BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: December 17, 2008
LOCATION OF CONFERENCE: John O. Morton Building
ATTENDED BY:

NHDOT
Alex Vogt
Bob Aubrey
Cathy Goodmen
Chris Carucci
Christine Perron
Dave Scott
Jon Evans
Jon Hebert
Kathy Corliss
Kevin Nyhan
Marc Laurin
Matt Urban
Mike Dugas
Pete Stamnas
Ron Kleiner
Wayne Clifford
Wendy Johnson

NHDES
Chris Williams
Gino Infascelli
Lori Sommer
Steve Couture

NH Fish and Game
Carol Henderson
Kim Tuttle
Matt Carpenter

NH Office of Energy and Planning
Jennifer Gilbert

NH Natural Heritage Bureau
Melissa Coppola

US Fish and Wildlife Service
Maria Tur
Vernon Lang

EPA
Mark Kern

Army Corps of Engineers
Rich Roach

Strafford Regional Planning Commission
Bill Proulx
Daniel Camara

Town of Newmarket
Julie Glover
Rick Malasky

Louis Berger Group
Jason Gallant
Judith Houston

Underwood Engineers
Cole Melendy
Frank Underwood
Philip MacDonald

The Nature Conservancy
Mark Zankel

(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 November 19, 2008 Meeting Minutes

Comments on the November 19, 2008 meeting were provided by Vernon Lang. The November 19, 2008 meeting minutes were finalized.

Salem-Manchester, IM-IR-93-1(174)0, 10418C

This project involves widening Interstate 93 between Salem and Manchester. An update of floodplain impacts and wetland impacts, as well as the status and options of floodplain and wetland mitigation was presented.

It was requested that the wildlife crossing reports be made available electronically. Since they are such large electronic files, it was decided that Marc Laurin will make them available on the Departments FTP site. (*These reports were posted to the FTP site on 12/19/2008. Please contact M. Laurin for access.*) M. Laurin also indicated that Matt Urban is working on providing GIS information of all of the investigated crossing locations and identifying them on high resolution aerial maps. This information will also be made available on the FTP site.

M. Laurin provided a handout updating the floodplain and wetland impacts. He reviewed the revised floodplain impacts. The corrected impacts were calculated by the Department's consultant based on design plans, surveyed ground information and updated 2005 DFIRM map elevations. Using this methodology the impacts were reduced from the 50 ac-ft estimated in the FEIS to about 20 ac-ft. As such the Department is recommending eliminating providing floodplain mitigation at the valley storage locations identified in the FEIS. Creating floodplain mitigation in these areas would impact wildlife habitat as many of these areas are undeveloped and naturally vegetated. **All agreed that the Department does not need to pursue these areas.**

M. Laurin discussed the remaining floodplain mitigation areas, which are associated with the wetland creation. G. Infascelli inquired if the mitigation areas were within the same watershed as the impacted area . M. Laurin replied that all the mitigation areas were within the same general watershed but not necessarily within the impacted sub-watersheds. J. Gilbert asked if the updated elevations would be submitted to FEMA for a map revision. The Department has made the information available to the Town and it is up to them if they want to pursue any map revisions. This information was developed to assess the compensation requirements of the Department.

M. Laurin then discussed the Departments' recommendations that, due to on-going contamination issues (chlorinated solvents, PCBs, etc…) at the former Salem Waste Water Treatment Plant (WWTP) proposed creation site in the FEIS, this site not be used for floodplain compensation. He stated that NHDES – Waste Management Bureau has grave concerns with any excavation at the site potentially allowing contamination to be exposed to surface waters. The floodplain impacts can be compensated at other creation sites. M. Laurin and P. Stamnas discussed the Department's analysis of two sites to replace the compensation at the WWTP by advancing floodplain mitigation at Haigh Avenue or alternatively at the Cluff Crossing site (Morse Field) in Salem. The Haigh Ave subdivision is regularly flooded and the Town applied to FEMA for hazard mitigation buy-

back program funds this past year. This application was rejected by FEMA, however J. Gilbert stated that the Town has resubmitted their application, which is in the process of being reviewed by OEP, The first phase consists of the acquisition of 9 houses. The Department feels that DOT could provide a state-funded match to leverage any FEMA compensation to assist in acquiring the 26 houses identified in the area as needing hazard mitigation. The Department owns the Cluff Crossing site, and has allowed a portion of the site to be developed by the Town of Salem to provide municipal baseball and soccer fields. The Department could lower the elevation of the fields to provide floodplain compensation.

