BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: August 21, 2013
LOCATION OF CONFERENCE: John O. Morton Building
ATTENDED BY:

NHDOT
Cathy Goodmen
Christine Perron
Marc Laurin
Bob Landry
Steve Liakos
Ron Grandmaison
Kirk Mudgett
Ron Crickard
Joe Adams
Ron Kleiner
Anthony King
Kathleen Corliss
Stephanie Micucci

Federal Highway Administration
Jamie Sikora

Army Corps of Engineers
Rich Roach

NHDES
Gino Infascelli

NH Fish & Game
Carol Henderson

Dubois & King
Mark Whittemore

Hoyle, Tanner & Assoc
Kimberly Peace
Matt Low

Normandeau
Jameson Paine

Louis Berger
Darrell Ford

(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 July Meeting Minutes

The July 17, 2013 meeting minutes were finalized.

Laconia, X-A003(022), 16225

This project is located on NH Route 106 at Anthony Drive in Laconia and is to replace two culverts and improve drainage. Cathy Goodmen presented an overview of the project area and wetlands. Kirk Mudgett discussed details of the design. An existing 36" diameter culvert carrying a small stream and roadway runoff under NH Route 106 will be replaced with a proposed 60" diameter culvert to tie into an existing 60" diameter culvert that the City of Laconia installed in 2010.

A bypass 36" diameter culvert that runs parallel to NH Route 106 will be abandoned and filled, as it is not providing the best drainage for the area. Where this bypass culvert connects with a catch basin and crosses NH Route 106, the 36" culvert will be replaced with an 18" culvert to continue catching the ditchline flow. The overflow from the ditch that the grate may not handle will still be directed down the ditchline and into the new 60" diameter culvert.

Carol Henderson asked if the new culvert would be perched. K. Mudget said that the culvert would not be perched and would actually need to be lowered because of lack of cover under the roadway. Stone will be placed at the inlet to prevent erosion. Rich Roach asked if lowering the culvert would cause head cutting upstream. K. Mudgett said that head cutting was not anticipated since the stream would be lowered approximately 1-2 feet for only 12 to 15 feet, and the proposed stone would prevent erosion.

Gino Infascelli asked if wetlands had been delineated. K. Mudgett noted that wetlands had been delineated but were difficult to see on the plan and aerial photo displayed at the meeting. G. Infascelli had concerns that the installation of the larger culvert would have a hydrological impact on the adjacent wetlands. K. Mudgett said that a change in the hydrology of the surrounding wetlands was not anticipated as they are currently on sloping land. Rich Roach asked who owns the land where the wetlands and stream are located. Kirk Mudgett stated that the State of NH owns the land but is considering selling it to the City of Laconia. R. Roach asked if it would be possible to have the State retain the property to protect the wetlands. K. Mudget and C. Goodmen said that this could be looked into.

Christine Perron asked if G. Infascelli had any concerns about the proposed stream impacts. He said that he did not since the area has already been impacted by other construction. He noted that the City of Laconia had two permits for previous work at this location. R. Roach asked if the impacts would be over 10,000 square feet. K. Mudgett replied that impacts would be just over 2,000 square feet. C. Goodmen suggested that the permit application include a cross section through the culvert inlet to show how the new culvert would be installed and where the stone would be placed at the invert. It was also suggested that the application explain that installing the culvert at a lower elevation than the existing culvert would not change the wetland hydraulics.

R. Roach stated that the project would qualify for authorization under the NH Programmatic General Permit.

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

Tamworth, X-A001(205), 16239

Mark Whittemore from Dubois & King described the project. The project is intended to address a red-listed bridge located on NH Route 113, approximately 0.5 miles north from its intersection with NH Route 25. The bridge (Br No 150/106) crosses over the Bearcamp River. The bridge is comprised of three spans (24.5', 71.5', 24.5) with a steel girder main span and flanking concrete slab approach spans. The bridge was constructed in 1955 and is on NHDOT's redlist due to structural deficiencies.

Options under consideration include rehabilitation or replacement. Initial proposals for bridge replacement are focused on a single span bridge with a slightly longer span (125-130') than the length of the existing bridge. Traffic control options consist of a detour around the bridge, phased construction, or replacement on new alignment. The Department's goal is to keep all work within existing State right-of-way. A wetlands survey of the project site has been performed with only the river identified as a jurisdictional wetland area. The width of the river is 80'. The project is very early in the design process and will be presented to the Town of Tamworth to gather their input.

