The proposed work includes adding rip rap at each of the wingwalls and replacing the existing stone block portion of the box with a concrete frame of the same dimension. The outlet wingwalls have tipped due to undermining and the stone top has largely been replaced with H-piling with some of the remaining stones having cracks. The existing stone box section has a concrete floor which will remain. The stone box was presented at a cultural resource meeting and was determined to be <u>not eligible</u> for the National Register.

Steve Johnson showed photos with the wetlands delineation, the interior of the stone box, the upstream and downstream channel and the structure inlet and outlet along with a sketch showing the proposed impacts. Steve noted that the delineation shown was done at a time when Bridge Maintenance was delineating and that the NHDOT Bureau of Environment would re-delineate prior to submission of the permit.

Steve Johnson also noted that the flow of the stream had eroded the south west wingwall. It was noted the plan for the proposed impacts was incorrect, and that the rip rap in the channel should be at the downstream outlet of the culvert, no channel riprap was required at the upstream inlet.

Carol Henderson asked if there would be a diversion pipe used for this project. Steve Johnson said that a diversion pipe would be necessary to do the work required. Carol also asked what time of year it would take place and how long. Steve indicated that it would be longer than two months, and the nature of the work would require it to be done in the summer.

It was determined that mitigation would be required on this project for the downstream impacts unless it could be determined that there was rock already present where it is proposed to be placed.

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

Tamworth, #41813 (Non-Federal)

Steve Johnson provided overview of the project. The existing structure is a concrete tee beam bridge constructed in 1937 with a 46’ span that carries NH 16 over Chocorua River Tamworth 097/165). The drainage area is 14.3 square miles and there were no NHB records.

The proposed work includes placing sandbag cofferdams along the outside wings of the bridge in order to place rip rap. The embankment is sloughing adjacent to the wingwalls.

Steve Johnson showed photos with the wetlands delineation, the upstream and downstream channel and the structure, and the wingwalls along with a sketch showing the proposed impacts.

It was stated that there is existing stone in some locations, and that the reason for the protection is because there are concerns about the stability of the project embankment. No further comments or questions were made regarding this project.

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

Alton, #41352 (Non-Federal)

Leah Savage provided an overview of the 41352 project, which proposes to replace a hybrid culvert located in Alton on NH Route 11 located east of the Gilford-Alton town line. In this area NH Route 11 is quite narrow. The culvert is comprised of three elements, at the outlet an extension of poured concrete blocks is visible and there is a corrugated metal pipe at the inlet of the structure. Between these two elements is a failing stone box culvert, 3 foot wide by 4 foot high. The original stone box culvert was constructed in 1918 and the extensions represent evidence of maintenance work/repairs. A second stone box culvert, 7’high x 3.5’wide in fairly close proximity is located

beneath the former Boston & Maine Railroad just downstream of the existing culvert. The outlet of the culvert beneath the former Boston & Maine Railroad is into Lake Winnipesaukee. The stone box portion of the culvert under NH Route 11 is in poor condition, with stones caving inward on the top of the box. Flooding/overtopping of NH Route 11 is reported to occur at the culvert only during the Mother's Day flood.

Leah Savage explained that Zack Schmidt had conducted the hydraulic analysis and that the total area that StreamStats indicated draining to the project culvert appeared to be larger than what field observations were indicating. After further investigation the design team recognized that the ditches along Riley Road near the project area actually convey water through a culvert west of the project area, removing 0.11 square miles from the NH 11 culvert's watershed. Therefore the actual watershed size is 0.98 square miles and the stream is a Tier 2 stream.

L. Savage explained that there are several factors controlling the design including a garage foundation in close proximity to the stream, closely located driveways, and aerial utility lines. Also the 1890's railroad culvert is located only 85-feet downstream which is in good condition and therefore we do not want to impact. This old railroad culvert is also potentially eligible for the national register of historic places. No impacts to the railroad culvert are proposed. There is very little cover over the culvert in this location. L. Savage commented that Lake Winnipesauke is 5 feet lower than the existing structure's outlet, so no backwater issues are anticipated. A larger structure is desirable to improve the hydraulic capacity of the crossing. If the deterioration of the crossing were not addressed, failure of the culvert is anticipated, which would likely involve emergency repair work and possible closure of NH Route 11.

