BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: January 18, 2012
LOCATION OF CONFERENCE: John O. Morton Building
ATTENDED BY:

NHDOT
Kevin Nyhan
Christine Perron
Matt Urban
Randy Talon
Amy Lamb
John Butler
Bill Oldenburg
Joe Adams

Army Corps of Engineers
Rich Roach

NHDES
Gino Infascelli
Steve Landry
Darlene Forst

EPA
Mark Kern

NH Fish & Game
Carol Henderson

NH Natural Heritage Bureau
Melissa Coppola

NH Office of Energy and Planning
Jennifer Gilbert

KV Partners
Mike Vignale

Town of Bristol
Michael Capone

McFarland Johnson
Vicki Chase
James Hall

AECOM
Jennifer Doyle-Breen

Headwaters Hydrology
Sean Sweeney

Inter-Fluve
Nick Nelson

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

PRESENTATIONS/ PROJECTS REVIEWED THIS MONTH:
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NOTES ON CONFERENCE:

Finalization of December Meeting Minutes

The December meeting minutes were finalized.

Barrington, 16201, X-A001(181)

John Butler described the project. The project is located at the intersection of NH Route 125, Tolend Road, and Green Hill Road and is part of the Highway Safety Improvement Program. The intersection has an average accident rate of 2.5 crashes per year, three quarters of which have resulted in injuries. The project area is predominantly commercial. There is an existing 150' wide controlled access right-of-way along NH Route125.

There are scattered pockets of wetlands throughout the project area. A potentially historic house is located at the corner of NH Route 125 and Tolend Road, and there is potential for contaminated soils related to the auto salvage yard.

One alternative has been developed for this project and will consist of signalizing the intersection and widening for left and right turn lanes on NH Route 125. All work can be done within the existing right-of-way. There would be no wetland impacts.

Christine Perron added that the Natural Heritage Bureau had no records of rare species in or near the project area. There is a prime wetland to the south of the project but proposed work would be well outside of the prime wetland and its buffer. Invasive plants are located in the project area and will be handled according to best management practices. The Isinglass River is located 0.3 miles to the north and the Cocheco River is located 1.8 miles to the east.

No one in attendance voiced any concerns with the project as proposed.

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

Barrington, 16178, X-A001(173)

John Butler described the project. The project is located at the intersection of US Route 202 and NH Route 9 and is part of the Highway Safety Improvement Program. The intersection has a confusing configuration and it is not always obvious who has the right-of-way. Accidents average approximately 1.5 crashes per year. The state-owned right-of-way in this area is narrow and irregular.

There is a large Prime Wetland encompassing Hale Pond to the west of the intersection. A culvert located under US Route 202/NH Route 9 drains into this wetland. There are also smaller pockets of wetlands and wet ditches located throughout the project. The entire area once made up the Hale farmstead. There are stonewalls throughout the project area, cellar holes to the east of the intersection, and the Hale family cemetery at the western limit of the project.

Two alternatives have been developed for the project. The first alternative involves reconfiguring the intersection to a "T" intersection. NH Route 9 would be widened to accommodate a left turn lane for turning onto US Route 202, and would be realigned to smooth out its profile and alignment. This alternative would impact five or six properties. Preliminary wetland impacts consist of 0.10 acre of wetland impact and 0.4 acre of impact to the prime wetland buffer. There would be no direct impacts to the prime wetland.

The second alternative is much smaller in scope. The intersection would be reconfigured to a “T” intersection, but there would be no left turn lane added on NH Route 9. The east shoulder of Route 9 would be widened enough to serve as a bypass shoulder for vehicles to move around left turning traffic. The alignment and profile of Route 9 would not be changed. The only property impacts would consist of easements on 2 properties. This alternative is preferred by the Commissioner’s Office. Wetland impacts would consist of approximately 2000 square feet of impact to wetlands, with no impacts to the prime wetland or its buffer.

Mark Kern had no concerns with the project, and Rich Roach stated that either alternative would qualify for coverage under the NH PGP.