Carol Henderson asked what type of input the Department would be seeking from the Town. Bob Landry explained that information and feedback on issues such as bike use, time of year for closures, safety at the intersection, and sidewalk requirements would be sought. If asked by the Town what project alternatives the State was investigating, the rough conceptual alternatives would be shown.

Rich Roach asked what the concern was with having the work extend outside the current right-of-way. B. Landry explained that once right-of-way impacts were involved the project would become part of a much more complicated 4-year process, including a Public Hearing.

R. Roach asked whether the abutments would be moved back as part of a replacement bridge. M. Whittemore responded that they would be moved back slightly, though this was not necessary hydraulically.

Gino Infascelli asked about the distance between the existing piers. M. Whittemore responded that this is approximately 71'.

C. Henderson asked for the NHB file number. M. Whittemore replied this would be provided subsequent to the meeting (NHB number is NHB13-2339).

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

Orford, non-federal, 26181

Mark Whittemore from Dubois & King described the project. The project is a bridge replacement located on Archertown Road, approximately 1.5 miles east from its intersection with NH Route 10. The bridge crosses over Archertown Brook. The bridge (Br No. 095/118) is a structural metal plate arch constructed in 1990 and severely damaged by Hurricane Irene in 2011. A wetlands survey of the project site has been performed with 2 wetland areas identified; one of these sites, on the northwest quadrant of the bridge, may incur minor impacts due to the bridge replacement.

The current bridge spans 15.7' and is hydraulically inadequate to carry NHDOT prescribed design flow of Q50 with 1.0' of freeboard. Several bridge replacement alternatives were presented. The proposed replacement bridge would have a longer span of 28.0', nearly twice the span of the existing bridge, which satisfies the hydraulic requirements. The NHDES Stream Crossing Rules require a 43' span based on

channel measurements taken upstream and downstream of the bridge. The design criteria for the Stream Crossing Rules were reviewed using summary charts demonstrating that nearly all criteria have been met using the 28.0' span; those criteria not being met have been significantly improved over the existing conditions.

Rich Roach inquired as to why the DOT has not adopted a policy of designing bridges to meet the federal guidelines of a Q100 design flow. Christine Perron and Steve Liakos commented that discussion of this matter would need to be handled at the level of policy makers and his concerns would be noted in the meeting minutes.

Gino Infascelli asked for clarification on "normal stream width", which was mentioned in a slide during the presentation. M. Whittemore defined this term as meaning the typical stream width from top of bank to top of bank, measured perpendicular to the streambank. G. Infascelli commented that measuring "bankfull width" is more helpful since the Stream Crossing Rules are based on bankfull width measurements. He expressed his concern that the bankfull dimension needs to be established from the reference reach, outside the influence of the roadway/bridge crossing location. He and Carol Henderson believe that the 43' span established per the Stream Crossing Rules is based on a questionable bankfull width. R. Roach asked that additional bankfull measurements be taken outside the influence of the bridge area. G. Infascelli asked that the project be reviewed again with this information in hand.

Those in attendance expressed agreement that the proposed 28.0' span was a reasonably sized structure that could be presented to the Town as a preferred alternative. Regarding the Stream Crossing Rules this proposed span would be acceptable to NHDOT and the Natural Resource Agencies.

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

Henniker, X-A003(046), 15718

Matt Low provided an overview of the project. The Western Avenue Bridge over the Contoocook River was closed in 2008 due to its advanced deterioration. The bridge is located near the Patterson Hill Road bridge, a truss bridge that was rehabilitated ten years ago. The purpose of the project is to address the structurally deficient structure. Hoyle, Tanner was retained in 2008 to investigate alternatives for rehabilitation or replacement. Alternatives included rehabilitation, replacement in the bridge's current location, replacement in an alternate location, and replacement of the Patterson Hill Road Bridge. Bridge replacement alternatives included conventional steel girder structures and a new truss. The steel girder alternatives required raising the profile grade causing adjacent impacts or the addition of river piers. An Engineering Study was completed in 2012 after numerous public meetings. The consensus is to replace the bridge with a new two-span truss in the span location. The northerly abutment will be moved back approximately 30 feet, and the pier will be moved to increase the opening of the active channel. The project is now in the Preliminary Design/NEPA phase and it is anticipated that a Categorical Exclusion and Programmatic 4(f) document will be required.

