

BUREAU OF ENVIRONMENT CONFERENCE REPORT

SUBJECT: Monthly SHPO-FHWA-ACOE-NHDOT Cultural Resources Meeting

DATE OF CONFERENCES: June 15, 2023

LOCATION OF CONFERENCE: Zoom Meeting

ATTENDED BY:

NHDOT

Sheila Charles
Meli Dube
Jill Edelmann
Jon Evans
Angela Hubbard
Rebecca Martin
Chelsea Noyes
Dzijeme Ntumi
Anthony Puntin
Jennifer Reczek
William Saffian
David Scott

NHDHR/NHDNCR

Laura Black
David Trubey

FHWA

Jamie Sikora

Town of Pelham

Jennifer Beauregard
Joseph Roark
Charlene Takesian

Town of Sugar Hill

Red McCarthy

GPI

Stephen Langevin

Hoyle Tanner

Josif Bicja
Deb Coon
Kimberly Peace

MJ

Christine Perron

**Pelham Historical
Society**

Diane Chubb

Preservation Co.

Reagan Ruedig

NH Rail Trails Coalition

Dave Topham

**Consulting & Interested
Parties**

Kimberly Abare

PROJECTS/PRESENTATIONS REVIEWED THIS MONTH:

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Pelham 16145, X-A001(151), RPR #5902

Participants:

- NHDOT: David Scott, Dzijeme Ntumi, Rebecca Martin, Jon Evans
- Town of Pelham: Jennifer Beauregard, Joseph Roark, Charlene Takesian
- Diane Chubb, Pelham Historical Society
- Consulting Party: Kimberly Abare
- NH Rail Trails Coalition: Dave Topham

Continued consultation to discuss the design alternatives for Pelham 110/090 and Pelham 111/090. The purpose of this project is to address the two NHDOT Red Listed bridges on Main Street over Beaver Brook to improve the hydraulic capacity of the crossing and remove the bridges from the NHDOT Redlist.

Dzijeme Lazares described the project and explained that it concerns two bridges over Beaver Brook located on Main Street in Pelham. D. Lazares shared a map and described the project area. She explained that the project would address hydraulic capacity and the structures on Beaver Brook. D. Lazares briefly described the Abbott Street Bridge project upstream which will be completed prior to this Pelham project and explained that the Willow Street bridge was previously replaced.

D. Lazares explained that the purpose of the project is to improve hydraulic capacity, to alleviate flooding concerns, to remove the two bridges from the NH Red List, and to resolve scour concerns. D. Lazares noted that bridge Pelham 110/090 was built in 1837 with an I-beam section added on to widen the bridge in 1929. The Pelham 111/090 Culvert has section loss and was built in 1988. D. Lazares explained that the need for the project is shown by the deteriorated condition of the bridges with structural deficiencies and inadequate hydraulic capacity. The Town has expressed concerns about downstream and upstream flooding. D. Lazares showed the horizontal crack in the arch and the voids in the bridge. She described the hydraulic capacity, showed a map of the watershed, and explained that it starts in Chester and is about 73 square miles of drainage. D. Lazares explained that since construction of the original bridge there has been much more impervious area added into the watershed with more water flowing to the bridge. She showed pictures of the water levels and flooding over the years and explained that the water has over topped the bridge, requiring bridge closure.

D. Lazares explained that the project was previously presented at a Cultural Resources meeting in November 2022 to talk about the 3 alternatives. She described the questions and resolutions from the last meeting. There was a question about why the project does not simply replace the relief structure. D. Lazares explained that this would not address the flooding concerns and scour issues. There was a question about Pennsylvania DOT methods for stone masonry arch bridges. D. Lazares explained that she coordinated with Peter Berg and Michael Cuddy and that they had explained that they do not rehabilitate masonry arch bridges for the 100-year flood, which the NHDOT needs to do for this project.

D. Lazares shared that the project was presented at Town Officials meeting and the Town sent a letter in support of replacement alternative. There was also a Public Informational Meeting held for the project and Sargent Gionet's mother expressed concerns about the naming of the bridge. D. Lazares explained that bridge design is going to use the old bridge identification number for the new bridge so they can keep the name. D. Lazares noted that at the meeting the public was amenable to bridge replacement with a 100-foot-long single span. She explained that the roadway would maintain horizontal but change vertical geometry.