L. Savage described environmental considerations for the project, including that large fish were observed upstream of the NH Route 11 culvert and in the pool downstream of the railroad culvert. She explained that the USFWS Official Species List includes the small whorled pogonia and the northern long-eared bat. USFWS had reviewed the project and commented that the small whorled pogonia is not likely to be growing in the area, so no survey for the plant was recommended. The project activities are in accordance with the NLEB 4(d) rule. L. Savage also commented that the project area is not within any special flood hazard zones.

L. Savage reviewed the various alternatives that were considered for the project. An in-kind replacement of the structure would increase the velocity of water moving through the structure and would not meet the headwater requirements for 50 year storm events. Rehabilitation of the existing structure was considered, but the deterioration of the structure was determined to be too far advanced. Twin 48 inch circular RCPs was considered, but this alternative would result in increased velocity of the stream water and would require additional wetland impacts. Also, the twin pipes could be clogged with debris. The preferred alternative is a 4 foot high by 6 feet wide box culvert with natural materials in the bottom. This option meets the headwater requirements for the 50 year and 100 year storms. The preferred alternative would include skewing the culvert to improve stream connectivity by matching into the stream's geometry. The pipe is also proposed to be extended; 5 feet at the inlet to move the headwall beyond the clear zone, eliminating the need for guardrail on the inlet side and extending the outlet by 2 feet at the outlet, to provide guardrail with an adequate platform. The existing structure is 38 feet long and the proposed is 45 feet long.

L. Savage showed a plan of where the stream is and where the preferred alternative would shift the stream.

Lori Sommer inquired if the stream bank will need to be riprapped. L. Savage explained that due to the velocity of the water, some rip rap will be necessary. The banks will be vegetated with humus and seed. L. Sommer recommended planting shrubs on the stream banks. Matt Urban recommended that, since the design team is attempting to restore the stream, the project should not be required to mitigate for the stream impacts. L. Sommer commented that this seems reasonable.

Leah Savage explained that the existing structure will be used as a clean water bypass while the new structure is being constructed. She explained that the DOT Front Office has approved night time road closures to allow the project to have a small footprint and be built quickly.

Carol Henderson commented that the stream likely has spawning smelt in the spring (late April through early May). She said construction could result in siltation which could kill smelt eggs. Tobey Reynolds agreed that construction could begin after mid-May. Carol Henderson commented that any large trout would likely move out of the area during construction and would not be impacted.

Amy Lamb inquired if the stream materials from the shift of the stream could be reused. The design team seemed to think this was a possibility.

The group agreed that the design should progress as described.

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

Hinsdale-Brattleboro, #12210C (A004(152))

Christine Perron began by noting that the purpose of the discussion was to provide an overview of the drainage design, proposed stormwater treatment, and preliminary wetland impacts in order to start getting direction on permitting requirements.

Tony King described the drainage design and treatment. Runoff would be collected from 95% to 99% of new pavement. Approximately 2.1 acres of pavement would be treated in NH. Two stormwater BMPs will be constructed on the NH side and will outlet into the river just north of the existing NH Route 119 bridge. A BMP will also be constructed on the VT side.

C. Perron noted that she had incorrectly stated at the November meeting that the river in the project area is listed as impaired for aluminum and copper. The impaired section of the river is actually more than 5 miles downstream and the section that runs through the project area is not listed as impaired. With this correction made, given the proposed treatment in NH and VT, she asked if there would be concerns with providing open scuppers on the proposed bridge, which would drain runoff from the bridge directly into the river. Bill Saffian added that a closed scupper drainage system on the bridge would be costly and future maintenance would be problematic. Mark Kern commented that open scuppers seemed like a reasonable approach since the river is not impaired;

however, before agreeing that this is an acceptable approach, he would like to see at least an estimate of pollutant loading. T. King agreed that this could be provided.