Rich Roach stated that the Department should abandon any creation at the WWTP. Everyone concurred that it was not an appropriate site to pursue and that the Department should focus first on the Haigh Avenue site. Lori Sommer expressed concern that if the Cluff Crossing site were to be pursued, the Town would want to move the fields and would impact additional wetlands in developing another site. Vernon Lang expressed concerns that when compensation is designed that it minimize impacts to existing vegetation.

M. Laurin handed out a site locus map and a matrix showing the status of the proposed wetland mitigation sites identified in the FEIS. The majority of the sites are owned by DOT and have deed restrictions. Protections on the remaining sites are in the process of being finalized. Creation of approximately 2 acres is to occur at the Baggett site in Salem and is scheduled for advertising in 2011. R. Roach asked that the design of the mitigation site be reviewed by the resource agencies. M. Laurin replied that 50% design plans have been submitted for all the creation sites in the Wetland Mitigation Technical Reports and Plans (submitted to the Corps and Wetlands Bureau in January 2007). The Department will ensure that as the plans at each creation site are further developed they will be presented to the resource agencies for comments. Creation of the Londonderry South Road site will most likely occur after 2016.

Melissa Coppola noted that coordination on the impact to the Lupines (a state threatened plant) that are present at Exit 2 still needs to occur. M. Laurin acknowledged that he needs to coordinate with the NHNHB in the near future.

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.

Franklin, TCSP X-A000(117), 13928A

This project will rehabilitate the intersection of US Route 3 and Industrial Park Drive. This project was previously presented at the February 18, 2004 resource agency meeting. Cathy Goodmen presented an overview of the project, which consists of the widening of radius at the intersection to allow easier entry and exit at Industrial Park Drive and to fix the sight distance on US Route 3 as there is a large amount of truck traffic entering and exiting Industrial Park Drive. The road will be widened to allow a right turn lane on the southbound side of US Route 3.

Mike Dugas reviewed the plans of the proposed work. The widening on the east side of the road will be about 2 feet toward a rail/trail and guardrail will be installed. There will be no impacts to the rail trail. Most of the widening, will take place on the west side of the road. Sight distance improvements will consist of the removal of some trees and fencing on an abutters parcel on the west side of the road. There will be impacts to an existing ditch line, but this will be re-constructed and used for stormwater treatment, thereby replacing the functionality of the wetland. The impervious area (pavement) will increase from 40,000 sq ft to 46,000 sq ft.

Vernon Lang asked if the treatment area is in previously disturbed areas. C. Goodmen noted that the Department would use the ditch line to treat the stormwater excess.

G. Infascelli asked if there would be any work in areas under the jurisdiction of the Comprehensive Shoreland Protection Area (CSPA) and if work would occur within ¼ mile of the Merrimack River, which is designated pursuant to RSA 483 in this area. C. Goodmen noted that there would be no impacts to CSPA land as the work is beyond the 250 foot CSPA buffer of the Merrimack River. Work is, however, within ¼ mile of the Merrimack River, so she would coordinate with the Local Advisory Committee.

Carol Henderson asked if the Department would be replacing the culverts, and if so, she recommended that the Department do so in accordance with the NH Stream Crossing Guidelines. M. Dugas indicated that it is not yet known whether there will be any culverts replaced. C. Goodmen noted that these culverts don't carry streams; they carry storm water runoff.

G. Infascelli noted that the previous NH Fish and Game comments requested that construction not occur in the winter, as there are roosting Bald Eagles along the Merrimack River nearby.

R. Roach noted that the project qualifies for a NH Programmatic General Permit.

After the meeting, a review of 2004 documents, noted that the Upper Merrimack River Local Advisory Committee had reviewed this project in April 2004 and had no objections.

This project was previously reviewed on the following date: 2/18/2004.

