



City of Keene
New Hampshire

**MUNICIPAL SERVICES,
FACILITIES AND INFRASTRUCTURE
COMMITTEE
AGENDA
Council Chambers B
September 26, 2018
6:00 PM**

Janis O. Manwaring
Randy L. Filiault
Stephen L. Hooper
Gary P. Lamoureux
Robert B. Sutherland

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1. Roxbury Street Bridge Replacement - Selection of Preferred Alternative - Public Works Department
 2. Cheshire Coalition for Tobacco Free Communities – Raising the Legal Minimum Age for the Sale and Possession of all Tobacco and Nicotine Products

MORE TIME ITEMS:

- A. Ashuelot Court Homeowners – Request to Partner in the Installation of Water and Sewer Lines on Ashuelot Court, a Designated Private Road

Non Public Session
Adjournment



City of Keene, N.H.
Transmittal Form

September 21, 2018

TO: Municipal Services, Facilities and Infrastructure Committee

FROM: Donald R. Lussier, P.E., City Engineer

THROUGH: Rebecca Landry, Assistant City Manager

ITEM: 1.

SUBJECT: Roxbury Street Bridge Replacement - Selection of Preferred Alternative - Public Works Department

RECOMMENDATION:

Move that the Municipal Services, Facilities & Infrastructure Committee recommend that the rigid frame structure, as presented, be selected as the preferred alternative for the replacement of the Roxbury Street Bridge over Beaver Brook, and that "Accelerated Bridge Construction" be selected as the preferred construction method.

Move that the Municipal Services, Facilities & Infrastructure Committee recommend that the City Manager be authorized to do all things necessary to implement the preferred structure type and construction method for the replacement of the Roxbury Street bridge over Beaver Brook.

BACKGROUND:

The Roxbury Street Bridge over Beaver Brook is one of the City's 12 currently red-listed bridges. Replacement of this structure was approved by the City Council as part of the FY18 CIP. This project is being completed with funding through the New Hampshire Department of Transportation's State Bridge Aid program. As such the State reimburses 80% of the actual project costs and the City is responsible for the remaining 20%.

Under the State Bridge Aid program, our design consultant is required to complete an Engineering Study prior to undertaking detailed design work. The Study includes survey work, geotechnical investigations, identification of natural and historic resources within the project area, preliminary hydraulic calculations, and an evaluation of alternative structure types. This phase of the project also includes the first of several public outreach tasks. The Study phase culminates with the City Council selecting the preferred alternative for the project.

The City's design consultant has completed their study and has recommended a three-sided precast concrete rigid frame structure type. The other alternative is a 4-sided precast concrete box culvert. Due to the difficulty of water diversion during construction with this structure type, it is not recommended. Both options will allow the same waterway opening. Based on feedback from the surrounding community as well as Keene Fire and Police staff, they are also recommending that the project be constructed using Accelerated Bridge Construction methods, compared to a phased construction approach. With this construction method, Roxbury Street will be fully closed to traffic at the bridge site for approximately 30-60 days. A signed detour route will be installed along Franklin St. / Beaver St. / Washington St. to direct traffic around the work site. Pedestrian traffic will be detoured via Harrison St. / Church St. / Norway Avenue. While there are some community members who

prefer the phased approach, the majority of abutters and community members prefer the Accelerated Bridge Construction approach.

The proposed bridge span will be approximately 5.5 feet longer than the existing structure in order to match the full width of the upstream and downstream concrete channel. The project will also re-lay the existing sewer main at a lower elevation in order to remove an existing flow obstruction from the stream channel. Taken together, these changes will improve the hydraulic performance of the new bridge. The replacement structure will be able to pass the flow resulting from a 50-year storm event. NHDOT Bridge Design guidelines require that bridges on Class V highways be designed to pass a 50-year flood event with a minimum of one foot between the flood water elevation and the bottom of the bridge. It is uncertain if this will be feasible for the Roxbury Street Bridge due to the elevation of the surrounding roadway and properties. Therefore, a waiver to this design standard may be required.

Aesthetic features of the bridge (e.g., railing type, lighting, etc.) will be developed during the next phase of design. City staff anticipates returning to the Committee with recommendations for these features in late November.