

City of
Fitchburg



Department of
Public Works

**301 Broad Street
Fitchburg, MA 01420
Phone: 978-829-1910**

DPW Weekly Update July 21 - July 28, 2019

Dear Mayor, Councilors, and Colleagues:

This past week DPW continued efforts to improve our customer support and responsiveness through use of the SeeClickFix app and website. Since its inception six years ago 4,376 DPW requests have been received through SeeClickFix, with only 328 (7.5%) of these requests remaining open to date. Most of these older requests (144) are for potholes, with the oldest request being three months old.

In the past month, 144 requests were created related to DPW issues and more than half (73) were acknowledged and closed in less than 30 days. As we continue to train our staff in the use and benefits of the SeeClickFix application, we hope to provide a more responsive and interactive experience for you and the Fitchburg residents.

In addition to tracking response times for work requests, DPW also continues to develop other performance metrics to measure and track our services. All divisions have been asked to start developing and reporting key metrics for weekly and monthly reports. We hope to start reporting on these performance metrics in the upcoming weekly reports.

As always please feel to contact us with any comments, questions, concerns or suggestions.

Sincerely,

Nicolas H. Bosonetto, PE
Commissioner of Public Works/City Engineer

Personnel

One workplace injury was reported this week. During a site visit to a drainage swale, one DPW employee had a mosquito fly into their eye which caused an infection. Treatment was received at the walk-in clinic. No loss of work time resulted from this incident.

Weather Events

Heavy rainstorms arrived on Monday afternoon and continued through Tuesday night. Over 3 inches of rainfall fell in our region causing localized flooding, combined sewer overflows, and downed trees. DPW Streets crews cleared out catch-basin grates during the storm to alleviate localized roadway flooding and cleared felled trees. Waste water and storm water crews observed the rainfall and managed the overflows.

	Sun 21	Mon 22	Tue 23	Wed 24	Thur 25	Fri 26	Sat 27
Temp Avg	81	70	64	70	70	72	72
Precipitation (in)	0	1.01	2.19	0.17	0	0	0

ROADWAYS

The city's roadway pavements received both preventative and corrective maintenance this week. Preventative maintenance is performed to extend the life of pavement that is still in good condition. Preventative maintenance is proactive and includes crack-sealing and micro-surfacing treatments that can extend the pavement life by five to nine years without reconstruction. Corrective maintenance is reactive and is performed after the pavement starts to fail. Corrective maintenance includes pot-hole filling, is more expensive, and only extends the pavement life by one to three years.¹

Crack Sealing

Roadways throughout the city received preventative maintenance this week in the form of crack cleaning and sealing. By filling pavement cracks, water and debris is prevented from entering into the pavement and subbase, thereby extending the pavement life for about five to seven years. Our contractor has completed approximately 22% of the work so far and will continue to work throughout the city in the coming week. The work is being paid from the MassDOT Chapter 90 account.

Crack Sealing:

Superior Sealcoating, Inc.	\$75,000 budget	8000 gallons of sealant
Completed to Date	\$15,312	1729 gallons

¹ Best Practices Handbook on Asphalt Pavement Maintenance, February 2000, Minnesota DOT, Table 3.1



Figure 1 - Cracksealing

Micro-Surfacing

Another form of pavement preservation applies two thin 3/8 inch layers of polymer-modified asphalt emulsion and aggregate pavement to seal and smooth out the roadway. Prior to applying the treatment, cracks are sealed and any potholes or ruts are patched. This micro-surface extends the life of a roadway for seven to nine years. The following roadways will be scheduled for the micro-surfacing treatment in the end of August. The project will be submitted to MassDOT for funding through the Chapter 90 program.

Micro Surfacing

<u>Item</u>	<u>Length</u>	<u>Area</u>	<u>Cost</u>
Rindge Rd (remainder)	4873'	17,868 sy	\$95,235
Cortland Ave	675'	2,805 sy	\$14,951
MacIntosh Ln	1240'	5,703 sy	\$30,397
Broad St	1183'	5,156 sy	\$27,481
Upham St	1620'	6,160 sy	\$32,833
Skyview Dr	580'	2,014 sy	\$10,735
PATCHING ESTIMATED (SY)		175 sy	\$30,000
POLICE SERVICES ESTIMATED			\$15,000
CRACK SEALING ESTIMATED			\$34,000
ESTIMATED TOTAL			\$290,631

Corrective Maintenance

Pothole repairs is our main method of providing corrective maintenance to pavements that have started to fail. Pothole repairs tend to last only one to three years and are meant as a temporary fix until the roadway pavement can be reconstructed. Pothole patching efforts continued this week with approximately 700 potholes² filled at various locations, including the following:

- Newton Place,
- Duck Mill Road,
- Laurel Street,
- Industrial Road,
- Sarah Lane,
- Alpine Road,
- Kimball Street,
- Temple Street,
- Hollywood Street, and
- Vine Street.

PARKS & RECREATION

The Board of Park Commissioners is accepting donated national flags for display at Heritage Park. Flags must be 3x5 feet, with metal grommets preferred. The flag must represent a nation or ethnic group only. Flags representing social causes, non-profits or sport teams are not accepted. Please contact the Fitchburg Recreation Department at 978-829-1815 for more information.

