2018 - 2019
MS4 ANNUAL REPORT

NPDES PERMIT #CT0030279

FOR

CONNECTICUT DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION

PREPARED FOR

CITY OF STAMFORD
888 WASHINGTON BOULEVARD
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INTRODUCTION

The City of Stamford (the City) was issued its current NPDES Permit (No. CT0030279) for discharge of stormwater from its municipal separate storm sewer system (MS4) on June 4, 2013. Renewal for this permit was submitted to DEEP on February 6, 2018. This permit requires many actions in order to reduce pollution from stormwater runoff.

This Annual Report (Report) covers the period from July 1, 2018 through June 30, 2019 (Reporting Period). It summarizes the activities conducted and measures taken to comply with the previous and current NPDES Permit during this Reporting Period. This Annual Report was prepared in accordance with the terms and conditions of the NPDES Permit, as well as the *Stormwater Management Plan, City of Stamford, Stamford, Connecticut, September 2, 2014* (the SMP).

The 2017–18 MS4 final Annual Report was submitted to CTDEEP on October 3, 2018.

On January 2, 2016, the City submitted an application for modification of its NPDES Permit. The City, in conjunction with the CTDEEP, completed many efforts to work through the requested permit modification items during the 2016-17 fiscal year. Many meetings, phone calls, emails, and letters related to the process were conducted over a period of two (2) years to complete the permit modification process which took a considerable amount effort. CTDEEP worked with the City and the Environmental Protection Agency (EPA) in efforts to complete the process. A NPDES Permit Modification for the City of Stamford was issued by the CTDEEP on August 14, 2017.

On February 6, 2018, the City submitted a permit renewal application for the newly modified NPDES Permit, which was set to expire on June 3, 2018. The City received minimal comments from the CTDEEP's review of the application and has since submitted all of the requested information. The new permit is pending renewal from CTDEEP.

Notice of Sufficiency from the Connecticut Department of Energy and Environmental Protection (CTDEEP) was received on July 9, 2019. The letter indicates the application is in technical review at this time.

1.0 CONTACTS LIST

The following individuals are members of the City's Stormwater Pollution Prevention Team and have a role in the implementation of the City's stormwater management program and are in positions that have the potential to impact and improve stormwater quality. All of these individuals are involved in the development of the Stormwater Management Plan (SMP) and/or this Annual Report.

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2.0 PROGRAM EVALUATION

2.1 Stormwater Management Plan (SMP) Objectives

The City of Stamford (the City) was issued a NPDES Permit for discharge of stormwater from its municipal separate storm sewer system (MS4) on June 4, 2013. This permit was renewed in February 2018. The new modified permit renewal is pending approval from CTDEEP. The City developed and is implementing a Stormwater Management Plan (SMP) based on the requirements of the NPDES Permit.

The SMP provides the framework for compliance with the terms and conditions of the NPDES Permit with the overall objective of improving the quality of stormwater runoff and protecting the surface waters of the State. The SMP seeks to achieve this objective through:

- Establishment of a Pollution Prevention Team
- Development of Stormwater Mapping
- Establishment and Implementation of Control Measures, including:
    - Public Education and Involvement
    - Source Controls for Pollution Prevention
    - Future Land Disturbance and Development Management
    - Infrastructure Operations and Maintenance
- Establishment and Implementation of an Illicit Discharge Detection and Elimination (IDDE) Program
- Establishment and Implementation of a Water Quality Monitoring Program
- Establishment and Implementation of Legal Authority to Control Discharges
- Establishment and Implementation of Procedures to Coordinate Stormwater Activities between various Departments and Agencies
- Maintaining Consistency with Other Plans and Permits

Additional details on each of these of these methods to achieve the objectives of the SMP are presented in the Summary Table of SMP Components (***Section 3.0***) and the Narrative Report (***Section 4.0***).

2.2 Major Findings

The objective of the SMP is to improve stormwater runoff quality and protect the surface waters of the State. This discussion of major findings should provide an overall evaluation as to whether stormwater and surface water quality in the City and from the City's MS4 is improving or degrading in the City.

The major findings during this Reporting Period of the modified NPDES Permit are the steps that the City has taken to implement the permit requirements, including but not limited to:

- Continued development of an understanding of the permit requirements and the resources necessary to achieve compliance
- Continued allocation of additional resources (personnel, equipment, and budget) to/within the Traffic and Road Maintenance Division to specifically address stormwater management and stormwater runoff quality improvement issues

- Continued coordination of the Stormwater Pollution Prevention Team with City Departments for stormwater-related issues
- Implementation of the SMP and associated public outreach activities
- Continuation of city-wide geographic information system (GIS) mapping related to stormwater infrastructure and management
- Continued development of legal authority and zoning regulations to address stormwater discharges and quality
- Continued coordination of public outreach with local environmental and business groups
- Continued coordination with consultants to assist in the implementation of the SMP and to perform surface water, stormwater, and outfall monitoring

2.3 SMP Strengths and Weaknesses

2.3.1 EPA Review of the Status of the NPDES Permit

Representatives from the US Environmental Protection Agency (EPA) and the CTDEEP visited with members of the City's Stormwater Pollution Prevention Team on June 15 and 16, 2015 to conduct a compliance audit of the City's NPDES Permit. The compliance audit included a "five-year look-back" period. After the compliance audit, the EPA indicated that several areas of the permit needed improvement which are outlined in Section 2.3.1 of the 2014 & 2015 Annual Report.

The EPA issued an Administrative Order and Request for Information, regarding the compliance audit, to the City of Stamford on October 1, 2015. The City of Stamford has been working with the EPA of this Reporting Period to address items identified during the compliance audit.

Per the request of the CTDEEP, on September 17, 2018, the City of Stamford provided the CTDEEP with a 52-page document discussing the current status of the findings of the EPA's Violation and Order for Compliance – Docket No. CWA-01-AO-15-012, September 30, 2015.

2.4 Future Direction of the SMP

The SMP will continue to be evaluated in greater detail as part of the 2018–19 Reporting Period. A component of that evaluation will be a review of goals, schedules, and procedures referenced in the SMP as "to be established" and a detailed analysis of the status of these items.

The City considers the SMP to be a dynamic document and will continue to work towards updating and revising it as conditions and regulations change in an effort to maximize its ability to be utilized as a tool to manage and improve stormwater runoff quality

The City will continue to focus more of its resources in the coming years to achieving compliance with the SMP, particularly in the areas of:

- Public education and involvement
- Stormwater mapping
- Illicit discharge detection and elimination

- Control measures
- Infrastructure operations and maintenance
- Legal authority and regulatory changes
- Water quality monitoring

Specific goals or requirements are discussed in the Narrative Report, ***Section 4.0***, of this Annual Report.

The Team Coordinator and Regulatory Compliance and Administrative Officer will continue to be responsible for closely tracking individual activities and events in each of these areas.

2.5 NPDES Permit Modification SMP Updates

On August 14, 2017, a permit modification was issued for the City's NPDES Permit. During the 2017-18 Reporting Period, the City reviewed the permit modification for any new requirements. During the 2018-19 Reporting Period, the City received a draft revised SMP from Fuss & O'Neill and will be reviewing and finalizing the SMP during the 2019-20 Reporting Period.

3.0 SUMMARY TABLE OF SMP COMPONENTS

The summary table of SMP components is presented in ***Appendix B.*** This table concisely presents the stormwater management activities completed within the time period for this Annual Report and documents the City's compliance with key permit and SMP requirements.

Administrative issues, such as planning activities, program development, and pilot studies, are not discussed in the summary table of SMP components.

4.0 NARRATIVE REPORT

4.1 Pollution Prevention Team

The Pollution Prevention Team (Team), ***Section 1.0***, was established to implement the SMP, to keep it up-to-date as conditions and/or regulations change, to maintain the control measures to improve stormwater quality, and to take corrective actions, as necessary. With the issuance of the new NPDES Permit in 2013, the City decided to transfer the majority of the responsibility for compliance with the permit from the SWPCA to the Traffic and Road Maintenance Division.

Much of the first year of the new permit was utilized by the Traffic and Road Maintenance Division becoming familiar with the permit requirements and establishing the necessary schedules, procedures, personnel, equipment, financing, and other resources necessary to successfully implement the permit requirements and the SMP.

The Team that has been established under the current SMP (see Appendix B of the SMP and ***Section 1.0*** of this report) consists of personnel from many City departments whose operations may affect the current and future stormwater quality. Team members supply the City with a wide range of experience and expertise in managing and controlling stormwater runoff quality.

Since 2013, the Team has continued improving their understanding of the new NPDES Permit requirements, communicating these requirements amongst themselves, establishing areas of responsibility and cooperation, brainstorming on public education and control measure ideas, and working with the appropriate legal counsel to establish legal authority and new regulations.

The Team's activities are coordinated by the Traffic and Road Maintenance Supervisor. Many of the day-to-day stormwater permit compliance activities are managed by the Regulatory Compliance and Administrative Officer; this position was created in early 2014 specifically as a result of the issuance of the current NPDES Permit.

The City has also created and filled five positions under the direction of the Regulatory Compliance and Administrative Officer; the positions include five heavy equipment operators to help operate the vacuum trucks and camera truck for IDDE screening and catch basin and manhole inspections and cleaning.

It is anticipated that the Team will continue these activities during the next year of the discharge permit as well as develop and coordinate additional specific goals with the objective of improving the overall quality of stormwater runoff in the City of Stamford.

4.2 Mapping

The City maintains a strong GIS department that can coordinate city-specific, as well as environmental data, available from the DEEP and other sources. Information that has been mapped includes: city roadways, city properties, aerial photography, topography, zoning map, surface water bodies, watershed areas, surface water quality classifications, impaired waters, mapped inland wetlands, mapped tidal wetlands, and the coastal boundary.

The City continues to update and reuse mapping for sanitary sewer lines, stormwater lines, and stormwater outfalls. Mapping efforts have focused on the more developed sections of the City, closest to Long Island Sound, with the most stormwater outfalls mapped south of Interstate 95 and many more mapped between I-95 and the Merritt Parkway (Connecticut Route 15). Initially, 154 stormwater outfalls were mapped. Several of the initially mapped outfall locations were determined to be inaccurate and 90 MS4 outfalls have been confirmed/identified/mapped. Two of the previous 92 MS4 outfalls were eliminated from the list, outfalls number SON-0021 and SON-0060. These outfalls were removed from the monitoring list because one was identified as the SWPCA's Facility discharge location and the other was a structure inlet.

The City continued to identify and map new MS4 outfalls in the City throughout the Reporting Period. As of June 30, 2019, the City has mapped 958 outfalls. Efforts were completed to canvas the entire City for identifying outfalls and approximately 95% of the City has been mapped. The City understands that there is continual maintenance being conducted on the stormwater system throughout the city and that the outfall mapping will require constant updating. Current updated outfall mapping is provided in ***Appendix C***.

The City is currently in the process of confirming the accuracy of the outfall locations and whether they are part of the City's MS4 stormwater system or another entity's responsibility. Several of the potential new outfalls have been identified as duplicates and others have been noted as inlets or discharges under state DOT control. The City continues communication with the DEEP to identify more specific criteria for the outfalls that will be required for monitoring as part of the IDDE program and the wet weather monitoring. See ***Section 4.5*** and ***Section 4.4.2*** for additional details on the IDDE program and the wet weather monitoring program. A new Interconnected MS4 plan was prepared in June 2016 and is further discussed in ***Section 4.3.5.10***.

This component of the SMP is to be expanded to include the following GIS mapping:

- Storm line material and size data
- Responsibility, if part of another MS4 stormwater system (such as DOT's)
- Completed and proposed cleaning and repair activities
- Outfall discharge monitoring data
- IDDE screening and investigation results
- Proposed IDDE investigations
- Completed and proposed capital projects
- Connections to any other public or private storm drainage systems
- Drainage areas for each MS4 outfall

- Areas served by on-site subsurface disposal areas
- Storm drains that do or may receive discharges form underdrain systems

For an update on the impervious cover and directly impervious cover area (DCIA) see ***Section 4.3.4.1***.

4.3 Control Measures

4.3.1 Public Education and Involvement

City residents can contribute to the pollution transported via stormwater by misapplying lawn pesticides, herbicides and fertilizers, littering, dumping pollutants into storm drains, failing to dispose of pet waste properly, and other actions which can be detrimental to the quality of stormwater discharging into water bodies. Many people are unaware that they are polluting when engaged in these activities. Therefore, public education and outreach and public involvement and participation will help minimize the amount of pollution contributed to the City's water bodies by local residents. Also, public education and outreach coupled with public involvement and participation allows city residents to have a voice with regard to stormwater.

During this Reporting Period, the following public education and involvement activities have been completed:

- The City has continued to maintain and update the stormwater section that was previously added to the City of Stamford's website at http://www.stamfordct.gov/stormwater-management. The website provides basic information about stormwater as well as key contacts within the City of Stamford. Additionally, it provides links to:
    - The NPDES Permit
    - The SMP
    - The MS4 Stormwater Ordinance
    - The Annual Reports
    - The household hazardous waste collection events schedule and information on the materials managed
    - Dog waste management practices
    - Best management plans for pesticides
    - Information on preventing stormwater pollution honored
    - Fall leaf pick up schedule
    - Christmas tree pick up schedule
    - How to report a stormwater issue, violation, or complaint

  The City maintains a Frequently Asked Questions section that includes 25 questions and answers that city residents may view. To date, there have been approximately 4,326 hits on the website. There was a 205% increase in web traffic compared to 2017-2018, which totaled 1,420 hits to the City's website.
- The Regulatory Compliance and Administrative Officer for the City of Stamford, in an effort to aid in the public participation of stormwater management added a link to Stormwater Management Website for the RiverSmart CT project at: https://www.stamfordct.gov/stormwater-management.

- In 2014, the department adjusted internal operations to receive and respond to citizen questions and complaints regarding stormwater related issues. The City's stormwater management department responded to numerous citizen inquiries regarding snow storage, sweeping, catch basin cleaning, and IDDE program during the Reporting Period.
- A public meeting was held on August 21, 2019 at 12:00pm for the review of the SMP and the draft 2018-2019 Annual Report. The Notice of Meeting was published in the Stamford Advocate on August 9, 2019 and August 20, 2019 and was posted on the City's stormwater management website. The Notice of Meeting was filed with the Town Clerk. There was one (1) attendee at the meeting. No formal questions or comments were submitted by citizens and the meeting lasted nearly two hours. All questions were answered during the course of the meeting and subsequent discussions.
- An informational pamphlet on dog waste management was provided to all dog owners at license renewal time. 3,000 pamphlets were provided to the Town Clerk for distribution during the Reporting Period.
- Since 2014, the City has installed 60 dog waste dispensers and signs informing park patrons of the need to pick up after their dogs in key parks. These signs refer to the existing municipal dog waste ordinance in the City Charter (Section 111) and the City is installing new signs in hot spot locations, based on field observations. The City's Parks Department has taken over ordering responsibilities for pet waste bags with the exception of Mill River Park. The budget for pet waste bags was increased from $10,000 dollars to $20,000 dollars during the Reporting Period as these stations have been popular with park visitors. City staff have observed the used bags disposed of in the trash containers throughout the areas with dispensers. No new pet waste stations were installed during this Reporting Period.
- The SWPCA provides tours of the City's wastewater treatment facilities to school children and adults. During the Reporting Period, 289 people attended these tours. As part of the presentation, they discuss stormwater impacts and typically distribute a brochure entitled "What is Your Storm Drain IQ?"
- The Mill River Collaborative performs annual clean ups, improvements, and provides educational programming within the City. Approximately 5,455 volunteer hours were provided from over 1,109 individual volunteers during this Reporting Period. These hours included everything from stuffing envelopes, to removing invasive plant species from the meadows, to creating erosion barriers in the river. A specific list of volunteer activities includes:
    - reinforcing riverbanks using organic biologs
    - invasive species removal by hand (mugwort, Queen Anne's lace, loosestrife, wild lettuce, white clover, ailanthus, burdock, bindweed)
    - planting pollinator-attracting flowers
    - cleaning up litter in and near the river
    - building rock veins to funnel water away from banks to reduce undercutting
    - mulching
    - harvesting native seeds
    - removing silt around drainage areas
    - cutting overgrown shrubs and trees
    - weeding paths, lawns, flower beds, gardens
    - spreading organic fertilizers (sparingly)

- SoundWaters is the leading environmental education organization on Long Island Sound. Over 25,000 students learn and explore with SoundWaters, through education and action, every year. The City and SoundWaters are in the process of coordinating a vacuum truck demonstration for kids in order to strengthen the relationship with the community.
- The Mianus Chapter of Trout Unlimited continued their restoration of the Mianus Riverbank by pinning more Christmas trees and adding a hardened access. The effort, spearheaded by the Mianus Chapter, took place of July 13-14, 2018. The Friends of Mianus River Park and the City of Stamford were also contributors.
- The Nature Conservancy (TNC), a non-profit organization which promotes environmental conservation, gifted the City's first bioswale which was approved by the Board of Representatives on May 22, 2019. The bioswale removes contaminants from stormwater surface runoff and compiles with the MS4 permit. Resolution to accept the gift was passed by the Board of Representatives on June 3, 2019. Installation was to be in Rippowam Park and was completed on September 16, 2019.
- During this Reporting Period, the City continued to install catch basin medallions throughout the City. These medallions were installed both English and Spanish to help raise public awareness for stormwater quality issues. These medallions are being installed by City staff members or by seasonal employees and are primarily installed on curb-backed catch basins. Currently, the City estimates it has installed medallions on approximately 45% of the City-maintained catch basins. The City has recognized that the medallions are a useful and effective tool and has been great for assisting in educating the public.
- The Regulatory Compliance and Administrative Officer for the City has made strides in developing and implementing a program for the future that will allow residents to have access to limited GIS data and be allowed to adopt a catch basin and begin to understand how it is connected to the rivers and streams in the area.
- The City has collaborated with a marketing and public relations firm (Catalyst) to develop a new stormwater management mailer/pamphlet to be sent out to provide a guide for regulatory compliance.
- During the Reporting Period the City's Board of Representatives passed an ordinance eliminating the distribution of disposable plastic bags. The City's hope is for residents to use reusable carryout bags that will help better serve the environment. The city has collected information and resources for businesses to act in compliance with this new ordinance. More information can be found at http://www.stamfordct.gov/plasticbags
- The City celebrated Earth Day on 4/22/2019 in the Lobby of Government Center. Tyler Theder set up an enviroscape demo model to educate the public about the ways in which stormwater runs off impervious surfaces and gets into our waterways. Also displayed were catch basin medallions in English and Spanish, which indicate no dumping. Example photos of full catch basins, tracing dye, and pamphlets were used to illustrate education and outreach efforts underway by the Stormwater Management Department. A few hundred people attended the event, which went from 9am – 2pm.
- The City's Recycling and Sanitation Department conducted a Household Hazardous Waste Collection event on Saturday, July 14, 2018 and Saturday, July 13, 2019.
- On April 27, 2019, the Stamford Police Department hosted a National Rx Drug Take-Back event. The event collected approximately 476 pounds of unused medicines from residents. As

part of the event, the police department provided services for residents to drop off their unused or expired medications.

- City staff continued to engage with Downtown Special Services District (DSSD) regarding the condition of their dumpster storage and grease area. The area was professionally cleaned with the reclamation of any wash water used in the process. An emergency spill kit was purchased and provided to DSSD by the City.

4.3.2 Industrial Dischargers

During the 2015 NDPES Permit compliance audit, the EPA indicated that the City is required to educate owners and operators of commercial, industrial, and institutional facilities as to their responsibility to control pollutants in stormwater discharges from their properties into the City's MS4.

The City's Stormwater Management Department has obtained a CTDEEP list of stormwater discharge General Permit sites for commercial or industrial activity and has prepare informational outreach materials to target these businesses. The City intends to distribute the materials during the 2019-20 Reporting Period.

4.3.3 Source Controls and Pollution Prevention

4.3.3.1 Motor Oil Collection

The City collects used motor oil and cooking oil at the Katrina Mygatt Recycling Center so that residents will have a place to properly dispose of these materials and to limit the potential for them to be improperly disposed and adversely affect stormwater quality. During the Reporting Period, approximately 3,960-gallons of used motor oil and 2,429-gallons of used cooking oil were collected. The City intends to continue its used motor oil collection activities.

4.3.3.2 Household Hazardous Waste (HHW) and Electronic Waste Collection Programs

The City holds at least one HHW collection day within the City limits each year so that residents will have a place to properly dispose of these materials and to limit the potential for them to be improperly disposed of and potentially affecting stormwater quality. In 2018 and 2019, the City hosted an HHW collection day on July 14, 2018 and July 13, 2019, at the Rippowan School on High Ridge Road. During this Reporting Period 414 households and 151 half-households participated**.** In addition, Stamford residents can utilize HHW collection days in Darien, Greenwich, New Canaan, Norwalk, Westport, Weston, or Wilton approximately seven other days per year (throughout the spring and fall). The City intends to continue its involvement in these collection events.

The City collects used consumer electronics at the Katrina Mygatt Recycling Center during normal operating hours. Acceptable materials include computers, monitors, televisions, VCRs, DVDs, cell phones, copiers, fax machines, printers, radios, stereos, and small electronics. In addition, inks and toners, rechargeable batteries, lithium ion batteries, vehicle batteries, compact fluorescent light bulbs, and linear lamps are also accepted at the Recycling Center. During the Reporting Period, approximately 3.18 tons

of universal wastes and 171 tons of consumer electronics were collected. The City intends to continue its waste electronics collection activities.

4.3.3.3 Spills and Leak

In June 2016, a city-wide Spill Prevention and Response Plan (SPRP) was completed to prevent, contain and clean up spills of oils, petroleum products, and other potentially hazardous materials to minimize stormwater impacts and protect surface waters.

The department responded to 13 spills in excess of five gallons of petroleum products on the City's roadways and coordinated with first responders (Police, Fire, DEEP) to limit impacts to the City's MS4. A list of recent spills during the Reporting Period is presented in ***Appendix D***.

For additional information on training for spill prevention and response see ***Section 4.3.5.1***.

4.3.3.4 Pesticide, Herbicide and Fertilizer Use Limitations

The City is required to limit the use of pesticides, herbicides and fertilizers (PHF) in City-owned or operated areas. The City has developed the Best Management Practices (BMPs), found in Appendix G of the SMP, for PHF application in city-owned or operated areas. Further development of standard operating procedures (SOPs) for the use of PHFs is ongoing. It is anticipated that they will be modeled based on the CTDEEP Integrated Pest Management (IPM) Plans. Completion of the PHF SOPs is anticipated during the 2019–20 Reporting Period.

Fertilizers and herbicides are used on the municipal athletic fields, as described in the SMP. Every year, in April, Dimension (18-0-40) is applied to the fields and contains both fertilizer and herbicides. In May, ProPendi (13-0-4) is applied to the fields and contains both herbicides and fertilizer. In September, just fertilizer (25-0-5) is applied to the fields. The City applied a total of 1,530 pounds of nitrogen to the ball parks during the 2018-19 Reporting Period. See ***Appendix E*** for a table of the total nitrogen used at the City-owned ball parks.

As required by the NPDES Permit, the City is in the process of establishing reduction goals, including consideration of alternatives, for PHFs being used at City-owned or operated areas, specifically at the municipal athletic fields.

No PHFs are used on city park green spaces.

The Mill River Park/Mill River Collaborative completely avoids the use of synthetic fertilizers. They employ a "feed the soil ecology" program where the soil is infused with sixteen or more species of bacteria and fed with a fish emulsion/kelp/yucca blend as a substitute for traditional fertilizers. Additionally, the Mill River Collaborative maintains its lawns at four inches to build deeper, more drought tolerant root systems. All grass clippings are returned to the lawns and they use organic products, such as soybean meal, to add nitrogen to the soil. The Mill River Collaborative uses minimal herbicides on invasive plant species per DEEP guidelines. They have found that as they continue this program, they require less herbicide use each year.

With respect to the City-owned golf courses, the NPDES Permit requires that the City implement practices which achieve a ten percent (10%) reduction in total nitrogen by June 3, 2018. The reduction will be determined by the average annual usage, by weight, of the three years preceding the current NPDES Permit. The current SMP has established the application rates of fertilizers used at the golf courses, which can be found in Appendix B of the SMP.

During the Reporting Period, the Sterling Farms Golf Course used a total of 550 pounds of nitrogen and the E. Gaynor Brennan Municipal Golf Course used a total of 3,637 pounds of nitrogen. The total 4,187 pounds of nitrogen used in the Reporting Period represents a 48.6 percent reduction from the total nitrogen that was used in 2016 (8,145 pounds). See ***Appendix E*** for a table of the total nitrogen used at the City-owned golf courses.

The Pollution Prevention Team will work with the golf course staff to help reduce the total amount of nitrogen used at these facilities. It is the City's intention to establish goals for reducing the amount of PHFs used at all city-owned or operated areas.

4.3.3.5 Salt Storage and Usage

The City stores road salt at the Highway Department (90 Magee Avenue), the Town Yard (106 Haig Avenue), and the Scofieldtown Transfer Station (612 Scofieldtown Road). At each facility, salt is stored on an impervious pad and under a salt shed in accordance with the requirements of the DEEP's *General Permit for the Discharge of Stormwater Associated with Industrial Activities*.

The City used approximately 11,775 tons of salt during 13 storms for a combined total of 30.3 inches of snow during the winter of 2018-19. Salt usage quantities will continue to be tracked and the City's goal is to reduce the amount of salt utilized on its roadways by increasing efficiencies and investigating alternate methods. However, salt usage will continue to vary based on storm frequency and intensity. The winter of 2018-2019 brought significant icing events which the City tackled by developing a Special Hazard Area program for ice control. These areas were especially vulnerable to roadway icing conditions due to a variety of factors including high groundwater table, improper road design, inadequate roadway drainage, residential sump pumps draining to the street, blocked catch basins, and other factors. Salt trucks were deployed to these Special Hazard Areas when nighttime temperatures fell below freezing levels in an effort to maintain safe roadway conditions at all times. In an effort to reduce salt usage, the regulatory compliance officer has worked to correct the factors and field conditions which contribute to water and ice on City roadways.

The City's brine system was brought back into full service in the fall of 2018 with the 5,000-gallon brine tank located at the Town Yard Facility (105 Haig Ave.). This tank was filled twice during the winter season. See ***Section* 4.3.5.6**, Snow Removal, for additional discussion on salt usage.

4.3.4 Land Disturbance and Development

Construction site runoff and post-construction site runoff should be reduced so that water bodies are not receiving additional pollutants or sediment. Sediment causes water bodies to become physically and

biologically altered. Decreases in habitat quality can result from significant amounts of sediment covering these habitat areas.

Under the terms of the NPDES Permit, the City of Stamford is required to implement and enforce a program to address construction and post-construction stormwater discharges from land disturbing activities and after site stabilization has been achieved. This program needs to be based on the *Connecticut Guidelines for Soil Erosion and Sediment Control* (latest edition) and the *Connecticut Stormwater Quality Manual* (as amended). The City continues working towards developing this program; both documents will be incorporated into the draft changes to the Zoning Regulations.

The City has a well-developed process for ensuring that applicants for building permits have received all appropriate City approvals prior to issuance of a building permit. A copy of the checklist utilized by the Building Official is presented in Appendix J of the SMP. As part of this review and approval process, the Engineering Department reviews stormwater and drainage for proposed developments and site plan revisions.

The site plan review process will continue in the future, but the site-specific stormwater requirements will be better defined once the draft Zoning Regulation changes have been approved and implemented. The NPDES Permit requires the City of Stamford to develop and enforce a program to control stormwater discharges from development and redevelopment activities with one-half acre (21,780 sf) or more of soil disturbance. The one-half acre threshold applies both individually and collectively as part of a larger common plan. Modifications to the Zoning Regulations will include provisions to encourage low impact development (LID) practices to maximize infiltration and minimize stormwater runoff. The regulations will also limit barriers to LID design and construction.

The NPDES Permit requires the City to conduct site-plan review and pre-construction review meetings that incorporate consideration of stormwater controls or management practices to prevent or minimize impacts to water quality. The City currently conducts such meetings internally as part of staff review of many projects. Meetings with developers occur when the project has significant potential for environmental impact.

As part of the application review process, the City is now providing applicant's with information on the DEEP's *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities*. Applicants are being told about stormwater management issues at the time building permits Environmental Planning Board and Planning & Zoning signoffs are being obtained. Applicants have been made aware of their responsibility to obtain DEEP Construction Stormwater General Permits. This notification of responsibility has been met with some resistance from the builder / developer community. Therefore, the City is currently exploring alternative ways for providing notification to the builder / developer community.

The City's building permit process is facilitated electronically through a software package called "View Permit". The plan is to attach standard text to all applications notifying the applicants of their responsibility, if applicable, to obtain DEEP permits.

The NPDES Permit also requires site inspection and enforcement to assess the adequacy of the installation, maintenance, operation, and repair of construction and post-construction control measures. The City's staff performs site visits when the project is near a wetland or other water body. Current staffing levels limit the opportunities for site inspections to only those projects with the greatest potential for impact to stormwater quality. Site visits frequently occur prior to the issuance of a Certificate of Occupancy.

The City of Stamford's Environmental Protection Board conducted permit and technical reviews, enforcement and inspections and other land development services. A summary table of the services that they provided during the Reporting Period is included in ***Appendix F***.

The City has requested an extension for addressing the change in zoning regulations. The proposed changes will require more staff from the Engineering Department and the Environmental Protection Board and additional time is required to implement the changes.