Northfield, X-A000(833), 15628

Christine Perron and Chris Carucci provided a summary of the project. The project is part of the Statewide Culvert Rehab Program and involves repairing a 66-inch concrete pipe on an unnamed perennial stream. The pipe is 370 feet long and is located under Interstate 93, approximately 5 miles north of exit 18. Approximately 20 to 25 feet of fill covers the pipe. Some sections of the pipe have settled and some joints have separated.

The drainage area is approximately 1.5 square miles. A box culvert is located immediately upstream of the subject culvert. The stream travels through a wetland system upstream from these culverts. At the outlet end, the channel is largely bedrock. A steep drop exists just beyond the outlet.

Repairing the culvert will involve installing a cured in place liner consisting of a 1" thick flexible felt tube impregnated with a thermosetting resin. The liner would be inserted into the pipe, inflated with air pressure, and cured with steam. Hydraulics would be essentially the same as existing because the change in diameter is very small and roughness of the liner will be essentially the same as the existing concrete. Both headers also require repairs. The Department is considering a new concrete header in front of the existing header at the outlet to avoid disturbing the very steep embankment. A concrete header would be approximately 2 feet thick, requiring a slight extension of the pipe at the outlet. Impacts would consist of primarily temporary impacts for construction access, as well as a small amount of permanent impacts to the stream if the outlet were extended.

Rich Roach stated that the project would qualify for coverage under the SPGP.

Gino Infascelli asked if the pipe extended under the railroad line that runs parallel to Interstate 93 southbound. C. Perron replied that the pipe does run under the railroad line. Lori Sommer asked for clarification on the name and flow of the stream. C. Perron said that the stream is unnamed and has perennial flow.

Vern Lang asked if anything was known about the stream's resources. C. Perron described some habitat conditions noted during the field review and also referred to the photographs, but explained that information on specific species was not known.

R. Roach expressed an interest in seeing photographs of the construction process.

Carol Henderson asked that the Department use the NH Stream Crossing Guidelines when designing this crossing. K. Nyhan stated that the Department would consult the guidelines, but that they do not include recommendations for this type of treatment. Other types of treatment promoted in the guidelines are not prudent at this location given the amount of fill over the structure, traffic control and cost. In addition, Chris Carucci stated that slip lining the culvert was preliminarily considered but not selected based on the differential settling of pipe sections. The cured in place liner will conform to the pipe and virtually seal out any material from making it between the pipe sections.

V. Lang and Carol Henderson were interested in any potential opportunities for enhancing fish passage, and V. Lang pointed out that brook trout likely use this stream. C. Carucci said that there is a slight scour hole at the outlet that would be addressed as part of this project. It was also reiterated that roughness of the pipe would be essentially the same with the type of liner being proposed.

R. Roach said that NHDOT, Fish & Game, and DES need to start collaborating on establishing priorities for culvert replacement / stream restoration opportunities. Kevin Nyhan said that the need for such an effort was recognized and that the Departments were working toward that goal. R. Roach also suggested that Fish & Game and NHDOT begin to field review each project together to determine if there were any resources of concern. C. Henderson did not think that Fish & Game had the resources to go on every field review.

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

Conway, X-A000(809), 15604

David Scott gave an overview of the project. The project involves encasing the steel piles of three bridges with cementitious grout. These bridges span the Saco River, Saco River overflow, and Lovejoy Brook on River Road. The piles are rusting and the encasement will prevent further deterioration and protect the integrity of the structures. Grout will be installed two feet below the mud line to two feet above existing corrosion. The piles will be cleaned prior to being encased. Causeways will be constructed for access. The project is scheduled to advertise in February or March of 2009, with construction carried out during the 2009 season.

Rich Roach asked if the piles would be cleaned by sandblasting, and if debris from the cleaning would be allowed to enter the water. D. Scott explained that, for a similar project, cleaning was accomplished with a 10,000 psi waterjet. It has not yet been determined if the debris would end up in the water. R. Roach suggested that a discussion about water quality with DES was warranted. He also stated that the project would qualify for coverage under the SPGP.

Lori Sommer asked how the grout would be installed. D. Scott said that each pile would be encased in a jacket after it's cleaned. Grout is injected into the jacket through grout ports from the low end of the jacket to push water out. An epoxy seal at the bottom of the jacket keeps the grout from spilling out of the bottom of the jacket. Debris from this process would be kept out of the river.