Kimberly Peace provided an update on environmental coordination to date. No feedback of concern has been received from state or federal agencies. The preliminary estimate of permanent wetland impacts is 800 sq. ft. The Contoocook River is a Designated River and the Local Advisory Committee will be contacted for input. The Conservation Commission was contacted and had no concerns. The Natural Heritage Bureau inventory had no records of species of concern.

Carol Henderson commented that the river is heavily fished and that should taken under consideration. Construction timing should be posted. It was also noted that Mike Johnson at the National Marine Fisheries Service be contacted to determine if an Essential Fish Habitat Assessment will be required.

Jamie Sikora asked if the project had been presented at the Cultural Resource Agency Coordination Meeting. M. Low responded that the project had been presented at three meetings (April 2010, May 2012 and August 2013). J. Sikora asked what the project cost difference would be between a truss and a more conventional structure. M. Low responded that the truss project was approximately $5 million and the more conventional bridge was approximately $4.7 million.

Gino Infascelli asked if the existing pier was located on an island. M. Low stated that it was located in an area that is an island depending on river flows.

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

Farmington, X-A001(152), 16146

Jameson Paine provided a brief project update. The NHDOT proposes to replace the bridge (State Bridge No. 096/140) that carries NH Route 153 over the Cocheco River, just south of downtown Farmington. The road serves as a major route for vehicles entering the City from the south. This structure, a 48-foot two-span concrete girder bridge with a concrete deck, was built in 1924. The area is fairly urban in nature, with a manufacturing facility, former gas station, a large multi-family structure and several other residential structures nearby.

The Cocheco River at this location is a Designated River and fourth-order stream. There is a floodway through the area with 100 and 500-year floodplains located adjacent to portions of the river. FP100 is shown on the plans but does not exactly line up with the river as determined from survey. FEMA mapping is generally developed based upon USGS 20-ft contours, therefore is not as detailed as a field survey location. Both the field survey and the FEMA FP100 lines were developed in the NH State Plane coordinate system.

Under a 1950s era Army Corps of Engineers project, the section of Cocheco River located immediately upstream from the project was reconstructed to create a flood levee system. The banks along the northern extent of the river were raised installing a vegetated berm with approximate slope of 2.5H:1V, and an overflow gate was installed near the bridge. Along the upstream southern bank, an approximate 80 ft long stonewall exists adjacent to the bridge. The berm is in fairly good condition and appears to control flooding fairly well in the adjacent low-lying neighborhood.

The Natural Heritage Bureau review determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, they do not expect that it will be impacted by the proposed project.

CLD has completed preliminary hydraulic analyses, which indicate a required hydraulic opening width of 62.5 feet, maintaining the existing low chord elevation of the bridge as 270.0 with at least 1-ft of freeboard over the 100-year storm. Based upon anticipated requirements to provide wildlife access under the bridge, the recommended clear span is 68.5 feet, providing a 10-ft wildlife platform on the west end of the bridge, above the Q2.33 water surface elevation, providing approximately 6-ft of clearance below the bridge beam low chord. No platform is proposed on the east end, as the abutment location has been proposed to align with the existing 6-ft high retaining wall and addition of a platform above the Q2.33 elevation is not feasible without obstructing the lower flows.

The Hydraulic Report prepared by CLD has been submitted to Army Corps and the Town (as the flood control levee project sponsor) for review in conjunction with the flood control project constructed in the 50's. Both agencies have concurred with the report and its findings. During final design, review of the final plans and construction specifications will be required by both the Town and Army Corps through the USC 408 acceptance procedure for regulatory approval.

The recommended alignment as shown on the plans includes replacing the bridge on the existing alignment, using a temporary bridge for traffic control on the downstream side. This was chosen to allow for two-way traffic during construction and to reduce permanent impacts to private properties. Other options investigated included 1) an offset alignment to the downstream side with phased construction (single lane only during construction); and 2) a new alignment downstream to allow for two lanes of traffic on the existing bridge during construction.