Carol Henderson asked if a roundabout was considered since they are typically touted as being safer than “T” intersections. J. Butler explained that a roundabout was considered, but it was determined that it would not felt to be the best answer at this intersection. A roundabout would cost more and it would likely impact more cultural resources. Also, the traffic at this intersection consists of a relatively high percentage of trucks. R. Roach asked about the traffic calming benefit of a roundabout at this location. J. Butler stated that roundabouts do slow traffic speeds; however, the roads in this area are posted at 40 or 45 mph and the general character of the roads (narrow, curvy, and hilly) is not conducive to high speeds.

R. Roach commented that it made sense to select the cheaper alternative given the economy, but he did not have any concerns with either alternative.

Christine Perron asked Gino Infascelli if mitigation would be required for impacts to the prime wetland buffer. He replied that mitigation would be required since impacts to a prime wetland buffer are classified as a major impact project.

R. Roach asked if construction of Alternative 2 would adversely affect the feasibility of constructing a project more like Alternative 1 at some point in the future. J. Butler answered no.

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

Bristol, 16026, X-A001(092)

Preliminary plans were presented by Mike Vignale (KVPartners). The limits of work include portions of Pleasant Street, North Main Street, South Main Street and Summer Street in downtown Bristol. The project includes roadway reconstruction, sidewalks, drainage improvements, intersection improvements, street trees, and streetscape amenities at Central Square. The project area is within the Central Square National Register Historic District.

The square area is currently all paved with minimal pervious surfaces. The proposed improvements will increase grassed areas and reduce impervious surfaces. The existing drainage systems discharge to the Newfound River at three locations; between buildings west of the square (18" pipe), at the bridge on Route 3A (unconfirmed 12" pipe) and to the Town's drainage system at Central Street (15" pipe that leads to 10" pipe). There are currently no water quality BMPs associated with the exiting drainage system. The proposed drainage systems replace all existing systems within the Central Square area and will continue to flow to the same locations. However, more of the flow will be directed to the discharge at Route 3A where a water quality structure will be installed (StormCeptor or similar product). This location will allow access to maintain the structure. The only discharge pipe that will be modified will be the one at the bridge at Route 3A. This pipe opening in the bridge will be enlarged by coring through the concrete abutment to accommodate an 18" pipe. It is not anticipated that any work will be required in the river and no erosion stone will be placed since the river has a very stable stone bed in this area.

The need for a wetlands permit was discussed and it was felt that since no work was proposed in the wetland area (only a core through the bridge) a wetland permit would not be necessary unless temporary impacts will be needed to construct the project. KVPartners indicated that all work would be completed from behind the abutment so any temporary impacts could be avoided.

The disturbance area within the 250-foot protected shoreland of the Newfound River was measured by KVPartners as 57,000 SF so an Alteration of Terrain permit would be required in addition to the Shoreland permit.

The project is scheduled to be constructed this summer subject to receiving all approvals. No one in attendance voiced any concerns with the project as proposed.

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

Harts Location, 16396A, A001(289)

This design-build project consists of the replacement of the bridge that carries US Route 302, in the White Mountain National Forest, over Sawyer River (Br. No. 235/059) The bridge was damaged during flood events associated with remnants of Hurricane Irene in August 2011. Jim Hall and Vicki Chase of McFarland Johnson presented an initial project review, including wetland impacts, and were seeking concurrence on the approach to wetlands permitting (*impacts not-to-exceed*).

The Sawyer River is a 4th order stream with a 26 square mile watershed, flowing east toward the Saco River. Following the rain event from Hurricane Irene the river rose significantly and shifted slightly to the north, heavily damaging the northern bridge abutment. The abutment sank approximately 18 inches, and there was significant scour behind the abutment, leading to the closure of US Route 302. In addition to the bridge damage there was significant erosion to the northern bank. The bridge that was damaged was built in 1990, when the alignment of Route 302 was shifted. To reopen Route 302, a temporary bridge was constructed in the location of the pre-1990 bridge, using the existing abutment from that bridge.

The proposed replacement bridge will be built as a design-build contract, with NHDOT providing 30% plans to the selected design-build team. The replacement bridge will have a longer span, extended from 95 feet to 135 feet. The damage to the bridge occurred because of stream migration to the north, and the longer span and deeper foundations are intended to accommodate this lateral migration.

Soil borings indicate that the substrate below the proposed bridge foundation is extremely bouldery, so deep foundations are not proposed for the replacement bridge. Shallow foundations require armoring for protection, and because of the flashiness and size of the watershed, very large stone (larger than Class D riprap) is required.

