

**BUREAU OF ENVIRONMENT  
CONFERENCE REPORT**

*Final*

**SUBJECT:** NHDOT Monthly Natural Resource Agency Coordination Meeting

**DATE OF CONFERENCE:** January 18, 2023

**LOCATION OF CONFERENCE:** Virtual meeting held via Zoom

**ATTENDED BY:**

**NHDOT**

Matt Urban  
Andrew O’Sullivan  
Jon Evans  
Marc Laurin  
Rebecca Martin  
Dillan Schmidt  
Chris Carucci  
Dillan Schmidt  
John Sargent  
Meli Dube

**ACOE**

Mike Hicks

**USCG**

Gary Croot

**EPA**

Jean Brochi

**NHDES**

Karl Benedict  
Mary Ann Tilton

**NHB**

Absent

**NH Fish & Game**

Mike Dionne  
Kevin Newton

**Federal Highway**

Absent

**US Fish & Wildlife**

Absent

**The Nature Conservancy**

Absent

**NH Transportation &  
Wildlife Workgroup**

Absent

**Consultants/ Public  
Participants**

Brooke Stubbs  
Michael Leach  
Gerard Fortin  
Alanna Gerton  
Peter Walker  
Stephen Hoffmann  
Christine Perron  
Sam White

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

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## Finalize Meeting Minutes

Finalized and approved the December 21, 2022 meeting minutes.

### Columbia, #43441 (X-A005(109))

Chris Carucci (NH DOT): discussed the overall project location, the primary culvert location, surrounding area, and provided a brief overview of the project scope and culvert rehabilitation program, proposed advertisement date of August 08, 2023, and anticipated construction during the 2024 construction season. Discussion on US Route 3 being regionally significant with an average daily traffic of about 2500 vehicles per day, including commercial truck traffic and that there would be no practical detour route within New Hampshire. The culvert selection was based on condition, risk of failure, and implications such as length of detour.

The primary culvert location is about 975 feet north of South Jordan Hill Road. It is an open bottom concrete box culvert about 44 inches wide and 46 inches high at the inlet, 60 feet long.

The project includes a second culvert replacement, a 15-inch concrete pipe located about 250 feet north of the primary culvert. The agenda mistakenly said that this was an 18-inch pipe, it is an existing 15-inch pipe.

Incidental work includes repair of a failed 15-inch pipe outlet just south of the primary culvert and adding an end section to a 15" slope drain close to the primary culvert inlet.

Another major component is adding guardrail along the west side of US route 3 due to a steep slope that lands in the wetland.

This is the first review of this project, to present existing conditions, resources, alternatives, and impacts for the proposed design. In our plan, we reference US Route 3 going North, Connecticut River is out to the West. US Route 3 is at the base of a steep hill with flat, lowland to the west. US Route 3 is at about a 2 ½% downgrade going north, the low point is around station 117.

Right at the primary culvert outlet, we have a fire pond and the entire parcel at the outlet was a wetland enhancement project constructed in cooperation with NRCS in 2006 and has a wetland reserve program (WRP) easement that we are going to have some minor impacts to.

Most of the project is quite a distance from the Connecticut River but it does bend sharply. The closest project impact is a little over 900 feet from the river, at Station 118, so technically we are within ¼ mile.

*(Chris displays photos, including the following):*

The primary culvert inlet, the inlet area looking South along US Route 3, the inlet channel is believed to have been created when the original US Route 3 roadway embankment intersected the hill, so it wasn't a natural stream but more of a created drainage way, we will provide more information on that later. Inside the primary culvert, you can see that it was extended at some point. The original construction was prior to 1936 which is the oldest plans that we have. The picture doesn't show all of the deteriorated areas, but we have some serious holes on the top and other concrete-related issues. At the outlet area there is a gravel access, and the fire pond is just down below that. The culvert outlet is within the small trees and brush area. There is a channel leading to the fire pond, as noted here we don't expect the match from the culvert replacement to stretch this far and we do not expect impacts to the channel where it enters the fire pond.

Incidental work: Photo of the location of a 15-inch concrete pipe that goes from a drainage inlet from the left, under Route 3, out into the ditch section of the primary culvert. The last piece of the pipe and headwall has fallen off, so we are going to repair the pipe in-kind and add an end section rather than replacing the headwall.