The twin masonry arch bridge is an element of the historic district and is individually eligible. NHDOT plans to collaborate with the Town to develop mitigation options. Some options that might be considered include a website, kiosk, plaque, or perhaps reuse of the bridge materials. D. Lazares described the project timeline and that there is a hearing planned for late fall 2023 with plans for construction to be complete for fall of 2028. The project team is hoping to determine project effect next and then continue on with the rest of NEPA.

Jill Edelmann shared a follow up to the coordination with Pennsylvania DOT. She had asked a broad question about historic arch mitigation to a group of Cultural DOT folks and had been in coordination with Kara Russell. She asked about potential mitigation and learned that

Pennsylvania DOT has experience but have not had a bridge meet a 100-year flood requirement. Kara Russell had explained that they are able to restore the stone arches before they get to the condition that this bridge is in. When the columns are in better condition, rehabilitation is a more suitable option.

Laura Black commented that this is helpful information. She explained that she has a lot of experience working with Pennsylvania DOT, where there are really old stone arch bridges everywhere. She commented that she thought it was important to get their feedback on it. L. Black asked Jamie, if it is state by state which flood levels a DOT has to maintain a bridge to and noted that it seems like Pennsylvania DOT would also be sensitive to climate change. Jamie Sikora explained that bridge design has requirements and follows AASHTO guidelines, but he deferred to the bridge engineers. David Scott noted that regardless of the flow level we design to, we have a flooding issue at this bridge that the project needs to address. Laura Black commented that it is important to include the additional information in the various documents. She requested that the relief structure be explained from a non-engineer perspective, if you were to increase the size of the culvert, explain why that wouldn't relieve the pressure on the stone arch to provide justification for dismissing that alternative.

D. Lazares mentioned that it would be a problem to move the culvert any closer to the stone arch. Increasing the relief structure would add more scour concerns for the twin masonry arch bridge.

J. Edelmann inquired if there was agreement that there has been a decent alternatives analysis to arrive at an adverse effect? She explained that there are three resources in the APE; the twin masonry bridge, the historic district, and the Saint Patrick's Complex. She noted that there would be an adverse effect on the bridge. She noted that there would be an adverse effect on the historic district because the bridge is a contributing element. She commented that the effect on the Saint Patrick's complex is not clear yet and will depend on the work needed for the sidewalk and stormwater treatment design. Effects Evaluation tables will be completed for the school, at minimum.

J. Edelmann requested the Town's input and inquired if the Town has thought about mitigation for the loss of the bridge. Joe Roark noted that he sees improvements with addition of the sidewalk and improvement to parking lot for Saint Patrick's. J. Roark explained that his main concern is the timing of this bridge with the Town's planned Abbott Street bridge project. The Town project keeps getting backed up. He is hoping to not have to put forward another warrant article. J. Roark explained that the Town's main concern is coordinating both bridge projects. David Scott explained that this project will wait for the Abbott Street bridge project to be complete.

J. Edelmann described mitigation for adverse effect and described some options, which included; interpretive signage and history booklets. J. Edelmann offered to send examples so that the Town can discuss options. For mitigation, NHDOT will provide item(s) appropriate for the size of the impact to compensate for the loss posed by the adverse effects.

J. Roark commented that he would envision some type of kiosk or plaque. He noted that the Abbott Street bridge has more historical significance. J. Roark would like to see the bridge continue to have its name (Sgt Gionet). J. Roark commented that a simple memorial or kiosk seems appropriate but noted that he does not speak for the historical society. J. Edelmann

commented that NHDOT can work with the Select Board and Historical Society. There may be additional mitigation coming with the Town's Abbott Street Bridge project.

L. Black asked about any concerns that have been voiced by the consulting parties. D. Lazares explained that Representative Kimberly Abare was concerned about keeping the name of the bridge (Sgt Gionet) and maintaining access during construction for an abutting property owner.

Jamie Sikora noted that we will need to complete the adverse effects determination before going into the 4(f) conversation. He shared that the project cannot use the bridge programmatic 4(f) for effect on the District. He wonders if replacing the bridge would have a benefit to other historic resources in the district and commented that a 4(f) net benefit might be considered.

Dave Topham asked about the hearing. D. Lazares explained that we are hoping to schedule a hearing in October or November, and that notices will go out to abutters. The hearing will be advertised, and it will be held in a public space. D. Scott noted that the project will be working through Section 106 before moving on to the hearing.

