Stantec

# Public Information Meeting Minutes

**Project:** Lyme, NH - Thetford, VT 14460
Rehabilitation of East Thetford Road Bridge over the Connecticut River

**Date/Time:** October 22, 2015 at 6:00 PM (doors opened at 5:30 PM)

**Location:** Thetford Town Office Building, Thetford, VT

**Participants:** Bob Landry, Bob Juliano and Ron Crickard of NHDOT
George Bogue, Gerard Fortin and Mike Leach of Stantec

**Attendees:** See attached sign-in sheet

## SUMMARY OF MEETING MINUTES:

Bob Landry introduced himself and began the meeting with the introduction of other NHDOT staff (Bob Juliano and Ron Crickard) and the Stantec staff (George Bogue, Jerry Fortin and Mike Leach) present. Bob explained that tonight's presentation was to recap what has been completed to date and provide a project update. He stated that Bob Juliano would do most of the presentation and Ron would discuss the historical and environmental aspects. Bob stated that preliminary details of the preferred alternative have been developed based upon input received so far from the Public, Natural Resource Agencies and Historic Resource Agencies. Bob stated that with this small group tonight, it can be informal and to feel free to ask questions along the way.

Bob Juliano began the slide presentation with site photos noting the Vermont approach and the New Hampshire approach. The information about the bridge was presented next that included the year built, 1937, and its eligibility for national historic register. The bridge is NHDOT red-list since 2013 with a NH bridge list priority number of 63. The bridge carries approximately 2100 vehicles per day and is posted at 15 tons due to the poor condition of the floor system.

The bridge information was followed with slides indicating truss bridge nomenclature. The tasks completed to date were presented along with some inspection photos showing various locations of corrosion and deterioration in the bridge structure along with the deterioration of the pier and abutments. Bob Landry stated that NHDOT bridge maintenance crews had done some work to the bridge floor system last fall to repair some of the major corrosion to return the bridge to two lane service.

Based upon preliminary engineering study and input from the public and resource agencies, the preferred alternative is to rehabilitate the existing bridge. The bridge will be rehabilitated to carry full legal loads. In addition, there would be safety improvements such as replacing the bridge railing with new railing that meets current crash standards. The work would also minimize impacts to the character defining features of the historic bridge to the extent practical.

Bob Juliano continued the presentation with a summary of the rehabilitation effort. The anticipated scope of work would include: replace the pier, repair the abutments, replace portions of the floor system framing, replace the bridge deck and replace the bridge railing and steel curb, clean and paint all steel truss components and some limited roadway approach work to provide for a smooth transition onto the new bridge deck.

A question as to the legal load was asked about whether it could carry an 80,000 pound truck. Bob Landry stated that the existing bridge design load is HS-15 and that the rehabilitation work would restore it to legal loads. George Bogue of Stantec further explained that as part of the rehabilitation, the pavement thickness of 3" would be removed, and the dead load of the pavement being removed would provide additional live load capacity to the bridge. The new deck would be bare concrete (no pavement)with stainless steel rebar to provide the longest service life. The proposed lighter weight deck would allow the bridge to be rehabilitated to carry legal loads without the need to strengthen any of the existing truss members.

It was asked how the decision to rehabilitate the existing structure versus replacement with a new bridge was determined. Bob Landry stated that the cost of a new bridge was significantly more and that since the bridge was historical and could be rehabilitated, this was the Least Environmnetally Damaging and Practical Alternative (LEDPA). The cost of a new bridge is estimated to be about $10 million, but the cost to rehabilitate is estimated to be $4.5 million. Bob stated previous experiences with the replacement of historic bridges have required significant mitigation costs not included in the above $10 m number to address the removal of the historic structure. A question was asked about the difference in the life span between a new bridge and the rehabilitated bridge. It was stated that a new bridge is assumed to have a life span of about 100 years and the rehabilitated bridge could be assumed to have a life span of about 60-80 years. A question was also asked whether the narrow width was also considered. Bob Landry stated that the narrow width was considered, but with a low traffic count, this was not a significant issue as this location. Other considerations are that there is not enough right of way for a wider new bridge and that land takings would likely be needed. There are other historic structures in the area too that could be impacted with a new bridge. It was asked if a cost to benefit analysis was conducted to replace the bridge and also if the traffic detour costs were part of the analysis. Bob Landry stated that this was not done because the bridge was historic and could be rehabilitated.