DPW crews continued to work on the new trail on Rollstone Hill. The new Student Conservation crew arrived for their 10-day rotation. The granite monument marking the beginning of the trail was installed next to the Rollstone. Custom parking signs are being designed and ordered for installation. Coordination continues with Fitchburg Greenway Committee regarding budgeting and expenditures of the various grant funds.

The cannon was returned to Monument Park from Rollstone Hill.

DPW toured the route for the proposed Twin-City Rail Trail with Community Development. Several large boulders, barriers, and fencing will be removed by DPW crews.

DPW crews continued to maintain and repair the recreation infrastructure as follows:

- Started to install backstop at Maverick Street Ballfield
- Repaired broken swings at Babe Diconza Playground
- Helped clean up brush and trim branches on Mill Street

² Based on average pothole size of 3.5 inches depth and 1.5 foot wide by 1.5 foot long (volume of 0.66 cubic feet or 0.02 cubic yards)

Recreation Events:

- The summer playground program attended their first Summer Field Trip on 7-19-2019 to the Worcester Ecotarium. There were 81 participants and 12 seasonal staff.
- The Ryan C. Joubert Skate Clinics finished the final session with over 50 registered participants. The clinic wrapped with a pizza party and skateboard raffle.
- Concerts on the Common continued on July 24, 2019 with Bare Hill with an estimated attendance of 100 people.
- Friday night movies series last week played “Ralph Breaks the Internet”, with an estimated attendance of 50 people.

CEMETERIES

The cemetery crews continued to maintain the grounds by mowing, trimming, cleaning graves and monuments, picking up litter and painting. In addition to routine maintenance and administration tasks, the following were completed:

Interments	1
Up righted monuments.....	7
Uncovered/cleaned flat monuments..	0
Foundation marking for monuments..	2
Catch basin repair	0
Filled sink holes.....	0
Trimmed Trees	5
Trimmed shrubs.....	17
Meeting with Families.....	5
Payments - invoiced/processed.....	18
Family Genealogy	4

WASTE WATER

The main sewer line system in the western section of the city will be smoke tested commencing on July 29th through August 9th. Areas affected will include Westminster Street, River Street, Sheldon Street, Nursy Lane, Nockege Street, Broad Street and Boulder Drive. Information packets and press releases will be distributed next week explaining the process. The ‘smoke’ is actually an inert moisture mixture that is non-toxic. The purpose of this test is to locate possible infiltration points into the sewer system.

Due to the heavy rain event this past week, the inflow at the waste water plant peaked at a rate of 29.6 million gallons per day (MGD). Since this flow is above the plant’s capacity, approximately 2,500,000 gallons of combined flow bypassed the Secondary Treatment System at the east plant. This discharge received preliminary treatment and disinfection prior to entering the Nashua River. Additionally there were seven combined sewer overflows (CSOs) along the collection system. Completion of the combined sewer separation project will reduce the frequency and volumes of these types of releases.



Figure 2 - DPW Crews replacing pipe

In addition to routine maintenance work, the following services were completed:

- Replaced 20 feet of collapsed 6-inch sewer on Plymouth Street using in-house forces. Will pave next week.
- Replaced 14 feet of collapsed 8-inch sewer pipe on Highview Street. Existing pipe was laid directly on bedrock, causing pipe to fracture and deform. Hammered out 1-foot of rock to make proper pipe grade. Backfilled with all graded base, and hauled away native material. Coordinated with homeowner and contractor on driveway reimbursement due to pipe repair work.

STORM WATER

Inspected 15 storm-water outfalls over 2 dry field days to determine illicit connections and infiltration. Found 11 outfalls flowing and sent seven to be sampled to determine source. To date 67 out of 277 outfalls have been inspected.

Prepared needs assessment of drainage system on Main Street and Boulder Drive within the area proposed for 2-way traffic conversion project. Included preparation of conceptual design and cost estimate.

Performed site visit to High Rock Road to discuss drainage issues near #572. Fielded one phone call from a business owner looking to demolish a building to build a parking lot for her dance studio on Summer Street (Miss Tanya's School of Dance). No storm-water permit required (minor increase in impervious area, no nearby resource areas).

Performed site visits following 3.37" of rain on 7/23 to inspect for flooding and damage.

- McTaggart's Pond Dam
- Sheldon Road Culvert
- Shea Street Flood Control Swale
- Shea Brook
- Columbia Ave./Dewey Street
- Oak Hill Road
- John Fitch Highway

Catch basins were repaired and on St. Josephs Avenue.

Cut grass in Shea Street Swale to help with drainage.

WATER SUPPLY

Water restrictions on nonessential outdoor water use were enacted effective Monday July 22 for the City of Fitchburg. This restriction is based on DEP's water withdrawal permit requirements

to protect aquatic life in the Nashua River during periods of low flows. This restriction is not related to the quality or quantity of the City of Fitchburg’s water supply or distribution system.