Shelburne 40551, X-A004(430), and Shelburne 42966, X-A005(003); RPR #14189

Participants:

- GPI: Steve Langevin
- McFarland Johnson: Christine Perron
- NHDOT: Jennifer Reczek, Meli Dube, Angela Hubbard,

Initial consultation on the proposed rehabilitation of Bridge 075/113 and repairs of Bridge 075/110, located on North Road over the Androscoggin River (R&C #14189).

This meeting addressed two adjacent bridge projects, Project 40551 (Bridge 075/113) & Project 42966 (Bridge 075/110). Both bridges carry North Road over the Androscoggin River in Shelburne and are adjacent to the Brookfield Hydro Station and Dam. The Appalachian Trail route uses the bridges to cross the river at this location.

Christine Perron provided an overview of existing resources. A district area form was completed for the district associated with the dam facility and the district was determined to be eligible. The recommended boundary for the Lead Mine Bridge Powerhouse Historic District encompasses the power plant, the land owned by the power company, the dam and its components, and the bridges and roadway crossing over the tailrace and bypass reach. The boundary includes all the land and water rights owned by the hydroelectric company as shown in the FERC license. Laura Black clarified that the district also includes the 1906 railroad causeway resulting from plant/dam construction and the remnants of historic power line along causeway.

The two bridges are not individually eligible; however, both contribute to the historic district. The other individual components of the district have sufficient integrity to contribute to the historic district, but none were considered individually eligible.

The Appalachian Trail is listed in the National Register; however, highway bridges that carry the trail are not eligible for listing under the trail nomination. A Phase IA/IB archaeological survey has been completed. No resources were identified, and no further survey is recommended.

Steve Langevin provided an overview of existing conditions and the proposed projects. North Road has a federal classification of rural local road, with a width of 20' to 28'. Average Annual Daily Traffic (AADT) in 2020 was approximately 357 vehicles, and projected AADT in 2042 is expected to be 528 vehicles. Approximately 2,500 hikers cross the bridges on North Road annually according to the Appalachian Trail Conservancy.

Bridge 075/113 was built in 1900, widened in 1959, and had substructure rehabilitation in 2004-2006. The bridge is 182'-0" long, with four steel beam/concrete deck simple spans and one concrete arch span. The deck is 24'-0" wide with a 20-foot-wide two-lane roadway and two brush curbs. Concrete piers and abutments all founded on exposed bedrock support the stringer spans with five steel beams per span. The bridge was added to the Red List in 2013. The substructure was rated as fair (5), and the deck and superstructure were rated as poor (4). The existing steel pipe bridge rail, installed in 1959, is considered substandard.

The purpose of the 40551 project is to remove the bridge from the State Red List and improve public safety associated with pedestrian use. The need for this project is due to the following:

- The beams are not adequate for present day vehicle loads.
- The arch is in poor condition with large cracks, spalls and heavy efflorescence.
- The bridge consists of two 10-foot lanes without shoulders, which requires pedestrians to walk in the travel lane.
- Bridge rail is 28.75" in height (standard for pedestrians is 42")

Project design alternatives for 40551 were reviewed. Three rehabilitation alternatives are under consideration, all of which include replacing the existing deck, bridge rail, steel beams, and arch span. Rehabilitation of the arch is not recommended for the following reasons:

- The arch exhibits wide transverse cracks, heavy efflorescence leaking through the concrete, and large areas of spalls and delaminated concrete.
- The location and orientation of the large cracks are detrimental to the integrity of the structural performance of the arch.
- The roadway above the arch is heavily cracked.
- The width of the arch is based on the former 16-foot-wide bridge and was widened by adding concrete pedestals supporting concrete encased steel fascia beams. The strength and size of the beams is unknown and would need to be replaced because the assumed strength and size of the exposed 1959 beams were found to be incapable of carrying present-day loading.

The proposed structure would consist of 5 continuous steel beam spans with a proposed abutment at the south end where the existing arch is located.

- Rehab Alternative One: One lane traffic on bridge with permanent signals.
- Rehab Alternative Two: Cantilevered sidewalk for pedestrians
- Rehab Alternative Three: Widened piers and abutments to accommodate a wider superstructure

Replacement alternatives are also under consideration due to the age of the original abutment and pier concrete (123 years old), and the extension work required for the rehab alternatives.