The north streambank was eroded during the storm, and NHDOT is working through the right of way process to armor the bank that has been scoured.

Carol Henderson asked if the proposed stone would extend across the river, and J. Hall responded that the stone would extend almost all the way across. Rich Roach asked if the bridge was located on Forest Service land. The bridge is on the NHDOT right of way within the White Mountain National Forest.

NHDOT will be submitting a wetland application. As currently proposed there are 5,800 square feet of fill within the channel, and about 10,000 square feet of total impact.

A question was asked why the 135-foot span was chosen. NHDOT responded that the southern abutment was staying in its current location, as it had not been affected by the storm. A span length of 135 feet would adequately accommodate the lateral migration while providing for an efficient structural steel depth. J. Hall stated that the scour holes created during the storm event and the location of the downstream railroad span abutments were also taken into consideration in determining the bridge span length.

C. Henderson expressed a concern about the proposed stone in the channel and said that the existing substrate should be matched. J. Hall responded that there could be a special provision for Class A stone as a top-dressing for the armoring which would more closely match the existing river substrate.

R. Roach requested that the construction include deeper excavation in the area where armoring was proposed to create a low flow channel, and then top dress the area with the stream substrate material up to the existing grade. Smaller material, as it was washed out, would be replaced with material from upstream in the channel.

Christine Perron asked if the railroad bridge was taken into consideration in the design. J. Hall stated that it was included in the HEC-RAS model.

R. Roach asked if the new bridge could be built in the location of the old (pre-1990) bridge. However, the previous bridge and alignment did not meet NHDOT standards, and as currently constructed (the post-1990 location), it barely meets NHDOT standards.

Kevin Nyhan asked Gino Infascelli if the wetland application could identify impacts “not to exceed”, since the permit would be based on 30% design. G. Infascelli responded that the permit would need to have adequate conditions, which would be developed later, and that NHDES would want to see the final plans prior to construction.

R. Roach asked what would be offered for mitigation. Since the impacts are due to infrastructure protection, it is exempt from the mitigation requirement under the New Hampshire rules.

As of the meeting, there were four short-listed firms for the Design Build contract. Design Build teams were to have submitted their technical proposals around mid-February, but because of the design change due to the shallow footings that are required, the proposal submittal date had changed and had not yet been re-established. Once the proposals had been submitted, NHDOT would have two weeks to meet with the teams to address additional concerns such as those raised during the meeting.

Design changes discussed during the meeting will be incorporated into the design plans, which will be provided to the resource agencies as soon as possible.

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

Chichester, 16432 (non-federal)

Steve Johnson introduced the project. Bridge # 130/100 is located off Main Street over Sanders Brook in the Town of Chichester. This Jack Arch Bridge is currently one of the State's red listed bridges. Although the structure had been widened twice in the past, its main deck and footings have been deemed structurally deficient. As such, the deck will be replaced and the footings will be repaired with a concrete invert lining.

S. Johnson explained that although toe walls have been previously added to the structure, it is again undermined. At this point it is necessary to install a concrete invert to prevent further erosion. He acknowledged that typical concrete inverts are unfavorable from an environmental perspective. Partially

Grouted Riprap (PGR) was an alternative used in Holderness; however the jagged stone that PGR requires is unfavorable for aquatic life. As an alternative, S. Johnson proposed installing a 1-foot thick, reinforced concrete invert with stone from the existing streambed placed in it. This design would mimic the natural bottom and also control scour.

Rich Roach was supportive of this approach but asked that the Department monitor the structure and report back on the efficacy of the invert. The project would qualify for coverage under the NH PGP.

Carol Henderson asked if we would be working in the dry and S. Johnson said yes. She said that John Magee applauds our past efforts and is supportive of the proposed project.

Christine Perron asked what the transition between the natural bed and invert would be and S. Johnson said there would be cutoff walls.

No one in attendance expressed any concern with the project as proposed.