It was asked if a sidewalk could be added to the bridge for pedestrians and bicycles. Bob Landry explained that the existing truss structure could not support the added dead load and live load associated with a sidewalk. He stated that there was little information on bicycles and pedestrians. Mike Novello (resident) stated that he sees pedestrians on the bridge from his window that faces the bridge and that there are bicycles that cross the bridge. Bob stated that there are no sidewalks in the area and on the approaches and there is no place for a sidewalk across the bridge to connect to at either end. Bob Landry did

commit to determining pedestrian and bicycle cost with an adjacent structure that could sit on the wider pier cap.

Bob Juliano continued the presentation explaining that the pier has extensive cracking and spalling of concrete and that test results revealed low air entrainment and the presence of alkali silica reactivity (ASR) and the pier must be replaced. With ASR the aggregate used in the concrete reacts with moisture and expands, and thus the pier is deteriorating from within. It was asked if the deterioration near the water line was due to the 5 foot water elevation change during the day. Bob stated that the deterioration near the water line was likely due to freeze thaw cycles and the low air entrainment of the concrete. It was asked if granite aggregate was used and Bob stated that he did not recall the type or the source of the existing aggregate. Bob continued with the replacement pier options considered: replace in kind, or a column and cap type pier. The replacement in kind would require costly steel cofferdams and a tremie seal due to the depth of water of approximately 15 feet. It was stated that the river water level was significantly higher since the original construction in 1937 with the addition of a downstream dam across the river in the 1950's.

The preferred alternative is the two column drilled shaft pier with a concrete cap. This alternative can be constructed without cofferdams. Two layout options for the drilled shafts are being considered. One option is a narrow spacing of the drilled shafts that would require removal of some of the existing pier foundation to construct. The other is a wider spacing of the drilled shafts that would be placed beyond the existing pier foundation and could be constructed from the river without impacting traffic. Photo simulations were presented of the two proposed drilled shaft options along with a photo of the existing pier. The wider drilled shaft column pier is preferred since it would not impact the existing pier during construction and would not require the bridge to be closed during the installation of the drilled shafts. With the other alternatives, the bridge would be closed for the pier replacement work in the river.

Bob Landry stated the wider pier has a concern with people accessing the pier cap from the roadway. A sloped top or chamfered top was suggested to address this concern. It was asked if the wider pier could be used to support a separate pedestrian bridge. Bob stated the bridge span is very long and would be costly, but the project team would obtain a rough cost for the Town in case they want to pursue it.

The preferred alternative for the bridge deck was presented with the bare concrete deck and stainless steel rebar as discussed previously. The preferred bridge railing and curb system connected to the concrete deck was then shown. This was followed by a photograph showing as an example a portion of a truss bridge being painted and the equipment and containment structure that is required for removal of lead based paint.

Construction access to the river is required for the pier removal and replacement work and two potential locations were presented. There is an existing boat ramp located in Thetford approximately 2.2 miles

north of the bridge that could be a potential location for access. Another potential location is at the SW Quadrant located outside the right of way and behind the existing buildings that would require an agreement with the landowner. The access is for putting in the barges and equipment for the pier removal and replacement work.

The anticipated construction duration and traffic detours were then discussed with the closest detour being the Orford-Fairlee Bridge to the north. The detour to the south is the Hanover-Norwich Bridge. Two and one-half construction seasons are anticipated to complete the rehabilitation work due to its complexity. The initial half season would involve work from the river to construct drilled shafts for the new pier and temporary supports for the trusses. This work would not impact traffic. In the first full construction season the roadway would be closed from April through October to complete the replacement of the pier and the structural rehabilitation work. In the second construction season the bridge would be painted and the roadway closure time would possibly be a little less. The second season could run from April through June or it could be mid-June, after school is out, to mid-September.

It was asked if the bridge could remain open during the construction with one way alternating traffic similar to the work that was done on the Orford-Fairlee Bridge. Bob Landry stated that the Orford-Fairlee bridge is wider (24 feet between curbs) than this bridge and there would not be enough room to place equipment and temporary barrier to do the work and allow traffic to safely cross on this bridge. In addition the work would take another year longer with the one way alternating traffic since it is being done half at a time.

Bob Landry asked if school buses use the bridge. This was confirmed and it was stated that emergency responders and Mutual Aid also uses the bridge. It was stated that the closure may have a significant impact on the schools, emergency responders, and Mutual Aid.

It was stated by an audience member that the Town of Lyme had closed River Road due to a slope failure concern along the river near a culvert. The town was looking into doing some borings in the river. However the cost of the barge and borings was significant. Bob Landry stated that the Department was scheduling to do borings for the proposed pier in the river by the end of the year. The Town asked whether they could use the same barge to do borings for the project. Bob asked who the consultant was for the Town. Willis Engineering was the response. They were coordinating with CLD. Bob Landry stated he would have Glenn Roberts of the NHDOT Geotechnical Section follow-up, and get back to the Town on the schedule and coordination on the borings.

