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TOWN OF YARMOUTH

INTERNAL MEMORANDUM

TO: **Scott LaFlamme, Town Manager**

FROM: **Steven Johnson, P.E., Town Engineer**

DATE: **July 25, 2024**

RE: **Proposed Referendum for November 2024**

Scott:

As you know, the Town is contemplating undertaking several key projects that are crucial to the health, safety, and welfare of our residents. The work is anticipated to cost a significant sum to complete and will require borrowing of the funding. The projects include the replacement of the Harbor Sewer Pump Station including grit removal, replacement of the Davis Landing Bridge crossing Pratt's Brook on East Main Street and replacement of the Cousin's Island Safety Way, a pedestrian walkway from Sandy Point Beach to Wharf Road. It is anticipated that this critical work, in total, will cost $10,500,000. I respectfully recommend that the Town Council support placing a bond referendum in the amount of $10,500,000 on the November 2024 ballot for consideration by Yarmouth voters for this important investment.

Town staff has been working for several months to develop conceptual designs and opinions of probable cost (OPC) for the three proposed projects. The total bond project cost breakdown is as follows and in no particular order:

• Harbor Sewer Pump Station/Grit Removal:	$7,000,000
• Davis Landing Bridge Replacement:	$1,500,000
• Cousin's Island Safety Way Replacement:	$2,000,000
Total:	$10,500,000

Please note that the above sums include funding to cover anticipated inflationary costs between now and the anticipated time of construction, likely during the 2026 construction season.

Harbor Sewer Pump Station Replacement with Grit Removal Work Scope

The Town owns and operates over 30 sewer pumping stations throughout our collection system. The Harbor Pump station, located just southeast of the intersection of Lafayette Street and Pleasant Street, is the Town's largest pumping facility and conveys about 85% of the Town's sewer flow to the wastewater treatment plant. Additionally, this pump station provides our only grit removal process system wide. This pump station was constructed in 1967 and was last upgraded in 1992 with new pumps. While the pump station has received regular periodic maintenance, there has been no significant capital upgrade work performed since 1992 and the station is nearing the end of its service life.

Harbor Pumping Station

Grit removal is an important function to protect both pumping systems and plant equipment from the abrasive effects of inert particles in the sewer flow. The current configuration for grit removal is antiquated and does not function efficiently. As configured, the Town's grit removal system does not protect the wastewater plant from impacts in the remaining sewer flow conveyed from the Princes Point area of Town. To address this, the grit removal process is proposed to be relocated from the Harbor Pump Station to the Wastewater Plant on Whitcomb's Way to provide more effective grit protection for 100% of the influent sewer and is included in the project work scope. This will require upgrades to the plant headworks as well.

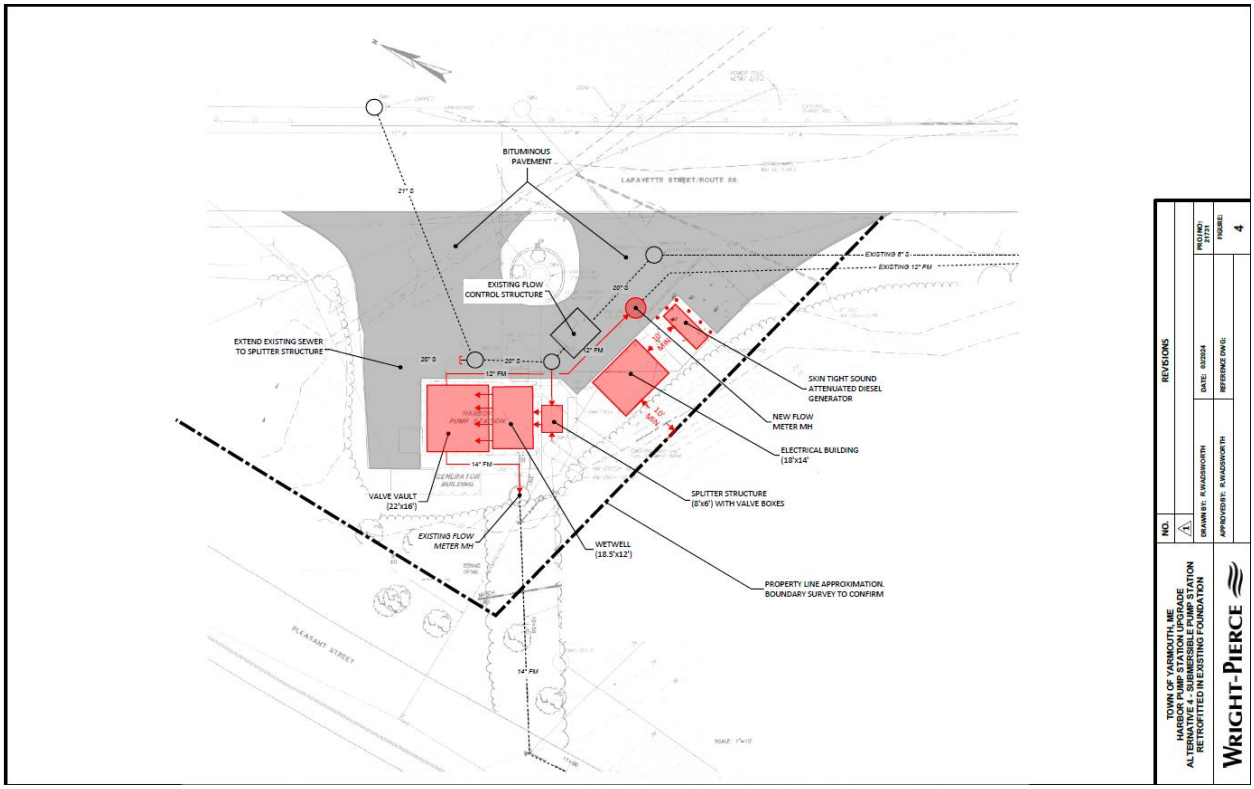
Cast iron pump impeller recently replaced by the Department that was worn through by grit.