During the Reporting Period, the City received a draft copy of the Stormwater Drainage Manual prepared by Fuss & O'Neill. This manual provides a technical framework, stormwater management standards, and design guidance for land development activities.

Additional information on the proposed stormwater ordinance and changes to the Zoning Regulations are presented in ***Section 4.6***, Legal Authority.

4.3.4.1 Impervious Cover

The NPDES Permit calls for completion of DCIA (directly connected impervious area) mapping associated with each MS4 outfall within four years. The City continued the process of estimating the DCIA throughout the City. Sub-meter aerial photogrammetry of the City is being used in determining the DCIA. The initial estimate will be based on the total area of impervious cover, including roadways, driveways, sidewalks, parking lots, and building footprints, that discharge to the MS4. Allocating the amount of the DCIA to each MS4 outfall and evaluating each drainage area to determine if the roof tops are connected to the DCIA will be performed in the next couple of years. Estimates will be revised in the future as development, re-development, or retrofit projects or new information effectively add or remove DCIA to or from the MS4.

The Mayor of the City of Stamford has requested that the Western Connecticut Council of Governments (WestCOG) complete the DCIA mapping. The City's GIS Department has conducted a pilot study for the Shippan Area, which is currently being evaluated by the WestCog. WestCOG and the City of Stamford maintains an ongoing its partnership and continues to develop an innovative demonstration project to create a new semi-automated GIS workflow to determine DCIA within suburban and urban watersheds within Stamford and understand better the effort and technologies involved. This work is in support of the mapping requirements of the NPDES Permit. Five outfalls and corresponding watersheds were selected with different land use mixtures. Impervious cover and DCIA were estimated utilizing previously acquired and very high-resolution planimetric GIS. In addition, an automated watershed delineation method was tested for urban areas. Results show the importance of

very detailed field confirmation of the proposed methods and the importance of selecting the proper input data set with accompanying attribute information.

The City has continued efforts to reducing DCIA coverage through LID developments throughout the City. During the Reporting Period, the City was gifted its first bioswale by The Nature Conservancy, a nonprofit which promotes environmental conservation. The bioswale was constructed in the City right-of-way at the west end of Rippowam Park. The purpose of the bioswale is to remove pollution from surface runoff water. This installation was conducted in accordance with the DEEP MS4 permit requirements. The City's Board of Representatives approved the bioswale project on May 22, 2019 and installation was completed on September 16, 2019.

4.3.5 Infrastructure Operations and Maintenance

Pollution prevention and good housekeeping are critical minimum control measures because they concentrate on municipal operations including the maintenance of other control measures. These activities can make an immediate difference with local water body pollutant levels. Street sweeping and other maintenance activities reduce the amount of sediment, salt and pollutants entering the drainage system thereby minimizing pollutant loads to local water bodies.

4.3.5.1 Employee Training

Employee training is essential for maintaining and increasing the awareness of water quality related issues in the management of any MS4. Training also enables facility staff to have an improved understanding of the stormwater system and how to minimize the impact the facility has on the MS4.

All employees working at City-owned facilities participate in annual training to meet the requirements of the DEEP's *General Permit for the Discharge of Stormwater Associated with Industrial Activity*. This annual training includes:

- Overview of the NPDES MS4 Permit
- Review of the goals and objectives of the SMP
- Review of facility Stormwater Pollution Prevention Plan
- Review of good housekeeping
- Identifying and reporting illicit discharges
- Review of spill prevention and response procedures

Training was conducted on June 27 and 28, 2019 for Universal Waste Management, Spill Prevention Control and Countermeasures Plan, and Stormwater Pollution Prevention Plan training. Approximately 22 employees were in attendance from City-owned facilities at this training event.

The City is dedicated to ensuring that its employees continue to gain the necessary knowledge needed for understanding and implementing the SMP in order to increase the quality of the stormwater in the City's MS4. The City will continue to update and implement its training programs for all employees working at City-owned facilities. A copy of the sign-in sheets for each of the training events is provided in ***Appendix G***.

4.3.5.2 Infrastructure Repair and Rehabilitation

It is important that the City make timely repairs to the infrastructure of its MS4 in order to help reduce the discharge of pollutants from the MS4 to the receiving waters. The City is dedicated to giving priority to those projects discharging pollutants to impaired waters or that have other concerns related to the mapping and IDDE process. A schedule for implementation of repairs is developed and updated once the need for the repairs are established.

The SWCPA performs routine maintenance and any necessary repairs on the three stormwater pump stations on an annual basis.

During the Reporting Period, the City received a total of approximately 62.2-inches of liquid equivalent water (LEW). LEW is a measure of liquid precipitation which has fallen to the ground in any precipitation type (rain, sleet, hail, snow, etc.). This data was retrieved from the National Climate Data Center (NCDC) for the Westchester County Airport weather station in New York located immediately west of the City. The precipitation amount received is over 12-inches more than the 1981-2010 climatological average of 49.35-inches for the Westchester Airport. This information is important due to the impact heavy rainfall has on MS4 Permit compliance regarding maintaining City stormwater infrastructure and responding to emergencies that arise after heavy precipitation events.

As of January 1, 2016, the Traffic and Road Maintenance Division is now responsible for tracking the catch basins and stormwater manholes that require repairs. Previous lists of required repairs were maintained by the Engineering Department. The Traffic and Road Maintenance Division will maintain the list of catch basins and stormwater manholes that require repair and will assign that work internally or to independent contractors, as needed. During the Reporting Period, at least 1,929 of 10,566 catch basins were inspected and pumped/cleaned out, as necessary.

The City hired Grasso Companies to conduct infrastructure maintenance and repairs on the MS4 system during this Reporting Period In total, 1,865 linear feet of piping was replaced, 292 catch basin sumps were replaced, 26 catch basin frame grates were replaced, 41 bell traps were installed, 93 manhole covers and frames were replaced, and 5.7 centerline miles were milled and repaved.

The City hired Arnow Construction to conduct drainage work on the MS4 system during this Reporting Period. In total, 3 pipes were repaired, 80 linear feet of piping was repaired, 11 catch basin sumps were replaced, 1 catch basin frame and grate was reset, and 11 manhole frames were replaced. See ***Section 4.3.5.7*** for additional details on catch basin cleaning. A list of 2018-19 catch basin/manhole repairs is presented in ***Appendix H***.

The City also understands that the refinement of the standard operating procedures and good housekeeping practices for the management of the MS4 is essential to improving stormwater quality.

In 2014, the City purchased a camera truck which is used for implementing the IDDE program and for inspecting catch basins, manholes and stormwater piping. The truck was deployed in October 2014 after employees completed the necessary one-week training on the truck and equipment. Initially, the camera

truck is being used to inspect areas identified as needing maintenance within the MS4 and has proved to be a valuable asset for mapping/GIS work required by the permit.

The City has hired a private contractor (OneVac) to conduct CCTV work on storm mains and lateral pipes prior to paving operations during the Reporting Period. OneVac assessed approximately 8,825 linear feet of stormwater piping in the City. During this Reporting Period, the City conducted CCTV reports which totaled approximately 1,345 linear feet of piping that was videoed, including storm mains and lateral piping. In total, 10,170 linear feet of stormwater piping was assessed between OneVac and the City. The City has prioritized the areas that it inspects with the camera truck based on flooding issues, complaints about collapsing areas and complaints about illicit discharges. See ***Section 4.5*** for further discussion on the progress of identifying illegal connections in the IDDE program.

Catch basin inspections also include inspecting the condition of catch basin "bells." Some City catch basins have bells (metal 90-degree bends covering catch basin outlets) to control floatables. Bells are hung on pins set in the side of catch basins. The City continues to install bells on additional catch basins in parts of its MS4 where trash and floatables are a problem. In the 2017-2018 Reporting Period, the City procured two (2) hydraulic cranes for the installation of bells and maintenance to the catch basins. The City also contracted Grasso Construction to assist with infrastructure maintenance. Grasso Construction installed an additional 41 bell traps in City catch basins. The City also installed thirteen (13) bell traps in existing catch basins which had stable hooks. Going forward, the City plans to put a bell in every catch basin. The City currently has approximately thirty (30) extra bells in inventory which will continued to be installed during the 2019–2020 Reporting Period.

The Traffic and Road Maintenance Division has acquired funding in an Environmental Compliance Capital account to make improvements to MS4 piping when property owners cannot, or will not, make repairs in the timeframe provided in the permit.

4.3.5.3 Roadway Maintenance

Roadway maintenance activities can directly affect water quality. An important task of roadway maintenance is keeping the highway drainage system functioning. The City is dedicated to ensuring that routine road maintenance is conducted frequently and that roadside ditches are cleaned and inspected periodically to verify that flow is not being restricted.

A total of 5.7 miles of roadways were paved during the Reporting Period. The City purchased approximately $70,000 worth of asphalt from three different vendors for use in roadway patching of potholes.

4.3.5.4 Sweeping

Properly swept streets are a key element to limiting stormwater impacts as sediment and debris can transport other pollutants into the stormwater system and because copious quantities of these materials can inhibit the proper function of MS4 components. By June 30, 2019 the City swept 10,003 miles of roadway and collected 2,378 tons of street material during the Reporting Period. On average, the City

swept each curb mile of roadway 14 times. Supporting documentation regarding the street sweeping activities for the Reporting Period can be provided upon request.

Sidewalk and curbside sweeping is performed weekly in the Downtown Special Services District (DSSD), along 9.5 miles of sidewalk and curbside during this Reporting Period. This work is coordinated and paid for by the DSSD. An estimated 23 tons of materials was removed during this Reporting Period as a part of the sidewalk and curbside sweeping activities.

The NPDES Permit prescribes very specific sweeping schedules for main lines, arteries, main roads and sidewalks in business and commercial districts, residential streets, other streets, and municipal parking lots between March and November of each year. The City has requested relief from the sweeping requirements as per the permit modification. The permit modification language is modeled after the DEEP MS4 general permit, which allows cities the ability to focus sweeping efforts on targeted areas. One goal is to compress the spring sweeping schedule between March 1st and June 30th to maximize the quantity of material collected at the end of the winter season.

The City has been implementing a "Post & Tow" policy where they will be posting sweeping dates and times and subsequently towing away any cars that are parked in the areas posted for sweeping events. This system helps the City to effectively sweep in the areas posted instead of having to sweep around parked cars, missing large areas of the road.

During this Reporting Period, the City also conducted post-event sweeping activities after several Wednesday and Thursday concert series. The amount of materials collected during these events is included in the total tons of street material noted above.

4.3.5.5 Leaf Collection

In 2018, the City's leaf pickup program was completed by December 14th. Every street in the City is swept clean as a part of this program. A total of 15,261 tons of leaves were collected.

According to the NPDES Permit, the City shall conduct City-wide leaf pickup program annually to be completed by December 15th. The City has established a procedure that breaks the City of Stamford down into three areas (see Appendix L of the SMP for a map of the leaf collection areas):

- Area #1 - north of the Merritt Parkway
- Area #2 - between Merritt Parkway and I-95
- Area #3 - south of I-95

Leaf pick-up typically begins in mid-November and completed by December 15th. The exact completion date depends on weather conditions and competing demands (snow removal and road salting for staff and equipment). The first snowfall occurred on November 15th which resulted in the City converting trucks from leaf duty to snow duty then back to leaf duty over the course of three days to handle the snow event. It is important to note that the City finishes leaf pick-up even after snow fall. This process takes approximately four weeks of full-time work for all available road maintenance crews.

The current leaf disposal policy is that the leaves will be piled at the curb prior to pick-up and off the streets. During the Reporting period, one-thousand doubled sided color flyers were printed and distributed to municipal buildings throughout the city. 20,000 postcard mailers were sent to single family homes, a half-page ad was placed in the Stamford Advocate and on the City's website, flyers were placed throughout the City to remind the citizens that leaves collected were not to be placed in the roadways. The initial program was to collect bagged leaves only which the outreach campaign advertised. After October 2018, funding was secured to continue the loose-leaf pick-up program. One-thousand flyers were recreated, the City's website was updated, and another round of 20,000 postcards were distributed to households detailing the loose-leaf pick up program. One (1) ½ page ad was placed in the print version of the Stamford Advocate and presented same info as the bi-lingual flyer. This ad ran twice in twice in the Stamford Advocate Newspaper, 1,000 flyers were distributed throughout the City, and information was posted to the City's website at www.stamfordct.gov/leafpickup. Communications Director provided updates regarding progress of the city crews as they moved through the City using the Stamford Government Center Facebook page. Additionally, door hangers were used as an enforcement mechanism for any violators of the City's ordinances.

4.3.5.6 Snow Removal

Timely snow removal and the appropriate application of de-icing materials is another key element to a successful SMP. The City follows the DEEP's *Best Management Practices (BMPs) for Disposal of Snow Accumulation from Roadways and Parking Lot.* A copy of this BMP is presented in Appendix L of the SMP. The purpose of the BMPs are to prevent accumulation of sand, other solids, and pollutants in the MS4 and in sensitive areas, such as streams and wetlands.

The NPDES Permit requires that the City implement and refine its SOPs, regarding its snow and ice control operations, to minimize the discharge of pollutants. Goals must be established for the optimization of chemical application rates through the use of automated equipment including zero velocity spreaders, anti-icing and pre-wetting techniques, implementation of pavement management systems and alternate chemicals.

The City is already well on its way to meeting these goals. The Highway Crew continues to perform anti-icing using liquid calcium chloride (brine) to pre-treat city streets with the highest traffic volume. Once the storm begins, patrols are sent throughout the City to monitor road conditions. Hills and intersections are spot treated to minimize chemical usage. The City tracks chemical usage; however, given the variability in the amount of snow and ice that needs to be treated each year, it is difficult to set goals for chemical optimization. As noted in ***Section 4.3.3.5***, the City intends to expand its use of brine trucks for pre-treatment in the future, which will help reduce the road salt usage.

The City continues to minimize its use of de-icing materials. This goal is being pursued in part to respond to shortages of de-icing materials in recent years. Salt is applied only twice for each storm – once at the beginning to prevent ice from binding and once at the end of prevent re-freezing. The regulatory compliance and administrative official has been enforcing illegal discharges of private basement sump pumps into the right-of-way, rather than simply treating these areas with removal of additional de-icing materials.

During this Reporting Period, the City compiled a list of Special Hazard Areas which were more prone to icing conditions due to a variety of factors including: high groundwater table, improper roadway design, blocked catch basins, sump pumps from residential properties, and other factors. These areas were checked and treated by City staff whenever temperatures dropped below freezing levels.

During this Reporting Period, the West Beach parking lot was prepared from November through April with haybales, double catch basin filters, etc. in the event that additional snow stockpiling was necessary. This space was not utilized during this Reporting Period.

4.3.5.7 Catch Basin Cleaning

Clogged or overloaded catch basins can lead to unwanted stormwater quality impacts. Catch basin sumps provide a first line of defense in improving stormwater quality. Maintenance and cleaning activities are important to the proper operation of each catch basin.

For the 2018-19 Reporting Period, at least 1,929 catch basins throughout the city were inspected and cleaned on an as needed basis. Approximately 3,163-tons of materials were removed from the basins during the Reporting Period. This equates to 6,326,000 pounds of waste that was captured and processed and did not enter the City's waterways, streams, rivers, or Long Island Sound.

The City continues to maintain a catch basin inspection, cleaning, and repair program. This program helps to identify and map each MS4 catch basin and determine flow direction, inspect its condition, determine the amount of sediment in each, clean catch basins with less than 50% of their sump capacity available, gather information over time on sediment accumulation rates, and develop a routine maintenance and cleaning schedule as prescribed by the NPDES Permit.

To support this program, the City has obtained or purchased the following equipment:

- (3) Vactor vacuum trucks purchased between 2014 and 2015
- (4) Elgin Pelican sweepers purchased between 2008 and 2015
- (1) Rapid View CCTV truck w/ Pipe Logix software – purchased in 2015. CCTV truck has three cameras and a manhole/ stick camera
- (2) One-ton dump trucks on with Stetco hydraulic cranes – purchased in 2016
- (1) Caterpillar mini-excavator – purchased in 2014 and used for culvert cleaning work
- (1) Caterpillar loader / backhoe – purchased around 2010 and used for culvert cleaning work
- (~10) One-ton dump trucks used for typical highway department work
- (~25) Large dump trucks – used as necessary for haul away of sediment per culvert cleaning work
- (1) Utility truck with a crane and lift gate to assist with catch basin replacement, manhole replacement, stormwater drain medallion installation, curb back bolts, water barrier installation, and spill response.

In 2014, the City hired five heavy equipment operators to support this program for stormwater management and compliance activities (see ***Section 6.0***).

The Road Maintenance Department has also retained the services of a contractor that cleans and videos all associated catch basins and storm drains prior to completing roadway paving projects.

Additionally, the City continues implementing a software tracking program using field tablets for tracking catch basin inspection, cleaning and repair progress. The MS4 Front software was brought on-line in October 2014.

The depth of sediment is approximated in the field before each catch basin cleaning. The City using the depth of sediment observed and the time between catch basin cleanings to optimize the cleaning schedule.

4.3.5.8 Culvert Cleaning

During the Reporting Period, the City performed maintenance activities at **37** culverts over approximately 30 days. Various maintenance activities were conducted at the culverts including, but not limited to: stabilizing inlet and outlet areas, cleaning out culvert, removing debris and vegetation from around the culvert, CCTV inspections, excavating culvert discharge area, and wetlands delineation. During the Reporting Period, over 191 cubic yards of soil was removed from the culverts and discharge areas. A list of 2018-19 culverts cleaned is presented in ***Appendix I***.

4.3.5.9 Detention and Retention Ponds

Detention and retention ponds that become overloaded with sediment deposition can negatively impact stormwater quality in the City's MS4. MS4 Ponds are required to be cleaned out when solids levels reach 50% of design capacity.

A list of detention and retention basins was developed and the City is maintaining an inspection schedule. To date, 77 basins were identified and the City continues its efforts to inspect the basins identified. The detention and retention basins were added to the GIS mapping. Stormwater Management began inspections and maintenance work on these basins during this Reporting Period and is anticipating conducting the remainder of the inspections at each pond during the next Reporting Period. The City is considering utilizing outside contractors to assist with inspections and any follow-up work that may be needed.

4.3.5.10 Interconnected MS4s

Connections of other MS4s to the City's MS4 can affect the performance of the City's stormwater system and the quality of its discharges. There are no known interagency agreements between any other municipalities, institutions, or agencies and the City of Stamford. However, it appears that the following municipalities and agencies may be contributing stormwater to the City of Stamford's MS4:

- State of Connecticut (ConnDOT)
- Town of New Canaan, CT
- Town of Darien, CT
- Town of Greenwich, CT
- Town of Pound Ridge, NY

The Connecticut Department of Transportation ("ConnDOT") operates several roadways within the City, including: Interstate 95; the Merritt Parkway (Route 15); Long Ridge Road (Route 137); High Ridge Road (Route 104); and Route 1. The City's MS4 flows into ConnDOT's MS4 in some locations and ConnDOT's MS4 flows into the City's MS4 at other locations. The City communicates with ConnDOT, as needed, primarily when the City receives complaints of clogged ConnDOT storm drains.

The City has mapped out most of the interconnected MS4 areas during the development of the new SMP. A map of the interconnected MS4 areas is provided in Appendix C of the Spill Prevention Response Plan. Currently, there are no interagency agreements established. The City of Stamford will be working with each of the interconnected MS4 municipalities to develop detailed responsibilities for the City of Stamford and for each of the interconnected MS4 municipalities.

4.3.5.11 Referrals

During the Reporting Period, the Stormwater Management Department provided referrals to other City departments and organizations for maintenance and repairs. These referrals are outlined below:

<u>City of Stamford Highway Department</u>

- Approximately 20 referrals were provided to the City's Highway Department for items including: potholes, utility work, contractor trenches, aprons to control stormwater flow, curbing to direct flow and limit erosion, sidewalk trip hazards.

<u>City of Stamford Engineering Bureau</u>

- 24 referrals were provided to the City's Engineering Bureau for items regarding: management and oversight of utility contractors as related to street opening permits issued by the Engineering Bureau, poor trench compaction or failing subbase prior to pavement activities, poor trench compaction at newly installed manholes in city right of way for private development, compromised or failing corrugated metal culvert piping, water and icing over road with no piping installed with the need for easements and piping and drainage design, installation of new catch basins and curbing, non-functioning in-line check valve in existing tidal discharge storm piping, sink holes related to storm pipe issues, roadway ponding after storms, failure to maintain erosion controls on City projects, flooding and drainage issues related to existing curtain drain performance, requesting capital projects to design and install and control roadway damage, failing headwall and eroding roadway at storm culvert.
- 5 referrals were completed by the City's Engineering Bureau for items including: partial completion of Mill Road drainage and paving capital project, culvert piping repair which led to roadway failure, sinking pavement which led to roadway failure, repair and partial removal of obstructed or damaged storm piping which led to roadway flooding, stormwater swale regraded and stabilized.

<u>Sweeping Referrals Provided to Various Entities</u>

- Approximately 30-40 referrals were provided to Traffic and Road Maintenance/Highway Department regarding dirt/rock/gravel/debris spilled on roadway, sweeping targeted areas (e.g.

roadside swale excavation), General Permit compliance purposes, as related to milling and road paving, leaves, tree debris, heavy trash areas.
- Conducted at least twelve (12) post and tow operations.
- Conducted targeted sweeping on dozens of streets where Highway Department Supervisors observed trash, debris, sand, gravel, etc.

Stormwater Referrals Provided to the Environmental Planning Board (EPB)

- 13 referrals were provided from the EPB for items regarding: building permit work, exterior spray foam and rasping resulting in foams in catch basins, discharge of pollutants to City catch basins, failed erosion and sediment controls on active construction site, tidal or shoreline work as related to existing MS4 discharge points, grading and filling work, custodian maintenance work at City schools, City transportation projects, flooding and drainage related issues, paving work without proper permits.
- 9 referrals were provided to the EPB for items regarding: grading and filling with no erosion controls, river and bridge obstructions, tidal and shoreline construction work, tree removals proximate to wetlands.

Referrals Provided to the CTDOT

- Fourteen referrals were provided to CTDOT for items regarding: motor vehicle accidents and SpeedyDry not swept up on I-95, performance of CTDOT MS4 drainage infrastructure where interconnected to the City's MS4, citizen requests to pump and clean catch basins, potholes or failing pavement at CTDOT storm manholes, flooding at railroad overpass at US Route 1 – catch basin grates welded to frames, water on road (State Highway Long Ridge Road), open or damaged CTDOT manhole covers.

Curbing Referrals

- The Road maintenance department handles curbing requests and estimates at least 400 were received during the 2018-19 Reporting Period. The average curbing request is about 40 linear feet of asphalt curbing. There were 394 requests completed at 40 feet each, the City installed about 12,000 linear feet of new asphalt curbing during the Reporting Period.

Other Referrals

- Referrals made to Eversource: four referrals made regarding utility trenches which were failing, electrical manholes, vaults, and other structures in need of repair.
- Referrals made to WPCA: 34 referrals made regarding issues with sanitary infrastructure (damage or paved over manholes), incomplete demolition and abandonment of sanitary chamber in park, asphalt trench or patch failure at new sanitary lateral connection to dwelling, sanitary lateral repair work, sanitary lateral pipe constructed through existing 42" reinforced concrete storm main pipe.
- Referrals from WPCA: 19 referrals were received regarding wastewater treatment plant permit exceedances (9 exceedances during monitoring period), reporting issues with stormwater infrastructure (damaged manholes and catch basins), correspondence from the public about regulatory procedure and wastewater/stormwater discharge, food truck washing and cooking oil

storage, piping connectivity (storm and sanitary) as related to maintenance work, proper disposal of wash/mop water.

- Referrals made to Parks Department: 14 referrals made regarding requests to prune trees, shrubs, vegetation to gain access to catch basins, requests to cut or remove trees for culvert cleaning and swale construction, request to remove or pull out 12" diameter log stuck in stormwater culvert, requests to remove logs and debris at bridges stuck on the upstream side, requests to prune or remove low hanging trees.
- Referrals made to City of Stamford Building/Zoning Departments: four referrals were made regarding construction of accessory structure (garage) on top of existing stormwater easement with no permits for structure, demolition work at large multi-family residential tower, demolition work at commercial office space, construction work and excavation proximate to city stormwater easement.

4.4 Monitoring Program

In addition to the screening and monitoring activities associated with the IDDE Program (see ***Section 4.55***), the NPDES Permit calls for stormwater outfall monitoring throughout the life of the permit.

As prescribed in the modified NPDES Permit, the City is no longer required to conduct in-stream samples.

4.4.1 Dry Weather Outfall Screening for Illicit Discharges

Efforts conducted for outfall screening during dry weather conditions are discussed in ***Section 4.5***

4.4.2 Wet Weather Outfall Monitoring

During the Reporting Period, thirty-three (33) wet weather outfalls were sampled. To date, 108 of the 191 known wet weather outfalls were sampled.

Analytical data is submitted to the DEEP via the NetDMR system as the laboratory data is received. Summary tables of the analytical data for the wet weather outfall monitoring are presented in ***Appendix K***.

4.5 Illicit Discharge Detection and Elimination (IDDE) Program

IDDE will lessen the amount of pollutants discharging to local water bodies. Some people unknowingly dump pollutants into the storm drain or have illegal connections to the drainage system. The permit requires inspection of outfalls during dry weather conditions to determine whether illicit discharges are suspected and then to conduct extensive evaluation and follow-up to eliminate the illicit discharges that are found.

Additionally, City personnel continue to follow-up on known or suspected illicit discharges as well as any complaints associated with potential illicit discharges through calls to Traffic and Road Maintenance Division or reported via the City's stormwater management website.

4.5.1 Dry Weather Outfall Screening for Illicit Discharges

As part of the outfall monitoring requirements, during the Reporting Period, 179 outfalls were dry weather screened and 40 of the outfalls screened had flow that was sampled for illicit discharges. To date, 380 of the 958 known outfalls have been screened. Summary tables of the analytical data for the dry weather outfall screening and sampling efforts during the Reporting Period are presented in ***Appendix J***.

The City has started submitting notifications of intent to conduct stormwater monitoring and sampling at privately-owned outfalls throughout the City.

4.5.2 Illicit Discharge Investigations

Additionally, during the Reporting Period, the City continued to utilize Harborwatch / Earthplace to assist efforts related to illicit discharge detection and source identification. Harborwatch was directed to go into the field to gather and analyze samples during wet and dry weather conditions, in an effort to quickly ascertain and isolate suspected illicit discharges, in the interest of public health, safety, and welfare. When there is a discharge of suspected contamination or pollutants in stormwater, efforts to inspect and identify are very time sensitive. In the interest of promptness, these efforts are sometimes directed regardless of precipitation events. In some cases, multiple samples are collected at the same location over an extended time period in an effort to build a more comprehensive data set and gain a better understanding of how precipitation events can impact a discharge. A good example of this occurred in early 2019 when a failing septic field was found to be leaking onto the roadway and ultimately into down gradient catch basins. During the Reporting Period, Harbor Watch was awarded a Five Star and Urban Waters Restoration Grant from the EPA for their efforts to reduce pollutants to numerous watersheds.

Harbor Watch screened 69 locations during this Reporting Period. A flow was observed and samples were collected at 54 of the locations. Harbor Watch submitted a total of 43 samples for analysis. Harbor Watch also produced a Fairfield County River Report which also provided valuable information about the water quality data for the Mianus and Noroton rivers during both wet and dry sampling events which occurred between September 2018 and June 2019. Summary tables of the analytical data for the dry weather outfall screening and sampling efforts are presented in ***Appendix L***.

Through the City's efforts using the camera truck completed during the Reporting Period, they have identified multiple areas of concern that will receive priority for further IDDE investigations. IDDE investigations will be focused in the same areas as previously identified during the 2018-19 Reporting Period.

4.5.3 Illegal Connections

As a result of the IDDE program the City has identified multiple areas of concern, which will receive further investigation. The City continues to track, identify, and eliminate illegal connections.

4.6 Legal Authority

In 2015, the Board of Representatives approved an MS4 Ordinance addressing stormwater management issues that affect NPDES Permit. The legal authorities that were established or are being established with proposed zoning regulation modifications include:

- The authority to administer the stormwater management program and all elements of the SMP.
- The authority to control the contribution of pollutants to the MS4 by permittees registered under the DEEP's *General Permit for the Discharge of Stormwater Associated with Industrial Activity*; by other commercial, industrial, municipal, institutional, or other facilities; and from any site that may affect water quality to the MS4.
- The authority to establish ordinances, bylaws, regulations, or other mechanisms to require developers and construction site operators to maintain consistency with the *Guidelines for Soil Erosion and Sedimentation Control*, the *Connecticut Stormwater Quality Manual*, and all DEEP stormwater discharge permits issued with the City of Stamford.
- The authority to identify existing regulations that may represent barriers to low impact development (LID) practices to minimize the quantity of impervious cover.
- The authority to perform inspections, surveillance, and monitoring related to the MS4.
- The authority to establish ordinances, bylaws, regulations, or other mechanisms to ensure a developer's or construction site operator's proposed use of LID practices by right or exception.
- The authority to revise regulations to eliminate or reduce potential barriers to LID.
- The authority to perform adequate inspection and maintenance activities to optimize the performance and pollutant removal efficiency of privately-owned retention or detention ponds that discharge to or receive discharge from the City's MS4.
- The authority to control through interagency or inter-jurisdictional agreement, the contribution of pollutants between the City's MS4 and MS4 owned or operated by others.
- The authority to prohibit by statute, ordinance, rules and regulations, permit, easement, contract, or any other means, illicit discharges to its MS4; to require the removal of these discharges; and to assess fines, penalties or cost recoupment for violations.
- The authority to control by statute, ordinance, rules and regulations, permit, easement, contract, or any other means, the discharge of spills into its MS4; to prohibit the dumping and disposal of materials into its MS4; and to assess fines, penalties or cost recoupment for violations.

