BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: January 20, 2021
LOCATION OF CONFERENCE: Virtual meeting held via Zoom

ATTENDED BY:

NHDOT
Sarah Large
Matt Urban
Andrew O'Sullivan
Ron Crickard
Mark Hemmerlein
Arin Mills
Rebecca Martin
James McMahon
Ralph Sanders
Toney Weatherbee
Jason Tremblay
Chuck Corliss
Tim Boodey
Marc Laurin
Jennifer Reczek
Tobey Reynolds
Dan Prehemo
Gerry Bedard

ACOE
Mike Hicks

EPA
Beth Alafat
Jeanie Brochi

NHDES
Lori Sommer
Karl Benedict
Ann-Elizabeth Pelonzi

The Nature Conservancy
Pete Steckler

Consultants/ Public Participants
Jennifer Riordan
Tom Levins
Lee Carbonneau
Thomas Marshall
Gene McCarthy

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

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

NOTES ON CONFERENCE:

Finalize Meeting Minutes
Finalized and approved the December 16, 2020 meeting minutes.

Sugar Hill, #43226
Arin Mills, NHDOT Environmental Manager, presented the location of the project as a 5' x 69' corrugated metal pipe (CMP) replacement which carries NH 117 over Bowen Hill Brook in the town of Sugar Hill. Bowen Brook flows approximately ¾ mile NE to the crossing, and flow approximately 1 mile downstream to the convergence with the Gale River in Franconia. The Gale River flow into the Ammonoosuc River in Lisbon, as shown on the maps presented. The existing culvert was described as being installed in 1963 when NH 117 was re-aligned away from 'Donovan Corner', and the plans indicate a dam may have once been removed with construction of the existing crossing. The surrounding land-use was described as residential, with no conservation lands adjacent to the project. Photos were shown of the existing crossing conditions of the inlet/outlet and upstream/downstream.

James McMahon, NHDOT District 1, described the project and displayed draft impact plans to show the replacement of the existing 60" CMP with a 5' x 8' concrete box extended at the inlet about 5' to allow for improvements to roadway safety. He further described work to include installation of scour protection (rip rap) at both the inlet and outlet. Work will also include cobble-gravel below the Ordinary High Water (OHW) as stream simulation to restore the streambed at the adjusted location just north of the existing alignment. James explained this is a betterment funded project for which funds are secured, with work anticipated to take place this year.

James described site constraints which were evaluated and incorporated into the proposed project. Timing of this project has a large influence on the project given the high tourism throughout much of the summer months and into the fall, which include Lupine festival and fall foliage. James anticipates construction to begin in June, permit pending, in order to minimize impacts to travelers associated with tourism and plans to implement alternating one-way traffic to allow traffic to pass throughout construction. James also discussed ledge concerns for the site; he is being assisted by DOT Material and Research to confirm ledge depths, which will determine if the proposed design presented today is feasible. Lastly, maintaining traffic flow on the immediately adjacent Bickford Hill Road (Class V) is needed to allow local traffic patterns to be maintained.

James detailed the anticipated work plan, to include re-use of existing streambed material in the new channel alignment. The shifted alignment of the proposed crossing will allow the existing pipe to be used as a Clean Water Bypass (CWB), with a cofferdam installed to divert flow during construction. It was also noted that the pipe extension on the inlet will allow the one-way alternating traffic by shifting the roadway to allow safe traffic passage. James summarized the results of the hydraulic analysis, showing the existing 60" pipe passes the 100-year storm event, and anticipates the proposed increased capacity of the box culvert will also meet this requirement. The site has no history of overtopping.

Arin then provided a summary of the Environmental review for the site to date. Bowen Brook is a second order stream to the convergence with the Gale River, and therefore no Shoreland Water Quality Protection Act (SWQPA) jurisdiction. The watershed was delineated as a Tier 3 crossing with a 683 acre drainage area. No designated river buffer or previous permits were identified for the project area. Bowen Brook is a predicted coldwater stream, and no Aquatic Restoration data was collected for the crossing. No Natural Heritage Bureau (NHB) records were identified (NHB20-3033), and the stream is not determined to be Essential Fish Habitat (EFH). Arin showed data acquired from the NH Fish Survey Mapper, identifying there has been no fish data collection within Bowen Brook. Downstream in the Gale River fish survey data

did indicate both Atlantic Salmon and Slimy Sculpin were documented, while no species were identified in Bowen Brook. Arin also identified 1 dam, Coffin Pond Dam, between the site and the Ammonoosuc River. No FEMA Floodplains are within the project area, and the site has no history of flooding. The project was determined to be consistent with the 4(d) rule for the Northern long-eared bat, and Section 106 is complete provided the headwalls are of similar construction for historic aesthetics.