Photo of the second culvert replacement area, inlet at a depression in the embankment. The pipe crosses under Route 3 from east to west and outlets into the big wetland. The pipe ends are buried, so the plan is to replace it at a higher elevation.

Several photos of the southbound direction of Route 3, beginning at the north project limit, showing the access road to the berm that was constructed with the 2006 wetland enhancement project and existing small trees along the roadside. Proposed work includes construction of new guardrail along the edge of pavement. Last photo is at the fire pond access looking north. The steep slope along the outside of the curve adjacent to US 3 definitely warrants guardrail. The culvert replacement is going to impact this area and either require extending to meet current standards or install the guardrail, allowing the culvert to stay short. With that, I'll turn it over to Dillan to go over resources in the area.

Dillan Schmidt (NHDOT): For USFWS, on the IPaC species list we have Northern long-eared bat, Canada Lynx, and Monarch Butterfly. There were no records of State-listed threatened or endangered species as per the NHB Data Check. I did see Purple Loosestrife on-site while in the field, that is the only invasive plant species that was identified. Wetland delineations were conducted in August 2022. For contamination we anticipate LRS management, there was no point-source contamination. As Chris indicated, we have some conservation land to the west of US 3, and we are partially within ¼ mile of the Connecticut River, which is a designated river. Items that were of no concern or not present within the project area are Section 106 impacts, State-listed Threatened and Endangered species, and point source contamination. (*displaying wildlife corridor map*). This is a map of predicted wildlife corridors, and as you can see there are two predicted corridors. We looked into this and there is potential to increase the primary culvert to a 6-foot span and upsize the 15-inch culvert to a 24-inch culvert, both of which should help increase the ability for wildlife passage. With that, I'm going to pass it back over to Chris but if anyone has any questions, please let me know.

Chris Carucci (NHDOT): The existing primary culvert is concrete, open bottom. The dimensions do vary throughout, the minimum inside dimension is about 3 ½ feet square, the outlet could be as much as 4 ½ feet high. The culvert slope is relatively mild, inlet and outlet slopes are also relatively mild, then it takes a dip into the fire pond. Original construction plans from 1936 indicate the culvert was extended and there are no records of more recent modifications. The culvert is in poor structural condition, with no history of flooding or damage. The drainage area is 146.8 acres. We looked at two tailwater conditions: one is the wetland berm created under the 2006 project and downstream of that somewhere between the road and the river is a railroad embankment, that was used for the tailwater analysis for the culvert. The existing and proposed culverts are pretty close to existing slope. If bypass were to occur, it would be over the adjacent driveway, headed down to the next crossing which is the 15-inch culvert.

Alternatives for the primary culvert: The intent was to replace the culvert in the same location and at similar invert elevations, matching existing conditions as closely as practical. New culvert will be embedded 12" with natural bottom material and concrete grade controls to hold the material in place. The length will be 61 feet, about the same as existing. Sizing will meet current design standards, pass Q50 and would not cause any damage or overtopping with Q100.

Sizes considered included replace in kind (3.5' high x 4' wide), 3.5' high x 5' wide, and 3.5' high x 6' wide. The 3.5' height constraint is to maintain cover at the inlet side and allow for resetting the guardrail terminal above the inlet. Capacity goes up significantly with every foot of additional span. As span increases, outlet velocities decrease slightly. The incremental cost is not significant relative to the overall project budget, total construction cost would increase about \$30,000 to \$50,000 for an increase up to the 6-foot span. We are in fact proposing a 6-foot span

and as Dillan noted, we do have two wildlife corridors, a little bit wider span provides some benefit there, and some benefit to reduced outlet velocity.

This crossing was not delineated as a stream, but we did in fact check the bank full width for this drainage area, which is about a 6-foot span. If it was delineated as a stream or not, we would still be proposing the same design.

*(Displaying plans)*

Proposed culvert elevations are close to existing, so the channel match is relatively short, about 15 feet on the inlet with some new riprap on the outside of the bend. Existing stone will be reset. On the outlet side the match right now is about 50 feet, we can probably reduce that a bit on the final review of the grading. The slope right around the outlet wingwalls is pretty steep so stone stabilization will be needed to hold that slope.