The schedule for establishment of these legal authorities is documented in the NPDES Permit. On March 20, 2015, a final MS4 Ordinance, Ordinance 1153, adding Chapter 201 to the City Charter, became effective. Draft changes to the Zoning Regulations have been prepared and are included in Appendix I of the SMP. These documents have been developed to establish the necessary legal authorities. The public must be provided adequate notice and an appropriate amount of time to participate in the establishment in this legal authority. It is the City's intention to establish these legal authorities as soon as possible.

To comply with the NPDES Permit, the City is required to have these revisions approved by the Zoning Board and formally incorporated into the Zoning Regulations. The Modifications to Sections 15 of the

Zoning Regulations of the City of Stamford is underway and the modifications were sent out to referral to various agencies for comment in the spring of 2015.

The City has requested an extension for addressing the change in zoning regulations. The proposed changes will require more staff from the Engineering Department and the Environmental Protection Board and additional time is required to implement the changes.

Several written and verbal warnings were issued during this Reporting Period as part of the implementation of the City's new stormwater ordinance. The warnings issued are listed below:

4.6.1 Written Warnings

Written Warnings Issued: 89

Violation: Discharge of water to roadway, confirmed illegal connection to MS4 system, possible illegal connection to MS4 system, confirmed failing on-site sanitary facilities leaking on to roadway, tracking or pushing material on to roadway from contractors yard or residence, contributing pollutants to MS4 system, culvert replacement at driveway apron to right-of-way, drainage easement agreement documents, structures/improvements illegally constructed in right-of-way and impacting drainage structures, required stormwater maintenance work with an easement, access required for on-site investigation dye/smoke test/CCTV work, construction dewatering into catch basin, abatement satisfactorily completed

Notes: Doorhanger written warning during leaf pick up program: Approx. 59 doorhangers placed.

4.6.2 Verbal Warnings

Verbal Warnings Issued: 5

Notes: Verbal warnings were issued for items including: dumping mop water on to roadway, power washing with soap, construction dewatering

5.0 SUMMARY OF PROPOSED SMP MODIFICATIONS

The SMP was updated and submitted to the DEEP on September 2, 2014. Revisions to the SMP are underway and will be submitted to CTDEEP during the 2019-2020 Reporting Period.

On August 14, 2017, a permit modification was issued for the City's NPDES Permit. During the 2017-18 Reporting Period, the City reviewed the permit modification for any new requirements and is in the process of updating the SMP accordingly. The new modified permit renewal is pending approval from CTDEEP.

6.0 PROGRAM RESOURCES ANALYSIS

6.1 Fiscal Analysis

During this Reporting Period, the City continued to make efforts to secure budget, staffing, and resources necessary to develop and implement the SMP, to comply with the NPDES Permit requirements, and to improve the overall quality of stormwater discharging from its MS4. The City is committed to identifying these details and adequately funding them to achieve compliance with the NPDES Permit as soon as possible.

Some line items in the City's Capital and Operating Budgets are obviously related to MS4 stormwater compliance, such as the "Environmental Compliance" and "Stormwater Management". However, there are other line items for infrastructure and other public improvement projects (drainage, catch basin, storm lines, etc.), special projects, and operating expenses that will result in direct improvements to stormwater runoff quality and the quality of discharge from the City's MS4. For example, the closure of the old Scofieldtown Road Landfill is being performed for specific reasons but should have the added benefit of improving stormwater quality in these areas of the City.

There are also budget line items for vehicle, equipment, and information technology upgrades throughout the City which include Departments with responsibility for stormwater quality improvements and implementation of the SMP.

The Road Maintenance Division has an overall total operating budget of $6,334,447 for Fiscal Year 2019-2020 ($1,425,544 decrease from the FY 2018-19 Adopted Budget).

The FY 2019-20 operating budget for MS4 stormwater management is $1,184,718 (a decrease of $193,575 from the FY 2018-19 Adopted Budget). The budget for snow removal is $1,319,925 (an increase of $265,730 from FY 2018-19 Adopted Budget).

The operating budget for leaf collection is $301,038 (an increase of $253,555 from FY 2018-2019 Adopted Budget). Originally, the City planned on eliminating loose leaf collection from their leaf pick-up program which reduced the cost of the program. The City's legislative body was able to secure funding to expand the leaf pick-up program to include loose leaf pick up.

The operating budget for traffic and road maintenance, including: street sweeping, pothole repairs, debris removal and infrastructure improvements is $3,485,736 for Fiscal Year 2019-20 (a decrease of $1,219,765 from the FY 2018-19 Adopted Budget)

The capital budget covers long term projects to provide improvements to the City. These capital projects have the potential to impact the quality of stormwater discharged to waterbodies.

Capital project C56119, Citywide Roadway Correction, was given $200,000 in construction related costs for FY 2019-20. The requested funds are for design work and construction activities associated with the project. The current balance will be used to fund emergency road failure at Cascade Road.

Capital project C16012, Citywide Storm Drains, was given $500,000 in construction related costs for FY 2019-20. The requested funds are to complete drainage improvements on Spruce Street, Orchard Street, Leroy Place, Drum Hill Lane, Tod Lane, Bird Song Lane, Newfield Court, and citywide drainage improvements. The current balance will be used to fund drainage improvements at Newfield Avenue, Spruce Street, and Orchard Street.

Capital project 000664, Resilience and Climate Adaptation Implementation, requested $200,000 for FY 2019-20. The requested funds are to address vulnerable coastline communities from weather events due to climate change effects including rising sea levels and the potential for more severe weather events. The City is splitting this project into two tasks: first, map and identify areas where repetitive loss of property has occurred and map public infrastructure vulnerable to weather hazards, and second, create a tree inventory to facilitate preventative tree maintenance to aid in reducing the impact of fallen trees due to weather events.

Capital project C56078, Parks Master Plan Update, requested $200,000 in professional services for FY 2019-20. The requested funds are to create a master plan for the Edward Hunt Complex, "Courtland Park". The funds would also be used to amend the City zoning map to include parks which are not included in the Master Plan Category 14 Open Space Parks and 22 parks which are not zoned as P, Park District.

Capital project C06352, Open Space Acquisition/Flood Control, requested $500,000 for land acquisition for FY 2019-20. This project is to aid in implementing Master Plan Policy 7L2-a: Acquisition of vulnerable parcels for open space, flood prone vulnerable parcels, and sensitive lands. The funds would be used to acquire priority parcels and easements for Mill River Greenbelt and ecologically vulnerable coastal or wetlands parcels which are vulnerable to flooding among other hazards.

Capital project CP0211, Environmental Compliance, requested $250,000 for construction, equipment acquisition, miscellaneous costs, and professional services for FY 2019-20. This project is required to investigate, assess, and correct drainage systems discharging into waterbodies. This includes Public Services provided by the City and modification of practices in compliance with federal and state regulations.

Capital project 000592, Stormwater System Illicit Discharge Analysis, requested $100,000 for construction and professional services for FY 2019-20. The funds would be used to identify sources of non-stormwater which is discharging into stormwater systems. This project will also eliminate or abate the sources of contamination with corrective measures.

Capital project CP6757, Reconstruction of Stormwater Waste Debris Drop-Off Station, was given $125,000 for construction and professional services for FY 2019-20. The funds will be used to reconstruct the waste debris drop-off station used by the City's vacuum trucks. The current drop-off station is not functional and cannot handle the amount of waste volume currently being generated from work being performed per the City's MS4 permit.

Capital project C56182, Street Patch and Resurfacing, was given $3,000,000 from the City and $991,302 from the State in form of a grant for FY 2019-20. The funds will be used to patch and resurface the City's roadway infrastructure.

Capital project C56129, Citywide Manhole and Basin, was given $500,000 for construction for FY 2019-20. The funds will be used to maintain the over 10,000 catch basins and 5,000 manholes which are located in the City's road network.

Capital project CP8711, Traffic/Road Paving and Drainage, was given $250,000 for construction for FY 2019-20. The funds will be used to repair or replace any drainage structure which are located in roads which are scheduled to be repaved.

In addition, other Departments, such as Engineering (catch basin and manhole improvements and replacement program), Land Use (environmental reviews), Solid Waste (motor oil recycling and HHW events), SWPCA (stormwater pump operation), and Administration provide services through their capital and operating budgets.

The City's Annual Capital and Operating Budgets for 2019-2020 are available on the City's website at http://www.stamfordct.gov/.

It is anticipated that additional funding will be required for the following monitoring activities:

- Wet weather sampling of each identified MS4 outfall
- IDDE screening and investigations

An increase in funding associated with additional staffing discussed in the next section of this Annual Report, will also be required in coming fiscal years.

6.2 Staff and Resources

The City transferred responsibility for many of the stormwater management tasks and MS4 permit compliance from the SWPCA to the Traffic and Road Maintenance Department with the issuance of the NPDES Permit in June 2013. While evaluating the permit requirements, the Traffic and Road Maintenance Supervisor and Pollution Prevention Team Coordinator, Thomas Turk, began to assess the staff and resources necessary to achieve and maintain compliance. Since Traffic and Road Maintenance Department took over responsibilities for implementing the MS4 permit, several new staff members have been hired, including:

- Five heavy equipment operators to complete field work including catch basin identification, investigation, cleaning, and maintenance. These operators are also responsible for assisting with sweeping, snow removal, leaf pickup and other activities designed to improve the quality of stormwater runoff.

Over the course of the Reporting Period, the Stormwater Department assessed these new staffing levels as the SMP was being implemented and additional schedules and goals are continuously being generated to meet the demands of the City's MS4.

In addition to these individuals, the Traffic and Road Maintenance Division maintains a work force of skilled operators, laborers, administrative, support, and management personnel that provide many of the direct services outlined in this report, such as: catch basin maintenance, roadway sweeping, leaf pickup,

snow removal, and infrastructure improvements and maintenance. They are also available to assist on other stormwater management projects, as directed.

Several other City Departments provide personnel to support compliance with the NPDES Permit and implementation of the SMP, including Engineering, Land Use, Planning, Zoning, Environmental Protection, Information Technology (GIS), SWPCA, Solid Waste, Recreation and Leisure Services, Parks, Parking & Transportation, Fleet Maintenance, Legal, and the Fire Department.

During the next year of implementation of the SMP and the new municipal stormwater ordinance and the changes to the Zoning Regulations, City Departments will be better able to assess the adequacies of their staffing levels with the added MS4 permit compliance requirements. As discussed during the compliance audit conducted by the EPA (see ***Section 2.3.1***) and the City's own assessments, it is anticipated that additional staffing may be necessary in the following areas:

- Information Technology – There is a substantial amount of stormwater mapping and information management to be set up and managed, particularly during the first several years of the permit. The City needs to finalize the outfall identification mapping, and confirmation process and begin the DCIA analysis.
- Engineering and Land Use Offices – Additional staff is required to perform technical review of land use permits due to volume and complexity of work. Performing site inspections before permit issuance, during construction, and prior to Certificate of Occupancy are a critical component for compliance.
- Stormwater Management Department – Additional staff is required (Heavy Equipment Operators) to operate vacuum trucks, the camera truck, and equipment to maintain storm drainage piping. The addition of an Office Support Specialist (OSS) is required in the Stormwater Management Department to assist with data collection, record keeping, and correspondence requirements. New types of data are being generated in the field and it must be properly managed so that it can be put into effective use.

Once the revised Zoning Regulations have been enacted, there will be a need for additional construction site inspections, retention and detention basin inspections and maintenance, stormwater infrastructure (swales, ditches, storm drain lines, etc.) inspections and maintenance, post-construction inspections and maintenance, and illicit discharge detection and elimination program implementation. Additional staffing will be necessary to complete these tasks; the City's ability to complete these activities in the past has been hampered due to limited staff resources.

As mentioned in ***Section 4.3.5.7***, the City recently started implementing a software tracking program using field tablets for tracking catch basin inspection, cleaning and repair progress. The MS4 Front software was brought on-line in October 2014.

Additional software and equipment needs will be assessed during the coming year and requested in the City's next fiscal year budget.

APPENDIX A

DEFINITIONS

DEFINITIONS

"BMPs" or "Best Management Practices" means either structural or engineered control devices and systems (e.g. retention ponds) to treat polluted stormwater, as well as operational or procedural practices (e.g. minimizing use of chemical fertilizers and pesticides).

"Commissioner" means the commissioner as defined by section 22a-2(b) of the Connecticut General Statutes.

"CTDEEP" or "DEEP" means the Connecticut Department of Energy and Environmental Protection, whose mission is to conserve, improve and protect the air, water and other natural resources and environment of the State of Connecticut while fostering sustainable development.

"DCIA" or "Directly Connected Impervious Area" means that part of the total impervious area that is hydraulically connected to the City of Stamford's MS4. DCIA typically includes streets, sidewalks, driveways, parking lots, and roof tops. DCIA typically does not include isolated impervious areas that are not hydraulically connected to the MS4 or otherwise drain to a pervious area.

"EPA" means the United States Environmental Protection Agency, whose mission is to protect human health and the environment.

"EPB" means the City of Stamford's Environmental Protection Board.

"GIS" or "Geographic Information System" is a system designed to capture, store, manipulate, analyze, manage, and present all types of spatial or geographical data.

"HHW" or "Household Hazardous Waste" means post-consumer waste which qualifies as hazardous waste when discarded. It includes household chemicals and other substances for which the owner no longer has a use, such as consumer products sold for home care, personal care, automotive care, pest control and other purposes.

"IDDE" or "Illicit Discharge Detection and Elimination" means a program to detect and eliminate existing illicit discharges and to prevent future illicit discharges.

"IDDP" or "Illicit Discharge Detection Protocol" means a protocol established to identify, prioritize and investigate separate storm sewer catchments for suspected illicit discharges of pollutants.

"Illicit Discharge" means any discharge to the MS4 that is not composed entirely of stormwater, with the exception of discharges authorized by another NPDES Permit, or discharges described in the "Non-Stormwater Discharges" section (Section 4(A)(3)) of the permit.

"Impaired Waters" means those surface waters of the state designated by the Commissioner as impaired pursuant to Section 303(d) of the Clean Water Act and as identified in the most recent State of Connecticut Integrated Water Quality Report.

"LID" or "Low Impact Development" means land planning and engineering design approach to manage stormwater runoff. LID emphasizes conservation and use of on-site natural features to protect water quality.

"MS4"' or "Municipal Separate Storm Sewer System" means a conveyance, or system of conveyances, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains, which is or are (i) owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as sewer districts, flood control districts or drainage districts, or similar districts, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the state; (ii) designed or used for collecting or conveying stormwater; (iii) which is not a combined sewer; and (iv) which is not part of a POTW.

"NOV" or "Notice of Violation" means a notice provided by the CTDEEP informing the permittee that a violation of law has occurred.

"NPDES Permit" or "National Pollutant Discharge Elimination System Permit" means the program authorized by the Clean Water Act which controls water pollution by regulating point sources that discharge pollutants into waters of the United States.

"Outfall" means the discharge point of a waste stream into a body of water.

"PHFs" means pesticides, herbicides and fertilizers.

"Point Source" means any discernible, confined and discrete conveyance (including, but not limited to any pipe, ditch, channel, tunnel, conduit, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft) from which pollutants are or may be discharged.

"POTW" or *"Publicly Owned Treatment Works"* means sewage treatment plants.

"Reporting Period" refers to the period of time that the Annual Report is based on. In this report it pertains to July 1, 2015 through June 30, 2016.

"SMP" or "Stormwater Management Plan" sets forth a program to provide for the implementation of specific control measures, stormwater monitoring, illicit discharge detection and elimination, and other appropriate means to control the quality of the authorized discharge.

"SPRP", "SP&R Plan" or "Spill Prevention and Response Plan" means a plan to prevent, contain and respond to spills entering the MS4.

"Stormwater" means waters consisting of rainfall runoff, including snow or ice melt during a rain event, and drainage of such runoff.

"SWPCA" or "Stamford Water Pollution Control Authority" controls the City of Stamford Water Pollution Control Facility, which processes wastewater from the City and the neighboring Town of Darien, and discharges clean water into the East Branch of Stamford Harbor.

APPENDIX B

STORMWATER MANAGEMENT PLAN SUMMARY TABLE

Annual SMP Summary Table

July 1, 2018 - June 30, 2019

Activity Description	# Actions Scheduled	Status Complete / Incomplete as of June 30th	# Actions Completed	Comments on Activities
1. Education				
1.1 City and Government				
1.1.1 Training	As needed	Complete	2	Training was conducted on 6/27/19 and 6/28/19 for Universal Waste Management, Spill Prevention Control and Countermeasures Plan, and Stormwater Pollution Prevention Plan training.
1.2 Public				
1.2.1 Annual Information Meeting	Annually	Complete	1	2019 meeting was held on 8/21/2019.
1.2.2 Annual SMP Review and Comments	Annually	On-Going	As needed	A permit modification was issued on 8/14/17 for the City's NPDES Permit. During the 2018-19 Reporting Period, the City will be reviewing the permit modification for any new requirements and will be updating the SMP accordingly. The Cityhas received a draft copy of the SMP prepared by Fuss & O'Neill.
1.2.3 HHW Collection	At least Annually	Complete	1	HHW Collection held on 7/14/18 & 7/13/19 at the Rippowam Middle School. Stamford citizens may also use HHW collection days in seven neighboring towns each year.
1.2.4 Pet Waste Control	As needed	On-Going	As needed	3,000 pamphlets were provided to the Town Clerk for distribution Spring 2019. Since 2013, the City has installed 60 dog waste dispensers and signs. Approximately $15,000 was spent on dog waste disposal bags during the Reporting Period and City staff have observed used bags disposed of in the trash containers throughout the areas with dispensers. Parks Department will take over budget item to purchase bags in FY 2019-20. They will budget $20,000 to cover their anticipated use. Current price of bags has increased, but at current pricing, they could purchase 250,000 bags in FY 2019-20.
1.2.5 Distribution of Educational Information	As needed	Complete	On-going	No stormwater flyers were distributed throughout the City for this annual reporting period. Typically, Stormwater Management are distributed throughout the City with the December tax bills. The City has continued to maintain and update the stormwater section of the City's website.
1.2.6 Catch Basin Medallions	As needed	In-Progress	-	Medallions are being installed by City staff members or by seasonal employees and volunteers and are primarily installed on curb-backed catch basins throughout three areas targeted in the southern part of the City, and in parks, and downtown areas with the most pedestrian traffic. Currently, the City has installed medallions on approximately 45-50% of the City-maintained catch basins.
2. Public Involvement				

Annual SMP Summary Table

July 1, 2018 - June 30, 2019

Activity Description	# Actions Scheduled	Status Complete / Incomplete as of June 30th	# Actions Completed	Comments on Activities
2.1 Mill River Collaborative (MRC)	On-going	Complete	5,455 volunteer hours	Making improvements to the Mill River Park through joint efforts the MRC.
2.2 SoundWaters in Cove Park	On-going	On-Going	-	Over 25,000 students learn and explore with SoundWaters, through education and action, every year.
2.3 Educational Outreach	On-going	On-Going	-	The City is in the process of collaborating with other middle schools throughout the City to expand this outreach program.
2.4 Harbor Watch	On-Going	On-Going	-	Harbor Watch, a division of Earthplace, a not-for-profit organization, was retained by the City, to conduct the dry weather outfall sampling as part of the IDDE program. They were awarded a Five Star and Urban Waters Restoration grant for their work with pollution identification and source tracing projects in the City.
3. Mapping				
3.1 Initial Outfall, Sampling, Roadway, Receiving Waters, Watersheds	On-going until all are identified	On-Going	-	As of June 30, 2018, the City has mapped 958 outfalls. Stormwater mapping is approximately 95% complete. The City is currently in the process of confirming the accuracy of the outfall locations. Several of the potential new outfalls were identified as duplicates and others were noted as inlets or discharges under state DOT control. The city will continue to update mapping as needed to reflect current field conditions.
3.2 IDDE Mapping - Infrastructure, Findings, Data, Activities, Projects	On-going until all are identified	On-Going	-	The City continues to try to identify more specific criteria for the outfalls that will be required for monitoring as part of the IDDE program and the wet weather monitoring. The Harbor Watch non-profit organization has continued to assist the City with identifying sources of illicit discharges in the area.
3.3 Establish DC IA	25% of total area per year	On-Going	-	
4. Infrastructure Operations & Maintenance				
4.1 Infrastructure Repair & Rehab	On-going	On-going	As needed	A schedule for implementation of repairs is maintained by the Engineering Dept. and updated as needed / as items are completed.
4.2 Roadway Maintenance	On-going	On-going	As needed	The City is dedicated to ensuring that routine road maintenance is conducted frequently and that roadside ditches are cleaned and inspected periodically to verify that flow is not being restricted. During the Reporting Period, the City repaved approximately 5.7 miles of roadway as part of its road maintenance program.
4.3 Street Sweeping	On-going	On-going	As needed	During 2018-2019, the City swept over 8,770 miles of streets and collected over 2,378 tons of non-leaf materials.

Annual SMP Summary Table

July 1, 2018 - June 30, 2019

Activity Description	# Actions Scheduled	Status Complete / Incomplete as of June 30th	# Actions Completed	Comments on Activities
4.4 Sidewalk Sweeping	See Appendix K of the SMP	On-going	-	Sidewalk sweeping occurs in the downtown area, as described in the SMP and is coordinated and paid for by the DSSD (downtown special services district). An estimated 23 tons of materials are removed on an annual basis.
4.5 Leaf Collection	At least Annually	Complete	1	Leaf collection was completed for 2018 by December 14th and approximately 15,261 tons of leaves and debris were collected.
4.6 Snow Removal	As needed	Complete	-	Snow removal completed as necessary for 2018 and 2019.
4.7 Catch Basin Cleaning	On-going	On-going	1,929	In 2018-2019, the City cleaned at least 1,929 of it's ~11,000 catch basins and removed approximately 3,163 tons of material.
4.7.1 Vectorborne Disease Prevention	On-going	On-going	As needed	The City's Department of Health has conducted larvicide activities in catch basins during the Reporting Period. These activities focus on disease prevention by reducing the population of mosquito larve found in stormwater drainage structures. Application of larvicide within City catch basins was scheduled to start on June 3, 2019.
4.8 City Owned Detention & Retention Pond Inspections	Annually	On-going	-	The City continues its efforts to inspect the basins identified.
4.9 Interconnected MS4s	On-going	On-going	-	The City has mapped out most of the interconnected MS4 areas during the development of the new SPRP. A map of the interconnected MS4 areas is provided in Appendix C of the Spill Prevention Response Plan.
4.10 Piping	On-going	On-going	136	During this Reporting Period, the City continued to conduct CCTV reports, which totaled approximately 10,170 linear feet of piping that was videoed, including storm mains and lateral piping.
4.11 Culverts	On-going	On-going	37	The City performed maintenance activities at 37 culverts over approximately 30 days.
5. Stormwater Monitoring				
5.1 Wet Weather Outfall Old/Known Outfalls	All outfalls within first two years	On-going	93% Completed	Thirty-three (33) wet weather outfalls were sampled. To date, 108 of the 191 know wet weather outfalls were sampled.
6. IDDE				
6.1 Dry Weather Outfall Screening for Illicit Discharges	25% of known MS4 outfalls per year	On-going	On-going	179 outfalls were dry weather screened with 40 samples collected at locations with flow observed. To date, 380 of the 958 known outfalls have been screened.
6.2 Outfall Verification (Post-IDDP)	As needed	-	-	No post-IDDP efforts completed at this time.

Annual SMP Summary Table

July 1, 2018 - June 30, 2019

Activity Description	# Actions Scheduled	Status Complete / Incomplete as of June 30th	# Actions Completed	Comments on Activities
6.3 Harbor Watch	On-going	On-going	On-going	The non-profit organization was awarded a Five Star Urban Waters Restoration grant for their work with the City to identify potential pollutant sources which discharge into the Noroton River watershed.
7. Legal Authority				
7.1 Permits	As needed	On-Going	As needed	All permits to be signed off by each individual City department, including: Coastal Management, Environmental Protection, Flood Plain, Traffic Dept., Engineering Dept., DOT, and Zoning.
7.1.1 Zoning Department	As needed	On-Going	As needed	The City has requested an extension for addressing the change in zoning regulations. The proposed changes will require more staff from the Engineering Department and the Environmental Protection Board and additional time is required to implement the changes.
7.2 Ordinances				
7.2.1 Stormwater Management	As needed	On-going	As needed	On March 20, 2015, a final MS4 Ordinance, Ordinance 1153, adding Chapter 201 to the City Charter, became effective.
7.2.2 LID	As needed	On-going	As needed	The proposed changes to the zoning regulations will ensure that LID practices are allowable. There are no known zoning, site planning or street design regulations that would be an impediment to using LID practices.
7.3 Site Review, Inspection and Monitoring Activities	As needed	On-going	As needed	The City's staff performs site visits when the project is in close proximity to a wetland or other water body. Current staffing levels limit the opportunities for site inspections to only those projects with the greatest potential for impact to stormwater quality. Site visits frequently occur prior to the issuance of a Certificate of Occupancy (CO). Appendix G provides a table of the services provided by the EPB, including permitting reviews and site inspections.
7.4 Eliminate Barriers	On-going	On-going	-	The City has well-established procedures for coordinating municipal departments review and approval of land disturbances and development projects.
7.5 Private Retention/Detention Ponds	On-going	On-going	-	Access to privately-owned detention and retention ponds is addressed in the Stormwater Ordinance.
7.6 Interconnections	On-going	On-going	-	Research by City staff has revealed that no formal interagency stormwater agreements exist at this time. If agreements are deemed necessary, they will be discussed in the next annual report. Historically, ConnDOT maintains all State roads.
7.6 Plastic Bags	As needed	On-going	On-going	As of May 3, 2019, the City has passed an ordinance eliminating the distribution of disposable bags.

Annual SMP Summary Table

July 1, 2018 - June 30, 2019

Activity Description	# Actions Scheduled	Status Complete / Incomplete as of June 30th	# Actions Completed	Comments on Activities
8. Monitor PHFs				
8.1 City Parks	On-going	On-Going	-	In 2018-19, the City did not fertilize park green space.
8.2 PHF Use in Ball Fields	On-going	On-Going	-	In 2018-19, the City applied a total of 1,530 pounds of nitrogen to the ball parks.
8.3 Sterling Farms Golf Course Nitrogen Monitoring	On-going	On-Going	-	Total Nitrogen applied in 2018-19: 550 pounds
8.4 E. Gaynor Brennan Municipal Golf Course Nitrogen Monitoring	On-going	On-Going	-	Total Nitrogen applied in 2018-19: 3,637 pounds
9. Other Program Items				
9.1 Establish SPRPs	As needed	On-Going	-	In June 2016, a city-wide SPRP was completed.
9.2 Review & Modify Current SMP	Annually	-	-	It is anticipated that an executed SMP will submitted to the CTDEEP as soon as possible. The updated SMP will be based on the modified permit and will reflect the current levels of resources available to support the permit goals.

HHW - Household Hazardous Waste
SMP - Stormwater Management Plan
DCIA - Directly Connected Impervious Area
BMP - Best Management Practices
LID - Low Impact Development
PHF - Pesticides, Herbicides and Fertilizers
SPRP - Spill Prevention and Response Plan

APPENDIX C

UPDATED CITY OUTFALL LOCATIONS MAP

City of Stamford Outfalls as of June 30, 2019

Map Key

- Outfalls (958 points)
- Hydrology
- Parks
- I-95 & Merritt Pkwy
- Major Arterials
- All Other Roads
- Railroads

Notes: Map created by Ciy of Stamford, CT GIS staff for MS4 annual reporting. Questions regarding this map should be directed to the City of Stamford MS4 program.
map created 10/21/2019.

APPENDIX D

2018–19 SPILLS OF FIVE GALLONS OR MORE

City of Stamford - No. CT0030279

Spills and Leaks 7/1/18 - 6/30/2019

Date	Address / Location	Material Spilled	Quantity Released	Receiving Stream	
7/10/2018	Cummings Park North	Unknown petroleum product (Fuel oil or diesel fuel) from discharge 3/2018. .	Unknown	Long Island Sound / Westcott Cove	Tradebe to recover and dispose of oily booms related to 3/2018 incident at DIS-50.
7/10/2018	Haig Ave. at Crestview Ave.	Hydraulic oil	20 Gal.	Long Island Sound	City of Stamford loader ruptured hydraulic line on roadway. Spill was contained and did not enter storm drain system. Sorbent material and sand applied to area of spill. Sorbent material swept and cleaned 7/10/18. No impact to receiving waters.
10/9/2018	804 Atlantic St.	Hydraulic oil	unknown	West Branch / Stamford Harbor / Long Island Sound	City of Stamford sweeper ruptured hydraulic line on roadway. Spill was contained and did not enter storm drain system. Sorbent material and sand applied to area of spill. Sorbent material swept and cleaned 10/9/18. No impact to receiving waters.
10/16/2018	Bateman Way	Transformer Oil	120 - 180 Gal.	Stamford Harbor / Long Island Sound	CT DEEP Case No: 2018-05481. T. Theder contacted by WPCA. Private contractor (Vitti Excavating) moving large excavator with boom extended and pulled down utility poles and transformers, causing them to rupture. Material did enter catch basin but did not reach WPCA pump station. Abatement by contractor at owners expense. No impact to receiving waters.
10/23/2018	Bedford Street Parking Area	Oil / Grease	unknown	Long Island Sound	Stamford DSSD and co-op contracted Transclean to power wash and recover all wash waters.
12/7/2018	Indian Hill Rd. at Bayberry	Hydraulic oil	20 Gal.	Long Island Sound	City of Stamford loader ruptured hydraulic line on roadway. Spill was contained and did not enter storm drain system. Sorbent material and sand applied to area of spill. Sorbent material swept and cleaned. No impact to receiving waters.