Bridge 075/110 is a single span bridge was built in 1973. The bridge is 146' long and comprised of a single span of 5 welded plate girders. The concrete deck/steel beam superstructure is 28'-0" wide (curb to curb) with 2'-1" concrete brush curbs with granite curbs. Concrete abutments, north abutment founded on exposed bedrock, south abutment has a spread footing. The existing aluminum bridge rail is substandard.

The purpose of the 42966 project is to extend the service life of the bridge. Routine repairs are required to address deteriorating components of the bridge. Proposed work consists of the following:

- Clean and repaint steel girders and diaphragms
- Repair spalls and cracks in concrete
- Reseal joints
- Replace south expansion joint
- Replace existing granite curbs with concrete curbs
- Replace W-beam approach guardrail
- Replace waterproofing membrane and pavement.

Construction constraints were reviewed. Because of the limited roadway width (28 feet for Bridge 075/110, 20 feet for 075/113) and the close proximity of another river crossing, staged construction is not the most viable option. Therefore, vehicular traffic may be detoured to the east via Meadow Road. The detour length is approximately 6.3 miles from the US Route 2/North Road intersection to North Road/Hogan Road.

This would mean an additional 5.8 miles of travel (10 minutes at 35 mph). This detour is not on a state route and would need approval by the Town.

In addition to vehicular traffic, pedestrian traffic must also be detoured during construction. The vast majority of pedestrians crossing the bridge are assumed to be Appalachian Trail hikers. A proposed detour for hikers entails a 5.2-mile route through Gorham to the existing pedestrian bridge under the rail trestle onto the Mahoosuc Trail. This was the Appalachian Trail route prior to 1976.

The project schedule was reviewed. It is anticipated that preliminary design will continue through the summer, with a Public Informational Meeting held this summer on a date to be determined. The project currently has an on-shelf advertising date of September 2024.

Following are the major points that were discussed during the meeting.

Laura Black stated that it needs to be recognized that terms used in engineering and project development can have different meanings under cultural resource consultation. For example, alternatives that replace the superstructure of a bridge are not considered rehabilitation alternatives under Section 106. All of the rehab alternatives under consideration are considered replacement alternatives since the concrete arch and substantial components of the rest of the superstructure would be replaced.

L. Black noted that the alternatives that would provide a widened deck and cantilevered sidewalk would potentially result in more impact to other elements of the historic district than the other alternatives when thinking about the visual impact of the new structure. She further noted that all of the alternatives presented would result in an adverse effect on the district. Thought needs to be given to the pros and cons of new components and how they would impact the setting of the district.

Regarding the preservation project, L. Black asked why something dense and solid like granite curb would be replaced with concrete curbs. Jennifer Reczek explained that it isn't a materials issue, it's that as water gets behind the granite curb, it expands and pushes out the granite curb and leads to spalls. It's a water seal issue. With concrete curbs, there is no joint in the curb for water to get into and leads to a longer service life. A routine part of preservation projects now is to remove granite facing on concrete brush curbs.

L. Black stated that thought should be given to the scenic area and relationship to other elements of the historic district as design is progressed.

Jill Edelmann noted that the next steps for consultation would be holding the Public Information Meeting to get public input and then to complete the Effects Evaluation Sheets. One set of Effect Sheets for the historic district would be needed.

C. Perron asked if separate memos for the two projects should be prepared to ensure that effects are considered for each project. She wanted to be sure the proposed work for the preservation project would be considered on its own and not in combination with the 40551 project. J. Edelmann said this would need to be determined. Jamie Sikora asked if the projects have independent utility. J. Reczek responded that the projects could be completed independent of one another, that completing one is not dependent on completing the other. It just makes more sense to do the projects concurrently to realize more efficiencies in review and construction.

C. Perron noted that a true rehabilitation alternative would need to be vetted and documented for the 40551 project, especially for compliance with Section 4(f).

C. Perron asked if removing the granite facing from the brush curbs on the 42966 preservation project could be a potential adverse effect. L. Black said that, when considering effects, what is being removed and what will be put back would both need to be considered.

Sugar Hill 24218, X-A004(971), RPR #7577

Participants:

- Hoyle Tanner: Josif Bicja, Deb Coon, Kimberly Peace
- Town of Sugar Hill: Red McCarthy
- NHDOT: Jon Evans, Anthony Puntin
- Preservation Company - Reagan Ruedig
- Town of Sugar Hill - Red McCarthy

Continued consultation following the previous November 11, 2022 meeting for the proposed off-line replacement of Crane Hill Road Bridge (NHDOT Bridge No. 202/128) over Gale River at the intersection of Streeter Pond Road. The National Register-eligible steel Warren Truss bridge was constructed in 1928 and rehabilitated in 1960 and 1976. The purpose of the meeting is to discuss the Individual Inventory Forms that were completed, the expanded APE, to continue the discussion of the Cultural Landscape, and determine next steps.

