June 19, 2017

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

CONFERENCE REPORT

PROJECT: Northern Pass

DATE OF CONFERENCE: April 12, 2017

LOCATION OF CONFERENCE: 5 Hazen B42 205 Franconia Notch Conference Room

ATTENDED BY: DEPARTMENT OF TRANSPORTATION
David Rodrigue – Director of Operations
Michael Servetas – Assistant Director of Operations
Melodie Esterberg – Chief of Design Services
Lennart Suther – Utilities Engineer, Design Services
Matthew Powers – Utility Coordinator, Design Services
Alan Hanscom – District 3 Maintenance Engineer
James McMahon –District 1 Assistant District Engineer

NORTHERN PASS TRANSMISSION
Jerry Fortier – NPT Project Manager, Eversource Energy
Mike Pillsbury – Louis Berger Group
Lynn Farrington – Louis Berger
Mark Hodgdon – Hodgdon Law
Sam Johnson – Burns & McDonnell Engineering
Lance Clute – PAR Electric
Tom Henaghen - SGC
Tom Doyle – SGC
Nick Strater – Brierley Associates

SUBJECT: Site Evaluation Committee (SEC) Application Process and Review of NHDOT Comments to Design Plans

NOTES ON CONFERENCE:

See attached Agenda.

Dave Rodrigue, Michael Servetas and Bill Cass are having weekly telephone conversations at noon on Fridays with Jerry Fortier, and Mike Pillsbury to receive updates on the project and provide clarifying information.

This meeting is to review Northern Pass Transmission (NPT) responses to the Department's comments to the submissions and provide clarification to those comments and/or the NPT responses. The intent of this meeting and future meetings is to work toward resolving the remaining issues. NPT to prepare an "Issues Tracker" to track the review and resolution of individual issues such as fluidized thermal backfill, trench details, backfill or plating of trenches, etc. so everyone is aware of the status of each issue. Sam Johnson will be the contact person for the Issues Tracker.

The SEC process is beginning the Adjudication Hearings phase which is anticipated to continue through the end of July.

The group began with the review of the NPT responses to the NHDOT General, Site Specific and Alignment within the Pavement comments to the ROT3/NRTH sections. The responses were provided in a table with NHDOT comment number in the first column, NHDOT comments in the second column, and NPT responses in the third column. Those comments NPT agreed to address during the continued design are highlighted in green and will not require discussion at this time.

NPT provided a plan and profile detail of their proposed plating plan. The Department will meet internally to review and determine a response regarding the use of steel plates in lieu of backfilling the trench daily.

NPT indicated that it is not possible to separate the horizontal directional drill (HDD) vertically due to the total bend requirements for a section, and the plus or minus 5' accuracy of the drilling especially when in rocks and cobbles as they need to maintain a 20' separation. Mr. McMahon asked how many attempts would be made to drill on the designed alignment before moving to another alignment? NPT indicated the decision would be on a "case by case basis".

The majority of the splice pits, and fiber splice and link box locations have been moved out of the roadway, except those specifically requesting an exception. Of the total of 159 splice pits, 144 were originally proposed to be within the pavement and now only 23 remain. The Department asked about how the splice pits are constructed. NPT responded that typically the bottom section comes in 2 pieces and the top section also comes in 2 pieces.

The length of trench under the pavement has been reduced by 10 miles so that 24.3 miles of the 60.5 miles of underground facilities are now under the pavement. The Department requested the length of HDD under the pavement to obtain the length of open trenching under the pavement. This request will be added to the Issues Tracker form.

NPT indicated that General Note #5 on the various plan submittals was for the Contractor to locate facilities within 15' of the trenching and HDD operations and protect those facilities during construction and adjust the alignment if necessary. Mr. Hanscom stated that the note doesn't say that since it describes exposing those facilities within 15'. NPT will revise the note to better describe its intent.

NPT was informed that their Traffic Control Plan will need to be submitted to the Department's Traffic Control Committee (TCC) for review to ensure coordination between NPT project and Department projects. Also NPT will need to complete an Intelligent Transportation System (ITS) evaluation to determine if any ITS Work Zone systems are necessary. Mr. Servetas noted that the Department will provide guidance for timeframes, forms and assistance in the process. Submittal to the TCC will occur later in the design process. Mr. Johnson questioned the length of time for submittal and review through the TCC. The Department noted that the time is dependent on the size and scope of the project and is unsure for this type of project. There will need to be coordination with the Bureau of Transportation Systems, Management & Operations and Bureau of Construction to limit conflicts between NPT and Department projects.

Detours around work on State roadways shall be shown on State roadways as Department cannot approve detours on municipal roadways. Alternate detour arrangements made with the municipalities can be developed provided State roadways are also shown. Mr. Hodgdon noted that the SEC may be able to approve traffic control on local roadways.