Karl Benedict asked that a vegetated/bioengineered bank be considered and incorporated where possible, and to justify the need for stone rip rap where/if needed through a discussion of the anticipated velocities at the crossing under different storm scenarios. Karl also asked if there is a grade control element proposed downstream. James stated he can include velocity calculations in the application, and anticipates a reduction in velocity and an overall improved condition with respect to natural resources. Grade controls at the inlet and outlet are anticipated in order to keep material within the crossing. The proposed slope is anticipated to be about 4%. Sarah asked if the perch will be eliminated; James confirmed he intends to drop the entire structure to eliminate the perch. Karl Benedict asked for a comparison with the reference reach, and the design velocities be consistent with the reference reach. Karl further recommended native plantings where practicable. Sarah mentioned that based on her field observations this reach of the stream is highly influenced by the historic road relocation, and in particular the upstream banks and channel appeared to have been manipulated when the road was constructed to its current configuration. But that information from the stream assessment will also be used to determine the replacement streambed material.

Lori commented grade control elements may benefit from a post construction report and monitoring to assess their function and assure they stay in place. Rip rap may require mitigation. Sarah suggested a separate meeting with DES to discuss the final design plans and overall mitigation requirements.

Amy L sent comments via email; there were no NHB concerns. Jeanie Brochi from EPA asked about monitoring timeframe associated with the fish data presented and wondered if any additional fish survey information would be collected. Arin stated there were no plans to conduct specific fish surveys. James mentioned he spoke with the town and found there was no known local fishing activities in the area of the project.

Mike H had no questions. Pete S mentioned the design for a low-flow channel through the crossing to allow for a wildlife shelf on the sides and to concentrate flow during low flow periods. James said he would look to incorporate that in the final design. Sarah mentioned that the proposed alternative will meet several of the design criteria (pass Q100, meet AOP, included streambed material throughout the crossing) however it will not meet the geomorphic compatibly compliant span recommendation based on the stream crossing assessment. Sarah confirmed this project should address the alternative design criteria (Env-Wt 904.10) within the wetlands permit application; Karl confirmed yes, due to the design size not meeting the recommended compliant design standard of a 13’ span.

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

Middleton, #43067

Arin Mills, NHDOT Environmental Manager, presented the location of the project as replacement of a duel existing 36” Corrugated Metal Pipe (CMP) and 24” Reinforced Concrete Pipe (RCP) which carries an un-named stream under NH Route 153 in Middleton. Arin showed a map of the project location and described that the un-named stream is not identified in either the USGS maps of GIS data. The location of the stream shown on the map was determined with assistance from NHGS staff using HydroCAD. The site lies within a residential area with scattered development with forestry activities ongoing surrounding the site. No

conservation lands are adjacent to the site. Photos were shown of the existing crossing conditions of the inlet/outlet and upstream/downstream.

Ralph "Sandy" Sanders, NHDOT District 6, described the project and displayed draft impact plans to the replacement of the existing structures to twin 30" x 56' RCP with precast headwalls. Work will include an 8 foot extension to both the inlet and outlet to improve roadway safety. Rip rap will also be installed on both the east and west bank of the inlet to improve the existing scour protection. Rip rap on the east side of the inlet will include ~4' of additional rip rap to supplement what is currently existing. Sandy described some site constraints to the proposed design, in that the area has a high volume of logging activity and the replacement pipes need to support this heavy equipment. Sandy further described the surrounding landscape as relatively flat and the need to provide adequate cover over the proposed pipe is limited by this topography. These elements lead to the twin pipe design, rather than single replacement when considering alternatives for the site. Sandy summarized the construction sequence and indicated that District forces plan to use one of the existing pipes as a clean water bypass, and standard BMP's for erosion control will be used. He also said the pipe does not have a history of overtopping and the hydraulics indicate the proposed pipe will pass a 50-year event and hydraulic analysis are in-process.

Arin described the results of the Environmental review for the site to date. The un-named stream is a 1st order stream so no Shoreland Water Quality Protection Act (SWQPA) jurisdiction, is a Tier 1 crossing with a watershed of 166 acres as delineated using HydroCAD, no Designated River and no previous wetland permits identified. Since the un-named stream is not in USGS there is no water classification, although the stream does drain to/from a forested wetland based on the NWI data. No NHB records based on NHB20-1096 database review and no Priority Resource Areas identified. No FEMA floodplains, no previous permits and the Wildlife Action Plan (WAP) determined 'Supporting Landscape' surrounding the site. US Fish & Wildlife indicated potential Northern Long-eared bat (NLEB) and Small whorled Pogonia (SWP). 4(d) concurrence for NLEB and no habitat or SWP plants based on field survey.

Sarah asked for concurrence that this is a Tier 1 stream crossing replacement and will need to accommodate the 50 year storm and falls under Tier 1 stream crossing replacement rules (Env-Wt 904.08). Sarah also asked for some comment on the twin culvert replacement design.