Amy Lamb commented that she may have concerns with the impact of drainage from open scuppers on rare plants that occur along the southwestern edge of the island. B. Saffian said that drainage would be dropping approximately 40 feet from the bridge to the river and that this was high enough so that downspouts are not needed. It was agreed that C. Perron would provide the proposed scupper layout to A. Lamb and her concerns would continue to be discussed.

Trent Zanes provided an overview of a proposed replacement boat launch since vehicular access to the boat launch located on the island would be eliminated when the new bridge opens. He recently met with the Public Waters Access Advisory Board (PWAAB) to discuss improvements to another existing boat launch downstream of the project. The Board was agreeable to the proposed improvements and asked NHDOT to coordinate with the Town of Hinsdale. The boat launch upgrades will be included in the bridge permit applications and bridge construction contract. Impacts to the river are expected to be minimal and only necessary for the construction of the concrete ramp down to the river. Impacts have not yet been calculated.

Carol Henderson asked about the design of the boat ramp. T. Zanes noted that he would be consulting with NH Fish & Game on design requirements. C. Henderson recommended contacting Garret Graaskamp at Fish & Game. Gino Infascelli asked where the boat launch to be upgraded is located in relation to the bridge project. It was clarified that the boat launch is located approximately 5 miles downstream. A. Lamb asked if an NHB review has been requested for the boat launch. C. Perron said that a review for that area has not yet been requested.

C. Perron provided an overview of preliminary wetland impacts, noting that the numbers are still subject to change. Total permanent and temporary impacts for project (NH and VT) will be approximately 1.76 acres. This total can be broken down as follows:

Permanent Channel in NH = 7,716 sq ft
This impact is the result of five proposed piers in the river.
Permanent Bank in NH = 500 sq ft
This impact is the result of one pier at the edge of the river.
Permanent Wetland in NH = 1,766 sq ft
This impact is primarily from one pier on the island, most of which is a palustrine wetland.
Total permanent impact in NH = 9,982 sq ft

Total temporary impact in NH = 64,182 sq ft
This number is inflated because it assumes a large block of temporary impact for the temporary trestle to give the contractor some flexibility in placing the trestle piles. This entire area would not be temporary fill. This is the same approach that has been taken on similar Connecticut River projects. For example, for the Lebanon-Hartford Interstate 89 project, a footprint of 90,000 sq ft of temporary impact will be shown on impact plans, and it is estimated that temporary trestle piles will result in only 600 sq ft of temporary impact to the channel.

Total NH impacts = 74,164 sq ft (1.70 acres)

Total permanent impact in VT = none
Total temporary impact in VT = 2,500 sq ft (0.06 acre)
This impact is from a drainage outlet at the edge of the river.

The total impacts are well below the 3-acre threshold for the NH General Permit and the 1-acre threshold for the VT General Permit.

Kevin Nyhan stated that mitigation should be based on the actual area of the trestle piles and not the overall block of temporary impact. B. Saffian noted that the actual area and number of trestle piles would be up to the Contractor; however, an estimated impact area could be developed for the purpose of determining appropriate mitigation. C. Perron commented that mitigation requirements would be discussed in more detail at the next meeting.

Rick Kristoff asked if the project would require a Bridge Permit from the Coast Guard. C. Perron replied that the Coast Guard has confirmed that a Bridge Permit would not be required.

R. Kristoff stated that this project would likely be authorized under the NH and VT General Permits and would not require an Individual Permit. This is based on past NH-VT bridge projects have been authorized under each State's General Permit, as well as the fact that this project will be well under the Individual Permit thresholds. He asked M. Kern if he was agreeable to authorizing the project under the General Permits. M. Kern replied that he was not likely to require an Individual Permit. C. Perron commented that she would send the meeting minutes from this meeting to Mike Adams at the VT Army Corps office to seek his concurrence.

L. Sommer asked if there would be temporary fill required for the temporary trestle and what the duration of construction would be. B. Saffian stated that construction would be completed in 3 to 4 years. The trestle system would be similar to one used on a recent Dover project, in which piles are driven into the river bottom and capped with a steel cap above the water. It would be specified in the contract that the trestle system must be removed following construction. L. Sommer also asked that it be specified that no fill would be used for the trestle system. If this could be accommodated, then she would consider all impacts from the trestle to be temporary.