The secondary culvert is existing 15-inch concrete pipe about 56 feet long also constructed in 1936. The pipe connects a small wetland area on the east side of US 3 to the large wetland on the west side of US 3. The pipe is buried on both ends and is currently non-functional. The bypass would be to the north to the next crossing. There is no history of flooding or damage related to this pipe. Drainage area is about 13 acres, and analysis finds the existing 15-inch culvert is undersized. Tailwater analysis used the top of berm elevation rather than the higher railroad embankment elevation. The proposed pipe elevation will be higher to match the wetland grade on both sides, end sections would be added. A replacement 18-inch pipe would have passed the Q50 but with a little bit of bypass, so we went with the 24-inch pipe as it passes both Q50 and Q100 with no bypass. Restoring functionality and upsizing will also improve openness ratio and allow a better opportunity for wildlife passage. Chris discussed the 15-inch pipe outlet repair: One 4-foot section of the 15-inch pipe has fallen off and we're going to remove that, reset the 4-foot section and add an end section rather than a headwall. We expect the end section to be more stable and it will better match the existing embankment slope. The 15-inch slope drain near the primary culvert is obstructed by riprap. This area will be disturbed anyway, so we will put an end section on the slope drain. The final piece is the proposed guardrail, as previously shown in the photo, there is a steep slope on the outside of the curve and we can't provide the required clear zone due to the wetland impacts and right-of-way impacts. The total guardrail length would be about 440 feet including the end units. The majority of wetland impacts are related to the end unit terminal platforms that need special grading so that an approaching vehicle remains stable in a head on impact.

The primary culvert is to be done in two phases, with US 3 open to traffic in one lane with temporary signals. A small amount of temporary widening will be required along the southbound side of US 3. The slope impacts for the temporary widening are within or less than the overall project impacts. The replacement duration is estimated at about 2-3 weeks per phase. The total disturbed area is just over ½ acre, this includes non-jurisdictional areas.

Preliminary wetland impacts are about 1,600 SF permanent and about 2,800 SF temporary. These are mostly an accumulation of small impacts.

In summary, the overall budget is \$635,000, with the assumption that no mitigation payments are required. About 4-5 months of construction anticipated in the summer of 2024. Temporary easements are required from 3 parcels, totaling about 11,850 SF. Tree clearing areas total 3,860 SF, mostly brush and small trees. Total combined temporary and permanent wetland impacts are about 4,425 SF.

**Q/A**

Karl Benedict (NHDES): I would check the boxes for the alternatives analysis and the estimated impact areas make sense. One question I had I believe it's the 15-inch existing pipe. Does that get abandoned or does that get removed?

Chris Carucci (NHDOT): The existing pipe would be removed.

Karl Benedict (NHDES): Okay, the second question I have is the inverts were set to the existing wetland delineation. Could you expand a little more on that? It shows water level, can we confirm that it is the wetland elevation and what I'm really getting out is that there would be no change to wetland elevation due to these inverts.

Chris Carucci (NHDOT): When survey goes out, they pick up water level at the time they happen to be out there. The pipe is shown as slightly higher than existing ground level but to get an even invert elevation and also to get some slope on the pipe. The average ground elevation in the big wetland varies quite a bit. But generally, we want to be close to the wetland line at the end. Shown on the profile, we would be sticking out about 2-feet into the delineated wetland. We try to match very close to where the ground wants the drainage to cross.

Karl Benedict (NHDES): Great, that's what I was looking to confirm, thanks. Trying to confirm invert elevations relative to wetland elevation. So, I think you've addressed it there. Another question that I did have was relative to the stream diversion, could you maybe expand on that portion of the project a little bit? Ultimately what I'm getting at is sizing considerations for construction aiming at the 2-year storm event.

Chris Carucci (NHDOT): Yes, so I've done a preliminary calculation for what size pipe would be necessary, the other alternative would be digging a new pipe from the inlet all the way across Route 3, or we could dig a pipe north under the driveway and outlet it into the existing ditch, with a little bit of grading. That 15-inch pipe that we mentioned is about another 100 feet, so this seemed to be the least impactful method of diverting water. The 24-inch pipe inlet at this point would pass the 2-year storm.