Karl said the proposed replacement will need to accommodate the 50-year storm event under the rules. He asked if the work would be done within in the ROW; Sandy confirmed the proposed work is completely within the State ROW. Karl asked if a single pipe was evaluated (vs the twin design) and Sandy said it was not as he is awaiting results of hydraulics to evaluate. Sandy stated the concerns for lack of cover over a single pipe, and will evaluate based on hydraulics. Karl said a single pipe is preferred over twins and asked that a single pipe, and possibly embedding the single pipe to maintain the channel through the crossing while also accommodating the 50 year storm event, could at least be consider for the application. Karl indicated that the project classification will be determined based on the linear feet and square feet of impact, < 50 LF will allow it to be classified as minimum, greater than or equal to 50 LF and less than 200 LF the project would be classified as a minor impact project Sarah asked for clarification that the project will be under the replacement of a Tier 1 (Env-Wt 904.08). Karl indicated that we are on track with replacement of tier 1 but we can coordinate further regarding the applicable section 900 rules. The project is proceeding down the path of a minimum impact classification, but the classification will be verified once the final impacts are determined and it can be confirmed that the impacts to the watercourse are less than 50 LF. Sarah reiterated that there is no existing perch and the crossing is currently at a low gradient with very thin cover above the pipes. She reiterated that the proposed replacement will likely be limited to twins and the analysis to show justification for this will be provided within the permit application.

Lori said the project is likely under the threshold for mitigation, and therefore will likely not be required. She mentioned, since this project involves a tier 1 crossing, if the project is a minimum impact project mitigation is not required; and even if the project classification is a minor, the impacts will likely be under the threshold for mitigation. Karl reiterated that the threshold for a minor impact project is less than 200 LF along the watercourse.

Amy Lamb mentioned via email she has no concerns. Mike Hicks, Jeanie Brochi and Pete Steckler all had no comments. Karl added one last comment specific to the draft impact plans shown at the meeting; the area between the pipe extensions would be considered permanent and will need to be adjusted on the plans.

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

Nottingham, #40612

Jenn Riordan (GM2) presented the project, which includes replacement of the NH Route 152 bridge over the North River in Nottingham. The project is state funded so the US Army Corps of Engineers (ACOE) is the lead federal agency, not FHWA. The project was previously presented at the November 2019 Natural Resource meeting. Since then, the design has progressed and wetland/stream impacts of the preferred alternative have been estimated.

The area adjacent to the bridge is mostly wetland. Powerlines are located to the north. A house and daycare are located southeast of the bridge and Nottingham Elementary School is located further south. A house is also located to the northeast.

The existing bridge is a reinforced concrete jack-arch structure with a 17-foot span. It was constructed in 1925 and rebuilt in 1970. It has stone and concrete abutments and wingwalls and is currently on the State's Red List. The existing bridge does not convey the 100-year storm but there is no known history of flooding at the site.

The Preferred Alternative involves replacement of the bridge with a 30-foot span structure. Rehabilitation of the bridge is not a viable option since the substructure has deteriorated to a point where it can't be repaired. The existing hydraulic opening is also a concern. The entire bridge needs to be replaced. The project will also involve 200 feet of roadway widening on each side of the bridge. A second bridge replacement alternative that is being evaluated is a 66-foot span structure. This would be compliant with the NHDES Stream Crossing Rules, but would have more wetland impacts and would cost approximately 50% more than the 30-foot span.

There are several traffic control options. The Preferred Alternative would involve closing the bridge during construction and detouring traffic. The detour is about 20 miles on state roads and 12 miles on local roads. The bridge would be closed for 28 days. Construction would take one season. This traffic control option would have the least amount of impact to environmental resources and would only take one construction season. Another alternative would involve phased construction, which would maintain one lane of traffic in each direction. This would require additional widening of the proposed structure. Construction would take two seasons. The third traffic control alternative would involve construction of an offline temporary bridge that would allow the road to remain open during construction, but would result in additional wetland impacts. Construction with a temporary bridge would take two seasons.

Design of the project is ongoing. A Public Officials Meeting is scheduled for February 8, 2021. The advertisement date is currently in 2024.

The natural resources at the site include Priority Resource Area (PRA) wetlands on both sides of NH Route 152 and the North River. The North River is a Tier 3 crossing (watershed is 6,800 acres), a NH Designated River (as part of the Lamprey River watershed), and subject to the Shoreland Water Quality Protection Act. The site is located within a Zone A floodplain, but there is no floodway. It is assumed that water quality treatment will not be required since the ground disturbance will be well under 50,000 SF for AoT and the site is not within a MS4 regulated community. There are two public water supply wells located south of the site. A daycare well is located approximately 150 feet south of the southern project limit. The well for Nottingham Elementary School is located approximately 1,200 feet southeast of the project limit. These distances are based on the NHDES OneStop Mapper. GM2 needs to coordinate with the NHDES Drinking Water Bureau regarding any specific recommendations.