R. Kristoff asked if sturgeon were present in the river. C. Perron replied that sturgeon do not occur here. American shad are present, but this is not a federally listed species. C. Henderson noted that she had sent C. Perron a recommendation for a time of year restriction to protect spawning shad, and added that the concern would be underwater noise impacts. C. Perron replied that there are some questions and concerns about this restriction and that she would be following up with Carol directly.

L. Sommer asked about public involvement to date, and if the local river advisory group has attended any meetings. T. Zanes replied that a Public Hearing was held in January and he didn't know if anyone from the advisory group attended. He noted that no concerns with the proposed bridge were raised at the Hearing. L. Sommer asked if Hinsdale has an active Conservation Commission. T. Zanes said that they do not seem to have a website. C. Perron added that she hoped to invite a representative of the Connecticut River Joint Commissions to the next meeting

when mitigation is discussed in more detail. L. Sommer thought this would be beneficial, and she noted that the Joint Commissions would be the best option for discussing mitigation for this project rather than the Conservation Commission.

A. Lamb asked if the rare plant survey would be completed prior to the submitting permit applications. C. Perron said that the survey would be completed before applications are finalized. Applications would be submitted this summer.

This project has been previously discussed at the 1/22/1998, 5/20/2009, and 11/15/2017 Monthly Natural Resource Agency Coordination Meetings.

Bow-Concord, #13742 (T-A000(18))

This project entails preliminary design of proposed improvements to the I-93 corridor between the I-89 interchange (Town of Bow) and Exit 15 (City of Concord). The 4.5 mile corridor is being evaluated as an entire corridor but also as four separate areas for discussion purposes. These four areas include Exit 1 / I-89 Area, Exit 12 Area, Exit 13 Area and Exit 14/15 Area, which extends to Exit 1 on I-393.

Jennifer Zorn, Environmental Specialist (MJ) provided a brief statement on the goals of meeting, which were to present the preferred alternative, the resources present in the corridor and the anticipated impacts from the preferred alternative, and to provide the status of the NEPA Environmental Assessment (EA). She stated the NEPA EA was targeting to be completed in late spring 2018 (end of May) and the project team was seeking input from the agencies at this NRACM meeting to ensure the issues, concerns, and environmental commitments were captured in the EA document. She further reminded the attendees that the EA is based upon preliminary design and permitting would take place during final design. She also stated that during Part A the project team attended four NRACM meetings and under Part B, this meeting was the second time attending a NRACM.

Jennifer discussed the resources in each of the four project segments, from south to north, and included the following:

<u>I-89/I-93 Interchange</u>

Jennifer summarized the primary resources in this segment. A summary of the discussion follows as it related to the preferred alternative, alternative K:

- Turkey River – three new crossings are proposed, likely spans. The river has documented occurrence of wood turtle.
- Bow Brook – the existing culvert under I-93 will need to be extended on the west side by approximately 20 feet. During permitting, alternative design criteria will be presented since the culvert extension is the only option due to the potential cost and the closing of I-93 that would be required for other construction options (such as a bridge). Closing I-93 is not an acceptable option.
- Cilley State Forest – less than 1 acre of impact is proposed. The team met with Tracey Boisvert and her staff at DNCR in January 2018. The DNCR is reviewing a potential land

swap with NHDOT. The NHDOT owned parcel is adjacent to the Cilley State Forest and is likely equal ecological value. The team is anticipating a letter of support from the DNCR in early March.

- Wetland impact – the preferred alternative impacts less than 1-acre (0.7) based upon the preliminary design.
- Tree clearing – 13 acres of tree clearing will occur primarily due to the cut and fill lines, but also from the Cilley State Forest impact necessary due to the new ramp alignment.
- Tree clearing in wetlands - These impacts will be calculated and graphically shown in the EA.
- Wellhead protection area – Bow has wellhead areas delineated in this segment. The project team has recent correspondence with Pierce Rigrod with guidelines to follow.
- Species and consultation efforts – the Turkey River is be being evaluated for Essential Fish Habitat (EFH) and two State-listed bat species are present within the corridor. An acoustic study has been conducted throughout the corridor and the report is still under review.