Town staff worked collaboratively with Wright-Pierce Engineers to review the Harbor Pump Station building envelope, equipment, and site infrastructure as well as flow

history and future flow projections. This review assessed the facility condition, evaluated pumping system needs for now and the future to determine reasonable alternatives for replacement and upgrade. This effort developed five alternatives including a do nothing alternative, replace in-kind, rehabilitate the existing facility, install a new submersible station, and retrofit the existing station to a submersible station.

View of pump gallery in lowest elevation of the Harbor Pump Station

The selected alternative would include retrofitting the existing pump station to a submersible pump configuration while reusing the existing below grade infrastructure as a new wet well and valve pit configuration. This alternative would relocate grit removal to the wastewater plant and would provide required headworks upgrade. This alternative satisfied the needs of the project and was the most cost-effective, long-term alternative.



Proposed Conceptual Design for Harbor Pump Station Replacement

Davis Landing Bridge Replacement

Yarmouth owns several vehicular and pedestrian bridges in Town. Davis Landing bridge, constructed in 1936, is a cast in place concrete structure and carries East Main Street over Pratt's Brook on the northeasterly side of Town. The bridge is in poor condition. Davis Landing Bridge was last inspected by MDOT on October 11, 2023, with condition rating criteria results of Serious (3) condition to Fair (5) condition (on a scale of 10), which includes areas of significant wingwall section loss, exposed and corroded reinforcing steel under the bridge deck and serious cracking/rotation of an upstream wingwall along with map cracking and spalling throughout the other wing walls. As such, David Landing is inspected annually by MDOT due to its poor condition rather than the typical two-year inspection cycle.

Project Location Map

By State Law, any bridge that spans less than 20 feet is owned by the municipality or private entity where it is located, however, the Maine Department of Transportation (MDOT) still inspects significant structures. All maintenance and capital work are the responsibility of the Town. It is important to note that MDOT has the authority to post a bridge for load limit or even close the structure to use should inspection deficiencies warrant it. Given the results of the latest inspection report, it is a clear possibility that the structure could be at least posted for a weight restriction in the near future.