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

Suncook River Restoration Project (Epsom)

Nick Nelson of Inter-Fluve and Jennifer Doyle-Breen of AECOM presented the proposed project, natural resource impacts, and anticipated permitting requirements. Nick explained that in 2006 a large flood event resulted in a channel avulsion between the Huckins Mill Dam and the Route 4 Bridge, which led to the river permanently changing its course. As a result, the river bed is experiencing morphological changes, resulting in erosion migrating upstream, as well as upstream along Leighton Brook and the Little Suncook River. Because of the changed course of the Suncook River, the mouth of Leighton Brook dropped approximately 20 feet in elevation, which has resulted in extreme headcuts that are migrating upstream along Leighton Brook. The migrating knickpoints in the system are threatening road infrastructure, including the Route 4 Bridge in Epsom and the Black Hall Road culvert at Leighton Brook. In addition, due to the changes in the Suncook River, the base water level in the Little Suncook River has lowered, causing incision in the area of the prior railroad bridge across the Little Suncook, and resulting in the failure of the railroad bridge. If this knickpoint continues migrating upstream in the Little Suncook it could threaten the Black Hall Road Bridge over the Little Suncook River.

Inter-Fluve typically prefers to avoid hard infrastructure in river and stream restorations and incorporate bioengineering practices as much as feasible into a bank stabilization project. However, in this case it will be necessary to incorporate rock as the primary means of stabilization due to the lack of hard geology in the area. In order to prevent further migration of erosion in the river system, the proposed project would implement the following streambed and bank stabilization measures:

- addition of rock within the river bed and adjacent banks at the second riffle area downstream of the Route 4 bridge within the river channel and stream banks;
- addition of stone to the left bank (looking downstream) located 1,000 feet upstream of the avulsion site;
- creation of a step-pool system in Leighton Brook by addition of rock and appropriate grading;
- installation of sheet piling immediately downstream of the railroad opening on the Little Suncook River.

N. Nelson also identified project access and laydown/staging areas in the project vicinity. The project plans are currently at the 30% design level.

J. Doyle-Breen identified the list of anticipated permits which includes: NH Department of Environmental Services (DES) Shoreland Permit, NH DES Wetlands Permit, and US EPA Construction Permit for Sites Greater than 1 Acre. She stated the DES Alteration of Terrain (AOT) office has suggested that no AOT permit is needed for the project if the review meets the General Permit by Rule. It is currently presumed that the project will meet the qualifications for the US Army Corps of Engineers Programmatic General Permit (PGP), although input regarding PGP compliance is sought from the Corps of Engineers and federal agencies, particularly due to the presence of Essential Fish Habitat (EFH). Further input from DES Wetlands is also needed to confirm the review category for the project (minor/major or minimal impact) and mitigation needs. The Natural Heritage Bureau (NHB) has identified that the river provides habitat for the brook floater mussel (*Alasmidonia varicosa*) and that northern black racer (*Coluber constrictor constrictor*) and wood turtle (*Glyptemys insculpta*) have been identified in the vicinity of the river, although not directly at the project site.
Carol Henderson asked how the project would be funded. She also indicated that a survey for the book floater mussel should occur; the other species are sufficiently distant from the project site so as not to be of concern.

Steve Landry answered that construction funds will come from a capital appropriation and that DES also hopes to leverage other federal money for the project. The agency representatives asked whether abutters still had a desire to re-route the river to its original course. S. Landry confirmed that discussions have occurred with the abutters and the plans to return the river to its original course will not be resurrected.

Gino Infascelli indicated that he would not be the DES person reviewing the application since he typically covers DOT projects. Therefore, he could not comment on the review category for the project in terms of whether it would be considered minimal impact, major or minor. Gino stated that contact should be made with Bill Thomas of DES, who has had previous input into the project permitting.

Mark Kern indicated that additional information was needed for his review – including a table of wetland impact by habitat (forested, scrub-shrub, emergent), scale (permanent vs. temporary) and extent (filling, grading, etc.). Mark also requested that he be provided with a large scale aerial photo to review, which N. Nelson displayed subsequent to the meeting. J. Doyle-Breen indicated that a table of wetland impacts would be prepared and provided to Mark Kern and Rich Roach for their review. Approximately 56,000 sq. ft. of vegetative wetlands is estimated to be impacted including temporary work areas.
Rich Roach indicated that the Corps would likely consider this a restoration project that qualifies for the PGP, although he suggested that National Marine Fisheries Service (NMFS) be contacted directly. J. Doyle-Breen indicated that she would contact NMFS. In response to an inquiry by N. Nelson, R. Roach indicated that he felt that work could occur under wet conditions without the need to re-route water within the river.

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