LCHIP conservation land is located along the west side of NH Route 152, outside of the NHDOT ROW. Several federal- and state-listed species were identified in the IPac and NHB reports. Federal species include northern long-eared bat and small whorled pogonia. No evidence of bats was observed in the bridge and no small whorled pogonia plants were found at the site. There is potential habitat for small whorled pogonia located further from the bridge in the forested upland areas. State-listed species include brook floater, American eel, Blanding's turtle, Northern black racer, and spotted turtle. NH Fish and Game was contacted regarding these species. They indicated that no impacts to eels or brook floater mussels are expected. They also recommended the following conditions for turtle and snake species: cover road shoulder on the south side of the bridge with silt fence fabric if work will begin after turtle nesting season begins; use wildlife-friendly erosion control matting; and distribute turtle and snake flyers to contractors and include notes/photos on project plans. The Nature Conservancy placed wildlife cameras at the site to obtain information on wildlife passage.

The stream crossing rules were discussed. Bankfull width (BFW) is approximately 30 feet and the North River is a Type E stream near the project. A 66-foot bridge span would be compliant with the NHDES Stream Crossing Rules (2.2 x BFW). The project will need to apply for Alternative Design since the Preferred Alternative is a 30-foot bridge span. A longer span would require raising the road and would increase permanent wetland impacts. The 66-foot span alternative would also cost over 50% more compared to the 30-foot span alternative.

Wetland impacts for the Preferred Alternative (30-foot span with bridge closure during construction) are estimated at 3,416 SF of wetland impact and 182 LF of stream impact. This includes 1,164 SF of permanent wetland/stream impact and 105 LF of permanent stream impact, as well as 2,252 SF of temporary wetland/stream impact and 77 LF of temporary stream impact. The Preferred Alternative has the least amount of wetland impact. The 66-foot span alternative would result in more wetland impact from roadway work. Phased construction would require additional bridge widening, resulting in more wetland impact. A temporary bridge during construction would result in additional temporary wetland impacts.

The wetland/stream impacts associated with the Preferred Alternative are associated with bridge replacement. The roadway approach widening will avoid wetlands. The Preferred Alternative appears to be self-mitigating since it will lengthen the bridge span from 17 to 30 feet and will improve hydraulic capacity (the proposed bridge will convey the 100-year flood while the existing bridge does not). The Preferred Alternative also includes the addition of a wildlife shelf under the bridge to improve wildlife passage in the project area.

The resource agencies then provided comments on the project.

Karl Benedict (NHDES)

- Agree with the approach to apply for Alternative Design
- The stream impacts seem to be self-mitigating due to the hydraulic improvements, although permanent impacts to PRA wetlands located above ordinary high water will need to be mitigated. Jenn Riordan confirmed that this would include approximately 236 SF of impact as currently shown for the Preferred Alternative.
- Asked if the amount of new impervious surface has been quantified. Tom Levins replied that the area has not been determined but it would likely be around a 10% increase. Karl mentioned the need to confirm if AoT requirements need to be met.

Lori Sommer (NHDES)

- Agreed that permanent PRA wetland impacts need to be mitigated. She commented that she would like to see the plans.
- Local conservation commission should be contacted, but since it is such a small amount of mitigation, an ARM fund payment would be appropriate in this case.
- Impacts to the LCHIP property on the west side of NH Route 152 should be discussed with Lori. Jenn Riordan commented that the LCHIP property is on the west side outside of the ROW and she doesn't believe there will be impacts.
- Agreed that the project is self-mitigating for the stream impacts. Since the wildlife shelf is part of the proposed mitigation, a post-construction report and follow-up monitoring would be needed.
- Do floodplain culverts need to be considered as part of the Alternative Design review? Karl responded that accommodating the 100-year flood event meets this requirement.

Pete Steckler (TNC)

- The project intersects the Connect the Coast planning effort. TNC placed two wildlife cameras at the site: one at the bridge and one southeast in the floodplain area. Currently, there is not much opportunity for wildlife crossing at the existing bridge, there is no dry area below the abutments, so no place for animals to walk. Not many animals were observed but there are a lot of people who fish near the bridge. The floodplain camera detected various species. A floodplain culvert may perform better for wildlife passage than a shelf under the bridge.
- Most larger animals would be expected to stick to the forested edge of the wetland area and not walk out in the more open area where they would be more exposed. However, smaller floodplain dependent species like raccoons and mink would be anticipated to potentially use a shelf.

Liz Pelonzi (NHDES)

- Liz suggested that GM2 reach out to her regarding the daycare well. Rebecca received an email from Liz which she will forward to Jenn Riordan. If this well is within 200 feet of the project, Level 4 protection measures are recommended.

Mike Hicks (ACOE)

- Is this a Section 106 No Adverse Effect? Jenn Riordan responded that the bridge was determined Not Eligible.