1/5/2019	71 Pine Hill Ave.	Motor Oil	10 Gal.	Long Island Sound	CT DEEP Case No: 2019-00064. Oil into storm drain. Follow up by Stamford Fire Dept. and CT DEEP. CB on private property. Unknown impact to receiving waters.
2/11/2019	18 Ken Court	#2 Fuel Oil	unknown	Long Island Sound	CT DEEP Case No: 2019-01538. In ground tank failure. No free product. No impact to receiving waters.
2/14/2019	250 Hope St.	Petroleum / Gasoline	unknown	Long Island Sound	CT DEEP Case No: 2019-00728. In ground tank failure. Sheen on groundwater. No impact to receiving water.
2/28/2019	2453 West Ave.	Diesel Fuel	10 Gal.	Long Island Sound	CT DEEP Case No: 2019-00979. Overfill at Fed Ex. Discharge to ground surface. Cleaned.
2/28/2019	243West Ave.	Diesel Fuel	5 Gal.	Long Island Sound	CT DEEP Case No: 2019-00974. Sanded and swept.
3/4/2019	Hope St. at Colonial Rd.	Antifreeze	2 Gal.	Long Island Sound	CT DEEP Case No: 2019-01023. CT Transit MVA. Sanded, swept and cleaned. Not in CB's. No impact to receiving waters.
3/4/2019	25 Big Oak Lane	Transformer Oil	5 Gal.	Long Island Sound	CT DEEP Case No: 2019-01034. Clean Harbors contacted for abatement.
3/4/2019	684 Long Ridge Rd.	Motor vehicle fluids	10 Gal.	Long Island Sound	CT DEEP Case No: 2019-01035. Cleaned - contracted with Herbert Recovery.
3/22/2019	63 Hickory Way	Petroleum	10 Gal.	Long Island Sound	CT DEEP Case No: 2019-01301. Transfer line failure - Hoffman Fuel. CB's affected. Abatement performed by contractor. No impact to receiving waters. Stormwater Management Dept. pumped, cleaned CB's 3/26/2019.
3/22/2019	39 Grenhart Rd.	Petroleum	unknown	Long Island Sound	CT DEEP Case No: 2019-01307. UST removal of OWS. No free product. Soil remediation required. No impact to receiving waters.
3/25/2019	360 Thunder Hill Dr.	Diesel Fuel	30 Gal.	Rippowam River	CT DEEP Case No: 2019-01348. Ruptured saddle tank. No CB's this area. No impact to receiving waters.
3/25/2019	360 Thunder Hill Dr.	Diesel Fuel	30 Gal.	Rippowam River	CT DEEP Case No: 2019-01348. Ruptured saddle tank. No CB's this area. No impact to receiving waters.
3/26/2019	28 Bell St.	#2 Fuel Oil	unknown	Rippowam River	CT DEEP Case No:2019-01355. In ground tank failure. No impact to receiving waters.

4/15/2019	I-95 NB between exits 6 &7	Motor vehicle fluids and chlorine bleach	Unknown	Rippowam River	CT DEEP Case No: 2019-01692. Tractor trailer rollover. CT Tank removal contracted to abate spill. No known impacts to receiving waters.
4/23/2019	300 Main St.	Hydraulic oil	1 Gal.	Rippowam River	CT DEEP Case No: 2019-01833. Hose failure. Sanded and swept. Clean Harbors assisted.
5/1/2019	626 Glenbrook Rd.	Transformer Oil	3 Gal.	Westcott Cove / Long Island Sound	CT DEEP Case No: 2019-01962. Eversource workstation spill - container failure discharge to ground surface. Clean up and abatement by contractor on behalf of Eversource. No impact to receiving waters.
5/4/2019	105 Harbor Drive	Petroleum product	unknown	Stamford Harbor / Long Island Sound - East Branch	CT DEEP Case No: 2019-02014. Reported small amount of gasoline around vessels in marina. USCG notified. Unknown impact to receiving waters.
5/8/2019	11 Leon Place	Diesel Fuel and Gasoline	275 UST	Long Island Sound	CT DEEP Case No: 2019-02094. In ground tank failure. No free product, pumped out. No impact to receiving waters.
5/21/2019	67 West Broad St.	Grease / Cooking Oil Spill	30 gal.	Rippowam River	CT DEEP Case No: 2019-02291. 30 gal. container used cooking oil / grease knocked over in parking lot. T. Theder was contacted Fire Dept. to provide sand for traction and to contain spill and safe off the areas to prevent additional tracking by vehicles. Spill was contained to area adjacent to parking lot. Tradebe contacted by restaurant owner to properly abate spill. Grease / oil did not enter drainage structures. No impact to receiving waters. T. Theder scheduled follow up inspection on 6/4/19 w/ restaurant owner, City of Stamford Health Dept. and City of Stamford WPCA Fats, Oils, and Grease (FOG) inspector.

Fire Department

Hazmat List by Incident

Alarm Date Between {07/01/2018} And {06/30/2019}

Chemical Name	Container	Qty Released	Released Into
18-0008339 09/17/2018 19:05:52			
Transmission Fluid		1 Liters	
18-0008366 09/18/2018 15:58:25			
Natural gas		1 Parts per	Air
18-0008951 10/06/2018 11:08:23			
Miscellaneous Automotive Waste	Drum	10 Gallons	Ground
18-0009688 10/29/2018 17:52:41			
Ethylene glycol		1 Gallons	Ground
18-0010114 11/12/2018 14:04:23			
Mobile Property Involved: 11 Automobile, passenger car, ambulance, race car			
Gasoline		64 Ounces (liquid)	
18-0010361 11/20/2018 09:05:41			
Mobile Property Involved: 20 Freight road transport vehicle, Other			
diesel fuel UN#:1202	Vehicle fuel tank	25 Gallons	
18-0010861 12/06/2018 11:45:30			
Motor Oil		1 Gallons	Confined, no
19-0002013 03/06/2019 17:23:31			
Fuel oil #2		5 Gallons	Ground
19-0002577 03/25/2019 16:52:18			
Mobile Property Involved: 21 General use truck, dump truck, fire apparatus			
Diseal	Vehicle fuel tank	30 Gallons	Ground

Fire Department

Hazmat List by Incident

Alarm Date Between {07/01/2018} And {06/30/2019}

Chemical Name	Container	Qty Released	Released Into
19-0002603 03/26/2019 20:44:04			
Carbon monoxide UN#:1016		8 Parts per	
19-0003127 04/14/2019 15:17:05			
Natural gas		1 Parts per	Confined, no
19-0004400 05/26/2019 12:57:45			
Natural gas	Machinery or process	1000 Parts per	Air
Carbon monoxide UN#:1016	None	7 Parts per	Air

APPENDIX E

2018–19 PESTICIDE, FERTILIZER, AND HERBICIDE USE

Athletic Field Fertilizer use only, we do not use any Fertilizers on park Green space

1st application April 2nd Dimension application 18-0-40- 60 bags total used, each bag is 50lbs

2nd application May 2nd Propendi- 60 bags total used, each bag is 50lbs

3rd application Sept Fertilizer- 60 Bags total used, each bag 40lbs

Little League/Softball/Baseball

Troy #1 Field and Troy # Field 2- Cove

Federal #1 Field and Federal #2 Field

Kane Ave Field

Vine Road Field

Scalzi Little League Field/Scazli #1, #2 and #3

Cubeta Stadium

Springdale Little League Field

Kosciusesko LL and Softball Field

Cummings #1 Field #2 Field #4 field and #5

Chestnut Field

Dorthey Heroy Field

Northrop (Stark school) Field

Dimension (18-0-40) - 50lbs/bag x (18/100) = 9lbs/bag x 60 bags = 540lbs N

ProPendi (13-0-4) - 50lbs/bag x (13/100) = 6.5lbs/bag x 60 bags = 390lbs N

Fertilizer (25-0-5) - 40lbs/bag x (25/100) = 10lbs/bag x 60 bags = 600lbs N

Total N Used = 1,530lbs

APPENDIX F

2018–19 ENVIRONMENTAL PROTECTION BOARD SUMMARY TABLE

ENVIRONMENTAL PROTECTION BOARD

The Environmental Protection Board (EPB) is organized by ordinance as a multi-purpose City agency combining the duties and responsibilities of: 1) a local Inland Wetlands and Watercourses Agency, 2) a local Conservation Commission, and 3) a local Flood and Erosion Control Board. The EPB has regulatory responsibilities, including issuing special permits for development activities on properties having inland wetlands and watercourses, buffer/setback areas, and designated flood hazard areas. The EPB also has advisory responsibilities, providing review, technical assistance and comment on the potential impact of subdivisions, coastal site plan reviews, site plan reviews, variances, special exceptions, drainage/erosion control plans, utility installations, and other related matters. Information/comments are disseminated to City Boards, Commissions, Departments, professional consultants and members of the public. Finally, the EPB has stewardship responsibilities, including recommendations for the creation and subsequent monitoring of open space areas and public points of access to Stamford's waterfront and shoreline areas. EPB Staff (Executive Director/Environmental Planner – 1 and Environmental Analyst – 2) in cooperation with other City departments, inspects development projects to ensure conformance with issued permits/approvals and City standards, acts as the designated liaison with State and Federal officials on matters of wetland/floodplain/coastal management, and administers the City's participation in the Federal Emergency Management Agency's Community Rating System (CRS).

In Fiscal Year 2018-19, EPB's staff members (combined full and part time employees) responded to 4,400 public inquiries during its regular office hours, reviewed 1,438 applications for building/septic permit, and evaluated 106 formal applications from the various Land Use Boards. In addition, EPB staff participated in the review and/or inspection of numerous public/private projects of value and interest to the City including:

Greenwich Avenue – Mill River Collaborative - Mill River Park Middle Corridor Project
Green and Hanrahan Streets – City of Stamford – Mill River Park North Phase 2
Wedgemere Road - City of Stamford WPCA - Sanitary Sewer Extension
Woodway Road – Aquarion Water Company for the Woodway Country Club, Inc.
Scofieldtown Road - Bethany Assembly for Artis Senior Living, LLC

West Main Street - The Home Depot
Southfield Avenue - Davenport/Stamford Landing – Boatyard
Southfield Avenue – Davenport Landing – Residential Building/Roadway Improvements

Project monitoring and enforcement remained a priority for the department. EPB Staff also performed essential functions in the development of regulations pertinent to Stamford's MS4 Program ("Municipal Separate Storm Sewer System"), participated in the formulation of a uniform "Drainage Manual", improved efforts to update pertinent resource layers in the City's Geographic Information System (GIS), enhanced the EPB website, contributed to the continued evaluation of the City's on-line building permit system, and maintained/enhanced Stamford's excellent standing in FEMA's CRS (Community Rating System) Program.

Performance Summary - Fiscal Years 2009-19

Activity	Service Output by Fiscal Year									
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Customer Service:										
Office Visits:	3354	4483	4783	4798	4900	4832	4912	4568	4146	4400
Building/Septic Permit Reviews:	1222	1342	1642	1584	1505	1462	1540	1355(a)	1318	1438
Administration:										
General Program Administration:	336	364	307	414	373	347	372	416	414	416
Referrals:	143	150	158	121	171	159	157	194	210	191
Outgoing E-Mails (Various)	NA	NA	NA	NA	NA	NA	NA	NA	NA	3830
Permitting/Technical Review:										
Coastal Site Plan/Zoning Apps.	13	15	20	19	16	26	23	30	29	19
Wetland/EPB SPR Applications:	27	38	35	41	28	28	34	28	40	30
Subdivision Applications:	02	03	03	03	05	09	07	02	03	01
ZBA Applications:	68	55	63	71	66	51	66	52	48	56
Site Plan Review Applications:	39	46	55	106	99	117	128	119	124	160
Enforcement/Inspection:										
Project Monitoring/Compliance:	79	82	87	81	95	93	106	119	135	129
General Enforcement Activity:	58	56	59	28	25	30	64	43	71	69
Complaints/Citizen Services:	35	34	39	37	46	220	249	280	380	172(c)
Special Projects:										
CRS Program:	18	18	18	18(b)	18	18	18	18	22(b)	24
GIS Updates	00	00	00	01	01	01	01	01	01	01
Public Outreach	01	01	01	02	03	04	02	02	02	02
MS4, Drainage Manual, Web and Regulation Change	00	00	00	00	01	01	01	01	03	06

*The information summarized above is based upon an examination of written correspondence (chronological) files and existing data base entries for the period 7/1/18 to 6/30/19. Omitted from the reporting are telephone entries, facsimile transmissions, undocumented field inspections, inspections conducted in conjunction with the review of development applications, and other related activities.

(a) Reflects new/improved **streamlined policies/procedures** to reduce the specific types of building permit applications and follow up reviews conducted by EPB Staff.
(b) Five (5) Year Recertification.
(c) Reflects modifications to Fix-it-Stamford referral process.

APPENDIX G

CITY STAFF TRAINING EVENTS SIGN-IN SHEETS

FUSS&O'NEILL

Employee Training
Universal Waste, Used Oil and CT Regulated Wastes Management Procedures and Emergency Response Procedures
City of Stamford – Highway Department
Date of Training: June 27, 2019

Attendees Sign-In:

	Name Printed	Name Signed	Company / Work Function
1	Joe Hoyt		Stormwater
2	Roberto Antonucci		Storm
3	Ron Markey		Parks / Supervisor
4	Jim Hart		Stormwater
5	Paul Kopec		Fleet
6	Chris Rivera		Stormwater
7	Rob Buzzeo		Equipment
8	Tyler Theden		Stormwater
9			
10			

Training Location: City of Stamford – Highway Department
100 Magee Avenue
Stamford, CT

Resources: US Environmental Protection Agency (EPA) Regulations of 40 CFR 262.34(a)(4) and 265.16
Regulations of Connecticut State Agencies (RCSA) Section 22a-449(c)-102(a)(1)
Universal Waste, Used Oil and CT Regulated Waste Training Power Point Presentation (by F&O)
Waste Training – Supplementary Handouts (by F&O)

Training Facilitator: John Siedel, CHMM, OHST

JOHN SIEDEL, _____, Fuss & O'Neill, Inc
Printed Name Signature

FUSS & O'NEILL

Employee Training
Stormwater Pollution Prevention Plan (SWPPP)
City of Stamford – Highway Department
Date of Training: June 27, 2019

Attendees Sign-In:

	Name Printed	Name Signed	Company / Work Function
1	Joe Hoyt	Joy Hoyt	Stormwater
2	Jim Hart		Stormwater
3	Ron MARKEY		PARKS / SUPERVISOR
4	Chris Rivera		Stormwater
5	Paul Kopec		Fleet
6	TYLER THEDEN		STORMWATER -
7	Roberto Antonucci		Storm
8			
9			
10			

Training Location: City of Stamford – Highway Department
100 Magee Avenue
Stamford, CT

Resources: General Permit for the Discharge of Stormwater Associated with Industrial Activities
Connecticut General Statures (CGS) Section 22a-430-3b:
Site's Stormwater Pollution Prevention Plan (SWPPP)
SWPPP Training Power Point Presentation (by F&O)
SWPPP Training – Supplementary Handouts (by F&O)

Training Facilitator: John Siedel, CHMM, OHST

JOHN SIEDEL, John Siedel, Fuss & O'Neill, Inc
Printed Name Signature

FUSS&O'NEILL

Employee Training
Spill Prevention Control and Countermeasure (SPCC) Plan
City of Stamford – Highway Department
Date of Training: June 27, 2019

Attendees Sign-In:

	Name Printed	Name Signed	Company / Work Function
1	Joe Hoyt		Stormwater
2	Jim Hart		Stormwater
3	Ron Markey		Parks / Supervisor
4	Chris Rivera		Stormwater
5	Paul Kopec		Fleet
6	Tyler Theder		Stormwater.
7	Roberto Antonucci		storm
8			
9			
10			

Training Location: City of Stamford – Highway Department
100 Magee Avenue
Stamford, CT

Resources: US Environmental Protection Agency (EPA) regulations of 40 CFR 112:
Site's Spill Prevention Control and Countermeasures (SPCC) Plan
SPCC Training Power Point Presentation (by F&O)
SPCC Training – Supplementary Handouts (by F&O)

Training Facilitator: John Siedel CHMM, OHST

John Siedel, John Siedel, Fuss & O'Neill, Inc
Printed Name Signature

FUSS&O'NEILL

Employee Training
Spill Prevention Control and Countermeasure (SPCC) Plan
City of Stamford – Highway Department
Date of Training: June 28, 2019

Attendees Sign-In:

	Name Printed	Name Signed	Company / Work Function
1	Ron Caporale		Highways
2	Ronnie Perkins		Highways
3	Kevin Cuevas		Highways
4	Aaron Turner		Highways
5	Timothy Hinton		Highways
6	Markos D Echeverria		Highways
7	Joseph Caplon		" "
8	Phil Markey		Highways
9	Robert Frattaroli		Highways
10			

Training Location: City of Stamford – Highway Department
100 Magee Avenue
Stamford, CT

Resources: US Environmental Protection Agency (EPA) regulations of 40 CFR 112:
Site's Spill Prevention Control and Countermeasures (SPCC) Plan
SPCC Training Power Point Presentation (by F&O)
SPCC Training – Supplementary Handouts (by F&O)

Training Facilitator: John Siedel CHMM, OHST

John Siedel, _____, Fuss & O'Neill, Inc
Printed Name Signature

FUSS&O'NEILL

Employee Training
Spill Prevention Control and Countermeasure (SPCC) Plan
City of Stamford – Highway Department
Date of Training: June 28, 2019

Attendees Sign-In:

	Name Printed	Name Signed	Company / Work Function
1	Derek Aime	Derek Aime	HEO
2	John Moure		E03
3	Todd M. Johnson SR.	Todd M. Johnson Sr.	E-03 STAMFORD HIGHWAYS
4			
5			
6			
7			
8			
9			
10			

Training Location: City of Stamford – Highway Department
100 Magee Avenue
Stamford, CT

Resources: US Environmental Protection Agency (EPA) regulations of 40 CFR 112:
Site's Spill Prevention Control and Countermeasures (SPCC) Plan
SPCC Training Power Point Presentation (by F&O)
SPCC Training – Supplementary Handouts (by F&O)

Training Facilitator: John Siedel CHMM, OHST

JOHN SIEDEL, John Siedel, Fuss & O'Neill, Inc
Printed Name Signature

FUSS & O'NEILL

Employee Training
Universal Waste, Used Oil and CT Regulated Wastes Management Procedures and Emergency Response Procedures
City of Stamford – Highway Department
Date of Training: June 28, 2019

Attendees Sign-In:

	Name Printed	Name Signed	Company / Work Function
1	Ron Caporale		Highways
2	Ronnie Perkins		Highways
3	Kevin Cuevas		Highways
4	Aaron Turner		Highways
5	Timothy Hinton		Highways
6	Markos Echeverria		Highways
7	Joseph Coplon		" "
8	Phil Markey		Highways
9	Robert Frattaroli		Highways
10	John Cornelius		Highways

Training Location: City of Stamford – Highway Department
100 Magee Avenue
Stamford, CT

Resources: US Environmental Protection Agency (EPA) Regulations of 40 CFR 262.34(a)(4) and 265.16
Regulations of Connecticut State Agencies (RCSA) Section 22a-449(c)-102(a)(1)
Universal Waste, Used Oil and CT Regulated Waste Training Power Point Presentation (by F&O)
Waste Training – Supplementary Handouts (by F&O)

Training Facilitator: John Siedel CHMM, OHST

John Siedel, _____, Fuss & O'Neill, Inc
Printed Name Signature

FUSS & O'NEILL

Employee Training
Universal Waste, Used Oil and CT Regulated Wastes
Management Procedures and Emergency Response Procedures
City of Stamford – Highway Department
Date of Training: June 28, 2019

Attendees Sign-In:

	Name Printed	Name Signed	Company / Work Function
1	Derek Aime	Derek Aime	H E O
2	John Moure		E 0 3
3	Todd M. Johnson Sr.	Todd M. Johnson Sr.	Stamford Highways E.O3
4			
5			
6			
7			
8			
9			
10			

Training Location: City of Stamford – Highway Department
100 Magee Avenue
Stamford, CT

Resources: US Environmental Protection Agency (EPA) Regulations of 40 CFR 262.34(a)(4) and 265.16
Regulations of Connecticut State Agencies (RCSA) Section 22a-449(c)-102(a)(1)
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Waste Training – Supplementary Handouts (by F&O)

Training Facilitator: John Siedel CHMM, OHST

JOHN SIEDEL, _____, Fuss & O'Neill, Inc
Printed Name Signature

FUSS & O'NEILL

Employee Training
Stormwater Pollution Prevention Plan (SWPPP)
City of Stamford – Highway Department
Date of Training: June 28, 2019

Attendees Sign-In:

	Name Printed	Name Signed	Company / Work Function
1	Robert Frattaroli		City - Highway
2	AARON TURNER		Highways
3	Ron Caporale		" "
4	Ronnie Perkins		Highways
5	Kevin Cuevas		Highways
6	Timothy Hirton		Highways
7	Marcos D Echeverria		Highways
8	Joseph Coplon		" "
9	Phil MARKey		HIGHWAYS
10			

Training Location: City of Stamford – Highway Department
100 Magee Avenue
Stamford, CT

Resources: General Permit for the Discharge of Stormwater Associated with Industrial Activities
Connecticut General Statures (CGS) Section 22a-430-3b:
Site's Stormwater Pollution Prevention Plan (SWPPP)
SWPPP Training Power Point Presentation (by F&O)
SWPPP Training – Supplementary Handouts (by F&O)

Training Facilitator: John Siedel, CHMM, OHST

John Siedel, _____, Fuss & O'Neill, Inc
Printed Name Signature

FUSS & O'NEILL

Employee Training
Stormwater Pollution Prevention Plan (SWPPP)
City of Stamford – Highway Department
Date of Training: June 28, 2019

Attendees Sign-In:

	Name Printed	Name Signed	Company / Work Function
1	Derek Aime	Derek Aime	HEO
2	John Macri		E03
3	Todd M. Johnson SR.	Todd M. Johnson Sr.	Stamford Highways E.03
4			
5			
6			
7			
8			
9			
10			

Training Location: City of Stamford – Highway Department
100 Magee Avenue
Stamford, CT

Resources: General Permit for the Discharge of Stormwater Associated with Industrial Activities
Connecticut General Statures (CGS) Section 22a-430-3b:
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SWPPP Training – Supplementary Handouts (by F&O)

