



CITY OF NORTHAMPTON, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
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Donna LaScaleia
Director

Memorandum

To: Mayor David Narkewicz

From: Donna LaScaleia, Director of Public Works

Date: April 7, 2020

RE: FY2021 Northampton Roadway Improvements

The Department of Public Works (DPW) has developed a plan to improve the condition of several City streets in FY2021. This memorandum identifies the selected streets, the approximate cost of improvements and the current schedule for bidding and construction. Due to COVID-19, several project schedules have been affected and are postponed to next year.

For FY2021, as part of your five year Capital Improvement Program, the City bonded \$1,500,000 for roadway improvements. We received a FY2021 apportionment of \$1,016,820 in Chapter 90 funds, pending final authorization from the Commonwealth. Additionally, we can allocate funding from other sources such as traffic calming or utility enterprise funds as appropriate.

Generally, the DPW uses data and analysis provided through the Vanasse Hangen Brustlin, Inc (VHB) Pavement Management Program as the primary guide for pavement management. In addition, the DPW applies our field knowledge of roadway usage, current repair conditions, and consideration of recent and upcoming underground utility projects when developing candidate streets for pavement improvement. The types of improvements proposed and the streets where the work is planned are described below.

CRACK SEALING

Crack sealing pavement is the process of cleaning out pavement cracks using compressed air and applying a heated, liquefied asphalt-fiber sealant followed by the hand application of boiler slag to prevent pickup of the sealant by vehicles. Crack sealing prolongs the life of pavement for about five years by reducing the amount of water entering into the pavement. The selection of streets to be crack sealed is intended to maintain newer roads in good condition for as long as possible. The street to be crack sealed this year are determined by reviewing the pavement condition index (PCI) for City streets and developing an estimated list of 20 – 25 streets that

could be crack sealed within the \$100,000 budget for this work. The list of streets to be sealed is in development.

Crack sealing Schedule: Bid specifications for the crack sealing contract are expected to be prepared and bid in the summer of 2020. It is expected that the work will occur in the fall of 2020.

ROADWAY PAVING

The mill and overlay process involves mechanically milling and removing the top 2 – 3 inch layer of pavement, leaving curbing, catch basins and manholes in place. These structures are adjusted as needed to match the final pavement grade. A new top course of pavement is installed after a tack coat of bitumen is applied as a bonding agent with the binder course. The expected repair life is typically 12 – 15 years.

Mill and overlay treatment measures are not planned on any roadways in FY2021.

The reclamation process involves mechanically grinding and removing all existing layers of pavement. The reclaimed material can be used to repair or supplement the road's gravel base as needed. Excess material is stockpiled for use by the DPW. The road base is graded and compacted before binder and top courses of new pavement are installed. Catch basin and manhole structures are adjusted and may be rebuilt if required. The expected repair life is typically 18 – 22 years.

Reclamation treatment measures will be used on the streets listed below.

Reclaim Streets

North Farms Road: North Maple Street to Williamsburg Town Line

North Maple Street: North Farms Road to Bridge Road

Atwood Drive: Mount Tom Road (Rte 5) to end

Construction Schedule: The paving projects are expected to be bid in February and March of 2020. Construction will occur in the summer and fall of 2020 and early 2021. The approximate total value of the 2.1 miles of roadway paving is \$2,410,000.

ROADWAY PAVEMENT MARKINGS

There are various types of pavement markings used throughout the City. These include, but are not limited to, solid yellow lines, solid and broken white lines, turn arrows, crosswalks, speed hump markings, and only markings. Streets for this contract are generally chosen based on visual inspection. This contract includes refreshing all pavement markings in the City. This work is paid from the operating budget of the Highway Division.

Line Painting Schedule: A contract for this work is currently being prepared. Bidding is expected to occur in the spring of 2020.

STATE CHAPTER 90 PROJECTS

Chapter 90 is a state reimbursement program for projects that involve maintaining, repairing and reconstructing City streets. Other eligible uses include engineering design services and personnel for site inspection. Several construction and resurfacing projects listed on the previous pages are partially funded using the Chapter 90 program. Funds for each community are determined by the number of accepted road miles, the population and employment data. The following design projects span multiple fiscal years:

King Street Corridor Design (\$245,000)

Fuss & O'Neill has a contract for the design work of King Street between Bright Street and the signalized rail trail crossing. This includes reducing the traveled way to one lane in each direction, realignment of Summer Street towards North Street, reconstructed sidewalks and driveways, bike lanes, a traffic signal at the intersection of Finn Street and State Street, pedestrian signals, and updated traffic signal timings. 75% plans are in progress. The construction will be federally funded under the Transportation Improvement Program and is planned for 2021.

Pavement Management Services (\$12,000)

The City has an annual contract with Vanasse Hangen Brustlin (VHB) for pavement management services. VHB evaluates the pavement condition for a quarter of the City's streets each year and updates the database. This allows the City to see the condition of all road segments.

Hotel Bridge Rehabilitation Design (\$55,000)

Greenman-Pedersen, Inc has a contract for the rehabilitation design of the Hotel Bridge for pedestrian and bicycle access only. The construction of the single lane, iron truss bridge was completed in January of 1881. The bridge was closed to vehicle traffic in 2004 after being deemed structurally deficient by MassDOT. An engineering assessment will be completed in FY2020 to determine the preferred construction strategy for reopening the bridge to pedestrian and bicycle traffic.