Jean Brochi (EPA)arol

- No comments

Amy Lamb was not in attendance but Sarah Large reported that she had no concerns, but that the NHB report was expired.

Wildlife passage was discussed further, particularly the use of the adjacent floodplain/forest habitat and the potential for floodplain culverts. Pete Steckler said that bear will pass through a 48-inch culvert. He recommended a 5-foot culvert, if the road profile allows for it. A wildlife shelf is still useful if the design doesn't allow for a floodplain/wildlife crossing culvert.

This project was previously discussed at the 11/20/2019 Monthly Natural Resource Agency Coordination Meeting.

Harts Location, #40595-2

Arin Mills, NHDOT Environmental Manager, presented the railroad bridge repair project which carries the Conway Scenic Railroad (CSRR), bridge #81.82, over Kedron Brook in Harts Location and within Crawford Notch State Park. The railroad line was described as an active line operated by CSRR as a lessee and provides tourist service in all seasons with the exception of winter. A figure showed the line runs from Conway to Luneburg, VT and the active line is only the Conway to Whitefield section. Arin further described the line is owned and maintained by the State of NH and was constructed in ~1886 with very limited plans of construction. The track is a Class II track with a max speed of 20 MPH and the DOT ROW is 49.5' wide from centerline.

Kedron Brook is a mountainous stream which flows from the steep terrain on Mt Willey, and flows ~0.5 miles from the site reach to the site. From the site Kedron Brook flows ~ 0.3 miles under US 302 and empties into the Saco River. Photos were shown of the existing conditions of the site from the fall of 2020, to include the slope failure on the NE wing of the crossing and slope material which has entered the stream. Project challenges were outlined to include; no roadway access (rail only), limitations of the rail access to include 2 large bridge structures which limit the ability of movement of equipment needed for the project to the site, excessive slope steepness, no existing staging area and limited staging areas at the Arethusa Falls parking lot (DNCR) within the NHDOT ROW of 49.5 ft.

A map showed the proposed (tentative) path where heavy equipment would create a temporary access route from US 302. This access request is in-process with the DNCR, who are receptive to the proposal. Photographs from a site visit conducted in the fall of 2020 showed the forested area and proposed staging area near the failure. Based on the site visit no wetlands were observed along this access route.

Chuck Corliss, NHDOT Operations Engineer, showed a project overview plan with the wetlands field data collected and existing topography of the site. He then showed the location of the proposed Class 5 rip rap would be placed at a 1.5:1 slope to repair and stabilize the failing slope. Chuck then described the proposed staging area required for staging of both material and equipment during construction. At this time the hope is to keep this within the existing DOT ROW (49.5' from centerline), although there is potential for additional clearing within the forest needed for staging. Chuck described a basic access plan to include the installation of erosion control measures, excavation of a ramp to the NE slope to allow movement of excavator and material to the base of the slope. The cofferdam and clean water bypass pipe will allow for clean water flow to be maintained throughout construction.

Chuck showed a preliminary wetland impact plan to include removal of existing material in the stream and placement of stone from the stream channel to the top of the bank to stabilize and repair the failure. Chuck described a basic construction sequence to include installation of erosion control measures, prepare staging area in NE corner, install coffer dam and bypass pipe, excavation of NE corner to the base of the failure, removal of excess material from Brook, installation of stone from Brook and up slope to match existing grade at rail. Once work is completed the staging area will be reseeded and erosion control measures will

be removed. The project is estimated to take about 5 weeks to complete. Chuck lastly showed the preliminary hydraulics analysis for the site, which determined the need for Class 5 rip rap required to be placed to above the 100 year storm elevation to handle the peak velocities of the site.

Arin described the results of the Environmental review so far which include that Kedron Brook is a 1st order stream to the convergence with the Saco River, no Shoreland Water Quality Protection Act (SWQPA) jurisdiction. The watershed was delineated as 199.46 acres making it a Tier 1 crossing, no Designated River (just outside Saco River), no previous permits and confirmation from Mike H the Brook is not Essential Fish Habitat (EFH). Based on the Wildlife Action Plan Kedron Brook is predicted coldwater, no recorded NHB Records (NHB20-2180) which will need to be updated based on the final design area and no Priority Resources areas identified. The US Fish & Wildlife Service lists Norther long-eared bat and Canada lynx to have potential to be in the area. Arin said we anticipate 4(d) rule concurrence for the bat and based on field observations of lack of suitable habitat for the lynx there no anticipated concerns for impacts. Section 106 for cultural resource review is pending, and a Request for Project Review (RPR) is anticipated for impacts to the historic bridge structure.

