DATE OF CONFERENCES: January 10, 2008

LOCATION OF CONFERENCES: J.O. Morton Building

ATTENDED BY: Christine Perron, Kevin Nyhan, Marc Laurin, Charles Hood, Mark Hemmerlein, Steve Liakos, and Peter Stamas, NHDOT; Edna Feighner and Beth Muzzey, NHDHR; Jamie Sikora, FHWA; Thom Marshall, SEA; and Rene LaBranch, Stantec.

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

Greenland SP-2007-3
Hancock 13778
Hooksett, 15328
Deering-Antrim, 14237
Bartlett 14372
Salem-Manchester, A000(503), 10418C
Cultural Resources Programmatic: DRED

Thursday, January 10, 2008


An abutter would like the opportunity to purchase this 0.6-acre surplus property, which is located between NH Route 33 and Portsmouth Avenue. The parcel was the driveway that provided access to land formerly owned by the Piscataqua Fish and Game Club. After discussion of the parcel’s history and adjacent structures, it was determined that selling the parcel would not impact historic or archeological resources.

Hancock 13778 (no federal #): Participants: Kevin Nyhan and Steve Liakos.

The subject bridge, NH Route 137 over Moose Brook (138/110), is an I-Beam stringer bridge with concrete rail erected in 1939. Because of the financing of the bridge, the project needs to be completed by January 2009. The project will advertise April 1, 2008. Therefore, any necessary documentation needs to be completed by August 2008 when the bridge will be closed for construction.

The project will replace the superstructure including the stringers, deck, and rail. The design will retain the two 11’ wide lanes with a 24’ bridge width, and will be rated at H-15. The abutments will not be altered. Therefore, there will be no work outside the area disturbed for the construction of the present bridge.
B. Muzzey requested an individual inventory form to determine the bridge’s eligibility for the National Register. She requested that the form include comparables with other I-Beam stringer/concrete rail bridges, either at the local level if there are a sufficient number or statewide. She thought that a universe of ten bridges would provide a sufficient comparison.

**Hooksett, 15328 (no federal number): Participant: Rene LaBranch, ([Rene.Labranch@stantec.com](mailto:Rene.Labranch@stantec.com)) and Cole S. Melendy, Stantec.**

**Purpose of the Proposed Work**
- The proposed project consists of installation of a 6’ x 10’ (or potentially a 6’ x 12’) pre-cast concrete box culvert to replace the existing 48” RCP culvert and 36” HDPE culvert that carry Dalton Brook beneath Benton Road.
- The purpose of the project is to help mitigate the flooding issues that have historically occurred upstream of the culvert in the vicinity of US Route 3/28 and Route 28 Bypass.
- During the 2006 Mother’s Day Storm, it was reported that floodwater levels rose so that 15” of standing floodwater was inside the K-Mart store’s 1st floor located between US Route 3/28 and Route 28 Bypass.
- In addition, spring of 2007 floodwaters from Dalton Brook caused closure of portions of US Route 3/28, Route 28 Bypass, and Benton Road in the vicinity of the proposed work.

**Existing and Proposed Hydraulics**

Dalton Brook generally flows from east to west across US Route 3/28 and Route 28 Bypass.

On the west side of the Route 28 Bypass, portions of the brook are carried through what are believed to be two 48” culverts beneath the Merchants Motors Parking Lot.

Immediately downstream of the Merchant Motors culvert outlets, Dalton Brook flows in an open channel north for approx. 130’, beneath Benton Road, and through a wooded area for approximately 500’ before entering a large prime wetland located west of Route 3/28.

**Significant Hydraulic Issue**

The existing inverts of the Benton Road culverts are approximately 3 feet higher than the Merchant Motors culverts impeding the free flow of storm water.

It is proposed that the invert of a proposed Benton Road box culvert be lowered by approximately 3.5’ to provide positive streambed slope and to help mitigate ponding upstream of Benton Road and improve storm water hydraulics.

Lowering the Benton Road culvert invert requires that approximately 300’ to 350’ of stream channel downstream of Benton Road be lowered.

It is estimated that the proposed work on Benton Road and associated stream channel modifications alone would have a positive effect on the drainage issues in the affected area and would potentially mitigate storm water issues associated with an approximate 10-year and 25-year storm event.
Stream Channel Restoration

It was agreed that Gove Environmental Services, Inc would be involved in the design of the stream restoration for the project.

Discussion

It was agreed that a Phase IA archeology evaluation would be performed.

It was agreed that the NHDOT Municipally Managed Bridge Project (MMBP) number would be forwarded to Joyce McKay (MMBP – HOOKSETT #15328).