Training Facilitator: John Siedel, CHMM, OHST

John Siedel, John Siedel, Fuss & O'Neill, Inc
Printed Name Signature

APPENDIX H

2018–19 CATCH BASIN / MANHOLE REPAIRS LIST

December 2015 - February 2018 Catch Basin & Manhole Repair List

CRS #	Date	Location/Address	Complaint	Status	Date	Repair Date	Status	Repair Completion Date	Contractor	Comments	Costs
	01/05/16	2700 Bedford St	Basin repair	Sent to Reliable	07/15/15	01/05/16	Basin is repaired	01/05/16	Reliable		
	01/04/16	Holcomb and Coolidge Ave	Deteriorated corrugated metal pipe	Sent to Reliable	07/23/215	01/04/16	Pipe repaired	01/04/16	Reliable	Pipe has been replaced/sink hole repaired	
	01/04/16	Parking lot of Boccuzzi/Southfield Park	Manhole interior masonry is failing	Sent to Reliable	08/04/15	01/04/16	Manhole Repaired	01/04/16	Reliable		
	01/05/16	82 Akbar Rd	Basin repair	Sent to Reliable	08/21/15	01/05/16	Basin is repaired	01/05/16	Reliable		
	01/05/16	40 Dann	Basin repair	Sent to Reliable	08/26/15	01/05/16	Basin is repaired	01/05/16	Reliable		
	01/04/16	39 Waterbury Ave	Basin repair	Sent to Reliable	08/27/15	01/04/16	Basin is repaired	01/04/16	Reliable		
	01/05/16	24 Sawmill	Basin repair	Sent to Reliable	08/30/15	01/05/16	Basin is repaired	01/05/16	Reliable		
	01/04/16	21 Waverly Place (on Wilson St.)	Basin collapse/need repair	Sent to Reliable	08/31/15	01/04/16	Basin is repaired	01/04/16	Reliable		
	01/04/16	Baxter Ave (Across from I-95)	Basin repair	Sent to Reliable	09/04/15	01/04/16	Basin is repaired	01/04/16	Reliable		
	01/04/16	135 Breezyhill	Basin repair	Sent to Reliable	09/28/15	01/04/16	Basin is repaired	01/04/16	Reliable		
	01/04/16	106 Haig Ave	Basin repair	Sent to Reliable	10/04/15	01/04/16	Basin is repaired	01/04/16	Reliable		
	01/05/16	155 Johnathan Drive	Basin repair	Sent to Reliable	10/07/15	01/05/16	Basin is repaired	01/05/16	Reliable	Basin needs new frame w/6" ht. curb back	
	01/04/16	Brooklawn Ave	Basin repair	Sent to Reliable	10/15/15	01/04/16	Basin is repaired	01/04/16	Reliable		
	01/04/16	90 Magee Ave	Dry well collapse	Inhouse	11/06/15	01/04/16	Drywell filled	01/04/16	Highways	asphalted	
W470204-112415	01/06/16	1128 Cove Rd	Basin repair	Sent to Reliable	12/18/15	01/04/16	Basin is repaired	01/04/16	Reliable		
	01/04/16	Camp Ave	Replace basin grate	City Garage	12/29/15	01/04/16	Grate raplaced	01/04/16	Highways		
W471257-122915	01/04/16	20 Heather Drive	Replace basin grate	City Garage	12/29/15	01/04/16	Grate raplaced	01/04/16	Highways		
W471256-122915	01/04/16	7 Lynam Court	Replace basin grate	City Garage	12/29/15	01/04/16	Grate raplaced	01/04/16	Highways		
	01/06/16	59 Liberty Street	Callpsed stormpipe	Engineering	01/04/16						
W468846-100915	01/06/16	177 Ocean Drive East	Basin needs repair	Sent to Reliable	01/07/16	01/25/16	Basin is repaired	02/22/16	Reliable		
W467766-090715	01/06/16	Intersection of Shippan Ave & Rippowan Rd	Basin needs repair	Sent to Reliable	01/07/16	01/25/16	Basin is repaired	02/03/16	Reliable		
	01/06/16	Cummings Park adjacent to Soundview Ave	Manhole need to be raised to match adjacent asphalt walk height	Sent to Reliable	01/07/16	01/25/16	Manhole Repaired	02/22/16	Reliable		
	01/06/16	162 Fairfield Ave	Basin grate need to be reset	Sent to Reliable	01/07/16	01/25/16	Basin is repaired	02/03/16	Reliable		
W471211-122415	01/06/16	42 Hamilton Ave (Corner of Cullodan & Hamilton Ave)	Basin sunken/flat top of basin repair	Sent to Reliable	01/07/16	01/25/16	Basin is repaired	02/03/16	Reliable		
	01/06/16	67 Finney Lane	Basin collapse/need repair	Sent to Reliable	01/07/16	01/25/16	Basin is repaired	02/22/16	Reliable		
	01/06/16	87 Richmond Hill Ave	Basin to 2'/need repair	Sent to Reliable	01/07/16	01/25/16	Basin is repaired	02/22/16	Reliable		
	01/06/16	67 Crystal St	Basin undermining & collapsing	Sent to Reliable	01/07/16	01/25/16	Basin is repaired	02/03/16	Reliable		
	01/06/16	12 Owen Street	Basin sunken/needs repair	Sent to Reliable	01/07/16	01/25/16	Basin is repaired	02/23/16	Reliable		
W470773-121115	01/06/16	Hope Street adjacent to Splash Car Wash	Manhole is sinking/Need to be raised	Sent to Reliable	01/07/16	02/29/16	Manhole Repaired	03/01/16	Reliable		
	01/06/16	68 Willow Brook Ave	Manhole ring is cracked/need repair	Sent to Reliable	01/07/16						
	01/06/16	381 High Clear Road	Basin needs repair	Sent to Reliable	02/03/16	02/03/16	Basin is repaired	03/06/16	Reliable		
	12/29/15	47 Boxwood	Manhole cover & frame repair	Sent to Reliable	02/03/16	is of 10/17/2017					
W471586-010816	12/29/15	40 Boxwood	Basin grate repair	Sent to Reliable	02/03/16	is of 10/17/2017					
	12/29/15	95 Liberty	Basin collasp	Sent to Reliable							
W471556-010716	12/29/15	25 Akbar	Basin grate repair	City Garage							
W471557-010716	12/29/15	98 Brook Run	Basin repair	Sent to Reliable	02/03/16	02/03/16	Basin is repaired	03/08/16	Reliable		
W471558-010716	01/06/16	Across from 160 High Clear	Basin repair	Sent to Reliable	02/03/16	05/22/18					
W471559-010716	01/06/16	255 Ocean Drive E	Basin grate repair	City Garage							
W471560-010716	01/06/16	19 Hobson	Basin grate repair	City Garage							
W471563-010716	01/06/16	Intersection of Cold Spring & Washington Blvd	Basin grate repair	City Garage							
W471562-010716	01/06/16	124 Cold Spring	Basin grate repair	City Garage							
W471564-010716	01/06/16	12 Severence	Basin grate repair	City Garage							
	01/06/16	33 W. Main	Basin grate repair	City Garage							
W471566-010716	01/06/16	Knox Rd @ Newfield Ave	Basin grate repair	City Garage							
	01/06/16	262 Haig Ave	Basin grate repair	City Garage							
W471567-010716	01/06/16	345 Haig Ave	Basin grate repair	City Garage							
W4715678-010716	01/06/16	72 Spruce Street	Basin grate repair	eliable. Eng. Burea	02/03/16						
W471412-010416	01/04/16	78 White Birch Lane	Basin collapse/need repair	Sent to Reliable	02/03/16	02/03/16	Basin is repaired	03/06/16	Reliable		
W471528-010716	01/07/16	Weedhill Ave	2 failing grates of Elmer Street	City Garage							
W471529-010716	01/07/16	Elmer Street	Replace basin grate	City Garage						Replace grate cornor of Elmer and Weedhill	
W471546-010716	01/07/16	Gray Farms	Replace basin grate	City Garage							
W471548-010716	01/07/16	71 Campbell Dr	Replace basin grate	City Garage							
W471550-070716	01/07/16	44 Crestwood Dr	Replace basin grate	City Garage							
W471551-010716	01/07/16	91 Crestwood Dr	Double basin repair	Sent to Reliable	02/03/16	05/22/18					
W471552-010716	01/07/16	140 Crestwood Dr	Replace basin grate	City Garage							
W471554-010716	01/07/16	312 Loveland Rd	Replace basin grate	City Garage							
W471553-010716	01/07/16	140 Crestwood Dr	Replace basin grate	City Garage							
	01/11/15	Across from 56 Manor	Basin collapse/need repair	Sent to Reliable	02/03/16	05/31/18					
	01/12/16	33 Brodwood	Basin collapse/need repair	Sent to Reliable	02/03/16						
	01/14/16	Corner of Riverbank dr & Riverbank Rd	Double basin repair	Sent to Reliable	02/03/16	02/03/16	Basin is repaired				
	01/15/16	Turn of River Rd & Talmage	Basin repair	Sent to Reliable	02/03/16	02/03/16	Basin is repaired	03/08/16	Reliable	Before #8	
	01/20/16	55 Laurel Rd	Basin failing	Sent to Reliable	02/03/16	02/03/16	Basin is repaired	03/21/16	Reliable		
	01/21/16	26 Fahey Street	Double basin failing	Sent to Reliable	02/03/16	02/03/16	Basin is repaired	03/15/16	Reliable		
	02/01/16	37 Soundview Ave	Basin failing	Sent to Reliable	02/03/16						
	02/01/16	26 Sunset off Bouton Street W	Basin repair	Sent to Reliable	02/03/16						
W472352-020216	02/03/16	24 Fairmont Ave	Basin collapse/need repair	Sent to Reliable	02/03/16	05/22/18					
	02/03/16	Across 82 Snow Cystal Ln	Basin repair	Sent to Reliable	02/03/16	is of 10/17/2017					
	02/03/16	114 Woodchuck Rd	Basin repair	Sent to Reliable	02/03/16					Must build sump/has not sump	
	02/09/16	Lafayette & Crstal Street	Basin repair	Sent to Roger Arnow	02/09/16	02/09/16	Basin is repaired	02/09/16	Roger Arnow		
	03/01/16	75 Selleck Street	Basin repair	Sent to Reliable	04/18/16	05/19/16	Basin is repaired	05/23/16	Reliable		
	03/01/16	Hamilton Ave (under railroad bridge)	Basin repair	Sent to Reliable	04/18/16	05/15/16	Basin is repaired	05/23/16	Reliable		
	03/01/16	Across from 77 Selleck Street	Basin repair	Sent to Reliable	04/18/16	05/19/16	Basin is repaired	05/25/16	Reliable		
	03/01/16	Bangall Road	Basin repair	Sent to Reliable	04/18/16	05/20/16	Basin is repaired	05/20/16	Reliable		
W492636-080717	03/01/16	115 Akbar	Basin repair	Sent to Arnow	10/23/17	11/27/17					
	03/01/16	34 Fahey Street	Basin repair	Sent to Reliable	04/18/16	05/18/16	Basin is repaired	05/20/16	Reliable		
	03/02/16	Vanbuskirk	Basin repairs	Sent to Reliable	04/18/16	05/16/16	Basin is repaired	05/25/16	Reliable		
	03/02/16	Across from 8 Talmage	Basin repair								
	03/04/16	42 Three Lakes Drive	Basin repair	Sent to Reliable	03/10/16	03/14/16	Basin is repaired	03/14/16	Reliable		
W469806-111215	03/04/16	57 Jessup Street	Basin repair	Sent to Reliable	03/10/16	03/21/16	Basin is repaired	03/10/16	Reliable		
W467100-081215	03/04/16	25 Cedar Heights Road	Basin repair	Sent to Reliable	03/10/16	03/21/16	Basin is repaired	03/14/16	Reliable		
	03/04/16	36 Cedar Heights Road	Basin repair	Sent to Reliable	03/10/16	03/21/16	Basin is repaired	03/14/16	Reliable		
	03/04/16	26 Cedar Heights Road	Basin repair	Sent to Reliable	03/10/16	03/21/16	Basin is repaired	03/14/16	Reliable		
	03/04/16	83 Three Lakes Drive	Basin repair								
W473640-030416	03/06/16	Katydid @ Old Loging	Basin collapse/need repair	Sent to Reliable	04/18/16	05/16/16	Basin is repaired	05/19/16	Reliable		
W470780-121115	03/07/16	28 Dunn Ave	Manhole too high. Inspected - not a safety issue at this time. Closed								

W470780-121115	03/07/16	47 & 44 Dunn Ave	Manhole too high. Inspected - not a safety issue at this time. Closed							Coordinate WPCA's manhole repair #47
W473816-031016	03/10/16	1508 High Ridge Road	Manhole repair							
W469045-101615	03/11/16	24 Mary Violet Road	Basin collapse/need repair	Sent to Reliable	3/11/2016	3/21/2016	Basin is repaired	03/21/16	Reliable	
W472840-021616	03/14/16	467 West Main Street	Manhole sinking - STATE ROAD - DOT RESPONSIBILITY							
	03/14/16	61 West Hill Circle	Basin repair	Sent to Reliable	4/18/2016	5/16/2016	Basin is repaired	05/23/16	Reliable	Frame is broken and interior masonry is failing
	03/14/16	41 Severance Drive	Replace basin grates	City Garage	4/14/2016	4/14/2016	Grate raplaced	04/14/16	City Garage	
W473969-031516	03/15/16	81 Rollingwood Drive	Manhole repair							
	03/15/16	929 River Bank Road	Basin repair	Sent to Reliable	4/18/2016	5/18/2016	Basin is repaired	05/20/16	Reliable	
W473875-031116	03/16/16	22 Knapp St	Replace curb backing	City Garage	3/16/2016	3/16/2016	Curb back replaced	03/16/16	Highways	
W474033-031616	03/16/16	34 Hazelwood Lane	Replace basin grate	City Garage	3/16/2016	3/16/2016	Grate raplaced	03/16/16	Highways	
W474035-031616	03/21/16	9 Saddle Rock Road	Replace basin grate	City Garage	3/21/2016	3/21/2016	Grate raplaced	03/21/16	Highways	
	03/21/16	256 Haig Ave	Basin repair	Sent to Reliable	2/3/2016	2/3/2016	Basin is repaired	03/15/16	Reliable	
	03/22/16	90 New England Ave	Basin repair	Sent to Reliable	2/3/2016	2/3/2016	Basin is repaired	03/09/16	Reliable	
	03/22/16	70 New England Ave	Basin repair	Sent to Reliable	2/3/2016	2/3/2016	Basin is repaired	03/09/16	Reliable	
	03/22/16	Shippan Ave	Basin repair	Sent to Reliable	2/3/2016	2/3/2016	Basin is repaired	03/09/16	Reliable	
	03/22/16	1260 Westover Road	Basin repair	Sent to Reliable	2/3/2016	2/3/2016	Basin is repaired	03/06/16	Reliable	
	03/22/16	670 Hope St	Basin repair	Sent to Reliable	2/3/2016	2/3/2016	Basin is repaired	3/6/2016	Reliable	
	03/22/16	43 Three Lakes Drive	Basin repair	Sent to Reliable	2/3/2016	2/3/2016	Basin is repaired	3/6/2016	Reliable	
W474284-032516	03/25/16	Lyman Rd & Lyman Ct	Basin repair							
	04/01/16	Lockwood Bridge	Basin collapse/need repair	Sent to Reliable	4/18/2016	5/17/2016	Basin is repaired	5/20/2016	Reliable	
	04/13/16	10 Lolly Lane	Basin Repair	Repaired by Grasso		Apr-17				
	04/18/16	47 Bridge Street	Basin repair	Sent to Reliable	4/18/2016	4/18/2016	Basin is repaired	5/23/2016	Reliable	It's in the right lane - the travel lane - of bridge st
W475110-042216	04/26/16	70 Chestnut Hill Lane	Basin repair	Sent to Roger Arnow	4/26/2016	5/18/2016	Basin is repaired	5/19/2016	Roger Arnow	
W475106-042216	04/26/16	North State St. & Atlantic by I-95 ramp	Basin need to be raised	Sent to Roger Arnow	4/26/2016	5/18/2016	Basin is repaired	5/19/2016	Roger Arnow	
W475104-042216	04/26/16	78 Fawn Drive	Basin repair							
W474865-04146	04/26/16	47 Bridge Street	Basin repair			10/20/2017				
W47466-040716	04/26/16	72 Palmer Street	Manhole cover & frame repair							
	04/26/16	24 Westminister Rd	Basin repair	Sent to Arnow	10/23/2017					
	04/26/16	83 Redmont Rd	Basin repair. B. Denison inspected 4/2019 no repairs needed.							sump is failing
W474284-032516	04/26/16	Lynam Rd	Basin repair							
W474179-032116	04/26/16	321 Janes Lane	Basin repair	Repaired by Grasso						
	04/26/16	63 Vincent Ave	Manhole repair	Sent to Roger Arnow	6/6/2016	6/20/2016	Basin is repaired	6/20/2016	Roger Arnow	
	04/26/16	806 East Main & Lafayette	Basin repair				Basin is repaired			
W474719-041016	05/24/16	87 PINE Hill Ave	Basin collapse/need repair	repaired as of:	2/26/2018					
W473900-031316	05/24/16	Corner of Lancaster and Shadow Ridge Rd	Basin collapse/need repair							
W473352-022616	05/24/16	Intersection of Seaside Ave & Sylvan Knoll Rd	Basin repair							
W473046-022116	05/24/16	191 Skyview Drive	Basin repair							
	06/06/16	71 Rippowam Rd	Basin repair	Sent to Roger Arnow	6/9/2016	6/20/2016	Basin is repaired	6/20/2016	Roger Arnow	
W477075-062116	06/21/16	Third Street	Basin grate repair							
	06/23/16	20 Lafayette/North State Street Side - PRIORITY	Basin repair	Sent to Grasso/Arnow	6/1/17-12/5/17	5/15/2018				
	06/30/16	373 Stamford Ave	Basin repair							resulted in a hole opening up in the asphalt
W477434-063016	07/01/16	81 West North Street	Basin repair	Sent to Grasso	6/1/2017					
	07/04/16	Corner of Liberty & Stillwater	Basin repair	Sent to Arnow						
	07/05/16	Hope & Fahey	Double basin repair	Sent to Roger Arnow	7/20/2016	7/20/2016	Basin is repaired	7/26/2016	Roger Arnow	
	07/20/16	Ely @ Culloden	Basin repair	Sent to Roger Arnow	7/26/2016	7/26/2016	Basin is repaired	7/26/2016	Roger Arnow	
W476541-060816	09/07/16	58 Boxwood Drive	Basin repair	Sent to Roger Arnow	12/1/2016	12/1/2016	Basin is repaired	12/26/2016	Roger Arnow	
W479161-080916	09/07/16	35 West Broad Street	Basin repair	Sent to Roger Arnow	10/10/2016	10/10/2016	Basin is repaired	10/13/2016	Roger Arnow	
	09/07/16	180 Broad Street	Basin repair	Sent to Roger Arnow	10/10/2016	10/10/2016	Basin is repaired	10/14/2016	Roger Arnow	
W478719-072816	09/07/16	125 Coolidge Ave	Basin repair	Sent to Roger Arnow	12/1/2016	12/1/2016	Basin is repaired	12/28/2016	Roger Arnow	
W478589-072616	09/07/16	87 Pine Hill Ave	Basin repair	Sent to Roger Arnow	12/1/2016	12/1/2016	Basin is repaired	12/28/2016	Roger Arnow	
W479742-082316	09/07/16	16 Dzamba Grove	Basin repair							
W477700-070716 W510099-101018 W509830-100318 W517741-053119 W517701-053019 W517590-052819 W519807-072119 W519703-071819	09/07/16	23 Hidden Brook	Basin repair. Water barrier placed 10/2018	Sent to Arnow	9/13/2019	9/30/2019				
	09/07/016	80 Spruce Street	Basin repair	Engineering Bureau	5/24/2019					
	09/07/16	Intersection of Interlaken & Lakeside	Basin repair - replace w/ precast sump and replace storm pipe across st.	IT emailed to Arnow	May-15					
	09/07/16	25 Division Street	Basin repair. Roadway removed, fill placed around cb, hay bale and silt sac on cb. Part of const. site.	complete	9/26/2018					Deteriorating masonry in the basin sump
W479731-082316	09/07/16	311 Janes Lane	Basin repair	Repaired by Grasso	Apr-15					
W479740-082316	09/07/16	48 New England Drive	Basin repair							
W479521-081716	09/07/16	90 Van Buskirk Ave at Sachem Place	Basin repair	Sent to Arnow 5/1	7/1/2018					
W479518-081716	09/07/16	Corner of Westcott	Basin repair							
W479526-081716	09/07/16	100 Feet in on R off Hunting Ridge	Manhole sinking							
W479520-081716	09/07/16	Rockledge 150 Feet in on L	Basin repair							
	09/07/16	Haig Ave across from Nyselius	Basin repair	Sent to Grasso	7/17/2017	8/23/2017	repaired by grasso			
W478640-072716	09/07/16	Clearview Ave @ Knickerbocker Ave	Basin repair	Sent to Arnow	5/12/2017	9/6/2017				
W481036-092616	09/29/16	Ocean Drive W & Stamford Avenue	Basin repair	Sent to Roger Arnow	12/29/2016	12/29/2016	Basin is repaired	1/6/2017	Roger Arnow	
W479997-082616	08/26/16	42 Treat Ave @ Corner of Collidge	Basin repair	Sent to Roger Arnow	12/29/2016	12/29/2016	Basin is repaired	12/28/2016	Roger Arnow	
W479743-082316 W502207-032718; W509243-091418 W518304-061819	08/23/16	24 Benstone Street	Basin repair. Barrel placed 3/28/18. PRIORITY PER BURWICK AND SPADACCINI - COMPLETE BY 12/2019	Sent to Arnow	7/15/2019	7/26/2019				
	08/24/16	Corner of Vineyard & Hunting Lane	Basin repair	Sent to Roger Arnow	12/1/2016	12/1/2016	Basin is repaired	12/9/2016	Roger Arnow	
	08/24/16	79 Hunting Lane	Manhole sinking							
	08/25/16	71 Vinyard Lane	Manhole sinking							
W479519-081716	08/31/16	95 Hobson St	Basin repair - road plate installed 2/22/2018 - PRIORITY	Sent to Arnow	3/26/2018	4/7/2018				
W480620-091316	09/13/16	65 Northhill St	Basin repair							
W475081-042216	05/06/16	North State Street & Elm Street	Manhole sinking							
W476239-052716	05/27/16	180 Lockwood Ave	Manhole sinking	erred to WPCA 5/27/18						
W476258-053116	05/31/16	Bell Street	Manhole sinking							
	11/18/16	97 Gary Rd	Manhole sinking	Sent to Roger Arnow	11/18/2016	11/18/2016	Basin is repaired	11/21/2016	Roger Arnow	
W478292-071916	07/21/16	29 Redmont Road	MH Repair - Hole in ring	Sent to Portanova	12/6/2017					
W478452-072216	07/25/16	West Broad Street	Basin repair	Sent to Roger Arnow	10/1/2016	10/1/2016	Basin is Repaired	10/14/2016	Roger Arnow	
	07/25/16	Broad & Hanraham	Basin repair						Roger Arnow	Basin needs to be raised 2"
W478588-072616	07/26/16	Corner ot East Main & Blachley Rd	Basin repair	Sent to Roger Arnow		11/2/2017			Roger Arnow	
W478693-072816	07/28/16	Atlantic Street	Manhole sinking	Sent to Roger Arnow	7/29/2016	7/29/2016	Manholes repaired	8/22/2016	Roger Arnow	3 Manholes need to be repaired
	10/10/16	633 Hope Street	Basin repair	Sent to Roger Arnow	10/10/2016	10/10/2016	Basin is repaired	10/31/2016	Roger Arnow	Raised basin to grade
W502271-032918	12/01/16	60 Quaker Ridge Rd - **PRIORITY**	Basin repair	Sent to Arnow	4/9/2018	4/18/2018				

	12/01/16	39 Holocomb	Basin repair								
	12/01/16	181 Thorn Ridge Rd	Basin repair								
	12/01/16	Hobson 150' in from Street	Basin repair	Sent to Roger Arnc	12/29/2016	2/1/2017	Basin repaired, needs curbing, asph, backfill &seed		Roger Arnow	2 Basins to be repaired across from one another	
	12/01/16	Magee Ave (Solid Waste)	Basin repair - Vac truck decant area	Sent to Roger Arnc	10/1/2016	10/1/2016	Basin is repaired	10/7/2016	Roger Arnow		
	12/01/16	Mill River Street	Basin repair	Sent to Roger Arnc	12/1/2016	12/1/2016	Basin is repaired	12/19/2016	Roger Arnow		
W484281-011717	01/30/17	70 Friar Tuck Lane	Basin repair (TT)	Sent to Arnow							
	01/31/17	100 Magee Ave (Recycling Center)	Basin repair (TT)	Sent to Grasso							
	02/01/17	1 Harbor View Ave (Solid Waste)	Basin repair (TT) Near semi scale/ seawall								
	02/01/17	Davenport St at Greenwich Ave	Basin repair (TT) Near WPCA pump station								
	02/01/17	152 Willowbrook Ave	Basin repair (TT) - high priority	Sent to Grasso	6/1/2017						
	02/08/17	300 Soundview Ave	MH repair (TT) - covered by asphalt - Danella hit	Sent to Arnow		2/10/2017	MH repaired-arnow furnished labor				
	02/08/17	369 Rock Rimmon Rd. @ Mill Rd.	Basin repair (TT) - raise frame and add another top & curb								
	02/13/17	51 Orange St	Basin repair (TT) may need new frame / frame adjustments	Sent to Arnow	7/21/2017						
	02/13/17	100 Magee Ave -behind VM	Basin repair (TT) - masonry and reset frame	Sent to Grasso							
	02/13/17	100 Magee Ave - VM by middle bays	Basin repair (TT) hole next to CB	Sent to Grasso							
	02/15/17	128/129 Fieldstone Road	Basin repair (TT) need to reset cast iron frame & top	Sent to Arnow	9/11/2017	10/20/2017					
W485643-022117	02/21/17	11 Trailing Rock Lane	Manhole sinking (TT) MH masonry needs to be rebuilt	Sent to Arnow			Mahnole is repaired -TT provided frame				
W485598-021717	02/22/17	Hope & Mary Violet Lane	Manhole repair (TT) Cracked ring - verified storm by J.Corn	B. Denison Verifie	4/28/2017						
	02/23/17	706 Bedford St	Basin repair (TT) reported by Todd Johnson								
	02/24/17	Bedford St. Annex Surface Parking Area	Basin repair (TT) Masonry work required. Double CB repair	Sent to Arnow		3/15/2017	Arnow to return to use hot asphalt to finish job. Job complete 4/13/17.				
	02/27/17	Rocky Rapids Rd at Riverbank -S./&North Side of rd.	Basin repair (TT) Masonry work required - reported by J. Hart / B. Denison								
	02/27/17	1290 Summer St	Basin repair (TT) Masonry work and change out frame top	Repaired by Grasso							
W477785-070916	02/27/17	174/176 Roxbury Rd.	Basin repair (TT) Masonry work reqd - road plate installed 1yr	Sent to Arnow - repaired by grass		3/29/2017					
	02/27/17	Cummings Park Rd. in P.lot by softball field	Basin repair (TT) Masonry work reqd - road plate installed 1yr	Sent to Grasso-rep	6/1/2017	rep'd 10/10/17					
	02/27/17	86 Crestwood Drive	Buried stormwater MH - needs to be excavated and raised	Sent to Arnow	2/27/2017	3/13/2017	Manhole is repaired (Verified by TT)				
W487871-041917 W514877-031919	02/27/17	1093 Rocky Rapids Road - Mead School	Basin repair (TT) Masonry work req'd - basin top sinking	Sent to Grasso	6/1/2017						
W485902-022417	02/28/17	32 Dagmar Road	Basin repair (TT) Masonry work req'd - hole next to CB	Sent to Arnow	7/21/2017	12/9/2017					
	02/28/17	144 Myrtle Ave on Frederick St.	Basin repair (TT) Masonry work req'd - hole next to CB - change hartford style top	Repaired by Fucci UTW		2/6/2018					
	02/28/17	325 Bedford St @ Latham Park -E. Curb line	Basin repair (TT) Masonry work req'd - hole next to CB -Plated - Priority Repair	Sent to Arnow	3/9/2017	3/22/2017	In progress as of 3/20/17				
W521928-091719	03/02/17	40 Eljays Lane	Basin repair (TT) Masonry work req'd - hole next to CB								
W505454-060918, W506360-070518 W515955-041319	03/06/17	131 Davenport Ridge Lane	Basin Repair (TT) Masonry work req'd - hole next to CB - PRIORITY	Sent to Grasso	8/23/2019						
	03/06/17	339 Hope St. @ Church St.	Basin repair (TT) PRIORITY - Masonry work req'd - basin sinking	Sent to Arnow		3/28/2017					
	03/06/17	356 Riverbank Rd. -West side of road	Change Basin top, raise to finish grade, install minor curbing to direct flow								
W 486191	03/06/17	85 Summit Ridge Road	Buried stormwater MH - needs to be excavated and raised	Sent to Arnow	7/21/2017						
	03/10/17	W. North St @ Rachelle Ave.	Buried stormwater MH - needs to be excavated and raised - men painted MH	Sent to Arnow/ther	7/21/2017	complete 11/30/17					
	03/15/15	Pulaski St. at E. Side of Bridge	Manhole repair (TT) Damaged ring - middle of road	Sent to Arnow	3/15/2017	3/20/2017	Manhole is repaired				
	03/20/17	Richmond Hill Ave @ Rose Park Ave	Basin repair (TT) reported by D. Hoyt - plated - HIGH PRIORITY	Sent to Grasso	6/1/2017						
	03/21/17	130 Gary Road	MH repair (TT) - cracked ring - dislodged by plow - reported by WPCA	Sent to Grasso (paving)							
	03/29/17	54 Munko Drive	Basin repair (TT) masonry work req'd - hole next to CB	Sent to Arnow	7/21/2017	10/4/2017					
	03/29/17	88 Catoona Lane	Basin repair (TT) masonry work req'd - hole next to CB								
	04/05/17	19 Wild Horse Rd	Basin repair (TT) masonry work req'd - hole next to CB - HIGH PRIORITY	Sent to Grasso	6/1/2017	7/27/2017					
	04/03/17	638 Duffy St. at Cove Road	Basin repair (TT) masonry work req'd - cb frame sinking	Sent to Arnow	5/17/2018	7/1/2018					
	04/07/17	346 Hope St. @ Pine Hill on Corner	Basin repair (TT) masonry work req'd - cb frame sinking	TT phone call to A	4/7/2017	4/19/2017					
W505562-061218 W513987-022419 W520997-081819	04/07/17	190 Quarry Road	Basin repair (TT) masonry work req'd - hole next to CB 11/30/2016. PRIORITY								
W487471-040617	04/07/17	64 Blue Rock Drive	Basin repair (TT) masonry work req'd - hole next to cb								
	04/11/17	179 Palmers Hill Rd - N. side of Street	Basin repair (TT) masonry work req'd - sinking - referral from L. Casolo & Ernie - HIGH PRIORITY	Sent to Grasso	6/1/2017	7/27/2017					
	04/13/17	227 Cedar Heights Road	Basin repair (TT) masonry work req's - reported by B. Denison	Sent to Arnow	4/9/2018	5/10/2017					
W487700-041217; W503509-042718 W512291-122318 W508978-090718 W506781-071318	04/13/17	16 Albert Place	Basin repair (TT) masonry work req'd - cone placed by J. Cornelio. PRIORITY	Sent to Arnow	5/17/2018						
W487854-041917	04/19/17	In Alley behind 41 Bank St.	Basin repair (TT) masonry work req'd - barrel placed by B. Denison	TT emailed to Arn	4/28/2017						
	04/19/17	1620 Newfield Ave. at Eden Rd	Basin repair (TT) masonry work req'd - cone placed by B. Denison	Sent to Grasso. St	6/1/2017 / 10/5/17						
	04/26/17	Cold Spring at Washington Blvd.	Basin repar (TT) frame loose - reported by R. Frattarolli	TT emailed to Arn	5/15/2017						
W487873-041917	04/26/17	25 Gurley Rd.	Basin repair (TT) masonry work req'd - as per CSR and per J. Cornelio								
	05/03/17	37 Interlaken Rd.	Basin repair (TT) masonry work req'd - hole next to CB - reported by J. Hoyt	sent to Arnow	10/5/2017	11/14/2017					
	05/03/17	44 River Hill Drive	Basin repair (TT) masonry work req'd - hole next to CB - repoted by J. Hart								
	05/08/17	90 Richmond Hill Ave.	Storm MH Repair (TT) cracked ring - requested locking MH -reported by B. Denison	TT emailed to Arnow							
W517346-052119	05/11/17	91 Rolling Wood	Basin repair (TT) masonry work req'd - hole next to CB - reported by J. Hoyt. Barrel 5/21/19.								
	05/16/17	206 Lynam Road	Basin repair (TT) masonry work req'd - hole next to CB - reported by B.Denison - replace 10' of RCP pipe in fro	Sent to Arnow/ ref	10/23/2017	11/29/2017					
	05/17/17	556 Glenbrook Road @Cowing Place	Basin repair (TT) masonry work req'd - cb frame sinking	sent to arnow	12/5/2017						
;W498891-011618;'	05/17/17	20 Gregory Street	Basin repair (TT) replace CB top - frame is loose - reported by B. Denison. Plated 2/16/18	Reffered to Eng. 3	4/27/2018						
	05/17/16	3 St. Charles Ave.	Basin repair (TT) masonry work req'd - cb frame sinking								
	05/17/16	86 St. Charles Ave.	Storm Pipe Repair (TT) Jet nozzle became stuck - terminated and abandonded	Sent to Arnow - pipe repaired and		6/1/2017					
	05/18/17	31 Sweet Briar Ct.	Basin Repair (TT) masonry work req'd - reported by B. Denison - E. Orgera - HIGH PRIORITY	Sent to Grasso	6/1/2017	7/27/2017					
W516623-050119	05/22/17	65 Arden Lane	Basin Repair (TT) masonry work req'd - reported by B. Denison								
W496305-111217; W506659-071118	05/25/17	24 Mill Spring Lane	Basin Repair (TT) masonry work req'd - reported by B. Denison	Sent to Arnow	10/4/2018	1/4/2019					
	05/30/17	14 Cricket Lane (2 cb's - corner lot)	Basin Repair (TT) masonry work req'd - reported by J.Cornelio	sent to Arnow	10/5/2017						
	05/30/17	60 Acre View Drive	Basin Repair (TT) masonry work req'd - reported by J.Cornelio	sent to Arnow	10/5/2017						
	05/30/17	60 Acre View Drive	MH Repair - (TT) needs new "standard size" ring and cover - reported by J. Cornelio	sent to Arnow	10/5/2017						
	05/30/17	44 Fenway St. @ H.S. Parking Lot	Basin Repair (TT) masonry work req'd - reported by B. Denison	sent to Arnow	3/26/2018	4/7/2018					
	05/30/17	401 Shippan Ave.	Basin Repair (TT) curb back missing - change top to cast iron - reported by B. denison								
	05/30/17	13 Fenway St.	Basin Repair (TT) needs new CB top & masonry failing								
	05/30/17	295 Haig Ave. at Nyselius Ave.	Basin Repair (TT) Masonry Failing - CB at E. curb line @sleepy hollow park	sent to grasso	8/28/2017						
	05/30/17	39 Waterbury Ave.	Remove and replace CB sump - TT to CCTV pipe, add MH at "T" intersection - see photos								
W494544-092517	05/31/17	6 Donata Lane	Basin Repair (TT) masonry work req'd - reported by B. Denison								
	06/02/17	17 Forest St	Basin Repairs (TT) (1) @ ROW entry and double (2) cbs near entry to garage	sent to grasso	8/1/2017	9/1/2017					
W489963-060617	06/07/17	97 Ocean Drive West	Basin Repair (TT) needs new CB top. Water Barrier Placed 5/9/19 - legal claim. PRIORITY	Sent to Arnow	9/13/2019						
W476951-061716	06/07/17	25 Cantwell Ave	Basin Repair (TT) masonry work req'd.W489827-060417								
	06/08/17	880 East Main (E.Main & Crystal)	Basin Repair (TT) masory work req'd - reported by j. hoyt - barrel placed 6/8/17. PLATED PRIORITY								
	06/08/17	12 Bennett St.	Basin Repair (TT) masonry work req'd - reported by J.Hoyt - Barrel placed 6/8/17. Water barrier placed 3/1/18	Sent to Arnow	4/9/2018	4/27/2018					
	06/08/17	115 Ocean Drive East	Basin Repair (TT) masonry work req'd - reported by B. Denison. Reported J. Taylor 5/6/19								
	06/08/17	740 Atlantic St	Basin Repair (TT) masonry work req'd - low priority - eng. Dept to realign intersection	Grasso Repair		5/8/2018					
	06/09/17	11 West North St - infront of Cloonan School	Basin Repair (TT) masonry work req'd - reported by J. Hart - barrel place								
	06/09/17	73 Southfield Ave.	Basin Repair (TT) masonry work req'd - change out to flat top - demo sidwalk and slope to drain	Repaired by Grass	11/29/2017	12/5/2017					
W510349-101718	06/12/17	893 Long Ridge Road	Basin Repair (TT) masonry work req'd - hole next to basin - barrel placed. TT verified barrel 2/21/18								
W501750-031918; W502357-040218;	06/12/17	67 Hastings Lane	Basin Repair (TT) masonry work req'd - hole next to basin - cone placed. Double CB. Getting BAD	sent to Arnow	4/27/2018	5/17/2018					

