BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: November 19, 2014
LOCATION OF CONFERENCE: John O. Morton Building
ATTENDED BY:

NHDOT
Christine Perron
Ron Crickard
Mark Richardson
Kevin Nyhan
Kathleen Corliss
Cheryl Rasmussen
Jonathan Hebert
Trent Zanes
Marc Laurin
Mike Dugas
David Scott
Tony Weatherbee
Jennifer Reczek
Peter Salo
Joe Adams

Army Corps of Engineers
Michael Hicks

EPA
Mark Kern

NHDES
Lori Sommer

NH Fish & Game
Carol Henderson

NH Natural Heritage Bureau
Melissa Coppola

Federal Highway Administration
Leigh Levine

The Smart Associates
Jennifer Riordan

GM2 Associates
Tom Levins

McFarland Johnson
Jed Merrow
Brian Colburn

CLD Engineers
Shannon Beaumont
John Byatt

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

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:

Finalization of October Meeting Minutes

The October 15, 2014 meeting minutes were finalized.

Wentworth, X-A003(407), 26903

Mark Richardson provided an overview of the project, which will address the bridge that carries Wentworth Village Road over the Baker River. The bridge, constructed in 1909, is a steel high Warren truss with a timber deck. The in-depth bridge inspection that was completed in May 2014 determined that the bridge currently has zero live load capacity remaining when considering all anticipated loads. The bridge was bypassed in 1937 when NH Route 25 was relocated to the west of the Wentworth Town Common but remains a State-owned bridge. Local traffic continued using the bridge until it was closed in 1987, at which time it was used only by pedestrians. Due to its worsening condition, the bridge was closed even to pedestrians in November 2013. However, the Town has indicated that pedestrians continue to use the bridge despite its closure, creating a public safety issue.

At this time, the Department would prefer to remove the bridge. The Bureau of Construction has determined that the bridge could be removed with a crane, which could swing bridge components to the southwest quadrant of the bridge for later removal. No impacts in the river would be necessary unless the Contractor chooses a different method. The only anticipated impact would be the temporary impact to the protected shoreland of the Baker River.

Mike Hicks asked if the bridge is historic. M. Richardson replied that the bridge is historic and was designed by John W. Storrs. The Department is consulting with the NH Division of Historical Resources.

M. Hicks asked if there was any lead on the existing bridge. M. Richardson said that the bridge is painted with lead-based paint and tarps could be placed on the ground where the bridge is dismantled to avoid the spread of paint chips.

M. Hicks confirmed that the project as presented would not need a permit from the Army Corps.

Carol Henderson asked how the Department determines the need for a pedestrian bridge. M. Richardson replied that the bridge clearly serves only a local purpose but the Town has been vocal about wanting to retain this pedestrian crossing. The bridge serves as pedestrian access into Wentworth Village and is commonly used during town events when there is overflow parking along Eastside Road. The Department's goal as part of this project is to turn the bridge over to the Town following construction, and Town officials have commented that they may be receptive to this.

Lori Sommer asked if a new bridge would be installed. M. Richardson replied that the Department's preferred choice at this time is an I-beam pedestrian bridge with a timber deck constructed by Bridge Maintenance forces on the existing abutments.

Christine Perron noted that this project has only recently initiated Section 106 consultation and that a preferred alternative has not yet been formally selected.

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

Meredith, X-A001(296), 16470

Kathy Corliss provided an overview of the project. The project begins approximately 400' west of Chase Road and continues east on NH Route 104 to approximately 100' east of Meredith Center Road. The project is part of the Highway Safety Improvement Program. There is a history of accidents within the project area, in part due to the poor sight distance at Meredith Center Road, especially while making left turns. The intersection of Chase Road also has sight distance issues making it difficult to turn in and out of Chase Road. Between 2002 and 2011, accidents resulted in 14 injuries at the Meredith Center Road intersection and 7 injuries at the Chase Road intersection. NH Route 104 has approximately 13,000 vehicles per day, with peaks of up to 16,000 in the summer.

Along the western half of the project area, NH Route 104 consists of two 12-foot travel lanes and 4-foot shoulders. The eastern half of the project area widens to two 12-foot travel lanes and 10-foot shoulders, with an eastbound right-turn lane into Meredith Center Road. Widening of NH Route 104 is proposed in three locations. At Chase Road, the roadway will be widened approximately 6 feet along the southerly edge for a distance of approximately 300 feet to allow for a 10' wide bypass shoulder to improve safety for turning vehicles. West of Meredith Center Road, NH Route 104 will be widened along the southerly edge approximately 10 feet to allow for an offset right turn lane into Meredith Center Road. Finally, there will be slight widening, approximately 1 to 2 feet, along the northerly edge of NH Route 104 west of Chase Road to better accommodate right turns out of Chase Road.