The open discussion on the I-89-I93 segment is summarized below:

Mark Kern: Mark asked that the tree clearing in wetlands, uplands and within 100'of streams be included in the EA. Jennifer agreed to present this information.

Jennifer Zorn: Stated that the EFH consultation with NOAA NMFS has not yet occurred but is planned to occur soon.

Amy Lamb: Inquired about the small whorled pagonia (SWP). Jennifer stated that the SWP was on the iPAC report and consultation materials for this species were under preparation. She further stated that the SWP record may be from the CSF outside of the proposed impact area.

Matt Urban: Bow Brook Culvert extension will trigger mitigate for impacts.

Carol Henderson: Carol inquired about a wildlife shelf in the Bow Brook culvert. Jennifer stated that would be considered in Final Design and during the permitting phase.

Brian Colburn added additional information on Bow Brook: He stated that the culvert was originally 72" diameter. Under the project 13742-B, the diameter was reduced to 70" due to the slip lining that extended both sides of the culvert. This project, 13742, requires lengthening the culvert on the west side only to accommodate I-93 lane additions. Brian also gave a quick review of the background on why the preferred alternative was selected over the other two alternatives. In summary, Alternative K eliminates deficient weaves and improved traffic movements. All of the existing traffic movements would still be available, but no more direct connection from 89 to 3A.

Jennifer Zorn: To close out the discussion on this segment, Jennifer pointed out that red color areas on the plans as the areas for potential stormwater treatment that would be discussed by Brian Colburn, Project Engineer (MJ) later in the meeting.

<u>Exit12 Area</u>

Jennifer summarized the primary resources in this segment. A summary of the discussion follows as it related to the preferred alternative, alternative F:

- Wetland impact – the preferred alternative impacts approximately 0.5 acres based upon the preliminary design.
- Tree clearing – will occur and total approximately 3.5 acres mostly due to the cut and fill lines.
- Retaining walls - Jennifer explained the placement of retaining walls in key locations are intended to reduce impacts to resources such as the South End Marsh and the NHDOT wetland mitigation site.

Exit 13 Area

Jennifer summarized the primary resources in this segment. A summary of the discussion follows as it related to the preferred alternative, alternative B:

- West Terrell Park - Jennifer explained that this park, a section 6(f) property will not be impacted but is considered an exemplary natural community including the adjacent forested area in the NHDOT right of way. A small sliver to trees will be impacted within the area within the ROW and consultation materials are being prepared.
- New right turn lane at Manchester Street - The new lane may require the existing pier on the existing bridge over the Merrimack River to be expanded. EFH consultation materials are being prepared.
- A retaining wall is proposed along the area nearest the Merrimack River, so impacts are not anticipated.
- Acoustic surveys pertaining to the segment - Rebecca Martin to follow up with Sandi Houghton on the status or review.
- Wetland impact - Jennifer stated that only 0.1-acre wetland impact is anticipated in this segment.
- Tree clearing - Jennifer stated that 5.5 acres was anticipated at this time.

Exit 14 & 15

Jennifer summarized the primary resources in this segment. A summary of the discussion follows as it related to the preferred alternative, alternative F2:

- Merrimack River - Jennifer stated this section will also be included in the EFH consultation.
- Wetland impact - Small area of impact scattered throughout, totaling 0.5 acres
- Tree clearing - Estimate at 14 acres and includes a mix of types, typically narrow bands of existing vegetated areas located between development and roadway network.
- Exemplary community next to NHTI and along the Merrimack River will not be impacted.
- Species considerations - Northern leopard frog is documented to occur in Horseshoe Pond but no impact is anticipated.

The open discussion on the concerns and impact from the preferred alternative within the corridor segment is summarized below:

Carol Henderson: Carol expressed concern with the loss of any large pines that are typically used for winter roosting of eagles. She asked that the project minimize cutting of large pines as much as possible.

An inquiry was made on the public perspective of the project. Jennifer also explained that two public information meetings occurred in 2017 and 2 in 2018 in both the Town of Bow and City of Concord. She added that overall the public was supportive of the preferred alternatives and many were hopeful the project would be constructed prior to 2024. Some did not like the change is how Route 3A was accessed. Some requested further improvement to the bike/ped facilities. Brian added that many people supported the preferred alternative since it had the least impact to Cilley State Forest.