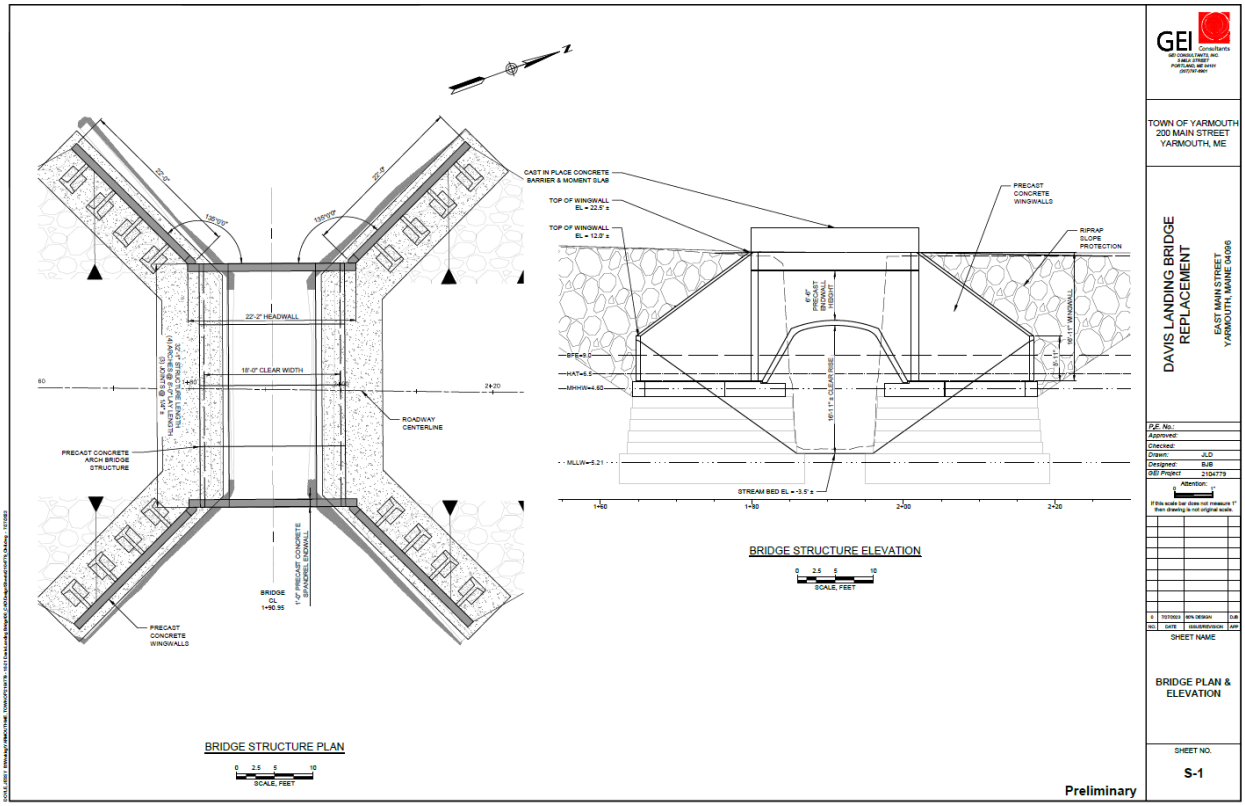
Davis Landing Bridge Looking Upstream

View of southeast wingwall: Note section loss

View of southwest wingwall: Note large crack.

View of deck bottom: note exposed and corroded reinforcing steel.

The Town has worked with GEI Consultants, Inc., a local bridge design consultant, to develop construction documents for the replacement of the existing structure as well as an OPC for the projected replacement cost. The selected alternative is a precast concrete arch span that will reuse some of the existing masonry foundation to help minimize cost and minimize construction impacts to the brook.



Conceptual Design of Replacement Pre-cast Arch Span

Cousin's Island Safety Way

Yarmouth owns and maintains a pedestrian walkway on Cousin's Street that stretches from the Ellis C. Snodgrass (Cousin's Island) bridge to Wharf Road. The existing walkway is narrow and in poor shape and in many respects does not meet the Americans with Disabilities Act (ADA) requirements nor current Town pedestrian walkway standards. Staff and Town officials have received many complaints and concerns from the public on the walkway condition.

CI Safety Way: looking northwesterly

Note alligator cracking and uneven surface.

Note uneven surface, narrowness of walk and surface patches.

Note narrow walkway and uneven, unpaved surface.

Note narrow walkway and vegetation encroachment. Surface condition is poor.

Town staff has developed a conceptual OPC for the replacement of the walkway with a new six (6) foot wide sidewalk that will meet Town and ADA standards. This work will include new crosswalks and required signage at all street intersections as well as new curb, drainage and site revegetation as required. Given the existence of bedrock within the project scope a significant allowance has been included for likely structural rock (ledge) removal. It is anticipated that the new bituminous pavement walkway will be constructed in the current location of the existing walkway to help minimizing impacts to abutting properties.

Recommendation

As noted above, it is respectfully requested that the Council move forward to Yarmouth voters a referendum in the amount of $10,500,000 for the inplementation of these critical projects. If you have any questions, please contact me.