Karl Benedict (NHDES): Great, that addresses it, thank you. My final question is relative to the wetland classifications. I would just like to mention to maybe re-evaluate that as potentially a stream. It does show up as a drainage layer, I do agree with Palustrine-forested and Scrub-shrub, I just wonder if there is maybe also a stream resource running through it. Relative to the alternatives, I don't think it really changes other than a quantification of the impact areas and linear feet associated with that. My only comment would be to ask to re-assess that stream classification.

Chris Carucci (NHDOT): I think our wetland folks drafted a narrative supporting their delineation which would be included in the permit application.

Dillan Schmidt (NHDOT): I just wanted to add a couple of quick points to that, one being that the conveyance of water is not classified as a stream on NWI and on not shown as a stream on the national hydrography dataset, and the stream is running straight and parallel to the roadway for several hundred feet and appears to be unnatural and channelized due to past construction. Those were just a couple of quick comments but as Chris indicated, there is a narrative to back those claims up.

Karl Benedict (NHDES): Thanks, we'll dive into that, so thanks that's my only other comment.

Andy O'Sullivan (NHDOT): Karl, just to expand on that, we have gone out there multiple times with multiple people because it was a complex location where we had the same questions you have, so we did take a second look at that.

Karl Benedict (NHDES): Great, thank you I will look for that to be addressed as you mentioned.

Mary Anne (NHDES): I'll defer to Karl on the stream crossing designs, I thought he had some good questions on that and agree with his analysis. The one thing I will say is part of the mitigation accounting and generally impact tracking, we are looking more carefully at how projects are classified. We are seeing folks' mis-classify projects that are really wetlands and streams. So, make sure you look not just at the NWI or the NHD as when we did the updates for NWI it did not account for narrow stream systems of less than 15 feet. USFWS had a memo on that so I would look to the State definition of water course which looks at defined scouring, and evidence of sediment transport for continuous channel. That's how we are defining streams, so it would kick into riverine on the NWI classification system. We are also looking at each of the different types of wetlands and what their predominant functions are. So that's something that we are going to be requiring a more detailed accounting when we update our forms. In terms of the wildlife corridor, is that something you're proposing a wildlife shelf at that crossing?

Chris Carucci (NHDOT): There is not a wildlife shelf. This crossing has relatively low base flow, the bottom would be kind of a V shaped, so low flows would be concentrated in the center so there would be dry edges within that crossing.

Mary Anne (NHDES): Okay, do you know what types of wildlife would be using that crossing?

Chris Carucci (NHDOT): We don't have any specific species.

Mary Anne (NHDES): Okay, the other thing to be aware of is I don't know if you've looked at the new NWI that's been published since November of a year ago actually, we have just published on the WPPT a function layer which is computer generated so that might be a good screening layer. It can't be relied on without field verification but that's something on these large-scale projects that you can start to look at. That's a computer-generated function, it's called NWI+ on the WPPT so I just wanted to let you know about that and that's all I have.

Mike Dionne (NHFG): No comments from me, seems like a good project and we appreciate the upsizing for better wildlife passage.

Kevin Newton (NHFG): No comments, we don't have any records according to the NHB DataCheck.

Mike Hicks (ACOE): No comment other than to make sure the historical components are squared away, and the bats, and I believe it was the Lynx, just make sure we address that and other than that, it looks fine.

Jeanie Brochi (EPA): Great discussion, I have no additional comments thank you.

Gary Croot (USCG): No navigable waterways impacted so we have no comment.

Brook Stubbs (USDA-NRCS): So, I have no additional comments I just appreciate the opportunity to watch the presentation. Looks like a great project and we will be looking forward to receiving a draft copy of the agreement (in relation to the NEPA analysis and draft Subordination Agreement that needs to be provided by the project proponent to NRCS for review) so we can get that paperwork done and it looks like you guys have everything under consideration for the evaluation of the resources so no further comment, thank you.