				Sent to Arnow	10/4/2018						
	06/12/17	100 Research Drive	Basin Repair (TT) masonry work req'd - hole next to basin - cone placed - reported by J. Hoyt	Sent to Arnow	1/3/2019	1/30/2019					
	06/21/17	502 Fairfield Ave	Basin Repair (TT) masonry work req'd - masonry collapsing - reported by J. Hoyt								
	06/22/17	52 Skyview Drive	Basin Repair (TT) masonry work req'd -masonry work req'd. TT to refer to eng. - need 320 lf of pipe + 3 MH's. Barrel 9/6/19								
	06/23/17	29 Arthur Place	Basin Repair (TT) and MH repair - cracked ring - PRIORITY	Sent to Arnow		10/23/2017	11/29/2017				
	07/13/17	139 Ursula Place	Basin Repair (TT) - masonry work req'd - hole next to basin - barrel placed								
W51840-041019											
W516894-050819	07/18/17	Ardmore Rd. - Across from Fed Ex	Basin Repair (TT) masonry work req'd - hole next to basin - reported by J.Cornelio. Water barrier. PLATED	Sent to Arnow		9/13/2019					
	07/21/17	868 E. Main St. on Quintard Terr.	Basin Repair (TT) basin top stuck under curb back. Needs new grate/frame								
	07/24/17	177 Wire Mill Rd	Basin Repair (TT) basin collapsing. J. Moore placed water barrier 2/16/18.	Sent to Arnow		4/9/2018	4/21/2018				
W491948-072517; W508392-082018	07/25/17	71 Campbell Dr	Basin Repair (TT) basin collapsing.								
	07/26/17	355 Atlantic St	MH Repair (TT) per PD dispatch, MH keeps flipping - J. Corn & D.Hoyt tried to secure	Emergency - sent		8/28/2017					
	07/27/17	3001 Summer St. on Bedford St	Basin Repair (TT) exposed rebar @ cb, in left turn lane from bedford to summer st.	Repaired by Grass		10/1/2017					
	07/27/17	150 Atlantic St. - Vets Park	Raise MH to finish grade to faciliate CCTV and jet work - PRIORITY	Arnow Work		8/10/2017	9/10/2017				
	07/27/17	259 Main St.	Basin Repair (TT) small hole next to CB	Sent to Grasso		3/20/2018	4/2/2018				
W506857-071518											
W511595-120318	08/02/17	86 Clay Hill Rd.	Basin repair (TT) hole next to CB. B. Denison placed barrel. PRIORITY	Sent to Arnow		1/3/2019	1/18/2019				
	08/03/17	76 Woodridge Drive	Basin Repair (TT) small hole next to CB - PRIORITY	sent to Arnow		10/5/2017	11/10/2017				
	08/03/17	116 Woodridge Drive	Basin repair (TT) double CB - BIG hole next to CB - PRIORITY	sent to Arnow		10/5/2017	11/10/2017				
W481796-101816											
W483664-122116											
W494711-092817											
W500343-022018											
W517239-051719											
W518525-062519											
W518527-062519											
W520833-081419	08/03/17	10 Horshoe Lane on Thornridge Drive	Basin repair (TT) masonry work req'd - cb frame sinking. Water barrier placed 2/21/19	Sent to Grasso		8/23/2019	9/9/2019				
W504657-052218	08/03/17	52 Wesgate	Basin Repair (TT) basin collapsing. Reported again 5/22/18. PRIORITY								
	08/09/17	25 Perna Lane	Basin Repair (TT) Masonry work req'd - basin failing. Reported again WPCA 5/17/18.								
	08/10/17	73 Lincoln Ave.	Basin Repair (TT) basin collapsing - reported by J. Hoyt								
W509656-092718	08/11/17	73 Flint Rock Road	Basin Repair (TT). PLATED 8/31/18.	Sent to Grasso		8/23/2019					
	08/11/17	11 Iron Gate Road	Basin Repair (TT)								
	08/10/17	6 Sheridan St.	Basin Repair (TT) top is no good - needs repair asap - reported by J. hoyt								
W516559-043019	08/14/17	Across from 26 Tupper Drive	Basin Repair (TT). TT cone 7/2019. Water Barrier 8/17/19								
	08/21/17	Shippan Ave and Elm St.	MH Repair (TT) - MH asphalted 8/21/17 - needs new riser / ring and to be reset	Sent to Portanova		11/15/2017	12/4/2017				
	08/21/17	929 Newfield Ave.	MH Repair (TT) Storm MH sinking	Sent to Portanova		12/6/2017	12/20/2017				
	08/28/17	770 Pacific St @ Belden St. - School Entrance	Basin Repair (TT) Masonry work req'd - hole next to CB	Sent to Arnow		3/26/2018	4/27/2018				
W507403-072518	08/28/17	27 Wells Ave.	Basin Repair (TT) Masonry work req'd - hole next to CB. Barrel placed 7/26	Sent to Arnow		1/3/2019	1/14/2019				
	08/30/17	Ursula Place at Dale St.	Basin Repair (TT) Masonry work req'd - hole next to CB								
						12/5/2017					
W506186-062818				Sent to Arnow		10/4/18,					
W509565-092518	08/31/17	296 Sundance Road	Basin Repair (TT) Masonry work req'd - hole next to CB - PRIORITY	Sent to Arnow		11/7/18	1/18/2019				
	09/01/17	443 Glenbrook Road	Basin Repair (TT) Masonry work req'd - hole next to CB	Sent to Grasso		10/25/2017	2/6/2018				
	09/07/17	Intersection of Fox Hill and Fox Ridge Rd.	Basin Repair (TT) masonry work req'd - hole next to CB								
W497045-120317	09/07/17	54 West Hill Circle	Basin Repair (TT) masonry work req'd - hole next to CB PRIORITY. Water barrier placed 3/19/19								
	09/07/17	90 Sutton Dr.	Basin Repair (TT) small square basin - should be changed out								
	09/07/17	5 Judy Lane	Basin Repair (TT) masonry work req'd - hole next to CB								
	09/07/17	North State Street at Train Station	Manhole Repair - trip hazzard - cut back concrete and install new MH	Sent to Portanova		12/6/2017					
	09/12/17	103 West Broad	Basin Repair - masonry failing - reported by J. Hart	Sent to Grasso		12/15/2018	1/30/2019				
	09/12/17	Rocky Rapids Rd at Riverbank -South side of rd.	Basin Repair - masonry failing - reported by B. Denison								
W503350-022018	09/18/17	30 Piave Street	Basin Repair - CB sinking - Barrel placed 2/22/2018 - PRIORITY	sent to arnow		3/26/2018	4/9/2018				
W512987-011819	09/18/17	35 Plymouth	Basin Repair - CB sinking - Flat top in driveway								
	09/27/17	46 Bartlett Ln	Basin Repair - (tt) masonry work req'd								
	09/27/17	Opposite 20 Aspen Lane	Basin Repair - (tt) masonry work req'd - and CCTV lateral pipe								
	09/29/17	31 Joan Road	Basin Repair - (TT) masonry work req'd								
W504773-052418; W506300-070318;											
W508886-071618	09/29/17	94 Middle Ridge Road	Basin Repair - (TT) Double CB repair - masonry work req'd - PRIORITY	Sent to Arnow		8/20/2018	9/10/2018				
	10/03/17	47 Burwood Ave.	Basin Repair (TT) masonry work req'd -	Sent to Grasso/Arn		10/25/17-12/5	12/20/2017				
	10/04/17	29 Bartlett Lane	Basin repair (TT) hole next to CB								
	10/10/17	167 Old North Stamford Road	Basin repair (TT) basin collapsing	Repaired by Grasso (Oaklawn pr			12/21/2018				
	10/11/17	80 Winding Brook Lane	Basin repair - hole next to CB - barrel placed. Resident called TT and left VM 10/3/17. tt returned call 10/16/17	Sent to Arnow		10/23/2017	11/13/2017				
W509802-100218	10/13/17	10 Howard Rd at Intersection of Tod Ln	Basin repair - hole next to CB - needs repairs	sent to arnow		12/5/2017					
	10/17/17	Daskam Crystal Lafayette Intersection	MH Repair - sinking MH per B. Denison - PRIORITY								
	10/20/17	4 Division St	Basin Repair - hole next to basin. Roadway closed, basin eliminated.				1/20/2019				
	10/23/17	261 Main St. - McFaddens	Basin Repair - hole next to basin - reported by A. Turner	Sent to Grasso		4/2/2018	4/18/2018				
	10/23/17	524 Glenbrook Road - Nic's Pizza	Basin Repair - hole next to basin - reported by B. Dension	Sent to Grasso		10/26/2017	11/20/2017				
W504792-052518	10/23/17	307 Weed Ave	Basin Repair - hole next to basin - hartford style Cb	Sent to Grasso		8/5/2019	8/20/2019				
	10/26/17	102 Acre View	Basin Repair - hole next to basin - reported by B. Dension	Sent to Arnow		10/26/2017	11/20/2017				
W495875-103117	11/01/17	59 Euclid Ave.	Basin Repair - hole next to basin - barrel placed 11/1/17 J. Hoyt - needs Post and Tow for access	Sent to Arnow		12/5/2017	12/20/2017				
	11/03/17	1544 Bedford St - at intersection of third	Basin Repair - hole next to basin - barrel placed 11/3/17 B. Dension	Sent to Arnow		5/17/2018	6/8/2018				
	11/03/17	201 Broad St. at Grove - in median on Broad	Basin Repair - basin sinking. Both basins need repair.	Sent to Grasso		5/4/2018	7/1/2018				
	11/03/17	187 Main St. on Washington Blvd - Tiemans	Basin Repair on Washington Blvd. - Granite Curb Back has tipped - trip hazzard - tt to sent to CDOT	completed by DOT		3/24/2018					
W506758-071218											
W514956-032019											
W514962-032019	11/15/17	965 Sunset Road at Intersection of Princess Ct.	Basin Repair - hit during leaf pick up - reported by J. Hart. PRIOITY								
	11/28/17	97 Ocean Drive West - East side of st. Near parking lo	Basin Repair - hole next to basin - reported by B. Dension								
	11/29/17	124 Clovelly Rd.	Basin Repair - basin sinking	Sent to Grasso		5/16/2018					
	11/16/17	219 Glenbrook Road	MH Repair - buried storm MH	Sent to Portanova		11/30/2017	12/5/2017				
	11/30/17	10 Evergreen Court at Clover Hill	MH Repair - sinking MH per J. Hoyt								
	11/30/17	91 Bentwood Drive	CB Repair - Sinking CB - reported T. Theder 3/1/16								
W503789-050318											
W516624-050119											
W518653-062719	11/30/17	43 Settlers Trail	CB Repair - Sinking CB - reported T. Theder 3/17/16. Two cones placed. PRIORITY								
	11/30/17	100 Woodway Road	MH Repair - buried storm MH	Sent to Arnow		9/19/2019	10/1/2019				
w497018-120117	12/01/17	9 West Main St.	CB Repair - sinking CB. Check and repair frame - asphalt to meet top of frame								
W493049-081617											
W513888-022119											
W515644-040719	08/16/17	87 Fishing Trail	CB Repair - 2 holes next to CB - cones placed over holes. Water barrier placed 2/22/19								
	12/04/17	15 Dzamba Grove	MH Repair - broken frame - needs replacement - barrel in road	Sent to Portanova		2/1/2018	3/8/2018				
	12/06/17	223 Glenbrook Rd.	Buried MH - TT crew to CCTV and locate	Sent to Portanova		11/30/2017	12/5/2017				
W516532-042919											
W519324-071219	12/07/17	46 Oxford Court	CB Repair - conc. flat top frame broken - reported by B. Denison - barrel placed PRIORITY	Sent to Grasso		7/24/2019	8/20/2019				
	12/08/17	51 Kenilworth Drive E.	CB Repair - Replace hartford style frame and grate - may need new precast sump. Hole in grate								
	12/08/17	Across Street from 83 Kenilworth Drive E.	CB Repair - Failing Sump - big hole. Needs new sump. BD cone 6/7/19. Water barrier 7/9/19.								

	12/08/17	29 Beach View Drive	CB Repair - Hartford Style frame frozen in place - needs new frame and grate								
	12/09/17	153 thunderhill Drive	CB Repair - grate and frame frozen in place. Replace frame & grate.								
	12/09/17	168 thunderhill Drive	CB Repair - replace hartford style frame and grate.								
	12/11/17	11 Ocean View Drive	MH Repair - needs new frame - frame cracked and broken by plow	Sent to Arnow	12/11/17	12/13/17					
	12/11/17	213 Fairview Ave. at O.D.W.	MH Repair - needs new frame - cover does not stay on	Sent to Arnow	12/11/17	12/13/17					
	12/11/17	228 West Lane	MH Repair - needs new frame - cover does not stay on	Sent to Arnow	12/11/17	12/13/17					
	12/14/17	50 Kensington Road	MH Repair - needs new frame - cracked and broken by plow.	Sent to Portanova	2/5/2018	3/9/2018					
	12/26/17	46 Laurel Road	CB Repair - Basin sinking. Reported A.Turner-Barrel placed 8/20/19								
	12/28/17	198 East Middle Patent Road	CB Repair - Broken grate. Old style square grate and frame. Replace w/ new precast.								
	01/05/18	131 Davenport Ridge Lane	MH Repair - needs new frame/ring. Cone placed 1/8/17	Sent to Portanova	2/1/2018	3/8/2018					
	01/11/18	64 Palmers Hill Road - CLC	Trench Drain Repair / Removal - need to meet on site to reivew	Repaired by Grasso		12/20/2018					
	01/17/18	31 Sussex Place	CB Repair - Hole located behind CB - double sump, failing block, needs rebuild. Barrel placed 1/17/18	F. Vonella	1/19/2018	2/8/2018					
W502271-032918	01/19/18	59 Quaker Ridge Road	CB Repair - Hole located behind CB - double sump, failing block, needs rebuild. Barrel placed 1/17/18	Sent to Arnow	4/9/2018	4/18/2018					
	01/24/18	986 Bedford Street	CB Repair - Hole located in front of CB, left lane, northbound. 2 water barriers placed 1/24/18	Sent to Arnow	1/24/2017	2/2/2018					
	01/25/18	31 Sutton Place	MH Repair - buried storm MH. Danella contacted MH. Painted in field - needs to be raised								
	01/25/18	58 Sutton Drive West	MH Repair - buried storm MH. Danella contacted MH. Painted in field - needs to be raised								
	01/25/18	46 Rapids Road	CB Repair - Hole located in front of CB	Sent to Arnow/Ser	1/24/17&4/25	5/10/2018					
W509250-091418; W509249-091418	01/31/18	85 Riverside Ave.	CB Repair - Hole located in front of CB. Double CB. barrel placed 1/31/18-PRIORITY								
W520129-072819	02/02/18	Bartlett Arboretum - entry drive	CB Repair - Actually 2 cb's in need of repair - Hole located next to CB. Cone placed. TT inspected 2/2/18.								
	02/02/18	85 Urban St. on Revonah Ave.	MH Repair - sinking MH.	Sent to Portanova	2/5/2018	4/9/2018					
W515537-040419	02/06/18	96 Summit Ridge	CB Repair - hole next to cb. Barrel placed 4/5/19.								
	02/06/18	Across from 1318 Bedford St.	CB Repair - hole next to cb - reported by B. Denison. Place Barrel 1/18/19. PRIORITY	Sent to Arnow	7/15/2019	8/1/2019					
	02/06/18	1648 Shippan Ave.	Broken Curb back - give to Arnow								
W500331-022018	02/16/18	76 Bennett (on Lawton Ave.)	CB Repair - concrete curb back - grate dropped in - open hole. Road plate installed 2/16/18. PRIORITY	Sent to Arnow	3/26/2018	4/20/2018					
	02/16/18	21 Broad St. by Target Crosswalk	MH Repair - sinking MH - from P. Montanaro. D. Portanova to verify it is storm - then repair	Sent to Portanova/	4/11/2018	10/1/2018					
	02/16/18	4 Pulaski St.	MH Repair - damaged frame / ring.	Sent to Portanova	2/16/2018	3/6/2018					
	02/20/18	907 Long Ridge Rd at Maltbie Ave.	MH Repair - damaged frame / ring. - Road plate placed 2/22/18	Sent to Portanova	2/20/2018	6/11/2018					
W500408-022118	02/21/18	106 Redmont Road	CB Repair - hole next to CB will need new precast sump box	Sent to Arnow	4/27/2018	5/17/2018					
	02/21/18	105 Cove Road	CB Repair - sinking CB right side of road - at driveway	Sent to Arnow	4/27/2018	5/21/2018					
W500381-022018	02/22/18	25 Chesterfield Road	CB Repair - sinking CB								
	02/22/18	776 Cove Road	CB Repair - sinking flat top	Sent to Arnow	4/27/2018	5/25/2018					
	02/26/18	429 Eden Road	CB Repair - hole next to CB - placed cone - reported by B. Denison								
W500846-030118	03/02/18	2 Dunn Ave. at Cedar Heights Rd.	CB Repair - hole next to CB. Double CB. Barrel in place.	Sent to Arnow	4/9/2018	5/4/2018					
	03/07/18	416 Vine Road	CB Repair - Needs new top and frame - existing frame is broken. Water Barrier placed 5/9/19	Sent to Grasso	8/5/2019	8/12/2019					
	03/07/18	Transfer Station - north side near canal	MH Repair - needs new heavy duty ring - 32" cover - PRIORITY	Sent to Portanova	3/21/2018	4/18/2017					
	03/07/18	Dundee Rd. at Timber Mill Road	CB Repair - basin collapsed - reported by M. Scaturchio- PRIORITY								
	03/07/18	327 Dundee Rd.	CB Repair - hole next to CB / basin collapsing - reported by M. Scaturchio - PRIORITY								
	03/08/18	61 Strawberry Hill Court - in front of Tully Center	MH Repair - hit by plow - needs new frame	Sent to Portanova	3/8/2018	3/9/2018					
	03/08/18	389 Ocean Drive West	MH Repair - hit by plow - needs new frame	Sent to Portanova	3/21/2018	4/17/2018					
	03/12/18	274 Quary Road	CB Repair - grate dropped in - check to see if we can repair w/ new grate								
	03/12/18	21 Bridge St.	CB Repair - hole reported next to CB - barrel placed 3/12/18. PRIORITY 11/4/2019	Sent to Arnow	5/22/2019	7/1/2019					
W501348-030918	03/12/18	36 Sunset Court	CB Repair - hole reported next to CB - front of frame caved in. barrel 3/12/18. 2 water barriers 9/25/18. PRIORITY								
	03/12/18	125 Waterbury Ave.	CB Repair - conc. Frame and sump crumbled block.barrel 3/12/18. Plated 8/29/18. adjusted plate 4/1/19 PRIO	Sent to Grasso	8/27/2019	9/4/2019					
	03/12/18	109 Waterbury Ave.	CB Repair - basin collapsing - barrel placed 3/12/18	Sent to Grasso	8/27/2019	9/6/2019					
	03/13/18	6 Judy Lane @ Hamilton	MH Repair - buried MH - CCTV confirmed 3/1/18 and painted								
	03/19/18	Clark St. - East curb line	CB Repair - hole next to cb. Cone placed. Road plate placed 3/19/18	Sent to Grasso	3/21/2018	3/26/2018					
W503423-042618	03/21/18	205 Greenwich Ave.	CB Repair - hole next to cb. PRIORITY as per T. Turk email 4/3/18	sent to arnow	4/27/2018	5/4/2018					
	03/21/18	15 Hunting Ridge Rd. @ Long Ridge Rd. in island	CB Repair - barrel placed 3/21/18. Reported J. Hoyt. PLATED 8 /8/19 PRIORITY	Sent to Arnow	9/13/2019						
	03/22/18	64 Smith Street	MH Repair - hit by plow - needs new frame	Sent to Portanova	3/22/2018	3/26/2018					
	04/02/18	102 Mountain Wood Road	MH Repair. Ring/frame hit by J. Hoyt w/ plow. Frame sinking by 3" - needs to be reset and raised.	Sent to Portanova	4/2/2018	4/19/2018					
	04/02/18	147 Mountain Wood Road	MH Repair. Ring/frame hit by J. Hoyt w/ plow. OPEN HOLE. MH Cover in bottom of MH.	Sent to Portanova	4/2/2018	4/19/2018					
W502460-040418; W504396-051618; W508991-090718;				Sent to Portanova	7/10/2018						
				Sent to Arnow	10/3/18						
W509368-091918	04/02/18	30 / 26 Wallace Street	MH Repair. Ring/frame damaged. 1/2 of ring is missing. Needs replacement. PRIORITY	Sent to Arnow	10/16/2018	10/30/2018					
W509243-091418	04/09/18	6 Applebee Rd. on Benstone St.	CB Repair required. Email from F. Patise engineering re: Oaklawn work. Double CB. Barrel placed 4/9/18	Sent to Arnow	7/15/2019	7/26/2019					
	04/10/18	155 Jonathan Drive	MH Repair - sinking MH - frame needs to be reset - K. Cuevas								
	04/11/18	Across from 42 Cove Road - S. side of street	CB Repair reqd. Hole next to cb reported Turner. Theder inspected 4/11 unable to protect. PRIORITY	Sent to Arnow	4/27/2018	5/23/2018					
				Sent to Arnow	10/4/2018						
W503105-041818	04/18/18	54 Research Drive	CB Repair reqd. Hole next to cb reported PD. BD placed barrel. TT plated 7/2/18 - PRIORITY	Sent to Arnow	1/3/19	1/30/2019					
W508749-083118; W509340-091818	04/18/18	4 Wampanaw Ave.	CB Repair reqd. Hole next to cb. Reported by Denison - barrel placed. 2 water barriers placed 9/19/18 PRIORITY	Sent to Arnow	1/3/2019	1/30/2019					
				Sent to Portanova	7/6/2018						
	04/20/18	135 Downs Ave.	Sandbags in storm MH on beach. Need confined space entry and remove.	Sent to OneVac	12/5/18	12/15/2018					
	04/20/18	59 West Broad St.	CB Repair - hole next to CB. Barrel Placed 4/20/18. PRIORITY	Sent to Arnow	5/17/2018	6/8/2018					
	04/20/18	45 Valley Road	CB Repair. ROAD PLATE INSTALLED PRIORITY	Sent to Arnow	5/22/2019	7/11/2019					
	04/21/18	535 Newfield Ave.	MH Repair - paved over. Raise to finish grade.	Sent to Pnova/Ser	4/21/18-5/22/	5/25/2018					
	04/21/18	555 Newfield Ave.	MH Repair - paved over. Raise to finish grade.	Sent to Pnova/Ser	4/21/18-5/22/	5/25/2018					
	04/21/18	535 Newfield Ave. on Fairland St.	CB Repair - not collapsing, but many brick and block in sump. Structure is compromised. T. Theder inspected								
W506702-071118	04/25/18	28 Blue Ridge Drive	CB Repair - hole in conc.Frame.needs repairs.B.Denison inspected 4/25. BD barrel 7/12/18. PRIORITY								
	05/03/18	15 Flint Rock on Den Road	CB Repair - hole next to basin - b. denison left barrel	Sent to Grasso	8/23/2019						
W517708-053119	05/04/18	25 Highline Trail South	CB Repair - reported by B. Dension. Cone in place as of 5/31/19.								
	05/04/18	1093 Shippan Ave,	MH Repair - 4" riser on top of frame is loose and rattling - remove riser and frame, add brick, reset.	Sent to Portanova	5/7/2018	6/20/2018					
	05/08/18	10 Rushmore Circle	CB Repair - hole next to CB reported by B. Denison								
	05/08/18	86 Pine Hill Ave.	MH Repair - buried MH - CCTV confirmed 5/7/18 and painted. Also remove 2 cmu's in MH at 60 Pine Hill								
	05/09/18	31 Brodwood	CB Repair - hole next to CB reported by B. Denison - see also 33 brodwood								
	05/09/18	1607 Bedford St. on Third Street	CB Repair - hole next to CB, masonry failing - reported by E. Orgera - PRIORITY	Sent to Arnow	5/17/2018	7/1/2018					
W509262-091518	05/14/18	5 Leona Drive	CB Repair - hole next to CB, double sump. JC placed barrel 5/14. Service request 9/17/18								
W504214-051318 W521713-091019	05/15/18	24 Wright Street	CB Repair - hole next to CB. B. Denison placed barrel 5/15								
	05/16/18	233 Shelter Rock Road	MH and piping Repair. Replace 12" lateral as per CCTV. PRIORITY	Sent to Arnow	8/20/2018	10/20/2018					
	05/17/18	2 Owen St. on McMullen St	CB Repair - hole next to CB. B. Denison placed barrel 5/17								
	05/21/18	22 Knapp St	Convert double curb back CB's to flat tops. Curb back replaced 2016, 2018, 1/5/2019			1/14/2019					
	05/14/18	2586 Summer St on Eighth Street	CB Repair - hole next to CB. TT left cones 5/10/18. Road plate installed 5/13/18. P Dispatch.	Sent to Arnow	1/3/2019	7/2/2019					
W504425-051718	05/21/18	178 North State Street	MH Repair - left side/ south side of roadway. Frame/Cover not flush with roadway. Reset								
	05/21/18	West Beach Parking Lot - south side of lot	CB Repair - hole next to CB - TT oberved. Water barrier placed 5/22/18. PRIORITY	Sent to Eng. Sent	5/24/18 -4/9/1	5/1/2019					
W504062-050918	05/22/18	45 Pleasant St	CB Repair - hole next to CB - B. Denison inspected.P&T 7/13/18 for road plate. PLATED PRIORITY	Sent to Arnow	11/7/2018	1/14/2019					
W504794-052518	05/25/18	45 Rockledge on Ocean Drive East	CB Repair - hole next to CB - B. Denison inspected.								
	05/30/18	1 Harbor View Ave (Solid Waste)	MH Repair - reset/repair MH at bottom of transfer station ramp - oer request of D. Colleluori/T.Turk	Sent to Arnow	7/24/2019	8/17/2019					
W504977-053018 W515785-040919	05/31/18	20 Florence Court	CB Repair - hole next to CB - B. Denison inspected. Barrel placed 4/10/19.								
W505271-060518	05/31/18	6 Sanford Lane	CB Repair - hole next to CB - B. Denison inspected. T. Theder placed barrel 7/18/18	Sent to Grasso	2/14/2019	4/15/2019					
W506978-071718	05/31/18	286 West Broad at Delaware Ave.	CB Repair - hole next to CB - B. Denison inspected. Reported by big Mo. Barrel 7/26	Sent to Grasso	9/15/2018	11/7/2018					