It was agreed that additional photographs of the culvert replacement would be forwarded to Joyce McKay. The intent of the photos is to observe if any portion of the former stone culvert remains beneath Benton Road.

Deering-Antrim, 14237 (no federal #): Participant: Thom Marshall, SEA (Thomas.marshall@seacon.com); and Mr. Craig Ohlson, Town of Deering.

S E A handed out a revised summary table of the potential alternatives, which included the mitigation efforts, proposed by the Town for each alternative. The discussion around each alternative was as follows:

Alternate 4A - New 2 Lane Online Structure on Integral Abutments is the Town’s preferred alternative. The anticipated project cost is $900,000 not including any costs associated with the mitigation effort. The Town has currently appropriated enough money to cover $600,000 in project costs and they feel that coming up with the money for their share of the additional $300,000 will be a difficult challenge in itself. Therefore, even under the assumption that another party would be responsible for most of the estimated $700,000 in additional mitigation costs for restoring the truss and re-using it at some offsite location, the Town feels that appropriating their share of these additional restoration costs is just not feasible. Based on the Town’s financial limitations, the proposed mitigation effort for this alternative would consist of:

1) Providing HAER documentation.
2) Removing, storing and advertising/marketing the bridge for a period of two years.
3) Constructing a memorial at the site.

Alternate 3 - New 1 Lane Superstructure on Rehabilitated Abutments was presented as the Town’s second choice because of its lowest overall cost. For financial reasons the proposed mitigation would be the same as Alternate 4A. Since Alternate 3 offers no safety improvements and no advantages with regards to historic preservation of the trusses over Alternate 4A it was eliminated from further consideration.

Alternate 1 - Rehabilitation of the Existing Bridge was next on the Town’s list of preferred alternates. Although the one-lane rehabilitation alternate does represent a compromise with respect to public safety because it does not involve the construction of a two-lane bridge to handle the current traffic volumes, it does address the structural deficiencies of the existing bridge while providing the highest level of historic preservation of all the alternates under consideration.
The rehabilitation effort would consist of “in-kind” replacement of truss members that are deteriorated, namely the bottom chords and a few verticals and/or diagonals. Deteriorated connection plates would also be replaced. Rivets would be replaced with high strength bolts at any locations where members or connection plates are replaced. Rivet replacement may also be required in certain locations in order to reach the desired structural capacity. The deck would be replaced with a new concrete deck. Concrete brush curbs would be installed with guardrail in order to protect the trusses. This would narrow up the roadway and create more of a true one-lane bridge. The possibility of a walkway was also discussed, but due to the lack of clearance between the trusses it is not possible.

At an estimated project cost of $800,000, the alternate is less expensive than Alternate 4A in up front costs but it is anticipated that the truss will require replacement of the joints and repainting of the structural steel in 25 to 30 years. Since no significant maintenance activities are anticipated with a replacement structure for 50+ years, the life cycle costs for the truss rehabilitation will be higher than those of the replacement alternative, particularly from the Town’s perspective since these future maintenance costs will be their responsibility with no reimbursement from the DOT.

It was anticipated that an archaeological survey would not be needed for this alternative but an official determination would be made once the proposed roadway work and limits were determined during the Engineering Study phase if this alternate was pursued in greater detail. Raising Old Concord Road to better match the elevation of the bridge will be investigated with this alternate but cost and floodplain issues could govern the design.

**Alternate 4B - New 2 Lane Bypass Structure on Integral Abutments** was dismissed from future consideration by the Town due to the overall costs and property impacts.

**Alternate 2 - Rehabilitation and Widening of the Truss** was not considered to be a viable option by the Town because of the cost.

Although the alternatives were narrowed down from five to two, the Town of Deering prefers the Alternate 4A two-lane replacement and DHR is in favor of rehabilitating the existing truss under Alternate 1. It was agreed that the Rich Roach should review the information that was presented and discussed since he would be the federal official to make the final determination on how to proceed. DHR asked that we keep them in the loop as far as our correspondence with R. Roach. Future correspondence with DHR could be handled via email and teleconferences, and Cultural Resource Meetings could also be scheduled as appropriate.

**Bartlett 14372 (no federal #): Participants: Mark Hemmerlein and Charlie Hood.**

The mitigation identified in the draft of the memorandum of agreement for the removal of the Bartlett Bridge was discussed. The mitigation included the following components: 1) documentation of the bridge using a New Hampshire Historic Property Documentation format; 2) the placement of a state historic marker at the truss near the intersection of US Route 302 and NH Route 112; 3) marketing of the bridge; and 4) completion of the historic road bridge inventory for those bridge types represented in the 1980s and 1990s survey using the multiple property nomination format for each types and production of the historic road preservation plan as funding permits for each of these bridge types.
Stipulation 4 had several additional components. It assumed that Nadine Peterson would revise the draft multiple property documentation for the High Pratt Trusses that she began while working at NHDOT. Using this documentation, the next step would be the completion of a preservation plan for the High Pratt Trusses. These two documents would serve as models for the other inventories and plans.