### **Fremont, # 23793 (Non-Fed)**

This is the initial presentation to the Natural Resources meeting. Jerry Fortin introduced the Stantec project team to the meeting attendees, and noted this project is being presented on behalf of the Town of Fremont then began the presentation regarding Fremont 23793 – Culvert Replacement Project at Martin Road over Brown Brook. He reviewed the existing condition of the site:

- Located at the Eastern side of Fremont

- Brown Brook (Tier 3 Stream) crosses under existing bridge
- Existing bridge is a 1930 cast in place concrete deck on steel beams
- 10' w x 4.5' h x 18' l
- Brown Brook is backwatered thru culvert to depth approximately 2 feet
- 9-10' travel lanes along Martin Road
- 520 AADT (2020)
- The project is adjacent to Prime Wetland

The wetland delineation plan and photos of the inlet and outlet were presented along with photos of the existing bridge. Jerry noted the existing bridge is on the State's Municipal Red List due to the poor condition of the deck and serious condition of the substructure. The abutments are poorly aligned with the channel and the recent bridge inspection report dated December 21, 2021, notes the abutments are undermined and the north abutment has settled about 3 inches. The preferred alternative cross section was presented of a 22' span x 7' rise x 30' long precast concrete box with simulated channel bottom. Jerry noted the gravel fill material beneath the culvert to address the unsuitable material found during the geotechnical survey conducted for the project. A profile of the preferred alternative along the stream channel was presented showing the limits of work and intent to maintain backwater in the proposed channel under the bridge. A preferred alternative plan view was presented next showing the limits of riprap. A color plan was presented of the entire work area that provided a visualization of the stream limits, wetland limits, roadway improvement limits, proposed riprap, and the 100' prime wetland buffer line.

The stream crossing worksheet information was presented noting the stream type as DA5 along with noting:

- Entrenchment Ratio, ranges 6.7 min to 11.9 max
- Bridge Width using 6.7 min =  $(17 \times 6.7 + 2) = 116'$  bridge width
- Width not necessary for hydraulic design and is not practicable
- Would be cost prohibitive (bridge would be much larger and substantially more expensive)
- Requires additional impacts to stream and floodplain
- Requires additional property impacts
- Extensive time for roadway closure and earthwork to accomplish large bridge construction
- Additional Floodplain alteration (bridge may require raising the roadway)

A construction phase plan view for the bridge replacement was presented showing a temporary 48" diversion pipe, temporary upstream and downstream coffer dams would be used during the removal of

the existing structure and installation of the box culvert, grading and installation of the stream channel material. Martin Road would be closed temporarily during the 2-3 weeks needed to complete the installation of the new box culvert.

Jerry turned the presentation over to Mike Leach, who presented a wetland summary plan for the stream and wetland and noted the project overall impacts of 11, 395 SF of temporary and permanent impacts to the stream, wetlands, prime wetlands and 100' prime wetland buffer. A separate plan was presented showing the temporary and permanent impacts to the 100' prime wetland buffer. Mitigation for the project was presented and notes as:

- Culvert sizing based on  $1.2 \times \text{bank full width} + 2'$  equal to 22 feet which is an increase in width of greater than 200%.
- Increases opening for aquatic passage by 2.1 times from existing.

- Will provide simulated stream bottom material.
- Will pass 100-year storm for Brown Brook with more than 1 foot freeboard.
- Reduces 100-year floodplain elevation by approximately 1.5 feet of the bridge.
- Maintains approximately 2 foot depth of water through opening under normal flow conditions to promote aquatic passage.
- A waiver will be requested for the impacts to the Prime Wetland and 100-foot buffer.

Mike noted the results of the NH Natural Heritage Bureau data check received in December of 2022 were the American Eel and Blanding's Turtle. At this point, the presentation was opened to questions.

Karl Benedict of NHDES stated this project should be reviewed for compliance with the alternative design requirements. Since the project is in a priority resource area, mitigation would be required. Karl asked if the existing water velocities necessitated the extensive riprap layout, and if the limit of the proposed riprap could be minimized or revegetated. In response, Jerry noted the average stream velocities at both the upstream and downstream face of the proposed 22-ft span box culvert are nearly half the existing values. Additionally, the proposed riprap layout helps mitigate the existing unsuitable material that will need to be over-excavated and improves scour protection. Jerry said Stantec will review the riprap layout and minimize the limits of construction where possible.

Karl noted the 48" diversion pipe should be designed for a 2-year storm; Jerry acknowledged and will confirm the pipe size is adequate.