Stormwater Management

Brian Colburn presented a general overview of the proposed stormwater management for the preferred alternative. Brian further explained that some areas are proposed for treatment and some are for detention. According to Brian, the "orange" area could treat 12 acres of pavement from I-93; the "green" area would treat areas from Hall Street to Loudon Road, but was still under review since the treatment site is an old auto salvage yard; in the middle of the project corridor, closest to the Merrimack. No opportunities for treatment are present between Exit 13 and Exit 14 due to the highways close proximity to the river and a large groundwater contamination plume that is present (Concord Coal Gas Site). A small area was possible on Fort Eddy Road. A large area is proposed on the NHTI parcel and the NHTI was contacted and appeared open to the idea but asked that the area needed be smaller is size; and the linear area proposed near Brochu's Nursey was within the ROW but the nursery was using this portion of the ROW for their operations.

Brian closed by stating that the team has attempted as much stormwater for treatment and detention as much as possible within the ROW but outside acquisitions will be necessary. The project is committed to treating twice the amount of pavement added.

A summary of the open discussion follows:

Lori Sommer: Lori requested the project avoid impacting the flood plain forest on NHTI for any stormwater treatment.

Gino Infascelli: Gino stated it was DES policy not to allow wetland impact for stormwater management, therefore, the wetland impact (shown in orange) within the ramps of I-89/93 would not be allowed.

Mark Kern: Mark noted that normally the EPA would not support altering wetlands for treatment, but if the wetlands are already disturbed, then this may be a different situation.

A question was asked on whether improvements to passenger rail occurring in the future have been considered? Brian replied that the project team was familiar with the Capitol Rail Study and leaving room for a train station has been incorporated.

A question was asked on whether any mircroscale analysis (Air Quality) was being performed. Jennifer and Brian replied that yes, this study is part of the EA.

Amy Lamb: Asked on the vegetation type that would be impacted for stormwater treatment on NHTI properties. Brian stated the area was a mix of open lawn and forest with a sewer line running through this area of the property. Amy stated that impacts to forested areas within the floodplain should be minimized.

Lori Sommer: Lori inquires whether wetland mitigation options have been discussed with the two communities. Jennifer stated that a detailed discussion on this matter has not yet occurred.

Mark Kern: Mark inquired on the timing of the EA. Jennifer replied that it was expected to be completed in late spring.

Mark Kern: Mark asked if wetland impacts could be separated, wetlands, and tree clearing with 100' of streams. Jennifer agreed.

Matt Urban: Matt stated that the impact to Bow Brook would need to be mitigated.

Additional project information and preliminary design mapping is located on the project website www.i93bowconcord.com.

This project has been previously discussed at the 7/17/2002, 8/21/2002, 12/14/2005, 11/15/2006, 4/16/2014, and 8/16/2017 Monthly Natural Resource Agency Coordination Meetings.

Lancaster-Guildhall, #16155 (A001(159))

Vicki Chase reviewed the project. The project is the replacement of the US Route 2 bridge spanning the Connecticut River in Lancaster, NH and Guildhall, VT. The project area is located in a rural setting and is adjacent to hayfields, a private campground and a couple commercial businesses. The state line is on the Vermont side of the river, but is at the low water line, so a portion of the river (during normal or high flows) lies within Vermont.

Ed Weingartner described the proposed bridge replacement, 50 feet north (upstream) of the existing bridge, with two 200-foot long spans with a central pier built on four drilled shafts with a tremie seal and a footing on top of the tremie seal. Construction access has been defined for permitting purposes as a trestle or open structure from the New Hampshire side upstream of the proposed bridge and another temporary trestle downstream of the existing bridge to facilitate demolition. The construction access plan may be modified to address concerns of the NHDOT Construction Bureau. The current plan shows no impacts in Vermont, but there may be a need to install temporary shoring in Vermont to stabilize the existing bridge during demolition. Coordination with Vermont would proceed as needed if this alternative is pursued. Coordination with USFWS would also need to be undertaken to ensure that the Biological Opinion issued in March 2017 is still valid.