The project as proposed will result in an increase in impervious surface area by approximately 11,000 sq. ft. Treatment swales are currently being designed where possible for the treatment of stormwater runoff. The preliminary estimate is that three swales can be constructed in the project area, for treatment of runoff from approximately 12,000 sq. ft. of pavement. Runoff from the project area is currently untreated, so the proposed swales will provide an improvement.

Most of the cross pipes in the project area are in good condition. The one cross pipe that will be addressed is a 30" concrete pipe. The pavement over the pipe is cracking, which could indicate that parts of the pipe have shifted. Sections of the pipe will be reset to address this issue. The outlet headwall will also be replaced. The outlet of the pipe is perched approximately one foot although it's not yet known if this perch can be addressed. The proposed work on this pipe qualifies under the Notification of Routine Roadway Maintenance permitting process.

Lori Sommer asked for clarification of wetland impacts. Christine Perron replied that the only area of wetland impact would be at the location of the 30" concrete pipe, which would be covered by the Notification.

No concerns were raised about the project as proposed.

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

Danbury, X-A001(230), 16303

Jon Hebert provided an overview of the project. The project will address the bridge that carries US Route 4 over the Northern Rail Trail. The bridge was constructed in 1929 and rehabilitated in the 1950s and is now considered functionally obsolete. There is also an accident history within the project area. The existing profile has a 30 mph design speed. The speed limit through the project area is posted at 35 mph, but traffic commonly travels up to 50 mph.

Various design alternatives have been considered to address the bridge and the geometric deficiencies of the roadway. Rehabilitation of the existing bridge would require replacing much of the existing superstructure and deck, and would not address the majority of the conditions that make the bridge deficient. Both the rehabilitation alternative and bridge replacement on the same alignment would require a temporary detour bridge. For this reason, bridge replacement on new alignment is being considered so that the existing bridge can be used to maintain traffic during construction and the roadway deficiencies can be more fully addressed. An at-grade crossing of the rail trail was considered but the area is very wet and an at-grade crossing would put the roadway into the water table, causing future maintenance issues.

The project also proposes to flatten the vertical geometry to accommodate a 45 mph design speed at the crest to allow for greater sight distance on US Route 4. A 12' travel way and 4' shoulder, combined with greater separation between the horizontal curves and better sight distance, will improve drivability.

This project will also address the Spear Hill Road intersection, located just to the east of the bridge. The Spear Hill Road approach at US Route 4 is severely skewed, and sight distance is limited by the crest on US Route 4. This project would realign Spear Hill Road to create a 90 degree intersection to improve sight distance.

The existing roadway drainage sheet flows down slopes and in roadway ditches and culverts. There is no existing closed drainage on the project. Two 15" concrete pipes are in the project area. The project will maintain existing drainage patterns.

A wider roadway is proposed, from an 11-1 typical (24' wide roadway) to a 12-4 typical (32' wide roadway), resulting in an increase of 12,000 sq. ft. in impervious surface area. The feasibility of providing stormwater treatment is under investigation but options are limited due to slopes and wetlands. There are some areas where spot treatment may be possible. A closed drainage system is not anticipated although some slope pipes will be needed where guardrail is installed.

A preliminary estimate of wetland impacts is 12,000 sq. ft.

Mike Hicks asked if there would be any floodplain impacts. Christine Perron replied that floodplain impacts are not anticipated.

Lori Sommer noted that mitigation would be required for the wetland impacts as proposed, and asked if an in-lieu fee would be provided as mitigation. C. Perron replied that it was still early in the design process and the Conservation Commission still needs to be contacted for input on mitigation once impacts are finalized, but the Department's preference would likely be an in-lieu fee.

Christine Perron noted that the bridge is eligible for listing on the National Register of Historic Places and that Section 106 consultation would need to occur prior to formally selecting a preferred alternative.
This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Andover, X-A002(084), 20650

Trent Zanes provided an overview of the project. The project will address the bridge that carries NH Route 11 over the Northern Rail Trail.

The project proposes to replace the bridge on new alignment to the north of the existing roadway. The pavement width would remain the same with a 12-4 typical. Curves would be flattened slightly to provide a 50 mph design speed. The profile of the new roadway would be similar to existing. A new bridge would

provide 20' vertical of clearance for pedestrians and trail groomers on the rail trail. An at-grade crossing was considered but would not work with existing topography.

