



City of Northampton

Department of Public Works

Stormwater and Flood Control Utility

FY 2019 Annual Report

STORMWATER AND FLOOD CONTROL UTILITY BUDGET AND RATES

The FY 2019 Stormwater and Flood Control Utility Budget was set at \$1,986,842. The calculation of bills for all properties resulted in a total hydraulic area or usage number of 78,858,979 square feet. Based on the budget and the total hydraulic area, the billing rate was determined to be \$0.026055 per square foot of hydraulic area.

Quarterly bills were calculated for and issued to 11,201 properties.

As of the end of June 2019, active credits were approved for 1,200 properties for a total annual value of \$87,387.

STORMWATER CAPITAL PROJECTS

Burts Pit Road Culvert Relining

Aqua Line Utility completed the reconstruction of a culvert on Burts Pit Road.

Drainage repairs and improvements incorporated into paving projects:

- Bridge Road (near Juniper Street to Hatfield Street)
- Burts Pit Road (Clement Street to Forest Glen Road)
- Glendale Road (near Westhampton Road/Route 66 to Easthampton Town line)
- Chesterfield Road (Kennedy Road to Westhampton Town line)
- Spring Street (Dimock Street to Col. Lavalley Lane)
- Main Street, Leeds (Mill River Bridge to Spring Street)
- Cross Street (Florence Road to Bliss Street)

Drainage work included but was not limited to the addition of drain pipe, sub-drain, and drain structures in some areas; catch basin replacements; and replacements or resetting of frames and grates and covers for catch basins and manholes, respectively.

Drain Repair Contract

Geeleher Construction was awarded the contract for Emergency Sewer & Drain Repairs. One major emergency repair was undertaken during a paving project on Cooke Avenue. The paving contractor, Warner Brothers discovered a failed drainage main after milling the pavement. Geeleher Construction was mobilized quickly to install 228 linear feet of 12" PVC drain pipe to replace the failed main. The drainage main was repaired within four days and the paving project was able to continue on time.

FLOOD CONTROL CAPITAL PROJECTS

Flood Control System Maintenance and Minor Repairs Project

The project consisted of system-wide maintenance and minor repairs to the Connecticut River and Mill River Flood Control Systems. The overall project included various repairs that were necessary to correct deficiencies identified by the U.S. Army Corps of Engineers (USACE), including vegetation removal, resetting of displaced rip rap, concrete floodwall repairs, repairing uneven spots on the earthen levee, and proper abandonment of a pipe penetration. Northern Tree Service, Inc. was awarded the contract for the work in September 2018 and completed the work in late 2019.

Hockanum Road Pumping Station Evaluation Study

An evaluation of the existing pumping station at Hockanum Road was undertaken, including inspection and testing on all electrical, structural (building and integral floodwall), and mechanical systems (pumps and engines). A Request for Qualifications (RFQ) for engineering design for Phase 1 of the recommended alternative for repair and upgrades to the station was issued in December, 2019. Construction for Phase 1 is expected to begin in 2021.

Levee Toe Drain Repairs and Improvements

The City conducted inspections of the levee toe drains and access manholes in September 2015. However, approximately two thirds of the system was not inspected due to obstructions and limited access. Tighe & Bond prepared design plans to install an additional 28 manholes system-wide along the toe drain and to clean, repair, and inspect the drains. Confirmation of properly functioning toe drains is critical to maintaining Active status with the USACE and for the upcoming Federal Emergency Management Agency (FEMA) Levee Accreditation.

STORMWATER OPERATIONS AND MAINTENANCE

Catch Basin Maintenance

- Cleaned 1,461 catch basins;
- Inspected these catch basins and measured for depth of sump and depth of sediment to collect baseline data for the City's Environmental Protection Agency (EPA) issued National Pollutant Discharge Elimination System (NPDES) MS4 permit.

Catch Basin and Drain Manhole Cover Repairs/Replacement

- Repaired, replaced or reset 35 catch basin and drain manhole grates and covers, respectively.

Installation and Repair of other Stormwater System Components

- Installed, repaired and or replaced other stormwater system components as needed, including a culvert repair on Reservoir Road and a drain pipe repair on Harrison Avenue.

Storm Event Flood Mitigation

- Performed ongoing removal of leaves, snow and debris from catch basin grates before and during storm events to mitigate drainage backups and roadway flooding;
- Cleaned debris from culverts to mitigate drainage backups and roadway flooding.

Street Sweeping

- All City streets were swept at least one time;
- The Central Business District was swept 2 times each month;
- The Central Business District was swept for special events such as First Night and the Holiday Stroll;
- Florence Center, Baystate Village, Leeds Village, King Street/Damon Road/Bridge Street Area, Glendale Road, West Farms Road and Downtown Parking Lots were swept each month.