Ron Crickard presented the NEPA/historical portion of the presentation. The bridge is a historic resource that is eligible for the National Register of Historic Places. Ron also mentioned that there were two other buildings that were eligible, the "Toll" house in New Hampshire and a property located in the NW portion of the project located on the Vermont side. The consultation process includes the determination of effect

on historic resources. As part of the Section 106/Historical process, interested parties such as Heritage Commission, Historic Commissions and Town officials can be involved with the process as a Consulting Party, and he noted that pamphlets and information that detailed the Consulting Party process for those that are interested were located on the back table. He stated he would be available after the meeting to answer any questions.

Regarding the natural resources, the dwarf wedge mussel is known to be in the Connecticut River and that it is a federally endangered species. The project will require permitting and approvals including addressing the endangered species. A NHDES wetland permit and NHDES shoreland permit are required and a Vermont stream alteration permit may also be required. The project would also require permit from the US Army Corps of Engineers and a US Coast Guard bridge permit.

The project schedule was presented next with the final design and contract plans completed in fall of 2019 and placed on the shelf. The funding for construction of the project was not until 2022 based upon the draft 10-year plan. Construction is scheduled to start in 2022 and completed in 2024.

The project cost is estimated at $4.5 million with 90% NH funding and 10% Vermont funding. The funding amount is based upon the amount of bridge located in each state with the State Line identified by a US Supreme Court Decree in 1936 as being the high water mark on the westerly river bank. There is no local, town funding by Thetford or Lyme.

It was asked what the color of the bridge would be. Bob Juliano stated that it appears the original color was black. Bob Landry stated a dark green would be preferred by NHDOT, but the color can be what the public prefers within reason. Bob Landry explained that the Orford-Fairlee Bridge was intended to be the original historic color based upon the chips that were taken and matched until they started to paint a portion of it. The color was changed to the current light green color of 1961.

*An audience member questioned why the Construction funding was in 2022 versus the requested 2019.* Nate Miller from Upper Valley Lake Sunapee Regional Planning Commission stated the RPC has about $82 million dollars a year for projects listed in the ten year plan. However, the cost for all of the RPC wide projects to construct is about $120-130 million a year. This does not include all of the municipally managed projects that are in need of construction included many red list bridges. There are several Towns requesting funding to replace bridges with a few Town's deciding to close the bridge for good. A primary project within this region is the replacement of the I-89 bridges with a cost of $30 million that needs to be done soon.

Bob Landry stated that the updated 10-year plan was being considered and that there were still a few public meetings for the citizens to provide input to the plan. Once the 10-year plan public meetings have concluded, then the Council will make recommendations to the Legislature and the plan will be adopted.

Currently under the updated 10-year plan, the project is slated for construction in 2022 and 2023. However, the project could be ready for construction just in case the condition requires additional weight restrictions or closer.

Bob Landry explained that the NHDOT website will have the project information and be updated to include the power point presentation and meeting minutes from tonight's meeting

The meeting ended at approximately 7:45 PM.

*These minutes are our attempt to summarize the discussions held during this meeting as accurately as possible. If there are any items discussed herein that are misrepresented in any way, please contact Michael Leach (Stantec – michael.leach@stantec.com) within ten working days. In the absence of any corrections or clarifications, it will be understood that these minutes accurately summarize the meeting discussions.*

State of New Hampshire

Department of Transportation

# Attendance

## Lyme, NH – Thetford, VT 14460 - Public Informational Meeting

Thetford Town Hall --- October 22, 2015

| Name (please print clearly) | Affiliation | Phone # | E-mail |
|---|---|---|---|
| Rita Seto | TRORC | 802 457 3188 | rseto@trorc.org |
| NATE MILLER | UVLSRPC | 603-448-1680 | nmiller@uvlsrpc.org |
| Mike Novello | Lyme resident | 603 667 0775 | PARALLAX1@GMAIL.COM |
| DAN BRAND | " " | 603-795-2432 | DBRAND@CRAI.COM |
| Tim Cook | member Heritage Comission Lyme | 603-353-9886 | TACREXX@gmail.com |
| WALTER WETHERELL | Lyme Resident | 603-795-4600 | wd wetherell@gmail.com |
| STUART ROGERS | THETFORD SELECTBOARD | 802. 785-4392 | STUART.P.ROGERS@VANTY.NET |
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