	05/31/18	74 Colonial Road	CB Repair - hole next to CB - B. Denison inspected. Upgraded from cone to tall cone 11/2/18.								
	06/06/18	379 Shippan Ave	CB Repair - hole next to CB. Reported by WPCA - cone placed. Barrel 7/26/18								
W505235-060518	06/07/18	164 Richmond Hill Ave.	CB Repair - loose frame and damaged masonry. Reset existing frame.	6/7/2018	6/8/2017						
	06/11/18	707 Shippan Ave.	CB Repair - hole next to cb - reported by A. Turner. Hartford Style CB	Sent to Arnow	2/1/2019	3/1/2019					
	06/11/18	37 Clifford Ave. at Rome Place	CB Repair - hole next to cb - reported by A. Trichillo								
W505721-061518; W508057-080818 W506273-062918;	06/19/18	39 Laurel Road at Spring Hill Lane	CB Repair - hole next to cb - PRIORITY. 2 water barriers placed 8/14/18	Sent to Arnow	8/20/2018	9/5/2018					
W506595-071018 W505897-062018; W507890-080618 W508350-081918;	06/20/18	Knapp St. and Carroll St. Intersection	MH Repair - frame cracked / broken - reported by J. Hoyt	Sent to Arnow	10/4/2018	10/16/2018					
W508572-082618;	06/20/18	44 Soundview Ave.	CB Repair - basin sinking	Sent to Arnow	8/20/2018	10/29/2018					
	06/21/18	Across from 25 Second St.	CB Repair - Hole next to CB. Barrel placed 6/21/18. Water barrier placed 6/29/18								
	06/26/18	59 Barmore Drive West	CB Repair - Hole next to CB. Water Barrier placed 6/26/18								
W506363-070518	07/06/18	191 Willowbrook Ave.	CB Repair - Hole next to CB. Barrel placed BD 7/6/18. Needs road plate. Plate installed 7/10/18. PRIORITY	Sent to Arnow	10/23/18,11/7	12/17/2018					
	07/06/18	119 Mountain Wood Road	CB Repair - Hole next to CB. Cone placed 7/6/18 BD. Low priority.								
	07/06/18	Glenbrook Road at Daskam	MH Repair - frame cracked / broken - referred by WPCA.	Sent Portanova Sent to Grasso	7/6/2018 10/15/2018	11/13/2018					
W511146-111518 W516655-050219 W519143-071019 W520928-081619	07/11/18	79 Taylor Street	CB Repair - basin collapsed - reported by A. Turner. Theder placed cone 5/30/19	Sent to Grasso	9/4/2019						
W506829-071418 W517727-053119 W517027-051319 W517010-051219 W516856-050819	07/16/18	21 Hardesty Road at Den Rd.	CB Repair - basin collapsed - reported by B. Dension. Barrel placed 7/16/18	Sent to Grasso	8/23/2019						
W506829-071418 W517727-053119 W517027-051319 W517010-051219 W516856-050819	06/03/18	Opposite 21 Hardesty Rd.	CB Repair - open hole behind CB. Reported J. Hoyt 4/19/19. Cone placed in hole.	Sent to Grasso	8/23/2019						
	07/16/18	Springdale Train Station	CB Repair - hole next to CB reported by Orazio. Barrel placed 7/25								
W506886-071618	07/16/18	8 Middle Ridge Road	CB Repair - hole next to CB. B. Denison to inspect.	Sent to Arnow	8/20/2018	9/10/2018					
W506890-071618	07/16/18	70 Erickson Drive	CB Repair - holes@CB-both sides. Barrels placed. PRIORITYCalled Margarita 2/4/19,5/7/19, 7/29/19,8/1/19	Sent to Arnow	9/13/2019						
	07/16/18	192 Saddle Hill Road	CB Repair - hole next to CB. A. Turner reported. Filled w/ asphalt.								
	07/23/18	11 Cypress Drive	MH Repair - needs to be cut out and raised to fin. Grade								
	07/23/18	12 Weed Hill Ave.	MH Repair - needs to be cut out and raised to fin. Grade. South Side of Road								
W508097-080918(2) W513518-020719 W508154-081218	08/14/18	29 Rosano Road	CB Repair - hole next to CB reported by B. Denison. Orange marker placed/observed TT 8/15/18. Barrel placed 3/21/19. PLATED 7/2/19.	Sent to Arnow	9/13/2019						
	08/14/18	150 Richmond Hill Ave. eastbound lane at park	MH Repair - needs new frame (replace with locking MH cover)								
W507493-072718	08/14/18	202 Skyview Drive	CB Repair - sink hole next to CB.								
	08/17/18	192 Sundance Road	CB Repair - Masonry collapsing - angled grate			11/7/2018					
W508261-081518	08/17/18	230 Hope Street	CB Repair - Hartford Style, hole next to CB - Priority		10/4/18						
	08/20/18	1607 Bedford St.	CB Repair - plated / w/ Barrell - TT to see barry. PLATED PRIORITY	Sent to Arnow	11/7/18	12/19/2018					
	08/20/18	Brookside Ave. at Riverview Drive	MH Repair - needs new frame - open hole - cracked frame	Sent to Arnow	1/3/2019	1/30/2019					
	08/20/18	60 West Broad Street	MH Repair - needs new frame and new cover. - open hole - cracked frame	Sent to Grasso	9/15/2018	11/1/2018					
	08/21/18	11 Mitzi Road at Gray Farms Rd.	CB Repair - basin collapsed								
	08/24/18	Across from 1665 Hope Street	CB Repair - Conc. Frame loose and fused to grate. Fieldstone sump. Needs precast. Barrel 8/24/18								
	08/24/18	2 Valley View Drive	CB Repair - hole next to CB. Conc frame, failing masonry. Barrel placed 8/24/18								
	08/24/18	117 Flint Rock	CB Repair - hole next to CB. Conc frame, failing masonry. Barrel placed 8/24/18. PLATED 8/30/18	Sent to Grasso	8/23/2019						
W517155-051519	08/30/18	103 Iron Gate Road	CB Repair - basin collapsing. Placed cone 8/30/18								
W508861-090518 W510780-110118 W516561-043019	08/31/18	14 Hubbard Court	CB Repair - basin collapsing. Placed barrel 8/31/18	Sent to Arnow	7/31/2019	8/5/2019					
	09/05/18	73 Berrian Road	CB Repair - basin collapsing. Placed barrel 9/5/18. Double CB. Service request by aquarion. PRIORITY	Sent to Grasso	7/15/2019	7/26/2019					
	09/06/18	60 Lanark Road at ODE	CB Repair - basin collapsing. Placed barrel 9/6/18								
	09/06/18	59 Lanark Road on ODE	CB Repair - Hole next to CB. Placed barrel 9/6/18								
	09/11/18	759 Atlantic Street	CB Repair - Hole next to CB. Has a barrel as of 9/13/18								
W509203-091318	09/14/18	197 Stamford Ave	CB Repair - Hole next to CB. Double CB. Barrel placed 9/13/18								
W509858-100318	09/19/18	323 Cove Road	CB Repair - Hole next to CB. Barrel placed 9/19/18	Sent to Arnow	10/16/18 11/7/18	1/14/2019					
W474164-032116	09/21/18	9 Howes Ave.	CB Repair - Hole next to CB. B. Denison - Barrel placed 9/19/18								
W509255-091518 W519818-072119	09/21/18	21 Bradley Place	CB Repair - Hole next to CB. B. Denison - Barrel placed 9/19/18								
W509119-091218	09/21/18	218 Willowbrook Ave.	CB Repair - Hole next to CB.	Sent to Arnow	11/7/2018	12/17/2018					
	10/09/18	Pumping Station Rd. at WPCA	MH Repair - B. Denison Painted - Ring / Cover fused - needs to be replaced	WPCA repaired		12/20/2018					
	10/30/18	560 Rock Rimmon Road	Pipe repair - jet nozzle stuck in pipe defect - had to terminate hose - PRIORITY								
W521576-090519	11/02/18	527 Glenbrook Rd.	CB Repair - Hole next to CB - barrel placed 11/2/18 B. Dension								
	11/02/18	119 Ralsey Rd @ Ralsey Rd. South	MH Repair - replace with locking MH cover. Cover came off during high tide during storm								
	11/16/18	3 Seaview Ave.	MH Repair - damaged by plow.	Sent to Arnow	11/16/2018	11/26/2018					
	11/16/18	City Garage 90 Magee - OWS MH Frames(2)	MH Repair - damaged by plow.	Sent to Arnow	1/3/2019	1/29/2019					
	11/26/18	209 Lynam Road	MH Repair - damaged by loader during leaf pick up	Sent to Arnow	1/3/2019	1/29/2019					
	11/27/18	177 Fifth St.	Piping repair - Heavy roots HDPE 5' east of MH, install new 15" pipe from MH on curb to ex. MH @ centerline								
	11/27/18	96 White Birch Lane	Piping repair - Offset pipe w/ root ball - replace 14'LF 12" pipe w/ SDR 35								
	11/27/18	37 Woolsey Rd. at Sagamore	MH Repair - frame badly cracked. Needs repair.	Sent to Arnow	1/3/2019	1/29/2019					
	11/27/18	223 Haig Ave.	CB Repair - continue to monitor - sinking 1"-2" No cone req'd.								
	11/30/18	53 Ken Ct.	CB Repair - reset top - damaged during leaf pick up								
	12/04/18	NW corner Bedford St. Garage Surface Pkg.	CB Repair - Double CB - top and frame loose. Needs stand pipe in sump. M. Kraineak reported								
W510087-100918	12/04/18	2 Cider Mill Rd.	CB Repair - white water barrier on CB. Hole next to CB.								
W511814-120918 W518372-061919	12/10/18	87 Den Rd.	CB Repair - Basin sinking / collapsing - needs repair. B.Dension to place barrel 12/10/18								
	12/10/18	282 Eden Road	CB Repair - Basin sinking / collapsing - needs repair. B.Denison placed barrel 12/10/18								
	12/10/18	264 Hubbard Ave.	CB Repair - Basin sinking / collapsing - needs repair. B. Denison placed barrel 12/10/18	Sent to Grasso	3/1/2019	4/29/2013					
	12/11/18	38 Wilson St.	CB Repair - Basin sinking - down 8" B. Denison placed barrel								
	12/12/18	45 Van Buskirk Ave.	MH Repair - MH Paved over - TT located and painted - MH access needed for IDDE work. Raise to fin. Grade	Sent to Arnow	1/3/2019	1/15/2019					
	12/19/18	91 Hope at Howes Ave.	CB Repair - hole next to CB. Denison placed barrel 12/19/18								
	12/19/18	69 Forest Lawn Ave.	CB Repair - needs new frame - curb back bolts not lining up 12/19/18								
W519585-071619	12/26/18	43 Myano Lane	CB Repair - Holes next to CB - B. Denison placed barrel 12/26/18								
	01/08/19	345 Stamford Ave.	MH Repair - MH Paved over - TT located and painted -Raise to fin. Grade								
W518288-061719 W512952-011719 W512450-123018	01/18/19	88 Malvern Rd.	CB Repair - Hole next to CB - B. Denison to place barrel 1/18/19								

	01/18/19	On Main St at Greyrock Place	CB Repair - basin top has settled - Place water barrier								
	01/30/19	486 Roxbury Rd.	Needs 12" culvert under driveway - existing 12" CMP rotted and cannot jet	Sent to Arnow	2/18/2019						
	01/30/19	75 Weed Hill Ave.	Connect 11/2" dia poly into back of CB	Sent to Arnow	2/20/2019	3/22/2019					
	02/12/19	65 Glenbrook Road	CB Repair - open hole next to cb. Bad spot. B.D. left Barrel 2/11/19								
W513604-021119	02/12/19	45 Mill Valley Road	CB Repair - basin collapsing.	Sent to Arnow	2/14/2019	2/26/2019					
	02/18/19	204 Joffre Ave.	CB Repair - basin collapsing - hole next to CB. Barrel placed 2/18/19								
	02/18/19	91 Rogers Road	MH Repair - hit by plow - no frame. Barrel placed 2/13/19. BD barrel 8/19/19.								
W514723-031519 W517766-053119 W518649-062719 W518793-070219 W518795-070219	02/18/19	291 Chestnut Hill Road on W. Haviland Ln.	CB Repair - hole next to CB. Barrel placed 2/13/19. Water barrier placed 6/3/19.								
W518525-062519 W518527-062519	02/20/19	75 Thornridge Dr.	CB Repair - hole next to CB. Cone placed 2/20/19 - continue to monitor	Sent to Grasso	8/23/2019	9/9/2019					
	02/20/19	1 Little John Lane	MH Repair - Barrel placed as of 2/13/19. Reported again WPCA 8/2/19								
W513885-022119 W521256-082619	02/25/19	81 Houston Terrace	CB Repair - grate unsupported and collapsing. Barrel placed 2/25/19	Sent to Grasso	8/27/2019	9/5/2019					
W513968-022319	02/25/19	105 Snow Crystal Lane	CB Repair - small hole next to CB. BD left cone 2/25/19								
	02/26/19	95 Elmcroft Road	CB Repair - Frame is damaged - across street from school - change out frame - inspected M.Scat2/25/19								
	03/03/19	296 Silver Hill Lane	MH Repair - Cover popped out during plowing - frame damaged								
	03/04/19	86 Ocean Drive East	MH Repair - Frame broken - middle of road - needs repair	Sent to Arnow	3/5/2019	3/6/2019					
	03/08/19	8 Talmadge Lane	CB Repair - Hole next to double CB. Barrel placed 3/8/19								
	03/10/19	654 Hope St. on Edgewood Ave.	CB Repair - Rotted frame - double conc. Curb back. Needs total replacement. Barrel placed 3/10/19								
	03/14/19	112 Michael St.	CB Repair - Needs new frame - curb back broken off frame - change out								
W519601-071719	03/14/19	35 Rockridge Lane	CB Repair - hole next to CB at driveway apron. **PLATED** 3/13/19								
	03/14/19	24 Mathews St.	CB Repair - Reported collapsed - low priority								
	03/15/19	112 Woodmere Rd.	CB Repair - hole next to CB. BD placed barrel.								
	03/20/19	Opposite 21 Spring Hill	CB Repair - frame is damaged. Low priority.								
W515909-041219 W517432-052319 W514997-032119	03/21/19	92 Camp Ave. on Garland St.	CB Repair - hole next to CB. **PLATED** 3/21/19	Sent to Arnow	6/3/2019	6/10/2019					
	03/22/19	72 Alvord Lane at Catoona	CB Repair - holes next to CB. Barrel placed 3/22/19. **PRIORITY.** Adjust location of cb - move around corner	Sent to Arnow	5/22/2019	7/10/2019					
	03/25/19	Rock Rimmon Road at Scofieldtown	CB Repair - basin collapsed 3/25/19. Barrel placed 3/25/19.								
W515068-032419	03/25/19	20 Pell Place	CB Repair - cracks next to corner of cb. Low priority.								
W515393-040119 W515518-040419	03/25/19	81 Rippowam Rd. at Wampanaw Ave.	CB Repair - hole next to basin. BD placed barrel 3/25/19								
W514908-031919	03/27/19	308 High Ridge Rd. at Colony Court	CB Repair - hole next to basin. BD placed cone 3/25/19								
	04/01/19	Across from 680 Erskine Rd.	CB Repair - Sweeper dropped into CB. **PLATED** 4/1/19 **PRIORITY**								
	04/02/19	130 Redmont Rd.	CB Repair - hole next to CB. Water barrier placed 4/2/19 **PLATED**								
	04/04/19	36 McClean Rd.	CB Repair - hole next to CB. Barrel placed 4/2/19.								
	04/05/19	21 Myano Court	CB Repair - hole in lawn behind CB. Barrel placed 4/2/19.								
	04/09/19	655 Westhill Rd.	Culvert Repair - hole in CMP culvert 12" or 15". Cone placed 4/2/19.								
	04/10/19	Opposite 69/63 Fenway St.	CB Repair - hole next to cb - barrel placed 4/10/19.								
W516948-050919 W515816-041019	04/12/19	Hoyt St Stamford Corners near Wash Blvd.	CB Repair - hole next to cb at garage entry - BD barrel placed 4/12/19. **PRIORITY**								
	04/23/19	Pulaski St. at Wash. Blvd	MH Repair - Frame damaged and needs emergency replacment.	Sent to Arnow	4/23/2019						
W517348-052119 W521873-091519	04/25/19	157 Sweet Briar Road	CB Repair - hole next to CB.								
	04/25/19	59 Parry Court	CB Repair - hole next to CB - low priority small hole.								
	04/23/19	Cummings Park near Concession Stand	Sinkhole in parking lot. **PLATED**. Waterbarrier. Referred to Engineering and WPCA for repair. Not stormwater issue.								
	04/26/19	37 Brownley Drive	CB Repair - hole next to CB. Barrel								
W516436-042619	04/26/19	44 Norman Rd.	CB Repair - Conc. Frame collapsed. Water barrier placed.								
	04/26/19	40 / 28 Brownley Drive	CB Repair - hole next to CB. Cone								
	04/30/19	637 Shippan Ave	CB Repair - old style CB - no curb back. Minimum needs new cast iron grate and frame								
W516498-042919 W518525-062519	04/30/19	8 Jeanne Court	CB Repair - hole next to CB. Cone	Sent to Grasso	8/23/2019	9/9/2019					
W518527-062519	04/30/19	57 Thornridge Drive	CB Repair - hole next to CB. Cone	Sent to Grasso	8/23/2019						
W516291-042319	04/30/19	15 Golf View Circle	CB Repair - collapsing concrete flat top at driveway. **PLATED**	Sent to Arnow	7/31/2019	8/19/2019					
W516595-043019	05/01/19	91 West Hill Circle	CB Repair - hole next to CB. Barrel Placed 5/1/19								
W516260-042319	05/01/19	112 Pine Hill Ave.	CB Repair - conc. Curb back - frame separated from conc. Reported Lotz. Barrel placed 5/1/19								
W516623-050119	05/01/19	70 Arden Lane	CB Repair - hole next to CB.								
W515119-032519 W518793-070219 W518795-070219	05/01/19	270 Haviland Road	CB Repair - CB paved over. SMD removed asphalt, placed barrel and barrier.New sump reqd, raise to grade.								
W515119-032519	05/01/19	Across from 270 Haviland Road	CB Repair - CB located off road and too low. New sump to grade and curbing req'd. paved over								
W518236-061619	05/07/19	40 Minivale Road	CB Repair - hole next to CB. Barrel placed 5/7/19. **PRIORITY - PAVING**	Sent to Arnow	9/13/2019	9/18/2019					
W517090-051419	05/15/19	37 Erskine Road	CB Repair - hole next to CB.Cone 5/14/19. **PLATED** 5/15/19	Sent to Arnow	9/13/2019						
	05/15/19	55 Clovelly Road	CB Repair - CB tilted and sinking. Water barrier 5/15/19. Reported A. Turner								
W517138-051519 W519603-071719	05/16/19	70 Gurley Rd.	CB Repair - Hole next to CB. T.Theder left cone 5/15/19.								
	05/21/19	711 Canal St.	MH Repair - Emergency call by PD. Ring broken, cover unstable.	Sent to Arnow	5/20/2019						
	05/23/19	310 Halliwell Dr.	CB Relocate to low point on Emery Dr. East. Per L. Burwick, MMG **PRIORITY BY SPRING 2020**								
W516655-050219	05/30/19	18 Taylor St.	CB Repair - Reset frame and curb back needs bolts. T.Theder left cone 5/30/19	Sent to Grasso	9/4/2019	9/13/2019					
W517949-060619	06/07/19	26 Connecticut Ave.	CB Repair - CB sinking - B. Denison left barrel								
	05/31/19	43 Highview Ave.	CB Repair - Double CB, block masonry deteriorated. Road milled in advance of paving.	Sent to Arnow	6/3/2019	6/10/2019					
	05/31/19	55 Highview Ave. @ intersection Overlook Pl.	MH Repair - buried MH - exposed by milling in advance of paving	Sent to Arnow	6/3/2019	6/10/2019					
	05/31/19	182 Highview Ave.	MH Repair - damaged and cracked frame. In advance of paving	Sent to Arnow	6/3/2019	6/19/2019					
	06/07/19	133 Columbus Pl. at River Place	CB Repair - hole next to CB. In advance of paving	Sent to Arnow	6/10/2019	6/19/2019					
	06/10/19	50 MacArthur Lane	CB Repair - hole next to CB. Cone on hole 6/7/19								
	06/10/19	35 Tremont Ave. at Field St.	CB Repair - collapsed CB. Barrel placed 6/10/19. Reported J.Hoyt.								
	06/06/19	72 Camp Ave. on Ceretta St.	CB Repair - Double CB, block masonry deteriorated. Road milled in advance of paving.	Sent to Arnow	6/6/2019	6/10/2019					
W518237-061619	06/19/19	130 Henry St. on Garden St.	CB Repair - hole next to CB. Cone placed 6/10/19								
	06/19/19	89 Toms Rd.	CB Repair - collapsing CB. Reported J.Taylor. **PLATED** 6/19/19	Sent to Arnow	7/15/2019	8/20/2019					
	06/19/19	32 Club Court	CB Repair - hole next to CB. Reported J.Taylor								
	06/19/19	Across from 192 North St.	CB Repair - hole next to CB. Reported J.Taylor								
	06/20/19	33 Stephen St.	MH Repair - Needs new frame and cover. Road Milled.	Sent to Arnow	6/7/2019	6/26/2019					
	06/20/19	102 Liberty St	CB Repair - hole next to CB exposed after road milled. Reported T. Theder	Sent to Arnow	6/20/2019	6/26/2019					
	06/27/19	225 Summer St.	CB Repair - Mortar joints and parge interior of sump - building owner reports water in basement	Sent Arnow/Sent t	7/15/2019	9/6/2019	T. Theder called owner 225 summer 9/9/19 and advised work was complete.				

APPENDIX I

2018–19 CULVERT CLEANING LIST

City of Stamford - No. CT0030279

Open Drainage Channel (Culvert Cleaning and Backhoe Work) 7/1/18 - 6/30/2019

Date	Address / Location	Duration	Manpower	Quan. Of Material Removed	Receiving Stream	Notes
7/9/2018	265 Silver Hill Ln	1/3 Day	2 men stetco hydrualic crane and vac truck	appx. 1 cubic yard	Rippowam River	removed logs and debris at culvert inlet.
7/12/2018	Howard Road	1 Day	3 men, vac truck, stetco	appx. 6 cubic yards	Mianus River	stormwater inlet pipe on west side of road buried and not draining properly. Excavated with stetco and vac truck. Restored proper
7/17/2018	44 East Cross Road	1 Day	4 men, Stetco hydraulic crane and Vac truck	appx. 1 cubic yard	Norton River	Stormwater bar screen inlet cleared from leaves, logs, and accumulated debris. Proper flow restored.
7/25/2018	16 Westhill Ln.	1 Day	2 men stetco hydrualic crane and vac truck	appx. 1 cubic yard	Rippowam River	Cleared debris and stump bottom of swale
8/28/2018	Lakeside drive	3 Days	4 men,mini excavator and small dump trucks	appx. 25 cubic yards	Rippowam River	create leakoff under fence to drain puddle at roadway to reservoir. Coordination with Aquarion.
10/4/2018	180 Riverbank Rd.	1/3 Day	3 men,stetco hydraulic crane and vac truck	appx. 1 cubic yard	Rippowam River	cleared inlet piping
10/9/2018	53 & 71 Arrowhead Dr.	1 Day	3 men stetco hydraulic crane and vac truck	appx. 2 cubic yards	Rippowam River	Cleared culvert inlets
10/11/2018	53 & 71 Arrowhead Dr.	1 Day	3 men,mini excavator and small dump trucks	appx. 3 cubic yards	Rippowam River	Cleared culvert inlets and rip rap
10/24/2018	138 Rocky Rapids Rd.	2 Day	3 men,mini excavator and small dump trucks	appx. 3 cubic yards	Rippowam River	Cleared culvert inlets and rip rap
10/26/2018	12 Woodbrook Dr.	1/3 Day	3 men,mini excavator and small dump trucks	appx. 1 cubic yard	Noroton River	Cleared inlet at Woodbrook and Eden Rd.
10/26/2018	1271 Riverbank Rd.	1/3 Day	3 men,mini excavator and small dump trucks	appx. 2 cubic yards	Rippowam River	Remove and haul away pile of fill near CB and cut trench / leakoff to inlet headwall opposite #1233 Riverbank Rd.
10/29/2018	180 Riverbank Rd.	1/3 Day	3 men,mini excavator and small dump trucks	n/a	Rippowam River	added rip rap both sides of stream
10/29/2018	1510 Riverbank Rd.	1/3 Day	3 men,mini excavator and small dump trucks	appx. 5 cubic yards	Rippowam River	Cleared leak off, headwall, and culvert inlet
10/29/2018	135 Sawmill Rd.	1/3 Day	3 men,mini excavator and small dump trucks	appx. 1 cubic yard	Rippowam River	Cleared outlet piping
11/6/2018	65 White Birch Ln	1/2 Day	2 men stetco hydrualic crane	appx. 1 cubic yard	Rippowam River	removed logs and debris at culvert inlet.
11/6/2018	265 Silver Hill Ln	1/2 Day	2 men stetco hydrualic crane	appx. 1 cubic yard	Rippowam River	removed logs and debris at culvert inlet.
12/18/2018	1271 Rock Rimmon Rd.	1 Day	3 men stetco hydrualic crane	appx. 3 cubic yards	Rippowam River	Saw cut edge of asphalt road, exposed spring, stabalized edge of road w/ surge and gravel
12/19/2018	1654 Long Ridge Rd. at Butternut Ln.	1 Day	3 men back hoe and small dump trucks	appx. 1 cubic yard	Rippowam River	adjusted rip rap at leak off to ensure water removed from roadway.
1/3/2019	369 Rock Rimmon Rd.	1 Day	2 men, vac truck, stetco hydraulic crane	appx. 1 cubic yard	Rippowam River	cleared logs and debris from culvert inlet.
1/7/2019	386 June Rd.	1 Day	5 men, loader, small dump trucks	appx. 3 cubic yards	Mianus River	removed logs, cut in swale, restored leakoff, added rip rap

1/11/2019	141 Den Rd.	3 Days	5 men, loader, small dump trucks	appx. 5 cubic yards	Rippowam River	Excavated roadside swale, prep for pipe work
1/14/2019	415 Farms Rd.	1 Day	4 men, loader, small dump trucks	n/a	Rippowam River	added rip rap at guard rail to limit roadway erosion.
1/15/2019	28 Mill Rd.	1/3 Day	6 men, loader, small dump trucks	appx. 2 cubic yards	Rippowam River	scraped road, cleared leak off
1/15/2019	188 Slice Dr.	1/3 Day	6 men, loader, small dump trucks	appx. 1 cubic yard	Rippowam River	scraped road, cleared leak off
1/15/2019	120 Hobson St.	1/3 Day	6 men, loader, small dump trucks	appx. 4 cubic yards	Long Island Sound	scraped road - sand from coastal storms
1/15/2019	266 Willowbrook Ave.	1/3 Day	6 men, loader, small dump trucks	appx. 1 cubic yard	Long Island Sound	scraped road - sand from coastal storms
1/16/2019	Opposite #180 Wildwood Rd.	1 Day	4 men, loader, small dump trucks	n/a	Rippowam River	added rip rap at road leak off to prevent further erosion.
1/30/2019	123 Lawton Ave	1/2 Day	3 men, stetco hydraulic crane	appx. 2 cubic yards	Noroton River	cleared logs and debris from bar screen drainage inlet at sleepy hollow park.
2/4/2019	432 Carriage Dr.	1 Day	3 men, backhoe, small dump trucks	appx. 4 cubic yards	Rippowam River	cleared logs and debris from culvert inlet.
2/6/2019	Bracchi Drive	2 Days	5 men, mini excavator and small dump trucks	appx. 10 cubic yards	Rippowam River	stormwater swale filled in. Removed sediment and debris. Towed abandoned car prior to work.
2/15/2019	53 & 71 Arrowhead Dr.	1 Day	3 men, vac truck, stetco	appx. 3 cubic yards	Rippowam River	Cleared culvert inlets from logs and debris.
2/25/2019	611 Westover Rd.	1 Day	3 men, loader and small dump trucks	n/a	Minaus River	added rip rap to culvert inlet
3/15/2019	371 Taconic Road	3 Days	5 men, mini excavator and small dump trucks	appx. 20 cubic yards	Mianus River	excavated roadside swale to ensure water off of road.
3/18/2019	589 Den Road	1/2 Days	6 men, mini excavator and small dump trucks	appx. 1 cubic yard	Rippowam River	used mini ex to explore for pipe under roadway. None found. Referrred to Engineering deparment.
3/19/2019	Old Long Ridge Road	4 Days	5 men, mini excavator and small dump trucks	appx. 40 cubic yards	Rippowam River	created two roadside swales. Removed illegally placed paving work by utility company resulting in heavy water flow on road. Fabric and rip rap at base of swales.
3/21/2019	Laurel Road	1 Day	4 men, Stetco hydraulic crane and Vac truck	appx. 6 cubic yards	Rippowam River	Clean out at 4 stormwater inlets
5/6/2019	Bangall Rd.	3 Days	6 men, backhoe, loader and dump trucks	appx. 30 cubic yards and boulders	Rippowam River	Excavated roadside swale, seed and hay