The project was presented to the Town Selectmen on January 14, 2013 and at a Public Informational Meeting on April 4, 2013. The Town Selectmen voted to support this alternative, and the majority of residents present at the public meeting in April also supported this alignment, with the request to minimize property impacts from the temporary bridge approach alignment (specifically on the NW quadrant – apartment building). The alignment was subsequently updated to address the concern as shown on the presentation plan.

Preliminary estimates of wetland impacts consist of 1,009 sq ft of Permanent Bank Impacts primarily for the grading and placement of stone fill to accommodate the new bridge; 108 sq ft of Permanent Stream Impacts for the placement of stone fill along the face of the eastern abutment and removal of the pier to below streambed with installation of stone fill in this area; and 5,981 sq ft of Temporary Impacts primarily for the installation of the temporary bridge (temporary abutments will be as close to TOB as practicable) and for erosion control measures within active construction areas.

Rich Roach stated that he expects the project to qualify for coverage under the NH Programmatic General Permit. He asked that we continue coordination with Army Corps staff regarding the flood control structure.

No concerns were raised with the project as proposed.

This project was previously reviewed on the following date: 10/19/2012.

Keene-Swanzey, A000(458), 10309P

Ron Grandmaison briefly described the proposed construction of the multi-use trail bridge over NH Routes 10/12/101, which is an interim construction project of the Keene-Swanzey 10309 upgrades. This contract would also construct the Northeast Field Mitigation Site (Site #11), located at the intersection of NH Routes 10/12/101 with NH Routes 9/10/12 and NH Route 9 ("T intersection").

As the Keene-Swanzey wetlands permit has expired, a new permit would need to be obtained. Although the advertising date is currently in March 2021, the project may advance to 2015. The mitigation site was an old corn field that is periodically mowed by DOT. Construction of the mitigation site would convert about 1.8 acres of wetlands to aquatic bed and shrub/scrub wetlands. A preliminary design of the mitigation was developed in 2008 and would provide 26.8 acre-feet of flood storage and create 6.4 acres of wetlands. The flood storage impacts resulting from the planned and constructed interim projects would total about 21 acre-feet. The site was chosen as it is located within the State's right-of-way and is well positioned to provide flood storage in the vicinity of the impacts, which is a concern expressed by the City

of Keene. The impacts from the bridge project are not quantified at this time as the wetlands will need to be re-delineated since they were last done in the 1990's for the expired permit.

There was discussion of the validity of the mitigation site and the impacts to the existing wetlands required to construct the site as designed. Gino Infascelli stated that he has concerns with impacting wetlands to create a mitigation site, and with the increase in invasive species that could result from the disturbance. Furthermore, any wetland impacts from the construction of the mitigation would need to be included in the permit application.

Rich Roach stated that this is not a good area for wildlife habitat enhancement and suggested that the aquatic bed area be eliminated, as it would not provide for any additional flood storage. He suggested that this area be constructed as a wet meadow instead. Carol Henderson agreed that this would not be an appropriate area for wildlife habitat enhancement.

The agencies suggested that the DOT revisit this mitigation area with the City of Keene to discuss with the City and investigate areas in the watershed that could provide flood storage (e.g. by removing fill) that may prove more valuable to the City's flood concerns. It was also suggested that the Department look into a mitigation package that includes an in-lieu fee payment rather than the constructed wetland where it is currently proposed.

C. Henderson noted the Natural Heritage Bureau file number was not provided for this or previous projects on the agenda, and she asked that this file number be provided in the future as she uses it to prepare for the meeting.

Jamie Sikora stated that FHWA would be agreeable to changing the proposed mitigation. R. Grandmaison will coordinate with the City of Keene and the Department will review the mitigation package.

This project was previously reviewed on the following dates: 6/24/1994, 3/23/1995, 2/22/1996, 11/14/1996, 4/16/1997, 7/16/1997, 9/24/1997, 10/18/2000, 5/16/2001 & 10/15/2003, 6/21/2006, 10/29/2009, 12/10/2009.

Albany, X-A000(744), 15454

Stephanie Micucci provided an overview of the project. This project is located on NH Route 112 (Kancamagus Highway) and extends from Downes Brook approximately 1.2 miles east. The existing roadway consists of 11-foot travel lanes and approximately 1-foot shoulders. The proposed typical would increase the roadway footprint slightly by increasing shoulder width to four feet to better accommodate tourist and bicycle traffic.