Karl noted the length of the stream work was not noted. He suggested that a mitigation worksheet be prepared for the project.

Mary Ann Tilton of NHDES said for the Department to process the prime wetland waiver, Stantec will need to provide evidence the proposed culvert design does not impact the functions and values of the prime wetland as established by the Town of Fremont. Stantec will reach out to the Town for their prime wetland report. Mary Ann asked if the proposed culvert design meets AOT floodplain requirements; Jerry responded the proposed design lowers the floodplain as established in our hydraulic study.

Michael Dionne of NH F&G reiterated the request to review and minimize the proposed riprap layout.

Kevin Newton of NH F&G noted the angular surface of the riprap makes it difficult for species migrating through the area, and asked Stantec to review the extent of the riprap layout.

Michael Hicks of USACE had no comment on the presentation.

Jean Brochi of the EPA had no comments on the presentation.

Gary Croot of the USCG had no comments on the presentation since Brown Brook is not a navigable waterway so the USCG has no jurisdiction.

### **Jaffrey, #16307 (X-A001(234))**

Pete Walker presented VHB's current design plans for Jaffrey downtown. Main traffic movement through downtown is from north to south on US 202 through a "dog-leg" intersection. This project proposes a new bridge spanning the Contoocook River to improve traffic flow and safety, with minor repairs to the existing Main Street bridge. An NHDES Wetland Application will be filed shortly. The project proposes permanent impacts to two small wetlands, one of which is a Priority Resource Area as it is within the floodplain of the river, as well as impacts to the bed and banks of the Contoocook River. Permanent wetland impacts are currently estimated



to be about 4,500 sq ft, with about 4,000 sq ft/470 ln ft of impact within the river. The revised bridge design proposes to place rip-rap within the river to ensure that the new bridge is protected from scour. Because this reach is impounded, the river impoundment will be drawn down for installation of the rip-rap with a turbidity curtain or sand bag type cofferdams installed. At the Main Street bridge, temporary impacts include sediment removal to reinstall a trash rack at an existing mill race, as well as impacts beneath the bridge for temporary staging for concrete repairs. No permittee responsible mitigation was suggested by the Town of Jaffrey and furthermore there are no suitable potential sites due to the urban nature of the project area. As such an ARM fund mitigation payment for the permanent impacts is proposed.

#### Comment Period

Andy O'Sullivan (NHDOT) questioned whether an Alternative Design Report is required, due to the challenge of finding an appropriate reference reach. Andy believes the 92-ft span complies with the stream rules. Karl Benedict (NHDES) agreed with the methodology used by VHB for estimating bankfull width, and believes that the ADR process is the appropriate method to present the required stream crossing design information.

Pete Walker explained that geomorphic assessment completed in 2022 found that the downstream reference reach was classified as a Rosgen C5 channel, which would have a minimum entrenchment ratio of 2.2. The current design provides a entrenchment ratio of 1.7. The design complies with all stream rule requirements except that minimum ratio. Andy added that the ratio was calculated at a reference reach far downstream of the actual project area and therefore is not a representative reference reach. Karl responded that the project can be approved under the ADR process, the ADR narrative would need to explain that there is not a chance for a representative reference reach in the immediate project vicinity.

Karl Benedict NHDES agrees the Department would classify Wetland 1 as a Priority Resource Area. The design should also meet standards for stormwater under AoT rules and shoreland protection requirements. Karl believes an ARM Fund payment would be appropriate mitigation. Pete Walker mentioned that one issue needing resolution is how to calculate the mitigation credit for the wildlife shelves below the proposed bridge. Prior indication from NHDES was that mitigation is not necessary for these impacts but VHB needs further guidance on how to partition the impacts, since there does not appear to be a clear way to separate these impacts in the ARM Fund calculator. Pete suggested a working meeting with Andy O'Sullivan and Karl Benedict. Karl suggested it may be worthwhile including NHDES mitigation staff if needed.

Mary Ann Tilton (NHDES) commented that NHDOT should review and consider the DES self-mitigation rule for the wildlife shelves.

Mike Dionne (NHFGD) asked whether a mussel survey had been completed in the area. Pete confirmed that the NHNHB database search did not identify endangered mussels, no survey had been requested and therefore no survey has been conducted. Mike suggested that even common mussels should be relocated during the drawdown, regardless of whether they are identified by NHB. Further, drawdown should be completed at a rate of no more than 6 inches per day and completed before cold weather, approximately by mid-October.