The total area of impervious surface within the project area would actually decrease from 48, 570 sq. ft. to 47,425 sq. ft. because there are currently some areas that have a slightly wider pavement width than what is proposed.

The proposed slopes would be 2:1 with guardrail in order to minimize disturbance. The preliminary estimate of wetland impact is approximately 13,450 sq. ft (0.31 ac). Sucker Brook is located to the east of the bridge. The alignment shift would necessitate extending the box culvert that carries Sucker Brook.

Christine Perron noted that there is a floodplain associated with Sucker Brook and potential impacts still need to be assessed. She also noted that the railroad bridge is eligible for listing on the National Register of Historic Places and that Section 106 consultation will occur prior to the formal selection of a preferred alternative.

Lori Sommer noted that mitigation would be required for wetland impacts as proposed.

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

Acworth, X-A001(226), 16301

Tom Levins (GM2 Associates) provided an overview of the project, which involves the replacement of the existing bridge on NH Route 123A over Bowers Brook in the Town of Acworth. The existing bridge was constructed in 1915 and is on the Red List. The bridge suffered significant damage from a 2005 flood event. The current opening is insufficient to convey Q100 storm events. The proposed bridge opening will be increased from 11 feet to 27.5 feet. Stone fill is proposed for scour protection of the new bridge foundations.

The original design for the project involved a temporary detour to maintain traffic during construction. This is no longer proposed and the project will involve a 3-week road closure to replace the bridge. A temporary pedestrian path will be constructed to the south of NH Route 123A to allow residents to access the Village Store, which houses the Post Office, during the bridge closure.

Jenn Riordan (The Smart Associates) provided an overview of the natural resources present and the proposed impacts. Existing wetland resources include Bowers Brook and a small emergent wetland at the edge of a field near the temporary pedestrian path. The Cold River is located south and west of the project. Proposed wetland impacts will occur from the replacement of the existing bridge (construction of new abutments and placement of stone). No wetland impacts associated with the temporary pedestrian path are proposed. Approximately 1,200 square feet of permanent wetland impact (bed & bank) are proposed and approximately 2,800 square feet of temporary wetland impact (bed & bank) are proposed. The temporary impacts are assumed for the entire area within the proposed drainage easement. The proposed linear footage of stream channel impact is approximately 350 feet (includes both banks and the channel).

The bridge will be widened to bankfull width, which will create additional streambed. The area of stream bed that will be created by the bridge replacement/widening is approximately 900 square feet.

Most of the project is within the 100-year floodplain. No permanent impacts are anticipated. Temporary fill in the floodplain will occur from the pedestrian path during construction, but this will be removed.

Bowers Brook is a tributary to the Cold River, which is a NH Designated River and is also subject to the Shoreland Water Quality Protection Act. During construction, temporary impacts to small areas within the Protected Shoreland of the Cold River will occur from the pedestrian path. The Cold River is designated as Essential Fish Habitat for Atlantic salmon. There are no Natural Heritage records of listed species within the project vicinity.

Lori Sommer asked if the linear footage impact calculation included the existing bridge abutments and other areas of the stream banks/channel that have been altered. It was discussed that the 350 feet of linear stream impact is the sum of the impacts to both banks and the channel. As a result, the length of stream impact from the upstream project limit to the downstream project limit is only about 100 feet. This includes the portion of the channel within the existing bridge structure and the existing bridge abutments and previously altered banks. Jennifer Reczek said that the bridge abutments and scouring of the banks had been repaired after the 2005 flood event, so the majority of the project area had been previously impacted.

Carol Henderson wanted to confirm that the temporary detour is no longer proposed, since it was mentioned at the previous Natural Resource Agency Coordination meeting that this had been requested by the Town of Acworth. Tom Levins replied that the Town decided that the 3-week closure would be preferred over the impacts associated with the temporary detour and the anticipated 3 to 6 month construction duration.

Michael Hicks asked if Bowers Brook is a NH Designated River. Jenn Riordan clarified that the Cold River, located approximately 200 feet downstream of the pedestrian path, is a Designated River, not Bowers Brook.

Mitigation for the linear footage of stream impact was discussed. Lori Sommer stated that mitigation is not required since the project will improve the conditions at the NH Route 123A bridge crossing by lengthening the bridge span and creating a wider stream channel. Mark Kern concurred.