The proposed pavement work consists of approximately 0.3 miles of full box reconstruction and 0.9 miles of a 12" sandwich treatment. Other proposed roadway work includes five culvert replacements at non-stream crossings, slope work to accommodate a 1.5-foot increase in roadway profile due to the sandwich treatment, minor bridge work on Albany Bridge No. 030/150 over Downes Brook, and replacement of two guardrail runs and granite curb in the vicinity of the bridge.

The culverts to be replaced are not located on streams. Replacing the existing culverts with larger culverts is recommended at all locations to improve hydraulic capacity and reduce headwater depths at culvert inlets. Lengths and slopes of the existing culverts would be maintained for the proposed culverts.

Culvert Locations 1 & 2

Two existing 18" corrugated metal pipes are located about 300 feet apart and have a combined contributing watershed of approximately 83 acres. The estimated peak flow is 47 cfs for a 50-year storm. The Department proposes to replace each pipe with a 6' span x 3' rise box culvert. One pipe is approximately 62' long with a 0.7% slope. The second pipe is approximately 52' long with a1.2% slope. Both box culverts will be embedded one foot below the existing culvert inverts to allow the accumulation of sediment over time and create a natural bottom.

Culvert Locations 3-5

Three corrugated metal pipes are located within a 300 foot distance and have a combined contributing watershed of approximately 95 acres. The estimated peak flow 80 cfs for a 50-year storm, which includes any overflow from Locations 1 and 2. Location 3 is an existing 30" cmp approximately 64' long with a 0.9% slope. Proposed replacement is a 36" concrete pipe. *Location 4* is an existing 60' long, 18" cmp on a 0.3% slope. Proposed replacement is a 24" concrete pipe. *Location 5* is an existing 70' long, 18" cmp on a 1.9% slope. Proposed replacement is a 36" concrete pipe.

Proposed bridge work consists of membrane replacement and new pavement only. Bridge rail will not be replaced. Downes Brook will not be impacted by the work.

Existing gravel pull-off areas have developed along both sides of the road from motorists pulling off the roadway between Stations 283+00 to 292+00. Maintenance has used asphalt millings to help stabilize and fill drop offs at the pavement/gravel interface. A widened stabilized area would assist in preserving the paved shoulder edge while providing a safe refuge for viewing wildlife. The Department will be meeting with the White Mountain National Forest to discuss the project in general, and to determine if an 8 to 12' stabilized shoulder should be provided between Stations 283+00 to 292+00 for pull-offs.

The preliminary estimate of wetland impacts from the proposed slope work and culvert replacements is approximately 9,900 sq. ft. Christine Perron explained that wetland impacts would be limited to wetland edges. As the scope of work is refined and additional input is received from the White Mountain National Forest, wetland impacts will be finalized. The intent is to keep impacts below the mitigation threshold. A permit application should be submitted in the near future.

Rich Roach asked why it was necessary to raise the elevation of the roadway. Kathy Corliss explained that sandwiching (raising the roadway) was the recommended pavement treatment due to minimal cover over culverts now and the very poor condition of the pavement.

Gino Infascelli asked why the two 18" culverts would be replaced with much larger box culverts. S. Micucci replied that a consultant completed the drainage analysis and it was determined that larger structures were needed to improve animal passage and increase hydraulic capacity. Carol Henderson questioned why, if so much water was flowing through these pipes, they were not considered streams. C. Perron replied that neither she nor the consultant identified a defined stream channel at these locations. The pipes are located in large wetland systems with dense vegetation.

C. Henderson asked if any jersey barrier would be proposed for safety reasons. C. Perron responded that no jersey barrier was proposed beyond what may be needed during construction.

C. Perron noted that a Natural Heritage Bureau review had been completed and that there was a documented population of a rare grass, northern reed grass, near Downes Brook. She completed a survey along the roadway adjacent to Downes Brook and determined that the plant is not present within the project

area in the vicinity of the documented population. She will continue to coordinate with Melissa Coppola, as well as the White Mountain National Forest, to ensure that no rare plants are located in the project area.

C. Perron also noted that the project has an aggressive schedule, with an advertising date of September 24th, in order to obligate remaining Forest Highway funds. This will necessitate advertising the project before receiving the wetlands permit.

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