Mike further asked whether it is known where the mill race leads. Greg Goodrich replied that the missing trash rack has allowed accumulation of debris further down the mill race channel, although it is unknown whether a weir or other structure is located within the mill race at its outlet to the channel. Water is flowing into the mill race, and some may get through it, but is not free flowing. In response, Mike expressed concern that fish could become entrained within the trash rack and suggested the mill race could be entirely blocked off at its face if no downstream water rights are being exercised.

Kevin Newton (NHFGD) had no further comments.

Mike Hicks (USACE) requested that floodplain impacts should be addressed.

Jean Brochi (USEPA) emphasized earlier comment by Karl Benedict that if there will be a change in the plan there may need to be a second mitigation discussion.

Gary Croot (USCG) indicated that there is no Coast Guard jurisdiction in this river segment.

### **Lee, #41322 (X-A004(593))**

Stephen Hoffmann reintroduced the Lee 41322 project involving the replacement of the structure carrying NH Route 125 over the Little River in Lee, NH. The project was previously presented at the October 2019, August 2020, and December 2021 NHDOT Natural Resource Agency Meetings. The purpose of this meeting was to present the selected alternative, provide project updates since the December 2021 meeting, discuss resource area impacts, and obtain concurrence from the resource agencies on the permitting and mitigation approach.

Updates since the prior resource agency meetings included: increasing the span length of the selected alternative from 90 feet to 100 feet; updated NHB DataCheck Results letter now includes spotted turtle and wood turtle in addition to the state listed species identified on prior NHB DataCheck Results Letters; rare plant survey completed in 2022 for American featherfoil and small whorled pogonia (no rare plants documented in the project area); and the advertising date has shifted from June 2023 to June 2024.

The existing structure consists of an 18' wide x 12' high corrugated metal pipe (CMP) that was installed in 1972 and was added to the State Red List in 2014. At the location of the crossing, the Little River has a watershed area of approximately 18.4 square miles making this a Tier 3 stream crossing. The Little River is also part of the Lamprey River Watershed and is a NH Designated River. The average bankfull width of the river at this location is 32' and the design channel bankfull width of the reference reach is 34'. Additional resources located within the project area include wetlands, priority resource areas (PRAs, floodplain wetlands adjacent to Tier 3 stream), 100-year floodplain (Zone A), and rare plants and animals identified by NHB and USFWS. Rare plants identified by NHB and USFWS include tufted yellow loosestrife, American featherfoil, and small whorled pogonia. A rare plant survey was completed in August 2020 and no rare species were identified. Based on coordination with NHB an additional rare plant survey was completed in June 2022 and again no rare species were documented in the project areas. Rare wildlife species include American eel, Blanding's turtle, spotted turtle, and wood turtle. NHF&G made the following recommendations based on preliminary coordination: 1) Time of year restriction from April 15<sup>th</sup> through July 1<sup>st</sup> to protect diadromous fish spawning runs, particularly river herring which has been documented in the Little River downstream from the project area, and American eel; 2) Wildlife friendly erosion control matting; and 3) Limiting riprap in the river channel. The NHDES WPPT was reviewed and the segment of the Little River was identified as a cold water fishery and an eastern brook trout water. However, John Magee at NHFG confirmed that this section of the Little River does not contain eastern brook trout and is not a cold water fishery.

The selected alternative consists of a 100-foot single span bridge structure with a channel realignment originating on the upstream side of the bridge. The proposed project will construct approximately 143 linear feet of "new" stream channel through the proposed structure. The

approximate bankfull width of the constructed stream channel is approximately 34 feet, matching the width of the reference reach. The proposed project also includes terrestrial wildlife shelves/floodplain benches (minimum of 3 feet wide) along both banks through the proposed structure. The project also includes streambed simulation material overtop proposed rip rap in the reconstructed channel as well as natural bank stabilization techniques.

The proposed channel alignment and natural bank stabilization were designed by Sean Sweeney of Headwaters Consulting, LLC. Natural bank stabilization techniques include void filled riprap, fabric encapsulated soil lifts, root wad bank revetment, and seeding/shrub plantings.