Sarah asked for confirmation that the project be considered a bank stabilization/restoration project (Env-Wt 514) and since the project does not propose to alter the structure/crossing, that DOT will not need to address the Env-Wt 900 Stream Crossing rules in the wetlands permit application. Karl concurred that this project is categorized as a bank stabilization project (Env-Wt 514) and that the stream crossing rules do not need to be addressed so long as there are no impacts to the hydraulics and the application provides velocity calculations for the structure and the outlet conditions as they relate to the bank and channel stabilization work. Karl further asked if drainage at the top of the slope is contributing to the failure, and if so to be sure to address within the work. He also commented that erosion control will be key, and asked for double protection where possible and the excavator not be placed in flowing water. Karl requested a longitudinal profile be provided to show the regrading through the stream channel. He also requested a drawing showing the existing contours as well as the proposed be provided with the application, and the elevation of the stone within the stream channel be shown. Karl asked if there were plans to revegetate the bank; Chuck stated there were plans to revegetate the staging area, but no plans to revegetate over the rip rap. Karl mentioned the wetland impact classification will depend on the linear and square feet of impact, once final plans are developed.

Lori had no additional questions and indicated that mitigation would not be triggered for this project. The group discussed the crossing being a Tier 1 crossing and it's anticipate that the impact will not exceed 200 LF. Mike H. said he did confirm with NMFS that no Essential Fish Habitat (EFH) evaluation is required. He did reach out for concurrence due to the naming of the stream in the General Permit Appendix of Kendron Brook vs the USGS naming of Kedron Brook. Jeanie Brochi, EPA, had no comment.

Pete Steckler asked for clarification on the need to access through the forest, and if the limitation was the size of the rail car to travel over the rail. Chuck clarified that NH does not have a rail car available to transport the equipment required and this would be costly and many logistical challenges to completing the work in a timely manner. Pete suggested that a restoration plan be developed for the access path that equipment will travers up from NH Route 302 in order to deter people from utilizing the path as a hiking trail. Chuck mentioned that he does not anticipate that it will look like an obvious trail from the roadway as they planned the access path in a way to minimize the amount of trees cleared and to keep the forest in tack as much as possible.

Amy L provided an email stating there was a historical record of a rare plant in the area, but based on recent surveys and habitat conditions she does not anticipate impacts to the plant. Karl asked that

vegetation be provided where able, such as above the 100-year flood event and that the application indicate what type of rip rap will be used up to which

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

Lyme, #43079

Arin Mills, NHDOT Environmental Manager, presented the location of the project as bridge 089/0144 which carries NH 10 over Trout Brook in Lyme. This is a state funded and state executed project. Red Brook flows approximately 1 mile from its headwaters before entering Trout Pond, and an additional 4 miles from Trout Pond to crossing at Route 10. From the crossing it flows ~1/3 mile where it empties into Post Pond, which ultimately enters the Connecticut River. It was noted that the crossing has evidence of current and ongoing beaver activity, as shown in the photo from summer of 2020. A map was shown depicting the location to be mainly undeveloped immediately adjacent to the site. The Chaffee Wildlife Sanctuary is immediately adjacent (downstream) and was identified as a LWCF property. Arin stated she made contact with the program and they do not have concerns for the project. Photos were shown of the existing conditions both upstream/downstream and inlet/outlet from summer of 2020.

Tim Boodey, NHDOT Bridge Maintenance, described the project to include installation of scour protection as well as dredging of material that has built up over time. No work is proposed on the culverts themselves. Tim showed preliminary impact plans and described impacts as scour protection immediately adjacent to the inlet and outlet, as well as dredging of material to open up the crossing during all flows. Currently the crossings do not have even distribution of flow due to the sediment build-up. Bank scour is occurring at both the upstream and downstream side. Tim described the need for landowner coordination to conduct the proposed work and the request for additional community feedback from the proposal, to include the property abutters. Tim described there may be changes to the plan from this coordination, which may require an additional meeting to review changes to the plan that may be developed. Tim described a basic construction sequence, to include work in low flows and use of a bypass pipe. Rip rap bank stabilization is proposed at the inlet and outlet. This rip rap will be installed from the pipe and extending away from the structure along the streambank. Tim stated the existing crossing has no history of overtopping, and a record does indicate these pipes were installed to address continued overtopping/flooding at this location. Tim also mentioned there also was no record of dredging of this crossing in the past, and does not anticipate the dredging will be a regularly occurring maintenance activity. A hydraulic analysis will be included with the permit application, and does not anticipate the work will further restrict flows.

Arin, NHDOT Environmental Manager, provided a summary of the Environmental review to include Trout Brook is a 3rd order stream and therefore not protected under the Shoreland Water Quality Protection Act (SWQPA), is a Tier 3 crossing with a watershed of 11.46 square miles, no Designated River and no previous permits identified. Trout Brook is a predicted cold water stream, no Natural Heritage Bureau database records (NHB20-1116), no Priority Resource Areas (PRA) and no Essential Fish Habitat. Arin provided some available information relating to fish in the area, to include predicted coldwater fisheries habitat with no known Species of Concern or Eastern Brook Trout. No available NH Fish & Game data for Trout Brook, although records of Eastern Brook Trout and Slimy Sculpin were detected ~2 miles downstream of Post Pond in Grant Brook. No active dams between site and Connecticut River, although there are dams upstream of the site. Arin also mentioned there was a lot of fish stocking by Fish & Game in the surrounding water bodies, to include Trout Pond. Red Brook is within a 100-year FEMA floodplain. A US Fish & Wildlife search concluded Northern long-eared bat potential, and a 4(d) concurrence was

received. Section 106 review for cultural resources determined no concerns provided no excavations for staging or access.