Cleaning of Drain Ditches and Swales

- Cleaned sediment and debris from 13 ditches and swales.

Stormwater System Inspections

- Performed pipe video inspections of drain lines and other assets to identify and investigate structural failures, sink holes and other problems in the drainage system;
- Inspected drain outfalls to investigate erosion problems and inspect for possible illicit discharges to the drainage system in accordance with the EPA MS4 Permit.

King Street Brook / Barrett Street Marsh Flood Mitigation

- Inspected the King Street Brook at the bike path culvert weekly and during major storms throughout the year;
- Performed annual cleaning of the King Street Brook Sediment Basin and culvert under the bike path to maintain flow during storm events and to reduce sedimentation of the Barrett Street Marsh;
- Removed vegetation and debris in the brook channel between Barrett Street and the culvert behind CVS;
- Cleaned debris from the grate at the culvert entrance behind CVS weekly.

Development Project Engineering Review

- DPW Engineering staff reviewed all development plans submitted for permitting through the Office of Planning and Sustainability for impacts to the City's drainage system, and reviewed proposed drainage connections and/or alterations to the City drainage system.

Public Drainage Information Requests

- DPW Engineering staff responded to inquiries from designers, contractors, developers and land owners with questions about the drainage system and provided documents and information.

Stormwater Management Permits

- DPW Engineering staff provided ongoing review and inspection of development projects that disturb over one acre in the City under the Stormwater Management Permit program and in accordance with the EPA MS4 Permit.

Illicit Discharge Investigations and Enforcement

- There were no illicit discharge connections detected;
- DPW staff attended a training workshop on Illicit Discharge Detection and Elimination (IDDE).

DPW Engineering Project Coordination and Development

- DPW Engineering staff provided coordination, development support and construction oversight on projects for stormwater management system capital projects.

EPA NPDES Stormwater MS4 Permit

- The EPA NPDES Stormwater MS4 Permit went into effect on July 1, 2018;
- The DPW implemented various tasks required by the EPA Stormwater MS4 Permit under the six minimum control measures: Public Education, Public Involvement, Illicit Discharge Detection and Elimination, Construction Site Runoff Control, Post Construction Stormwater Management and Good Housekeeping and Pollution Prevention.

FLOOD CONTROL SYSTEM OPERATIONS AND MAINTENANCE

Levee Inspection and Maintenance

- Performed vegetation maintenance and routine inspection of the Connecticut River and Mill River levee systems.

Connecticut River Flood Control – Hockanum Road Pumping Station

- Activated the Connecticut River flood control pumps 54 days during high river levels and major precipitation events;
- Maintained the flood control station including preventative routine maintenance of pumping systems, gates, trash racks, electrical components, the National Weather Service river gauge and other associated equipment. The pumps are run monthly to ensure that they will operate as required.

Mill River Flood Control – West Street Pumping Station

- Maintained the station including preventative routine maintenance of the engine, pump, fuel system and other equipment. The pumps are run monthly to ensure that they will operate as required.

Stop Log Structure Operation and Maintenance

- The newly refabricated stop log structure storage huts were placed at the Pleasant Street and railroad locations.

DPW Engineering Coordination and Development

- DPW Engineering staff provided coordination and development support for all flood control capital projects.

STORMWATER AND FLOOD CONTROL UTILITY ADMINISTRATION

DPW Utility Billing

- Maintained records and processed quarterly Stormwater and Flood Control Utility bills;
- Processed abatements and credits to Stormwater and Flood Control Utility Fees;
- Communicated with property owners regarding billing questions.

DPW Engineering Division

- Reviewed Stormwater and Flood Control Utility credit applications and administration of the credit program;
- Reviewed Stormwater and Flood Control Utility abatement requests;
- Communicated with property owners regarding technical billing questions;
- Maintained and corrected property data and fee calculations for the Stormwater and Flood Control Utility.

FUTURE PROJECTS

Stormwater Infrastructure Improvements

For FY20-FY21, the City is planning reconstruction of significant portions of roadways to include North Farms Road and North Maple Street. Stormwater infrastructure improvements will be designed and implemented as part of these projects.

FEMA Levee System Accreditation

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP), which governs flood insurance coverage and floodplain management. The Flood Insurance Rate Maps (FIRMs) are the official maps of a community on which FEMA has delineated flood hazard areas. The FIRMs for the City of Northampton became effective in 1978 and are in the process of being updated by FEMA. The City is responsible for Levee Certification so that the levee-protected area is mapped as a Zone X, moderate-risk area. The Certification process includes detailed engineering analyses related to embankment stability and settlement, freeboard, settlement, closure structures, interior drainage, operations, and other items. GZA GeoEnvironmental, Inc. has been retained by the City to conduct the Certification of the levee system for FEMA Accreditation.