Wetland impacts are mostly temporary impacts associated with construction access necessary for construction on the new bridge and demolition of the existing bridge. Permanent impacts are associated with the proposed pier, which will be eleven feet longer than the existing pier. There are also permanent impacts associated with the proposed stone-lined drainage swale located south of the proposed bridge in an existing eroded drainage swale. The drainage swale will be re-graded and lined with stone to prevent further erosion. Vegetative stabilization was investigated and found to not be possible because of proposed flow velocity in the drainage swale. There is also a small area of temporary impact to a wetland on the north side of US Route 2 associated with the replacement of a cross culvert located about 1,000 feet west of the bridge crossing.

Mitigation is proposed as follows:

Permanent Impacts

- 92 linear feet of streambed impact
  - 66 linear feet of bridge pier construction
  - 26 linear feet of scour stone
- 47 linear feet of jurisdictional riverbank

Mitigation

- 55 linear feet of streambed restoration (bridge pier removal)
- Arm fund payment of $20,805.12 for the remaining 37 linear feet (92 lf minus 55 lf) of streambed and 47 linear feet of riverbank impacts
- Riverbank restoration with native plantings

NHDES agreed that mitigation as presented would be appropriate for the project.

Outstanding issues:

- Permits – wetlands, shoreland
- Dwarf wedge mussel salvage plan – waiting on information from USFWS
- Dwarf wedge mussel salvage – summer 2018
- Schedule – ad date November 27, 2018

The river is impaired by pH and aluminum. Aluminum is a development impairment as recognized by NHDOT, so increases in impervious area have been addressed with regard to the proposed stormwater treatment measures.

The project has been cleared for impacts to Essential Fish Habitat. Atlantic Salmon are the only potential diadromous species that could be utilizing the Connecticut River, and as of June 28, 2017, the National Marine Fisheries Service no longer requires consultation for Atlantic Salmon in the Connecticut River in New Hampshire and Vermont because they are no longer present. Permanent impacts to diadromous fish habitat will be avoided to the extent possible.

This project has been previously discussed at the 10/17/2012, 10/16/2013, and 3/16/2016 Monthly Natural Resource Agency Coordination Meetings.

Gorham, #41396

Chris Fournier (HEB Engineers, Inc.) provided an overview of the project which involves the replacement of a culvert on Spring Road in Gorham, NH. A location map and existing-features

plan was displayed to orient the attendees as to the location of the culvert. Photos of the roadway and culvert characteristics were shown to view the condition of the culvert and surrounding area, including a perched inlet and outlet with flow currently entirely below the culvert.

The existing 6-foot diameter corrugated metal pipe culvert was constructed in the 1980's apparently to replace a previous crossing for the main road of the 1940's subdivision. Spring Road is a two-lane dead-end road serving 24 single family residences, 14 seasonal camps, and 40 year-round residents. The existing crossing is located and the merger of Mount Crescent Brook and an unnamed tributary, however it appears the natural merge was located downstream of the roadway. The existing culvert has three documented washouts: September 1999, May 2002, and October 2012 and therefore the culvert is listed in the Town's Hazard Mitigation Plan. The Town secured a FEMA Hazard Mitigation Grant as well as NHDOT State-Aid Bridge program funding for the project, which must be completed by March 2019 when the funding period ends. Therefore, the project is on a compressed schedule.
C. Fournier presented the three alternatives studied: (1) a single 18-foot span, the hydraulic minimum; (2) a single 32-foot span, required Stream Crossing Rules width for 24-ft bankful width and; (3) a 12-foot span for Mount Crescent Brook and a 6-foot culvert for the unnamed tributary to realign the individual channels. Alternative 3 was selected as the preferred alternative based on cost, hydraulics, and engineering judgment regarding the realignment of the brooks. The crossings to not meet the Stream Crossing Rules and therefore an Alternative Design is proposed for both in accordance with Env-Wt 904.09. The proposed project protects the new structures with riprap and recreates the pre-development channel alignment with stream simulation.
To facilitate construction a temporary bridge is needed and would be located downstream which requires, clearing, additional wetland impacts, and subsequent easements. The easements are currently in negotiation, with two undeveloped streets from the original development being sorted out. The impacts of the temporary bridge push the project total wetland impacts to over 6,000 sf. The project schedule was presented with expedited permit application being submitted in January, final design submitted to NHDOT in February, advertisement for bids in February, contractor selection in April, and construction in late summer of 2018.