This project was previously reviewed on the following date: 3/19/2014

Lebanon, NH-Hartford, VT, A001(154), 16148

This project will address the two bridges that carry Interstate 89 over the Connecticut River and will involve replacing the existing bridges' superstructures and widening both bridges to add additional lanes. The bridges would be widened to the inside, with a new pier between each pair of existing piers. Jed Merrow from McFarland Johnson briefly reviewed what was presented at the previous meeting: the overall setting, location of existing piers in the river, floodplain and floodway mapping, and rare species information. Recently delineated wetlands were also shown, including swales on the NH side and a stream on the VT side. No impacts are expected to the wetland and stream.

Brian Colburn of McFarland Johnson showed the proposed configuration of the new piers and described stormwater management. He noted there would be approximately one acre of new impervious surface in NH, and the strategy has been to treat stormwater where possible and to try to improve on existing conditions. He then described existing and proposed stormwater management. Proposed on the Vermont side is a wet detention basin that would collect and treat runoff from existing and proposed pavement. This detention basin will be constructed per VT Agency of Natural Resources requirements. On the bridge, scuppers are proposed to discharge runoff untreated to the river. On the New Hampshire side, a swale would be constructed along the north side of the highway to treat existing and proposed I-89 northbound pavement between the Plaza Connector Road and the bridge over the Connecticut River. Space within the right of way on the southbound side is not sufficient for formal stormwater treatment, but the design team will continue to investigate if some treatment can be provided for I-89 southbound pavement. For the

overall project, there would be approximately 3.9 acres of pavement treated, compared with an increase of 1.4 acres of new impervious surface.

Brian Colburn then described the options available for constructing the project. On the New Hampshire side, a temporary trestle would be constructed to access at least the first three eastern piers. The existing terrain allows relatively easy access to the river. Because the slopes on the Vermont side are long and steep, it will be difficult to access the river from that side. A temporary road would have to be designed and constructed across the railroad tracks and down the slope to the river, with impacts to the banks and river. The rail line is active, so coordination with the railroad operators would be necessary. The rail line is also a National Register-eligible historic resource. Alternatively, the river could be accessed from the New Hampshire side with a trestle constructed all the way across the river. The height of the trestle above the water could be adjusted to allow boating traffic to pass underneath. The locations of boat ramps and the kinds of boating traffic should be investigated, including possible fishing tournaments. Signage or other means may be needed to alert boaters to the trestle.

Mike Hicks asked about permit requirements. It is likely that the project would require Section 10 and 404 Army Corps permits under both the Vermont and New Hampshire Programmatic General Permits. Permit applications would probably be submitted next year. M. Hicks said that he would investigate whether an Army Corps Section 408 permit for work in navigational channels might be required. It is believed that no Coast Guard permit is required, since the area is only utilized by small recreational boats (as determined during the recent Route 4 bridge project upstream). FHWA would invoke Section 144(h) of Title 23 United States Code and seek concurrence from the Coast Guard that no permit is needed.

Lori Sommer asked if it would be possible to revegetate the bare land under the existing bridge on the New Hampshire side. The design team will coordinate with NHDOT's bridge maintenance staff to determine if the access road will be required after bridge construction is complete.

This project was previously reviewed on the following date: 5/21/2014

Deerfield, non-federal, 29759

Tony Weatherbee provided an overview of the project. The scope of the project is to rehabilitate the bridge that carries NH Route 43/NH Route 107 over the Lamprey River (Bridge 148/052). The existing structure is an I-Beam/Concrete bridge that has a 31'-0" span and 39'-2" deck width. Proposed work consists of repairing the undermining by modifying the existing toe wall and placing riprap. Riprap would not extend across the entire channel.

Carol Henderson asked that the size of the riprap be minimized where possible, and that the middle of the channel be left open for fish passage. She added that she was waiting for input from the fisheries biologist on possible concerns with construction timing. T. Weatherbee replied that it might be possible to accommodate a time of year restriction if one was necessary.

Lori Sommer said that no mitigation would be required since the project would impact less than 200 linear feet and impacts were necessary for the protection of existing infrastructure.

Mike Hicks asked if the Lamprey River is a Wild & Scenic River at this location. Christine Perron replied that the Wild & Scenic designation begins downstream of the project but that the entire river is a NH Designated River.

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

Concord, non-federal, 29760

Tony Weatherbee provided an overview of the project. The scope of the project is to rehabilitate the bridge that carries NH Route 13 over Turee Brook (Bridge 187/036). The existing structure is a concrete rigid frame that has a 15'-0" span and 36'-0" deck width. Proposed work consists of repairing the undermining by installing a toe wall and placing riprap. Work would take place in the summer and may require sheeting and a bypass pipe due to the amount of water at the site.

Melissa Coppola said that an exemplary natural community is located downstream and possibly upstream as well. Carol Henderson said there are likely records of sensitive turtle species in the area as well. Additional coordination will be required to address these potential concerns prior to submitting the permit application.