Vern Lang asked if a solid fill causeway was being proposed. D. Scott answered that yes, he was expecting to use a solid fill (stone) causeway since these waterways do not have enough water for the use of a barge. Gino Infascelli was concerned about the use of a causeway because of the bank erosion that occurred in Bartlett as a result of a causeway in the river. It was suggested that if a causeway is used, it should have a low profile and be left in the water for only one season to minimize potential impacts. Melissa Coppola was concerned about a causeway's potential impact on downstream exemplary natural communities on the Saco River. Alternatives that were suggested include a causeway supported by piles, staging hung from the bridge deck, and dewatering prior to construction. D. Scott will research these options.

Carol Henderson asked if any rare mussels have been documented in this section of the Saco River. Christine Perron said that the Natural Heritage Review did not list mussels in this area, only the exemplary natural communities just downstream from the project area.

There was discussion on the use of the airlift system to excavate the mud around each pile. This system is being used for a similar project in Portsmouth (DOT Project: Statewide, 14802) and the small amount of excavated sediment is being discharged at the streambed level. D. Scott explained that using an airlift system for the subject project would require the use of a causeway. R. Roach suggested keeping the airlift on the bridge instead of using a causeway. D. Scott said that this may be possible but would necessitate alternating one-way traffic across each bridge. He will look into this possibility.

This project will be presented at a future meeting once construction methods are determined.

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

Andover 14679A (FHWA Emergency Relief) (No Federal #)

Jon Evans presented a brief recap of this project which involves replacing an existing 48" corrugated metal pipe (CMP) culvert that carries Mitchell Brook beneath NH Route 11/ US Route 4 to the east of North Street in Andover. This culvert is undersized and has caused flooding twice in the last 3 years. The most recent flooding event was in May 2006 (a 50-year event) when the waters of Mitchell Brook overtopped the roadway causing damage and a temporary road closure. During events such as this one the roadway floods not only at the subject culvert, but also along many of the nearby alternative routes. This essentially cuts off portions of the town and requires traffic (including emergency response vehicles) to be detoured all the way down to Concord or up to Canaan to get from one side of town to the other.

J. Evans noted that at the April and August 2008 Natural Resource Agency Coordination Meetings several alternatives were presented including replacing the existing pipe with a 9' wide by 6' tall concrete box culvert, or two 5' pipes. At both meetings, those present expressed concern with the proposed alternatives, as they would still not pass the Q50.

Bob Aubrey indicated that as a result of the concerns expressed at the previous meetings, the Department had developed a 14' bridge option. J. Evans noted that the existing bankfull width of Mitchell Brook is approximately 9.5'. Since it has often been recommended that stream crossing structures should be 20% larger than the bankfull width, structures 11.5' or wider were examined.

Bob Aubrey indicated that the proposed 14' wide, 8' high and 55' long box structure would be constructed of precast concrete. The invert of the proposed structure will be sunk approximately 2' to provide for a naturalized stream channel. This structure will pass the Q50 with approximately 1' of freeboard.

The culvert will be designed to accommodate for a 3' rise in the grade of the road. The intent of this raise in the roadway profile is to prevent future flooding of the roadway. Construction of the proposed project will require impacts to the stream and the forested wetland to the south of US Route 3. The majority of the impacts to the stream will be at the outlet end of the culvert to repair the existing scour hole and place protective stone on the banks and along the channel bottom to prevent scour. The stone within the channel will be covered with naturalized material.

The proposed structure will be constructed in approximately the same location as the existing structure. In order to maintain stream flow through the project area during construction, a temporary bypass culvert will be installed to the east of the existing structure. It is anticipated that the temporary bypass culvert will require additional temporary wetland impacts.

J. Evans indicated that the total permanent impacts are anticipated to be greater than 10,000 s.f. mitigation threshold. He indicated that this alternative was preferred by the resource agencies and that many of the wetland impacts are associated with the construction of a larger structure. The Department considers this project as self-mitigating and requested that no additional compensatory mitigation be required. Lori Sommer and Rich Roach indicated that this approach was acceptable to both agencies.