During the summer months (July 1 – September 30) if the Nashua River flow volume falls below 24 cubic feet per second (CFS) for three consecutive days at the measuring station near the Fifth Street bridge, then the water restrictions are implemented.

Due to the large rain storm starting Monday July 22, the flow levels had increased from a low of 18.5 CFS on Monday to a peak of 300 CFS on Wednesday.

Water Treatment This Week

7/18-7/24	Falulah Plant	Regional Plant	Totals
Raw Water Inlet (Gal)	9,057,000	29,086,000	38,143,000
Finish Water Treated (Gal)	7,974,000	25,790,000	33,764,000
As of 7/25	Northern Reservoirs	Southern Reservoirs	
Fitchburg/Ashby	Full	-0.41 feet	Meetinghouse
Scott	Full	-0.86 feet	Mare Meadow
Lovell	-2.58 feet	Full	Bickford

Transfer between reservoirs is currently under way – Fitchburg reservoir is being drained into Lovell, and Mare Meadow is being pumped into Meetinghouse reservoir.

Emergency Action Plan updates are currently being reviewed for the dams. The McTaggart’s Pond Dam was inspected during the heavy rain event.

Fire Hydrants This Week

Total Hydrants	Out of operation
1,632	1

- All fire hydrants except for one are operational in the city. The hydrant at Cushing Street by River Front Park is shut off because the water main is damaged.
- Crews continued flushing hydrants as well as completing maintenance on them on the High System in the areas of Fairmont Street, Reingold Avenue, Leroy Street, and Franklin Road areas.
- All fire hydrants in the city have been exercised and flushed within the last year and a half.
- Emergency call-ins: 7/19/19 at 9:00 p.m. – Water crews called in for hydrant running at 180 Columbus Street. Young people had opened the hydrant and broke the operating stem in the process, FWD personnel closed the gate valve to the hydrant (assistance of Police were requested to monitor situation while shutting down hydrant) and repaired the hydrant on Monday. Fire Dept. was notified.

Progress meeting was held with Arcadis regarding the SCADA system for the water division. An asset management grant is being pursued to add water distribution assets to the city’s integrated asset management system.

In addition to routine maintenance and administrative tasks, the following services were completed:

Emergency DigSafe Markouts.....	4
DigSafe Markouts	12
Inspections	5
Record Plan Updates	0
Curb Stops Services	4
Located/cleaned gate/curb boxes.....	5
Hydrants Flushed	21
Hydrants Painted	0
Hydrants Repaired	2
Hydrants Installed	0
Final Readings	32
Meter Installs	12
Backflow Preventers Tested	33
Residential Appointments Made.....	15

ENGINEERING

The engineering division continued asset management efforts to document the city’s infrastructure and its condition. DPW relies on asset management software and documentation to plan and coordinate capital improvement programs. Engineering continued to coordinate with wastewater, water and UNITIL to determine which roadways can be reconstructed after the completion of all utility upgrades and replacements.

Pavement conditions for all streets in the city are currently being collected by StreetScan using vehicles mounted with sensors to detect pavement and sidewalk conditions. Once completed this information will be used to plan the timing and scope of roadway projects.



Figure 3- StreetScan Vehicles

Storm-water assets are also being catalogued and included in the city's integrated asset management system. The storm-water system is being mapped using hand-held tablets in the field. Outfalls are being catalogued and inspected.

Permits/Inspections This Week

Permit/Inspection	Number
Dig-Safe requests	2
Dumpster Permits	0
Driveway Permits	0
Sign Permits	0
Excavation Permits	0
Sewer Permits	1
Sewer/Drain Inspections	7
Parcel Updates	0
Planning Reviews	0

Commissioner traveled down to Worcester to meet with MassDOT District 3 personnel. Upcoming coordination on the Water Street Bridge and Twin-Cities Rail Trail projects was discussed. Chapter 90 balances and projects were also discussed.

Created parcel layer for tax lien assignment auction. Created an USDA Soils overlay layer in coordination with wastewater division. Created a CAD drawing for the ground-water at the Forest Hill Cemetery.

An ornamental street light and pole were replaced at 33 North Street.

Inspected work being completed by Superior Seal Coating, Inc. on crack sealing project. Inspected material tanks and applications 16 separate times during week.

ADMINISTRATION

The following invoices were researched and processed for payment:

Streets/ Admin/ Engineering..... 0 invoices paid
 Wastewater 3 invoices paid totaling \$410
 Parks 0 invoices paid
 Recreation..... 2 invoices paid totaling \$831
 Water..... 38 invoices paid totaling \$55,304
 Cemeteries..... 10 invoices paid totaling \$1,507

Continued cleaning up requisitions and internal POs and contacting vendors to make sure there are no outstanding FY19 items. Prepared year end encumbrances and accounts. Submitted DPW encumbrances for streets, administration, engineering and parks to Auditor's office. Wastewater will be completed early next week.

Deposits

- Received and deposited funds in the amount of \$102,000 from Executive Office of Environmental Affairs for the MVP plan.
- Received and deposited funds in the amount of \$265,688 from UNITIL for paving.
- Deposited \$114,555 worth of septage payments.
- Received and deposited \$124,050 payment from Munksjo for industrial wastewater.