Sarah asked for confirmation that project would fall under Env-Wt 523 for dredging, and no stream crossing rules would be needed. Karl B concurred no stream crossing rules need to be addressed in the wetlands permit application because this is a dredging activity, although he did have questions on the change in velocities as it relates to scour protection. Karl asked if the Department had considered just removing the beaver dam to restore flow and allow material to move naturally. Karl mentioned he would like to understand the scour potential at the crossing by way of the velocities that lead to the need for the riprap scour protection along the streambed. He also mentioned the surrounding wetlands would be a PRA-"floodplain wetland contiguous to a tier 3 watercourse" and impacts to the PRA's would need to be addressed. Karl expressed that the PRA is identified by the FEMA 100-year floodplain overlapping the adjacent delineated wetlands along a tier 3 watercourse. Karl also asked if bioengineering was evaluated for the bank stabilization needs. In summary, he asked impacts be justified by discussing the velocities, identify alternatives such as removing the beaver dam and letting the stream naturally correct itself, identify PRA impacts and address hierarchy of bank stabilization rules. Tim mentioned that maintenance forces do address the beaver dams. Tim also commented that the rip rap placed within the stream will be similar to natural streambed material and feels it would address potential undermining of the structure. Tim stated the expectation is that installation of more natural streambed material at the inlet will also allow for more natural streamflow and lessen the aggregation of material. The Department is open to the idea of a more natural bank armoring away from area immediately adjacent to the structure, and encourage vegetation growth.

Lori Sommer believes mitigation may be required due to impacts within the PRA, but is not clear on amounts at this time. She suggested a possible future discussion to address mitigation requirements. Mike Hicks did mention although trees are not cut, impacts to the bats may require additional USFWS coordination for bridge work. Arin mentioned this is a corrugated metal pipe and does not anticipate bat concerns and Mike agreed. Jeanie Brochi and Pete Steckler had no comments. Sarah stated Amy L had provided an email and that she had no additional comments. Tim's lastly stated he will develop a more finalized plan and send impact totals to DES after meeting with the adjacent landowners.

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

Bedford, #13692-C (X-004(254))

Thom Marshall provided an overview of the project, which has been presented at the Natural Resource Agency meeting twice before, in 2017 and 2019. The existing bridge was built in the 1950's and red-listed in 2008. It is comprised of twin 5' diameter concrete pipes with a mortar rubble masonry headwall downstream and a concrete headwall on the upstream side, added in 2011. As presented in 2019, the project will replace the twin culverts with a 48' clear span bridge, and adds a left turn lane for Twin Brook Lane, added in response to strong urging by local residents during a public meeting. The project is subject to MS4 permit conditions. A temporary bypass will be constructed and bridge construction will be phased to minimize site impacts. The stream will be considered self-mitigating. Thom shared slides showing the hearing plan presented at the November 7, 2019 public hearing and the construction phasing details with cross sections of the road and bypass. Approximately 2,000 ft. of road work will take place. There are two primary phases of traffic control, which includes a downstream bypass bridge located tight to the existing road to minimize impacts. This bypass location also avoids the Bragdon Farm conservation land to the north. In Phase I, traffic will be diverted to the bypass while bridge work takes place on the northern

portion of the bridge. In Phase II, traffic will return to the northern portion of the new bridge while the remaining southern bridge work is completed.

Thom then presented the expected project schedule:

- Permit Application Submitted – March 2021
- Final Design – July 30, 2021
- Advertising – September 7, 2021
- Construction Start – Winter 2021/22
- Construction Completion – Spring 2023

Lee Carbonneau provided a recap of the natural resources present in the project area. Pulpit Brook is a Tier 3 stream, which was surveyed by Headwaters Hydrology. The wetlands along the brook are now classified as a Priority Resource Area (PRA). The current NH Natural Heritage Bureau report does not list Blanding's turtles, although earlier reports do, but project commitments still include streambank shelves under the bridge, use of wildlife friendly erosion and sedimentation controls, and providing turtle information sheets to the contractors. The US Fish and Wildlife Service consultation through IPaC was completed and a programmatic compliance letter on the Northern Long-eared Bat received. Vernal pools were surveyed, and there are two medium value pools within the project limits, classified using the USACE 2016 guidance. There are conservation lands owned by the Town of Amherst adjacent to the project, the Bragdon Farm mentioned by Thom, and shown in purple on the map inset. ROW agreements are in progress.