APPENDIX J

2018–19 IDDE DRY WEATHER SCREENING DATA SUMMARY TABLE

Permit Outfall ID	Condition Level	Date	Time Sampled	Flow (gal/min)	Follow-up Date	Time Sampled	Flow (gal/sec)	Ammonia (mg/L)	Chlorine (mg/L)	Conductivity (umhos/cm)	Salinity (g/kg)	Potassium (mg/L)	pH	D.O (mg/L)	Turbidity (NTU)	Temp (oC)	MBAs (mg/L)	Escherichia Coli	Total Coliforms	Fecal Coliforms	Enterococcus	Phosphorus	Total Nitrogen
DIS-2	Fair	6/27/2019	14:15	0																			
DIS-11	Poor	6/27/2019	10:56	6				0.25	0.04	17178	-	134	7.26	2.11		22.4	1.5	3870	>24200	4350	20		
DIS-14	Good	6/27/2019	11:29	7				0	0.02	710	0.341	3.6	7.59	5.97		17.9	0.25	591	3450	345	121		
DIS-15	Good	6/27/2019	12:12	1.5				0	0.03	1135	0.578	4.5	7.96	5.2		20.9	0.5	262	7700	211	144		
DIS-17	Good	6/27/2019	13:32	6				0	0	24219	-	179	7.48	2.51		22.7	2	888	>24200	650	350		
DIS-19	Fair	6/12/2019	15:33	2				0.25	0.05	2133	1.084	16.1	8.02	7.2		20	0.25	84	>24200	109	504		
DIS-24	Good	2/6/2019	12:01	3				0.25	0.01	7096	3.795	6.7	7.5	10.48	0.68	6.7	1	475	4610				
DIS-55	Fair	2/6/2019	10:37	0																			
DIS-240	Good	6/12/2019	12;00	2				0	0.1	389	0.19	2.2	8.09	10.11	0.21	16.38	0.25	110	6130				
DIS-280	Good	2/6/2019	15:05	3				0.5	0	213	0.14	4.0	6.73	11.27	0.63	10.42	0.25	30	141				
DIS-353	Good	2/6/2019	10:54	4				0.25	0	961	0.467	3.4	7.87	10.6	1.98	9.6	0.75	384	1840	959	631		
DIS-405	Good	1/11/2019	12:55	0																			
DIS-432	Good	1/11/2019	13:22	0	9/19/2019	11:50	0				n/a												
DIS-435	Good	1/11/2019	9:20	0							n/a												
DIS-572	Good	6/12/2019		0																			
DIS-654	Good	1/17/2019	12:53	0	9/20/2019	10:20	0				n/a												
DIS-655	Good	1/17/2019	13:02	3				0.25	0.02	369	0.177	4.1	7.37	21.13	0.39	2.5	0.25	1310	2720				
DIS-663	Poor	1/11/2019	10:35	0							n/a												
DIS-664	Poor	1/11/2019	10:30	0							n/a												
DIS-665	Fair	1/11/2019	10:05	3				6.5	2.2	2350	1.22	31.7	7.14	7.29	7.44	11.41	0.25	<10	10			0.167	15.6
DIS-727	Good	6/12/2019	12:35	0.5				0.25	0	640			8.13	10.89	0.46	17.71	0.25						
DIS-753	Good	2/6/2019	14:06	1				0	0	214	0.15	3.8	7.63	11.65	0.01	8.9	0.25	<10	<10				
DIS-764	Poor	6/12/2019	13:05																				
DIS-765	Good	6/12/2019	13:20	1				0.25	0.1	284	0.15	1.7	8.32	9.79	0.4	20.21	0.25	5480	>24200				
DIS-819	Good	1/17/2019	11:11	5				0.25	0.01	237	0.112	2.3	7.54	23.66	1.32	3.5	0.5	10	275				
DIS-832	Good	1/17/2019	12:04	0.1				0	0	470	0.213	4.6	7.02	19.44	0	2.3	<0.25	61	>24200				
DIS-866																							
DIS-867	Good	2/6/2019	13:14	0																			
DIS-868	Good	2/6/2019	13:20	10				0	2.2	202	0.14	4.0	7.07	11.62	0.62	9.46	0.25	63	644				
DIS-916	Good	6/12/2019	11:45	0																			
DIS-917	Good	6/12/2019	12:17	0																			
DIS-927	Good	6/12/2019	12:55	10				0.25	0.08	7394	4.138	41.6	7.74	5.65		23.2	0.25	882	>24200	798	691		
DIS-934	Good	1/17/2019	10:24	1.5				0.25	0	715	0.345	1.5	7.2	20.77	0.07	7.8	<0.25	<10	85				
DIS-935	Good	1/17/2019	9:58	0.2				0	0.03	915	0.444	1.7	7.3	21.94	0	7	0.25	<10	52				
DIS-949	Fair	6/12/2019	11:04	3				0.25	0.03	19755	-	270	7.49	3.57		20.2	0.25	52	3260	41	10		
DIS-982	Poor	1/17/2019	9:46	0	9/20/2019	9:50	0				n/a												
DIS-991	Good	2/6/2019	12:10	3				0.25	0.04	739	3.682					5.9	2	10	85				
DIS-993	Good	6/12/2019	14:58	1.5				0.25	0.04	14070	8.41	100	7.82	6.83		23.5	0.25	836	>24200	689	1310		
DIS-996	Fair	6/12/2019	12:15	0																			
DIS-1002	Good	1/17/2019	12:45	0	9/20/2019	10:13	0				n/a												
DIS-1003	Good	1/17/2019	12:36	0	9/20/2019	10:10	0				n/a												
DIS-1103	Good	1/17/2019	12:36	0	9/20/2019	10:10	0				n/a												
DIS-1114	Good	1/17/2019	12:28	0	9/20/2019	10:05	0				n/a												
DIS-1116	Good	1/17/2019	10:48	0.5				0.25	0.04	659	0.315	3.7	7.31	21.53	0.66	1.1	0.25	41	598				
DIS-1129	Good	1/17/2019	11:48	0							n/a												
DIS-1130	Good	1/17/2019	11:36	0							n/a												
DIS-1191	Good	1/11/2019	13:40	15				0.06	2.2	454	0.22		7.85	12.52		1.74	0.25	20	538				
DIS-1214	Fair	1/17/2019	9:32	0	9/20/2019	9:54	0				n/a												
DIS-1222	Poor	2/6/2019	10:30	0																			
DIS-1224	Poor	2/6/2019	10:17	0																			
DIS-1225	Good	2/6/2019	10:22	0																			
DIS-1247	Good	1/11/2019	13:08	0							n/a												
DIS-1277	Good	2/6/2019	9:51	0	9/19/2019	9:26	0																
DIS-1278	Good	2/6/2019	11:27	0																			
DIS-1280	Poor	2/6/2019	10:11	0																			
DIS-1283	Good	2/6/2019	10:11	0	9/19/2019	9:12	0																
DIS-1284	Fair	2/6/2019	10:11	0																			
DIS-1286	UKN	2/6/2019	10:44	0	9/19/2019	9:21	0																
DIS-1288	Good	2/6/2019	11:48	0																			
DIS-1289	Good	2/6/2019	10:13	0	9/19/2019	8:50	0.5	0	0.04	32603	-	249	6.87	3.29		18.4	2	3450	>24200	771	272		
DIS-1347	Good	1/11/2019	9:27	0							n/a												
DIS-1412	Good	6/12/2019	10:50	0																			
DIS-1434	Good	1/11/2019	12:02	0.13				0	0.08	471	0.23	3.2	7.71	10.11	0.1	7.56	0.25	10	63				
DIS-1458	Good	1/11/2019	12:01	5				0	0.13	456	0.22	2.9	7.43	12.45	0.28	3.15	0.25	74	631				
DIS-1469	UKN	6/12/2019	11:45																				
DIS-16N	Good	6/27/2019	12:52	6				0	0.06	704	0.351	3.7	7.18	6.32	0.21	18.3	0.25	20	1350	<10	<10		
DIS-16S	Fair	6/27/2019	12:42	0																			
DIS-36S	Good	6/12/2019	11:10	1				0.25	0.3	561			7.81	8.67	12.3	18.64	0.25						
DIS-UNK1	Good	2/6/2019	10:06	0																			
DIS-UNK2	Good	2/6/2019	10:07	5				0.25	1.33	1221	0.61	5.2	8.99	11.92	0.25	14.06	0.25	10	185	538	41		

APPENDIX K

2018–19 WET WEATHER SCREENING DATA SUMMARY TABLE

	General Information							Rain Event		Sample Info				Field Parameter						Lab Data						
SON #	Permit Outfall ID		Sample Status	Condition Status	Condition Level	Up Gradient Sample	Direct Discharge	Amount (in)	Time Since Previous Event	Initial	Date	Time SF	Photo	Turbidity (NTU)	Turbidity Upstream (NTU)	pH (S.U)	Temperature	D.O (mg/l)	Conductivity (umhos/cm)	Escherichia Coli	Total Coliforms	Fecal Coliiforms	Enterococcus	Phosphorus	Total Nitrogen	Impairment
SON-0036	DIS-30	30	SF		Good	No	Yes	1.44 0.65	4 days 6 days	DRS EAA	1/24/2019 6/15/2015	10:00 9:44	Yes Yes			7.03	19.94	7.64	603	13000	>24200	10 >2000	31 14140	0.19	1.08	Bacteria
SON-0095	DIS-55	55	SF		Good	No	Yes	1.44	4 days	DRS	1/24/2019	7:54	Yes									<10	272			Bacteria
	DIS-67	67	SF		Good	No	Yes	0.48	4 days	KLM	6/18/2019	14:35	No	1	0.74											Other Pollutant of Concern
SON-0058	DIS-84	84	SF		Good	No	Yes	1.44 1.23	4 days 7 days	BJL	1/24/2019 5/5/2017	8:44	Yes Yes	11.7	13.7	7.68	10.89	8.57	345	4610	>24200	>2000	1660	0.39	2.26	Other Pollutant of Concern
SON-0063	DIS-94	94	SF		Good	No	Yes	1.44 0.65	4 days 4 days	BJL	1/24/2019 6/1/2015	11:54	Yes No	7.78 14.5	11.7	7.85	17.52	8.05	374	7270	>24200	>2000	9800	0.11	0.67	
SON-0064	DIS-95	95	SF		Good	No	Yes	1.44 0.65	4 days 6 days	BJL EAA	1/24/2019 6/15/2015	12:13 7:40	Yes Yes	29.5	6.18	7.59	20.49	9.24	114	24200	>24200	>2000	>24200	0.43	4.6	Other Pollutant of Concern
SON-0065	DIS-96	96	SF		Good	No	Yes	1.44 0.65	4 days 6 days	BJL EAA	1/24/2019 6/15/2015	11:10 8:15	Yes Yes	25	5.87	7.61	21.41	3.25	109	17300	>24200	>2000	24200	0.19	1.49	Other Pollutant of Concern
SON-0067	DIS-98	98	SF	IE	Good	No	Yes	1.44 0.65	4 days 6 days	BJL EAA	1/24/2019 6/15/2015	13:12 7:10	Yes No	22.6	6.71	7.71	21.49	6.19	319	4610	>24200	>2000	5790	0.1	0.74	Other Pollutant of Concern
SON-0085	DIS-130	130	SF		Fair	No	Yes	1.44	4 days	DRS	1/24/2019	8:39	Yes			7.74	14.91	8.75	544	17330	>24200	52	228			Bacteria
SON-0087	DIS-132	132	SF		Good	No	Yes	1.44 0.29	4 days 13 days	DRS SWZ	1/24/2019 12/2/2015	8:26 12:15	No Yes			7.38	9.98	9.37	435	>24200	>24200	<10 >2000	216 24200	0.86	1.24	Bacteria
	DIS-180	180	SF		Good	No	Yes	0.48	4 Days	KLM	6/18/2019	12:05	No	8.25	1.72											Other Pollutant of Concern
	DIS-181	181	SF		Good	No	Yes	0.48	4 Days	KLM	6/18/2019	12:10	No	1.47	1.23											Other Pollutant of Concern
	DIS-204	204	SF		Good	No	Yes	1.44	4 days	BJL	1/24/2019	7:57	Yes	7.4	8.94											Other Pollutant of Concern
	DIS-205	205	SF		Good	No	Yes	1.44	4 days	BJL	1/24/2019	8:18	Yes	17.1	17.1											Other Pollutant of Concern
	DIS-240	240	SF		Good	No	Yes	0.48	4 days	KLM	6/18/2019	13:10	No	1.79	1.64											Other Pollutant of Concern
SON-0109	DIS-727	727	SF		Good	No	Yes	0.48	4 Days	KLM	6/18/2019	12:56	No	6.88	2.05											Other Pollutant of Concern
	DIS-769	769	SF		Good	No	Yes	0.48	4 Days	KLM	6/18/2019	12:40	No	2.02	1.56											Other Pollutant of Concern
	DIS-770	770	SF		Good	No	Yes	0.48	4 Days	KLM	6/18/2019	12:43	No	0.12	1.49											Other Pollutant of Concern
	DIS-830	830	SF		Good	No	Yes	0.48	4 Days	KLM	6/18/2019	11:50	No	1.41	1.16											Other Pollutant of Concern
	DIS-936	936	SF		Good	No	Yes	0.48	4 Days	KLM	6/18/2019	13:43	No	0	1.07											Other Pollutant of Concern
	DIS-937	937	SF		Good	No	Yes	0.48	4 Days	KLM	6/18/2019	13:35	No	0.28	1.23											Other Pollutant of Concern
	DIS-938	938	SF		Good	No	Yes	0.48	4 Days	KLM	6/18/2019	13:52	No	0.21	0.96											Other Pollutant of Concern
SON-0129	DIS-996	996	SF		Good	No	Yes	0.48	4 Days	KLM	6/18/2019	13:00	No	2.31	1.62											Other Pollutant of Concern
SON-0135	DIS-1277	1277	SF		Good	No	Yes	1.44	4 days	DRS	1/24/2019	7:38	Yes									75	226			Bacteria
	DIS-1282	1282	SF		Good	No	Yes	1.44	4 days	DRS	1/24/2019	9:25	Yes									<10	20			Bacteria
	DIS-1283	1283	SF		Good	No	Yes	1.44	4 days	DRS	1/24/2019	9:11	Yes									63	1470			Bacteria
	DIS-1285	1285	SF		Good	No	Yes	1.44	4 days	DRS	1/24/2019	8:52	Yes									106	3970			Bacteria
	DIS-1286	1286	NFEF	UW	Fair	No	No	1.44	4 days	DRS	1/24/2019	0.339583333	Yes													Bacteria
	DIS-1289	1289	SF		Good	No	Yes	1.44 0.65	4 days 4 days	DRS	1/24/2019 6/1/2015	9:42	Yes No							17330		41 >2000	3650 >24200	0.15	1.09	Bacteria
	DIS-1412	1412	SF		Good	No	Yes	0.48	4 Days	KLM	6/18/2019	14:15	No	2.13	2.40											Other Pollutant of Concern
	DIS-1445	1445	SF		Good	No	Yes	0.48	4 Days	KLM	6/18/2019	14:22	no	1.22	1.11											

APPENDIX L

2018–19 IDDE FOLLOW-UP INVESTIGATIONS

Site Name	Date	Time	Dissolved Oxygen mg/L	Conductivity µmho/cm	Water Temp * C	Turbidity (NTU)	pH	Chlorine (mg/L)	Surfactants (ppt)	Potassium (mg/L)	Ammonia (mg/L)	Total Coliform	E. coli	Enterococcus	Sample Volume	Total Coliform Positive Large Wells	Total Coliform Positive Small Wells	Total Coliform MPN	Total Coliform Reported MPN	*E. coli* Positive Large Wells	E. coli Positive Small Wells	E. coli MPN	E. coli Reported MPN	Enterococcus Positive Large Wells	Enterococcus Positive Small Wells	Enterococcus MPN	Enterococccus Reported MPN	NOTES
Berrian Road	1/16/19	1010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00	>24195.7	24195.70	n/a	10	49	48	>2419.6	#VALUE!	49	47	2419.6	24195.7					Sewage smell. Dye test showing up under ice. Dye prevented any test with color change. Took bacteria and ammonia sample downstream of dye in slushy area.
Orange Street	1/16/19	1052	10.5	2676	7.5	n/a	n/a	n/a	n/a	n/a	n/a	1203.33	10.89	n/a	100	49	41	1203.3	1203.3	9	1	10.9	10.9					
Old Long Ridge Road Left	1/16/19	1122	n/a	n/a	n/a	3.66	6.2	0	0.25	7	0.50	1119.87	9.69	n/a	100	49	40	1119.9	1119.9	8	1	9.7	9.7					Left side of road when looking up at Long Ridge Tavern. Considerable flow but flat against the road. Ditch to side look ssolid but is very deep with water.
Old Long Ridge Road Right	1/16/19	1122	n/a	n/a	n/a	17.8	7	0.03	0.75	6	0.25	2419.57	1.00	n/a	100	49	47	2419.6	2419.6	1	0	1.0	1.0					Right side of road when looking up at Long Ridge Tavern. Considerabel flow but flat on road.
MH6108	1/16/19	1242	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a														Dry
MH6110	1/16/19	1245	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a														Too shallow to sample. No flow in, edges around base are vet but shallow. Appeared to have some water in exit pipe but there was no visible flow.
MH7572	1/16/19	1253	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	118.96	50									29	11	59.5	119.0	Side pipe flowing but could not get side flow sample because car was parked over the catchbasin where flow was discharging from. No grey water observed as we did when previously sampled.
MH7573	1/16/19	1300	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a														Dry. Small damp area but no flow.
MH695	1/16/19	1306	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	43.33	100									22	11	43.3	43.3	Side pipe flowing but could not get sample. Catchbasin where pipe is coming from was stagnant with a bell.
MH696	1/16/19	1322	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	726.99	100									49	33	727.0	727.0	Side pipe flowing
MH696CB	1/16/19	1327	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.98	100									0	3	3.0	3.0	Sampled flow in catchbasin. Pipe in catchbaisin had steady trickle. Appeared to be pulsing (Josh observation)
MH7577	1/16/19	1314	8.7	1418	10.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	>2419.6	100									49	48	>2419.6	>2419.6	
DIS-50	1/16/19	1333	8.99	1450	10.9	0.94	6.9	0	0.25	10	0	n/a	n/a	>2419.6	100									49	48	>2419.6	>2419.6	Taken at same spot as previous samples (slightly downstream of outfall). Pond below outfall appeared blue/grey.
Long Ridge Road	1/29/19	1235	n/a	n/a	n/a	3.28	5.9	0	0.25	7	0.00	238.22	<1	n/a	100	48	17	238.2	238.2	0	0	<1	<1					
Long Ridge Road 1213	1/29/19	1300	n/a	n/a	n/a	59.5	6	0	2	10	3.00	>24195.7	>24195.7		10	49	48	>2419.6	#VALUE!	49	48	>2419.6	#VALUE!					
Berrian Road	2/25/19	1031	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.25	>24195.7	9208.40		10	49	48	>2419.6	#VALUE!	49	37	920.8	9208.4					Taken near same point originally sampled on 1/16/19. Had to sample closer to discharg point due to debris in the road.
Berrian Road (at bubbling point)	2/25/19	1044	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.25	>2419.6	>2419.6		100	49	48	>2419.6	>2419.6	49	48	>2419.6	>2419.6					Taken at the discharge point where water was coming out of the ground/pavement at end of driveway.
Berrian Road	4/2/19	1012	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00	>241960	>241960		1	49	48	>2419.6	#VALUE!	49	48	>2419.6	#VALUE!					Grey water/grey coloring to pavement. Odor observed
Berrian Road (at bubbling point)	4/2/19	1012	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00	>241960	>241960		1	49	48	>2419.6	#VALUE!	49	48	>2419.6	#VALUE!					Grey water/grey coloring to pavement. Odor observed
113 Redmont Road	5/1/19	1203	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.00	>2419.6	2419.57		100	49	48	>2419.6	>2419.6	49	47	2419.6	2419.6					
Berrian Road	5/28/19	1012																										On data sheet at #134 Berrian Road. DRY. No sample collected.
MH2671	5/28/19	1015									0.00	15531.20	2098.20		10	49	44	1553.1	15531.2	48	14	209.8	2098.2					
MH2670	5/28/19	1023									0.00	>4839.2	689.60		50	49	48	>2419.6	#VALUE!	49	20	344.8	689.6					
MH2062	5/28/19	1030									0.00	3106.24	976.88		50	49	44	1553.1	3106.2	49	26	488.4	976.9					
MH#3	5/28/19	948						0	3		3.00	>24195.7	198629.00		1	49	48	>2419.6	#VALUE!	49	46	1986.3	198629.0					#44 Berrian Road. Toilet paper spotted In basin. Slightly cloudy/discolored water. Volume was entered as 10mL when it should have been 1mL originally. Data based on a 10mL volume was originally sent to Tyler Theder. Results were still indicative of sewage.
MH7598	7/25/19	1056										>2419.6	>2419.6		100	49	48	>2419.6	>2419.6	49	48	>2419.6	>2419.6					Flow from side pipe unable to isolate for sample.
MH731	7/25/19	1047										>2419.6	>2419.6		100	49	48	>2419.6	>2419.6	49	48	>2419.6	>2419.6					Could really be MH7601
MH731P	7/25/19	1048										>2419.6	816.41	0.00	100	49	48	>2419.6	>2419.6	49	35	816.4	816.4					Side pipe flowing into MH731 flowing from Ursula Place
MH317	7/25/19	1042																										Did not open because rim kept lifting out of the ground as well.
MH7603	7/25/19	1036										>2419.6	>2419.6		100	49	48	>2419.6	>2419.6	49	48	>2419.6	>2419.6					
MH344	7/25/19	1029										>2419.6	1119.87		100	49	48	>2419.6	>2419.6	49	40	1119.9	1119.9					Flow in from both sides
146 Cold Spring Road	7/25/19	1005							<0.25																			Surfactants only. We did observe foam at the site.
MH3	7/25/19	932						0.01	0.25		0.25	#VALUE!	37.38		50	49	48	>2419.6	#VALUE!	15	1	18.7	37.4					Stagnant water. Sampled anyway
DIS-205-B	7/25/19	1115										#VALUE!	259.26		50	49	48	>2419.6	#VALUE!	44	11	129.6	259.3					Taken from MH on hope street.
DIS-84	7/25/19	1127										>2419.6	517.21		100	49	48	>2419.6	>2419.6	49	27	517.2	517.2					Outfall had river water up high into it but we could still observe flow out. Fence blocking access to the manholes.
DIS-1412-A	7/25/19	1137																										Damp but no flow
DIS-78	7/29/19	1141										>2419.6	1046.24		100	49	48	>2419.6	>2419.6	49	39	1046.2	1046.2					
DIS-79	7/29/19	1142										#VALUE!	1095.00		50	49	48	>2419.6	#VALUE!	49	28	547.5	1095.0					
Wedgemere	8/5/19	1240									0.00																	Did not observe bubbling as Tyler had described. There was a small puddle that dried up. Only a small sample for ammonia was able to be collected.
Daffodil	10/9/19	1151									3.00	29866.00	4638.00		1	48	22	298.7	29866.0	29	3	46.4	4638.0					Tried doing surfactants but the sample malfunctioned in the field.

Site	Date	Time	Photo	Physical Condition	Other Defects	Illicit Discharges	Flow	Flow Estimation (gallon/second)	Conductivity (µS)	Turbidity (NTU)	DO (mg/L)	pH (pH Units)	Chlorine (mg/L)	Temp (°C)	Surfactants as (MBAS) (ppm)	Potassium (mg/L)	Ammonia (mg/L)	Fecal Coliform (CFU/100mL)	*E. coli* (CFU/100mL)	*Enterococci* (MPN/100mL)	Notes
Outlet	9/10/2018	937	Yes	n/a	n/a	Bubbles, may be natural	Yes	Medium, tide going out	1492	14.9	7.71	7.1	0	16.6	0.25	9	0.25	53000	18000	46110	Sampled during rain event >0.1
Pond	9/10/2018	945	Yes	n/a	n/a	None	Yes	Moderate, tide going out	3663	53.4	0.53	7.8	0.15	17	0.5	16	0.25	70000	21000	48840	Sampled during rain event >0.1. Green tint observed in surfactants test which is unusual - possibly related to heavily sedimented sample. Water depth was very low, approximately 0.5 inches.
Stream	9/10/2018	959	No	n/a	n/a	None	Yes	Moderate, tide going out	399.6	15.5	8.37	7	0	17.2	0.25	4	0.25	164000	42000	>24196	Sampled during rain event >0.1
DIS-50	9/10/2018	1002	Yes	Intact	none	Oil sheen present	Yes	Moderate	355.6	19	8.81	7	0	17.4	0.25	2	0	217000	64000	>24196	Sampled during rain event >0.1. Took sample slightly downstream of outfall where turned into the stream. Outfall was half filled with water (see photo)
MH646	9/10/2018	1115	No	n/a	n/a	none	Yes	Heavy	75.5	16.4	9.84	6.9	0	17.3	0.25	2	0	151000	23000	n/a	Sampled during rain event >0.1
MH7576	9/10/2018	1120	No	n/a	n/a	none	Yes	Heavy	64.5	25.9	9.69	7.1	0	17.0	0.25	2	0	141000	19000	n/a	Sampled during rain event >0.1
MH7596	9/10/2018	1128	No	n/a	n/a	none	Yes	Heavy	117.2	44.9	8.83	7.3	0.01	17.5	0.25	2	0	128000	26000	n/a	Sampled during rain event >0.1. Green tint observed in surfactants test which is unusual.
DIS916	10/17/2018	1129	Yes	Intact	none	Water looks viscous, slight sheen on surface	Yes	Moderate	38200	1.57	4.93	7.3	0.03	17.2	2	620	0	50	40	216	
Pump Station (West Beach)	10/17/2018	1205	no	Intact	none	none	No	Stagnant	2131	6.21	2.61	6.8	0.11	19.6	0.25	40	0	350	170	193	Taken from wet well inside pump station
MH5688	10/17/2018	1039	no	Intact	None	none	No	Stagnant	1206	9.27	1.3	6.7	0.09	20.3	0.25	50	0	280	160	275	
MH3840	10/17/2018	1034	no	Intact	none	Foam present on surface	Yes	Trickle flowing in, outgoing pipe submerged	1060	5.4	1.95	6.4	0.1	20.3	0.25	36	0	690	580	131	
MH3839	10/17/2018	1240	No	Intact	none	no	Yes	Trickle flowing in from side pipe but no obvious flow exiting. Exit pipe submerged?	635	n/a	2.65	n/a	n/a	20	n/a	n/a	0	600	590	146	Two pvc side pipes (one blue and one white), both have flow (small trickle)
MH3838	10/17/2018	1247	No	Intact	none	none	Yes	Low	719	n/a	4.41	n/a	n/a	19.8	n/a	n/a	0	1000	800	187	Two side pipes, one to CB in road had trickle, other pointing towards driveway had no flow. Flow at bottom of basin appeared to flow away from the outfall towards Mohegan Ave.
MH420	10/17/2018	1110	No	Intact	none	non	Yes	Moderate	1264	12.9	7.36	7.4	0	17.4	0.25	71	0	780	270	2160	
MH922	10/17/2018	1140	no	Intact	none	no	yes	Slow steady	1430	n/a	5.9	n/a	n/a	17.1	n/a	n/a	0	6100	1100	1850	
MH921	10/17/2018	1154	no	Intact	none	Discoloration	Yes	Steady medium	973	n/a	7.4	n/a	n/a	17.7	n/a	n/a	0	7200	3200	5560	
MH918	10/17/2018	1206	No	Intact	none	Discoloration	Yes	Relatively low	799	n/a	7.46	n/a	n/a	18.4	n/a	n/a	0	8200	2700	2010	Very brown sample
MH669	10/17/2018	1212	No	Intact	none	Discoloration	Yes	Moderate	1041	n/a	7.2	n/a	n/a	18.4	n/a	n/a	0	6400	1300	1930	Orange Brown sample
MH668	10/17/2018	1220	no	Intact	none	Discoloration	Yes	n/a	1071	n/a	7.01	n/a	n/a	18	n/a	n/a	0	3700	900	3640	Orange Brown sample
DIS1447	10/17/2018	1110	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Unable to access. Any sample would have been just the receiving waters and not an accurate depiction of outfall.
DIS50	12/12/2018	821	no	Intact	none	Water had a blue green hue	yes	Low	1255	2.65	8.38	7.1	0	12.1	0.25	35	0	n/a	n/a	309	Took sample slightly downstream of outfall where turned into the stream (same spot where sampled in September). Outfall was partially submerged.
MH7577	12/12/2018	850	n/a	n/a	n/a	n/a	n/a	n/a	1464	n/a	8.05	n/a	n/a	12.4	n/a	n/a	n/a	n/a	n/a	309	
MH695	12/12/2018	858	n/a	n/a	n/a	Chunky and discolored substance discharging from catchbasin	Yes	Low	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	10	Discharge observed coming out of the downstream catchbasin pipe. Discolored and thick. Took this sample above possible illicit discharge.
MH695 Below	12/12/2018	859	n/a	n/a	n/a	Chunky and discolored substance discharging from catchbasin	Yes	Low	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	118	Discharge observed coming out of the downstream catchbasin pipe. Discolored and thick. Took this sample inline/slightly below possible illicit discharge.
MH7573	12/12/2018	917	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Main line and all inputing catchbain pipes are dry. Small pool of water behind a cement blob in the middle of the main line. There is room for water to flow around cement blob.
MH7572	12/12/2018	922	n/a	n/a	n/a	Grey water	Yes	Trickle	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	15520	Main line had small trickel entering manhole, grey in color. Water pooling in middle of the line, but still observed flow out of manhole through main line. Catchbasin from direction of #54 had flow.
MH7572 CBSP	12/12/2018	927	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<10	Side pipe (small pvc) flowing into catchbasin. Sample taken directly from pipe discharge.
MH696	12/12/2018	954	n/a	n/a	n/a	n/a	Yes	Moderate	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	170	Small trickel from catchbasin pipe. Small pipe found in catchbasin that was dripping.
MH6108	12/12/2018	1022	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	