R. Roach indicated that he felt this was a substantial improvement over the previous alternatives. He asked approximately how much this alternative would cost. B. Aubrey indicated that although he had not had a chance to fully examine the costs, this alternative would cost approximately $400,000 -$500,000 which is substantially higher than the $80,000 dual pipe option.

Vernon Lang asked how long it would take to construct the project. B. Aubrey responded that the intent was to have it completed within one construction season. He also indicated that the hope would be to construct in the summer of 2010, however this is dependent on finding.

This project was previously reviewed on the following dates: 4/16/2008, 8/20/2008.

Salem, 15596 (Non-Federal)

The Town of Salem, NH is proposing to replace the existing 36-inch CMP Pelham Road culvert at Porcupine Brook with a new bridge structure. Structural damage to the existing CMP, headwall, and the approaches on Pelham Road has occurred due to past flooding events.
Significant flooding in 2006 caused overtopping of the roadway and damage to the existing culvert, resulting in substantial settlement of the westbound lane. Interim repairs of the roadway and culvert were completed by the Town of Salem in October 2006. The replacement of the existing culvert with a larger capacity bridge is proposed to decrease the magnitude and frequency of flooding of Pelham Road and to alleviate upstream flooding during high water seasons.

The existing 36-inch CMP (approximately a 7-foot s.f. hydraulic opening) is deteriorated and is fully submerged under normal flows, and the structure backfill and headwall/mortar are damaged due to flooding.

The project is currently in its Preliminary Design phase, and consists of a structure with a 10-foot span, 5-foot height structural dimension precast concrete box culvert with two feet of stone fill and natural materials within the channel (under the bridge), providing a 10-foot by 3-foot hydraulic opening (30 s.f.). A roadway section consisting of two 12’-0” lanes is proposed to provide a travel way appropriate for the approaching roadways. A spring 2009 construction timeframe is anticipated.

Approximately 500 s.f. of temporary wetland impact is proposed for construction of this new bridge; and approximately 450 s.f. of permanent wetland impact is proposed for slope stabilization and scour protection of the proposed structure. Approximately 350 s.f. of “new channel” will be developed within the proposed structure.

The Louis Berger Group (Berger) attended a 12/2/08 pre-application meeting with the NHDES – Wetlands Bureau Inspector for Salem, Mr. Frank Richardson, to obtain NHDES input on this proposed bridge project, as well as Lawrence Road (Salem-15593) and Cluff Crossing Road (Salem – 15592) replacement bridges. Per this meeting, the Dredge and Fill application will include all three bridge projects. All three bridge projects are considered Major Projects due to being within 100 feet from Town regulated Prime Wetlands. This mapping was completed by the Town in 1997, per aerial mapping. A combined NHDES public hearing in Salem will be required for the three projects. The application will be submitted to the NHDES and Town of Salem Conservation Commission on or before 12/29/08. The three projects will be reviewed at the 1/7/09 Salem Conservation Commission public meeting. NHDOT Environmental Reviews are also being prepared by Berger for these non-Federal projects.

Steve Couture asked about limiting the opening to decrease flood potential downstream? The intent of the design is to minimize flood impacts downstream. The increased hydraulic opening will allow higher flows going over road in the existing condition, to go under the bridge in the proposed condition. Full freeboard to the low chord of the structure for the design flood will not be achieved in the proposed condition.

Rich Roach asked if there were a need to maintain some impoundment? The roadway embankments will serve as an impoundment and provide upstream flood storage during peak flows, similar to the existing condition. The purpose of the design is to provide a structure with sufficient hydraulic opening to allow the road to remain in service during peak flows.

Carol Henderson indicated that the Natural Heritage Bureau had no threatened or endangered species in the area.

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

Salem, 15592 (Non-Federal)

The Town is proposing to replace an existing 12’-8” by 8’-1” steel metal plate pipe arch (MPPA) which has critical bridge deficiencies and resulted in a reduction in load posting of the structure from “E-2” to “Weight Limit 10 Tons.” Cluff Crossing Road is a primary east-west route for the Town for emergency access.