Lee described the additional work that took place in 2020, including wetland delineation extensions east and west of the project area, as well as around the stormwater BMPs, and geotechnical studies and recommendations. Wetland boundaries for floodplain wetlands along Pulpit Brook, originally delineated in 2016, were shifted in 2020. While the delineations were conducted by different wetland scientists, and likely in different seasons, the wetland extension upgradient is due at least in part to a clogged bridge along the old road alignment just downstream of the project area, which has increased water levels throughout the wetland by at least 1 ft.

Gerry Bedard then discussed the geotechnical engineering report that recommended flattening both the permanent and temporary road embankments from 1.5:1 to 1.75:1 for approximately 250 feet, which pushes out the toe of slope approximately 5 ft. into the wetlands. The report indicated that the slope change was necessary to meet the desired safety factor for stability of the slope. In addition, the report recommended the removal of muck soils below the embankments, as shown on the plan view and cross sections. The temporary embankment will be removed, and the area regraded to pre-construction elevations.

Lee identified the permanent and temporary wetland, stream and bank impact areas. The wetlands under the temporary bypass are now considered permanent impacts, as the muck soils will be excavated and not replaced. Small impacts related to vegetated swales #2 and #3, which were modified to minimize wetland impacts that would have occurred due to the 2020 delineation, are included. Lee provided a slide with the previous resource impacts as presented to this group in 2019 and the current resource impacts based on design changes. Permanent impacts of 8,995 sf include 2,187 sf of stream channel impacts and 683 sf of bank impacts. Temporary impact to wetlands, streams and banks is 1,583 sf. There are no direct vernal pool impacts, and impacts to the vernal pool envelope and critical terrestrial habitat are not expected to be significant enough to drop the pools from medium to low value, which would be a secondary impact. However, the GIS analysis has not yet been conducted. A recent adjacent private development located to the northeast of the project will be a factor in the analysis. Stream impacts are considered self-mitigating, as the project will replace undersized culverts with open channel and natural streambed materials, and

restore hydraulic compatibility, geomorphic compatibility, and aquatic organism passage. The permanent wetland impacts are less than 10,000 sf, so no compensatory mitigation is planned.

Sarah Large then went through a roll call for comments:

Karl Benedict: Karl appreciated the summary and agreed that the wetlands impacted by the temporary bypass should be considered permanently impacted due to the removal of muck. He wanted additional information regarding how temporary impacts to banks and wetlands are defined. He also suggested we confirm the extent of the floodplain, noting that impacts to floodplain wetlands adjacent to a Tier 3 stream are PRA and would require mitigation, regardless of the size of the overall total impacts. Karl also asked if the project will meet the NH Alteration of Terrain stormwater guidelines.

Thom referred to a cross section showing the 100-year storm flow at elevation 235', which may be the floodplain elevation. Lee noted that FEMA mapped a fairly wide floodplain along Pulpit Brook. It was concluded that the majority of wetlands impacted will likely be considered PRA.

Lori Sommer: Lori confirmed that the new wetland rules require mitigation for PRA wetland impacts regardless of size, and suggested we tease out the impacts based on overlap with the 100-year floodplain. She indicated NHDES would be looking for mitigation for these permanent wetland impacts. Lori also asked that we advise NHDES and USACE of the results of the GIS analysis for possible secondary vernal pool impacts, as that may also require mitigation. This can be coordinated directly with NHDES and USACE, rather than in a full agency meeting. Lori also asked if the project has held meetings with the towns.

Lee concurred that the vernal pool impact analysis would be completed and shared with the agencies, and noted that she attended a meeting with Amherst officials. Jennifer Reczek confirmed that several meetings have been held with Bedford and Amherst.

Mike Hicks: Mike indicated that he can pull in Taylor Bell if needed to address vernal pools, which for the Exit 4A project were addressed on a case-by-case basis. Mike also asked whether the project coordinated with the State Historic Preservation Office (SHPO) and if the existing bridge is eligible for listing on the National Register.

Jennifer confirmed that coordination with SHPO is complete and the existing structure is not eligible.

Jean Brochi: Jean had no additional comments.

Pete Steckler: Pete noted that this stream corridor is likely an important wildlife corridor, and asked if the bridge design included a wildlife shelf at bankfull elevation.

Thom returned to the bridge cross section slide which shows a wildlife shelf below the riprap embankment, which will be approximately 4' 8" wide on both sides of the stream channel and made of natural materials.

Andy O'Sullivan: Andy asked for more clarification regarding Lori's concern with the vernal pools, and if this was related to changes in water levels.

Lori indicated that her concern was with impacts to the vernal pool buffer zones.

This project was previously discussed at the 9/20/2017 and 6/19/2019 Monthly Natural Resource Agency Coordination Meetings.