Carol Henderson asked how far down the undermining is and where will the riprap be. T. Weatherbee said that it is about 6 or 7 feet deep, so the riprap will be below the water surface.

Lori Sommer asked if there was any way to create a ledge on either side to accommodate wildlife passage. Tony replied that it would be possible. Although a ledge would reduce the hydraulic capacity of the structure, he thought it would probably still pass the Q100. L. Sommer asked for this to be confirmed and added that no mitigation would be required if a ledge is provided.

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

Salem-Manchester, IM-IR-93-1(174)0, 10418C (late addition to agenda)

The purpose of meeting was to discuss the Wildlife Corridor through Culvert No. 37(Cohas Brook Twin Culvert). John Byatt summarized the history of the corridor at this location and the current issues up for discussion.

First, input was requested on which barrel of Culvert No. 37 should contain the wildlife corridor. J. Byatt stated that originally the corridor was proposed through the south barrel of the culvert. After CLD began design of the structure, the survey showed a ditch at the end of the south barrel that would prevent wildlife access outside of the culvert. Therefore, CLD had recommended moving the corridor to the north barrel. However, after a site visit on November 18, 2014, it was determined that the actual drainage ditch was quite small and would not, in fact, restrict wildlife access. Pictures were distributed at the meeting to show this ditch in proximity to the culvert. Carol Henderson agreed that this small stream would not be a deterrent to wildlife access.

Second, input was requested on the method used to create the corridor. J. Byatt explained that the initial idea to create the corridor was to utilize a stone berm at the upstream end of the culvert to restrict flows and allow animals to traverse through that barrel of the culvert. However, there were concerns with the berm idea due to backwater into the culvert at the downstream end. Alternatively, an additional berm at the downstream end of the barrel would prevent backwater, but would not allow floodwater the ability to drain out of the culvert. Therefore, CLD proposed filling the barrel to the Q_2 elevation throughout the culvert with river stone. River stone is a mixture of small and large stones combined to simulate a natural streambed. CLD developed the special provision for this stone utilizing information provided by the NH Fish and Game Department.

Marc Laurin asked if a hydraulic analysis had been performed through this culvert. J. Byatt and Shannon Beaumont explained that the hydraulic analysis was performed when a 5-foot-corridor shelf was proposed.

Due to the large capacity of the culvert, it was determined that an additional and costly hydraulic analysis for the new corridor option was not necessary.

Discussion on the appropriateness of fencing to deter wildlife from accessing onto the highway ensued. C. Henderson stated that internal discussions at NH Fish & Game led to the decision that a 4-foot high fence would not be appropriate. Fish & Game would prefer that a barrier (such as a Jersey Barrier) to direct turtles be installed along the edge of the road to direct turtles to the median. M. Laurin stated that this may be a safety hazard, but that he would discuss options for installing this type of barrier outside the clear zone with Highway Design.

M. Laurin noted that due to the large amount of development on the north side of the culvert at the upstream end, the south barrel was preferable for wildlife access. He noted that there would be a disconnect for the corridor at the I-93 NB Bridge over Cohas Brook (in the vicinity of Bodwell Road) downstream of Culvert No. 37, as the wildlife corridor shelf extends along the opposite side of the river (south side) at that location. However, it was still felt by all that the south barrel was the best option for wildlife passage at Culvert No. 37.

All agreed that CLD would move forward with shifting the wildlife corridor to the south barrel of the culvert by filling the culvert with River Stone to the Q_2 elevation.

This project was previously reviewed on the following dates: 8/10/1995, 1/10/1999, 2/16/2000, 5/17/2000, 6/14/2000, 7/19/2000, 8/10/2000, 9/20/2000, 10/18/2000, 1/17/2001, 2/14/2001, 3/21/2001, 4/18/2001, 5/10/2001, 8/15/2001, 9/19/2001, 10/17/2001, 11/21/2001, 1/16/2002, 2/20/2002, 5/15/2002, 6/18/2003, 10/15/2003, 12/17/2003, 10/20/2004, 11/17/2004, 1/18/2006, 12/19/2007, 2/20/2008, 10/15/2008, 11/19/2008, 12/17/2008, 1/21/2009, 2/18/2009, 4/15/2009, 5/20/2009, 7/15/2009, 8/19/2009, 10/29/2009, 1/20/2010, 2/17/2010, 3/17/2010, 5/19/2010 , 7/21/2010, 9/15/2010, 12/15/2010, 5/18/2011, 6/15/2011, 8/17/2011, 8/15/2012, 8/20/2014.