J. McKay explained the funding sources used to complete the mitigation under stipulation 4. The preparation of the preservation plan for the High Pratt Trusses would be funded through a State Planning and Research grant of about $8,000-10,000. $30,000 from the Bartlett project would provide match for Transportation Enhancement funding, using a project that had been funded through this resource but never completed. Together the match and grant would produce $150,000. While this is a sufficient amount to cover the updated bridge inventory and start the preservation plan, additional funds would be needed to complete the entire preservation plan for the bridge types included in the update. The time frame assumed completion of the draft document for the High Pratt Trusses by this spring, followed by the preparation of the preservation plan for that bridge type. The later document would be finished in the fall of 2008 or early winter of 2009. The remainder of the inventory and plans would be started within about two to three years, depending on when the TE funding becomes available.

B. Muzzey requested that there be an executive summary and tables at the end of the study to synthesize the eligibility of the bridges and the conclusions of the plan for each type. She was uncertain whether Nadine Peterson could complete the revision of the High Pratt Truss inventory and asked whether NHDOT would finish that step if that were the case. It is assumed that this step will cost approximately an additional $5000. B. Muzzey expressed concern about the projected length of time it would take to complete the inventory, approximately two to three years between January of 2010 and 20013. Therefore, she additionally requested that the completion of each multiple property nomination for each type be followed by the preservation plan for that type. She and her staff will prioritize the order of the bridge types that would be included in the inventory update and the preservation plan. B. Muzzey thought that this aggregate project could be completed in two years. J. McKay indicated that time frame might not be realistic. [The priority of the bridge types will be discussed on January 16.]

B. Muzzey requested that two rather than one marker be placed along US Route 302 to interpret the significance of the remaining two truss bridges on US Route 302: one placed in association with the High Warren Truss Bridge (134/074) over the Wild Ammonoosuc River near the intersection of NH Route 112 and US Route 302 in Bath and the second in association with the single span High Pratt Truss (127/178) over the Ammonoosuc that sits adjacent to US Route 302 in Bethlehem. She indicated that marketing the bridge on line with through major preservation organizations rather than in their publications would be sufficient.

Salem-Manchester, A000(503), 10418C: Participants: Marc Laurin and Pete Salo.

The project (construction number 14633E) at Exit 5 in Londonderry where Route 28 intersects with I-93 will advertise in March 2008. The current project involves the construction of a new on-ramp to the north and a new off-ramp to the south along the southbound section. At this point, the Manchester and Lawrence Railroad corridor is located adjacent to southbound section of I-93. There is a 4’X5’ stone box culvert or cattle underpass under the rail line at this location. Because the construction of the new ramp will change the stream flow in this area, NHDOT would need to replace the culvert.
B. Muzzey requested that a NH Historic Property Documentation Form be completed for the stone culvert. The document would include large format photographs and sketch plans of the culvert. Additionally, she requested an area form for the sections of the Manchester and Lawrence Railroad between Manchester and the state line that has not already undergone documentation. It would essentially involve an inventory of the resources that remain along the corridor with mapping and photographs, some background history, a statement of integrity, boundaries of the survey, and a statement of significance.

**Cultural Resources Programmatic: DRED**

J. McKay stated that she and Charlie Hood had met with Bill Gegas of DRED to discuss how the categorical exclusion document for the trail projects had been completed in the past. Typically, DRED had reviewed all the rail trail projects at one Cultural Resources meeting and prepared a single CE for all the trail projects.

Most of the discussions involved archaeological sensitivity. In the few instances in which E. Feighner had been uncertain about sensitivity, she had been able to review them in the field. Recently, that has not been possible, and DHR has requested the completion of a Phase IA/IB testing. Under the programmatic, J. McKay can review the projects with DRED and refer any questions to DHR or review them at a Cultural Resources Meeting. If the amount of field review needed for these projects is relatively limited, then J. McKay can complete these with DRED. Since Federal Highways provides funding for the trails projects through NHDOT, this type of project would not proceed differently than the others being treated under the programmatic. The trails project can be included in the programmatic, and DRED did not think it needed to be a signatory to the Programmatic Agreement.

**Memos/MOA’s:** Bartlett 14372 [MOA]; Hollis 15310 [MOA], Hampton Falls 13408B [memo]; and Salem-Manchester, IM-IR-0931(174), 10418C [memo].

Submitted by Joyce McKay, Cultural Resources Manager