The proposed project will be constructed in phases, including a temporary traffic diversion located along an alignment shifted to the east in order to maintain two-way traffic throughout the duration of construction. This will involve extending the existing CMP at the outlet to accommodate the temporary diversion alignment. The project is anticipated to advertise in June 2024 with construction likely scheduled to start in the Fall of 2024. The temporary diversion and associated instream impacts will be completed outside the NHFG time of year restriction from April 15 – July 1. Direct impacts to the forested/scrub-shrub wetland along the toe-of-slope in the southeast bridge quadrant were avoided to the maximum extent practicable. The temporary fill slope lines associated with the temporary diversion were kept out of the wetland. However, temporary impacts will still be required for construction access, erosion control, vegetation removal, and utility relocations.

Permanent and temporary impacts to jurisdictional areas were presented and are summarized in the table below:

<b>Lee 41322 Impact Summary Table</b>						
<b>RESOURCE AREA</b>	<b>PERMANENT IMPACTS</b>		<b>TEMPORARY IMPACTS</b>		<b>CREATION</b>	
	<b>SF</b>	<b>LF</b>	<b>SF</b>	<b>LF</b>	<b>SF</b>	<b>LF</b>
<b>Channel</b>	2,125	127	2,256	86	2,960	143
<b>Bank</b>	735	180	1,062	266	1,868	276
<b>Palustrine Wetlands (Non-PRA)</b>	-	-	3,317	-	-	-
<b>Palustrine Wetlands (PRAs)</b>	235	-	728	-	-	-

The proposed project is anticipated to require a Major Impact Standard Dredge and Fill Permit from NHDES for replacement of a Tier 3 stream crossing and associated impacts to PRA wetlands. The proposed stream crossing is anticipated to be permitted as a Tier 3 alternative design because the 100-foot span does not fully meet the bankfull width x entrenchment ratio.

Mr. Hoffmann highlighted the proposed improvements of the bridge replacement project including improved geomorphic compatibility, hydraulic capacity, terrestrial wildlife passage (wildlife shelves), aquatic organism passage (simulated streambed, reduced water velocities through the structure), natural bank stabilization techniques, and proposed plantings. Mr. Hoffmann asked for concurrence from the resource agencies on whether the stream channel and bank impacts could be considered self-mitigating. Mr. Hoffmann also indicated that mitigation is assumed to be required for the 235 square feet of permanent PRA wetland impacts. The NHDES Standard Dredge and Fill application will be prepared in submitted to NHDES by fall 2023.

Andy O'Sullivan with NHDOT asked if the in-lieu-fee payment amount had been calculated for the proposed 235 SF of permanent PRA wetland impacts. Mr. Hoffmann indicated that it had not been determined at this time.

Karl Benedict with NHDES requested that the methods of restoration for areas of temporary impacts be provided and discussed in the permit application. Mr. Benedict also suggested changing the heading in the impact summary table from "Creation" to "Restoration" or "Enhancement". In addition, Mr. Benedict indicated that the crossing itself could be considered self-mitigating and agreed that mitigation would be required for the PRA impacts. Mr. Benedict suggested re-evaluating the project classification based on the Bank Stabilization Rules (Env-Wt 514) to determine the classification of the bank stabilization work. Mr. Benedict also indicated that NHDES would likely require two years of additional monitoring/oversight following completion of the project.

Mary Ann Tilton with NHDES had left the meeting, no comments were received.

Mike Dionne with NHFG had no comments.

Kevin Newton with NHFG indicated that the proposed project appeared to comply with the NHFG recommendations and conditions and asked for clarification on the time of year restriction and whether it included all construction or just instream work. Mr. Hoffmann indicated that the original restriction proposed by NHFG was for instream work only, and that additional work outside the stream could be completed during this window in order to complete the project in a timely manner. Mr. Newton noted that turtles may be attracted to disturbed areas associated with the project and indicated that NHFG would provide construction fliers on the rare species of turtle potentially found in the project area to educate the contractor.

Mike Hicks with USACE had no comments.

Jean Brochi with US EPA had no comments.

Gary Croot with the USCG indicated that the Little River is not a navigable water and had no further concerns.