Kimberly Peace (Hoyle Tanner) presented an overview of the project that proposes an offline replacement of the Crane Hill Road Bridge over the Gale River in Sugar Hill, NH. The focus of the presentation was to provide additional information with respect to requests made at the last Cultural Resources meeting in November 2022. These requests included revising the APE to address visual impacts, Individual Inventory Forms (IIFs) for two potential historic properties and continued 4(f) discussion regarding the Gale River Cultural Landscape (GRCL).

Preservation Company prepared and submitted to NHDHR the IIF's for the two properties located within the APE. The determination was that neither property was eligible for listing in the National Register of Historic Places, but they are contributing resources to Gale River Cultural Landscape. J. Edelmann stated the IIF's were reviewed at the Determination of Eligibility meeting on June 14, 2023 and NHDHR concurred with the determinations as noted in the IIF's.

The expanded APE was presented and includes the roadway along Streeter Pond Road from each bend in the road at the north and south ends. It was also expanded out to the east and the west just beyond the 392 Streeter Pond Road (Ski Hearth Farm) and 827 Crane Hill Road (Cushing Farm) residences. K. Peace stated that the area is in a valley and due to the topography of the area this was determined to be the most suitable area from which the bridge could be seen. L. Black agreed with the proposed expanded APE.

L. Black noted that while the bridge has deteriorated to the point where rehabilitation is not a viable or cost-effective option at this point, it is important to note that in some cases rehabilitation of a truss structure is possible, even with the consideration of the ice flow damage that has occurred, by raising the bridge and repairing the structure. J. Bicja stated that deterioration of the bridge below the deck level is extensive and even if the rehabilitated bridge is raised vertically, it would require installation of additional lateral bracing to prevent further ice damage to the lower portions of the bridge. Such modifications would require construction of new truss members that are stronger and larger in size than existing truss members, and there would be little historic fabric left in the bridge. K. Peace stated that the concern regarding alternatives analysis of rehabilitation versus replacement will be fully documented in the Effects Tables/Determination Memo.

L. Black stated that based on the information received we should be evaluating the effects on a historic bridge and a Cultural Landscape. She would refer to J. Sikora for if the Cultural Landscape is to be treated like a historic district for the 4(f) evaluation. J. Sikora stated that per FHWA, a cultural landscape is a type of historic district. If the bridge is a contributing resource to the GRCL, which it is, then replacement would possibly result in an Individual 4(f) evaluation. J. Sikora stated that if a determination of "No Affect" can be made for the GRCL then a Programmatic 4(f) evaluation can be done. K. Peace stated that the replacement of a historic bridge would be

considered Adverse Effect to the bridge resource but will be evaluated as to the effect on the GRCL.

Next steps were discussed and included completing effects tables for the bridge and the GRCL and mitigation for the loss of the bridge. L. Black stated mitigation should not be looked at as replacement but rather what can be done that would be beneficial for the community. Pamphlets that will sit on a shelf, for example, or a kiosk in an area that does not receive foot traffic are examples of things that are not beneficial. L. Black suggested thinking of the rural landscape and using that when determining possibilities. She also stated that while the area is not necessarily an area that receives pedestrian traffic, the Ski Hearth Farm is located across the street, and they do receive tourists and it was her understanding that this facility is undergoing renovations to also be used as wedding venue. R. McCarthy stated the owner of this property is receptive to the bridge replacement project and most likely would be open of placement of a kiosk or something similar on his property that would be seen by visitors to the property.

T. Puntin asked about the implications to the schedule as a result of the review. J. Sikora stated that an Individual 4(f) evaluation will most likely take three to four months to review and be accepted. T. Puntin stated right now this project is scheduled to be bid in the spring of 2024 and the project still requires right-of-way which can take some time and cannot be completed until NEPA is complete. If he needs to reallocate funding that is something that he needs to know in advance.

L. Black stated the effects tables need to be done first as this evaluation will determine 4(f) and the need for mitigation. J. Sikora agreed with L. Black. K. Peace asked if the bridge would need to be advertised for sale and J. Sikora stated that yes, it most likely would.