Rick Cristoff (EPA) suggested that we be proactive regarding Northern Long Eared Bat (NLEB) time of year (TOY) restrictions. C. Fournier understood the typical restriction of June 1 to July 31st, and would coordinate with ACOE.

Carol Henderson (NHFG) asked for clarification that the proposed action would eliminate the perches. C. Fournier responded affirmatively.

Lori Summer (NHDES) asked if mitigation needs have been examined and suggested that the permit document the thought process and dimension linear impacts.

Gino Infascelli (NHDES) asked for clarification of cost comparison between alternatives 2 and 3. C. Fournier clarified and reiterated the alignment benefits of Alternative 3.

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

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Nashua-Merrimack-Bedford, #13761

This project is anticipated to involve widening three segments of the Everett Turnpike, totaling approximately 8.1 miles, from two lanes to three in each direction. The purpose of this discussion was to: present the overall wetland and waterway impacts; present vernal pool impacts; and present the proposed water quality treatment strategy.

Jed Merrow provided a brief overview of the project. Overall wetland and waterway impacts would include the following:

- 0.83 acres of permanent palustrine wetland impact, mostly fringes of wetlands along the highway
- 0.72 acres (1,433 linear feet) of permanent channel impact
- 0.27 acres (1,098 linear feet) of permanent bank impact
- 0.21 acres (201 linear feet) of temporary channel impact
- 0.002 acres (10 linear feet) of temporary bank impact

No impacts to the Souhegan River are anticipated. Lori Sommer noted that ditches, if replaced, may not require mitigation.

Parts of four vernal pools would be directly impacted. It was noted that vernal pool impacts should be evaluated separately from other wetland impacts, and there are a couple of different ways it can be addressed. There are also different mitigation ratios for vernal pool impacts. Ruth Ladd (Corps) may be the best authority on this subject.

Mark Kern asked about the effect of salt on vernal pools. J. Merrow said they have not yet looked at stormwater runoff effects on vernal pools but it will be looked at.

There was a question about the Pennichuck Water Works water supply intakes with respect to the project. J. Merrow said the main intake is downstream of the Turnpike's Pennichuck Brook crossing.

J. Merrow indicated the proposed Baboosic Brook structure would be a 66-foot bridge which would span 1.2 times the bankfull width and include wildlife shelves on each slope.

J. Merrow discussed water quality treatment. He noted that the DOT would comply with the requirements of the 2017 *General Permits for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems* (MS4 General Permit) to the extent practicable. The MS4 General Permit indicates that all new development and redevelopment projects should either treat the Water Quality Volume or remove 80% of total suspended solids and 50% of total phosphorus. The DOT will try to achieve this by constructing extended detention basins wherever feasible along the Turnpike. There are currently 20 basins proposed treating about 71% of runoff, and 5 locations where treatment is not feasible. Design efforts are ongoing.

For chloride, DOT will follow guidelines for waterways that are impaired for chloride, although there are no streams currently designated as impaired for chloride. The MS4 General Permit requires a Salt Reduction Plan and certain BMPs to be followed. DOT is preparing a Salt Reduction Plan and already employs most of the specified BMPs.

J. Merrow noted that there is a commitment to conduct a survey for rare plant species along the corridor, so they can be avoided or mitigated as needed. Amy Lamb requested an aerial-based plan of the project area for rare plant habitat purposes. Regarding rare wildlife species, many of the species may be found in a variety of habitat types along much of the corridor. DOT proposes to implement construction measures to

avoid incidental take or impacting these species. Carol Henderson recommended further coordination with Kim Tuttle prior to construction.

This project has been previously discussed at the 10/19/2016, 11/16/2016, 2/15/2017, 5/15/2017, and 12/20/2017 Monthly Natural Resource Agency Coordination Meetings