A 12-foot span, 10-foot height structural dimension box culvert with two feet of stone fill and natural materials within the channel (under the bridge) is proposed. A roadway section consisting of 13-foot lanes, 2-foot shoulders and 5-foot sidewalks is the recommended travel way which is appropriate for the approaching roadways. A Spring/Summer 2009 construction is anticipated.

The project is also in its Preliminary Design phase, and is within the 100-foot buffer of the Town designated Prime Wetlands associated with Policy Brook. This project was also discussed during the 12/2/08 meeting with the NHDES. Approximately 700 s.f. of temporary wetland impact is proposed for construction of this new bridge, and to remove existing sediment that has accumulated downstream of the structure; and approximately 300 s.f. of permanent wetland impact

for proposed slope stabilization and scour protection of the proposed structure. Approximately 825 s.f. of "new channel" will also be developed under the bridge.

The Natural Heritage Bureau indicated a record for spotted turtle, a threatened species, south of the project location (also identified for the Lawrence project). NHF&G indicated that the proposed would not impact this species.

Steve Couture asked about limiting the opening to decrease flood potential downstream? The intent of the design is to maintain similar hydraulic performance. The structure will not maintain Q50 plus 1-foot to the low chord. The structure will pass the 50-year flood and the roadway embankments will retain the 100-year event similar to the existing condition. The Town is conducting an on-going study of downstream areas, and does not want to increase the hydraulic opening of this culvert to potentially make flooding worse downstream.

Rich Roach asked if using stop-logs would be a maintenance issue Berger agreed. Stop logs are not proposed at this location.

Matt Carpenter asked what size stone fill would be (gradation). Berger responded that NHDOT 585.21 Stone Fill Class B, 1-3 feet diameter (1 to 3 cubic feet each) would be used.

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

Salem, 15593 (Non-Federal)

The existing bridge is a causeway-like structure with an overall length of 64 feet. The primary span is a 21-foot jack arch, with a 5-foot diameter reinforced concrete pipe relief structure. The bridge is currently on the NHDOT Municipal Red List for deficient bridges due to structural damage. Substantial scour and some structural damage due to past flooding events has occurred at the structure. As a result, bridge load posting has been lowered to 13 tons. Replacement is necessary.

Replacement of the existing structure to span the Spicket River (approximately 63 feet) is proposed to reduce future scour potential to the bridge and risk of flooding to Lawrence Road during large storm events. The proposed bridge is likely to be a butted box beam structure. The roadway low point in this area is actually west of the bridge. Adjacent property is heavily flooded during high storm events, and has been acquired by the Town and the building on this parcel was removed.

The project will raise the road about 3 ½ feet in order to maintain Q50 plus 1-foot freeboard. The proposed span will also pass Q100 without overtopping the bridge or the low point of the road. A wider natural channel will be created.

A HEC-RAS analysis was performed by Berger for the existing and proposed structures, using cross-sections from FEMA FIS, as well as new sections. Gage data and analysis by USGS for 2006 flood indicate that the FEMA flood mapping is substantially off.

This project was also discussed during the 12/2/08 meeting with the NHDES. Approximately 3,700 s.f. of temporary wetland impact is proposed for construction of this new bridge, and to remove existing sediment that has accumulated up and downstream of the structure; and approximately 500 s.f. of permanent wetland impact for proposed slope stabilization and scour protection of the proposed structure. Class B stone is required due to higher velocities at this location. Approximately 500 s.f. of "new channel" will also be developed under the bridge.

The Natural Heritage Bureau indicated a record for spotted turtle, a threatened species, in the project area. NHF&G indicated that the proposed project would not impact this species. Also, a swamp white oak floodplain forest" was also noted in the area of the bridge. Berger will need to coordinate with Melissa Coppola of the Natural Heritage Bureau.

Matt Carpenter asked if the soil is sandy at this location. The geotechnical investigation is in progress. Based on the browning of the Spicket River observed during major rain events, the river bottom is assumed to be silty sand. *(Subsequent to the meeting, the soil profile was confirmed to contain varied silty sand and silty clay at this site. Bedrock is approximately 60 to 65 feet below the roadway surface.)*

Gino Infascelli asked if the 1 ½:1 riprap slope can incorporate 3-foot shelves at high water. Berger responded that this can be incorporated into the design of the cross section.

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