NPT note that the right-of-way certification work ongoing. The Department will require the updated right-of-way shown on the plans. This information will be used as part of the determination as to the location of the underground facilities within the right-of-way.

The bridge information is being added to the plans. Mr. Johnson asked what to show for bridge information at those locations that no bridge plans are available. The Department will follow up with Bridge Design to obtain a response. A possible option would be a note stating "As-Built Plans Not Available".

NPT will update the plans to reflect the requirements for the replacement of concrete roadways with concrete for lateral crossings and asphalt and structural gravel and sand for longitudinal impacts. NPT requested additional information as to the areas and limits of concrete roadway to confirm limits. The Department will research what information is available. Ms. Esterberg noted that as previously discussed, longitudinal excavations of the concrete roadway would require replacement of at least one lane of concrete pavement with structural base material and asphalt pavement.

NPT can modify the alignment in ROT3 on Sheets C103 and C104 to the east side of US 3 to avoid a skewed crossing of US 3. Also the alignment on Sheet ROT3 009-3 can be modified to avoid the layout for pipe pull back from blocking the intersection with Beecher Falls Road. NPT indicated the intersection may need to be plated during drilling. The Department requests details of the proposed work.

NPT express concern with creating additional bends and increased costs to avoid other utilities and a large tree to maintain the facilities out from under the pavement along NH 147 between Stations 36+50 to 46+00 on Sheets NRTH 104 and NRTH 105. The Department request additional documentation of these concerns.

NHDOT explained their concern with bore pits close to the middle of the road being that vehicular traffic would not be allowed through the construction zones and thus forcing traffic to detour onto local roads. A possible solution if the bore pits cannot be shift towards the edge of pavement would be to construct a temporary widening to allow vehicular traffic through the construction zone.

NPT will look at shifting the exit pit for the HDD on Sheet NRTH C 137 at Station 319+00 Left to eliminate trenching across Bear Rock Road.

NPT request additional information regarding the proposed replacement of the 72" culvert on Sheet SHEB C 107 between Station 208+00 and 209+00 with a bridge structure that complies with NHDES stream crossing rules. The Department's Bureau of Bridge Maintenance will probably be replacing with a box culvert structure. NPT will look at the location and probably change to HDD as they are not confident on temporarily supporting the facility during construction of a box culvert.

The Department's position regarding the depth of the installation is out of concern for the safety of personnel working in the roadway in the future.

NPT was reminded that installations along the edge of pavement could impact the underdrain system in some locations. NPT will need to review the typical sections of the as-built plans for the locations of underdrain. The Department requests NPT to provide details of constructing adjacent to and under underdrain systems. NPT indicated that they would look at developing a typical section as it is not always known where underdrain exists.

Exception requests are to provide site specific details, with explanation of justification for an exception including alternatives; impacts to adjacent facilities, construction, traffic; costs; etc. and how NHDOT facilities will be protected. NPT will provide several example exception requests for review and comment by the Department before submitting all requests.

NPT is to provide explanation and details for justification of plating trenches at the end of the day rather than backfill and open the trench the next day. NPT anticipates the contractor to excavate and install conduit in 200 to 300 feet of trench per day. The Department asked how is this construction different than the construction of water, sewer, or gas piping that would not allow backfill the trench at the end of each day? NPT needs to provide an explanation of the construction procedure.

NPT provided 3 trench cross section options for under the pavement for the Department's consideration. NPT requested guidance on the distance required to be off the pavement for the use of Option 4 – Off-Pavement Minimum Depth. They also asked whether concrete (3,000 psi) encased conduit (Schedule 40) without a concrete protective layer could be used under the pavement? The Department will need details and justification for evaluation. Roadway structural material will be required under the pavement within the conduit trench. The Department will continue to evaluate the use of Fluidized Thermal Backfill under the roadway structural material. Mr. Hanscom had made some observations of the test sites and did not see

any significant issues. The underdrain pipe outlet at both locations appears dry. The trench pavement within the roadway at the Plymouth site is a little low and the trench off the pavement in Campton is difficult to evaluate.

The Department requested NPT to provide schedule for submittal of clarifying documents for action items, submittal and review of exception requests, completion of final design plans, selection of contractor(s), expected project approval by SEC, anticipated completion of the Use & Occupancy Agreement, and beginning of construction.

Next meeting is scheduled for April 25, 2017 provided updated documents are submitted for Department review on or before April 21, 2017.

Submitted by:

Lennart Suther
Utilities Engineer

LDS/lds

NOTED BY: MAE, MCP

cc: Attendees, Christopher Waszczuk, Douglas King, Richard Radwanski, Brian Schutt, Philip Beaulieu, Louis Barker, Charles Schmidt, Shelley Winters

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